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PUBLIC CONSULTATION Nº 61

Introduction

THE SUPERINTENDENT OF GRANTING AND RESOURCES TO THE PROVISION OF THE NATIONAL TELECOMMUNICATIONS AGENCY - ANATEL, in the use of the powers conferred on him by art. 59 of Anatel's Internal Regulations - approved by Resolution No. 612, of April 29, 2013, decided to submit to the comments and suggestions of the general public the proposed Act to approve the technical and operational requirements of the 2,485 MHz to 2,495 frequency band MHz for the Private Limited Service, in accordance with process No. [53500.015502 / 2020-12](#).

The full text of the proposal will be available at the Anatel Library, at the subscribed address and on the Anatel page on the Internet, at the electronic address <http://sistemas.anatel.gov.br/sacp>, from 2 pm on from the date of publication of this Consultation Public in the Federal Official Gazette.

Contributions and suggestions must be substantiated, duly identified and forwarded, preferably by means of an electronic form from the Interactive Public Consultation Monitoring System, available at the Internet address <http://www.anatel.gov.br>, related to this Public Consultation, accompanied by alternative and substitute texts, when they involve suggestions for inclusion or alteration, partial or total, of any device. This Public Consultation will remain available for 45 (forty-five) days, counted from its publication.

The manifestations received will be examined by Anatel and will remain available to the public at the Agency's Library.

DRAFT ACT TO

[CONTRIBUTE](#)

THE SUPERINTENDENT OF GRANT AND RESOURCES TO THE PROVISION OF THE NATIONAL TELECOMMUNICATIONS AGENCY, in the use of the attributions conferred on him by art. 156 and items of the Internal Regulations of the National Telecommunications Agency - Anatel, approved by Resolution No. 612, of April 29, 2013, and

WHEREAS the provision in item VIII of art. 19 of Law No. 9,472, of July 16, 1997, which attributes to Anatel the competence to administer the radio frequency spectrum, issuing the respective rules;

CONSIDERING the provisions of art. 161 of Law No. 9.472 of 1997, which determines that the allocation of radiofrequencies or bands may be modified at any time, as well as changes in powers or other technical characteristics, provided that the public interest or compliance with conventions or treaties international organizations so determine;

WHEREAS the Proposal for Regulatory Actions, approved by Agreement No. 651, of November 1, 2018 (SEI No. [3434164](#)), contained in the case records of Process 53500.014958 / 2016-89;

CONSIDERING the established in the Spectrum Management Model, so that conditions of use of radio frequencies, such as channeling, power limits and other specific technical conditions, which aim at harmonious coexistence between services and the efficient and adequate use of the spectrum, when necessary, are dealt with in the scope of the Superintendence of Granting and Provisioning Resources through the edition of Acts of Technical Requirements (of Conditions of Use of the Spectrum);

WHEREAS the case file of process No. 53500.015502 / 2020-12; and

CONSIDERING the contributions received as a result of Public Consultation No. xx, of xx of xxxx of 2020, published in the Official Gazette of the XX of July of 2020,

RESOLVES:

Art. 1 To approve the technical and operational requirements for the use of the 2,485 MHz to 2,495 MHz band for use by stations in the Private Limited Service - SLP.

Art. 2 This Act enters into force on XX of XXXX of 2020 .

ANNEX

CONTRIBUTE

TECHNICAL AND OPERATIONAL REQUIREMENTS FOR THE USE OF THE 2,485 MHz AND 2,495 MHz RADIO FREQUENCY RANGE

1. OBJECTIVE

1.1 Establish the technical and operational requirements for the use of the spectrum by stations operating in the frequency range of 2,485 MHz and 2,495 MHz, associated with the Private Limited Service (SLP), in accordance with the most recent version of the Plan for the Allocation, Destination and Distribution of Frequency bands in Brazil - PDFF (Resolution nº 716, of October 31, 2019); which approves the allocation of the 2,485 MHz and 2,495 MHz band to all telecommunications services subject to the assignment.

2. REFERENCES

2.1 3GPP TS 36.104 V16.5.0: *Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception (Release 16)*.

2.2 Report ITU-R SM.2028: *Monte Carlo simulation methodology for the use in sharing and compatibility studies between different radio services or systems*.

