

WAVECONTROL

Safety, Quality, Service

PORTABLE

Portable Meters

- SMP2



MONITORS

Area Monitors

- MonitEM
- MonitEM - Lab
- CMonitEM



PERSONAL

Personal Protective Equipment

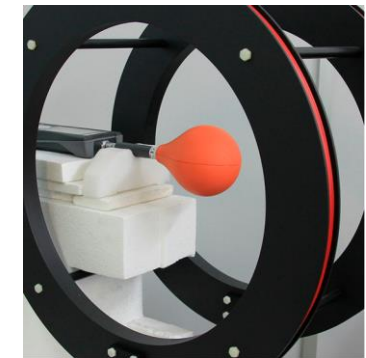
- WaveMon



SERVICES

Available Services

- Calibrations
- Workshops
- Trainings



Overview: MonitEM-Lab (Indoor Area Monitor)



Continuous monitoring 24/7 —○

Alarms in real time —○



Visual



Audible

Ethernet communication
with PC software and control center



○ — **Broadband measurement**
allows an easy monitoring of
EMF human exposure

○ — **Easy to mount and install**
AC supply and configuration by
USB or Ethernet

○ — **Compliance with ITU-T K.83**
Direct, easy and comprehensible
comparison with regulated limits

○ — **Alarm output**

MonitEM-Lab: Indoor Area Monitor



MonitEM-Lab: How does it work?



APPLICATIONS



Telecommunication



Industry



Laboratory



Defense



Medicine

SOURCES



MonitEM Reader

- View data (field levels)
- View the graph
- Define alarm threshold
- Data Logging
- Download data



Compatible Probes:



High frequency field probes

WPF3/6/8: 100 kHz – 3, 6, 8 GHz

WPF18: 300 kHz – 18 GHz

WPF40: 1 MHz - 40 GHz

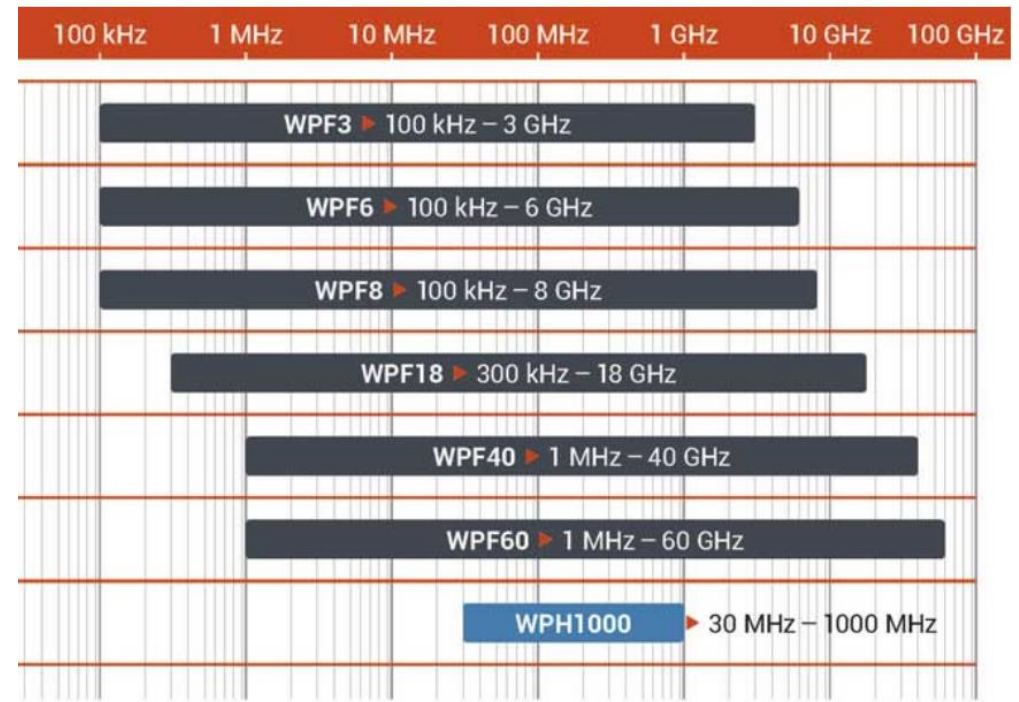
WPF60: 1 MHz - 60 GHz

E Field

Magnetic field probes

WPH1000: 30 MHz – 1000 MHz

H Field



E&H E H

- **Area monitor 24/7**
- **According to standards about exposure to EMF Fields**
 - Limits are related to time averaged levels
 - MonitEM-LAB measures instant field levels and calculates time averaged values to compare against limits
- **Data logging:**
 - Internal
 - Remote logging with control centre option
 - Saves instant levels and also time averaged levels
- **Alarms threshold fully configurable by user:**
 - Any level desired (V/m)
 - Trigger by instantaneous level or by time average level (average period of time also configurable)



