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DRAFT DECREE OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA NUMBER … YEAR … CONCERNING RADIO FREQUENCY SPECTRUM BASED ON CLASS LICENSE AND TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA

Considering :

a. that based on the provisions of Article 34 paragraph (1) of Government Regulation Number 46 of 2021 concerning Post, Telecommunications, and Broadcasting, every telecommunications device and/or telecommunications equipment that is made, assembled, imported for trade and/or use in the territory of the Unitary State of the Republic of Indonesia must meet technical standards;
b. that based on the provisions of Article 11 paragraph (2) of the Regulation of the Minister of Communication and Informatics Number 2 of 2023 concerning the Use of Radio Frequency Spectrum Based on Class Permits, technical standards for telecommunication tools and/or telecommunication devices for radio local area networks are stipulated by a Decree of the Minister of Communication and Digital;
c. that based on the considerations as referred to in letters a and b, it is necessary to stipulate a Decree of the Minister of Communication and Digital concerning Radio Frequency Spectrum Based on Class Permits and Technical Standards for Telecommunication Devices and/or Telecommunication Devices for Radio Local Area Networks;

In view of :

1. Law Number 36 of 1999 concerning Telecommunications (State Gazette of the Republic of Indonesia of 1999 Number 154, Supplement to the State Gazette of the Republic of Indonesia Number 3881) as amended by Law Number 6 of 2023 concerning the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 concerning Job Creation into Law (State Gazette of the Republic of Indonesia of 2023 Number 41, Supplement to the State Gazette of the Republic of Indonesia Number 6856);
2. Law Number 39 of 2008 concerning State Ministries (State Gazette of the Republic of Indonesia Year 2008

Number 166, Supplement to the State Gazette of the Republic of Indonesia Number 4916) as amended by Law Number 61 of 2024 concerning Amendments to Law Number 39 of 2008 concerning State Ministries (State Gazette of the Republic of Indonesia Year 2024 Number 225, Supplement to the State Gazette of the Republic of Indonesia Number 6994);

3. Government Regulation Number 46 of 2021 concerning Post, Telecommunications, and Broadcasting (State Gazette of the Republic of Indonesia Year 2021 Number 56, Supplement to the State Gazette of the Republic of Indonesia Number 6658);
4. Presidential Regulation Number 174 of 2024 concerning the Ministry of Communication and Informatics (State Gazette of the Republic of Indonesia Year 2024 Number 370);
5. Regulation of the Minister of Communication and Informatics Number 12 of 2021 concerning the Organization and Work Procedures of the Ministry of Communication and Informatics (State Gazette of the Republic of Indonesia 2021 Number 1120);
6. Regulation of the Minister of Communication and Informatics Number 2 of 2023 concerning the Use of Radio Frequency Spectrum Based on Class Permit (State Gazette of the Republic of Indonesia 2023 Number 329);
7. Regulation of the Minister of Communication and Informatics Number 3 of 2024 concerning Certification of Telecommunication Tools and/or Equipment (State Gazette of the Republic of Indonesia 2024 Number 124);

DECIDES:

To stipulate : DECREE OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS ON RADIO FREQUENCY SPECTRUM BASED ON CLASS PERMITS AND TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS.

FIRST To determine the radio frequency spectrum based on class permits for groups of radio local area network telecommunication tools and/or telecommunication devices as follows:

a. 2400–2483.5 MHz;
b. 5150–5250 MHz;
c. 5250–5350 MHz;
d. 5725–5825 MHz;
e. 5925–6425 MHz; and
f. 57–64 GHz.

SECOND : To determine technical standards for radio local area network telecommunication tools and/or telecommunication devices:

a. operating on the radio frequency spectrum as referred to in Dictum FIRST letters a to d, as listed in Attachment I;
b. operating on the radio frequency spectrum as referred to in Dictum FIRST letter e, as listed in Attachment II; and
c. operating on the radio frequency spectrum as referred to in Dictum FIRST letter f, as listed in Attachment III,

which is an integral part of this Ministerial Decree.

THIRD : Provisions for fulfilling technical standards for radio local area network telecommunication tools and/or telecommunication devices as referred to in the SECOND Dictum concerning immunity in electromagnetic compatibility requirements are stipulated by a separate Ministerial Decree.

FOURTH : Provisions for fulfilling technical standards for radio local area network telecommunication tools and/or telecommunication devices as referred to in the SECOND Dictum concerning non-ionizing radiation are stipulated by a separate Ministerial Decree.

FIFTH : Radio local area network telecommunication tools and/or telecommunication devices are used with certain requirements in the form of an obligation to follow the technical operational provisions for telecommunication tools and/or telecommunication devices as stated in Attachment IV which is an integral part of this Ministerial Decree.

SIXTH : Fulfillment of technical standards for radio local area network telecommunication tools and/or telecommunication devices as referred to in the SECOND Dictum, is proven by a certificate for telecommunication tools and/or telecommunication devices in accordance with the provisions of laws and regulations.

SEVENTH : In order to submit an application for a certificate of telecommunication tools and/or telecommunication devices as referred to in the SIXTH Dictum, for telecommunication tools and/or telecommunication devices for radio local area networks operating on the radio frequency spectrum of 2400–2483.5 MHz, 5150–5250 MHz, 5250–5350 MHz, and 5725–5825 MHz must be attached:

a. a statement letter on the classification of the use of telecommunication tools and/or telecommunication devices for radio local area networks and the reasons if

necessary, if not included in the test result report;

b. a statement letter on the interface of telecommunication tools and/or telecommunication devices for radio local area networks, if not included in the test result report; and
c. a statement letter answering questions in accordance with the actual interference mitigation features and software/firmware as listed in Attachment V which is an integral part of this Ministerial Decree.

EIGHTH : In order to submit an application for a certificate of telecommunication tools and/or telecommunication devices as referred to in the SIXTH Dictum, for telecommunication tools and/or telecommunication devices for radio local area networks operating on the radio frequency spectrum of 5925–6425 MHz, the following must be attached:

a. a statement letter regarding the type of equipment (low power indoor or very low power), power supply, and antenna gain if not stated in the test report;
b. a statement letter regarding the interface of telecommunication tools and/or telecommunication devices for radio local area networks, if not stated in the test report; and
c. a statement letter answering questions in accordance with the interference mitigation features and software/firmware as stated in Attachment V which is an integral part of this Ministerial Decree.

NINTH : Test report or test report for telecommunication tools and/or telecommunication devices for radio local area networks that have been issued before this Ministerial Decree comes into effect, may still be submitted as fulfillment of the requirements for an application for a certificate of telecommunication tools and/or telecommunication devices as long as it does not conflict with this Ministerial Decree and the provisions of laws and regulations.

TENTH : The technical standards of telecommunication devices and/or wireless local area network telecommunication devices can still be used for testing radio local area network telecommunication tools and/or telecommunication devices operating on the radio frequency spectrum as referred to in Dictum FIRST letters a to d for a maximum of 6 (six) months since this Ministerial Decree is stipulated.

ELEVENTH This Ministerial Decree shall come into force on the date of stipulation.

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Established in Jakarta
on the date of.....

