



PT. DIMULTI PILAR NARMADI

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**DRAFT OF THE DECREE OF MINISTER OF COMMUNICATION AND
INFORMATICS OF THE REPUBLIC OF INDONESIA
NUMBER ... YEAR ...
ABOUT
TECHNICAL STANDARDS FOR ANTENNA TELECOMMUNICATION
EQUIPMENT**

**MINISTER OF COMMUNICATIONS AND INFORMATICS OF THE
REPUBLIC OF INDONESIA**

Considering:

- a. that in accordance with the provisions of Article 34 paragraph (1) and Article 37 paragraph (1) of Government Regulation Number 46 of 2021 concerning Post, Telecommunications and Broadcasting, every Telecommunications Equipment and/or Telecommunications Device that is manufactured, assembled, imported, for trading and/or used in the territory of the Unitary State of the Republic of Indonesia must comply with the Technical Standards determined by the Minister;
- b. that to protect the public from possible losses arising from the use of antenna telecommunications equipment, as well as to ensure connectivity in the telecommunications network, it is necessary to establish technical standards for antenna telecommunications equipment;
- c. that based on the considerations as intended in letters a and b, it is necessary to stipulate a Decree of the Minister of Communication and Information regarding Technical Standards for Antenna Telecommunication Equipment;

Remembering:

1. Law Number 36 of 1999 concerning Telecommunications (State Gazette of the Republic of Indonesia of 1999 Number 154, Supplement to State Gazette of the Republic of Indonesia Number 3881) as amended by Law Number 6 of 2023 concerning Stipulation of Government Regulations in Lieu of Law Number 2 of 2022 concerning Job Creation becoming Law (State Gazette of the Republic of Indonesia of 2023 Number 41, Supplement to State Gazette of the Republic of Indonesia Number 6856);
2. Government Regulation Number 53 of 2000 concerning the Use of Radio Frequency Spectrum and Satellite Orbits (State Gazette of the Republic of Indonesia of 2000 Number 108, Supplement to State Gazette of the Republic of Indonesia Number 3981);



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3. Government Regulation Number 46 of 2021 concerning Post, Telecommunications and Broadcasting (State Gazette of the Republic of Indonesia of 2021 Number 56, Supplement to State Gazette of the Republic of Indonesia Number 6658);
4. Presidential Regulation Number 22 of 2023 concerning the Ministry of Communication and Information (State Gazette of the Republic of Indonesia of 2023 Number 51);
5. Regulation of the Minister of Communication and Information Technology Number 16 of 2018 concerning Operational Provisions for Certification of Telecommunications Equipment and/or Equipment (State Gazette of the Republic of Indonesia of 2018 Number 1801);
6. Regulation of the Minister of Communication and Information Technology Number 2 of 2019 concerning the Use of Radio Frequency Spectrum for Point-to-Point Microwave Links (State Gazette of the Republic of Indonesia of 2019 Number 616);
7. Regulation of the Minister of Communication and Information Technology Number 7 of 2021 concerning the Use of Radio Frequency Spectrum (State Gazette of the Republic of Indonesia of 2021 Number 305);
8. Regulation of the Minister of Communication and Information Technology Number 12 of 2021 concerning the Organization and Work Procedures of the Ministry of Communication and Information Technology (State Gazette of the Republic of Indonesia of 2021 Number 1120);
9. Regulation of the Minister of Communication and Information Technology Number 12 of 2022 concerning the Indonesian Radio Frequency Spectrum Allocation Table (State Gazette of the Republic of Indonesia of 2022 Number 1092);
10. Regulation of the Minister of Communication and Information Technology Number 2 of 2023 concerning the Use of Radio Frequency Spectrum Based on Class Permits (State Gazette of the Republic of Indonesia of 2023 Number 329);



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DECIDE:

To stipulate : DECREE OF THE MINISTER OF COMMUNICATIONS AND INFORMATICS CONCERNING TECHNICAL STANDARDS FOR ANTENNA TELECOMMUNICATIONS EQUIPMENT.

