

**DECREE OF THE MINISTER OF COMMUNICATION AND INFORMATION
TECHNOLOGY OF THE REPUBLIC OF INDONESIA**

NUMBER : 07/PER/M.KOMINFO/03/2012

ON

TECHNICAL REQUIREMENTS OF CONTACTLESS SMART CARD

BY THE GRACE OF GOD THE ALMIGHTY

**MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF THE
REPUBLIC OF INDONESIA**

- Considering:
- a. that the development of technology and information has provided an Impact on various fields without exception to the field of payment system, particularly electronic instrument as tool of cashless payment that has big potential to reduce the use of cash, which in the future will have an impact on national economic growth;
 - b. that in accordance with the provision of Article 2 paragraph (1) of the Decree of the Minister of Communication and Information Technology Number 29/PER/M.KOMINFO/09/2008 on Certification of Telecommunication Tools and Equipment, any Telecommunication Tools and Equipment manufactured, assembled, imported for trade and or for usage in the territory of the Republic of Indonesia shall comply with the technical requirements;
 - c. that based on considerations referred to in points a and b, it is considered necessary to issue a Decree of the Minister of Communication and Information Technology on Technical Requirements of Contactless Smart Card. .

- Bearing in mind:
1. Law of the Republic of Indonesia Number 36 Year 1999 on Telecommunication (State Gazette of the Republic of Indonesia Number 154 Year 1999, Supplement to the State Gazette of the Republic of Indonesia Number 3881);
 2. Law of the Republic of Indonesia Number 11 Year 2008 on Information and Electronic Transactions (State Gazette of the Republic of Indonesia Number 58 Year **2008**, Supplement to the State Gazette of

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

the Republic of Indonesia Number 4843);;

3. Government Regulation of the Republic of Indonesia Number 52 Year 2000 on Provision of Telecommunication (State Gazette of the Republic of Indonesia Number 107 Year 2000, Supplement to the State Gazette of the Republic of Indonesia Number 3980);
4. Decree of the President of the Republic of Indonesia Number 47 Year 2009 on Formation of Organization of State Ministries of the Republic of Indonesia as amended latest by the Decree of the President of the Republic of Indonesia Number 91 Year 2011 on Third Amendment to the Decree of the President of the Republic of Indonesia Number 47 Year 2009 on Formation of Organization of State Ministries of the Republic of Indonesia;
5. Decree of the President of the Republic of Indonesia Number 24 Year 2010 on Positions, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia as amended latest by the Decree of the President of the Republic of Indonesia Number 92 Year 2011 on Second Amendment to the Decree of the President of the Republic of Indonesia Number 24 Year 2010 on Positions, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia;
6. Decision of the Minister of Communication Number KM. 3 Year 2001 on Technical Requirements of Telecommunication Tools and Equipment.
7. Decree of the Minister of Communication and Information Technology Number 03/PM.Kominfo/5/2005 on Adjustment of Nomenclatures of a Number of Decisions/Decrees of the Minister of Communication which regulate Special Material Contents in the Field of Post and Telecommunication;
8. Decree of the Minister of Communication and Information Technology Number 29/PER/M.KOMINFO/09/2008 on Certification of Telecommunication Tools and Equipment ;
9. Decree of the Minister of Communication and Information Technology Number 17/PER/M.KOMINFO/10/2010 on Organization and Work Method of the Ministry of Communication and Information Technology;
10. Decree of the Minister of Communication and Information Technology Number 15/PER/M.KOMINFO/06/2011 on Adjustment of Nomenclatures of a Number of Decisions/Decrees of the Minister of Communication and Information Technology which regulate Special Material Contents in the Field of Post and Telecommunication and Decisions and/or Decrees of the Director General of Post and Telecommunication.

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

DECIDES

**To issue: DECREE OF THE MINISTER OF COMMUNICATION AND INFORMATION
TECHNOLOGY ON TECHNICAL REQUIREMENTS OF
CONTACTLESS SMART CARD**

Article 1

The Contactless Smart Card shall comply with the technical requirements referred to in the Attachment which is an integral part of this Ministerial Decree.

Article 2

The testing implementation of the Contactless Smart Card shall follow the guideline of technical requirements referred to in the Attachment which is an integral part of this Ministerial Decree.

Article 3

This Ministerial Decree shall come into force on the date of its promulgation.

