

NTIA Redbook Section 8.3.28 Response – Addendum

Prepared by Tracy Ireland, Technology Driven Products, on January 20, 2009

1. Individual authorization is for indoor use only, and is required for each device at a specific site.

One GPS Networking Brand GPS Repeater Kit P/N: HNRRKIT-N/5/110 with GPS Roof Antenna: L1GPSA-N using 50' of RG8 cable between the roof mounted antenna and the amplifier and 3' of RG58 cable between the amplifier and radiating antenna shall be installed indoors at Technology Driven Products (TDP), 609 14th Street SW Loveland, CO 80537.

2. Applications for frequency assignment should be applied for as an XT station class with a note indicating the device is to be used as an "Experimental RNSS Test Equipment for the purpose of testing GPS receivers" and describing how the device will be used.

The device will reradiate GPS signals on 1227.60 Mhz and 1575.42 Mhz to high volume production lines to enable testing a portable GPS enabled weather data collection device.

3. Approved applications for frequency assignment will be entered in the GMF.

These frequencies are assigned to Radio Navigation Satellite System commonly known as "GPS".


4. The maximum length of the assignment will be two years, with possible renewal.

TDP understands that renewal is required if production is required beyond two years.

The current expected product lifetime is 18 months.

Additional products may require this capability for an indefinite period.

6. 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.)

GPS  Networking					
-140dBm or less at a range of 100 feet to meet NTIA regulations					
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
38	-6	20	3	100	-141.09
GPS Carrier Frequency MHz			Total System Gain	Range in Miles	Total Signal Power @ Range in Watts
1575			55	0.02	7.8E-18
Avg Receive Power L1 dBm North America				Range in Meters	Radiated Power dBm
-130				31.17	-75
Free Space loss with Isotropic Antennas				Range in Kilometers	Transmitted Power (W)
-66.09				0.03	15.8E-12
					Effective Radiated Power (W)
					31.6E-12
					Effective Radiated Power (dBW)
					-105

7. 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.

8. 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.

9. 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 Wanda Berteau as alternate at 970-217-7634.