



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.

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

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

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.

Wavecontrol's new solution, **RFSelectiQ**, 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.



## All-in-one Solution

RFSelectiQ 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 25 MHz up to 8 GHz. Additional antennas are available to extend measurements up to mm-wave frequencies if required.



### Benefits of RFSelectiQ - 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.
- 25 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.

# 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 WTA8   |
| 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  |
|---|--|--|
| <b>Mainframe</b>  | Upgradable mainframe with display                  | ONA-800A + ONA-8004-BC   |
| <b>Radio analysis modules (choose one)</b>                      | 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   |
| <b>Isotropic Antenna</b>  | Tri-axial EMF Antenna 3 MHz - 8 GHz (w/ 2 m cable) | WTA8G5   |
| <b>EMF Analysis software</b>                                    | Spectrum Frequency measurements                    | ONA-SP-EMF-SA  |
| Optional Code Selective Measurements                            |  |  |
| <b>4G FDD</b>   | EMF Analysis for LTE FDD                           | ONA-SP-EMF-LTEFDD  |
| <b>4G TDD</b>   | EMF Analysis for LTE TDD                           | ONA-SP-EMF-LTETDD  |
| <b>5G NR</b>  | EMF Analysis for 5G NR                             | ONA-SP-EMF-NR  |
| Optional accessories and features                               | Optional accessories and features (cont.)          |  |
| <b>Realtime Spectrum Analysis 100 MHz</b>                       | ONA-SPRT100  | <b>Small Wrap Case for SPA Module/CAA Module (soft bag)</b><br>ONA-800A-WCS                  |
| <b>GNSS Connectivity with Antenna</b>                           | ONA-SP-GNSS  | <b>Hard Carrying Case with Wheels for Full-sized Modules</b><br>G700050701                   |
| <b>SMA Mount Single Band GNSS Antenna</b>                       | G700050390   | <b>Harness</b><br>ONA-800A-HN  |
| <b>Wi-Fi Connectivity</b>                                       | ONA-MF-WIFI  | <b>External Battery Charger</b><br>G710550324  |
| <b>SMART ACCESS ANYWHERE FOR VIAVI ADVISOR PRODUCTS</b>         | SAA-ADVISOR  | <b>98 Wh Lithium-ion battery (additional Battery)</b><br>G700050150                          |
| <b>120 Watts DC to DC Car Cigarette Lighter Charger Adapter</b> | G700050128   | <b>ISO17025 Calibration (Spectrum analyser + tri-axial antenna + cable)</b><br>W-8GHz-TA-Cal |

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