

FCC File # 0560-EX-ST-2012 Text Supplement

Question 7 Purpose of Experiment

L-3 Communications Datron Advanced Technologies Division is under contract with ITT EXELIS under Contract No360207J, Dated Feb. 20, 2012 to provide the necessary labor and material to design, furnish, install and test one 5.5-meter size antenna system at Blossom Point Antenna System (BPAS) at Blossom Point, Maryland. The end user is NASA.

NASA is procuring this antenna as an End-to-End (EET) ground station antenna in support of the NASA Goddard Space Flight Center (GSFC) Blossom Point Antenna System (BPAS) Project. The EET antenna is required to perform end-to-end system tests functions of the Tracking and Data Relay Satellite (TDRS) network. It will have the capability of program or step tracking an inclined orbit TDRS satellite or operate in a slave mode to a master antenna. The EET antenna is used to mimic a user terminal to close a communication link with a larger antenna at BPAS.

The EET antenna shall provide both transmit and receive capabilities in three frequency bands: S-, Ku- and Ka-Band. The procured antenna shall have a 5.5-meter main reflector with circular polarized feeds with diplexers, HPAs and LNAs for all three frequency bands. Ku- and Ka-Band are not required to be operated simultaneously, while S-Band must operate simultaneously with either Ku- or Ka-Band. Each feed is required to transmit and receive on the same circular polarization, which is switch selectable between RHCP or LHCP polarization. Figure 1 shows the physical layout of the EET antenna.

The request for an FCC Special Temporary Authority is to allow temporary (and momentary) transmit operation of the EET high power amplifiers (HPAs) from the L-3 Datron facility at Simi Valley, CA for system level testing. The STA license is requested from 10/15/2012 to 4/15/2013. L-3 has experienced diplexer noise while transmitting that bleeds over into the receive band. We will radiate a CW signal at the low frequency end of each transmit band at full power: 25 W at 2.200 GHz, 175 W at 14.8813 GHz, and 20 W at 25.47 GHz with the antenna pointed at zenith away from the geostationary arc. We will radiate only a few minutes at a time to check our system receive noise floors are not seriously degraded by the transmit power.

L-3 does not intend on establishing a TDRS communication link with the EET antenna at the Datron facility in Simi Valley. Over the air testing with a TDRS satellite will occur on site at BPAS, Blossom Point, MD after installation during the spring of 2013.

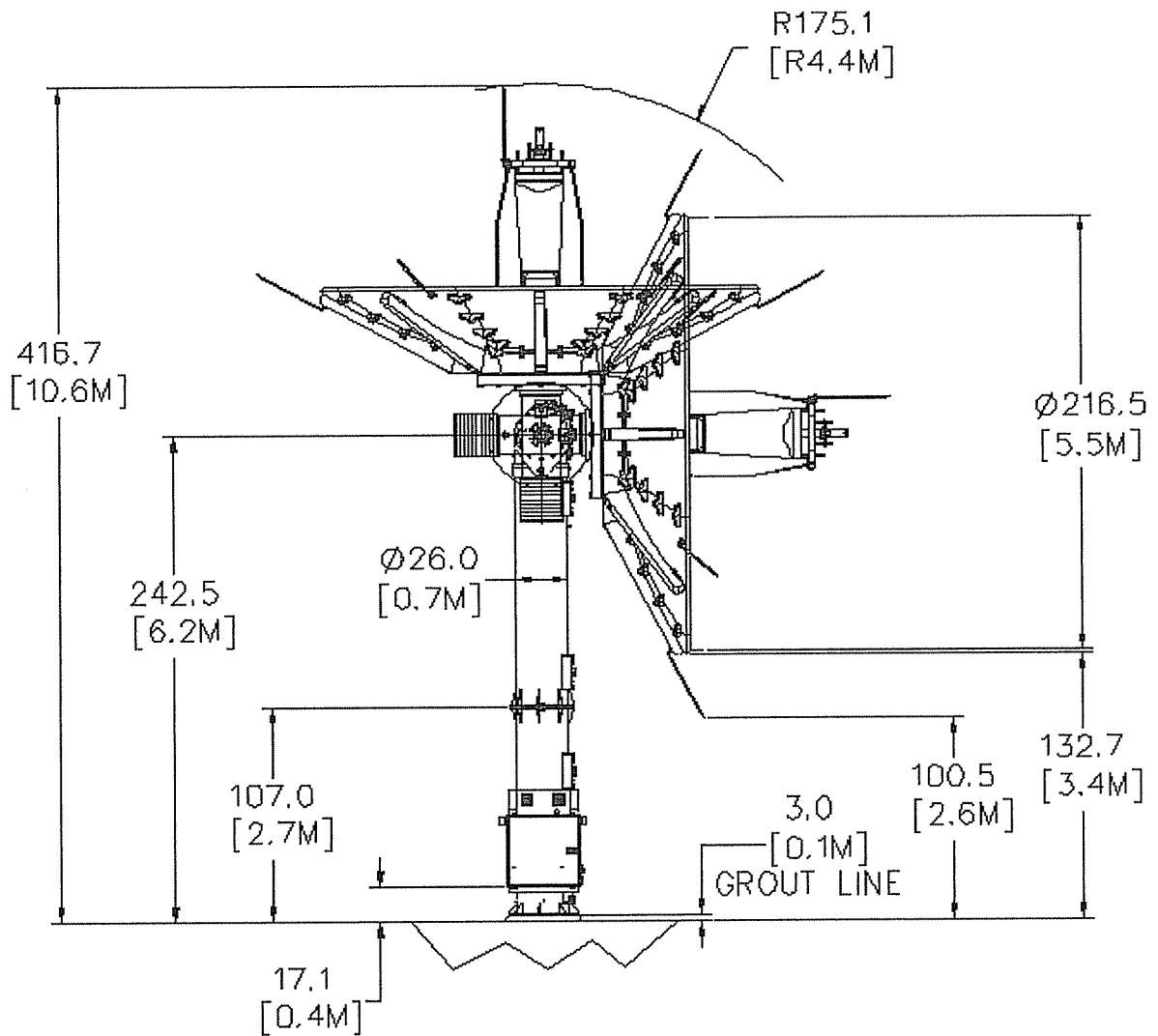


Figure 1 EET Antenna Layout

Emission Details

L-3 will radiate a CW signal whose emission designator is 100HN0N. The frequency tolerance is .01% using a calibrated CW signal generator as the exciter for the EET transmitters.