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

**NUMBER : 44 YEAR 2012**

**ON**

**TECHNICAL REQUIREMENTS OF TELECOMMUNICATION EQUIPMENT OF  *BROADBAND OVER POWER LINE* MODEM FOR THE NEED OF CUSTOMERS**

**BY THE GRACE OF GOD THE ALMIGHTY**

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

Considering: a. that the use of telecommunication equipment manufactured,

 assembled, imported for trade and or for use in the territory

 of the Republic of Indonesia shall comply with the technical

 requirements;

 b that the compliance with the technical requirements of telecommunication tools and equipment of the group of customers particularly *Broadband Over Power Line* Modemfor the Need of Customers, is required within the framework of supporting interconnection and interoperability in conducting telecommunication;

 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 Telecommunication Equipment of  *Broadband Over Power Line* Modem for the Need of Customers.

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);

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1. 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);
2. Government Regulation of the Republic of Indonesia Number 53 Year 2000 on Use of Radio Frequency Spectrum and Satellite Orbit (State Gazette of the Republic of Indonesia Number 108 Year 2000, Supplement to the State Gazette of the Republic of Indonesia Number 3981);
3. Decree of the President of the Republic of Indonesia Number 47 Year 2009 on Formation and 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 and Organization of State Ministries of the Republic of Indonesia;
4. Decree of the President of the Republic of Indonesia 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 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 State Ministries of the Republic of Indonesia and Organizational Structure, Duties, and Functions of Echelon I of State Ministries of the Republic of Indonesia;
5. Decision of the Minister of Communication Number KM 3 Year 2001 on Technical Requirements of Telecommunication Tools and Equipment;
6. Decree of the Minister of Communication and Information Technology Number 03/PER/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;
7. Decree of the Minister of Communication and Information Technology Number 29/PER/M.KOMINFO/09/2008 on Certification of Telecommunication Tools and Equipment;
8. Decree of the Minister of Communication and Information Technology Number 17/PER./M.KOMINFO/10/2010 on Organization and Work Method of the Department of Communication and Information Technology.

**DECIDES**

**To issue : DECREE OF THE MINISTER OF COMMUNICATION AND INFORMATION TCHNOLOGY ON TECHNICAL REQUIREMENTS OF TELECOMMUNICATION EQUIPMENT OF *BROADBAND OVER POWER LINE* MODEMFOR THE NEED OF CUSTOMERS**

Article 1

Any telecommunication equipment of *broadband over power line* modern for the need of customers manufactured, assembled, imported for trade and/or used in the territory of the Republic of Indonesia  shall comply with the technical requirements referred to in the Attachment which is an inseparable part of this Ministerial Decree.

Article 2

{1} Evaluation on the obligation of any telecommunication equipment of *broadband over power line* modemfor the need of customers in complying with the technical requirements referred to in Article 1 is done through testing conducted by a Test Office which has an accreditation and has been assigned by the Directorate General of Resources and Equipment of Post and Information Technology as Designating Authority.

(2) The testing of telecommunication equipment of *broadband over power line* modernfor the need of customers referred to in paragraph (1) is implemented in accordance with the technical requirements referred to in the Attachment which is an inseparable 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 : December 11, 2012

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**MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF THE REPUBLIC OF Indonesia,**

Signed

**TIFATUL SEMBIRING**

Promulgated at Jakarta

On December 12, 2012

MINISTER OF LAW AND HUMAN RIGHTS

OF THE REPUBLIC OF INDONESIA

 Signed

 AMIR SYAMSUDIN

STATE ANNOUNCEMENT OF THE REPUBLIC OF INDONESIA YEAR 2012 NUMBER 1244

For copy conform to the original

Ministry of Communication and Information Technology, ,

 Head of Bureau of Legal Affairs,

 Signed

 D. Susilo Hartono

**ATTACHMENT**

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

**NUMBER 44 YEAR 2012**

**ON**

**TECHNICAL REQUIREMENTS OF TELECOMMUNICATION EQUIPMENT OF *BROADCASTING OVER POWER LINE* MODEM FOR THE NEED OF CUSTOMERS**

**TECHNICAL REQUIREMENTS OF TELECOMMUNICATION EQUIPMENT OF  *BROADBAND OVER POWER LINE* MODEM FOR THE NEED OF CUSTOMERS**

The scope of technical requirements of telecommunication equipment of *Broadband Over Power Line* Modemfor the need of customers covers :

a. General Provisions (definition, configuration, abbreviations, and terms);

b. Technical requirements (Operation Requirement, Electrical Safety and *Electromagnetic Compatibility* Requirement, Electrical Requirement, *Performance* Requirement);

c. Testing (method of sampling, condition of passing the test).

