

Exhibit 1

1. Introduction

By the instant application (“Application”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant special temporary authority (“STA”) to permit BAE Systems to operate the facilities (the “Facilities”) specified in the instant application. STA is requested from November 9, 2015 to April 30, 2016.

2. Purpose of the Operation

The testing at BAE Systems NHQ and PTP antenna Test Facilities is a critical part of the manufacture and delivery of military systems provided to the Armed Forces in support of Homeland Security as well as war efforts and classified contract requirements (Company POC: Mr. Robert MacGowan, (603) 885-0541). The purpose of this test is to demonstrate the ability to determine range between transceivers via wireless communications protocol spaced 1km or more apart. The host systems will transmit and receive at each site. One system will transmit to the second system which will then transmit back to the first system, thus allowing for range determination. The antennas will be directional (8 dBi each). The signals will be generated by BAE Systems custom circuitry and amplified by off the shelf equipment. Both transceivers and the BAE algorithm are the system under test.

3. Other Issues

A. Transmit Directionality

Directive antennas will be used in this experiment, as specified below. The directionality at which each transmit antenna is oriented, is reflected below:

Station Designation	Deg/Min/Sec		Transmit LOB
	NL	WL	
Location 1 – Nashua	42-42-10	71-26-49	79.2 deg azimuth
Location 2 - Hudson	42-42-18	71-25-52	259.2 deg azimuth

B. Antenna Data

For the convenience of the Commission, the following chart defines certain specifications relating to the antennas that are to be used in the experiment:

Mfg.	Model Number	Frequency Range	Gain (Vertical Polarization)	Field of View (FOV) at given BW (800 MHz and 1000 MHz)
ETS Lindgren	3164-06	300 MHz to 6 GHz	< 8 dBi @ 1 GHz, < 9.8 dBi @ 2 GHz,	See Figure 1 Attached For Typical Transmit Antenna Beamwidth Data

The output power is +32 dBm and the antenna gain is 8 dBi yielding an Effective Radiated Power (ERP) of +40 dBm (or 10 watts). Because directive antennas will be used with the remote sources, the transmitter power at each remote source will be reduced to account for the transmit antenna gain so as not to exceed the requested ERP value. A fixed attenuator of 18 dB will be used to ensure that the amplifier operates in the linear region and also to ensure that the ERP is not exceeded. The variable attenuator at the input to the amplifier will be used to test lower power signals for range accuracy. The power and loss budgets are shown with the block diagram.

C. RF Sources

For the convenience of the Commission, the following chart defines certain specifications relating to the RF Sources that are to be used in the experiment:

Part Description	Mfg.	Model Number	Frequency (MHz)	Bandwidth (MHz)	Gain (dB)	Output Power Max (dBm)
Signal Generator	BAE Systems	8469108 (prototype)	1500	500	NA	0
Variable Attenuator	narda MITEQ	4741 (or equivalent)	DC to 18000	18,000	0 to -9 in 1 dB steps	NA
Fixed Attenuator	narda MITEQ	4772-18 (or equivalent)	DC-6000	6,000	10 +/- 0.3	NA
Power Amplifier	EMPower RF System, Inc.	1189-BBM3K5KKO	500 to 2500	2,000	50	47

The RF transmit circuit is given by the block diagram set forth at Attachment 2.

D. Prevention of Interference and Stop Buzzers

BAE Systems hereby advises the Commission that the tests to be conducted under the requested Commission authorization are to be conducted between the BAE Systems NHQ and PTP southern New Hampshire facilities. Such location will result in the required separation of the units under test and line of sight (LOS) condition.

