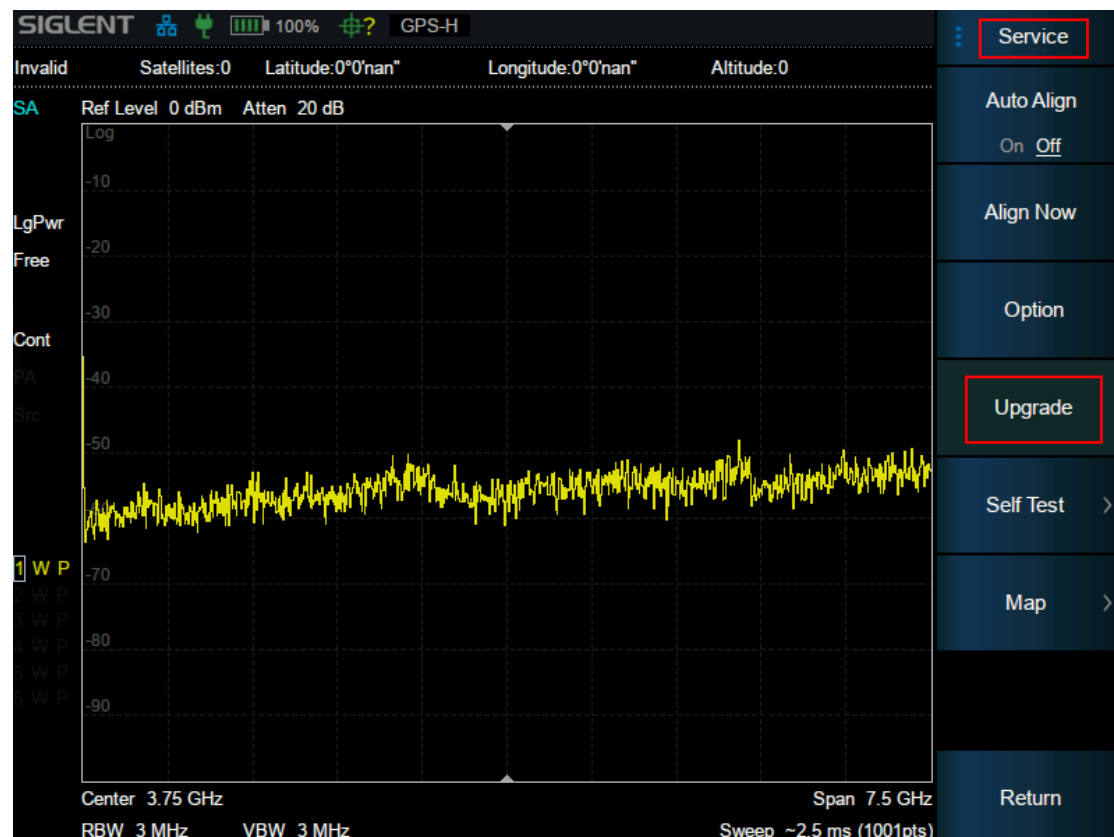


## 1.Firmware Upgrade

Please follow the steps below to upgrade the firmware:

- (1) Download the firmware upgrade package from the official website.
- (2) Unzip the ADS format file and save it to the root directory of the U disk.
- (3) Insert the U disk into the USB Host port and navigate to **System** > **Service** > **Upgrade** on the device to locate the ADS file on the USB drive.
- (4) Confirm the analyzer will automatically perform the firmware upgrade.



Note: The upgrade process may take several minutes. Do not interrupt the upgrade process as it may result in lost upgrades. Even if the instrument fails to start, please ensure the U disk is stable and the instrument has a stable power supply during the upgrade.

