

Brochure

VIAVI

OneAdvisor 800 Wireless

Spectrum Analyzer

VIAVI OneAdvisor 800 is the ideal portable test solution to verify and troubleshoot wireless networks for proper transmission and effective operation.

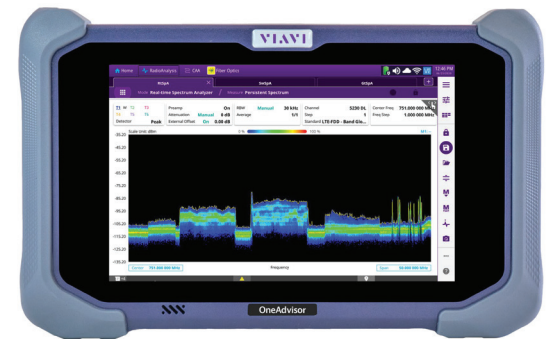
The OneAdvisor 800 design is based on a multi-functional architecture, covering different test applications, including among others a comprehensive set of spectrum measurements to characterize wireless signals.

Key test functions include:

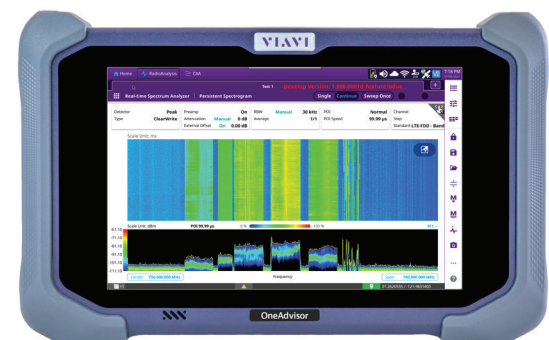
- Real-time persistence spectrum for from 9KHz to 6/9/18/32/4GHz
- Spectrum analysis with gated sweep for interference analysis of TDD signals
- Over-the-Air RF spectrogram testing and logging capability to effectively characterize intermittent interference signals
- Interference finding with triangulation when is paired with the VIAVI AntennaAdvsior
- Spectrum route map, validating wireless signal coverage
- Ultra-fast swept spectrum to quickly assess and monitor spectrum for interference mitigation, spectrum clearing and AM/FM demodulation
- Spectral limit masks to easily identify unwanted or out of limit signals
- Data Logging, recording and re-play capability up to 72 hours for finding and analyzing intermittent interference



Spectrum Analysis



Realtime Persistence Spectrum



Realtime Persistent Spectrogram

Real-Time Persistence Spectrum

The OneAdvisor 800 Real-Time spectrum Analyzer (RTSA) can find the most challenging intermittent signal with its 110 MHz of instantaneous bandwidth and persistent display capability.

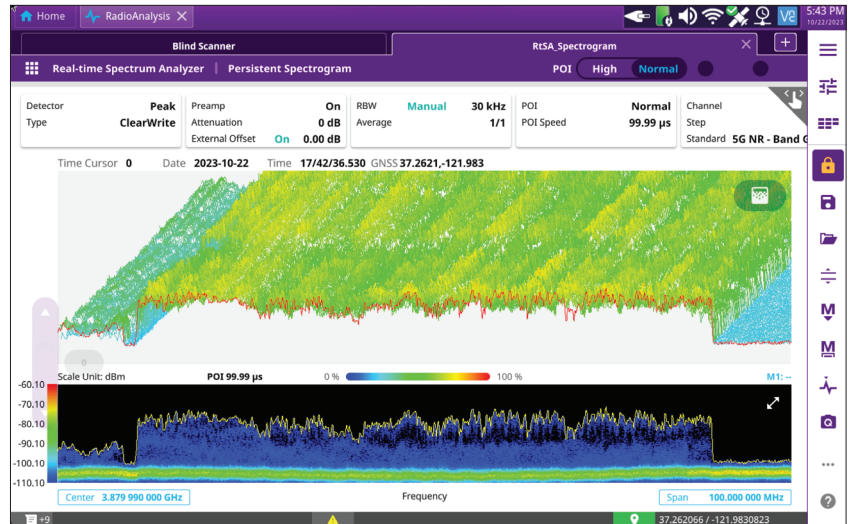
The color coding of the persistent display highlights the relative amount of time a signal is present. Intermittent or overlapping carriers can be easily identified due to the persistence and variable decay on the display.

