Statistical Data

OF RESOURCES AND EQUIPMENT OF POST AND INFORMATION TECHNOLOGY SECTOR

SEMESTER 1 2013

Directorate General of Resources and Equipment of Post and Information Technology
Ministry of Communication and Information Technology of The Republic of Indonesia

Foreword

Bismillahirrahmaanirrahim

(In the name of Allah, the Most Gracious, the Most Merciful)

A*lhamdulillahi rabbbil 'alamin*. [All the praises and thanks be to Allah, the Lord of the *Alamin (mankind, jinn and all that exists)*]. Praise be to Allah, Lord of the universe who has devoted His unceasing guidance and aid so that the writing of this Book can be done well.

Statistical Data Book of Directorate General of Resources and Equipment of Post and Information Technology Semester I of 2013 marks the momentum of two and a half years of the Data Statistical Book of Directorate General of Resources and Equipment of Post and Information Technology. In the same case as the previous edition, this Book is hoped to provide data and information in understanding the management of resources and equipment of post and information technology and provide a reference for various parties for a variety of interests,, particularly the development in the field of telecommunication and information technology through data and information presented in this Book. By understanding the data, collecting from valid sources, processing with true norms, and interpreting with sound judgment, these data will become an extraordinary strength, that may be used for mapping the environmental condition in measured magnitude, so that the data may help the organization to set priorities and determine the direction of accurate planning.

Through this Book, one may also see the trend of development of various variables and indicators in the field of resources and equipment of post and information technology and the performance in that field. To ensure the accuracy and authenticity of the data presented, sufficient time is needed for the collection, processing, and analysis of the data, since these things must go through a verification procedure, approval and for data coming from stakeholders, it is required to have data which have been declared to have been approved and may be used for the general publication applicable in each data source.

However, we acknowledge with full greatness of soul that every man's work certainly is not free from weaknesses and flaws. Therefore, constructive criticisms and suggestions for the perfection of this Book are indispensable, which can be submitted via email to datastatistik@postel.go.id.

The Statistical Data Book of the Directorate General of Resources and Equipment of Post and Information Technology Semester I of 2013 is an effort on the part of the Directorate General of Resources and Equipment of Post and Information Technology to provide accurate and complete information related to the activities undertaken and the development in the field of resources and equipment of post and information technology. For access facilitation, this Book may also be downloaded through the website of sdppi.kominfo.go.id or through www.postel.go.id. May this Statistical Data Book of the Directorate General of Resources and Equipment of Post and Information Technology Semester I of 2013 be useful..

Our thanks to all the parties who have provided support and assistance so that this Statistical Data Book of the Directorate General of Resources and Equipment of Post and Information Technology Semester I of 2013. can be presented.

Best Regards,
Jakarta, October 2013
Director General of Resources and Equipment of
Post and Information Technology,

Muhammad Budi Setiawan

List of Contents

List of Tables

List of Figures

Chapter 1

Chapter 1

Introduction

1.1 Background

There exists a research which reveals that the utilization of telecommunication infrastructure may provide an impact on economic growth of a country, among other things, is the research of World Bank which states that countries of low and middle income will experience an increase of 1.38% of their GDP for every 10% of the increase in *broadband* penetration. In line with the rapid advancement of technology for*broadband* implementation which utilizes radio frequency spectrum, the acceleration of *broadband* penetration by making use of radio frequency spectrum in Indonesia is expected to be used as one of the strategies in achieving the vision of the Ministry of Communication and Information Technology in the year 2025.This Ministerial vision ststes that the presence of *"Informative Indonesia towards welfare society through sustainable development of communication and information technology with people oriented and environment-friendly, within the framework of Unitary State of the Republic of Indonesia"*. This vision is one of the supporting components to achieve the vision of Unitary State of the Republic of Indonesia., i.e. "Shaping an Indonesian Independent, Progressive, Just and Prosperous Society", As it is known that radio frequency spectrum is a limited telecommunication resource, and hence the objective of utilizing radio frequency spectrum is its usage that gives providers the greatest benefit for the sake of society.

Based on mandate of Presidential Decree Number 24 Year 2010 on Positions, Duties, and Functions of State Ministries of the Republic of Indonesia and Organizational Structure, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia and the Decree of the Minister of Communication and Information 'Technology Number 17 Year 2010 on Organization and Work Method of the Ministry of Communication and Information Technology, that Directorate General of Resources and Equipment of Post and Information Technology has the duty to formulate and implement the policies and technical standardization in the field of resources and equipment of post and information technology. The Directorate General of Resources and Equipment of Post and Information Technology as one of the Directorate Generals within the Ministry of Communication and Information Technology exercises four main functions in the field of management and utilization of resources and equipment of post and information technology. The four functions are as follows :

a. Structuring function covers planning and regulation of allocation of radio frequency spectrum and satellite orbit in order to produce quality of wireless telecommunication of international standard, capable of accommodating technological development and enhance the economic value of radio frequency spectrum resources;

b. Servicing function covers the services of radio frequency spectrum licenses both new and prolonged licenses,the services of radio operator certification both new and prolonged certification, the services of telecommunication tools and equipment testing and the services of certification of tools and equipment of information technology in order to conform with the defined technical requirements;

c. Control function covers supervision and law enforcement with regard to usage of resources of radio frequency spectrum and satellite orbit and obligation of certification of information technology tools and equipment so that usage of resources and information technology equipment conforms with the regulations related toradio frequency spectrum and certification of the defined information technology tools and equipmnt.

d. Function of Non-Tax State Income producer where the Directorate General of Resources and Equipment of Post and Information Technology is a Government institution designated as producer of Non-Tax State Income on resources owned by the State managed by it through radio frequency licenses and other services related to certification service of radio operator and standardization of information technology tools and equipment comprising certification of information technology tools and equipment and testing of telecommunication tools and equipment.

The above four functions form the spelling out of the defining policy function of the Minister of Communication and Information Technology whose one of the scopes is utilization of resources and equipment of post and information technology.

The defining policy function is a strategic one belonging to the Minister in the formulation of strategic basic planning and technical basic planning of national post and information technology. Hence, structuring, servicing, control, and producer of Non-Tax State Income exercised by the Directorate General of Resources and Equipment of Post and Information Technology refer to the policies determined by the Minister of Communication and Information Technology. The Directorate General of Resources and Equipment of Post and Information Technology during this stage always tries its utmost to be able to implement all the policies of the Minister of Communication and Information Technology in the field of utilization of resources and equipment of post and information technology in a good manner, so that the utilization of national resources and equipment of post and information technology may be benefited by people at large and is not limited only to the people living in big towns.

The Directorate General of Resources and Equipment of Post and Information Technology as new Directorate in the Ministry of Communication and Information Technology which is one of the splitting results of the Directorate General of Post and Telecommunication has entered 2.5 years of its existence in semester I year 2013. From the regulatory result and performance exercised in the previous year, the performance in that perod of the Directorate General of Resources and Equipment of Post and Information Technology in management and regulation and utilization of resources and equipment of post and information technology which is separated from the provision of post and information technology, has shown its progress. This performance measurement is considered important to see the existence and effectiveness of the Directorate General of Resources and Equipment of Post and Information Technology in the regulation and management in the field of resources and equipment of post and information technology.So far, the provisional aspect in the field of post and information technology through the existence of operators and players of postal and telecommunication industry is more dominant compared to that of the regulation of utilization of resources and equipment itself. Resources and their equipment are part and parcel of the provision in this field of post and information technology.Hence, after 2.5 years of the existence of the Directorate General of Resources and Equipment of Post and Information Technology exercising the functions of structuring, management, servicing, and control of resources and equipment of post and information technology and standardization of postal and information technology equipment, its performance also need to be seen and shown to the public .

The Directorate General of Resources and Equipment of Post and Information Technology is also supported by working units of echelon II level commensurate with duties and functions assigned to it, such as working units that handle structuring aspect, operational aspect, and controlling aspect of resources and equipment of post and information technology. Besides, the Directorate General of Resources and Equipment of Post and Information Technology is also supported by the existence of working unit that deals with the aspect of standardization of postal and information technology equipment and technical implementation unit in charge of monitoring the use of radio frequency spectrum (as one of the resources of telecommunication) and technical implementation unit in charge of testing telecommunication tools and equipment..

1.2. Objective of Composition

The objective of composing this Statistical Data Book of the Directorate General of Resources and Equipment of Post and Information Technology is as one of the input materials used by the Directorate General of Resources and Equipment of Post and InformationTechnology in determining the policy in the field of management and utilization of resources and equipment of post and information technology. This Book is also hoped to become a reference for other stakeholders by seeing, analyzing and using the statistical data made available in this Book.

The composition of this Statistical Data Book is done following the phases of gathering, summarizing, processing and analyzing data within the scope of the Directorate General of Resources and Equipment of Post and Information Technology and other relevant data. This statistical data is hoped to become a reference in the composition of data and information especially in the field of resources and equipment of post and information technology and in general in the field of communication and information technology.

1.3. Method of Composition

1.3.1. Method of Collecting Data

Collecting data for the composition of Statistical Data of the Directorate General of Resources and Equipment of Post and Information Technology of this Semester 1-2013 is done through some phases. In the first phase, a discussion was held to identify data to be incorporated in the field of resources and equipment of post and information technology and the form of data presentation to be exposed. This phase is considered important to show to the society what becomes the coverage of resources and equipment of post and information technology and the development occurring therein in order to show the performance in the field of resources and equipment of post and information technology. This phase is also used to select the necessary and important data to be shown to the society. In this way, through this statistical data, one may see the achievement and performance of the Directorate General of Resources and Equipment of Post and Information Technology. The use of some alternatives of these methods in data collection is meant to optimize the process of collecting data so that the collected data can be maximized and the presentation of data is more complete.The methods used in collecting data are :

(a) Expose the plan of data and information presentation and the data need for their drafting in the kick off meeeting of book composiion;

(b) Make a table format of the data need for presentation and analyze the data furnisshed aand collected from and to related working units at the Directorate General of Resources and Equipment of Post and Information Technology;

(c) Obtain data directly (go and collect data) from data source such as data from Ministry of Finance of the Republic of Indonesia and Central Statistics Body (BPS) and even download related information in the field of radio frequency spectrum;

(d) Utilize the available data, including those that are still in the raw data format to be subsequently processed for statistical data presentation;

(e) Utilize the already published data by the relevant agency and by stakeholders such as data from BPS publication and from the internal Directorate General of Resources and Equipment of Post and Information Technology;

Based on the collected data, the same data presentation format is then composed for each data although the kinds of data obtained are different. In this Statistical Data Book of Semester 1-2013, a development is also done in the exposed data by trying to select data which is not exclusively related to resources of radio frequency spectrum and equipment of post and information technology. . The development of data presentation is done by exposing the data related to the utilization of radio frequency spectrum resources, and equipment of post and information technology such as demographic data (households, sub-districts) and the development of economic data.

1.3.2. Method of Presenting Data

Data collected are then composed in the table either directly or through data processing in advance in the form of the same data format for statistical data presentation of the respective working units of the Directorate General of Resources and Equipment of Post and Information Technology. Data presentation in this Statistical Data Book of the Directorate General of Resources and Equipment of Post and Information Technology Semester 1-2013 is done in the form of :

(1) Descriptive statistics of resources structuring, i.e. data presentation of radio frequency spectrum structuring such as map of radio frequency spectrum allocation, economic value of radio frequency spectrum and their users, map of satellite orbit, license for satellite landing right and satellite filling. These data are also shown in the form of mapping diagram of the use of radio frequency spectrum by users for the respective frequency bands.

(2) Descriptive statistics of resources operation which presents data of radio frequency spectrum operation such as the use of radio frequency spectrum based on band/canal and services according to time series and between provinces (*cross* section). This data presentation of the use of radio frequency spectrum will also be compared with the demographic data and utilization data. to see the level of density and the level of their utilization. In this part, data is also presented having to do with the license for using radio frequency spectrum and user operators such as data of Radio Amateur License (IAR), Cetification of Radio Amateur Competence (SKAR), and License for Inter-Inhabitant Radio Communication(IKRAP) and certification of Radio Electronic and Radio Operator (REOR) and certification of Radio Operator Competence (SKOR).

(3) Descriptive statistics related to the control of resources and equipment of post and information technology, including data from the results of monitoring and law enforcement of the use of radio

frequency spectrum and monitoring and law enforcement of the use of equipment of post and information technology.

(4) Descriptive statistics of standardization data of equipment of post and information technology, covering data of certification of tools and equipment of post and information technology and statistics of testing and calibration of telecommunication tools and equipment.

(5) Statistical composition/proportion, i.e. data presentation of proportion pf the respective variables of the existing indicators vis-à-vis the total value of indicators.

(6) Statistical trend,i.e. presentation showing the trend of the direction of the development of selected indicators, in order to show the trend on the afore-mentioned variables from time to time.

The data presentation is done in the format of frequency table and in the form of graphs/diagrams (*chart*), Graphs/diagrams shown in the data presentation are in the form of stick diagram, pie diagram and trend graph diagram.

1.4 Scope

In composing this Book of Statistical Data, the composing team limits the scope for internal data of the Directorate General of Resources and Equipment of Post and Information Technology up to 30 June 2013. The data presented cover yearly data and monthly data. The scope in the presentation of this Book of Statistical Data of the Directorate General of Resources and Equipment of Post and Information Technology of Semester 1-2013 covers :

(1) Statistics of human resources of the Directorate General of Resources and Equipment of Post and Information Technology and of Technical Implementation Units (UPT);

(2) Statistics of legal regulations relating to the field of resources and equipment of post and information technology;

(3) Statistics of radio frequency spectrum resources structuring, including economic value of frequency and license and satellite filling;

(4) Statistics of operation of resources including utilization of radio frequency spectrum bands by the public and certification of radio operators;

(5) Statistics of the control of resources and equipment of post and

information technology, covering monitoring and law enforcement of radio frequency spectrum and equipment of information technology;

(6) Statistics of standardization of postal and information technology equipment including certification of telecommunication tools and equipment;

(7) Statistics of testing and calibration of telecommunication tools and equipment;

(8) Statistics of economic role of post and telecommunication.

1.5 Data Source

The data source used in the presentation of Statistical Data of the Directorate General of Resources and Equipment of Post and Information Technology Semester 1-2013 emanates from various sources that have been approved and may be used for publication purposes.

The data used originates from:

(1) Working Units within the scope of the Directorate General of Resources and Equipment of Post and Information Technology (Ditjen SDPPI) such as Secretariat of Ditjen SDPPI, Directorates within the scope of Ditjen SDPPI, Office of Telecommunication Equipment Testing Laboratory, and Technical Implementation Units (UPT) of Monitoring Office of Radio Frequency Spectrum (data up to 30June 2013);

(2) Central Statistics Body (BPS), in the form of data already published in statistical book and data that has not been presented in book format;

(3) Realization of State Income and Expenditure Budget (APBN) from Ministry of Finance of the Republic of Indonesia.

The presentation of Statistical Data Book of the Directorate General of Resources and Equipment of Post and Information Technology Semester 1-2013 and data used may be downloaded in formal website of DitjenSDPPI with the address : sdppi.kominfo.go.id.

1.6 Benefit of Composing Book

The benefits expected from composing this Statistical Book are::

(1) Providing the most up-to-date information in the form of the data

found within the scope of the Directorate General of Resources and Equipment of Post and Information Technology and data of *stakeholders* that have been composed in a systematic, clear and brief manner;

(2) Providing information to the society, so that the general public may use the Statistical Data of the Directorate General of Resources and Equipment of Post and Information Technology for their respective need.

(3) As a reference for business players in the field of information and communication technology

(4) As a reliable reference for various studies regarding information and communication technology.

Chapter 2

Chapter 2

Profile of Directorate General of Resources and Equipment of Post and Information Technology

2.1 Organization of the Ministry of Communication and Information Technology

Within the framework of implementing the mandate of Presidential Decree Number 24 Year 2010 on Positions, Duties and Functions of State Ministries of the Republic of Indonesia and Organizational Structure, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia, where the duties to formulate and implement policies and technical standardization in the field of resources and equipment of post and information technology are attached to the Ministry of Communication and Information Technology, the organizational structure and work method of the Ministry of Communication and Information Technology were defined on 28 October 2010 through the Decree of the Minister of Communication and Information Technology No. 17/PER/M.KOMINFO/10/2010.on Organization and Work Method of the Ministry of Communication and Information Technology replacing the Decree of the Minister of Communication and Information Technology No. 25/PER/M.KOMINFO/07/2008. The new structure, of the Ministry of Communication and Information Technology comprises Secretariat General, Inspectorate General, Directorate General of Resources and Equipment of Post and Information Technology (Ditjen SDPPI), Directorate General of the Provision of Post and Information Technology (Ditjen

PPI), Directorate General of Information Technology Application (Ditjen Aptika), Directorate General of Public Information and Communication (Ditjen IKP), and Body of Research and Development of Human Resources. Two new Directorate Generals are Directorate General of Resources and Equipment of Post and Information Technology and Directorate General of the Provision of Post and Information Technology which form the splitting result of the previous Directorate General of Post and Telecommunication in the previous organizational structure.

In line with the Decree of the Minister of Communication and Information Technology No. 17/PER/M.KOMINFO/10/2010, the main duties of the Ministry of Communication and Information Technology are to assist the President of the Republic in governmental provision of the State. The Ministry of Communication and Information Technology has duties and functions as follows:

(1) Formulation, defining, and implementation of policies in the field of communication and information technology;

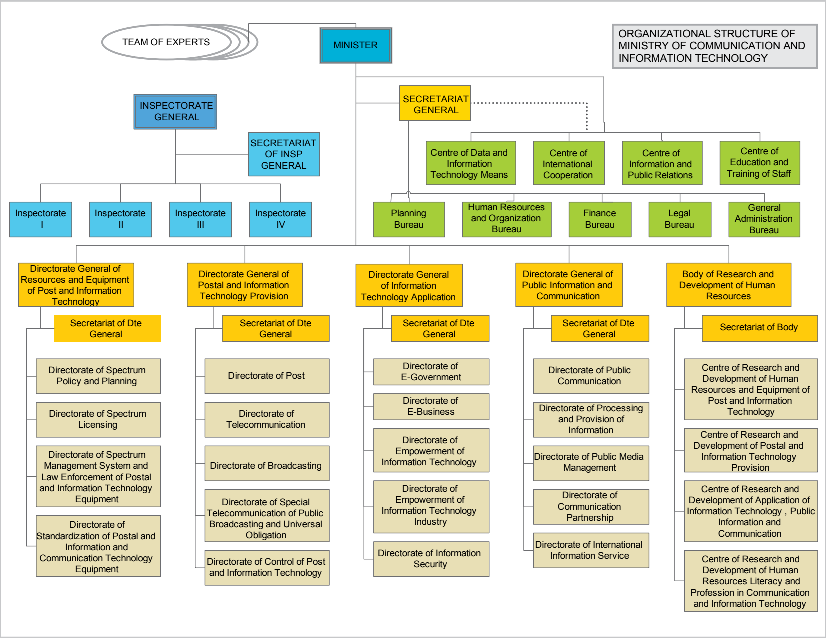
(2) Managing goods or property of the State which are under the responsibility of the Ministry of Communication and Information Technology;

(3) Supervision on the implementation of duties within the scope of the Ministry of Communication and Information Technology;

(4) Providing technical guidance and supervision on the implementation of matters of the Ministry of Communication and Information Technology in the regions; and

(5) Implementation of technical activities of national scope.

Figure 2.1.
Organizational Structure of the Ministry of Communication and Information Technology based on the Decree of the Minister of Communication and Information Technology No.17/PER/M.KOMINFO/10/2010



2.2. Directorate General of Resources and Equipment of Post and Information Technology

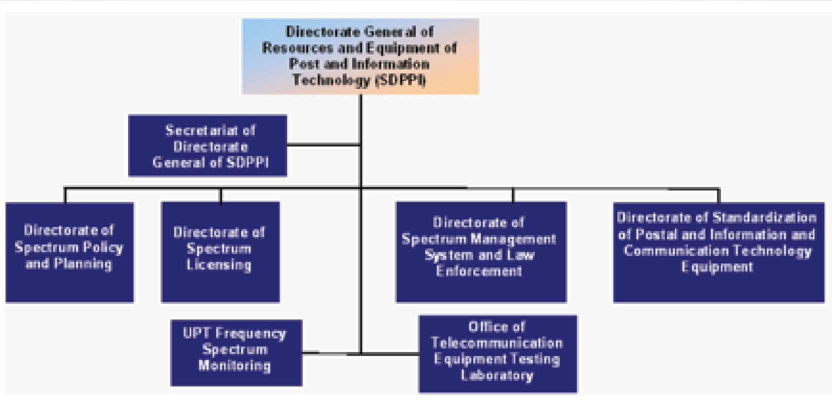
Directorate General of Resources and Equipment of Post and Information Technology (Ditjen SDPPI) is one of the Directorate Generals newly formed through the Decree of the Minister of Communication and Information Technology No. 17/PER/M.KOMINFO/10/2010 which is the result of splitting of the Directorate General of Post and Telecommunication of the previous structure. Directorate General SDPPI focuses its duties on regulation, management and control of resources and equipment of post and information technology related to the use by internal government and by the public at large/society. The area of management, facilities and regulations also focus on resources and equipment of post and information technology. Other Directorate General resulted from the splitting of the Directorate General of Post and Telecommunication is Directorate General of the Provision of Post and Information Technology. These two Directorate Generals have taken over most of the main duties and functions of the

Directorate General of Post and Telecommunication in the structure of the Ministry of Communication and Information Technology.

Directorate General of Resources and Equipment of Post and Information Technology is a working unit in the same level with 1st Echelon that exercises most of the main duties and functions of the Directorate General of Post and Telecommunication. The organization of the Directorate General of Resources and Equipment of Post and Information Technology consists of:

1. Secretariat of the Directorate General;
2. Directorate of Spectrum Policy and Planning;
3. Directorate of Spectrum Licensing;
4. Directorate of Spectrum Management System and Law Enforcement;
5. Directorate of Standardization of Postal and Information and Communication Technology Equipment;
6. Technical Implementation Units, i.e.:
   a. Office of Telecommunication Equipment Testing Laboratory;
   b. Office of Frequency Spectrum Monitoring, comprising Main Offices (Balai) and Sub-Offices (Shops/Loka and Post) of Frequency Spectrum Monitoring spread over 37 locations throughout Indoesia.

Figure 2.2.
Organizational Structure of the Directorate General of Resources and Equipment of Post and Information Technology



The Directorate General of Resources and Equipment of Post and Information Technology has the duty to formulate and implement the policy and technical standardization in the field of resources and equipment of post and information technology. In implementing its duty, the Directorate General of Resources and Equipment of Post and Information Technology executes the functions of:

(a) Formulating the policies in the field of resources and equipment of post and

information technology;

(b) Implementing the policies in the field of resources and equipment of post and information technology;

(c) Drawing up norms, standards, procedures, and criteria in the field of resources and equipment of post and information technology;

(d) Providing technical guidance and conducting evaluation in the field of resources and equipment of post and information technology; and

(e) Implementing administration of the Directorate General of Resources and Equipment of Post and Information Technology.

Based on the structure, main duties, and functions of the Directorate General of Resources and Equipment of Post and information Technology, besides the functions of policy, regulation and guidance, the Directorate General also has the function of serving the public. This function of serving the public is carried out through the issuance of radio frequency spectrum licenses, handling claims for radio frequency spectrum disturbances, testing the competence and certification of radio operators, certification and testing of telecommunication tools and equipment.

Directorate General of Resources and Equipment of Post and information Technology consists of :

1. Secretariat of the Directorate General of Resources and Equipment of Post and Information Technology (Setditjen SDPPI) that has the duty to implement technical and administrative services for all organizational units within the scope of Ditjen SDPPI.

2. Directorate of Spectrum Policy and Planning that has the duty to implement the formulation and execution of policies, drawing up norms, standards, procedures, and criteria and providing technical guidance and conducting evaluation in the field of spectrum policy and planning.

3. Directorate of Spectrum Licensing that has the duty to implement the formulation and execution of policies, drawing up norms, standards, procedures, and criteria, and providing technical guidance and conducting evaluation in the field of spectrum licensing.
4. Directorate of Spectrum Management System and Law Enforcement; that has the duty to implement the formulation and execution of policies, drawing up norms, standards, procedures, and criteria, and providing technical guidance and conducting evaluation in the field of spectrum management system and law enforcement.
5. Directorate of Standardization of Postal and Information and Communication Technology Equipment, that has the duty to implement the formulation and execution of policies, drawing up norms, standards, procedures, and criteria, and providing guidance and conducting evaluation in the field of standardization of postal and information and communication technology equipment.

2.3. Technical Implementation Units (UPT)

2.3.1. Office of Telecommunication Equipment Testing Laboratory (BBPPT)

Office of Telecommunication Equipment Testing Laboratory is a Technical Implementation Unit within the Directorate General of Resources and Equipment of Post and Information Technology which is under and accountable to the Director General of Resources and Equipment of Post and Information Technology. Administratively BBPPT is guided by Secretary of the Directorate General of SDPPI and technically operational by Director of Standardization of Postal and Information and Communication Technology Equipment of SDPPI.

In implementing its duty as stipulated in the Decree of the Minister of Communication and Information Technology No. 04/PER/M. KOMINFO/03/2011, the Office of Telecommunication Equipment Testing Laboratory executes its functions of:

(1). drafting plan and program of BBPPT;

(2). Implementing administrative services of telecommunication tools/ equipment testing;

(3). Implementing analysis, and evaluation of service quality system and testing of telecommunication tools/equipment;

(4). Implementing testing and maintenance of telecommunication tools/ equipment, *electromagnetic compatibility* (EMC), and calibration; and

(5). Implementing administrative affairs, finance, human resources and household.

In carrying out testing of telecommunication tools/equipment, the Office of Telecommunication Equipment Testing Laboratory refers to the Technical Specification Regulation of the Directorate General of Resources and Equipment of Post and Information Technology, Indonesian National Standard (SNI), and International References such as ISO, ETSI, RR, ITU, IEC. These references are used so that the Office of Telecommunication Equipment Testing Laboratory is capable of protecting and maintaining the quality of telecommunication tools/equipment and guaranteeing that the telecommunication tools/equipment used or prevail in Indonesia are indeed in compliance with the technical requirements.

From the development in the number of telecommunication tools and equipment prevailing in Indonesia which shows a sharp increase due to the felt need of the community, the Office of Telecommunication Equipment Testing Laboratory has continually developed its capability both in the infrastructure and in human resources.

To guarantee better quality of testing and the competence of laboratory, the Office of Telecommunication Equipment Testing Laboratory has applied Quality Management System which refers to ISO-17025:2005 and has obtained accreditation from National Accreditation Committee (KAN) LP-112-IDN.

To support the above-mentioned duties and functions, BBPPT is equipped with supporting means in the form of:

(1) Testing Laboratory of Radio Equipment;

(2) Testing Laboratory of Cable Based Equipment;

(3) Testing Laboratory of EMC; and

(4) Laboratory of Calibration.

The types of testing services provided by laboratories within BBPPT are :

(1) Testing of Radio Based Telecommunication Tools/Equipment;

(2) Testing of Non Radio Based Telecommunication Tools/Equipment;

(3) Testing of *Electromagnetic Compatibility* of Telecommunication Tools/ Equipment;

(4) Calibration Service of Telecommunication Equipment; and

(5) Telecommunication Tools Hiring Service.

2.3.2. Technical Implementation Unit of Radio Frequency Spectrum Monitoring

The Technical Implementation Unit (UPT) of Radio Frequency Spectrum Monitoring is an independent working unit within the Directorate General of Resources and Equipment of Post and Information Technology which is accountable directly to the Director General of Resources and Equipment of Post and Information Technology. The UPT of Radio Frequency Spectrum Monitoring is administratively guided by Secretary of the Directorate General of Resources and Equipment of Post and Information Technology and is technically operational guided by Director of Spectrum Management System and Law Enforcement of SDPPI.

The UPT of Radio Freq7uency Spectrum Monitoring has the duty to implement supervision and control in the field of radio frequency spectrum usage covering activities of observation, detection of emission source, monitoring, law enforcement, evaluation and scientific testing, measurement, radio frequency monitoring coordination, drafting plan and program, provision of spare parts, maintenance and repair of equipment, and administrative and household affairs.

In implementing its duty, the UPT of Radio Frequency Spectrum Monitoring executes its functions of :

(1) Drafting plan and program, provision of spare parts, and maintenance of radio frequency spectrum monitoring equipment;

(2) Implementation of observation, detection of the source of emission location, and monitoring of radio frequency spectrum;

(3) Implementation of calibration and repair of radio frequency spectrum monitoring equipment;

(4) Implementation of administrative and household affairs of UPT of Radio Frequency Spectrum Monitoring;

(5) Coordination of radio frequency spectrum monitoring;

(6) Law enforcement and investigation of violations towards radio frequency spectrum usage ;

(7) Service/complaint of the community towards radio frequency spectrum disturbance; and

(8) Implementation of evaluation, scientific testing, and radio frequency spectrum measurement.

The UPT of Radio Frequency Spectrum Monitoring is classified into four (4) classes, i.e.:

(1) 1st Class Radio Frequency Spectrum Monitoring Office;

(2) 2ndClass Radio Frequency Spectrum Monitoring Office;

(3) Radio Frequency Spectrum Monitoring Shop (*Loka*);

(4) Radio Frequency Spectrum Monitoring Post.

2.4 Institutional Certification

Some institutional organizations within the organizational structure of Directorate General of Resources and Equipment of Post and Information Technology have the functions of providing services to the public and the duties which necessitate the existence of process or procedure in exercising said duties and functions. In order to ensure a standard procedure and comply with the required standard, some organizations that provide the afore-mentioned services have also carried out the process of certification of service quality of said organizations in the form of ISO certification. In accordance with their duties, certification of service quality in the form of this quality certification is owned by the working units in providing radio frequency spectrum license service and radio frequency spectrum monitoring service and the working units which provide testing service of telecommunication tools and equipment. Most of service quality certifications already owned by the working units in the Directorate General of Resources and Equipment of Post and Information Technology are ISO 9001 certifications related to service quality,.

Table 2.1
Certification of ISO Quality for services owned by working units of Ditjen SDPPI

No	Institution	Service	Certification	Issuing Institution
1	Directorate of Spectrum Licensing	Radio Frequency Spectrum License	ISO 9001 : 2000	TUV-NORD
2	Office of Telecommunication Equipment Testing Laboratory	Testing of Telecommunication Tools and Equipment	ISO/IEC 17025 : 2008	Ilac-MRA-KAN
3	2nd Class Bandung Office of Radio Frequency Spectrum Monitoring UPT	Monitoring of Radio Frequency Spectrum	ISO 9001 : 2008	Global Group (UKAS)
4	2nd Class Surabaya Office of Radio Frequency Spectrum Monitoring UPT	Monitoring of Radio Frequency Spectrum	ISO 9001 : 2008	Global Group (UKAS)
5	2nd Class Denpasar Office of Radio Frequency Spectrum Monitoring UPT	Monitoring of Radio Frequency Spectrum	ISO 9001 : 2008	Global Group (UKAS)
6	2nd Class Semarang Office of Radio Frequency Spectrum Monitoring UPT	Monitoring of Radio Frequency Spectrum	ISO 9001 : 2008	Global Group (UKAS)

Chapter 3

Chapter 3

Human Resources

3.1. Introduction

Statistics in the field of Human Resources provide a narration and clarification on the number and composition of staff in the Directorate General of Resources and Equipment of Post and Information Technology in all the working units thereof (Secretariat of Directorate General, Directorates and Technical Implementation Units/ UPT) and staff from Directorate General of Resources and Equipment of Post and Information Technology who are assigned to work in other agencies or in other working units in the Ministry of Communication and Information Technology. These statistics also illustrate the distribution of staff according to levels of education and echelon leveling to show the response from the side of staff to carry out the main tasks and functions in the field of management and utilization of resources and equipment of post and information technology This situation is needed bearing in mind the very rapid development in the field of management and utilization of resources and equipment of post and information technology in recent years and involve many stakeholders. This book starts to compare the development of the number of staff according to working units between the condition in 2012 and the condition in semester 1 year 2913, since the institution of the Directorate General of Resources and Equipment of Post and Information Technology has entered its third year,..

The development in the field of utilization of resources and equipment of post and information technology must be followed by the capability of regulation and supported by better human resources so that said development may be commensurate with the desired direction and in line with the interest of the public. One of the elements of this set of regulations is that civil servants working in the government institution hold the function of regulator in the management and utilization of resources and equipment of post and information technology in Indonesia. The condition and composition of human resources in one working unit illustrate the support capacity from the side of staff possessed by that working unit in carrying out its main duties and functions. Such condition and composition also reflect the capability of service of the working unit concerned, including the working units within the Directorate General of Resources and Equipment of Post and Information Technology.

3.2. Number of Staff

Up to the position of semester 1-2013, the number of staff of Directorate General of Resources and Equipment of Post and Information Technology is 1333 or decreased by 47 persons or 3.4% compared to the condition at semester-2012. This decline in the number of staff is especially caused by a sufficiently big decline in the number of staff at UPT Radio Frequency Spectrum Monitoring (Monfrek) and staff assigned to work outside the Directorate General of Resources and Equipment of Post and Information Technology (Ditjen SDPPI). The decline in the number of staff in these two parts is, among other things, caused by the retirement of some staff and those who have permanently been shifted to work in other working units outside Ditjen SDPPI. Although the number of staff in other working units increases , and even Directorate of Spectrum Management System and Law Enforcement increases by 13 staff, yet because of the decline in the number of staff at UPT Monfrek and the number of staff assigned to assist in place is big enough, in total the number of staff at this Ditjen SDPPI decreases compared to that of semester 1-2012. The decline in this number of staff is due to transfer of staff to other Directorate Generals within the Ministry of Communication and Information Technology, particularly Directorate General of the Provision of Post and Information Technology (Ditjen PPI) and the existence of staff that have entered retirement. The changes in the composition of staff at Ditjen SDPPI implicitly show that Ditjen SDPPI wishes to strengthen the working units at Directorates by increasing the number of staff at these units.

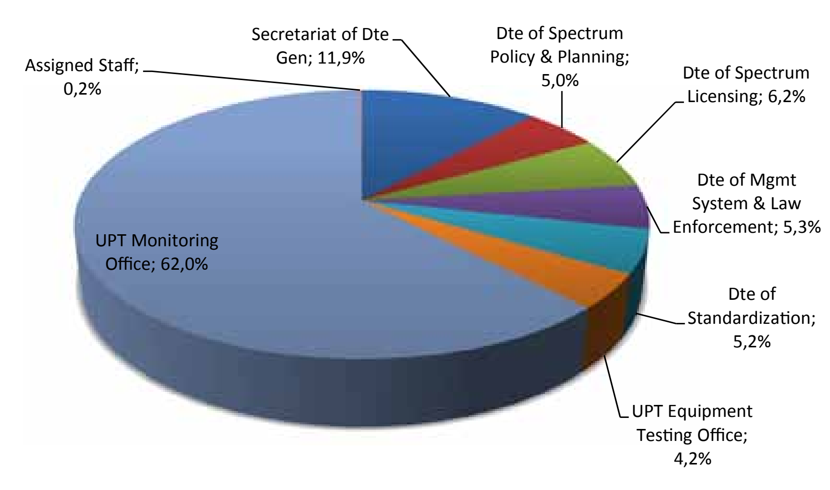
Table 3.1.
Comparison of the number of staff of Ditjen SDPPI according to working unit

No	Working Unit	Semester 1-2012	Semester 1-2013	Changes
1	Secretariat Ditjen SDPPI	159	159	0
2	Dte Spectrum Policy & Planning	60	66	+6
3	Dte Spectrum Licensing	76	83	+7
4	Dte Spect Mgt System & Law Enforcement	58	71	+13
5	Dte Standardization	64	69	+5
6	UPT Equipment Testing Office	54	56	+2
7	UPT Monitoring Office	861	827	-34
8	Staff assigned to assist/work outside Ditjen SDPPI	48	2	-46
	Total	**1380**	**1333**	**-47**

Table 3.1 shows that the greatest addition of the number of staff is found at the Directorate of Spectrum Management System and Law Enforcement of SDPPI . The need for monitoring coordination of frequency usage and equipment of post and information technology with UPT Radio Frequency Spectrum Monitoring (Monfrek) and the higher intensity of frequency usage have also given rise to the increase in the number of needed staff. On the other hand, the number of staff at UPT Radio Frequency Spectrum Monitoring spread over 37 locations undergoes a sufficiently big decline compared to that of semester 1-2012 although since the year 2012 two new Monfrek have also been established, i.e. UPT Mamuju and UPT Manokwari. A working unit which also undergoes an increase in the number of staff despite not so big is Directorate of Spectrum Policy and Panning with 6 staff and Directorate of Spectrum Licensing with 7 staff. In general, the number of staff at all technical Directorates undergoes an increase compared to that of semester 1-2012.

If seen from the distribution according to working units, staff at Ditjen SDPPI are mostly found at UPT Radio Frequency Spectrum Monitoring achieving 883 persons or 62% of the total staff at Ditjen SDPPI. The number of staff at UPT Radio Frequency Spectrum Monitoring which is far more compared to that of other working units is due to the fact that Ditjen SDPPI has 37 UPT Radio Frequency Spectrum Monitoring spread over 37 towns/locations in the form of monitoring offices, shops (loka), or posts. Each of the afore-said UPT has a number of staff that varies depending on class of UPT so that in total the number of their staff is also big enough.

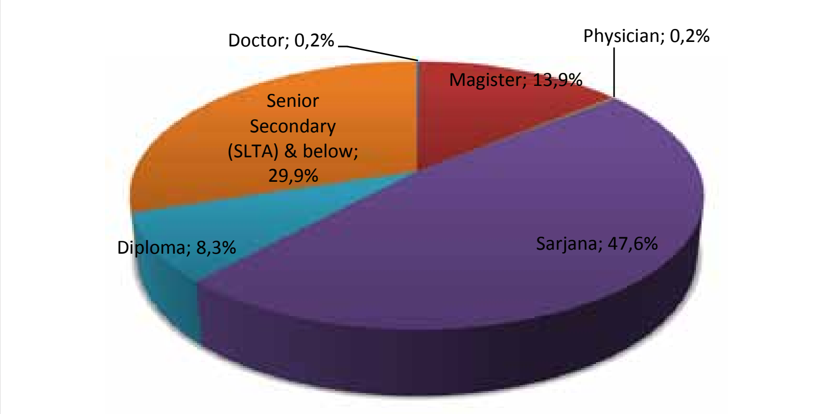
Figure 3.1
Composition of staff of Directorate General of SDPPI according to Working Units



Outside UPTs, the number of staff of the Directorate General of SDPPI is mostly found at the Secretariat of the Directorate General of SDPPI, as many as 159 persons, followed by the Directorate of Spectrum Licensing as many as 83 persons. The number of staff at the Secretariat of the Directorate General has its proportion achieving 11.9% of the total staff, followed by Directorate of Spectrum Licensing with the proportion of 6.2%. However, the proportion of staff among Directorates is relatively balanced enough where the proportion of the least number of staff is at the Directorate of Spectrum Policy and Planning achieves 5%.

The composition of staff of the Directorate General of SDPPI according to education level shows that staff with Sarjana education level has the highest proportion of 47.6% or 634 staff. The composition of staff with education level of SLTA (Senior Secondary School) and below also has quite high proportion, achieving 29.9% of total staff or 399 staff. Staff with Diploma education level achieves 8.3% so that the compared proportion of staff with education level of Pasca Sarjana, Sarjana and Diploma achieves 70.1%.

Figure 3.2.
Composition of staff of Directorate General of SDPPI according to Education Level



The proportion of staff with magister education increases from 11.1% in semester

1-2012 to 13.9% in semester 1-2013. A significant increase also occurs in the staff with sarjana education level from 41.1% in semester 1-2012 to 47.6% in semester 1-2013. Meanwhile, the composition of staff with SMA/SLTA education level and below declines in proportion from 35.9% in semester 1-2012 to only 29.9% in semester 1-2013. This trend of change in proportion shows the existence of effort to increase the quality of staff at Directorate General SDPPI through the enhancement of education level of its staff. What more the combination of staff with education level of sarjana and diploma undergoes a significant increase and their proportion becomes big vis-à-vis the total number of staff. In the meantime, the proportion of staff with SMU education level and below has continuously declined until 29.9% left in semester 1-2013.

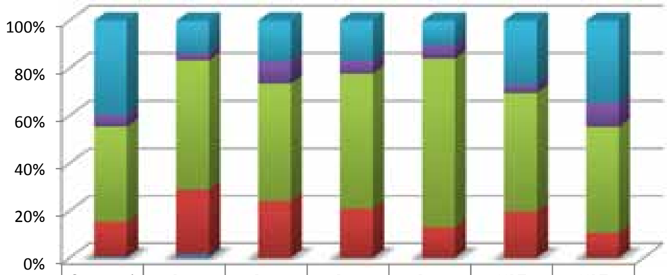
The composition of staff according to education level in the respective working units shows that staff with magister education level are mostly found at UPT Radio Frequency Spectrum Monitoring, followed by Secretariat of the Directorate General and Directorate of Spectrum Licensing of SDPPI. The number of staff with magister education level found more at UPT Radio Frequency Spectrum Monitoring is due to the fact that the number of working units is found many, namely 37 UPT spread over throughout Indonesia . Each of the UPT has staff of education level of magister, sarjana and diploma, so that the number of staff for the respective level of education is also mostly found at UPT Radio Frequency Spectrum Monitoring. However, with the number of staff which is not so many, staff of magister education level are really sufficient in number at the Directorate of Spectrum Licensing of SDPPI.

Table 3.2.
Number of Staff of Directorate General of SDPP according to Education Level in Semester 1-2013

No	Working Unit	S3	Magister	Physician	S1	Diploma	SLTA and below	Total
1	Secretariat Ditjen SDPPI	1	21	2	64	8	63	159
2	Dte Spectrum Policy & Planning	1	18	0	36	2	9	66
3	Dte Spectrum Licensing	0	20	0	41	8	14	83
4	Dte Spectrum Mgt System & Law Enforcement	1	17	0	45	1	7	71
5	Dte Standardization	0	9	0	49	4	7	69
6	UPT Office of Telecom Equipment Testing Laboratory	0	11	0	28	2	15	56
7	UPT Radio Frequency Spectrum Monitoring	0	88	0	370	85	284	827
8	Staff assigned to assist/ work outside Ditjen SDPPI	0	1	0	1	0	0	2
	Total	3	185	2	634	110	399	1333

If viewed from the proportion according to education level in each working unit, the number of staff with sarjana and magister education levels is the least found at UPT Radio Frequency Spectrum Monitoring and UPT Office of Telecommunication Equipment Testing Laboratory. The composition of staff at UPT Radio Frequency Spectrum Monitoring as seen in Figure 3.3 shows that, although the nominal/absolute number is numerous, the proportion of staff with education level of sarjana only achieves 44.7% and only 10.6% of the staff with education level of S2/S3 out of the total large enough staff of UPT Radio Frequency Spectrum Monitoring. Nevertheless, this proportion increases significantly compared to that of the previous year where the total proportion of the staff with education level of sarjana, magister and doctoral degree was only 43%. In the meantime, at the UPT Office of Telecommunication Equipment Testing Laboratory with a smaller number of staff, the proportion of staff with education level of sarjana has achieved 50.2% and staff with S2/S3 education level has achieved 19.6%. At the same time, the proportion of staff with sarjana education level at the Directorates of Ditjen SDPPI achieves more than 49% and the proportion of staff with magister or doctoral degree education level achieves more than 20% except at the Directorate of Standardization of Postal and Information and Communication Technology Equipment. However, at the Directorate of Standardization of Postal and Information and Communication Technology Equipment, the proportion of staff with sarjana education level has achieved 70%, while at the Directorate of Spectrum Policy and Planning the proportion of staff with S2/S3 education level has achieved 27.3% of the total staff at said working unit.

Figure 3.3.
Composition of Staff of The Directorate General of SDPPI according to Education Level and Working Unit



	Secretariat Ditgen SDPPI	Dte Spectrum Policy & Planning	Dte Spectrum Licensing	Dte System & Law Enforcement	Dre Standardization	UPT Equipment Testing Office	UPT Monitoring Office
SLTA & below	39,6%	13,6%	16,9%	16,7%	10,1%	26,8%	34,3%
Diploma	5,0%	3,0%	9,6%	5,6%	5,8%	3,6%	10,3%
Sarjana	40,3%	54,5%	49,4%	56,9%	71,0%	50,0%	44,7%
Magister+Physician	14,5%	27,3%	24,1%	20,8%	13,0%	19,6%	10,6%
Doctor	0,6%	1,5%	0,0%	0,0%	0,0%	0,0%	0,0%

The Secretariat of Directorate General with the second most number of staff after UPT Radio Frequency Spectrum Monitoring), the proportion of staff with Sarjana education level has achieved 40.3%, while the proportion of staff with S2 education level and physician in this working unit is only 14.5% The proportion of staff with high education level at this Secretariat of the Directorate General of SDPPI relatively does not undergo an increase except for magister/physician compared to that of the previous year. The proportion of staff with SLTA education level and below decreases from 40.9% in semester 1-2012 to 39.6% in this semester 1-2013. The proportion of staff with secondary school education level and below which is still high enough is found at UPT Radio Frequency Spectrum Monitoring and at Secretariat of Directorate General of SDPPI which respectively achieves 34.3% and 39.6%. From that composition which implicitly shows that certain working unit such as the one related to management and frequency management and standardization of equipment is in need of staff with higher qualification. Nevertheless, in general, from the composition of staff according to education, the qualification of the education level of staff at the Directorate General of Resources and Equipment of Post and Information Technology is categorized high enough where staff with education level of sarjana and magister achieve more than 50%.

3.3. Staff of Technical implementation Units of Directorate General of SDPPI

3.3.1. Number and Composition of Staff

UPT Radio Frequency Spectrum Monitoring is one of two UPTs within the scope of Directorate General of Resources and Equipment of Post and Information Technology. This UPT Radio Frequency Spectrum Monitoring consists of 37 UPT monitoring spread over throughout Indonesia covering Monitoring Offices/Shops (*Loka*)/Posts. UPT radio frequency spectrum monitoring has the main function to conduct monitoring towards the use of frequency by various parties within the framework of regulating the utilization of frequency appropriately. This task is carried out through the existence of monitoring units in the regions in the form of offices, shops (*loka*), and posts of various levels.

The number of staff of UPT Radio Frequency Spectrum Monitoring in total (including UPT Office of Telecommunication Equipment Testing Laboratory) in semester 1-2013 follows the declining trend of the number of staff occurring in the previous year. With the total number of staff of 883, it means decreasing by 32 staff compared to that of semester 1-2012. As a matter of fact, during the period of 2007 – 2010 the number of staff at UPT Radio Frequency Spectrum Monitoring precisely had a significant increase. On the other side, a highly increasing requirement of radio frequency spectrum monitoring and equipment in line with the high increase in the use of frequency spectrum and equipment, has encouraged the addition of monitoring lokas/posts. However, compared to the condition of semester 1-2012, the number of staff at UPT shows a decline of 32 staff with the detail that UPT Radio Frequency Spectrum Monitoring decreases by 34 staff and UPT Office of Telecommunication Equipment Testing Laboratory increases by 2 staff.

Table 3.3.
Development of the Number of UPT Staff of the Directorate General of SDPPI according to Education Level

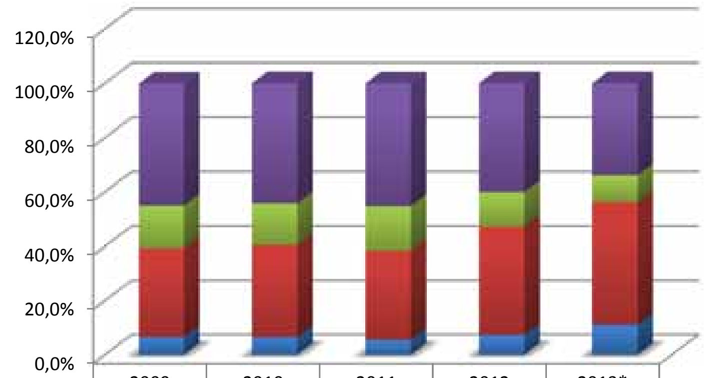
No	Year	S2	S1	Diploma	SLTA and below	Total
1	2007	27	211	101	335	674
2	2008	48	270	136	384	838
3	2009	58	290	139	396	883
4	2010	63	325	148	424	960
5	2011	51	302	151	414	918
6	2012	65	358	114	359	896
7	2013*	99	398	87	299	883

*) up to semester 1-2013

If viewed from the composition of education competed, up to semester 1-2013, there is a positive development where the proportion of staff with sarjana and magister education level has a significant increase and for sarjana education level, it becomes the biggest compared to staff of other education levels. The proportion of staff with sarjana education level achieves 45.1% or has exceeded the proportion of staff with SLTA education level which earlier became the biggest and increased compared to that of semester 1-2012 which only achieved 36.9%, the proportion of staff with SLTA education level and below only achieves 33.9%. This proportion declines compared to that of the previous year which achieved 41.6%. The proportion of UPT staff with diploma education level also declines from 15% in semester 1-2012 to only 12.7% left in semester 1-2013 in line with the increase of the proportion of staff with Sarjana education level. A sufficiently significant increase also occurs for staff with pascasarjana education level the proportion of which increases from

6.4% in semester 1-2012 and becomes 11.2% in semester 1-2013. The structure of organization and human resources at the Directorate General which starts to be stable and does not much undergo the transfer of staff becomes one of the factors of the increase in the number of staff with higher education level such as sarjana and pascasarjana.

Figure 3.4.
Development of the Composition of UPT Staff according to Education Level in the period of 2009 – semester 1-2013



	2009	2010	2011	2012	2013*
SLTA & below	44,8%	44,2%	45,1%	40,1%	33,9%
Diploma	15,7%	15,4%	16,4%	12,7%	9,9%
S1	32,8%	33,9%	32,9%	40,0%	45,1%
S2	6,6%	6,6%	5,6%	7,3%	11,2%

*) up to semester 1-2013

3.3.2. Staff of UPT Radio Frequency Spectrum Monitoring (UPT Monfrek)

Particularly for staff of UPT Radio Frequency Spectrum Monitoring, the distribution of the number of staff according to UPTs that spread over 37 locations shows the variations of the number of staff among UPTs. These variations are in accordance with the classes of the UPT Radio Frequency Spectrum Monitoring in the respective regions. The UPT Radio Frequency Spectrum Monitoring Office consists of several classes, i.e. Monitoring Office Class 1, Monitoring Office Class 2, Monitoring Shop, and Monitoring Post, in line with the monitoring workload of the UPTs. The UPTs with big workload due to high usage of radio frequency spectrum in the regions such as UPT Semarang and UPT Surabaya that have more number of staff (around 40 to 3 staff), UPT Bandung, UPT Yogyakarta and UPT Jakarta also have sufficient number of staff, i.e. 38 staff. A significant increase occurs in the composition of staff with Sarjana and Pascasarjana education level in two sufficiently big UPTs, namely UPT Jakarta and UPT Bandung which a the beginning their proportion was relatively low. The number of staff with sarjana and magister education level at UPT Jakarta increases from 31.7% in semester 1-2012 to 42.1% in semester 1-2013. In the meantime, the proportion of staff with sarjana dna magister education level at UPT Bandung increases from 41.4% in semester 1-2012 to 44.8% in semester 1-2013. Meanwhile, for UPT Semarang, UPT Surabaya and UPT Yogyakarta, their proportions have achieved more than 50%.

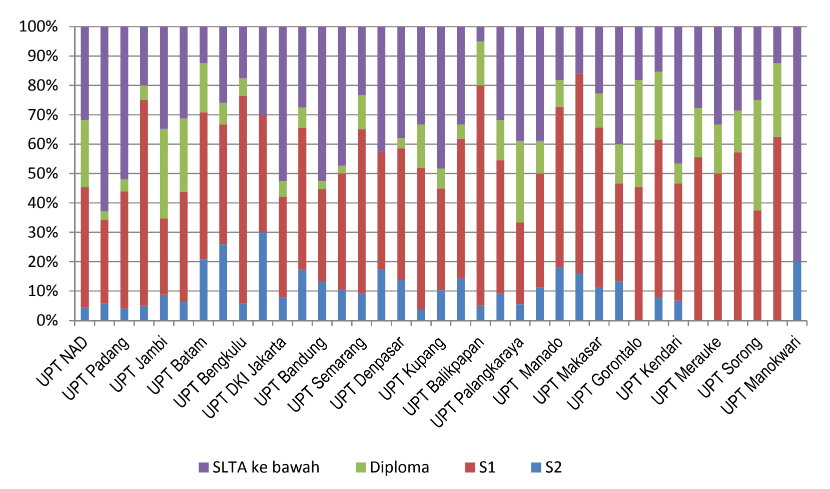
Table 3.4.
Number of Staff of the respective UPT Radio Frequency Spectrum Monitoring according to Education Level

No	UPT	S2	S1	Diploma	SLTA and below	Total
1	UPT NAD	1	9	5	7	22
2	UPT MEDAN	2	10	1	22	35
3	UPT PADANG	1	10	1	13	25
4	UPT PEKANBARU	1	14	1	4	20
5	UPT JAMBI	2	6	7	8	23
6	UPT BABEL	1	6	4	5	16
7	UPT BATAM	5	12	4	3	24
8	UPT PALEMBANG	7	11	2	7	27
9	UPT BENGKULU	1	12	1	3	17
10	UPT LAMPUNG	6	8	0	6	20
11	UPT DKI JAKARTA	3	13	2	20	38
12	UPT BANTEN	5	14	2	8	29
13	UPT BANDUNG	5	12	1	20	38
14	UPT YOGYAKARTA	4	15	1	18	38
15	UPT SEMARANG	4	24	5	10	43
16	UPT SURABAYA	7	16	0	17	40
17	UPT DENPASAR	4	13	1	11	29
18	UPT MATARAM	1	13	4	9	27

No	UPT	S2	S1	Diploma	SLTA and below	Total
19	UPT KUPANG	3	10	2	14	29
20	UPT SAMARINDA	3	10	1	7	21
21	UPT BALIKPAPAN	1	15	3	1	20
22	UPT PONTIANAK	2	10	3	7	22
23	UPT PALANGKARAYA	1	5	5	7	18
24	UPT BANJARMASIN	2	7	2	7	18
25	UPT MANADO	4	12	2	4	22
26	UPT PALU	3	13	0	3	19
27	UPT MAKASAR	4	19	4	8	35
28	UPT AMBON	2	5	2	6	15
29	UPT GORONTALO	0	5	4	2	11
30	UPT TERNATE	1	7	3	2	13
31	UPT KENDARI	1	6	1	7	15
32	UPT JAYAPURA	0	10	3	5	18
33	UPT MERAUKE	0	6	2	4	12
34	UPT Tahuna	0	4	1	2	7
35	UPT Sorong	0	3	3	2	8
36	UPT Mamuju	0	5	2	1	8
37	UPT Manokwari	1	0	0	4	5
	Total	**88**	**370**	**85**	**284**	**827**

In some UPTs in the regions with the level of usage of frequency which is not so high, with social economic dynamism and the level of progress of the regions which are not so high, the number of staff of the aforementioned UPTs is also inclined to be not big. UPT Bengkulu, UPT Bangka-Belitung, UPT Palangkaraya, UPT Kendari, and UPT Gorontalo have less number of staff (less than 20 persons). The same thing also happens for UPTs existing in the eastern region of Indonesia and UPT which is newly established. This is related to frequency monitoring workload which is relatively less compared to that of other UPTs. Table 3.4 also shows that at UPT with the number of staff between 10 and 20 persons, the proportion of the number of staff with Sarjana and magister education level in this occasion is better, achieving above 40% except in Manokwari, compared to semester 1-2012 which was around 27% to 37%.

Figure 3.5.
Composition of Staff of each UPT according to Education in Semester 1-2013



For UPT Manokwari, the proportion of staff with sarjana and magister education level is still low namely only 20%. In total, the proportion of staff with sarjana and magister education level in UPT Radio Frequency Spectrum Monitoring presently achieves achieves 55.4, an increase from the conditioinof semester 1-2012 which was only 42.9%. his proportion is a bit higher than the staff of SLTA education level and below that achieves 34.3%. The increase in the number of staff with sarjana and magister education level isan effort on the part of UPT to imrove monitoring erformance and law enforcement nthe use of frequency which becomes higher and complex.

3.3.3. Civil Servant Investigators (PPNS)

In order to support the activities of monitoring, law enforcement and services provided by working units of Directorate General of Resources and Equipment of Post and Information Technology, the Directorate General of SDPPI also has staff having the status of Civil Servant Investigators (PPNS). The existence of PPNS is related to one of the tasks and functions of Directorate General of Resources and Equipment of Post and Information Technology to conduct supervision and law enforcement towards activities of utilizing resources and equipment of post and information technology carried out in the legal jurisdiction of Indonesia and activities carried out within the framework of performing main duties and functions of Directorate General of Resources and Equipment of Post and Information Technology. Particularly for UPT Radio Frequency Spectrum Monitoring, the existence of PPNS also becomes important for supporting the tasks of monitoring and law enforcement of frequency and equipment carried out by UPT.

In total, the number of PPNS found at the Directorate General of Resources and Equipment of Post and Information Technology in semester 1-2013 is 268 persons including those that spread over the UPT Radio Frequency Spectrum Monitoring throughout Indonesia. In the meantime, the number of PPNS outside UPT Radio Frequency Spectrum Monitoring is 33 persons or around 19.2% of the total staff at the Directorate General of Resources and Equipment of Post and Information Technology, among working units at the Headquarters. Table 3.5 shows that other than those working at UPT Radio Frequency Spectrum Monitoring, the number of PPNS is mostly found at the Directorate of Spectrum Management System and Law Enforcement, i.e. 9 persons or an addition of 3 persons compared to semester 1-2012. In the meantime, the number of PPNS at Secretariat of the Directorate General and Directorate of Spectrum Licensing 5 persons and 6 persons respectively. The least number of PPNS is found at Directorate of Spectrum Policy and Planning, i.e. 2 persons. If it is seen that the proportions towards the number of staff of working units concerned,, th biggest proportions also lie at the Directorate of Spectrum Management System and Law Enforcement which is 12.5% and Office of Telecommunication Equipment Testing Laboratory which is 10.7%.

Table 3.5.
Number of PPNS according to working units other than UPT Office of Radio Frequency Spectrum Monitoring (Monfrek)

No	Working Unit	Semester 1 2012	Semester 1 2013	Changes
1	Secretariat of Directorate General	8	5	-3
2	Dte Spectrum Policy & Planning	3	2	-1
3	Dte Spectrum Licensing	7	6	-1
4	Dte Spectrum Mgt System and Law Enforcement	6	9	+3

No	Working Unit	Semester 1 2012	Semester 1 2013	Changes
5	Dte Standardization of Postal & Information & Communication Technology Equipment	9	5	-4
6	UPT Office of Telecom Equipment Testing Laboratory (BBPPT)	6	6	0
	Total	**39**	**33**	**-6**

If compared with the number of PPNS in semester 1-2012, there is a different dynamism between working units in this number of PPNS. In the greater part of working units such as Secretariat of the Directorate General, Directorate of Spectrum Policy and Planning, Directorate of Spectrum Licensing,, and Directorate of Standardization of Postal and Information and Communication Technology Equipment, there is a decline in the number of PPNS in this semester 1-2013. The same thing also happens at Office of Telecommunication Equipment Testing Laboratory. In the meantime, for working unit of Directorate of Spectrum Management System and Law Enforcement, there is an increase in the number of PPNS, so that in total the number of PPNS in working units other than UPT Radio Frequency Spectrum Monitoring declines as many as 6 staff. Transfer of staff among working units within the Directorate General of Resources and Equipment of Post and Information Technology is the cause of the occurrence of the change in the number of PPNS owned by the respective working units.

In particular, UPT Radio Frequency Spectrum Monitoring (Monfrek) that has one of its duties to carry out monitoring and law enforcement on frequency, in its working area also has PPNS personnel, The number of PPNS in all UPTs in semester 1-2013 achieves 235 persons or an increase of 9.8% compared to that of semester 1-2012. . The number of PPNS in the respective UPTs as seen at Table 3.6 shows a number that varies among UPTs and has correlation with the number of staff of said UPTs. UPTs with many staff as situated in the regions of Java have relatively more number of PPNS as well. The number of PPNS is mostly found at UPT Monfrek Semarang followed by UPT Monfrek Jakarta and UPT Monfrek Surabaya. This is due to the intensity of sufficiently high usage of radio frequency spectrum at the three regions. Quite many number of PPNS is also found in other big towns with high dynamism of towns such as Palembang,, Yogyakarta, Bandung, Denpasar, and Makassar. Until this semester 1-2013, all UPTs already have PPNS, including twp new UPTs, i.e. UPT Mamuju and

UPT Manokwari. UPT Mamuju and UPT Sorong have each only 1 PPNS while UPT Manokwari and UPT Gorontalo have each only 2 PPNS.

UPT Mamuju,, UPT Tahuna, and UPT Sorong have each only 1 PPNS, while UPT Manokwari has 2 PPNS

Table 3.6.
Number of PPNS in the respective UPT
Radio Frequency Spectrum Monitoring years 2011 and 2012

No	UPT	Smt 1-2012	Smt 1-2013	Δ	No	UPT	Smt 1-2012	Smt 1-2013	Δ
1	UPT NAD	4	4	0	20	UPT Samarinda	7	9	+2
2	UPT Medan	10	6	-4	21	UPT Balikpapan	4	5	+1
3	UPT Padang	5	5	0	22	UPT Pontianak	6	4	-2
4	UPT Pekanbaru	8	7	-1	23	UPT Palangkaraya	3	3	0
5	UPT Jambi	3	5	+2	24	UPT Banjarmasin	4	5	+1
6	UPT Pangkalpinang	5	5	0	25	UPT Manado	2	8	+6 7
7	UPT Batam	7	8	+1	26	UPT Palu	6	7	+1
8	UPT Palembang	7	9	+2	27	UPT Makasar	10	9	-1
9	UPT Bengkulu	4	6	+2	28	UPT Ambon	4	4	0
10	UPT Lampung	6	9	+3	29	UPT Gorontalo	2	2	0
11	UPT DKI Jakarta	11	12	+1	30	UPT Ternate	2	5	+3
12	UPT Banten	6	7	-1	31	UPT Kendari	4	5	+1
13	UPT Bandung	10	9	-1	32	UPT Jayapura	5	7	+2
14	UPT Yogyakarta	10	11	+1	33	UPT Merauke	10	5	-5
15	UPT Semarang	12	13	+1	34	UPT Tahuna	4	1	-3
16	UPT Surabaya	9	12	+3	35	UPT Sorong	2	1	-1
+17	UPT Denpasar	7	9	+2	36	UPT Mamuju	0	1	+1
18	UPT Mataram	6	7	+1	37	UPT Manokwari	0	2	+2
19	UPT Kupang	8	8	0		Total	213	235	+22

Compared to the previous year, there exist UPTs that undergo an increase of the number of PPNS, but at the same time there are some UPTs that also undergo a decrease in the number of PPNS. The biggest increase in the number of PPNS occurs in UPT Manado has an increase of 6 PPNS in this semester 1-2013, followed by UPT Lampung and UPT Ternate that undergo an increase of 3 PPNS each. On the other hand, there is a sufficiently big decline in the number of PPNS occurring at UPT Merauke and UPT Medan by 5 and 4 PPNS each. Some other UPTs also undergo a decline in the number of PPNS that varies between 1 until 3 PPNS.

3.3.4. Functional Officials

Other than Civil Servant Investigators, the Directorate General of SDPPI also have functional officials namely those who have the function of controlling frequency., placed and become staff at UPT Radio Frequency Spectrum Monitoring. The number of functional officials of frequency controller varies among UPTs Monfrek and is not directly proportional with the total number of staff of UPT Monfrek. UPT Monfrek Surabaya with the total number of 40 staff has only 7 functional officials of frequency controller, while UPT Bengkulu with only 17 staff has 8 functional officials of frequency controller. The highest number of functional officials of frequency controller is found at UPT Monfrek Makassar which has 16 persons, followed by UPT Monfrek Semarang and UPT Monfrek Palembang which have each 15 functional officials. The number of functional officials of frequency controller at UPT Palembang increases by 1 official compared to that of 2012 . Other UPTs that have quite many functional officials of frequency controller are UPT Jakarta, UPT Yogyakarta, and UPT Batam.

Table 3.7.
Number of Functional Officials of Frequency Controller Year 2012 and Semester 1-2013

No	UPT	Functional Controller			No	UPT	Functional Controller		
		2012	Sem-1 2013	Δ			2012	Sem-1 2013	Δ
1	UPT NAD	5	7	+3	20	UPT Samarinda	7	8	+1
2	UPT Medan	8	8	0	21	UPT Balikpapan	6	6	0
3	UPT Padang	6	7	+1	22	UPT Pontianak	7	7	0
4	UPT Pekanbaru	3	6	+3	23	UPT Palangkaraya	7	7	0
5	UPT Jambi	8	9	+1	24	UPT Banjarmasin	2	3	+1
6	UPT Pangkalpinang	3	5	+2	25	UPT Manado	1	3	+2
7	UPT Batam	10	10	+1	26	UPT Palu	6	7	+1
8	UPT Palembang	14	15	+1	27	UPT Makasar	13	16	+3
9	UPT Bengkulu	7	8	+1	28	UPT Ambon	5	5	0
10	UPT Lampung	6	6	0	29	UPT Gorontalo	2	3	+1
11	UPT DKI Jakarta	14	14	0	30	UPT Ternate	2	4	+2
12	UPT Banten	6	6	0	31	UPT Kendari	3	3	0
13	UPT Bandung	9	8	-1	32	UPT Jayapura	7	6	-1

No	UPT	Functional Controller			No	UPT	Functional Controller		
		2012	Sem-1 2013	Δ			2012	Sem-1 2013	Δ
14	UPT Yogyakarta	13	13	0	33	UPT Merauke	3	3	0
15	UPT Semarang	15	15	0	34	UPT Tahuna	0	1	+1
16	UPT Surabaya	5	7	+2	35	UPT Sorong	3	4	+1
17	UPT Denpasar	4	4	0	36	UPT Mamuju	0	0	0
18	UPT Mataram	2	2	0	37	UPT Manokwari	0	1	+1
19	UPT Kupang	5	5	0		Total	217	243	26

Up to semester 1-2013, only UPT Monfrek Mamuju that has no functional official of frequency controller yet. Meanwhile, UPT Manokwari and UPT Tahuna which, in the year 2012, have no functional officials of frequency controller yet,, at present, have already had each functional official of frequency controller. UPT Mamuju that has no functional official of frequency controller yet is UPT still with the status of Loka Monitoring since it is newly formed in 2012

If compared with the condition in the year 2012, there is also an increase in the number of functional officials of frequency controller both in total and per UPT. In this semester 1-2013, there is an addition of 26 functional officials of frequency controller compared to that of semester 1-2012 or an increase of 12% . Some UPTs which experience an addition of functional officials of frequency controller in sufficiently big number compared to other UPTs are UPT Pekanbaru and UPT Makassar which each have an addition of 3 functional officials of frequency controller compared to that of the previous year. In the meantime, some other UPTs precisely show the decrease of the number of functional officials of frequency controller compared to that of the previous year, such as UPT Bandung and UPT Jayapura by one official each.; Besides, nearly half (16 UPTs) do not experience any change in the number of functional officials of frequency controller compared to that of the previous year.

Chapter 4

Chapter 4

Legal Regulations

4.1 Introduction

Statistics of legal regulations illustrate the number of legal regulations initiated by the Directorate General of Resources and Equipment of Post and Information Technology as regulator in the field of management and utilization of resources and equipment of post and information technology. This function of regulation is carried out by initiation until the issuance of a set of legal regulations in the field of resources and equipment of post and information technology. The regulations initiated start from Laws of the Republic of Indonesia, Government Regulations of the Republic of Indonesia, up to Ministerial Decrees or Decisions. These legal regulations reflect the policies of the Government to be used as reference for players of industry and for other stakeholders. in the field of resources and equipment of post and information technology.. The set of regulations issued in the field of resources and equipment of post and information technology forms an action of the Government in implementing the functions of regulating, supervising, and controlling. The fast development in the field of communication and information technology demands the Ministry of Communication and Information Technology, in particular the Directorate General of Resources and Equipment of Post and Information Technology, to always anticipate its arrangements by making preparations of a set of appropriate legal regulations.

The set of legal regulations issued to regulate, supervise and control operation in the field of resources and equipment of post and information technology covers regulations in the form of Laws, Government Regulations, Presidential Decrees, Ministerial Decrees, Ministerial Decisions, Decrees of the Director General of Resources and Equipment of Post and Information Technology and Circulars of the Minister. In the last two years, many regulations have been issued, particularly of technical nature. However, the greater part of the regulations are in the form of Ministerial Decrees, Ministerial Decisions, and Decrees of Director General.

4.2. Number of Legal Regulations

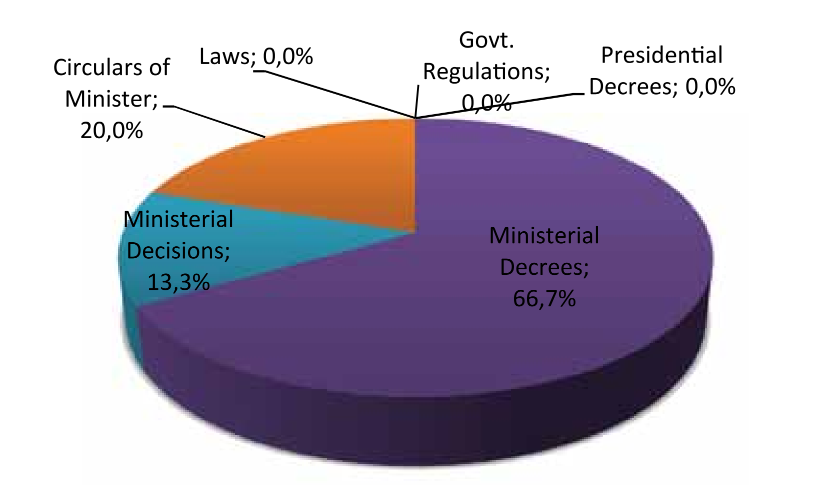
In the age of the institution entering its third year, the Directorate General of Resources and Equipment of Post and Information Technology, until semester 1-2013, has issued 15 regulations of external in nature. If viewed from the time of its formation, the Directorate General of Resources and Equipment of Post and Information Technology , has issued 88 regulations in the field of resources and equipment of post and information technology. Among 15 regulations issued, during this semester 1-2013, the highest ones were in the form of Decrees of the Minister of Communication and Information Technology..There is no regulation yet in the level of Law, Government Regulation and Presidential Decree related to the field of resources and equipment of post and information technology issued during semester 1-2013. Or if counted from the formation of Directorate General of Resources and Equipment of Post and Information Technology, the highest level of regulation issued was only Presidential Decree. During this semester 1-2013, out of 15 regulations issued, 10 regulations were in the form of Ministerial Decrees, 2 were in the form of Ministerial Decisions, and 3 were in the form of Circulars of the Minister. Decrees of the Director General of Resources and Equipment of Post and Information Technology were no more included in the list of regulations in this statistical Book with the consideration that matters regulated in the Decrees of the Director General of Resources and Equipment of Post and Information Technology were internal in nature. Based on Law of the Republic of Indonesia Number 12 Year 2011 on Formation of Legal Regulations, it is stated that regulations of internal in nature are issued in the form of regulations by Directorate General, while regulations of external in nature are issued in the form of Decrees of the Minister of Communication and Information Technology.