MINISTER OF COMMUNICATION AND DIGITAL OF THE REPUBLIC OF INDONESIA,

MEUTYA VIADA HAFID

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APPENDIX I
DECISION OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA NUMBER … YEAR …
CONCERNING
RADIO FREQUENCY SPECTRUM BASED ON CLASS PERMITS
AND TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

TECHNICAL STANDARDS FOR TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS OPERATING ON THE RADIO FREQUENCY SPECTRUM OF 2400–2483.5 MHz, 5150–5250 MHz, 5250–5350 MHz, AND 5725–5825 MHz

CHAPTER I
GENERAL PROVISIONS

A. Definition/Limitations

1. Telecommunication Tools and/or Telecommunication Devices for Radio Local Area Networks Operating on the Radio Frequency Spectrum 2400–2483.5 MHz, 5150–5250 MHz, 5250–5350 MHz, and 5725–5825 MHz hereinafter referred to as RLAN 2.4 GHz/5 GHz are telecommunication tools and/or telecommunication devices that receive and transmit digital signals, which work on the radio frequency band 2400–2483.5 MHz, 5150–5250 MHz, 5250– 5350 MHz, and/or 5725–5825 MHz used for data transmission purposes, and are designed to enable IEEE 802.3 standard interface compatibility, and are intended for wireless extension functions.
2. Access is an internet network that reaches end-user devices.
3. Backhaul is a distributed network that connects the backbone network to a single point or outermost geographic area for wider distribution to the access network.
4. RLAN 2.4 GHz/5 GHz for Type 1 Access Needs is Access using RLAN 2.4 GHz/5 GHz for personal use using a smartphone or laptop in the home, office, and other closed spaces. Examples of RLAN 2.4 GHz/5 GHz type 1 access devices include portable Wi-Fi modems, Home Routers, RLAN Repeaters, mobile phones, laptops, or household devices with RLAN features.
5. RLAN 2.4 GHz/5 GHz for Type 2 Access Needs is Access using RLAN 2.4 GHz/5 GHz with a configuration from one point to many points (point to multipoint), to be able to directly provide access to

Telecommunication tools and/or telecommunication devices on the customer side (Customer Premises Equipment/CPE). Examples of the use of RLAN 2.4 GHz/5 GHz Type 2 access is internet access in public facilities or public areas, such as city parks, stadiums, or housing complex areas.

6. RLAN 2.4 GHz/5 GHz for Backhaul purposes is Backhaul that uses RLAN. RLAN 2.4 GHz/5 GHz for Backhaul purposes is classified as an access point device. Examples of the use of RLAN 2.4 GHz/5 GHz Backhaul include wireless bridges and as Backhaul for cellular mobile networks.
7. Access Point is a 2.4 GHz/5 GHz RLAN receiver and transmitter device that operates as a bridge on peer-to-peer connections or as a connector between wired and wireless networks or as an inter-segment relay on a wireless network. RLAN 2.4 GHz/5 GHz repeater devices are classified as access point devices.
8. Client devices are devices that transmit under the control of the access point and do not have the ability to initiate the network.
9. Dynamic Frequency Selection is a mechanism that dynamically detects signals from other systems and avoids co-channel operation with them, especially radar systems.
10. Integrated Antenna is an antenna that is designed as a fixed part of the device without using external connectors and cannot be removed from the device.
11. Dedicated Antenna is an external antenna built into the device that uses an antenna connector with a cable or wave tube.
12. Conducted Power is the average conduction power entering the antenna measured at the RF output connector of the device.
13. RF Output Power is the average power coming out of the antenna.
14. EIRP is the average power coming out of the antenna relative to an isotropic antenna.
15. Channel Bandwidth is the bandwidth that contains 99% of the signal power.
16. Spurious Emission is an emission at one or more radio frequency points that are outside the required channel width (necessary bandwidth) and the amount can be reduced without affecting the transmission of related information.
17. Software is one or a collection of programs, procedures and/or documentation related to the operation of the RLAN.
18. Firmware is a combination of fixed memory and program code and data stored in it.
19. Mode is how a 2.4 GHz/5 GHz RLAN operates or communicates.

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B. RLAN Topology Example

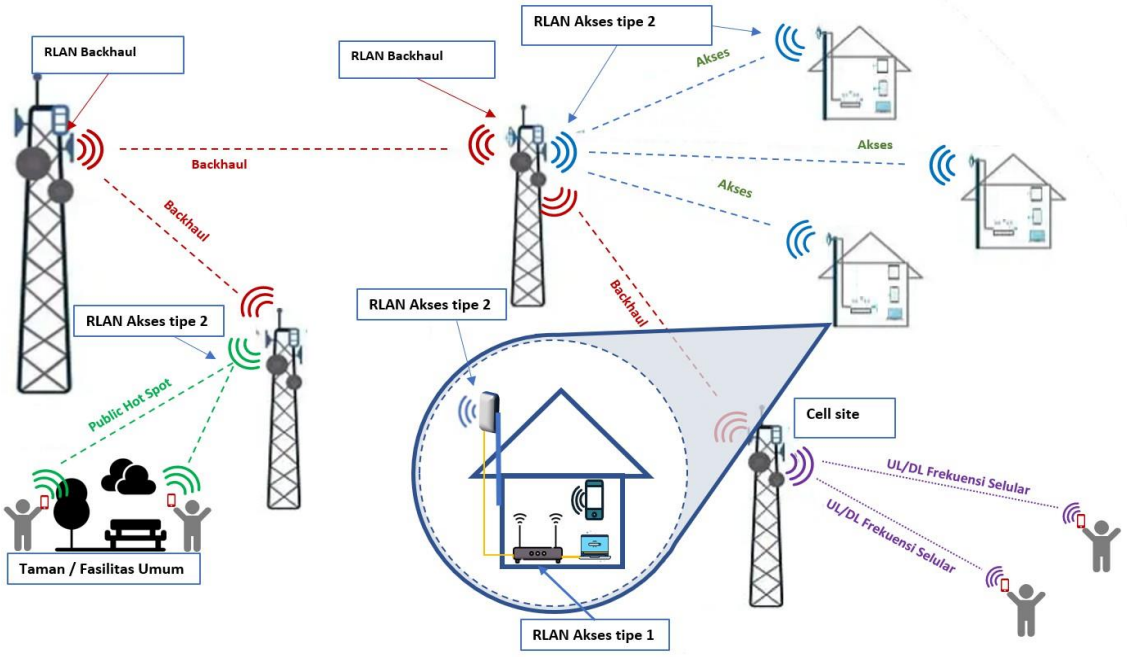

Figure 1. Illustration of 2.4 GHz/5 GHz RLAN topology for Access and Backhaul

1. Type 1 access is access using RLAN 2.4 GHz/5 GHz for personal use. Examples of RLAN 2.4 GHz/5 GHz type 1 access devices include portable Wi-Fi modems, Home Routers, RLAN 2.4 GHz/5 GHz repeaters indoors, mobile phones, laptops, or household devices.
2. Type 2 access is access using RLAN 2.4 GHz/5 GHz with a configuration from one point to many points (point to multipoint), to be able to directly provide access to Telecommunication tools and/or telecommunication devices on the customer side (Customer Premises Equipment/CPE). Examples of using RLAN 2.4 GHz/5 GHz type 2 access are internet access in public facilities or public areas, such as city parks, stadiums, or housing complex areas.
3. Backhaul is Backhaul that uses RLAN 2.4 GHz/5 GHz. Examples of the use of RLAN 2.4 GHz/5 GHz Backhaul include wireless bridges and as Backhaul for cellular mobile networks.

C. Abbreviation/Limitation

1. AC : Alternating Current
2. CISPR : Comité Internationale Spécial des Perturbations Radioelectrotechnique (International Special Committee on Radio Interference, IEC)
3. dBi : decibel related to isotropic antenna
4. DFS : Dynamic Frequency Selection

5. dBm : decibel milli watt
6. DC : Direct Current
7. EIRP : Equivalent Isotropically Radiated Power
8. ETSI : European Telecommunications Standards Institute
9. GHz : Giga Hertz
10. IEC : International Electrotechnical Commission
11. IEEE : Institute of Electrical and Electronics Engineers
12. kHz : kilo Hertz
13. MHz : Mega Hertz
14. RF : Radio Frequency
15. RLAN : Radio Local Area Network
16. SELV : Safety Extra Low Voltage
17. SNI : Standar Nasional Indonesia

CHAPTER II
TECHNICAL REQUIREMENTS

A. Power Supply

RLAN 2.4 GHz/5 GHz devices can be powered by AC or DC power.
For devices powered by AC, all parameter benchmarks must be met when using a power supply with AC voltage of 230 +/- 10% and frequency of 50 Hz +/- 2%.
If using an external power supply (e.g. an AC/DC power converter), the external power supply must not affect the device's ability to meet all parameter benchmarks.

