

Thales InFlyt Experience

Exhibit A

Description of Application for a Fixed Antenna Earth Station

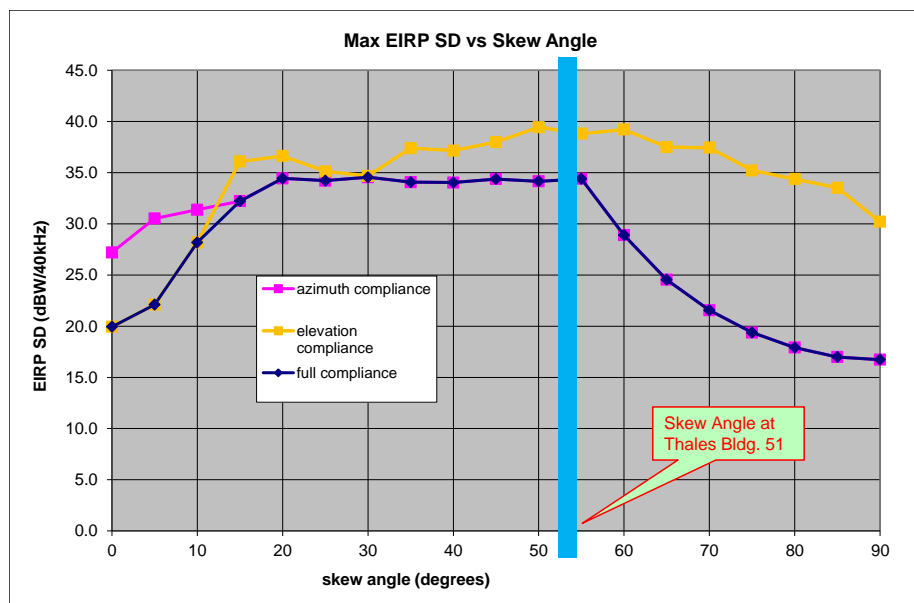
Thales InFlyt Experience, a subsidiary of Thales USA, Inc. seeks an authority to operate a fixed antenna earth station to communicate with the Inmarsat-5 F2 (“I5F2”) satellite, which has been authorized by the Commission¹ to serve the CONUS in the proposed frequency ranges. The terminal will operate at the 29.5-30.0 GHz (transmit) band and the 19.7-20.2 GHz (receive) band on Inmarsat-5 F2 at the 55° W.L. and Inmarsat-5 F3 at the 0° E.L. orbital locations

This proposed fixed earth terminal will be a copy of the Ka band terminals already authorized to communicate with Inmarsat-5 F2. ISAT-US currently holds a blanket license authorization under call sign E140114 (SES-LIC-20141030-00832) to operate up-to 8,000 terminals in the 19.7-20.2 GHz, and 29.5-30.0 GHz bands using the Inmarsat-5 F2 satellite. The fixed antenna proposed in this application will operate on these same frequencies when communicating with Inmarsat-5 F2 at the 55° W.L and Inmarsat-5 F3 (which was recently launched) at the 0° E.L. orbital locations, and thus, Thales would like to request the Commission to grant the same license for this fixed antenna earth station to be operated on the roof top of Thales building at 51 Discovery Irvine, California 92618. The basis proposed license for this terminal is the same as those were already approved in the ISAT-US Blanket License, Antenna ID MCS 8200

MCS 8200 Antenna Terminal Performance

The Honeywell MCS-8200 terminal is a two-axis (azimuth & elevation) motorized antenna with the rectangular array aperture dimensions of 65 cm and 19.5 cm. The antenna performance is fully compliant with the requirements in Section 25.138(a), as illustrated by the off-axis EIRP spectral density plots attached hereto as Exhibit B. Since the antenna is not symmetrical, the antenna gain beam patterns are not evenly distributed between the azimuth and elevation axes. Therefore, the off-axis EIRP spectral density mask is controlled based on the skew angles in relation to the GSO plane to ensure protection of other GSO Fixed Satellite Services networks.

The plot below shows the maximum on-axis EIRP spectral density levels at skew angles from 0 to 90 degrees, as seen from the I5F2 and I5F3 satellites at the 55° W.L. and 0° E.L orbital locations, compared with the EIRP spectral density limits in Section 25.138(a). Note that the EIRP spectral density levels plotted in the graph correspond to the levels shown in the antenna patterns provided in Exhibit B. The blue shaded area in the plot represents the approximation of the skew angles at Thales building 51, where the MCS 8200 antenna will be operated.



Radiation Hazard Analysis

A radiation hazard analysis for the proposed antenna is attached hereto as Exhibit C. As demonstrated by the results of the analysis, the maximum permissible exposure limit (MPE) is met for protection of the General Population/Uncontrolled Exposures – 1 mW/cm² averaged over a thirty minute period. In addition, the system has the muting function that will prohibit the RF transmission when one or more of the following conditions occur:

- A-429 data is invalid or not present
- Transmit Control Analog Discrete is Enabled
- Antenna pointing error is detected to be outside of the 0.5 degree window.

This automatic feature coupled with the terminal's use of uplink power control and non-continuous operation will not cause harmful interference to other authorized operations in this frequency band, 29.5-30 GHz. It also ensures that the general population will not be exposed to the levels of electromagnetic radiation that exceed the Commission's limits.

¹ ISAT-US, Inc., a subsidiary of Inmarsat Global Ltd. ("Inmarsat"), is blanket licensed under call sign E140114 to operate up to 8000 user terminals in the 19.7-20.2 GHz and 29.5-30.0 GHz bands on INMARSAT 5F2 satellite @ 55 W.L. (U. K. licensed).

See File No. SES-LIC-20141030-00832 (granted Aug. 11, 2015) ("ISAT-US Blanket License")