

Exhibit – Section 8.3.28 of NTIA Manual

Use of Fixed Devices That Re-Radiate Signals Received From the Global Positioning System

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

Yes, this antenna will be for indoor use only.

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.

This antenna will be used to re-radiate GPS signals for the purpose of testing our customer's product which includes a GPS receiving antenna.

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

Yes, the frequency range is standard for GPS signal that is already established.

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

Understood, renewal is set for every 2 years.

5. The area of potential interference to GPS reception (e.g., military or contractor facility) has to be under the control of the user.

Yes, the area in question will be held indoors and we are able to shut down transitions on command.

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.)

$P_r = -130\text{dBm}$ from the air

$G_{\text{antenna}} = +3\text{dB}$

$L_c = -12\text{dB}$

$P_t = +33\text{dB}$ due to the gain on the L1A setup

$FP = -65\text{dB}$ per 100ft in distance

$EIRP = -130 + 3 - 12 + 33 - 65 = -171\text{dB}$

The test is being conducted 86ft away from the nearest door to the outside. This is a shipping door so it only opens when a trailer is parked to load product in. The radiated power would be a lot less beyond that point.

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.

The location of the antenna (in the middle of our building) will not interfere with outside GPS users.

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

Yes

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.

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