



# Interference Hunting

## InterferenceAdvisor and OneAdvisor 800





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## 1. Scope

This document describes how to configure the InterferenceAdvisor and OneAdvisor 800 for interference hunting.

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 Any radio analysis module with optical hardware:                   <ul style="list-style-type: none"> <li>▪ SPAMA-O: Optical HW</li> <li>▪ SPA06MA-O: Spectrum up to 6 GHz and Optical HW</li> <li>▪ RA18MA-O: Spectrum up to 18 GHz and Optical HW</li> <li>▪ RA32MA-O: Spectrum up to 32 GHz and Optical HW</li> <li>▪ RA44MA-O: Spectrum up to 44 GHz and Optical HW</li> <li>▪ ONA-SP-INTAN: Interference Analysis</li> <li>▪ ONA-SP-GNSS: GNSS function and antenna</li> </ul> </li> <li>o Optionally for TDD signals:                   <ul style="list-style-type: none"> <li>▪ ONA-SP-TAGS: TDD Auto-Gated Spectrum</li> </ul> </li> </ul> </li> </ul>	<div style="text-align: center;">  <p>OneAdvisor-800</p> </div>
<p>InterferenceAdvisor with the following functions:</p> <ul style="list-style-type: none"> <li>- IA811: InterferenceAdvisor Accessories Kit</li> <li>- IA811-001: InterferenceAdvisor EagleEye SW</li> <li>- Optional functions:               <ul style="list-style-type: none"> <li>o IA811-002: Spectrum Clearance for InterferenceAdvisor</li> </ul> </li> </ul>	<div style="text-align: center;">  <p>InterferenceAdvisor</p> </div>
<p>RF accessories</p> <ul style="list-style-type: none"> <li>o G700050345: Omni-Directional Antenna</li> <li>o G7000506xx: RF filters required for uplink analysis</li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Omni-Directional Antenna</p> </div> <div style="text-align: center;">  <p>RF Filter</p> </div> </div>

## 2. InterferenceAdvisor

The InterferenceAdvisor is a fully automated, easy-to-use spectrum clearing and interference hunting solution that allows users to validate spectrum clearness and quickly locate an interference source by following guidance on a tablet-based map application.

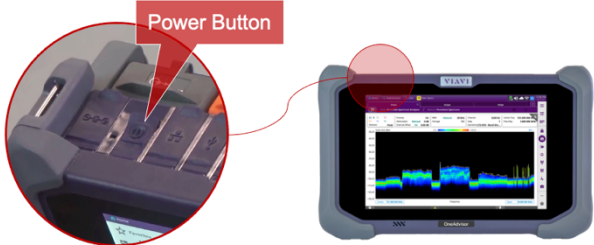
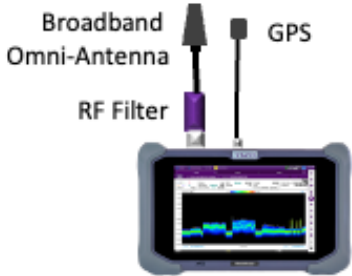
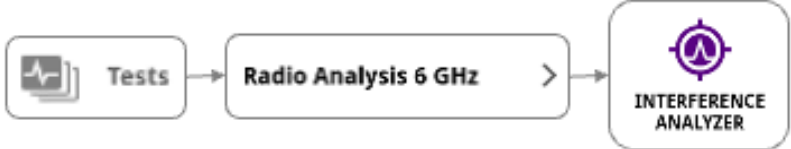
The following procedure describes the steps to perform interference hunting with InterferenceAdvisor and the OneAdvisor 800.