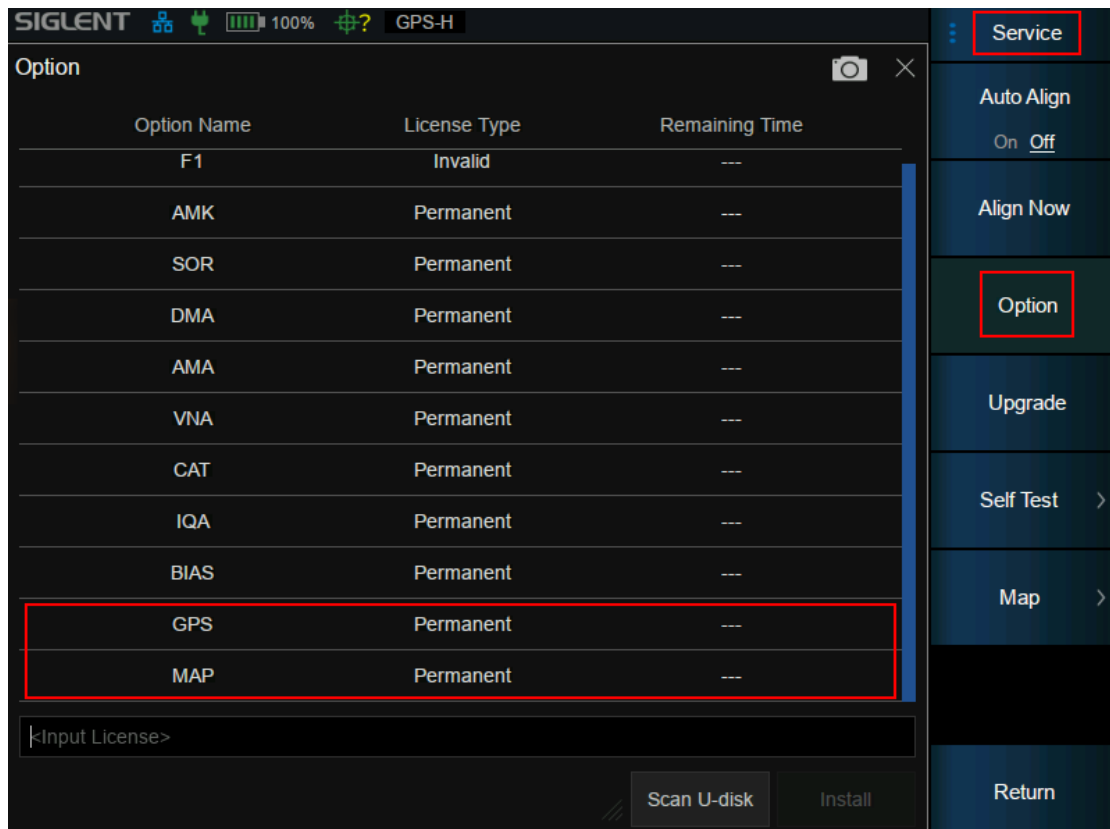
## 2.Option Loading

To use the map function, you need to activate the GPS option and MAP option. Follow these steps to activate the purchased options:

- (1) Click **System** > **Service** > **Option**.
- (2) Enter the option sequence in the pop-up window.

Or directly load the .lic File,click **File** > **File Browser** and select the corresponding .lic file

in the memory.

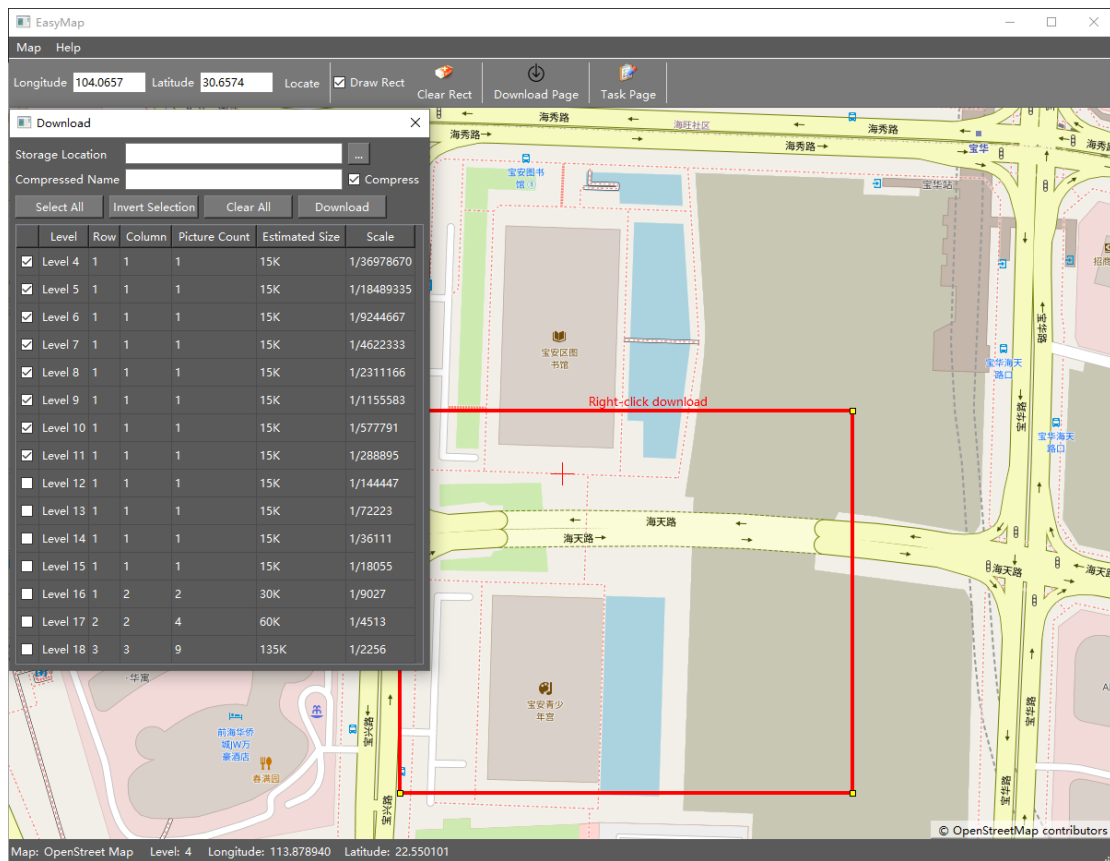


### 3.Map Download

#### 3.1. Easy Map Downloader

Please follow the steps below to download and use the software:

- (1) Download and install Easy Map software
- (2) Run Easy Map software, and a map of the world will be displayed.
- (3) Use the box selection to choose the desired regional map, select the map level to be downloaded, and click the download button.

