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ExpoM – RF 4

Configurable Exposure Meter

Applications

- Tracking RF field strengths along specified routes (indoor & outdoor)
- Measuring and monitoring RF field strengths near fixed installations
- Measuring RF field strengths to check safety compliance
- Quick overview of RF field strengths as immediate numeric values or plots

Key Features

- Broad frequency range: 50 MHz up to 6 GHz
- User-configurable frequency bands with selectable measurement bandwidth
- Spectrum analyzer mode for unknown signal identification
- True-RMS and peak field strength measurements
- 5G NR Bands capable (for bands below 6 GHz)
- Low detection limit (5 mV/m)
- Excellent dynamic range (0.005 up to 6 V/m) with selectable high field strength Mode up to 60 V/m
- Real-time display of measurement values on a Smartphone (via WiFi)
- Automatic position tracking using built-in GPS receiver
- Marker button to highlight specific events (i.e. change of activity)
- 16 GB data logger allowing for extra-long unattended recording periods
- Easy to use and small size (16 x 8 x 5 cm)
- Excellent battery management allows for long-term recordings

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Specifications

1. Frequency bands and measurement range

Frequency range	50 MHz to 6.0 GHz continuous frequency coverage
Frequency bands	Pre-defined or fully customizable lists of center frequencies (selectable in software)
Measurement bandwidth	35, 75 and 100 MHz
Dynamic range	> 60 dB raw dynamic range (0.02 – 20 V/m nominal range); Measurement range extension using *high sensitivity mode* (up to 6V/m) or *high field strength mode* (up to 60 V/m).
Sensitivity (6V/m range) RMS field strength	Measurement frequency Typical lower detection limit 80 – 250 MHz < 0.01 V/m 250 – 4500 MHz < 0.005 V/m 4500 – 6000 MHz < 0.009 V/m
Spectrum analyzer mode	Wideband gapless frequency scan over the full frequency range

2. Calibration Options

Base Version	- Calibration of 25 frequency bands (selected by customer) - Spectrum analyzer mode is available but only with coarse calibration.
Extended Calibration	- Calibration of 25 frequency bands (selected by customer) - Calibrated spectrum analyzer mode
Full calibration	Full measurement range of device is calibrated. Allows to perform calibrated measurements on any selectable frequency / bandwidth combination.
Upgrades	Device calibration options can be upgraded after purchase. The device must be sent in to make additional measurements at our calibration facility, but no hardware modifications are required.
	See ExpoM-RF 4 manual for more details about the available calibration options

3. RF Measurement

Detection method	Simultaneous True-RMS and envelope peak field strength measurement within a 50-ms observation time for each frequency band
Sample interval	User-selectable; from 3 to 6000 seconds in steps of 0.5 second. The minimum sample interval without samples being skipped depends on the number of active measurement bands: • 10 measured bands: min. 2 seconds • 25 measured bands: min. 4 seconds
Antenna	Tree axis isotropic antenna
Frequency crosstalk	-40 to -60 dB (typical)

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4. Size / Conditions

Size and weight	16 cm x 8 cm x 3-5 cm (L x W x H) Weight: 360g
Device Calibration	15 field levels, three axes (for each frequency band)
Conformity	CE, FCC (Contains FCC ID: 2ADHKATWINC1500), MIC
Operating Conditions	Temperature -5 to +50 Degrees Celsius 0 to 90% rel. humidity

5. Connectivity / Storage

Time	Integrated precision (± 2 ppm) real time clock
Connectivity	USB, WiFi (2.4 GHz), GPS
Marker	Built-in marker button to highlight specific events
Data logger storage	Size and type: 16 GB, non-volatile flash memory. Capacity: >10 million (25 frequency bands per measurement) Max number of datasets: 500

6. Battery Management

Battery	Built-in rechargeable Li-ion battery
Typical Operating time	>15 hours (25 bands, 5sec, GPS OFF)
Charging	USB interface: USB compliant charger ports are supported (preferably 1A or more) Active measurements continue while charging

7. ExpoM-RF Utility Software

Processor	Dual core processor recommended
Operating Systems	Windows (7, 8, 10)
Storage usage	5 MB
Installation	No installation required – ExpoM RF 4 Utility can be started directly
Download	www.fieldsatwork.ch (available upon official release of ExpoM-RF 4)

8. ExpoM Android Software

Processor	64-bit CPU recommended
Operating System	Android 4.1 or newer
Storage usage	Less than 5 MB
Download	www.fieldsatwork.ch (available later - currently in development)

Shipping Configuration

- ExpoM – RF 4 Wideband Configurable RF Exposure Meter Device
- Hardcase
- 2A USB charger
- USB cable
- Software – Free download for Windows (Windows 7 and higher)
- Smartphone App - Free download for Android