Table 4.1.
Number of Regulations according to the field and types related to SDPPI in semester 1-2013

Types of Regulations	Spectrum Policy & Planning SDPPI	Spectrum Licensing SDPPI	Spectrum Mgt System & Law Enforcement SDPPI	Standardization SDPPI	Other	TOTAL
Law	0	0	0	0	0	0
Government Regulation	0	0	0	0	0	0
Presidential Decree	0	0	0	0	0	0
Ministerial Decree	3	0	0	7	0	10
Ministerial Decision	1	1	0	0	0	2
Circulars of the Minister	0	2	0	1	0	3
TOTAL	**4**	**3**	**0**	**8**	**0**	**15**

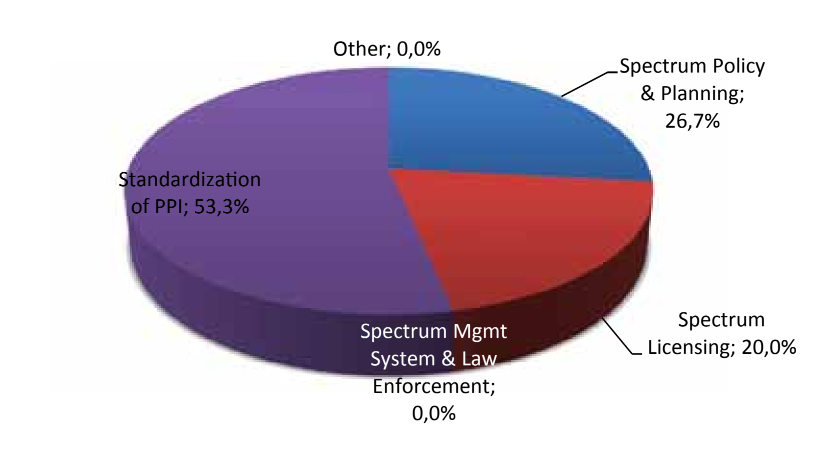
Seen from their composition, the biggest number of regulations lies in the form of Decrees of the Minister of Communication and Information Technology the proportion of which achieves 66.7%. of the total regulations issued. Regulations in the form of Ministerial Decisions achieve a proportion of 13.3% of the total regulations issued, while regulations in the form of Circulars of the Minister achieve a proportion of 20%.

Figure 4.1.
Composition of Legal Regulations of SDPPI according to types



The composition of regulations issued in semester 1-2013 according to the work fields as seen in Figure 4.2 shows that most of the regulations issued are in the field of standardization of postal and information and communication technology equipment and in the field of spectrum policy and planning. This composition is the same as that of the year 2012 where half of the regulations issued relating to the field of resources and equipment of post and information technology are in the field of standardization of postal and information and communication technology equipment, particularly in the form of Ministerial Decrees, while regulations in the field of spectrum policy and planning achieve the proportion of 26.7% of the total regulations issued. The high proportion in these two fields are in line with the types of regulations issued, where Ministerial Decrees and Ministerial Decisions in the regulations of these two fields (spectrum policy and planning and standardization of postal and information and communication technology equipment) are more technical in nature regarding regulations on spectrum policy and planning and on defining of standardization of telecommunication tools and equipment.

Figure 4.2.
Composition of SDPPI Regulations according to work fields



4.3. Decrees of the Minister of Communication and Information Technology

Until semester 1-2013, 10 Decrees of the Minister of Communication and Information Technology related to Resources and Equipment of Post and Information Technology have been issued. The greater part (70%) of these Ministerial Decrees is related to the field of standardization of postal and information and communication technology equipment, Only three Ministerial Decrees are related to the field of Spectrum Policy and Planning and no Ministerial Decrees are related to Spectrum Licensing and to Spectrum Management System and Law Enforcement. The Ministerial Decrees related to Standardization of Postal and Information and Communication Technology Equipment are mostly concerning technical requirements of telecommunication tools and equipment and concerning guideline for the implementation of designation of Office of Telecommunication Equipment Testing Laboratory. Both of them are related to the duties of the Ministry of Communication and Information Technology in the fields of testing and determination of standards of postal an information technology equipment to be used in Indonesia. In the meantime, the Ministerial Decrees related to Spectrum Policy and Planning concern the structuring procedure of frequency band usage

Table 4.2.
Decrees of the Minister of Communication and Information Technology issued in 2012

No.	Ministerial Decree	Field
1	Decree of the Minister of Communication and Information Technology Number 4 Year 2013 on Technical Requirements of Telecommunication Equipment of *Video Conference*	Standardization
2	Decree of the Minister of Communication and Information Technology Number 5 Year 2013 on Group of Telecommunication Tools and Equipment	Standardization
3	Decree of the Minister of Communication and Information Technology Number 8 Year 2013 on Amendment to the Decree of the Minister of Communication and Information Technology Number 23/PER/M.KOMINFO/11/2011 on Masterplan of Radio Frequency for the Need of Terrestrial Digital Broadcast Television at Radio Frequency Band of 478-694 MHz	Standardization

No.	Ministerial Decree	Field
4	Decree of the Minister of Communication and Information Technology Number 12 Year 2013 on Technical Requirements of Telecommunication Equipment of *Call Session Control Function*	Standardization
5	Decree of the Minister of Communication and Information Technology Number 13 Year 2013 on Technical Requirements of Telecommunication Equipment of *Media Resource Function*	Standardization
6	Decree of the Minister of Communication and Information Technology Number 14 Year 2013 on Technical Requirements of Telecommunication Equipment of *Session Border Controller*	Standardization
7	Decree of the Minister of Communication and Information Technology Number 15 Year 2013 on Service Quality Standard of Basic Telephone Service of Local Fixed Network	Standardization
8	Decree of the Minister of Communication and Information Technology Number 16 Year 2013 on Service Quality Standard of Basic Telephone Service of Cellular Mobile Network	Standardization
9	Decree of the Minister of Communication and Information Technology Number 17 Year 2013 on Radio Frequency Spectrum Band Usage of *Ultra High Frequency* at Service Zone I and Service Zone XIV for the Transition of Terrestrial Digital Broadcast Television	Spectrum Licensing
10	Decree of the Minister of Communication and Information Technology Number 19 Year 2013 on Mechanism and Phases of Allocation Migration of Radio Frequency Band at an Overall Structuring of Radio Frequency Band of 2.1 GHz	Spectrum Licensing

4.4 Decisions of the Minister of Communication and Information Technology

Decisions of the Minister of Communication and Information Technology are regulations which are more technical in nature regarding the defining of a policy related to the field of resources and equipment of post and information technology. Up to semester 1-2013, only two Ministerial Decision were issued related to the field of resources and equipment of post and information technology. This number is less than that of the Ministerial Decisions issued in semester 1-2012 where five Decisions of the Minister of Communication and Information Technology were issued related to the field of resources and equipment of post and information technology . Ministerial Decision issued in the field of spectrum licensing is related to the calculation of the licensing fee (BHP) of frequency, while Ministerial Decision in the field of spectrum policy and planning is related to the use of frequency canal. On the whole, the Decisions of the Minister of Communication and Information Technology in the field of resources and equipment of post and information technology issued up to semester 1-2013 are shown in table 4.3.

Table 4.3.
Decisions of the Minister of Communication and Information Technology issued in semester 1-2013

No.	Ministerial Decision	Field
1	Decision of the Minister of Communication and Information Technology Number 25 Year 2013 on Fixation of a Simple Average of Bank Indonesia Rate for Calculation of License Fee 47/KEP/M.KOMINFO/01/2012 on Fixation of Bank Indonesia Rate for the Calculation of License Fee (BHP) of Radio Frequency Spectrum Band of 2.1 GHz for the Provision of Cellular Mobile Network year 2013	Spectrum Licensing
2	Decision of the Minister of Communication and Information Technology Number 290 Year 2013 on the Use of Reserve Canal for Broadcasting of Terrestrial Digital Broadcast Television for Free to Air Fixed Reception at Service Zone IV, Service Zone VI, and Service Zone VII..	Spectrum Policy and Planning

Besides Decrees and Decisions of the Minister of Communication and Information Technology, regulations related to the field of resources and equipment of post and information technology are carried out through Circulars of the Minister of Communication and Information Technology. Decrees of the Director General are only used for internal regulations . Up to semester 1-2013, three Circulars of the Minister have been issued in the field of resources and equipment of post and information technology, namely one Circular related to the field of Standardization of Postal and Information and Communication Technology Equipment, one related to the field of Spectrum Management System and Law Enforcement, and one related to Spectrum Licensing. .On the whole, Circulars of the Minister of Communication and Information Technology in the field of resources and equipment of post and information technology issued up to semester 1-2013 are shown at table 4.4

Table 4.4
Circulars of the Minister of Communication and Information Technology Issued in semester 1-2013

No	Circulars of the Minister	Field
1	Circular of the Minister of Communication and Information Technology Number 2 Year 2013 on Guide for Universal Adaptor of Supply and Charger	Standardization
2	Circular of the Minister of Communication and Information Technology Number 4 Year 2013 on Implementation of Law Enforcement Towards Unlicensed Broadcasting Provision and Unlicensed Radio Frequency Spectrum Usage for Broadcasting Purpose	Spectrum Mgt System & LE
3	Circular of the Minister of Communication and Information Technology Number 260 Year 2013 on Period of Submission of Application for Terminating Radio Station License	Spectrum Licensing

Since the establishment of Directorate General of Resources and Equipment of Post and Information Technology up to semester 1-2013, in total 88 regulations have been issued. From that number, the highest regulation is still the Presidential Decree, but only one regulation was issued. From the side of the types of regulations, most of the regulations issued are of the type of Ministerial Decrees with the proportion of 48.9%, followed by Ministerial Decisions with the proportion of 31.8%. In this semester 1-2013, more Ministerial Decrees in the field of Resources and Equipment of Post and Information Technology are issued so that their proportion is greater than Ministerial Decisions, while the number regulations in the form Decrees of the Director General is 14 and Circulars of the Minister are 3 in number so that the proportions of the last two regulations are 14.8% and 3.4% respectively.

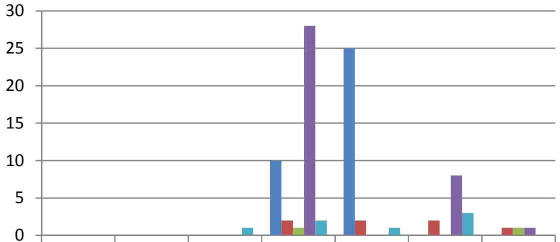
Table 4.5.
Number of Regulations according to the fields and types related to SDPPI up to semester 1-2013

Types of Regulations	Spectrum Policy and Planning SDPPI	Spectrum Licensing SDPPI	Spectrum Management System and Law Enforcement SDPPI	Standardization SDPPI	Other	Total
Law	0	0	0	0	0	0
Government Regulation	0	0	0	0	0	0
Presidential Decree	0	0	0	0	1	1
Ministerial Decree	10	2	1	28	2	43
Ministerial Decision	25	2	0	0	1	28
Decree of Dirgen SDPPI*)	0	2	0	8	3	13
Ministerial Circular	0	1	1	1	0	3
Total	35	7	2	37	7	88

*) Since 2013 Decrees of Dirgen were no more included in the calculation and replaced by Ministerial Circulars.

From the aspect of related fields, regulations of resources and equipment of post and information technology issued up to semester 1-2013 are mostly regulations related to the field of Standardization of telecommunication tools and equipment and regulations related to Policy and Planning of radio frequency spectrum. The proportions of regulations already issued in these two fields achieve 42% for regulations related to the field of standardization of postal and information and communication technology equipment and 39.8% for regulations related to the field of spectrum policy and planning. Meanwhile, the proportion of regulations related to the field of spectrum licensing is only 8% of the total regulations issued since the formation of the institution of Directorate General of Resources and Equipment of Post and Information n Technology. The increase in the number of regulations in the field of standardization of postal and information and communication technology equipment in this last year has caused its proportion to increase.

Figure 4.3.
Number of regulatory products issued since the formation of Directorate General SDPPI



	Law	Government Regulation	Presidential Decree	Ministerial Decree	Ministerial Decision	Decree of Dirgen SDPPI	Ministerial Circular
Spectrum Policy & Planning	0	0	0	10	25	0	0
Spectrum Licensing	0	0	0	2	2	2	1
Spectrum Mgmt System & Law Enforcement	0	0	0	1	0	0	1
Standardization of SDPPI	0	0	0	28	0	8	1
Other	0	0	1	2	1	3	0

Chapter 5

Chapter 5

Frequency Spectrum Policy and Planning

Radio frequency spectrum and satellite orbit are scarce natural resources. The use of these natural resources need to be managed and regulated so that their utilization could be optimally obtained by taking into account national and international legal norms such as constitution and convention of *International Telecommunication Union* and *Radio Regulations*.

The use of radio frequency spectrum must be in line with its objective of usage and must not disturb one another, bearing in mind that the nature of radio frequency spectrum may propagate to every direction without recognizing the border of geographical area or political area (border of district/municipality, border of province, and even the border of state). With the increasing development of technology, utilization of the available radio frequency spectrum resources shows the interest in the increasingly high usage and more diverse utilization of the frequency. Radio frequency spectrum is used in almost all fields such as telecommunication, broadcasting, need of supporting industry, shipping, defense, air or sea transportation. The use of frequency for telecommunication and data communication is the fastest in its development particularly for wireless telecommunication and internet, because of its widespread usage by all strata of the society. The large market of cellular telecommunication and internet users in all classes of the society causes the interest of industry (cellular operators and data/internet connection services) to become high in the usage of frequency. This also has implication on the economic value of the frequency which is also becoming high. Therefore, regulation of frequency spectrum policy and planning is necessary to make the utilization better, avoiding overlapping, resulting in a better quality of usage. This frequency spectrum policy and planning is also meant to optimize the economic value of frequency resources which is increasingly high for the interest of developing telecommunication sector in Indonesia.

Utilization of satellite orbit resources must also be regulated in such a way in order to make the operational management of the satellite well regulated. Satellite orbit is defined as a pathway in the outer space crossed by a satellite. As to the definition of satellite (artificial), it is an object that circulates in the outer space and turns around the earth, which has a function as radio station that receives and emits or reemits and or receives, processes, and reemits radio communication signal.

5.1. Scope

Statistical data of Frequency Spectrum Policy and Planning presented the data related to the management of resources, particularly radio frequency and satellite orbit.

Overall, the scope of statistical data presentation of this Frequency Spectrum Policy and Planning includes:

A. Structuring and Management of Frequency Resources

1) Basic Principles of Frequency Spectrum Policy and Planning

2) Allocation of Radio Frequency Band for Cellular Telecommunication Network which is divided based on the following technologies:

- CDMA 450
- CDMA 800
- GSM 900
- GSM 1800
- UMTS (WCDMA) 2100

3) Allocation of *Broadband Wireless Access* (BWA) Frequency Spectrum, which is divided into:

- BWA Frequency Band of 2.3 GHz
- BWA Frequency Band of 2.4 GHz
- BWA Frequency Band of 3.3 GHz
- +BWA Frequency Band of 5.8 GHz

B. Value of License Fee (*Biaya Hak Penggunaan - BHP*) of frequency spectrum band:

1) Value of BHP of cellular frequency band, 3G and BWA
2) Value of BHP of frequency in Indonesia compared to that of other country

C. Management of Satellite Resources

1) Satellite Landing Right License
2) Satellite Filling Recapitulation
3) Comment on ITU Filling Publication

5.2 Structuring and Management of Radio Frequency Resources

In this modern life, Radio Frequency Spectrum is used in almost all aspects of life including telecommunication, broadcasting, internet, transportation, defense and security, government, health, agriculture, industry, banking, tourism, etc. Hence, Radio Frequency Spectrum as limited natural resources provides strategic and economic impact on the welfare of the society of a country. The progress of a country particularly in the field of telecommunication (ICT) nowadays will highly be determined by the effective and efficient management of radio frequency spectrum. The management of radio frequency spectrum which is effective, efficient and orderly utilized will have a very positive impact on the development of every country, including Indonesia.

Frequency spectrum as limited resources must be managed effectively and efficiently. This efficient management of frequency is conducted through various strategies and steps, such as:

1. Planning of radio frequency spectrum usage which is dynamic and adaptive to the needs of the society and technological development.
2. Fre/quency spectrum management which is systemic and supported by accurate and up-to-date frequency spectrum information system.

3. Consistent and effective supervision and control of frequency spectrum usage.
4. Anticipative regulations that provide assurance.
5. Strong frequency spectrum management institution, supported by professional human resources and adequate procedure and means of frequency spectrum management.

5.2.1. Basic Principle of Radio Frequency Spectrum Structuring

The principle of radio frequency spectrum management is practised by considering the following aspects:

- Comprehensive, systemic and integrated radio frequency spectrum management.
- Applied internationally as regulated under Radio Regulations.
- Developed in supranational regulations.
- Capable of accommodating future demand.
- Oriented to the welfare of the society based on national need and follow the development of technology (which is always developing and sustainable).

ITU classifies the radio frequency spectrum continuously from frequency of 3 Hz up to 3000 GHz and divides them into 13 spans of frequency bands as indicated in the following Table 5.1.

Table 5.1.
Distribution of frequency spans according to ITU classification

Band Name	Abbrevia-tion	ITU Band	Frequency	Wave Length
			< 3 Hz	> 100,000 km
Extremely low frequency	ELF	1	3–30 Hz	100,000 km – 10,000 km
Super low frequency	SLF	2	30–300 Hz	10,000 km – 1000 km
Ultra low frequency	ULF	3	300–3000 Hz	1000 km – 100 km
Very low frequency	VLF	4	3–30 kHz	100 km – 10 km
Low frequency	LF	5	30–300 kHz	10 km – 1 km

Band Name	Abbrevia-tion	ITU Band	Frequency	Wave Length
Medium frequency	MF	6	300–3000 kHz	1 km – 100 m
High frequency	HF	7	3–30 MHz	100 m – 10 m
Very high frequency	VHF	8	30–300 MHz	10 m – 1 m
Ultra high frequency	UHF	9	300–3000 MHz	1 m – 100 mm
Super high frequency	SHF	10	3–30 GHz	100 mm – 10 mm
Extremely high frequency	EHF	11	30–300 GHz	10 mm – 1 mm
			Above 300 GHz	< 1 mm

Table of allocation of Radio Frequency Spectrum of Indonesia currently in force (Decree of the Minister of Communication and Information Technology Number 29 Year 2009) has been synchronized with the provision in the document of *Radio Regulations* Year 2008 and *Final Act-World Radio Communication Conference* Year 2007 (WRC 2007), by taking into account also the types of their use in Indonesia, and the new planning drafted more efficiently by taking cognizance of the technological development. The above-mentioned Decree of the Minister of Communication and Information Technology has been amended twice, i.e. through the Decree of the Minister of Communication and Information Technology Number 40 Year 2009 and the Decree of the Minister of Communication and Information Technology Number 25 Year 2010.

5.2.2. Allocation of Radio Frequency Spectrum for Cellular Telecommunication Network

The cellular telecommunication network is known by the general public from its services. As an example, GSM technology is more recognized with its 2G service, and UMTS technology (WCDMA) is identical with 3G service. The following Table shows the spread of *Base Transceiver Station* (BTS) per operator in a number of provinces in Indonesia. From the table it can be seen that operator, owner of most BTS for 3G service is Telkomsel with the proportion achieving 37.6% of the total number of 3G BTS followed by XL-Axiata with the proportion of 28.4% . A relatively new operator but its proportion is big enough is HCPT with its proportion achieving 11.1% of the total 3G BTS, while AXIS has its proportion achieving only 8.2%.

Table 5.2.

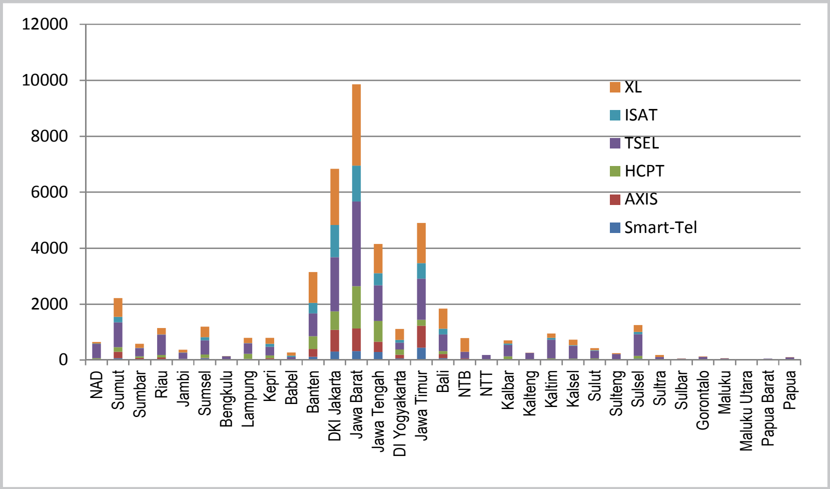
Recapitulation of the number of 3G BTS up to semester 1-2013

OPERATOR	3G BTS	Proportion	Number of Provinces	Proportion
TELKOMSEL	17,412	37.6%	33	100%
INDOSAT	4,858	10.5%	22	66.7%
XL-AXITA	13,142	28.4%	30	90.9%
HCPT	5,136	11.1%	21	63.6%
AXIS	3,803	8.2%	14	42.4%
SMART TELECOM	1,899	4.1%	13	30.4%

Seen from the coverage of its area, the number of 3G BTS service owned by the big Telkomsel is also followed by the service coverage comprising 100% of the provinces of Indonesia. Two other big operators, i.e. XL-Axiata, its BTS coverage has already achieved 90.9% of the provinces and Indosat has achieved only 66.7% of the provinces. HCPT also has wide enough 3G service coverage achieving 63.6%, while the 3G service coverage of Smart Telecom achieves only 39.4%.

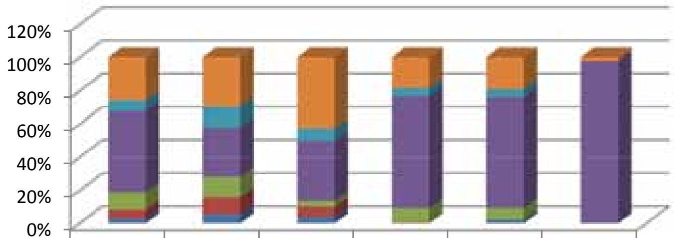
The spread of 3G BTS according to provinces as illustrated in the figure 3.1 whose that the number of 3G BTS is mostly concentrated in Java especially in West Java and Jakarta . Although the area is small, yet the number of 3G BTS in Jakarta achieves 6834 or 14.8% of the total number of 3G BTS. Meanwhile, West Java becomes the most with the total of 9853 BTS or 21.3% of the total number of BTS. The number of 3G BTS service in the provinces of these Java regions is far bigger than that of the provinces in other regions. In Java, only in Yogyakarta the number of 3G BTS is relatively small, while outside Java, the number of BTS which is relatively quite enogh is only found in North Sumatra , Riau, South Sumatra, Bali, South Sulawesi, and East Kalimantan. However, in those provinces, the number of 3G BTS is also far below the number of 3G BTS in the provinces of Java Island, and is only approaching the number of 3G BTS in Yogyakarta. From the proportion of operators, the number of BTS in the respective provinces is also still dominated by three main operators, i.e. Telkomsel, XL-Axiata, and Indosat. Nevertheless, in North Sumatra, West Sumatra and Riau, the number of 3G BTS owned by Axis is more compared to than of Indosat..

Figure 5.1.
Number of 3G BTS according to provinces and operators



The distribution of 3G BTS in each big island according to operators as shown in figure 5.2 indicates that the proportion of 3G BTS is also dominated by three main operators, i.e.Telkomsel, XL-Axiata and Indosat, although with different proportions. In the eastern regions of Indonesia particularly in Maluku-Papua, there are only two operators that own 3G BTS, i.. Telkomsel and XL-Axiata with the proportion of Telkomsel far much bigger (97.7%). In the meantime, in the regions of Sulawesi, the proportion of 3G BTS of Telkomsel achieves 67.7% while those of XL-Axiata and Indosat achieve only 19% and 4.8% respectively. The proportion of 3G BTS of XL-Axiata tends to be big in the regions of Java and Bali-Nusa Tenggara. Meanwhile, the proportions in Java tend to follow the national proportion because the number of BTS of 3G technology is indeed much concentrated in Java.

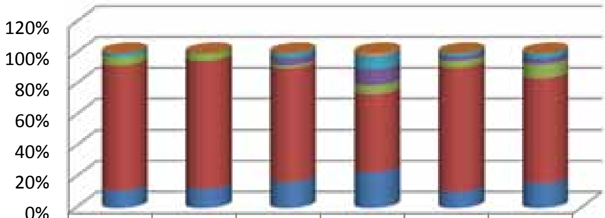
Figure 5.2.
Distribution of 3G BTS in Big Islands according to Operators



	Sumatera	Jawa	Bali-Nusa Tenggara	Kalimantan	Sulawesi	Maluku-Papua
XL-Axiata	25,9%	29,6%	42,8%	18,2%	19,0%	2,3%
Indosat	6,2%	13,0%	7,5%	5,0%	4,8%	0,0%
Telkomsel	49,2%	29,2%	36,2%	67,7%	66,9%	97,7%
HCPT	10,5%	12,6%	3,4%	8,8%	7,2%	0,0%
AXIS	5,7%	10,5%	6,5%	0,3%	0,0%	0,0%
Smart-Tel	2,6%	5,1%	3,6%	0,0%	2,1%	0,0%

The distribution of 3G BTS in the respective operators according to big islands shows that the concentration of 3G BTS location by all operators are still found in Java with the average achieving 72.6%. 3G BTS belonging to Telkomsel as the biggest operator is 50.3% found in Java, although this proportion is the least compared to that of other operator in placing 3G BTS in Java. Even operators such as Indosat, Smart Telecom and AXIS place more than 80% of BTS for their 3G service in Java. Meanwhile, for Sumatra as a big island, the second most developed after Java, the proportion of placement of 3G BTS by operators is still less than 25% with the highest is by Telkomsel which achieves 23.1% of the total 3G BTS owned. Telkomsel has the distribution of placing 3G BTS which is relatively better/evenly spread compared to that f other operators which still focus on the development of 3G BTS in Java and Sumatra. When other operators place only less than 5% of 3G BTS in Kalimantan, the proportion of 3G BTS owned by Telkomsel in Kalimantan achieves 10.3% of the total BTS of Telkomsel.

Figure 5.3
The proportion Spead of 3G BTS owned by Operators according to Big Islands



	Smart-Tel	AXIS	HCPT	Telkomsel	Indosat	XL-Axiata
Maluku-Papua	0,0%	0,0%	0,0%	1,5%	0,0%	0,0%
Sulawesi	2,6%	0,0%	3,2%	8,9%	2,3%	3,4%
Kalimantan	0,0%	0,2%	4,6%	10,3%	2,7%	3,7%
Bali-Nusa Tenggara	5,3%	4,8%	1,9%	5,9%	4,3%	9,2%
Jawa	81,1%	82,8%	73,5%	50,3%	80,3%	67,6%
Sumatera	11,1%	12,2%	16,8%	23,1%	10,4%	16,1%

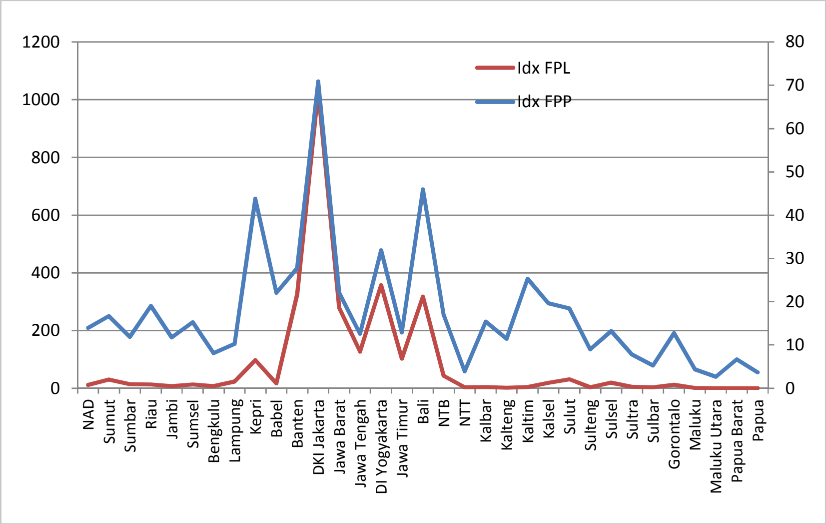
Comparison of the number of 3G BTS in each province with the vastness of its area also shows the high density of BTS in provinces in Java Island. If this number of 3G BTS is compared with the vastness of its area, it implicitly reflects the existence of the dense 4G BTS in Java-Bali particularly Jakarta, Yogyakarta, Bali, and Banten where one 3G BTS tower covers only an area which is not too vast. One 3G BTS in Yogyakarta covers only the vastness of an area of 2.4 km^2, while in Bali and Banten, one 3G BTS coves the vastness of an area of 3.1 km^2 . Moreover, in Jakarta one 3G BTS in Jakarta covers only the vastness of an area less than 0.1 km^2.

To calculate the comparison of the number of 3G BTS with the vastness of an area and the number of population, an approach of FPL Index and FPP Index is used. FPL index shows the comparison of the number of 3G BTS vis-à-vis the vastness of an area, while FPP index shows the comparison of the number of 3G BTS vis-à-vis the number of population. The average value of FPL index for 3G BTS in all provinces of Indonesia is 88.6 which means that there are 88.6 3G BTS for every 1000 km^2 of the area of a province. The biggest FPL index for this 3G BTS is found in Jakarta where there are 1029 3G BTS towers for evry 100 km of the vastness of the area or around 103 3G BTS towers for every 1 km^2. With this average figure, provinces that have an index above average are only provinces in Java Island and Bali and Riau Islands. However, this average measurement mght also be less precise to be used as a reference bearing in mind the size of FPL index of Jakarta province wwhich is far above other provinces.

A vast area will not stimulate yet the occurrence of the increase in the development of 3G BTS so that the comparison of 3G BTS tower vis-à-vis the vastness of the area becomes lower. In some provinces with vast areas such as Papua, East Kalimantan and Central Kalimantan, the number of 3G BTS is seven still low, and even much lower than other regions that have less vastness of areas. The market potential factor which is reflected by the number of population and the level of income which is reflected by the level of progress of the regions become the consideration of operators in buioding 3G BTS tower in a region. Operators are also inclined to be unwiling to develop network (BTS), what more with a relatively high technology such as 3G in the regions with still ow level of population density or non economic zone/high social activities.

The FPP index for the number of 3G BTS is defined as the number of 3G BTS for every 100,000 population of the concerned province. The average value of FPP index of the number of 3G BTS in the whole provinces of Indonesia is 17.4, which means there are 17.4 3G BTS for evfe3ry 100,000 population of the province. By this reference, some provinces in the Island of Sumatra already have index value above the average such as Riau Islands and Bangka Belitung which are relatively new provinces. Meanwhile, in the regions of Java-Bali, only Central Java and East Java that have FPP index below the average because of the big number of population but the number of 3G BTS is not as big as West Java and Jakarta. Other provinces with FPP index above the average are East Kalimantan, South Kalimantan, and North Sulawesi. This figure above the average is particularly caused by the number of population which is not too big, while placement of 3G BTS in the three provinces is relatively quite many.

Figure 5.4
Index of 3G BTS Per Vastness of an Area (FPL) and
Index of 3G BTS Per Number of Population (FPP) per Province



5.2.2.1. Frequency Band of CDMA 450

In line with the footnote of Table of Radio Frequency Spectrum Allocation of Indonesia (TASFRI)INS12, radio frequency band of 450-457.5 MHz in pair with 460-467.5 MHz is allocated for the provision of cellular mobile telecommunication. Since the cellular technology used at said radio frequency band is *Code Division Multiple Access* (CDMA), the radio frequency band is often called CDMA 450 frequency band. Currently, the license for the use of CDMA 450 radio frequency band is assigned only to one cellular mobile network telecommunication provider (operator), i.e. PT Sampoerna Telekomunikasi Indonesia (STI) with national service area.

Table 5.3.
User of CDMA 450 Radio Frequency Band.

Frequency Band (MHz)	Operator	License Period	Service Area
450 – 457.5 (UL) / 460 – 467.5 (DL)	PT Sampoerna Telekomunikasi Indonesia	5 years for every Radio Station License (ISR)	National

UL = Uplink; DL = Downlink

Note:

- License is provided in the form of Radio Station License (ISR) with the period of five (5) years and may be extended for the following period of five (5) years.

5.2.2.2. Frequency Band of CDMA 800

In line with the footnote of TASFRIINS15, radio frequency band of 824 - 845 MHz in pair with 869 - 890 MHz is allocated for the provision of cellular mobile network telecommunication and provision of telecommunication with limited mobility (*Fixed Wireless Access/FWA*). Since at said frequency band of 824 – 845 MHz in pair with 869 – 890 MHz *Code Division Multiple Access* (CDMA) technology is applied, both as cellular mobile service and as *Fixed Wireless Access* (FWA), the frequency band in question is often called by the name of CDMA 800 frequency band.

The operators (telecommunication providers) that obtain license for the use of CDMA 800 radio frequency band are PT. Bakrie Telecom (BTEL), PT. Telekomunikasi Indonesia, Tbk. (Telkom), PT. Smartfren Telecom (Smartfren, formerly called PT. Mobile-8 Telecom), and PT. Indosat, Tbk.

Table 5.4.
Users of CDMA 800 Radio Frequency Band

Frequency Band (MHz)	Operator	License Period
DKI JAKARTA, BANTEN, AND WEST JAVA REGIONS		
824.265 – 829.185 (UL)/ 869.265 – 874.185 (DL)	PT Bakrie Telecom/ BTEL	2010-2020
830.415 – 834.105 (UL) / 875.415 – 879.105 (DL)	PT Telekomunikasi Indonesia/Telkom	2010-2020
OUTSIDE DKI JAKARTA, BANTEN, AND WEST JAVA REGIONS		
824.265 – 829.185 (UL) / 869.265 – 874.185 (DL)	PT Telekomunikasi Indonesia/Telkom	2010-2020
830.415 – 834.105 (UL) / 875.415 – 879.105 (DL)	PT Bakrie Telecom/ BTEL	2010-2020

Frequency Band (MHz)	Operator	License Period
NATIONAL		
835.905 – 840.825 (UL) / 880.905 – 885.825 (DL)	PT Mobile – 8 Telecom/ Smartfren	2010-2020, except for Riau Islands Province which is still in the form of ISR so that its validity period follows that of ISR, i.e. 5 years since its issuance
842.055 – 844.515 (UL) / 887.055 – 889.515 (DL)	PT Indosat	2010-2020, except for Riau Islands Province which is still in the form of ISR so that its validity period follows that of ISR, i.e. 5 years since its issuance

UL = Uplink ; DL = Downlink

Note:
License is provided in the form of Radio Frequency Spectrum Band (IPSFR) with the validity period of ten (10) years and may be extended for the following validity period of ten (10) years, except for Smartfren and Indosat in Riau Islands which follow the validity period of Radio Station License/ISR (5 years)

5.2.2.3. Frequency Band of GSM 900

In line with the footnote of TASFRIINS16, radio frequency band of 890-915 MHz in pair with 935-960 MHz is allocated for the provision of cellular mobile telecommunication and identified for IMT. Since at said radio frequency band of 890-915 MHz in pair with 935-960 MHz *Global System for Mobile Communication* (GSM) technology is applied , the frequency band in question is often called by the name of GSM 900 frequency band.

The operators (telecommunication providers) that obtain license for the use of GSM 900 radio frequency band are PT. Indosat, Tbk., PT. Telekomunikasi Selular (Telkomsel), and PT. XL Axiata, Tbk (XL) with national service area.

Table 5.5.
Users of GSM 900 Radio Frequency Band

Frequency Band (MHz)	Operator	License Period
890 – 900 (UL)/ 935 – 945 (DL)	PT. Indosat	2010 -2020 except for Riau Islands Province which is still in the form of Radio Station License (ISR), the validity period of which follows the validity period of ISR, i,e, 5 years since its isssuace
900 – 907.5 (UL)/ 945 – 952.5 (DL)	PT.Telekomunikasi Selular/ Telkomsel	2010 -2020
907.5 – 915 (UL)/ 952.5 – 960 (DL)	PT. XL Axiata/XL	2010 -2020

UL = Uplink; DL = Downlink

Note:

License is provided in the form of Radio Frequency Spectrum Band (IPSFR) with the validity period of ten (10) years and may be extended for the following validity period of ten (10) years, except for Indosat in Riau Islands which follows the validity period of Radio Station License/ISR (5 years)

5.2.2.4. Frequency Band of GSM 1800

In the footnote of TASFRIINS19 it is stated that radio frequency band of 1710-1785 MHz in pair with 1805-1880 MHz is allocated for the provision of cellular mobile telecommunication and identified for IMT. Since at said radio frequency band of 1710-1785 MHz in pair with 1805-1880 MHz *Global System for Nobile Communication* (GSM) technology is applied, the frequency band in question is often called by the name of GSM 1800 frequency band. The operators (telecommunication providers) that obtain license for the use of GSM 1800 radio frequency band are PT. Indosat, Tbk., PT. Telekomunikasi Selular (Telkomsel), PT. XL Axiata, Tbk. (XL), PT. Axis Telecom Indonesia (AXIS, formerly called PT. Natrindo Telepon Seluler), and PT. Hutchison CP Telecommunications (HCPT), covering national service area.

Table 5.6.
Users of DCS (GSM?) 1800 Radio Frequency Band

Frequency Band (MHz)	Operator	License Period
1710 – 1717.5 (UL) / 1805 – 1812.5 (DL)	PT. XL Axxiata/XL	2010-2020
1717.5 – 1722.5 (UL / 1812.5 – 1817.5 (DL)	PT. Indosat	2010-2020 except for Riau Islands province which is still in the form of Radio Station License (ISR) with the validity period following the validity period of ISR, i.e. five (5) years since its issuance.
1750 – 1765 (UL)/ 1845 – 1860 (DL)	PT. Indosat	2010-2020
1722.5 – 1730 (UL) / 1817.5 – 1825 (DL)	PT. Telekomunikasi Selular /Telkomsel	2010-2020
1745 – 1750 (UL) 1840 – 1845 (DL)	PT. Telekomunikasi Selular /Telkomsel	2010-2020
1765 – 1775 (UL) / 1860 – 1870 (DL)	PT. Telekomunikasi Selular /Telkomsel	2010-2020
1730 – 1745 (UL) / 1825 – 1840 (DL)	PT. Natrindo Telepon Seluler/AXIS	2010-2020
1775 – 1785 (UL) / 1870 – 1880 (DL)	PT. Hutchison CP Telecommunications/ HCPT	2010-2020

UL = Uplink ; DL = Downlink

Note:

License is provided in the form of Radio Frequency Spectrum Band (IPSFR) with the validity period of ten (10) years and may be extended for the following validity period of ten (10) years, except for Indosat in Riau Islands which follows the validity period of Radio Station License/ISR (5 years)

5.2.2.5. Frequency Band of UMTS (WCDMA) 2100

According to the footnote of TASFRIINS21, frequency bands of 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz are the core bands of IMT-2000 application as a form of cellular mobile telecommunication service, while in particular, frequency band span of 1920 - 1980 MHz in pair with frequency band of 2110 - 2170 MHz forms a pair of //frequency band used for cellular service with *Universal Mobile Telecommunications Systems* (UMTS) technology or generally known also as *Wideband Code Division Multiple Access* (WCDMA) technology. Hence, radio frequency band of 1920-1980 MHz in pair with 2110 – 2170 MHz is called UMTS 2100 frequency band or WCDMA 2100 frequency band..

The same as the condition at frequency band of DCS (GSM?) 1800, operators (telecommunication providers) that obtain license for using UMTS 2100 radio frequency band are also five operators that operate at DCS (GSM?)1800 band, i.e. PT. Indosat, Tbk., PT. Telekomunikasi Selular (Telkomsel), PT. XL Axiata, Tbk. (XL), PT. Axis Telekom Indonesia (Axis, formerly known as PT. Natrindo Telepon Seluler), and PT. Hutchison CP Telecommunications (HCPT), covering national service area.

Table 5.7.
Users of UMTS 2100 Radio Frequency Band

Frequency Band (MHz)	Operator	License Period
1920 – 1925 (UL) / 2110 – 2115 (DL)	PT. Hutchison CP Telecommunications/ HCPT	2006 – 2016[2)]
1945– 1950 (UL) / 2135 – 2140 (DL)	PT. Hutchison CP Telecommunications/ HCPT	2011 – 2021[2)]
1925 – 1930 (UL) / 2115 – 2120 (DL)	PT. Natrindo Telepon Seliuler/AXIS	2011 – 2021[2)]
1930 – 1935 (UL) / 2120 – 2125 (DL)	PT. Natrindo Telepon Seliuler/AXIS	2006 – 2016[2)]
1935 – 1940 (UL) / 2125 – 2130 (DL)	PT. Telekomunikasi Selular /Telkomsel	2009 – 2019
1940 – 1945 (UL) / 2130 – 2135 (DL)	PT. Telekomunikasi Selular /Telkomsel	2006 – 2016[2)]
1970 – 1975 (UL) / 2160 – 2165 (DL)	PT. Telekomunikasi Selular /Telkomsel	2013 – 2023[2)]
1950 – 1955 (UL) / 2140 – 2145 (DL)	PT. Indosat	2006 – 2016[2)]

Frequency Band (MHz)	Operator	License Period
1955 – 1960 (UL) / 2145 – 2150 (DL)	PT. Indosat	2009 – 2019 2)
1960 – 1965 (UL) / 2150 – 2155 (DL)	PT. XL Axiata/ XL	2006 – 2016 2)3)
1965 – 1970 (UL) 2155 – 2160 (UD)	PT. XL Axiata/ XL	2010 – 2020 3)
1975 – 1980 (UL) 2165 – 2170 (UD)	PT. XL Axiata/ XL	2013 – 2023 3)

UL = Uplink , DL = Downlink

Note:

1) Frequency band for use of the type of UMTS (WSDMA)2100 technology is currently processed for restructuring of radio frequency band which will be completed at the latest on 3 November 2013 (according to Ministerial Decree No. 19/2013).
2)` License is provided in the form of License for Radio Frequency Spectrum Band (IPSFR) with the validity period of ten (10) years and may be extended for the following validity period of ten (10) years.
3) Previously, PT. XL Axiata was called PT. Excelcomindo Pratama and at the beginning (year 2006) was given IPSFR for UMTS(WCDMA)2100 technology at radio frequency band of 1945-1950 MHz/2135 – 2140 MHz. However, as of 3 September 2010, its radio frequency band allocation was transferred to 1960 – 1065 MHz / 2150 – 2155 MHz. Nevertheless, the validity period of its license is still retained following the first license.

5.2.3. Allocation of Frequency Spectrum of *Broadband Wireless Access* (BWA)

In general, *Broadband Wireless Access* (BWA) is described as data communication which may offer data/internet access of high speed, and capable of providing anytime and anywhere service using wireless media.

Since the term BWA is actually limited in *wireless broadband* usage for the need of access only and does not cover *backbone* and *backhaul*, the Government then uses a more general term namely Wireless Broadband Service. Bearing in mind that the term BWA is commonly used, then in this writing the term BWA is constantly used with the understanding that wireless broadband service is not limited only for the need of access, but also for the need of *backbone* and *backhaul*.

BWA service is closely linked to *high speed internet access*. As regards the definition of speed of communication, BWA varies from 200 kbps up to 100 Mbps. Currently, the government has defined the limit of minimum transmission speed of BWA service through the Decree of the Minister of Communication and Information Technology Number 7 Year 2009 on Structuring of Radio Frequency Band For the Need of *Wireless Broadband* namely 256 kbps. However, in line with technological demand, the limit of such speed is continuously studied in order to be increased..

The main aims of the Government policy within the framework of telecommunication provision for wireless broadband service are :

a. To add alternatives in the effort to catch up the lag behind of ICT teledensity and spread of service evenly to all regions of Indonesia within a relatively short period .

b. To stimulate the availability of internet access tariff reachable in Indonesia.

c. To open the opportunity of the rise of domestic manufacturing industry, application and contents.

d. To motivate optimization and efficiency of radio frequency spectrum usage.

Allocation of spectrum for *Broadband Wireless Access* (BWA) in general can be grouped into two sections, namely :

- Planning of frequency band defined based on international radio regulations by ITU meeting such as IMT (*International Mobile Telecommunication);*
- Planning of frequency band defined through IEEE standard and non-standardized (*proprietary*) frequency band which has not been decided as ITU standard.

Infrastructure of access network which is especially categorized as BWA in Indonesia has a number of frequency band allocations :

a. Exclusive, i.e. 300 MHz (287-294 MHz, 310-324 MHz), 1.5 GHz (1428-1452 MHz and 1498-1522 MHz), 2 GHz (2053-2083 MHz), 2.3 GHz (2300-2400 MHz), 2.5/2.6 GHz (2500-2520 MHz and 2670-2690 MHz), 3.3 GHz (3300-3400 MHz), and 10.5 GHz (10150-10300 MHz and 10500-10650 MHz).

b. Non-exclusive is the frequency band of 2.4 GHz and 5.8 GHz.

In the Decree of the Minister of Communication and Information Technology Number: 07/PER/M.KOMINFO/01/2009 on Structuring of Radio Frequency Band For The Need of Wireless Broadband Service, it has been decided that the license for the use of frequency bands of 300 MHz, 1.5 GHz, 2 GHz, 2.3 GHz, 3.3 GHz and 10.5 GHz which earlier have been based on Radio Station License (ISR) will gradually be changed into the license of Radio Frequency Spectrum Band (IPSFR), while for the frequency bands of 2.4 GHz and 5.8 GHz, the license for their frequency usage is based on class license

The discussion below concerns the development of the policy of the Government and its implementation in regulating BWA at bands of 2.3 GHz, 2.4 GHz, 3.3 GHz, and 5.8 GHz.

5.2.3.1. Frequency Band of BWA 2.3 GHz (2300 - 2400 MHz)

The legal bases related to the use of this BWA 2.3 GHz frequency band are as follows

1) Decree of the Minister of Communication and Information Technology Number 8 Year 2009 on Defining Frequency Band for the Need of Wireless Broadband Service at Radio Frequency Band of 2.3 GHz;
2) Decree of the Minister of Communication and Information Technology Number 19 Year 2011 on Use of Radio Frequency Band of 2.3. GHz for the Need of Wireless Broadband Service Based on Neutral Technology;
3) Decision of the Minister of Communication and Information Technology Number 237 Year 2009 on Determining the Selection Winner of the provision of Packet Switched Based Local Fixed Network Using Radio Frequency Band of 2.3 GHz for the Need of Wireless Broadband Service as amended latest by the Decision of the Minister of Communication and Information Technology Number 325 Year 2012;
4) Decision of the Minister of Communication and Information Technology Number 264 Year 2009 on Defining the Block of Radio Frequency Band and Mechanism for the Payment of License Fee (BHP) of Radio Frequency Spectrum for Selection Winner of the Provision of Packet Switched Based Local Fixed Network Using Radio Frequency Band of 2.3 GHz For the Need of Wireless Broadband Service, as amended latest by the Decision of the Minister of Communication and Information Technology Number 326 Year 2012;

5) Decree of the Director General of Post and Telecommunication Number 94 Year 2008 on Technical Requirements of Telecommunication Tools and Equipment of *Subscriber Station Broadband Wireless Access* (BWA) *Nomadic* at Frequency Band of 2.3 GHz;

6) Decree of the Director General of Post and Telecommunication Number 95 Year 2008 on Technical Requirements of Telecommunication Tools and Equipment of *Base Station Broadband Wireless Access* (BWA) *Nomadic* At Frequency Band of 2.3. GHz;

7) Decree of the Director General of Post and Telecommunication Number 96 Year 2008 on Technical Requirements of Telecommunication Tools and Equipment of Antenna of *Broadband Wireless Access* (BWA) *Nomadic* At Frequency Band of 2.3. GHz;

8) Decree of the Director General of Resources and Equipment of Post and Information Technology Number 213 Year 2011 on Technical Requirements of Telecommunication Tools and Equipment of *Subscriber Station* For the Need of Neutral Technology Based Wireless Broadband Service at Radio Frequency Band of 2.3. GHz;

9) Decree of the Director General of Resources and Equipment of Post and Information Technology Number 214 Year 2011 on Technical Requirements of Telecommunication Tools and Equipment of *Base Station* and Antenna For the need of Neutral Technology Based Wireless Broadband Service at Radio Frequency Band of 2.3 GHz.

The Government has conducted selection of the provision of BWA telecommunication at frequency band of 2.3. GHz the Selection Document of which is defined through the Decree of the Minister of Communication and Information Technology Number 22 Year 2009. The determination of the license for BWA 2.3 GHZ frequency band usage is divided into Service Zones spread over a number of 15 Service Zones from the west end to the east end of Indonesia. Sumatra Island Regions are divided into four Service Zones, Java Island is divided into four Service Zones, Bali Island and Nusa Tenggara islands into one Service Zone, Kalimantan Island into two Service Zones, Sulawesi Island into two Service Zones, Papua, Maluku, and North Maluku Regions cover two Service Zones. Taking into account the economic potential and other considerations specific in each Service Zone, the *Reserve Price* determined by the Government for the auction of BWA 2.3 GHz is also different between zones.

Entering the phase of post auction, it is evident that there are two providers that do not pay the License Fee (BHP) of radio frequency band pursuant to their commitment when submitting an offer in the selection process. The two providers are :

(1) Consortium of PT. Comtronics Systems and PT. Adiwarta Perdania which later agree to submit themselves only as PT. Comtronics Systems (for Zones 5, 6, and 7), and

(2) PT. Rahajasa Media Internet on behalf of Consortium Wimax Indonesia which later forms a new business entity by the name of PT. Wireless Telecom Universal (for Zone 15).

Lastly, PT. Telekomunikasi Indonesia, Tbk. (Telkom) submitted its withdrawal in four Service Zones which were earlier won at selection in the year 2009, i.e. Zones 6, 7, 9, and Zone 12. As of 24 May 2012 (Ministerial Decision No. 326/KE/M.KOMINFO/05/2012), PT.. Telekomunikasi Indonesia was revoked of its frequency allocation of zones 6, 7, 9, and 12 . Telkom currently has only an allocation of 1 block of frequency band at Zone 10.

As a consequence of withdrawal of three providers in question, currently there are three Service Zones whose BWA 2.3 GHz frequency bands are not utilized, namely Zone 6 (Central Part of Java), Zone 7 (Eastern Part of Java), and Zone 9 (Papua). There are also Service Zones that are utilized only part of them, i.e. Zone 5 (Western Part of Java except Bogor, Depok, Bekasi), Zone 10 (Maluku and North Maluku), Zone 12 (Northern Part of Sulawesi), and Zone 15 (Riau Islands). The allocation of BWA 2.3 GHz frequency bands according to Service Zones is shown in Table 5.8

Table 5.8.
Allocation of BWA 2.3 GHZ Frequency Bands according to Service Zones

SERVICE ZONES	SELECTION WINNER	FREQUENCY (MHz)
Zone 1 Northern Part of Sumatra	PT. Firstmedia Tbk	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 2 Central Part of Sumatra	PT. Berca Hardayaperkasa	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 3 Southern Part of Sumatra	PT. Berca Hardayaperkasa	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 4 Banten, Jakarta, Bogor, Depok, Tangerang, Bekasi	PT. Firstmedia Tbk	2360 – 2375
	PT. Internux	2375 – 2390

SERVICE ZONES	SELECTION WINNER	FREQUENCY (MHz)
Zone 5 Western Part of Java except Bogor, Depok, and Bekasi	(*PT. Comtronics Systems revoked*).	2360 – 2375
	PT. Indosat Mega Media	2375 – 2390
Zone 6 Central Part of Java	..(*PT. Telekomunikasi Indonesia Tbk revoked*)	2360 – 2375
	..(*PT. Comtronics Systems revoked*).	2375 – 2390
Zone 7 Eastern Part of Java	(*PT. Comtronics Systems revoked*).	2360 – 2375
	..(*PT. Telekomunikasi Indonesia Tbk revoked*)	2375 – 2390
Zone 8 Bali and Nusa Tenggara	PT. Berca Hardayaperkasa	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 9 Papua	(*PT. Telekomunikasi Indonesia Tbk re-voked*)	2360 – 2375
	(*PT. Wireless Telecom Universal re-voked*)	2375 – 2390
Zone 10 Maluku and North Maluku	PT. Telekomunikasi Indonesia Tbk	2360 – 2375
	..(*PT. Wireless Telecom Universal re-voked*)	2375 – 2390
Zone 11 Southern Part of Sulawesi	PT. Berca Hardayaperkasa	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 12 Northern Part of Sulawesi	..(*PT. Telekomunikasi Indonesia Tbk revoked*)	2360 – 2375
	PT. Jasnita Telekomindo	2375 – 2390
Zone 13 Western Part of Kalimantan	PT. Berca Hardayaperkasa	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 14 Eastern Part of Kalimantan	PT. Berca Hardayaperkasa	2360 – 2375
	PT. Berca Hardayaperkasa	2375 – 2390
Zone 15 Riau Islands	PT. Berca Hardayaperkasa	2360 – 2375
	..(*PT. Wireless Telecom Universal revoked*)	2375 – 2390

Explanation:

1) As of 27 January 2012 (Ministerial Decision No. 51/KEP/M.KOMINFO/01/2012), pt. Internux was reallocated radio frequency band at 2.3 GHz for zone 4 region.
2) As of 24 May 2012 (Ministerial Decision No. 326/KEP/M.KOMINFO/05/2012), PT. Telekomunikasi Indonesia was revoked of is frequency allocation at zones 6, 7, 9, and 12.

In line with the increasing speed of technological development, particularly bearing in mind that usage and utilization of radio frequency spectrum must prioritize the aspects of efficiency, conformance with the objective, and benefit to the society, the Government provides freedom for BWA providers to be able to use other wireless broadband technology outside the defined technical provision.

In view of the above, the Government issues a Decree of the Minister of Communication and Information Technology Number 19 Year 2011 on Usage of Radio Frequency Band of 2.3 GHz for the Need of Neutral Technology Based Wireless Broadband Service. Other impact that also need to be regulated by the Government is adjustment of mechanism and the amount of the License Fee (BHP) of radio frequency band which shall be paid by the selection winners that use other technology.

In relation to the possibility of using two or more BWA technologies at adjacent frequency bands between providers, the Government later issues a Decree of the Minister of Communication and Information Technology Number 29 Year 2012 on Coordination Procedure of the Use of Radio Frequency Band of 2.3 GHz for the Need of Neutral Technology Based Wireless Broadband Service. As regards matters laid down in the procedure, these, among other things, are :

1. 6 conditions of interference that might occur in the provision of neutral technology based BWA service at band of 2.3 GHz
2. Mechanism of coordination is provided for each condition, among other things, covering regulation : technical parameters, coordination distance, and *guardband*.
3. In the event that coordination between providers has been done, but problems of interference occurring have not been solved yet, then frequency users may submit application to the Government to find solution to said problems.

5.2.3.2. Frequency Band of BWA 2.4 GHz (2400 - 2483.5 MHz)

Licensing at frequency band of 2.4 GHz together with frequency band of 5.8 GHz is currently in the form of Class license so that each user of radio frequency may use said frequency band without the licensing from the government as long as the user complies with the defined technical provision. The Government has decided through the issuance of a Decree of the Minister or Communication Number 2 Year 2005 that radio frequency band of 2400 – 2483.5 MHz may be used for the need of data access and/ or internet access. The radio frequency band of 2400 – 2483.5 MHz is used in sharing of the time domain, and/or technology in a harmonious manner between users by constantly taking into account the principle of non disturbance.

The technical requirements that shall be adhered to by each user of frequency band of 2400 – 2483.5 MHz are as follows :

a. Maximum *Effective Isotropically Radiated Power* (EIRP) for outdoor usage at the amount of 4 Watt (36.02 dBmW) and for indoor usage at the amount of 500 milliWatt (27 dBmW);

b. Emission power of equipment (TX power) is maximum 100 mW; and

c. Out of band emission is maximum -20 dBc per 100 kHz.

Licensing at frequency band of 2.4 GHz and 5.8 GHz is currently in the form of Class License so that each user of radio frequency may use said frequency band without the licensing from the government as long as the user complies with the defined technical provision. However, in its operation in the field, tools and/or equipment of telecommunication used shall have certificate in accordance with the prevailing provision. This forms the precondition that shall be fulfilled by each user of BWA 2.4 GHz frequency band.

5.2.3.3. Frequency Band of BWA 3.3 GHz (3300 - 3400 MHz)

Allocation of frequency band for *Broadband Wireless Access* (BWA) 3.3 GHz lies at the span of frequency band of 3300 – 3400 MHz. This span of frequency band of BWA 3.3 GHz of 100 MHz wide is divided into eight blocks each having the width of 12.5 MHz. BWA Service at frequency band of 3.3 GHz in Indonesia is also divided into 15 Service Zones.

From the total of 15 Service Zones and eight blocks of frequency, there are currently eight network provider companies that own the license for radio frequency usage at band of 2.1 GHz, namely (1) PT. Jasnikom Gemanusa, (2) PT. Aplikanusa Lintasarta, (3) PT. Indosat Mega Media, (4) PT. Starcom Solusindo, (5) PT. Telekomunikasi Indonesia, (6) PT. Rabik Bangun Pertiwi, (7) PT. Rekajasa Akses, and (8) PT. PT Citra Sari Makmur. :

The distribution of network providers for BWA 3.3 GHz based on Service Zones and their frequency blocks is shown in table 5.9.

Table 5.9.
Designation of network providers at Radio Frequency Band of BWA 3.3 GHz

Broadband Wireless Service Zone 3300 - 3312.5		Frequency Block (MHz)							
		3312.5 - 3325	3325 - 3337.5	3337.5 – 3350	3350 - 3362.5	3362.5 -3375	3375 - 3387.5	3387.5 - 3400	
Zone 1	Northern Part of Sumatra	-	-	PT 2	PT 3	PT 4	PT 5	-	PT 8
Zone 2	Central Part of Sumatra	-	-	PT 2	PT 3	-	PT 5	-	-
Zone 3	Southern Part of Sumatra	-	-	PT 2	PT 3	PT 4	PT 5	-	-
Zone 4	Banten and Jabodetabek	-	PT 1	PT 2	PT 3	PT 4	PT 5	PT 7	PT 8
Zone 5	West Java minus Botabek	-	-	PT 2	PT 3	PT 4	PT 5	PT 7	PT 8
Zone 6	Central Part of Java	-	-	PT 2	PT 3	PT 4	-	-	PT 8
Zone 7	Eastern Part of Java	-	-	PT 2	PT 3	PT 4	-	-	PT 8
Zone 8	Bali and Nusa Tenggara	-	-	PT 2	PT 3	PT 4	PT6	-	PT 8
Zone 9	Papua	-	-	PT 2	-	-	-	-	-
Zone 10	Maluku & North Maluku	-	-	PT 2	-	-	-	-	-
Zone 11	Southern Part of Sulawesi	-	-	PT 2	PT 3	PT 4	-	-	-
Zone 12	Northern Part of Sulawesi	-	-	PT 2	PT 3		-	-	-
Zone 13	Western Part of Kali-mantan	-	-	PT 2	-	PT 4	PT5	-	-
Zone 14	Eastern Part of Kaliman-tan	-	-	PT 2	PT 3	PT 4	PT5	-	-
Zone 15	Riau Islands	-	-	PT 2	PT 3	PT 4	-	-	-

Note: **PT1: PT. Jasnikom Gemanusa**
PT2: PT. Aplikanusa Lintasarta
PT3: PT. Indosat Mega Media
PT4: PT. Starcom Solusindo
PT5: PT. Telekomunikasi Indonesia
PT6: PT. Rabik Bangun Pertiwi
PT7: PT. Rekajasa Akses
PT8: PT. Citra Sari Makmur

In the Decree of the Minister of Communication and Information Technology Number 9 Year 2009, it was defined that the existing users of frequency band of 3.3 GHz and the existing users of radio frequency band of 3.5 GHz that migrate to frequency band of 3.3. GHz shall adjust the use of their frequency band in accordance with the provision of the period of two (2) years counting from 19 January 2009. In the course of the period, various constraints were found in the process of migration from the band of 3.5 GHz to the frequency band of 3.3 GHz.

In view of the above, the Government held meeting with providers of BWA band of 3.3 GHz and amendment was made to the Decree of the Minister of Communication and Information Technology Number 9 Year 2009 through the issuance of the Decree of the Minister of Communication and Information Technology Number 35 Year 2009. In that Decree it is stipulated that the time limit of migration is extended to two (2) years counting from 19 August 2009 and ends on 19 August 2011.

Within the above period PT. Aplikanusa Lintasartha submitted its constraints faced in the process of migration, i.e. the existence of the case of interference with TVRO service found at band of 3.4 – 3.7 GHz in some locations in the eastern coast of Sumatra Island as a consequence of the existence of LNB equipment owned by the community that works outside the standard specification so that interference occurred in the case of receiving satellite broadcast on the part of the community particularly those that are near the base station of PT.. Aplikanusa Lintasartha. In view of this situation, PT. Aplikanusa Lintasartha requests the government to provide it with the extension of the migration time until the end of the year 2012.

The Government is currently undertaking intensive studies on this case and based on consultation with experts, in principle the extension of migration time as requested may be done with the spirit of growing national BWA industry and as long as aspect of justice is considered..

5.2.3.4. Frequency Spectrum (Frequency Band?) of BWA 5.8 GHz (5725 - 5825 MHz)

Licensing or frequency band of 5.8 GHz together with frequency band of 2.4 GHz is currently in the form of Class License so that each user of radio frequency may use said frequency band without licensing from the government as long as the user complies with the defined technical provision. The Government has defined the regulation concerning the frequency band of BWA 5.8 through a Decree of the Minister of Communication and Information Technology Number 27 Year 2009 that radio frequency band of 5.8 GHz at radio frequency span of 5725 – 5825 MHz is assigned for the need of wireless broadband service with TDD mode. Some of the provisions written in the above Decree are as follows :

a. Sharing usage at the time, region, and/or technology in a harmonious manner between users;

b. It is forbidden to create harmful interference;

c. Does not obtain protection;

d. Telecommunication tools/equipment to be used at radio frequency band of 5.8 GHz for the need of wireless broadband service shall have certificates of tools/equipment in accordance with the prevailing legal regulations.

Licensing or frequency band of 2.4 GHz and 5.8 GHz is currently in the form of Class License so that each user of radio frequency may use said frequency band without licensing from the government as long as the user complies with the defined technical provision

The technical provisions regarding the use of radio frequency band of 5.8 GHz for the need of wireless broadband service are as follows :

a. Each user of radio frequency band of 5.8 GHz is confined in the usage of bandwidth of maximum 20 MHz;

b. Each user of radio frequency band of 5.8 GHz is confined in the usage of emission power in line with the following applications :;:

    1) P-to-P (Point-to-Point) Application:

        (i) Maximum mean of EIRP: 36 dBm.

        (ii) Maximum mean of EIRP density: 23 dBm / MHz.

    2) P-to-MP (Point-to-Multipoint) Application:

        (i) Maximum mean of EIRP: 36 dBm.

        (ii) Maximum mean of EIRP density: 23 dBm / MHz.

    3) Mesh Application

        (i) Maximum mean of EIRP: 33 dBm

        (ii) Maximum mean of EIRP density: 20 dBm / MHz.

    4) AP-MP (Any point-to-multipoint) Application:

        (i) Maximum mean of EIRP: 33 dBm.

        (ii) Maximum mean of EIRP density: 20 dBm / MHz.

5.3. The value of License Fee (BHP) of Frequency Spectrum Band

5.3.1 The value of License Fee (BHP) of cellular, 3G and BWA frequency band,

In the cellular, 3G and BWA frequency band usage, there are six frequency bands that have been defined and given permission for the use of those frequency bands or already in the form of License for Radio Frequency Spectrum Band. Those six cellular frequency bands are (1) Frequency Band of 800 MHz, (2) Frequency Band of 900 MHz, (3) Frequency Band of 1800 MHz, (4) Frequency Band of 2.1 GHz, (5) Frequency Band of 2.3 GHz, and (6) Frequency Band of 3.3 GHz. Particularly for frequency band of 2.1 GHz which is 3G frequency, its use is differentiated for two allocations, i.e. *first carrier* allocation and *second carrier* allocation. Each of those frequency bands has *bandwidth* for certain usage and the grant of license also has implication on the application of License Fee (BHP) to the operators using that frequency band. One allocation of frequency band may be used by a number of cellular operators in line with the number of available *bandwidths.*

Application of the License Fee (BHP) of radio frequency by the Central Government towards usage of radio frequency spectrum by users is based on the prevailing legal regulations as follows :

1. Law of the Republic of Indonesia Number 20 Year 1997 on Non-Tax State Income (PNBP);
2. Law of the Republic of Indonesia Number 36 Year 1999 on Telecommunication;
3. Government Regulation of the Republic of Indonesia Number 53 Year 2000 on Use of Radio Frequency Spectrum and Satellite Orbit;
4. Government Regulation of the Republic of Indonesia Number 28 Year 2005 on Non-Tax State Income applicable at the Department of Communication and Information Technology;
5. Decree of the Minister of Communication and Information Technology Number 13 Year 2005 juncto (in conjunction with) Decree of the Minister of Communication and Information Technology Number 37 Year 2006 on Telecommunication Provision Using Satellite;
6. Decree of the Minister of Communication and Information Technology Number 17 Year 2005 on Procedure of Radio Frequency Licensing;
7. Decree of the Minister of Communication and Information Technology Number 19 Year 2005 on Guideline for the Implementation of PNBP Tariffs of BHP of radio frequency spectrum;
8. Government Regulation of the Republic of Indonesia Number 7 Year 2009 on Types and Tariffs of the Kinds of Non-Tax State Income

Applicable at the Department of Communication and Information Technology.

Any user of radio frequency spectrum shall pay BHP of radio frequency spectrum in advance for the usage period of one year . All the BHP revenues of radio frequency are deposited to the State Treasury as Non-Tax State Income (PNBP).

The following Table shows the Total Number of BHP Billings of Frequency Bands in Semester I Year 2013

Table 5.10
Total Amount of BHP Billings of Frequency Bands in Semester I Year 2013

3G	Up Front Fee	Annual Fee
First Carrier	-	Rp. 1,764,214,268,360
Second Carrier	-	-
Third Carrier	Rp. 1,026,444,472,904	Rp. 102,644,447,292

Note:

1) The due date of BHP 3G and BWA 2.3 GHz falls in the month of December (2G) and November (BWA) so that they belong to the data of semester II=2013.
2) The due date of BHP 3G second carrier falls in the month of September so that it belongs to the data of semester II-2013.
3) The above data are Data to be collected (amount of billings) and not the data of revenues (paid by Providers).

5.4. Satellite Orbit Management

Orbit slot and satellite radio frequency spectrum are limited natural resources that cannot be owned by any country. Orbit slot is used to place a satellite in the orbit. The orbit slot usage in the outer space is regulated by *International Telecommunication Union (ITU)*.

Based on ITU Radio Regulations, there are two groups of frequency bands for satellite, i.e. *Unplanned Band* and *Planned Band*.

Unplanned Band is frequency band for satellite the ownership of which cannot be claimed by a country only and its usage is regulated by ITU with a view to ensuring the equality of access and orbit slot usage for all countries. Every orbit slot usage (satellite radio frequency spectrum) must be registered (filing) to ITU. The procedure of registration of satellite network to ITU is *Advanced Publication,, Coordination, Administrative Due Diligence,* and *Notification.*

Planned Band is frequency band for satellite that has been regulated in such a way by ITU so that each country obtains orbit slot allotment, satellite transponder frequency canal with the coverage limited to territorial area of the country. There are two types of *Planned Band* namely *Broadcasting Satellite Service (BSS) Plan* (Appendix 30 and Appendix 30A) and *Fixed Satellite Service (FSS) Plan* (Appendix 30B).

5.4.1 Management of Satellite Filing of Indonesia

Until June 2013, 48 satellite filing of Indonesia have been registered to ITU, comprising

- 42 filings of unplanned band;
- 6 filings of planned band.