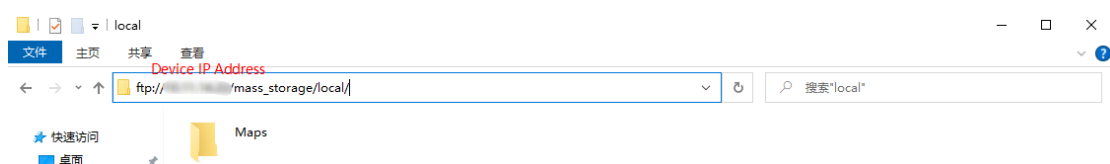


## 4. Map Import

### 4.1 Map Copy

After downloading the tile map package, follow these steps:

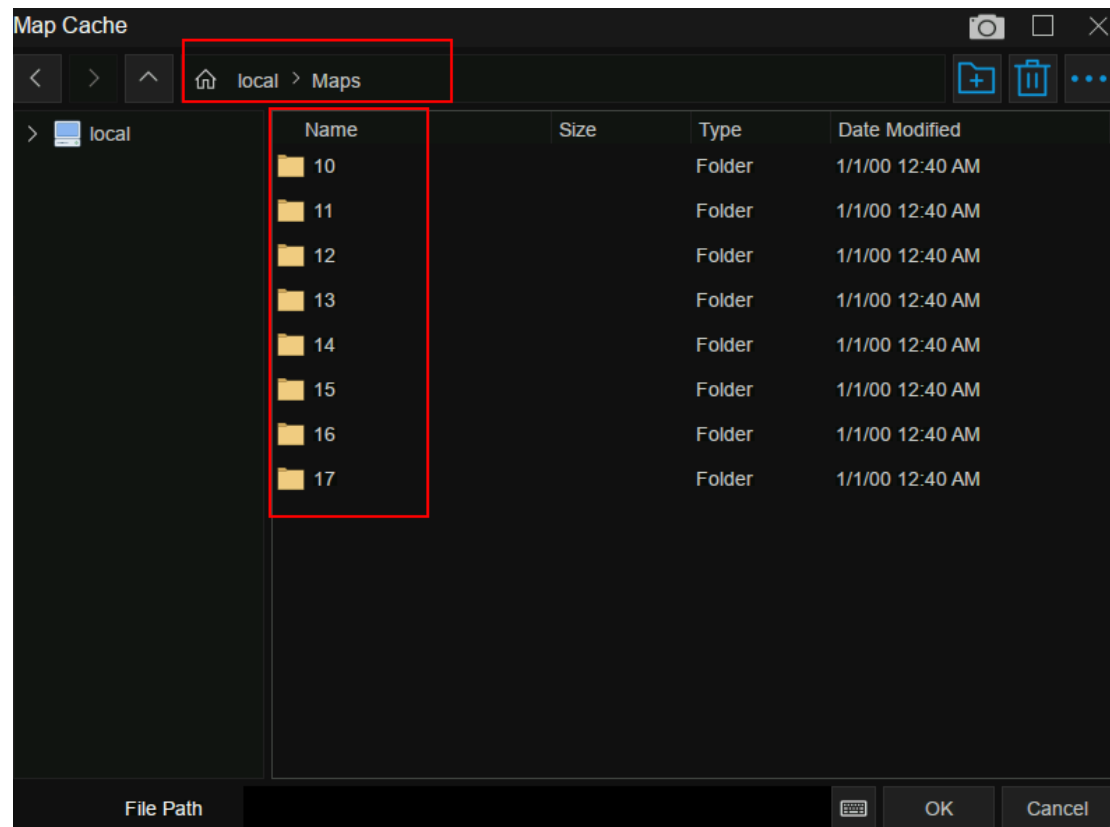
- (1) Extract the downloaded map folder.
- (2) Place the extracted files in the local directory of the device using one of the following methods:
  - Connect the device to the network using a network cable, then connect to the device's IP address using FTP. Copy the extracted file to the local directory of the device.
  - Insert a USB flash drive into the device and copy the file from the USB flash drive to the local directory of the device.



## 4.2 Map Loading

Please follow the steps below to load the tile map:

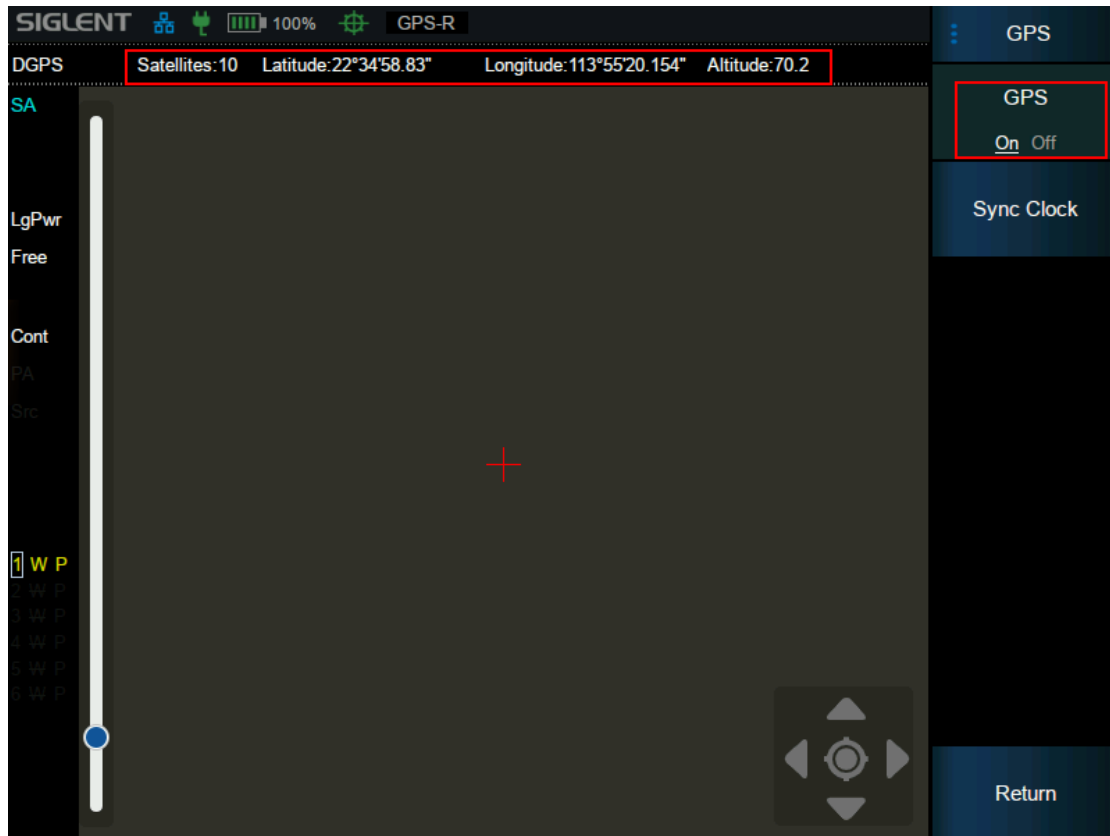
- (1) Click **Menu** > **System** > **Service** > **Map** > **Map On** > **Map Cache**.
- (2) Select the corresponding folder under "Local" and navigate to the directory that displays the tile map hierarchy, as shown in the figure below.
- (3) Press OK to complete the import of the map package.