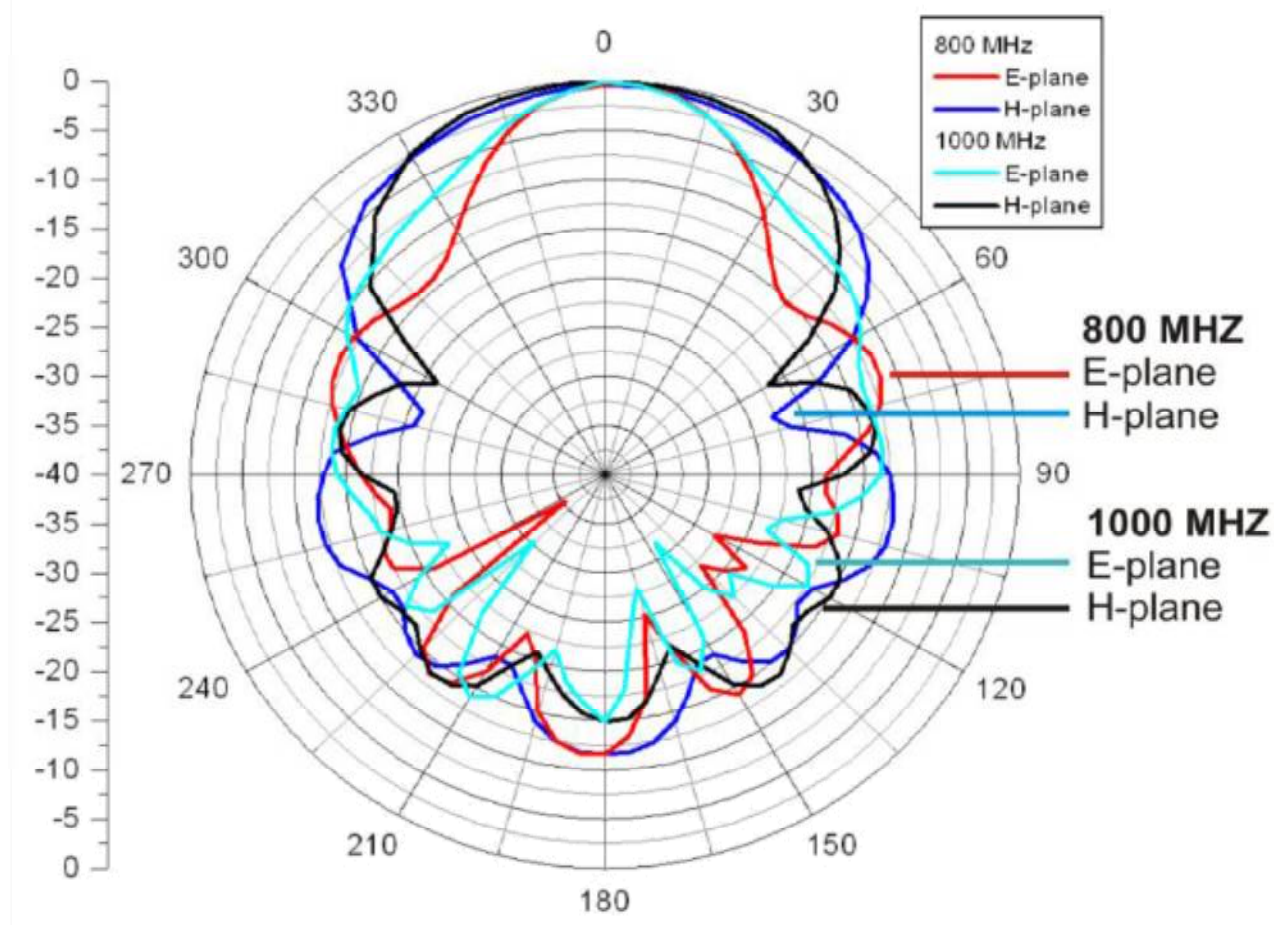
In addition, BAE Systems notes that the transmitters will not continuously emit an RF signal due to the nature of the experiment. The transmission will be burst pulsed Binary Phase-Shift Keying (BPSK) with duty cycle not-to-exceed 1%. The maximum pulse duration is not-to-exceed 50 milliseconds.

Stop Buzzers:

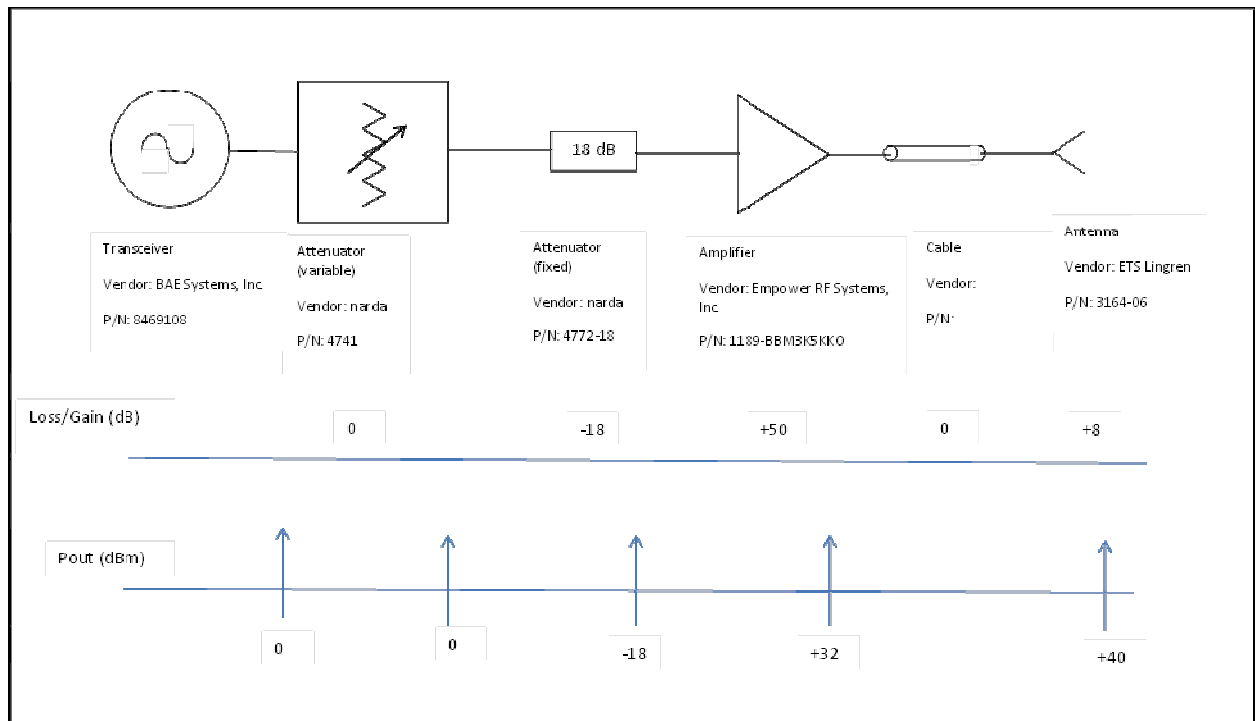
Primary: Daniel Glass – (603) 930-5650

Alternate: Scott Theg – (603) 867-5363

Attachment 1 - Typical Transmit Antenna Beamwidth Data



Attachment 2 - RF Transmit Circuit



Transmit RF Budget for NS-149