B. Electrical Safety Requirements

RLAN 2.4 GHz/5 GHz must meet the electrical safety requirements set forth in:

1. SNI IEC 60950-1:2016;
2. SNI IEC 62368-1:2014;
3. SNI 04-6253;
4. IEC 62368-1;
5. IEC 60950-1;
6. IEC 60065; or
7. relevant SNI or IEC standards, for 2.4 GHz/5 GHz RLANs other than audio, video, and information and communication technology (ICT).

The electrical safety assessment of 2.4 GHz/5 GHz RLANs is conducted to assess the following parameters:

1. overvoltage or electric strength or dielectric strength; and
2. leakage current or touch current,

Testing parameter is carried out based on the following assumptions:

a. The device is continuously powered by a dedicated external power supply (AC/DC or adapter/charger) or by an AC power supply; and

b. The device operates with SELV in an environment where overvoltages from telecommunications networks may occur. SELV refers to a voltage not exceeding 42.4 V peak or 60 V DC.

For the safety assessment of the 2.4 GHz/5 GHz RLAN carried out with a risk-based approach, the following process specified in IEC 62368-1 shall be used:

a. Identification of energy sources in the 2.4 GHz/5 GHz RLAN;
b. Classification of energy sources (impact on the body or flammable material, such as potential injury or ignition);
c. Identification of protection measures for energy sources; and
d. Considering the effectiveness of the protection efforts by considering the fulfillment criteria or standards specified in the IEC 62368-1 standard

C. Electromagnetic Compatibility Requirements

1. General

2.4 GHz/5 GHz RLANs must be classified as:

1) fixed equipment,
2) vehicular equipment, or
3) portable equipment.

Fixed equipment is a device that is installed permanently (fixed location permanently) or powered using an AC power supply. Vehicular equipment is a device used in a vehicle and powered using the vehicle's main battery. Portable equipment is a device used for portable use and has a main power supply in the form of a battery.

Portable Equipment that has the ability to be powered using the vehicle's main battery must be classified as vehicular equipment.

Portable Equipment and/or Vehicular Equipment that has the ability to be powered by AC power must be classified as fixed equipment.

2. Immunity

The value limit and mechanism for enforcing obligations for immunity requirements are in accordance with the provisions in the THIRD Dictum of this Ministerial Decree.

3. Emissions

a. GHz/5 GHz RLANs must comply with SNI CISPR 32:2015, IEC CISPR 32, or ETSI EN 301 489-17.
b. The following emission measurements must be performed on 2.4 GHz/5 GHz RLANs where applicable in accordance with SNI CISPR 32:2015, IEC CISPR 32, or ETSI EN 301 489-17:
   1) Radiated emissions in enclosures of ancillary equipment not incorporated into the device must comply with the requirements specified in Tables A.4 and A.5 for class B and Tables A.2 and A.3 for class A of SNI CISPR 32:2015. Classification of classes A and B is in accordance with clause 4 of SNI CISPR 32:2015;

2) Conducted emissions at DC power ports for fixed equipment and vehicular equipment must meet the requirements specified in Table A.9 of SNI CISPR 32:2015;
3) Conducted emissions at AC power ports for fixed equipment must meet the requirements specified in Table A.9 for class A or A.10 for class B of SNI CISPR 32:2015 (equipment with DC power ports powered by dedicated AC/DC power converters or adapters defined as AC-powered equipment [Clause 3.1.1 of SNI CISPR 32:2015]). Classifications of classes A and B are in accordance with clause 4 of SNI CISPR 32:2015;
4) Conducted emissions at wired network ports for fixed equipment must meet the requirements specified in Table A.11 for class A or A.12 for class B of SNI CISPR 32:2015. Class A and B classifications are in accordance with clause 4 of SNI CISPR 32:2015.

D. Non-Ionizing Radiation Requirements
Non-ionizing radiation requirements for 2.4 GHz/5 GHz RLANs must comply with ICNIRP guidelines. The value limits and enforcement mechanisms for non-ionizing radiation requirements are regulated based on applicable provisions.

E. Radio Frequency Requirements
Every 2.4 GHz/5 GHz RLAN must meet the following radio frequency requirements:
1. Usage Classification
GHz/5 GHz RLANs are declared to be used for:
a. type 1 access;
b. type 2 access; and/or
c. backhaul.
If a device can operate at 5150–5350 MHz then it must be classified as a 2.4 GHz/5 GHz RLAN for type 1 access.

2. Working Frequency and Channel Bandwidth
a. Working Frequency and Channel Bandwidth of RLAN 2.4 GHz/5 GHz for type 1 access purposes must be in accordance with Table 1.

Tabel 1. Frekuensi Kerja dan Channel Bandwidth RLAN 2,4 GHz/5 GHz untuk akses tipe 1

No	Working Frequency	Maximum Channel Bandwidth
1	2400–2483,5 MHz	≤ 40 MHz
2	5150–5250 MHz	≤ 80 MHz
3	5250–5350 MHz	≤ 80 MHz
4	5150–5350 MHz	≤ 160 MHz
5	5725–5825 MHz	≤ 80 MHz

b. Working Frequency and Channel Bandwidth RLAN 2.4 GHz/5 GHz for type 2 access or backhaul must be in accordance with Table 2.

Table 2. Working Frequency and Channel Bandwidth RLAN 2.4 GHz/5 GHz for type 2 access or backhaul

No	Working Frequency	Maximum Channel Bandwidth
1	2400 – 2483,5 MHz	≤ 20 MHz
2	5725 – 5825 MHz	≤ 20 MHz

3. Interface
2.4 GHz/5 GHz RLAN for access 1, access type 2, or backhaul must have a radio interface following:
   a. IEEE 802.11 Standard; and/or
   b. Other standards referring to ITU-R M.1450 recommendations.

4. Antennas
   a. 2.4 GHz/5 GHz RLAN access points using antennas must comply with Table 3.

Table 3. Antenna Requirements

No	Kinds of Access Point	Kinds of Antenna
1	RLAN 2,4 GHz/5 GHz for type-1 access	Integrated
2	RLAN 2,4 GHz/5 GHz for type-2 access	Integrated, or dedicated
3	RLAN 2,4 GHz/5 GHz for backhaul	Integrated, or dedicated

   b. The reflector is considered as part of the antenna.
   c. Directional RLAN antennas that can be used for type 2 access or backhaul purposes at the same time are considered as RLAN antennas for backhaul.
   d. Directional antennas used for 2.4 GHz/5 GHz RLAN for backhaul must meet the technical standards of the antenna.

5. Software/Firmware
RLAN 2.4 GHz/5 GHz for type 1 access, type 2 access, and backhaul must meet:
   a. Software and/or firmware installed on RLAN 2.4 GHz/5 GHz is prohibited from having features to change the country code.
   b. Software and/or firmware installed on RLAN 2.4 GHz/5 GHz is prohibited from having features to change the working frequency band, RF output power and/or other radio frequency parameters that do not comply with technical standards.

c. Changes (upgrading or downgrading or installation from other than the manufacturer) to software and/or firmware installed on the device must not change and/or have features to change the working frequency, RF output power and/or other radio frequency parameters.
d. Software and/or firmware is prohibited from being made so that DFS can be disabled by the user.

6. Interference Mitigation Features
RLAN 2.4 GHz/5 GHz used for type 1 access in the form of an access point on the 5250 – 5350 MHz radio frequency band must have the Dynamic Frequency Selection feature.
7. RF Output Power
RF Output Power RLAN 2,4 GHz/5 GHz tidak boleh melebihi batas yang tertera dalam Tabel 4.

Tabel 4. Batas RF Output Power RLAN 2,4 GHz/5 GHz

No	Operating Frequency	2,4 GHz/5 GHz RLAN For type-1 access	2,4 GHz/5 GHz RLAN For type-2 access or backhaul
1	2400 – 2483,5 MHz	≤ 27 dBm EIRP	≤ 36 dBm EIRP
2	5150 – 5250 MHz	≤ 23 dBm EIRP	-
3	5250 – 5350 MHz	≤ 23 dBm EIRP	-
4	5725 – 5825 MHz	≤ 23 dBm EIRP	≤ 36 dBm EIRP

8. Conducted Ouput Power
RLAN 2.4 GHz/5 GHz Output Power Parameters for type 2 access or backhaul that has:
a. dedicated antenna; or
b. radio unit only,
must not exceed the limits listed in Table 5.