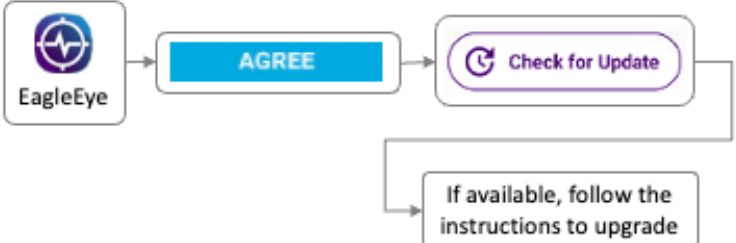
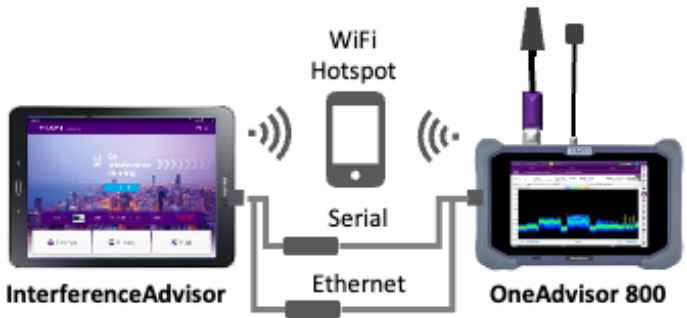
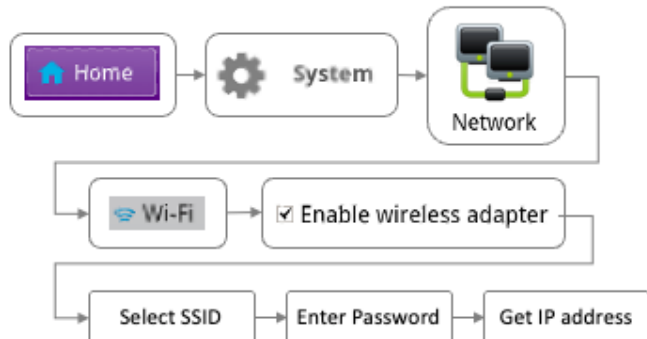
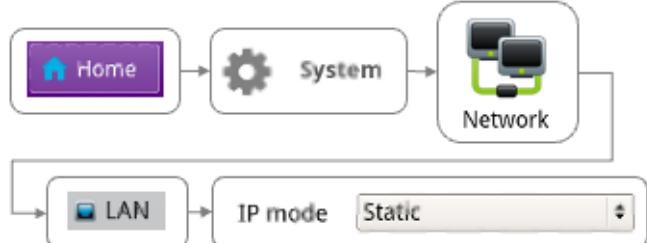
The following information is required to complete the test:

- Interference Profile including center frequency and frequency type:
  - o RSSI (Received Signal Strength Indicator): best for interference signals that are constantly present in a narrow band frequency (e.g. < 2 MHz)
  - o Peak Power: best for interference signals that fluctuate in frequency within a defined frequency band (e.g. ≥ 2 MHz)
  - o Channel Power: best for interference signals that have a broadband profile (e.g. ≥ 2 MHz)

## 2.1 Interference Hunting with InterferenceAdvisor

The following procedure describes the initial setup of InterferenceAdvisor and OneAdvisor 800 for interference hunting.

Step	Action	Description
1	Power ON OneAdvisor-800	Press and hold the ON/OFF button for 3 seconds   OneAdvisor-800
2	Connect the Omni-directional antenna to the corresponding RF filter and connect it into the OneAdvisor 800 RF Spectrum input port. Connect the GPS antenna into the OneAdvisor GPS antenna port	 OneAdvisor 800 Interference Analysis Omni-directional antenna and RF filter into OneAdvisor 800
3	Set the OneAdvisor 800 to Interference Analysis Spectrum selecting: <ul style="list-style-type: none"> <li>- Tests</li> <li>- Radio Analysis 6GHz</li> <li>- Interference Analyzer</li> </ul>	 OneAdvisor 800 – Interference Advisor