## 5. GPS Access

To access the GPS, follow the steps below and ensure that the GPS antenna is properly connected and placed where it can receive signals from satellites:

- (1) Connect the external GPS antenna to the GPS antenna port on the equipment and tighten it securely.
- (2) Place the external antenna in an outdoor location where it can receive GPS satellite signals.
- (3) Click on **Menu** > **System** > **Input/Output** > **GPS** > **GPS On**.
- (4) Verify that the latitude and longitude information is being accurately located.



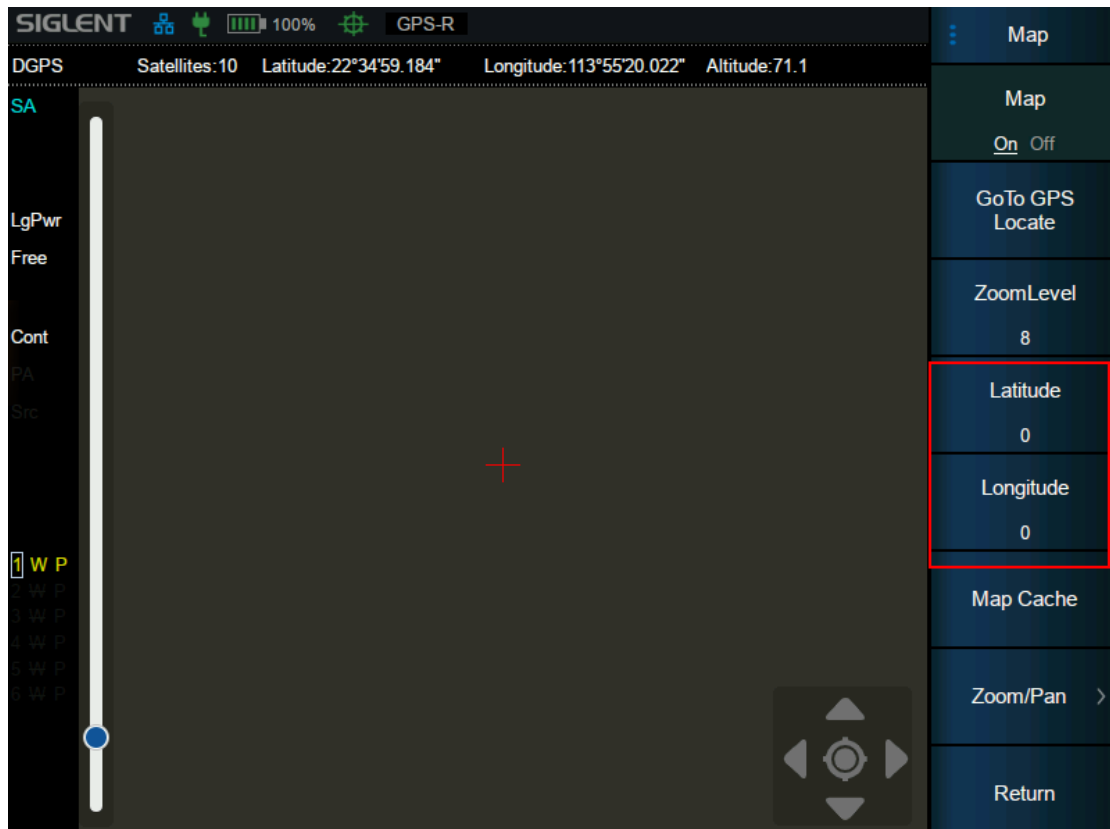
## 6.Map Operation

Click on **Menu** > **System** > **Service** > **Map** > **Map On**.