In detail, the filings of Indonesia that have been registered to ITU are listed as follows:

Table 5.11.
Data Satellite Filing of Indonesia

No	Orbit Slot	Satellite Filing	Operator	Frequency			Filing Status at ITU
				Band	Uplink (MHz)	Downlink (MHz)	
1.	106	CSM-106	CSM	C Band Ext C Band Ku Band Ka Band	5850-6650 27500-31000 13710-14430	3400-4190 17700-21200 11020-12700	CR/C
2.	107.7	INDOSTAR-1	MCI	S band X band Ext C band	8120 - 8270 5862.25 – 5967.25	2520 - 2670 3658.75 – 3700.25	RES49
3.	107.7	INDOSTAR-107.7E	MCI	S band X band C band	8120 - 8270 5862 - 5966	2520 - 2670 3658 – 3700	PART I-S
4.	107.7	INDOSTAR-107.7E-K	MCI	Ku band	13750 - 13997	10962 - 11453	PART I-S

No	Orbit Slot	Satellite Filing	Operator	Frequency			Filing Status at ITU
				Band	Uplink (MHz)	Downlink (MHz)	
5.	107.7	INDOSTAR-107.7XS	MCI	S band C band X band Ku band	8120-8270 13751-13996 5884.25-5884.75 13751-13996	11451-11452 3698.75-3699.75 2520-2670	API/A
6.	107.7	INDOSTAR-1A	MCI	S band X band	8120 – 8270	2520 – 2670	PART II-S
7.	108	PALAPA-B1	TELKOM	C band	5925–6425	3700–4200	RES49
8.	108	PALAPA-B1-EC	TELKOM	Ext C band	6427–6723	3402–3698	PART II-S
9.	108	PALAPA-C2	TELKOM	C band	5925–6425	3700–4200	PART II-S
10.	108	TELKOM-108E	TELKOM	C band Ext C band Ku band Ka band	5850–6725 7900–8400 13750–14000 14000–14500 24750–25250 27000–27500 27500–29500 29500–31000	3400–4200 7250–7750 10950–11200 11450–11700 11700–12200 12200–12750 17700–19700 19700–25250	CR/E
11.	108.2	INDOSTAR-108.2XS	MCI	S band C band X band Ku band	8120-8270 13751-13996 5884.25-5884.75 13751-13996	11451-11452 3698.75-3699.75 2520-2670	API/A
12.	108.2	INDOSTAR-110E	MCI	S band X band C band	8120 – 8270 5862.75 – 5966.75	2520 – 2670 3659.15 – 3699.85	CR/D
13.	108.2	INDOSTAR-110E-K	MCI	Ku band	13750 – 14000	10962 – 11453	CR/E
14.	111	CSM-111	CSM	C Band Ku Band Ka Band	5850-6650 27500-31000 13710-14430	3400–4190 17700–21200 11020–12700	CR/C
15.	113	PALAPA-B2	INDOSAT	C Band	5927 – 6423	3702 – 4198	CR/C
16.	113	PALAPA-C1	INDOSAT	C band Ext C band Ku band Ext Ku band	5927 – 6423 6427 – 6663 14254 – 14486 13754 – 13986	3702 – 4198 3402 – 3638 11454 – 11686 10954 – 11186	PART II-S
17.	113	PALAPA-C1-B	INDOSAT	C Band Ku Band Ka Band	5850-6700 13750-14500 27500-31000	3400–4200 10950–11700 12200–12750 17700–21200	API/A
18.	113	PALAPA-C1-K	INDOSAT	Ext Ku band Ku band	13758 – 13934 14002 – 14498	11452 – 11620 12252 – 12748	PART II-S
19.	118	GARUDA-1	-	S band L band Ext C band	6425 – 6725 1610 – 1660.5 1980 – 2010	3400-3700 1525-1559 2170-2200 2483.5-2500 1559-1567	PART III-S

No	Orbit Slot	Satellite Filing	Operator	Frequency			Filing Status at ITU
				Band	Uplink (MHz)	Downlink (MHz)	
20.	118	INDOSTAR-118E	MCI	S band X band C band	8120 – 8270 5862.75 – 5966.75	2520 – 2670 3659.15 – 3699.85	PART I-S
21.	118	INDOSTAR-118XS	MCI	S band C band X band Ku band	8120-8270 13751-13996 5884.25-5884.75 13751-13996	11451-11452 3698.75-3699.75 2520-2670	API/A
22.	118	PALAPA-B3	TELKOM	C band	5927 – 6423.25	3702 – 4199.5	RES49
23.	118	PALAPA-B3 TT&C	TELKOM	C band	5927 – 5929.5 6420.75 – 6423.25	3700 – 3702.5 4197.5 – 4200	PART II-S
24.	118	PALAPA-B3-EC	TELKOM	Ext C band	6447 – 6703	3402 – 3658	PART II-S
25.	118	PALAPA-C3	TELKOM	C band	5927 – 6403	3702 – 4198	PART II-S
26.	118	PALAPA-C3-K	TELKOM	Ku band	13758 – 14498	11452 – 12748	PART II-S
27.	118	PALAPA-C3-X	-	X band	7902 – 8400	7252 – 7750	PART II-S
28.	118	TELKOM-3EK	TELKOM	Ext C band Ku band	6425 – 6725 13750– 13936 14000 – 14500	3400 – 3700 11452 – 11628 12250 – 12750	CR/C
29.	120.5	CSM-120	CSM	C Band Ku Band Ka Band	5850-6650 27500-31000 13710-14430	3400 – 4190 17700 – 21200 11020 – 12700	CR/C
30.	123	GARUDA-2	PSN	L band Ext C band	1626.5-1660.5 6425-6725	1525 – 1559 3400 – 3700	PART II-S
31.	137.9	CSM-137	CSM	C band Ku band Ka band V band	6410-6415 6645-6650 13750-14470 24650-24750 24750-25250 27000-31000 42500-43500 47200-50200 50400-51400	4185-4190 3620-3625 17700-21200 21400-22000 37500-42500 12200-12680	API/A
32.	144	PALAPA PAC-3R	PSN	C band Ext C band	5867-6424.5 6427-6723	3402-3698 3642-4199.525	CR/C
33.	146	PALAPA PAC-C 146E	PSN	C band Ext C band	5927-6723	3442-4198.15	PART II-S
34.	146	PALAPA PAC-KU 146E	PSN	Ku band	14021-14497	12203-12679	PART II-S
35.	146	PSN-146E	PSN	Ext L Band L Band S Band C Band X Band Ku Band Ka Band	1399.5 – 1450 1980 – 2010 5725 – 6776 7900 – 8400 13750 – 14800	1151-1350 1518-1660.5 2520-1670 3400-4200 7250-7750 10700-12700 17200-21200	API/A

No	Orbit Slot	Satellite Filing	Operator	Frequency			Filing Status at ITU
				Band	Uplink (MHz)	Downlink (MHz)	
36.	150.5	PALAPA-C4	INDOSAT	C band Ext C band Ku band Ext Ku band	5927 – 6423 6427 – 6663 14254 – 14486 13754 – 13986	3702 – 4198 3402 – 3638 11454 – 11686 10954 – 11186	RES4
37.	150.5	PALAPA-C4-A	INDOSAT	C band Ext C band Ku band Ext Ku band	5927 – 6423 6427 – 6663 14254 – 14486 13754 – 13986	3702 – 4198 3402 – 3638 11454 – 11686 10954 – 11186	CR/C
38.	150.5	PALAPA-C4-B	INDOSAT	C Band Ku Band Ka Band	5850 – 6700 13750 – 14500 27500 – 31000	3400 – 4200 10950 – 11700 12200 – 12750 17700 – 21200	API/A
39.	150.5	PALAPA-C4-K	INDOSAT	Ext Ku band Ku band	13758 – 13394 14002 – 14498	12252 – 12748 11452 – 11628	CR/C
40.	NGSO	LAPANSAT	LAPAN	UHF S band		435.325 – 439.325 437.289 – 437.361 2206.5 – 2233.5	PART I-S
41.	NGSO	LAPAN-TUBSAT	LAPAN	UHF S band		435.325 – 439.325 437.289 – 437.361 2206.5 – 2233.5	RES4
42.	NGSO	LAPAN-A3-SAT	LAPAN	UHF X band		435-438 437.32-437.33 8116-8224	API/A

Table 5.12.
List of Plan Band Satellite Filings of Indonesia

No	Filing Name	Status	Category	Orbit Slot	Priority Date	Frequency (MHz)	Service Area
1	INS02800	Allotment	BSS Feeder Link (AP30A)	80.2	02.06.2000	17300-17800	Indonesia
2	INSA_100	Allotment	BSS Downlink (AP30)	80.2	02.06.2000	11700-12200	Western Indonesia (Sumatra, Java, Kalimantan)
3	INS03501	Allotment	BSS Feeder Link (AP30A)	104	02.06.2000	17800-18100	Indonesia
4	INS03502	Allotment	BSS Feeder Link (AP30A)	104	02.06.2000	17800-18100	Indonesia
5	INSB_100	Allotment	BSS Downlink (AP30)	104	02.06.2000	11700-12200	Eastern Indonesia (Sulawesi, Bali Nusa Tenggara, Maluku, Papua)

No	Filing Name	Status	Category	Orbit Slot	Priority Date	Frequency (MHz)	Service Area
6	INS00000	Allotment	FSS Plan (AP30B)	115.4	16.03.1990	4500-4800 6725-7025 10700-10950 11200-11450 12750-13250	Indonesia

Note on filing status:

- API/A = registration of satellite filing has been accepted and published by ITU.
- CR/C, CR/D, CR/E = Satellite filing within the phase of coordination with Administrations of other countries.
- RES49 = transmission of data for the plan of satellite launching
- RES4 = extension of the period of satellite filing usage
- PART I-S = application for registration of satellite filing at ITU database (*Master* International Frequency Register/MIFR)
- PART II-S = satellite filing has been registered at ITU database (MIFR)
- PART III-S = application for registration of satellite filing is returned by ITU to Administrations becaude there are findings which are not in accordance with the provision of Radio Regulations (*unfavourable findings*).
- AP30 = provision of satellite filing usage allotted to an Administration for the purpose of satellite broadcast service complies with Appendix 30 of Radio Regulations (BSS Plan Band).
- AP30A = provision of satellite filing usage allotted to an Administration for the purpose of feeder link for satellite broadcast service complies with Appendix 30A of Radio Regulations (Feeder link for BSS Plan Band).
- AP30B = provision of satellite filing usage allotted to an Administration for the purpose of satellite fixed service complies with Appendix 30B of Radio Regulations (FSS Plan Band).

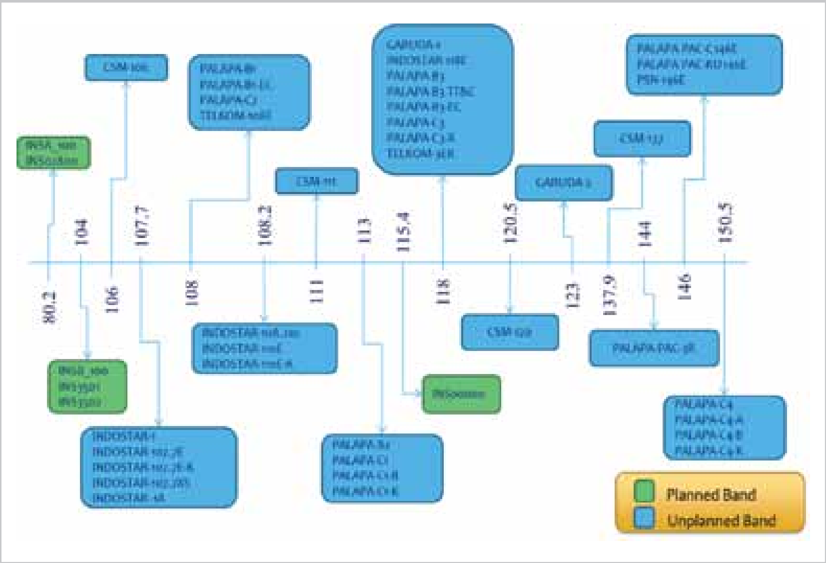
Based on the above table, the number of filings of Indonesia managed by each satellite operator of Indonesia is as follows:

- Telkom : 10 satellite filings
- Indosat : 8 satellite filings
- MCI : 10 satellite filings
- PSN : 5 satellite filings
- LAPAN : 3 satellite filings
- CSM : 4 satellite filings

Currently there are 7 satellite filings of Indonesia that have not been managed yet by satellite operators of Indonesia.

Below is the mapping of satellite filings of Indonesia in each orbit slot.

Figure 5.5.
Mapping of satellite filings of Indonesia



5.4.2. Data of Indonesian Satellite

Data of Indonesian satellites that operate in Semester I year 2013 are as follows

Table 5.13.
List of Indonesian Satellites

No	Orbit Slot (BT)	Satellite Name	Operator	Transponder	Type of Satellite	Date of Placement in Orbit
1	108	Telkom 1	TELKOM	• C band: 24 Transponders • Ext C band: 12 Transponders	Fixed Satellite	12 August 1999
2	108.2	Indostar-2 (SES-7)	MCI	• Ku band: 22 (+5) Transponders • S band: 10 (+3) Transponders	Broadcasting Satellite	16 May 2009
3	113	Palapa D	INDOSAT	• C band: 24 Transponders • Ext C band: 11 Transponders • Ku band: 5 Transponders	Fixed Satellite	31 August 2009
4	118	Telkom 2	TELKOM	• C band: 24 (+4) Transponders	Fixed Satellite	26 November 2005
5	123	Garuda 1	PSN	• L band 88 (+22) Transponders	Mobile Satellite	12 February 2000
6	150.5	Palapa C2	INDOSAT	• C band: 30 Transponders • Ku band: 6 Transponders	Fixed Satellite	15 May 1996
7	NGSO	LAPAN-TUBSAT	LAPAN	-	Earth observa-tion	10 January 2007

5.4.3. Maintenance of Indonesian Satellite Filing

To maintain Indonesian filing in order not to be disturbed by the existence of new filing registered by other countries, the Directorate General of Resources and Equipment of Post and Information Technology must provide comments on satellite filing publication issued by International Telecommunication Union (ITU) on time. These comments are provided within the framework of protecting the national terrestrial and satellite network against potential of interference which may be created by foreign satellite network. Failure or delay in providing timely comments to ITU may cause diminution/disturbance of the Indonesian satellite filing specification. The deadline for providing comments is four (4) months since the date of publication of such foreign satellite filing in ITU BRIFIC (Bureau Radiocommunication International Frequency Information Circular) The ITU BRIFIC publication is issued by ITU once every two weeks. The ITU BRIFIC publication contains data of new satellite network registered by all countries to ITU and the processing data of the management of satellite filing at ITU.

All along Semester 1 Year 2013, the Directorate General of Resources and Equipment of Post and Information Technology has provided comments for 13 ITU publications on satellite network namely publications of BRIFIC No. 2734 up to BRIFIC No. 2738 and BRIFIC No.2740 up to BRIFIC No. 2747.

Comments on every publication of ITU are as follows :

1. BRIFIC 2734

   Coordination is needed vis-à-vis foreign satellite network as follows. :

Publicationi	Administration	Filing	Slot	Comment
API/A/7997	France	AST-3-36E	36E	Coordination requested under provision 9.7
API/A/7998	France	AST-3-48E	48E	Coordination requested under provision 9.7
API/A/7999	France	AST-3-60E	60E	Coordination requested under provision 9.7
API/A/8000	France	AST-3-72E	72E	Coordination requested under provision 9.7
API/A/8001	France	AST-3-84E	84E	Coordination requested under provision 9.7
API/A/8002	France	AST-3-96E	96E	Coordination requested under provision 9.7

Publicationi	Administration	Filing	Slot	Comment
API/A/8003	France	AST-3-108E	108E	Coordination requested under provision 9.7
API/A/8004	France	AST-3-120E	120E	Coordination requested under provision 9.21/A
API/A/8005	France	AST-3-132E	132E	Coordination requested under provision 9.21/A
API/A/8006	France	AST-3-144E	144E	Coordination requested under provision 9.21/C
API/A/8007	France	AST-3-156E	156E	Coordination requested under provision 9.21/ Cand 9.7
API/A/8008	France	AST-3-168E	168E	Coordination requested under provision 9.11 and 9.21/A
API/A/8009	France	AST-3-180E	180E	Coordination requested under provision 9.7
API/A/8024	China	GC-4-106.5E	106.5E	Coordination requested under provision 9.7
API/A/8025	China	GC-4-109E	109 E	Coordination requested under provision 9.7
API/A/8027	China	GC-5	NGSO	Coordination requested under provision 9.7
API/A/8028	Japan	UNIFORM-1	NGSO	Coordination requested under provision 9.7
PART I-S	USA	NIRIS	NGSO	Coordination requested under provision 9.7
PART I-S	Korea	KHUSAT-01	NGSO	Coordination requested under provision 9.7
RES4/618	USA	NMP/EO-1	NGSO	Coordination requested under provision 9.7

2. BRIFIC 2735

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publicationi	Administration	Filing	Slot	Comment
API/A/5966	Japan	ALOS-2	NGSO	Coordination request-ed under provision 9.7

3. BRIFIC 2736

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/8040	Laos	LAOSAT-128.5E-A	128.5E	Coordination requested under provision 9.7
API/A/8049	India	ASTROSAT	NGSO	Coordination requested under provision 9.7
API/A/7738 MOD-1	Vietnam	VNSAT-112.5E	112.5E	Coordination requested under provision 9.7
CR/C/3227	Luksemburg	LUX-G8-19	93.5E	Coordination requested under provision 9.7
CR/C/3225	Luksemburg	LUX-G8-17	74E	Coordination requested under provision 9.14
CR/C/3226	Luksemburg	LUX-G8-18	83E	Coordination requested under provision 9.14
CR/C/3227	Luksemburg	LUX-G8-19	93.5E	Coordination requested under provision 9.14

4. BRIFIC 2737

Coordination is needed vis-à-vis foreign satellite network as follows

Publication	Administration	Filing	Slot	Comment
CR/C/3233	Israel	AMS-C1-137E	137E	Coordination request-ed under provision 9.7
CR/C/3240	China	ASIASAT-AAB	118E	Coordination request-ed under provision 9.7
PART ii-S	France/ESA	INTEGRAL	NGSO	Coordination request-ed under provision 9.7

Publication	Administration	Filing	Slot	Comment
CR/C/3233	Israel	AMS-C1-137E	137E	Coordination requested under provision 9.11 and 0.14.
CR/C/3240	China	ASIASAT-AAB	118E	Coordination requested under provision 9.21/A and 9.21/C
PART ii-S	Japan	JMCS-2	110E	Coordination requested under provision 11.41

5. BRIFIC 2738

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/5909 MOD-2	Papua Nugini	PACIFISAT-7	65E	Coordination requested under provision 9.7
API/A/7595 MOD-1	Japan	QZSS-GS1	90.5E	Coordination requested under provision 9.7
API/A/7597 MOD-1	Japan	QZSS-GS3	123E	Coordination requested under provision 9.7
API/A/7598 MOD-1	Japan	QZSS-GS4	127E	Coordination requested under provision 9.7
API/A/7726 MOD-1	China	CHINASAT-C21	136E	Coordination requested under provision 9.7
API/A/7730 MOD-1	Korea	GK2-116.2E	116.2E	Coordination requested under provision 9.7
API/A/7731 MOD-1	Korea	GK2-128.2E	128.2E	Coordination requested under provision 9.7
API/A/7732 MOD-1	China	ASIASAT-100.7U	100.7E	Coordination requested under provision 9.7
API/A/7733 MOD-1	China	ASIASAT-100.3U	100.3E	Coordination requested under provision 9.7
API/A/8061	Luxemburg	LUX-G9-10	35E	Coordination requested under provision 9.7
API/A/8062	Luxemburg	LUX-G9-11	39E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8063	Luxemburg	LUX-G9-12	43.5E	Coordination requested under provision 9.7
API/A/8064	Luxemburg	LUX-G9-13	48E	Coordination requested under provision 9.7
API/A/8065	Luxemburg	LUX-G9-14	52E	Coordination requested under provision 9.7
API/A/8066	Luxemburg	LUX-G9-15	55E	Coordination requested under provision 9.12A, 9.14, 9.21/A, 9.21/C
API/A/8067	Luxemburg	LUX-G9-16	63E	Coordination requested under provision 9.21/A, 9.21/C
API/A/8068	Luxemburg	LUX-G9-17	69E	Coordination requested under provision 9.12A, 9.21/A
API/A/8069	Luxemburg	LUX-G9-18	74E	Coordination requested under provision 9.12A, 9.21/A
API/A/8070	Luxemburg	LUX-G9-19	83E	Coordination requested under provision 9.14, 9.21/A, 9.21/C
API/A/8071	Luxemburg	LUX-G9-20	93.5E	Coordination requested under provision 9.21/A
API/A/8072	Luxemburg	LUX-G9-21	108.2E	Coordination requested under provision 9.21/A
API/A/8073	Luxemburg	LUX-G9-22	114E	Coordination requested under provision 9.21/A
API/A/8074	Luxemburg	LUX-G9 23	120E	Coordination requested under provision 9.21/A
API/A/8075	Luxemburg	LUX-G9-24	126E	Coordination requested under provision 9.21/A
API/A/8076	Luxemburg	LUX-G9-25	132E	Coordination requested under provision 9.21/A
API/A/8077	Luxemburg	LUX-G9-26	150E	Coordination requested under provision 9.7
API/A/8078	Luxemburg	LUX-G9-27	156E	Coordination requested under provision 9.7
API/A/8079	Luxemburg	LUX-G9-28	162E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8080	Luxemburg	LUX-G9-29	168E	Coordination requested under provision 9.7
API/A/8081	Luxemburg	LUX-G9-30	174E	Coordination requested under provision 9.7
API/A/8111	Great Britain	L5	NGSO	Coordination requested under provision 9.7
API/A/8117	Great Britain	TECHDEMO-SAT-1	NGSO	Coordination requested under provision 9.7
PART I-S	China	CHNSAT-98E	98.2E	Coordination requested under provision 9.7
PART I-S	Japan	N-SAT-98.5E	98.5E	Coordination requested under provision 9.7
PART I-S	USA	USNN-4	100E	Coordination requested under provision 9.7
PART I-S	China	ASIASAT-AK1	122E	Coordination requested under provision 9.7
AP30/E/615	Papua Nugini	PACIFISAT BSS-116.1E	116.1E	Coordination requested under provision 9.7
AP30A/E/615	Papua Nugini	PACIFISAT BSS-116.1E	116.1E	Coordination requested under provision 9.7
CR/C/3269	USA	UST4WP	NGSO	Coordination requested under provision 9.21/C
CR/C/3271	Spain	SECOMSAT-29E	29E	Coordination requested under provision 9.21/A
AP30/E/614	UAE	YAHSAT-BSS2-57E	57E	Disagreement to the proposed assignment
AP30/E/615	Papua Nugini	PACIFISAT BSS-116.1E	116.10E	Disagreement to the proposed assignment

6. BRIFIC 2740

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/6740 MOD-2	Cyprus	KYPROS-ORION	89.5E	Coordination requested under provision 9.7
API/A/7868 MOD-1	Netherlands	NSS-G4-22	50.5E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8119	Pakistan	PAKSAT-MM1-38.2E	38.2E	Coordination requested under provision 9.7
API/A/8120	Spain	SECOMSAT-78E	78E	Coordination requested under provision 9.7
API/A/8124	Kazakhstan	KAZSAT11R	98.5E	Coordination requested under provision 9.7
API/A/8249	Pakistan	PAKTES-1	NGSO	Coordination requested under provision 9.7
CR/C/3295	China	CHINASAT-C20	126E	Coordination requested under provision 9.11 and 9.14
CR/C/3297	USA	HIBLEO-2	NGSO	Coordination requested under provision 9.12/A and 9.21/A
AP30/E/620	UAE	YAHSAT-BSS2-63E	63E	Disagreement to the proposed assignment
AP30/E/619	UAE	YAHSAT-BSS2-67.5E	67.5E	Disagreement to the proposed assignment

7. BRIFIC 2741

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/8156	Israel	AMS-C3-36E	36E	Coordination requested under provision 9.7
API/A/8157	Israel	AMS-C3-39.2E	39.2E	Coordination requested under provision 9.7
API/A/8158	Israel	AMS-C3-42E	42E	Coordination requested under provision 9.21/A
API/A/8159	Israel	AMS-C3-43E	43E	Coordination requested under provision 9.7
API/A/8160	Israel	AMS-C3-48E	48E	Coordination requested under provision 9.7
API/A/8161	Israel	AMS-C3-54E	54E	Coordination requested under provision 9.7
API/A/8162	Israel	AMS-C3-60E	60E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8163	Israel	AMS-C3-65E	65E	Coordination requested under provision 9.7
API/A/8164	Israel	AMS-C3-66E	66E	Coordination requested under provision 9.7
API/A/8165	Israel	AMS-C3-67.25E	67.25E	Coordination requested under provision 9.7
API/A/8166	Israel	AMS-C3-72E	72E	Coordination requested under provision 9.7
API/A/8167	Israel	AMS-C3-78E	78E	Coordination requested under provision 9.7
API/A/8168	Israel	AMS-C3-82.5E	82.5E	Coordination requested under provision 9.7
API/A/8169	Israel	AMS-C3-84E	84E	Coordination requested under provision 9.7
API/A/8170	Israel	AMS-C3-90E	90E	Coordination requested under provision 9.7
API/A/8171	Israel	AMS-C3-96E	96E	Coordination requested under provision 9.7
API/A/8172	Israel	AMS-C3-102E	102 E	Coordination requested under provision 9.7
API/A/8173	Israel	AMS-C3-108E	108E	Coordination requested under provision 9.7
API/A/8174	Israel	AMS-C3-114E	114E	Coordination requested under provision 9.7
API/A/8175	Israel	AMS-C3-120E	120E	Coordination requested under provision 9.7
API/A/8176	Israel	AMS-B3-126E	126E	Coordination requested under provision 9.7
API/A/8177	Israel	AMS-B3-132E	132E	Coordination requested under provision 9.7
API/A/8178	Israel	AMS-B3-137E	137E	Coordination requested under provision 9.7
API/A/8179	Israel	AMS-B3-138E	138E	Coordination requested under provision 9.7
API/A/8180	Israel	AMS-B3-140E	140E	Coordination requested under provision 9.7
API/A/8181	France	MCSAT LEO	NGSO	Coordination requested under provision 9.7
API/A/8182	France	MCSAT MEO	NGSO	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8183	France	MCSAT HEO	NGSO	Coordination requested under provision 9.7
API/A/8190	France	MCSAT E036	36E	Coordination requested under provision 9.7
API/A/8191	France	MCSAT E042	42E	Coordination requested under provision 9.7
API/A/8192	France	MCSAT E048	48E	Coordination requested under provision 9.7
API/A/8193	France	MCSAT E054	54E	Coordination requested under provision 9.7
API/A/8194	France	MCSAT E060	60E	Coordination requested under provision 9.7
API/A/8195	France	MCSAT E066	66E	Coordination requested under provision 9.7
API/A/8196	France	MCSAT E072	72E	Coordination requested under provision 9.7
API/A/8197	France	MCSAT E078	78E	Coordination requested under provision 9.7
API/A/8198	France	MCSAT E084	84E	Coordination requested under provision 9.7
API/A/8199	France	MCSAT E090	90E	Coordination requested under provision 9.7
API/A/8200	France	MCSAT E096	96E	Coordination requested under provision 9.7
API/A/8201	France	MCSAT E102	102E	Coordination requested under provision 9.7
API/A/8202	France	MCSAT E108	108E	Coordination requested under provision 9.7
API/A/8203	France	MCSAT E114	114E	Coordination requested under provision 9.7
API/A/8204	France	MCSAT E120	120E	Coordination requested under provision 9.7
API/A/8205	France	MCSAT E126	126E	Coordination requested under provision 9.7
API/A/8206	France	MCSAT E132	132E	Coordination requested under provision 9.7
API/A/8207	France	MCSAT E138	138E	Coordination requested under provision 9.7
API/A/8208	France	MCSAT E144	144E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8209	France	MCSAT E150	150E	Coordination requested under provision 9.7
API/A/8210	France	MCSAT E156	156E	Coordination requested under provision 9.7
API/A/8211	France	MCSAT E162	162E	Coordination requested under provision 9.7
API/A/8212	France	MCSAT E168	168E	Coordination requested under provision 9.7
API/A/8213	France	MCSAT E174	174E	Coordination requested under provision 9.7
API/A/8214	France	MCSAT E180	180E	Coordination requested under provision 9.7
API/A/8248	Saudi Arabia	ARABSAT-8I-34E	34E	Coordination requested under provision 9.7
CR/C/3296	China	CHINASAT-C21	136E	Coordination requested under provision 9.11 and 9.14
CR/C/3302	UAE	EMARSAT-9G/M	127E	Coordination requested under provision 9.11, 9.14 and 9.21/A
CR/C/3303	Belarussia	BTS-2-NP	64.4E	Coordination requested under provision 9.21/A and 9.21/C
CR/C/3305	Israel	AMS-C2-39.2E	39.2E	Coordination requested under provision 9.14 and 9.21/A

8. 9 be\\rab Emirates (UAE) 11 ernational Affairs-MCIT Indonesiaination between LAPAN is no potential of unacceptableBRIFIC 2742

Coordination is needed vis-à-vis foreign satellite network as follows. :

:Publication	Administration	Filing	Slot	Comment
API/A/7570 MOD-1	China	ITS-36E	36E	Coordination requested under provision 9.7
API/A/7571 MOD-1	China	ITS-70.5E	70.5E	Coordination requested under provision 9.7
API/A/7572 MOD-1	China	ITS-78.5E	78.5E	Coordination requested under provision 9.7

:Publication	Administration	Filing	Slot	Comment
API/A/7573 MOD-1	China	ITS-90.5E	90.5E	Coordination requested under provision 9.7
API/A/7574 MOD-1	China	ITS-105E	105E	Coordination requested under provision 9.7
API/A/7575 MOD-1	China	ITS-114.5E	114.5E	Coordination requested under provision 9.7
API/A/7576 MOD-1	China	ITS-120.5E	120.5E	Coordination requested under provision 9.7
API/A/7594 MOD-1	Japan	QZSS	NGSO	Coordination requested under provision 9.7
API/A/7597 MOD-1	Japan	QZSS-GS3	123E	Coordination requested under provision 9.7
API/A/7598 MOD-1	Japan	QZSS-GS4	127E	Coordination requested under provision 9.7
API/A/7599 MOD-2	Japan	QZSS-GS5	137E	Coordination requested under provision 9.7
API/A/7602 MOD-2	Japan	QZSS-GS8	168E	Coordination requested under provision 9.7
API/A/8258	Mongolia	SANSAR-2	113.6E	Coordination requested under provision 9.7

9. BRIFIC 2743

ination is needed vis-à-vis foreign satellite network as follows. :

:Publication	Administration	Filing	Slot	Comment
API/A/7597 MOD-3	Japan	QZSS-GS3	123E	Coordination requested under provision 9.7
API/A/7598 MOD-3	Japan	QZSS-GS4	127E	Coordination requested under provision 9.7
API/A/7599 MOD-2	Japan	QZSS-GS5	137E	Coordination requested under provision 9.7
API/A/7602 MOD-3	Japan	QZSS-GS8	168E	Coordination requested under provision 9.7/
API/A/7687 MOD-1	Papua Nugini	PACIFICSAT-S-75E	75E	Coordination requested under provision 9.7
API/A/8253	Thailand	THAICOM-P5	126E	Coordination requested under provision 9.7

:Publication	Administration	Filing	Slot	Comment
API/A/8254	Thailand	THAICOM-N5R	142E	Coordination requested under provision 9.7
CR/C/3313	Canada	COMMSTEL-LATION	NGSO	Coordination requested under provision 9.12/A
CR/C/3314	China	ASIASAT-100.3U	100.3E	Coordination requested under provision 9.21/A, 9.21/C
CR/C/3315	China	ASIASAT-100.7U	100.7E	Coordination requested under provision 9.21/A, 9.21/C
AMS-BSS-137E	Israel	AMS-BSS-137E	137E	Disagreement to the proposed assignment
AP30B/A6A/245	China	CHINASAT-30B-126E	126E	Disagreement to the proposed assignment
AP30B/A6A/247	Armenia	ARMSAT-30B-71.4E	71.4E	Disagreement to the proposed assignment
AP30B/A6A/249	France	F-SAT-E-30B-16E	16E	Disagreement to the proposed assignment
AP30B/A6A/250	Papua Nugini	NEW DAWN FSS-3	62E	Disagreement to the proposed assignment
AP30B/A6A/251	Papua Nugini	NEW DAWN FSS-4	64E	Disagreement to the proposed assignment
PART II-S	Japan	JMCS-2 (110E) N-SAT-124E N-SAT-128E	110E 124E 128E	Coordination requested under provision 11.41

10. BRIFIC 2744

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/8255	Russia	ENSAT-KA-99E	99E	Coordination requested under provision 9.7
API/A/8256	Russia	ENSAT-KA-112E	112E	Coordination requested under provision 9.7
AP30A/E/627	Japan	NB-SAT-110-EV	120E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
CR/C/3327	Japan	JMCS-110E	110E	Coordination requested under provision 9.21/A, 9.21/C
CR/C/3328	Japan	JMCS-144E	144E	Coordination request-ed under provision 9.21/A,9.21/C
CR/C/3329	Japan	JMCS-158E	158E	Coordination request-ed under provision 9.21/A,9.21/C
CR/C/3330	Japan	JMCS-162E	162E	Coordination request-ed under provision 9.21/A,9.21/C
CR/C/3331	Saudi Arabia	ARABSAT 8A-30.5E	30.5E	Coordination requested under provision9.14, 9.21/A
CR/C/3332	Saudi Arabia	ARABSAT 8B-26E	26E	Coordination requested under provision9.14, 9.21/A
CR/C/3333	Saudi Arabia	ARABSAT 8C-20E	20E	Coordination requested under provision9.14, 9.21/A
CR/C/3334	Saudi Arabia	ARABSAT 8D-7.5E	7.5E	Coordination requested under provision9.14, 9.21/A
CR/C/3335	Saudi Arabia	ARABSAT 8E-34.5E	34.5E	Coordination requested under provision9.14, 9.21/A
CR/C/3336	Saudi Arabia	ARABSAT 8F-44.5E	44.5E	Coordination requested under provision9.14, 9.21/A
CR/C/3337	Saudi Arabia	ARABSAT 8G-11E	11E	Coordination requested under provision 9.21/A
CR/C/3338	Saudi Arabia	ARABSAT 8H-17E	17E	Coordination requested under provision9.14, 9.21/A
PART II-S	Japan	N-SAT-M-150E	150E	Coordination requested under provision 11.41
PART II-S	Australia	ADF WEST-2	88E	Coordination requested under provision 11.41

11. BRIFIC 2745

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/8289	Vietnam	VNSAT-2A2	100E	Coordination requested under provision 9.7
API/A/8290	Vietnam	VNSAT-2A3	105E	Coordination requested under provision 9.7
API/A/8291	Vietnam	VNSAT-2A4	110E	Coordination requested under provision 9.7
API/A/8292	Vietnam	VNSAT-2A5	115E	Coordination requested under provision 9.7
API/A/8293	Vietnam	VNSAT-2A6	120E	Coordination requested under provision 9.7
API/A/8294	Vietnam	VNSAT-2A7	125E	Coordination requested under provision 9.7
API/A/8295	Vietnam	VNSAT-2A8	130E	Coordination requested under provision 9.7
API/A/8111 MOD-1	Great Britain	L5	NGSO	Coordination requested under provision 9.7
CR/C/3339	Cyprus	KYPROS-THEMIS	54.5E	Coordination requested under provision9.14
CR/C/3340	Cyprus	KYPROS-ORION	89.5E	Coordination requested under provision9.14, 9.21/A
PART II-S	Australia	DDSP-104E	104E	Coordination requested under provision 11.41

12. BRIFIC 2746

Coordination is needed vis-à-vis foreign satellite network as follows :

Publication	Administration	Filing	Slot	Comment
API/A/8278	USA	USOCEAN	NGSO	Coordination requested under provision 9.7
API/A/8307	Great Britain	GBSAT-KA-02		Coordination requested under provision 9.7
API/A/8308	Great Britain	GBSAT-KA-03		Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
API/A/8313	Great Britain	HMG-SAT-01		Coordination requested under provision 9.7
API/A/8314	Great Britain	HMG-SAT-02		Coordination requested under provision 9.7
API/A/8315	Great Britain	IOMSAT-138E		Coordination requested under provision 9.7
CR/C/1904 MOD-3	Australia	SIRION	NGSO	Coordination requested under provision 9.12/A, 9.14
CR/C/3349	Israel	AMS-B2-13.8E	13.8E	Coordination requested under provision 9.21/A

12. BRIFIC 2747

Coordination is needed vis-à-vis foreign satellite network as follows. :

Publication	Administration	Filing	Slot	Comment
API/A/7045 MOD-1	India	INSAT-NAVR(83)	83E	Coordination requested under provision 9.7
API/A/7046 MOD-1	India	INSAT-NAVR(120.5)	120.5E	Coordination requested under provision 9.7
API/A/7047 MOD-1	India	INSAT-NAVR(121.5)	121.5E	Coordination requested under provision 9.7
API/A/7048 MOD-1	India	INSAT-NAVR(123.5)	123.5E	Coordination requested under provision 9.7
API/A/7051 MOD-1	India	INSAT-NAVR(126.5)	126.5E	Coordination requested under provision 9.7
API/A/7052 MOD-1	India	INSAT-NAVR(127.5)	127.5E	Coordination requested under provision 9.7
API/A/7054 MOD-1	India	INSAT-NAVR(129.5)	129.5 E	Coordination requested under provision 9.7
API/A/7265 MOD-2	UAE	EMARSAT-9Q	137.8 E	Coordination requested under provision 9.7
API/A/8326	China	SP-POSS-3-01	NGSO	Coordination requested under provision 9.7
PART I-S	Great Britain	AM-SAT-108.2E-G	108.2 E	Coordination requested under provision 9.7

Publication	Administration	Filing	Slot	Comment
PART I-S	Luxemburg	LUX-G5-25	108.2E	Coordination requested under provision 9.7
AP30A/E/634	India	INSAT-KUP-BSS(111.5)	111.5E	Coordination requested under AP30A
CR/C/3356	Netherlands	NSS-G4-22	50.50E	Coordination requested under provision 9.11 , 9.14
CR/C/3357	Netherlands	NSS-G4-23	57E	Coordination requested under provision 9.11 , 9.14
CR/C/3358	Netherlands	NSS-G4-26	95E	Coordination requested under provision 9.11 , 9.14, 9.21
CR/C/3360	China	ASIASAT-105.3T	105.30E	Coordination requested under provision, 9.21/A, 9.21/C
CR/C/3363	Spain	SECOMSAT-B1-R_47W	47W	Coordination requested under provision 9.21/A, 9.21/C
AP30/E/628	India	INSAT-KUP-BSS (48E)	48E	Disagreement to the proposed assignments
AP30/E/629	India	INSAT-KUP-BSS (55E)	55E	Disagreement to the proposed assignments
AP30/E/630	India	INSAT-KUP-BSS (74E)	74E	Disagreement to the proposed assignments
AP30/E/631	India	INSAT-KUP-BSS (82.5E)	82.5E	Disagreement to the proposed assignments
AP30/E/632	India	INSAT-KUP-BSS (83E)	83E	Disagreement to the proposed assignments

5.4.4. Holding of Satellite Coordination Meeting

In order to settle the interference potential that may be created by foreign satellite network towards national satellite network, a bilateral meeting is held between Indonesian Administration and other Administration for satellite coordination. Such satellite coordination may be implemented in a home or away procedure. Satellite coordination may be done based on ITU provision within the framework of satellite filing registration.

In 2013, the Directorate General of Resources and Equipment of Post and Information Technology in cooperation with satellite operators planned to hold 6 satellite coordination meetings with Telecommunication Administrations of other countries, i.e. Australia, China, Korea, Thailand, Malaysia, and Russia. . Out of 6 planned meetings for satellite coordination, only three meetings could be held, in Semester 1 year 2013, i.e.

1) Satellite coordination meeting Indonesia – Australia in Canberra on 18-22 March 2013;;
2) Satellite coordination meeting Indonesia – China in Bandung on 15 – 19 April 2013;;
3) Satellite coordination meeting Indonesia – Korea in Yogyakarta on 20 –24 May 2013..

The other three satellite coordination meetings are scheduled to be held in semester II year 2013, i.e.:

1) Satellite coordination meeting Indonesia – Malaysia in Surabaya;
2) Satellite coordination meeting Indonesia – Thailand in Yogyakarta;
3) Satellite coordination meeting Indonesia – Russia in Moscow'

The results of satellite coordination meetings held in Semester I year 2013 are as follows

a. Satellite coordination meeting with Administration of Australia

The Satellite Coordination Meeting between the Administration of the Republic of Indonesia and Australia was held on 18-22 March 2013 in Office of Australian Communications and Media Authority, Belconnen, Canberra, Australia. The Delegation of the Republic of Indonesia was chaired by Head of Subdirectorate of Satellite Orbit Management of the Ministry of Communication and Information Technology (Kemenkominfo) with members of representatives of Directorate of Spectrum Policy and Planning of Kemenkominfo, Centre of International Cooperation of Kemenkominfo, Directorate of Political and Security Territory (Polkamwil) Agreement of Ministry of Foreign Affairs and representatives of Satellite Operators of Indonesia, namely PT. Telekomunikasi Indonesia, Tbk. (TELKOM), PT. Media Citra Indostar (MCI), PT. Pasifik Satelit Nusantara (PSN), and PT. Citra Sari Makmur (CSM). The Delegation of Australia is chaired by Alexandra Seneta from International Regulatory Section, Australian

Communication and Media Authority (ACMA) with members of representatives of Australian Communication and Media Authority, Australian Department of Defense (ADoD), and ADoD consultant *ITT Exelis).

In this satellite coordination meeting, there were 16 agenda items of discussion, covering coordination of 13 Indonesian satellite networks and 22 Australian satellite networks.

Out of 16 agenda items of satellite coordination discussed inthis meeting, 5 agend items of coordination cold be settled for all satellite filings (complete coordination), while 11 agenda items, coordination towards part of satellite filings could be settled and the remainder needs further discussion in the future so that coordination towards some satellite filings could not be settled yet in this meeting. The results of satellite coordination meeting with Australia are contained in Attachment I. ,

b. Satellite coordination meeting with Administration of China

The Satellite Coordination Meeting between the Administration of the Republic of Indonesia and China was held on 15-19 April 2013 in Bandung. . The Delegation of the Republic of Indonesia was chaired by the Director of Spectrum Policy and Planning with members of representatives of the Directorate of Spectrum Policy and Planning of the Ministry of Communication and Information Technology (Kemenkominfo), Centre of International Cooperation of Kemenkominfo, Directorate of Political and Security Territory (Polkamwil) Agreement of Ministry of Foreign Affairs and representatives of Satellite Operators of Indonesia, namely National Institute of Space and Aviation (LAPAN), PT. Telekomunikasi Indonesia, Tbk. (TELKOM), PT. INDOSAT, PT.Media Citra Indostar (MCI), PT. Citra Sari Makmur (CSM), Mr. Meidi Sutyarjoko and Mr. Yulrama Indra as consultants of Directorate .General of Resources and Equipment of Post and, Information Technology.

The Delegation of People's Republic of China was chaired by Deputy Director General Bureau of Radio Regulation, Ministry of Industry and Information Technology, with members of the representatives of Office of the Communications Authority, Hong Kong (OFCA), State Radio Monitoring Center (SRMC), Stata Administration of Radio, Film and Television (SARFT), China Meteorological Administration (CMA), China National Administration of GNSS and Applications (CNAGA), Beijing Satellite Navigation Center (BSNC), China Satellite Communications

Co. Ltd. (China Satcom), Newstar Satellite Communication Company, Ltd. (NewStar), China Academy of Space Technology (CAST), and Asia Satellite Telecommunications Company Limited (AsiaSat).

In the discussion and determination of agenda of the meeting, the two

Administrations agree to discuss 52 agenda items of coordination, covering the discussion of coordination towards satellite network of *planned* and *unplanned band*. The coordination agenda in question will discuss 28 satellite filings of Indonesia and 75 satellite filings of China. Out of 52 agenda items of satellite coordination discussed in this meeting, 15 agenda items of coordination could be settled for all satellite filings (*complete coordination*), while for 37 agenda items, the coordination towards part of the satellite filings could be settled and the remainder would need to be discussed further in the future so that coordination towards some satellite filings could not be settled yet at this meeting. The results of satellite coordination with China are contained in Attachment 2.

c. Satellite coordination meeting with Administration of Korea

The Satellite Coordination Meeting between the Administration of the Republic of Indonesia and Korea was held on 20-24 May 2013 in Yogyakarta. . The Delegation of the Republic of Indonesia was chaired by the Director of Spectrum Policy and Planning with members of representatives of the Directorate of Spectrum Policy and Planning, Centre of International Cooperation, Legal and Cooperation Division, Ministry of Foreign Affairs and representatives of five (5) Satellite Operators of Indonesia, namely Telkom, Indosat, CSM, MCI, and PSN.

The Delegation of Korea was chaired by Deputy Director of Radio Environment Safety Division, National Radio Research Agency, witgh members of representatives of National Radio Research Agency and three (3 satellite operators of Korea namely: ETRI, KARI, and kt. sat.

In that meeting, it was agreed to discuss 40 agenda items of coordination , *general agreement* and 2 agenda items of *other business*. The agenda of coorfdination in question discussed 33 satellite filings of Indonesia and 17 satgellite filings of Korea . Both Administrations have agreed on *General Agreement* which states that in the event of the existence of coordination between satellite filings of Indonesia and Korea with the separation of satellite orbit bigger or equal to 8 degrees for C band, 7 degrees for Ku band and 8 degrees for Ka band, said coordination may be stated settled (*complete coordination*).

Out of 40 agenda items of satellite coordination discussed in this meeting, 21 agenda items could be settled for all satellite filings (*complete coordination*), while 10 agenda items were part of the filings have not been settled yet n the coordination and 9 other agenda items of coordination hve not been settled in the coordination. The results of satellite coordination meeting with Korea are contained in Attachment 3.

5.4.5. Issuance of Satellite Landing Right

Any usage of foreign satellite in Indonesia must be equipped with landing right. The Satellite Landing Right is the right to use foreign satellite provided by the Minister to telecommunication providers or broadcasting institutions. Any telecommunication provider or subscriber broadcasting institution that will use foreign satellite shall own landing right. The legal bases for the issuance of Satellite Landing Right to use foreign satellite are :

1. Decree of the Minister of Communication and Information Technology Number 13/P/M.KOMINFO/8/2005 on Telecommunication Provision Using Satellite;
2. Decree of the Minister of Communication and Information Technology Number 37/P/M.KOMINFO/12/2006 on Amendment to the Decree of the Minister of Communication and Information Technology Number 13/P/M.KOMINFO/8/2005 on Telecommunication Provision Using Satellite;
3. Decree of the Director General of Post and Telecommunication Number 357/DIRJEN/2006 on Issuance of the License for Radio Station for Telecommunication Provision Using Satellite.

For semester 1 year 2013,, the Directorate General of Resources and Equipment of Post and Information Technology has issued ten (10) landing right licenses to telecommunication providers that use twelve (12) foreign satellites. Hence, up to now the Directorate General of Resources and Equipment of Post and Information Technology has issued 92 landing right licenses of foreign satellites for the use of 32 foreign satellites. The foreign satellites used originate from 13 Administrations, i.e. Netherlands, Belorussia, China, Great Britain, Japan, Germany, Malaysia, Singapore, Thailand, Tonga, United Arab Emirates, USA, and Luxemburg.

Table 5.14.
List of foreign satellite users up to Semester 1 year 2013

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
1	PT. MENTARI MULTIMEDIA (M2V)	PANAMSAT 2 PANAMSAT 8 PANAMSAT 10 MEASAT 1	USA USA USA MALAYSIA
2	PT. ANTA MEDIAKOM	SINOSAT 1	CHINA
3	PT. INDOSAT MEGA MEDIA	INTELSAT 2 INTELSAT 8 ASIASAT 2 ASIASAT 3S TELSTAR 10	USA USA CHINA CHINA CHINA
4	PT. ARTHA MAS CIPTA	ASIASAT 4 APSTAR-V APSTAR-VI	CHINA TONGA TONGA
5	PT. SARANA MUKTI ADIJAYA	ASIASAT 4	CHINA
6	PT. PRIMACOM	ST-1 APSTAR V	SINGAPORE TONGA
7	PT. CITRA SARI MAKMUR	SINOSAT 1 APSTAR VI MEASAT 3 MEASAT 2 NSS 6	CHINA TONGA MALAYSIA MALAYSIA NETHERLANDS
8	PT. MULTI MEDIA NUSANTARA	APSTAR VI	TONGA
9	PT. PATRAKOM (PT. PATRA TELEKOMUNIKASI INDONESIA)	APSTAR V APSTAR V	TONGA TONGA
		MEASAT-3	MALAYSIA
		ASIASAT-4	CHINA
		MEASAT-3A	MALAYSIA
		INMARSAT-4 F1	GREAT BRITAIN
		CHINASAT-10	CHINA

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
10	PT. INDOSAT	INTELSAT 7 INTELSAT 57 PANAMSAT- 2 ASIASAT-2 APSTAR VI TELSTAR-10 INTELSAT-902	USA USA USA CHINA CHINA CHINA USA
11	PT. SARANA INSAN MUDA SELARAS	NSS 703	NETHERLANDS
12	PT. CENTRIN ONLINE	CHINASTAR -1	CHINA
13	PT. NAP INFO LINTAS NUSA	INTELSAT 8	USA
14	PT. CYBERINDO ADITAMA	INTELSAT 906	USA
15	PT. ASIA PASIFIK KAPITAL	APSTAR V	TONGA
16	PT. GLOBAL TELECOM UTAMA	SINOSAT 1 ASIASAT 4 INTELSAT 12	CHINA CHINA USA
		ASIASAT 4 SINOSAT 1 APSTAR-V	CHINA CHINA TONGA
17	PT. PASIFIK TEL INDOTAMA	ASIASAT-4 INTELSAT 12 EUTELSAT 172A	CHINA GERMANY USA
18	PT. PASIFIK SATELIT NUSAN-TARA	APSTAR V APSTAR VI CHINASAT-10	TONGA TONGA CHINA
19	PT. GLOBAL INTI COORPO-RATAMA	ASIASAT 2 ASIASAT 4 PANAMSAT 2 PANAMSAT 4 APSTAR V	CHINA CHINA USA USA TONGA

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
20	PT. TELEKOMUNIKASI INDONESIA, Tbk	APSTAR VI INTELSAT IS 906 SINOSAT-1 JCSAT-5A SINOSAT-1 GE-23 CHINASAT-10 JCSAT-5A APSTAR-7 INTELSAT 8 INMARSAT-4 F1	TONGA USA CHINA JAPAN CHINA USA CHINA JAPAN CHINA USA GREAT BRITAIN
21	PT. BROADBAND NETWORK ASIA	AMC 23 ABS 1 AMC 23	USA BELARUS USA
22	PT. KHASANAH TEKNOLOGI PERSADA	SINOSAT-1 IPSTAR-1 MEASAT-3A JCSAT-4B	CHINA THAILAND MALAYSIA JAPAN
23	PT. DWI TUNGGAL PUTRA	PAS 4 APSTAR VI SINOSAT 1 PAS 2 AMC 23 NSS 5	USA TONGA CHINA USA USA USA
24	PT. MULTIDATA RENCANA PRIMA	AMC 23	USA
25	PT. DATAKOM WIJAYA PRATAMA	ST 1	SINGAPORE
26	PT. EXELCOMINDO PRATAMA	JCSAT 3A	JAPAN
27	PT. AJN SOLUSINDO	APSTAR V APSTAR VI ASIASAT 2 ASIASAT 4	TONGA TONGA CHINA CHINA

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
28	PT. BROADBAND MULTIMEDIA/ (FIRST MEDIA)	APSTAR 2R PAS 8 PAS 10 ASIASAT 3 ASIASAT 2 PAS 2 JCSAT 3 MEASAT- 1 MEASAT 2 MEASAT 3	CHINA USA USA CHINA CHINA USA JAPAN MALAYSIA MALAYSIA MALAYSIA
29	PT. SUPRA PRIMATAMA NUSANTARA	AMC 23	USA
30	PT. INDONUSA TELEMEDIA (TELKOM VISION)	ASIASAT 3S PANAMSAT 8 TELSTAR 10 MEASAT 3	CHINA USA CHINA MALAYSIA
31	PT. AMALGAM INDOCORPORA	IRIDIUM	USA
32	PT. DIGITAL SATELLITE INDONESIA	ASIASAT-4	CHINA
33	PT. IMANI PRIMA	ORBCOMM ORBCOMM	USA USA
34	PT. KARYA MEGAH ADIJAYA	INTELSAT 10 TELSTAR 10 MEASAT 3 ASIASAT 3S ASIASAT-5 INTELSAT-8 MEASAT-3A ABS-1	USA CHINA MALAYSIA CHINA CHINA USA MALAYSIA BELARUSSIA
35	PT. RABIK BANGUN NUSANTARA	APSTAR V	TONGA

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
36	PT. NUSANTARA VISION	PANAMSAT 8 PANAMSAT 10 APSTAR 2R ASIASAT 3S ASIASAT 2	USA USA CHINA CHINA CHINA
37	PT. TELE NET	GE-23 JCSAT-5A	USA JAPAN
38	PT. IFORTE SOLUSI INFOTEK	APSTAR-V	CHINA
39	PT. SOG	THURAYA-3	UAE
40	PT. DINI NUSA KUSUMA	INMARSAT-4 INMARSAT-4-F1	GREAT BRITAIN GREAT BRITAIN
41	PT. MEDIATAMA ANUGRAH CITRA	ASIASAT-3S INTELSAT-8 TELSTAR-10	CHINA USA CHINA
42	PT. CIPTA SKYNINDO	APSTARV/ (TEL-STAR-18) INTELSAT-10 ABS-1 TELSTAR-10 MEASAT-3A ASIASAT 3S INTELSAT-8 JCSAT-3	TONGA USA BELARUSSIA CHINA MALAYSIA CHINA USA JAPAN
43	PT. MEGA MEDIA INDONESIA	ASIASAT-3S INTELSAT-8 TELSTAR-10 / APSTAR-2R INTELSAT-10 MEASAT-3A ASIASAT-5 ABS-1 INTELSAT 20	CHINA USA CHINA USA MALAYSIA CHINA BELARUSSIA USA

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
44	PT. CENTRAL TIVI DIGITAL	INTELSAT-8 MEASAT-3A	USA MALAYSIA
45	PT. CENTRIN MULTI MEDIA	INTELSAT-8	USA
46	PT. MNC SKYVISION	APSTAR-2R JCSAT-3 ASIASAT-2 ASIASAT-3S MEASAT-3 INTELSAT-8 INTELSAT-10	CHINA JAPAN CHINA CHINA MALAYSIA USA USA
47	PT. GLOBAL COMM NUSANTARA	ASIASAT-3S INTELSAT-8 ABS-1	CHINA USA BELARUSSIA
48	PT. INDONESIA MEDIA TELEVISI	APSTAR-2R ASIASAT-3S ASIASAT 3S ASIASAT 4 ASIASAT 5 APSTAR-7 MEASAT-3 MEASAT-3a APSTAR-6	CHINA CHINA CHINA CHINA CHINA CHINA MALAYSIA MALAYSIA CHINA
49	PT KARYA KREATIF BERSAMA	CHINASAT-10 INTELSAT-8 MEASAT-3a APSTAR-2R ABS-1 ASIASAT 3S MEASAT-3 INTELSAT 10	CHINA USA MALAYSIA CHINA BELARUS SIA CHINA MALAYSIA USA
50	PT. SEMARANG PODOJOYO MEDIA	INTELSAT-8 (IS-8) ASIASAT 3S ASIASAT 5	USA CHINA CHINA

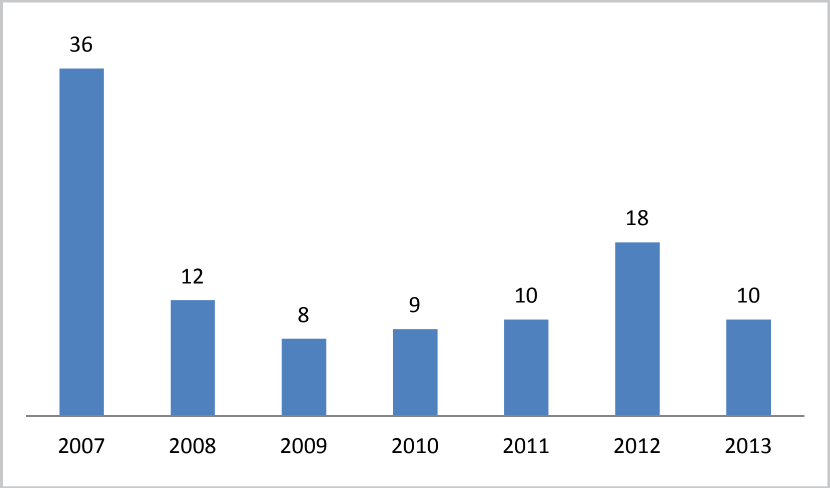
No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
51	PT. INDONESIA BROADBAND COMMUNICATION	INTELSAT-8 (IS-8) ASIASAT 3S ASIASAT 5	USA CHINA CHINA
52	PT. INDONESIA CABLE NET-WORK	INTELSAT-8 (IS-8) ASIASAT 3S ASIASAT 5	USA CHINA CHINA
53	PT. TANGARA MITRAKOM	INMARSAT-4 F1 APSTAR-VI	GREAT BRITAIN TONGA
54	PT. GEMILANG ANANTA	INMARSAT-4 F1	GREAT BRITAIN
55	PT. CAPROCK COMMUNICATION INDONESIA	APSTAR-2R (TEL-STAR-10) APSTAR-5 (TEL-STAR-18) JCSAT-5A NSS-6	CHINA TONGA JAPAN NETHERLANDS
56	PT. TEPIAN MULTIMEDIA	ASIASAT 3S ASIASAT 5	CHINA CHINA
57	PT. SRIWIJAYA MITRA MEDIA	ASIASAT 3S ASIASAT 5	CHINA CHINA
58	PT. BIZNET MULTIMEDIA	INTELSAT 8 ASIASAT 3S ASIASAT 5 APSTAR 7 MEASAT 3 APSTAR 5 ABS-1	USA CHINA CHINA CHINA MALAYSIA TONGA BELARUSSIA
59	PT. ALDIRA BERKAH ABADI MAKMUR	APSTAR-VI	CHINA

No	COMPANY NAME	NAME OF FOREIGN SATELLITE	ADMINISTRATION
60	PT DIGITAL MEDIA ASIA	ASIASAT 3S ASIASAT 4 ASIASAT 5 APSTAR-7 MEASAT-3 MEASAT-3a INTELSAT 20	CHINA CHINA CHINA CHINA MALAYSIA MALAYSIA USA
61	PT. TECNOVES INTERNATIONAL	LIPPOSTAR 1	JAPAN
62	PT. APLIKANUSA LINTASARTA	CHINASAT-10	CHINA
63	PT.NADIRA INTERMEDIA NUS-ANTARA	MEASAT-3 MEASAT-3a ASIASAT 3S ASIASAT 5	MALAYSIA MALAYSIA CHINA CHINA
64	PT. SARANA MUKTI ADIJAYA	ASIASAT-5	CHINA
65	PT. VISION CEMERLANG	ASIASAT 3S ASIASAT 5 MEASAT-3 INTELSAT 19	CHINA CHINA MALAYSIA USA
66	PT DIGITAL VISION NUSANTARA	INTELSAT 19 ASIASAT 3S	USA CHINA

Note: Foreign satellite users may submit more than one foreign satellite.

Furthermore, the growth of applications for foreign satellite usage in Indonesia since the year 2007 up to Semester I year 2013 is shown in the following graph

Figure 5.6.
Number of Applications for Foreign Satellite Usage period 2007-Semester I-2013.



From the above graph, it is seen that the number of Applications for Foreign Satellite Usage in the year 2007 was more compared to every following year, which was caused by the policy taken that any foreign satellite used in Indonesia shall have Landing Right License which was materialized as from the year 2007. On that occasion, users of foreign satellites in Indonesia registered to Directorate General of Post and Telecommunication so that the number registered was 36 applications.

Attachment 1

Results of Satellite Coordination between Administration of the Republic of Indonesia and Australia

Agenda Item	Description	Coordination Result
02-01	Coordination between satellite network of TELKOM-3EK (118E) and PALAPA-C3-K (118E) and DEF-R-SAT-4B 121.0E (121E) at frequency of Ku-band	*Complete Coordination*

Agenda Item	Description	Coordination Result
02-02	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of DEF-R-SAT-2A (72 E), ADF WEST-1 (80 E), DEF-R-SAT-1A (82 E), ADF WEST-2 (88 E), DEF-R-SAT-3A (93 E), ADF WEST-3 (95 E), ADF WEST-4 (96.5 E), ADF WEST-5 (104 E), DDSP-104E (104 E), ADF WEST-6 (108.5 E), DDSP-108.5E (108.5 E), DEF-R-SAT-4B 121.0E (121 E), ADF 152E GOVR (152 E), ADF 156E GOV (156 E), AUSSAT C 156E GOV (156 E), AUSSAT C 156E GOVR (156 E), ADF 160E GOVR (160 E), ADF 164E GOVR (164 E), DDSP-1 (86E), DDSP-2 (88E) and DDSP-4 (95E) at frequency of Ka dan X-band	*Complete coordination* for satellite network of DEF-R-SAT-2A, DEF-R-SAT-1A, ADF WEST-2, DEF-R-SAT-1A, DEF-R-SAT-3A, DEF-R-SAT-4B 121.0E, ADF 152E GOVR, ADF 156E GOV, AUSSAT C 156E GOV, AUSSAT C 156E GOVR, ADF 160E GOVR, ADF 164E GOVR, DDSP-1 and DDSP-2. *Not complete coordination* for satellite network of ADF WEST-5, DDSP-104E, DDSP-108.5E and DDSP-4.
02-03	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of ADF 152E GOVR (152E), ADF 156E GOV (156E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), ADF WEST-2 (88E), ADF WEST-5 (104E), AUSSAT C 156E GOV (156E), AUSSAT C 156E GOVR (156E), DDSP-1 (86 E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-2 (88E), DDSP-4 (95E) and DEF-R-SAT-4B 121.0E (121E) at frequency of Ka-band	*Complete coordination* for satellite network of ADF 152E GOVR, ADF 156E GOV, ADF 160E GOVR, ADF 164E GOVR, ADF WEST-2, AUSSAT C 156E GOV, AUSSAT C 156E GOVR, DDSP-1, DDSP-2, DDSP-4 and DEF-R-SAT-4B 121.0E. *Not complete coordination* for satellite network of ADF WEST-5, DDSP-104E and DDSP-108.5E.
02-04	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of ADF 152E GOVR (152E), ADF 156E GOV (156E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), ADF WEST-2 (88E), ADF WEST-5 (104E), AUSSAT C 156E GOV (156E), AUSSAT C 156E GOVR (156E), DDSP-1 (86 E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-2 (88E), DDSP-4 (95E) and DEF-R-SAT-4B 121.0E (121E) at frequency of Ka-band	*Complete coordination* for satellite network of ADF 152E GOVR, ADF 156E GOV, ADF 160E GOVR, ADF 164E GOVR, ADF WEST-2, AUSSAT C 156E GOV, AUSSAT C 156E GOVR, DDSP-1, DDSP-2, DDSP-4 and DEF-R-SAT-4B 121.0E. *Not complete coordination* for satellite network of ADF WEST-5, DDSP-104E and DDSP-108.5E.
02-05	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of DEF-R-SAT-4B 121.0E (121E) at frequency of Ku-band	*Complete Coordination*
02-06	Coordination between satellite network of t CSM-120 (120.5E) vis-à-vis satellite ntwork of ADF 152E GOVR (152E), ADF 156E GOV (156E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), ADF WEST-2 (88E), ADF WEST-5 (104E), AUSSAT C 156E GOV (156E), AUSSAT C 156E GOVR (156E), DDSP-1 (86 E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-2 (88E), DDSP-4 (95E) and DEF-R-SAT-4B 121.0E (121E) at frequency of Ka-band	*Complete Coordination*

Agenda Item	Description	Coordination Result
02-07	Coordination between satellite network of PALAPA-C3-X (118E) vis-à-vis satellite network of ADF WEST-1 (80 E), ADF WEST-2 (88 E), ADF WEST-3 (95 E), ADF WEST-4 (96.5 E), ADF WEST-5 (104 E), DDSP-104E (104 E), ADF WEST-6 (108.5 E), DDSP-108.5E (108.5 E), DEF-R-SAT-4B 121.0E (121 E), ADF 152E GOVR (152 E), ADF 156E GOV (156 E), AUSSAT C 156E GOVR (156 E), ADF 160E GOVR (160 E), ADF 164E GOVR (164 E), DDSP-1 (86E), DDSP-2 (88E) and DDSP-4 (95E) at frequency of X-band	*Complete coordination* for satellite network of DEF-R-SAT-4B 121.0E, ADF 152E GOVR, ADF 156E GOV, AUSSAT C 156E GOVR, ADF 160E GOVR, and ADF 164E GOVR. *Not complete coordination* for satellite network of ADF WEST-2, ADF WEST-5, DDSP-104E, ADF WEST-6, DDSP-108.5E, DDSP-1, DDSP-2 and DDSP-4.
02-08	Coordination between satellite network of INDOSTAR-1A (107.7E) vis-à-vis satellite network of jADF WEST-2 (88E), ADF WEST-5 (104E), DEF-R-SAT-3A (93E), ADF 152E GOVR (152E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), AUSSAT C 156E GOVR (156E), DDSP-104E (104E) and DDSP-108.5E (108.5E) at frequency of X-band	*Complete coordination* for satellite network of ADF WEST-2, ADF WEST-5, DEF-R-SAT-3A, ADF 152E GOVR, ADF 160E GOVR, ADF 164E GOVR, AUSSAT C 156E GOVR and DDSP-104E. *Not complete coordination* for satellite network of DDSP-108.5E.
02-09	Coordination between satellite network of INDOSTAR-107.7E (107.7E) vis-à-vis satellite network of ADF WEST-2 (88E), ADF WEST-5 (104E), DEF-R-SAT-3A (93E), ADF 152E GOVR (152E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), AUSSAT C 156E GOVR (156E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-1 (86E), DDSP-2 (88E) and DDSP-4 (95E) at frequency of X-band	*Complete coordination* for satellite network of ADF WEST-2, ADF WEST-5, DEF-R-SAT-3A, ADF 152E GOVR, ADF 160E GOVR, ADF 164E GOVR, AUSSAT C 156E GOVR, DDSP-104E (104E), DDSP-1, DDSP-2 and DDSP-4. *Not complete coordination* for satellite network of DDSP-108.5E.
02-10	Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network ADF WEST-2 (88E), ADF WEST-5 (104E), DEF-R-SAT-3A (93E), ADF 152E GOVR (152E), ADF 156E GOV (156E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), AUSSAT C 156E GOV (156E), AUSSAT C 156E GOVR (156E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-1 (86E), DDSP-2 (88E) and DDSP-4 (95E) at frequency of X-band	*Complete coordination* for satellite network of ADF WEST-2, ADF WEST-5, DEF-R-SAT-3A, ADF 152E GOVR, ADF 156E GOV, ADF 160E GOVR, ADF 164E GOVR, AUSSAT C 156E GOV , AUSSAT C 156E GOVR , DDSP-104E , DDSP-1, DDSP-2 and DDSP-4. *Not complete coordination* for satellite network of DDSP-108.5E.

