

NATIONAL TELECOMMUNICATIONS AGENCY

ACT NO. 1306, OF FEBRUARY 26, 2021

THE DIRECTING COUNCIL OF THE NATIONAL TELECOMMUNICATIONS AGENCY , using the prerogative established in art. 15 of Law No. 9,784, of January 29, 1999, which regulates the administrative process within the scope of the Federal Public Administration,

CONSIDERING the competence given by items XIII and XIV of art. 19 of Law No. 9,472 / 97 - General Telecommunications Law;

CONSIDERING the changes promoted in the radio frequency bands with usage restrictions and in the radio frequency bands usable by restricted radiation equipment with alternative emission limits, approved by Resolution No. 726, of May 5, 2020;

CONSIDERING the determination of Anatel's Board of Directors established in Judgment No. 227, of May 5, 2020 (SEI No. 5511505);

CONSIDERING the determination of Anatel's Board of Directors established in Judgment No. 61, of February 26, 2021 (SEI No. 6600439);

WHEREAS the contributions received in Public Consultation No. 82, of December 10, 2020;

WHEREAS the records of Proceedings No. 53500.012176 / 2019-58 and No. 53500.027376 / 2020-49 ,

RESOLVES:

Art. 1º To amend the following items of Annex I to Act nº 14.448, of December 4, 2017, published in the Electronic Service Bulletin on January 2, 2018, which approved the Technical Requirements for the Conformity Assessment of Radio Communication Equipment of Restricted Radiation, which are effective with the following wording:

" 3. DEFINITIONS

[...]

3.1.11. Client Equipment: equipment operating in the 5.925-7.125 MHz band, whose transmission is under the control of an *indoor* Access Point or a Subordinated Access Point and which does not have the capacity to form a network.

3.1.12. Very Low Power Equipment: portable equipment that can operate in the 5.925-7.125 MHz band in open (*outdoor*) or closed (*indoor*) environments.

3.1.13. General Purpose Radio Communication Equipment: portable unit with bidirectional transmission capability for voice communication.

3.1.14. Spectral Scattering: technology in which the average energy of the transmitted signal is spread over a much wider bandwidth than the bandwidth containing the information.

3.1.15. Femtocell: self-configuring equipment managed by the service provider, which operates as a fixed station for radio communication with the Users' stations.

3.1.16. Harmful Interference: any emission, radiation or induction that obstructs, seriously degrades or repeatedly interrupts telecommunication.

3.1.17. Wireless Microphone: system consisting of a microphone integrated with a transmitter and a receiver that aims to provide the user with freedom of movement without the limitations imposed by a physical means of transmission (cable).

3.1.18. Digital Modulation: process by which some characteristic of the carrier wave (frequency, phase, amplitude or combination thereof) is varied according to a digital signal (signal consisting of encoded pulses or states derived from quantized information).

3.1.19. *Indoor* Access Point: Access Point operating in the 5.925-7.125 MHz band, which has the capacity to perform network formation, has a routing mechanism between segments of wired and wireless networks, and has a direct connection to the Internet.

3.1.20. Subordinate Access Point: Access Point that operates in the 5.925-7.125 MHz band, under the control of an *indoor* Access Point, has no direct connection to the Internet, and its use to connect devices between buildings or separate structures is not allowed.

3.1.21. Radio Frequency Identification System (RFID) or similar: system, consisting of a transceiver device, that receives and sends radio frequency signals, when excited by an interrogating transceiver equipment, which has the ability to read, write or modify the information contained in the device.

3.1.22. Frequency Jumps: spectral spreading technique in which each transmitter of the same equipment occupies a number of radiofrequencies in time, each of them for a certain period of time, a period called *Dwell Time*.

3.1.23. Direct Sequence: technique in which signal information, which is normally digital, is combined with a higher speed binary sequence, the resulting combination of which is then used to modulate the radio frequency carrier. The binary code - a fixed-length pseudo-random bit sequence that is continuously recycled by the system - dominates the modulation function, being the direct cause of the spread of the transmitted signal.

