

Northrop Grumman Systems Corporation

Northrop Grumman Systems Corporation (NGSC) submits this application for an Experimental License for permission to transmit on 43.5-45.5 GHz for the purpose of conducting communications through a U.S. Government satellite consistent with Contract No. 13-C-8056. Downlink is 20.2-21.2 GHz. The fixed station is identical to that authorized under FCC Special Temporary Authority (STA) WH9XRD, FCC File No. 0949-EX-ST-2014. The test site will be relocated from Westborough, MA, to Linthicum, MD, and will be tested at a fixed site (FX) in addition to from an aircraft (MO). Contract point of contact is Linda Zantal (937) 255-9405.

ANTENNA AND TECHNICAL SPECIFICATIONS

UPLINK: Northrop Grumman directional antenna, developmental model 1TA0250G01 AESA Comms Array, beamwidth 1.6 degrees broadside, 3 degrees at 70 degrees scan. Transmitter power maximum 200 watts operating across the band at full compression. Note: transmit power amplifier is integrated in the AESA and includes attenuators to support linear operation. MAXIMUM ANTENNA GAIN is 39.5 dBi broadside after transmit loss, which results in total maximum radiated power of 1.087 MW ERP. (At 70 degrees scan maximum antenna gain is 34 dBi.) MAIN BEAMWIDTH is 1.6 degrees broadside (At 70 degrees scan the beamwidth is 3 degrees.)

RECEIVE ANTENNA: Northrop Grumman 240K199G01 AESA Receive Array.

MODULATION coding may be any of the following: FSDPSK, DPSK, GMSK, PGMSK, FSK/AEHF and/or MILSTAR. The AESA antennas will be installed on a piston drive motion simulator inclined at 50 degrees and pitched to various predetermined positions.