FIRST : Establish technical standards for antenna telecommunications equipment as stated in the Attachment which is an inseparable part of this Ministerial Decree.

SECOND : The antenna telecommunications equipment as intended in the FIRST Dictum is a passive antenna without a radio unit which is a built-in external antenna or other external antenna that uses an antenna connector with a cable or wave tube.

THIRD : Technical standards for antenna telecommunications equipment as intended in the FIRST Dictum apply to FOLLOWING telecommunications equipment:

- a. base station antenna based on *international mobile telecommunication* technology standards;
- b. *microwave link* antenna;
- c. *Radio Local Area Network* antenna; And
- d. *broadband wireless access* antenna.

FOURTH : Technical standards for *Radio Local Area Network* antenna telecommunications equipment as intended in the THIRD Dictum letter c only apply to Radio Local Area Network antennas for *backhaul* purposes.

FIFTH : *Radio Local Area Network* antenna telecommunications equipment for type II access purposes applies the following provisions:

1. is not required to have a certificate for telecommunications equipment and/or telecommunications equipment; And
2. has a gain less than or equal to 16 dBi.

SIXTH : Test reports for antenna telecommunications equipment that have been issued before this Ministerial Decree comes into effect, can be used to apply for certificates for telecommunications equipment and/or telecommunications equipment if they do not conflict with this Ministerial Decree.



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SEVENTH : To apply for a certificate for telecommunications equipment and/or telecommunications equipment:

- a. for *microwave link* antenna telecommunications equipment, *radiation pattern envelope* data must be attached in table form in .xlsx format; And
- b. For *Radio Local Area Network* antenna telecommunications equipment for *backhaul* purposes with a gain of more than 16 dBi, you must attach:
 1. letter of cooperation agreement with Indonesian cellular mobile network operators;
 2. a statement letter not to sell *Radio Local Area Network* antenna telecommunications equipment other than to Indonesian cellular mobile network operators; And
 3. *Radiation pattern envelope* data in table form in .xlsx format.

EIGHTH : The obligation to fulfill technical standards for *Radio Local Area Network* antenna telecommunications equipment for *backhaul* purposes as intended in the FOURTH Dictum, specifically for *Radio Local Area Network* antenna telecommunications equipment for *backhaul* purposes with a gain of less than or equal to 16 dBi, comes into effect 6 (six) months since this Ministerial Decree comes into force.

NINTH : This Ministerial Decree comes into force on the date of stipulation.

Stipulated in Jakarta
on date

MINISTER OF COMMUNICATIONS
AND INFORMATICS OF THE
REPUBLIC OF INDONESIA,

BUDI ARIE SETIADI



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ATTACHMENT
DECREE OF THE MINISTER OF
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NUMBER ... YEAR ...
ABOUT
TECHNICAL STANDARDS FOR
ANTENNA
TELECOMMUNICATIONS
EQUIPMENT

CHAPTER I GENERAL PROVISIONS

A. Definition

1. Antenna Telecommunications Equipment, hereinafter referred to as Antenna, is a telecommunications device which is part of a transmitter and/or receiver system designed to transmit and/or receive electromagnetic waves.
2. *Gain* is the ratio of radiation intensity in a certain direction to the radiation intensity that would be obtained if the power received by the antenna was emitted isotopically.
3. *Radiation Pattern Envelope* is a diagram that represents the radiation pattern of an Antenna as measured by a reference Antenna, scaled in dBi or dBd.