3.1.24. Pseudo-random sequence: sequence of binary data that has, in its formation, at the same time some characteristics of random sequence and also some of non-random sequence.

3.1.25. Wireless Broadband Access System for Local Area Networks: term applied to equipment, apparatus or device, used in various applications in wireless local area networks that require high transmission speeds, in the radio frequency and power ranges established in this document.

3.1.26. Media Access Sharing System: it is the automatic system through which LBE and FBE equipment share the use of radio frequency bands with Equipment Based on Sharing Protocol, which must have the following mechanisms:

I - Procedure for checking channel availability (*Clear Channel Assessment* - CCA): mechanism used by LBE and FBE transceivers to detect the TL transmitted by other equipment;

II - *Listen Before Talk* (LBT): mechanism by which the LBE and FBE equipment carry out a channel availability verification procedure (CCA), before establishing communication with other equipment on that channel; and

III - Detected energy threshold (*Threshold Level* - TL): it is the value of the EIRP spectral density, calculated over the total channel width, in any channel.

3.1.27. Vehicle Communication System: assistance system for driving in traffic, consisting of vehicle transceiver devices that communicate directly with vehicle transceivers of other vehicles, or with infrastructure transceivers, in the radio frequency bands and powers established in this document.

3.1.28. Perimeter Protection System: emitter-sensor of electromagnetic field variation that uses radiofrequency transmission lines as a radiation source and that are installed in such a way that allow the system to detect movements within the protected area.

3.1.29. CPCT Wireless Extension System: system consisting of a fixed base station that connects to the Private Telephone Switching Center (CPCT) and mobile terminal units that communicate directly with the base station. Transmissions from a mobile terminal unit are received by the base station and transferred to the CPCT.

3.1.30. Environmental Sound System: system consisting of a transmitter and receivers integrated with speakers, which aims to replace the physical means of interconnecting the sound source to the speakers.

3.1.31. Cordless Telephone System: system consisting of two transceivers, one being a fixed base station that connects to the public switched telephone network and the other a mobile terminal unit that communicates directly with the base station. Transmissions from the mobile terminal unit are received by the base station and transferred to the Fixed Switched Telephone Service (STFC) network. Information received from the public switched telephone network is transmitted by the base station to the mobile unit.

3.1.32. Wireless Multigigabit System: term applied to telecommunication equipment, apparatus or device, which operates in wireless local area networks, with or without direct line of sight, or in short-range point-to-point communications.

3.1.33. Remote control: use of telecommunications for the transmission of radio signals to initiate, modify or terminate equipment functions remotely.

3.1.34. Telemetry: use of telecommunications for the indication or automatic recording, at a distance, of readings of a measuring instrument.

3.1.35. Infrastructure Transceiver: device installed in a mobile network infrastructure intended for communication with a vehicle for sending and receiving information to aid in driving traffic and communication between the network and the vehicle.

3.1.36. Vehicle Transceiver: device installed in a vehicle for sending and receiving information between vehicles, or with an infrastructure transceiver, to aid in driving traffic and in communicating the vehicle with the network.

3.1.37. Peak value: result of the measurement of the physical quantity in question when using a measuring instrument with a peak value detector as specified by CISPR 16.

3.1.38. Average value: result of the measurement of the physical quantity in question when using an average value detector as specified by CISPR 16.

3.1.39. Quasi-peak value: result of measuring the physical quantity in question when using a quasi-peak value detector as specified by CISPR 16.

3.1.40. RMS value: result of the measurement of the physical quantity in question when using an RMS value detector as specified by CISPR 16. ”

[...]

" 11. BROADBAND WIRELESS ACCESS SYSTEM FOR LOCAL NETWORKS

11.1 The Broadband Wireless Access System for Local Area Networks operating in the 5.150-5.350 MHz, 5.470-5.725 MHz and 5.925-7.125 MHz bands must meet the following conditions:

[...]

