

Exhibit 1 – Narrative Statement

a. The complete program of research and experimentation proposed including description of equipment and theory of operation.

General Dynamics SATCOM Technologies is seeking authority to operate an antenna test range facility near its Newton, NC headquarters. General Dynamics SATCOM Technologies designs, develops, and manufactures satellite communication antennas for domestic and international applications. The Company specializes in providing high quality, cost-effective antennas for both the two-way Very Small Aperture Terminal (VSAT) marketplace and receive-only applications. Additional products include unique special purpose antenna for such customers as NASA and defense contractors.

General Dynamics SATCOM Technologies is the leading supplier of satellite and wireless communications products and services for video, voice and data worldwide. SATCOM Technologies' industry-leading brands, VertexRSI, Gabriel and Prodelin, offer an exciting range of communications products.

General Dynamics SATCOM Technologies will use the range to test and develop its line of satellite communication antennas to a highly diverse and rapidly growing list of customers worldwide. General Dynamics SATCOM Technologies is committed to continuous design improvements to meet the increasingly specialized requirements of changing operating environments with cost-efficiency and innovation.

Additional information on General Dynamics SATCOM Technologies may be found at www.gdsatcom.com

Testing will be accomplished over a test path between a fixed transmit location and a fixed receive location as illustrated in figure 1. The test range is located on a property with is approximately 5 km East of Maiden, NC , and approximately 16km South-South East of Newton, NC. Using suitable directional antennas, SATCOM will transmit unmodulated carrier-wave (CW) test signals from the transmit tower location toward the receive tower location. When transmitting, the antennas will always be oriented with the main beam on azimuth 299-degree towards the receive tower location. Because this application covers a wide range of frequency bands, General Dynamics SATCOM Technologies cannot specify a single beamwidth for the transmitting antenna. The maximum transmitting antenna beamwidth that will be used on the test range will be 24.6-degree at the lowest measurement frequency 300MHz. Much narrower beamwidths may be used for testing at higher frequencies.

By monitoring the level of the CW signal received by the antenna under test at the receive tower location, General Dynamics SATCOM Technologies will measure the performance characteristics, including gain and radiation patterns, of prototype and production sample antennas. Off main beam radiation pattern(s) will be measured by rotating the antenna under test and recording the received signal level.

b. The specific objectives sought to be accomplished

General Dynamics SATCOM Technologies will perform measurements to establish the gain and radiation pattern characteristics of prototype and production sample satellite, microwave, and wireless antennas. As a major U.S. and world supplier of such antennas, General Dynamics SATCOM Technologies must assemble extensive performance data on its products and requires a test range facility to take the necessary measurements.

c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along a line not already investigated.

Sophisticated design techniques including the use of specialized computer software can predict much about the performance characteristics of antennas prior to the construction of prototype or the commencement of manufacturing new models. Nevertheless, far field measurements on a test range are still a critical component of the antenna design and manufacturing process. Design predictions must be verified, and specific radiation patterns data must be gathered to support customers' needs. Test range measurements thus represent a new line of investigation for any new or improved antenna product. Use of the test range in the manner described will contribute to efficient spectrum utilization by enabling the development of new antenna products with optimum gain and radiation pattern characteristics.

Exhibit 2 – Environmental and MPE Certification

The antenna range does not fall under any of the categories of facilities that may have a significant environmental impact under section 1.1307(a) of the FCC rules.

Because General Dynamics SATCOM Technologies is applying to use effective radiated power (ERP) greater than 100 W under Part 5 of the FCC rules, the test range transmissions require environmental evaluation for human exposure to radio frequency radiation under section 1.1307(b). General Dynamics SATCOM Technologies has completed RF exposure calculation for the test range and certifies that the Maximum Permissible Exposure limits of section 1.1310 will not be exceeded under the requested terms of the experimental license. As required by section 1.1307(b), General Dynamics SATCOM Technologies will provide its calculation to the Commission upon request.