In order to make known to every body, instruct the promulgation of this Ministerial Decree by placing it in the State Announcement of the Republic of Indonesia.

Done at: JAKARTA
On : March 14, 2012

MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY

Signed

TIFATUL SEMBIRING

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

Promulgated at Jakarta
On March 20, 2012

MINISTER OF LAW AND HUMAN RIGHTS

Signed

AMIR SYAMSUDIN

STATE ANNOUNCEMENT OF THE REPUBLIC OF INDONESIA YEAR 2012 NUMBER
334.

For copy conform to the original,

HEAD OF LEGAL BUREAU

Signed

D. SUSILO HARTONO

ATTACHMENT: DECREE OF THE MINISTER OF COMMUNICATION
AND INFORMATION TECHNOLOGY
NUMBER : 07/PER/M.KOMINFO/03/2012
ON TECHNICAL REQUIREMENTS OF CONTACTLESS
SMART CARD

TECHNICAL REQUIREMENTS OF CONTACTLESS SMART CARD

The scope of technical requirements of contactless smart card covers :

- CHAPTER I : General Provisions (definition, configuration, abbreviations, and terms);
CHAPTER II : Technical Requirements of Contactless Smart Card;
CHAPTER III : Completeness of Testing of Contactless Smart Card;
CHAPTER IV : Testing (testing implementation, method of sampling, and test method)

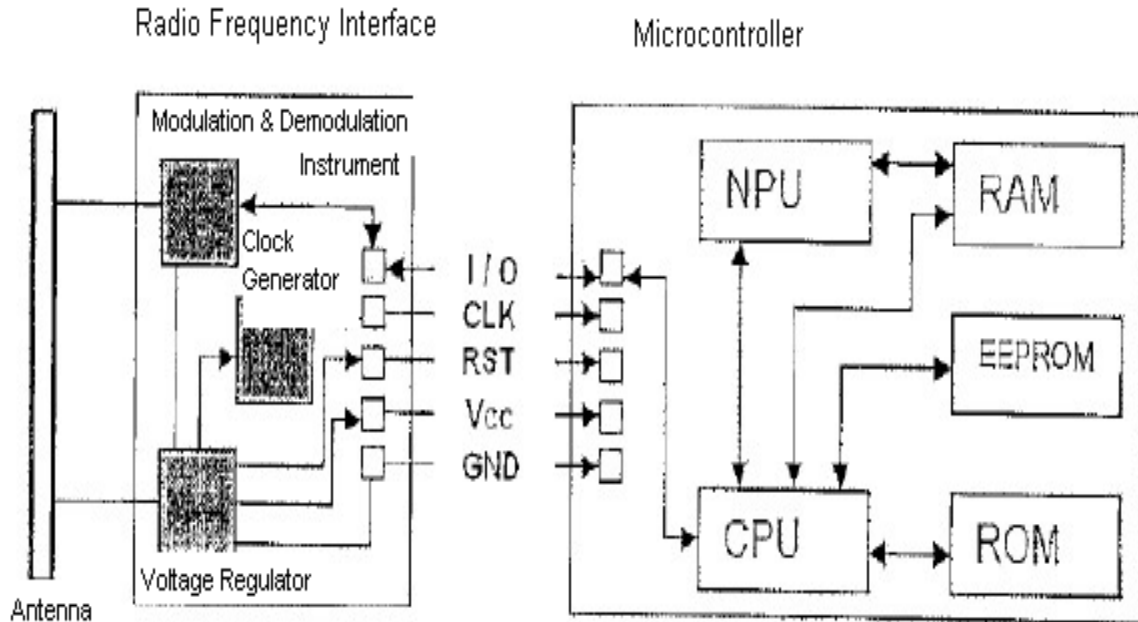
**CHAPTER I
GENERAL PROVISIONS**

1. Definition

Contactless Smart Card is a device that has one or more integrated circuit chips/IC chips formed from the components of processor, memory, and communication interface.

Contactless Smart Card is a smart card which uses radio frequency/RF wave and equipped with antenna to perform data transaction communication.

