5GPro Spectrum Analyzer

RF spectrum analyzer

SPEC SHEET

Simple to use, accurate, built specifically for field techs. EXFO's portable RF spectrum analyzer provides visibility into 4G LTE and 5G RF environments with the industry's only modular RF testing solution.

KEY FEATURES

- FR1 (450 MHz - 6 GHz)
- FR2 (24.25 GHz – 40 GHz)
- Real-time spectrum and signal analysis bandwidth up to 100 MHz
- 5G NR signal and beam analysis
- LTE signal analysis
- Digital RF power measurements
- TDD support
- OTDR, RF over CPRI, CPRI/eCPRI, timing and synchronization, Ethernet up to 100G

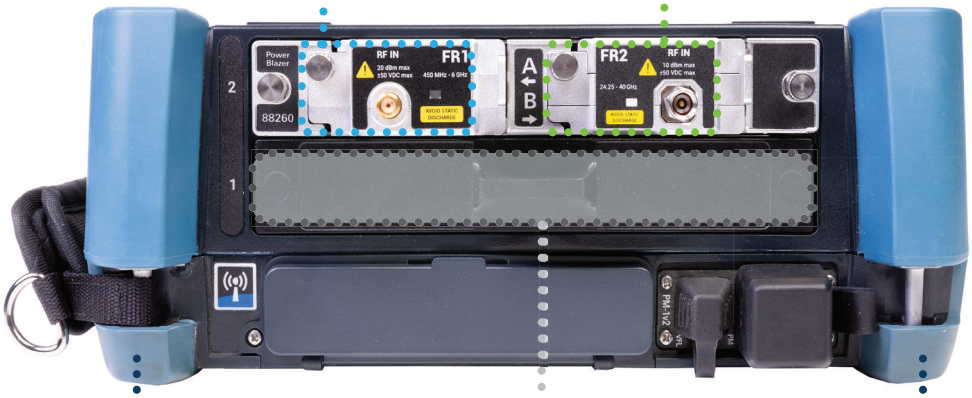
RF MODULES AND PLATFORM

The 5GPro Spectrum Analyzer provides visibility into 4G LTE and 5G RF environments through an easy-to-use, compact and portable solution. Ready to adapt as your network transforms, our flexible, modular and field upgradeable solution lets field techs analyze FR1 (450 MHz - 6 GHz) or FR2 (24.25 GHz – 40 GHz) bands with the same solution.

FTBx-88260 MODULE INCLUDING FR1 AND FR2

FR1	
Frequency range	450 MHz to 6 GHz
Connector	SMA (female)
Max safe level input	30 dBm

FR2	
Frequency range	24.25 GHz to 40 GHz
Connector	2.92 mm (K-male)
Max safe level input	20 dBm



Supported on the FTB-1 Pro dual-carrier and FTB-1 Pro high-power, dual-carrier configurations

Additional empty slot for the ability to combine other EXFO testing solutions together with the 5GPro Spectrum Analyzer

Windows-based architecture supporting cloud connectivity and third-party software tools

APPLICATIONS

Real-time spectrum analysis (RTSA)

The 5GPro Spectrum Analyzer is a real-time spectrum analyzer (RTSA) that provides continuous acquisition of RF signals with 100 MHz of analysis bandwidth. Quick characterization of wireless signals and detection of intermittent interference is now possible with the combination of the RTSA persistence and spectrogram view.

EXFO brings innovation to RF testing with the new patent-pending Snap-to-Peak feature. By using the touch screen, field techs can identify interferers through a movable window which allows them to search for the highest amplitude interferer and attach a marker.

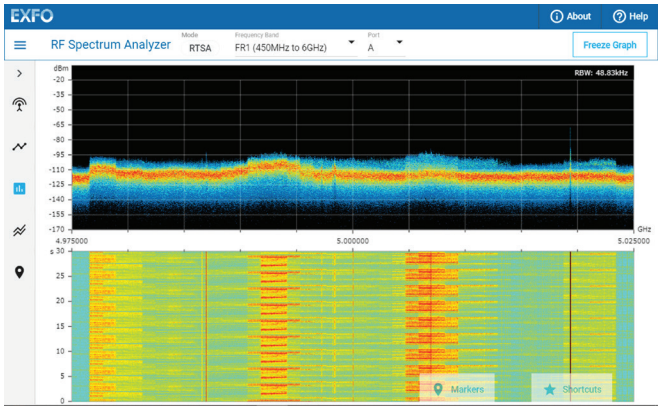


Figure 1. Real-time persistence spectrum and spectrogram.

