From: Craig Mauldin

To: Behnam Ghaffari
Date: September 18, 2018

Subject: 0648-EX-CN-2018

Message:

Mr. Ghaffari,
Our CONOP is to test using KA band VSAT dishes with a simulator with transmission between 30 and 31 GHz that were developed by Tampa Microwave. We want to set them up on the roof and test various scenarios.
Test 1:
In this scenario, two standard horn antennas are connected to a Ka VSAT emulator. One antenna is vertical, the other is horizontal. We will transmit on the vertical plane at no greater than 1 Watt EIRP from there to about 50-100 feet away to a bidirectional VSAT terminal. Dynamic range measurements would be taken using three different size VSAT dishes. The dish diameters will be 65, 75, and 85cm. The VSAT terminal will transmit with no more than 0.22W EIRP back to the simulator. This is being done to verify that operators can reassemble the antennas with accuracy. Careful consideration is taken to make sure the signal power and direction are minimal using built in and external attenuators.

Test 2:
In this scenario, a VSAT terminal will be used to transmit/receive to a live satellite in the Ka band using an existing satellite commercial lease (non experimental). This link will be with a 5W BUC 46.5dBi gain, with 1.1 degrees half power beam width. This should not need an experimental permit as it is covered by the commercial lease through the SatComm provider.
Point of Communication: INMARSAT 5 F2 55West
Elevation: 39.2 degrees
Azimuth: 146.7 degrees (true)