2. Configuration



3. Abbreviations

AES	: <i>Advanced Encryption Standard</i>
A / m	: <i>Ampere per Meter</i>
C	: <i>Celsius</i>
CLK	: <i>Clock Input</i>
Cm	: <i>Centimeter</i>
DES	: <i>Data Encryption Standard</i>
DF	: <i>Dedicated File</i>
ECDSA	: <i>Elliptic Curve Digital Signature Algorithm</i>
EF	: <i>Elementary File</i>
EMC	: <i>Electromagnetic Compatibility</i>
ESD	: <i>Electro Static Discharge</i>
GND	: <i>Ground</i>
Gy	: <i>Gray</i>
IDEA	: <i>International Data Encryption Algorithm</i>
I / O	: <i>Input / Output</i>
Kbps	: <i>Kilo bit per second</i>
KHz	: <i>Kilo Hertz</i>
KV	: <i>Kilo Volt</i>
mA	: <i>Milliampere</i>
MF	: <i>Master File</i>

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

MHz	: <i>Mega Hertz</i>
Mm	: <i>Millimeter</i>
PC	: <i>Polycarbonate</i>
PET	: <i>Polyethylene Terephthalate</i>
pF	: <i>Picofarad</i>
PVT	: <i>Polyvenylpyrrolidone</i>
RF	: <i>Radio Frequency</i>
RSA	: <i>Rivest, Shamir and Adleman</i>
RST	: <i>Reset Input</i>
SAM	: <i>Secure Access Module</i>
SHA	: <i>Secure Hash Algorithm</i>
uA	: <i>Microampere</i>
V	: <i>Volt</i>
Vcc	: <i>Power Supply Voltage at VCC</i>

4. Terms

<i>Band Rate</i>	: Number of data that can be transferred through a serial Interface.
<i>Signature Panel</i> <i>Guilloche</i>	: A space for putting signature of the card owner of pattern Decoration with tied lines, generally in the form of circle or oval usually made by using high quality printing techniques.
<i>Barcode</i>	: Graph in the form of bar used to represent code number identification system.
<i>Hologram</i>	: A form of picture made by using laser ray that presents Information of three dimension form.
<i>Kinegram</i>	: A moving picture made by shifting lined pattern.
<i>Laser Engraving</i>	: Application of laser technology to “throw” part of the material surface to engrave or mark an object.
<i>Embossing</i>	: Design chopped into substrate to produce decorative raise or identification of the respective surfaces.
<i>Thermochrome</i>	: Colour design that may change to another colour due to temperature change.
<i>Ohm</i>	: Measuring unit of electrical impedance.

CHAPTER II TECHNICAL REQUIREMENTS OF CONTACTLESS SMART CARD

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

1. Physical Requirement

Physical requirement of contactless smart card must comply with the following provisions :

- a. Material of the contactless smart card may be made of PVC or PET or PC substance;
- b. Dimensions of contactless smart card :
 - Length = 85.60 mm;
 - Width = 53.97 mm;
 - Card thickness = < 1 mm;
 - Corner radius = 3.18 mm \pm 0.30 mm.

2. Labelling Requirement

Labelling requirement of contactless smart card must include one or more labeling technologies, among other things, as follows :

- a. Card Identity;
- b. Panel Signature;
- c. *Embossing* ; and / or
- d. *Laser Engraving*.

3. Physical Security Requirement

Physical security requirement of contactless smart card may include one or more physical security technologies, among other things, as follows :

- a. *GUILLOCHE*;
- b. Hologram;
- c. Kinegram;
- d. Ultraviolet Marker;
- e. Moduliertes Markmal;
- f. Barcode; and / or
- g. Thermochrome *Display*

4. Endurance Requirement of Contactless Smart Card

Endurance requirement of contactless smart card must comply with the following provisions :

- a. Physical endurance power of the card vis-à-vis erasure of certain layer of the card is in accordance with ISO / IEC 10373-1 provision;

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

- b. Physical endurance power of the card vis-à-vis the twisting of the card is in accordance with ISO / IEC 10373-1 provision;
- c. Physical endurance power of the card vis-à-vis the bend is as follows :
 - 1) Possesses endurance power of bend in the length side of the card with :
 - :Bend : 2 cm
 - Bendy period : 30 times of bends in 1 minute.
 - 2) Possesses endurance power of bend in the width side of the card with :
 - Bend: 1 cm
 - Bendy period : 30 times of bends in 1 minute.
 - 3) The card may not have even the smallest crack after 1000 times of bends.