Because the antenna range does not fall under any of the categories of facilities that may have a significant environmental impact under section 1.1307(a) and the test range operations will not exceed the Maximum Permissible Exposure limits of section 1.1310, General Dynamics SATCOM Technologies is not required to file an Environmental Assessment (EA) as part of this application.

Exhibit 3 – Antenna Structure Drawings

General Dynamics SATCOM Technologies is requesting license to use its antenna test range facility near Maiden, NC. An antenna mounted on a Transmit Tower structure will be used to emit test signal toward the antenna(s) under test mounted on a Receive Tower structure. Figure 1 shows a drawing of the Transmit Tower, lists the geographic coordinates and elevation of the tower location, and indicates the maximum antenna tip height of 19.0 meters. Figure 2 shows a drawing of the Receive Tower, lists the geographic coordinates and ground elevation of the tower location, and indicates the maximum antenna tip height of 19.0 meters. Figure 3 shows a side view of the Receive Tower. Figure 4 and 5 are the results for the Transmit Tower and Receive Tower, respectively, of the Towair program available on the FCC web site. The Towair results indicate that the proposed Transmit and Receive Tower structures do not require FAA notification nor FCC registration.

This antenna range facility was previously licensed under the callsign, **WC2XPH**. Application for a new license is requested as renewal of the expired license has been over the 90-day renewal period specified by the FCC.

ANTENNAS UNDER TEST
WILL BE LOCATED
HERE

RAIL - PIPE 1 1/4 STD

RAIL - PIPE 1 1/4 STD
METAL GRATING PLATFORM

TUNE COLLAR

RAIL - PIPE 1 1/4 STD

RAIL - PIPE 1 1/4 STD

VERTICAL RECIPROCATING
COMBATOR

AUTOMATIC GATES FOR
MATERIAL LIFT

AUTOMATIC GATES FOR
MATERIAL LIFT

PLYWOOD SHEATHING

18'-6"

21'-0"

19.0 m

Figure 3: Receive Tower Drawing - Side View

RESULTS

A routine check of the coordinates, heights, and structure type you provided indicates whether this structure does or does not require registration. Any "fail slope" result means that your structure requires FAA notification and FCC registration. If *all* results are "pass slope", this means that the structure does not require registration, based on the information you provided.

WARNING: Because the airport database we use is updated periodically, it does not take into account the most recent airport construction, nor does it include proposed airports. You still must register with the FCC if your structure is located near one of these airports or if the FAA specifically asks you to register - even if you "pass slope" in all instances.

Note: Use your Browser's print function to print your TowAir results.

THE INITIAL INFORMATION ENTERED:

Latitude	Longitude	Overall Structure Height	Structure Height	Elevation	Structure Type
35°34'7.0	81°09'16.1	19	19	303.7	Tower

Message	Type	C/R	Latitude	Longitude	Name	City	County	State	Lowest Elevation	Runway Length
PASS SLOPE(50:1) NO FAA REQ - 2822.73 Meters (9260.80 Feet)away & below slope by 46.8599 Meters (153.740 Feet)	AIRP	C	35° 34' 27.00	81° 7' 2.00	LANEYS	MAIDEN	CATAWBA	NC	312.4	609.5999755859375

Figure 4: Transmit Tower Towair Results

RESULTS

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Note: Use your Browser's print function to print your TowAir results.

THE INITIAL INFORMATION ENTERED:

Latitude	Longitude	Overall Structure Height	Structure Height	Elevation	Structure Type
35°34'24.9	81°5'55.7	19	19	302.3	TOWER

Message	Type	C/R	Latitude	Longitude	Name	City	County	State	Lowest Elevation	Runway Length
PASS SLOPE(50:1): NO FAA REQ-RWY 10499 MTRS OR LESS & 3763.97 MTRS (3.76399) KM AWAY	AIRP	C	35° 34' 27.00	81° 7' 2.00	LANEYS	MAIDEN	CATAWBA	NC	312.4	609.5999755859375

Figure 5: Receive Tower Towair Result