

POWER DENSITY REDUCTION CALCULATION FOR NON-CONFORMING ANTENNA

Routine Licensing for Small Aperture Antennas with Low Power Densities:

The antenna proposed is non-conforming from 1.0 to 1.8 degrees. Pursuant to Section 25.220 (c)(1), the power and power density levels is thereby reduced by the number of decibels that the antenna fails to meet the performance standard of Section 25.209 from the values stated in Sections 25.134, 25.211, or 25.212, whichever is applicable.

Calculations: C-Band DIGITAL

Pursuant to Section 25.212, conforming antennas in the 4/6 GHz band shall not exceed a flange power density of -2.7 dBW/4kHz for digital carriers.

The maximum non-conformance for the proposed antenna is 7.3 dB at 1 degree, and, accordingly, would require a reduction of the antenna flange power density to a maximum of -10.0 dBW/4kHz, and a maximum EIRP density of 31.8 dBW/4kHz for an antenna with a gain of 41.8 dB.

This application includes digital services in the 4/6 GHz band not to exceed a flange power density of -14.0 dBW/4kHz, and a maximum EIRP density of 27.8 dBW/4kHz. This is 4 dB lower than what is required by Section 25.220 and 25.212.

It should also be noted that there are no satellites located within 1.5 degrees of the desired satellites.

Calculations: C-Band ANALOG

Pursuant to Section 25.211, conforming antennas used for analog video in the 4/6 GHz band shall not exceed a flange power of 450 Watts (a power density of -0.5 dBW/4kHz for analog video carriers).

Accordingly, the maximum non-conformance for the proposed antenna is 7.3 dB at 1 degree, and, accordingly, would require a reduction of the antenna flange power density to a maximum of -7.8 dBW/4kHz, and a maximum EIRP density of 34.0 dBW/4kHz for an antenna with a gain of 41.8 dB.

This application includes analog services in the 4/6 GHz band not to exceed a flange power density of -8.0 dBW/4kHz, and a maximum EIRP density of 33.8 dBW/4KHz, 0.2 dB lower than what is required by Section 25.220 and 25.211.

It should also be noted that there are no satellites located within 1.5 degrees of the desired satellites.

Summary:

Based upon this information and the attached antenna patterns, the Commission grant of this application would be in accordance with all applicable FCC rules and is in compliance the FCC two-degree spacing policy.