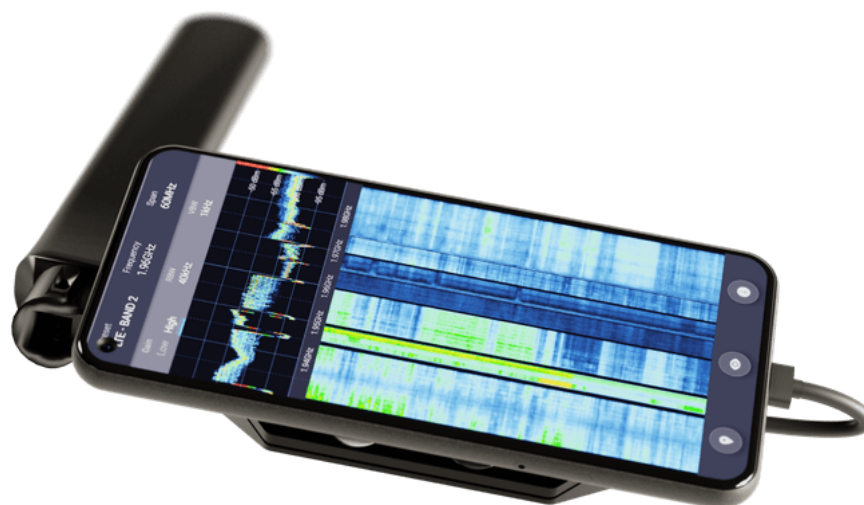

GETTING STARTED GUIDE

V1.0.3 - MARCH 15, 2022

ES023-516



CHANGELOG

Revision	Date	Description	Author
1.0.3	2022-03-15	Added GPS Section	Gary S
1.0.2	2022-01-26	Initial Release	Gary S
draft	2021-10-22	initial draft	Gary S

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PRISM GETTING STARTED GUIDE

PRiSM converts mobile devices into a 5G, 4G, and P25 network survey, scanning, testing, and troubleshooting scanner and spectrum analyzer. The PRiSM scanner can be connected to a compatible laptop, tablet, or smartphone with no apps to download.

CONNECTING THE ANTENNA

Connect the antenna to the SMA port labeled RF1.

CAUTION: Take care to tighten the antenna to the PRiSM unit by rotating the nut and holding the antenna stationary. Rotating the antenna to attach to the unit will damage the connector.



CONNECTING TO THE DEVICE

The PRiSM connects to PCs, tablets, and smartphones by a USB-C port.

Mobile devices with an available USB-C port and those which support USB-OTG can be used with PRiSM.



Laptops can be connected to a PRiSM device using a USB-A to USB-C cable (not included) if a USB-C port is not available.

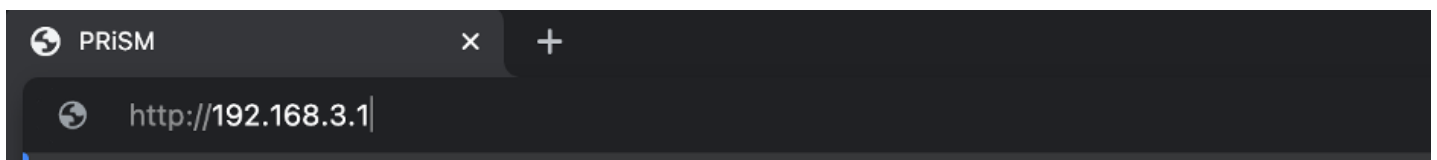
NOTE: When using PRiSM with an Android device, first switch the device to airplane mode and disable Wi-Fi. Android is limited to supporting only a single network adapter.

Upon connecting the PRiSM to the device, it will boot in about 10 seconds (the status LED will go from solid to heartbeat). It will be ready to access 15-20 seconds after plugging it in.

GETTING STARTED WITH PRISM

Connect to the PRiSM by opening a browser and setting the URL to <http://192.168.3.1>

NOTE: Be sure to use HTTP, not HTTPS.