The RTSA provides 2D or 3D spectrogram views which provide you with the ability to monitor frequencies over time to capture and identify bursty and frequency hopping carriers.

The RTSA spectrograms can be logged, saved, stored and replayed for analysis.

Signals in Time Division Duplex (TDD) communication mode are difficult to analyze with traditional swept spectrum. RTSA with persistence effectively shows TDD signal power within the same channel due to the color coding of signal duration and power level.

Multiple markers can be used on the traces or within the heatmap to identify the channel power, occupied bandwidth, and signal to noise of the carriers.

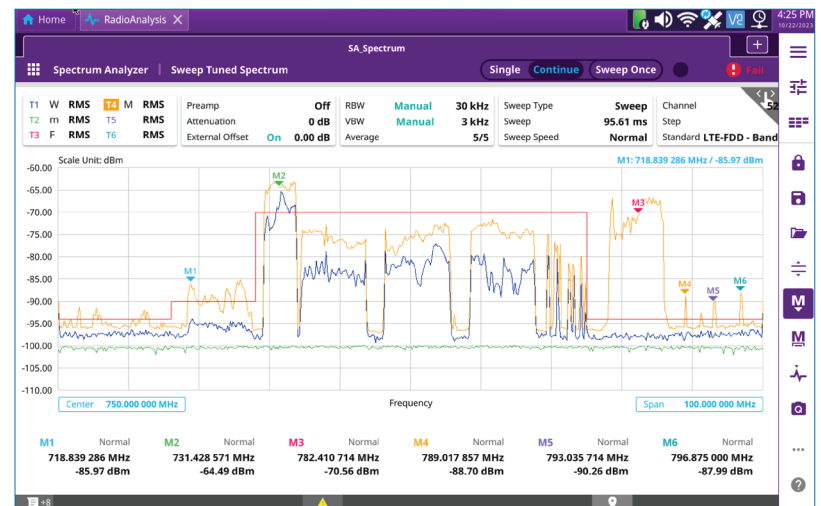


OneAdvisor 800 - Real-Time Spectrogram

Ultra-Fast Swept Spectrum Analysis

The OneAdvisor 800 Sweep Tuned Spectrum Analyzer is a fast and powerful swept spectrum analyzer that spans from 9kHz to 44 GHz. For spectral monitoring the Swept Spectrum Analyzer provides a fast method to monitor a wide range of spectrum to identify active carriers.

To help measure the power of specific carriers the OneAdvisor 800 provides multiple markers that can be set and viewed. Additional traces can be viewed such as max, min, average that can show the carrier activity and events that occurred.

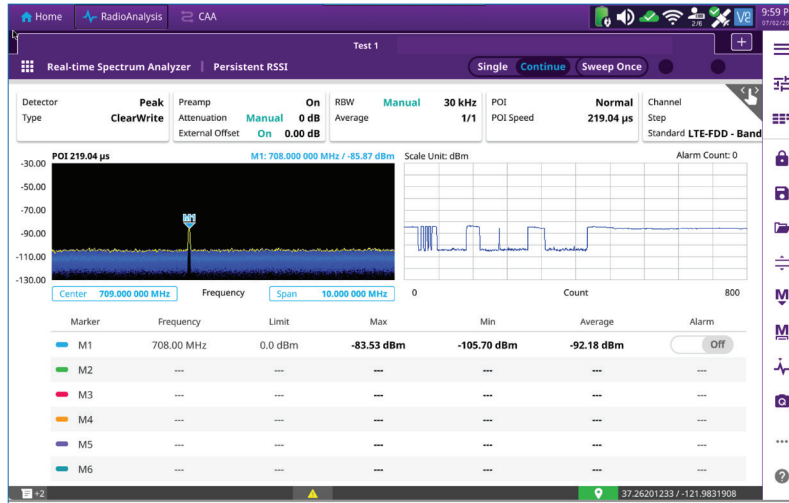


OneAdvisor 800 Spectrum Mask

The OneAdvisor 800 allows the user to configure complex spectral masks with limit identifications to quickly identify undesired spectral transmissions providing a PASS/FAIL indicator.