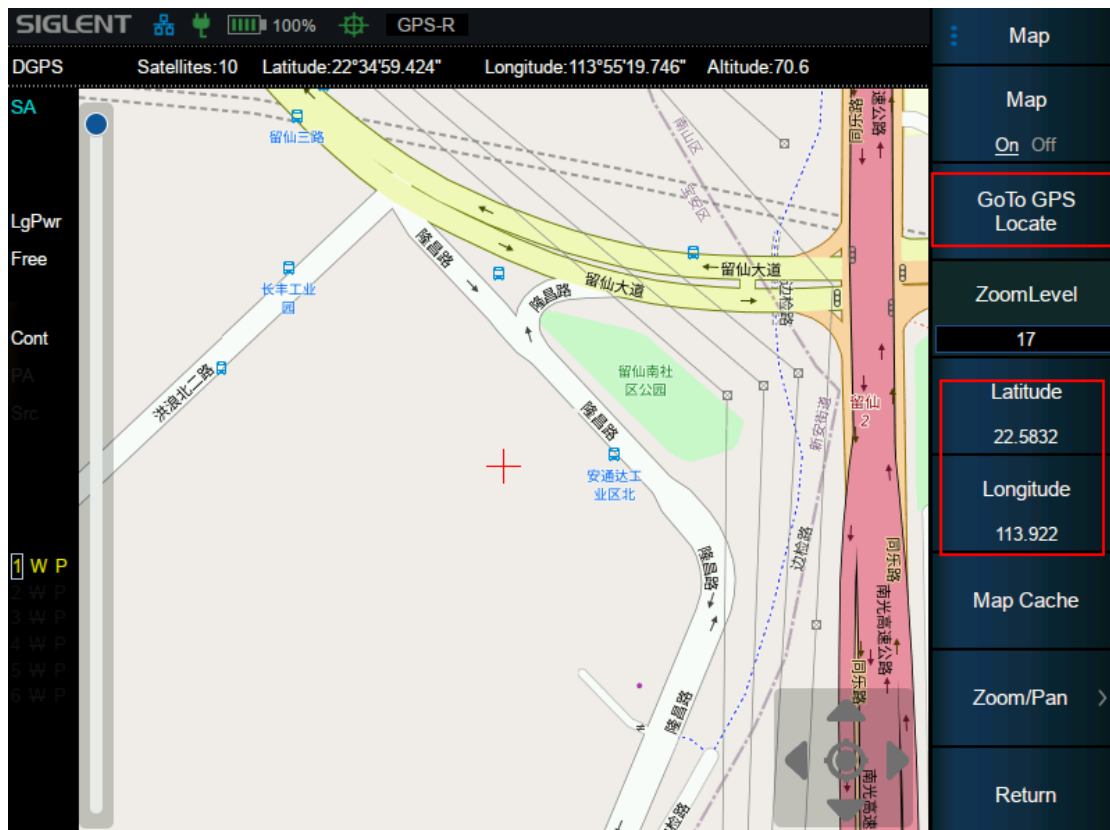
### 6.1 Locate the Current Position

Click **GoTo GPS Locate**. The map will be centered on your current position.

(1) Display screen before positioning:



(2) Display screen after positioning:



## 6.2 Scaling

You can zoom in or out of the map by adjusting the Zoom Level. Additionally, you can use the slider on the UI to adjust the map level.

## 6.3 Move

To move the map, you can use the directional buttons (east, west, north, south) or use the touch screen or UI controls (up, down, left, right).

Note: The map path setting is typically a one-time and infrequent function. Once loaded, it usually does not need to be changed. The address is recorded in the system cfg file and will be loaded automatically upon powering on and restarting the device.

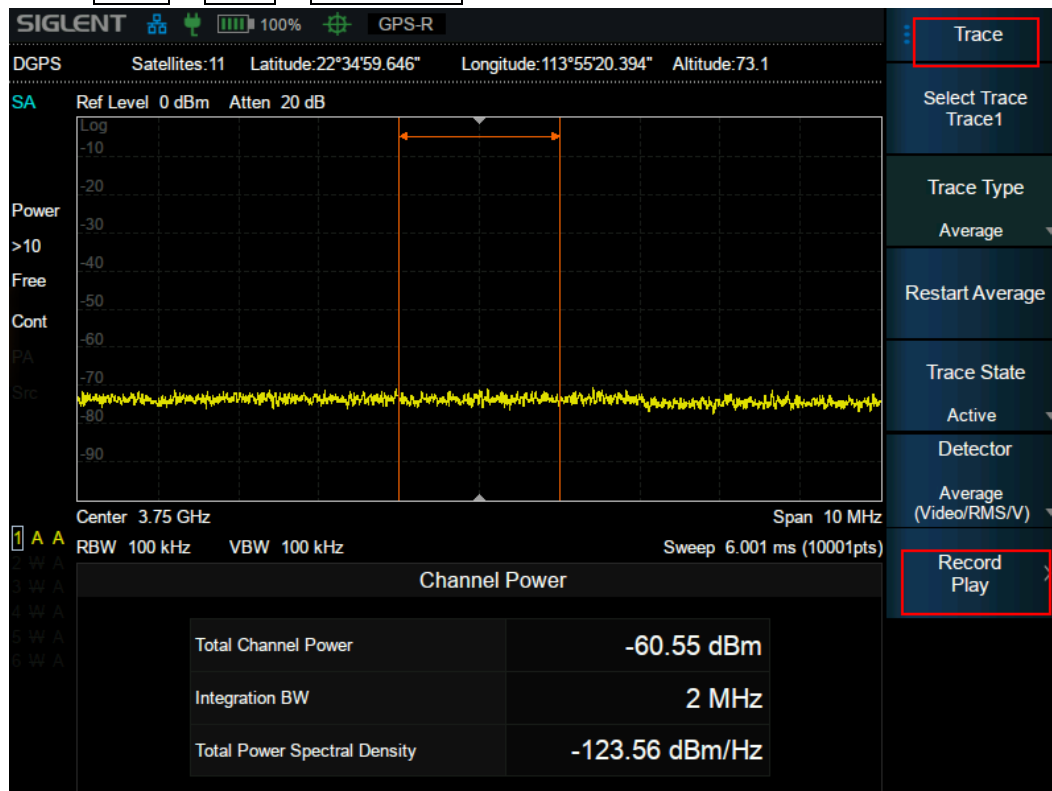
## 6.4 Map recording function

(1) Turn on the GPS and ensure that it can receive satellite signals. Refer to section 3.1 for detailed steps.

