

GPS Re-RAD Coordination

Dear Martin Ohmes / Teledyne FLIR Defense,

FAA Spectrum Engineering Services has completed the review of your three (3) L1 GPS Re-Radiator Frequency Coordination Requests for 101 Midland Dr., Oak Ridge, TN.

FAA Spectrum Engineering Services has provided the following comments:

COMMENTS: The FAA requests this pre-coordination be captured in the FCC's agenda record as "NTS,M018,FAA,260701,MMAMLOK,EMAIL", "NTS,S406", and any Special Conditions be added to SUP.

SPECIAL CONDITIONS: STOP BUZZER POC. OUTDOOR SIGNAGE POSTED.
INDOOR USE ONLY. ROOM DOORS CLOSED DURING GPS OPERATIONS.

Please note that this concurrence does not constitute authority to transmit. Your authority to transmit must be obtained from the FCC.

Please provide this concurrence notice to the FCC as part of your GPS Re-Radiator frequency application, to demonstrate completion of the FAA coordination process. The FAA Coordination is only valid for two years, from today's date until 07/01/2028; if you need an extension, please submit an inquiry via WebFCR or E-Mail.



Use of Fixed Devices That Re-Radiate Signals Received From the GPS
(NTIA Redbook, 2023 revision of the 2021 edition: Section 8.3.28 - Compliance evaluation form for FAA pre-coordination)

Company Name: Teledyne FLIR, LLC **Contact Phone:** (865) 602-8175
Name of Applicant: Martin Ohmes **Emission Designator (L1):** 24M0G1D
Contact email: martin.ohmes@teledyne.com **Date:** Jun 11, 2026

After finished, print a PDF version of the Form and submit back to your Spectrum Coordinator at FAA

NTIA 8.3.28: Use of Fixed Devices That Re-Radiate Signals Received From the GPS:

ID # 0023816432 FCC FRN

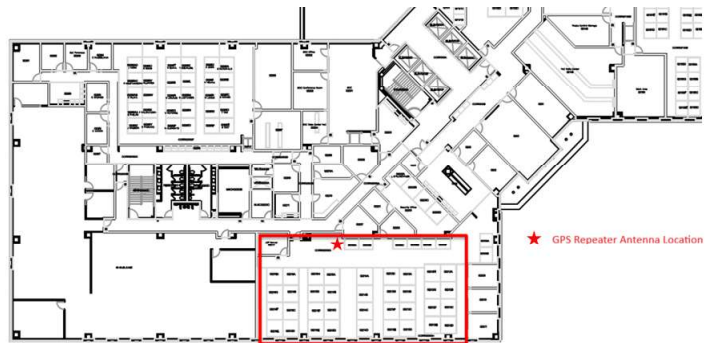
- a. Individual authorization is for indoor use only and is required for each device at a specific site.
b. Applications for frequency assignment should be applied for as an XT station class with a note indicating the device is to be used as an "Experimental RNSS Test Equipment for the purpose of testing RNSS receivers" threshold of the potential victim device. The interference threshold is usually large single digits to low double digits of decibels (dB) below the potential victim's receiver noise floor.
c. Approved applications for frequency assignment will be entered in the GMF by FCC or another U.S. Government Agency.
d. The maximum length of the assignment will be two years, with possible renewal.
e. The area of potential interference to GPS reception (e.g., military or contractor facility) has to be under the control of the user. Areas beyond the range for potential interference are protected by the maximum power control of the user. Areas beyond the range for potential interference are protected by the maximum power calculation described in f.
f. The EIRP must be such that the emissions are no greater than -140 dBm/24 MHz as received by an isotropic antenna at a distance of 100 feet (30 meters)
g. Applications requesting consideration of non-zero building attenuation in order to meet the -140 dBm/24 MHz limit at 30 meters from the building must provide detailed justification and measured values for the building attenuation for agency review.
h. GPS users in the area of potential interference to GPS reception must be notified that GPS information may be impacted for periods of time.
i. The use is limited to activity for the purpose of testing RNSS equipment/systems.
j. A "Stop Buzzer" point of contact for the authorized device must be identified and available at all times during these re-radiator operations.

Questionnaire:

a. Is the GPS repeater antenna located in an indoor facility? YES ☒ NO ☐

(if yes, provide a two dimensional schematic of the building, specifying where the antenna is located and a map pointing the location of nearest airports). Sample Schematic:

Location Coordinates: 36° 0' 8.036" N Latitude (DD MM SS.ss)
84° 14' 28.15" W Longitude (DDD MM SS.ss)
Location Address: 100 Midland Dr
Oak Ridge
State TN Zip Code 37830



Building additional information:

Distance to nearest outside wall: 3.00 feet

Room has windows? YES ☒ NO ☐

External wall construction Material: Cinder Block

b. Has the company applied for an experimental license (XT) indicating the device is to be used as an "Experimental RNSS Test Equipment for the purpose of testing GPS receivers"? YES ☒ NO ☐

License application File Number: 0641-EX-CN-2026 Additional Details: (if Applies)
Date of application: Jun 11, 2026

c. Applicant understands the length of assignment is two years and if additional time is required, we shall apply for a renewal of this license. ☒ (check in the box for confirmation and acceptance of terms)

d. Calculation for maximum EIRP based upon free space propagation:

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

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 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: $P_{Tmax(pW)} = 10^{(\frac{P_{Tmax} + 9}{10})}$

