

automatic character delineation when the individual control of character foreground, background and edge is not supported.

(s) *Service synchronization.* Service Input Buffers must be at least 128 bytes in size. Caption providers must keep this lower limit in mind when following Delay commands with other commands and window text. In other words, no more than 128 bytes of DTVCC commands and text should be transmitted (encoded) before a pending Delay command's delay interval expires.

(t) *Settings.* Decoders must include an option that permits a viewer to choose a setting that will display captions as intended by the caption provider (a default). Decoders must also include an option that allows a viewer's chosen settings to remain until the viewer chooses to alter these settings, including periods when the television is turned off.

[65 FR 58471, Sept. 29, 2000]

### Subpart C—Intentional Radiators

#### § 15.201 Equipment authorization requirement.

(a) Intentional radiators operated as carrier current systems and devices operated under the provisions of §§ 15.211, 15.213 and 15.221 shall be verified pursuant to the procedures in subpart J of part 2 of this chapter prior to marketing.

(b) Except as otherwise exempted in paragraph (c) of this section and in § 15.23 of this part, all intentional radiators operating under the provisions of this part shall be certificated by the Commission pursuant to the procedures in subpart J of part 2 of this chapter prior to marketing.

(c) For devices such as perimeter protection systems which, in accordance with § 15.31(d), are required to be measured at the installation site, each application for certification must be accompanied by a statement indicating that the system has been tested at three installations and found to comply at each installation. Until such time as certification is granted, a given installation of a system that was measured for the submission for certification will be considered to be in

compliance with the provisions of this chapter, including the marketing regulations in subpart I of part 2 of this chapter, if tests at that installation show the system to be in compliance with the relevant technical requirements. Similarly, where measurements must be performed on site for equipment subject to verification, a given installation that has been verified to demonstrate compliance with the applicable standards will be considered to be in compliance with the provisions of this chapter, including the marketing regulations in subpart I of part 2 of this chapter.

(d) For perimeter protection systems operating in the frequency bands allocated to television broadcast stations operating under part 73 of this chapter, the holder of the grant of certification must test each installation prior to initiation of normal operation to verify compliance with the technical standards and must maintain a list of all installations and records of measurements. For perimeter protection systems operating outside of the frequency bands allocated to television broadcast stations, upon receipt of a grant of certification, further testing of the same or similar type of system or installation is not required.

#### § 15.203 Antenna requirement.

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other

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intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

[54 FR 17714, Apr. 25, 1989, as amended at 55 FR 28762, July 13, 1990]

**§ 15.204 External radio frequency power amplifiers and antenna modifications.**

(a) Except as otherwise described in paragraph (b) of this section, no person shall use, manufacture, sell or lease, offer for sale or lease (including advertising for sale or lease), or import, ship, or distribute for the purpose of selling or leasing, any external radio frequency power amplifier or amplifier kit intended for use with a Part 15 intentional radiator.

(b) A transmission system consisting of an intentional radiator, an external

radio frequency power amplifier, and an antenna, may be authorized, marketed and used under this part. However, when a transmission system is authorized as a system, it must always be marketed as a complete system and must always be used in the configuration in which it was authorized. An external radio frequency power amplifier shall be marketed only in the system configuration with which the amplifier is authorized and shall not be marketed as a separate product.

(c) Only the antenna with which an intentional radiator is authorized may be used with the intentional radiator.

[62 FR 26242, May 13, 1997]

**§ 15.205 Restricted bands of operation.**

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110 .....	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505 .....	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905 .....	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128 .....	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775 .....	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775 .....	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218 .....	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825 .....	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225 .....	123-138	2200-2300	14.47-14.5
8.291-8.294 .....	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366 .....	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675 .....	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475 .....	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293 .....	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025 .....	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725 .....	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41 .....			

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of

the measured emissions. The provisions in §15.35 apply to these measurements.

(c) Except as provided in paragraphs (d) and (e) of this section, regardless of the field strength limits specified elsewhere in this subpart, the provisions of this section apply to emissions from any intentional radiator.

(d) The following devices are exempt from the requirements of this section:

(1) Swept frequency field disturbance sensors operating between 1.705 and 37 MHz provided their emissions only sweep through the bands listed in