

Responses Regarding Section 25.130 of the Commission's Rules

Section 25.130 (a) requires that the following information be submitted to be used as an "informative" in the public notice for a minor modification pursuant to 25.151 as an attachment to the application.

(1) Detailed description of the service to be provided, including the frequency bands and satellites to be used.

This application is for a minor modification to the Iridium Satellite LLC mobile earth station authorization to add a new emission (667KQ7W) and a new directional antenna to be used with this new LiveTV terminal. The new terminal is capable of operating in the 1616-1626.5 MHz band but will operate only in the sub-band that is not shared with Globalstar, currently 1618.725 - 1626.5 MHz. The LiveTV terminal will NOT be used to provide AMS(R)S.¹

User transceiver units associated with the LiveTV terminal will have a direct physical connection to the aircraft cabin or cockpit communication system.²

(2) The diameter or the equivalent diameter of the antenna is 0.407 meters. See Exhibit 2 for a description of this antenna.

(3) The proposed power and power density levels.

The maximum EIRP when operating on a single carrier is 4.7dBW which is an EIRP density of -3.3 dBW/4kHz. This is the figure while the transmitter is active. The Iridium transmitter waveform uses TDMA/TDD and never operates continuously. For a single carrier the duty cycle is 9.2% so the average EIRP is -5.7dBW and the average EIRP density is -13.6 dBW/4kHz.

The EIRP density is the same for one, two, three or four carriers. As more carriers are added beyond this point the terminal EIRP density is correspondingly reduced.

In 16-carrier mode of operation the EIRP of each carrier is reduced to -1.3dBW, so that the total power of all 16 carriers is 10.7dBW with an EIRP density of

¹ For this reason, Footnote 5.367 to the Table of Frequency Allocations, which by its terms is limited to AMS(R)S, is inapplicable. See 47 C.F.R. § 2.106. There also are no compatibility issues to address under Footnote US208 of the Table of Frequency Allocations vis-à-vis ARNS or RDSS. Iridium's minor modification filing will be limited to operation of terminals within US airspace, and Iridium is not aware of any existing or planned ARNS or RDSS systems in the United States in the 1610-1626.5 MHz band.

² See 47 C.F.R. § 25.136(a).

-9.3dBw/4kHz. The maximum duty cycle is 36.8% so the average EIRP is 6.4 dBW and the average EIRP density is -13.6dBW/4kHz

(4) Identification of any random access technique, if applicable.

The Iridium system uses TDMA/FDMA/TDD which is not a random access technique. This provision is not applicable.

(5) Identification of a specific rule or rules for which a waiver is requested.

Not Applicable

25.130(b) requires a frequency coordination analysis in accordance with 25.203, if applicable and for the 1.6-2.4 GHz band, the user transceiver units shall demonstrate that user transceiver operations comply with 25.213.

Since the new LiveTV Terminal, although it is capable of operating on airplanes anywhere in the United States, does not operate on frequencies that are shared with other Big LEO licensees or raise new coordination issues with respect to other services, coordination pursuant to 25.203 is not required.

With respect to compliance with 25.213 to protect Radio astronomy observations in 1610.6- 1613.8 MHz, the new LiveTV terminal will comply with the coordination agreements that already exist between Iridium and the Radio Astronomy community.

25.130(c) In those cases where an application is filing a number of essentially similar applications, showings of a general nature applicable to all of the proposed stations may be submitted in the initial application and incorporated by reference in its subsequent applications.

Not applicable.

25.130(d) Transmissions of signals or programming to non-US licensed satellites and to and from foreign points by means of US licensed fixed satellites may be subject to restrictions as a result of international agreements.

This LiveTV terminal communicates with the Iridium satellite system, which is a US licensed mobile satellite system. Therefore this provision is not applicable.

25.130(e) The FAA antenna structure coordination and notification requirement.

This new LiveTV Terminal is a mobile earth terminal that will be operated on aircraft. The product is under review and certification by the FAA. The LiveTV

antenna will not be operated until FAA certification has been obtained, and Iridium has no objection to conditioning its minor modification on FAA certification.

25.130(f) Applicant seeking to operate in a shared government/non government band must provide the half power beamwidth of their proposed earth station antenna, as an attachment to the application.

The half power beamwidth of the 0.407 meter directional antenna is based upon each of seven radiating elements: six radiating elements on the side and one on the top. Each of the side looking radiating elements has an elliptical beamwidth of approximately 70 by 60 degrees with the narrow axis horizontal. The top patch radiating element has a beamwidth of approximately 70 degrees. The signal switches from one radiating element to another to maintain communications with the satellite.