Agenda Item	Description	Coordination Result
02-11	Coordination between satellite network of INDOSTAR-107.7E (107.7E) vis-à-vis satellite network of ADF WEST-2 (88E), ADF WEST-5 (104E), ADF 152E GOVR (152E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), AUSSAT C 156E GOVR (156E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-1 (86E), DDSP-2 (88E) and DDSP-4 (95E) at frequency of X-band	*Complete coordination* for satellite network of ADF WEST-2, ADF WEST-5, ADF 152E GOVR, ADF 160E GOVR, ADF 164E GOVR, AUSSAT C 156E GOVR, DDSP-104E, DDSP-1, DDSP-2 and DDSP-4. *Not complete coordination* for satellite network of DDSP-108.5E.
02-12	Coordination between satellite network of INDOSTAR-118E (118E) vis-à-vis satellite network of ADF WEST-2 (88E), ADF WEST-5 (104E), ADF 152E GOVR (152E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), AUSSAT C 156E GOVR (156E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-1 (86E), DDSP-2 (88E), DDSP-4 (95E) and DEF-R-SAT-3A (93E) at frequency of X-band	*Complete coordination* for satellite network of ADF WEST-2, ADF WEST-5, ADF 152E GOVR, ADF 160E GOVR, ADF 164E GOVR, AUSSAT C 156E GOVR, DDSP-104E, DDSP-1, DDSP-2, DDSP-4 and DEF-R-SAT-3A. *Not complete coordination* for satellite network of DDSP-108.5E.
02-13	Coordination between satellite network of PSN-146E (146E)) vis-à-vis satellite network of ADF 152E GOVR (152E), ADF 156E GOV (156E), ADF 160E GOVR (160E), ADF 164E GOVR (164E), ADF WEST-2 (88E), ADF WEST-5 (104E), AUSSAT C 156E GOV (156E) and AUSSAT C 156E GOVR (156E) at frequency of Ka and X-band	Coordination between satellite network of PSN and ADoD has been completed at frequency ofi Ka band, while coordination at frequency of X band will be pursued at satellite coordination meeting in the future or through correspondence..
02-14	Coordination between satellite network of PSN-146E (146E) vis-à-vis satellite network of DDSP-1 (86E), DDSP-104E (104E), DDSP-108.5E (108.5E), DDSP-2 (88E), DDSP-3 (95E) and DDSP-4 (95E) at frequency of Ka, S and X-band	Coordination between satellite network of PSN and ADoD has completed at frequency of Ka band, while coordination at X band frequency will further be pursued at satellite coordination meeting in the future or through correspondence..
02-15	Coordination between satellite network of PSN-146E (146E) vis-à-vis satellite network of DEF-R-SAT-1A (82E), DEF-R-SAT-2A (72E) and DEF-R-SAT-3A (93E) at frequency of Ku, S and X-band	*Complete Coordination*
02-16	Coordination between satellite network of PSN-146E (146E) vis-à-vis satellite network of DEF-R-SAT-4B 121.0E (121E) at frequency of Ka, Ku and X-band	*Complete Coordination*

Attachment 2

Results of Satellite Coordination between Administration of the Republic of Indonesia and China

Agenda Item	Description	Coordination Result
02-01	Coordination between satellite network of PALAPA-B3 (118E), PALAPA-B3-EC (118E), PALAPA-C3 (118E), TELKOM-3EK (118 E) and PALAPA-B3 TT&C (118E) managed by TELKOM vis-à-vis satellite network of DFH-3/-4/-5-OD (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-115.5E (115.5E), CHINASAT-ROUTE7 (115.5E), CHINASAT-MSB5 (125E), CHINASAT-ROUTE8 (125E), CHINASAT-DL5 (115.5E) and CHINASAT-DL6 (125E) managed by CHINA SATCOM at frequency of C-band	
02-01.1	Coordination between satellite network of PALAPA-B3 (118E), PALAPA-B3-EC (118E), PALAPA-C3 (118E), TELKOM-3EK (118 E) vis-à-vis satellite network of DFH-3/-4/-5-OD (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-115.5E (115.5E), CHINASAT-ROUTE7 (115.5E), CHINASAT-DL5 (115.5E) at frequency of i C-band	*Complete coordination*
02-01.2	Coordination between satellite network of PALAPA-B3 (118E), PALAPA-B3 TT&C (118E) vis-à-vis satellite network of DFH-3/-4/-5-OD (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-115.5E (115.5E), CHINASAT-ROUTE7 (115.5E), CHINASAT-MSB5 (125E), CHINASAT-ROUTE8 (125E), CHINASAT-DL5 (115.5E) and CHINASAT-DL6 (125E) at frequency of C-band	*Complete coordination*
02-01.3	Coordination between satellite network of PALAPA-B3 (118E), PALAPA-B3-EC (118E), PALAPA-C3 (118E), TELKOM-3EK (118 E) vis-à-vis satellite network of CHINASAT-MSB5 (125E), CHINASAT-ROUTE8 (125E), CHINASAT-DL6 (125E) at frequency of C-band	*Complete coordination*
02-02	Coordination between satellite network of PALAPA-B3 (118E), PALAPA-B3-EC (118E), PALAPA-C3 (118E), TELKOM-3EK (118 E) and PALAPA-B3 TT&C (118E) managed by TELKOM vis-à-vis satellite network of ASIASAT-120V (120E) managed by ASIASAT) at frequency of C dan Ku-band	Not completed .To be pursued at satellite coordination meeting in the future.
02-03	Coordination between satellite network of PALAPA-B1 (108E), PALAPA-C2 (108E), PALAPA-B1-EC (108E) and TELKOM-108E (108E) managed by TELKOM vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-6 (110.5 E), CHINASAT-2 (110.5 E), DFH-3A-OB (110.5 E), CHINASAT-DL4 (110.5E) managed by CHINA SATCOM at frequency of C, X, Ku and Ka-band	

Agenda Item	Description	Coordination Result
02-03.1	Coordination between satellite network of PALAPA-B1 (108E), PALAPA-C2 (108E), PALAPA-B1-EC (108E) and TELKOM-108E (108E) vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-6 (110.5 E), CHINASAT-2 (110.5 E), DFH-3A-OB (110.5 E), CHINASAT-DL4 (110.5E) at frequency of C-band	*Complete coordination*
02-03.2	Coordination between satellite network of PALAPA-B1 (108E) TT&C vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-6 (110.5 E), CHINASAT-2 (110.5 E), DFH-3A-OB (110.5 E), CHINASAT-DL4 (110.5E) at frequency of C-band	*Complete coordination*
02-03.3	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-DL4 (110.5E) at frequency of X-band	Not completed. To be pursued at satellite coordination meeting in the future..
02-03.4	Coordination between satellite network of TELKOM-108E (108E) C vis-à-vis satellite network of SINOSAT-5 (110.5E), DFH-3A-OB (110.5 E), CHINASAT-DL4 (110.5E) at frequency of Ku-band	Not completed To be pursued at satellite coordination meeting in the future.
02-03.5	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of SINOSAT-5 (110.5E), DFH-3A-OB (110.5 E), CHINASAT-DL4 (110.5E) at frequency of Ka-band	Not completed . To be pursued at satellite coordination meeting in the future
02-04	Coordination between satellite network of TELKOM-108E (108E) managed by TELKOM vis-à-vis satellite network of DFH-5-01A (94.2E), DFH-5-01B (107.5E) and DFH-4-OAF (155E) managed by NewStar at frequency of C, X and Ka-band	
02-04.1	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of DFH-5-01A (94.2E) at frequency of C-band	*Complete coordination*
02-04.2	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of DFH-5-01A (94.2E) at frequency of X-band	*Complete coordination*
02-04.3	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of DFH-4-OAF (155E), DFH-5-01A (94.2E) at frequency of Ka-band	*Complete coordination*
02-04.4	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of DFH-5-01B (107.5E)) at frequency of C, X and Ka-band	Not completed To be pursued at satellite coordination meeting in the future or throiugh correspondence

Agenda Item	Description	Coordination Result
02-05	Coordination between satellite network of PALAPA-B1 (108E), PALAPA-B1-EC (108E) and PALAPA-C2 (108E)managed by TELKOM vis-à-vis satellite network of DFH-5-01A (94.2E) and DFH-5-01B (107.5E) managed by NewStar at frequency of C-band	
02-05.1	Coordination between satellite network of PALAPA-B1 (108E), PALAPA-B1-EC (108E) and PALAPA-C2 (108E) vis-à-vis satellite network of DFH-5-01A (94.2E) at frequency of C-band	*Complete coordination*
02-05.2	Coordination between satellite network of PALAPA-B1 (108E), PALAPA-B1-EC (108E) and PALAPA-C2 (108E) vis-à-vis satellite network of DFH-5-01B (107.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future or throiugh correspon-dence .
02-06	Coordination between satellite network of PALAPA-B2 (113E) dan PALAPA-C1 (113E) managed by INDOSAT vis-à-vis satellite network of DFH-5-01A (94.2E) and DFH-5-01B (107.5E) managed by NewStar at frequency of C-band	
02-06.1	Coordination between satellite network of PALAPA-B2 (113E) and PALAPA-C1 (113E) vis-à-vis satellite network of DFH-5-01A (94.2E) at frequency of C-band	*Complete coordination*
02-06.2	Coordination between satellite network of PALAPA-B2 (113E) and PALAPA-C1 (113E) vis-à-vis satellite network of DFH-5-01B (107.5E) at frequency of C-band	*Complete coordination*
02-07	Coordination between satellite network of TELKOM-3EK (118 E) and PALAPA-C3-K (118E) managed by TELKOM vis-à-vis satel-lite network of DFH-3/4/5-OD (115.5E), CHI-NASAT-MSB4 (115.5E), CHINASAT-ROUTE7 (115.5E), CHINASAT-MSB5 (125E), CHINASAT-ROUTE8 (125E), CHINASAT-DL5 (115.5E) and CHINASAT-DL6 (125E) managed by CHINA SATCOM at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-08	Coordination between satellite network of TELKOM-3EK(118E) managed by TELKOM vis-à-vis satellite network of ASIASAT-AK (122 E), ASIASAT-AK1 (122 E), ASIASAT-AKS (122 E), ASIASAT-AKX (122 E), ASIASAT-AKZ (122 E), ASIASAT-AKW (122.2E) and ASIASAT-AAA (122E) managed by AsiaSatat frequency of C and Ku-band	. Not completed To be pursued at satellite coordination meeting in the future
02-09	Coordination between satellite network of TELKOM-108E managed by TEL-KOM vis-à-vis satellite network of ASIASAT-1 (105.5 E), ASIASAT-CK (105.5 E), ASIASAT-CK1 (105.5 E), ASIASAT-CKS (105.5 E), ASIASAT-CKW (105.5 E), ASIASAT-CKX (105.5 E), ASIASAT-CKZ (105.5 E), ASIASAT-B (116 E), ASIASAT-120V (120 E), ASIASAT-AKW (122.2 E), ASIASAT-AKZ (122.2 E), ASIASAT-E (100.5 E), ASIASAT-EK1 (100.5 E), ASIASAT-EKS (100.5 E), ASIASAT-EKW (100.5 E), ASIASAT-EKX (100.5 E) and ASIASAT-EKZ (100.5 E) managed by AsiaSat at frequency of C, X, Ku and Ka-band	

Agenda Item	Description	Coordination Result
02-09.1	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of ASIASAT-B (116 E), ASIASAT-120V (120 E), ASIASAT-AKW (122.2 E), ASIASAT-AKZ (122.2 E), ASIASAT-E (100.5 E), ASIASAT-EK1 (100.5 E), ASIASAT-EKS (100.5 E), ASIASAT-EKW (100.5 E), ASIASAT-EKX (100.5 E) and ASIASAT-EKZ (100.5 E) at frequency of C and Ku-band	*Complete coordination*
02-09.2	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of ASIASAT-1 (105.5 E), ASIASAT-CK (105.5 E), ASIASAT-CK1 (105.5 E), ASIASAT-CKS (105.5 E), ASIASAT-CKW (105.5 E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5 E) at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-09.3	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of ASIASAT-1 (105.5 E), ASIASAT-CK (105.5 E), ASIASAT-CK1 (105.5 E), ASIASAT-CKS (105.5 E), ASIASAT-CKW (105.5 E), ASIASAT-CKX (105.5 E), ASIASAT-CKZ (105.5 E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-09.4	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of ASIASAT-1 (105.5 E), ASIASAT-CK (105.5 E), ASIASAT-CK1 (105.5 E), ASIASAT-CKS (105.5 E), ASIASAT-CKW (105.5 E), ASIASAT-CKX (105.5 E), ASIASAT-CKZ (105.5 E), ASIASAT-B (116 E), ASIASAT-120V (120 E), ASIASAT-AKW (122.2 E), ASIASAT-AKZ (122.2 E), ASIASAT-E (100.5 E), ASIASAT-EK1 (100.5 E), ASIASAT-EKS (100.5 E), ASIASAT-EKW (100.5 E), ASIASAT-EKX (100.5 E) and ASIA-SAT-EKZ (100.5 E) at frequency of X-band	Not completed. To be pursued at satellite coordination meeting in the future
02-09.5	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of ASIASAT-120V (120 E), ASIASAT-AKW (122.2 E), ASIASAT-AKZ (122.2 E), ASIASAT-EKW (100.5 E), ASIASAT-EKZ (100.5 E) at frequency of Ka-band	Not completed. To be pursued at satellite coordination meeting in the future
02-10	Coordination between satellite network of TELKOM-108E mnaged by TELKOM vis-à-vis satellite network of SINOSAT-7A (46.5 E), CHINASAT-CL2 (51.5 E), CHINASAT-A5 (87.5 E), DFH-3-OC M (87.5 E), CHINASAT-ROUTE5 (92.2 E), CHI-NASAT-115.5E (115.5 E), CHINASAT-MSB4 (115.5 E), CHINASAT-ROUTE7 (115.5 E), DFH-3-OD (115.5 E), DFH-4-OD (115.5 E), DFH-5-OD (115.5 E), CHINASAT-ROUTE8 (125 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of C, X, Ku, Ka-band	

Agenda Item	Description	Coordination Result
02-10.1	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of SINOSAT-7A (46.5 E), CHINASAT-CL2 (51.5 E), CHINASAT-A5 (87.5 E), DFH-3-OC M (87.5 E), CHINASAT-ROUTE5 (92.2 E), CHINASAT-115.5E (115.5 E), CHINASAT-MSB4 (115.5 E), CHINASAT-ROUTE7 (115.5 E), DFH-3-OD (115.5 E), DFH-4-OD (115.5 E), DFH-5-OD (115.5 E), CHINASAT-ROUTE8 (125 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at frequency of C and Ku-band	*Complete coordination*
02-10.2	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of SINOSAT-7A (46.5 E), CHINASAT-CL2 (51.5 E), CHINASAT-A5 (87.5 E), DFH-3-OC M (87.5 E), CHINASAT-115.5E (115.5 E), CHINASAT-MSB4 (115.5 E), CHINASAT-ROUTE7 (115.5 E), DFH-5-OD (115.5 E), CHINASAT-ROUTE8 (125 E), CHINASAT-CL11 (163 E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at frequency of Ka-band	Not completed To be pursued at satellite coordination meeting in the future
02-10.3	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of SINOSAT-7A (46.5 E), CHINASAT-A5 (87.5 E), DFH-3-OC M (87.5 E), CHINASAT-ROUTE5 (92.2 E), CHINASAT-ROUTE7 (115.5 E), CHINASAT-ROUTE8 (125 E), CHINASAT-CL11 (163 E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at X-band	.Not completed. To be pursued at satellite coordination meeting in the future
02-11	Coordination between satellite network of TELKOM-108E managed by TELKOM vis-à-vis satellite network of CHINASAT-33 (110.5 E) and COMPASS-110.5E (110.5 E) managed by CNAGA/BSNC at frequency of C-band	*Complete coordination*
02-12	Coordination between satellite network of TELKOM-108E managed by TELKOM vis-à-vis satellite network of FYGEOSAT-79E (79E), FYGEOSAT-86.5E (86.5E), FYGEOSAT-99.5E (99.5E), FY-2A (105 E), FYGEOSAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-123.5E (123.5E) dan FYGEOSAT-133E (133 E) yang dikelola oleh CMA at frequency of C, X and Ka-Band	
02-12.1	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of FY-2A (105 E) at frequency of C-Band	Not completed. To be pursued at satellite coordination meeting in the future

Agenda Item	Description	Coordination Result
02-12.2	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of FYGEOSAT-79E (79E), FYGEOSAT-86.5E (86.5E), FYGEOSAT-99.5E (99.5E), FYGEO-SAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-123.5E (123.5E) dan FYGEOSAT-133E (133 E) at frequency of Ka-Band	*Complete coordination*
02-12.3	Coordination between satellite network of TELKOM-108E vis-à-vis satellite network of FYGEOSAT-79E (79E), FYGEOSAT-86.5E (86.5E), FYGEOSAT-99.5E (99.5E), FYGEO-SAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-123.5E (123.5E) and FYGEOSAT-133E (133 E) at frequency of X-Band	Not completed. To be pursued at satellite coordination meeting in the future
02-13	Coordination between satellite network of INDOSTAR-1A (107.7E), INDOSTAR-107.7E (107.7E), INDOSTAR-107.7E-K (107.7E), INDOSTAR-110E (108.2E), INDOSTAR-110E-K (108.2E) and INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of ASIASAT-E (100.5E), ASIASAT-EK1 (100.5E), ASIASAT-EKS (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E), ASIASAT-EKW (100.5E), ASIASAT-1 (105.5E), ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-CKW (105.5E), ASIASAT-A (122E), ASIASAT-AK (122E), ASIASAT-AKX (122E), ASIASAT-AKZ (122E), ASIASAT-AKW (122.2E), ASIASAT-AAA (122E), ASIASAT-120V (120E) and ASIASAT-AAB (118E) managed by AsiaSat at frequency of C, X and Ku-band	
02-13.1	Coordination between satellite network of INDOSTAR-1A (107.7E), INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E) and INDOSTAR-118E (118E) vis-à-vis satellite network of ASIASAT-EKZ (100.5E), ASIASAT-EKW (100.5E), ASIASAT-CKZ (105.5E), ASIASAT-CKW (105.5E), ASIASAT-AKW (122.2E), ASIASAT-AAA (122E), ASIASAT-120V (120E) at frequency of X-band	*Complete coordination*
02-13.2	Coordination between satellite network of INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E), INDOSTAR-118E (118E) vis-à-vis satellite network of ASIASAT-E (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E), ASIASAT-EKW (100.5E), ASIASAT-1 (105.5E), ASIASAT-CK (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-CKW (105.5E), ASIASAT-A (122E), ASIASAT-AK (122E), ASIASAT-AKX (122E), ASIASAT-AKZ (122E), ASIASAT-AKW (122.2E), ASIASAT-AAA (122E), ASIASAT-120V (120E) and ASIASAT-AAB (118E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future

Agenda Item	Description	Coordination Result
02-13.3	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E), INDOSTAR-110E-K (108.2E) vis-à-vis satellite network of ASIASAT-EK1 (100.5E), ASIASAT-EKS (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E), ASIASAT-EKW (100.5E), ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-CKW (105.5E), ASIASAT-AAB (118E) at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-14	Coordination between satellite network of INDOSTAR-1A (107.7E) managed by MCI) vis-à-vis satellite network of CHINASAT-ROUTE5 (92.2E), CHINASAT-ROUTE6 (105E), CHINASAT-ROUTE7 (115.5E), CHINASAT-ROUTE8 (125E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of X-band	
02-14.1	Coordination between satellite network of INDOSTAR-1A (107.7E) vis-à-vis satellite network CHINASAT-ROUTE5 (92.2E), CHINASAT-ROUTE7 (115.5E), CHINASAT-ROUTE8 (125E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) dan CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency ofi X-band	*Complete coordination*
02-14.2	Coordination between satellite network of INDOSTAR-1A (107.7E) vis-à-vis satellite network of CHINASAT-ROUTE6 (105E) at frequency of X-band	*Coordination is not required due to the suppression of CHINASAT-ROUTE6 (105E)*
02-14.3	Coordination between satellite network of INDOSTAR-1A (107.7E) vis-à-vis satellite network of CHINASAT-DL4 (110.5E) at frequency of X-band	*Complete coordination*
02-15	Coordination between satellite network of INDOSTAR-1A (107.7E), INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E) and INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of CHINASAT-MSB4 (115.5E) managed by CHINA SATCOM at frequency of S-band	*Coordination is not required due to the suppression of CHINASAT-MSB4 (115.5E)*
02-16	Coordination between satellite network of INDOSTAR-107.7E (107.7E) and INDOSTAR-110E (108.2E) managed by MCI vis-à-vis satellite network of ASIASAT-EKZ (100.5E), ASIASAT-CKZ (105.5E), ASIASAT-AKZ (122.5E), ASIASAT-AKX (122E), ASIASAT-EKX (100.5E), ASIASAT-1(105.5E),	Not completed. To be pursued at satellite coordination meeting in the future

Agenda Item	Description	Coordination Result
	ASIASAT-CK(105.5E), ASIASAT-CKW(105.5E), ASIASAT-E(100.5E), ASIASAT-EKW(100.5E), ASIASAT-A(122E), ASIASAT-AK (122E), ASIA-SAT-AKW(122.2E), ASIASAT-AAA (100.5E) and ASIASAT-AAB (118E) managed by ASIASAT at frequency of C-band	
02-17	Coordination between satellite network of INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E) and INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of CHINASAT-33 (110.5E) managed by CNAGA/ BSNC at frequency of C-band	*Complete coordination*
02-18	Coordination between satellite network of INDOSTAR-1(107.5E), INDOSTAR-107.7E (107.7E) and INDOSTAR-110E (108.2E) managed by MCI vis-à-vis satellite network of DFH-5-01A(94.2E) and DFH-5-01B(107.5E) managed by Newstar at frequency of C-band	
02-18.1	Coordination between satellite network of INDOSTAR-1(107.5E), INDOSTAR-107.7E (107.7E) dan INDOSTAR-110E (108.2E) vis-à-vis satellite network of DFH-5-01A(94.2E) and DFH-5-01B(107.5E) at frequency of C-band	*Complete coordination*
02-18.2	Coordination between satellite network of INDOSTAR-1(107.5E), INDOSTAR-107.7E (107.7E) and INDOSTAR-110E (108.2E) managrd by MCI vis-à-vis satellite network of DFH-5-01B(107.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-19	Coordination between satellite network of INDOSTAR-1 (107.7E), INDOSTAR-107.7E(107.7E), INDOSTAR-1A (107.5E), INDOSTAR-110E (108.2E) and INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of DFH-5-01A (94.2E) and DFH-5-01B (107.5E) managed by Newstarat frequency of X-band	*Complete coordination :* 1. Coordination between INDO-STAR-1 (107.7E), INDOSTAR-107.7E(107.7E), INDOSTAR-1A (107.5E), INDOSTAR-110E (108.2E) and INDOSTAR-118E (118E) vis-à-vis DFH-5-01A (94.2E) 2. Coordination between INDOSTAR-118E (118E) vis-à-vis DFH-5-01B (107.5E) *Not complete coordination :* Coordination between INDO-STAR-1 (107.7E), INDOSTAR-107.7E(107.7E), INDOSTAR-1A (107.5E), INDOSTAR-110E (108.2E) vis-à-vis DFH-5-01B (107.5E)

Agenda Item	Description	Coordination Result
02-20	Coordination between satellite network of INDOSTAR-110E (108.2E) managed by MCI vis-à-vis satellite network of CHINASAT-ROUTE5 (92.2E), CHINASAT-ROUTE6 (105E), CHINASAT-ROUTE7 (115.5E), SINOSAT-5 (110.5E), CHINASAT-MSB4 (115.5E), SINOSAT-92.2E (92.2E), DFH-5-OD (115.5E), CHINASAT-92.2E (92.2E), DFH-4-OA (125E), DFH-3-OD (115.5E), DFH-3-OA (125E), CHINASAT-115.5E (115.5E), CHINASAT-6 (110.5E), CHINASAT-ROUTE8 (125E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of C-band	
02-20.1	Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE5 (92.2E), SINOSAT-92.2E (92.2E), CHINASAT-92.2E (92.2E), DFH-4-OA (125E), DFH-3-OA (125E), CHINASAT-ROUTE8 (125E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at frequency of C-band	*Complete coordination*
02-20.2	Coordination between satellite network of INDOSTAR-110E (108.2E) CHINASAT-ROUTE6 (105E) at frequency of C-band	*Coordination is not required due to the suppression of CHINASAT-ROUTE6 (105E)*
02-20.3	Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE7 (115.5E), CHINASAT-MSB4 (115.5E), DFH-5-OD (115.5E), DFH-3-OD (115.5E), CHINASAT-115.5E (115.5E), CHINASAT-DL5 (115.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-20.4	Coordination between satellite network of INDOSTAR-110E (108.2E) managed by MCI vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-6 (110.5E), CHINASAT-DL4 (110.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-21	Coordination between satellite network of INDOSTAR-110E (108.2E) managed by MCI vis-à-vis satellite network of CHINASAT-ROUTE5 (92.2E), CHINASAT-ROUTE6 (105E), CHINASAT-ROUTE7 (115.5E), SINOSAT-5 (110.5E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of X-band	
02-21.1	Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE5 (92.2E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at frequency of X-band	*Complete coordination*

Agenda Item	Description	Coordination Result
02-21.2	Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE6 (105E) at frequency of X-band	*Coordination is not required due to the suppression of CHINASAT-ROUTE6 (105E)*
02-21.3	• Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE7 (115.5E), CHINASAT-DL5 (115.5E) at frequency of X-band	*Complete coordination*
02-21.4	Coordination between satellite network of INDOSTAR-110E (108.2E) vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-DL4 (110.5E) at frequency of X-band	Not completed. To be pursued at satellite coordination meeting in the future
02-22	Coordination between satellite network of INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of ASIASAT-EKX (100.5E), ASIASAT-AKX (122E), ASIASAT-CKZ (105.5E), ASIASAT-EKZ (100.5E), ASIASAT-AKZ (122.2E), ASIASAT-E (100.5E), ASIASAT-1 (105.5E), ASIASAT-CK (105.5E), ASIASAT-EKW (100.5E), ASIASAT-CKW (105.5E), ASIASAT-A (122E), ASIASAT-AK (122E), ASIASAT-AAA (122E) and ASIASAT-120V (120E) managed by ASIASAT at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-23	Coordination between satellite network of INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of DFH-3-OA (125E), DFH-3-OD (115.5E), DFH-4-OA (125E), CHINASAT-92.2E (92.2E), DFH-5-OD (115.5E), SINOSAT-92.2E (92.2E), CHINASAT-MSB4 (115.5E), SINOSAT-5 (110.5E), CHINASAT-115.5E (115.5E), CHINASAT-6 (110.5E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of C-band	
02-23.1	Coordination between satellite network of INDOSTAR-118E (118E) vis-à-vis satellite network of CHINASAT-92.2E (92.2E), SINOSAT-92.2E (92.2E), CHINASAT-MSB4 (115.5E), SINOSAT-5 (110.5E), CHINASAT-6 (110.5E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at frequency of C-band	*Complete coordination*
02-23.2	Coordination between satellite network of INDOSTAR-118E (118E) vis-à-vis satellite network of DFH-3-OA (125E), DFH-4-OA (125E), CHINASAT-DL6 (125E) at frequency of C-band	*Complete coordination*

Agenda Item	Description	Coordination Result
02-23.3	Coordination between satellite network of INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of DFH-3-OD (115.5E), DFH-5-OD (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-115.5E (115.5E), CHINASAT-DL5 (115.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-24	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E) managed by MCI vis-à-vis satellite network of ASIASAT-EKZ (100.5E), ASIASAT-CKZ (105.5E), ASIA-SAT-EK1 (100.5E), ASIASAST-EKS (100.5E), ASIASAT-EKW (100.5E), ASIASAT-CKW (105.5E) and ASIASAT-AAB (118E) managed by ASIASAT at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-25	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E) managed by MCI vis-à-vis satellite network of SINOSAT-5 (110.5E) and SINOSAT-92.2E (92.2E) managed by CHINA SATCOM at frequency of Ku-band	
02-25.1	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E) vis-à-vis satellite network of SINOSAT-92.2E (92.2E) at frequency of Ku-band	*Complete coordination*
02-25.2	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E) vis-à-vis satellite network of SINOSAT-5 (110.5E) at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-26	Coordination between satellite network of INDOSTAR-110E-K (108.2E) managed by MCI vis-à-vis satellite network of ASIASAT-CKZ (105.5E), ASIASAT-EKZ (100.5E), ASIA-SAT-EK1 (100.5E), ASIASAT-EKS (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKW (100.5E), ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKW (105.5E)and ASIASAT-AAB (1185E) managed by ASIASAT at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-27	Coordination between satellite network of INDOSTAR-110E-K (108.2E) managed by MCI vis-à-vis satellite network of DFH-5-OD (115.5E), CHINASAT-MSB4 (115.5E), SINOSAT-5 (110.5E), CHINASAT-ROUTE5 (92.2E), CHINASAT-ROUTE6 (105E), CHINASAT-ROUTE7 (115.5E), SINOSAT-92.2E (92.2E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of Ku-band	

Agenda Item	Description	Coordination Result
02-27.1	Coordination between satellite network of INDOSTAR-110E-K (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE5 (92.2E), SINOSAT-92.2E (92.2E), CHINASAT-CL2 (51.5 E), CHINASAT-CL11 (163 E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E) at frequency of Ku-band	*Complete coordination*
02-27.2	Coordination between satellite network of INDOSTAR-110E-K (108.2E) vis-à-vis satellite network of CHINASAT-ROUTE6 (105E) at frequency of Ku-band	*Coordination is not required due to the suppression of CHINASAT-ROUTE6 (105E)*
02-27.3	Coordination between satellite network of INDOSTAR-110E-K (108.2E) vis-à-vis satellite network of DFH-5-OD (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-ROUTE7 (115.5E), CHINASAT-DL5 (115.5E) at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-27.4	Coordination between satellite network of INDOSTAR-110E-K (108.2E) vis-à-vis satellite network of SINOSAT-5 (110.5E), CHINASAT-DL4 (110.5E) at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future
02-28	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of CHINASAT-33 (110.5 E) and COMPASS-110.5E (110.5 E)) managed by CNAGA/BSNC at frequency of C-band	*Complete coordination*
02-29	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E)) managed by CSM vis-à-vis satellite network of FY-2A (105 E), FY-2C (123.5E), FYGEOSAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-99.5E (99.5E) and FYGEOSAT-123.5E (123.5 E)) managed by CMA) at frequency of C and Ka-band	
02-29.1	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of FY-2A (105E), FY-2C (123.5E) at frequency of C-band	*Complete coordination*
02-29.2	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of FYGEOSAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-99.5E (99.5E) and FYGEOSAT-123.5E (123.5E) managed by CMA at frequency of Ka-band	*Complete coordination :* Coordination between CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis FYGEOSAT-99.5E (99.5E), FYGEOSAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-123.5E (123.5E)

Agenda Item	Description	Coordination Result
		Not complete coordination : Coordination between CSM-106 (106E), CSM-111 (111E) vis-à-vis FYGEOSAT-105E (105E), FYGEO-SAT-112E (112E)
02-30	Coordination between satellite network of CSM-106 (106E) yang dikelola oleh CSM vis-à-vis satellite network of DFH-5-01A (94.2E) dan DFH-5-01B (107.5E) managed by Newstar at frequency of C and Ka-band	
02-30.1	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of DFH-5-01A (94.2E) at frequency of C-band	*Complete coordination*
02-30.2	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of DFH-5-01A (94.2E) at frequency of Ka-band	*Complete coordination*
02-30.3	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of DFH-5-01B (107.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future or through correspondence
02-30.4	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of DFH-5-01B (107.5E) at frequency of Ka-band	Not completed. To be pursued at satellite coordination meeting in the future or through correspondence
02-31	Coordination between satellite network of CSM-106 (106E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-E (100.5E), ASIASAT-EK1 (100.5E), ASIASAT-EKS (100.5E), ASIASAT-EKW (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E) and ASIASAT-AAB (118E) managed by ASIASAT at frequency of C and Ku-band	
02-31.1	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-AAB (118E) at frequency of C and Ku-band	*Complete coordination*
02-31.2	Coordination between satellite network of CSM-106 (106E) yang dikelola oleh CSM vis-à-vis satellite network of ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-E (100.5E), ASIASAT-EK1 (100.5E), ASIASAT-EKS (100.5E), ASIASAT-EKW (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E) at frequency of C and Ku-band	Not completed. To be pursued at satellite coordination meeting in the future

<table>
<tr><th>Agenda Item</th><th>Description</th><th>Coordination Result</th></tr>
<tr><td>02-32</td><td>Coordination between satellite network of CSM-106 (106E) dan CSM-111 (111E) managed by CSM vis-à-vis satellite network of HINASAT-6 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-MSB4 (115.5E), CHINA-SAT-ROUTE7 (115.5E), DFH-3A-OB (110.5E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) dan CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of C and Ku-band</td><td>Complete coordination :
1. Coordination between CSM-106 (106E) vis-à-vis CHINASAT-DL5 (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-ROUTE7 (115.5E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E), SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) dan CHINASAT-C21 (136E)
2. Coordination between CSM-111 (111E) vis-à-vis SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) and CHINASAT-C21 (136E)</td></tr>
<tr><td></td><td></td><td>Not complete coordination :
1. Coordination between CSM-106 (106E) vis-à-vis CHINA-SAT-6 (110.5E), DFH-3A-OB (110.5E), SINOSAT-5 (110.5E), CHINASAT-DL4 (110.5E)
2. Coordination between CSM-111 (111E) vis-à-vis CHINASAT-6 (110.5E), DFH-3A-OB (110.5E), SINOSAT-5 (110.5E), CHINASAT-DL4 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-ROUTE7 (115.5E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E)</td></tr>
<tr><td>02-33</td><td colspan="2">Coordination between satellite network of CSM-106 (106E) and CSM-111 (111E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) dan ASIASAT-AAB (118E) managed by ASIASAT at frequency of Ka-band</td></tr>
</table>

Agenda Item	Description	Coordination Result
02-33.1	Coordination between satellite network of CSM-111 (111E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) and ASIASAT-AAB (118E) at frequency of Ka-band	*Complete coordination*
02-33.2	Coordination between satellite network of CSM-106 (106E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) and ASIASAT-AAB (118E) at frequency of Ka-band	*Complete coordination*
02-33	Coordination between satellite network of CSM-106 (106E) vis-à-vis satellite network of ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E) at frequency of Ka-band	Not complted. To be pursued at satellite coordination meeting in the future
02-34	Coordination between satellite network of CSM-106E (106E) and CSM-111 (111E) managed by CSM vis-à-vis satellite network of CHINASAT-115.5E (115.5E), CHINASAT-DL5 (115.5E), CHINASAT-MSB4 (115.5E), CHINASAT-ROUTE7 (115.5E), DFH-5-OD (115.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), CHINASAT-ROUTE8 (125E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-C20 (126E) dan CHINASAT-C21 (136E)) managed by CHINA SATCOM at frequency of Ka-band	Not completed. To be pursued at satellite coordination meeting in the future
02-35	Coordination between satellite network of CSM-111 (111E) and CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of ASIASAT-1 (105.5E), ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-B (116E), ASIASAT-CK (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E), and ASIASAT-AAB (118E) managed by ASIASAT at frequency of C-band	
02-35.1	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-B (116E), ASIASAT-EKW (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E) at frequency of C-band	*Complete coordination*

Agenda Item	Description	Coordination Result
02-35.2	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of ASIASAT-1 (105.5E), ASIASAT-CK (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E) at frequency of C-band	*Complete coordination*
02-35.3	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-1 (105.5E), ASIASAT-B (116E), ASIASAT-CK (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKX (100.5E), ASIASAT-EKZ (100.5E), and ASIASAT-AAB (118E) at frequency of C-band	*Complete coordination*
02-35.4	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E) and ASIASAT-AAB (118E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future
02-36	Coordination between satellite network of CSM-111 (111E) managed by CSM vis-à-vis satellite network of DFH-5-01B(107.5E) managed by Newstar at frequency of C and Ka-band	
02-36.1	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of DFH-5-01B (107.5E) at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future or through correspondence
02-36.2	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of DFH-5-01B (107.5E) at frequency of Ka-band	Not completed. To be pursued at satellite coordination meeting in the future or through correspondence
02-37	Coordination between satellite network of CSM-111 (111E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) andn ASIASAT-AAB (118E) managed by ASIASAT at frequency of Ku-band	
02-37.1	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) at frequency of Ku-band	*Complete coordination*
02-37.2	Coordination between satellite network of CSM-111 (111E) vis-à-vis satellite network of ASIASAT-CK (105.5E), ASIASAT-CK1 (105.5E), ASIASAT-CKS (105.5E), ASIASAT-CKW (105.5E), ASIASAT-CKX (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-AAB (118E) at frequency of Ku-band	*Complete coordination*

Agenda Item	Description	Coordination Result
02-38	Coordination between satellite network of CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of CHINASAT-115.5E (115.5E), CHINASAT-2 (110.5E), CHINASAT-6 (110.5E), CHINASAT-DL5 (115.5E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-MSB4 (115.5E), CHINASAT-MSB5 (125E), CHINASAT-ROUTE7 (115.5E), CHINASAT-ROUTE8 (125E), DFH-3A-OB (110.5E), DFH-3-OA (125E), DFH-4-OA (125E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), STW-1 (125E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-C20 (126E) dan CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of C-band	*Complete coordination :* Coordination between CSM-120 (120.5E) vis-à-vis CHINASAT-2 (110.5E), CHINASAT-6 (110.5E), CHINASAT-DL4 (110.5E), DFH-3A-OB (110.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-C21 (136E) *Not complete coordination :* Coordination between CSM-120 (120.5E) vis-à-vis CHINASAT-115.5E (115.5E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-MSB4 (115.5E), CHINASAT-MSB5 (125E), CHINASAT-ROUTE7 (115.5E), CHINASAT-ROUTE8 (125E), DFH-3-OA (125E), DFH-4-OA (125E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E), STW-1 (125E), CHINASAT-C20 (126E)
02-39	Coordination between satellite network of CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-A (122E), ASIASAT-AAA (122E), ASIASAT-AK (122E), ASIASAT-AK1 (122E), ASIASAT-AKW (122.2E), ASIASAT-AKX (122E), ASIASAT-AKZ (122.2E), ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) and ASIASAT-AAB (118E) managed by ASIASAT at frequency of Ku-band	
02-39.1	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) at frequency of Ku-band	*Complete coordination*
02-39.2	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-A (122E), ASIASAT-AAA (122E), ASIASAT-AK (122E), ASIASAT-AK1 (122E), ASIASAT-AKW (122.2E), ASIASAT-AKX (122E), ASIASAT-AKZ (122.2E), ASIASAT-AAB (118E) at frequency of Ku-band	Not completed To be pursued at satellite coordination meeting in the future

Agenda Item	Description	Coordination Result
02-40	Coordination between satellite network of CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of CHINASAT-6 (110.5E), CHINASAT-DL5 (115.5E), CHINA-SAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-MSB4 (115.5E), CHINASAT-MSB5 (125E), CHINASAT-ROUTE7 (115.5E), CHINASAT-ROUTE8 (125E), DFH-3A-OB (110.5E), DFH-4-OA (125E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-C20 (126E) dan CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of Ku-band	*Complete coordination :* Coordination between CSM-120 (120.5E) vis-à-vis CHINASAT-6 (110.5E), CHINASAT-DL4 (110.5E), DFH-3A-OB (110.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-C21 (136E) *Not complete coordination :* Coordination between CSM-120 (120.5E) vis-à-vis CHINASAT-DL5 (115.5E), CHINASAT-DL6 (125E), CHINASAT-MSB4 (115.5E), CHINASAT-MSB5 (125E), CHINA-SAT-ROUTE7 (115.5E), CHINASAT-ROUTE8 (125E), DFH-4-OA (125E), DFH-3-OD (115.5E), DFH-4-OD (115.5E), DFH-5-OD (115.5E), CHINASAT-C20 (126E)
02-41	Coordination between satellite network of CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-AKZ (122.2E), ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) dan ASIASAT-AAB (118E) managed by ASIASAT at frequency of Ka-band	
02-41.1	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-AKZ (122.2E at frequency of Ka-band	*Coordination is not required due to the suppression of ASIASAT-AKZ (122.2E)*
02-41.2	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-CKW (105.5E), ASIASAT-CKZ (105.5E), ASIASAT-EKW (100.5E), ASIASAT-EKZ (100.5E) at frequency of Ka-band	*Complete coordination*
02-41.3	Coordination between satellite network of CSM-120 (120.5E) vis-à-vis satellite network of ASIASAT-120V (120E), ASIASAT-AAA (122E), ASIASAT-AKW (122.2E), ASIASAT-AAB (118E) at frequency of Ka-band	Not completed. To be pursued at satellite coordination meeting in the future
02-42	Coordination between satellite network of CSM-120 (120.5E) managed by CSM vis-à-vis satellite network of CHINASAT-115.5E (115.5E), CHINASAT-49 (125E), CHINASAT-DL5 (115.5E), CHINASAT-DL4 (110.5E), CHINASAT-DL6 (125E), CHINASAT-MSB4 (115.5E), CHINASAT-MSB5 (125E), CHINA-SAT-ROUTE7 (115.5E),	Not completed. To be pursued at satellite coordination meeting in the future

Agenda Item	Description	Coordination Result
	CHINASAT-ROUTE8 (125E), DFH-5-OD (115.5E), SINOSAT-5 (110.5E), SINOSAT-7A (46.5E), CHINASAT-CL2 (51.5E), CHINASAT-CL11 (163E), CHINASAT-C20 (126E), CHINASAT-C21 (136E) managed by CHINA SATCOM at frequency of Ka-band	
02-43	Coordination between satellite network of PALAPA-B2 (113E) managed by INDOSAT vis-à-vis satellite network of FY-2A (105E) managed by CMA at frequency of C-band	*Complete coordination*
02-44	Coordination between satellite network of PALAPA-B2 (113E) dan PALAPA-C1 (113E) managed by INDOSAT vis-à-vis satellite network of CHINASAT-33 (110.5E) and COMPASS-110.5E (110.5E) yang dikelola oleh CNAGA/BSNC at frequency of C-band	Not completed. To be pursued at satellite coordination meeting in the future .
02-45	Coordination between satellite network of PALAPA-C4 (150.5E) and PALAPA-C4-A (150.5E) managed by INDOSAT vis-à-vis satellite network of COMPASS-B-144.5E (144.5E) managed by CNAGA/BSNC at frequency of C-band	*Complete coordination*
02-46	Coordination between satellite network of PALAPA-B2 (113E) managed by INDOSAT vis-à-vis satellite network of ASIASAT-B (116E) managed by AsiaSat at frequency of C-band	*Coordination is not required due to the suppression of ASIASAT-B (116E)*
02-47	Coordination between satellite network of LAPANSAT(NGSO) and LAPAN-TUBSAT(NGSO) managed by LAPAN vis-à-vis satellite network of CTDRS Series, DFH-4-OAF (155E), DFH-5-01A (94.2E) dan DFH-5-01B (107.5E) managed by Newstar at frequency of S-band	*Complete coordination*
02-48	Coordination between satellite network of LAPANSAT(NGSO) and LAPAN-TUBSAT(NGSO) managed by LAPAN vis-à-vis satellite network of SHENZHOU (NGSO) and TIANWANG (NGSO) managed by Newstar at frequency of S-band	*Complete coordination*
02-49	Coordination between satellite network of INSB_100 (104E) which forms an *allotment plan band* of Indonesia vis-à-vis satellite network of CHNBSAT-101.4E managed by SARFT at frequency of Ku-band	Not completed. To be pursued at satellite coordination meeting in the future

Agenda Item	Description	Coordination Result
02-50	Coordination between satellite network of INDOSTAR-1A(107.7E), INDOSTAR-1(107.7E), INDOSTAR-107.7E(107.7E), INDOSTAR-110E(108.2E) and INDOSTAR-118E(118E) managed by MCI vis-à-vis satellite network of FYGEOSAT-79E (79E), FYGEOSAT-86.5E (86.5E), FYGEOSAT-99.5E (99.5E), FYGEOSAT-105E (105E), FYGEOSAT-112E (112E), FYGEOSAT-123.5E (123.5E) and FYGEOSAT-133E (133E) managed by CMA at frequency of X-band	*Complete coordination*
02-51	Coordination between satellite network of INDOSTAR-1A (107.7E), INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E) and INDOSTAR-118E (118E) managed by MCI vis-à-vis satellite network of FY-2A (105E) managed by CMA at frequency of C-band	*Complete coordination*
02-52	Coordination between satellite network of INS00000 (115.4E, INS AP30B) which forms an *allotment plan band* of Indonesia vis-à-vis satellite network of ASIASAT-30B-120 (120E) and ASIASAT-30B-122 (122E) managed by ASIASAT at frequency of C and Ku-band	Not completed. To be pursued at satellite coordination meeting in the future

Attachment 3

Results of Satellite Coordination between Administration of the Republic of Indonesia and Korea

Agenda Item	Description	Coordination Result
2.1	Coordination between satellite network of Indonesia managed by TELKOM vis-à-vis satellite network of Korea managed by MSIP/ETRI, kt sat and KARI	
2.1.1	Coordination between satellite network of PALAPA-B1 (108E), PALAPA-C2 (108E), TELKOM-108E (108E), PALAPA-B3 (118E), PALAPA-C3 (118E) and PALAPA-B3 TT&C (118E) vis-à-vis satellite network of HANSAT-113E (113E) dan HANSAT-116E (116E) managed by MSIP/ETRI at frequency of C-band	Complete coordination: PALAPA-B (108E), PALAPA-C2 (108E), TELKOM-108E (108E) vis-à-vis HANSAT-116E(116E)

<table>
<tr><th>Agenda Item</th><th>Description</th><th>Coordination Result</th></tr>
<tr><td></td><td></td><td><u>Not Complete:</u>
PALAPA-Bl (108E), PALAPA-C2 (108E), TELKOM-108E (108E), PALAPA-B3 (118E), PALAPA-C3 (118E), and PALAPA-B3 TT&C (118E) vis-à-vis HANSAT-113E (113E)
PALAPA-B3 (118E), PALAPA-C3 (118E) and PALAPA-B3 TT&C (118E) vis-à-vis HANSAT-116E (116E)</td></tr>
<tr><td>2.1.2</td><td>Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of HANSAT-113E (113E) and KORBSAT-113E (113E) managed by MSIP/ETRI at frequency of Ka-band</td><td>Complete coordination</td></tr>
<tr><td>2.1.3</td><td>Coordination between satellite network of TELKOM-108E (108E), TELKOM-3EK (118E) and PALAPA-C3-K (118E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E), KORBSAT-113E (113E) and KORBSAT-116E (116E) managed by MSIP/ETRI at frequency of Ku-band</td><td><u>Complete coordination:</u>
TELKOM-108E (108E) vis-à-vis KORBSAT-116E (116E) and HANSAT-116E(116E)
TELKOM-108E (108E),TELKOM-3EK (118E), and PALAPA-C3-K (118E) vis-à-vis HANSAT-113E (113E) and KORBSAT-113E (113E)
<u>Not Complete:</u>
TELKOM-3EK (118E) and PALAPA-C3-K (1I8E) vis-à-vis HANSAT-113E (113E) and KORBSAT-113E (113E)</td></tr>
<tr><td>2.1.4</td><td>Coordination between satellite network of TELKOM-108E (108E), TELKOM-3EK (118E) and PALAPA-C3-K (118E) vis-à-vis satellite network of KOREASAT-113K (113E), KOREASAT-114.5K (114.5E) (API/A) and KOREASAT-116K (116E) managed by ktsat at frequency of Ext. Ku and Ku-band</td><td>Not completed. To be pursued at satellite coordination meeting in the future</td></tr>
<tr><td>2.1.5</td><td>Coordination between satellite network of TELKOM-108E (108E), TELKOM-3EK (118E) and PALAPA-C3-K (118E) vis-à-vis satellite network of KOREASAT-1 (116E) and KOREASAT-2 (113E) managed by ktsat at frequency of Ku-band</td><td>Not completed. To be pursued at satellite coordination meeting in the future</td></tr>
</table>

Agenda Item	Description	Coordination Result
2.1.6	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of KOREASAT-114.5K (114.5E) (API/A) managed by ktsat at frequency of Ka-band	Not completed. To be pursued at satellite coordination meeting in the future
2.1.7	Coordination between satellite network of TELKOM-108E (108E), TELKOM-3EK (118E) and PALAPA-C3-K (118E) vis-à-vis satellite network of KOREASAT-116E BSS (116E) managed by ktsat based on AP30/AP30A	Not completed. To be pursued at satellite coordination meeting in the future
2.1.8	Coordination between satellite network of TELKOM-108E (108E) vis-à-vis satellite network of GK2-116.2E (116.2E) and GK2-128.2E (128.2E) managed by KARI at frequency of X and Ka-band	<u>Complete coordination:</u> • TELKOM-108E (108E)) vis-à-vis GK2-116.2E (116.2E) and GK2-128.2E (128.2E) • TELKOM-108E (108E)) vis-à-vis GK2-128.2E (128.2E) <u>Not complete:</u> TELKOM-108E (108E)) vis-à-vis GK2-116.2E (116.2E)
2.2	Coordination between satellite network of Indonesia managed by PSN vis-à-vis satellite network of Korea managed by MSIP/ETRI, kt sat and KARI	
2.2.1	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of COMS-128.2E (128.2E) managed by KCC/ETRI at frequency of Ka-band	Complete Coordination
2.2.2	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E) and HANSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of S, C, Ku and Ka-band	<u>Complete Coordination:</u> PSN-146E (146E) vis-à-vis HANSAT-1I3E (113E)/-116E (116E)/-I28.2E (128.2E) at frequency of C, Ku and Ka band <u>Not Complete:</u> PSN-146E (146E) vis-à-vis HANSAT-113E (113E)/-116E (116E)/-128.2E (128.2E) at frequency of S-band
2.2.3	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of KORBSAT-113E (113E), KORBSAT-116E (116E) and KORBSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of Ku and Ka-band	Complete coordination

Agenda Item	Description	Coordination Result
2.2.4	Coordination between satellite network of GARUDA-1 (118E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E) and HANSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of S-band	Coordination is not required
2.2.5	Coordination between satellite network of PALAPA PAC-3R (144E) and PALAPA PAC-C 146E (146E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E) and HANSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of C-band	Complete coordination
2.2.6	Coordination between satellite network of PALAPA PAC-KU 146E (146E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E) and HANSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of Ku-band	Complete coordination
2.2.7	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of KOREASAT-1 (116E) and KOREASAT-2 (113E) managed by ktsat at frequency of Ku-band	Complete coordination
2.2.8	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of KOREASAT-97K (97E), KOREASAT-113K (113E), KOREASAT-114.5K (114.5E) (API/A) and KOREASAT-116K (116E) managed by ktsat at frequency of Ext. Ku and Ku-band	Complete coordination
2.2.9	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of INFOSAT-C (116E), KOREASAT-97K (97E), KOREASAT-114.5K (114.5E) (API/A) and KOREASAT-116K (116E) managed by ktsat at frequency of Ka-band	Complete coordination
2.2.10	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of COMS-116.2E (166.2E) and COMS-128.2E (128.2E) managed by KARI at frequency of S-band	Coordination is not required
2.2.11	Coordination between satellite network of PSN-146E (API/A) vis-à-vis satellite network of GK2-116.2E (116.2E) and GK2-128.2E (128.2E) managed by KARI at frequency of S, X and Ka-band	<u>Coordination not required:</u> PSN-146E (146E) vis-à-vis GK2-116.2E (116.2E)/ -128.2E (128.2E) at S band <u>Complete coordination:</u> PSN-146E (146E) vis-à-vis GK2-116.2E (116.2E)/-128.2E (128.2E) at Ku band and X band (downlink)

Agenda Item	Description	Coordination Result
		Not complete: PSN-146E (146E) vis-à-vis GK2-116.2E (116.2E)/-128.2E (128.2E) at X band (uplink)
2.2.12	Coordination between satellite network of PALAPA-C3-X (118E) vis-à-vis satellite network of GK2-116.2E (116.2E) and GK2-128.2E (128.2E) managed by KARI at frequency of X-band	Complete coordination: PALAPA-C3-X (118E) vis-à-vis the GK2-I28.2E (128.2E) Not complete: PALAPA-C3-X (118E) vis-à-vis GK-116.2E (116.2E)
2.3	Coordination between satellite network of Indonesia managed by CSM vis-à-vis satellite network of Korea managed by MSIP/ETRI, kt sat and KARI	
2.3.1	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E) and HANSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of C-band	Complete coordination
2.3.2	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E), HANSAT-128.2E (128.2E), KORBSAT-113E (113E), KORBSAT-116E (116E) and KORBSAT-128.2E (128.2E) managed by KCC/ETRI at frequency of Ku-band	Complete coordination
2.3.3	**Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E), HANSAT-128.2E (128.2E), KORBSAT-113E (113E), KORBSAT-116E (116E), KORBSAT-128.2E (128.2E) and COMS-128.2E (128.2E)** managed by **KCC/ETRI at frequency of Ka-band**	Complete coordination
2.3.4	**Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of KOREASAT-1 (116E) and KOREASAT-2 (113E)** managed by **ktsat at frequency of Ku-band**	Complete coordination

Agenda Item	Description	Coordination Result
2.3.5	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of KOREASAT-97K (97E), KOREASAT-113K (113E), KOREASAT-114.5K (114.5E) (API/A) and KOREASAT-116K (116E) managed by kt-sat at frequency of Ext. Ku and Ku-band	Complete coordination: • CSM-106 (106E) vis-à-vis KOREASAT-97K (97E), KOREASAT-113K (113E), KOREASAT-114.5K(114.5E), KOREASAT-116K (116E) • CSM-111 (11 IE) vis-à-vis KOREASAT-97K (97E) • CSM-120 (120.5E) vis-à-vis KOREASAT-97K (97E), KOREASAT-113K (113E) <u>Not Complete:</u> CSM-111 (113E), CSM-120 (120.5E) **vis-à-vis** KOREASAT-113K (113E), KOREASAT-114.5K (114.5E), KOREASAT-116K (116E)
2.3.6	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of INFOSAT-C (116E), KOREASAT-97K (97E), KOREASAT-114.5K (114.5E) (API) and KOREASAT-116K (116E) managed by ktsat at frequency of Ka-band	Complete coordination: • CSM-106 (106E) vis-à-vis INFOSAT-C (116E), KOREASAT-114.5K (114.5E), KOREASAT-116K (116E) • CSM-111 (11 IE) KOREASAT-97K (97E) • CSM-120 (120.5E) vis-à-vis KOREASAT-97K (97E) Not complete: CSM-111 (111 E), CSM-120 (120.5E) vis-à-vis INFOSAT-C (116E), KOREASAT-114.5K (114.5E), KOREASAT- 116K (116E)
2.3.7	Coordination between satellite network of CSM-106 (106E), CSM-111 (111E) and CSM-120 (120.5E) vis-à-vis satellite network of GK2-116.2E (116.2E) and GK2-128.2E (128.2E) managed by KARI at frequency of Ka-band	Complete coordination: • CSM- 106 (106E) vis-à-vis GK2-116.2E (116.2E), GK2-128.2E (128.2E) • CSM-111 (111E) dan CSM-120 (120.5E) vis-à-vis GK2-128.2E (128.2E)

Agenda Item	Description	Coordination Result
		Not complete: CSM-111 (111E) dan CSM-120 (120.5E) vis-à-vis GK2-116.2E (116.2E)
2.4	Coordination between satellite network of Indonesia managed by MCI vis-à-vis satellite network of Korea managed by MSIP/ETRI, kt sat and KARI	
2.4.1	Coordination between satellite network of INDOSTAR-1 (107.7E), INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E), INDOSTAR-118E (118E), INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) and INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of HANSAT-113E (113E) managed by KCC/ETRI at frequency of C-band	Coordination not required
2.4.2	Coordination between satellite network of INDOSTAR-118E (118E), INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) and INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of HANSAT-116E (116E) managed by KCC/ETRI at frequency of C-band	Coordination not required
2.4.3	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E), INDOSTAR-110E-K (108.2E), INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) dan INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of HANSAT-113E (113E) and HANSAT-116E (116E) managed by KCC/ETRI at frequency of Ku-band	Complete coordination
2.4.4	Coordination between satellite network of INDOSTAR-1 (107.7E), INDOSTAR-1A (107.7E), INDOSTAR-107.7E (107.7E), INDOSTAR-110E (108.2E), INDOSTAR-118E (118E), INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) and INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of GK2-116.2E (116.2E) and GK2-128.2E (128.2E) managed by KARI at frequency of X-band	Complete coordination

Agenda Item	Description	Coordination Result
2.4.5	Coordination between satellite network of INDOSTAR-107.7E-K (107.7E), INDOSTAR-110E-K (108.2E), INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) and INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of KOREASAT-114.5K (114.5E) (API/A) managed by ktsat at frequency of Ext. Ku-band	Complete coordination: • INDOSTAR-107.7XS (107.7E), INDOSTAR-108.2XS 108.2E) vis-à-vis KORESAT-97K (97E), KOREASAT-116K (116E) • INDOSTAR-118XS (118E) vis-à-vis KOREASAT-97K (97E) • INDOSTAR-107.7E-K (107.7E), INDOSTAR-107.7XS (107.7E) vis-à-vis KOREASAT-114.5K (114.5E) • INDOSTAR-110E-K (108.2E), INDOSTAR-108.2XS (108.2E) vis-à-vis KOREASAT-114.5K (114.5E) • INDOSTAR-107.7E-K (107.7E), INDOSTAR-107.7XS (107.7E) vis-à-vis KOREASAT-113K (113E) • INDOSTAR-110E-K (108.2E), INDOSTAR-108.2XS (108.2E) vis-à-vis KOREASAT-113K (113E) Not Complete: • INDOSTAR-118XS (118E) vis-à-vis KOREASAT-113K (113E), KOREASAT-114.5K (114.5E) di Ext Ku band • INDOSTAR-118XS (118E) vis-à-vis KOREASAT-116K (116E) di Ext Ku band
2.4.6	Coordination between satellite network of INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) and INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of HANSAT-128.2E, HANSAT-144E, HANSAT-158E, HANSAT-98E, KORBSAT-113E, KORBSAT-116E and KORBSAT-128.2E managed by KCC/ETRI at frequency of Ku-band	Complete coordination

Agenda Item	Description	Coordination Result
2.4.7	Coordination between satellite network of INDOSTAR-107.7XS (107.7E) (API/A), INDOSTAR-108.2XS (108.2E) (API/A) and INDOSTAR-118XS (118E) (API/A) vis-à-vis satellite network of HANSAT-128.2E, HANSAT-144E, HANSAT-158E and HANSAT-98E managed by KCC/ETRI at frequency of C-band	Coordination is not required
2.5	Coordination between satellite network of Indonesia managed by INDOSAT vis-à-vis satellite network of Korea managed by MSIP/ETRI and kt sat	
2.5.1	Coordination between satellite network of PALAPA-C1 (113E), PALAPA-B2 (113E) and PALAPA-C1-B (113E) vis-à-vis satellite network of HANSAT-113E (113E) and HANSAT-116E (116E) managed by KCC/ETRI at frequency of C-band	Not complete
2.5.2	Coordination between satellite network of PALAPA-C1 (113E), PALAPA-C1-K (113E) and PALAPA-C1-B (113E) vis-à-vis satellite network of HANSAT-113E (113E) and HANSAT-116E (116E) managed by KCC/ETRI at frequency of Ku-band	Not complete
2.5.3	Coordination between satellite network of PALAPA-C1-K (113E) and PALAPA-C1-B (113E) vis-à-vis satellite network of KORBSAT-113E (113E) and KORBSAT-116E (116E) managed by MSIP/ETRI at frequency of Ku-band	Not complete
2.5.4	Coordination between satellite network of PALAPA-C1 (113E), PALAPA-C1-K (113E) and PALAPA-C1-B (113E) vis-à-vis satellite network ofKOREASAT-114.5K (114.5E) (API/A) managed by kt sat at frequency of Ext. Ku and Ku-band	Not complete
2.5.5	Coordination between satellite network of PALAPA-C1-B (113E) vis-à-vis satellite network of KOREASAT-114.5K (114.5E) (API/A) managed by kt sat at frequency of Ka-band	Not complete
2.5.6	Coordination between satellite network of PALAPA-C1-B (113E) vis-à-vis satellite network of HANSAT-113E (113E), HANSAT-116E (116E), KORBSAT-113E (113E) and KORBSAT-116E (116E) managed by MSIP/ETRI at frequency of Ka-band	Not complete

Chapter 6

Chapter 6

Frequency Operation

Radio frequency spectrum (frequency) is a very vital and limited resource in telecommunication world. The technological development in the field of telecommunication particularly cellular telecommunication and internet service and other wireless-based special communication causes the utilization of frequency resources become very high as well. This implies the need for management, regulation and supervision of frequency usage in the territory of Indonesia. Moreover, the frequency utilization has also been using a variety of telecommunication equipment and technology which are increasingly growing and increasingly diverse equipment. Increase in frequency usage is also followed by the increasingly diverse use of frequencies for various needs since the use of telecommunication facilities is increasingly varied with the increasingly high use of technology. From the side of frequency band types, the frequency band types used are also increasingly higher leading to the use of technology to support broadband, among other things is LTE technology and it is no longer limited to GSM and 3G.

Statistics in the field of frequency operation show current condition of the use of frequency spectrum band by various parties and for various requirements. Utilization of frequency by various parties is the important part in the management of frequency resources for communication and information technology activities, particularly in conducting monitoring of frequency usage by stakeholders according to the type of frequency band used. Management of this frequency usage is also related to the level of frequency utilization which has been going on, especially for some types of frequency used by public and inter-regional distribution.

Besides utilization of frequency by stakeholders and the usage and policy management by government as regulator, frequency management is also related to selection of frequency-used operator. In this case, license/certification becomes the selection and control mechanism towards frequency-used community. There are three types of licenses related to the use of frequency by individual, i.e. License for Radio Amateur (IAR), License for Inter-Inhabitant Radio Communication (IKRAP) and Certificate for Radio Amateur Communication (SKAR). Besides using license/certificate mechanism, control to ensure the use of frequency correctly and wisely is performed through education and examination done to the candidates of frequency-used radio operator. Training and examination performed consist of Certification for Concession Radio Operator Proficiency (SKOR) and Radio Electronics and Radio Operator (REOR). Through license instrument, certification, training and examination for radio frequency users, especially for frequency spectrum which is widely used by the society, will run better and will not harm one another of the users and will support the conduct of frequency structuring.

6.1 Scope

Statistical data of the field of resources operation presented in this book includes the number of frequency spectrum usages based on frequency band, the number of frequency spectrum usages by type of frequency setting, and the number of frequency spectrum usages based on its allotment. The usage of the overall data is also mapped according to the province. Furthermore, analysis is also performed to calculate the number of frequency usages according to certain subservice such as TV, Radio (AM / FM), and GSM in each province. In particular, frequency usage for certain subservices such as TV, Radio (AM / FM), and GSM / DCS will be seen between regions by comparing the vastness of the areas of the regions (provinces) and the number of their population. From the side of regulating frequency-used community, analysis is performed on the issuance of licenses and certificates for frequency-used amateur radio operators and analysis is also done on the activity and the result of training and examination of amateur radio operators.

Statistics of frequency operation presented in this report include:

1) Statistics of the use of frequency spectrum based on frequency band (for example: VLF, LF, MF, HF, etc.) and provinces of the years of 2008 - semester 1 of 2013;
2) Use of frequency based on service and subservice in the years of 2008 - semester 1 of 2013;
3) Use of frequency according to islands, provinces, service and subservice in semester 1 of 2013;
4) Comparison of the number of frequency usages for TV, AM Radio, FM Radio, and GSM/DCS with the number of population and the vastness of the area for each province in semester 1 of 2013;
5) Issuance of the licenses for Radio Amateurs which include IAR, IKRAP, and SKAR in semester 1 of 2013;
6) Monitoring result of REOR and SKOR implementation in semester 1 of 2013.

Statistical data of resources operation presented and analyzed in this chapter was obtained directly from Directorate of Resources operations of Directorate General of SDPPI in the latest data position, i.e. 30 June 2013, while the data of population and the vastness of provincial regions was obtained from Central Body of Statistics.

6.2 Concept and Definition

Definitions of terminology used in the presentation of the following frequency data are composed in order to provide the same interpretation to terminology used. Some concepts and definitions used in further discussion of this chapter of frequency operation are:

1. Telecommunication is any transmission, emission or reception of any signs, signals, writing, images, and voices or any expression of mind by wire, radio, optical, or other electromagnetic systems;
2. Radio frequency spectrum is a composition of radio frequency bands that has frequency of less than 3000 GHz as a unit of electromagnetic wave vibration that propagates and contained in the aerospace (air space and outer space);

3. Radio frequency spectrum allocation is an inclusion of certain radio frequency bands with the purpose of usage by one or more terrestrial radio communication services or space radio communication services or astronomical radio communication services based on certain requirements;
4. Radio is a general term used in radio wave utilization;
5. Radio Wave or Hertz Wave is electromagnetic wave with frequency of less than 3000 GHz, that propagates in space without artificial means of conductor;
6. Radio communication is telecommunication through the medium of radio wave;
7. Terrestrial radio communication is any radio communication other than space radio communication or astronomical radio communication;
8. Space radio communication is any radio communication which includes the use of one or more space stations, or the use of one or more satellite reflectors or any other object existing in space;
9. Radio navigation is a determinant radio used for the purpose of navigation, including notification of warning about objects that block;
10. Astronomical radio is astronomy based on reception of radio wave from cosmos.

6.3. Frequency Usage (ISR)

6.3.1. Usage Based on Frequency Band

Intensity of frequency band usage up to semester 1 of 2013 shows high usage. Until this semester 1 of 2013 frequency usage based on frequency band has already achieved 409,808 or higher than frequency band usage during the year of 2012. If compared to that in 2012, frequency band usage in this semester 1 of 2013 increased by 6.6%. This increase of frequency band usage in semester 1 of 2013 mainly comes from the increase in frequency spectrum the use of which is large, i.e. SHF spectrum (3 GHz - 30 GHz) and HF spectrum (3 MHz - 30 MHz). Table 6.1 shows that for the type of SHF frequency spectrum, its usage in semester 1 of 2013 increased by 11.8% compared to its usage during one year in 2012, while for UHF spectrum whose usage is also high, precisely declined even though only 0.4% and for VHF spectrum declined by 12.8%. In the meantime, for other spectrum bands whose intensity of usage is low such as MF and HF, has an increase compared to the usage during the year of 2012 by 4.4% and

20.3% respectively. The increase of this usage is contrary to the occurrence in the previous years which tended to decline. This indicates the rebound of the usage of those two spectrum bands in this year of 2013.

Table 6.1.
Number of Frequency Usage (ISR) based on frequency bands

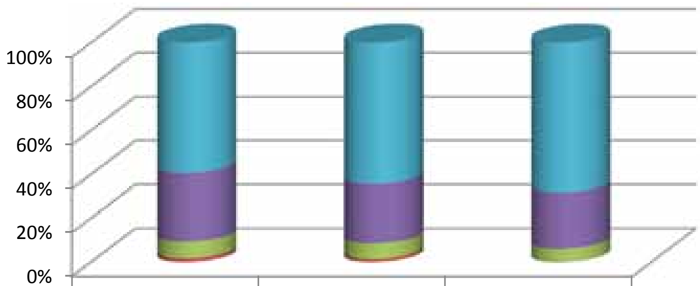
No.	Spectrum Name	Frequency Band	2011	2012	Semester 1-2013
1	MF	(300 kHz – 3 MHz)	328	227	273
2	HF	(3 MHz – 30 MHz)	5,571	5,381	5,620
3	VHF	(30 MHz – 300 MHz)	25,081	27,223	23,707
4	UHF	(300 MHz – 3 GHz)	103,724	104,165	103,796
5	SHF	(3 GHz - 30 GHz)	197,107	247,336	276,412
	Total		331,811	384,332	409,808

***VLF (Very Low Frequency) and LF (Low Frequency) data could not be exposed due to low frequency usage (less than 300 kHz) concerning the usage for special purposes such as for military purposes and there were not many bandwidths in the radio spectrum.**

If seen from the composition of usage according to frequency spectrum, it still shows the same pattern of composition from year to year where the biggest usage is still for SHF spectrum which existed in the range of 3 GHz up to 30 GHz. The second biggest usage is the usage of UHF frequency spectrum (300 MHz - 3 GHz). The proportion of the usage of SHF spectrum up to this semester 1 of 2013 reaches 67.45 % or increased by more than 3% than in 2012. This usage is far bigger than for other types of spectrum bands and very dominant compared to other types of spectrum bands. In the meantime, the proportion of usage of UHF spectrum type declined from 27.1% in 2012 to 25.53% in semester 1 of 2013. The high increase of SHF spectrum band usage in this semester 1 of 2013 while other types of spectrum bands only slightly increased or even declined, causes the change in the composition of spectrum band usage in semester 1 of 2013 particularly for SHF and UHF spectrum.

As in the previous years, the proportion of HF spectrum band usage has consistently been declined from year to year until less than 0.5% in semester 1 of 2013. But, the type of MF band has only a slight increase even though its proportion is still less than 0.1%. The proportion of HF frequency usage which in 2011 was still 1.68% decreased to only 0.14% in 2013, while the proportion of MF frequency usage only slightly increased from 0.06% in 2012 to 0.07% in semester 1 of 2013, in line with the increase in MF spectrum band usage.

Figure 6.1.
Composition of Frequency Usage based on Frequency Band



	2011	2012	2013
SHF	59,40%	64,35%	67,45%
UHF	31,26%	27,10%	25,33%
VHF	7,56%	7,08%	5,78%
HF	1,68%	1,40%	0,14%
MF	0,10%	0,06%	0,07%

The total increase in the usage of frequency spectrum resulted in the significant increase of cumulative usage of frequency bands compared to previous year. Cumulatively, the usage of frequency band in semester 1 of 2013 has increased by 57.2% from the position at the end of 2012, but, the achievement in this year of 2013 is only up to semester 1 of 2013, so it is possible to increase higher at the end of 2013.

The highest increase of cumulative usage of this frequency up to semester 1 of 2013 occurs for the type of SHF frequency spectrum band which increased by 62.2%, still lower than the increase in 2012 which achieved 125.5%. The large increase of this SHF spectrum becomes significant since it causes cumulative usage of this SHF spectrum band exceeding the cumulative usage of UHF spectrum band. Until the end of 2010, the type of UHF spectrum band was the biggest cumulative usage. However, the bigger and increasing usage of SHF spectrum band in 2012 and semester 1 of 2013 causes its current cumulative usage to become the biggest, exceeding the UHF band usage. The rate of increase in the cumulative usage of UHF spectrum band is slower that the rate of increase of cumulative usage of SHF spectrum band. In semester 1 of 2013, the rate of increase of cumulative usage of UHF spectrum band is only 49.9% or lower compared to its increase in the 2012 which achieved 100.4%.

The next biggest increase of cumulative usage of frequency bands is for the usage of VHF and MF bands. Cumulative usage of VHF bands increased by 45.3% or lower than the increase in the previous year which achieved 23.2%, while for the usage of MF frequency, despite small intensity of its usage, yet the cumulative usage of its frequency increased by 108.5%.

Table 6.2.
Cumulative Use of Frequency (ISR) Based on Frequency Band

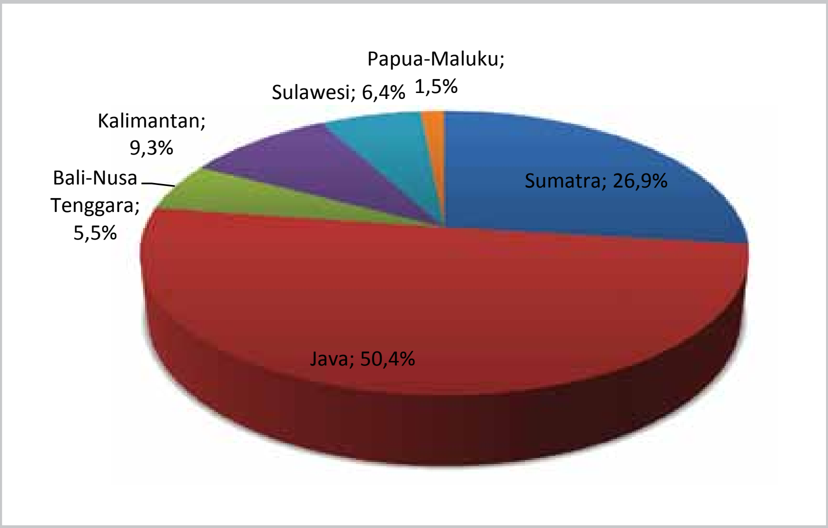
No	Spectrum Name	Frequency Band	2011	2012	Smt-1 2013
1	MF	(300 kHz – 3 MHz)	328	555	828
2	HF	(3 MHz – 30 MHz)	5,571	10,952	16,572
3	VHF	(30 MHz – 300 MHz)	25,081	52,304	76,011
4	UHF	(300 MHz – 3 GHz)	103,724	207,889	311,685
5	SHF	(3 GHz - 30 GHz)	197,107	444,443	720,855
	Jumlah		331,811	716,143	1,125,951

***) calculated since 2011**

Besides the usage of frequency bands which indicates the tendency of increasing, distribution of frequency bands usage according to big islands shows that the usage of frequency bands up to this semester 1 of 2013 is still dominated by the usage in Java Island. Figure 6.2 shows that the proportion of the usage of frequency spectrum bands in Java Island for all types of frequency bands reaches 50.4% or more than a half of frequency band usage in Java Island. This proportion is also smaller compared to that in 2012 which achieved 52.1% or in 2011 which achieved 51.2%. Other big island which has relatively quite high usage of frequency spectrum is

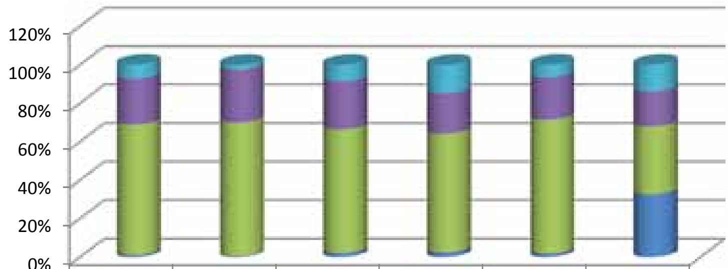
Sumatra with the proportion that reaches 26.9% or increased compared to that in the previous year which achieved 25.4%. Meanwhile, for other big islands, despite having a broader territory, the usage of the frequency bands is much fewer. The proportion of frequency band usage for regions of Maluku and Papua which have the widest land and sea areas compared to other regions, is only 1.5%. This distribution of frequency band usage shows that frequency usage is not determined by the vastness of the area, but more on the intensity of activities and the progress of the region in that area, which is also reflected from the density of population or the rate of its economic development.

Figure 6.2.
Distribution of spectrum band usage according to big islands in semester 1 of 2013



Distribution of frequency usage according to big islands also shows that in most of big islands, the intensity of frequency band usage is also dominated by the type of SHF frequency spectrum band which on average achieves more than 60% except in Maluku-Papua. Distribution of spectrum band usage in Sumatra tends to have the similar proportion with Sulawesi and Bali-Nusa Tenggara, while Java and Kalimantan shows slight differences where the proportion of UHF spectrum band is quite dominant in Java, and in Kalimantan it is VHF spectrum band usage which is slightly more prominent compared to other regions. A very different distribution is shown in Maluku-Papua areas where the proportion of HF frequency band usage is much higher than in the area of other big islands. The proportion of HF spectrum band usage in Maluku and Papua areas even nearly matches the proportion of SHF frequency band usage.

Figure 6.3.
Frequency Usage according to big islands and types of band in semester 1 of 2013



	Sumatra	Java	Bali - Nusa Tenggara	Kalimantan	Sulawesi	Papua - Maluku
VHF	7,3%	2,5%	8,8%	14,9%	6,6%	13,9%
UHF	23,9%	27,6%	24,9%	20,9%	22,1%	18,4%
SHF	67,8%	69,4%	64,3%	61,7%	69,7%	35,1%
MF	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
HF	1,0%	0,4%	1,9%	2,4%	1,6%	32,6%

Distribution of spectrum band usage in the areas of Maluku-Papua shows different pattern with the areas of other big islands. The proportion of HF spectrum band usage which in other areas is small, in Maluku – Papua shows a big proportion and almost matches the proportion of SHF spectrum band usage. Meanwhile, for Kalimantan, the proportion of VHF band is also quite prominent.

Distribution of frequency band usage according to provinces also shows that the usage of frequency bands tends to be high in areas with large population, more advance level of economy and a lot of urban areas. Table 6.3 shows that three provinces with the highest usage of spectrum band are found in West Java, East Java and Central Java. These three provinces have the same characteristics, namely they have many administrative regions (districts/municipalities) which also means that they have high socio-dynamism, large population with relatively high density, the level of economic progress which is also relatively high, and have enough wide area. In these regions, the total frequency usage tends to be high. The next biggest usage of ISR frequency band still occurs in Java Island, namely Jakarta which despite having small area, it has a high density of population, advance economic progress level and also high dynamism of region as metropolitan city.

On the contrary, the regions which show low usage of ISR frequency band are those with relatively low level of progress, low socio-economy dynamism, although they have very wide area and do not have many urban areas, such as West Papua, North Maluku and Gorontalo. In Sumatra, region with low usage of ISR frequency band is found in Bengkulu which also has characteristics of relatively less progress level and urban areas which have not developed.

Table 6.3
Usage of Frequency Band per Province in semester 1 of 2013

No.	Province	Frequency Band				
		MF	HF	VHF	UHF	SHF
1	NAD	10	81	5,822	2,364	767
2	North Sumatra	29	277	18,059	6,434	1,702
3	West Sumatra	11	50	6,498	2,313	496
4	Riau	3	236	11,932	4,847	1,236
5	Jambi	4	120	4,838	1,321	671
6	South Sumatra	10	116	9,925	2,949	1,600
7	Bengkulu	2	42	2,011	589	219
8	Lampung	9	38	8,322	3,035	465
9	Riau Islands	1	49	4,311	1,747	650
10	Bangka Belitung	0	54	2,895	711	253
11	Banten	3	30	13,929	4,863	352
12	DKI Jakarta	8	319	21,860	10,254	583
13	West Java	41	132	46,004	15,756	1,412
14	Central Java	44	83	26,852	10,097	1,161
15	DI Yogyakarta		12	5,534	2,162	400
16	East Java	25	207	29,313	13,892	1,289
17	Bali	8	69	7,417	3,021	609
18	West Nusa Tenggara	4	77	4,651	1,798	679
19	East Nusa Tenggara	2	286	2,326	762	686

No.	Province	Frequency Band				
		MF	HF	VHF	UHF	SHF
20	South Kalimantan	4	72	5,346	1,584	1,708
21	West Kalimantan	14	210	6,418	1,812	561
22	East Kalimantan	3	399	8,305	3,332	2,662
23	Central Kalimantan	9	245	3,488	1,261	747
24	South Sulawesi	14	109	9,244	3,023	591
25	South East Sulawesi	0	39	1,915	599	348
26	Central Sulawesi	6	118	2,470	702	380
27	West Sulawesi	1	20	333	111	13
28	North Sulawesi	1	94	3,299	1,153	328
29	Gorontalo	0	40	946	176	55
30	Maluku	1	302	720	294	439
31	North Maluku	0	122	317	89	179
32	Papua	6	1228	732	582	0
33	West Papua	0	344	380	163	233

If viewed from the composition of usage for the type of frequency band, the same as the pattern occurred nationally, the biggest proportion of frequency usage is for the type of SHF frequency band. The proportion of SHF frequency band usage in the provinces on average reaches 63.8% or increased compared to that in the previous year which reached 58%. However, Papua shows relatively low proportion of SHF frequency band usage, namely around 28.7%. The biggest usage of frequency band in Papua is precisely for the type of HF Band with the proportion of 48.2%. Unlike in 2012, there is an increase in the proportion of SHF band usage for several provinces in the eastern part of Indonesia such as Maluku, North Maluku and West Papua, hence, the proportion of SHF band in these regions is slightly higher than in the previous year.

