

GQ Electronics

GQ EMF METER

Quick Start Guide



Model: EMF-360V2, EMF-360+V2, EMF-380V2, EMF-390

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GQ EMF Meter

(For EMF-360V2, EMF-360PlusV2, EMF-380V2, EMF-390)

Package Content

1. EMF meter main unit.
2. USB cable
3. Quick start guide.

Full User Guide

<https://www.ggelectronicllc.com/GQ-EMF-UserGuide.pdf>

Operation Setup

1. Power on the unit. Pressing the power (S4) key for 3 seconds will turn on the unit.
2. Check the battery level. Charge the battery fully if battery level is low. It may take a few hours to get the battery fully charged. Check the battery icon on the display. A fully charged battery icon will be filled with solid color, without flashing.
3. Set the backlight timeout in seconds in order to minimize the power consumption.
4. Now the unit is ready for use. You should see the background EMF/EF reading.

Software

The package includes optional free utility software, the GQ EMF Pro. You can use this utility to view and analyze the data on a PC. Users can download the USB driver and software from GQ Software Download page: <https://www.ggelectronicllc.com>

- The driver: USB Driver, CH341SER.exe
- The software: GQ EMF PRO
- The demo software for EMF Meter: Demo and Simulation Software, EMF360_380_Demo.exe

Technical question and support

Please use forum : <https://www.ggelectronicssl.com/forum>

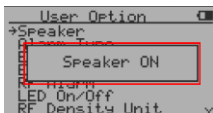
The multi-function keys (S1, S2, S3, and S4)

The key's function will be reassigned dynamically based on the Display Mode.



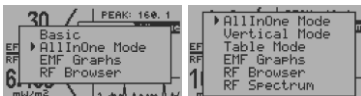
- **S4: Power ON/OFF, Confirm, Select, Enter.**
- **S3: up, or content depended**
- **S2: down, or content depended**
- **S1: mode, cancel, exit**

User Interface

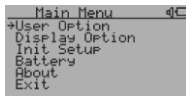


The Popup Window box will show the current status/value on a current feature focused. The current status/value only can be changed when it is showing in Popup Window. The current status/value will be confirmed when the Popup Window timeout

after 3 seconds. (Rectangle box)



Press S1 to select display mode



Press S4 to enter Main Menu



Horizontal All In One Mode

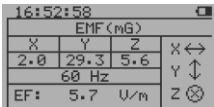
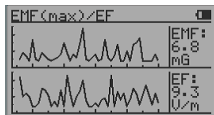
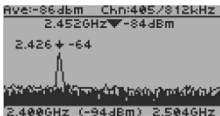


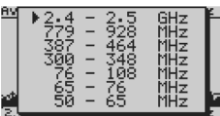
Table Mode



EMF Graphs Mode



RF Spectrum Analyzer Mode



Bands selection

In All in one mode, press S3 key to change the main measurement type among:

- EMF in mG (milliGauss)
- EF in V/m (Volts per meter)
- RF in mW/m²

S1 key: select display mode

S2 key: select RF unit

S4 key: enter Main menu

There is a table mode on EMF-360+V2/EMF-380V2/EMF-390 models. Press S2, S3 key act to select Table Mode between: EMF/EF table mode and RF table mode

Press S2, S3 to select Graphs Mode between:

EMF/EF and XYZ-EMF
(X, Y, Z components of EMF)

Press S2, S3 key to move the user cursor

Press and hold S3 key for 1 second to zoom. To exit zoom mode, press & hold S2 key for 1 second to zoom out.

In RF Spectrum Analyzer mode, press and hold key S2 for 1 second, select different RF frequency bands.
(for EMF-380/390 Only)

Hold and position the meter



To get as accurate of a reading as possible, always point the top of the meter (sensors) to the source.

You can hold the meter at the lower part, or just simply place the meter near the target source.

EMF/ELF/EF/RF Basics

EMF/ELF Radiation	EF Radiation	RF Radiation
<p>EMF stands for electromagnetic field. The higher EMF exposure you have, the greater risk to health.</p> <p>ELF refers to as an extreme low frequency EMF.</p>	<p>EF stands for electric field. Electric fields are caused by electrical forces.</p>	<p>RF is known as radio frequency radiation, which includes radio waves and microwaves. The higher the frequency, the greater the risk to health</p>
<p>Options of Testing Mode Setting:</p> <ul style="list-style-type: none"> • All-In-One Mode • Table Mode • Vertical Mode 	<p>Options of Testing mode Setting:</p> <ul style="list-style-type: none"> • All-In-One Mode • Table Mode 	<p>Options of Testing Mode Setting:</p> <ul style="list-style-type: none"> • All-In-One Mode • RF Browser • RF Spectrum
<p>What will generate EMF/EF (samples)</p> <ul style="list-style-type: none"> - Visible : <ul style="list-style-type: none"> • TV • Phones • Lighting • Small house applying • Air condition • Water boiler • Speaker - Nonvisible: <ul style="list-style-type: none"> • Hidden wire • Power outlet 		<p>What will generate RF (samples)</p> <ul style="list-style-type: none"> - Natural sources : <ul style="list-style-type: none"> • Outer space (sun/sky/earth itself) - Manmade : <ul style="list-style-type: none"> • Transmitting signals from cell phones, cordless phones, cell phone towers, satellite phones, and 2-way radios • Radar • WiFi and Bluetooth • Cooking food (in microwave oven) • Millimeter wave scanner (a type of full body scanner used for security screening)
<p>What will generate ELF</p> <ul style="list-style-type: none"> - Utility power lines (most common) - Hydro lines - Computer terminals - Electric appliances 		<ul style="list-style-type: none"> • Broadcast radio • TV Signals • Electrical security systems

How to turn ON/OFF ?

