

Exhibit 1

1. Introduction

By the instant application (“Application”), General Dynamics-OTS, Inc. (GD-OTS) requests that the Commission grant a two year experimental license to permit GD-OTS to operate the facilities (the “Facilities”) specified in the instant Application.

2. Purpose of the Operation

The testing specified in this Application will be conducted by General Dynamics Dynamics-OTS, Inc., a business unit of General Dynamics. GD-OTS, a major producer of radomes for the Armed Forces of the United States, manufactures radomes for varied customers. In general, the testing performed at the Marion Test Range Facilities in Marion, VA involves active, radiating testing related to GD-OTS’ contracts with various defense contractors and the United States Government for the development, manufacture, characterization, and acceptance testing of military and commercial radomes. The testing at the Marion Test Facilities is a critical part of the development and manufacture of military radomes supplied to the Armed Forces of the United States.

This specific Application, a continuation of the operations previously authorized under STA, under call sign WH9XJR (File No. 0118-EX-ST-2014), applies to the manufacture of radomes for a commercial customer as well as internal range development and characterization. While GD-OTS originally anticipated that 6 months would be sufficient to complete this experiment, the manufacturing process for the part under test was significantly delayed, and as a result GD-OTS requires continuing operating authority to operate these facilities in order to complete the experiment. Although the internal range development and characterization activities are not associated with any particular contract, such internal experimental use is essential to demonstrate and verify our ability to meet the needs required of our customers. It is critical for GD-OTS that this range be granted a license to radiate on this basis.

GD-OTS is aware that the Commission and/or other stakeholders are likely to identify carve out frequencies and bands within the requested bands; this license application does not seek authorization to radiate in those restricted areas. GD-OTS wishes to obtain permission to operate over as much of the requested frequency range as possible while minimizing difficulties in obtaining authorization. Satellite Communication systems operate over wide bands and GD-OTS needs the ability to evaluate and characterize our range through as much of the requested frequency range as possible in order to be able to support our customers’ testing. In this regard, it is noted that GD-OTS has commenced the process of obtaining frequency coordination with respect to Part 101 microwave operations in the area.

Waiver of the Station ID rules set forth at Section 5.115 is respectfully requested.

3. Other Issues

A. Transmitting Equipment

Manufacturer	Model	Band	Experimental
Microwave Power, Inc.	L0618-32	1	Yes
Agilent	N5183A MXG Analog Signal Generator	1	No

B. Directionality/Orientation of Antenna

Transmitting Location	Elevation (Vertical)	Azimuth (Horizontal)
Subtower TX	0°	207° SSW

3dB Beamwidth of Antenna (widest beam/worst case)**

3dB BW E (Vertical)	3dB BW H (Horizontal)
4°	4°

** Approximate calculated value

C. Prevention of Interference

GD-OTS hereby advises the Commission that the tests to be conducted under the requested Commission authorization are to be conducted on GD-OTS' Marion, Virginia facilities. The test range is designed such that the transmitting antenna is pointed directly at the radome under test which is located 300 feet away on an elevated roofed porch with three walls. The radiated 3 dB beamwidth of the subtower transmit antenna is primarily contained within the porch area for most of the operating band. The range is located in a low area surrounded mostly by hills and trees. Please refer to the attached diagram (Figure 1) for the range configuration.