11.7. The Broadband Wireless Access System for Local Area Networks, operating in the 5.925-7.125 MHz band, must meet the following conditions:

11.7.1. *Indoor Access Point* and *Subordinate Access Point* must meet the following conditions:

11.7.1.1. The average value of EIRP power is limited to a maximum of 30 dBm.

11.7.1.2. The average value of the EIRP power spectral density is limited to a maximum of 5 dBm / MHz.

11.7.1.3. The equipment must be used only in an *indoor* environment .

11.7.2. Client equipment operating under the control of an *indoor Access Point* must meet the following conditions:

11.7.2.1. The average value of EIRP power is limited to a maximum of 24 dBm.

11.7.2.2. The average value of the EIRP power spectral density is limited to a maximum of -1 dBm / MHz.

11.7.2.3. The equipment must be used only in an *indoor* environment .

11.7.3. Very Low Power Equipment must meet the following conditions:

11.7.3.1. The average value of EIRP power is limited to a maximum of 17 dBm.

11.7.3.2. The average value of the EIRP power spectral density is limited to a maximum of -5 dBm / MHz.

11.7.4. The RMS value of spurious emissions and any emissions outside the 5.925-7.125 MHz band should be limited to the maximum EIRP power spectral density of -27 dBm / MHz.

11.7.5. The spectral power density must meet the following emission mask:

I. Attenuation of 20 dB, at a distance of 1 MHz from the end of the channel;

II. Attenuation of 28 dB, at a distance of one channel spacing, from the center of the channel; and

III. 40 dB attenuation, at a distance of 1.5 channel spacing, from the center of the channel.

11.7.5.1 The attenuations between the 20 to 28 dB and 28 to 40 dB intervals, described in the headings of the *caput*, must present linear

interpolation.

11.7.6. *Indoor* and Subordinate Access Points must be powered directly by the electric power network, and battery power is not allowed. Their physical structures cannot be protected against bad weather.

11.7.7. *Indoor* and Subordinate Access Points , Client Equipment and Very Low Power should only use an antenna permanently integrated into the equipment structure.

11.7.8. The operation of *indoor* and subordinate Access Points is prohibited on oil extraction platforms, cars, trains, vessels and aircraft, except for the operation in the 5,925-6,425 GHz band inside large aircraft flying over 3,048 m (10,000 foot).

11.7.8.1. *Indoor* and Subordinate Access Points must contain the following message on the body of the product, in an easily visible place, and in its manual: "The use of this equipment is restricted to closed environments and prohibited on oil platforms, cars, trains, boats and on aircraft below 10,000 feet (3,048 m) ".

11.7.8.2. In equipment whose dimensions or construction characteristics prevent the message from being displayed on its body, the information must be included in the packaging and in the product manual.

11.7.9. The operation of equipment that serves the purpose of controlling or communicating with Unmanned Aerial Vehicle (UAV) will not be permitted.

11.7.10. Client Equipment must operate under the control of an *indoor* Access Point or a Subordinate Access Point . Subordinated Access Points must operate under the control of an *indoor* Access Point . In all cases, there is an exception for the transmission of short messages to an Access Point when attempting to join your network after detecting a signal that confirms that an Access Point is operating on a given channel. Direct connection between Client Equipment is prohibited .

11.7.11. It is mandatory to use a system for sharing access to the medium in this equipment. "

Art. 2 Amendments subsequent to the approval of this Act will obey the terms of the attributions conferred to the Superintendent of Grant and Resources to the Provision in § 2 of art. 22 of the Regulations for Conformity Assessment and Homologation of Telecommunications Products, instituted by Resolution No. 715, of October 23, 2019.

Art. 3 This Act enters into force on the date of its publication in Anatel's Electronic Service Bulletin.



Document electronically signed by **Leonardo Euler de Morais** , Chairman of the Board , on 02/26/2021, at 7:08 pm, according to official Brasília time, based on art. 23, item II, of [Ordinance No. 912/2017](#) of Anatel.



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