B. List of Abbreviations

1. BS : Base Station
2. dB : Decibel
3. dBd : Decibels Relative to Dipole
4. dBi : Decibels Relative to Isotropic
5. EN : European Standards
6. ETSI : European Telecommunications Standards Institute
7. IEEE : Institute of Electrical and Electronics Engineers
8. IMT : International Mobile Telecommunications
9. MHz : Mega-Hertz
10. RLAN : Radio Local Area Network
11. RPE : Radiation Pattern Envelope
12. VSWR : Voltage Standing Wave Ratio

CHAPTER II TECHNICAL STANDARDS

A. Base Station antennas based on *International Mobile Telecommunication* technology standards

The technical standards that Base Station Antennas must meet are based on *International Mobile Telecommunication* technology standards as follows:

Table 1. BS IMT Antenna Technical Standards

Operating Frequency	VSWR	
	Antenna BS BMI with Outputs Power ≤ 38 dBm	Antenna BS BMI with Outputs Power > 38 dBm (B.S Macros Cell)
440-470 MHz	≤ 2.0	≤ 1.5
703-803 MHz		
824-894 MHz		
880-960 MHz		
1710-1880 MHz		
1920-2170 MHz		
2300-2400 MHz		
2496-2690 MHz		
3300-3600 MHz		
24250-27500 MHz		

Base Station antennas based on *International Mobile Telecommunication* technology standards can work on radio frequencies other than those specified in Table 1, provided that:

1. The radio frequency is determined for IMT purposes in the Regulation of the Minister of Communication and Information regarding the Indonesian radio frequency spectrum allocation table; And
2. meet the VSWR requirements according to the antenna *output* power as listed in Table 1.

B. Microwave Link Antenna

The technical standards that *microwave link* antennas must meet are as follows:

Table 2. Requirements for *Microwave Link* Antennas

No	Operating Frequency	VSWR
1.	4400-5000 MHz	≤ 1.5
2.	6425-7110 MHz	
3.	7125-7425 MHz	
4.	7425-7725 MHz	
5.	7725-8275 MHz	
6.	8275-8500 MHz	
7.	10700-11700 MHz	
8.	12750-13250 MHz	
9.	14400-15350 MHz	
10.	17700-19700 MHz	
11.	21200-23600 MHz	
12.	31800-33400 MHz	
13.	37000-39500 MHz	
14.	71000-76000 MHz paired with 81000-86000 MHz	

The *Microwave Link* antenna can work on radio frequencies other than those specified in Table 2, provided that:

1. The radio frequency is determined for *microwave link* purposes in the Regulation of the Minister of Communication and Information regarding the Indonesian radio frequency spectrum allocation table; And
2. Meet the VSWR requirements according to the antenna power *output* as listed in Table 2.

C. Radio Local Area Network Antenna for Backhaul Purposes

RLAN antennas for *backhaul* purposes must use this type of *directional* antenna and meets the following Technical Standards:

1. RLAN Antenna Technical Standards for *backhaul* purposes with *Gain* ≤ 16 dBi:

Table 3. RLAN Antenna Technical Standards for *Backhaul*
Purposes with Gain ≤ 16 dBi

No	Operating Frequency	VSWR	Gains (dBi)
1	2400 – 2483.5 MHz	≤ 2.0	≤ 16
2	5725 – 5825 MHz		

2. RLAN Antenna Technical Standards for *backhaul* purposes with *Gain* >16 dBi:

Table 4. RLAN Antenna Technical Standards Backhaul
Requirements for Gain >16 dBi

No	Operating Frequency	VSWR	Gains (dBi)
1	5725 – 5825 MHz	≤ 2.0	In accordance to manufacturer declaration

D. *Broadband Wireless Access* Antenna

The technical standards that *broadband wireless access* antennas must meet are as follows:

Table 5. *Broadband Wireless Access* Antenna Requirements

No	Operating Frequency	VSWR
1	10154 – 10644 MHz	≤ 2.0

CHAPTER III TESTING METHOD

1. Antenna testing is carried out using the following method:

Antenna testing is carried out in accordance with Table 6 or the test method determined by the Director General of Post and Informatics Resources and Equipment;

Table 6. Test Method

No	Testing Parameters	Testing Methods
1	Gains	IEEE Std 149
2	VSWR	IEEE Std 149

2. Antenna that has *Gain* in dBd units to be converted to dBi; And
3. Antenna *operating frequency* can be wider than the *operating frequency* specified in this Ministerial Decree.

Stipulated in Jakarta
on date

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