



## RF Viewer

### OneAdvisor-800

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## 1. Scope

This document provides instructions on how to configure the OneAdvisor-800 RF Viewer. The required products and parts to complete this procedure are as follows:

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Diagram                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>OneAdvisor-800 with the following functions:</p> <ul style="list-style-type: none"> <li>- OneAdvisor-800 platform equipped with the following modules and options: <ul style="list-style-type: none"> <li>o SPA06MA or SPA06MA-O: Spectrum Analyzer 9KHz to 6GHz or 9KHz to 6GHz with Optical HW</li> <li>o ONA-SP-GNSS: GPS connectivity with GPS antenna</li> <li>o ONA-SP-INTAN: Interference Analysis</li> <li>o ONA-SP-RFVIEWER: RF Viewer Analysis</li> </ul> </li> </ul>                                                                                                                                                                                |  <p>OneAdvisor-800</p>                                                                                                                                                                                                                                                   |
| <p>Antenna System</p> <ul style="list-style-type: none"> <li>- Broadband Directional Antennas: <ul style="list-style-type: none"> <li>o G700050366: RF Log Periodic Antenna SMA-f 650 to 4000 MHz 1.85 dBd.</li> <li>o G700050367: RF Log Periodic Antenna SMA-f 650 to 6000 MHz 2.85 dBd.</li> </ul> </li> <li>- Antenna Advisor Handle: <ul style="list-style-type: none"> <li>o JD70050007: Antenna Advisor Handle</li> <li>o G70050003: RF Viewer mounting kit for Antenna Advisor JD70050007</li> </ul> </li> <li>- RF Filters: <ul style="list-style-type: none"> <li>o G7000506xx: RF filters (Refer to RF Filters Product Catalog)</li> </ul> </li> </ul> |  <p>Directional Antenna</p>  <p>Antenna Advisor with Directional Antenna</p>  <p>RF Filters</p> |

## 2. OneAdvisor 800 Wireless Overview

The OneAdvisor 800 Wireless is a portable instrument for radio access installation, maintenance, and optimization. Their main test functions include:

- Fiber Test (OTDR Module)

- Cable and Antenna Analysis (CAA Module)
- Realtime Spectrum Analysis
- Interference Analysis / RF Viewer
- LTE-TDD and LTE-FDD Signal Analysis
- 5G NR Signal Analysis
- Multi-RAT Signal Analysis (multi-carrier LTE and 5G)
- Blind Scanner (DSS, LTE and 5G)
- RFoCPRI Interference Analysis
- Ethernet Test (1GE to 100GE)

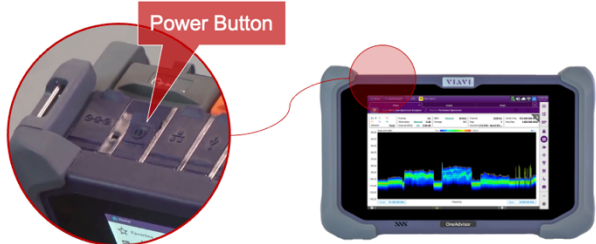
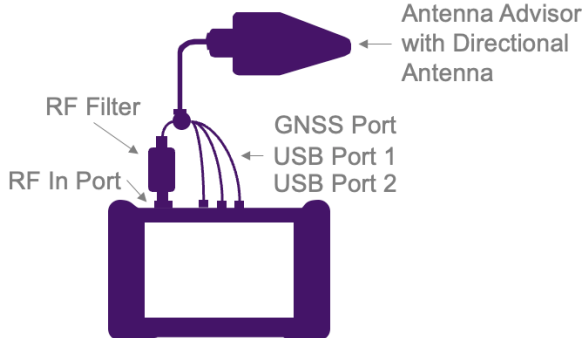
## 2.1 RF Viewer Analysis

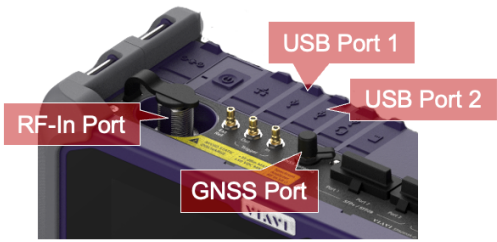
The OneAdvisor 800 RF Viewer is an augmented reality (AR) solution designed to provide intuitive, real-time visibility of radio frequency (RF) signals within a physical environment.

