

Northrop Grumman Systems Corporation Request for Experimental License

The purpose of this application for an experimental license is to demonstrate AEHF satellite communications link capability using AESA antennas at a ground base station pursuant to a government contract. The two antennas (K-band receive and Q-band transmit) will be mounted on a motion table that will permit the antennas to be oriented such that their main beams will need to scan off boresight to maintain link with the satellite. This demonstration is to collect data with respect to the stability of the computed beam pointing and ability to maintain an effective link budget through the range of predicted viable scan angles. This eliminates the need to operate mechanical tracking devices. The U.S. Government contract point-of-contact is Spencer Turner, spencer.e.turner2.mil@mail.mil.

The transmit frequency will be within the band 43.5 – 45.5 GHz with 18.8 MHz maximum instantaneous bandwidth. Receiving will be in the 20.2-21.2 GHz band. Pulse width: CW; PRF(s): CW; modulation codes/signals, as applicable, will be FSDPSK, DPSK, GMSK, PGMSK, FSK/AEHF, MILSTAR. The transmit antenna is Northrop Grumman Part No. 1TA0250G01 AESA with main beamwidth 1.6 deg at broadside, 3 deg at 70 deg scan.

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