2.3 Recommendation ITU-R SM.329: Unwanted emissions in the spurious domain.

3. DEFINITIONS

3.1 Radio frequency block: segment of a radio frequency band aimed at the transmission of radio communication signals, characterized by an initial radio frequency of the block and an end radio frequency of the block.

TDD (in English, *Time Division Duplex*): duplexing by time division.

3.2 Spurious emissions: are emissions caused by unwanted effects from the transmitter, such as harmonic emission, parasitic emission, intermodulation products and frequency conversion products, excluding emissions out of range.

3.3 Out-of-band emissions: these are undesirable emissions immediately outside the channel's bandwidth, resulting from the modulation process and non-linearity in the transmitter, excluding spurious emissions.

3.4 Undesirable emissions: consist of out-of-band emissions and spurious emissions.

3.5 OBUE (English, *Operating Band Unwanted Emissions*): consists of undesirable emissions within the system's operating range plus a frequency shift (f_{offset}) below and above the lower and upper ends of the operating range, respectively.

3.6 Prior coordination: activity that consists in agreeing values and parameters considered necessary to ensure harmonious coexistence between systems.

4. CHANNELING

4.1 The radio frequency range from 2,485 MHz to 2,495 MHz should be used by systems that employ time division duplexing (TDD).

4.2 The blocks of the radio frequency sub-bands are listed in Table I.

Table I - Radiofrequency Subband Blocks

Block	Subrange (MHz)
1	2485 to 2490
2	2490 to 2495

4.3 The occupied bandwidth must not cause harmful interference between adjacent blocks.

4.4 The blocks in Table I may be used in an aggregate manner.

4.5 The occupation of the radio frequency sub-bands of each block or aggregate of blocks must always start from the central region of the block or aggregate to its ends.

5. OPERATING POWER

5.1 The power used must be the minimum necessary to perform the service with good quality and adequate availability.

5.2 Base, nodal and repeater stations must operate with maximum power at the transmitter output of 30 dBm, with a maximum antenna gain of 6 dBi.

5.3 Portable mobile stations must operate with maximum power at the transmitter output of 26 dBm.

6. UNDESIRABLE EMISSIONS

6.1 Emissions out of range:

6.1.1 Out-of-band emissions are specified in terms of OBUE.

6.1.2 For base station, nodal or repeater, undesirable emissions in the frequency range 2,400 MHz to 2,690 MHz (OBUE) must be in accordance with Table II.

Table II - Base station, nodal or repeater OBUE limits for operation in the 2,485 MHz to 2,495 MHz band

End (bottom / top)	Bandwidth (MHz)	Frequency offset from the ends of the block (f_offset)	Maximum power level (dBm)	Resolution range for measurement (MHz)
bottom	5 and 10	$0 \text{ MHz} \leq f_{\text{offset}} < 6.5 \text{ MHz}$	-10	1
bottom	5	$6.5 \text{ MHz} \leq f_{\text{offset}} < 7.5 \text{ MHz}$	-13	1
bottom	10	$6.5 \text{ MHz} \leq f_{\text{offset}} < 11.5 \text{ MHz}$	-13	1
bottom	5	$7.5 \text{ MHz} \leq f_{\text{offset}} < 85 \text{ MHz}$	-25	1
bottom	10	$11.5 \text{ MHz} \leq f_{\text{offset}} < 85 \text{ MHz}$	-25	1
higher	5	$0 \text{ MHz} \leq f_{\text{offset}} < 6 \text{ MHz}$	-13	1
higher	10	$0 \text{ MHz} \leq f_{\text{offset}} < 10 \text{ MHz}$	-13	1
higher	5	$6 \text{ MHz} \leq f_{\text{offset}} < 195 \text{ MHz}$	-25	1
higher	10	$10 \text{ MHz} \leq f_{\text{offset}} < 195 \text{ MHz}$	-25	1

6.2 Spurious emissions must be a maximum of -30 dBm / MHz in the frequency range from 1 GHz to 12.75 GHz.

7. ADDITIONAL REQUIREMENTS

7.1 Base station, nodal or repeater antennas operating outdoors can be installed up to 6 meters high in relation to the ground.

7.2 Before going into operation, base, nodal or repeater stations must carry out prior coordination with the others authorized by the same service who already operate in the same block, in case the distance between the stations is less than 2 km.

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