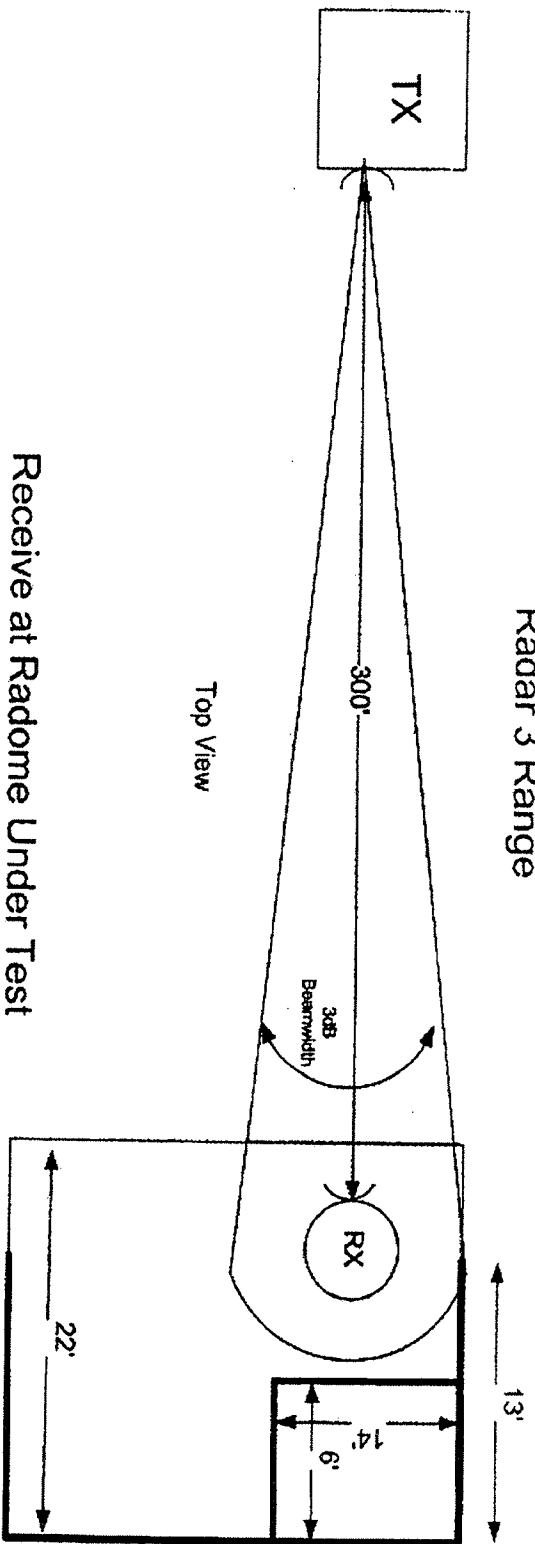
Although the ERP entered in our application gives the impression of higher power, the actual power into the transmit antenna is only about 1 watt. The ERP is deceptive because we are using an antenna with a very narrow beamwidth (approximately 31 dBi gain at 12 GHz).** By using a narrow beam antenna, we are greatly reducing the emissions in all directions except where we are measuring. The narrow beam of our antenna reduces our stray emissions greatly. It should be noted also that the ERP entered in our submission is for the worst case of the highest frequency/narrowest beamwidth.

D. Stop Buzzer

The range shift supervisor, Gerald Hicks, will be personally supervising the testing and will be available by telephone at (276) 783-9825. Mr. Hicks will act as a “stop buzzer” if any issues regarding interference arise during testing.

For the foregoing reasons, review and approval of this Application are in the public interest, convenience, and necessity.