- **Control Centre**

- Manage all area monitors
- Visualization of real time graphs and also historical data
- Alarm warnings sent by email
- Automatic report generator
 - Reports can be sent automatically to specific email addresses

- **Simple setup**

- Immediate standalone use
- Easy configuration through USB or Ethernet
- Easy mounting and use

PC Software included: MonitEM Reader



The screenshot shows the MonitEM software interface with the following sections highlighted:

- General:** Date: 2017/03/09 12:28:27, Serial: 16MT9999, Probe: 15WP040513.
- Status:** Temperature: 28.8°C, Firmware: 2v24, Supply: External DC 11.8V + battery, Memory card: OK, Door state: closed, Battery: (green bar), Solar panel: not detected.
- Measurement:** Data log interval: 1min, Window averaging: 6min.
- Alarms:** Level (checked), Limit: 10.00 V/m, Trigger on average field (unchecked).
- Light and sound:** Status Light (checked), Alarm light (checked), Alarm sound (checked), Time ON: 30, Time OFF: 70.
- Field in V/m:** Total: 1.734, X: 0.995, Y: 0.651, Z: 1.262.
- Communication Parameters:** Online mode (checked), Connection Interval: 30min, Connected.
- Unit log options:** Power status log: 60 minutes, Temperature log: 1440 minutes.

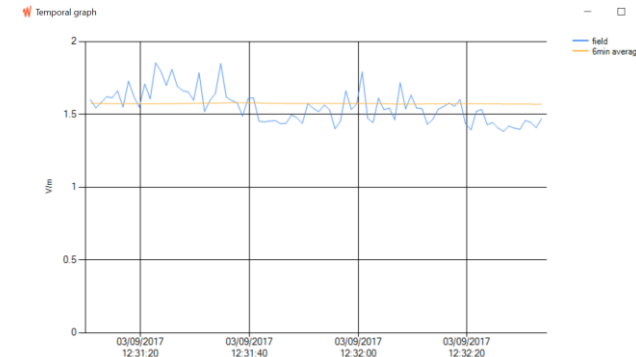
Buttons at the bottom include: Update Values, Refresh Values, Restart Unit, Download Measurement, Download unit log. Status bar: MonitEM connected IP: 192.168.0.119:10001.

Date & Time
Used Probe Information

Internal Status

Measurement Parameters

Real time Values
Live graph



Light & Sound
Settings

Alarm State and Parameters



The screenshot shows the monitEM software interface with the following sections:

- General:** Date: 2020/06/18 08:19:34, Serial: 20MT9999, Probe: 17WP0600XX.
- Field in V/m:** Total: 42.892, X: 30.67, Y: 27.39, Z: 12.199.
- Status:** Temperature: 26.7°C, Firmware: 2v31b, Supply: External supply 11.9V, Memory card: OK, Battery: [meter], Solar panel: not detected. **Relay state: Alarm** (circled in red).
- Measurement:** Data log interval: 1min, Window averaging: 6min.
- Alarms:** Level checked, Limit: 10.00 V/m, Trigger on average field unchecked. **Relay persistence: 10 s** (circled in red).
- Light and sound:** Status Light checked (30s), Alarm light checked (30s ON, 70s OFF), Alarm sound checked (30s ON, 70s OFF).
- Unit log options:** Power status log: 60 minutes, Temperature log: 1440 minutes.

Buttons at the bottom include: Update values to MonitEM, Reload values from MonitEM, Restart Unit, Download unit log, and Download Measurement. The status bar at the bottom left says "MonitEM connected".

Relay State: Alarm or No Alarm

In alarm state when

- the unit is in SETUP mode
- measurement is over the defined threshold
- the unit is off.

