Exhibit 1

1. Introduction

By the instant application ("Application"), Leidos, Inc. ("Leidos") requests that the Commission grant a 2 year conventional experimental license ("License") to permit Leidos to operate the facilities (the "Facilities") specified in the instant application.

2. Purpose of the Operation

The testing to be conducted under the requested experimental authority at the Leidos Huntsville, AL campus on Odyssey Drive is a critical part of the testing and demonstration for assured Position, Navigation, and Timing (aPNT) algorithms under Government and internal research and development for military systems. Specifically, in this Application, Leidos requests the use of a GPS re-radiation system to permit testing of GPS navigation systems inside its engineering prototype labs.

This GPS re-radiation system will permit Leidos to verify the proper installation and operation of aPNT system prototypes and products. Presently, without the system, Leidos engineers must leave the facility to test products under development. Often these prototypes are not robust enough to allow exposure to weather; this greatly limits the testing operations and severely impacts the product development schedule. Additionally, outside testing is greatly limited due to restrictions in lab equipment that may be operated in that environment. If Leidos were permitted to operate the system, its engineers and technicians could work more efficiently. A wired repeater system would not be a feasible alternative as the receiver antenna is an integral part of the system under test.

Various commercial manufacturing operations are using in-building repeaters to streamline navigation system diagnosis and repair times. Leidos seeks to realize similar benefits and quickly provide research to the United States military forces.

A waiver of the Station ID requirements of 47 CFR §5.115(a) is respectfully requested.

A. IR&D and Contract Support

These operations will be in support of Internal Research and Development and the following government contract:

Agency/Customer:	US ARMY ACC-APG-RTP W911NF
Contract Number:	W911NF-15-C-0224
Contract POC:	Julie Drexler, Ph.D. 407-208-3016

NOTES:

- The License is requested to permit operation in support of the above contract AND ALSO for Internal Research and Development.

- Accordingly, a Station Class of XD or XT is requested, to permit operation in support of both the contract and IR&D.

3. Compliance with NTIA GPS Re-Radiation Criteria – Section 8.3.27 of NTIA Regulations

The system Leidos seeks to operate will re-radiate the GPS L1 (1575.42 MHz), L2 (1227.60 MHz), and L5 (1176.45 MHz) signals and GLONASS (1602 MHz) signals. A common system consisting of one active antenna, one passive antenna, and one amplifier will be used for these frequencies at this site. Leidos hereby confirms that the proposed operations are in full compliance with Section 8.3.27 "Use of Fixed Devices That Re-Radiate Signals Received from the Global Positioning System" of the NTIA regulations governing re-radiation of GPS signals. See Attachment 1 for the calculations demonstrating compliance with the NTIA criteria.

4. Directionality/Orientation

Width of Beam at Half-Power Point	Orientation in Horizontal Plane	Orientation in Vertical Plane
114°	0°	-180°

5. Stop Buzzer

Leidos is well aware of its obligation under Commission rules to immediately terminate operation in the event of interference to any other licensed emitter. Leidos is a long-standing Commission licensee and the company will take any and all actions to ensure that it complies with its obligations as a licensee of experimental facilities. The Stop Buzzer in the event of interference is:

Primary:
Jonathan D. Wetherbee
Systems Integration Branch Manager
6723 Odyssey Drive NW
Huntsville, AL 35806
(256)503-6976 Direct/VM
jonathan.d.wetherbee@leidos.com

Secondary:
Jordan H. Britt, Ph.D.
Electrical Engineer
6723 Odyssey Drive NW
Huntsville, AL 35806
(256)340-4848 Direct/VM
jordan.h.britt@leidos.com

Compliance with NTIA GPS Re-Radiation Criteria
Section 8.3.27 of NTIA Regulations Maximum Equivalent Isotropically Radiated Power
(May 2013 Edition Rev 9/2015)

$$P_{Tmax} = P_R + 20log_{10}f + 20log_{10}(30 + d) - 27.55$$

Where:
P_{Tmax} is the maximum permissible EIRP in dBm
P_R is the power received at 30 meters from the building (i.e. -140 dBm/24 MHz)
f is the frequency in MHz (i.e. 1575.42 for L1, 1227.60 for L2, 1176.45 for L5)
d is the distance between the radiator and the closest exterior wall of the building in meters

