Overview

Anyone wishing to obtain an FCC experimental license for repeated GPS signals can obtain authorization for use through the FCC Experimental Licensing site. This document serves as a guide for what to expect throughout the process and how to file. There are three parts to applying for a license, use this as a guide for your own reference.

To review GPS Source, Inc.’s application and granted FCC experimental license visit: https://gullfoss2.fcc.gov/oetcf/els/reports/CallsignSearch.cfm and search Call Sign: WD2XTF

Here you have access to view all materials related to the application submitted by GPS Source, Inc. This information can be used for your own application reference with minimal changes such as latitude longitude and configuration of the room where the equipment will be operating.

Part I -- Obtain an FRN (FCC Registration Number)

Step 1. Register yourself or business/agency at the FCC Commission Registration System (CORES) found here: https://svartifoss2.fcc.gov/coresWeb/publicHome.do

Step 2. The system will prompt if you are registering as a business or individual, choose whichever applies and continue.
Step 3. Select your business type and fill in the additional information specific to your application (if registering as a business).

**FRN Registration**

![Register a Domestic Business](image)

**FRN Registration**

Step 4. Upon completion of this area of the website, choose “submit” from the bottom of the page.

![Submit](image)

The **FRN number** will be generated upon submission of the form. Print or note the number from this confirmation page for your records.

**Part II -- Obtain an experimental license**

Step 1. First go to the internet site: **https://gullfoss2.fcc.gov/prod/oet/cf/els/index.cfm** to begin the filing process, **Form 442** is used for initial filings for experimental license. **Form 405** is used to renew an existing license. In general, licenses are good for 2 years. The **Special Temporary Authority (STA) Filing Option** is valid for 6 months.

*Note: for testing of the system before filing for an actual license, use the testing site and register with FRN 0005072848 found here: https://selafoss.fcc.gov/prod/oet/cf/els/index.cfm*

For the application submitted by GPS Source, including frequency ranges and product model/type visit: **https://gullfoss2.fcc.gov/prod/oet/cf/els/reports/442_Print.cfm?mode=initial&application_seq=29633&license_seq=29905**

**Step 2.** Answer questions pertaining to your organization and the goals of the project, lifecycle and click proceed. Unless you have filed in the past, you will be entering “all new data.” This application illustrates a local fire department application with all screenshots throughout the process shown.
Step 3. Input the following information related to your project. Depending on the scope of your project, enter yes or no for questions 4-7. The maximum project length is 24 months (between renewal of licenses) and enter no for the last page where your use will not have an impact on surrounding environment, in most cases this is ‘no.’ for repeater applications.
Step 4. The next step is entering data related to the Manufacturer and type of transmitting repeater equipment. In the following example, the GPS Source, Inc. GPSRKL1 repeater kit is entered which includes active L1 frequency band antenna. The L1 band is most often those in common GPS applications for public safety. Cables and brackets do not have to be included, only the equipment used to reradiate the GPS signals. The following example lists the model no. of the repeater kit, the outside active antenna and the passive antenna which is included with the repeater kit.
Step 5. The following information is related to the equipment, and the applicant. Enter as shown below or where the information is different, enter according to your agency. Items with an (*) are required.

Figure 4. Screen 4 -- Final Screen prior to submission of administrative information
Part III – Enter Technical Data related to Antenna Application

The following is confirmation of the successful submission of the FCC filing. You need to continue by following the “Technical Data” button midway down the page (see Figure 5). The technical data must be completed within 30 calendar days of filing the information or the application will be removed from the system.
Figure 7. Transmitter Location

Latitude/Longitude Conversion Sites:


Figure 8. Datum and Directional Antenna
The following screen is used to designate the frequency of operation. For L1 frequency, use the designation below. The most common frequencies used for civilian applications is the L1 frequency carrier.

For conversion of dBm to Volts or Watts, use this conversion site: [http://www.ipass.net/teara/dbm.html](http://www.ipass.net/teara/dbm.html)
This is the final step in specifying the antenna frequencies. After adding frequencies to be used, the filing may be viewed by clicking “view Filing” as shown in the bottom right corner of Figure 10.

**Part IV – Add Attachments**

If during the application process, you were advised of attachments that would need to be included; you may wait for correspondence from the FCC of submit at any time during the application process.

This section allows you to upload drawings of the facility

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**NOTICE:** Please be sure the following exhibits have already been submitted:

*Click Here For Attachment Submission Instructions*

**Form 442 Question 7: Experimentation Description**

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**Send File(s) To FCC**

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During the application process there are portions where attachments are requested if certain information is entered. There is also a requirement by the FCC to attach a drawing of the facility as well as the location where the GPS reradiated signal will originate inside the facility.

Once you have submitted each of the portions, you can access to modify by logging back in to the system.
Figure 11. Illustration of an attachment showing building layout/dimensions and transmitting antenna configuring for FCC filing

Useful Resources

**GPS Source, Inc. Repeater Regulations**

http://www.ntia.doc.gov/osmhome/redbook/redbook.html

For further Questions, please contact:

GPS Source, Inc.
64 Mission Drive
Pueblo West, CO 81007

Phone: 719-561-9520
Toll Free Phone: 866-289-4777

sales@gpssource.com