The following procedure describes the steps to perform RF Viewer Analysis with the OneAdvisor 800.

### 2.1.1 Initial Setup

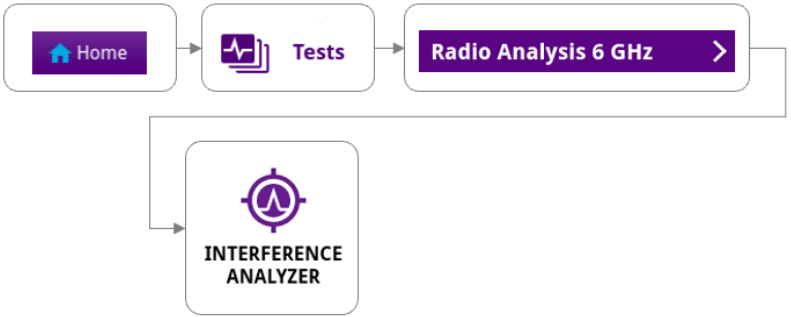
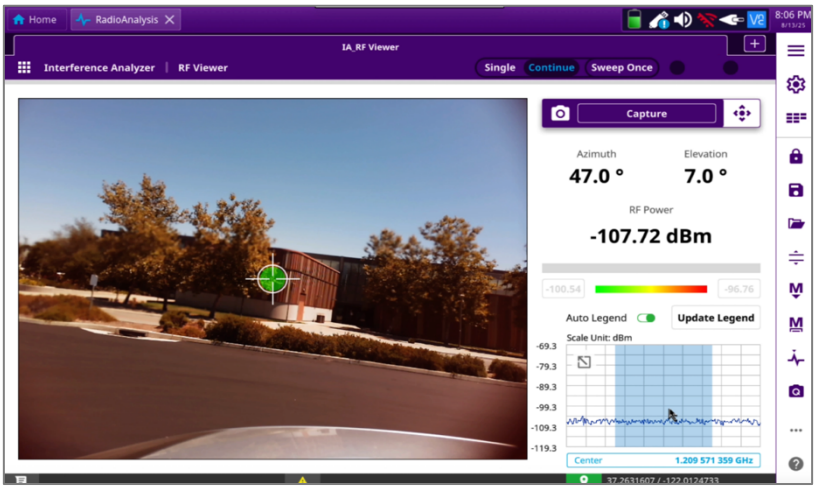
The following procedure describes the initial setup, including turn-up and connectivity.

