

# Antenna Registration – Addendum

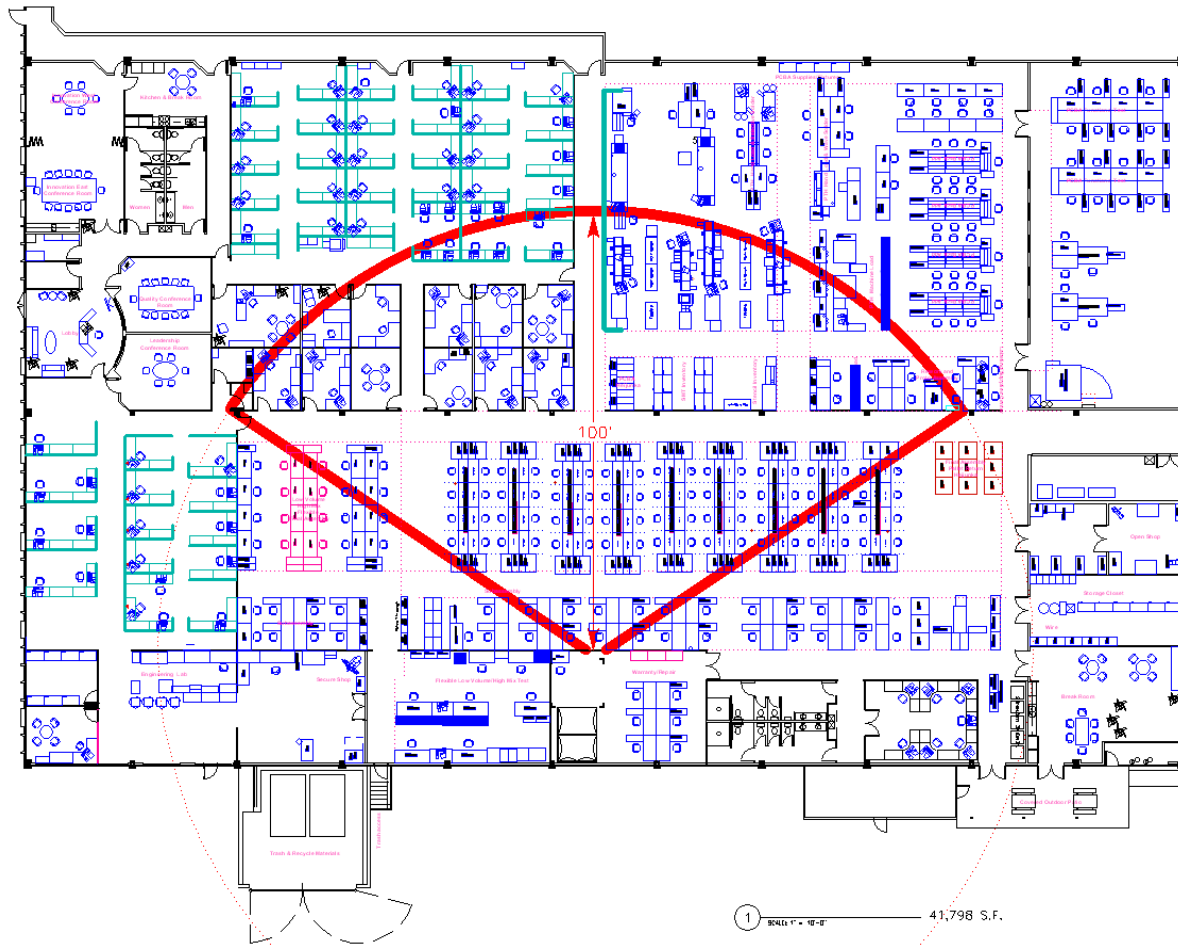
Prepared by Tracy Ireland, Technology Driven Products, on January 13, 2020 (Rev3)

## 1. Directional antenna details

A GPS reradiating antenna Model PA175-S is mounted 10' above the floor and 6' below metal roof. It is aimed 258 degrees (aligned to magnetic north) and 15 degrees downward.

The building is 41700 ft2. The 100' directional radiation is within the building walls.

A 100' circle from the radiating antenna is within the boundaries of the property walls.



**2. The maximum equivalent isotropically radiated power (EIRP) must be such that the calculated emissions are no greater than -140 dBm/24 MHz as received by an isotropic antenna at a distance of 100 feet (30 meters) from the building where the test is being conducted. The calculations showing compliance with this requirement must be provided with the application for frequency assignment and should be based on free space propagation with no allowance for additional attenuation (e.g., building attenuation.)**

1	Analysis prepared by Tracy Ireland, Updated 1/3/2020					<b>VERGENT</b> PRODUCTS Continually Elevating Return
2	-140dBm or less at a range of 100 feet to meet NTIA regulations					
3						
4	Receive Ant Gain (dBm)	Cable Insertion Loss (dBm)	Repeater Amp Gain (dBm)	Repeater Ant Gain Best Case (dBi)	Range in Feet	Effective Isotropic Radiated Power @ Range In dBm
5	38	-6	20	3	100	-141.09
6						
7	GPS Carrier Frequency MHz			Total System Gain	Range in Miles	Total Signal Power @ Range in Watts
8	1575			55	0.02	7.8E-18
9						
10	Avg Receive Power L1 dBm North America				Range in Meters	Radiated Power dBm
11	-130				31.17	-75
12						
13	Free Space loss with Isotropic Antennas				Range in Kilometers	Transmitted Power (W)
14	-66.09				0.03	15.8E-12
15						
16						Effective Radiated Power (W)
17						31.6E-12
18						
19						Effective Radiated Power (dBW)
20						-105
21						

**3. GPS users in the area of potential interference to GPS reception must be notified that GPS information may be impacted for periods of time.**

A sign shall be posted notifying all persons entering the building that GPS signals received within the building may not be accurate due to re-radiation of GPS signals.

A notice will be sent to all employees working in the building that GPS signals received within the building may not be accurate due to re-radiation of GPS signals.

**4. The use is limited to activity for the purpose of testing RNSS equipment/systems.**

TDP shall limit the use to testing Radio Navigation Satellite System receivers.

**5. A "Stop Buzzer" point of contact for the authorized device must be identified and available at all times during GPS re-radiation operation of the device under any condition.**

TDP shall install the system so it can be easily disabled by removing power. A sign will be posted near this point describing the procedure so anyone may cease re-radiation upon request.

The "stop buzzer" designee is Tracy Ireland at 970-371-6080 with Sarah Johnson at 214-893-4581 alternate