Table 5. RLAN 2.4 GHz/5 GHz Conducted Output Power Limits

No	Operating frequency	2,4 GHz/5 GHz RLAN For type-2 access	2,4 GHz/5 GHz RLAN for backhaul
1	2400 – 2483,5 MHz	≤ 20 dBm	≤ 20 dBm
2	5725 – 5825 MHz	≤ 20 dBm	≤ 20 dBm

9. Spurious Emission
Spurious Emission RLAN 2.4 GHz/5 GHz must meet Table 6.

Table 6. RLAN Spurious Emission Limits

Frequency Range	Spurious Emission Benchmark	RBW
30 MHz ≤ f < 1 GHz, except for the frequency ranges below	≤-36 dBm	100 kHz
47 MHz ≤ f < 74 MHz, 87,5 MHz ≤ f < 118 MHz, 174 MHz ≤ f < 230 MHz, and 470 MHz ≤ f < 694 MHz	≤ -54 dBm	100 kHz
1 GHz ≤ f < 26 GHz	≤ -30 dBm	1 MHz
Note: 1) For RLANs operating on the 2400-2483.5 MHz radio frequency band, the upper limit of spurious emission measurement is 12.75 GHz, in addition the upper limit of spurious emission measurement is 26 GHz.		

10. Out of Band Emissions
a. for RLANs operating at 2400-2483.5 MHz, Out of Band Emissions must comply with the limits in:
   1) Table 7; or
   2) Clause 4 of ETSI EN 300 328 v1.9.1 or later.
b. For RLANs operating at 5150-5350 MHz, the maximum Out of Band Emissions is:
   1) -30 dBm/MHz;
   2) according to Table 8;
   3) according to Clause 4 of ETSI EN 301 893 v1.8.1 or later,
   whichever is greater.
c. for RLANs operating at 5725-5825 MHz, the maximum Out of Band Emissions is:
   1) -30 dBm/MHz;
   2) according to Table 9;
   3) according to Clause 4 of ETSI EN 302 502 v1.2.1 or later; or
   4) as per Clause 4 of ETSI EN 301 893 v1.8.1 or later,
   whichever is greater.

Table 7. Out of Band Emissions Limits of RLAN operating at 2400-2483.5 MHz

Frequency difference (f) from the edge of the 2400-2483.5 MHz band	Benchmarks

0 ≤ f < N	≤ -20 dBm/MHz EIRP
N ≤ f < 2N	≤ -10 dBm/MHz EIRP
Note: N: Nominal channel Bandwidth (MHz)	

Table 8. Out of Band Emissions Limits for RLANs operating at 5150-5350 MHz

Relative Frequency (f) to Center Frequency	Benchmark relative to the largest RLAN Power Spectral Density (dBm/MHz)
± 0,5N	≤ 0 dBc
± 0,55N	≤ -20 dBc
± N	≤ -28 dBc
± 1,5N	≤ -40 dBc
± 9N	≤ -42 dBc
± 10,8N	≤ -47 dBc
Note: N : Nominal channel Bandwidth (MHz)	

Table 9. Out of Band Emissions Limits for RLANs operating at 5725-5825 MHz

Relative Frequency (f) to Center Frequency	Relative Frequency Alternative (f) to Center Frequency	Benchmark relative to the largest RLAN Power Spectral Density (dBm/MHz)
± 0,475N	± 0,5N	≤ 0 dBc
± 0,6N	± (0,5N+1)	≤ -20 dBc
± N	± N	≤ -28 dBc
± 1,5N	± 1,5N	≤ -40 dBc
Note: N : Nominal channel Bandwidth (MHz)		

CHAPTER III
TESTING METHODS

1. 2.4 GHz/5 GHz RLAN testing is carried out in accordance with Table 10 or the testing method determined by the Director General who organizes government affairs in the field of telecommunications equipment and/or telecommunications device standardization.
2. 2.4 GHz/5 GHz RLAN testing is carried out in controlled environmental conditions or in accordance with the testing method.
3. 2.4 GHz/5 GHz RLAN testing is carried out based on the declared 2.4 GHz/5 GHz RLAN technical specifications.
4. 2.4 GHz/5 GHz RLAN devices need to be checked for frequencies outside the 2.4 GHz/5 GHz RLAN frequency allocation using

software/firmware that is ready to be marketed in Indonesia.

5. 2.4 GHz/5 GHz RLAN testing is carried out with the highest RF Output Power or Output Power.
6. Transmit power testing (RF Output Power) is carried out with the following provisions:
    a. The Output Power Conducted parameter does not need to be tested if the RF Output Power test is carried out radiated.
    b. For 2.4 GHz/5 GHz RLAN with integrated antenna, when conducting Output Power conducted testing, the applicant for testing service must declare the gain for its integrated antenna. Fulfillment of RF Output Power parameters is done with the following formula:
    RF Output Power (dBm) = Antenna Gain (dBi) + Output Power (dBm).
    c. For 2.4 GHz/5 GHz RLAN devices with type 2 access with dedicated antenna, in the case of Output Power testing conducted, the applicant for testing service must declare the highest antenna gain. Fulfillment of RF Output Power parameters is done with the following formula:
    RF Output Power (dBm) = Antenna Gain (dBi) + Output Power (dBm).
    d. For 2.4 GHz/5 GHz RLAN devices with backhaul in the form of a separate radio unit, if it has met the Output Power conducted parameters, it is not necessary to meet the RF Output Power (radiated).
    e. Testing is done on the lowest and highest channel bandwidths.
    f. If the 2.4 GHz/5 GHz RLAN works on channel bandwidths with different widths, then each different channel bandwidth value is tested separately.
    g. If the 2.4 GHz/5 GHz RLAN operates in several different modes, then each mode is tested separately.
7. Software/Firmware testing is carried out for access point devices using software/firmware that is ready to be marketed in Indonesia.
8. Spurious Emission and Out of Band Emissions testing is carried out according to the test method.
9. 2.4 GHz/5 GHz RLAN devices with RF Output Power ≤ 25 mW EIRP may not perform Out of Band Emissions testing.

Table 10. Testing Method

Test Requirements/ Parameters	Testing Method
Electrical Safety	SNI IEC 60950-1; SNI IEC 62368-1; IEC 60950-1; IEC 62368-1; and/or other relevant IEC or SNI standards

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EMC (Emission)	Seri ETSI EN 301 489; IEC CISPR 32; and/or SNI CISPR 32.
EMC (Immunity)	The Testing Method for immunity requirements is in accordance with the provisions in the SECOND Dictum of this Ministerial Decree.
DFS	EN 301 893.
RF Output Power, Channel Bandwidth, dan Spurious Emission	EN 300 328; EN 301 893; EN 302 502; EN 300 440[1)];
Out of Band Emissions	EN 300 328; EN 301 893; EN 302 502;
Note: 1) Specifically for 2.4 GHz/5 GHz RLAN devices with RF Output Power ≤ 25 mW EIRP	

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APPENDIX II
DECISION OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA NUMBER … YEAR …
CONCERNING
RADIO FREQUENCY SPECTRUM BASED ON CLASS PERMITS AND TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS OPERATING ON THE RADIO FREQUENCY SPECTRUM OF 5925–6425 MHz

CHAPTER I
GENERAL PROVISIONS

A. Definition/Limitations of
1. Radio Local Area Networks Which Operating on the 6 GHz Radio Frequency Band hereinafter referred to as RLAN 6 GHz is a Telecommunication Device and/or Telecommunication Device that receives and sends digital signals, which works on the 5925–6425 MHz Radio Frequency Band used for data transmission purposes, and is designed to enable IEEE 802.3 standard interface compatibility, and is intended for wireless extension functions.
2. Access Point is a 6 GHz RLAN receiver and transmitter device that operates as a bridge on peer-to-peer connections or as a connector between wired and wireless networks or as an inter-segment relay on a wireless network. The 6 GHz RLAN repeater device is classified as an access point device.
3. Client Device is a device that transmits under the control of the access point and does not have the ability to initiate a network.
4. Access is an internet network that reaches end-user devices.
5. Backhaul is a distributed network that connects the backbone network to one point or the outermost geographic area for further distribution to the access network.
6. RLAN 6 GHz for Type 1 Access purposes is Access using RLAN 6 GHz for personal use using a smartphone or laptop in the home, office, and other closed spaces.
7. An integrated antenna is an antenna that is designed as a fixed part of the device without using an external connector and cannot be removed from the device.

