

§ 74.705

47 CFR Ch. I (10–1–11 Edition)

station within the principal community to be served.

[47 FR 21497, May 18, 1982, as amended at 48 FR 21487, May 12, 1983; 52 FR 31403, Aug. 20, 1987; 53 FR 4169, Feb. 12, 1988; 60 FR 55483, Nov. 1, 1995; 62 FR 26721, May 14, 1997; 65 FR 30012, May 10, 2000; 69 FR 69331, Nov. 29, 2004; 69 FR 72045, Dec. 10, 2004]

§ 74.705 TV broadcast analog station protection.

(a) The TV broadcast station protected contour will be its Grade B contour signal level as defined in § 73.683 and calculated from the authorized maximum radiated power (without depression angle correction), the horizontal radiation pattern, height above average terrain in the pertinent direction, and the appropriate chart from § 73.699.

(b)(1) An application to construct a new low power TV or TV translator station or change the facilities of an existing station will not be accepted if it specifies a site which is within the protected contour of a co-channel or first adjacent channel TV broadcast station.

(2) Due to the frequency spacing which exists between TV Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, adjacent channel protection standards shall not be applicable to these pairs of channels. (See § 73.603(a) of part 73 of this chapter.)

(3) A UHF low power TV or TV translator construction permit application will not be accepted if it specifies a site within the UHF TV broadcast station's protected contour and proposes operation on a channel either 14 or 15 channels above the channel in use by the TV broadcast station.

(4) A UHF low power TV or TV translator construction permit application will not be accepted if it specifies a site less than 100 kilometers from the transmitter site of a UHF TV broadcast analog station operating on a channel which is the seventh channel above the requested channel, unless it can demonstrate that the service area of the low power TV or TV translator station as established in § 74.707(a) is not located in an area where the TV broadcast analog station is regularly viewed.

(5) An application for a new UHF low power TV or TV translator construction permit, a change of channel, or a major change in facilities pursuant to § 73.3572 of this chapter proposing a maximum effective radiated power of more than 50 kilowatts will not be accepted if it specifies a site less than 32 kilometers from the transmitter site of a UHF TV broadcast analog station operating on a channel which is the second, third, or fourth channel above or below the requested channel.

(c) The low power TV, TV translator, or TV booster station field strength is calculated from the proposed effective radiated power (ERP) and the antenna height above average terrain (HAAT) in pertinent directions.

(1) For co-channel protection, the field strength is calculated using Figure 9a, 10a, or 10c of § 73.699 (F(50,10) charts) of Part 73 of this chapter.

(2) For low power TV, TV translator, and TV boosters that do not specify the same channel as the TV broadcast station to be protected, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of Part 73 of this chapter.

(d) A low power TV, TV translator, or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the TV broadcast station at the protected contour fails to meet the following:

(1) –45 dB for co-channel operations without offset carrier frequency operation or –28 dB for offset carrier frequency operation. An application requesting offset carrier frequency operation must include the following:

(i) A requested offset designation (zero, plus, or minus) identifying the proposed direction of the 10 kHz offset from the standard carrier frequencies of the requested channel. If the offset designation is not different from that of the station being protected, the –45 dB ratio must be used.

(ii) A description of the means by which the low power TV, TV translator, or TV booster station will be maintained within the tolerances specified in § 74.761 for offset operation.

(2) 6 dB when the protected TV broadcast station operates on a VHF channel that is one channel above the requested channel.

(3) 12 dB when the protected TV broadcast station operates on a VHF channel that is one channel below the requested channel.

(4) 15 dB when the protected TV broadcast station operates on a UHF channel that is one channel above or below the requested channel.

(5) 23 dB when the protected TV broadcast station operates on a UHF channel that is fourteen channels below the requested channel.

(6) 6 dB when the protected TV broadcast station operates a UHF channel that is fifteen channels below the requested channel.

(e) As an alternative to the preceding paragraphs of § 74.705, an applicant for a low power TV, TV translator or TV booster may make full use of terrain shielding and Longley-Rice terrain dependent propagation prediction methods to demonstrate that the proposed facility would not be likely to cause interference to TV broadcast stations. Guidance on using the Longley-Rice methodology is provided in *OET Bulletin No. 69* (but also see § 74.793(d)). Copies of *OET Bulletin No. 69* may be inspected during normal business hours at the: Federal Communications Commission, CY-C203, 445 12th Street, SW., Reference Information Center, Washington, DC 20554. This document is also available through the Internet on the *FCC Home Page* at <http://www.fcc.gov>.

[47 FR 21497, May 18, 1982, as amended at 48 FR 21487, May 12, 1983; 52 FR 31403, Aug. 20, 1987; 62 FR 26721, May 14, 1997; 65 FR 58467, Sept. 29, 2000; 69 FR 69332, Nov. 29, 2004]

§ 74.706 Digital TV (DTV) station protection.

(a) For purposes of this section, the DTV station protected service area is the geographic-area in which the field strength of the station's signal exceeds the noise-limited service levels specified in § 73.622(e) of this chapter. The extremity of this area (noise-limited perimeter) is calculated from the authorized maximum radiated power (without depression angle correction), the horizontal radiation pattern, and height above average terrain in the pertinent direction, using the signal propagation method specified in § 73.625(b) of this chapter.

(b)(1) An application to construct a new low power TV or TV translator station or change the facilities of an existing station will not be accepted if it specifies a site which is located within the noise-limited service perimeter of a co-channel DTV station.

(2) Due to the frequency spacing which exists between TV channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, adjacent channel protection standards shall not be applicable to these pairs of channels.

(c) The low power TV, TV translator or TV booster station field strength is calculated from the proposed effective radiated power (ERP) and the antenna height above average terrain (HAAT) in pertinent directions.

(1) For co-channel protection, the field strength is calculated using Figure 9a, 10a, or 10c of § 73.699 (F(50,10) charts) of part 73 of this chapter.

(2) For adjacent channel protection, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of part 73 of this chapter.

(d) A low power TV, TV translator or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the DTV station (L/D ratio) fails to meet the following:

(1) -2 dB or less for co-channel operations. This maximum L/D ratio for co-channel interference to DTV service is only valid at locations where the signal-to-noise (S/N) ratio is 25 dB or greater. At the edge of the noise-limited service area, where the S/N ratio is 16 dB, the maximum L/D ratio for co-channel interference from analog low power TV, TV translator or TV booster service into DTV service is -21 dB. At locations where the S/N ratio is greater than 16 dB but less than 25 dB, the maximum L/D field strength ratios are found from the following Table (for values between measured values, linear interpolation can be used):

Signal-to-noise ratio(dB)	DTV-to-low power ratio (dB)
16.00	21.00
16.35	19.94
17.35	17.69
18.35	16.44
19.35	7.19
20.35	4.69