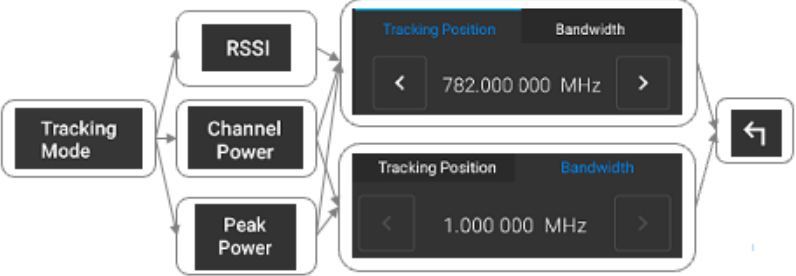



Step	Action	Description
4	<p>InterferenceAdvisor version: Ensure the InterferenceAdvisor is the latest version available, selecting:</p> <ul style="list-style-type: none"> <li>- EagleEye</li> <li>- Agree</li> <li>- Check for Update</li> </ul>	 <p style="text-align: center;">InterferenceAdvisor Version</p>
5	<p>InterferenceAdvisor connectivity to OneAdvisor 800 via serial cable, WiFi, or Ethernet:</p> <ul style="list-style-type: none"> <li>- WiFi: connect the OneAdvisor 800 and InterferenceAdvisor into the same hotspot.</li> <li>- Ethernet: use a USB-C to Ethernet adapter and connect it into the tablet (USB-C), and into the OneAdvisor 800 (Ethernet port) via an Ethernet cable.</li> <li>- Serial: use a USB-C to USB-A adapter, and connect it into the tablet (USB-C) and into the OneAdvisor 800 (USB-A)</li> </ul> <p>WiFi connectivity:</p> <ul style="list-style-type: none"> <li>- Connect the OneAdvisor 800 to the WiFi hotspot, by selecting: <ul style="list-style-type: none"> <li>o Home</li> <li>o System</li> <li>o Network</li> <li>o Wi-Fi</li> <li>o Enable wireless adapter</li> <li>o Select ID</li> <li>o Enter Password</li> <li>o Get IP Address</li> </ul> </li> <li>- Connect the InterferenceAdvisor table to the WiFi hotspot</li> </ul> <p>Ethernet connectivity:</p> <ul style="list-style-type: none"> <li>- Connect the Ethernet cable to the OneAdvisor 800 and configure the LAN: <ul style="list-style-type: none"> <li>o Home</li> </ul> </li> </ul>	 <p style="text-align: center;">Data connectivity options between InterferenceAdvisor and OneAdvisor 800</p>  <p style="text-align: center;">OneAdvisor 800 Wi-Fi Configuration</p>  <p style="text-align: center;">OneAdvisor 800 Ethernet Configuration</p>