Received Signal Strength Indicator (RSSI)

RSSI performs a multi-signal measurement (up to 6 simultaneously signals) in time, assessing the power-level variations of interference signals over time. In RSSI measurements power limits can be set for audible alarms and increase alarm counters every time a signal exceeds the defined limit line. For long-term analysis, the spectrogram and RSSI measurements can be saved into an external USB memory for post-analysis.

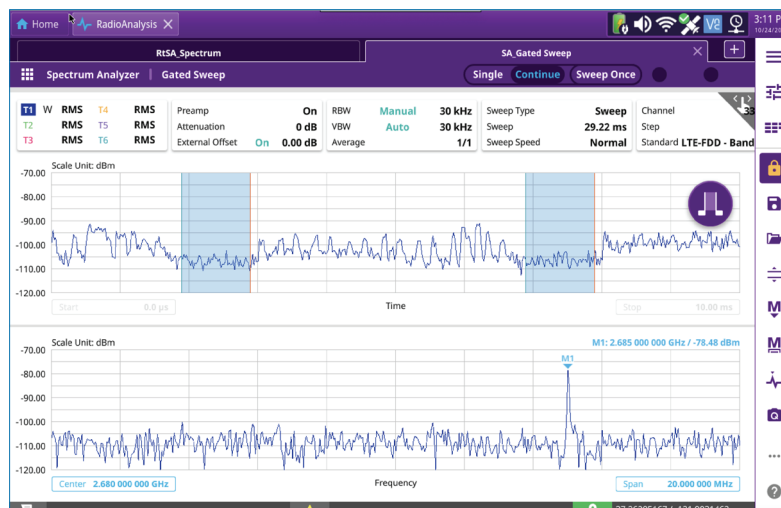


OneAdvisor 800 Real-Time Spectrum RSSI

TDD Interference Analysis (Gated Spectrum)

Interference analysis in TDD signals (LTE or 5G) requires a different measurement technique than conventional spectrum analysis, since the uplink and downlink signals are transmitted on the same frequency, but different timeslots.

OneAdvisor 800 performs single or dual gated sweep spectrum, effectively providing spectrum measurements triggered only during the timeslots assigned for uplink transmission.



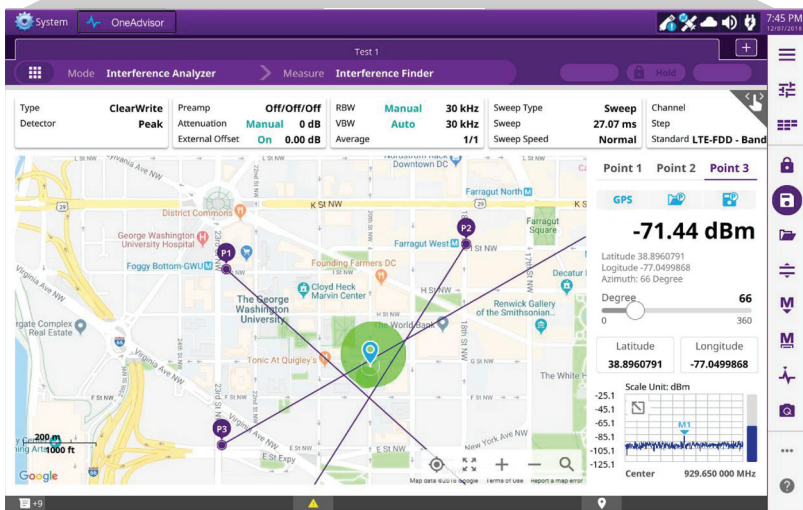
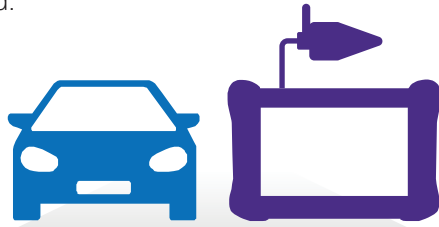
OneAdvisor 800 Gated Spectrum