CHAPTER I

GENERAL PROVISIONS

1.1. Definition

*Broadband Over Power Line* Modem for the need of customers hereinafter referred to as BPL modem is a customer’s terminal which may extend a LAN connection through electrical network infrastructure inside a house or a building as telecommunication media.

1.2. Configuration



 Figure 1. General Service Architecture of *Broadband Over Power Line* (BPL)

1.3. Abbreviations

Ac : *alternating current*

BER : Bit Error Rate

CPE : *Customer Premises Equipment*

C/N : *Carrier to Noise Ratio*

dB : *Decibel*

dBmV : *Decibel millivolt*

ETSI : *European Telecommunication Standard Institute*

F : Female

H : *Humidity*

Hz : *Hertz*

IEEE : *Institute Of Electrical And Electronics Engineers*

IEC : *International Electrotechnical Commission*

M : Mega

mW : milliWatt

Mbps : *Mega bit per second*

OFDM : Orthogonal Frequency Division Multiplexing

Ppm : *Part per million*

RJ : *Registered Jack*

USB : *Universal SerialBus*

1.4. Terms

a. *Downstream* : Transmission direction from *network* to customers

b. *Upstream* : Transmission direction from customers to *network*

c. *Asymmetric Encryption* : Asymmetric coding

CHAPTER II

TECHNICAL REQUIREMENTS

2.1. Operation

BPL modem for the need of customers refers to standards of IEEE P1675, IEEE 1901, IEC 61000-3-8, ETSI TS 101 867.

a. Interface

 BPL modem equipment at least must provide one of the following interfaces :

1) RJ 45 (minimum 100Base-TX);

2) *WiFi* IEEE 802 11 a/b/g/n with maximum emission power of 200 mW;

3) USB;

4) RJ 11;

5) F *connector*.

b. Power Supply

 BPL modem equipment must fulfil power supply .

 The nominal alternating current voltage is 220 Vac/50Hz. Power usage at the equipment is 3 Watt at the time of:

* *shut-down;*
* *wake-up.*

*.*c. Environmental Condition

BPL modem equipment must be able to work normally at the environmental condition :

1) Room temperature : 25o C ± 15o  C;

2) Temperature change : ≤ 5o C per hour;

3) Relative humidity : 40%<H< 90%;

4) Humidity change : ≤ 5% per hour.

d. Security system

1) Electrical

 Equipped with security against voltge and excessive current (*overload protection)* in accordance with IEC 60950-1 and indicator to provide information on status of equipment or network.

2) Data

 Equipped with minimum asymmetrical encryption of *128 bit.*

2.2. Electrical and *Electromagnetic Compatibility* (EMC) Safety.

a. Electrical safety requirement is in accordance with international standard of IEC 60950-1 or equivalent international standard.

b. EMC requirement is in accordance with the provision of legal regulations which regulate EMG and or in accordance with equivalent international EMC standard.

2.3. Electrical

a. Frequency of operation

 BPL Modem Equipment for the need of customers (CPE) must communicate in the existing electrical network at work frequency of 2 MHz up to 80 MHz.` `

b. Operation Modulation

 BPL Modem Equipment minimally uses OFDM operation modulation.

c. Frequency Accuracy

 BPL Modem must have minimum frequency accuracy of ± 32 Ppm.

d. Output Level to Customers

 BPL Modem must have minimum *output level* to customers of 0 dBmV.

e. Data Capacity

 BPL Modem has minimum data capacity of 1 Mbps.

2.4. *Performance*

BPL Modem must fulfil the following *performance* requirements:

a. Capacity of connection

 BPL Modem must be able to communicate with other kinds of equipment through standard protocol applied to the respective equipment .

 *Interoperability* between equipment may be tested among other things by *Ping* or *traceroute command.*

b. C/N Performance vis-à-vis BER

 BPL Modem must have BER performance:

* Upstream : minimum 10-6 at C/N input of 20 dB;
* Downstream : minimum 10-6 at C/N input of 30 dB.

2.5. Service

BPL Modem must fulfil the service requirement among other things:

a. *Multicast;*

b. Support *rate limit* function for minimum service of 1 Mbps;

c. For *wifi* its maximum emission power is 200 Mw.

CHAPTER III

TESTING

3.1 Method of Sampling

Samples of tested material of two (2) units are selected at random by a Test Office.

3.2. Condition of Passing the Test

The testing result is declared PASS THE TEST, if all the tested materials comply with the provision of technical requirements referred to in the Attachment of this Ministerial Decree.

**MINISTER OF COMMUNICATION AND INFORMATION TECHNOLOGY OF**

 **THE REPUBLIC OF INDONESIA,**

Signed

**TIFATUL SEMBIRING**