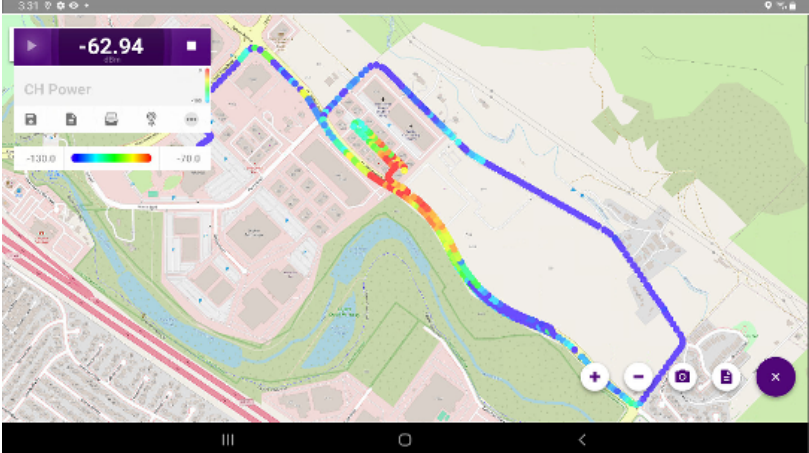

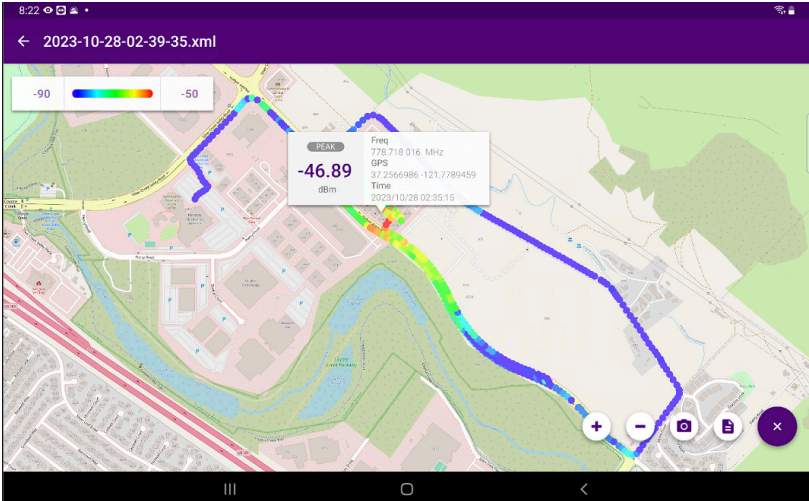
Step	Action	Description
	<ul style="list-style-type: none"> <li>○ System</li> <li>○ Network</li> <li>○ LAN</li> <li>○ IP mode to Static</li> </ul> <p>Establish connectivity between InterferenceAdvisor and OneAdvisor 800 by selecting:</p> <ul style="list-style-type: none"> <li>- EagleEye icon</li> <li>- Agree</li> <li>- Wi-Fi / Ethernet</li> <li>- Enter the IP address of the OneAdvisor 800</li> <li>- Connect</li> <li>- Go with IA</li> <li>- OK</li> </ul>	<p>InterferenceAdvisor Network Connection to OneAdvisor 800</p> <p>InterferenceAdvisor Interface</p>

## 2.2 InterferenceAdvisor Configuration

The following procedure describes the steps to perform Interference Hunting with InterferenceAdvisor.

Step	Action	Description
1	<p>InterferenceAdvisor configuration:</p> <p>Frequency configuration:</p> <ul style="list-style-type: none"> <li>- Settings</li> <li>- Frequency</li> <li>- Center</li> <li>- Enter the center frequency of the interfering signal</li> <li>- Span</li> <li>- Enter the frequency span of the interfering signal</li> <li>- Return</li> </ul> <p>Amp/Scale configuration:</p> <ul style="list-style-type: none"> <li>- Amp/Scale</li> <li>- Attenuation</li> <li>- Enter 0 dB</li> </ul>	<p>InterferenceAdvisor Frequency Configuration</p>

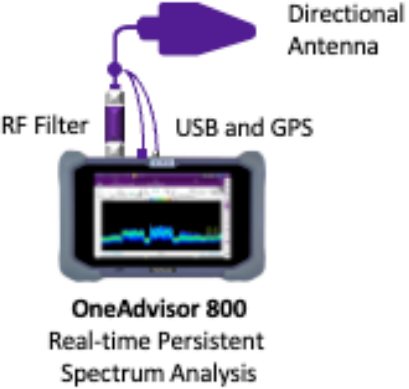
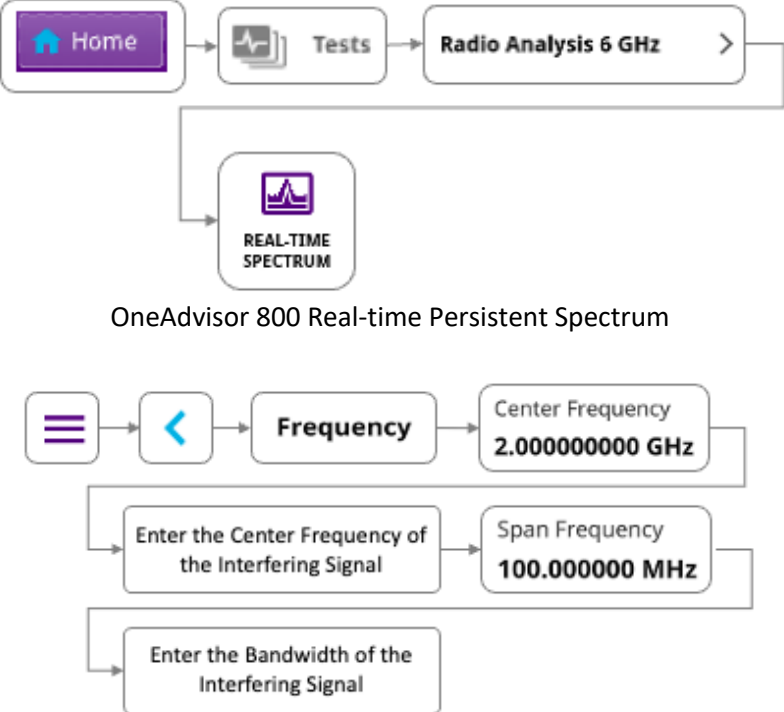
Step	Action	Description
	<ul style="list-style-type: none"> <li>- Auto Preamp ON</li> <li>- Reference Level</li> <li>- Enter -30dBm</li> <li>- Return</li> </ul> <p>Tracking Mode configuration based on the interference type, narrow-band (RSSI), wide-band (Channel Power), or frequency hopping (Peak Power)</p> <ul style="list-style-type: none"> <li>- RSSI               <ul style="list-style-type: none"> <li>o Tracking Frequency</li> <li>o Enter the frequency of the interfering signal</li> </ul> </li> <li>- Channel Power               <ul style="list-style-type: none"> <li>o Tracking Frequency</li> <li>o Enter the frequency of the interfering signal</li> <li>o Bandwidth</li> <li>o Enter the bandwidth of the interfering signal</li> </ul> </li> <li>- Peak Power               <ul style="list-style-type: none"> <li>o Tracking Frequency</li> <li>o Enter the frequency of the interfering signal</li> <li>o Bandwidth</li> <li>o Enter the bandwidth of the interfering signal</li> </ul> </li> </ul>	<p style="text-align: center;">InterferenceAdvisor Amplitude/Scale Configuration</p>  <p style="text-align: center;">InterferenceAdvisor Tracking Mode Configuration</p>  <p style="text-align: center;">InterferenceAdvisor Limit Configuration</p>
2	<p>Start interference hunting by selecting:</p> <ul style="list-style-type: none"> <li>- Spectrum Control</li> <li>- Play</li> </ul> <p>At the end of the measurement select:</p> <ul style="list-style-type: none"> <li>- Stop</li> <li>- Save</li> <li>- Enter the file name</li> </ul>	 <p style="text-align: center;">InterferenceAdvisor Measurement</p>  <p style="text-align: center;">InterferenceAdvisor Stop / Save Measurement</p>