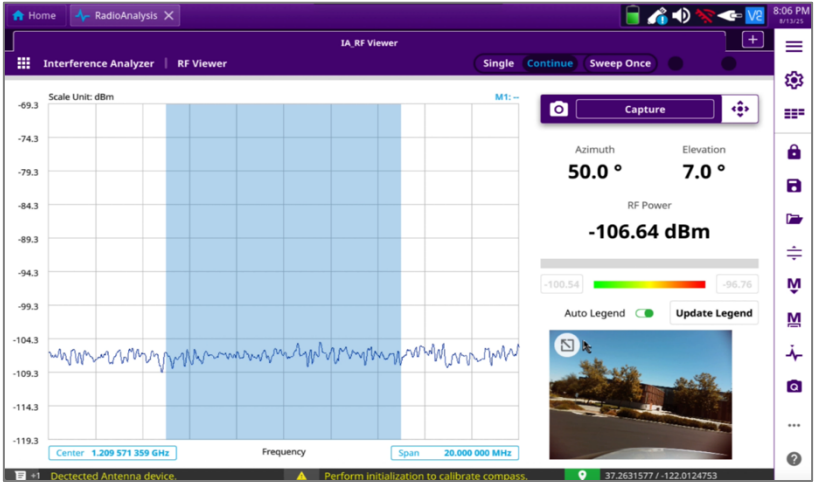
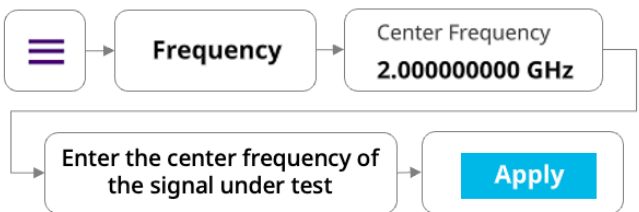
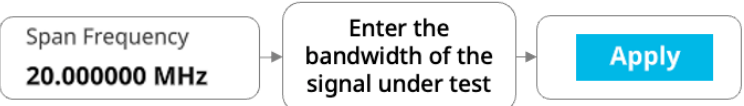
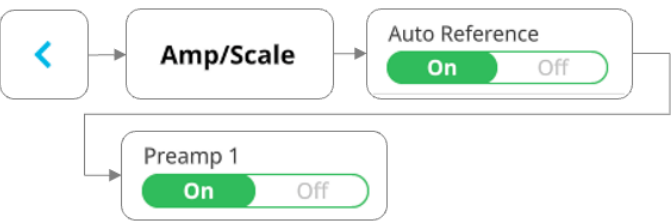
| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                                                                                                                                                                                  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Power ON the instrument                                                                                                                                                                                                                                                                                                                                                                                | <p>Press and hold the ON/OFF button for 3 seconds</p>  <p>OneAdvisor-800</p>                                                             |
| 2    | <p>OneAdvisor 800 and Antenna Advisor Setup:</p> <ul style="list-style-type: none"> <li>• Connect the RF port of the Antenna Advisor to the RF Filter, which is connected to the ONA800 RF-In port.</li> <li>• Connect the GPS (SMA) cable of the Antenna Advisor to the ONA800 GNSS port</li> <li>• Connect both USB cables of the Antenna Advisor to the ONA800 USB port 1 and USB port 2</li> </ul> |  <p>Antenna Advisor with Directional Antenna</p> <p>RF Filter</p> <p>GNSS Port</p> <p>RF In Port</p> <p>USB Port 1</p> <p>USB Port 2</p> |

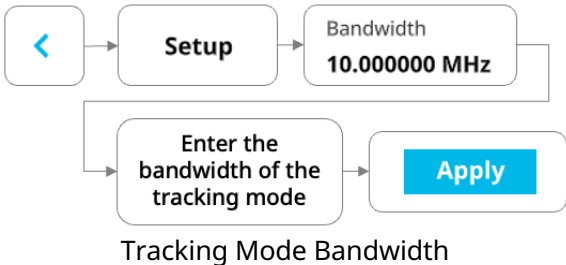
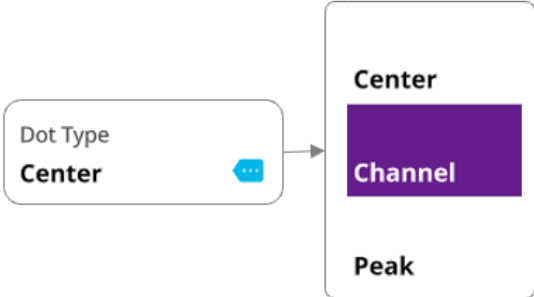
| Step | Action | Description                                                                                                                              |
|------|--------|------------------------------------------------------------------------------------------------------------------------------------------|
|      |        |  <p>Antenna Advisor with Directional Antenna Setup</p> |

## 2.1.2 RF Viewer Configuration

The following procedure describes the steps to configure RF Viewer Analysis.

| Step | Action                                                                                                                                                                  | Description                                                                                                                                                                                                                                         |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Select the following: <ul style="list-style-type: none"> <li>• [Home]</li> <li>• [Tests]</li> <li>• [Radio Analysis 6GHz]</li> <li>• [Interference Analyzer]</li> </ul> |  <p>Interference Analyzer</p>                                                                                                                                    |
| 2    | Select the following: <ul style="list-style-type: none"> <li>• [Test Menu]</li> <li>• [Directional Antenna]</li> <li>• [Done]</li> </ul>                                |  <p>RF Viewer Analysis   Directional Antenna</p>  <p>RF Viewer Analysis</p> |