YOUR FIRST PCI SCAN

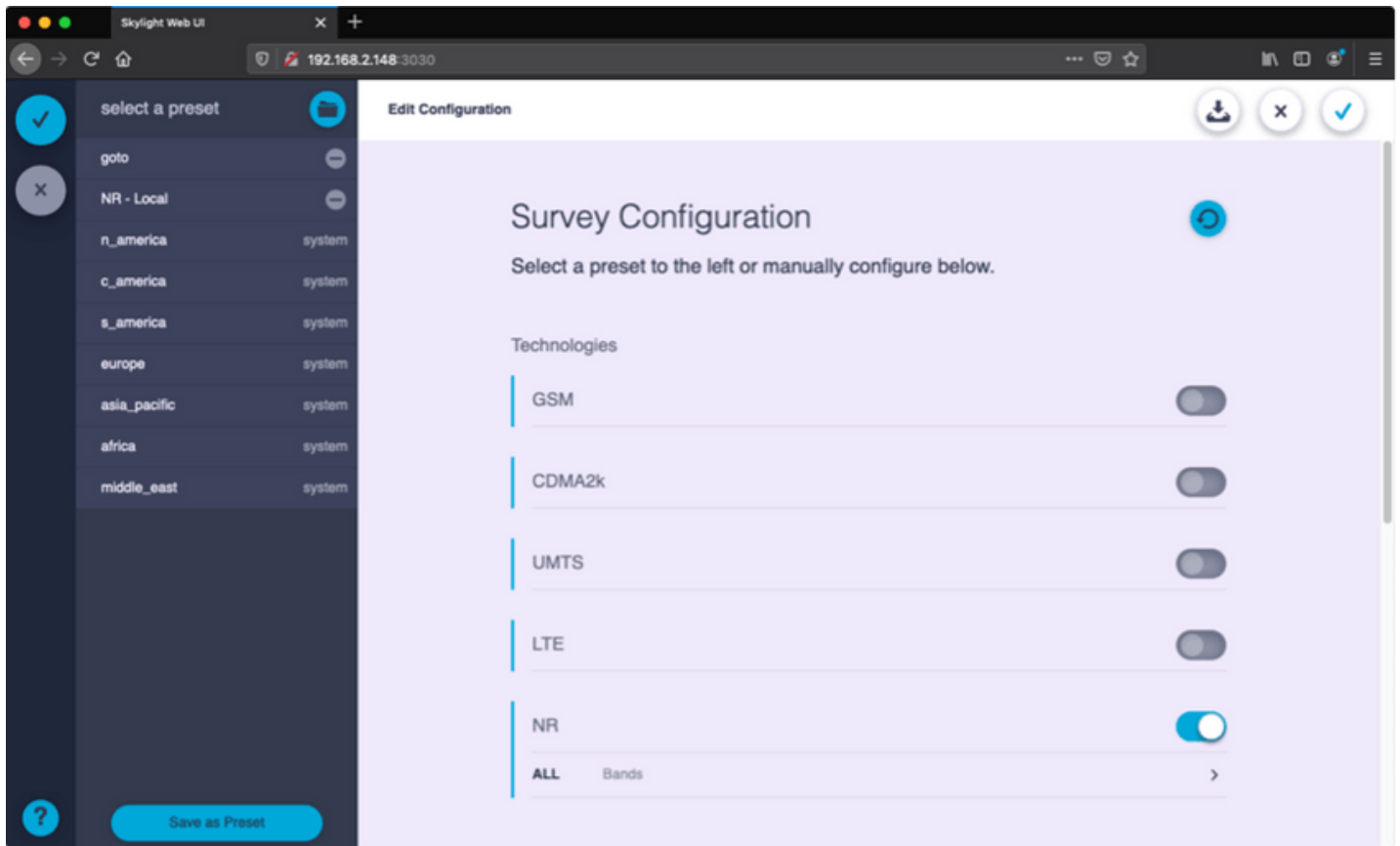
At the opening splash screen, choose the PCI Survey option.



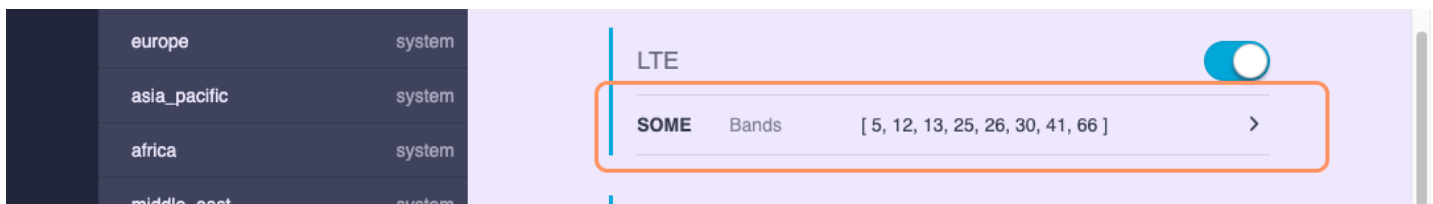
NOTE: If PRiSM is not licensed for any PCI scanning technologies, the PCI Survey selection will not function.

CONFIGURING THE PCI SCANNER

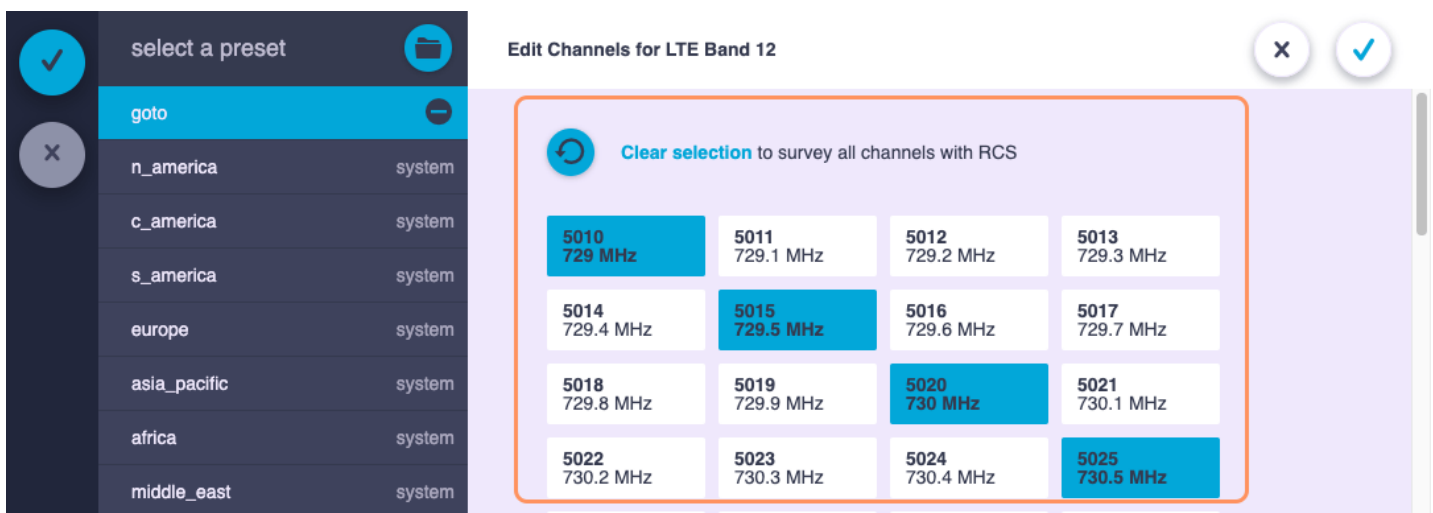
First, choose a technology or multiple technologies. 5G NR, LTE, and P25 are available based on the licensing of the device.