The second biggest proportion of ISR frequency band usage in most of the provinces is for the type of UHF band. The proportion of UHF frequency band usage on average in each province achieves 22.6% or declined compared to that in semester 1 of 2012 which achieved 29%. The proportion of UHF spectrum band usage in West Papua undergoes a sharp decline to be only 14.6% from previously 37.2%. In other provinces in eastern part of Indonesia, such as Maluku, North Maluku and Papua, the proportion of UHF band usage also tends to be low, less than 20%.

Figure 6.4.
Composition of Frequency Usage according to Frequency Band per Province

6.3.2. Usage Based on Service

The usage of frequency canal is also shown by the usage of frequency canal based on service. The usage of frequency canal up to semester 1 of 2013 also has an increase compared to the previous year and at the end of the year it is predicted that it will elevate quite high compared to that in the previous year. This indication shown from the increase in the usage of several types of frequency canals which is quite big, such as fixed service (public) and land mobile (private), and quite big usage of land mobile (public).

Up to semester 1 of 2013, the total frequency usage based on service increased by 6.9% of the total usage of the previous year. This increase is higher than the increase in 2012 which only reached 2.9%. The increase which is big enough in this semester 1 of 2013 is for the usage of fixed service (public) frequency type, as much as 11.5% compared to the usage during the year of 2012, and the usage of Broadcast (TV and Radio) which increased 11%. Considering that the usage of fixed service (public) frequency type is the biggest among other frequency types, this increase makes the total frequency usage based on service up to semester 1 of 2013 bigger than its usage during the year 2012. Given that this achievement is still in semester 1, at the end of the year the increase would be potentially higher.

Frequency usage for broadcast and satellite up to this semester 1 of 2013 has also been bigger than its usage during 2012 with the respective increase which is as big as the usage in 2012. Only the usage for Maritime and Aviation which are still lower than that in 2012.

Table 6.4.
Number of frequency canal usages according to service for the period of 2011 – semester 1 of 2013

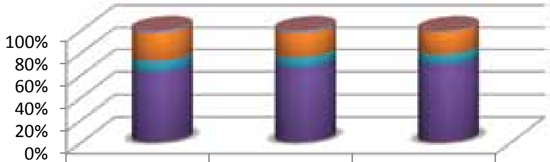
No.	Service	2011	2012	Smt 1-2013
1	Aeronautical/Aviation	1,316	2,022	1114
2	Broadcast (TV & Radio)	2,252	2,374	2,636
3	Fixed Service (private)	826	834	828
4	Fixed Service (public)	207,800	258,056	287,721
5	Land Mobile (Private)	34,445	36,906	38,738
6	Land Mobile (Public)	85,906	86,021	86,283
7	Maritime	6,759	8,464	4,428

No.	Service	2011	2012	Smt 1-2013
8	Satellite	563	575	605
	TOTAL	**339.867**	**395,252**	**422,353**

***) This is the data for calculation of ISR, not the data for the number of determined frequency.**

Based on the usage of frequency canal up to June 2013, the composition of frequency canal usage up to semester 1 of 2013 shows that the biggest proportion is still for the usage of fixed service (public), followed by the usage of frequency canal for land mobile (public). Up to this semester 1 of 2013, the proportion of usage of fixed service (public) canal reaches 68.1% or an increase from semester 1 of 2012 which was 63.1%, while for the usage of land mobile (public) canal, its proportion of usage reaches 20.4% or decreased than the proportion of usage in semester 1 of 2012 which achieved 24.4%. As for the proportion of usage of other canals, it tends to be stable or has no significant changes except for Maritime canal whose proportion declined quite sharply from 2.1% in semester 1 of 2012 to only 1% in semester 1 of 2013. However, with the potential of change/increase in semester 2, it is predicted that at the end of 2013 there will be changes in the proportion of this frequency canal usage.

Figure 6.5.
Composition of frequency usage according to service in 2011 – semester 1 of 2013

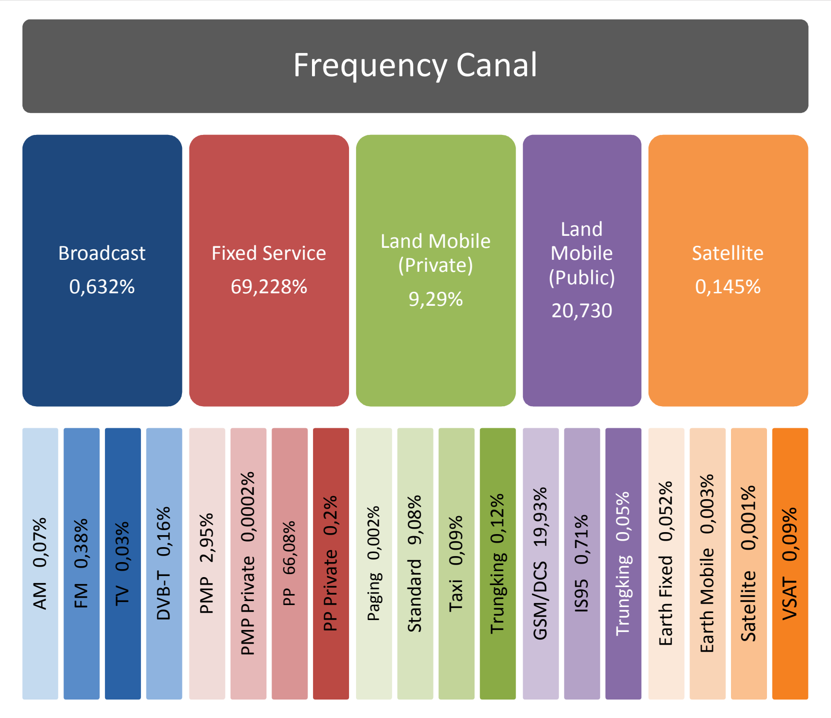


	2011	2012	Smt 1-2013
Satellite	0,2%	0,1%	0,1%
Maritime	2,0%	2,1%	1,0%
Land Mobile (Public)	25,3%	21,8%	20,4%
Land Mobile (Private)	10,1%	9,3%	9,2%
Fixed Service (public)	61,1%	65,3%	68,1%
Fixed Service (private)	0,2%	0,2%	0,2%
Broadcast (TV & Radio)	0,7%	0,6%	0,6%
Aeronautical	0,4%	0,5%	0,3%

The composition of frequency canal usage up to the type of its subservice until the semester 1 of 2013 shows that the biggest usage is still in the group of Fixed Service which is 69.23% of all frequency canal usages throughout Indonesia. This proportion is increased compared to that in semester 1 of 2012 which only reached 64.3%. In this group, the majority is used for PP (public) subservice which achieves 95.5% of the total usage in said Fixed Service group. In other word, the proportion of PP subservice usage achieves 66.1% of the total frequency canal usage throughout Indonesia, increased compared to that in semester 1 of 2012 which only reached 60.5%. The proportion of fixed service canal usage and PP subservice are also slightly higher than the proportion of their usage during the year of 2012.

Meanwhile, the second biggest group of service is Land Mobile (Public) which covers 20.7% of the total frequency canal usage, where the biggest proportion is used by GSM/DCS subservice as much as 96.3%. Hence, the proportion of frequency canal usage for GSM/DCS subservice achieves 19.9%. The proportion of this GSM/DCS subservice decreased compared to that in semester 1 of 2012 which reached 25% of the total ISR. The third biggest group is Land Mobile (Private) as much as 9.3% where the majority of which (97.7%) is used by standard subservice. These three subservices are the most widely used and dominate the frequency canal usage. The usage for these three subservices achieved 99.2% of frequency canal usage, while usage for other subservices is very small in its proportion. This proportion is also increased compared to that in semester 1 of 2012 which only reached 94%. Frequency canal usage for broadcast service comprising subservices of AM, FM, TV, and DVBT, their proportion is only 0.63%, due to their allocation and usages which are indeed limited.

Figure 6.6.
Composition of Frequency Usage according to Service and Subservice in semester 1 of 2013



6.3.3. Usage According to Province

Distribution of usage of frequency canal subservice according to province also shows almost similar composition with the usage of frequency canal subservice nationally. In almost all provinces, the biggest usage of frequency canal is for three types of subservices in three different service groups, i.e. PP (public) subservice in service group of Fixed Service, GSM/DCS subservice in service group of Land Mobile (Public) and Standard subservice in service group of Land Mobile (Private). The high use of mobile subservice found in all provinces is due to the increasing use of GSM/DCS frequency canal by the public through the use of cellular phone using GSM/DCS frequency which covers all layers of society and wider areas. From Table 6.5 it is seen that low usage of GSM/DCS frequency occurs in regions with level of economic progress which relatively left behind compared to other regions, such as Bengkulu, Bangka-Belitung in

Sumatra, East Nusa Tenggara and North Maluku in the eastern part of Indonesia and several regions in Sulawesi. The high usage of GSM/DCS frequency is also higher in Java than in Sumatra which has wider areas. This indicates that the vastness of area is not a determinant factor in high usage of GSM/DCS frequency which among other things is marked by BTS tower in an area. The same thing occurs for the usage of PP subservice type. But, for the type of standard subservice whose intensity of usage is also high, the biggest usage besides in Java is also found in Sumatra, especially North Sumatra, Riau and Lampung. Vastness of area and high economic activities in those three provinces resulted in the intensity of frequency usage for standard subservice which is also high.

Distribution of frequency usage according to service and subservice also shows that the biggest frequency usage is found in the regions of Java with the biggest in West Java and East Java. Similar to the usage according to frequency band, regions with high usage of frequency service are characterized by large population, many urban areas and administrative areas (dictricts/municipalities), higher level of economic progress and development so that the dynamism of the region is also higher. DKI Jakarta becomes the third biggest user of frequency service even though it is the region with the highest level of economic progress and development and also the highest dynamism of society. This is because the broadness of the region is small so that the urban areas and the spread of dynamism of the society are also limited. In total, the proportion of frequency service usage in Java reaches 50.3% with the proportion in West Java, East Java and DKI Jakarta are 15.4%, 10.9% and 8.1% respectively of the total usage of frequency service throughout Indonesia. Low usage of frequency service is also found in the provinces in the eastern part of Indonesia. The total proportion of frequency service usage in Maluku and Papua only reaches 1.6%. Meanwhile for Bali-Nusa Tenggara regions, although the coverage area is not too broad, the total proportion of frequency usage according to subservice achieves 5.5%. This condition is due to the dynamism and level of progress of the regions which are relatively higher, particularly in Bali. Overall, the proportion according to this province is almost similar to that in semester 1 of 2012.

From the type of subservice that is most widely used, although in general PP (public) and GSM/DCS subservices become the most widely used subservice in each province, there is different pattern in certain regions. For regions of Papua, Maluku and North Maluku, it is the usage of standard subservice which is the biggest and higher than the usage of PP (public) and GSM/DCS. The usage of Standard subservice in Papua is even prominent with the proportion of usage achieving 53.8% of the total frequency used and increasing compared to that in semester 1 of 2012 which achieved 50.3, while for PP Fixed service and GSM/DCS, their proportion are only 24.4% and 16.6% respectively. This is allegedly due to special usage of Standard subservice in that region. The same thing occurs for West Papua region even though with the value of frequency usage which is relatively smaller.

Table 6.5

Frequency Usage according to Provinces, Services, and Subservices up to Semester 1 of 2013 (unit: radio station transmitter)

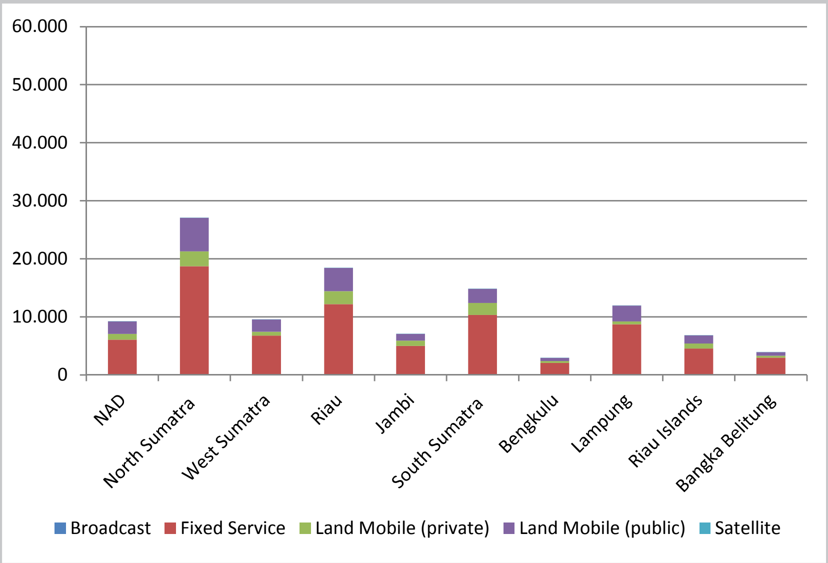
Provinces	Broadcast				Fixed Service				Land Mobile (private)				Land Mobile (public)			Satellite				Total
	AM	FM	TV	DVB-T	PMP	PMP Private	PP Private	PP	Paging	Taxi	Trungking	Standard	IS95	GSM/ DCS	Trungking	Satellite	Earth Mobile	Earth Fixed	VSAT	
NAD	10	53	10	0	117	0	6	5,845	0	1	30	976	1	2,142	7	0	0	7	7	9,212
North Sumatra	29	104	15	0	494	0	0	18,090	0	7	1	2,518	145	5,653	1	0	0	10	11	27,078
West Sumatra	11	45	21	0	182	0	4	6,505	5	14	2	639	2	2,094	0	0	0	2	3	9,529
Riau	3	48	21	1	203	0	24	11,890	0	8	78	2,151	46	3,939	18	1	0	8	10	18,449
Jambi	4	28	20	0	90	0	14	4,832	0	5	2	885	46	1,124	1	0	0	1	6	7,058
South Sumatra	10	50	31	0	302	0	8	9,923	0	6	12	2,031	181	2,262	15	0	0	5	5	14,841
Bengkulu	2	19	9	0	10	0	4	2,024	0	0	2	290	0	554	0	0	0	1	4	2,919
Lampung	9	55	15	0	265	0	4	8,346	0	0	2	511	142	2,602	0	0	0	0	3	11,954
Riau Islands	1	19	12	3	240	0	26	4,246	0	10	1	832	62	1,347	5	0	0	3	3	6,810
Bangka Belitung	0	25	12	0	20	0	4	2,902	0	0	4	331	0	646	0	0	0	0	3	3,947
Sumatera	79	446	166	4	1,923	0	94	74,603	5	51	134	11,164	625	22,363	47	1	0	37	55	111,797
Banten	4	39	13	15	882	0	62	13,914	0	4	17	712	136	3,574	54	0	0	1	5	19,432
DKI Jakarta	8	42	14	11	1,625	1	166	21,504	3	85	168	2,338	391	7,214	23	1	12	76	74	33,756
West Java	40	190	44	28	2,551	0	134	45,797	0	26	23	2,410	436	12,269	17	0	0	28	20	64,013
Central Java	46	212	42	19	927	0	77	26,744	0	29	6	1,733	442	8,627	11	0	0	1	4	38,920
DI Yogyakarta	0	41	15	4	312	0	25	5,501	0	24	4	448	78	1,771	0	0	0	0	3	8,226
East Java	25	148	53	38	2,293	0	70	29,288	0	62	48	2,206	548	10,603	13	1	0	10	40	45,446
Java	123	672	181	115	8,590	1	534	142,748	3	230	266	9,847	2,031	44,058	118	2	12	116	146	209,793
Bali	8	51	15	0	332	0	30	7,357	0	7	6	893	120	2,456	21	0	0	3	12	11,311
West Nusa Tenggara	4	25	9	0	70	0	16	4,622	0	6	2	1,077	10	1,600	0	0	0	0	4	7,445
East Nusa Tenggara	2	46	14	0	31	0	6	2,317	0	3	2	1,114	0	713	0	0	0	9	6	4,263
Bali-Nusa Tenggara	14	122	38	0	433	0	52	14,296	0	16	10	3,084	130	4,769	21	0	0	12	22	23,019
South Kalimantan	4	45	28	0	171	0	11	5,347	0	6	5	1,922	40	1,320	1	0	0	0	4	8,904
West Kalimantan	13	37	31	0	148	0	10	6,411	1	0	2	863	0	1,616	0	0	0	1	31	9,164
East Kalimantan	2	61	33	0	282	0	70	8,203	0	18	41	4,207	0	2,197	52	0	0	2	24	15,192
Central Kalimantan	9	26	23	0	79	0	6	3,492	0	0	2	1,091	4	1,121	1	0	0	1	5	5,860
Kalimantan	28	169	115	0	680	0	97	23,453	1	24	50	8,083	44	6,254	54	0	0	4	64	39,120
South Sulawesi	15	31	29	0	386	0	22	9,251	0	29	5	978	81	2,304	0	0	0	3	5	13,139
Southeast Sulawesi	0	19	17	0	32	0	0	1,949	0	2	2	389	0	560	0	0	0	1	5	2,976
Central Sulawesi	6	18	36	0	27	0	4	2,483	0	2	3	522	0	633	2	0	0	3	4	3,743
West Sulawesi	1	1	5	0	0	0	0	331	0	0	0	31	0	108	0	0	0	1	1	479
North Sulawesi	1	37	27	0	145	0	10	3,282	0	10	4	449	24	937	0	0	0	2	19	4,947
Gorontalo	0	8	4	0	12	0	4	946	0	0	2	104	0	145	0	0	0	0	1	1,226
Sulawesi	23	114	118	0	602	0	40	18,242	0	43	16	2,473	105	4,687	2	0	0	10	35	26,510
Maluku	1	12	11	0	25	0	6	717	0	0	4	748	0	250	0	0	0	11	22	1,807
North Maluku	0	6	3	0	4	0	0	319	0	0	0	293	0	82	0	0	0	0	3	710
West Papua	0	14	6	0	1	0	2	371	1	0	12	625	1	138	3	0	0	5	10	1,189
Papua	3	27	26	0	20	0	2	694	0	0	14	1,541	4	476	21	0	0	20	18	2,866
Maluku+Papua	4	59	46	0	50	0	10	2,101	1	0	30	3,207	5	946	24	0	0	36	53	6,572
Subtotal	**271**	**1,582**	**664**	**119**	**12,278**	**1**	**827**	**275,443**	**10**	**364**	**506**	**37,858**	**2,940**	**83,077**	**266**	**3**	**12**	**215**	**375**	**416,811**
Total				**2,636**				**288,549**				**38,738**			**86,283**				**605**	**416,811**

Unlike the pattern of frequency subservice usage in most of other regions, the usage of Standard subservice in eastern part of Indonesia, particularly Papua, is in fact the most prominent. This is allegedly related with the usage of special needs in that region.

6.3.4. Pattern of Usage According to Island Regions

The pattern of frequency service usage in each island territory shows a quite clear difference in the intensity of frequency service usage, particularly among Java, Sumatra and other island territories. The intensity of frequency service usage in Sumatra region is quite high although it is still lower than the intensity in Java. Similar to the previous year, the highest usage of frequency service occurs in North Sumatra and Riau which have the characteristics of many economic (business) activities and many urban areas in those regions. The usage which is quite high also occurs in regions which are characterized by quite high intensity of business activities, namely South Sumatra and Lampung.

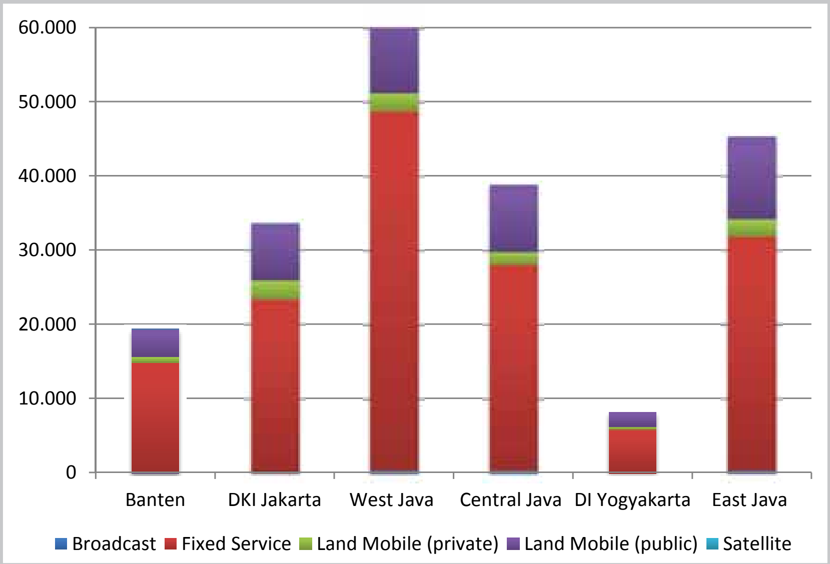
Figure 6.7.
Use of Frequency according to Service in Sumatra Regions



The pattern of frequency service usage in Sumatra region tends to be similar with that occurs nationally where the biggest usage in all provinces is for the type of Fixed Service, followed by the type of Land Mobile (public). Nevertheless, the phenomenon on the usage of frequency service in Sumatra regions is a rather high usage of the type of Land Mobile (private) service especially in North Sumatra, Riau and Lampung. The usage of this service type in North Sumatra and Riau is even close to the usage in the provinces in Java which use a big total frequency service.

The use of frequency service in Java Island shows an enormous amount and far much higher compared to other regions. This high usage occurs in all provinces except in DI Yogyakarta and Banten. This is because of the extent of urban areas in DI Yogyakarta and Banten which are relatively smaller despite having larger total area than DKI Jakarta, while their rural areas have socio-economic/business dynamism which is not too high. From the side of administrative area, in DI Yogyakarta province there is only one town with four districts, while Banten has 8 districts/municipals. The biggest usage in this region of Java is also for the service type of Fixed Service and Land Mobile (public) with the usage of both types of service which is much higher than in provinces outside Java.

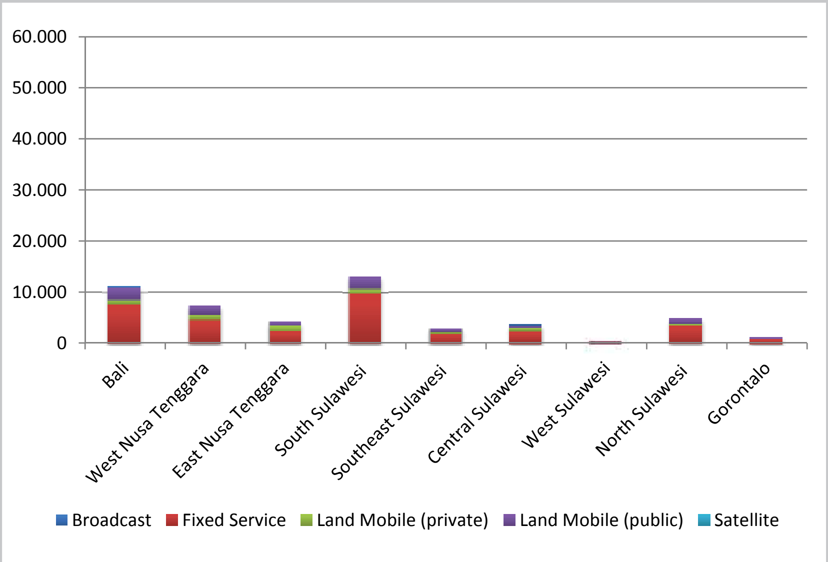
Figure 6.8.
Frequency Usage according to Service in Java region



The biggest usage of frequency service in Java is particularly found in the provinces with many urban areas (marked by many administrative areas, especially which have the status of town) such as in West Java, Central Java and East Java, while for DKI Jakarta, although its area is not too wide, but it has five municipalities with very high socio-economic dynamism so that it has intensity of frequency usage which is high as well. However, the usage of the frequency type of Land Mobile (private) in Java Island is relatively small, almost the same as in some provinces in Sumatra. Even for the use of Satellite service type, its usage is very small and only sufficiently seen in West Java and East Java.

Frequency usage in the regions of Bali, Nusa Tenggara and Sulawesi shows low intensity of frequency service usage. A slightly higher usage of frequency service only occurs in Bali and South Sulawesi for service usage of Fixed Service and Land Mobile (public). The adequate usage of this frequency service is also seen occurring in regions which relatively have higher level of development progress and socio-economic dynamism.

Figure 6.9.
Frequency Usage according to Service in Regions of Bali, Nusa Tenggara and Sulawesi



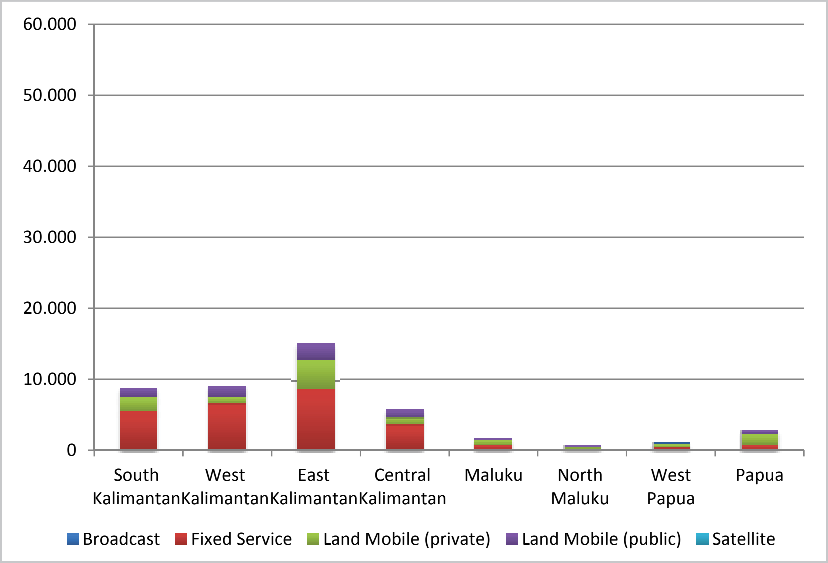
Despite being located in Sulawesi region, the intensity of ISR issuance in West Sulawesi is the lowest in Indonesia compared to other province. This is related to the position of West Sulawesi as new province as the result of provincial breaking up and the newly established UPT Frequency monitoring in that province.

Frequency service usage in other provinces in this region is relatively low. Even the very low intensity of frequency service usage is seen in West Sulawesi and Gorontalo. West Sulawesi as the new province and the newly established UPT in that region shows the lowest intensity of usage. Intensity of frequency usage in this province also becomes the lowest in Indonesia compared to other provinces and only stands out for frequency usage. The pattern of service usage which is quite different in this region is that the usage of Land Mobile (private) service type which is bigger than Land Mobile (public) type in East Nusa Tenggara Province. In Central Sulawesi, the difference of the number of usage of both types of services is not too big even though it is still bigger for the type of Land Mobile (public) service. There is no special explanation on the occurrence of the pattern of frequency usage which is slightly different in Bali-Nusa Tenggara and Sulawesi.

Usage of frequency service in Kalimantan and Maluku-Papua regions shows a very different condition. Usage of frequency service in Kalimantan region is quite high, even higher than that in Sulawesi region, especially frequency service usage in East Kalimantan. However, the usage of frequency service in Maluku and Papua is actually very low, in line with the level of progress and socio-economic dynamism which are relatively left behind in those regions. Usage of frequency service in North Maluku and West Papua as new provinces as the result of the provincial breaking up shows the lowest intensity of usage after West Sulawesi.

Pattern of frequency usage in Kalimantan and Maluku-Papua also shows a difference from the pattern occurring in most of other regions. The slightly different pattern is the usage of Land Mobile (private) frequency service which is bigger than the usage of Land Mobile (public) frequency service in East Kalimantan, Maluku, North Maluku and Papua, and the usage of both types of services whose amount is almost equal in South Kalimantan. This is allegedly related to the number of mineral and coal mining activities in Kalimantan and Papua which may possibly need more Land Mobile (private) type of service especially for standard subservice.

Figure 6.10.
Frequency Usage according to Service in Kalimantan, Maluku, and Papua regions



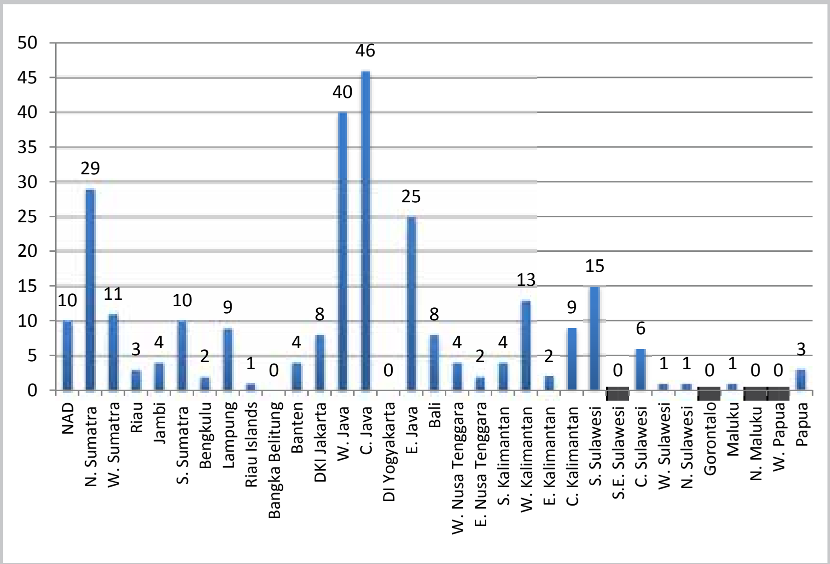
6.4. Comparison of Radio Frequency Spectrum Usage with the Number of Population and the Vastness of Area.

Comparison of the use of radio frequency spectrum between provinces vis-à vis the number of population and total area is done in order to know the deployment of the use and allocation of frequencies in an area appropriately. The usage of several types of frequency spectrums may be influenced by population density in the region. This means that for areas with high population density, the use of frequency spectrum will be even greater to serve the population, even though the territory is not widespread. As for other types of frequency spectrum, their use may possibly depend on the extent of territory. This means that for large areas, the use of the frequency service spectrum will increasingly be greater. Based on this information it is expected that in the future a policy for the allocation and usage of certain frequency can be prepared. In this section, comparison of the measurement of frequency usage is performed on some of the main subservices, i.e. frequencies of AM Radio, FM Radio, TV and GSM / DCS.

6.4.1 AM Radio Frequency

Based on the data received in the form of data of new usage of frequency usage according to subservice, it indicates that the intensity of AM frequency usage up to June 2013 is still low although it is still higher than that in semester 1 of 2012. Up to semester 1 of 2013, only six regions which do not use AM frequency, namely Bangka-Belitung, D.I. Yogyakarta, South East Sulawesi, Gorontalo, North Maluku and West Papua. Meanwhile some regions outside Java show relatively quite high AM frequency usage such as North Sumatra, South Sulawesi and West Kalimantan, whereas some regions especially in Java Island, have intensity of AM frequency usage which is quite high, such as Central Java, West Java, and East Java. But, D.I.Yogyakarta does not show the presence of AM subservice usage in this semester 1 of 2013.

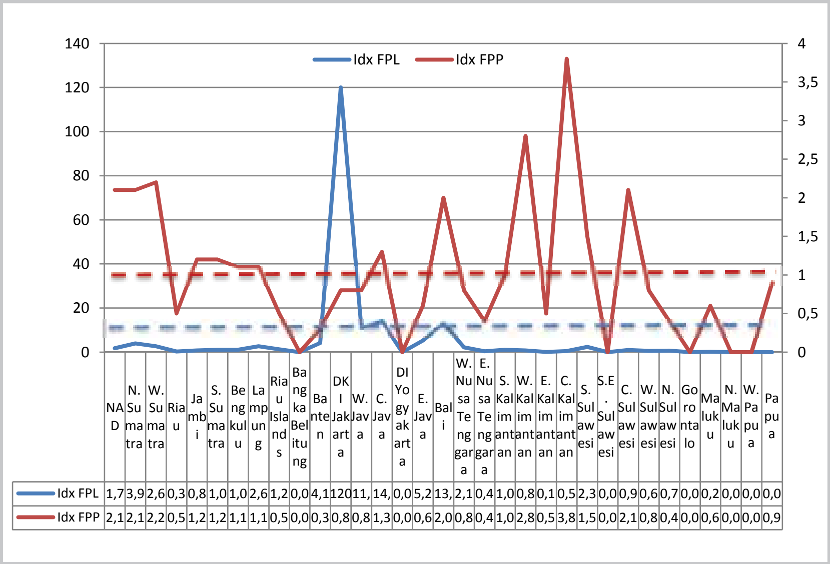
Figure 6.11A.
Number of AM Frequency Usage in each Province.



Level of usage in each province can be measured by the index of Usage per Vastness of Area (FPL) and index of Usage per Number of Population (FPP). FPL is defined as the number of frequency usages for every 10,000 km2 of area of the province, while FPP is defined as the number of frequency usages for every 1,000,000 population of the province. The average value of FPL index for AM Frequency usage is 5.89 which means that there are 5.89 users for every 10,000 km2 of the vastness of the area of the province. This average FPL index is much higher than FPL index of AM frequency in semester 1 of 2012 which was only 1.69. This sufficiently high average of FPL index is due to the increase in the usage of AM subservice in semester 1 of 2013 and the usage that is spread across almost all regions with various intensity of usage and even sufficiently high in some regions. With this reference, provinces that have index above the average are almost all provinces in Java, except DI Yogyakarta. Other provinces outside Java which still use AM subservice in semester 1 of 2013 still have index below the average.

In the meantime, the average value of FPP index for AM Frequency usage in five provinces in Indonesia which use AM frequency is 1.05, meaning there are 1.05 users for every 1,000,000 population of the province. This figure is slightly lower than FPP index in semester 1 of 2012 which achieved 1.3. With this reference, there are some regions which have FPP index above the average, i.e. Aceh (NAD), North Sumatra, West Sumatra, Bali, West Kalimantan, Central Kalimantan and Central Sulawesi. Meanwhile, regions in Java in fact have FPP index which is below the average, because despite AM subservice usage which is quite high in those regions, the number of population is very large.

Figure 6.11B.
Index of Usage Per Vastness of Area (FPL) and Index of Usage per Number of Population (FPP) for AM Frequency per Province



	NAD	N. Sumatra	W. Sumatra	Riau	Jambi	S. Sumatra	Bengkulu	Lampung	Riau Islands	Bangka Belitung	Banten	DKI Jakarta	W. Java	C. Java	DI Yogyakarta	E. Java	Bali	W. Nusa Tenggara	E. Nusa Tenggara	S. Kalimantan	W. Kalimantan	E. Kalimantan	C. Kalimantan	S. Sulawesi	S.E. Sulawesi	C. Sulawesi	W. Sulawesi	N. Sulawesi	Gorontalo	Maluku	N. Maluku	W. Papua	Papua
Idx FPL	1,7	3,9	2,6	0,3	0,8	1,0	1,0	2,6	1,2	0,0	4,1	120	11,	14,	0,0	5,2	13,	2,1	0,4	1,0	0,8	0,1	0,5	2,3	0,0	0,9	0,6	0,7	0,0	0,2	0,0	0,0	0,0
Idx FPP	2,1	2,1	2,2	0,5	1,2	1,2	1,1	1,1	0,5	0,0	0,3	0,8	0,8	1,3	0,0	0,6	2,0	0,8	0,4	1,0	2,8	0,5	3,8	1,5	0,0	2,1	0,8	0,4	0,0	0,6	0,0	0,0	0,9

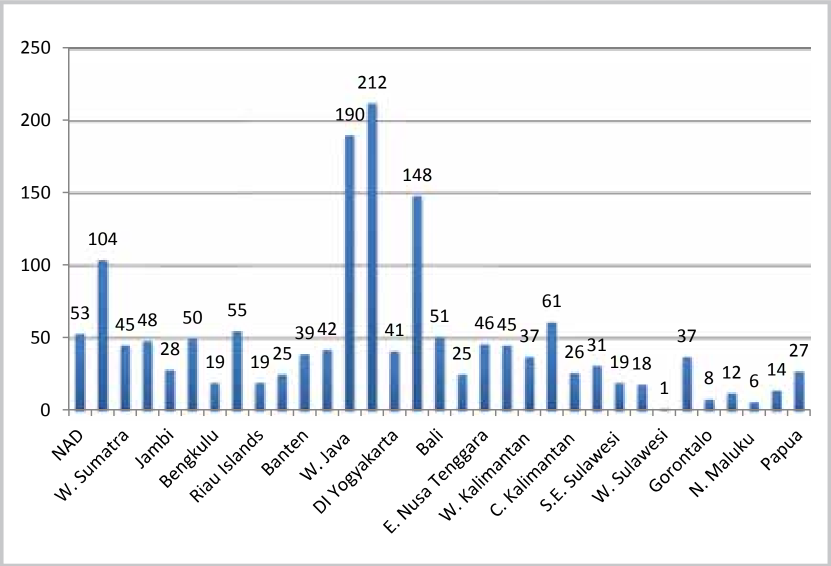
*) For DKI Jakarta, FPL Index in the above chart is multiplied by 10, to clarify the scale for other provinces

6.4.2 FM Radio Frequency

The distribution pattern of FM frequency usage shows the same pattern of distribution with AM frequency usage. Regions with high intensity of FM frequency usage are those with quite large areas and have many administrative areas (district/municipality) which become the typical population separation administratively. Those regions with high intensity of FM frequency usage are West Java, Central Java, East Java and North Sumatra. In fact, for regions in Java which have many administrative areas, the use of FM frequency achieves more than 150. But, for East Java which has quite many big cities and administrative areas, the intensity of FM frequency usage is still less than 150.

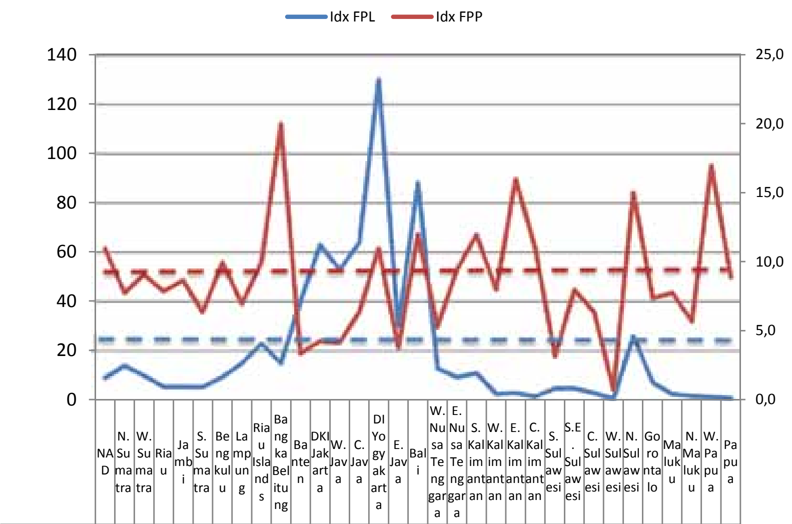
The distribution of Intensity of FM frequency usage also shows that the intensity of FM frequency usage is higher in Sumatra than in Kalimantan and Sulawesi regions. Such pattern also indicates that, after Sumatra and Java, the more to the eastern part the lower the intensity of FM frequency usage. This pattern shows that the higher the level of progress of development and socio-economic dynamism of a region, the higher the intensity of FM frequency usage. Only East Kalimantan which has quite high intensity of FM frequency usage and it is higher than all regions except West Java, Central Java, East Java and North Sumatra.

Figure 6.12A.
Number of FM Frequency Usage in each Province



average are NAD, West Sumatra, Bengkulu, Bangka Belitung and Lampung. However, in Java Island, only DI Yogyakarta which is above the average of index. As for Kalimantan, there are also quite many provinces which are above the average of FPP index, while in Sulawesi and the Eastern Part, only several provinces whih are above the average, namely North Sulawesi, Papua and West Papua. Based on this FPP index value, it can be seen that there is still potential for the usage of FM radio frequency in provinces with quite large number of population in Java Island. This opportunity is mainly found in regions with population which is not too dense and intensity of FM frequency usage which is not too high.

Figure 6.12B.
Index of Usage per vastness of Area (FPL) and Index of Usage per Number of Population (FPP) for FM Frequency per Province



	NAD	N. Sumatra	W. Sumatra	Riau	Jambi	S. Sumatra	Bengkulu	Lampung	Riau Islands	Bangka Belitung	Banten	DKI Jakarta	W. Java	C. Java	DI Yogyakarta	E. Java	Bali
Idx FPL	9,1	14,	10,	5,5	5,5	5,4	9,5	15,	23,	15,	40,	63,	53,	64,	130	30,	88,
Idx FPP	11,	7,8	9,1	7,9	8,7	6,4	10,	7,0	10,	20,	3,4	4,3	4,2	6,4	11,	3,8	12,

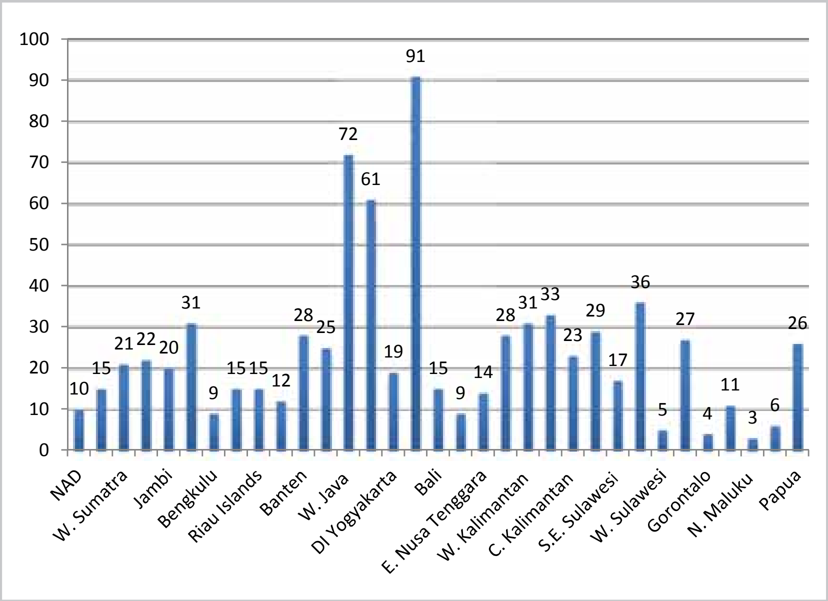
	W. Nusa Tenggara	E. Nusa Tenggara	S. Kalimantan	W. Kalimantan	E. Kalimantan	C. Kalimantan	S. Sulawesi	S.E. Sulawesi	C. Sulawesi	W. Sulawesi	N. Sulawesi	Gorontalo	Maluku	N. Maluku	W. Papua	Papua
Idx FPL	13,	9,4	11,	2,5	2,9	1,6	4,8	4,9	2,9	0,6	26,	7,1	2,5	1,8	1,4	0,8
Idx FPP	5,3	9,5	12,	8,0	16,	11,	3,2	8,0	6,4	0,8	15,	7,4	7,8	5,7	17,	8,9

*) For DKI Jakarta, FPL Index in the above chart is multiplied by 10, to clarify the scale for other provinces

6.4.3 TV Frequency

The usage of TV frequency spectrum has been very rapidly grown in each province. Almost all provinces have at least 10 users of TV frequency spectrum. Only a few provinces which have less than 10 users spread out in Sumatra, Nusa Tenggara, Sulawesi and eastern region of Indonesia. Provinces with the usage of TV frequency which is less than 10 are Bengkulu, East Nusa Tenggara, West Sulawesi, Gorontalo, North Maluku and West Papua. The interesting thing is that none of the provinces in Kalimantan which has intensity of TV frequency usage less than 10. The lowest TV frequency usage is 23 in Central Kalimantan.

Figure 6.13A
Number of TV Frequency in each Region

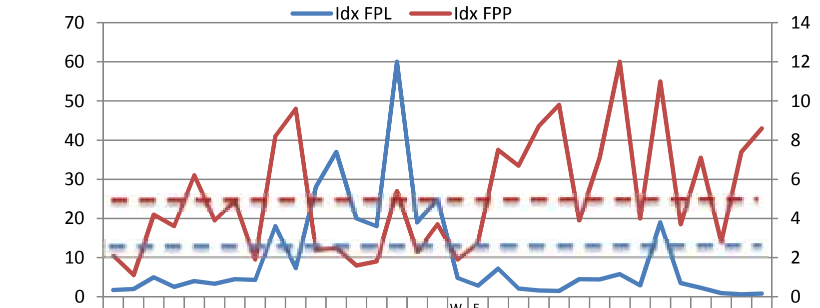


The average value of FPL index for TV Frequency usage in all provinces in Indonesia is 10.0, which means that there are 10 users for every 10,000 km2 of the vastness of area of the province. With this reference, provinces having index above the average are Provinces in Java and Bali, Riau Islands, and North Sulawesi. There seems to be correlation between this FPL index with tourism potential of the concerned provinces or the density of socio-economic activities in that region. This makes sense, because TV is an effective audio-visual media to communicate visual beauty which cannot be found in radio and becomes the source of information and entertainment which is much favored by the society.

Meanwhile, the average value of FPP index for TV Frequency usage in all provinces in Indonesia is 5.23, which means that there are 5.2 users for every 1,000,000 population of the province. With this reference, all provinces in Kalimantan have already had FPP index above the average. This may possibly be due to the emerging of many local TV in the expanded regions which are rich with mineral/plantation products. The same condition occurs in the provinces of Sulawesi (South-east, Central and North Sulawesi). In the eastern region of Indonesia, Maluku and Papua also have index above the average, whereas in Sumatra Island, Jambi, Riau Islands and Bangka-Belitung provinces have index above the average. This also shows that the intensity of TV frequency usage is getting higher compared to the number of population.

On the other hand, all provinces in Java and Bali still have FPP index below the average. Although East Java and West Java are two provinces with the highest number of users, yet if compared with the number of their population, the FPP index of these two provinces is still below the average, namely 2.39 for East Java and 1.61 for West Java. This means that in East Java, there are only 2.4 users of TV frequency for every 1,000,000 population, while in West Java there is only 1.6 users of TV frequency for every 1,000,000 population. This reflects the potential of TV broadcast customers which is still very big in both regions.

Figure 6.13B.
Index of Usage Per Vastness of Area (FPL) and Index of Usage per Number of Population (FPP) for TV Frequency per Province



	NAD	N. Sumatra	W. Sumatra	Riau	Jambi	S. Sumatra	Bengkulu	Lampung	Riau Islands	Bangka Belitung	Banten	DKI Jakarta	W. Java	C. Java	DI Yogyakarta	E. Java	Bali	W. Nusa Tenggara	E. Nusa Tenggara	S. Kalimantan	W. Kalimantan	E. Kalimantan	C. Kalimantan	S. Sulawesi	S.E. Sulawesi	C. Sulawesi	W. Sulawesi	N. Sulawesi	Gorontalo	Maluku	N. Maluku	W. Papua	Papua
Idx FPL	1,7	2,0	5,0	2,5	4,0	3,3	4,5	4,3	18,	7,3	28,	37,	20,	18,	60,	19,	25,	4,8	2,8	7,2	2,1	1,6	1,5	4,5	4,4	5,8	2,9	19,	3,5	2,3	0,9	0,6	0,8
Idx FPP	2,1	1,1	4,2	3,6	6,2	3,9	4,9	1,9	8,2	9,6	2,4	2,5	1,6	1,8	5,4	2,3	3,7	1,9	2,8	7,5	6,7	8,7	9,8	3,9	7,1	12,	4,0	11,	3,7	7,1	2,8	7,4	8,6

*) For DKI Jakarta, FPL Index in the above chart is multiplied by 10, to clarify the scale for other provinces

Intensity of TV broadcast frequency usage in Java Island is only 2.72 or still below the average FPP index of 5.23 frequency users for every 1,000,000 population.

6.4.4. Distribution of the Use of ISR of TV and FM Canal for the Purpose of Broadcasting

Data presentation of distribution of ISR usage of TV and FM canal is intended to measure the level of utilization of the available frequency canal for each type of ISR canal in each region. Based on those data it will be known on which region the utilization of particular TV ISR canal still has the opportunity to be optimized. From the level of utilization of TV canal until semester 1 of 2013 as seen in Table 6.6, it still shows the low utilization in nearly most of provinces. High level of utilization only occurs in DKI Jakarta and DI Yogyakarta that reaches 100% and 107% respectively. This level of utilization is almost the same as the situation in semester 1 of 2012 where in these two provinces the frequency canal has been fully utilized. Regions which have quite high level of utilization (above 60%) are only Riau Islands which achieves 75%, Banten 64.7%, West Java 63.8%, Central Java 76.4%, East Java 63.1%, Bali 71.4% and North Sulawesi 64.3%.

DKI Jakarta is the center of government administration and business, while Yogyakarta is region with provincial area which is not too broad but becomes tourism area and center of creative industry. Riau Islands and Bali are the regions which experience rapid growth in the past few years where both also reasonably rely on tourism activities and start to develop Local TV.

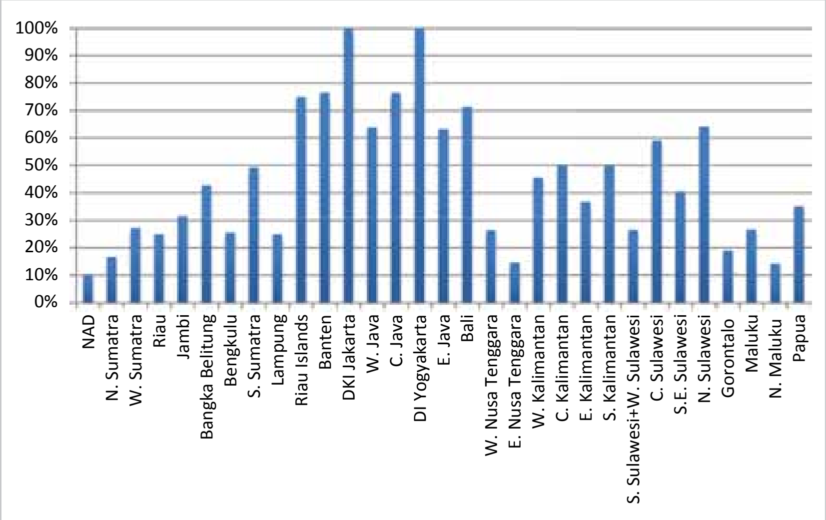
Table 6.6.
Utilization of TV Canals According to Provinces.

No	Province	Available Amount	Used Amount	Utiliza-tion	No	Province	Available Amount	Used Amount	Utiliza-tion
1	NAD	97	10	10.3%	17	Bali	21	15	71.4%
2	North Sumatra	90	15	16.7%	18	West Nusa Tenggara	34	9	26.5%
3	West Sumatra	77	21	27.3%	19	East Nusa Tenggara	96	14	14.6%
4	Riau	84	21	25.0%	20	West Kalimantan	68	31	45.6%
5	Jambi	63	20	31.7%	21	Central Kalimantan	46	23	50.0%
6	Bangka-Belitung	28	12	42.9%	22	East Kalimantan	90	33	36.7%
7	Bengkulu	35	9	25.7%	23	South Kalimantan	56	28	50.0%
8	South Sumatra	63	31	49.2%	24	South Sulawesi+ West Sulawesi	128	34	26.6%
9	Lampung	60	15	25.0%	25	Central Sulawesi	61	36	59.0%
10	Riau Islands	16	12	75.0%	26	South East Sulawesi	42	17	40.5%
11	Banten	17	13	76.5%	27	North Sulawesi	42	27	64.3%
12	DKI Jakarta	14	14	100.0%	28	Gorontalo	21	4	19.0%
13	West Java	69	44	63.8%	29	Maluku	41	11	26.8%
14	Central Java	55	42	76.4%	30	North Maluku	21	3	14.3%
15	DI Yogyakarta	14	14	100.0%	31	Papua	91	32	35.2%
16	East Java	84	53	63.1%					

From figure 6.13 it is also seen that low utilization of TV frequency canal is found in NAD, Gorontalo, East Nusa Tenggara and North Maluku. The level of utilization of TV frequency canal in NAD, East Nusa Tenggara and Maluku is still less than 15% of the allocation, while in Gorontalo and North Sumatra is still less than 20%. Level of utilization in some regions is also around 20%, such as in Bengkulu, West Nusa Tenggara, Maluku, Lampung, Riau, South Sulawesi (plus West Sulawesi), West Sumatra and Jambi. Those regions are characterized by the level of development progress which is relatively left behind, or large areas, slow economic development or are expanded regions so that investment in TV frequency utilization is still insufficient. This is allegedly also related to market potential of television broadcasting industry in those regions (not tourist or industry areas), so that they are less attractive for players of national as well as local TV broadcasting industry to invest for developing activities of TV broadcasting in those regions.

Level of utilization of frequency TV which is still not high is also seen in provinces with large areas. In those regions, especially outside Java, with relatively big or small allocation of TV frequency canal the utilization is not high enough. In some regions in Sumatra which have quite big canal allocation such as in North Sumatra and Bengkulu, the level of utilization is still low, below 20%, while in Sulawesi, phenomenon of regions with large frequency allocation yet low level of utilization is seen in South Sulawesi.

Figure 6.14.
Level of utilization of TV frequency canal according to provinces



For the use of FM radio frequency canals, Table 6.7. shows the comparison between the available amount/allocation determined in the Decree of Minister of Communication and Information Technology No. 13/PER/M. KOMINFO/2010 (Permen 13/2010), the allocation determined in the Decision of Minister of Communication and Information Technology No. 238/KEP/M.KOMINFO/04/2012 (Kepmen 238/2012) and the usage of FM frequency canal until semester 1 of 2013. It is seen that in 2013, the opportunity to provide broadcasting of Private Broadcasting Agency for FM radio in several provinces has been very little or even exhausted, like in DKI Jakarta. This condition occurs because the level of utilization in the previous period has been very high, approaching 100%.

Some regions which leave behind a few allocations are regions in Java, such as West Java, Central Java, East Java, Bali. This is also what causes if the opportunity to provide broadcasting of Private Broadcasting Institution determined by Ministerial Decision 238/2012 is compared with FM radio frequency usage currently in those regions, it has been exceeding 100%, or the usage is more than the allocation provided.

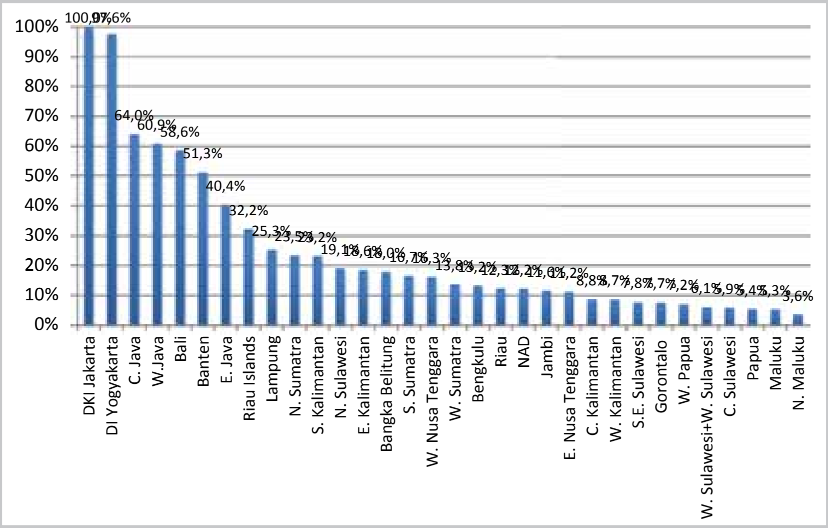
Table 6.7.
Utilization of FM Radio Canal According to Provinces

No	Province	Allocation Ministerial Decree 13/2010	Business Opportunity Ministerial Decree 238/2012	Amount Used	No	Province	Allocation Ministerial Decree 13/2010	Business Opportunity Ministerial Decree 238/2012	Amount Used
1	NAD	434	218	53	18	West Nusa Tenggara	153	64	51
2	North Sumatra	443	209	104	19	East Nusa Tenggara	410	219	25
3	West Sumatra	325	161	45	20	West Kalimantan	427	237	46
4	Riau	391	226	48	21	Central Kalimantan	295	156	37
5	Riau Islands	59	29	19	22	East Kalimantan	328	168	26
6	Jambi	242	136	28	23	South Kalimantan	194	89	61
7	Bangka Belitung	139	78	25	24	South Sulawesi	406	233	45
8	Bengkulu	144	77	19	25	Central Sulawesi	305	171	32
9	South Sumatra	300	165	50	26	South East Sulawesi	243	136	18
10	Lampung	217	118	55	27	North Sulawesi	194	101	19
11	Banten	76	23	39	28	Gorontalo	104	63	37
12	DKI Jakarta	42	0	42	29	West Sulawesi	116	75	8
13	West Java	312	50	190	30	Maluku	227	136	12
14	Central Java	331	81	212	31	North Maluku	168	108	6
15	DIY	42	1	41	32	West Papua	195	117	14
16	East Java	366	117	148	33	Papua	500	273	27
17	Bali	87	32	53					

If this FM radio frequency usage until semester 1 of 2013 is compared to the allocation determined in Ministerial Decree 13/2010, it is seen that level of utilization of FM frequency in DKI Jakarta and D.I. Yogyakarta has already achieved very high level of utilization. In those two provinces which have the available FM canal allocation which is not big, the utilization is high enough, achieving 100% for DKI Jakarta and 97.6% for D.I. Yogyakarta. This relatively high level of utilization for FM radio frequency canal is also found in regions in Java and Bali with level of utilization above 40%, except in East Java, although the available canal allocation in those regions is quite big. In West Java, with canal allocation of 312, its level of utilization achieves 60.9% or bigger than utilization in semester 1 of 2012 which was less than 55%. In East Java, with the biggest FM frequency allocation in Java, its level of utilization only achieves 40.4% which is also bigger than utilization in semester 1 of 2012.

The reverse condition occurs in regions outside Java-Bali where the level of utilization of FM frequency canals is still very low, both in the area with large frequency canal allocation and in the area with small number of frequency canal allocation. Level of utilization of FM frequency canal which is more than 20% only occurs in Riau Islands (32.2%), Lampung (25.3%) and South Kalimantan (23.3%), while in other regions it is less than 20%. This low level of utilization also indicates the decline compared to the condition in semester 1 of 2012 where in some provinces such as North Sumatra the level of utilization was already 25%. However, if compared to DKI Jakarta and Yogyakarta, this level of utilization in the regions which already achieved more than 20% is still far lower. The lowest level of utilization is found in North Maluku as much as 3.6% with canal allocation of 168 and in Papua as much as 5.4% with canal allocation of 500.

Figure 6.15.
Level of Utilization of FM frequency canal according to provinces (ACCORDING TO Ministerial Decree 34/2010)

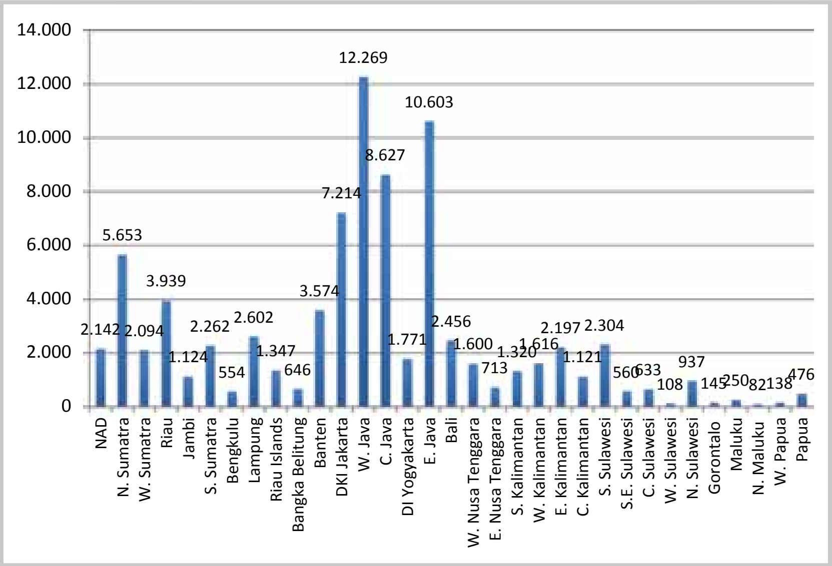


In other regions with big allocation of FM frequency canal such as NAD, East Nusa Tenggara, West Kalimantan, South Sulawesi and Papua, the level of utilization of FM frequency canal up to semester 1 of 2013 is still very low, namely between 5.4% (Papua) to 12.2% (NAD). The same thing also happens in areas with low allocation of FM frequency canals such as Riau Islands, Bengkulu, West Nusa Tenggara and Gorontalo where the level of frequency utilization is also not big. Although the allocation of FM frequency canals in those areas is small, yet the level of utilization is still low, namely below 20%, except in Riau Islands, because the usage is also low. This indicates that the area with high population density and relatively advanced also shows high level of utilization and the density of the use of FM frequency canals.

6.4.5. GSM/DCS Frequency

The pattern of distribution of GSM frequency usage shows a slightly different pattern with the distribution of broadcast frequency usage particularly FM and AM radio. High intensity of GSM frequency usage is not only found in the provinces with many administrative areas, but also strongly affected by geographical condition and the level of economic progress and also the dynamism of the society. The highest usage of GSM frequency spectrum is found in provinces in Java, namely West Java, followed by East Java and Central Java. DKI Jakarta, although the vastness of its area is relatively small and has only a few administrative areas compared to other provinces, but ranked as the fourth highest in term of the number of GSM frequency users. Regions outside Java with high intensity of frequency usage are North Sumatra and Riau. These two provinces have characteristics of relatively high level of progress compared to other regions. Meanwhile, regions in the eastern part of Indonesia except South Sulawesi have low intensity of GSM frequency usage (less than 1,000). Regions in Sumatra with the number of ISR for GSM/DCS frequency of less than 1000 are Bengkulu and Bangka Belitung.

Figure 6.16A.
Number of GSM/DCS Frequency in each Region



Some regions with areas which are not too large yet have higher level of development and high density of population such as DKI Jakarta, DI Yogyakarta and Bali, have GSM frequency usage which tend to be high despite having small areas. If GSM frequency usage in these regions is compared to the extent of the areas, it implicitly reflects the presence of

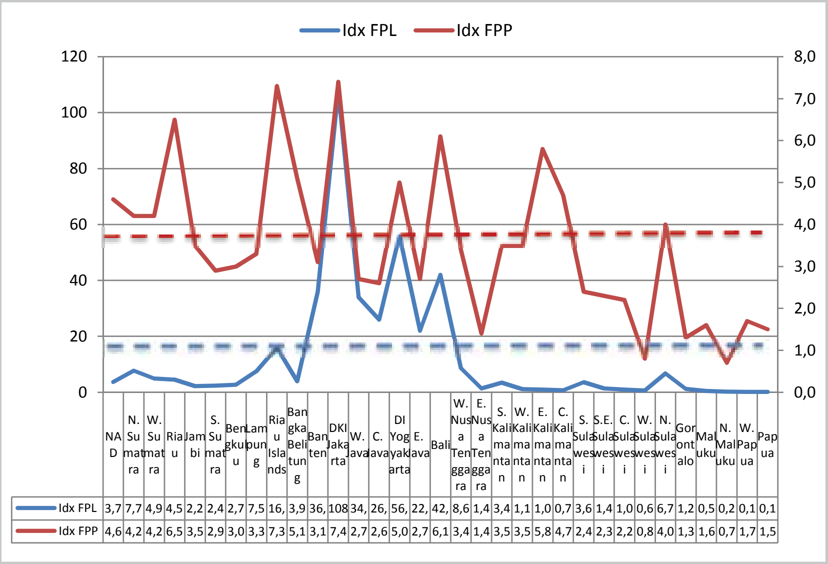
BTS for GSM which has already been in the level of very crowded situation where the usage of one GSM frequency (1 BTS tower) only covers an area which is not too vast. The usage of one GSM frequency in Yogyakarta only covers an area of 1.8 km2 and in Bali 2.4 km2. In fact, in Jakarta one GSM frequency only covers an area of less than 0.1 km2. This density is increased compared to that of the previous year showing the intensity of GSM frequency usage which is getting higher. Therefore, FPL index unit for GSM frequency usage is differentiated, i.e. the number of GSM frequency users for every 100 km2 of the vastness of the related province.

The average value of FPL index for GSM frequency usage in all provinces of Indonesia is 12.6 which means there are 12.6 users for the area of every 100 km2 of the province. This index sharply declined compared to that in semester 1 of 2012 which was still on the number 42.8. With this reference, provinces having index above the average are only those in Java-Bali Islands and Riau Islands. However, this parameter of averaging may not be proper to become the reference considering the value of FPL index of Jakarta province which is far above other provinces.

The vastness of the area does not stimulate yet the increase in GSM/DCS frequency usage so that the comparison of GSM/DCS frequency usage vis-à-vis the vastness of the area becomes lower. In some provinces with vast areas such as Papua, East Kalimantan and Central Kalimantan, the GSM frequency usage is still low, even much lower than other regions that have smaller areas. The market potential factor reflected by the number of population and income level reflected by the level of progress of the regions become the consideration of operators in using GSM frequency in a region. Operators also tend not to develop the network (BTS) in the regions with low level of density or those which are not economic zone/ high social activities.

The FPP index definition for GSM frequency usage is also differentiated as follows: the number of GSM frequency users for every 10,000 inhabitants of the concerned province. The average value of FPP index for GSM frequency usage in all provinces of Indonesia is 3.5 which means that there are 3.5 users for every 10,000 inhabitants of the province. With this reference, some provinces in Sumatra Island have already owned above average index value except Jambi, South Sumatra and Bengkulu. Meanwhile, in Java Island, due to the high number of population, only DKI Jakarta and DI Yogyakarta that have above average of FPP index. Other provinces that have above average of FPP index are Bali, East Kalimantan, Central Kalimantan, and North Sulawesi.

Figure 6.16B.
Usage Index Per Vastness of Area (FPL) and Usage Index Per Number of Population (FPP) for GSM Frequency Per Province



6.5. Issuance of Radio Amateur License (IAR) and License for Inter-Inhabitant Radio Communication (IKRAP)

One of the regulations in frequency usage by stakeholders is through the issuance of license/certificate for radio frequency usage. There are three types of licenses/certificates issued, i.e. License for Radio Amateur (IAR), License for Inter-Inhabitant Radio Communication (IKRAP), and Certificate of Qualifications for Radio Amateur (SKAR). Implicitly, the number of licenses related to this radio frequency spectrum management reflects the occurrence of frequency usage.

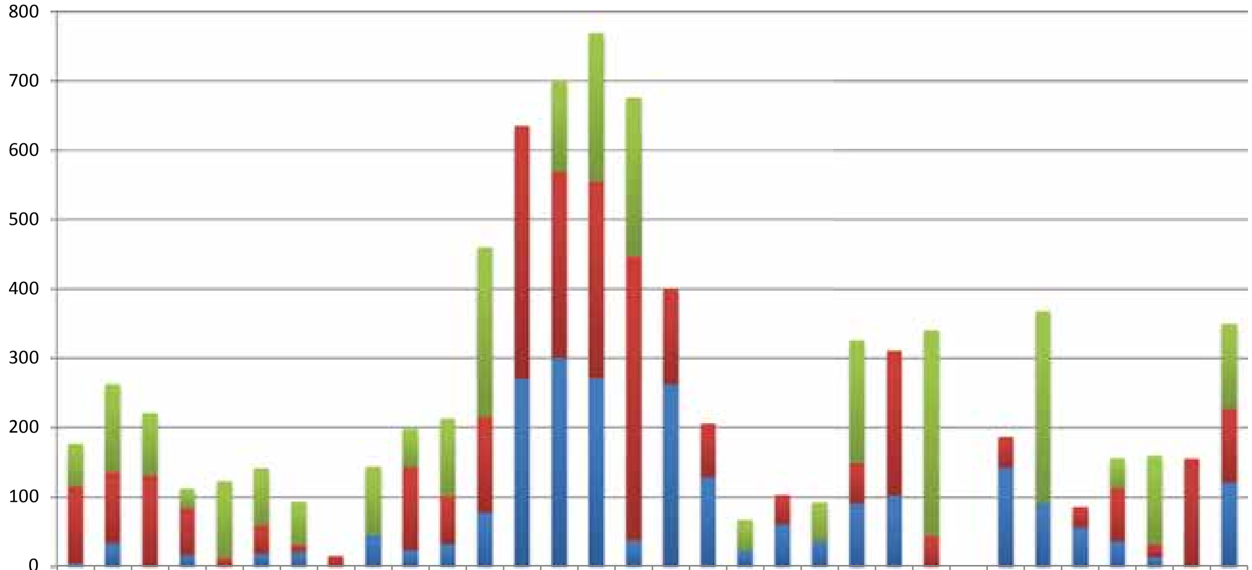
During semester 1 of 2013, 2310 licenses of Radio Amateurs (IAR) are issued throughout Indonesia. This number only achieves 27.9% of IAR issued during the year of 2012 or the proportion is declined compared to that in semester 1 of 2012. Meanwhile, for IKRAP, up to semester 1 of 2013, 3146 licenses are issued, also declined compared to that in semester 1 of 2012 which achieved 3707 licenses. This number of IKRAP issued during semester 1 of 2013 only achieves 47.2% of the number of IKRAP issued for one year in 2012. If the issuance of IKRAP in semester 2 of 2013 is also linear or proportional, it is estimated that at the end of 2013 the issuance of IKRAP licenses will be exceeding the issuance of IKRAP in 2012. Implicitly, this shows the more stable the growth of frequency usage by the society which is reflected by the relatively stable of IKRAP issuance in semester 1 of 2013 after increased quite sharply in semester 1 of 2012.

The issuance of SKAR up to semester 1 of 2013 achieves 2789 licenses or has already achieved 40.7% of total SKAR issued during one year in 2012. This number is declined from the side of absolute value and its achievement compared to that in semester 1 of 2012 which reached 2843 licenses.

The number of licenses for radio frequency usage according to provinces in this semester 1 of 2013 still occurs mostly in Java Island with the most number in D.I. Yogyakarta, followed by Central Java, East Java and West Java. This is slightly different from the distribution of radio frequency usage where East Java is the second biggest frequency user after West Java. The issuance of this radio usage licenses in DKI Jakarta becomes the fifth biggest despite having smaller area as shown in the diagram in Figure 6.16. The issuance of license related to radio operation shows a variety of patterns and differs between regions among the three types of licenses/certificates issued. Even though in most of regions in Java IKRAP becomes the most issued license, but particularly for Central Java IAR issuance is more numerous than IKRAP and more than IAR issuance in other regions. It is this large issuance of IAR in Central Java that makes the total issuance of radio proficiency license in Central Java the second biggest after D.I. Yogyakarta

In most of the regions, IKRAP also becomes the most issued license compared to other licenses. But, in some certain regions, IAR issuance is much higher than IKRAP and it becomes the most issued license in those regions. Regions where IAR issuance is much higher than IKRAP issuance are South Sumatera, West Nusa Tenggara, East Nusa Tenggara, East Kalimantan, Central Kalimantan, South East Sulawesi and North Sulawesi. Meanwhile, high issuance of SAR occurs in Riau Islands, Banten, DKI Jakarta, Central Java, D.I. Yogyakarta, East Java, East Kalimantan, South Sulawesi, North Sulawesi and North Maluku. In some of those regions SKAR becomes the most issued license compared to IAR and IKRAP.

