

approximately equal to the measurement bandwidth, and much less than the emission bandwidth of the equipment under test, the measured results shall be corrected to account for any difference between the resolution bandwidth of the test instrument and its actual noise bandwidth.

(e) The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

[70 CFR 28467, May 18, 2005, as amended at 74 FR 23803, May 21, 2009; 74 FR 27455, June 10, 2009]

§ 90.1217 RF Hazards.

Licensees and manufacturers are subject to the radiofrequency radiation exposure requirements specified in §§ 1.1307(b), 2.1091 and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of mobile or portable devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Subpart Z—Wireless Broadband Services in the 3650–3700 MHz Band

SOURCE: 70 FR 24726, May 11, 2005, unless otherwise noted.

§ 90.1301 Scope.

This subpart sets out the regulations governing wireless operations in the 3650–3700 MHz band. It includes licensing requirements, and specific operational and technical standards for wireless operations in this band. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in the Commission's rules; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in this band.

§ 90.1303 Eligibility.

Any entity, other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, is eligible to hold a license under this part.

§ 90.1305 Permissible operations.

Use of the 3650–3700 MHz band must be consistent with the allocations for this band as set forth in part 2 of the Commission's Rules. All stations operating in this band must employ a contention-based protocol (as defined in § 90.7).

§ 90.1307 Licensing.

The 3650–3700 MHz band is licensed on the basis of non-exclusive nationwide licenses. Non-exclusive nationwide licenses will serve as a prerequisite for registering individual fixed and base stations. A licensee cannot operate a fixed or base station before registering it under its license and licensees must delete registrations for unused fixed and base stations.

§ 90.1309 Regulatory status.

Licensees are permitted to provide services on a non-common carrier and/or on a common carrier basis. A licensee may render any kind of communications service consistent with the regulatory status in its license and with the Commission's rules applicable to that service.

§ 90.1311 License term.

The license term is ten years, beginning on the date of the initial authorization (non-exclusive nationwide license) grant. Registering fixed and base stations will not change the overall renewal period of the license.

§ 90.1312 Assignment and transfer.

Licensees may assign or transfer their non-exclusive nationwide licenses, and any fixed or base stations registered under those licenses will remain associated with those licenses.

§ 90.1319 Policies governing the use of the 3650–3700 MHz band.

(a) Channels in this band are available on a shared basis only and will not

be assigned for the exclusive use of any licensee.

(b) Any base, fixed, or mobile station operating in the band must employ a contention-based protocol.

(c) Equipment incorporating an unrestricted contention-based protocol (i.e. one capable of avoiding co-frequency interference with devices using all other types of contention-based protocols) may operate throughout the 50 megahertz of this frequency band. Equipment incorporating a restricted contention-based protocol (i.e. one that does not qualify as unrestricted) may operate in, and shall only tune over, the lower 25 megahertz of this frequency band.

(d) All applicants and licensees shall cooperate in the selection and use of frequencies in the 3650–3700 MHz band in order to minimize the potential for interference and make the most effective use of the authorized facilities. A database identifying the locations of registered stations will be available at <http://wireless.fcc.gov/uls>. Licensees should examine this database before seeking station authorization, and make every effort to ensure that their fixed and base stations operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference. Licensees of stations suffering or causing harmful interference are expected to cooperate and resolve this problem by mutually satisfactory arrangements.

[72 FR 40722, July 25, 2007]

§ 90.1321 Power and antenna limits.

(a) Base and fixed stations are limited to 25 watts/25 MHz equivalent isotropically radiated power (EIRP). In any event, the peak EIRP power density shall not exceed 1 Watt in any one-megahertz slice of spectrum.

(b) In addition to the provisions in paragraph (a) of this section, transmitters operating in the 3650–3700 MHz band that emit multiple directional beams, simultaneously or sequentially, for the purpose of directing signals to individual receivers or to groups of receivers provided the emissions comply with the following:

(1) Different information must be transmitted to each receiver.

(2) If the transmitter employs an antenna system that emits multiple directional beams but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device, *i.e.*, the sum of the power supplied to all antennas, antenna elements, staves, etc. and summed across all carriers or frequency channels, shall not exceed the limit specified in paragraph (a) of this section, as applicable. The directional antenna gain shall be computed as follows:

(i) The directional gain, in dBi, shall be calculated as the sum of 10 log (number of array elements or staves) plus the directional gain, in dBi, of the individual element or stave having the highest gain.

(ii) A lower value for the directional gain than that calculated in paragraph (b)(2)(i) of this section will be accepted if sufficient evidence is presented, *e.g.*, due to shading of the array or coherence loss in the beam-forming.

(3) If a transmitter employs an antenna that operates simultaneously on multiple directional beams using the same or different frequency channels and if transmitted beams overlap, the power shall be reduced to ensure that the aggregate power from the overlapping beams does not exceed the limit specified in paragraph (b)(2) of this section. In addition, the aggregate power transmitted simultaneously on all beams shall not exceed the limit specified in paragraph (b)(2) of this section by more than 8 dB.

(4) Transmitters that emit a single directional beam shall operate under the provisions of paragraph (b)(2) of this section.

(c) Mobile and portable stations are limited to 1 watt/25 MHz EIRP. In any event, the peak EIRP density shall not exceed 40 milliwatts in any one-megahertz slice of spectrum.

§ 90.1323 Emission limits.

(a) The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based