

Reason for Modification Application

Modifying Experimental License 0391-EX-CN-2020

The current license 0391-EX-CN-2020, is for operation of a prototype Earth endpoint transceiver, communicating with the separately licensed Totum 1L experiment aboard the LOFT Orbital YAM-3 satellite.

This modification expands the number of endpoints to 100 mobile stations located throughout the US.

The operation and emissions of the additional endpoints will be identical to that of the endpoint licensed originally. The design uses a second generation custom DMSS SoC ASIC.

The endpoints will communicate the Totum 1L experiment aboard the LOFT Orbital YAM-3 satellite, just the same as stated in the original license for one endpoint. The satellite operator, Loft Orbital Inc, has licensed the satellite along with the Totum1L experiment.

An endpoint will only transmit when in line of sight of the satellite. The maximum duration of the transmit portion of a satellite-endpoint connection session will be less than 4 minutes, and for any device the cumulative transmit time in a 24 hour period will be less than 20 minutes.

The endpoints will be incrementally activated over the period from June 1, 2022 to December 31, 2022.

The intent of this expanded experiment is to validate coverage and mobility of the DMSS OTA protocol, test the tracking application with many geographically diverse endpoints, and complete performance testing on the DMSS ASIC in preparation for a device production release and certification.