Select bands by choosing the band arrow or by selecting a preset.



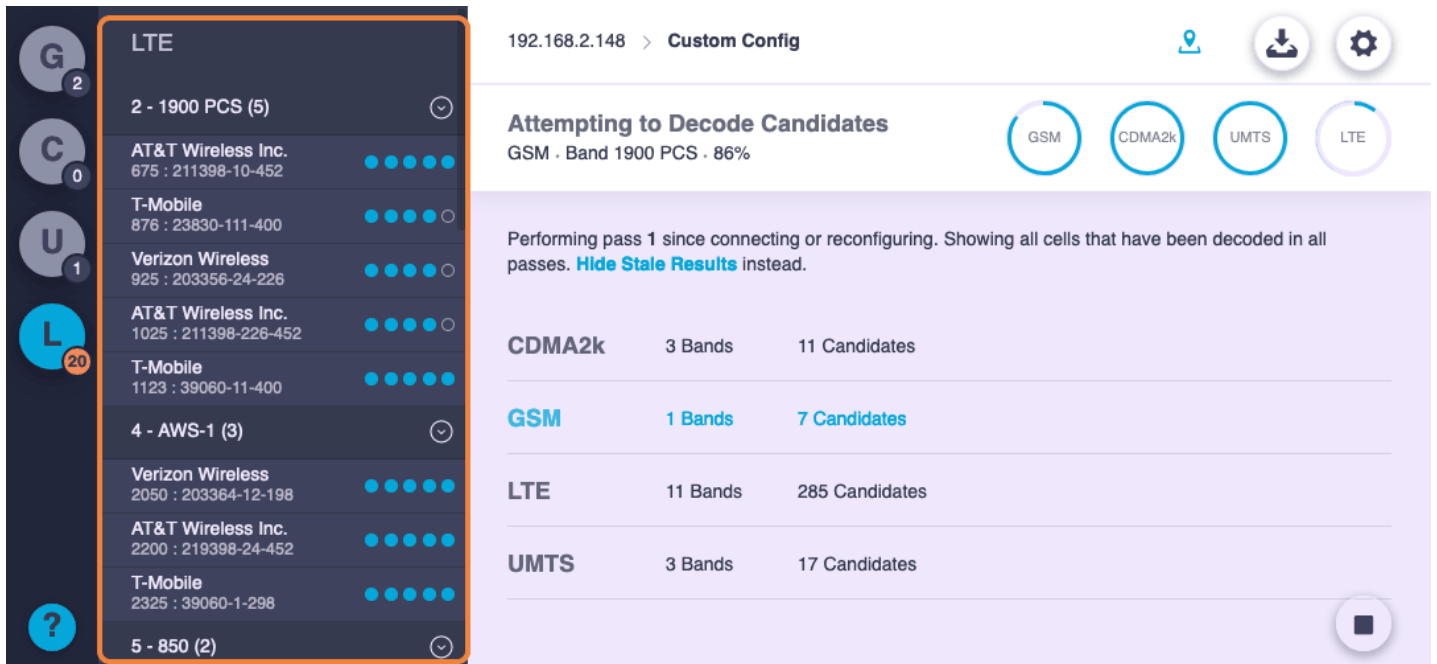
Specific channels within a band can be selected by choosing the Channels Arrow.



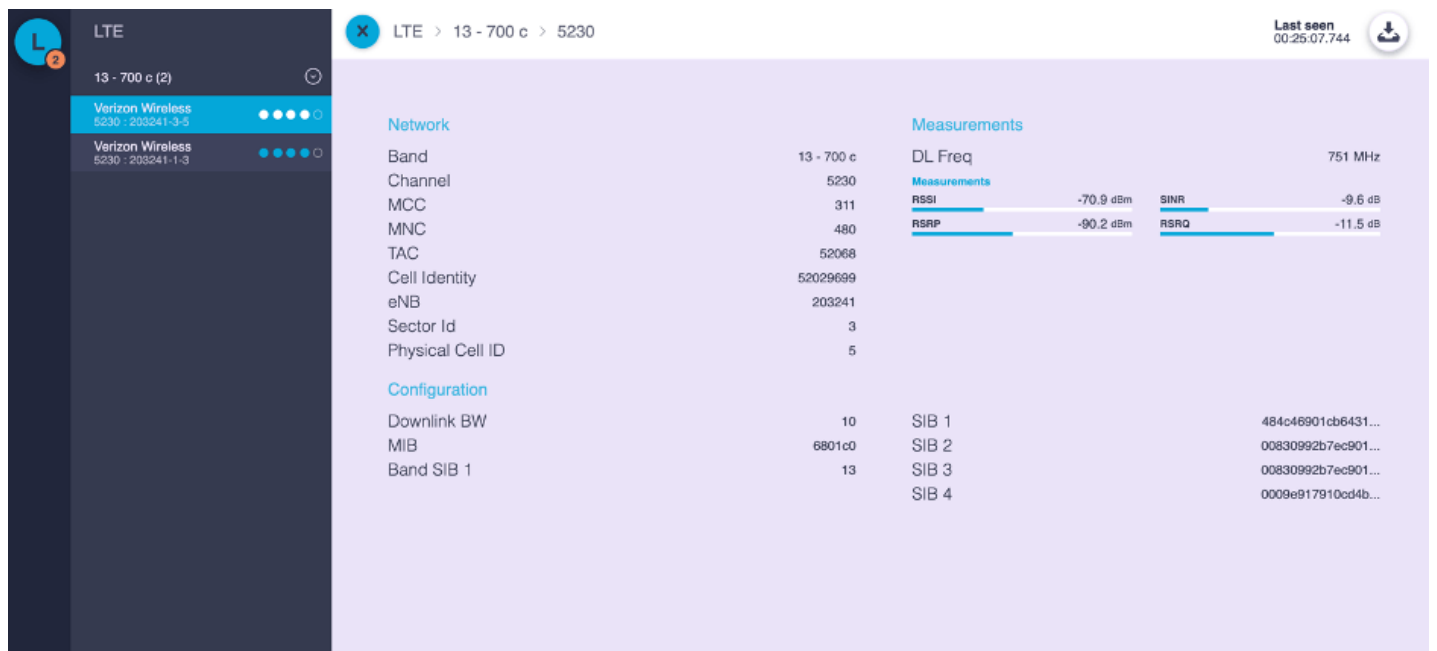
Note that selecting many bands will dramatically slow the time to first detection.

