

Northrop Grumman Systems Corporation Application for Special Temporary Authority (STA)

This application is to support Northrop Grumman Systems Corporation (NGSC) research for and development of an advanced Ka band radar system that will incorporate a new, compact hardware design and operational software for radar control and processing of signal returns. The intent is to evaluate potential technologies for inclusion in future Department of Defense and other federal agency contracts. The development of the hardware requires active testing of the system to fully exploit its capability.

The radar operates in the frequency band 33.4 GHz to 34.2 GHz. The test waveform is linear FM, with an emission designator of 800MQ3N. The transmitter power is 600 Watts, and the antenna gain is 38 dBi, giving a peak ERP of 2.3 MW. The maximum duty cycle of the system is 33%, for a mean ERP of 769 KW.

The testing will take place in two phases / locations. System Laboratory testing will take place at the Northrop Grumman facility in Linthicum, MD. The lab is located on the roof of the NGES building. The antenna is an active AESA, with a sector scan of +/- 20 degrees about a fixed azimuth of 45 degrees true. The elevation scan is from 0 degrees to + 20 degrees.

After the system has satisfied basic requirements for operational stability and performance, airborne testing will be conducted using NGES owned experimental aircraft (CRJ tail number N804X). Operations will be centered on the Georgetown Delaware (Sussex County) Regional Airport, with an operational radius of 200 nmi (371 km) and at a maximum altitude of 31,000 feet MSL.

The Stop Buzzer POC is:
Kevin Nekula
Northrop Grumman ES
RF Spectrum and Licensing
410-765-6567
kevin.nekula@ngc.com