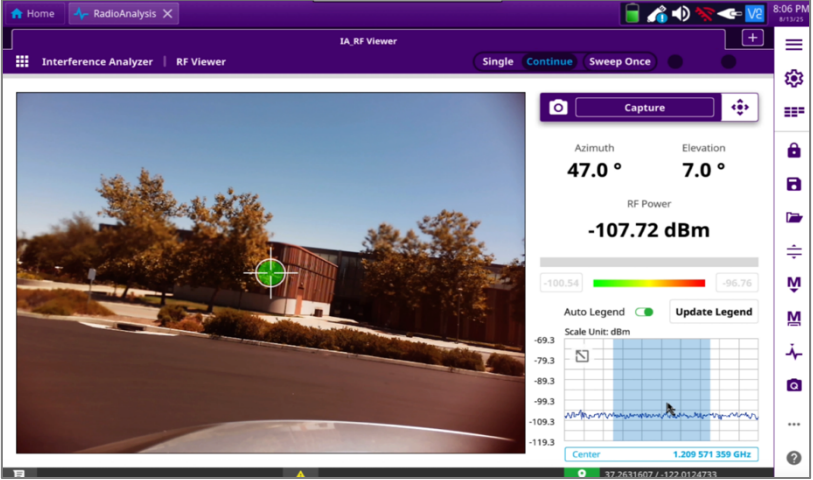
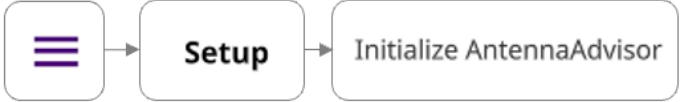
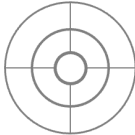
| Step | Action                                                                                                                                                                                                                                                    | Description                                                                                                                                                                                                                                                                  |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3    | Set RF Viewer Spectrum Analysis by selecting: <ul style="list-style-type: none"> <li>[Window Icon]</li> </ul>                                                                                                                                             | <div style="text-align: center;">  <p>Window Swap Icon</p> </div>  <p>RF Viewer   Spectrum Analysis</p> |
| 4    | Set the frequency of the signal under test by selecting: <ul style="list-style-type: none"> <li>[Function Menu]</li> <li>[Frequency]</li> <li>[Center Frequency]</li> <li>Enter the center frequency of the signal under test</li> <li>[Apply]</li> </ul> |  <p>Center Frequency</p>                                                                                                                                                                  |
| 5    | Set the bandwidth of the signal under test by selecting: <ul style="list-style-type: none"> <li>[Span Frequency]</li> <li>Enter the bandwidth of the signal under test</li> <li>[Apply]</li> </ul>                                                        |  <p>Frequency Bandwidth</p>                                                                                                                                                              |
| 6    | Set the amplitude settings by selecting: <ul style="list-style-type: none"> <li>[Back]</li> <li>[Amp/Scale]</li> <li>[Auto Reference On]</li> <li>[Preamp 1 On]</li> </ul>                                                                                |  <p>Amplitude Settings</p>                                                                                                                                                               |

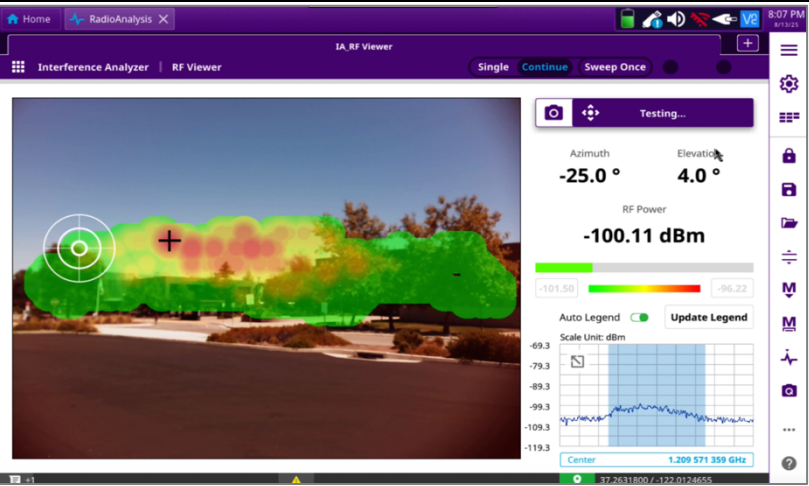
| Step | Action                                                                                                                                                                                                                                                                                                   | Description                                                                                                       |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 6    | Set the Resolution Bandwidth (RBW) by selecting: <ul style="list-style-type: none"> <li>[Back]</li> <li>[RBW]</li> <li>[10 kHz]</li> </ul>                                                                                                                                                               |  <p>Resolution Bandwidth</p>    |
| 7    | Set the bandwidth of the tracking mode by selecting: <ul style="list-style-type: none"> <li>[Back]</li> <li>[Setup]</li> <li>[Bandwidth]</li> <li>Enter the bandwidth of the signal tracking mode</li> </ul>                                                                                             |  <p>Tracking Mode Bandwidth</p> |
| 8    | Set the tracking mode type by selecting: <ul style="list-style-type: none"> <li>[Dot Type]</li> <li>Based on the profile of the signal under test select the tracking mode as: <ul style="list-style-type: none"> <li>Center Frequency</li> <li>Channel Power</li> <li>Peak Power</li> </ul> </li> </ul> |  <p>Tracking Mode</p>          |