8. RF Output Power is the average power coming out of the antenna
9. EIRP is the average power coming out of the antenna relative to an isotropic antenna
10. Channel Bandwidth is the bandwidth that contains 99% of the signal power.
11. Unwanted Emission is the maximum unwanted emission outside the working frequency, consisting of spurious emissions and Out-of-Band emissions.
12. Spurious emissions are emissions at one or more radio frequency points that are outside the required channel width (necessary bandwidth) and the amount can be reduced without affecting the transmission of related information, including in the spurious emission category are harmonic emissions, parasitic emissions, intermodulation products, and frequency conversion products.
13. Tethering is a way to share network access and data wirelessly generated from a personal device that functions as an access point to other personal devices.

B. RLAN Topology Example

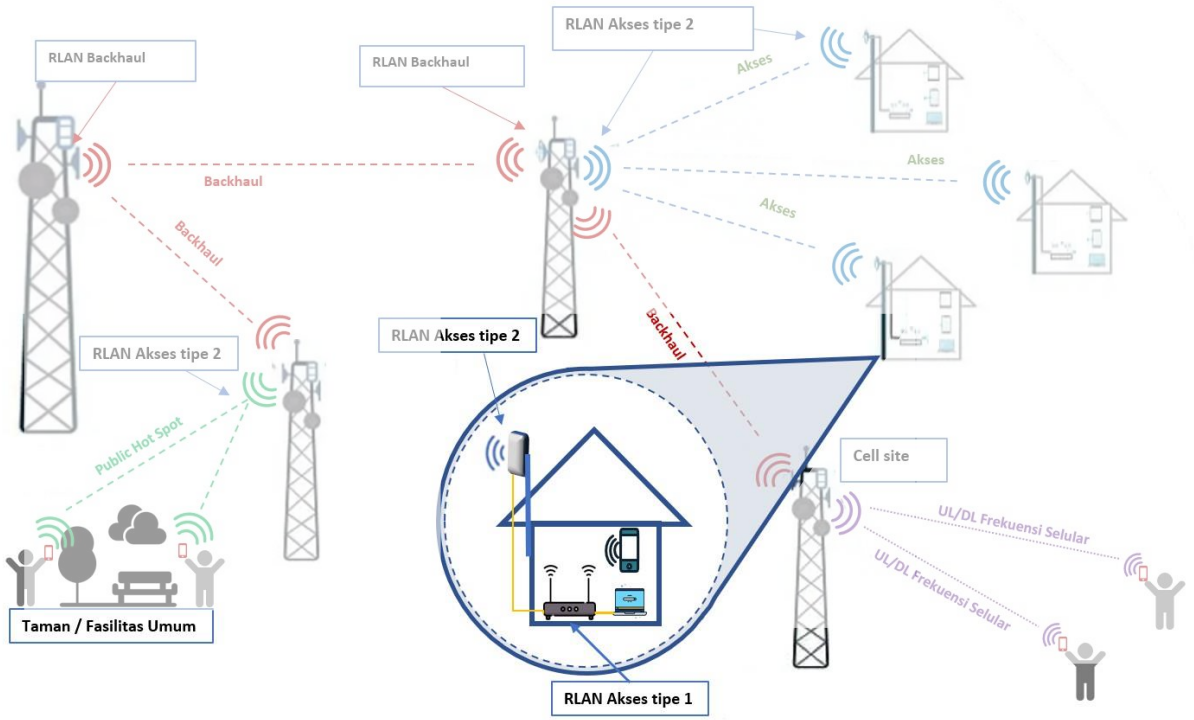

Figure 1. Illustration of RLAN topology for Access and Backhaul

RLAN 6 GHz is only for type 1 access. Type 1 access is access using RLAN for personal use. Examples of type 1 access RLAN devices include portable Wi-Fi modems, Home Routers, RLAN Repeaters, mobile phones, laptops, or household devices. Low Power Indoor (LPI) type 6 GHz RLAN

devices are used indoors and are prohibited from being used outdoors, while Very Low Power (VLP) type 6 GHz RLAN devices can be used indoors and outdoors.

C. Abbreviations/Units

In this Technical Standard, the term:

1. AC : Alternating Current
2. CISPR : Comité Internationale Spécial des Perturbations Radioelectrotechnique (International Special Committee on Radio Interference, IEC)
3. dBi : decibel related to isotropic antenna
4. dBd : decibel related to dipole antenna
5. dBm : decibel milli watt
6. DC : Direct Current
7. EIRP : Equivalent Isotropically Radiated Power
8. ETSI : European Telecommunications Standards Institute
9. GHz : Giga Hertz
10. IEC : International Electrotechnical Commission
11. IEEE : Institute of Electrical and Electronics Engineers
12. KHz : kilo Hertz
13. MHz : Mega Hertz
14. RF : Radio Frequency
15. RLAN : Radio Local Area Network
16. SELV : Safety Extra Low Voltage
17. SNI : Standar Nasional Indonesia

CHAPTER II
TECHNICAL REQUIREMENTS

A. Power Supply Requirements

1. RLAN 6 GHz Low Power Indoor (LPI) devices are only powered by AC and are prohibited from using batteries.
2. RLAN 6 GHz Very Low Power (VLP) devices are powered by batteries (DC). Devices can be powered by AC only for battery charging purposes.

For devices powered by AC, all parameter benchmarks must be met when using a power supply of 230 +/- 10% AC voltage and 50 Hz +/- 2% frequency.

B. Electrical Safety Requirements

6 GHz RLANs must meet the electrical safety requirements set out in:

1. SNI IEC 60950-1:2016;
2. SNI IEC 62368-1:2014;
3. SNI 04-6253;
4. IEC 62368-1;
5. IEC 60950-1;

6. IEC 60065; or
7. relevant SNI or IEC standards, for 6 GHz RLANs other than audio, video, and information and communication technology (ICT).

The electrical safety assessment of 6 GHz RLANs is performed to assess the following parameters:
1. overvoltage or electrical strength or dielectric strength; and
2. leakage current or touch current,

Parameter testing is performed based on the following assumptions:
1. The device is continuously powered by a dedicated external power supply (AC/DC or adapter/charger) or by an AC power supply; and
2. The device operates with SELV in an environment where overvoltage from the telecommunications network may occur. SELV refers to a voltage not exceeding 42.4 V peak or 60 V DC.

For the safety assessment of 6 GHz RLAN Devices conducted using a risk-based approach, the following process specified in IEC 62368-1 shall be used:
1. Identification of energy sources in the 6 GHz RLAN Device;
2. Classification of energy sources (impact on the body or combustible material, such as potential for injury or ignition);
3. Identification of protective measures against energy sources; and
4. Considering the effectiveness of protective measures by considering compliance criteria or standards specified in IEC 62368-1

C. Persyaratan Kompatibilitas Elektromagnetik
1. General
   6 GHz RLANs must be classified as:
   1) fixed equipment,
   2) vehicular equipment, or
   3) portable equipment.
   Fixed equipment is a device that is installed permanently (fixed location permanently) or powered using an AC power supply. Vehicular equipment is a device used in a vehicle and powered using the vehicle's main battery. Portable equipment is a device used for portable use and has a main power supply in the form of a battery.
   Portable Equipment that has the ability to be powered using the vehicle's main battery must be classified as vehicular equipment.
   Portable Equipment and/or Vehicular Equipment that has the ability to be powered by AC must be classified as fixed equipment.