(2) Click **Menu** > **Mode** > **SA**.

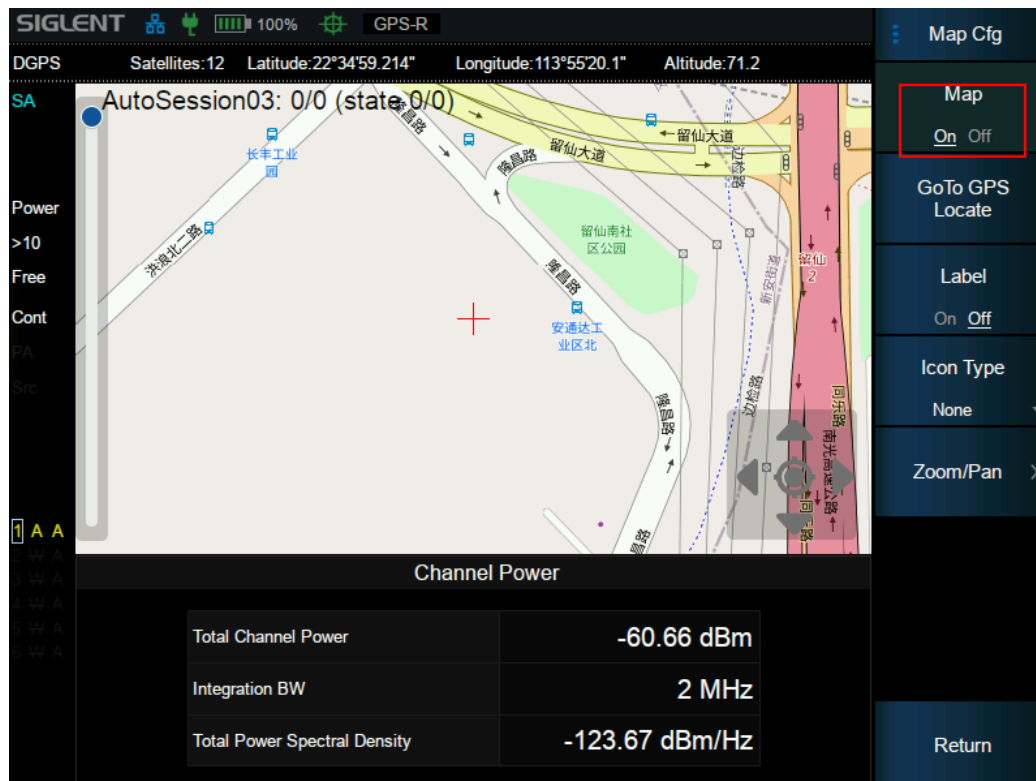
(3) Click **Menu** > **Meas** > **Meas Type** > **Channel Power**.

(4) Click **Menu** > **Trace** > **Record Play**.

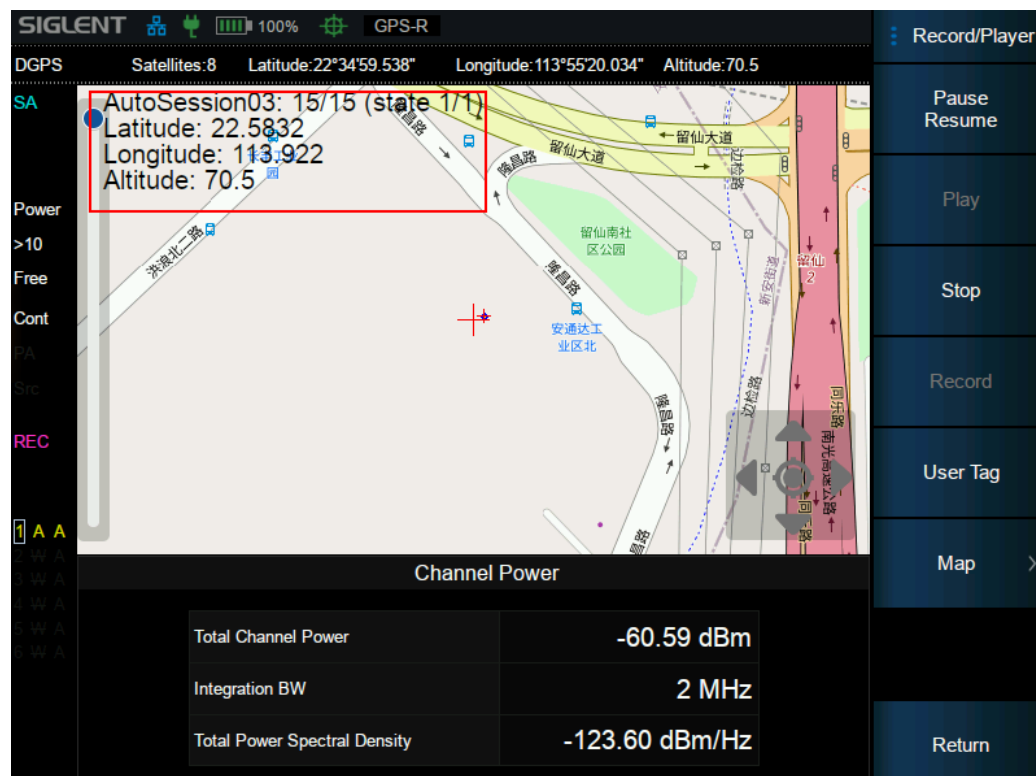


(5) Click **Record Play** > **New Session**.