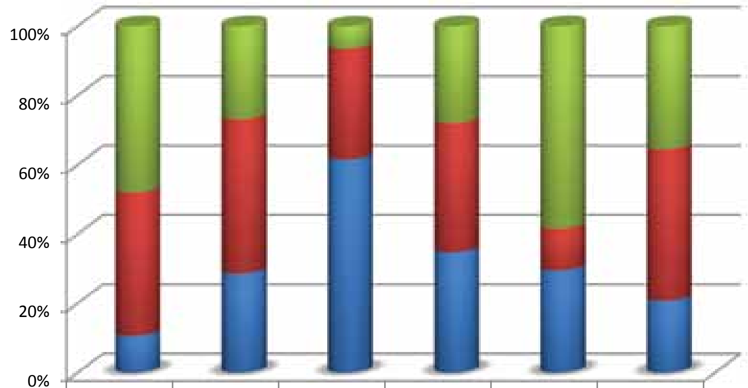
Figure 6.17.
Spread of the issuance of radio amateur license according to type of license and province



	NAD	N. Sumatra	W. Sumatra	Riau	Riau Islands	Jambi	Bangka Belitung	Bengkulu	S. Sumatra	Lampung	Banten	DKI Jakarta	W. Java	C. Java	DI Yogyakarta	E. Java	Bali	W. Nusa Tenggara	E. Nusa Tenggara	W. Kalimantan	C. Kalimantan	E. Kalimantan	S. Kalimantan	S. Sulawesi	C. Sulawesi	S.E. Sulawesi	N. Sulawesi	Gorontalo	Maluku	N. Maluku	W. Papua	Papua
SKAR	62	127	90	28	111	82	62	0	98	55	112	245	0	131	214	229	0	0	44	0	56	177	0	297	0	0	277	0	43	127	0	122
IKRAP	111	103	131	68	12	41	11	15	0	120	69	137	365	269	283	410	137	78	0	43	0	58	209	43	0	45	0	30	77	19	155	107
IAR	4	33	0	16	0	18	20	0	45	23	32	78	270	300	272	37	263	128	23	60	36	91	102	0	0	142	91	56	36	13	0	121

If seen from its composition according to big islands, there are varied patterns in the proportion of issuance among IAR, IKRAP and SKAR. Java and Maluku-Papua have almost similar distribution pattern where the issuance IKRAP is higher than IAR and SKAR, while Sumatra, Bali-Nusa Tenggara and Sulawesi are more dominated by IAR, and in Kalimantan region the proportion of those three licenses is almost equal.

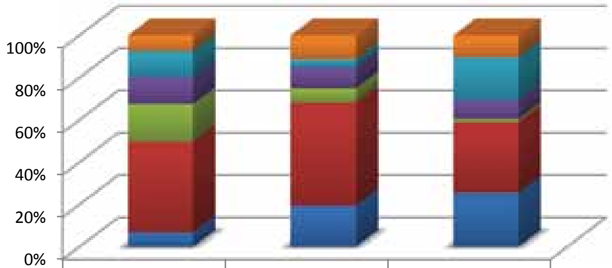
Figure 6.18.
Proportion of Certificates Issued based on their Types according to Big Islands



	Sumatra	Java	Bali+Nusa Tenggara	Kalimantan	Sulawesi	Maluku+ Papua
SKAR	48,1%	27,0%	6,5%	28,0%	58,5%	35,6%
IKRAP	41,2%	44,4%	31,9%	37,3%	12,0%	43,7%
IAR	10,7%	28,6%	61,5%	34,7%	29,5%	20,7%

From the side of license distribution among big islands according to the types of licenses, the biggest proportion is, in general, still in Java Island since Java still becomes the centre of activities in various fields in Indonesia, including broadcasting. For IAR and IKRAP, their issuance tends to be high in Java Island with the proportion achieving 42.8% and 48.7% respectively, while in Maluku-Papua only 7.4% for IAR and 11.4% for IKRAP. This proportion of IKRAP for Java declined compared to that in semester 1 of 2012, while for Maluku-Papua it has an increase. In the meantime, proportion in Sulawesi is only 3.8% for IKRAP although the proportion for SKAR achieves 20.6%. This condition is slightly different from the pattern occurs in 2012 where the proportion of IKRAP is very dominant di Java regions with the proportion of more than 55%, while the proportion of SKAR in Java is not too dominant despite still being the highest compared to that in other big islands. The second biggest proportion for IAR is found in Bali-Nusa Tenggara, followed by Kalimantan and Sulawesi, while for SKAR, the second biggest proportion is found in Sumatra, followed by Sulawesi. This shows quite high issuance of SKAR in the eastern regions of Indonesia such as in Sulawesi and Maluku-Papua.

Figure 6.19.
Distribution of radio amateur certificates in big Islands of Indonesia



	IAR	IKRAP	SKAR
Maluku+Papua	7,4%	11,4%	10,5%
Sulawesi	12,5%	3,8%	20,6%
Kalimantan	12,5%	9,9%	8,4%
Bali+Nusa Tenggara	17,9%	6,8%	1,6%
Java	42,8%	48,7%	33,4%
Sumatra	6,9%	19,5%	25,6%

6.6. Certification of Radio Operator

Besides regulation being done as regards to radio frequency usage through license mechanism for frequency users, monitoring instrument and regulation on radio frequency usage are also done through certification toward operators from the user side There are two types of instruments used namely certification of Radio Electronics and Radio Operator (REOR) and Certification of Radio Operator Proficiency (SKOR). These two instruments are performed through education and state examination carried out in order to obtain passing grade with a view to showing feasibility and legitimacy as radio operator.

6.6.1. Certification of Radio Electronics and Radio Operator (REOR)

Up to semester 1 of 2013, 18 state examinations of REOR are held which are attended by a total of 1330 participants or more numerous than in semester 1 of 2012 which were held 17 times. However, the examinations are only held in four cities, namely Jakarta, Semarang, Surabaya and Batam, and there is no REOR examination held in Batam. The number of participants of REOR examination up to semester 1 of 2013 achieves 53.9% of the total participants of examination during the year of 2012 which conducted 32 examinations. This achievement is higher than in semester 1 of 2012 which achieved 41.4% of the total REOR examination participants in 2011. From the distribution of participants according to examination sites, most of the REOR examination participants are still found in Jakarta. The proportion of examination participants in Jakarta achieves 56.9% of the total examination participants during the year of 2012. This proportion is slightly decreased compared to that in semester 1 of 2012 where around 63.5% of participants conducted REOR examinations in Jakarta. The second biggest proportion is paticipants of examination held in Semarang which achieves 25.7%. This proportion is increased compared to that in semester 1 of 2012 which only achieved 19.9%. Proportion of participants of REOR examination which are held in other two cities such as Surabaya and Batam is not too different.

Table 6.8.
Participants and Graduates of REOR in 2011 – semester 1 of 2013

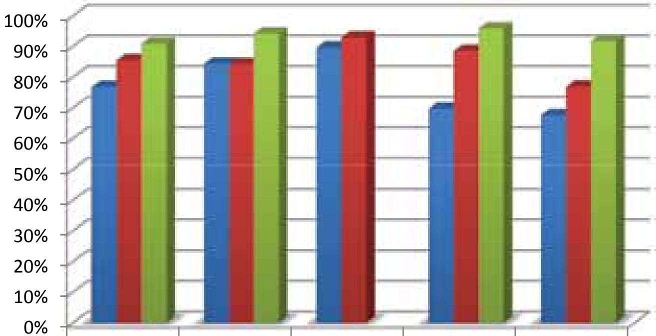
Town	2010		2011		Semester 1- 2012	
	Participant	Graduate	Participant	Graduate	Participant	Graduate
Jakarta	1954*	1500*	1420*	1214*	757	688
Semarang	358	302	434	366	342	322
Makassar	144	129	211	196	01	0
Surabaya	109	76	156	138	98	94
Batam	219	148	247	190	133	122

*) including Tangerang

The level of graduation of REOR examination participants in semester 1 of 2013 achieves 92.2%. This level of graduation of REOR examination in semester 1 of 2013 is higher than the graduation in semester 1 of

2012 which achieved 86.3%. Compared to the previous years, this level of fraduation of REOR examination shows the increase which is increasingly higher which implicitly means that the quality of participants of the examination is getting better. Figure 6.20 shows that the highest level of graduation of REOR examination is in the implementation of REOR examination in Surabaya which achieves 95.9% and increasing compared to that in 2012 which was only 88.5%. The level of graduation of REOR examination in Semarang and Batam is also pretty high, achieving 94.2% and 91.7% respectively. The level of graduation in these two places is increased most sharply than in other locations because the level of graduation in 2012 was only 84.3% and 76.9% respectively. There is no location which experiences a decrease in the level of graduation compared to that in 2012. The level of graduation of REOR examination in Jakarta whose participants are the most, achieves 90.9% which means increasing from 2012 which only achieved 85.5%.

Figure 6.20.
Comparison of the Level of REOR Graduation According to Organizing Towns in 2011 – Semester 1 of 2013



	Jakarta	Semarang	Makassar	Surabaya	Batam
2011	76,8%	84,4%	89,6%	69,7%	67,6%
2012	85,5%	84,3%	92,9%	88,5%	76,9%
Semester 1-2013	90,9%	94,2%		95,9%	91,7%

6.6.2. Certification of Radio Operator Proficiency (SKOR)

The Examination of certification of Radio Operator Proficiency (SKOR) until semester 1 of 2013 is just held eight times in five cities. This number is slightly increased than SKOR examination in semester 1 of 2012 which was only held five times in three cities. SKOR examination up to semester 1 of 2013 is only held in Samarinda (2 times), Batam (2 times), Ternate (2 times), Jakarta and Berau 1 time respectively. Examination is only held in the months of January, March, May and June. Compared to semester 1 of 2012, the increase of this examination frequency is followed by the increase in the number of participants of SKOR examination. Total participants of SKOR examination in semester 1 of 2013 has achieved 244 people. The number of participants of SKOR examination in this semester 1 of 2013 has also achieved 52.6% of the total participants of SKOR examination during a year in 2012. The rebound of this number of participants of SKOR examination signifies the rebound of interest of radio operators who will attend SKOR certification examination and in some cities the organizer can start to adjust the schedule of SKOR certification with the working hour of radio operators at their company.

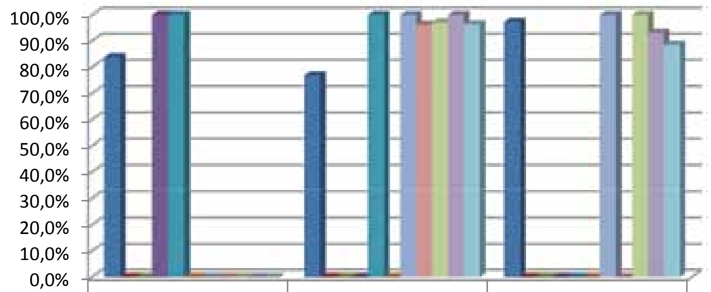
Table 6.9.
SKOR Participants and Graduates in 2011 – semester 1 0f 2013

Town	2011		2012		2013	
	Participant	Graduate	Participant	Graduate	Participant	Graduate
Batam	43	36	30	23	74	72
Pekanbaru	0	0	0	0	0	0
Denpasar	0	0	0	0	0	0
Balikpapan	53	53	0	0	0	0
Mataram	34	34	57	57	0	0
Banjarmasin	0	0	0	0	0	0
Jakarta	0	0	87	87	20	20
Palembang	0	0	79	76	0	0
Samarinda	0	0	103	100	60	60
Bontang*	0	0	52	52	29	27
Ternate	0	0	56	54	61	54
TOTAL	130	123	464	449	244	233

*) In 2013 it is conducted in Berau

From the side of the level of graduation of SKOR examination as shown in figure 6.21, a slight decrease of the level of graduation occurs in the implementation of SKOR examination in semester 1 of 2013. The level of graduation of SKOR examination in semester 1 of 2013 in total achieves 95.5% or lower than in semester 1 of 2012 which achieved 96%, and during the year of 2012 which achieved 96.8%. This decrease is mainly coming from the relatively low level of graduaton in the implementation of SKOR examination in Berau and Ternate which only reaches 93.1% and 88.5% respectively. Location of implementation of SKOR examination in Berau is the new examination location in which SKOR examination has neven been conducted.

Figure 6.21.
Comparison of SKOR Graduation Level according to organizing town in 2011 – semester 1 of 2013



	2011	2012	Semester 1-2013
Batam	83,7%	76,7%	97,3%
Pekanbaru	0,0%	0,0%	0,0%
Denpasar	0,0%	0,0%	0,0%
Balikpapan	100,0%	0,0%	0,0%
Mataram	100,0%	100,0%	0,0%
Banjarmasin	0,0%	0,0%	0,0%
Jakarta	0,0%	100,0%	100,0%
Palembang	0,0%	96,2%	0,0%
Samarinda	0,0%	97,1%	100,0%
Bontang*	0,0%	100,0%	93,1%
Ternate	0,0%	96,4%	88,5%

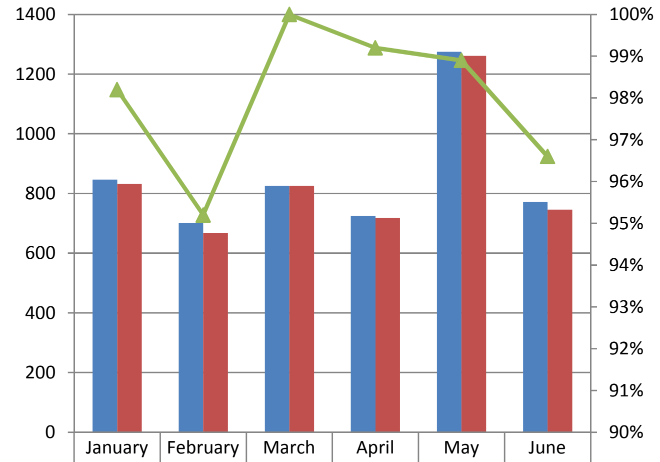
6.7. Contact Center Service

One of the services provided by Directorate General of Resources and Post and Information Technology Equipment which related to the operations of licensing service of radio frequency spectrum is Contact Center service. Contact Center Service is the service provided by Directorate General of SDPPI to the users of public services to submit question, denunciation and complaint of the problem related to public services provided by Directorate

General of SDPPI. Question or complaint is submitted through various communication channels provided by Directorate General of SDPPI.

Up to semester 1 of 2013, 5147 incoming telephone calls in the forms of question, denunciation, and complaint from various stakeholders related to the service of Directorate General of SDPPI which are conveyed via Contact Center of Directorate General of SDPPI. The number of these incoming telephone calls is increased by 61% compared to the incoming telephone calls in semester 1 of 2012 which only achieved 3196 callers. Those questions and complaints are spread along the months in semester 1 of 2013 with the largest incoming telephone calls are found in the months of January and May. In January there are 847 incoming telephone calls, while in May there are 1275 telephone calls coming via Contact Center of Directorate General of SDPPI. From the number of those incoming calls, 5052 calls are answered, so the level of answered incoming calls reaches 98.2%. The highest level of answered incoming calls is found in the month of May where from 826 calls coming to Contac Center, all are answered. Meanwhile, low level of answered incoming calls is found in the month of February where from 707 incoming calls, only 95.2% are answered.

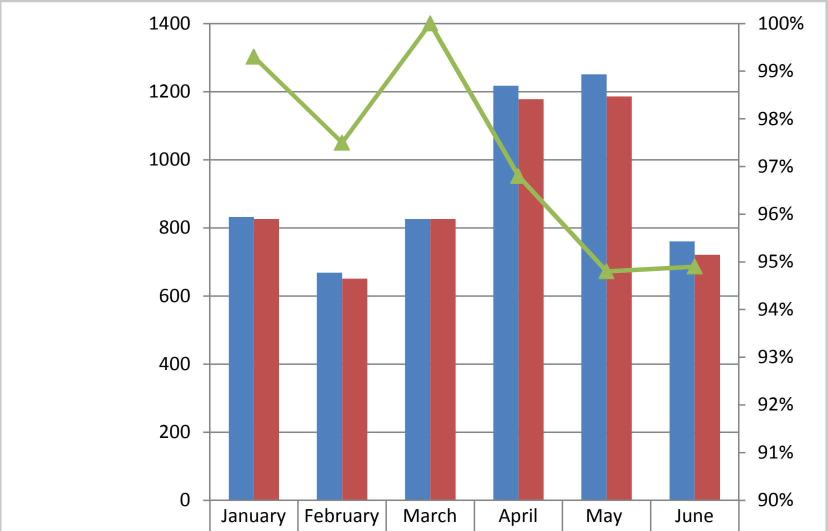
Figure 6.22.
Number of answered incoming calls at Contact Center of Directorate General of SDPPI in semester 1 of 2013



	January	February	March	April	May	June
Customer Call	847	702	826	725	1275	772
Call Answered	832	668	826	719	1261	746
Level of Answered	98,2%	95,2%	100,0%	99,2%	98,9%	96,6%

Specifically for complaints coming into Contact Center and are given tickets, up to semester 1 of 2013, 5554 complaints have been received and have been given tickets. Like the incoming calls, the largest complaints which are coming and given tickets is in the month of May as many as 1251. But, the second largest incoming complaints is in fact in the month of April, as many as 1217 tickets given. Complaints which have been given the least number of tickets are found in February, only 668 tickets. From the total of those tickets, around 97% of the complaints that have been given tickets are solved. The highest level of resolution on the complaints which are coming and given tickets is in March where from all complaints which are coming and given tickets (826), all of them can be solved. Meanwhile, the lowest level of resolution on the incoming complaints is found in May where from 1251 incoming complaints, only 94.8% that can be solved.

Figure 6.23
Number of tickets given and tickets solved at Contact Center of Directorate General of SDPPI in semester 1 of 2013.



	January	February	March	April	May	June
Total Tickets	832	668	826	1217	1251	760
Ticket Solved	826	651	826	1178	1186	721
Level of Solved	99,3%	97,5%	100,0%	96,8%	94,8%	94,9%

Chapter 7

Chapter 7

Control of Resources and Equipment

The controlling activity of resources and information technology equipment is conducted to monitor and control the use of radio frequency spectrum (frequency) by various parties, including taking action against violation of the use of frequency or tool and equipment of post and information technology. The control is made by the use of spectrum management information system equipment, radio frequency spectrum monitoring equipment. In accordance with Ministerial Regulation Number 3 Year 2011 regarding Organization Management of Technical Implementation Unit in the Field of Frequency Spectrum Monitor, the implementation of radio frequency monitoring becomes the main task of Technical Implementation Unit (UPT) which spread out over 37 locations, conducted in line with the work program of UPT, with coordination and follow up by Directorate General of Resources and Postal and Information Technology Equipment (SDPPI). The monitoring activity is done for the purpose of monitoring, planning, determining, licensing (new license, extended license and warehousing license) and orderly use of radio frequency spectrum. The said implementation of activity is as follows:

1. UPT through frequency control officer conducts observation and monitoring of band/frequency intended or in accordance with the work program of the Year 2012 by using radio frequency monitoring

facility which is available and has the functions of observation, measurement, and detection of emission.

2. From such monitoring activity, monitored frequency result isobtained, then, such monitored frequency data is identified and compared with data from Radio Station Licensing (ISR) which is located at Management Information System of SDPPI (SIMS).
3. From such identification result, the findings of frequency spectrum emission can be classified as:
   a) Frequency which has license (ISR) and in accordance with the allocation and technical characteristics of the license.
   b) Frequency which has license (ISR) but not in accordance with the allocation and technical characteristics of the license.
   c) Frequency which does not have license (ISR), or referred to as illegal frequency.
4. Result of data which has been identified will further be followed up by control stage in the field where illegal monitoring result (does not have ISR) becomes the target of operation, however, not all monitoring result would become the target of the whole operation considering the limited cost and time of the control at the work program of UPT. The remaining monitoring result with illegal status (not licensed) will be made the object of coaching simultaneously through the socialization program of radio frequency usage in the respective work territory of UPT.

Besides monitoring frequency usage, the controlling activity is also conducted by monitoring the use of equipment by various activities of utilization of postal and information technology resources. Monitoring is conducted in relation with the conformity with the regulation or the worthiness of the equipment used. Statistics in this chapter also presents the condition and performance of Technical Implementation Unit (UPT) of monitoring and frequency as the spearhead in monitoring and controlling activities of equipment and frequency usage. Monitoring on the condition and performance of this UPT is crucial to ensure that the UPT performs its task and function of monitoring the equipment and utilization of frequency properly.

7.1. Scope of Data Presentation

The scope of data presentation in the field of control of resources and equipment is divided into the activity of radio frequency control carried out by UPT in the Field of Radio Frequency Spectrum Monitoring Sector (Office/Shop/Post) and postal and information technology equipment control which will be described in this chapter. Data presentation of the Control of Resources and Equipment of Post and Information Technology is the manifestation of frequency arrangement by Directorate General of Resources and Equipment of Post and Information Technology as regulator. The arrangement and structuring of frequency are made to avoid interference either between systems or between users in a system. The arrangement and structuring of frequency are also made for the purpose of efficiency of frequency spectrum usage so that there is no waste in its usage. Data shown in the statistics of Control of Resources and Equipment of Post and Information Technology includes:

1) Monitoring of the law enforcement of radio frequency spectrum usage during semester 1 of 2013;
2) Action taken against violation of radio frequency spectrum usage during semester 1 of 2013;
3) Findings of radio frequency spectrum disturbances during semester 1 of 2013;
4) Monitoring and law enforcement against the use of equipment of Post and Information Technology in semester 1 of 2013;
5) Conditions of the respective UPT Radio Frequency Spectrum Monitoring in semester 1 of 2013.

7.2. Concept and Definition

Some concepts and definitions contained in the data presentation about the Control of Resources and Equipment of Post and Information Technology are as follows:

- Radio Frequency Spectrum is the arrangement of radio frequency bands which has frequency of less than 300 GHz as a unit of electromagnetic wave vibration that propagates and presents in the aerospace (air space and outer space);
- Equipment of post and information technology is various kinds of equipment and tools used for the activity of post, telecommunication

and information technology, which have to go through the process of standard testing to be used in the legal jurisdiction of Indonesia.

- Monitoring and control are the activities of supervising and controlling the use of frequency and equipment of post and information technology by various parties carried out through direction and arrangement to ensure the security and to avoid any disturbances in their use.
- Monitored: is radio frequency which has been successfully monitored through monitoring activities available at UPT such as routine monitoring, monitoring on demand, monitoring of special/important event, and monitoring of radio disturbances.
- Identified: is monitored frequency whose user has been successfully identified through the stages of observation, validation, measurement, detection of emission sources based on types of Service Class, Station Class and the emission used.
- Legal: is identified frequency which is known to have license in accordance with its allocation, based on the licensing document owned and SIMS database.
- Illegal: is identified frequency which is known to have no license of usage based on database verification/validation.
- Not in line (with its allocation/ISR): is frequency which is used with license but in its operation is not in line with the characteristics/parameter set in its ISR.
- Advance Monitored (still being monitored): is monitored frequency whose user has not been identified due to operational technical reason of related radio station and readiness of monitor equipment condition at the time the equipment is used.
- Expired License: is violation of the use of frequency which has license but time limit of its usage has not been extended.
- Confiscated: is the act of securing radio communication equipment which is operated without license (illegal).
- Sealed: is the act of securing illegal radio equipment by means of wrapped up and sealed on location.
- Warned: is action by giving written warning to radio frequency users who commit violation.
- Amount: is total amount of violations and actions taken from a radio frequency control operation.

UPT of Radio Frequency Spectrum Monitoring as one of working units supporting the controlling activity of resources and equipment of post and information technology has main function to conduct monitoring of frequency usage and frequency radio equipment by various parties within the framework of controlling the proper use of frequency. This function is performed by the existence of monitoring units in the regions in the form of monitoring offices, shops (*loka*) and posts of various levels. There are 37 UPT of monitoring frequency (Monfrek) spread over throughout Indonesia. Those UPT which spread over 37 locations regularly conduct the activity of monitoring and law enforcement of frequency usage and the existence of the equipment used in the utilization of radio frequency. Particularly for equipment monitoring and law enforcement activity, not all UPT perform the same type of monitoring and law enforcement activity.

7.3. Monitoring and Law Enforcement of Frequency and Telecommunication Equipment

One of the tasks and functions of working unit at the Directorate General of Resources and Equipment of Post and Information Technology (SDPPI) related to the use of frequency equipment of post and information technology by the public is conducting monitoring and law enforcement. Monitoring and law enforcement are conducted on the use of frequency resources and equipment related to legal aspects of usage, license ownership and conformance of the equipment used with the prevailing regulations. Monitoring is done through the existence of UPT Radio Frequency Spectrum Monitoring located in 37 towns throughout Indonesia. Two newly established UPT, namely UPT Mamuju and UPT Manokwari have started to submit monitoring activity conducted.

7.3.1. Frequency Usage Monitoring

From monitoring activity done during semester 1 of 2013, UPT which submits monitoring result report finds the use and or disturbance in frequency usage. Monitoring result is classified based on its status, i.e. indication of frequency usage, usage status, and follow-up of monitoring done because it has not been identified.

The result of monitoring conducted during semester 1 of 2013 is shown in UPT monitoring result recapitulation table in table 7.1. The result of monitoring in all UPT shows that there are 27129 monitored activities. This amount is higher than the frequency monitored during a year in 2012 or achieves 318% of the total findings of monitored frequency during a year in 2012. The highest monitored frequencyis found in UPT Mataram, UPT Palu and UPT Banda Aceh. In UPT Semarang, 5721 frequency monitored, in UPT Palu 3799 frequency, and in UPT Banda Aceh 3650 frequency monitored. This finding is quite different with the finding of monitored frequency during 2012 where the highest monitored frequency was found in UPT Mataram and UPT Makassar. Several other UPT with the amount of monitored frequency achieving more than 1000 are UPT Mataram, UPT Kupang and UPT Palangkaraya. In the meantime, for some big UPT such as UPT DKI Jakarta and UPT Surabaya in fact only have a few monitored usage or disturbances, i.e. only 240 frequency.Two newly established UPT, i.e. UPT Mamuju and UPT Manokwari have also the findings of 105 and 17 monitored frequency respectively. In the very end of eastern of Indonesian territory, namely UPT Merauke, there is no usage of frequency and its disturbance monitored.

Table 7.1.
Recapitulation of Monitoring Result at each UPT in semester 1 of 2013

No	AREA OF LAW ENFORCEMENT	Monitored	Identi-fied	Legal	MONITORING			
					Illegal	Expired	Not in line	Further Monitoring
1	UPT BANDA ACEH	3650	3641	2743	744	1	153	9
2	UPT MEDAN	700	700	675	16	0	9	0
3	UPT PEKANBARU	2	2	2	0	0	0	0
4	UPT BATAM	660	619	407	143	10	59	41
5	UPT JAMBI	515	511	351	89	1	70	4
6	UPT PADANG	163	163	7	0	0	156	0
7	UPT PALEMBANG	675	572	156	177	0	239	103
8	UPT BENGKULU	21	21	17	4	0	0	0
9	UPT BABEL	122	122	109	13	0	0	0
10	UPT LAMPUNG	891	816	678	83	0	55	75
11	UPT BANTEN	146	146	111	5	0	30	0
12	UPT JAKARTA	240	238	193	13	2	30	2
13	UPT BANDUNG	357	321	279	42	0	0	36
14	UPT SEMARANG	5721	5721	3820	1585	239	77	0
15	UPT YOGYAKARTA	419	392	337	48	1	6	27
16	UPT SURABAYA	267	264	62	198	0	4	3
17	UPT DENPASAR	186	186	175	11	0	0	0
18	UPT MATARAM	1233	1214	830	159	43	182	19
19	UPT KUPANG	1134	835	662	137	15	21	299
20	UPT BANJARMASIN	770	141	85	14	10	32	629
21	UPT PONTIANAK	715	715	184	315	0	216	0

No	AREA OF LAW ENFORCEMENT	Monitored	Identi-fied	Legal	MONITORING			
					Illegal	Expired	Not in line	Further Monitoring
22	UPT PALANGKARAYA	1008	1008	787	221	0	0	0
23	UPT BALIKPAPAN	365	364	210	79	3	72	1
24	UPT SAMARINDA	515	515	211	304	0	0	0
25	UPT MAKASAR	135	56	51	5	0	0	79
26	UPT KENDARI	387	385	318	67	0	0	2
27	UPT MAMUJU	105	105	102	1	0	2	0
28	UPT PALU	3799	3799	2340	1221	66	172	0
29	UPT MANADO	577	241	206	35	0	0	336
30	UPT GORONTALO	955	821	322	338	0	161	134
31	UPT TERNATE	199	139	110	29	0	0	60
32	UPT AMBON	78	71	58	11	0	2	7
33	UPT JAYAPURA	240	237	173	62	1	1	3
34	UPT MERAUKE	0	0	0	0	0	0	0
35	UPT MANOKWARI	17	15	15	0	0	0	2
36	UPT SORONG	69	69	61	5	0	3	0
37	UPT TAHUNA	93	93	40	53	0	0	0
	TOTAL	27129	25258	16887	6227	392	1752	1871

From the frequency monitored, as many as 25258 are identified as frequency usage or around 93.1% of the monitored frequency. This proportion is slightly lower than the frequency identified during the year of 2012 which achieved 95.5%. In most of UPT which perform monitoring activity, the majority identify the presence of 100% frequency usage activity. However, some UPT show quite low proportion in frequency usage identified, such as in UPT Banjarmasin which is only 18.3%, UPT Makassar which is only 41.5% and UPT Manado which is only 41.5%.

Further, from frequency usage activities identified, 16887 activities or 66.8% are legal activities. The proportion of these legal activities is much lower than in 2012 where legal frequency usage activities achieved 81.8%. Meanwhile, 6227 or 24.6% are illegal frequency usage activities. Among violated usage, 28.1% areof the type of violation which is identified as frequency usage which is not in line with regulation.

Quite many UPT will perform further monitoring activity particularly in the area where a lot of frequency usage activities identified such as in UPT Palembang, UPT Gorontalo, UPT Makassar and some other UPT. But, especially for UPT Makassar, although the frequency usage identified is not many, a lot of further monitoring would still be conducted. The most further monitoring done for the frequency usage identified is in UPT Banjarmasin, UPT Manado and UPT Kupang. Meanwhile, in the area with pretty high intensity of frequency usage, in semester 1 of 2013, the further monitoring is done in UPT Jakarta, UPT Bandung, UPT Yogyakarta and UPT Surabaya.

If viewed from the type of services monitored, the types of microwave link service, GSM and VHF/FM broadcast become the most monitored and at the same time identified services. But, the proportion of identified frequency of those three types of services monitored varied. From 24540 microwave link frequency monitored, 98% or around 24046 are monitored. From that amount of monitored frequency, 65% is legal frequency usage. Meanwhile, for the type of GSM service, from 4181 frequency monitored, 85.3% or around 3653 are identified where 74.9% of the identified usage is legal. For the type of VHF/FM service, from 4021 frequency monitored, 93.7% is identified, or around 3767. From the type of VHF/FM service identified, 72.3% is legal usage.

Among the types of services monitored, the low level of identification is for the type of Maritime Navigation service, Maritime Station service, Amateur/KRAP/VF service, and Amateur/UHF service, while the lowest level of discipline among the identified services is for Maritime Navigation service with the level of discipline of 17.2%, Amateur/KRAP/VHF service with level of discipline of 35.8%. In the meantime, for the type of HF Concession service, its level of discipline is also pretty low, i.e. only 44.9%. On the contrary, some types of services have high level of discipline, achieving 100%, such as Disaster, DCS, and Satellite TV services. These types of services which havelevel of discipline achieving 100% generally are those with the amount which is slightly monitored in the monitoring activity conducted.

Majority of service types also required further monitoring for the monitored frequency with various amount. Service types which do not need further monitoring are only the types of UHF Concession, MF/AM Broadcast, UHF TV Broadcast, and Satellite TV services.

Table 7.2.
Frequency Monitoring Result based on services

No	SERVICE	MONITORING RESULT IN SEMESTER 1 OF 2013						
		Monitored	Identi-fied	Legal	Illegal	Expired	Not in line	Further Monitoring
1	Disaster	38	30	30	0	0	0	8
2	Maritime Navigation	408	99	17	0	0	82	309
3	Aviation Navigation	646	562	368	150	0	44	84
4	Maritime Station	72	46	12	24	0	10	26
5	HF Concession	56	49	22	20	0	7	7
6	VHF Concession	898	858	445	357	1	55	40
7	UHF Concession	395	395	354	36	0	5	0
8	MF/AM Broadcast	10	10	5	5	0	0	0
9	HF/AM Broadcast	158	120	106	12	1	1	38
10	VHF/FM Broadcast	4021	3767	2725	905	9	128	254
11	VHF TV Broadcast	37	37	35	0	0	2	0
12	UHF TV Broadcast	1602	1527	1196	189	4	138	75
13	HF Amateur	182	165	123	30	0	12	17
14	Amateur/KRAP/VHF	1394	592	212	228	2	150	802
15	UHF Amateur	280	129	111	10	7	1	151
16	CDMA	222	190	155	31	0	4	32
17	GSM	4281	3653	2737	888	19	9	628
18	DCS	47	28	28	0	0	0	19
19	3G	170	152	144	8	0	0	18
20	Ground To Air	843	349	245	90	1	13	494
21	BWA	147	146	97	23	0	26	1
22	Microwave Link	24540	24046	15625	6083	429	1909	494
23	Satellite TV	2	2	2	0	0	0	0
	TOTAL	40449	36952	24794	9089	473	2596	3497

Monitoring result of frequency usage according to frequency band showed that the most monitored and identified frequency band is SHF band which is located at frequency spectrum 3 to 30 GHz, the amount of which is far more than other types of bands. This result is the same as that in 2012 considering that this type of SHF band which is the most widely used. The next most monitored bands are VHF band and UHF band. From these monitored frequency bands, the majority (98%) identified the presence of frequency usage. The types of frequency which have the lowest level of identification are HF frequency (3-30 MHz) which is 64.1% and VHF frequency band which is 77.7%.

Out of the types of frequency identified, 67.1% is identified as legal frequency usage, meaning that the level of discipline of frequency usage from various frequency bands only achieves 67.1%. The lowest level of discipline of frequency usage is for the type of HF frequency (3-10MHz) with the level of discipline of only 51.3%, while the highest level of discipline is for LF frequency (30-300 KHz) with level of discipline of 100%, and UHF frequency band (300-3000MHz) with level of discipline of 77.8%. In line with that, the highest proportion of illegal frequency usage occurs in the type of MF frequency (300-3000 KHz) where 33.3% of the usage is illegal. The usage of illegal frequency which is quite high is also found in the type of MF frequency band (300-3000KHz) which achieves 33.3% and VHF frequency band (30-300 MHz) which achieves 27.4%. From these types of frequency bands, those which do not need further monitoring are the type of LF frequency band (30-300 KHz) and MF frequency band (300-3000 KHz), while for the type of EHF (30-300 KHz) which is the highest frequency band type, none is monitored up to semester 1 of 2013.

Table 7.3.
Frequency Monitoring Result based on Band

No	FREQUENCY BAND	MONITORING RESULT IN SEMESTER 1 OF 2013						Further Monitoring
		Monitored	Identi-fied	Legal	Illegal	Expired	Not in line	
1	LF (30-300 KHz)	3	3	3	0	0	0	0
2	MF (300-3000 KHz)	15	15	10	5	0	0	0
3	HF (3-30 MHz)	998	640	328	168	1	143	358
4	VHF (30-300 MHz)	7711	5994	3985	1644	13	352	1717
5	UHF (300-3000 MHz)	7109	6182	4809	1185	30	158	927
6	SHF (3 – 30 GHz)	24613	24118	15659	6087	429	1943	495
7	EHF (30-300 GHz)	0	0	0	0	0	0	0
	TOTAL	**40449**	**36952**	**24794**	**9089**	**473**	**2596**	**3497**

In the meantime, from the types of frequency based on service, the mostly monitored and identified frequency type is fixed service type. Although Land mobile service and Broadcast frequency bands are identified and monitoredquite considerably, they are not as many as Fixed Service type. From the total of 25077 Fixed Service frequency bands monitored, 98% is identified. Typeof frequency band which only have a few level of identification are the type of Maritime Mobile Serviceand Amateur Service which are 30.1% and 54.9% respectively. Even though the number of frequency bands identified for Fixed Service type is the biggest, the level of discipline of this type of frequency band is pretty high where 65.5% is identified as legal frequency usage. High level of discipline is found in Mobile Service which achieves 100%, but with a few number of frequency monitored. The proportion of legal frequency usage with quite big number of frequency monitoredis for Land Mobile Service type with the level of discipline achieving 68.3% and Broadcast type which is 74.5%. Low level of discipline is shown in the usage of Maritime Mobile frequency type. Although the number of frequency monitored and identified is not big, but from Maritime Mobile frequency identified, only 19.4% which is legal usage. In line with that, frequency usage which is not in line for this Maritime Mobile Service type is also high, achieving 63.9%.

The number of monitoring findings of frequency usage with expired license is proportional with the number of identified usage for each type of service. The biggest number of the usage of expired license is for the type of Fixed Service which also has the biggest number of monitored and identified frequency. Since the level of discipline of frequency usage is still not high, all types of frequency bands require further monitoring with amount which varied for each frequency band. Even though the number of monitored and identified bands for Aviation Mobile Service and Land Mobile bands is not as big as Fixed Service, the number of further monitoring required for Land Mobile Service and Aviation Mobile Service bands is bigger than Fixed Service band type. The same also occurs for Maritime Mobile Service and Amateur Service which require further monitoring in considerable amount despite having not too many monitored frequency bands. The proportion of further monitoring required for this Maritime Mobile Service type achieves 69.9% and for Amateur Service achieves 45.1% of the amount monitored, while the proportion of Fixed Service is only 2% and Land Mobile Service only 21.1% of the amount monitored.

Table 7.4.
Monitoring Result of frequency based on services

No	FREQUENCY BAND	MONITORING RESULT IN SEMESTER 1 OF 2013						Further Monitoring
		Monitored	Identi-fied	Legal	Illegal	Expired	Not in line	
1	Mobile	39	31	31	0	0	0	8
2	Maritime Mobile	479	144	28	24	0	92	335
3	Aviation Mobile	1406	869	571	240	1	57	537
4	Land Mobile	7021	5542	3786	1508	29	219	1479
5	Fixed	25077	24575	16088	6122	429	1936	502
6	Broadcast	5830	5463	4069	1111	14	269	367
7	Amateur	597	328	221	84	0	23	269
	TOTAL	**40449**	**36952**	**24794**	**9089**	**473**	**2596**	**3497**

7.3.2. Monitoring and Law Enforcement of Frequency

The monitoring result of frequency usage conducted by UPT Monfrekshowsvaried number of frequency violations found in each UPT. The variation of the number of frequency disturbances found in fact do not show the correlation with the status/size of UPT and the high intensity of frequency usage where such UPT Monfrek located. The highest findings of frequency usage violations in semester 1 of 2013is found in UPT MonfrekYogyakarta, followed by UPT Banjarmasin and UPT Surabaya with the findings of violations of 116, 95 and 67 violations respectively. Although UPT Banjarmasin is not as big as UPT Yogyakarta, UPT Surabaya and other UPT in Java Island, and the intensity of its frequency usage is not as high as in the cities in Java Island, yet it has quite high findings of violations of frequency usage. Other UPT located in the area wherethe intensity of usage is not too high and where the class of UPT is not big, yet having quite high findings of violations are UPT Mataram, UPT Pontianak, UPT Paluand UPT Gorontalo which achieve more than 25 findings of violations.

In the meantime, some UPT Monfrek which are considered big and where the intensity of frequency usage in those cities is also high, precisely show findings of frequency usage violations which are not too big. Some big UPT Monfrek in Java such as UPT MonfrekBandung only findsvery fewfindings of violations. Even in UPT Monfrek Jakarta and UPTMonfrek Denpasar, there is no findings of violations even though the intensity of their frequency usage is considered high. As many as 10 other UPT Monfrek besides Jakarta and Denpasar still have not found any violations up to semester 1 of 2013, either in Sumatra, Kalimantan, Sulawesi or Eastern part of Indonesia.

Table 7.5.
Recapitulation of Law Enforcement by each UPT in semester 1 of 2013

No	AREA OF LAW ENFORCEMENT	VIOLATION				ACTION			
		Illegal	Expired License	Not in line with purpose of allocation	Total	Sealed	Confis-cated	Warned	Total
1	UPT ACEH	19	0	0	**19**	3	6	10	**19**
2	UPT MEDAN	19	0	0	**19**	0	19	0	**19**
3	UPT PEKANBARU	0	0	0	**0**	0	0	0	**0**
4	UPT BATAM	17	0	8	**25**	0	0	25	**25**
5	UPT JAMBI	10	2	7	**19**	3	0	16	**19**
6	UPT PADANG	15	1	0	**16**	6	0	10	**16**
7	UPT PALEMBANG	17	0	2	**19**	14	0	5	**19**
8	UPT BENGKULU	0	0	0	**0**	0	0	0	**0**
9	UPT BABEL	0	0	0	**0**	0	0	0	**0**
10	UPT LAMPUNG	0	0	0	**0**	0	0	0	**0**
11	UPT BANTEN	5	0	0	**5**	0	0	5	**5**
12	UPT JAKARTA	0	0	0	**0**	0	0	0	**0**
13	UPT BANDUNG	1	0	0	**1**	0	0	1	**1**
14	UPT SEMARANG	38	1	0	**39**	0	19	20	**39**
15	UPT YOGYA	51	18	47	**116**	0	0	116	**116**
16	UPT SURABAYA	54	11	3	**68**	16	33	19	**68**
17	UPT DENPASAR	0	0	0	**0**	0	0	0	**0**
18	UPT MATARAM	33	0	0	**33**	0	13	20	**33**
19	UPT KUPANG	14	0	0	**14**	0	2	12	**14**
20	UPT BANJARMASIN	89	2	4	**95**	14	12	69	**95**
21	UPT PONTIANAK	32	0	2	**34**	2	11	21	**34**
22	UPT PALANGKARAYA	4	0	0	**4**	0	0	4	**4**
23	UPT BALIKPAPAN	10	0	0	**10**	0	0	10	**10**
24	UPT SAMARINDA	8	0	1	**9**	0	0	9	**9**
25	UPT MAKASSAR	11	0	0	**11**	0	0	11	**11**
26	UPT KENDARI	0	0	0	**0**	0	0	0	**0**
27	UPT MAMUJU	0	0	0	**0**	0	0	0	**0**
28	UPT PALU	28	0	0	**28**	0	0	28	**28**

No	AREA OF LAW ENFORCEMENT	VIOLATION				ACTION			
		Illegal	Expired License	Not in line with purpose of allocation	Total	Sealed	Confis-cated	Warned	Total
29	UPT MANADO	2	0	0	2	0	0	2	2
30	UPT GORONTALO	25	0	0	25	1	12	12	25
31	UPT TERNATE	5	0	0	5	5	0	0	5
32	UPT AMBON	6	0	0	6	0	0	6	6
33	UPT JAYAPURA	0	0	0	0	0	0	0	0
34	UPT MERAUKE	0	9	0	9	0	0	9	9
35	UPT MANOKWARI	0	0	0	0	0	0	0	0
36	UPT SORONG	0	0	0	0	0	0	0	0
37	UPT TAHUNA	0	0	0	0	0	0	0	0

A few of or no findings of frequency usage violations in the area with high intensity of frequency means the frequency users are already in order and observant to the regulations so that there is no violation. Orderly and good frequency users will not commit violation such as illegal frequency usage, not extending frequency usage license or using frequency which is not in line with the purpose of its allocation. However, a few of or no findings of violations of frequency usage in other area may also be because UPT Monfrek in that area has not been actively conducting law enforcement of frequency usage.

The composition of the type of violations of frequency usage in semester 1 of 2013, just as in the previous years, is still highly dominated by violations in the form of illegal frequency usage (does not own license of frequency usage). Around 81.3% of violations found are in the form of illegal frequency usage. This proportion is slightly lower than that in semester 1 of 2012 where the violations in the form of illegal frequency usage achieved 85.8%. In the meantime, the proportion of frequency usage violations in the forms of expired licenses and frequency usage which is not in line with the purpose of its allocation are only 7% and 11% respectively.

Figure 7.1A. Composition of the Types ofViolations in semester 1 of 2013

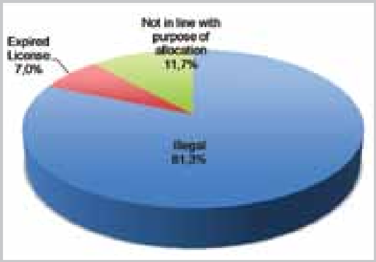
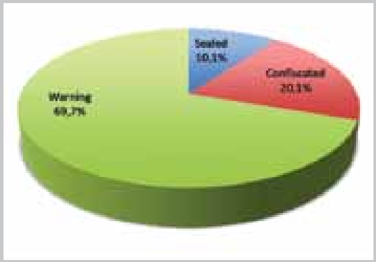


Figure 7.1B. Composition of the Types of Actions of Law Enforcement by UPT in semester 1 of 2013



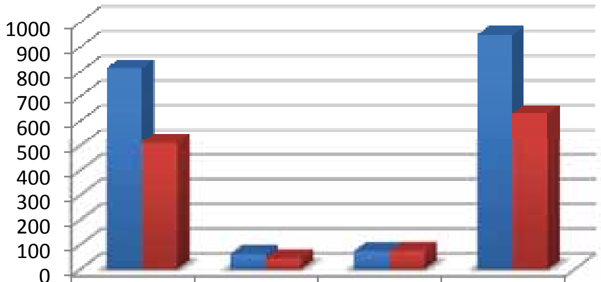
In line with the type of violations much committed, namely violations of illegal frequency usage, actions taken by UPT Monfrek on such violations are mostly still in the form of warnings to frequency users. Around 69.7% of the actions taken on the violations of frequency usage are in the form of warnings. This proportion is much lower than that in semester 1 of 2012 which achieved 84.2%. In the meantime, the proportion of actions in the form sealing is only 10.1% and in the form of confiscation achieves 20.1%.

From the above composition it can be seen that the violations of frequency usage in the form of expired licenses and violations of frequency usage which is not in line with the purpose of its allocation vis-à-vis actions taken are still limited to warnings. In some UPT Monfrek, even for all types of violations of frequency usage found, the actions taken are still limited to warnings such as in UPT MonfrekYogyakarta, UPT MonfrekBatam, and UPT MonfrekSamarinda. Those UPT still use persuasive approach in taking action towards frequency usage violation. On the other hand, some UPT Monfrektake quite firm action even though the violation committed is in the form of illegal frequency usage. UPT MonfrekMedan, UPT MonfrekSemarang, UPT MonfrekMataram, UPT MonfrekKupang and UPT Monfrek Banjarmasin for instance, take action in the form of sealing although the violation found is illegal frequency usage.

The comparison of monitoring result of frequency usage between semester 1 of 2012 and semester 1 of 2013 shows that in total, there are more findings of frequency usage violation by UPT Monfrek found in semester 1 of 2012 than in semester 1 of 2013. The findings of frequency usage violations in this semester 1 of 2013 declined quite substantially, namely 33.6%, while findings of violations in semester 1 of 2012 increased almost

300% compared to that in semester 1 of 2011. However, from the side of findings of violation for usage which is not in line with the allocation, the proportion in semester 1 of 2013 is slightly greater than in semester 1 of 2012. On the other hand, for the type of violation of illegal frequency usage, the proportion in semester 1 of 2012 is much higher than in semester 1 of 2013.

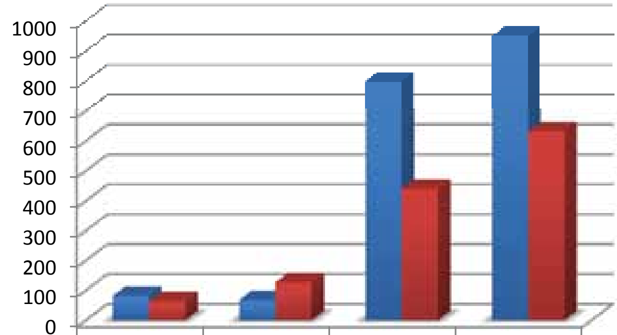
Figure 7.2
Comparison of Types of Frequency Violations in semester 1 of 2012 and 2013



	Illegal	Expired License	Noti n line with purpose of allocation	Total
Semester 1 of 2012	815	62	73	950
Semester 1 of 2013	513	44	74	631

In line with the distribution of the form of violation of its frequency usage between semester 1 of 2012 and semester 1 of 2013, the actions towards violation committed wee also more conducted in semester 1 of 2012 than in semester 1 of 2013. Actions towards violation in the forms of warning were also much more done in semester 1 of 2012 than in semester 1 of 2013. However, for actions in the form confiscation, the amount is much greater in semester 1 of 2013 than in semester 1 of 2012, even though the number of actions taken towards the violationsin semester 1 of 2012 was considerably greater than in semester 1 of 2013. The number of actions in the form of warning in semester 1 of 2012 which was far more than in semester 1 of 2013 causingthenumber of total actions towards violations which was also more conducted in semester 1 of 2012 than in semester 1 of 2013. Yet, the actions of confiscation which are more conducted in semester 1 of 2013 than in semester 1 of 2012 shows that the actions taken currently is getting firmer.

Figure 7.3.
Comparison of Types of Actions towards Frequency Violation in semester 1 of 2012 and 2013



	Confiscate d	Sealed	Warned	Total
Semester 1 of 2012	82	68	800	950
Semester 1 of 2013	64	127	440	631

Actions in the form of confiscation on frequency usage violatons which are bigger in semester 1 of 2013 than ini semester 1 of 2012 shows that the actions taken currently are getting firmer.

7.4. Monitoring and Law Enforcement of Equipment

Besides conducting monitoring on frequency disturbances, monitoring is also done on the conformity of the equipment used with the standard or prevailing regulation for three aspects, i.e. label of tool/equipment, the existence of the holder of certificate of tool/equipment, and verification of after sales service (*service center*) of holder of certificate of tool/equipment. Monitoring is also conducted on the level of discipline in tool/equipment usage, especially the equipment for broadcast radio and broadcast television. The discipline is seen from the side of equipment certificate ownership by providers of broadcast radio and broadcast television.

Monitoring and law enforcement on label conformity of the tool/equipment of post and information technology, monitoring on the existence of holder of tool/equipment certificate, and verification of certificate and label of post and information technology equipment as conducted in semester 1 of 2012 are not conducted in this semester 1 of 2013. Up to semester 1 of 2013, integrated law enforcement of Post and Information Technology too/equipment is not conducted either. Monitoring activity of equipment conducted is verification of certificate and label of equipment of post and information technology towards businesspersons and verification of After Sales Service Center of Post and Information Technology Equipment and control of post and information technology too and equipment.

7.4.1. Monitoring of Telecommunication Tool/Equipment Certification

Verification/checking activity on the standardization of equipment in semester 1 of 2013 is conducted in 21 cities to 128 vendors and 21 users. Verification activity on this standardization of equipment was not in semester 1 of 2012.Verification activityis conducted in 11 cities, namely 6 cities in Sumatra, 2 cities in Sulawesi, 1 city in Java, 1 city in Kalimantan, and 1 city in Papua. Verification in 5 cities is conducted to vendors (distributor) and users (Radio and TV), while verification in 6 cities is only conducted to vendors.

Based on the result of verification and checking done towards the equipment used by vendors and users, the level of discipline to the certification and labeling of the equipment used is quite high. In total, from 149 providers (vendors and users) verified, the level of discipline achieves88%. That means 74.7% of providers use certified or labeled tool/equipment. Meanwhile, the use of certified but not labeled tools/equipment achieve 12.3%. That means that the tool/equipment used by the providers are certified and labeled tool/equipment. Meanwhile, certified but not labeled tool/equipment used by vendors surveyed is only 0.9%, and only 13% for tools/equipment used by vendors which do not have certificate.

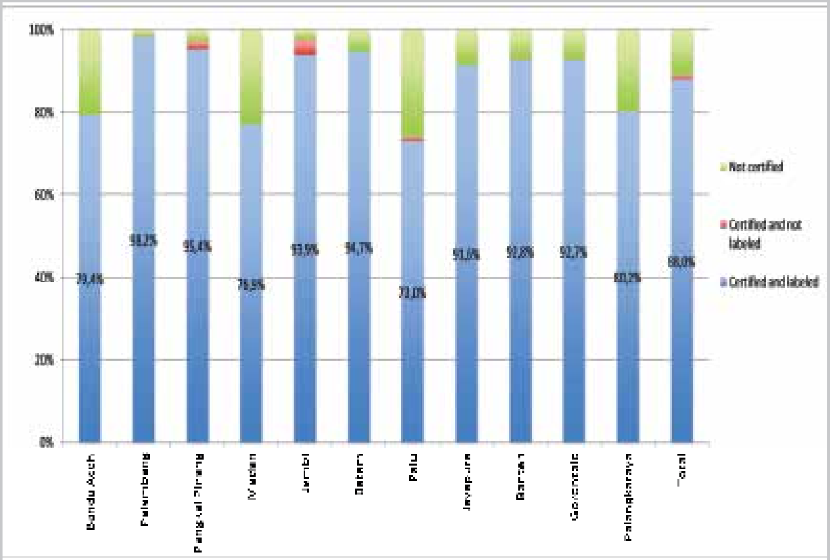
The high level of discipline of certification and labeling of tool/equipment by the providers ias found in Palembang, Jambi, Pangkalpinang, Batam, Banten, Gorontalo and Jayapura. In these regions, the level of discipline of tool/equipment usage by providers achieves more than 90%. Relatively low level of discipline is found in Palu and Medan where the use of certified and labeled tool/equipment by providers only achieves 74% and 76.9% respectively.

Table 7.6.
Verification/checking on standardization of the equipment of post and information technology

NO	LOCATION	NUMBER OF PROVIDER		TELECOMMUNICATION TOOL AND EQUIPMENT GROUP									TOTAL NUMBER OF MONITORED EQUIPMENT	PERCENTAGE OF DISCIPLINE
				CERTIFIED & LABELED			CERTIFIED, NOT LABELED			NOT CERTIFIED				
		VENDOR (DISTRIB-UTOR)	USER (RADIO/ TV)	CPE	AC-CESS	NET-WORK	CPE	AC-CESS	NET-WORK	CPE	AC-CESS	NET-WORK		
1	Banda Aceh	16	0	85	0	0	0	0	0	22	0	0	107	79,4%
2	Palembang	8	7	50	6	0	0	0	0	0	1	0	57	98,2%
3	Pangkal Pinang	13	3	102	1	0	0	2	0	3	0	0	108	97,2%
4	Medan	10	0	50	0	0	0	0	0	15	0	0	65	76,9%
5	Jambi	18	0	155	0	0	6	0	0	4	0	0	165	97,6%
6	Batam	9	0	72	0	0	0	0	0	4	0	0	76	94,7%
7	Palu	13	1	73	0	0	0	1	0	25	1	0	100	74,0%
8	Jayapura	12	3	96	2	0	0	0	0	8	1	0	107	91,6%
9	Banten	14	0	77	0	0	0	0	0	5	0	1	83	92,8%
10	Gorontalo	6	0	38	0	0	0	0	0	3	0	0	41	92,7%
11	Palangkaraya	9	7	70	2	5	0	0	0	11	5	3	96	80,2%
JUMLAH		**128**	**21**	**868**	**11**	**5**	**6**	**3**	**0**	**100**	**8**	**4**	**1005**	**88,0%**

Figure 7.4 shows that disobedience in ownership of tool and equipment certificate mostly found in the region is in the form of the usage of uncertified tool/equipment. In Palu, the use of uncertified telecommunication tool/equipment by providers achieves 11.1% of the total tool/equipment monitored. Meanwhile, disobedience in the form of usage of certified but not labeled too and equipment only occurs in Pangkalpinang, Jambi and Palu. The number of significant findings is also found in monitoring activities in Jambi. In total, the usage of certified but not labeled too/equipment by providers is only 0.9% of the total tool/ equipment monitored.

Figure 7.4.
Level of Discipline of certificate and label of tool/equipment by vendors/users

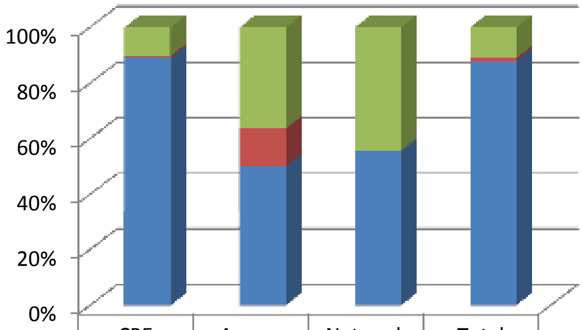


Most of uncertified tool/equipment is the type of Customer Premises Equipment (CPE). This is in line with the proportion of tool/equipment monitored where the majority is CPE equipment. From the total tool/equipment certified, 96.9% is for CPE type of tool/equipment and only 2.2% which is for Access type of tool/equipment and 0.9% is for Network tool/equipment. From the total of 112 uncertified tool/equipment, around 89.3% is CPE type of tool/equipment which is widely used by direct society consumers. From 11 regions in which monitoring is conducted, in 6 regions all tool/equipment which do not have certificate are the type of CPE tool/equipment,while in other regions, the findings of uncertified tool/equipment usage by providers is for the type of CPE tool/equipment which achieves more than 85% except in Palangkaraya which reaches 57.9%.

But, if viewed from the distribution of level of discipline according to type of equipment, level of discipline for the equipment type of CPE is the highest among other types of too/equipment as seen in figure 7.5. The proportion of certified and labeled CPE tool/equipment achieves89.1% and the proportion of tool/equipment without certificate is only 10.3%. In the meantime, for the type of Access tool/equipment, proportion of tool/

equipment without certificate achieves36.4%, and only 50% which has certificates and labels, whereas for the type of network tool/equipment, the level of discipline (certified and labeled) is only 55.6%, and without certificate achieves 44%.

Figure 7.5.
Level of Discipline of certificate and label of tool and equipment according to type of equipment



	CPE	Access	Network	Total
Not certified	10,3%	36,4%	44,4%	11,1%
Certified, Not Labeled	0,6%	13,6%	0,0%	0,9%
Certified & Labeled	89,1%	50,0%	55,6%	88,0%

Tool/equipment which does not have certificate mostly is tool/ equipment type of Customer Premises Equipment (CPE), whereas this type of equipment is the most widely used by public.

7.4.2. Verification of After Sales Service (Service Center) of Post and Information Technology Equipment

Verification activity on after sales service (service center) of post and information technology equipment is planned to be conducted in nine provinces. This activity is preceded by coordination meeting with local UPT, then the activity is conducted by checking after sales service (service center) of certified post and information technology equipment. This activity is done as the initial stage to supervise the service center so that its service is in accordance with the standard of prevailing regulations.

Up to semester 1 of 2013, verification activity is only conducted in four provinces, i.e. Yogyakarta, Semarang, Surabaya and Makassar, with the total of 35 after sales service verified, the majority (83%) is in Java, namely Semarang (37.1%), Yogyakarta (22.9%), Surabaya (22.9%).

Table 7.7.
Verification result of after sales service in semester 1 of 2013

NO	CITY	NUMBER OF AFTER SALES SERVICE (SERVICE CENTER) VERIFIED	APPROPRIATNESS OF SERVICE CENTER		PERCENTAGE OF DISCIPLINE
			APPROPRIAT	NOT APPROPRIATE	
1	Yogyakarta	8	8	0	*100%*
2	Semarang	13	13	0	*100%*
3	Surabaya	8	8	0	*100%*
4	Makassar	6	6	0	*100%*
Total		**35**	**35**	**0**	***100%***

The result of verification on after sales service of post and information technology conducted in four cities obtains a very good result. In the four cities surveyed, the level of discipline on the eligibility of after sales service has been 100%. It means that all after sales service monitored has obtained appropriatness standard which is in accordance with the prevailing regulations.

Figure 7.6.
Result of verification on after sales service in semester 1 of 2013

7.4.3. Control of Post and Information Technology Tool and Equipment

Control of post and information technology tool and equipment is conducted through work program of Law Enforcement of Post and Information Technology Tool and Equipment. In 2013, this activity is planned to be conducted in nine provinces through coordination and cooperation with Directorate of Standardization, UPT of Directorate General of SDPPI in regions, Supervision Coordinator (Korwas) PPNS of local Police, Communication and Information Technology Service in the region, High Prosecutor's Office and Appelate Court. The activity is carried out by coaching and mentoring so that the Distributors, Importers, Vendors, Sellers and Users which have been proven did not have certification of their tool/equipment, could immediately perform certification in accordance with the prevailing regulation. Afterward, Directorate General of SDPPI would take necessary steps and do the handling of telecommunication equipment that allegedly illegal, not certified, and not labeled.

Up to semester 1 of 2013, the activity is only done in two provinces, namely DKI Jakarta and Bali. From the result of law enforcement in those two provinces, 16 violations are found, namely 6 violations in Jakarta and 10 violations in Bali. Most of (75%) the violations found in Bali are all considered minor violations. But, for findings of violations in Jakarta, 66% are violations which are considered severe.

Table 7.8.
Activity result of Law Enforcement of Post and Information Technology Tool and Equipment in semester 1 of 2013-11-29

NO	REGION	TYPE OF VIOLATION			TOTAL
		MILD (no/wrong label)	MODERATE (expired)	SEVERE (without certificate)	
1	DKI Jakarta	2	0	4	6
2	Bali	10	0	0	10
TOTAL		12	0	4	16

7.5. Performance of UPT Frequency Monitoring

The performance and capacity of UPT Radio Frequency Spectrum Monitoring are also measured from the resources owned and work load of supervision that must be done. Evaluation on performance capacity of this UPT also becomes the confirmation on performance in conducting monitoring and law enforcement carried out by UPT Monfrek. Resources owned by UPT Monfrek can be seen from the number of the existing staff at said UPT Monfrek and monitoring equipment owned and the types of services of monitor station provided. Meanwhile, the work load can be illustrated from the vastness of the region and geographical condition of monitoring area and the number of objects that must be monitored, namely in the form of the number of stations, the number of BTS, the number of broadcast radios and the number of broadcast TV. Discussion on the performance of this UPT begins with the condition of supporting equipment of Spectrum Management Information System (SIMS) at the office of UPT.

7.5.1. Condition on Radio Frequency Spectrum Monitoring Equipment

Table 7.9 shows the condition of radio frequency spectrum monitoring condition which are located and spread over in 35 UPT throughout Indonesia. Radio frequency spectrum monitoring equipment which are placed in those UPT consist of All band receiver, Spectrum analyzer, Field-strength, V-UHF DF Mobile, V-UHF DF Fixed and HF Fixed. In total, there are 382 equipment which are in good condition and distributed to 35 UPT Radio Spectrum Monitoring to help the assignment in performing monitoring of radio frequency usage.

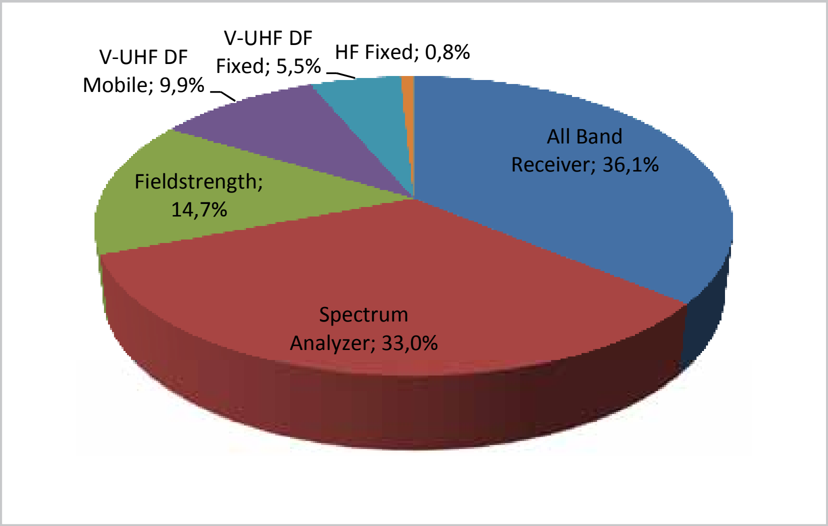
From the distribution of its location, UPT which has allocation of frequency spectrum equipment in more amount is UPT which is located in the area that has high intensity of frequency usage. The equipment are mostly found in UPT Jakarta (30 units), Surabaya (26 units) and Yogyakarta (20 units). But, some UPT outside Java also have frequency spectrum equipment in quite a lot of number such as Manado (17 units), Bengkulu (17 units) and Pontianak (15 units). Meanwhile, UPT which only have a few of frequency spectrum equipment are Makassar (5 units), Balikpapan (5 units) and Jambi (5 units), beside UPT which have the status of post minitoring such as UPT Sorong, UPT Tahuna and UPT Ternate which each has 3 units of frequecy spectrum equipment in the form of All Band Receiver and Spectrum Analyzer.

Table 7.9.
Recapitulation of Condition Result of Frequency Spectrum Equipment in semester 1 of 2013

No	UPT	All Band Receiver	Spectrum Analyzer	Field-strength	V-UHF DF Mobile	V-UHF DF Fixed	HF FIXED
1	UPT Aceh	3	4	4	1	-	-
2	UPT Medan	4	2	1	2	-	1
3	UPTPadang	6	4	2	1	-	-
4	UPT Pekanbaru	2	5	2	1	3	-
5	UPTBatam	4	3	4	2	3	-
6	UPTJambi	1	2	1	1	-	-
7	UPTBengkulu	8	6	2	1	-	-
8	UPTPalembang	4	4	2	2	-	-
9	UPT Pangkalpinang	2	4	1	1	-	-
10	UPTLampung	3	5	1	1	-	-
11	UPTJakarta	15	8	3	1	3	-
12	UPTBandung	3	3	1	2	-	-
13	UPTSemarang	1	4	-	2	3	-
14	UPTYogjakarta	8	6	4	2	-	-
15	UPTSurabaya	12	7	2	2	3	-
16	UPTBanten	6	3	2	1	3	1
17	UPTDenpasar	2	3	2	1	3	-
18	UPTMataram	6	5	-	1	-	-
19	UPTKupang	1	3	2	2	-	1
20	UPTPontianak	5	6	2	2	-	-
21	UPTBanjarmasin	1	4	1	1	-	-
22	UPTPalangkaraya	6	5	2	-	-	-
23	UPTSamarinda	1	3	-	2	-	-
24	UPTBalikpapan	2	1	1	1	-	-
25	UPTMakasar	1	2	1	1	-	-
26	UPTPalu	2	2	2	1	-	-
27	UPTKendari	3	3	2	-	-	-
28	UPTGorontalo	4	2	2	1	-	-
29	UPTMenado	7	6	3	1	-	-
30	UPTTernate	1	1	1	-	-	-
31	UPTAmbon	3	2	-	-	-	-
32	UPTJayapura	4	3	1	1	-	-
33	UPTMerauke	3	3	2	-	-	-
34	UPTSorong	2	1	-	-	-	-
35	UPTTahuna	2	1	-	-	-	-

If viewed from the composition of the available frequency spectrum equipment type, the biggest proportion is for type of equipment of All Band Receiver, followed by type of equipment of Spectrum Analyzer. From the total of 382 frequency spectrum equipment available, 36.1% is equipment type of All Band Receiver and 33% is equipment type of Spectrum Analyzer as shown in figure 7.7. For Fixed V-UHF station, its proportion was 5.5% because the said station was located in certain UPT, i.e. Pekanbaru, Batam, Surabaya, Semarang, Banten, Denpasar, Jakarta and Bandung which in the future planning will be developed to several UPT. The least proportion is Fixed HF Station which is only 0.8% and each is located in 5 UPT since its range of receiver is quite far so that with those 5 locations it would be able to monitor radio frequency spectrum in HF band in the territory of Indonesia.

Figure 7.7.
Composition of radio frequency spectrum monitoring equipment in UPT in semester 1 of 2013



Particularly for Fixed V-UHF radio frequency spectrum monitoring equipment which are placed in several UPT consist of Monitor Station and Direct Finder Station which are integrated with each other with control at UPT office, generally is in good condition in all UT for six months it is operated in semester 1 of 2013. Only equipment in Fixed V-UHF stationin Jakarta and Bandung which is in good condition for 61% days of the total days it is operated in semester 1 becauseit is the result of the development in 2012 which requires some perfection. Meanwhile,in other UPT, such equipment is in good condition during its operation. If seen from table 7.10 equipment which is in good condition during semester 1 of 2013 is in monitoring station of Banten, Batam and Pekanbaru. In those regions, the equipment is in good condition for only 73% days of the total days it is functioned in semester 1. In average, in all UPT, equipment of DF monitoring station is in good condition only at 65.2% days of the total days it is operated.

Table 7.10.
Condition of Frequency Spectrum Equipment of VUHF Station in Semester 1 of 2013

UPT	Year of Procurement	Percentage of day where equipment is in good condition
V-UHF STATION		
Surabaya	2009	77%
Denpasar	2010	80%
Batam	2010	71%
Semarang	2011	85%
Banten	2011	73%
Pekanbaru	2011	73%
Jakarta	2012	61%
Bandung	2012	61%

For HF station, the average of the equipment which is in good condition is only 5% of the total days it is operated. Even for equipment in HF station in Medan, the available DF Monitoring equipment has never been in good condition. Relatively good condition only occurs in location of UPT Banten where the proportion of equipment which is in good condition is 92% of the total days it is functioned.

For Mobile Station, particularly in UPT Surabayawhere between mobile monitoring station and direct finder station are separated to become V-UHF Mon Mobile Station and V-UHF DF station, in term of the condition of equipment there is a contrast of differences between the types of V-UHF DF station and V-UHF Mon station in Surabaya. The equipment of V-UHF DF in Surabaya only has percentage of good condition as much as 8% of the total days such equipment operated. In the meantime, for other UPT, monitoring equipment and Direct Finder are integrated to be V-UHF Mon DF Station, most of the equipment are in good condition during operation. In some regions with big or moderate class of UPT, the equipment of V-UHF

Mon DF is always in good condition during 6 months used. Meanwhile, in some other regions with moderate and small classsuch as in central and eastern part of Indonesia, Lampung and Bengkulu, the equipment whichis in good condition is 83% of the total equipment operated during one semester, because it is procurement of 2013 which at the beginning of the year required perfection on a few item.

Table 7.11.
Condition of Frequency Spectrum Equipment of HF Station and Mobile Station in Semester 1 of 2013

UPT	Type of Station	Year of Procurement	% of Days where the equipment is in good condition
HF STATION			
Kupang	MonDF	2010	83%
Medan	MonDF	2011	0%
Banten	MonDF	2010	92%
Samarinda	MonDF	2011	44%
MOBILE STATION			
Surabaya	DF	2009	8%
	Mon	2009	100%
Aceh	MonDF	2010	100%
Samarinda	MonDF	2010	100%
Medan	MonDF	2010	100%
Batam	MonDF	2011	100%
Jakarta	MonDF	2011	100%
Padang	MonDF	2011	100%
Palembang	MonDF	2011	100%
Yogyakarta	MonDF	2011	100%
Bangka Belitung	MonDF	2011	100%
Balikpapan	MonDF	2011	100%
Semarang	MonDF	2011	100%
Bandung	MonDF	2011	100%
Pontianak	MonDF	2011	100%
Gorontalo	MonDF	2011	100%
Jambi	MonDF	2012	83%
Bengkulu	MonDF	2012	83%
Lampung	MonDF	2012	83%

UPT	Type of Station	Year of Procurement	% of Days where the equipment is in good condition
Banjarmasin	MonDF	2012	83%
Mataram	MonDF	2012	83%
Kupang	MonDF	2012	83%
Menado	MonDF	2012	83%
Makasar	MonDF	2012	83%
Ambon	MonDF	2012	83%
Jayapura	MonDF	2012	83%

7.5.2. Comparison of Supporting Resources and Work Load

Comparison of the condition of UPT Monfrek by looking at the equipment owned,number of supporting human resources and work load of supervision will provide the illustration on proportionality of resources supporting the work of UPT Monfrek with work load that must be done by UPT Monfrek. UPT Monfrek in Java Island has greater supporting power and capacity in the form of the number of staff and monitoring equipment owned compared to UPT Monfrek in other regions although its geographical area is smaller. This is because the monitoring load performed is also greater as shown by number of stations, number of BTS, and the number of broadcast radio frequency usage which are greater compared to other regions. Hence, the performance load of UPT Monfrek is not only measured from the vastness of working area and from the number of population as proxy of services provided by said UPT Monfrek, but also from the size of the objects that must be monitored by UPT Monfrek, among other things are the number and intensity of frequency usage in the region. Nevertheless, some UPT Monfrek due to the geographical condition of their working areas are also in need of more monitoring equipment compared to other UPT Monfrek. UPT MonfrekKupang and UPT MonfrekSamarinda, for example, show more monitoring equipment and more types of services of monitoring stations compared to other UPT Monfrek due to geographical condition of their working areas which requires a more complete monitoring and law enforcement equipment. So does UPT MonfrekMeraukethat has vast working area.