2. Immunity
   The limit value and mechanism for enforcing obligations for immunity requirements are in accordance with the provisions in the SECOND Dictum of this Ministerial Decree.

3. Emissions
   RLAN must comply with SNI CISPR 32:2015, IEC CISPR 32, or ETSI EN 301 489-17. The following emission measurements shall be performed on the RLAN where applicable in accordance with IEC CISPR 32:2015, IEC CISPR 32, or ETSI EN 301 489-17:
   a. Radiated emissions in enclosures of ancillary equipment not incorporated into the equipment shall comply with the requirements specified in Tables A.4 and A.5 for class B and Tables A.2 and A.3 for class A of IEC CISPR 32:2015. Classifications A and B are in accordance with clause 4 of IEC CISPR 32:2015;
   b. Conducted emissions at DC power ports for fixed equipment and vehicular equipment shall comply with the requirements specified in Table A.9 of IEC CISPR 32:2015;
   c. Conducted emissions at the AC power port for fixed equipment shall meet the requirements specified in Table A.9 for class A or A.10 for class B of SNI CISPR 32:2015 (equipment with a DC power port powered by a dedicated AC/DC power converter or adapter defined as AC-powered equipment [Clause 3.1.1 of SNI CISPR 32:2015]). Classifications for classes A and B are in accordance with clause 4 of SNI CISPR 32:2015;
   d. Conducted emissions at the wired network port for fixed equipment shall meet the requirements specified in Table A.11 for class A or A.12 for class B of SNI CISPR 32:2015. Classifications for classes A and B are in accordance with clause 4 of SNI CISPR 32:2015.

D. Non-Ionizing Radiation Requirements
   Non-ionizing radiation requirements for 6 GHz RLANs must comply with ICNIRP guidelines. The value limits and enforcement mechanisms for non-ionizing radiation requirements are regulated based on applicable provisions.

E. Radio Frequency Requirements
   Every 6 GHz RLAN must meet the following radio frequency requirements:

1. Device Type
   6 GHz RLANs are divided into 2 (two) types, namely:
   a. Low Power Indoor (LPI); or
   b. Very Low Power (VLP).

2. Working Frequency and Channel Bandwidth
   The Working Frequency and Channel Bandwidth of 6 GHz RLANs must comply with Table 1.

Table 1. Working Frequency and Channel Bandwidth of RLANs

No	Oprating Frequency	Maximum Channel Bandwidth
1	5925–6425 MHz	≤ 160 MHz

3. Radio Interface
   The 6 GHz RLAN must have a radio interface that complies with the IEEE 802.11 Standard.

4. Antenna
   The 6 GHz RLAN must use an integrated antenna. Antenna gain must be declared in dBi or dBd.

5. Software/Firmware
   The 6 GHz RLAN must meet the following software/firmware requirements:
   a. The software and/or firmware installed on the 6 GHz RLAN must not have the feature to change the country code.
   b. The software and/or firmware installed on the 6 GHz RLAN must not have the feature to change the operating frequency, RF output power and/or other radio frequency parameters so that they do not comply with technical standards.
   c. Changes (upgrading or downgrading or installation from other than the manufacturer) to the software and/or firmware installed on the device must not change and/or have the feature to change the operating frequency, RF output power and/or other radio frequency parameters so that they do not comply with technical standards.

6. RF Output Power
   The RF Output Power of the 6 GHz RLAN must not exceed the limits listed in Table 2.

Table 2. RF Output Power Limits of the RLAN

No	Working Frequency	RLAN RF Output Power Limit (EIRP)	
		Low Power Indoor (LPI)	Very Low Power (VLP)
1	5925-6425 MHz	≤ 23 dBm (200 mW)	≤ 14 dBm (25 mW)

7. Spurious Emission
   Spurious Emission RLAN must fulfill table 3.

Tabel 3. RLAN Spurious Emission Limit

Operating Frequency	Spurious Emission Bencmark	RBW
30 MHz ≤ f < 1 GHz, except for the frequency ranges below	≤-36 dBm	100 kHz
47 MHz ≤ f < 74 MHz, 87,5 MHz ≤ f < 118 MHz, 174 MHz ≤ f < 230 MHz, dan 470 MHz ≤ f < 694 MHz	≤ -54 dBm	100 kHz
1 GHz ≤ f < 26 GHz	≤ -30 dBm	1 MHz

8. Out of Band Emissions
   Out of Band Emissions RLAN 6 GHz shall comply with:
   a. Table 4; or
   b. clause 4.3.4.3 of ETSI EN 303 687 v1.1.1 or later.

Table 4. Out of Band Emissions Limits RLAN 6 GHz

Relative Frequency (f) to Center Frequency	Benchmark relative to the largest RLAN Power Spectral Density (dBm/MHz)
± 0,5N	≤ 0 dBc
± (0,5N+1)	≤ -20 dBc
± N	≤ -28 dBc
± 1,5N	≤ -40 dBc
± 9N	≤ -42 dBc
± 10,8N	≤ -47 dBc
Note: N : Nominal channel Bandwidth (MHz)	

9. Enclosure
   6 GHz Low Power Indoor RLAN devices are prohibited from having weatherized enclosures.

CHAPTER IV
TESTING METHODS

1. 6 GHz RLAN testing is carried out in accordance with Table 5 or the testing method determined by the Director General who organizes government affairs in the field of telecommunications equipment and/or telecommunications equipment standardization.
2. 6 GHz RLAN testing is carried out in controlled environmental conditions

or in accordance with the testing method.

3. 6 GHz RLAN testing is carried out based on the declared 6 GHz RLAN technical specifications.
4. 6 GHz RLAN devices need to be checked for frequencies outside the 6 GHz RLAN frequency allocation using software/firmware that is ready to be marketed in Indonesia.
5. 6 GHz RLAN testing is carried out with the highest RF Output Power.
6. The transmit power (RF Output Power) testing is carried out with the following provisions:
   a. The Output Power Conducted parameter does not need to be tested if the RF Output Power testing is carried out radiated.
   b. When conducting testing, the applicant for testing services must declare the gain for its integrated antenna. RF Output Power parameter fulfillment is done with the following formula:
   RF Output Power (dBm) = Antenna Gain (dBi) + Output Power (dBm).
   c. Testing is done on the lowest and highest bandwidth channels.
   d. If the 6 GHz RLAN works on different bandwidth channels, then each different bandwidth channel value is tested separately.
   e. If the 6 GHz RLAN works on several different modes, then each mode is tested separately.
7. Software/Firmware testing is done for access point devices using software/firmware that is ready to be marketed in Indonesia.
8. Spurious Emission and Out of Band Emissions testing is done according to the test method.

