TECHNICAL DETAILS

L3 Datron hereby makes a demonstration pursuant to Section 25.258 of the Commission's rules as to how its proposed Iridium Golden Feeder Link Terminal (FLT) NGSO MSS earth station in Simi Valley, California, which will use the 29.100 - 29.249 GHz portion of the band over the Iridium satellite system, and can share with geostationary orbit ("GSO") fixed satellite service ("FSS") earth stations operating in the 29.250-29.500 GHz band.

L3 Datron has followed the guidelines set forth in ITU-R Recommendation S. 1419, "Interference Mitigation Techniques to Facilitate Coordination Between non-GSO MSS Feeder links and GSO FSS networks in the bands 19.3-19.7 GHz and 29.100 - 29.500 GHz.

The following factors will make sharing possible:

• **Use of uplink power control**: L3 Datron has 40 dB of power control for use on its uplink transmissions.

• **Use of high gain** (i.e., small beam width) antennas: L3 Datron will be using a very high gain earth station antenna having uplink beam widths of only 0.24 degrees.

• **Avoid Frequency Overlap**: L3 Datron will avoid Iridium uplink channels 19 thru 24 (29.2525 to 29.2900 GHz) so as not to infringe upon the GSO FSS operating band of 29.250 to 29.500 earth station.

• **Path loss**: There is a path loss difference of 33 dB between the geostationary orbit and Iridium's non-geostationary orbits.

In light of these factors, L3 Datron's Simi Valley earth station will be able to mitigate interference with GSO FSS earth stations operating in the 29.250 - 29.500 GHz band. The narrowness of L3 Datron's uplink beam width provides for a very short duration GSO arc crossing event. Using a two degree interference zone around the GSO arc, an Iridium satellite moving at 7.5 km/s takes less than five seconds to pass through the GSO arc, and crossings will occur about once every two hours. Consequently, crossings will be limited to 0.07% of the time.2 The limited time during which there are geostationary orbit crossings, the use of power control, the GSO/NGSO path loss, and the frequency separation described above ensure that there will be satisfactory sharing between L3 Datron's NGSO MSS earth station and GSO FSS earth stations in the 29.250 - 29.500 GHz band.