Table 7.12.
Condition of Resources and Work Load of the Respective UPT Frequency Monitoring in Indonesia in 2012

No	UPT	Number of Staff		Vastness of Region (km2)	Number of Population	Geographical Condition	Monitoring equipment owned	Type of monitoring station service	Number of Station	Number of BTS	Number of Broadcast Radio	Numbe of Broad-cast Television
		Total	PPNS									
1	UPT NAD	22	4	57956	4,626,605	Land	MOB: 2	MOB : H/V/UHF	7,193.00	2,142	63	10
2	UPT MEDAN	35	6	72981.23	13,327,196	Land	FIX : 5	FIX : L/H/V/UHF	21,124.00	5,653	133	15
							MOB: 5	MOB : H/V/UHF				
3	UPT PADANG	25	5	42012.89	4,908,172	Land	MOB: 3	MOB : H/V/UHF	6,952.00	2,094	56	21
4	UPT PEKANBARU	20	7	87023.66	6,030,685	Land	MOB: 3	MOB : H/V/UHF	15,030.00	3,939	51	21
5	UPT JAMBI	23	5	50058.16	3,207,107	Land	MOB: 2	MOB : V/UHF	4,381.00	1,124	32	20
6	UPT BABEL	16	5	1642.06	1,247,143	Land	PORT : 1	MOB : V/UHF	2,292.00	646	25	12
7	UPT BATAM	24	8	8201.72	1,828,428	Islands	MOB: 2	MOB : V/UHF	5,384.00	1,347	20	12
8	UPT PALEMBANG	27	9	91492.43	7,810,779	Land	MOB: 3	MOB : H/V/UHF	9,132.00	2,262	60	31
9	UPT BENGKULU	17	6	19919.33	1,818,933	Land	MOB: 2	MOB : V/UHF	1,951.00	554	21	9
10	UPT LAMPUNG	20	9	34623.8	7,787,483	Land	MOB: 4	MOB : H/V/UHF	8,278.00	2,602	64	15
11	UPT DKI JAKARTA	38	12	664.01	9,640,481	Land	FIX : 4	FIX : V/UHF	33,484.00	7,214	50	14
							MOB: 4	MOB : H/V/UHF				
12	UPT BANTEN	29	7	9662.92	11,325,707	Land	FIX : 2	FIX : L/HF;SHF	14,306.00	3,574	43	13
							MOB: 1	MOB : V/UHF				
13	UPT BANDUNG	38	9	35377.76	44,819,456	Land	FIX : 4	FIX : V/UHF	47,927.00	12,269	230	44
							MOB: 3	MOB : H/V/UHF				
14	UPT YOGYAKARTA	38	11	3133.15	3,507,458	Land	MOB: 2	MOB : V/UHF	6,275.00	1,771	41	15
15	UPT SEMARANG	43	13	32800.69	32,994,312	Land	FIX : 4	FIX : V/UHF	28,587.00	8,627	258	42
							MOB: 3	MOB : H/V/UHF				
16	UPT SURABAYA	40	12	47799.75	38,003,268	Land	FIX : 4	FIX : V/UHF	38,922.00	10,603	173	53
							MOB: 4	MOB : H/V/UHF				
17	UPT DENPASAR	29	9	5780.06	3,993,363	Land	MOB: 3	MOB : H/V/UHF	8,965.00	2,456	59	15
18	UPT MATARAM	27	7	18572.32	4,665,510	Land	MOB: 2	MOB : V/UHF	5,279.00	1,600	29	9
19	UPT KUPANG	29	9	48718.1	4,838,716	Land with Islands	FIX : 1	FIX : L/HF	3,529.00	713	48	14
							MOB: 5	MOB : H/V/UHF				

No	UPT	Number of Staff		Vastness of Region (km2)	Number of Population	Geographical Condition	Monitoring equipment owned	Type of monitoring station service	Number of Station	Number of BTS	Number of Broadcast Radio	Numbe of Broad-cast Television
		Total	PPNS									
20	**UPT SAMARINDA**	21	9	204534.34	3,755,635	Land	FIX : 1	FIX : L/HF	12,357.00	2197	63	33
							MOB: 2	MOB : V/UHF				
21	**UPT BALIKPAPAN**	20	5			Land	MOB: 2	MOB : H/V/UHF				
22	**UPT PONTIANAK**	22	4	147307	4,599,624	Land	MOB: 2	MOB : V/UHF	6,254.00	1,616	50	31
23	**UPT PALANGKARAYA**	18	3	153564.5	2,346,350	Land	MOB: 1	MOB : V/UHF	4,596.00	1,121	35	23
24	**UPT BANJARMASIN**	18	5	38744.23	3,732,550	Land	MOB: 3	MOB : H/V/UHF	6,294.00	1,320	49	28
25	**UPT MANADO**	22	8	13851.64	2,331,395	Land	MOB: 3	MOB : H/V/UHF	3,591.00	937	38	27
26	**UPT Tahuna**	7	1			Islands	-	-				
27	**UPT PALU**	19	7	61841.29	2,772,189	DaratanPe-gunungan	MOB: 4	MOB : H/V/UHF	2,466.00	633	24	36
28	**UPT MAKASAR**	35	9	63504.66	8,275,996	Land	MOB: 4	MOB : H/V/UHF	9,132.00	2,304	46	29
29	**UPT AMBON**	15	4	46914.03	1,535,961	Islands	MOB: 5	MOB : H/V/UHF	1,459.00	250	13	11
30	**UPT GORONTALO**	11	2	11257.07	1,073,504	Land Mountain	PORT : 1	MOB : V/UHF	680.00	145	8	4
31	**UPT TERNATE**	13	5	31982.5	1,048,077	Islands	PORT : 1	MOB : V/UHF	431.00	82	6	3
32	**UPT KENDARI**	15	5	38067.7	2,375,454	Land	PORT : 1	MOB : V/UHF	1,948.00	560	19	17
33	**UPT JAYAPURA**	18	7	319036.1	3,018,788	Land	MOB: 3	MOB : H/V/UHF	2,703.00	476	30	26
34	**UPT MERAUKE**	12	5				FIX : 1	FIX : L/HF				
						Mountain	MOB: 2	MOB : HF				
35	**UPT Sorong**	8	1	97024.27	810,182	Land	-	-	79.00	138	14	6
35	**UPT Manokwari**	5	2			Mountain	-	-				
35	**UPT Mamuju**	8	1	16796.19	1,221,587	Land	-	-		108	2	5

Some UPT Monfrek in other regions also show monitoring equipment and frequency service with higher capacity due to the number of urban areas in their working areas in addition to the vastness of geographical condition such as North Sumatra, Riau Islands, and East Kalimantan. These three provinces also show monitoring equipment and types of services of monitoring stations which are relatively more compared to other UPT Monfrek. This situation indicates the increase in the capacity of equipment in order to be better is also conducted by considering the number of urban areas causing higher social-economic dynamism of the community, coverage and geographical condition of areas of law enforcement. UPT MonfrekKupang, UPT MonfrekJayapura, and UPT MonfrekMerauke have more and various monitoring equipment because the working areas of monitoring of those UPT Monfrek have difficult geographical condition which needs additional equipment for conducting monitoring work. In the meantime, other UPT Monfrek with geographical condition of working areas which is not too vast /heavy and intensity of frequency usage as objects of monitoring which is not too high, have supporting resources, in particular the monitoring equipment which are relatively in average.

Chapter 8

Chapter 8

Standardization

Statistics in this equipment standardization sector will present data and information on the activity in the field of equipment standardization which becomes the task area of the Directorate of Standardization of Postal and Information and Communication Technology Equipment at Directorate General of Resources and Equipment of Post and Information Technology. The task of this directorate is to conduct policy formulation, technical guidance, and evaluation in the field of technical standard and service standard of post and information technology, and radio communication. Information presented from performance of this standardization sector is data and analysis from the result of certificate issuance of telecommunication tool and equipment conducted by Directorate of Standardization of Postal and Information and Communication Technology Equipment. The issuance of certificates by Directorate of Standardization of Postal and Information and Communication Technology Equipment in terms of its types, consisting of four types, namely new certificate, extended certificate, revised certificate, and extended cum revised certificate. In terms of the type of certified tool and equipment from which the data is presented, there are five (5) types of equipment namely cabled customer equipment (CPE), wireless customer equipment (CPE), transmission equipment, broadcasting equipment, and central equipment. From the side of the parties that submit certification, distinction is made as regards to the request for certification submitted by official distributors authorized by manufacturers of equipment and request for certification submitted by general importers. However, as this categorization was no longer applicable since 2012, the data is not presented in this statistical analysis of standardization. Regulation regarding certification of telecommunication tool and equipment in the future will no longer differentiate official distributor and general importer as the applicant. Presentation of certification data will also describe the distribution of the number of equipment certified according to the country of origin of the equipment and monthly fluctuation of equipment certificate issuance for each type of certificate.

8.1. Scope

Standardization data presented in this report will be described in detail with period of time of each data as follows:

1. Data of issuance of new certificates in 2008 – Semester 1 of 2013
2. Data of issuance of extended certificate in 2008 – Semester 1 of 2013.
3. Data of issuance of revised certificate in 2008 – Semester 1 of 2013.
4. Data of issuance of extended cum revised certificate in 2008 – Semester 1 of 2013.
5. Certificate issuance according to type of certificate and type of tool and equipment in Semester 1 of 2013.
6. Monthly certificate issuance according to type of certificate in Semester 1 of 2009 – Semester 1 of 2013.
7. Certificate issuance according to type of certificate and country of origin of tool and equipment in semester 1 of 2013.
8. Monthly certificate issuance according to country of origin of tool and equipment in Semester 1 of 2013.

8.2 Concept and Definition

This Sub chapter contains definitions of terminologies used in presentation of standardization data to give the same interpretation on the terminologies used.

1) Telecommunication tool is any tool used in telecommunication.
2) Telecommunication equipment is a group of telecommunication tool which enables telecommunication.

3) Certification is a process associated with providing a certificate.
4) Certificate is a document that states the conformity of type of telecommunication tool and equipment with technical requirements and or standard set.
5) Types of telecommunication tool and equipment are brand, model or type of telecommunication tool and equipment that have certain characteristics.
6) Label is the description of telecommunication tool and equipment in the form of drawings, writings, or a combination thereof, or other forms that identify the information about the tool and equipment that have been certified.
7) Testing of telecommunication tool and equipment is the assessment of conformity between the characteristics of telecommunication tool and equipment and the prevailing technical requirements.
8) Technical Requirement is electrical/electronic parameter, safety requirement, and or electromagnetic compatibility requirement which conform with the Indonesian National Standard (SNI) or as stipulated by Minister.
9) New Certificate is certificate received for the testing of the tool/equipment which are tested for the first time.
10) Revised Certificate is certificate issued as revision of the initial/new certificate if there is a mistake in the issuance (of data, technical detail) or if there is a change in part of the component of the equipment.
11) Extended Certificate is certificate issued upon extension of testing of the tool that has been tested previously and the validity period of the certificate is over so that it has to be extended.
12) Extended cum revised certificate is certificate issued if in the process of certificate extension if there is also a change in the telecommunication tool/equipment whose certificate is extended so that data revision is required in extending the certificate.

8.3. Certificate Issuance

Certificate issuance on telecommunication tool and equipment that have undergone the process of testing at the Office of Postal and Telecommunication Equipment Testing Laboratory becomes one of the performance criteria of working units of Directorate of Standardization of Postal and Information and Communication Technology Equipment. This function is conducted in addition to the main function of formulating standards and or technical requirements of equipment. Since the issuance of equipment certificate is conducted based on testing result at the Office of Testing Laboratory, the process of technical authentication of equipment in order to make it possible to enter and circulate in Indonesia need to be supported by quick and controllable process of testing and also by the quick process of certification of the testing result.

8.3.1. Development of Tool and Equipment Certificate Issuance

The number of tool and equipment certificates issued in semester 1 of 2013 achieves 3077 certificates. This number is bigger and increased by 17.6% compared to certificates issued in semester 1 of 2012. This increase is higher than the increase in the number of certificate issuance from semester 1 of 2011 to semester 1 of 2012 which only increased by 7.4%. The issuance of equipment standardization certificate in this semester 1 of 2012 has achieved 54.7% of the total certificates issued during the year of 2012. The increase in the number of standard certificates which was quite high in semester 1 of 2012 mainly originated from the issuance of extended certificates. The issuance of extended certificates in semester 1 of 2013 increased by 42.7%. This increase also continues the increase occurred in semester 1 of 2012 which increased by 38.3%. In the meantime, for new certificates whose number and proportion are the biggest, the number of certificates issued in semester 1 of 2013 only increased by 17%. But, this increase is still higher than the increase of new certificates issuance in semester 1 of 2012 which increased until 3.4%.

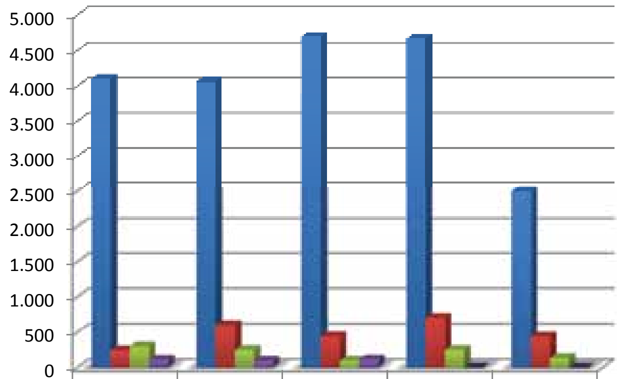
Table 8.1.
Number of Certificate Issuance for Each Type in 2009 – semester 1 of 2013

Type of Certificate	2009	2010	2011	2012	2013*
New Certificate	4,104	4,065	4,696	4,668	2,505
Extension	243	600	442	704	438
Revision	299	249	98	249	134
Extension Cum Revision	109	97	112	0	0
Total	4,755	5,011	5,348	5,621	3,077

*) Up to June 30, 2013

If viewed from the trend of certificate issuance for telecommunication tool and equipment from year to year, it shows that in semester 1 of 2013 there are signs of rebounding of the issuance of telecommunication tool and equipment certificates after having a decline in 2012. Previously, in 2012, the growth of certificates issuance experienced a slight decline compared to the growth of certificates issuance in the previous years although it still absolutely experienced an increase. Even for the issuance of new certificates precisely just had a decline in 2012. Considering that the issuance of certificates until semester 1 of 2013 has already achieved 54.7% of the number of telecommunication tool and equipment issued in 2012, it is estimated that at the end of 2013 the number of certificates will increase compared to that in 2012.

Figure 8.1.
Development of the Number of Certificate Issuance for Each Type in 2009 – semester 1 of 2013

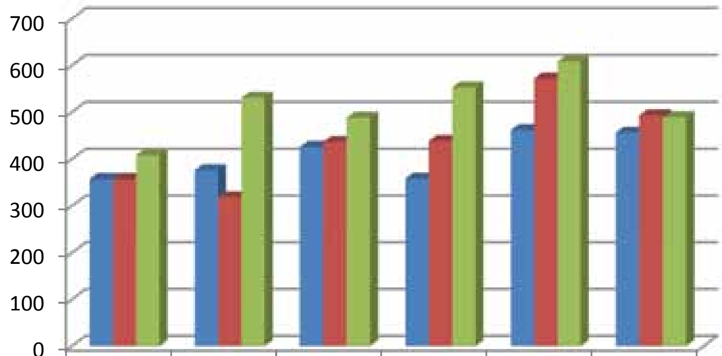


	2009	2010	2011	2012	2013*
New Certificate	4.104	4.065	4.696	4.668	2.505
Extension	243	600	442	704	438
Revision	299	249	98	249	134
Extension Cum Revision	109	97	112	0	0

*) Up to June 30, 2013

The potential for the increase in the issuance of telecommunication tool and equipment certificates in this year of 2013 is seen from the comparison of certificates issuance in semester 1 of 2011, 2012 and 2013. In all months in semester 1 except in June, certificates issuance in 2013 is higher than in 2011 and 2012. If compared with the issuance in semester 1 of 2012, the issuance of telecommunication tool and equipment certificates has only a slight decline for the type of revised certificate. But, the number of this type of certificate is not many so that it does not significantly affect the total number of certificate issuance. Particularly for new certificates whose number is much bigger than other types of certificates, the increase of the issuance in semester 1 of 2013 achieves 17%, while in total, the increase of the number of certificates issued in semester 1 of 2013 achieves 17.6% compared to that in semester 1 of 2012, with the highest increase occurs in February which achieves 66.5% compared to the same month in semester 1 of 2012.

Figure 8.2.
Composition of Certificates in semester 1 between the years 2011, 2012 and 2013



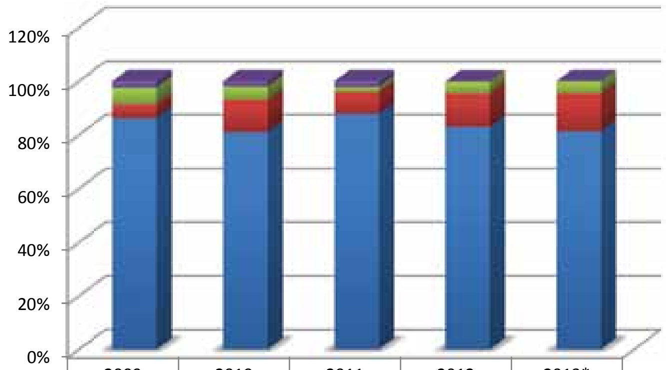
	Jan	Feb	Mar	Apr	May	Jun
2011	357	376	426	358	462	457
2012	357	319	437	439	572	493
2013*	408	531	488	553	608	489

*) Up to June 30, 2013

The proportion of certificates issued shows that the issuance of tool and equipment certificates is still dominated by new certificates. The proportion of new certificate issuance in 2013 achieves 81.4% of the total certificates issued. This proportion of new certificates is slightly decreased compared to that in semester 1 of 2012 where the proportion reached 81.8%. This proportion was also lower than that in 2012 which achieved 83%. In fact, new certificates issuance is the main target of Directorate of Standardization of Postal and Information and Communication Technology Equipment, in relation with the incoming of the new type of telecommunication equipment to Indonesia to be circulated in the market.

In the meantime, other types of certificates are supplement related to the existence of certificates whose validity expired or certificates that need revision, so that the proportion of extended certificates, revised certificates, and revised cum extended certificates issuance is not many as shown in figure 8.3.

Figure 8.3.
Composition of Certificates issued according to type of certificate in 2009 – semester 1 of 2013



	2009	2010	2011	2012	2013*
Extension Cum Revision	2,3%	1,9%	2,1%	0,0%	0,0%
Revision	6,3%	5,0%	1,8%	4,4%	4,4%
Extension	5,1%	12,0%	8,3%	12,5%	14,2%
New Certificate	86,3%	81,1%	87,8%	83,0%	81,4%

*) Up to June 30, 2013

8.3.2. Certificate Issuance according to Group of Types of Equipment

Certificate issuance of tool and equipment according to group of the types of equipment is differentiated into five types of equipment, namely Cabled Customer Premises Equipment (CPE), Wireless Customer Premises Equipment (CPE), Transmission equipment, Broadcast equipment, and Central equipment. Up to semester 1 of 2013, the majority of equipment standard certificates are for group of Wireless customer equipment (CPE). From the total of 3077 equipment certificates issued, around 72.1% are equipment certificates for group of wireless customer equipment (CPE). This proportion is lower than certificates issuance for wireless customer equipment (CPE) in semester 1 of 2012 which achieved 75.6%.

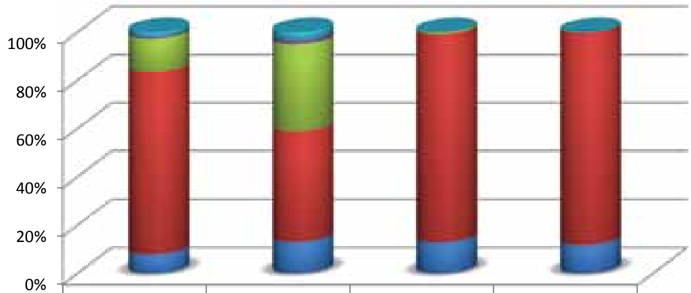
Other group of equipment whose certificates are largely issued in semester 1 of 2013 is Transmission type of equipment, the proportion of which achieves 17.6% or higher than that in semester 1 of 2012 which achieved 16.5%. Meanwhile, the type of equipment whose certificates are the least issued is Broadcast equipment which up to semester 1 of 2013 is only 27 certificates in total or only 0.9% of the equipment certificates issued. Compared to the certificates issued in semester 1 of 2012, there is an increase in the proportion of certificates issuance of CPE, Transmission and Central tool and equipment, while the decline of certificate proportion occurs for Wireless customer tool and equipment (CPE) which has the biggest proportion, and for Transmission equipment. In view of the proportion of Wireless customer equipment (CPE) which is bigger than other equipment, such change of proportion implicitly shows a decline in the composition of certificates issuance for the type of wireless tool and equipment compared to other telecommunication tool and equipment.

Table 8.2.
Issuance of certificates according to types of equipment in semester 1 of 2013

Type	Cabled Customer Equipment (CPE)	Wireless Customer Equipment (CPE)	Trans Mission	Broad-casting	Central	Total
New Certificate	197	1894	347	19	48	2505
Extension	57	201	159	8	13	438
Revision	15	101	1	0	0	117
Extension Cum Revision	2	15	0	0	0	17
Total	271	2211	507	27	61	3077

The dominance of certificate issuance for Wireless customer equipment (CPE) is more visible for the type of new certificates. From the total of 2,505 new certificates issued in semester 1 of 2013, the proportion of new certificates for Wireless customer equipment (CPE) achieves 75.6% or decreased from the condition in semester 1 of 2012 which achieved 80.3%. The biggest proportion of certificates for Wireless customer equipment (CPE) is also seen for other types of certficates. In the meantime, the proportion of new certificates for transmission equipment which is the second biggest is only 13.9% and the proportion of new certificates for Cabled customer equipment (CPE) is only 7.9% as shown in figure 8.4. There is an increase in the proportion of those two types of tool and equipment in the issuance of new certificates in semester 1 of 2013 compared to that in semester 1 of 2012. For the type of extended certificate, the second biggest proportion is for the group of transmission equipment, while for revised certificate and revised cum extended certificate, the second biggest proportion is for Cabled customer equipment (CPE). This shows that extended certificates are largely found in transmission equipment in addition to Wireless CPE equipment.

Figure 8.4.
Composition of Certificate Issuance of Equipment according to Type of Tool and Equipment, and Type of Certificate in Semester 1 of 2013

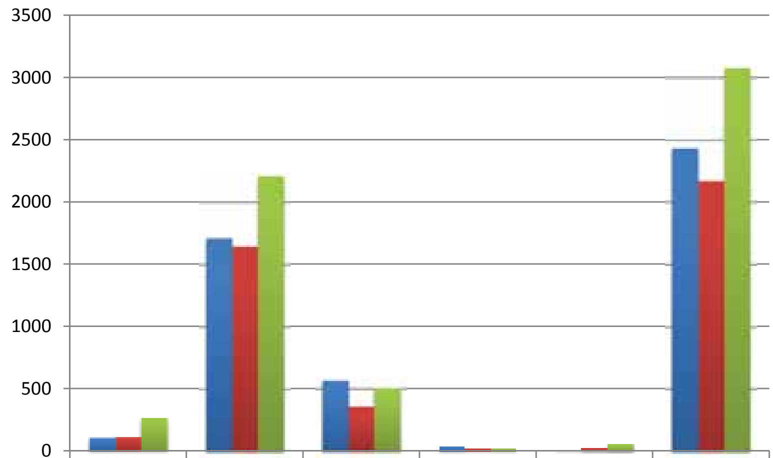


	New Certificate	Extension	Revision	Extension cum Revision
Central	1,9%	3,0%	0,0%	0,0%
Broadcast	0,8%	1,8%	0,0%	0,0%
Transmission	13,9%	36,3%	0,9%	0,0%
Wireless CPE	75,6%	45,9%	86,3%	88,2%
Cabled CPE	7,9%	13,0%	12,8%	11,8%

Certificate issuance for group of Wireless customer equipment (CPE) in semester 1 of 2013 shows quite significant increase compared to the same period of the previous year. Certificate issuance for the type of Wireless customer equipment (CPE) in semester 1 of 2013 increased by 35.1% compared to the same period of the previous year. In fact, certificate issuance in semester 1 of 2012 precisely decreased compared to the previous year. The bigger increase occurs for other types of tool and equipment except broadcast equipment which does not change. The biggest increase occurs for certificates of Cabled customer equipment (CPE) which increased by 107% compared to that in semester 1 of 2012. Meanwhile, certificates for transmission and central equipment increased by 51% and 55.9% respectively. The proportion of certificate issuance for group of Wireless Customer Equipment (CPE) which is dominant and increased quite significantly is in line with the trend of telecommunication equipment usage by consumer users which is increasingly leading to customer equipment (consumer product) with wireless technology.

The proportion of Wireless Customer Equipment (CPE) certificates which is dominant and increased significantly is in line with the trend of telecommunication equipment usage by consumer users which is increasingly leading to customer equipment (consumer product) with wireless technology.

Figure 8.5.
Issuance of Equipment Certificates between semester 1 of 2011, 2012 and 2013

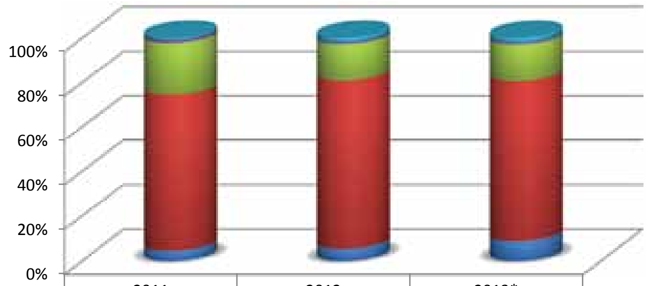


	Cabled CPE	Wireless CPE	Transmission	Broadcast	Central	Total
2011*	108	1710	567	36	15	2436
2012*	116	1643	359	21	34	2173
2013*	271	2211	507	27	61	3077

*) Up to June 30.

The increase in certificate issuance of this wireless customer equipment (CPE) resulted in the shift of the composition of equipment certificate issuance according to group type of equipment. The proportion of certificate issuance for Wireless customer equipment (CPE) in semester 1 of 2013 decreased to 71.9% after in semester 1 of 2012 achieved 75.6%. Meanwhile, group type of cable customer equipment (CPE) and central equipment shows an increased proportion as illustrated in figure 8.6. Proportion of the issuance of equipment certificate for Cabled customer equipment (CPE) increased from 5.3% in semester 1 of 2012 to 8.8% in semester 1 of 2013, and central equipment slightly increased from 1.6% to 2%. The proportion of equipment type of Transmission tends to remain the same from semester 1 of 2012 to semester 1 of 2013.

Figure 8.6
Comparison of Certificate Issuance Composition according to Type of Equipment in semester 1 of 2011 - 2013



	2011	2012	2013*
Central	0,6%	1,6%	2,0%
Broadcast	1,5%	1,0%	0,9%
Transmission	23,3%	16,5%	16,5%
Wireless CPE	70,2%	75,6%	71,9%
Cabled CPE	4,4%	5,3%	8,8%

*) Up to June 30, 2013

8.3.3. Fluctuation of Monthly Certificate Issuance

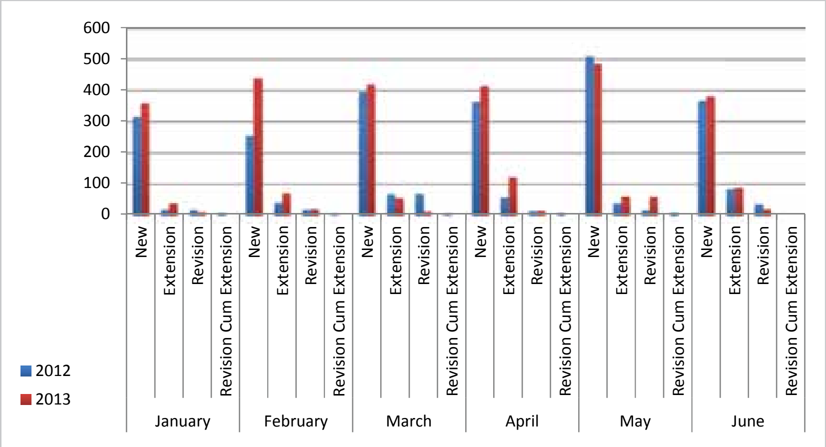
Monthly issuance of tool and equipment certificates in semester 1 of 2013 shows the increasing trend and achieves its peak in the second month of each quarter particularly for new certificates. The issuance of equipment certificates which increased since the month of March and even reaches more than 600 certificates in May, sharply declined again at the end of semester 1. This decline also occurs mainly due to the sharp decline of new certificates. This condition is almost similar with the condition occurred in semester 1 of 2012 where certificate issuance at the end of semester experienced a decline. However, certificate issuance in semester 1 of 2012 was relatively more fluctuated than in semester 1 of 2013.

Table 8.3.
Monthly certificate issuance according to types of certificates in semester 1 of 2012 and 2013

Month	New		Extension		Revision		Revision cum Extension	
	2012	2013	2012	2013	2012	2013	2012	2013
January	316	359	18	39	17	10	6	0
February	256	440	41	72	18	19	4	0
March	395	421	68	55	69	12	5	0
April	363	416	57	123	13	14	6	0
May	510	487	38	61	16	60	8	0
June	367	382	85	88	36	19	5	0

Comparison of monthly certificate issuance between semester 1 of 2012 and semester 1 of 2013 shows that for the issuance of new certificates, only in the month of May the certificates issued in semester 1 of 2012 are higher than in semester 1 of 2013, while in five other months, new certificates issuance in semester 1 of 2013 is higher than in semester 1 of 2012. Even for new certificates issuance in February, it is much higher in semester 1 of 2013 than in semester 1 of 2012, while for other months, the difference is not too big. This at the same time shows that the number of telecommunication tool and equipment entering, having been tested and getting the certificate in this semester 1 of 2013 is much greater than in semester 1 of the previous year.

Figure 8.7
Comparison of Monthly Certificate Issuance according to Types of Certificates in Semester 1 of 2012 and 2013



8.3.4. Certificate Issuance according to Country of Origin of Tool and Equipment

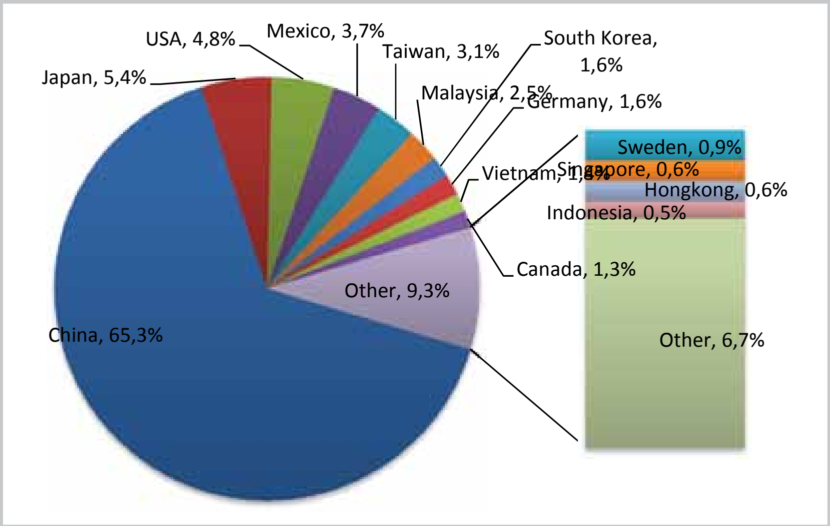
The largest issuance of equipment certificates up to semester 1 of 2013 is still for equipment originating from China. During semester 1 of 2013, it is recorded that 2008 certificates issued are for telecommunication tool and equipment originating from China. The number of certificates issuance for telecommunication tool and equipment from China is sharply increased, i.e. 52.1% compared to that in semester 1 of 2012 which achieved 1320 certificates. The countries with the next biggest number of tool and equipment certificates issued are Japan, USA and Mexico, but with far smaller number of certificates issued than that for the equipment originating from China since the amount is still less than 200 certificates. Japan becomes the country with the highest increase of certificate issuance and at present becomes the second biggest, surpassing USA, Mexico and Taiwan. The number of certificates issued for tool and equipment from Indonesia is also very few. During semester 1 of 2013, only 15 certificates issued for tool and equipment originating from Indonesia or decreased compared to that in semester 1 of 2012 which were 17 certificates. This number of certificates issued for tool and equipment from Indonesia is increasingly left behind compred with Malaysia which in semester 1 0f 2012 also exceeded Indonesia but with the difference which was not too big. In semester 1 of 2013, 76 certificates were issued for tolls and equipment originating from Malaysia. The countries that also surpassed Indonesia in issuance of certificates of telecommunication tool and equipment in Indonesia are Singapore and Vietnam.

Table 8.4.
Composition of Certificates according to Types of Certificates and Countries of Origin in semester 1 of 2013

Country of Origin	Cabled CPE	Wireless CPE	Broadcast	Central	Transmis-sion	Total
China	185	1534	1	15	273	2008
Japan	5	130	1	0	31	167
USA	6	48	5	6	84	149
Mexico	0	106	0	0	8	114
Taiwan	3	75	0	0	17	95
Malaysia	12	45	0	3	16	76
South Korea	0	37	0	0	12	49
Germany	2	28	4	1	15	49
Vietnam	7	23	0	13	0	43
Canada	2	33	0	0	6	41
Sweden	0	5	0	10	12	27
Singapore	0	10	0	2	8	20
Hongkong	0	5	0	0	13	18
Indonesia	0	6	1	2	6	15
Italy	0	1	6	0	6	13
Other	19	134	3	2	35	193
Total	**241**	**2220**	**21**	**54**	**542**	**3077**

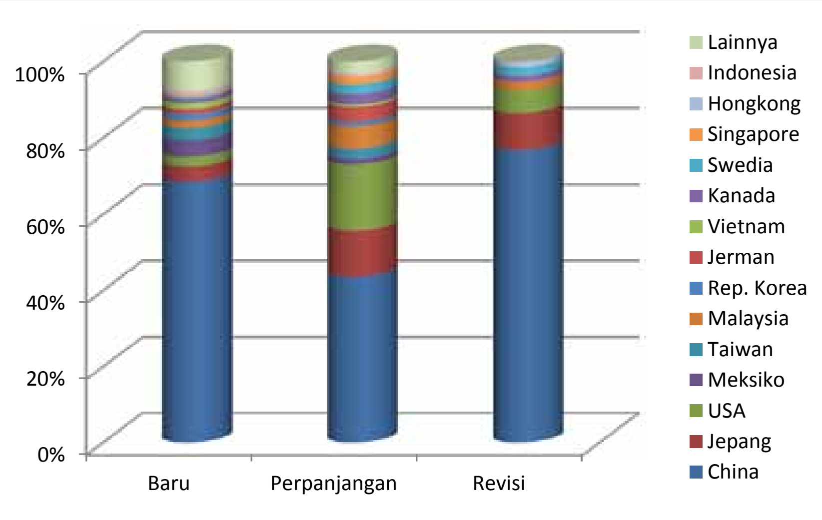
The dominance of certificate issuance of tool and equipment from China in this semester 1 of 2013 is shown from the proportion of certificate issuance of tool and equipment according to country of origin. From the total of 3077 certificates of tool and equipment issued in semester 1 of 2013, around 65.3% represents the certificates of tool and equipment originating from China. Meanwhile, the proportion of certificates issued for equipment originating from Japan is only 5.4% and for tool and equipment certificates originating from USA and Mexico are only 4.8% and 3.7% respectively. This proportion of certificates issuance for equipment from China is increased compared to that in semester 1 of 2012 which achieved 60.7%. The proportion of certificates issuance of tool and equipment originating from Indonesia is also only 0.5% or decreased compared to that in semester 1 of 2012, the proportion of which achieved 0.8%. This trend also continue the decreasing trend of the proportion of certificates issuance for equipment from Indonesia in the previous years. This shows the lack of production of telecommunication tool and equipment from Indonesia which are submitted to get certificate.

Figure 8.8.
Distribution of certificates issued in semester 1 of 2013 according to Countries of Origin of Tool and Equipment



If viewed from the proportion of the respective types of certificates, the certificate issuance of tool and equipment from China is also very dominant for new certificates and revised certificates. The proportion of certificate issuance of tool and equipment from China for new certificates only achieves 68.4% and for revised certificates achieves 76.9%. This proportion is increased pretty big especially for extended certificates which in semester 1 of 2012 was only 44% and new certificates only achieved 65.2%.   In the meantime, for certificate issuance of tool and equipment originating from Japan, the new certificates only achieves 4% and revised certificates achieves 9.7% as seen in figure 8.9. However, for extended certificates whose volume is relatively bigger than revised certificates, the issuance of standard certificates of tool and equipment from China is not too dominant although still the biggest. The proportion of extended certificates for telecommunication tool and equipment from China is only 43.6% while for tool and equipment from USA and Japan, the proportion reaches 17.4% and 12.2% respectively. The proportion of extended certificate from China is also increased compared to that in semester 1 of 2012 which only achieved 40.8%. For certificates issuance of tool and equipment originating from Indonesia, the proportion which is relatively big is for extended certificates, but it only achieves 0.9%, while the proportion of new certificates is only 0.44%.

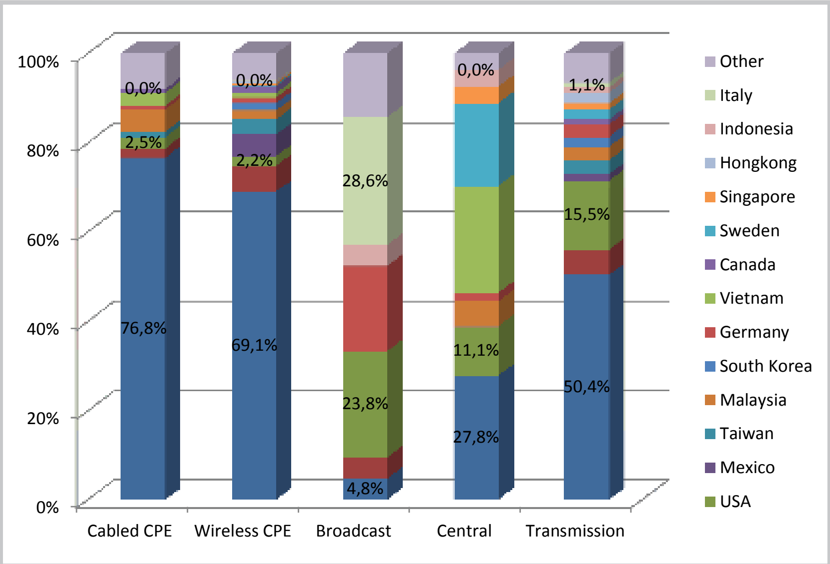
Figure 8.9.
Proportion of Certificate Issuance according to Countries of Origin and Type of Certificate in semester 1 of 2013



The proportion of certificate issuance according to the country of origin and types of tool and equipment shows that certificate issuance for tool and equipment from China is only dominant for the type of Cabled customer equipment (CPE) and Wireless customer equipment (CPE). In the meantime, for the type of Transmission equipment its proportion is not too dominant although still the biggest compared to other countries. The proportion of certificate issuance of tool and equipment for the type of Cabled customer equipment (CPE) achieves 76.8% and for Wireless customer equipment (CPE) achieves 69.1%. The proportion of equipment from China for these two types of equipment is also increased compared to that in semester 1 of 2012 where Cabled customer equipment (CPE) achieved 67.2% and Wireless customer equipment achieved 66.8%. For the type of Cabled customer equipment (CPE), countries of origin which have the next biggest proportion are Malaysia and USA but with the proportion of only 5% and 2.5% respectively, or decreasing quite significantly from semester 1 of 2012. Meanwhile, for Wireless customer equipment (CPE), the next biggest proportion is for equipment originating from Japan with the proportion of only 5.9%.

Unlike the types of CPE customer equipment, for equipment types of Transmission, Central and Broadcast, certificate issuance for equipment from China is not too dominant. For the equipment type of Transmission, certificate issuance of equipment from China is only 50.4% or increased from semester 1 of 2012 which only achieved 36.8%, while equipment from USA achieves 15.5% or only slightly decreased compared to that in semester 1 of 2012. As for equipment type of Central, the proportion of certificate issuance of equipment originating from China only reaches 27.8%, or decline froma that in semester 1 of 2012 which reached 35.3%, while for equipment from Vietnam, its proportion achieves 24.1% and from USA achieves 11.1%. For Broadcast equipment, certificates issuance is dominated by equipment from Italy and USA with the proportion of 28.6% and 23.8% respectively. This proportion of broadcast equipment from Italy is decreased compared to that in semester 1 of 2012 which achieved more than 40%. This shows that for broadcast type of equipment, the equipment that entered Indonesia is not many which come from China as for other types of equipment.

Figure 8.10.
Proportion of Certificate Issuance according to Countries of Origin in semester 1 of 2013



The proportion of standard certificate issuance for Cable customer equipment (CPE) and Wireless customer equipment (CPE) has a significant increase, while Central equipment has a decrease and Broadcast equipment only slightly increased. This shows the increasingly dominance of equipment from China for the type of consumer equipment which entered and obtained standard certificate to be circulated in Indonesia.

8.4. Trade Balance of Telecommunication Tool and Equipment

Standardization of tool and equipment through certification of tool and equipment that will be entering Indonesia is strongly related to export and import or trade of telecommunication from and to Indonesia. Standardization is required to ensure that the telecommunication tool and equipment entering Indonesia have met the established standard of tool and equipment to be used in the territory of Indonesia. The issuance of large amount of standardized certificates for a type of tool and equipment implicitly shows the high import for that type of telecommunication tool and equipment. The trade balance of telecommunication equipment shows the export and import of telecommunication equipment from and to Indonesia. This information provides a picture about the size of export and especially the import of telecommunication equipment to Indonesia that requires the attention of the Directorate of Standardization of Postal and Information and Communication Technology Equipment

Trade balance of Indonesian telecommunication equipment shows a balance of trade which was positive at the beginning until 2007, and became negative since 2008. Entering 2008, the import value of the product of telecommunication and information and communication technology was bigger than its export value although with the difference which is not too big and export volume which is still bigger than import volume. However, the gap between import value and export value of this product of telecommunication and information and communication technology is getting bigger after 2008 with the deficit of trade balance of telecommunication and information and communication technology product which is getting bigger. The deficit of trade balance of telecommunication product which in 2008 only achieved 68 million dollars, in 2011 achieved 1.56 billion dollars and in 2012 increased again to 2.6 billion dollars.

Entering 2013, up to semester 1 the export value of Indonesian telecommunication product already reaches 52.1% of the export value during 2012. But, at the same time the import value also achieves 52.3% of import in the previous year. As the result, the trade balance deficit of this telecommunication product is getting bigger where the import value is getting farther leaving the export value behind. Up to semester 1 of 2013 trade balance deficit of Indonesian telecommunication and information and communication technology product already achieves 1.36 billion dollars. This increasingly bigger gap is not apart from the sharp decline of export of telecommunication and information and communication technology equipment in 2012 which reached 52.1% while the import value only decreased 8.3%.

Table 8.5.
Export and Import of Telecommunication Tool and Equipment in 2007 – semester 1 of 2013

	Export		Import	
	Value (US$)	Weight (kg)	Value (US$)	Weight (kg)
2007	791,072,473	61,144,702	664,248,080	18,671,184
2008	1,044,207,325	55,282,207	1,130,915,894	20,398,992
2009	1,886,732,217	42,314,730	2,503,657,803	48,611,492
2010	2,310,105,995	56,333,735	3,619,695,162	62,600,497
2011	2,681,090,192	66,745,199	4,246,802,605	55,264,763
2012	1,284,076,360	28,578,023	3,893,405,777	51,044,989
2013*	669,116,102	13,767,983	2,035,674,327	22,676,997

*) Up to June 30, 2013

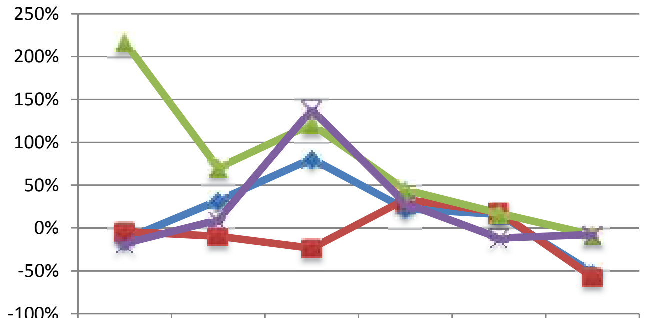
If the development of export and import of this telecommunication tool and equipment will run linear, it is expected that the export of Indonesian telecommunication product at the end of 2013 will be higher than the export in 2012. But, the import of telecommunication product is also estimated to have an increase compared to that in 2012 with greater increase, so that trade deficit of telecommunication and information and communication technology equipment will absolutely be bigger.

The growth of import of telecommunication and information and communication technology product which is getting bigger whereas the export does not have many increase resulted in the deficit of trade balance of telecommunication and information and communication technology which is getting bigger. In 2012, the deficit already achieved 2.6 billion dollars and it is estimated that it will increase in 2013.

Figure 8.11 shows the growth trend of export and import of Indonesian telecommunication equipment. Calculation of growth was only conducted up to semester 2 of 2012 (end of year) because the growth in 2013 cannot be calculated considering the data of 2013 is only available up to semester 1. From that graph, it is seen that up to 2009 export of telecommunication tool and equipment still showed positive growth trend. But, entering 2010, the growth rate was getting lower although still showing positive growth. In 2011 the declining growth trend still continued. Meanwhile, the import value in fact experienced increasing growth trend up to 2009 and despite having a declining growth entering 2010, the decline was not as big as the export.

Export growth was slightly better and underwent a slight decline in 2011. This situation is shown in a more sloping graph. On the contrary, the growth of import value of telecommunication and information technology products was getting lower compared to those of the previous years. The graph of the decline in the import growth of telecommunication and information technology product in 2011 was also much sharper compared to the decline in the import growth in the previous years. However, entering the year of 2012, the export experienced negative growth and its value declined quite sharp compared to that in 2012. Import of telecommunication products also experienced a decline, but its declining trend was not as sharp as the decline in export.

Figure 8.11.
Growth Trend of Export and Import of Telecommunication Equipment In 2007-2012



	2007	2008	2009	2010	2011	2012
Export Value (US$)	-13,3%	32,0%	80,7%	22,4%	16,1%	-52,1%
Export Weight (kg)	-3,9%	-9,6%	-23,5%	33,1%	18,5%	-57,2%
Import Value (US$)	217,1%	70,3%	121,4%	44,6%	17,3%	-8,3%
Import Weight (kg)	-18,0%	9,3%	138,3%	28,8%	-11,7%	-7,6%

Chapter 9

Chapter 9

Testing of Telecommunication Equipment

9.1. Scope

Statistical data of telecommunication tool and equipment testing will present performance data of Office of Telecommunication Equipment Testing Laboratory (BBPPT) according to its tasks and functions. The data which will be presented includes data of test result recapitulation (RHU) and Payment Oder Letter (SP2) on the tests done. These two instruments are issued by BBPPT as the organizer of equipment testing at Directorate General of Resources and Equipment of Post and Information Technology. Any telecommunication and information technology tool/equipment that enters Indonesia must be tested before being used and traded in the territory of Indonesia. Testing information consists of name of applicant, name of tool, brand/type, country of origin, and information of the number and date of testing. Testing is carried out on any equipment submitted by different applicants of the testing. Testing on the tool and equipment submitted by the applicant will further be conducted by BBPPT.

In the first part, the data presented are data of test result recapitulation on the testing done to telecommunication tool and equipment by BBPPT. The presentation comprises the number of monthly and annual testing, and the number of equipment tested according to the group type of the equipment and country of origin of the equipment. The second part of data presentation is the amount of invoice for testing service mentioned in the Payment Order Letter (SP2). Data used is derived from data of SP2 handling which provides information on the name of applicant, name of equipment, brand/type, country of manufacturing, received date, type of equipment, amount of payment and payment date. In general, the scope of statistical data presentation of this equipment testing is as follows:

1) RHU in semester 1 of 2013 according to:
    a. country of origin of equipment
    b. group of types of equipment
2) Comparison of RHU (test result recapitulation) of semester 1 in 2011 - 2013
3) SP2 in semester 1 of 2013 according to:
    a. country of origin of equipment
    b. group of types of equipment
4) Comparison of SP2 in semester 1 of 2011 - 2013

9.2. Concept and Definition

Some concepts and definitions contained in the data presentation about Office of Telecommunication Equipment Testing Laboratory are as follows:

- Testing process is one of testing processes on telecommunication tool/equipment in Indonesia by BBPPT. This process is started with the issuance of equipment testing order letter (SP3) by Directorate of Standardization of Postal and Information and Communication Technology Equipment, and then submitted by the applicant (owner of equipment) completed with the necessary requirements to BBPPT. The application will then be reviewed for the completeness of testing requirements. After having been declared complete, BBPPT will issue SP2 which has to be paid by the applicant and afterwards testing on the tool/equipment will be carried out according to the type of equipment.
- Test Result Recapitulation (RHU) is recapitulation of test results on the equipment tested by BBPPT and documented as data to be submitted to Directorate of Standardization of Postal and Information and Communication Technology Equipment

- Payment Order Letter (SP2) is a letter that instructs the owner of equipment tested at BBPPT to pay the cost of testing implementation according to the applicable rate.

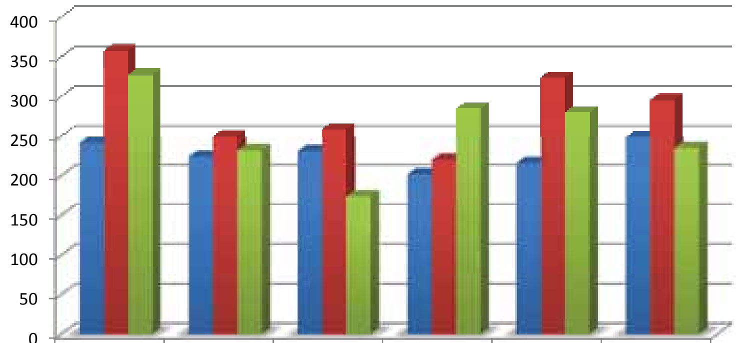
9.3. Statistics of Equipment Testing

Statistics of equipment testing will present statistical data and analysis on the achievement of main activities carried out by Office of Telecommunication Equipment Testing Laboratory. Those two activities are equipment testing activities shown in the form of Test Result Recapitulation (RHU) on incoming tool/equipment of post and information technology and carried out by Office of Telecommunication Equipment Testing Laboratory. The second activity is the issuance of Payment Order Letter (SP2) on charges emanating from testing conducted as Non-Tax State Income (PNBP) for Office of Telecommunication Equipment Testing Laboratory. Data of equipment testing consist of data of the applicant, name and type of equipment tested, type of telecommunication equipment, country of origin of equipment, time of testing/issuance and the amount of testing fee.

9.3.1. Test Result Recapitulation (RHU)

Data of Test Result Recapitulation (RHU) on telecommunication equipment testing carried out during semester 1 of 2013 at Office of Telecommunication Equipment Testing Laboratory (BBPPT) shows a significant increase of the number of equipment tested at BBPPT. Compared with the number of tests carried out during semester 1 of 2011 and 2012, testing of equipment during semester 1 of 2013 in total is higher than that in the semester 1 of 2011 but lower than that in semester 1 of 2012. The number of testing in this semester 1 of 2013 decreased by 10.2% compared to that in semester 1 of 2012, while in the previous year the number of equipment testing at BBPPT increased by 25.2%. In most of the months in semester 1, the number of equipment testing at BBPPT in this semester 1 of 2013 is lower than that in semester 1 of 2012. Only in the month of April where the equipment testing in semester 1 of 2013 is higher than that in semester 1 of 2012.

Figure 9.1.
Comparison of the number of equipment tested in Semester 1 of 2011, 2012 and 2013



	January	February	March	April	May	June
2011*	241	224	231	202	216	249
2012*	358	250	259	220	324	296
2013*	327	232	174	285	280	235

*) Semester 1

Testing activity in semester 1 of 2013 mostly conducted in the month of January and then in April. But, the equipment testing in January 2013 is higher than in January 2012. In April 2013, the equipment testing is sufficiently higher than in April 2012. Intensity of equipment testing at Office of Telecommunication Equipment Testing Laboratory shows different condition between quarter 1 and quarter 2 of 2013. Intensity of equipment testing in quarter 1 tends to be lower than in quarter 2. This condition is different between semester 1 of 2011 and semester 1 of 2012, where in semester 1 of 2012 the intensity of testing was relatively the same between quarter 1 and quarter 2, whereas in semester 1 of 2011, intensity of equipment testing in quarter 1 was higher than in quarter 2.

9.3.2. Testing Result of Equipment According to Countries of Origin

The distribution of testing activities in semester 1 of 2013 according to countries of origin of equipment shows that telecommunication equipment mostly tested in semester 1 of 2013 is equipment originating from China the number of which achieves 1097 units. The number of equipment originating from China tested in semester 1 of 2013 is much bigger than the equipment originating from other countries. However, if compared with semester 1 of 2012, the number of equipment originating from China which is tested decreased by 11.6%. The next most tested are equipment from Japan and Taiwan, but with the amount of only 84 units and 64 units. There is no country other than China whose equipment tested during semester 1 of 2013 are more than 100 units for each country.

Table 9.1.
Test Result Recapitulation of Telecommunication Tool/Equipment according to Countries of Origin in semester 1 of 2013

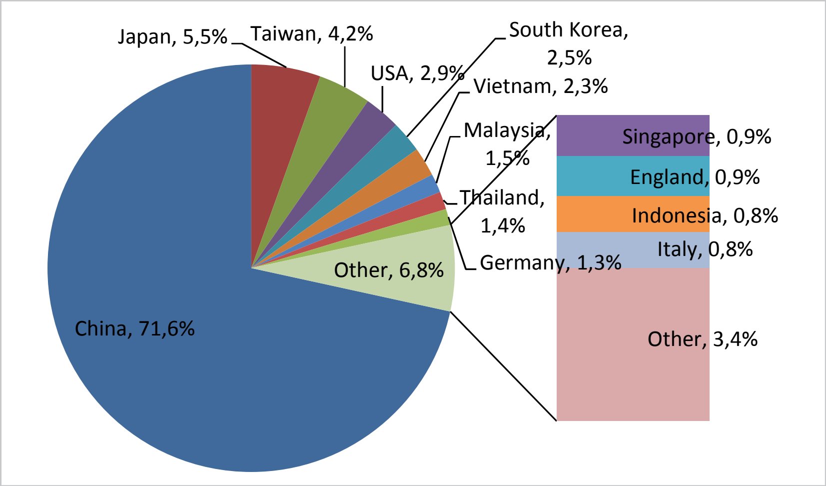
Country	Month						Total
	January	February	March	April	May	June	
China	269	161	131	183	197	156	1097
Japan	15	7	12	26	19	5	84
Taiwan	10	11	10	12	16	5	64
USA	4	11	1	9	6	14	45
South Korea	8	5	1	9	6	9	38
Vietnam	3	5	2	6	9	11	36
Malaysia	2	5	1	5	4	6	23
Thailand	5	2	3	6	3	3	22
Germany	3	2	2	3	5	5	20
Singapore	1	5	0	5	1	2	14
England	1	4	3	4	1	1	14
Indonesia	1	3	2	3	1	4	12
Italy	1	0	2	4	1	4	12
Others	4	11	4	10	11	12	52
Total*	**327**	**232**	**174**	**285**	**280**	**235**	**1533**

*) Exclude those whose countries of origin are unidentified

The great number of equipment from China for which testing is done in semester 1 of 2013 is also spread over the six months so that in each month the number of telecommunication equipment mostly tested is equipment from China. In average, nearly 183 telecommunication equipment from China are tested each month with the highest in January and April. However, the monthly average testing for equipment from China is lower than the average in semester 1 of 2012 which achieved 205 testing. The intensity of testing of equipment from China is also almost the same between quarter 1 and quarter 2 in semester 1 of 2012. For the fist quarter, the average reaches 187 units each month and in the second quarter reaches 178 units each month. In the meantime, the number of equipment originating from Japan tested in semester 1 of 2013 in average are only 14 units each month and equipment from taiwan are 11 units each month. There is a slight increase of the number of testing of equipment from Japan in this semester 1 of 2013 compared to the same period of the previous year.

This distribution of equipment testing which is very dominated by telecommunication equipment from China is seen from the composition of equipment testing according to countries of origin as shown in figure 9.2. From the total of 1533 telecommunication and information technology equipment tested at Office of Telecommunication Equipment Testing Laboratory, around 71.6% are telecommunication equipment from China. Meanwhile, the proportion of equipment originating from Japan and Taiwan is only 5.5% and 4.2% respectively from the total equipment tested. The proportion of equipment from China which are tested in semester 1 of 2013 is slightly lower than the testing in semester 1 of 2012 which achieved 72.7%. On the other hand, the second biggest (Japan) and the third biggest (Taiwan) proportion of equipment in semester 1 of 2013 experience a slight increase compared to that in semester 1 of 2012 which were still below 5% and 4%. Among the equipment which are tested at the Office of Telecommunication Equipment Testing Laboratory there are also equipment from Indonesia. But, the proportion of equipment from Indonesia which are tested at BBPPT in semester 1 of 2013 is still very low, i.e. only 0.8% and also lower than in semester 1 of 2012 which reached 1.2%. This composition of equipment tested according to country of origin more and more explained that telecommunication tool/equipment is started to be extremely dominated by the equipment from China.

Figure 9.2.
Composition of tool/equipment tested at BBPPT according to Countries of Origin in semester 1 of 2013



The Proportion of equipment originating from China which are tested by BBPPT in semester 1 of 2013 experiences a decrease compare to the proportion in semester 1 of 2012. On the contrary, the proportion of equipment from Japan and Taiwan precisely has an incease.

9.3.3. Result of Equipment Testing According to Types of Equipment

The distribution of equipment tested at BBPPT according to types of equipment as indicated in Table 9.2 shows that telecommunication equipment mostly entering Indonesia and testing carried out on them are cellular telephones. Moreover, this number of cellular telephones for which testing is done at BBPPT is far bigger than other telecommunication equipment. Up to semester 1 of 2013, the number of incoming cellular telephones for which testing is done achieves 472 units. However, the number of cellular telephones tested in this semester 1 of 2013 reduced by 37.9% compared to that in semester 1 of 2012 which achieves 760 units. Meanwhile, the next most telecommunication equipment undergoing testing are WLAN, wireless equipment and Tablet PC. But the number of those three types of equipment which are tested at BBPPT is no more than 100 units. This composition is also different from that in semester 1 of 2012 where the most tested equipment were Bluetooh, WLAN, and Antenna. What is also interesting is that the equipment of Tablet PC type is included in the most tested type of equipment.

The high number of equipment in the form of cellular telephones entering Indonesia for which testing is done takes place every month except in the month of March. The average number of incoming cellular telephones for which testing is done by BPPPT achieves 79 units per month with the highest number of 138 units occurring in January. The average number of cellular telephones tested in a month in this semester 1 of 2013 is also lower than that in semester 1 of 2012 which achieved 128 units per month. In the meantime, the average number of WLAN and wireless equipment as telecommunication equipment undergoing quite many testing is far below cellular telephones, only 14 units and 12 units respectively each month. In the last few years, cellular telephones continued the trend of becoming telecommunication equipment entering Indonesia for which testing is carried out. Moreover, the variation of equipment attached to cellular telephone and its operating system is also inceasingly diversed. Meanwhile, for equipment of Tablet PC there is a significant increase where on average there are 11 to 12 Tablet PCs tested each month.

The increasing number of producers and vendors which respectively also offer various types and kinds of cellular telephones and Tablet PC resulted in the growing number of cellular telephone entering Indonesia and the number of testing done. The large population of Indonesia with varied strata of economy forms an attractive market for the producers and vendors ofcellular telephones and Tablet PC to offer their products in Indonesia with various kinds and price classes. Tablet PC has also become the telecommunication equipment product which is much used by the society daily.

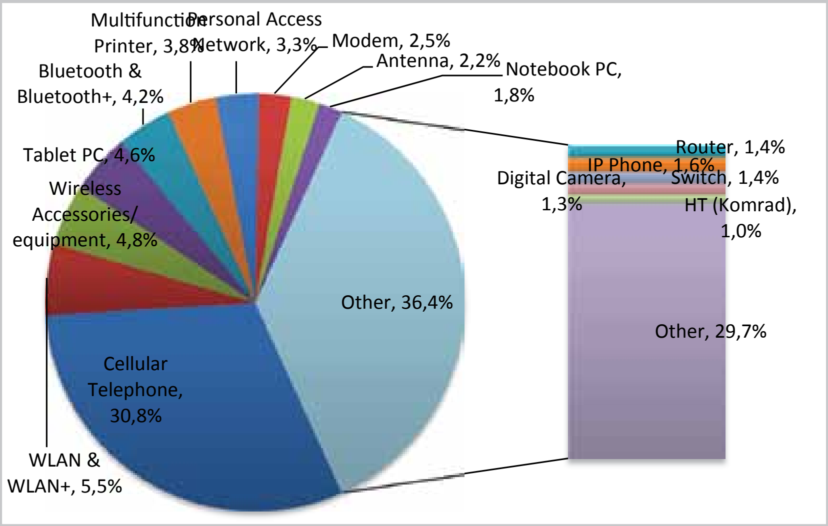
Table 9.2.
Test Result Recapitulation of Equipment according to Types of Equipment in semester 1 of 2013

Equipment	Month						Total
	January	February	March	April	May	June	
Cellular Telephone	138	75	48	73	73	65	472
WLAN and WLAN+	14	15	13	11	12	19	84
Wireless Accesories/ equipment	9	14	5	16	12	18	74

Equipment	Month						Total
	January	February	March	April	May	June	
Tablet PC	19	10	5	14	10	12	70
Bluetooth and Bluetooth+	13	7	15	12	10	8	65
Multifunctions Printer	11	3	10	7	18	10	59
Personal Access Network	8	8	5	15	9	6	51
Modem	10	4	1	10	5	9	39
Antenna	10	1	10	6	6	1	34
Notebook PC	0	0	1	2	15	10	28
IP Phone	7	4	0	6	6	1	24
Router	5	0	3	5	4	4	21
Switch	0	4	6	3	8	0	21
Digital Camera	3	3	5	4	5	0	20
HT (Komrad)	2	4	0	3	6	0	15
Other	78	80	46	98	82	72	456
Total	**327**	**232**	**285**	**286**	**280**	**235**	**1533**

The dominance of cellular telephones among telecommunication equipment that undergo testing at BBPPT is seen in the composition of equipment tested according to types of equipment in semester 1 of 2013. The proportion of cellular telephones vis-à-vis the total telecommunication equipment tested at BBPPT achieves 30.8%. This proportion actually experiences quite big decrease compared to that in semester 1 of 2012 which achieved 45%. Meanwhile, for WLAN and wireless equipment which become the second and third most tested equipment, their proportion achieve only 5.5% and 4.8% respectively. This proportion is increased compared to the proportion of Bluetooth and WLAN which are the second and third biggest proportions in semester 1 of 2012 which achieved 3.8% and 3%. In the meantime, the proportion of Tablet PC has achieved 4.6% in semester 1 of 2013 showing significant increase compared to the previous period. The telecommunication equipment that many of them are attached to cellular telephones and or used by the public, i.e. Modem also has a relatively high proportion compared to that of other equipment with the proportion achieving 2.5%. From the distribution as shown in figure 9.3 it can be seen that the equipment enters and undergoes tested in Indonesia has become more varied in line with the development of telecommunication and information technology equipment.

Figure 9.3.
Composition of equipment tested according to Types of Equipment in semester 1 of 2013



The big proportion of telecommunication equipment originating from China as the equipment mostly tested in semester 1 of 2013 also occurs in nearly all types of equipment. Among various types of equipment for which testing is conducted, the equipment originating from China dominates almost all types of equipment except digital camera. For digital camera, the proportion of equipment which mostly underwent testing at the Office of Telecommunication Equipment Testing laboratory are the equipment from Japan with the proportion achieving 60.9%. Meanwhile, for the digital camera equipment, the proportion of equipment originating from China only reaches 39.1%.

For telecommunication equipment predominantly used by the public, the telecommunication equipment from China entering Indonesia and undergoing testing are precisely very dominant. For the type of equipment of cellular telephones, from the total of 472 cellular telephones entering Indonesia and undergoing testing in semester 1 of 2013, around 91.5% of them are cellular telephones from China. For telecommunication equipment used by large customers, the equipment from China also showa a big proportion. For type of Tablet PC equipment, from a total of 70 units tested, 98.6% of them are Tablet PC from China, while for Bluetooth and

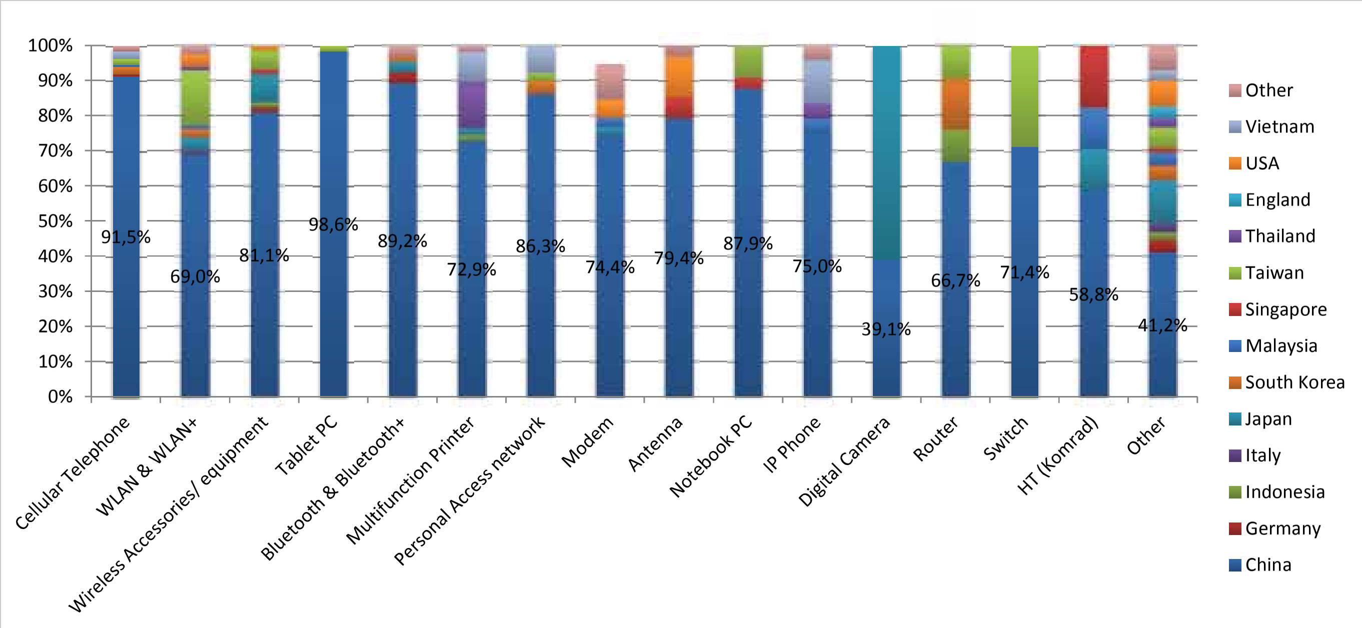
Cellular Modem, from a total of 65 units of Bluetooth and 39 units of Modem tested at BBPPT in semester 1 of 2013, around 81.1% Bluetooth and 74.4% Modem are from China.

Up to semester 1 of 2013, from the total of 407 cellular telephones entering Indonesia and undergoing testing at BBPPT, around 91.5% are cellular telephones from China. From 70 types of Tablet PC entering and undergoing testing, 98.6% are Tablet PCs from China.

Table 9.3.
Number of Equipment tested according to Types of Equipment and Countries of Origin in semester 1 of 2013

Type of Equipment	Countries of Origin														Total
	China	Germany	Indonesia	Italy	Japan	Rep. of Korea	Malaysia	Singa-pore	Taiwan	Thai-land	England	USA	Vietnam	Other	
Cellular Telephone	432	1	0	0	0	12	1	1	7	0	0	0	12	6	472
WLAN & WLAN+	58	0	0	1	3	2	1	0	13	1	0	3	0	2	84
Wireless Accessories/ Equipment	60	1	1	0	6	0	0	1	4	0	0	1	0	0	74
Tablet PC	69	0	0	0	0	0	0	0	1	0	0	0	0	0	70
Bluetooth & Bluetooth+	58	2	0	0	2	1	0	0	0	0	0	0	0	2	65
Multifunction Printer	43	0	1	0	1	0	0	0	0	8	0	0	5	1	59
Personal Access Network	44	0	0	0	0	2	0	0	1	0	0	0	4	0	51
Modem	29	0	0	0	1	0	1	2	0	0	0	2	0	4	39
Antenna	27	0	0	0	0	0	0	1	0	0	0	4	0	2	34
Notebook PC	29	0	0	0	0	0	0	0	4	0	0	0	0	0	33
IP Phone	18	0	0	0	0	0	1	0	0	1	0	0	3	1	24
Digital Camera	9	0	0	0	14	0	0	0	0	0	0	0	0	0	23
Router	14	0	0	0	0	3	0	0	2	0	0	0	0	2	21
Switch	15	0	0	0	0	0	0	0	6	0	0	0	0	0	21
HT (Komrad)	10	0	0	0	2	0	2	3	0	0	0	0	0	0	17
Other	184	16	10	11	55	18	17	6	26	12	14	34	12	32	447
Total	1097	20	12	12	84	38	23	14	64	22	14	45	36	52	1533

Figure 9.4.
Composition of the Number of Equipment tested according to Types of Equipment and Countries of Origin in 2012



9.3.4. Comparison between Testing Result and Issuance of Equipment Certificates

Comparison between testing result of telecommunication equipment and issuance of standard certificates of telecommunication equipment tested shows the existence of sufficiently big difference every month except for the months of January and June. But, the difference between testing conducted and issuance of new equipment certificate in January and June is more than 50. Table 9.4 shows in total and in every month, that the number of standard certificates for the type of new certificates issued on incoming equipment to Indonesia is bigger than the number of equipment for which testing is done at Office of Telecommunication Equipment Testing Laboratory based on Test Result Recapitulation data. The total of new standard certificates issued up to semester 1 of 2013 are 2877, while the number of telecommunication equipment tested at the same period is only 1533. This big difference besides due to the existence of time leg between the finishing of testing result and the certificate issuance so that a part of the equipment certificates issued also included the testing result of the previous period, it is also due to the issuance of standard certificates which is done without the process of equipment testing (document testing) or testing conducted by testing offices outside BBPPT.

