

John Kennedy

From: Sochurek, Jan E. [jan.sochurek@ngc.com]
Sent: Monday, November 21, 2005 4:09 PM
To: charles.cassella@faa.gov; Donald.Bristol@faa.gov
Cc: John Kennedy; James Burtle; vanceschuemann@paulhastings.com; Fremd, Rodney W.
Subject: KA2XGP, FCC File # 0053-EX-RR-2003

Charles,

Northrop Grumman is asking for coordination from the FAA with respect to the granting of experimental license KA2XGP, FCC File # 0053-EX-RR-2003.

Northrop Grumman requests this Experimental License in order to operate its antenna measurement range facility, which provides Northrop Grumman the flexibility to evaluate a wide range of antenna design concepts and to verify the performance of production units. Northrop Grumman has numerous contracts with various agencies of the U.S. government that involve matters the national defense and homeland security. It is through the use of this antenna measurement range facility that enables Northrop Grumman to fulfill those contracts. The facility also enables Northrop Grumman to develop and test new systems in anticipation of future U.S. Government contracts, and fulfill its contracts with various foreign military and civil aviation agencies.

The antenna measurement facility range consists of a range control building with several antenna positioners, a 500 meter ground range with 3 transmit sites and another positioner opposite the control building. The antenna range has an assortment of source antennas from 12dB gain horns to 31dB gain parabolic dishes. The selection of source antenna varies with frequency, distance, and size of antenna to be tested. An antenna under evaluation is illuminated by an unmodulated radio frequency position such that the boresight faces the source and the reference receive signal strength is taken. The source for all testing is through the use of an HP/Agilent 83623B High Power Swept Signal Generator. The receiver for all testing is an HP/Agilent 8530A Microwave Receiver.

Maximum Power is 100 Watts (ERP).

We use various antennas - linear horns, parabolic dishes, log periodical, dipoles, spiral (non-polarity).

Antenna gain varies from 12dB to 31dB.

Elevation of site above sea level is 180 feet.

Height above ground of focal points of the antennas range from 5 feet to the highest which is 85 feet.

Antenna polarization varies depending on the antenna being tested.

Antennas are pointed on boresight, none of the antennas rotate.

Pulse widths at most are 100usec during transmit and 200usec during receive.

There are no equipment nomenclatures due to research and development work.

There is no blanking capability.

Radius of operation is non applicable due to none of the antennas rotate or movable. They are fixed on various positioners.

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1090 MHz is one of the frequencies that is being requested for use. No transmissions will be made on 1030 MHz.

Again, a majority of the work done at this site and on this Experimental License is experimental work involving research and development. Contracts for work is developed from the experimental development.

<u>Frequency</u>	<u>Station Class</u>	<u>Emission Designator</u>	<u>Authorized Power</u>
138-144 MHz	FX	N0N	100 W (ERP)
162.1-173 MHz	FX	N0N	100 W (ERP)
225-328.6 MHz	FX	N0N	100 W (ERP)
335.4-399.9 MHz	FX	N0N	100 W (ERP)
420-450 MHz	FX	N0N	1 W (ERP)
450-608 MHz	FX	N0N	1 W (ERP)
614-806 MHz	FX	N0N	1 W (ERP)
902-928 MHz	FX	N0N	100 W (ERP)
1025 MHz	FX	N0N	100 W (ERP)
1035 MHz	FX	N0N	100 W (ERP)
1084 MHz	FX	N0N	100 W (ERP)
1090 MHz	FX	N0N	1 W (ERP)
1096 MHz	FX	N0N	100 W (ERP)
1215-1390 MHz	FX	N0N	1 W (ERP)
1427-1429.5 MHz	FX	N0N	100 W (ERP)
1710-1850 MHz	FX	N0N	100 W (ERP)
1850-1990 MHz	FX	N0N	100 W (ERP)
1990-2025 MHz	FX	N0N	100 W (ERP)
2200-2500 MHz	FX	N0N	100 W (ERP)
2305-2319 MHz	FX	N0N	100 W (ERP)
2385-2390 MHz	FX	N0N	100 W (ERP)
2450-2690 MHz	FX	N0N	100 W (ERP)
2700-2900 MHz	FX	N0N	1 W (ERP)
2900-3650 MHz	FX	N0N	100 W (ERP)
3650-4200 MHz	FX	N0N	100 W (ERP)
4400-4940 MHz	FX	N0N	100 W (ERP)
4940-4990 MHz	FX	N0N	100 W (ERP)
5250-5600 MHz	FX	N0N	100 W (ERP)
5650-5925 MHz	FX	N0N	100 W (ERP)
5925-7125 MHz	FX	N0N	100 W (ERP)
7125-9000 MHz	FX	N0N	100 W (ERP)
9000-9200 MHz	FX	N0N	1 W (ERP)
9200-10500 MHz	FX	N0N	100 W (ERP)
10700-12200 MHz	FX	N0N	100 W (ERP)

Thank you for your help and effort on this matter.

Regards,

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