Radar 3 Range



Receive at Radome Under Test

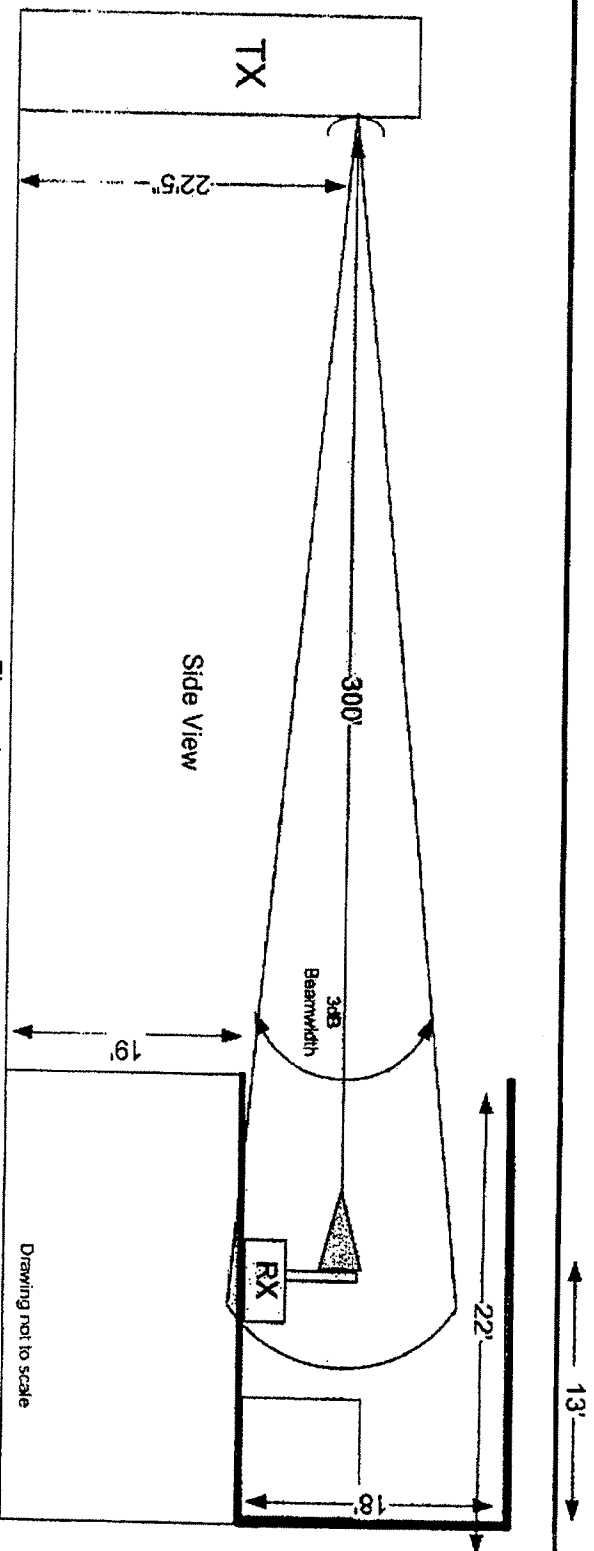


Figure 1

Drawing not to scale

NTIA TRANSMIT ANTENNA DATA

RANGE	RANGE LENGTH (feet)	TX ANTENNA GPS APPROX ALTITUDE (feet)	GROUND ALTITUDE AT TX ANTENNA (feet)	GROUND ALTITUDE AT TX ANTENNA (meters)	TRANSMIT ANTENNA LOCATION LATITUDE (MAD 83 Format)	TRANSMIT ANTENNA LOCATION LONGITUDE (MAD 83 Format)	TRANSMIT ANTENNA POINTING DIRECTION (GPS Degrees)	TRANSMIT ANTENNA VERTICAL POINTING DIRECTION (Degrees Bubble Level)
RADAR 3 RANGE (Subtower TX)	300	2175	2153	656	N 36° 50' 3"	W 81° 30' 27"	207° SSW	0°

RANGE	TRANSMIT ANTENNA NOMINAL HEIGHT ABOVE GROUND (ft, in)	TRANSMIT ANTENNA NOMINAL HEIGHT ABOVE GROUND (meters)	NTIA TRANSMIT POLARIZATIONS E = Elliptical F = 45 degrees S = Horizontal and Vertical T = Right and Left Hand Circular	NTIA XAD Field: Nominal Gain in dB (Characters 1 - 3)	NTIA XAD Field: Antenna Name (Characters 4 - 13)	NTIA XAD Field: Terrain Elevation in meters above MSL (Characters 14 - 19)	NTIA XAD Field: Antenna Height in meters above Terrain (Characters 20 - 24)	Complete NTIA XAD Transmitter Antenna Dimensions (24 Character Designation)
RADAR 3 RANGE (Subtower TX)	22' 5"	7	S	31G	0REFLECTOR	0656H	0007T	31G0REFLECTOR0656H007T