- (6) Click **Recorder Player** > **Map** > **Map On**.
- (7) Click **GoTo GPS Locate** to determine the current location.



- (8) After clicking **Return**, click on **Record** to start the map recording function.



- (9) Once the recording is complete, click on **Stop**, then click **Return** to go back to the previous layer, and finally click on **Close Session**.

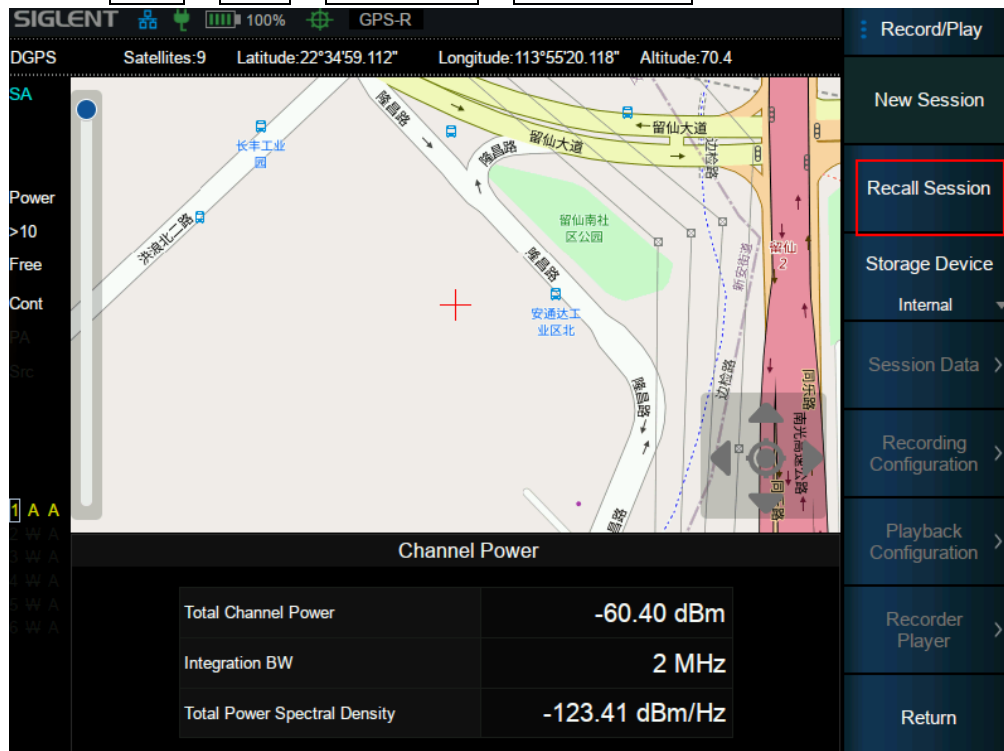


## 6.5 Map playback function

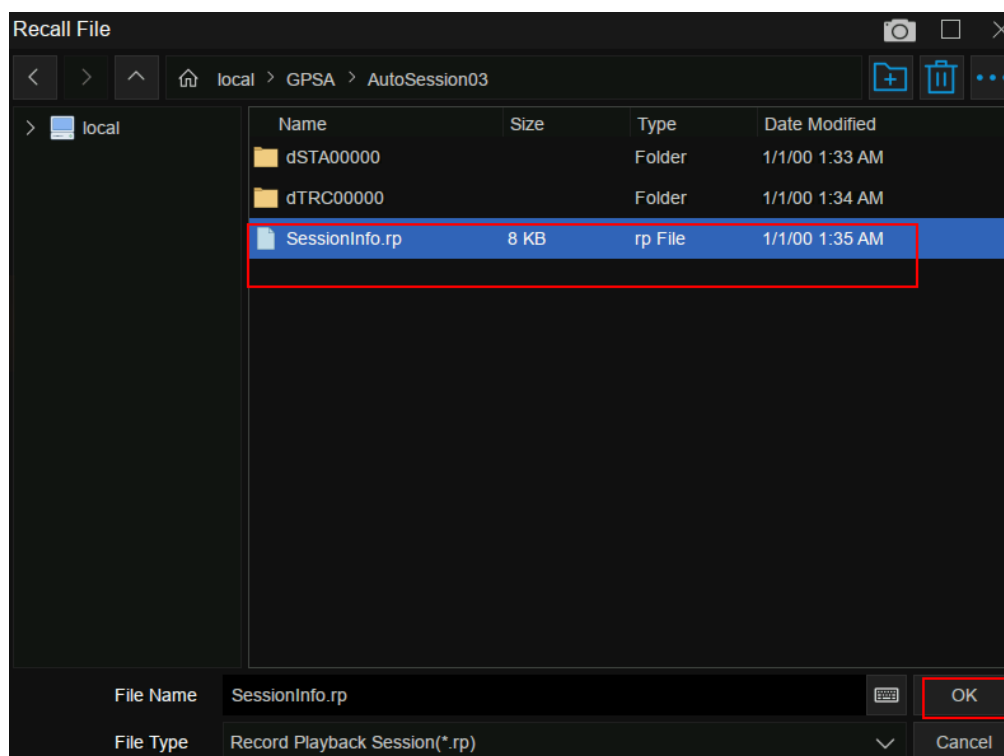
### 6.4.1 Local playback

To perform local playback, follow these steps:

- (1) Click on **Menu** > **Trace** > **Record Play** > **Recall Session**.



