WAVECONTROL

Safety, Quality, Service

NEW

RFSelectiQ™

EMF Exposure Analyzer

FREQUENCY SELECTIVE

Measurement Solution

for EMF Exposure Assessment

- All-in-one
- Easy-to-use
- Compliant
- Flexible
- Remote control

Ensuring **safe levels of human exposure** to Electromagnetic Fields (EMF) is required for existing and new technologies.

RF**SelectiQ** helps telecom service providers and regulatory agencies to assess EMF human exposure to **ensure compliance and personal safety** of workers and general public.

RF**SelectiQ** performs **detailed accurate selective measurements** of radio signals in accordance with international standards.

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RFSelectiQ | EMF Exposure Analyzer

Frequency Selective Measurement Solution

Antennas and radio systems deployed in cell sites **must comply with the electromagnetic field (EMF) exposure limits** defined by government agencies and regulators responsible for public health and safety.

There are three main test methodologies to measure human exposure to electromagnetic fields in cell sites:

- **Broadband method:** Easy and fast method, recommended as first measurement step.
- **Frequency selective method:** Based on spectrum analysis, the field level is assessed in a specific frequency band. Multiple bands can be defined and measured simultaneously.
- **Code Selective method:** This method allows for the assessment of EMF levels from individual components of a signal, such as the Synchronization Signal/PBCH block (SSB), and can be used to extrapolate to the maximum or the actual maximum exposure.

All-in-one Solution

RF**SelectiQ** combines in a single device the regular EMF frequency selective analysis method with an advanced code selective analysis method for LTE and 5G NR networks. It is designed to verify radiation levels of any radio technology, including non-cellular.

Using the state-of-the-art tri-axial antenna Wavecontrol WTA8G5, our solution covers all bands from 30 MHz up to 8 GHz. Additional antennas are available to extend measurements up to mm-wave frequencies if required.

Wavecontrol's new solution, RF**SelectiQ,** detects the RF field strength and EMF levels of radio signals over the air. With its isotropic antenna, it can perform accurate radiation measurements on site, with clear PASS/FAIL indications based on a comparison of the radiation levels to the selected exposure limit.

Easy-to-use

Effective PASS/FAIL and Alarm settings to identify any excess of radiation.
Configurable user setups for fast and easy measurements.

Compliant

Compliant with international standards (IEC, ITU, IEEE, CENELEC, ARPANSA, etc.). Configurable to work with any exposure limit (ICNIRP, FCC, EU, etc.).

Flexible

Modular design that allows in-situ upgrades.
Supports a range of isotropic and directional antenna options, pre-defined in the instrument settings. WiFi connectivity allowing full remote control.

Benefits of RF**SelectiQ - EMF Exposure Analyzer**

- Spectrum mode: comprehensive analysis of radiation levels by frequency range.
- Scanner mode: detailed comparison of radiation levels across multiple frequency ranges, down to a single band or individual channel.
- Multi-trace analysis with average, maximum and minimum EMF power logging.
- 30 MHz to 8 GHz isotropic antenna with automatic control.
- Selectable measurement duration.
- Code selective mode: LTE/5G EMF power extrapolation and power variation analysis.
- Supports all 3GPP 5G NR channel configurations: NSA and SA modes, in FR1 or FR2 band.
- Automatic SSB search and PCI detection.
- EMF power extrapolation from SSB beams or from traffic beams.

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Specifications

General Specifications

Spectrum Analyzer	Description
Platform	VIAVI OneAdvisor 800 EMF
Measurement range options	9 kHz to 6 GHz, 9 GHz, 18 GHz, 32 GHz or 44 GHz
Operation modes	Spectrum analysis / Scan Mode / Frequency selective / Code Selective (4G-TDD, 4G-FDD, 5G NR)
Connectivity	Wi-Fi and full remote control
Input and outputs	Coaxial (N type), 2xUSB 2.0, SD Card, Ethernet (RJ45), built-in speaker, audio output
Display	8" touch screen
Power	Internal rechargeable battery and DC input
EMF Isotropic Antenna	**Description**
Model	Wavecontrol WTA8G5
Number of axes	3
Measurement range	30 MHz – 8 GHz
Connectors	N-male (RF) and USB (power supply and axes control)

Ordering Information and Optional Items

Item	Description	Part Number
Mainframe	Upgradable mainframe with display	ONA-800A + ONA-8004-BC
Radio analysis modules (choose one)	9 kHz - 6 GHz Spectrum analyzer module	SPA06MA
	9 kHz - 9 GHz Spectrum analyzer module	RA09MA-O
	9 kHz - 18 GHz Spectrum analyzer module	RA18MA-O
	9 kHz - 32 GHz Spectrum analyzer module	RA32MA-O
	9 kHz - 44 GHz Spectrum analyzer module	RA44MA-O
Isotropic Antenna	Tri-axial EMF Antenna 3 MHz - 8 GHz (w/ 2 m cable)	WTA8G5
EMF Analysis software	Spectrum Frequency measurements	ONA-SP-EMF-SA
Optional Code Selective Measurements		
4G FDD	EMF Analysis for LTE FDD	ONA-SP-EMF-LTEFDD
4G TDD	EMF Analysis for LTE TDD	ONA-SP-EMF-LTETDD
5G NR	EMF Analysis for 5G NR	ONA-SP-EMF-NR

Optional accessories and features		Optional accessories and features (cont.)	
Realtime Spectrum Analysis 100 MHz	ONA-SPRT100	Small Wrap Case for SPA Module/CAA Module (soft bag)	ONA-800A-WCS
GNSS Connectivity with Antenna	ONA-SP-GNSS	Hard Carrying Case with Wheels for Full-sized Modules	G700050701
SMA Mount Single Band GNSS Antenna	G700050390	Harness	ONA-800A-HN
Wi-Fi Connectivity	ONA-MF-WIFI	External Battery Charger	G710550324
SMART ACCESS ANYWHERE FOR VIAVI ADVISOR PRODUCTS	SAA-ADVISOR	98 Wh Lithium-ion battery (additional Battery)	G700050150
120 Watts DC to DC Car Cigarette Lighter Charger Adapter	G700050128	ISO17025 Calibration (Spectrum analyser + tri-axial antenna + cable)	W-8GHz-TA-Cal

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