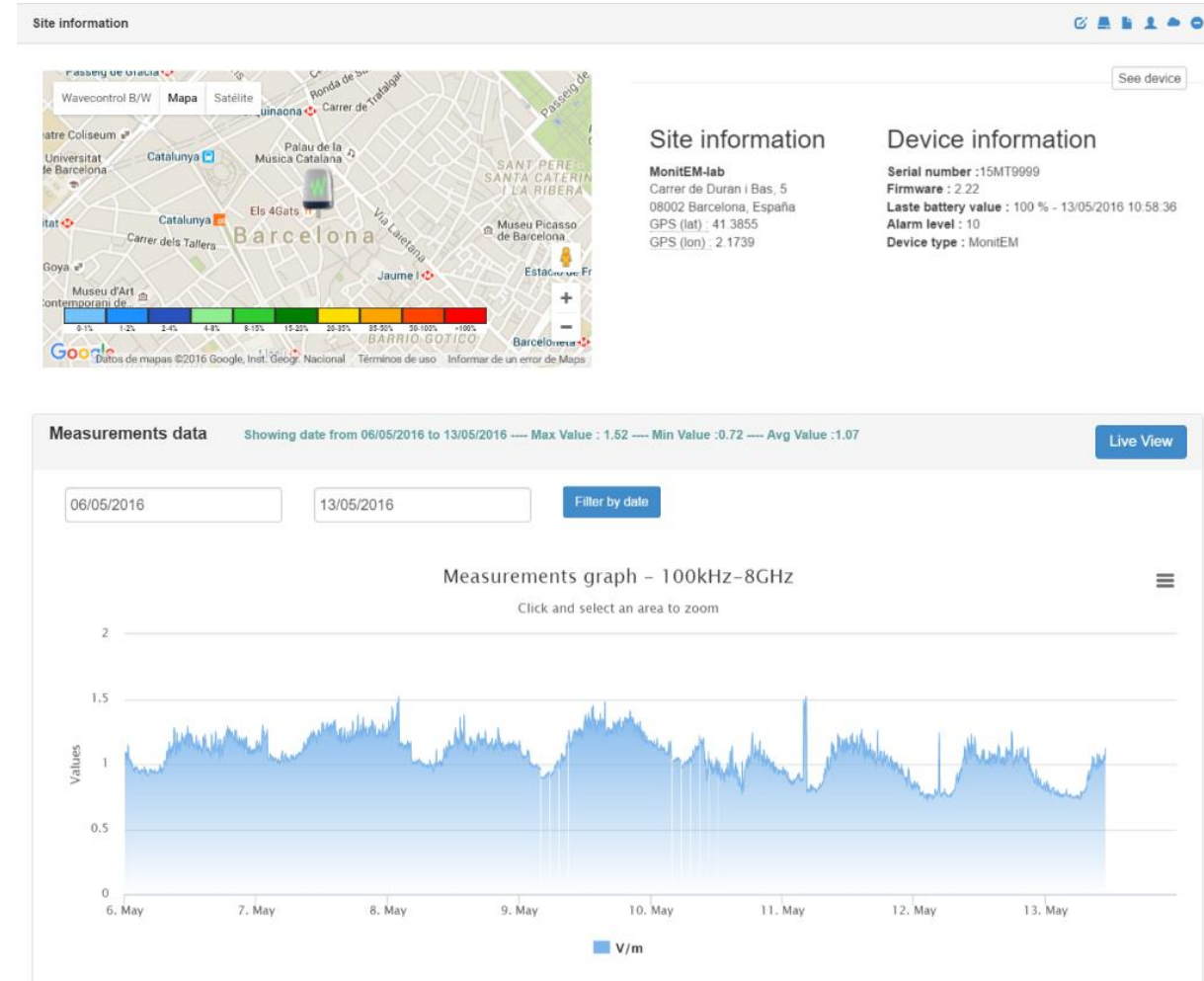
Relay Persistence Time:

- To keep the state of the alarm for a period.
- Time can be defined by user.

MonitEM-Lab : Control Centre Software Option



- Manage all units at the same time
 - MonitEM, MonitEM-Lab, SMP2
 - Remote configuration of each unit
- Data Visualization
 - Visualization of all units (Live View)
 - All graphs simultaneous
 - Single graphs
- Alarm Management
 - Remote alarm configuration
 - Receive and manage alarms from all units
 - Sends alarm messages by email
- Data Management
 - Saves data sent by each monitEM
 - Historical data available for review
 - Automatic report generator



