

## § 15.35

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device, the frequency range shall be investigated up to the higher of the second harmonic of the highest local oscillator frequency generated in the device or the upper frequency of the measurement range specified for the digital device in paragraph (b)(1) of this section.

(c) The above specified frequency ranges of measurements apply to the measurement of radiated emissions and, in the case of receivers, the measurement to demonstrate compliance with the antenna conduction limits specified in §15.111. The frequency range of measurements for AC power line conducted limits is specified in §§15.107 and 15.207 and applies to all equipment subject to those regulations. In some cases, depending on the frequency(ies) generated and used by the equipment, only signals conducted onto the AC power lines are required to be measured.

(d) Particular attention should be paid to harmonics and subharmonics of the fundamental frequency as well as to those frequencies removed from the fundamental by multiples of the oscillator frequency. Radiation at the frequencies of multiplier states should also be checked.

[54 FR 17714, Apr. 25, 1989, as amended at 61 FR 14502, Apr. 2, 1996; 63 FR 42278, Aug. 7, 1998]

### § 15.35 Measurement detector functions and bandwidths.

The conducted and radiated emission limits shown in this part are based on the following, unless otherwise specified elsewhere in this part:

(a) On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths, unless otherwise specified. The specifications for the measuring instrument using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Interference (CISPR) of the International Electrotechnical Commission. As an alternative to CISPR quasi-peak measurements, the responsible party, at its option, may demonstrate compliance with the emission limits using meas-

uring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, as long as the same bandwidths as indicated for CISPR quasi-peak measurements are employed.

NOTE: For pulse modulated devices with a pulse-repetition frequency of 20 Hz or less and for which CISPR quasi-peak measurements are specified, compliance with the regulations shall be demonstrated using measuring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, using the same measurement bandwidths that are indicated for CISPR quasi-peak measurements.

(b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§15.250, 15.252, 15.253(d), 15.255, 15.256, and 15.509 through 15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

(c) Unless otherwise specified, e.g., §§15.255(b), and 15.256(1)(5), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train

does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.

[54 FR 17714, Apr. 25, 1989, as amended at 56 FR 13083, Mar. 29, 1991; 61 FR 14502, Apr. 2, 1996; 63 FR 42279, Aug. 7, 1998; 67 FR 34855, May 16, 2002; 70 FR 6773, Feb. 9, 2005; 77 FR 48102, Aug. 13, 2012; 79 FR 12678, Mar. 6, 2014]

**§ 15.37 Transition provisions for compliance with the rules.**

(a) The manufacture or importation of scanning receivers, and frequency converters designed or marketed for use with scanning receivers, that do not comply with the provisions of § 15.121 shall cease on or before October 25, 1999. Effective July 26, 1999, the Commission will not grant equipment authorization for receivers that do not comply with the provisions of § 15.121. This paragraph does not prohibit the sale or use of authorized receivers manufactured in the United States, or imported into the United States, prior to October 25, 1999.

(b) Effective October 16, 2002, an equipment approval may no longer be obtained for medical telemetry equipment operating under the provisions of § 15.241 or § 15.242. The requirements for obtaining an approval for medical telemetry equipment after this date are found in subpart H of part 95 of this chapter.

(c) All radio frequency devices that are authorized under the certification, verification or declaration of conformity procedures on or after July 12, 2004 shall comply with the conducted limits specified in § 15.107 or § 15.207 as appropriate. All radio frequency devices that are manufactured or imported on or after July 11, 2005 shall comply with the conducted limits specified in § 15.107 or § 15.207, as appropriate. Equipment authorized, im-

ported or manufactured prior to these dates shall comply with the conducted limits specified in § 15.107 or § 15.207, as appropriate, or with the conducted limits that were in effect immediately prior to September 9, 2002.

(d) Radar detectors manufactured or imported after August 28, 2002 and marketed after September 27, 2002 shall comply with the regulations specified in this part. Radar detectors manufactured or imported prior to January 27, 2003 may be labeled with the information required by § 2.925 of this chapter and § 15.19(a) on the individual equipment carton rather than on the device, and are exempt from complying with the requirements of § 15.21.

(e) U-NII equipment operating in the 5.25–5.35 GHz band for which applications for certification are filed on or after July 20, 2006 shall comply with the DFS and TPC requirements specified in § 15.407. U-NII equipment operating in the 5.25–5.35 GHz band that are imported or marketed on or after July 20, 2007 shall comply with the DFS and TPC requirements in § 15.407.

(f) All Access BPL devices that are manufactured, imported, marketed or installed on or after July 7, 2006, shall comply with the requirements specified in subpart G of this part, including certification of the equipment.

(g) The manufacture or importation of auditory assistance devices that operate in the 72.0–73.0 MHz, 74.6–74.8 MHz, and 75.2–76.0 MHz bands that do not comply with the requirements of § 15.237(c) shall cease on or before July 11, 2016. Effective January 12, 2015, equipment approval will not be granted for auditory assistance devices that operate in the 72.0–73.0 MHz, 74.6–74.8 MHz, and 75.2–76.0 MHz bands that do not comply with the requirements of § 15.237(c). These rules do not prohibit the sale or use of authorized auditory assistance devices that operate in the 72.0–73.0 MHz, 74.6–74.8 MHz, and 75.2–76.0 MHz bands manufactured in the United States, or imported into the United States, prior to July 11, 2016.

(h) Effective June 2, 2015 devices using digital modulation techniques in the 5725–5850 MHz bands will no longer be certified under the provisions of § 15.247. The technical requirements for obtaining certification after this date