Interference Finder

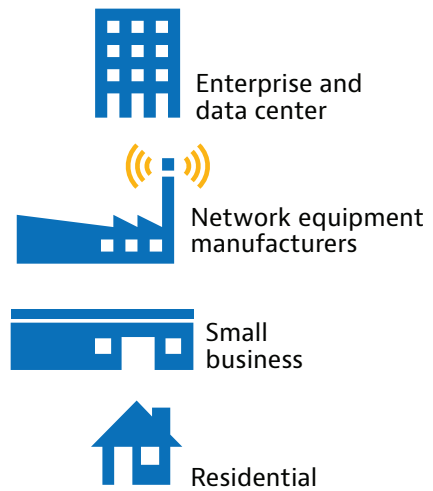
Interference mitigation requires locating the precise location of the interfering signal source. The Interference Finder identifies the location of the interferer by taking multiple directional signal strength readings coupled with integrated GPS readings and triangulating the measurements to identify the location of the interference source.

The display provides the user with a live signal strength and directional arrow to easily hone-in on the direction of the incoming interferer while recording the specific measurement points.

A single user can take the OneAdvisor 800 to multiple locations then record the direction and signal strength which will plot the intersection lines overlaid on the map identifying the area of the interference source. Each point can be saved and loaded.



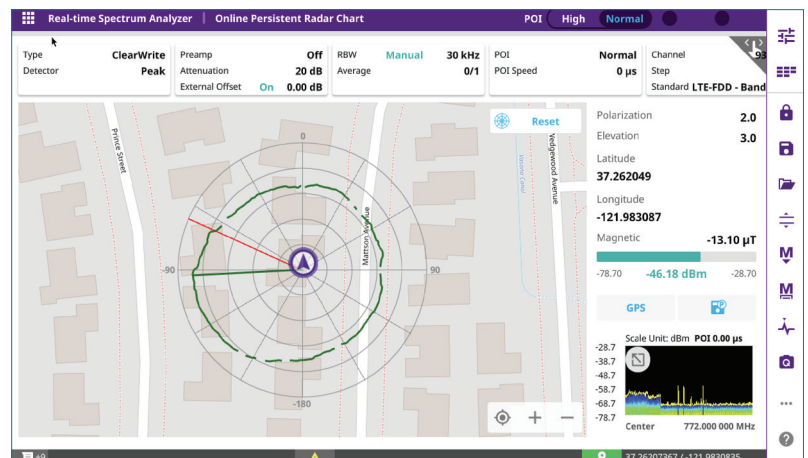
OneAdvisor 800 Interference Finder



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Interference Analysis Radar Chart

Identifying the direction of an interferer is critical for spectral clearing and interference mitigation. The OneAdvisor 800 Radar Chart utilizes the azimuth sensing capability of the Antenna Advisor directional antenna to plot the measured signal strength and the direction the antenna was pointing as a field technician sweeps the antenna across the area. The Radar Chart provides a quick visualization of the direction of the maximum signal strength to quickly pinpoint the direction of the interferer.

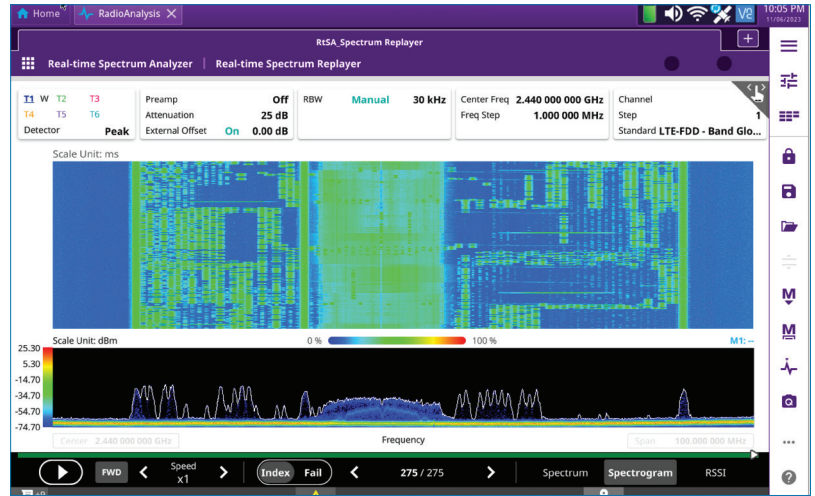


OneAdvisor 800 Radar Chart

Spectrum Capture, Record and Playback

The OneAdvisor 800 can capture, log and record Spectrum Analysis, and Real Time Spectrum Analysis tests. These spectrum captures can be opened and re-played and analyzed at a later time on any OneAdvisor 800.