VIEWING DATA

The Channel List displays discovered PCIs sorted by channel number. All entries are further divided by the frequency band in which they were found. Frequency bands can be collapsed and expanded.

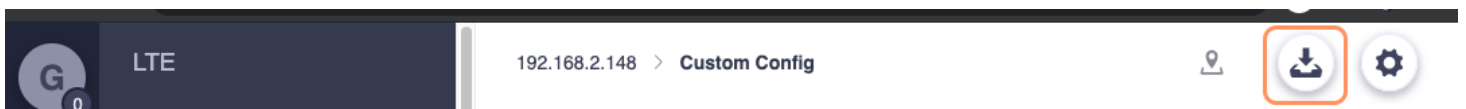


Selecting a PCI will show real-time measurements.

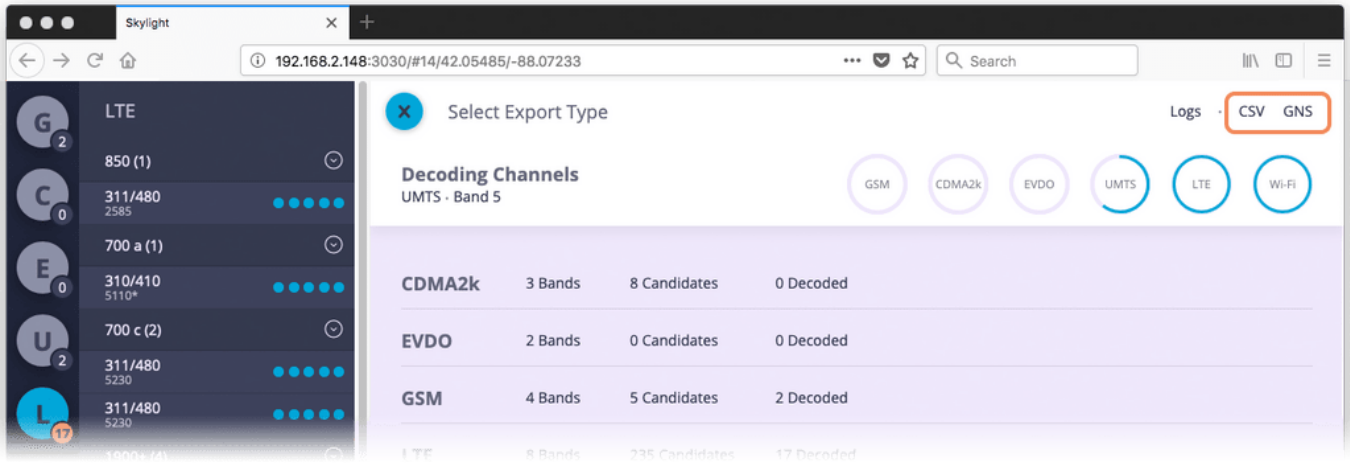


EXPORTING PCI MEASUREMENT DATA

For PRiSM units licensed with advanced scanning, measurements will be logged up to once per second. The measurements can be exported from PRiSM. From the channel list window select the download icon.



