

Non-Compliant Antenna Waiver Request

Re: 2.4 Meter Fixed Earth Station
Fixed Satellite Service
5925 – 6425 MHz

The proposed antenna **Channel Master 243**, 2.4 Meter earth station does not strictly comply with 25.209 of the FCC Rules and Regulations.

In the Part 25 Earth Station Fifth Report and Order, the Federal Communications Commission (Commission) adopted streamlined procedures for reviewing non-routine earth station license applications. As part of that Report and Order, the Commission directed the International Bureau to create a list of approved non-routine earth station antennas to be posted on the Commission's website. The Commission concluded that a website listing approved non-routine antennas, including antenna gain patterns and the conditions placed on the use of each antenna, would help applicants in preparing applications for non-routine earth station licenses and expedite review of these applications.

Earth station applicants proposing to use an antenna that is on this list will no longer need to attach antenna radiation plots as an exhibit to their applications, as required by Section 25.132(b)(3) of the Commission's rules. They need only provide an attachment to their applications citing the particular non-routine earth station antenna they plan to use, and an application file number and call sign of a license in which that type of non-routine antenna has been approved.

The application file number and call sign, SES-LIC-20060706-01111 and E060258 of a previously licensed Channel Masters 243, 2.4 meter earth station, indicates that the antenna proposed in this application will operate without conflict.

The maximum input spectral power density into the antenna for the proposed 2.4 meter Channel Masters 243 antenna will not exceed -15.0 dBW/4 kHz.

In this case, the antenna exceeds the patterns of §25.209 in the 1° to 1.7° region measured at the low, mid, and high frequency bands, by a worst case difference of 7 dB. The Max EIRP Density at the Antenna Flange is -15.0 dBW/4KHz. This figure is below the maximum allowed of -2.7 dBW/4KHz by a margin of at least 12.3 dB for all off-axis angles.

Should the use of this antenna cause interference to other systems; the applicant agrees to terminate transmission upon notice from the Commission.

The minimum elevation angle of the proposed earth station at 15.9° will be approximate to the minimum elevation angle of 21.6° of the previously licensed 2.4 meter under Call Sign E060258, therefore the antenna gains for the proposed will not exceed those of that previously licensed with respect to any transmit power limitations.

Per §25.115(h)(4) the earth station applicant certifies that it will limit its pointing error to 0.5°.

Summary

The antenna pattern contained with this application exceeds the CFR 25.209 sidelobe specification for the sidelobe envelope in the 1° to 1.7° region. Outside the main beam, the antenna meets the requirements of 25.209.

The application file number SES-LIC-20060706-01111 and Call Sign E060258, of a previously licensed Channel Masters 243, 2.4 meter earth station, indicates that the antenna proposed in this application will operate without conflict.

The power density restrictions specified by the FCC for small diameter antennas utilizing digital traffic at C-Band is -2.7 dBW/4 kHz. This antenna will operate at a maximum transmit power density of -15.0 dBW/4 kHz.

If the use of this antenna should cause interference to other systems, the applicant will terminate such transmissions immediately upon notice from the FCC or offended parties.

Antenna
Statement
General Dynamics
(**Prodelin**)
3.8 Meter Antenna
1383

The 6 GHz antenna pattern contained with this application meets the antenna performance standards set forth in CFR §25.209.

The 4 GHz antenna pattern contained with this application exceeds the CFR §25.209 sidelobe specification for the sidelobe envelope in the $\pm 1^\circ$ to 1.5° region by a maximum of 6 dB, at 4 GHz. Outside the main beam, the antenna meets the requirements of §25.209.

There are currently no satellites located within 1.5° of the applicant's desired satellites.

The applicant agrees to accept any adjacent satellite interference in the 4 GHz receive band as a result of the performance of the antenna in the 1° to 1.5° region. The applicant understands that no adjacent satellite interference protection will be available in the 1° to 1.5° regions. The applicant understands that adjacent satellite interference protection applies only to the extent of the criteria set forth in §25.209.