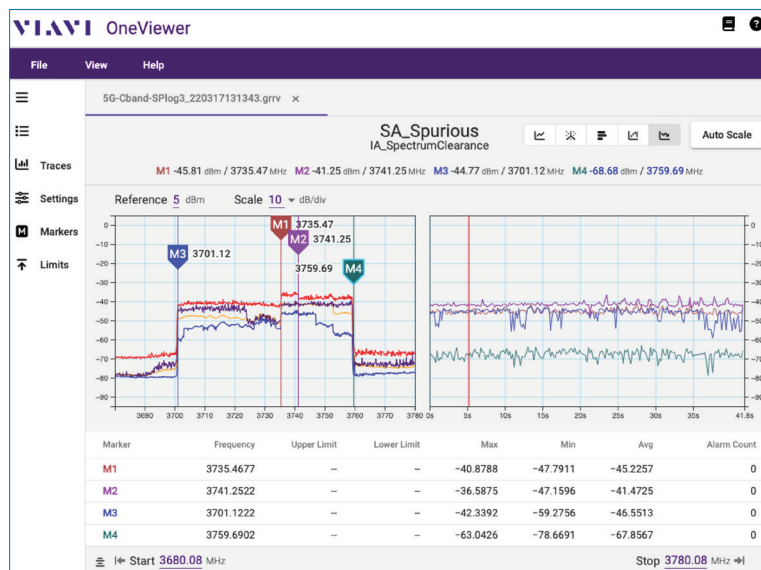
The OneAdvisor 800 spectrum re-player provides full user control of marker and view settings. RTSA re-player lets the user view Spectrum, Spectrogram, or RSSI from the logged data which provides alternate ways to look at the data compared to the original RTSA view on the display. Full control of markers is available allowing for detailed signal analysis on the captured data.



OneAdvisor 800 Spectrum Playback

Spectrum captures can also be analyzed with OneViewer, a VIAMI application for spectrum post-analysis providing the following key functions:

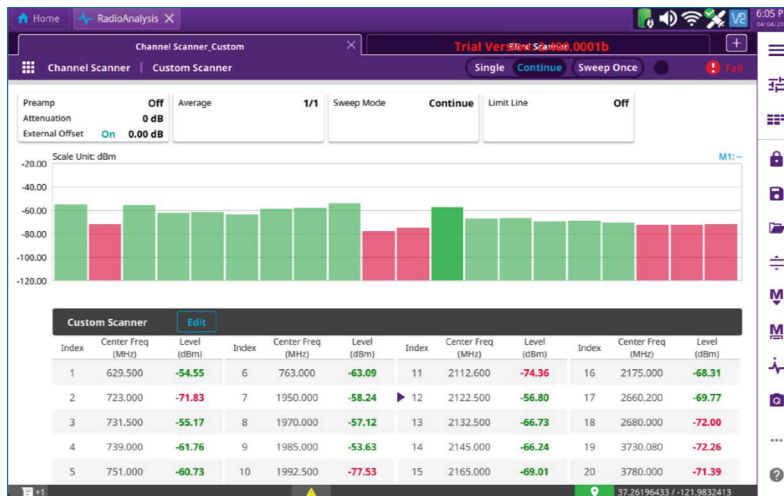
- Playback with loop on/off and variable playback speed up to 8x
- Configurable spectrum limits that automatically create events where the interference signals exceed the spectrum limit
- Multiple configurable markers: up to 10 markers (reference and delta markers) to identify the exact frequency and power level of the interfering signal
- Data can be exported into comma-separated-value (CSV) format



