

Explanatory Information Regarding Section 25.204

This earth station application includes a request for authority to operate in the extended Ku-band (13.75-14.00 GHz Earth-to-space)). Section 25.204(f) of the Commission's rules specifies several conditions on earth stations transmitting in the 13.75-14.00 GHz band. Namely, for earth stations communicating with geostationary satellites, this rule requires that:

- the earth station shall have a minimum antenna size of 4.5 meters;
- the EIRP of any emission should be at least 68 dBW and shall not exceed 85 dBW;
- the EIRP density shall not exceed 71 dBW in any 6 MHz band in the band 13.77-13.78 GHz and
- automatic power control may be used to increase the EIRP density in a 6 MHz band in the 13.77-13.78 GHz band beyond the 71 dBW value, provided that the power flux density at the satellite in that 6 MHz band does not exceed the value that would be obtained from an emission at 71 dBW under clear sky conditions.

Due to site constraints GSI desires to use a 3.8 meter antenna and confirms that the EIRP density of any emission from this 3.8 meter earth station in the band 13.75-14.00 GHz will be greater than 68 dBW and will not exceed 85 dBW under all conditions. GSI hereby requests a waiver of Section 25.204(f) to use the proposed 3.8 meter in lieu of a 4.5 meter antenna. GSI further confirms that automatic power control will be used on the transmissions in this band and that the power control will be operated such that the clear sky EIRP density of any emission in any 6 MHz band in the 13.77-13.78 GHz band will not exceed 71 dBW. Finally, GSI confirms that the accuracy of the power control is such that, under faded conditions, the power flux density at the satellite in any 6 MHz band in the 13.77-13.78 GHz band will not exceed the value that would be obtained from an emission at 71 dBW in that 6 MHz band under clear sky conditions and the use of the 3.8 meter will conform to this and all other performance parameters set out in Section 25.204(f).