Table 5. Testing Method

Test Requirements/ Parameters	Testing Method
Electrical Safety	SNI IEC 60950-1; SNI IEC 62368-1; IEC 60950-1; IEC 62368-1; and/or other relevant IEC or SNI standards
EMC (Emssion)	Seri ETSI EN 301 489; IEC CISPR 32; and/or SNI CISPR 32.
EMC (Immunity)	Testing Method for immunity requirements in accordance with the provisions in the SECOND Dictum of this Ministerial Decree.
RF Output Power, and Channel Bandwidth.	ETSI EN 303 687 v1.1.1 or the latest
Spurious Emission	ETSI EN 303 687 v1.1.1 or the latest
Out of Band Emissions	ETSI EN 303 687 v1.1.1 or the latest

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APPENDIX III
DECISION OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA NUMBER … YEAR …
CONCERNING
RADIO FREQUENCY SPECTRUM BASED ON CLASS PERMITS AND TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

TECHNICAL STANDARDS FOR TELECOMMUNICATION DEVICES AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS OPERATING ON THE 57-64 GHz RADIO FREQUENCY SPECTRUM

CHAPTER I
GENERAL PROVISIONS

A. Definition/Limitations

1. Radio Local Area Network Operating on the 60 GHz Radio Frequency Band hereinafter referred to as RLAN 60 GHz is a telecommunications tool and/or device used for data transmission purposes at speeds of up to gigabits per second on the 57 GHz to 64 GHz radio frequency band for indoor use only.
2. Access Point is a 60 GHz RLAN receiver and transmitter device that operates as a bridge on peer-to-peer connections or as a connector between wired and wireless networks or as an inter-segment relay on a wireless network. The 60 GHz RLAN repeater device is classified as an access point device.
3. Client Device is a device that transmits under the control of the access point and does not have the ability to initiate a network.
4. 60 GHz RLAN for Type 1 Access purposes is Access using 60 GHz RLAN for personal use using a smartphone or laptop in the home, office, and other closed spaces.
5. Integrated antenna is an antenna that is designed as a fixed part of the device without using an external connector and cannot be removed from the device.
6. RF Output Power is the average power coming out of the antenna
7. EIRP is the average power coming out of the antenna relative to an isotropic antenna
8. Channel Bandwidth is the bandwidth that contains 99% of the signal power.
9. Unwanted Emission is the maximum unwanted emission outside the

working frequency, consisting of spurious emissions and Out-of-Band emissions.

10. Spurious Emissions are emissions at one or more radio frequency points that are outside the required channel width (necessary bandwidth) and the amount can be reduced without affecting the transmission of related information, including in the spurious emission category are harmonic emissions, parasitic emissions, intermodulation products, and frequency conversion products.
11. Power Spectral Density is the distribution of power values that can be measured against a certain frequency range.

B. 60 GHz RLAN Configuration

60 GHz RLAN in this technical standard is only intended for type 1 access.

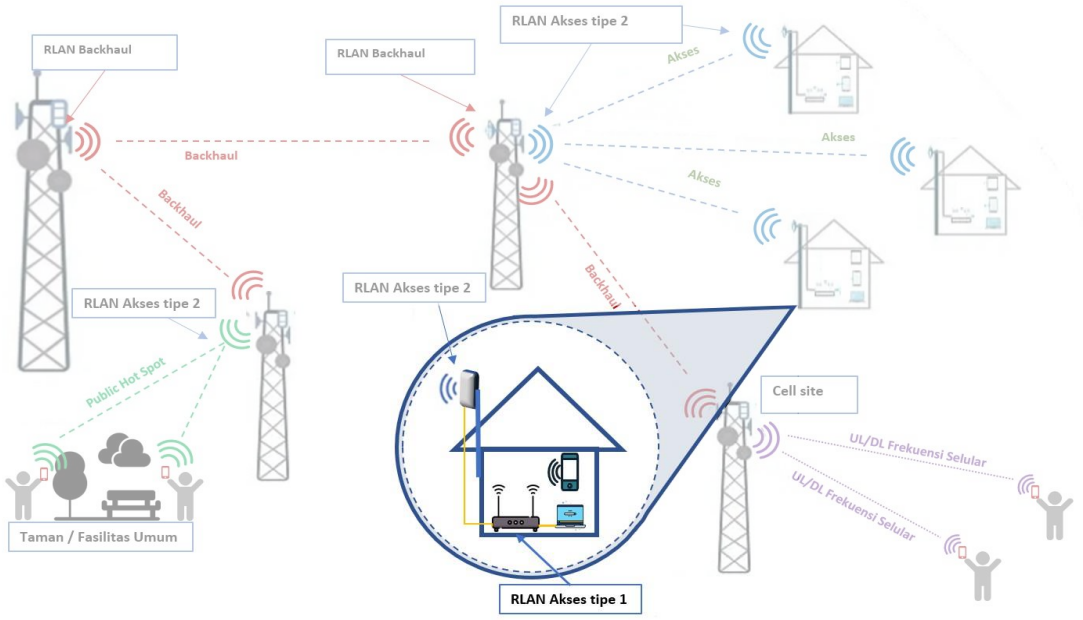

Figure 1. Illustration of RLAN topology for Access and Backhaul

RLAN 60 GHz is only for type 1 access. Type 1 access is access using RLAN for personal use. Examples of RLAN 60 GHz type 1 access devices include, Wireless Dock, VR/AR devices, smartphones, televisions, MiFi, Home Routers, or RLAN 60 GHz Repeaters.

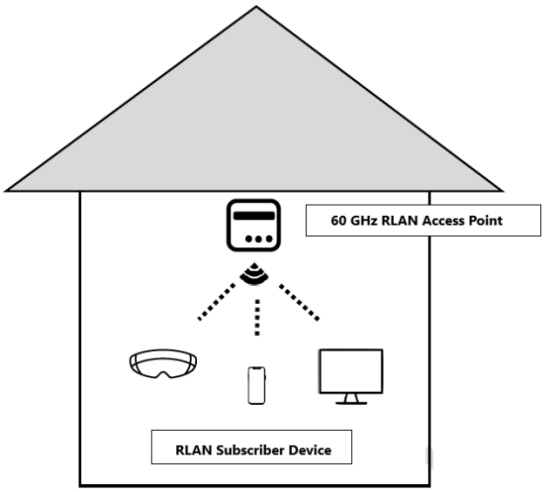

Figure 2. Example of indoor installation configuration for 60 GHz RLAN (Type 1 Access).

C. Abbreviations/Units

1. AC : Alternating Current
2. CISPR : Comité International Spécial des Perturbations Radioélectriques
3. dB : Decibel
4. dBm : Decibel-milliwatt
5. DC : Direct Current
6. EIRP : Effective Isotropic Radiated Power
7. EMF : Electro Magnetic Fields
8. ETSI : European Telecommunications Standards Institute
9. GHz : Giga Hertz
10. Hz : Hertz
11. ICNIRP : International Comission on Non-Ionising Radiation Protection
12. IEC : International Electrotechnical Commission
13. kHz : kilohertz
14. mW : milliwatt
15. MHz : Mega Hertz
16. RF : Radio Frequency
17. RLAN : Radio Local Area Network
18. SELV : Safety Extra Low Voltage
19. SNI : Standar Nasional Indonesia
20. V : Volt

CHAPTER II
TECHNICAL REQUIREMENTS

A. General Requirements

1. Power Supply

The 60 GHZ RLAN device can be powered by AC or DC power. For 60 GHZ RLAN powered by AC, all parameter benchmarks must be met when using a power supply of AC voltage 230 V ±10% and frequency 50 Hz ±2%. When using an external power supply (e.g. AC/DC power converter), the external power supply must not affect the ability of the 60 GHZ RLAN to meet all technical parameter benchmarks.

2. Electrical Safety Requirements

The electrical safety assessment of the device must meet the requirements specified in:

a. SNI IEC 60950-1:2016;
b. SNI IEC 62368-1:2014;
c. SNI 04-6253;
d. IEC 62368-1;
e. IEC 60950-1;
f. IEC 60065; or
g. relevant SNI or IEC standards, for RLANs other than audio, video, and information and communication technology (ICT).

with the parameters that must be met are:

a. overvoltage or electric strength or dielectric strength; and
b. leakage current or touch current.

Parameter testing is carried out based on the following assumptions:

a. The device is continuously powered by a special external power supply (AC/DC converter or adapter/charger) or by an AC power supply; and
b. The device operates with SELV in an environment where overvoltage from the telecommunications network may occur. SELV refers to a voltage that does not exceed 42.4 V peak or 60 V DC.

3. Electromagnetic Compatibility Requirements

a. General

60 GHz RLANs must be classified as:

1) fixed equipment,
2) vehicular equipment, or
3) portable equipment.