OneViewer Spectrum Post-Analysis Application

Channel Scanner

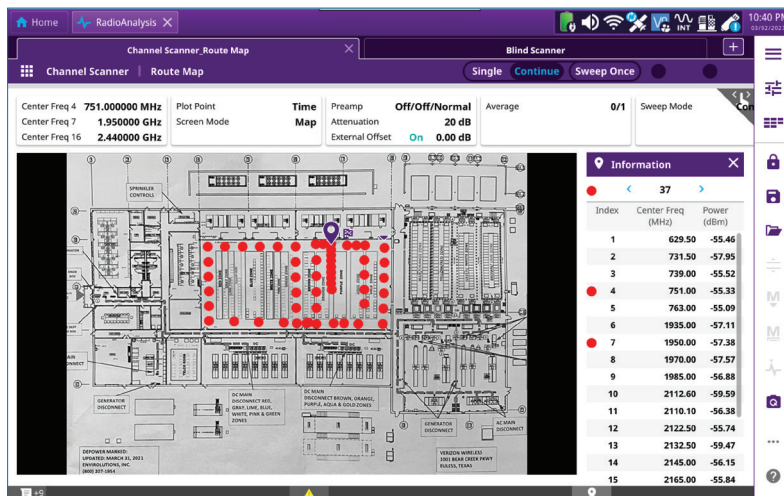
The OneAdvisor 800 Channel Scanner tool takes measurements of multiple RF signals. The Channel Scanner can be configured to scan equally spaced signals either by wireless channel or by Frequency steps.



OneAdvisor 800 Channel Scanner

Additionally, the Channel Scanner can perform a custom scan of variable frequency spacing by creating a custom scanner configuration. The channel scanners measure the signal strength of the each RF signal and provides a convenient bar graph of the received signal strength with pass/fail indication.

The Channel Scanner can also be used with Route Mapping functionality to quickly assess overall signal coverage across a region of all the various carriers.

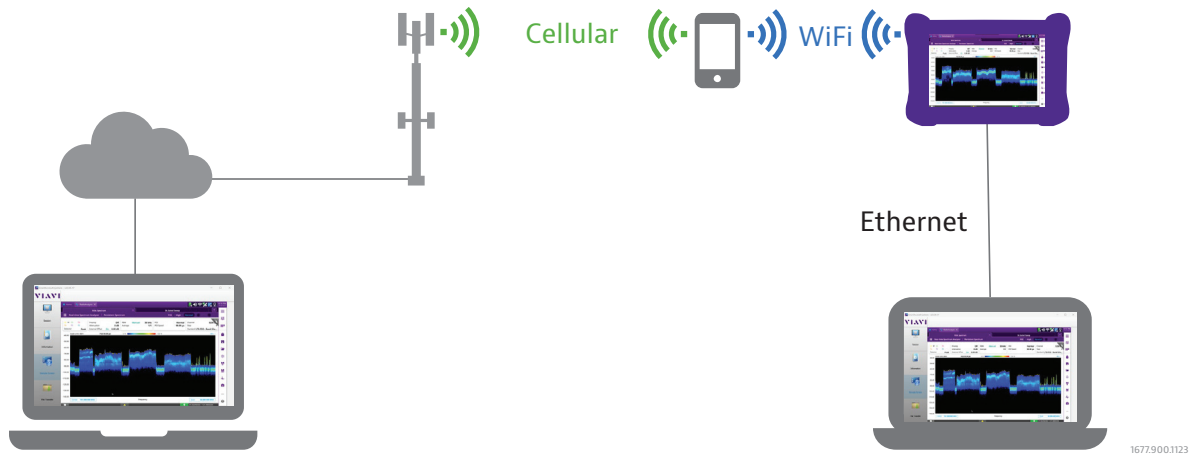


OneAdvisor 800 Channel Scanner Route Map

Remote Operation

The OneAdvisor 800 can be accessed and controlled remotely for either unmanned operation or live results sharing. VIAVI SmartAccessAnywhere provides full control of the instrument via PC, SmartPhone, or Tablet and can operate the unit through firewalled installations. With SmartAccessAnywhere it is easy to share field findings with a second set of eyes or to simply transfer files.

The OneAdvisor 800 can also be configured for remote access via its Ethernet or WiFi interface.



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