Step	Action	Description
		 <p data-bbox="857 657 1349 688">InterferenceAdvisor Interference Hunting</p>
3	<p data-bbox="256 716 639 814">InterferenceAdvisor test results review and post-analysis can be done as follows:</p> <ul data-bbox="272 821 586 957" style="list-style-type: none"> <li>- Back to the main menu</li> <li>- History</li> <li>- Select the file saved</li> <li>- Change the scale</li> </ul>	 <p data-bbox="802 1024 1403 1056">InterferenceAdvisor Test Results and Post-Analysis</p>  <p data-bbox="756 1598 1451 1629">InterferenceAdvisor Test Results Review and Post-Analysis</p>

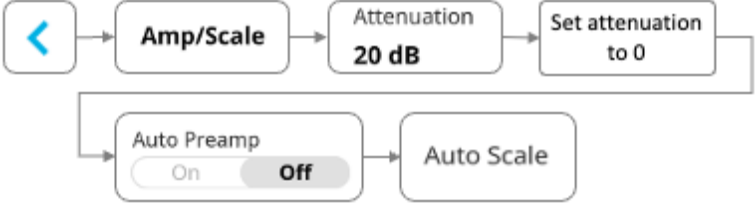
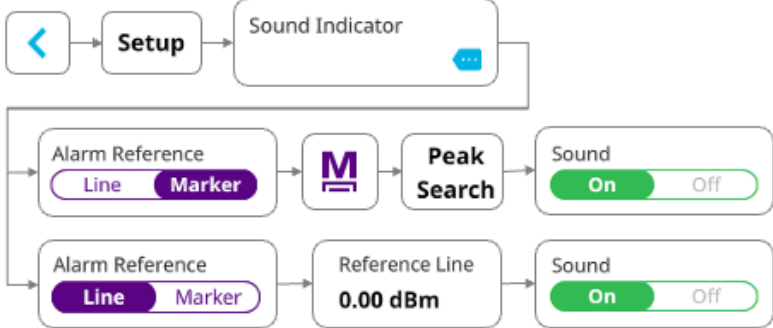
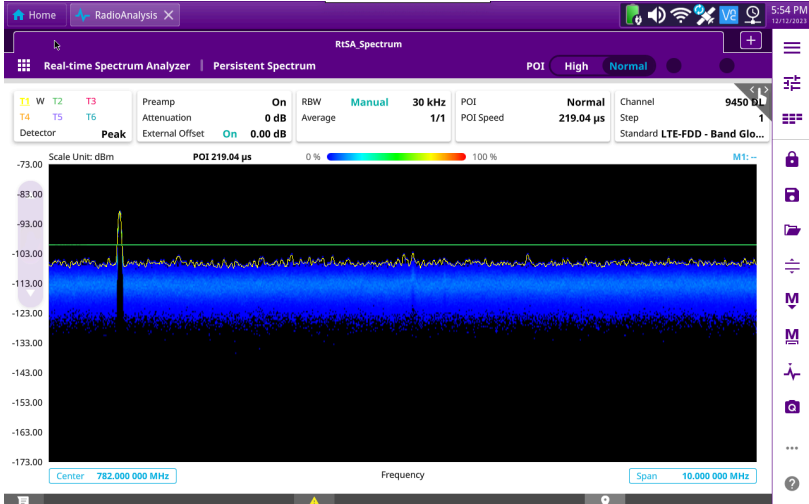


