

Federal Communications Commission

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
Unlicensed Operation in the TV Broadcast Bands
Additional Spectrum for Unlicensed Devices
Below 900 MHz and in the 3 GHz Band
ET Docket No. 04-186
ET Docket No. 02-380

ERRATUM

Released: October 19, 2010

By the Chief, Office of Engineering and Technology:

1. This Erratum corrects certain text and amendments to the Commission’s rules in the Second Memorandum Opinion and Order (MO&O) in the above captioning proceedings, FCC 10-174, that was adopted and released September 23, 2010.

2. Footnote 65 in paragraph 35 of the text of the MO&O is corrected to read:

Mode I personal/portable devices will use the same set of available channels as the fixed or Mode II device with which they communicate and our presumption under the rules is that the specific geographic location of these devices will not be known. Therefore, the distance between a Mode I device and a protected (registered) wireless microphone site cannot be identified with any more accuracy than the location of the fixed or Mode II device with which the Mode I device communicates. We will therefore treat Mode I devices the same as fixed and Mode II devices for purposes of protecting wireless microphones – in this respect the list of channels they obtain from their fixed or Mode II device will reflect at least a 1 km or 400 m separation from a protected wireless microphone site. However, Mode I devices will in fact as often as not be located closer to a protected site than their fixed or Mode II device.

3. The last sentence of paragraph 83 of the text of the MO&O is corrected to read:

We are also clarifying that a device that operates across more than one 6 MHz TV channel is still subject to the maximum power limits in Sections 15.709(a)(1) and (a)(2) of the rules per channel – the allowable power per channel does not increase with use of additional bandwidth beyond 6 megahertz.<sup>169</sup>

4. The last sentence of paragraph 87 of the text of the MO&O is corrected to read:

Thus, we are revising the required adjacent channel attenuation to be 72.8 dB.

5. In Appendix A, Sections 15.709(a)(1) and a(2) are corrected to read:

(1) For fixed TVBDs, the maximum power delivered to the transmitting antenna shall not exceed one watt per 6 megahertz of bandwidth on which the device operates. The power delivered to the transmitting antenna is the maximum conducted output power reduced by the signal loss experienced in the cable used

169 See 47 C.F.R. § 15.709(a)(1) and (a)(2).

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to connect the transmitter to the transmit antenna. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For personal/portable TVBDs, the maximum EIRP shall not exceed 100 milliwatts (20 dBm) per 6 megahertz of bandwidth on which the device operates with the following exceptions; Mode II personal/portable TVBDs that do not meet the adjacent channel separation requirements in § 15.712(a) and Mode I personal/portable TVBDs that operate on available channels (provided by a Mode II TVBD) that do not meet the adjacent channel separation requirements of § 15.712(a) are limited to a maximum EIRP of 40 milliwatts (16 dBm) per 6 megahertz of bandwidth on which the device operates.

6. In Appendix A, Section 15.709(c)(2) is corrected to read:

(2) Emission measurements in the channel of operation shall be performed over a reference bandwidth of 6 megahertz with an average detector. Emission measurements in the adjacent channels shall be performed using a minimum resolution bandwidth of 100 kHz with an average detector. A narrower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 100 kHz.

7. In Appendix A, Section 15.712(b) is corrected to read as follows:

(b) *TV translator, Low Power TV (including Class A) and Multi-channel Video Programming Distributor (MVPD) receive sites.* MVPD, TV translator station and low power TV (including Class A) station receive sites located outside the protected contour of the TV station(s) being received may be registered in the TV bands database if they are no farther than 80 km outside the nearest edge of the relevant contour(s). Only channels received over the air and used by the MVPD, TV translator station or low power/Class A TV station may be registered. TVBDs may not operate within an arc of +/-30 degrees from a line between a registered receive site and the contour of the TV station being received in the direction of the station's transmitter at a distance of up to 80 km from the edge of the protected contour of the received TV station for co-channel operation and up to 20 km from the registered receive site for adjacent channel operation, except that the protection distance shall not exceed the distance from the receive site to the protected contour. Outside of this +/-30 degree arc, TVBDs may not operate within 8 km from the receive site for co-channel operation and 2 km from the receive site for adjacent channel operation. For purposes of this section, a TV station being received may include a full power TV station, TV translator station or low power TV/Class A TV station.

8. In Appendix A, Section 15.713(b)(2)(i) is corrected to read as follows:

(i) MVPD receive sites.

