

Government Contract Information

Northrop Grumman Systems Corporation (“NGSC”) hereby requests authorization to operate a fixed experimental radio station facility, as detailed below and in the attached Form 442 application, beginning on September 1, 2009. Under the Air Force Global Hawk and Naval Unmanned Combat Vehicle (“N-UCV”) programs (pursuant to contract numbers FA8620-07-C-4015 and N00019-07-C-0055, respectively) NGSC is developing systems in a shielded area for the Department of Defense to conduct pre-flight testing of avionics on unmanned combat air vehicles. The authorization requested herein is necessary to allow NGSC to test the Global Hawk and N-UCV systems’s GPS receiver and external antenna within a shielded area within NGSC’s facilities located at Air Force Plant 42 in Palmdale (Los Angeles County), California (NAD83: NL 36-39-08.75; WL 118-00-49.57).

The fixed experimental radio station facilities utilize a GPS Networking Model L1L2 HNRRKIT repeater kit, comprised of a roof receiver antenna located on the exterior of the building that is cabled to a transmit antenna mounted inside a shielded area within the building, which re-radiates the GPS signal. The repeater kit re-radiates GPS frequencies L1 at 1575.42 MHz and L2 at 1227.60 MHz, with an emission designator of 24M0G1D and a power of -84.7 dBm EIRP. Please refer to the table below for the link budget analysis to compute the EIRP at a 100 foot distance from the radiating element.

Received Power on Earth		-136.2dBm
Receive Antenna Gain		38dBic
Losses in 200 ft./LMR-400	100 ft. LMR-400	-3dB
Connector Losses		-1.0dB
Amplifier Gain		20.0dBm
Pwr in to Re-rad Antenna		-84.7dBm
Gain of Re-rad antenna		3.0dBic
Re-rad eirp		-81.7dBm
Free Space loss at 100 ft.		-63.9dB
RF Power Level at 100 ft.	-237.6dBm	-142dBm

The stop buzzer contact to terminate operations for the program is Mr. Fred Berrong, (661) 272-7033.