Table 9.4.
Comparison between Test Result Recapitulation (RHU) and Standard Certificate Issuance in semester 1 of 2013

Month	Test Result Recapitulation (RHU)	New Certificate Issuance
January	327	408
February	232	531
March	174	488
April	285	553
May	280	608
June	235	289

9.4. Payment Order Letter (SP2) for Testing

9.4.1. Number of SP2 Issuance according to Countries of Origin

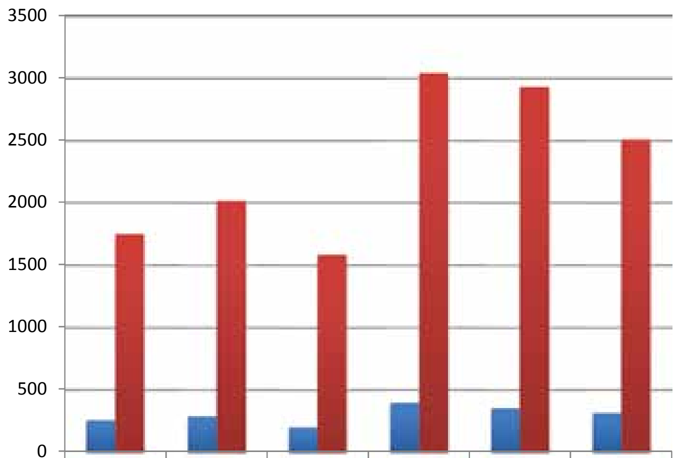
In addition to carrying out testing the result of which is incorporated in the form of test result recapitulation, Office of Telecommunication Equipment Testing Laboratory also issues Payment Order Letter (SP2) on the charges of testing service done for the tested equipment. Up to semester 1 of 2013, 1809 SP2 are issued from equipment testing done at until June 2013. The total income derived from the issuance of SP2 up to semester 1 of 2013 achieves Rp. 13.84 billion. The number of SP2 issued reduced by 1.1% compared to that in semester 1 of 2012, while if viewed from its income value, it is increased by 6.4%. If divided by the number of SP2 issued, each SP2 has an average value of Rp 7.65 million or increased by 7.5% compared to that in semester 1 of 2012 which only Rp. 7.1 million for each SP2 issued. During semester 1 of 2013, the most of the number of SP2 are issued in April, although the equipment testing are mostly done in January.

Table 9.5.
Number and Value of Payment Order Letter (SP2)
Handling in semester 1 of 2013

No	Month	Number of SP2	Value of Payment (Rp)	Average Value per SP2 (Rp)
1	January	255	1,751,500,000	6,868,627
2	February	289	2,018,500,000	6,984,429
3	March	201	1,585,000,000	7,885572
4	April	397	3,041,000,000	7,659,950
5	May	352	2,931,000,000	8,326,705
6	June	315	2,511,500,000	7,973,016
Total		**1809**	13,838,500,000	7,649,807

As the most of the number of SP2 are issued in the month of April, the highest revenue from the issuance of SP2 is also takes place in April. The fluctuation of the number of SP2 issued and the value of SP2 received every month during this semester 1 of 2013 shows that more issuance of SP2 is always followed by more revenue received from SP2. The number of SP2 issuance is more numerous in April compared to the number in January or February, yet the value of revenue from SP2 in March is smaller than that of other months following the number of SP2 received which is also the smallest among other months. The same also goes for equipment testing which are mostly done in the months of April and June, followed by the revenue of SP2 which is also bigger. But, the difference in SP2 revenue could be affected by the types of equipment tested in that month. Telecommunication equipment of certain types are levied with higher testing charges compared to other telecommunication equipment, so that in the month where there are many equipment tested with higher testing charges, the value of the revenue from SP2 would also be higher.

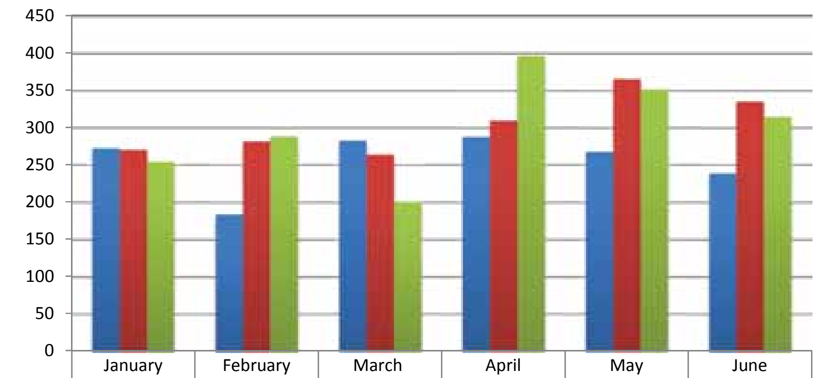
Figure 9.5.
Fluctuation of the Number and Value of Revenue from SP2 in semester 1 of 2013



	January	February	March	April	May	June
Number of SP2	255	289	201	397	352	315
Value (Million Rp)	1.751,5	2.018,5	1.585	3.041	2.931	2.511,5

Even though the number of equipment tested in semester 1 of 2013 is lower with quite big difference compared to the number of equipment tested in semester 1 of 2012, the number of SP2 issued in this semester 1 of 2013 is only slightly lower than the number of SP2 issued in semester 1 of 2012. The total number of SP2 issued during semester 1 of 2013 achieves 1809 units or decreased by 1.1% compared to the number of SP2 issued in semester 1 of 2012. The decrease in the number of SP2 issued in semester 1 of 2013 is on contrary with the increase in the number of SP2 issued in semester 1 of 2012 which increased by 19.2% compared to that in semester 1 of 2011. However, with this figure, SP2 issuance in semester 1 of 2013 is higher by 17.8% than SP2 issuance in semester 1 of 2011. The average of SP2 issuance each month in semester 1 of 2013 achieves 301 units or only slightly lower than the average in semester 1 of 2012 which are only 305 units. The low number of SP2 issuance in semester 1 of 2013 only occurs in the month of March, just as occurred in semester 1 of 2011. In the meantime, the number of SP2 mostly issued is in the month of April. This is different with semester 1 of 2012 where the number of SP2 mostly issued is in the month of May.

Figure 9.6.
Comparison of SP2 Issuance per month in semester 1 of 2011, 2012, and 2013



	January	February	March	April	May	June
2011	273	184	283	288	268	239
2012	271	282	264	310	366	336
2013	255	289	201	397	352	315

9.4.2. Issuance of SP2 According to Countries of Origin

The value of payment of SP2 according to country of origin also shows that the largest revenue of SP2 comes from the equipment of China because the number of SP2 issued for equipment from China is far higher than the equipment from other countries. The total revenue of SP2 from the equipment of China in semester 1 of 2013 achieves Rp. 10.1 billion or its contribution is 67.4% vis-à-vis the total revenue from during semester 1 of 2013.Although the nominal value of SP2 revenue for equipment from China in semester 1 of 2013 is greater than in semester 1 of 2012, which only achieved 9.9 billion, the proportion of its revenue is precisely lower than in semester 1 of 2012 which achieved 72.7%. Meanwhile, the proportion of SP2 originating from Japan which gives the second biggest contribution is only 5.7% and proportion of SP2 of equipment from Taiwan becomes the third biggest with 5.4%. This case also shows a very big contribution of revenue from SP2 for telecommunication equipment from China and very dominant in SP2 issuance for equipment from China compared to telecommunication equipment originating from other countries although its proportion is decreased compared to the proportion in semester 1 of 2012.

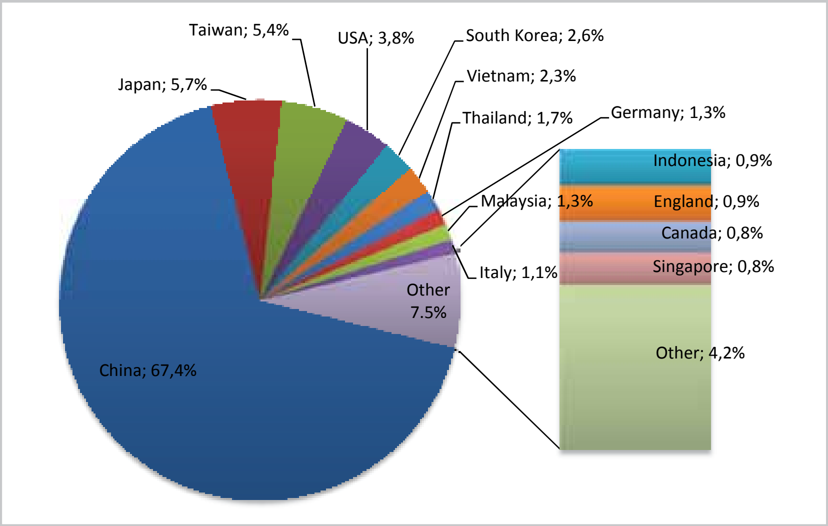
The composition of the value of SP2 revenue according to countries of origin also shows that although the number of SP2 issued is more numerous, it is not always that the value of SP2 resulted is also bigger. Although the number of SP2 for equipment from Japan is more numerous compared to equipment from Taiwan and South Korea, yet the fact shows that the total value of SP2 for equipment from Japan is lower than the above two countries. The same goes for the number of SP2 issuance for equipment from Malaysia which is more numerous than SP2 of equipment from Italy, but in reality the value of SP2 revenue for equipment from Malaysia is lower than the value of SP2 revenue for equipment from Italy. Just as in semester 1 of 2012, the highest average value in semester 1 of 2013 is found in equipment from Vietnam, followed by the equipment from South Korea and China. For the equipment from China which mostly are cellular telephones and products used largely by the public at large such as Bluetooth and Tablet PC, the average value of revenue for each SP2 issued is high enough, i.e. Rp 8.3 million. This value is higher than the average value of SP2 for equipment from China in semester 1 of 2012 which was only Rp. 7.5 million. This means that testing charges for telecommunication equipment of consumer goods are also high enough.

Table 9.6.
Number and Value of SP2 Handling according to Countries of Origin in semester 1 of 2013

No	Country	Number of SP2	Value of Payment (Rp)	Average Value per SP2 (Rp)
1	China	1219	10,143,000,000	8,320,755
2	Japan	103	419,500,000	4,072,816
3	Taiwan	98	618,500,000	6,311,224
4	USA	68	411,000,000	6,044,118
5	South Korea	47	435,500,000	9,265,957
6	Vietnam	42	407,000,000	9,690,476
7	Thailand	30	123,500,000	4,116,667
8	Germany	23	113,500,000	4,934,783
9	Malaysia	23	104,500,000	4,543,478
10	Italy	20	157,000,000	7,850,000
11	Indonesia	16	104,500,000	6,531,250
12	England	16	96,000,000	6,000,000
13	Canada	14	108,500,000	7,750,000
14	Singapore	14	104,500,000	7,464,286
15	Other	76	492,000,000	6,473,684
Total		**1809**	**13,838,500,000**	**7,649,807**

The composition of SP2 issuance according to countries of origin during semester 1 of 2013 shows that the proportion of SP2 issuance for telecommunication equipment from China is very big compared to equipment from other countries. Around 67.4% of SP2 issued in semester 1 of 2013 are for telecommunication equipment from China. This proportion is lower than that in semester 1 of 2012 which achieved 71.7%. The sufficiently big proportion of SP2 issuance for equipment from other countries is not more than 6%. The proportion of certificate issuance for equipment from Japan which is the second biggest is only 5.7%, while SP2 issuance for equipment from Taiwan and USA, their proportions are 5.4% and 3.8% respectively. Other countries well-known as countries of origin manufacturing telecommunication equipment which are widely used in Indonesia, particularly cellular telephones, such as South Korea and Canada, their proportions are only 1.6% and 0.8% respectively. This data shows that cellular telephones entering Indonesia are not coming from the manufacturing countries of origin, but from the factories situated in other countries particularly China.

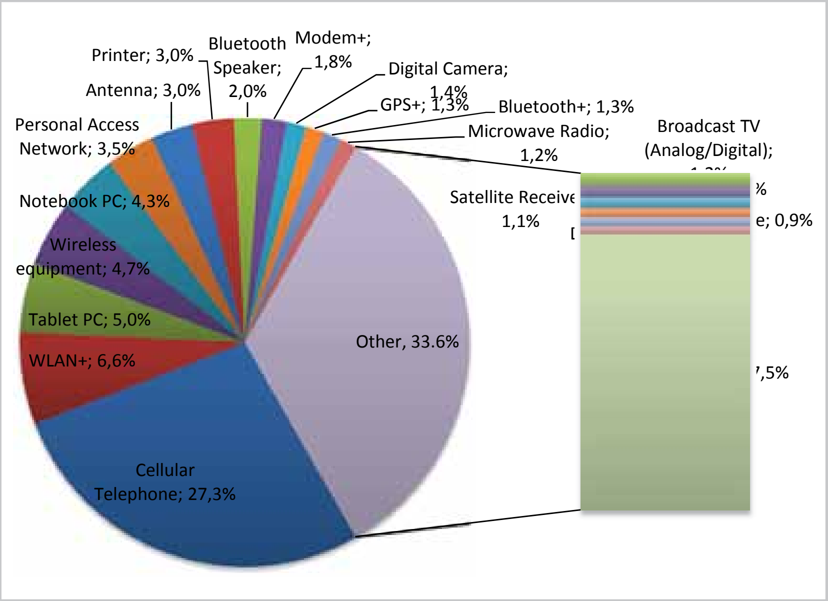
Figure 9.7.
Composition of SP2 Issuance according to Countries of Origin in semester 1 of 2013



9.4.3. SP2 Issuance according to Type of Equipment

The composition of SP2 issuance up to semester 1 of 2013 shows that it is extremely dominated by cellular telephones. From the total of 3777 SP2 issued during semester 1 of 2013, around 27.3% formed SP2 for cellular telephone equipment. This proportion of SP2 issuance for cellular telephones is declined compared to that in semester 1 of 2012 which achieved 40.6%. Other telecommunication equipment the SP2 of which are quite largely issued are WLAN, Tablet PC and wireless equipment but with the proportion that is far less than that of cellular telephones. The proportion of SP2 issuance for WLAN is only 6.6%, Tablet PC is 5% and wireless equipment is 4.7%. The proportion of SP2 issuance for equipment also widely used by the public such as Notebook PC and Modem is also low, i.e. 4.3% and 1.8% respectively of the total SP2 issued as shown in figure 9.8. But, if compared with the composition in semester 1 of 2012, the presence of quite dominant shift is seen where the issuance of SP2 is no longer too dominant. This also shows implicitly that the request for equipment testing and certification for cellular telephones started to decrease due to the increase of testing and usage of other equipment, such as Tablet PC and Notebook PC.

Figure 9.8.
Composition of SP2 Issuance according to Types of Equipment in semester 1 of 2013



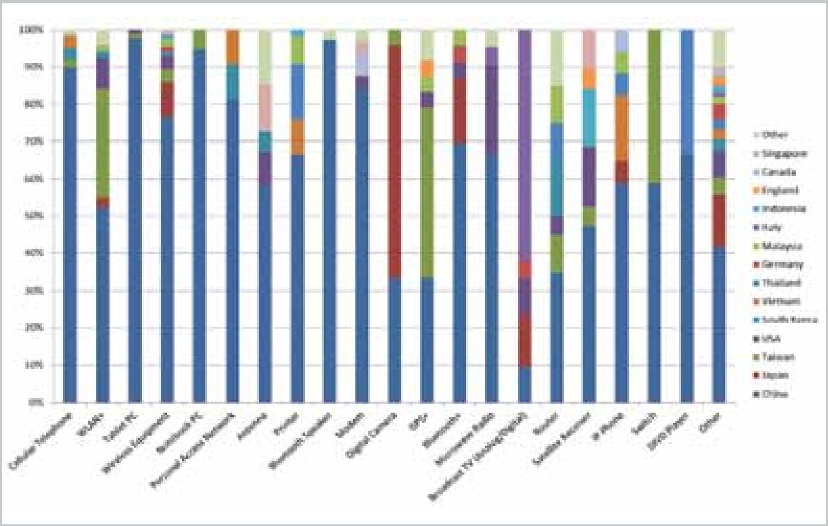
There is a shift in the SP2 issuance of equipment in semester 1 of 2013 where SP2 issuance for cellular telephones is no longer too dominant, whereas SP2 issuance for types of equipment of Tablet PC and Notebook PC precisely start to increase. This condition is in line with the use of telecommunication equipment by the public which starts to shift.

The proportion of SP2 issuance for telecommunication equipment from China which is very big in semester 1 of 2013 also occurs for nearly all types of equipment except digital camera, GPS, Broadcast TV, and Router. Among various types of equipment that underwent testing, the equipment from China dominate nearly all types of equipment The very big proportion especially could clearly be seen for equipment widely used by the public at large such as Tablet PC, cellular telephones, Notebook PC, Bluetooth speaker, modem and DVD Player. For the equipment of telephone cellular type, from the total of 493 cellular telephones for which SP2 is issued in semester 1 of 2013, around 90% are cellular telephones from China. For telecommunication equipment widely used by large consumers, the equipment from China also shows the big proportion. For the equipment of Tablet PC type, from the total of 91 for which SP2 is issued, 97.8% are Tablet PC from China. In the meantime, for Notebook PC and Modem, from the total of 77 Notebook PCs and 32 modems for which SP2 is issued, 94.8% are Notebook PC from China and 84.4%% are modem from China.

Table 9.7.
Number of SP2 Issuance according to Types of Equipment and Countries of Origin in semester 1 of 2013

Equipment	China	Japan	Taiwan	USA	South Korea	Vietnam	Thailand	Germany	Malaysia	Italy	Indonesia	England	Canada	Singapore	Other	Total
Cellular Telephone	443	0	10	0	16	15	0	0	1	0	0	1	2	0	5	493
WLAN+	63	3	35	10	2	0	0	0	2	0	0	0	0	0	5	120
Tablet PC	89	0	1	1	0	0	0	0	0	0	0	0	0	0	0	91
Wireless Equipment	65	8	3	3	1	0	0	1	2	0	1	0	0	1	0	85
Notebook PC	73	0	4	0	0	0	0	0	0	0	0	0	0	0	0	77
Personal Access Network	52	0	0	0	6	6	0	0	0	0	0	0	0	0	0	64
Antenna	32	0	0	5	3	0	0	0	0	0	0	0	0	7	8	55
Printer	36	0	0	0	0	5	8	0	4	0	1	0	0	0	0	54
Bluetooth Speaker	36	0	0	0	0	0	0	0	0	0	0	0	0	0	1	37
Modem	27	0	0	1	0	0	0	0	0	0	0	0	2	1	1	32
Digital Camera	8	15	1	0	0	0	0	0	0	0	0	0	0	0	0	24
GPS+	8	0	11	1	0	0	0	0	1	0	0	1	0	0	2	24
Bluetooth+	16	4	0	1	0	0	0	1	1	0	0	0	0	0	0	23
Microwave Radio	14	0	0	5	0	0	0	0	0	1	0	0	0	0	1	21
Broadcast TV (Analog/Digital)	2	3	0	2	0	0	0	1	0	13	0	0	0	0	0	21
Router	7	0	2	1	3	0	2	0	2	0	0	0	0	0	3	20
Satellite Receiver	9	0	1	3	0	0	0	0	0	0	3	1	0	2	0	19
IP Phone	10	1	0	0	0	3	1	0	1	0	0	0	1	0	0	17
Switch	10	0	7	0	0	0	0	0	0	0	0	0	0	0	0	17
DIVD Player	10	0	0	0	0	0	5	0	0	0	0	0	0	0	0	15
Other	**209**	**69**	**23**	**35**	**16**	**13**	**14**	**20**	**9**	**6**	**9**	**13**	**9**	**3**	**50**	**498**

Figure 9.9.
Composition of SP2 Issuance according to country of origin and type of equipment in semester 1 of 2013



9.5. Calibration Testing of Tool/equipment

The Office of Telecommunication Equipment Testing Laboratory (BBPPT) also provides calibration testing service of the tool/equipment. Up to semester 1 of 2013, BBPPT only conducted calibration testing on 4 postal and information technology tool/equipment. All tool/equipment which underwent calibration testing in this semester 1 of 2013 is the type of spectrum analyzer tool/equipment. In 2012, the majority of tool/equipment undergoing the most calibration testing was also spectrum analyzer.

From the calibration testing performed, BBPPT also received income as service fee on the calibration testing done. Up to semester 1 of 2013, service fee in the amount of Rp. 10 million was received on this testing. The amount of this income is from spectrum calibration testing fee for spectrum analyzer which is charged Rp 2,500,000.

Table 9.8.
Number and Fee of Calibration Testing according to types of equipment up to semester 1 of 2013

Equipment	Type	Number	Total Fee (Rp)
Spectrum Analyzer	Agilent / E4407B	1	2,500,000
Spectrum Analyzer	Advantest / U3772	1	2,500,000
Spectrum Analyzer	Instek 2.7 GHz / GSP-827	1	2,500,000
Spectrum Analyzer	HP / 8593E	1	2,000,000
	Total	**4**	**10,000,000**

Chapter 10

Chapter 10

Economic Analysis of Resources and Equipment of Postal and Information Technology Sector

Telecommunication and informationtechnology sectors which are based on the utilization of frequency resources and industrial of post and information technology have been growing very rapidly and become one of the mainstays of economy sector. This growth is also followed by the growth of its associated industries, both manufacturing industry ans information technology content industry. Overall, this sector has explicitly given significant impact to the economy and employment when other sectors tend to be stagnant. This telecommunication sector is growing very rapidly along with the use of telecommunicationtool, equipment and means which is getting higher to serve a vast area. Although in the agrarian Indonesian economy contribution of this communication sector is still less than the primary sectors, the development of telecommunication industry has become a significant part of economic transformation process from primary sector to secondary and tertiary sectors. Even for urban areas, the development of this telecommunication sector has become a significant part of the development in service industry which in the future would become the main economic sector when primary and secondary sectors have been very difficult to be increased.

The rapid growth of the industry which has basis of resources and equipment of post and information technology as the economic subsector can be seen from its role which is progressively increasing in the economic structure. It automatically affects not only the output contribution but also the employment, and even the proportion of household income spent in this telecommunication sector. From government side, this growth was also marked by contribution to state revenue from government services provided in telecommunication sector and taxes from telecommunication and information technology industries.

10.1 Scope

Economic analysis of statistical data of this resources and equipment of postal and information technology sector would review the role of the activity and industry in the resources and equipment of postal and information technology sector, including services provided by government in supporting the development in the sector of telecommunication and utilization ofresourcesand equipment of post and information technology on the national economy. These role and contribution can be seen from two aspects. First, contribution of Directorate General of Resources and Equipment of Post and Information Technology (SDPPI) to state revenue through Non-Tax State Revenue (Penerimaan Negara BukanPajak/ PNBP). This PNBP is generated from the provision of supporting services by working units at Directorate General of SDPPI to postal and telecommunication industry, and auction of resources of information and technology sector. PNBP of Resources and Equipment of Post and Information Technology sector is non-tax state revenue resulted from the activities of services conducted by working units at Directorate General of SDPPI. PNBP generated from those activities includes PNBP from the issuance of telecommunication equipment certificate (including PNBP on cost of testing telecommunication equipment), PNBP from Frequency which consists of PNBP from BHP Frequency, PNBP from Radio Operator Certification which consists of PNBP from REOR, SKOR, IAR, and IKRAP, and PNBP from other sources. This PNBP from resources and equipment of postal and information technology sector becomes part of state revenue which entered into domestic revenue post on other PNBP posts. Thus, PNBP from resources and equipment of postal and information technology sector also helps strengthen domestic revenue particularly non-tax revenue.

The second aspect is contribution from the activity in postal, telecommunication and information technology sector to domestic revenue as reflected by National Gross Domestic Product/GDP (ProdukDomestikBruto/PDB). GDP is the output indicator of all economic activities undertaken by a country in the economic sectors of that country, including transportation and communication sector. Meanwhile, contribution from resources and equipment of postal and information technology sector is in the form of output resulting from the activities of services in resources and equipment of postal and information technology (telecommunication) sector which contribute to national output. However, in this analysis, contribution from communication sector has not included output from telecommunication manufacturing industry or the industry that produces telecommunication equipment, which is put under the output of manufacturing industry sector.

The source of this analysis came from Directorate General of Resources and Equipment of Post and Information Technology in the form of PNBP data produced from the activity at each working unit at the Directorate General of SDPPI. Meanwhile, the comparison data for state revenue is the data coming from Fiscal Policy Authority of Ministry of Finance for state revenue data generated from each revenue source stated in the realization of State Revenue and Expenditure Budget (APBN) up to semester 1 of 2013. For output analysis of telecommunication service sector, the data source came from Central Statistics Body for GDP data based on the business field and business sector. This overall data consists of published and unpublished data.

10.2. Concept and Definition

In this economic statistical analysis, some terms used and the explanations are as follows:

1). PNBP is Non-Tax State Revenue, revenue obtained by central government agencies for services rendered or in the form of levies imposed by government agencies, which excludes tax and retribution, and entered into state treasury.

2). PNDN is Domestic State Revenue, all revenues obtained by the state which include revenue from tax, i.e. domestic tax revenue, revenue from international trade tax, and revenue from non-tax which consists of revenue from natural resources, profit share of State-Owned Company (Badan Usaha Milik Negara/BUMN), other PNBPs and income from Public Service Authority (Badan Layanan Umum/BLU) owned by government which are entered into state treasury as income component in State Revenue and Expenditure Budget (APBN).

3). Other PNBP is non-tax state revenue (PNBP) other than those that come from natural resources, profit share of State-Owned Company and revenue from State-Owned Public Service Authority.

4). PNBP of resources and equipment of postal and information technology sector is PNBP generated from the provision of services in utilization of resources and equipment of postal and information technology sector managed by Directorate General of Resources and Equipment of Post and Information Technology which is entered into state treasury.

5). PDB is Gross Domestic Product (GDP), total output generated by the economy of a country through the economic sectors of that country.

10.3. Role of Directorate General of Resources and Equipment of Post and and Information Technology in State Revenue

Through its role in managing the activities and policies in the field of utilization of resources and equipment of post and information technology, Directorate General of Resources and Equipment of Post and Information Technology gains revenue from services provided in managing telecommunication resources and other services. Such revenue is entered as non-tax state revenue (PNBP) which will be deposited to state treasury every day. PNBP received by Directorate General of Resources and Equipment of Post and Information Technology in accordance with Government Regulations Number 7 Year 2009 regarding the Type and Rate of the Prevailing Type of Non-Tax State Revenue at the Ministry of Communication and Information Technology, came from several sectors: (i) PNBP from BHP Radio Frequency Spectrum Band License, (ii) PNBP from the Fee of certification and application of telecommunication tool/equipment testing, (iii) PNBP from the Examination Fee of Radio Electronics and Radio Operator (REOR) and Fee of Concession Radio Operator Proficiency Certification (SKOR),(iv) PNBP from Radio Amateur License (IAR) Fee and License Fee for Inter-inhabitant Radio Communication(IKRAP), and (v) PNBP from other sources including fine and rent of service house.

Contribution of Directorate General of Resources and Equipment of Post and Information Technology (SDPPI) in state revenue is analyzed from PNBP amount which is generated by working units within the Directorate General of SDPPI and its contribution to state revenue registered in APBN. The explanation of this PNBP data consists of two parts. The first part is the development of PNBP revenues from each source at the Directorate General of SDPPI, the growth and the achievement of those revenues are compared with the target set. In the second part, analysis will be done on the contribution of total PNBP revenues against three types of state revenues, i.e. total domestic state revenue (PNDN), total non-tax state revenue (PNBP), and total other non-tax state revenue (other PNBP).

10.3.1. PNBP of Radio Frequency Spectrum Sector

PNBP of Radio frequency spectrum sector becomes the biggest source of revenuefor non-tax state revenue from both Directorate of SDPPI and Ministry of Communication and Information Technology. Such big amount of PNBP of radio frequency spectrum sectorcame from the License Fee (BiayaHakPenggunaan/BHP) of Frequency. When still part of the structure of the Directorate General of Post and Telecommunication, this PNBP of BHP frequency also became the main source of revenue for PNBP in the field of communication and information technology.

As in the first semester of the previous years, PNBP revenue from BHP radio frequency spectrum in semester 1 of 2013 is stillquite far from the target set with the revenue of Rp. 2.89 trillion or only achieved 31.5% of its targeted revenue. This achievement is lower than the achievement of PNBP from BHP radio frequencyspectrum in semester 1of 2012 which already achieved 52.1% of PNBP target from BHP radio frequency spectrum in 2012. Even though its achievement is only 31.5%, it does mean that revenue realization from this BHP radio frequency spectrum at the end of the year would not achieve the target se. From experience in the previous years, this PNBP from BHP radio frequencyspectrum sharply increased in 2012. If viewed from its target, in 2013 revenue target of PNBP from this BHP radio frequency spectrum only slightly increased by 4.2%.

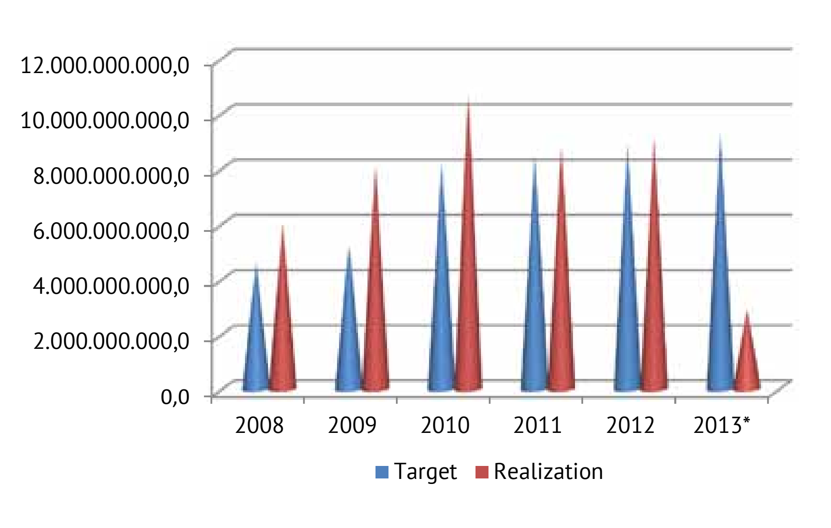
Table 10.1.
The Development of PNBP from BHP radio frequency spectrum in year 2007 – semester 1 of 2013

No	Year	Target (Thousands Rp.)	Realization (Thousands Rp.)	Target Growth (%)	Realization Growth (%)	Level of Target Achievement
1	2007	2,409,289,000	3,368,167,814.7	-4.3%	25.9%	139.8%
2	2008	4,612,975,824	6,016,990,913.7	91.5%	78.6%	130.4%
3	2009	5,269,827,618	8,109,402,315.9	14.2%	34.8%	153.9%
4	2010	8,202,947,427	10,693,583,819.4	55.7%	31.9%	130.4%
5	2011	8,461,222,688	8,790,907,340.2	3.1%	-17.8%	103.9%
6	2012	8,933,544,384	9,085,108,514.3	5.6%	3.3%	101.7%
7	2013*	9,311,601.903	2,930,858,287.5	4.2%	-67.7%	31.5%

*) Up to June 30, 2013

Diagram in Figure 10.1 illustrates that revenue realization of PNBP from this BHP radio frequency spectrum showed an increase trend from year to year. Revenue realization of PNBP from this BHP radio frequency spectrum also has always exceeded the target set every year. During the period of 2008 – 2010, this revenue realization of PNBP from BHP radio frequency spectrumhad a period where thegrowth of PNBP revenue from BHP radio frequency spectrum was high. Hence, although revenue target of PNBP from this BHP radio frequency spectrum was increased pretty high in that period, the revenue realization could still achieve the target. Entering the year of 2011, revenue realization of PNBP from this BHP radio frequency spectrumexperienced a decline, it did not even achieve its revenue target even though such target only slightly increased from the previous year. This period was when the Directorate General of SDPPI was established as the result of the expansion of Directorate General of Post and Telecommunication. However, in 2012, realization of PNBP from this BHP radio frequency spectrum increased againis increased and exceeded the target set. Altough the realization up to semester 1 of 2013 only achieved 30.5%, it is expected that at the end of the year it would also exceed the target set.

Figure 10.1.
Comparison between PNBP Target and Realization from BHP Radio Frequency Spectrum



10.3.2. PNBP of Standardization Sector

PNBP revenue from the Certification fee and application of telecommunication tool/equipment testing up to semester 1 of 2013 already achieved 51.7% or as much as Rp. 33.5 billion. Even though this achievement in slightly lower than that in semester 1 of 2012 which reached 52.1%, this achievement was pretty good. The achievement which was more than 50% in this semester 1 gives hope that the PNBP revenue from the fee of telecommunication tool and equipment testing and the fee of standard certificate issuance of equipment at the end of the year would exceed the target test. If viewed from the target side, revenue target of PNBP from this standardization sector is increased quite high, namely 23.8%, so that even though its revenue only achieved 51.7% of the target, the absolute value of PNBP reveue of standardization in semester 1 of 2013 was higher than in semester 1 of 2012.

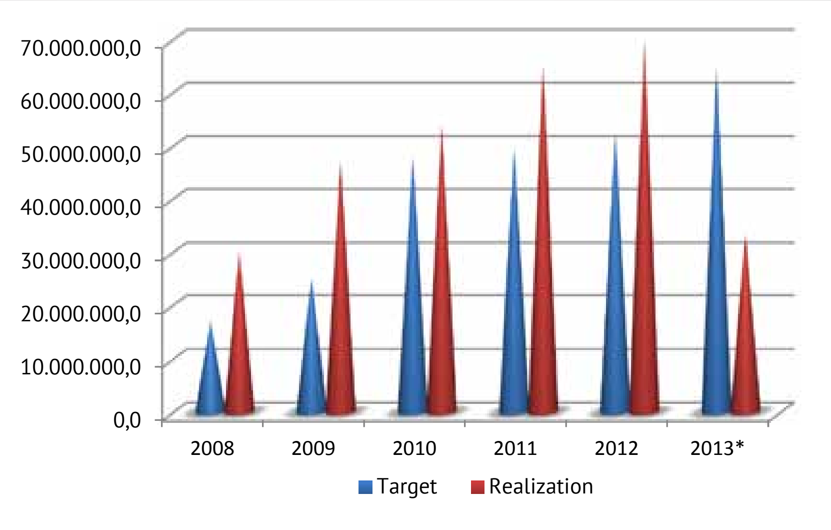
Table 10.2.
The Development of PNBP of Standardization Sector
Year 2007 –semester 1 of2013

No	Year	Target (Thousands Rp.)	Realization (Thousands Rp.)	Target Growth (%)	Realization Growth (%)	Level of Target Achievement
1	2007	10,500,000	17,609,534.0	133.3%	70.7%	167.7%
2	2008	17,000,000	29,862,510.0	61.9%	69.6%	175.7%
3	2009	25,000,000	47,233,912.0	47.1%	58.2%	188.9%
4	2010	48,000,000	53,883,832.0	92.0%	14.1%	112.3%
5	2011	50,000,500	65,276,436.0	4.2%	21.1%	130.6%
6	2012	52,500,000	69,626,768.8	5.0%	6.7%	132.6%
7	2013*	65,000,000	33,586,194.3	23.8%	-51.8%	51.7%

*) Up to June 30, 2013

The chart presented in Figure 10.2 shows that PNBP revenue from this standardization sector has been consistently exceeding the target set up to year 2012. However, if viewed from its development, the revenue target in 2011 and 2012 was only slightly increased from the target of the previous year. In 2013, the revenue target from PNBP of this standardization sector is increased pretty high (23.8%), but, the achievement up to semester 1 of 2013 already surpassed half of the target set. So, at the end of the year it is estimated that realization of PNBP revenue from this standardization sector could exceed the target set even though such target is increased pretty high.

Figure 10.2.
Comparison between PNBP Target and Realization of Standardization Sector



10.3.3. PNBP from Radio Operator Certification

The source of PNBP revenue in the field of Resources and Equipment of Post and Information Technology comes from radio operator certification. There are two sources of PNBP from radio operator certification, i.e. revenue from Examination Fee of Radio Electronics and Radio Operator (REOR) and Certification Fee forConcession Radio Operator Proficiency (SKOR), and revenue from Radio Amateur License (IAR) Fee and License Fee for Inter-inhabitant Radio Communication (IKRAP).

10.3.3.1. PNBP from REOR and SKOR

PNBP revenue from Examination Fee of Radio Electronics and Radio Operator (REOR) and Certification Fee for Concession Radio Operator

Proficiency (SKOR)up to semester 1 of 2013 only achieved 43.8% of the revenue target setor as much as Rp. 32.8 million. This achievement is actually still higher than the achievement realization in semester 1 of 2012 which only achieved 37.5% of the target. But, this condition was achieved by reducing the revenue target of PNBP from REOR and SKOR by 34.8% from the previous year or only as much as Rp. 75 million. The decrease of revenue target of PNBP from REOR and PREOR since 2011 was due to low achievement of revenue target of PNBP from REOR and SKOR in 2009 after previously always exceeding the target set. After being reduced by 2.9%, realization of achievement target of PNBP from REOR and SKOR was low again in 2011, so that the Government decreased the PNBP target again in 2012 and 2013 with a quite high percentage. With such decrease, revenue achievement of PNBP from REOR and SKOR began approaching the target set.

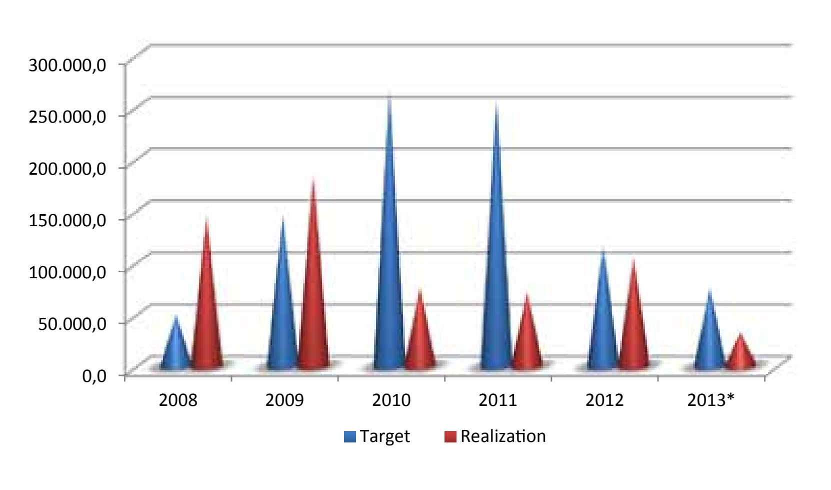
Table 10.3.
PNBP from REOR and SKOR (Frequency) in 2007 – semester 1 of 2013

No	Year	Target (Thousands Rp.)	Realization (Thousands Rp.)	Target Growth (%)	Realization Growth (%)	Level of Target Achievement
1	2007	46,000	48,250.0	31.4%	60.6%	104.9%
2	2008	50,000	143,467.0	8.7%	197.3%	286.9%
3	2009	145,000	182,875.0	190.0%	27.5%	126.1%
4	2010	265,725	75,600.0	83.3%	-58.7%	28.5%
5	2011	258,125	71,360.0	-2.9%	-5.6%	27.6%
6	2012	115,000	104,710.0	-55.4%	46.7%	91.1%
7	2013*	75,000	31,815.0	-34.8%	-68.7%	43.8%

*) Up to June 30, 2013

The trend of PNBP revenue from REOR and SKOR as presented in Figure 10.3 shows a rebound of revenue in the year 2012 after having quite sharp decline since 2010. However, realization of PNBP revenue from REOR and SKOR in 2012 had not achieved the target set. Further decrease of revenue target in 2013 was one of the factors that caused the achievement realization of revenue target up to semester 1 of 2013 became good enough and approaching 50%. With this achievement, it can be expected that at the end of 2013 revenue realization of PNBP from REOR and SKOR could exceed the target set.

Figure 10.3
Comparison between PNBP Target and Realization from REOR and SKOR



10.3.3.2. PNBP from IAR and IKRAP

One more source of PNBP revenue related to frequency usage is PNBP coming from Radio Amateur License (IAR) Fee and License Fee of Inter-Inhabitant Radio Communication (IKRAP). PNBP revenue from IKRAP up to semester 1 of 2013reached Rp. 769.7 million or already achieved 81% of the target set. This pretty high achievement indicates that the achievement of this PNBP revenue from IAR and IKRAP would surpass the target set at the end of the year, the same as in the previous years.

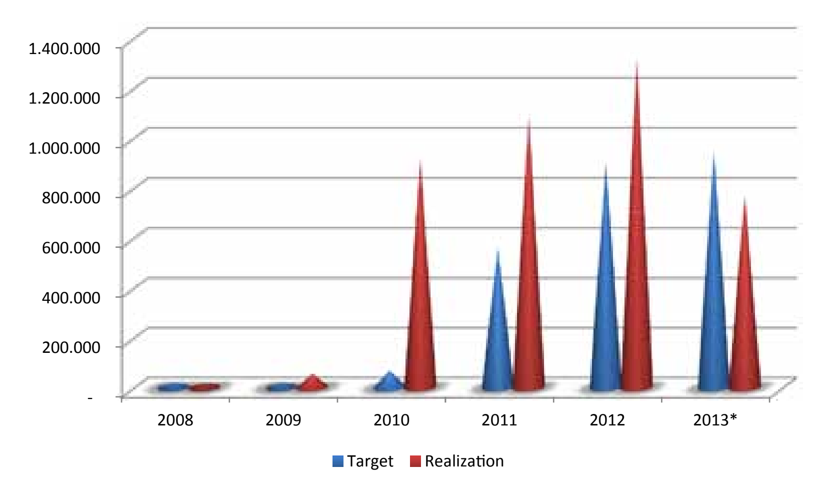
PNBP revenue from IKRAP in 2012 achieved Rp. 1.31 billion or 146% of the target set. This achievement shows the increase of PNBP revenue from IKRAP which was getting bigger in semester 2 after in semester 1 of 2012 only achieved 60.1% of the target set. PNBP revenue achievement from IKRAP in 2012 also means that there is an increase of 21.4% of revenue realization in the previous year. Even though the revenue target is increased by 60.7%, with good performance, PNBP revenue realization in 2012 was also increased so that it still exceeded the target set. This achievement of PNBP revenue from IAR and IKRAP as much as 81% is higher than the achievement in semester 1 of 2012 which only reached 60.1%. If in semester 2 the revenue realization is linear with that in semester 1, the achievement of PNBP revenue target from IAR and IKRAP at the end of 2013 will be higher than the achievement in 2012 which reached 146%.

Table 10.4.
PNBP from IAR and IKRAP in 2007 – semester 1 of 2013

No	Year	Target (Thousands Rp.)	Realization (Thousands Rp.)	Target Growth (%)	Realization Growth (%)	Level of Target Achievement
1	2007	16,000	27,577.0	-	-	172.4%
2	2008	20,000	6,227.0	25.0%	-77.4%	31.1%
3	2009	20,000	55,909.0	0.0%	797.8%	279.5%
4	2010	69,150	913,981.7	245.8%	1534.8%	1321.7%
5	2011	560,000	1,082,897.5	709.8%	18.5%	193.4%
6	2012	900,000	1,314,140.00	60.7%	21.4%	146.0%
7	2013*	950,000	769,709.0	5.6%	-41.4%	81.0%

Unlike realization of PNBP revenue from REOR and SKOR, PNBP revenue from IAR and IKRAP has been always exceeding the target set since 2009. The lowest achievement which was far below the target only occurred in 2009.But, after 2009, realization of PNBP revenue from IAR and IKRAP has always been higher than the target set with quite high achievement. Even when PNBP revenue target was increased by 245.8% in 2010 and 709.8% in 2011, the revenue realization always exceeded the target set with pretty big excess. In 2010, for instance, realization of PNBP revenue from IAR and IKRAP achieved 1321% of the target so that the revenue target in the following year was increased again by 709.8%. The trend of revenue target which exceeds the target set is predicted to continue in 2013 considering that the achievement up to semester 1 of 2013 reached 81%.

Figure 10.4.
Comparison between PNBP Target and Realization from IAR and IKRAP



10.3.4. PNBP from other sources

Other sources of PNBP revenue are other revenues coming from various sources other than the main source of PNBP of Directorate General of SDPPI such as rent of service house, fine, remainder of the expenditure of the budget of last fiscal year and so on. Realization of miscellaneous PNBP revenue in semester 1 of 2013 achieved Rp. 1.84 billion or exceeding the target set with achievement of 184.5%. This achievement follows the achievement in the previous years where this miscellaneous PNBP revenue always exceeded the target set even though such target was increased every year. Although the achievement in semester 1 of 2013 is lower than that in semester 1 of 2012, this achievement becomes special because in 2013 revenue target of miscellaneous PNBP is increased substantially compared to the previous year. Revenue target of miscellaneous PNBP in 2013 is increased by 862% compared to that in the previous year and in semester 1, its revenue realization has already achieved 184.5% of the target. However, with such level of achievement, it cannot be guaranteed that until end of the year this miscellaneous PNBP realization would increase compared to the previous year. In semester 1 of 2012, realization of miscellaneous PNBP achieved Rp. 2.77 trillion of higher than realization of miscellaneous PNBP of this semester 1 of 2013.

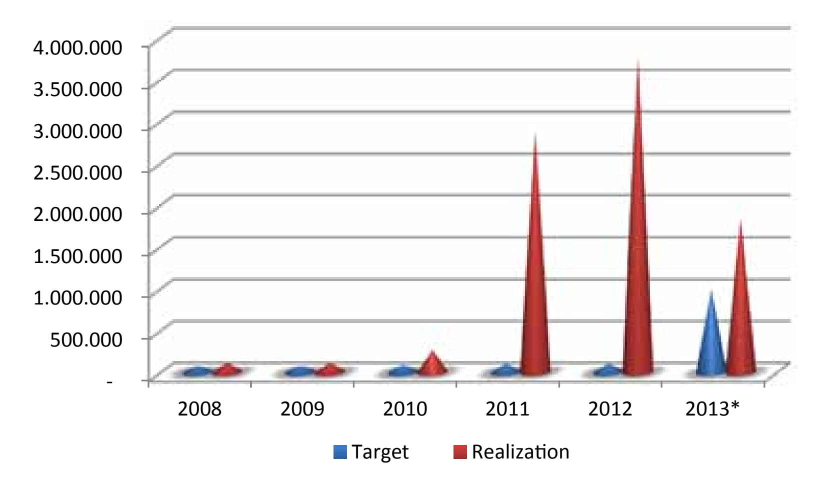
Table 10.5.
PNBP from Other Sources in 2007 – semester 1 of 2013

No	Year	Target (Thousands Rp.)	Realization (Thousands Rp.)	Target Growth (%)	Realization Growth (%)	Level of Target Achievement
1	2007	80,000	88,435.0	-	-	110.5%
2	2008	80,000	116,979.0	0.0%	32.3%	146.2%
3	2009	80,000	115,570.0	0.0%	-1.2%	144.5%
4	2010	90,000	271,147.0	12.5%	134.6%	301.3%
5	2011	103,573	2,889,665.0	15.3%	965.7%	2785.1%
6	2012	103,774	3,791,750.0	0.02%	31.2%	3653.8%
7	2013*	998,341	1,842,048.0	862.03%	-51.4%	184.5%

*) Up to June 30, 2013

This sufficiently high increase of target for miscellaneous PNBP is not separated from revenue realization which since 2011 was much bigger than the target set and also much higher than revenue realization of miscellaneous PNBP before 2011. Realization of PNBP revenue since 2011 also increased quite significantly as shown in the diagram of figure 10.5. This is also that drives the revenue target of miscellaneous PNBP in 2013 to be increased quite high, but still lower than realization of miscellaneous PNBP in 2011.

Figure 10.5.
Comparison between PNBP Target and Realization from Other Sources



10.3.5. Composition of PNBP of Resources and Equipment of Post and Information Technology Sector

Overall, PNBP revenue at the Directorate General of SDPPI up to semester 1 of 2013 shows an increasing trend and could potentially exceed the target set except for the revenue from REOR and SKOR.Even though achievement of PNBP realization from BHP Frequency was still lower than the target set, but as in the previous years where there was a jump of the revenue in semester 2, PNBP from radio frequency spectrum is expected to surpass the target set at the end of 2013. Most of the achievement was also higher than the PNBP achievement in semester 1 of 2012.

In total, this PNBP revenue at the Directorate General of SDPPI up to semester 1 of 2013 also has an increase compared to that in semester 1 of the previous year with the increase that reached 29%. In almost all revenue resources the revenue realization in semester 1 o 2013 is higher than in semester 1 of 2012 except for miscellaneous PNBP and PNBP from PREOR and SKOR. PNBP from standardization increased by 22.8% compared to that in semester 1 of 2012, while PNBP from BHP radio frequency spectrum has the biggest value, increased by 2.1%. In the meantime, PNBP from IAR and IKRAP also increased by 42.4% compared to that in semester 1 of 2012. The increase of PNBP realization in semester 1 of 2013 is pushed by the increase of PNBP realization from BHP radio frequency spectrum which increased by 29.1%, so that at the end of year it is expected that the realization of PNBP revenue of Directorate General of SDPPI would not only exceed the target set, but also would continue the trend in 2012, increasing compared to the previous year.

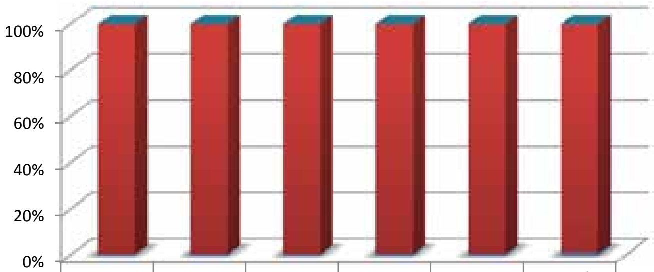
Table 10.6.
PNBP Realization of SDPPI Sector in 2007 –semester 1 of 2013 (Rp. 000)

No	Year	Standardi-zation	BHP Frequency	PREOR and SKOR	IAR and IKRAP	Other Sources	Total PNBP
1	2007	17,609,534	3,368,167,815	48,250	27,577	88,435	3,385,941,611
2	2008	29,862,510	6,016,990,914	143,467	6,227	116,979	6,047,120,097
3	2009	47,233,912	8,109,402,316	182,875	55,909	115,570	8,156,990,582
4	2010	53,883,832	10,693,583,819	75,600	913,982	271,147	10,748,728,380
5	2011	65,276,436	8,790,907,340	71,360	1,082,896	2,889,665	8,860,227,699
6	2012	69,626,769	9,085,108,514	104,710	1,314,140	3,791,750	9,159,945,883
7	2013*	33,586,194	2,930,858,288	32,815	769,709	1,842,048	2,967,089,054

*) Up to June 30, 2013

Although the highest increase compared to that in semester 1 of the previous year achieved by PNBP from IAR and SKAR, it does not make many shifts in the composition of PNBP revenue from various sources. PNBP from BHP radio frequency spectrum still becomes the main contributor to PNBP from Resources and Equipment of Postal and Information Technology sector with the proportion of 98.78% in semester 1 of 2013 or only slightly increased than in semester 1 of 2012 which achieved 98.66%. The increase of proportion of PNBP from HBP radio frequency spectrum is followed by the decrease in the proportion of PNBP from other sources such as miscellaneous PNBP, PNBP from PREOR and SKOR and PNBP from Standardization.

Figure 10.6.
Proportion of PNBP realization between Sectors in PNBP of SDPPI



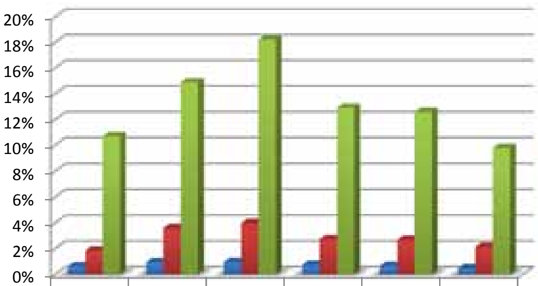
	2008	2009	2010	2011	2012	2013*
Other Sources	0,002%	0,001%	0,003%	0,033%	0,041%	0,062%
IAR and IKRAP	0,000%	0,001%	0,009%	0,012%	0,014%	0,026%
PREOR and SKOR	0,002%	0,002%	0,001%	0,001%	0,001%	0,001%
BHP Frequency	99,502%	99,417%	99,487%	99,218%	99,183%	98,779%
Standardization	0,494%	0,579%	0,501%	0,737%	0,760%	1,132%

The trend of increase in the total PNBP revenue of Resources and Equipment of Post and information Technology (SDPPI) sector in semester 1 of 2013 compared to that in semester 1 of 2012 has an impact to the contribution of PNBP of this SDPPI sector which is already big enough towards state income. In the formation of PNBP of resources and equipment of post and information technology, the amount of PNBP value produced is indeed much smaller than when it was still in the formation of post and telecommunication sector. This is because PNBP revenue from postal and telecommunication sector and PNBP from BHP Telecommunication and Universal Service Obligation (USO) of Telecommunication were no longer taken into account. Contribution is measured from the proportion of PNBP of SDPPI sector to Domestic State Revenue (PNDN) including taxes, proportion to total Non-Tax State Revenue (including from oil and gas, and profit of State Owned Companies/BUMN) and proportion to other PNBP.

Contribution of PNBP of SDPPI sector to Domestic State Revenue (PNDN) up to semester 1 of 2013 achieved 0.471%. This contribution is higher than the contribution in semester 1 of 2012 which only achieved 0.388% and is also more than a half of contribution of PNBP of SDPPI to PNDN for a year in 2012. In the meantime, if viewed from its contribution to total

PNBP, it achieved 2.14% od only slightly lower than the position on 2012 which achieved 2.68%. Meanwhile, if compared with total miscellaneous PNBP in the structure of domestic revenue, contribution of PNBP of this SDPPI sector has achieved 9.8%. With this position, it is predicted that contribution of PNBP of SDPPI sector to total domestic revenue, total PNBP and total miscellaneous PNBP at the end of 2013 would increase compared to that in 2012. Moreover, if at the end of the year there is significant jump in the revenue of PNBP from BHP Frequency whose realization currently is still less than 35%.

Figure 10.7
Contribution of PNBP of SDPPI Sector to state revenue



	2008	2009	2010	2011	2012	2013*
Contribution of PNBP of SDPPI to PNDN	0,628%	0,940%	0,971%	0,739%	0,675%	0,471%
Contribution of PNBP of SDPPI to Total PNBP	1,857%	3,602%	3,990%	2,730%	2,685%	2,138%
Contribution of PNBP of SDPPI to Other PNBP	10,684%	14,893%	18,212%	12,917%	12,582%	9,798%

*) Contribution of PNBP until 2010 still used PNBP of Post and Telecommunication sector.

10.4. Role of Postal and Telecommunication Industry in National Revenue

The role of resources and equipment of post and information technology sector to macro economy is done with output approach. Contribution of resources and equipment of post and information technology to the economy with output approach is shown by the role of communication sector in creating national gross domestic income (GDP) according to line of business. The growth of Indonesian gross domestic income from 2007 to 2012 based on line of business including communication sector is shown in table 10.7. GDP of communication subsector is included in the line of business of transportation and communication. Considering that Central Statistics Body does not issue GDP data per semester, the role of resources and post and information technology sector to national output in this semester 1 of 2013 still uses data up to year 2012.

Communication subsector had been showing an increasing output and contribution which was getting better since 2007 and continued until 2012. In 2012, output from communication subsector reached Rp. 261.7 trillion, an increase of 10.6% compared to that of the previous year. This increase was still lower than the increase in 2011, but it still showed the positive trend of above 10%. Output from this communication subsector consisted of output from post and telecommunication in the amount of Rp. 234.6 trillion and output from communication support services sector which reached Rp 27.2 trillion. Post and telecommunication sector and communication support services sector underwent an increase of 10.56% compared to those of the previous year. The increase of this output of communication subsector in 2012 was still lower compared to the increase of output of transportation subsector which increased by 12.9%.

In the meantime, the total output for transportation and communication sector wherein post and telecommunication are included, reached Rp. 549.1 trillion in 2012 or an increase of 11.7% compared to that of the previous year. This shows that output increase of communication subsector started to decline or became lower than the output increase of its sector and continued the decline trend occurred in 2011. In fact, in 2010, the increase of this communication subsector was higher than its main sector and transportation subsector. The decline in the output increase of communication sector in 2011 and 2012, after experiencing an impressive increase until 2010, showed the beginning of investment and output saturation in communication subsector. The booming of communication subsector which took place since the end of 1990's and continued at the beginning and mid of 2000's, started to experience saturation when entering the second decade of this 21stcentury, particularly those coming from cellular telecommunication. However, it is estimated that this decline would not last long due to the shift of investment in telecommunication sector towards broadband and the growth of other telecommunication equipment such as tablet and smartphone, which is getting faster and more affordable by the public. Nevertheless, the growing number of the usage of telecommunication equipment by population with high teledensity will have an impact to the beginning of the slowing growth of this sector compared to booming period of ownership and growth of the usage of telecommunication equipment.

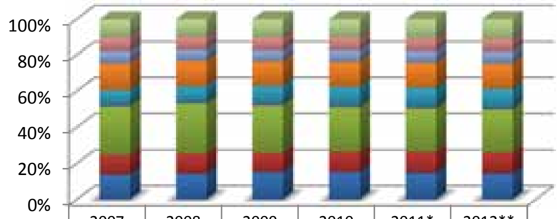
Table 10.7.
GDP Based on Prevailing Price in 2008 – 2012 (Billion Rp.)

LINE OF BUSINESS	2008	2009	2010	2011*	2012**
1. Agriculture	713,291.40	857,241.4	985,448.80	1,091,447.30	1,190,412.40
2. Mining and Excavating	543,363.80	591,912.7	718,136.80	879,505.40	970,599.60
3. Manufacturing Industry	1,380,731.50	1,477,674.3	1,595,779.40	1,806,140.50	1,972,846.60
4. Electricity, Gas & Water	40,846.70	47,165.9	49,119.00	56,788.90	65,124.90
5. Construction	419,321.60	555,201.4	660,890.50	754,483.50	860,964.80
6. Trading, Hotel &Restaurant	692.118,80	744.122,2	882.487,20	1,024,009.10	1,145,600.90
7. Transportation and Communication	312.454,10	352.423,4	423.165,30	491,283.10	549,115.50
a. Transportation	171.203,00	181.896,0	217.311,20	254,520.30	287,356.20
b. Communication	141.251,10	170.527,4	205.854,10	236,762.80	261,759.30
1. Post and Telecommunication	126.532,70	152.949,4	184.487,78	212,188.35	234,590.38
2. Communication Support Services	14.718,40	17.577,98	21.366,32	24,574.44	27,168.91
8. Finance, Leasing & Company Services	368.129,70	404.013,4	466.563,80	535,152.90	598,523.20
9. Services	483.771,30	574.116,5	654.680,00	783,970.50	888,676.40
GDP	4.954.028,90	5.603.871,2	6.436.270,80	7,422,781.20	8,241,864.30
GDP Without Oil & Gas	4.426.384,70	5.138.955,2	5.936.237,80	6,797,879.20	7,604,759.10

Source: Central Statistics Body (BPS)
*) Tentative figures
**) Very tentative figures

Among main economic sectors, transportation and communication sector still has not shown a very big role. Contribution is still dominated by main sectors in Indonesian economy such as manufacturing industry sector, agricultural sector, and trading, hotel and restaurant sector. These sectors still give contribution of more than 20% to Indonesia's Gross Domestic Product (GDP). Moreover, contribution from Manufacturing Industry sector achieved more than 20% although showing a trend of decline. However, transportation and communication sector shows the trend of increasing and stable contribution, although the increase is relatively low, while the main sectors of economy precisely show a trend of decline in contribution. The increase of contribution in transportation and communication sector is part of the economic transformation which starts to shift from primary sector to secondary sector and further to tertiary sector (services, including transportation and communication).

Figure 10.8.
Contribution of Sectors to GDP with Oil and Gas in 2007 – 2012



	2007	2008	2009	2010	2011*	2012**
Services	10,1%	9,8%	10,2%	10,2%	10,6%	10,8%
Finance, Leasing and Company Services	7,7%	7,4%	7,2%	7,2%	7,2%	7,3%
Transportation and Communication	6,7%	6,3%	6,3%	6,6%	6,6%	6,7%
Trading, Hotel & Restaurant	14,9%	14,0%	13,3%	13,7%	13,8%	13,9%
Construction	7,7%	8,5%	9,9%	10,3%	10,2%	10,4%
Electricity, Gas & Water	0,9%	0,8%	0,8%	0,8%	0,8%	0,8%
Manufacturing Industry	27,0%	27,9%	26,4%	24,8%	24,3%	23,9%
Mining and Excavating	11,1%	11,0%	10,6%	11,2%	11,8%	11,8%
Agriculture	13,8%	14,4%	15,3%	15,3%	14,7%	14,4%

The trend of increased contribution to the economy also occurs in the subsectors, i.e. communication subsector, and post and telecommunication area. Table 10.8 shows that although its contribution to the economy is still low, communication subsector indicates a continuously increasing contribution from 2.85% in 2008 to 3.18% in 2012. This increaseprecisely occurs when transportation subsector experiences a decline in contribution. The increase of contribution of communication subsector makes contribution oftransportation and communication sector remain stable and increasing. However, since 2010 contribution of this communication sector in fact had experienced a decline although slowly. On the other hand, transportation sector in the same period showed an increase. The trend of increased contribution also occurs in post and telecommunication sector and telecommunication support services sector. Contribution of post and telecommunication sector increased from 2.55% in 2008 to 2.85% in 2012.

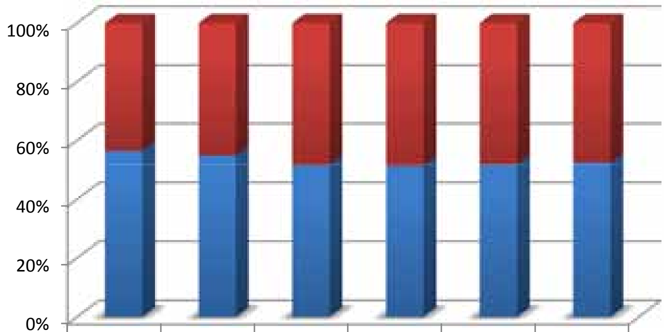
Table 10.8.
Role of Postal and Telecommunication Sector To GDP in 2008-2012

LINE OF BUSINESS	2008	2009	2010	2011*	2012**
1. Agriculture	14,40%	15,30%	15,31%	14.70%	14.44%
2. Mining and Excavating	10,97%	10,56%	11,16%	11.85%	11.78%
3. Manufacturing Industry	27,87%	26,37%	24,79%	24.33%	23.94%
4. Electricity, Gas & Water	0,82%	0,84%	0,76%	0.77%	0.79%
5. Construction	8,46%	9,91%	10,27%	10.16%	10.45%
6. Trading, Hotel & Restaurant	13,97%	13,28%	13,71%	13.80%	13.90%
7. Transportation and Communication	6,31%	6,29%	6,57%	6.62%	6.66%
- Transportation	3,46%	3,25%	3,38%	3.43%	3.49%
- Communication	2,85%	3,04%	3,20%	3.19%	3.18%
* Post and Telecommunication	2,55%	2,73%	2,87%	2.86%	2.85%
* Communication Support Services	0,30%	0,31%	0,33%	0.33%	0.33%
8. Finance, Leasing & Company Services	7,43%	7,21%	7,25%	7.21%	7.26%
9. Services	9,77%	10,24%	10,17%	10.56%	10.78%

Source : Central Statistics Body (BPS)
*) Tentative figures

The role of telecommunication in the economy is also shown from the bigger the share of communication subsector in transportation and telecommunication sector in the structure of Indonesian economy. Under the growth condition of communication sector which starts to decline whereas the growth of transportation precisely increases, communication subsector shows a decreasing share in that sector although the decrease is relatively very low. The share of communication subsector which in 2010already reached 48.65%, in 2011 it decreased to be 47.67%. Meanwhile, in the same period, transportation subsector increased from 51.35% to 52.33%. Nevertheless, the share of communication subsector in this 2012 is still better than the condition in 2007 and 2008.

Figure 10.9. Proportion of communication subsector in transportation and communication sector

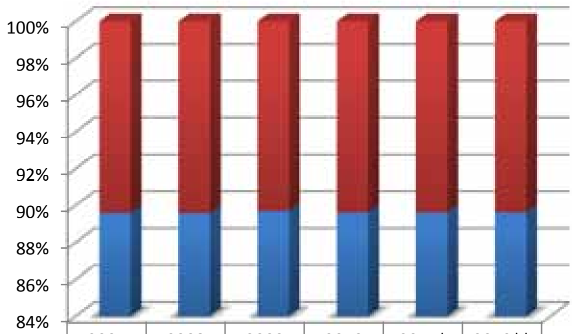


	2007	2008	2009	2010	2011*	2012**
Communication	43,48%	45,21%	48,39%	48,65%	48,19%	47,67%
Transportation	56,52%	54,79%	51,61%	51,35%	51,81%	52,33%

*) Tentative figures

If viewed more deeply in communication subsector, figure 10.10 shows that the share of post and telecommunication is still very dominant in the structure of communication subsector. The share of post and telecommunication reached almost 90% and had been relatively stable from 2007 to 2012. The higher proportion of post and telecommunication is because this sector includes postal activities which are growing particularly towards logistics and courier services, and telecommunication activities which are increasingly experiencing rapid development for the more diverse usage. Technological development in telecommunication subsector also supports the magnitude of output in post and telecommunication area.

Figure 10.10.
Proportion of area in communication subsector in GDP in 2007 – 2012



	2007	2008	2009	2010	2011*	2012**
Communication Support Services	10,41%	10,42%	10,31%	10,38%	10,38%	10,38%
Post and Telecommunication	89,59%	89,58%	89,69%	89,62%	89,62%	89,62%

*) Tentative figures

If viewed from the growth of its sector, transportation and communication sector shows the highest growth within national GDP structure compared to that of other sectors. Entering 2012 when there was a decline of growth in the structure of national GDP, transportation and communication sectors also showed decreasing growth despite being the sector with the highest growth. The growth of transportation and communication sector for the first time was below two digits in 2012, i.e. 9.98% or declined from that in 2011 which still reached 10.7%. The growth which was still high in transportation and communication sector was supported by the growth in communication subsector which was still within two digits, i.e. 12.08%. This communication subsector also experienced a decline compared to that in 2011 which reached 12.64%.

If viewed from 2008, table 10.9 shows that the growth of transportation and communication sectors and particularly communication subsector experienced the sharpest decline. In 2008, transportation and communication sectors still grew as much as 16.06%, while its communication subsector even grew almost 30%, particularly those coming from communication support services sectors. The sharp decline in these past five years is an impact of the beginning of slow investment and service products in communication sector. In the meantime, transportation subsector precisely showed an increased growth. The booming of telecommunication sector at the beginning and mid of 2000's made the growth in communication subsector become very high during that period up to 2009. However, the tendency of usage of telecommunication service and equipment which was still high resulted in the growth of communication sector which was also pretty high.

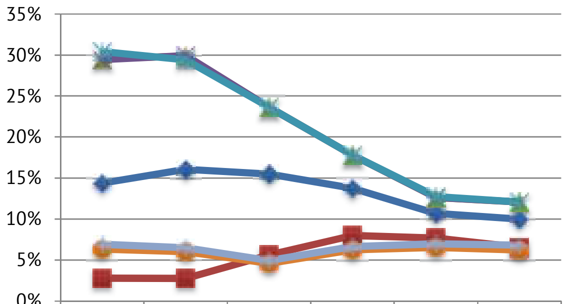
Table 10.9.
The Growth Rate of GDP Sectors in Indonesia in 2007 – 2012 (%)

LINE OF BUSINESS	2008	2009	2010	2011	2012*
1. Agriculture	4,80%	3,98%	2,97%	3.38%	3.97%
2. MiningandExcavating	0,66%	4,44%	3,59%	1.68%	1.49%
3. ManufacturingIndustry	3,66%	2,16%	4,80%	6.14%	5.73%
4. Electricity,GasandWater	10,86%	14,29%	5,33%	4.82%	6.40%
5. Construction	7,47%	7,07%	6,95%	6.65%	7.50%
6. Trading,Hotel&Restaurant	7,34%	1,30%	8,66%	9.17%	8.11%
7. TransportationandCommunication	16,06%	15,50%	13,76%	10.70%	9.98%
a. Transportation	2,76%	5,62%	7,98%	7.68%	6.57%
b. Communication	29,86%	23,61%	17,81%	12.64%	12.08%
1. Postand Telecommunication	29,91%	23,61%	17,81%	12.63%	12.08%
2. CommunicationSupport Services	29,42%	23,61%	17,81%	12.73%	12.08%
8. Finance,Leasing&CompanyServices	8,24%	5,05%	5,83%	6.84%	7.15%
9. Services	6,09%	6,42%	6,01%	6.78%	5.24%
GDP	6,03%	4,58%	6,25%	6.52%	6.23%
GDPWithoutOil&Gas	6,49%	4,96%	6,64%	6.99%	6.81%

Source: Processed from BPS data

If viewed more deeply at the field of post and telecommunication in telecommunication sector, the field of post and telecommunicationstill creates a high growth and is the highest among other economic sectors or subsectors although starting to experience a decline of growth. In 2012, this post and telecommunication sector grew as much as 12.08% although decreased compared to that of the previous year which was able to grow 12.64%. In the coming years, if there is no significant increase of investment in post and telecommunication sector or significant growth of post and telecommunication sector in respond to the rapid growth of telecommunication and information technology sector, it is predicted that its growth would decline again even though it would still growth positively.

Figure 10.11
Growth trend of telecommunication sector in GDP in 2007 – 2012



	2007	2008	2009	2010	2011*	2012**
Transportation and Communication	14,38%	16,06%	15,50%	13,76%	10,70%	9,98%
Transportation	2,78%	2,76%	5,62%	7,98%	7,68%	6,57%
Communication	29,54%	29,86%	23,61%	17,81%	12,64%	12,08%
Post and Telecommunication	29,44%	29,91%	23,61%	17,81%	12,63%	12,08%
Communication Support Services	30,41%	29,42%	23,61%	17,81%	12,73%	12,08%
GDP	6,32%	6,03%	4,58%	6,25%	6,52%	6,23%
GDP Without Oil & Gas	6,92%	6,49%	4,96%	6,64%	6,99%	6,81%

The growth trend of transportation and communication sector, communication subsector, and in the field of post and telecommunication compared to GDP growth shows that telecommunication subsector grows much higher than the growth of GDP and transportation subsector. The slowing down of growth or stagnation of economic growth in all sectors still makes this communication subsector remain to grow high considering that the growth of this subsector has been very high since the beginning. The two elements in this subsector, i.e. post and telecommunication and telecommunication support services, also show high growth. The growth of communication subsector increased in 2007 and 2008, but started to decrease entering 2009. The decline in the growth of telecommunication subsector and post and telecommunication area is estimated approaching a point of saturation of telecommunication market and industry which was motivated by cellular telecommunication causing the decline of its growth. The slowing down of growth in cellular telecommunication usage is in line with the over-crowded teledensity of this cellular communication causing a decline in the growth of communication subsector.

However, with the broadband that is growing wider and becoming the new mainstay of telecommunication subsector, it is predicted that it could push back the growth of this telecommunication subsector. The role of cellular telecommunication would begin to be shifted by broadband as the main driving force of telecommunication subsector in Indonesia.

DIRECTORATE GENERAL OF RESOURCES AND EQUIPMENT OF
POST AND INFORMATION TECHNOLOGY
MINISTRY OF COMMUNICATION AND INFORMATION TECHNOLOGY

Sapta Pesona Buiding
Jl. Medan Merdeka Barat 17
Jakarta 10110 - Indonesia
Telp. 021-3835856 Faks. 021-3860790
E-mail : datastatistik@postel.go.id
sdppi.kominfo.go.id atau www.postel.go.id