- (2) Click on the folder path to select the corresponding rp file, and click OK.



(3) Click **Recorder Player** > **Play** to perform local playback.

The screenshot shows the SIGLENT software interface. At the top, it displays 'DGPS', 'Satellites: 11', 'Latitude: 22°34'58.998"', 'Longitude: 113°55'20.208"', and 'Altitude: 69.5'. The main map area shows a street view with labels like '留仙大道' and '留仙南社区公园'. A red crosshair is visible on the map. On the right side, there is a vertical menu with the following options: 'Record/Play', 'Close Session', 'Recall Session', 'Storage Device' (set to 'Internal'), 'Session Data', 'Recording Configuration', 'Playback Configuration', 'Recorder Player' (highlighted with a red box), and 'Return'. Below the map, there is a 'Channel Power' section with the following data:

Channel Power	
Total Channel Power	-60.60 dBm
Integration BW	2 MHz
Total Power Spectral Density	-123.61 dBm/Hz

The screenshot shows the same SIGLENT software interface, but now the 'Play' button in the right-hand menu is highlighted with a red box. The top status bar shows 'DGPS', 'Satellites: 10', 'Latitude: 22°34'58.998"', 'Longitude: 113°55'20.208"', and 'Altitude: 69.5'. The map area shows the same street view, but with additional coordinates displayed: 'AutoSession03: 32/83 (state 1/1)', 'Latitude: 22.5832', 'Longitude: 113.922', and 'Altitude: 70.5'. The 'Channel Power' section at the bottom shows updated values:

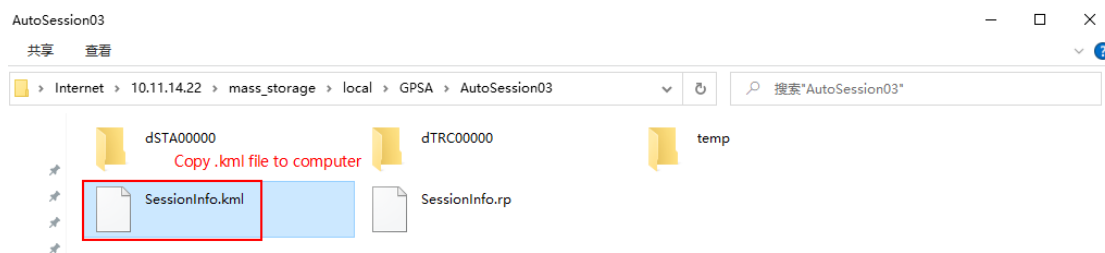
Channel Power	
Total Channel Power	-60.57 dBm
Integration BW	2 MHz
Total Power Spectral Density	-123.58 dBm/Hz

#### 6.4.2 Playback on computer (using Google Earth)

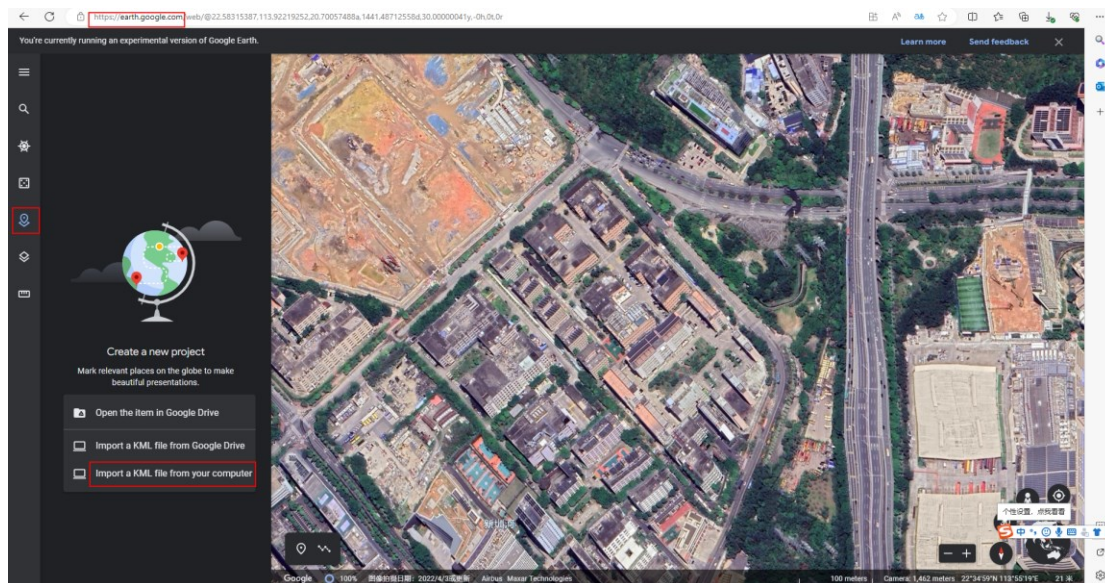
During the recording process, the measurement results and GPS information are simultaneously recorded and saved into a kml file based on the user's choice. The kml file contains GPS information that is not visible but is loaded synchronously when the user loads the session information. The kml file can be directly opened in "Google Earth" to display the recorded points and measurement information. The measurement information is represented through a custom table in kml, and the displayed data points can be associated with the trace results by selecting the style/color.

Follow the steps below to display the corresponding location test data on Google Earth:

- (1) Connect the device to the computer using a network cable and copy the recorded data from the device to the computer (or use a USB flash drive).



- (2) Open the browser and enter the address for Google Earth. Open Google Earth and load the kml file from the folder.



- (3) Click on different data points to load the corresponding location test data.