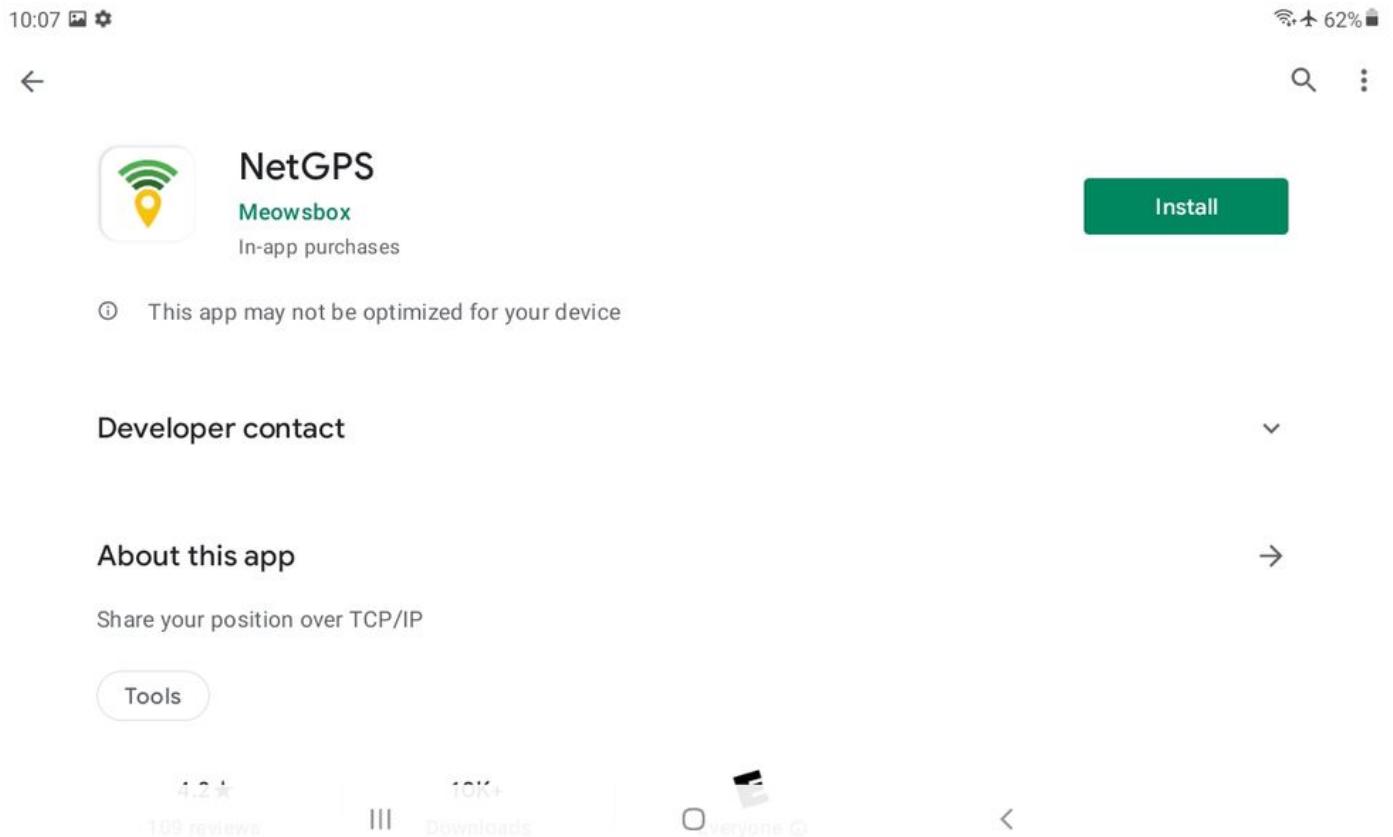
Then select CSV to get the measurements in CSV format.



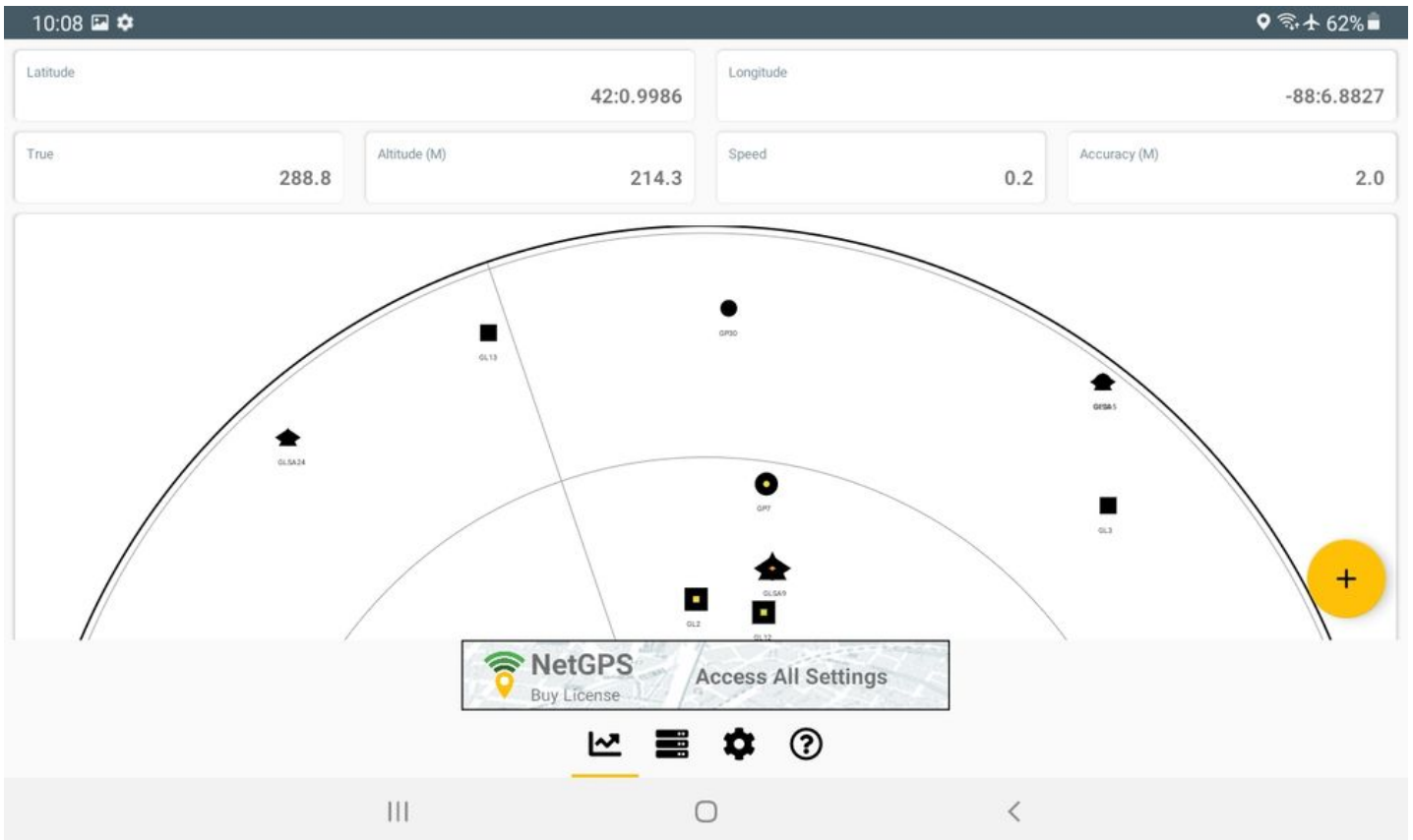
CONFIGURING GPS

Exported data can be tagged with GPS using the GPS from the host device. In order to enable this feature, configure a GPS application that provides a NMEA GPS server on the device. One such application is NetGPS available from the Google Play Store. Without a NMEA helper application configured properly, exports will not contain GPS coordinates.