### 3. Interference Location with OneAdvisor 800

The InterferenceAdvisor solution specifies the location of the interference source. To identify the precise location of the interference, the OneAdvisor 800 conducts interference detection with directivity. This process utilizes its real-time persistent spectrum and employs a directional antenna for enhanced precision.

Step	Action	Description
1	<p>OneAdvisor 800 measurement setup:</p> <ul style="list-style-type: none"> <li>- Connect the RF filter into the RF Input port</li> <li>- Connect the RF cable of the AntennaAdvisor into the RF filter</li> <li>- Connect the USB cable of the AntennaAdvisor into the USB port</li> <li>- Connect the GPS cable of the AntennaAdvisor into the GPS port</li> </ul>	 <p style="text-align: center;"><b>OneAdvisor 800</b> Real-time Persistent Spectrum Analysis</p>
2	<p>OneAdvisor 800 real-time persistent spectrum configuration:</p> <ul style="list-style-type: none"> <li>- Home</li> <li>- Tests</li> <li>- Radio Analysis</li> <li>- Real-time Spectrum</li> </ul> <p>Frequency configuration:</p> <ul style="list-style-type: none"> <li>- Settings</li> <li>- Back (optional)</li> <li>- Frequency</li> <li>- Center Frequency</li> <li>- Enter the center frequency of the interfering signal</li> <li>- Span Frequency</li> <li>- Enter the frequency span of the interfering signal</li> </ul> <p>Amp/Scale configuration:</p> <ul style="list-style-type: none"> <li>- Back</li> <li>- Amp/Scale</li> <li>- Attenuation</li> <li>- Enter 0 dB</li> <li>- Auto Preamp ON</li> <li>- Auto Scale</li> </ul>	 <p style="text-align: center;"><b>OneAdvisor 800 Real-time Persistent Spectrum</b></p> <p style="text-align: center;"><b>OneAdvisor 800 Real-time Spectrum Frequency Configuration</b></p>



Step	Action	Description
	<p>Sound Indicator</p> <ul style="list-style-type: none"> <li>- Back</li> <li>- Setup</li> <li>- Sound Indicator</li> <li>- Alarm Reference (Marker)                             <ul style="list-style-type: none"> <li>o Marker</li> <li>o Peak Search</li> <li>o Sound On</li> </ul> </li> <li>- Alarm Reference (Line)                             <ul style="list-style-type: none"> <li>o Line</li> <li>o Reference Level</li> <li>o Sound On</li> </ul> </li> </ul>	<div style="text-align: center;">  <p>OneAdvisor 800 Real-time Spectrum Amplitude Configuration</p> </div> <div style="text-align: center;">  <p>OneAdvisor 800 Sound Indicator Configuration</p> </div> <div style="text-align: center;">  <p>OneAdvisor 800 Real-Time Persistent Spectrum</p> </div>



## 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 OneAdvisor 800 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: <https://ona-800.updatemyunit.net>
- For how-to-test videos go to: [https://www.viavisolutions.com/en-us/products/oneadvisor-800-platform#resources\\_videos](https://www.viavisolutions.com/en-us/products/oneadvisor-800-platform#resources_videos)
- For additional information of cell site test go to: <http://www.viavisolutions.com/en/products/network-test-and-certification/cell-site-test>