9. In Appendix A, Section 15.713(c) is corrected to read as follows:

(c) *Restrictions on registration.*

(1) Television translator, low power TV and Class A TV station receive sites within the protected contour or more than 80 kilometers from the nearest edge of the protected contour of the station being received are not eligible for registration in the database.

(2) MVPD receive sites within the protected contour or more than 80 kilometers from the nearest edge of the protected contour of a television station being received are not eligible to register that station's channel in the database.

10. In Appendix A, Section 15.713(f)(3)(iv) is corrected to read as follows:

(iv) device's antenna height above ground level (meters)

11. In Appendix A, Section 15.713(h)(8) is corrected by replacing the existing paragraph (h)(8) and adding a new paragraph (h)(9) to read:

(8) Licensed low power auxiliary stations, including wireless microphones and wireless assist video devices. Use of licensed low power auxiliary stations at well defined times and locations may be registered in the database. Multiple registrations that specify more than one point in the facility may be entered for very large sites. Registrations will be valid for no more than one year, after which they may be renewed. Registrations must include the following information:

- (i) name of the individual or business responsible for the low power auxiliary device(s)
- (ii) an address for the contact person
- (iii) an email address for the contact person (optional)
- (iv) a phone number for the contact person
- (v) coordinates where the device(s) are used (latitude and longitude in NAD 83, accurate to +/- 50 m)
- (vi) channels used by the low power auxiliary devices operated at the site
- (vii) specific months, weeks, days of the week and times when the device(s) are used (on dates when microphones are not used the site will not be protected)
- (viii) the stations call sign.

(9) Unlicensed wireless microphones at venues of events and productions/shows that use large numbers of wireless microphones that cannot be accommodated in the two reserved channels and other channels that are not available for use by TVBDs at that location. Such sites of large events and productions/shows with significant wireless microphone use at well defined times and locations may be registered in the database. Entities responsible for eligible event venues registering their site with a TV bands data base are required to first make use of the two reserved channels and other channels that are not available for use by TVBDs at that location. As a benchmark, at least 6 – 8 wireless microphones should be operating in each channel used at such venues (both licensed and unlicensed wireless microphones used at the event may be counted to comply with this benchmark). Multiple registrations that specify more than one point in the facility may be entered for very large sites. Sites of eligible event venues using unlicensed wireless microphones must be registered with the Commission at least 30 days in advance of the defined time of operation and the Commission will provide this information to the data base managers. Parties responsible for eligible event venues filing registration requests must certify that they are making use of all TV channels not available to TV bands devices and on which wireless microphones can practically be used, including channels 7-51 (except channel 37). The Commission will make requests for registration of sites that use unlicensed wireless microphones public and will provide an opportunity for public comment or objections. Registrations will be valid for one year, after which they may be renewed. The Commission will take actions against parties that file inaccurate or incomplete information, such as denial of registration in the database, removal of information from the database pursuant to Section 15.713(i), or other sanctions as appropriate to ensure compliance with the rules. Registrations must include the following information:

- (i) name of the individual or business that owns the unlicensed wireless microphones
- (ii) an address for the contact person
- (iii) an email address for the contact person (optional)
- (iv) a phone number for the contact person
- (v) coordinates where the device(s) are used (latitude and longitude in NAD 83, accurate to +/- 50 m)
- (vi) channels used by the wireless microphones operated at the site and the number of wireless microphones used in each channel. As a benchmark, least 6 – 8 wireless microphones must be used in each channel. Registration requests that do not meet this criteria will not be registered in the TV bands data bases.
- (vii) specific months, weeks, days of the week and times when the device(s) are used (on dates when microphones are not used the site will not be protected)
- (viii) the name of the venue

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12. In Appendix A, Section 15.717(b) is corrected to read:

(b) *Power limit for devices that rely on sensing.* The TVBD shall meet the requirements for personal/portable devices in this subpart except that it will be limited to a maximum EIRP of 50 mW per 6 megahertz of bandwidth on which the device operates and it does not have to comply with the requirements for geo-location and database access in § 15.711(b). Compliance with the detection threshold for spectrum sensing in § 15.717(c), although required, is not necessarily sufficient for demonstrating reliable interference avoidance. Once a device is certified, additional devices that are identical in electrical characteristics and antenna systems may be certified under the procedures of Part 2, Subpart J of this chapter.

13. Accordingly, pursuant to the authority contained in Sections 4(i), 302, 303(e), 303(f), and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 302, 303(c), 303(f), and 307 this Erratum IS ADOPTED.

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