## 2.1.3 RF Viewer Measurement

The following procedure describes the steps to configure RF Viewer Analysis.

| Step | Action                                                                                                        | Description                                                                                                   |
|------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 1    | Set RF Viewer Spectrum Analysis by selecting: <ul style="list-style-type: none"> <li>[Window Icon]</li> </ul> |  <p>Window Swap Icon</p> |

| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                            |
| 2    | <p>Initialize the RF Viewer following these steps:</p> <ul style="list-style-type: none"> <li>Place the antenna in a fixed position</li> <li>Select: <ul style="list-style-type: none"> <li>[Function Menu]</li> <li>[Setup]</li> <li>Initialize AntennaAdvisor</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                         |  <p>Initialize Antenna Advisor</p>                                                                                                                                                                                                                                                                         |
| 3    | <p>Make measurements with RF Viewer using the Antenna Advisor by selecting:</p> <ul style="list-style-type: none"> <li>Press the Antenna Advisor trigger once to take a picture of the environment. Note: You'll notice the pointer icon on the screen will change from a cross to a target icon.</li> <li>Press and hold the trigger on the Antenna Advisor to make measurements while sweeping the Antenna Advisor in direction and elevation.</li> </ul> <p>At the end of the measurement note the following:</p> <ol style="list-style-type: none"> <li>The screen icon shown as a cross will indicate the area</li> </ol> |  <p>Antenna Advisor Trigger Button</p>  <p>Screen Icon During Image Capture</p>  <p>Screen Icon During Measurement Capture</p> |

| Step | Action                                                                                                                                                                                      | Description                                                                                                     |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|      | <p>where the maximum power level was received</p> <p>2. A screenshot of the measurement will be automatically saved in the internal memory of the instrument (RadioAnalysis / Internal)</p> |  <p>RF Viewer Measurement</p> |

## 3. Annex

### 3.1 Save Measurement Results

The following procedure describes the steps to save measurement results with OneAdvisor-800

| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Saving measurements <ul style="list-style-type: none"> <li>- Select the save icon and enter file name</li> <li>- Select the type of file to save:               <ul style="list-style-type: none"> <li>o Result (to be replayed or post-processed by the OneAdvisor 800)</li> <li>o Result as CSV, to be post-processed by a PC application</li> <li>o Screen, as a picture</li> </ul> </li> <li>- Select the destination to save the file</li> <li>- Select "Save"</li> </ul> |  → <input type="text" value="Save_"/> <p>Save and File Name Sequence</p> <div> <input type="checkbox"/> Result         </div> <div> <input type="checkbox"/> Result as CSV         </div> <div> <input type="checkbox"/> Screen         </div> <p>File Type as Result, Result as CSV or Screen</p> <div> <input checked="" type="checkbox"/> Internal         </div> <div> <input type="checkbox"/> USB A         </div> <p>Select the destination either Internal or USB</p> <div> <input type="button" value="Save"/> </div> <p>Select Save</p> |



## 4. Technical Support

Technical support is provided by:

- Phone: 1-844-GO-VIAVI (1-844-468-4284) options 3-2-3
- Email: [diagnostics.tac@viavisolutions.com](mailto:diagnostics.tac@viavisolutions.com)

Regularly new firmware updates for the CellAdvisor 5G are released and it is recommended to keep the instrument in the latest firmware to provide all the enhancements and bug fixes.

- For firmware updates go to: <http://celladvisor.updatemyunit.net/>
- For additional information of cell site test go to:  
<http://www.viavisolutions.com/en/products/network-test-and-certification/cell-site-test>