To configure NetGPS, be sure you're logged into the Google Play Store and Install NetGPS.

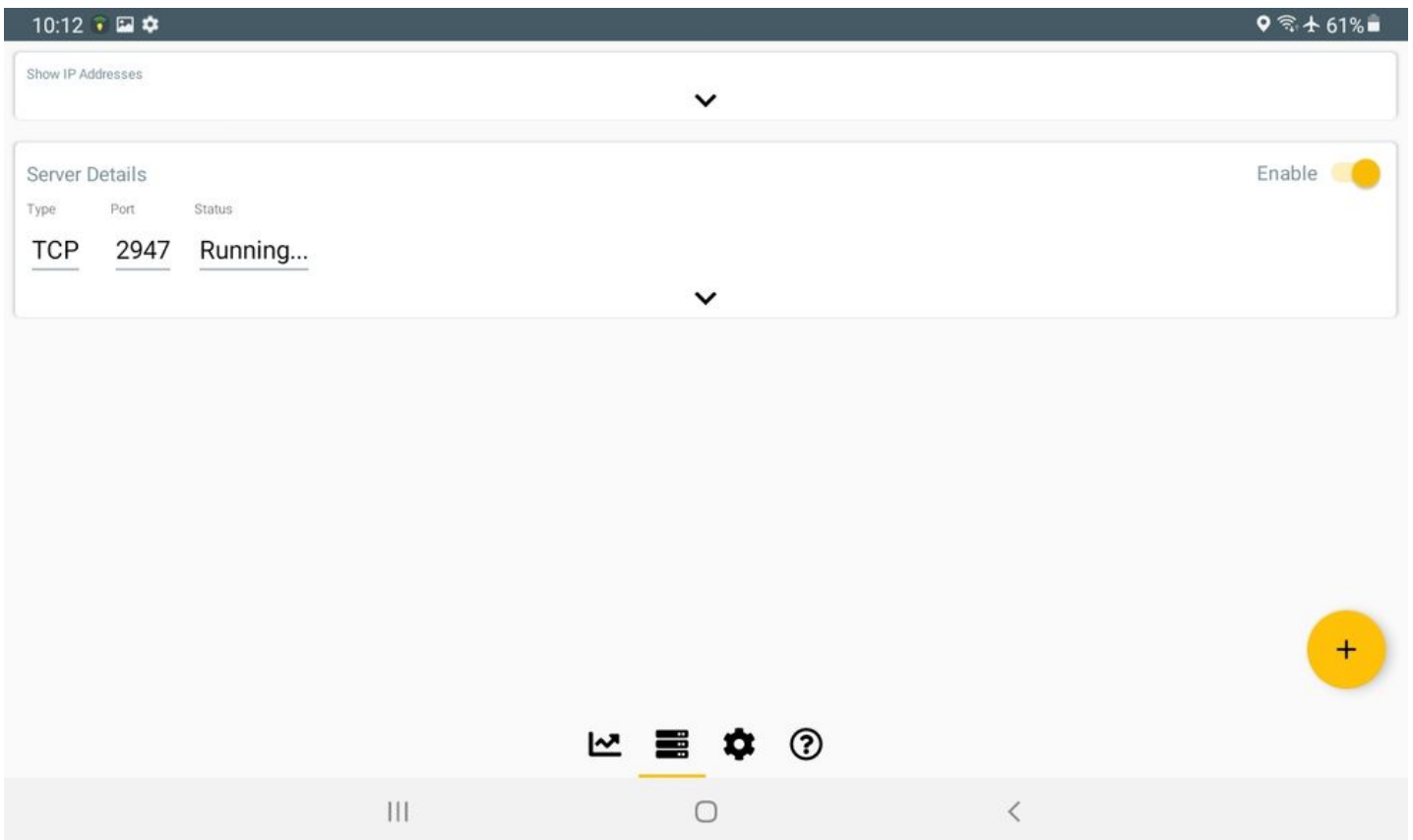


It is recommended to purchase the license to get all the settings available in the app. Do so by selecting the Buy License popup.