MonitEM-LAB - Application

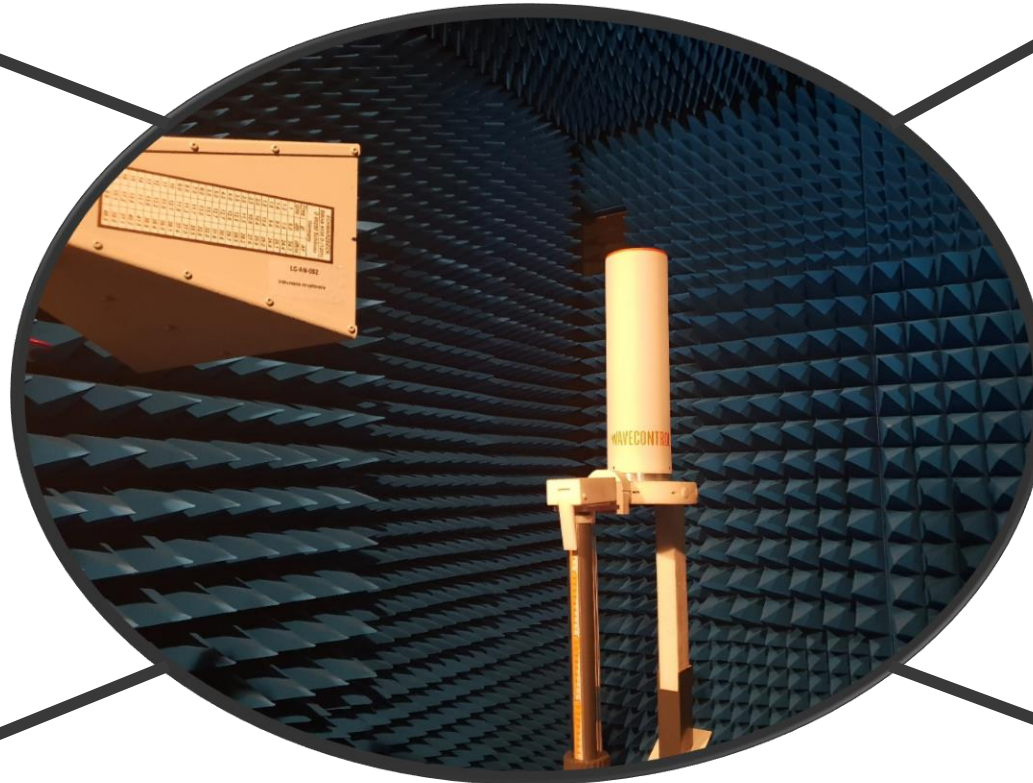


Verification of Workers Exposure

24/7 monitoring
Audible and Visual alarm
Instant and time averaged value

Leak detection

Detect abnormal field level (Low threshold)
Setup verification during product testing



Long Term Field Verification

Detect defects or drifts of a field during long time
Tests by Telecoms operators and infrastructure manufacturers