P_{Tmax} can then be converted to picowatts by using the formula: $P_{Tmax(pW)} = 10^{\left(\frac{P_{Tmax}}{10}+9\right)}$

$$P_R = P_G + G_{Ant_{roof}} - L_C + G_{Amp_{rad}} + G_{Ant_{rad}} - L_S$$

P_R is the re-radiated signal strength 30m outside the building
P_G is the received power from GPS satellites (-130 dBm)
$G_{Ant_{roof}}$ is the gain from the rooftop active antenna
L_C is the attenuation due to cable length from the rooftop antenna to the re-radiating amplifier
$G_{Amp_{rad}}$ is the gain from the re-radiating amplifier
$G_{Ant_{rad}}$ is the gain from the re-radiating antenna
L_S is the free space loss

$L_S = 36.6 + 20log_{10}\left(\frac{D}{1609} * 1575\right)$ free space loss for L1
$L_S = 36.6 + 20log_{10}\left(\frac{D}{1609} * 1227\right)$ free space loss for L2
$L_S = 36.6 + 20log_{10}\left(\frac{D}{1609} * 1176\right)$ free space loss for L5
$L_S = 36.6 + 20log_{10}\left(\frac{D}{1609} * 1602\right)$ free space loss for Glonass
D is the distance from antenna to outer wall in meters+30m

Free space loss from Odyssey Drive research lab:

D = 4.5m + 30m = 34.5m

$L_S = 36.6 + 20log_{10}\left(\frac{34.5}{1609} * 1575\right) = 67.17\ dBm$ free space loss for L1
$L_S = 36.6 + 20log_{10}\left(\frac{34.5}{1609} * 1227\right) = 65.00\ dBm$ free space loss for L2
$L_S = 36.6 + 20log_{10}\left(\frac{34.5}{1609} * 1176\right) = 64.63\ dBm$ free space loss for L5
$L_S = 36.6 + 20log_{10}\left(\frac{34.5}{1609} * 1602\right) = 67.32\ dBm$ free space loss for Glonass

Cable length attenuation from Odyssey Drive research lab:

GPS L1 (1575.42 MHz) : $L_C = 61m * \frac{17.3}{100} = 10.55\ dB$

GPS L2 (1227.60 MHz) : $L_C = 61m * \frac{15.0}{100} = 9.15\ dB$

GPS L5 (1176.45 MHz) : $L_C = 61m * \frac{14.6}{100} = 8.91\ dB$

GLONASS (1602 MHz) : $L_C = 61m * \frac{17.4}{100} = 10.61\ dB$

Re-radiating gain:

$$G_{Amp_{rad}} + G_{Ant_{rad}} = 30\ dB$$

Component	Signal Level L1 (1575.42 MHz)	Signal Level L2 (1227.60 MHz)	Signal Level L5 (1176.45 MHz)	Signal Glonass (1602 MHz)	units	
GPS Signal Input (P_G)	-130	-130	-130	-130	dBm	
Antenna Gain [Element + LNA] ($G_{Ant_{roof}}$)	33	33	33	33	dB	http://www.blueplanetgeomatics.com/product/gps-source-l1l2g3a-gps-l1l2-glonass-active-antenna/
Lightning Protection	0.15	0.15	0.15	0.15	dB	https://www.timesmicrowave.com/documents/resources/LP-18-400.pdf
Cable Loss, 200 feet (L_C)	10.55	9.15	8.91	10.61	dB	LMR-400 https://www.timesmicrowave.com/documents/resources/LMR-400.pdf
Re-Radiating Amplifier+Antenna ($G_{Amp_{rad}} + G_{Ant_{rad}}$)	30	30	30	30	dB	http://www.terrisgps.com/product/gpsrkl12g-l1l2-glonass-repeater-kit/
GPS Transmit Power	-77.7	-76.3	-76.06	-77.76	dBm	
GPS Transmit Power	16.98	23.44	24.77	16.75	pW	
Path Loss at 30 m	67.17	65.00	64.63	67.32	dB	Antenna located 4.5 meters inside building from exterior wall for a total distance of 34.5 meters
EIRP @ 30 m from Building	-144.87	-141.3	-140.69	-145.08	dBm/24 MHz	