Fixed equipment is a device that is installed permanently (fixed location permanently) or powered using an AC power supply. Vehicular equipment is a device used in a vehicle and powered using the vehicle's main battery. Portable equipment is a device used for portable use and has a main power supply in the form of a battery. Portable Equipment that has the ability to be powered by the

vehicle's main battery must be classified as vehicular equipment. Portable Equipment and/or Vehicular Equipment that has the ability to be powered by AC must be classified as fixed equipment.

b. Immunity
The value limits and mechanisms for enforcing obligations for immunity requirements are in accordance with the provisions in the SECOND Dictum of this Ministerial Decree.

c. Emissions
1) RLAN 60 GHz must meet SNI CISPR 32:2015, IEC CISPR 32, or ETSI EN 301 489-17.
2) The following emission measurements shall be performed on 60 GHz RLANs where applicable in accordance with IEC CISPR 32:2016, IEC CISPR 32, or ETSI EN 301 489-17:
   a) Radiated emissions in enclosures of ancillary equipment not incorporated into the equipment shall comply with the requirements specified in Tables A.4 and A.5 for class B and Tables A.2 and A.3 for class A of IEC CISPR 32:2015. Classifications A and B are in accordance with clause 4 of IEC CISPR 32:2015;
   b) Conducted emissions at DC power ports for fixed equipment and vehicular equipment shall comply with the requirements specified in Table A.9 of IEC CISPR 32:2015;
   c) Conducted emissions at the AC power port for fixed equipment must meet the requirements specified in Table A.9 for class A or A.10 for class B of SNI CISPR 32:2015 (equipment with a DC power port powered by a dedicated AC/DC power converter or adapter is defined as AC-powered equipment [Clause 3.1.1 of SNI CISPR 32:2015]). Classifications for classes A and B are in accordance with clause 4 of SNI CISPR 32:2015;
   d) Conducted emissions at the wired network port for fixed equipment must meet the requirements specified in Table A.11 for class A or A.12 for class B of SNI CISPR 32:2015. Classifications for classes A and B are in accordance with clause 4 of SNI CISPR 32:2015.

B. Radio Frequency Requirements
Each 60 GHz RLAN must meet the requirements in Table 1.

Table 1. 60 GHz RLAN Radio Frequency Requirements

No	Testing Parameter	Benchmark
1	Frekuensi Kerja	57-64 GHz
2	Channel Bandwidth	≤ 2,16 GHz
3	RF Output Power	≤ 40 dBm EIRP

4	Power Spectral Density	≤ 23 dBm/MHz EIRP
5	Spurious Emissions	Based on table 2
6	Out-of-Band Emissions	a. -30 dBm/MHz, b. Tablel 3, or c. Clause 4 ETSI EN 302 567 v2.2.1 or the latest, whichever is less strict.
7	Antenna	Integrated antenna
8	Physical Form of Access Point	a. desktop form, and b. cannot be mounted on a pole
9	Enclosure	it is forbidden to have a weatherized enclosure.

Table 2. RLAN 60 GHz Spurious Emission Limits other than at 57-64 GHz

Frequency Range	Spurious Emission Benchmark	RBW
30 MHz ≤ f < 1 GHz, except for the frequency ranges below	≤-36 dBm	100 kHz
47 MHz ≤ f < 74 MHz, 87,5 MHz ≤ f < 118 MHz, 174 MHz ≤ f < 230 MHz, dan 470 MHz ≤ f < 694 MHz	≤ -54 dBm	100 kHz
1 GHz ≤ f < 142 GHz	≤ -30 dBm	1 MHz

Table 3. RLAN 60 GHz Out of Band Emission Limits at 57-64 GHz

Relative Frequency (f) to Center Frequency	Benchmark relative to the largest RLAN Power Spectral Density (dBm/MHz)
± 0,5N	≤ 0 dBc
± 0,56N	≤ -17 dBc
± 1,25N	≤ -22 dBc
± 1,5N	≤ -30 dBc
Note: N : Nominal channel Bandwidth (MHz)	

CHAPTER III
TESTING METHOD

1. The 60 GHz RLAN testing is carried out in accordance with Table 4 or the testing method determined by the Director General who organizes government affairs in the field of telecommunications equipment and/or telecommunications equipment standardization.
2. The 60 GHz RLAN testing is carried out in controlled environmental

conditions or in accordance with the testing method.

3. The 60 GHz RLAN must be tested based on the highest RF Output Power.
4. The testing is carried out on the lowest and highest bandwidth channels.
5. If the 60 GHz RLAN operates on different bandwidth channels, then each different bandwidth channel value is tested separately.Table 4. Testing Method

Test Requirements / Parameters	Testing Methos
Electrical Safety	SNI IEC 60950-1; and/or SNI IEC 62368.
EMC (Emission)	a. ETSI EN 301 489 series; b. IEC CISPR 32; and/or c. SNI CISPR 32.
EMC (Kekebalan)	The Testing Method for immunity requirements is in accordance with the provisions in the SECOND Dictum of this Ministerial Decree.
RF Output Power, Channel Bandwidth, Power Spectral Density, Spurious Emissions, and Out-of-Band Emissions,	ETSI EN 302 567 v2.2.1 or the latest

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APPENDIX IV
DECISION OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA NUMBER … YEAR … CONCERNING RADIO FREQUENCY SPECTRUM BASED ON CLASS PERMITS AND TECHNICAL STANDARDS OF TELECOMMUNICATION TOOLS AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

OPERATIONAL TECHNICAL PROVISIONS FOR TELECOMMUNICATION DEVICES AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

A. Technical Operational Provisions for Telecommunication tools and/or telecommunication devices for Radio Local Area Networks operating on the Radio Frequency Spectrum 2400–2483.5 MHz, 5150–5250 MHz, 5250–5350 MHz, and 5725–5825 MHz
   a. Type 1 access is placed indoors; and
   b. Type 2 access and Backhaul are placed outdoors.

B. Technical Operational Provisions for Telecommunication tools and/or telecommunication devices for Radio Local Area Networks operating on the Radio Frequency Spectrum 5925-6425 MHz
   1. Low Power Indoor (LPI)
      a. only used indoors;
      b. prohibited for outdoor use;
      c. cannot be used for unmanned aircraft (drones);
      d. cannot be installed in vehicles, trains, boats, or aircraft;
      e. only powered by AC power; and
      f. prohibited from using batteries.
   2. Very Low Power (VLP)
      a. can be used indoors;
      b. can be used outdoors;
      c. can be used in tethering mode;
      d. cannot be used for drone use; and
      e. only powered by battery (DC). The device can be powered by AC IS only for battery charging purposes.

C. Technical Operational Provisions for Telecommunication tools and/or telecommunication devices for Radio Local Area Networks (Radio Local Area Networks) operating on the 58-64 GHz Radio Frequency Spectrum
   1. placed indoors; and
   2. prohibited from being placed outdoors.

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APPENDIX V
DECISION OF THE MINISTER OF COMMUNICATION AND DIGITAL AFFAIRS OF THE REPUBLIC OF INDONESIA
NUMBER … YEAR …
CONCERNING RADIO FREQUENCY SPECTRUM BASED ON CLASS PERMITS AND TECHNICAL STANDARDS OF TELECOMMUNICATION DEVICES AND/OR TELECOMMUNICATION DEVICES FOR RADIO LOCAL AREA NETWORKS

INTERFERENCE MITIGATION FEATURES AND SOFTWARE/FIRMWARE QUESTIONS

No	Questions	Answer
1	Can the software and/or firmware installed on this RLAN Device change the Radio Frequency parameters on this device?	
2	If yes in Number 1, will changing the Radio Frequency parameters on this RLAN Device cause non-compliance with the RLAN Technical Standard?	
3	Can changes to the software and/or firmware from the manufacturer, including resetting the device, change the Radio Frequency parameters on this RLAN device so that it causes non-compliance with the RLAN Technical Standard?	
4	Can changes to software and/or firmware from other than the manufacturer change the Radio Frequency parameters on this RLAN device so that it causes non-compliance with the RLAN Technical Standard?	
5	Does this RLAN device support the DFS feature?	
6	If this RLAN device supports the DFS feature, can the DFS feature be disabled by the user?	
7	RLAN firmware version at the time of testing	

MINISTER OF COMMUNICATION AND DIGITAL OF THE REPUBLIC OF INDONESIA,

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