5. Cip Endurance Requirement

The cip endurance requirement of contactless smart card must comply with the following provisions :

- a. The cip of contactless smart card must not be damaged by electrostatic voltage of 2000 volts originating from 100 pF capacitor with 1500 Ohm resistance;
- b. The cip resistance measured between two points of the pin must not be more than (maximum) 0.5 Ohm, with the value of 50 uA up to and including 300 mA;
- c. The cip of the card must not be damaged by magnetic static field of 79500 A. tr / m;
- d. The second exposure of the side of the card for the measurement of 0.1 Gy relative toward 70 KV up to 140 KV radiation. X-ray (cumulatively per year) must not cause malfunction in the card;
- e. *Electromagnetic compatibility* requirement is in line with the provision of technical requirements of the Decree of Director General of SDPPI (Resources and Equipment of Post and Information Technology) which regulates *electromagnetic compatibility* and or the equivalent international EMC standard;
- f. The contactless smart card must be able to work well around the temperature between – 25° C up to and including 70° C;
- g. The space for keeping data with the durability of reading / writing is at the lowest 100,000 times.

6. Radio Frequency Power Requirement

The radio frequency power requirement of contactless smart card must comply with the following provisions :

- a. The farthest span is 10 cm;
- b. The lowest speed of data transmission is 106 Kbps;
- c. The operational frequency of RF is 13.56 MHz ± 7 kHz;

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

d. Own around emission power between 1.5 A / m up to and including 7.5 A / m.

7. Contactless Smart Card Cip Component Requirement

The contactless smart card cip component requirement must at the lowest comply with the following provisions :

- a. CPU : 8 bit Architecture;
- b. RAM : 256 Bytes;
- c. EEPROM : 1 Kilo Bytes;
- d. ROM : 1 Kilo Bytes.

8. Data Security Requirement

The contactless smart card must comply with the data security requirement that possesses :

- a. *Crypto co-processor* that supports cryptographic technology, among other things :
 - 1) Symmetrical algorithm (example: DES, 3-DES, IDEA, and AES);
 - 2) Asymmetrical algorithm (example: RSA);
 - 3) Hash function (example: SHA-1 and SHA-256);
 - 4) Digital signature (example: ECDSA, RSA-2000);
 - 5) Random number generator;
 - 6. Mutual authentication process using feedback mechanism.
- b. Feature that may guard the security of transactions and data access;
- c. Mechanism to secure transactions and data access;
- d. Feature to keep information on all changes susceptible to be done by a transaction;
- e. Feature to shorten the *logging* time and recovery;
- f. Feature to conduct transactions in a comprehensive manner or not at all.

9. Data Structure Requirement

Data Structure of contactless smart card must support the formation of *Master File* (MF), *Dedicated File* (DF), and *Elementary File* (EF) as defined in ISO 7816-4 document.

10.. Command Set Requirement

Contactless smart card must support *command set*, among other things :

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

- a. READ BINARY *command*;
- b. WRITE BINARY *command*;
- c. UPDATE BINARY *command*;
- d. ERASE BINARY *command*;
- e. READ RECORD(S) *command*;
- f. WRITE RECORD *command*;
- g. APPEND RECORD *command*;
- h. UPDATE RECORD *command*;
- i. GET DATA *command*;
- j. PUT DATA *command*;
- k. SELECT FILE *command*;
- l. VERIFY *command*;
- m. INTERNAL AUTHENTICATE *command*;
- n. EXTERNAL AUTHENTICATE *command*;
- o. GET CHALLENGE *command*;
- p. MANAGE CHANNEL *command*.

CHAPTER III

COMPLETENESS OF TESTING OF CONTACTLESS SMART CARD

Contactless smart Card to be tested must be equipped with :

1. Identity of contactless smart card

Identity of issuer and serial number of cip

2. Manual of application document of contactless smart card

The manual document is in Bahasa Indonesia (Indonesian language) and in English.

CHAPTER IV

TESTING

1. Testing Implementation

The testing of contactless smart card is implemented by Balai Uji (Testing Institution) that has owned accreditation from an authorized institution which is assigned by the Directorate General of Resources and Equipment of Post and Information Technology.

In case the English translation gives rise to different interpretation, please refer to the original version in Indonesian language

2. Method of Sampling

Sampling of test material of contactless smart card is carried out at random according to test procedure based on legal regulations.

3. Test Method

Test method used is in accordance with the *Standard Operating Procedure* of the respective Balai Uji.

MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY,

Signed

TIFATUL SEMBIRING