P_{Tmax} -74.26 dBm

P_{Tmax} 37.48 picowatts

P_R -140.46 dBm/24 MHz

f 1,575.42 MHz

d 0.91 mts

Additional details or comments (of requesting consideration of non-zero building attenuation to meet the -140 dBm/24 MHz limit at 30 meters from the building for agency review)

e. Company will provide signage to inform GPS users of potential interference during periods of operation. ☒ (check in the box for confirmation and acceptance of terms)

(provide details how would the company fulfill this requirement (e.g., posted signs, etc.)

posted signs

f. Estimated periods of operation:

24.00 Hours per Day from to

g. STOP BUZZER PoC contact information:

1.-Name Martin Ohmes

Billet Manager

Phone # (865) 602-8175

Email: martin.ohmes@teledyne.com

2.-Name Hollis Copeland

Billet Director

Phone # (865) 220-8700

Email: hollis.copeland@teledyne.com

3.-Name Will McAlexander

Billet Manager

Phone # (865) 220-8700

Email: will.mcalexander@teledyne.com

h. Additional Comments:

Any technical details that might help reviewing the application and expedite process

References:

1.- NTIA - MANUAL OF REGULATIONS AND PROCEDURES FOR FEDERAL RADIO FREQUENCY MANAGEMENT, Chapter 8



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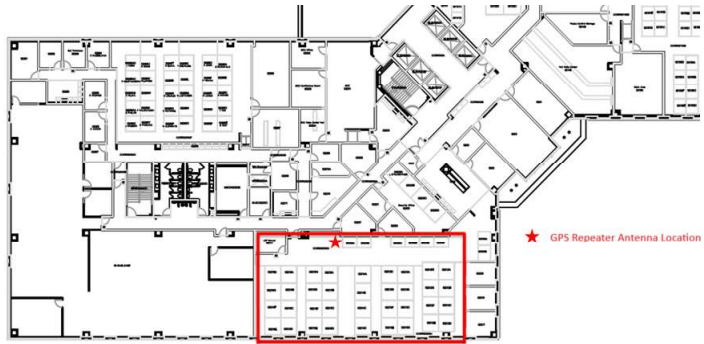
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Questionnaire:

a. Is the GPS repeater antenna located in an indoor facility? YES ☒ NO ☐

(if yes, provide a two dimensional schematic of the building, specifying where the antenna is located and a map pointing the location of nearest airports). Sample Schematic:

Location Coordinates: 36° 0' 9.572" N Latitude (DD MM SS.ss)
84° 14' 27.543" W Longitude (DDD MM SS.ss)
Location Address: 100 Midland Dr
Oak Ridge
State TN Zip Code 37830



Building additional information:

Distance to nearest outside wall: 10.00 feet

Room has windows? YES ☒ NO ☐

External wall construction Material: Cinder Block

b. Has the company applied for an experimental license (XT) indicating the device is to be used as an "Experimental RNSS Test Equipment for the purpose of testing GPS receivers"? YES ☒ NO ☐

License application File Number: 0641-EX-CN-2026

Additional Details:
(if Applies)

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c. Applicant understands the length of assignment is two years and if additional time is required, we shall apply for a renewal of this license. ☒ (check in the box for confirmation and acceptance of terms)

d. Calculation for maximum EIRP based upon free space propagation:

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

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 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: $P_{Tmax(pW)} = 10^{\frac{(P_{Tmax} + 9)}{10}}$

P_{Tmax} -73.96 dBm

P_{Tmax} 40.16 picowatts

P_R -140.74 dBm/24 MHz

f 1,575.42 MHz

d 3.05 mts

Additional details or comments (of requesting consideration of non-zero building attenuation to meet the -140 dBm/24 MHz limit at 30 meters from the building for agency review)

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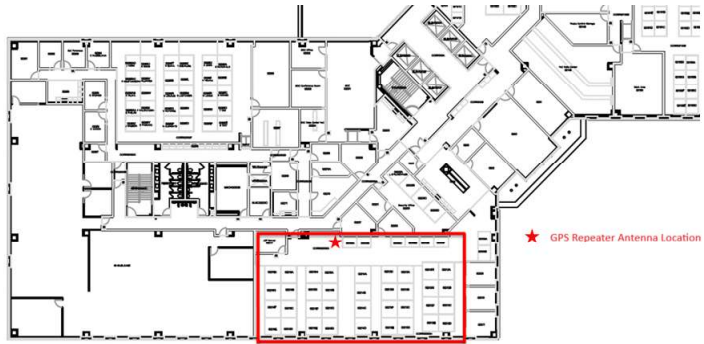
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Location Address: 100 Midland Dr
Oak Ridge
State TN Zip Code 37830



Building additional information:

Distance to nearest outside wall: 28.00 feet

Room has windows? YES ☒ NO ☐

External wall construction Material: Cinder Block

b. Has the company applied for an experimental license (XT) indicating the device is to be used as an "Experimental RNSS Test Equipment for the purpose of testing GPS receivers"? YES ☒ NO ☐

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

P_{Tmax} -72.15 dBm

P_{Tmax} 60.99 picowatts

P_R -140.26 dBm/24 MHz

f 1,575.42 MHz

d 8.53 mts

Additional details or comments (of requesting consideration of non-zero building attenuation to meet the -140 dBm/24 MHz limit at 30 meters from the building for agency review)

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