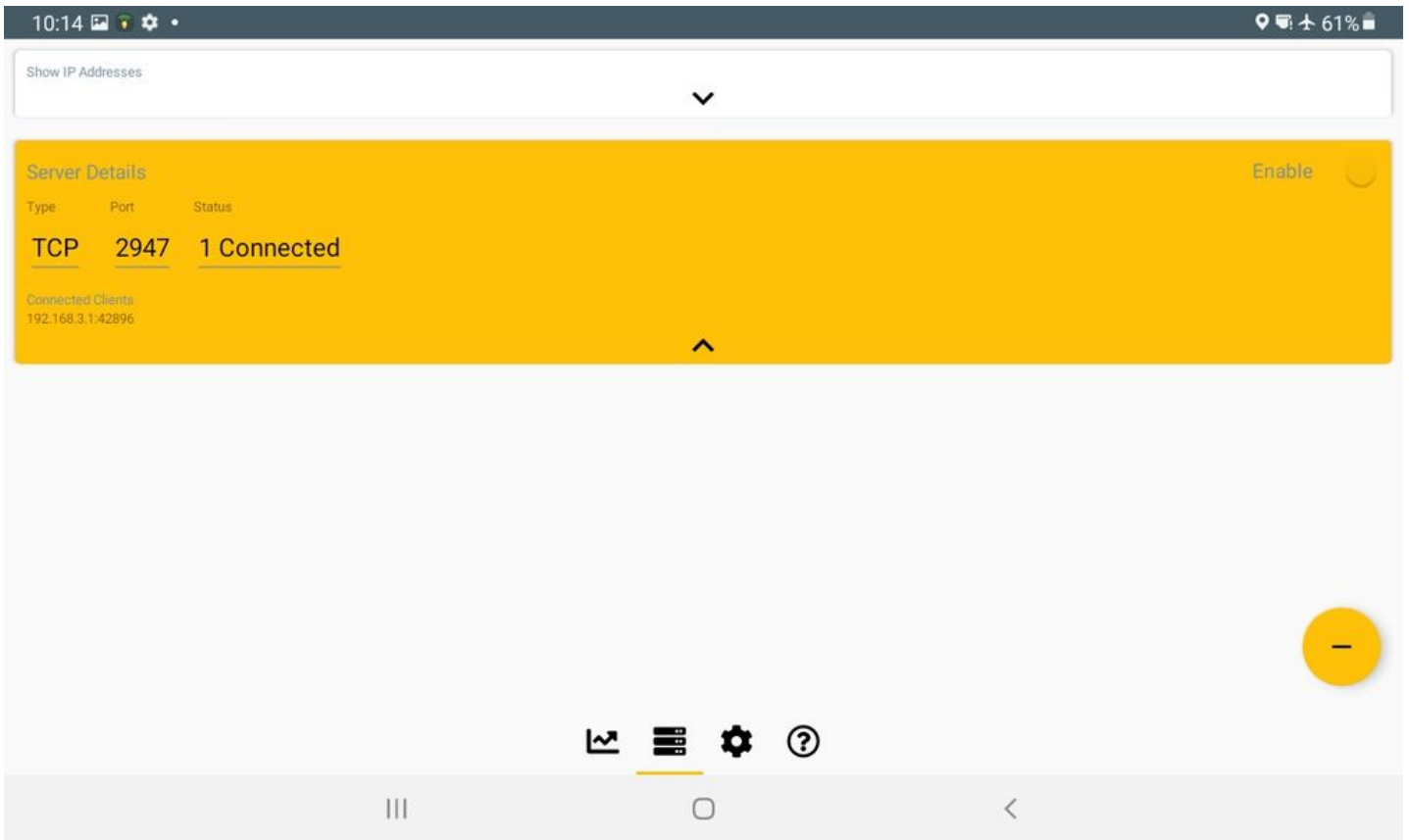


Ensure that the application has a GPS fix -- this can be done by verifying it is showing a latitude and longitude in the main window.

Configure the server function by setting the port number to 2947 and clicking enable.

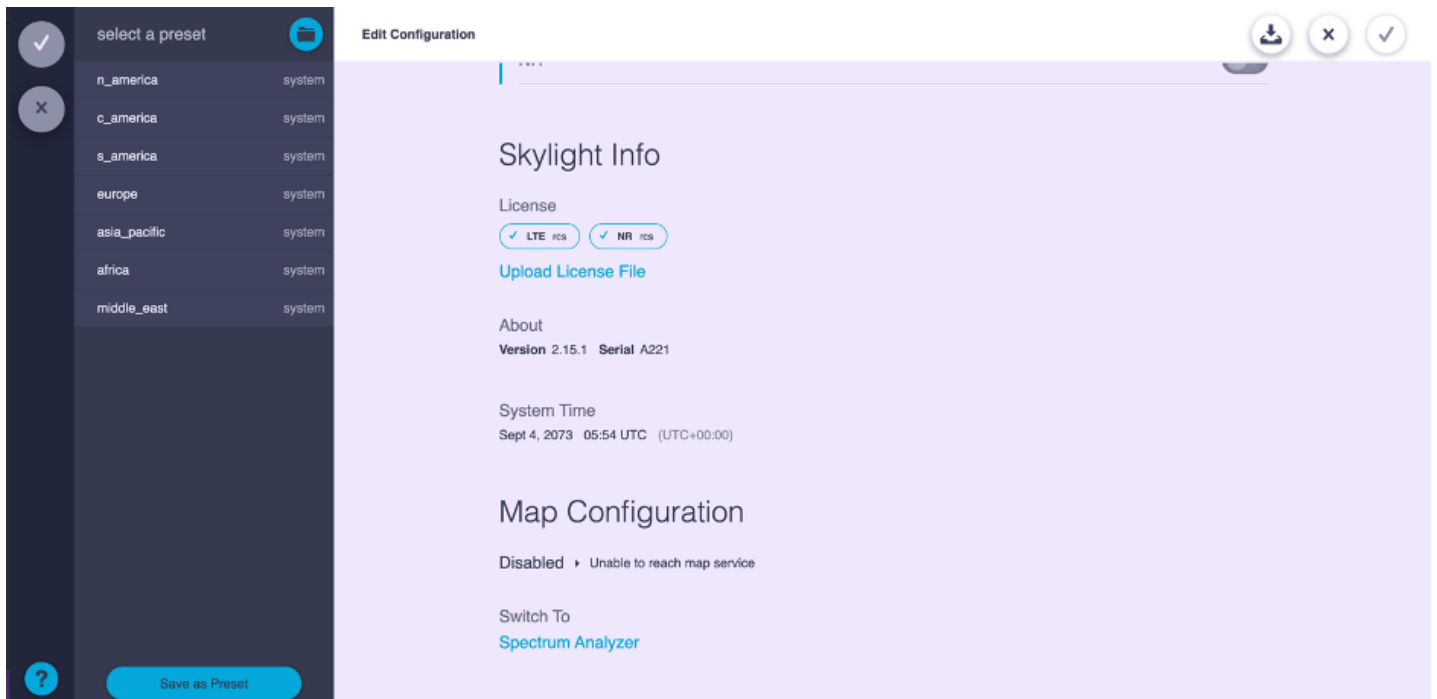


Finally, configure a PCI scan and run a survey. Switching back to NetGPS should show that there is a server connection and PRiSM is using the GPS coordinates from the device.