Field level warning during RF Testing

Warn operators in areas with high fields

..... many other applications possible

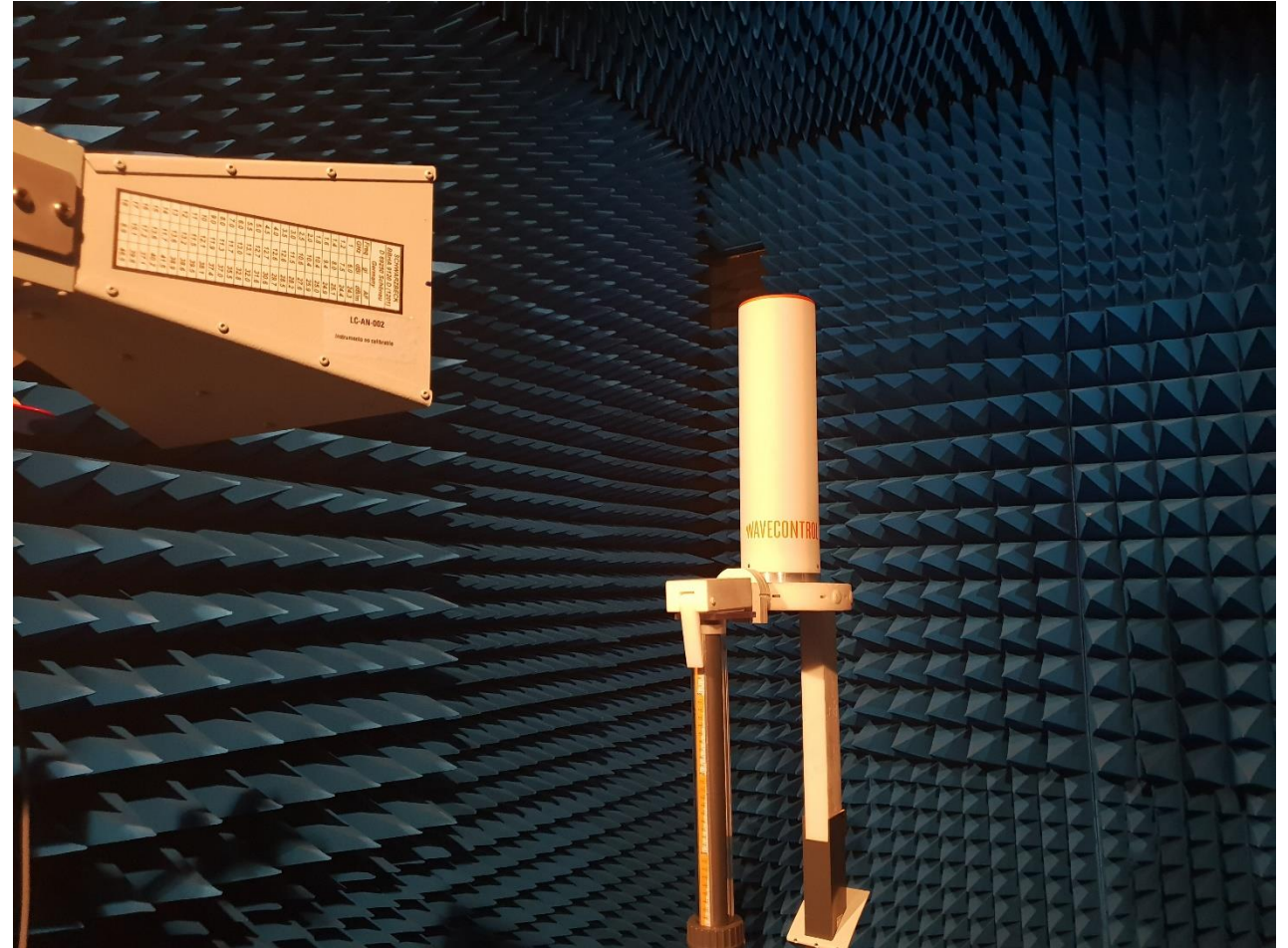
New MonitEM-LAB



- Smaller size
- Easier to mount
 - Simple L shaped wall mount bracket
- Easier connection
 - USB connection accessible
- Improved features
 - Audible alarm control
 - Standby mode
- Compatible with WPFxx and WPH1000 probes
 - From 100 kHz to 60 GHz



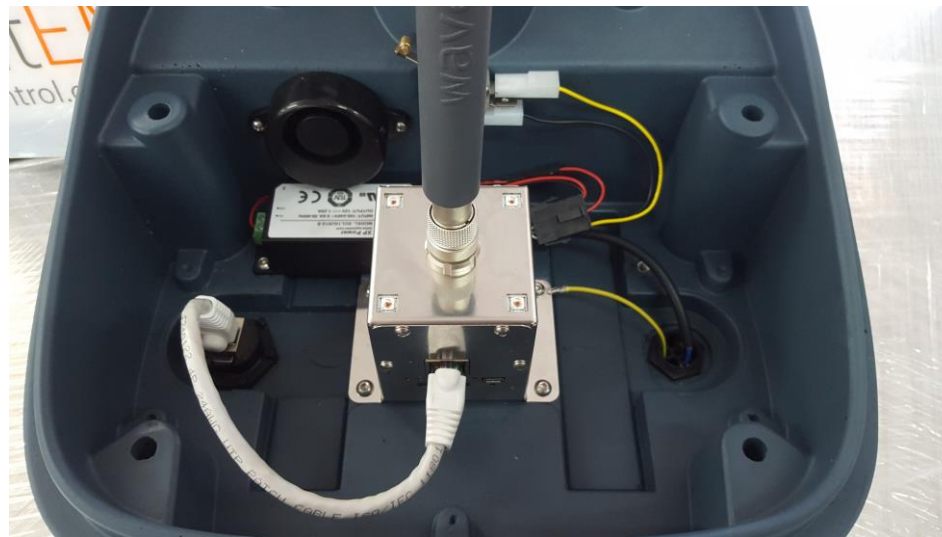
MonitEM-LAB COMPACT



MonitEM-LAB – for outdoor



- IP66 version available
- Bigger than indoor version
- Dry contact alarm output not available on standard version
- Outside connections available:
 - Ethernet
 - Power supply





THANK YOU

HEADQUARTERS

Wavecontrol S.L.
Carrer de Pallars 65-71
08018 Barcelona (SPAIN)
Tel. [+34] 933 208 055

USA OFFICE

Wavecontrol, Inc
101 Eisenhower Pkwy Suite 300
Roseland, NJ 07068-1054 (USA)
Tel [+1] 201 479 9022

Info@Wavecontrol.com