From: Joshua Kirschenheiter

To: Doug Young
Date: April 03, 2018

Subject: Request for Info - File # 0537-EX-ST-2018

Message:

20MHz increase to center frequency:
Would it be acceptable to move the center frequency up by more than 20MHz? Specifically, would operation from 2.98GHz to 3.02GHz be okay?

Iridium Link:
Emission Designator: 1G62M7D
I am not 100% sure about the designator. According to this website (https://www.sigidwiki.com/wiki/Iridium) the Iridium Satellite Constellation uses a Differentially Encoded Quadrature Phase Shift Keyed (DEQPSK) Modulation scheme and uses TDMA/FDMA for its transmission scheme. The Iridium satellite constellation operates from 1616 MHz to 1626.5 MHz We are using standard 3dBi "Hockey Puck" antennas and the average RF power is between 0.6-7W, giving a maximum EIRP of ~14W. I have not been able to find any information on the half power beamwidth of these antennas. I think a conservative estimate based on theoretical calculations (G = 4*pi*eta/Beamwidth^2) would be ~145 degrees. This is assuming H-pol and V-Pol cuts are equal and the antennas are 100% efficient, so the true half power beamwidth should be less than 145 degrees. Additionally, we are operating two of these Iridium links.

Would you like me to update the exhibit and resubmit?