SWITCHING TO SPECTRUM ANALYZER

When in the PCI Scanner application, switching to the spectrum analyzer can be done from the configuration menu. Select the cog icon from the top right of the window. At the bottom of the screen select Spectrum Analyzer.



USING THE SPECTRUM ANALYZER

The PRiSM Spectrum Analyzer is an application that provides a realtime view of RF spectrum based on a flexible configuration of radio frequency, sample rate, and filtering configuration.

CONFIGURING THE RECEIVER

You can adjust the frequency and range of the section of spectrum you are viewing. The following fields will affect this viewing range:

Frequency

Sets the center frequency of the receiver.

Span

Sets the range of spectrum you are viewing.

Start

Sets the beginning frequency of the viewable range.

Stop

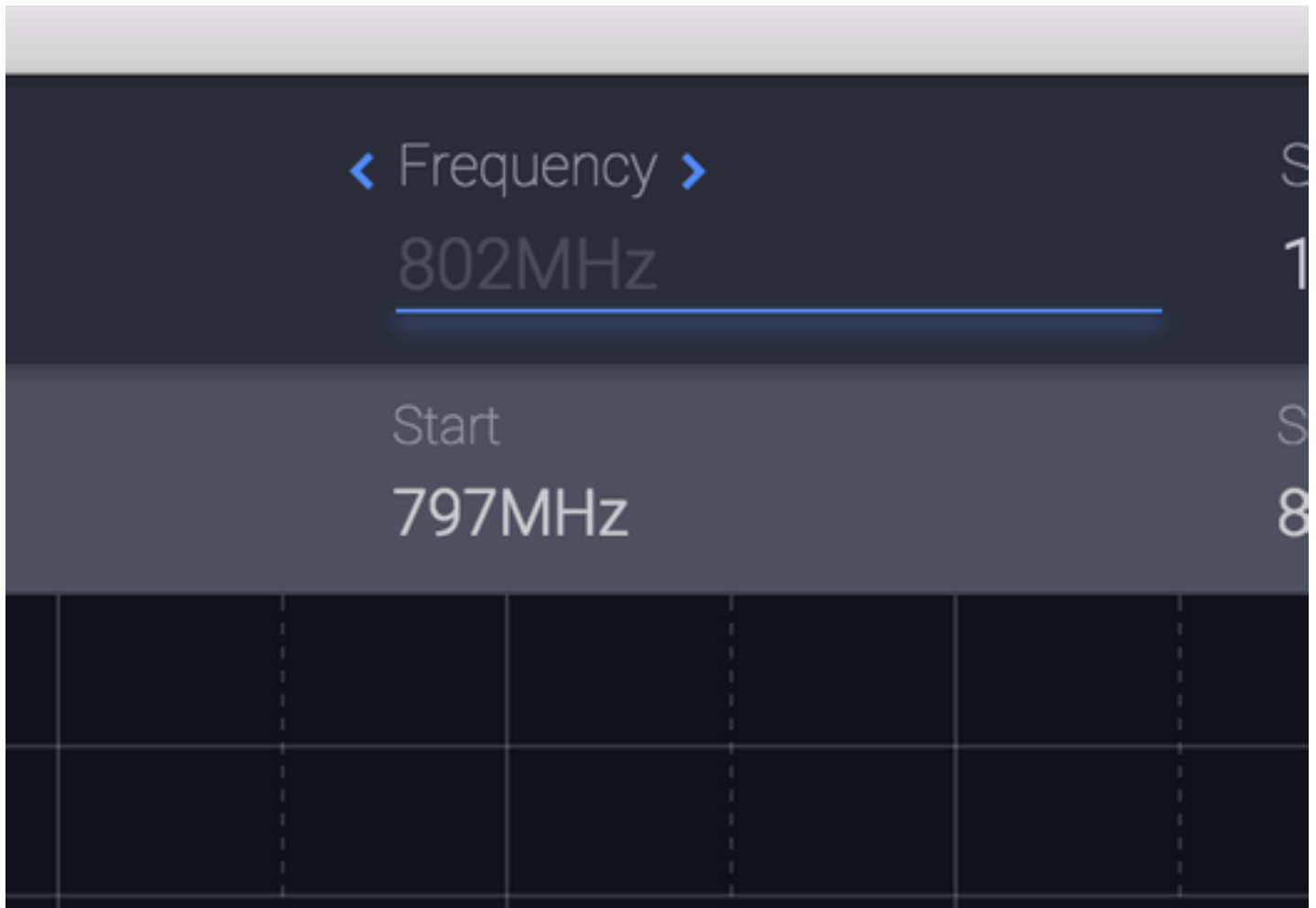
Sets the ending frequency of the viewable range.

USING FREQUENCY FIELDS

Number Entry

Any of the fields that allow you to edit a value representing a frequency can be used in the same way. Click on the current number to begin editing. When you begin typing, the current value will be shown crossed out, so you can confirm the change you are making before applying it. While editing a field, you can change the units to kHz, MHz or GHz, by pressing "k", "m" or "g" respectively.

Pressing will apply the value.



STEPPING

When you hover the mouse over any tuning field that is editable, two arrows will appear around the title of the field (e.g. < Span >). You can click these arrows to increase or decrease the current value by the step size specified by the **step** field. Additionally, after clicking on the current value of a frequency field, but before typing any values, you can use the **up** and **down** arrow keys to apply the same stepping function.

SWITCHING TO THE PCI SCANNER

To return to the PCI scanner from the spectrum analyzer, select "PCI Scanner" from the information menu.