1. ON : Press and hold S4 button for 3 seconds, until see GQ logo.



2. OFF : Press and hold S4 button again for 3 seconds

How to charge the battery?

1. You will receive a USB cable along with EMF meter in the package



2. Plug A into USB socket on any USB ports (eg. Cellphone chargers) and plug B to mini-B socket on EMF meter



3. Charging status should be shown on the screen



5. The percentage is only an estimate of battery level. A fully charged battery icon will be filled with solid color, without flashing.

FAQ:

1. Is GQ Meter designed for general use or professional measurement?

It is for general purpose use. Basic features are for beginners. Advanced features for experienced users to explore.

2. I am a beginner, how do I start?

Turn on the meter and keep it on the All-in-one screen. You are able to read EMF, RF and EF from this screen.

3. What makes the GQ EMF meter unique?

Affordable, cost effective with enriched features. The possible source identification and RF browser features are exclusive in the market.

4. Why is my reading different from other meters?

In the real environment, EMF, RF, and EF waves are always mixing and changing constantly. The EMF meters also come in all shapes and sizes, testing various frequencies. It is normal that the EMF meter's readings keep changing in a range.

5. Why is my EMF reading higher than the meter from power company's EMF meter?

One possible reason is the different detection range of the frequency. Power company's meters only focus on the ELF, the frequency from 50 to 60 Hz. GQ meters can detect a wider frequency band.

6. Does this meter supports 5G network?

The 5G(5th generation) network uses two frequency bands: low band (450MHz-6GHz) FR1 and high band (24.25GHz to 52.6GHz millimeter wave band) FR2 . So far most 5G networks are running on low band. This meter detects all 5G networks, ran on low band.

7. Why there is no reading on my smart meter?

The Smart meter only emits RF periodically; it transmits data in a fixed

interval. Some Smart meters only transmit data once a day. Meanwhile, others may transmit the data every minute. Use the RF Browser to see the transmitting pulses. Turn on the data logging to monitor it for a long period so you can download the transmission information later.

8. Why is my reading changing?

In the real world, there will always be a wide mixture of signals from multiple sources around you. Those signals may have different frequencies, orientations, or digital characteristics. Moreover, they are changing from time to time and space to space. These differing aspects will impact the reading.

9. What should I do if I think that the reading is incorrect?

Test a couple of times to get the reading and take the average of those readings.

10. What should I do if my meter is defective?

Please call or email GQ Electronics LLC. The staff will arrange the return regardless of where you purchased the meter.

11. Why does the reading change when I put my hand on the meter?

The human body has an Electrostatic Discharge (ESD), also known as static electricity discharge. The ESD generated from the human body can be over several thousand volts. This impacts the EF reading.

12. What is the difference between a single axis and a triple axis meter?

Magnetic fields are oriented in space; a sensor will only detect the field properly if it is aligned with the field. A single axis meter has only one sensor in it, which makes it easier to get an incorrect reading than actual reading. This type of meter is cheap due to only measuring partial radiation. A three-axis meter has 3 sensors in it, all aligned at right angles to each other. This type of meter is always correctly aligned. It takes less time but generally costs more than the single axis counterpart.

13. Can you describe a bit more on RF radiation?

RF(Radio Frequency) radiation is dynamic in nature and can be impacted by various factors: Frequency, orientation, time and place.

- Every meter has a specified frequency range and it has different frequency response (Nonlinear response)
- A meter only responds to a portion of the RF spectrum.
- Location is one of the most important factor impacts the RF reading. If you have taken RF readings, you know that the levels fluctuate widely from one moment to the next and from one location to the next. Even moving the meter a few inches to one side or another can have a large impact on reading.

14. Why the meter has different RF reading on different direction?

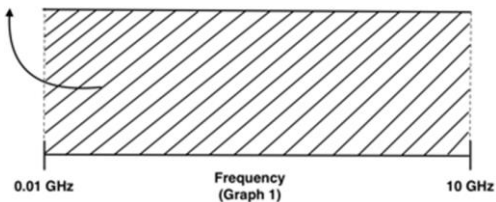
All RF signals have an orientation in space. They may be vertically or horizontally polarized, they may be circularly polarized. The RF signal also can be reflected by objects. The orientation of the meter's antenna direction to the signal will greatly impact the meter's ability to detect the signal. When multiple signals are present (with different orientations), it is difficult to define the antenna orientation.

15. What is different between RF Spectrum Analyzer mode and RF Browser mode?

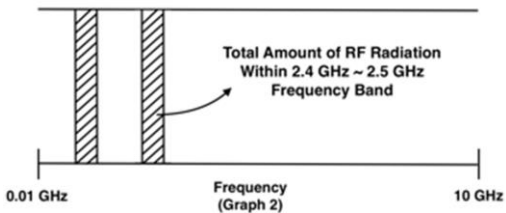
The RF Browser is to detect the total amount of RF radiation, from all sources that have the frequency bands between 0.01GHz to 10GHz. (See graph 1) The RF Spectrum Analyzer is an advanced feature to test the strength of RF radiation in specific range of frequency bands. For example, we could use it to test the amount of RF radiation, only between 2.4GHz to 2.5GHz. (See graph 2) In conclusion, our GQ EMF-390 could detect the total RF radiation up to 10GHz; and several specific ranges of frequency bands up to 2.5GHz with RF Spectrum Analyzer.

Total Amount of RF Radiation Detected

RF Browser



RF Spectrum Analyzer



Note:

Serial #:

EC REP

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