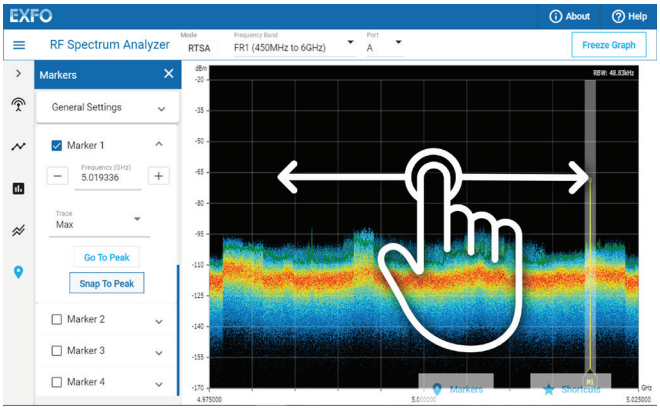


Figure 2. Patent pending Snap-to-Peak feature.

5GNR signal analyzer

A 5GNR signal analyzer supports the demodulation of 5GNR signals validating over-the-air (OTA) performance of cell sites and ensures smooth communication with user equipment. This application provides beamforming metrics and will analyze up to 64 beams and display the 12 strongest beams with the corresponding power measurements.

- Physical Cell ID (PCI), Beam ID and SSB periodicity.
- Auto-detection of subcarrier spacing (SCS)
- Secondary synchronization - reference signal received power (SS-RSRP): linear average received power of each secondary synchronization signal (SSS) resource elements.
- Secondary synchronization - reference signal received quality (SS-RSRQ): ratio of SSS power over the total power of a given number of resource blocks.
- Secondary synchronization - signal to interference and noise ratio (SS-SINR): ratio of SSS over all noise sources, including interferers.

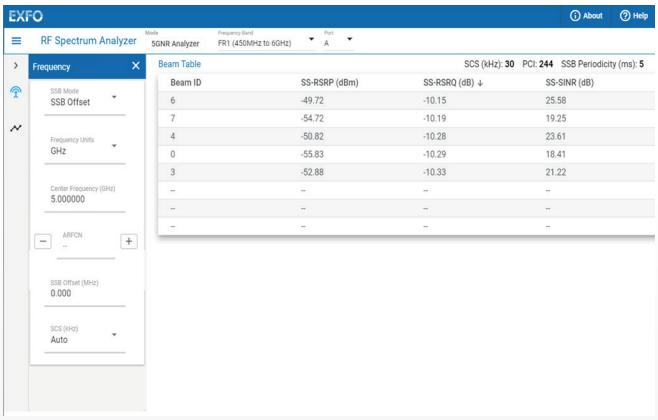


Figure 3. 5GNR beam analysis.

APPLICATIONS

Spectrum analysis (TDD gated sweep)

Time division duplexing (TDD) is a transmission technique whereby the uplink and downlink signals are transmitted on the same frequency using synchronized timed intervals. Both spectrum analysis and interference analysis for TDD require the use of a measurement technique called gated sweep. This technique facilitates the visualization of uplink or downlink spectrum by displaying that data within a specified range of timeslots.

LTE analysis

LTE analyzer supports the demodulation of 4G/LTE signals validating over-the-air (OTA) performance of cell sites and providing key metrics including:

- Sector and group ID
- Physical cell ID (PCI)
- Duplexing mode (FDD or TDD)
- RSRP (dBm)
- RSRQ (dB)
- RSSI (dBm)

Figure 4. 5GPro Spectrum Analyzer mode selection.

FTB 5GPRO TEST SOLUTION: NOW WITH RF SPECTRUM ANALYSIS

The already comprehensive FTB 5GPro now includes RF spectrum analysis, making it the true all-in-one solution for validating coexisting 4G and 5G networks

Leveraging the powerful and intelligent FTB-1Pro handheld test platform, the FTB 5GPro is a complete and future-proof solution that takes the guesswork out of test set-up, execution and analysis.

The FTB 5GPro is designed to boost field-testing efficiency and deliver high-quality 5G and 4G/LTE networks, on time:

- Follows standardized, field-proven test procedures
- Enables technicians of any skill level to instantly interpret results and accelerate outcomes
- Addresses any potential issues when installing, activating and maintaining mobile networks

RF spectrum analysis on the FTB 5GPro

With the addition of real-time RF spectrum analysis with over-the-air measurements (OTA), EXFO's modular FTB 5GPro becomes the industry's only complete, fully integrated solution for 5G RAN validation: Ethernet testing up to 100G, timing and synchronization, eCPRI and CPRI protocol testing, intelligent RF spectrum analysis over CPRI (iORF) and optical transceiver validation (iOptics).

Portable tool

With the FTB 5GPro, field technicians no longer need to carry 3-4 heavy test sets to get the job done.

Flexible design ready for now and for what comes next

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