

MESTEK EMF02R-YW

MESTEK EMF Meter 5-in-1 Electromagnetic Radiation Detector User Manual

Model: EMF02R-YW

1. INTRODUCTION

The MESTEK EMF Meter (Model EMF02R-YW) is a multi-functional device designed to detect and measure various types of radiation and environmental factors. It integrates five key measurement capabilities: Electromagnetic Field (MF), Electric Field (EF), Radiofrequency (RF) radiation, and ambient Temperature and Humidity. This meter provides quick and accurate readings, making it suitable for assessing radiation levels in homes, offices, and other environments.

What's in the Box

- 1x MESTEK EMF Meter
- 1x USB Type-C Charging Cable
- 1x Storage Bag
- 1x User Manual (this document)



2. KEY FEATURES

- **5-in-1 Measurement:** Simultaneously detects Electromagnetic Field (MF), Electric Field (EF), Radiofrequency (RF) radiation, and measures ambient Temperature and Humidity.
- **High-Frequency Range:** RF detection up to 8GHz, suitable for identifying radiation from base stations and various wireless devices.
- **Large VA Color LCD Display:** Provides clear, intuitive readings with a three-color analog bar display for quick radiation level assessment (Green: Low, Yellow: Moderate, Red: High).
- **Audible and Visual Alarms:** Alerts users with sound and screen indicators when radiation levels exceed preset safety thresholds. The audible alarm can be muted.
- **Data Functions:** Includes Data Hold, Maximum Value (MAX), and Average Value (AVG) display for comprehensive analysis.
- **User-Friendly Design:** Features a low battery reminder, auto-power off after 15 minutes of inactivity, and unit switching for temperature ($^{\circ}\text{C}/^{\circ}\text{F}$) and magnetic field ($\text{mG}/\mu\text{T}$).
- **Durable and Portable:** Compact size with soft rubber casing for drop resistance, making it easy to carry and operate with one hand.

5 IN 1 EME METER EMF DETECTOR

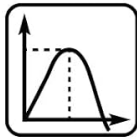
USB Type-C



Power on/Off/Alarm



VA Color Screen



AVG/MAX



HOLD



Radio Frequency



ELEC



MAG



Ambient Temp/Humidity



Figure 2.1: 5-in-1 Function Modes

5-in-1 FUNCTION MODES



Electric Field:
V/M (1-999V/M)



Radio Frequency Field:
uW/cm² (0.0-9999)



Magnetic Field :
mG (0.1-99.9mG)



Temperature&Humidity:
°C/°F (32-122°F/0-90%RH)

Figure 2.2: Large VA Color LCD Display

3. SETUP

3.1 Charging the Device

The MESTEK EMF Meter is equipped with a rechargeable Lithium-Ion battery. Before first use, or when the low battery indicator appears, charge the device using the provided USB Type-C cable.

1. Connect the USB Type-C cable to the charging port at the bottom of the meter.
2. Connect the other end of the cable to a standard USB power adapter (not included) or a computer USB port.
3. The charging indicator on the screen will show the charging status. A full battery icon indicates charging is complete.



Figure 3.1: Charging the EMF Meter



Figure 3.2: Low Battery Indicator

3.2 Powering On/Off

- To power on: Press and hold the **Power button** (🔌) located below the screen.
- To power off: Press and hold the **Power button** again. The device will also automatically power off after 15 minutes of inactivity to conserve battery.

4. OPERATING INSTRUCTIONS

4.1 Button Functions

- **Power Button** (🔌): Press and hold to power on/off.
- **SEL Button**: Short press to switch between Electric Field (E-field) and Magnetic Field (H-field) measurement modes.
- **AVG/MAX Button**: Short press to cycle through current value, maximum value (MAX), and average value (AVG) display.
- **HOLD Button**: Short press to freeze the current reading on the display. Press again to release.
- **RF Button**: Short press to enter Radiofrequency (RF) measurement mode. Press again to exit RF mode and return to EF/MF measurement.
- **Mute Button** (Bell icon): Short press to toggle the audible alarm on or off.

4.2 Measurement Modes and Display

The meter's display shows real-time readings, an analog bar, and environmental data. The analog bar changes color to indicate radiation intensity:

- **Green**: Low radiation level.
- **Yellow**: Moderate radiation level.
- **Red**: High radiation level, indicating potential concern.

EMF METER EMF DETECTOR



Measure EMF level protect from potentially harmful long term average exposure to EMFs.
size:204X63X32mm
8X2.5X1.3inch



Distribution station



Electric tower



Signal transmitting tower

Figure 4.1: Three-Color Analog Display Indication

4.2.1 Electric Field (EF) Measurement

In EF mode, the meter measures electric field strength in V/m. Press the **SEL** button until 'E-field' is indicated on the display. Common sources include power lines, electrical appliances, and wiring.

4.2.2 Magnetic Field (MF) Measurement

In MF mode, the meter measures magnetic field strength in mG or μT . Press the **SEL** button until 'H-field' is indicated. You can switch between mG and μT units. Common sources include motors, transformers, and high-current devices.

4.2.3 Radiofrequency (RF) Measurement

In RF mode, the meter measures radiofrequency power density in $\mu\text{W}/\text{cm}^2$. Press the **RF** button to enter this mode. The meter can detect frequencies from 30 MHz to 8 GHz. Common sources include Wi-Fi routers, mobile phones, cell towers, and microwave ovens.

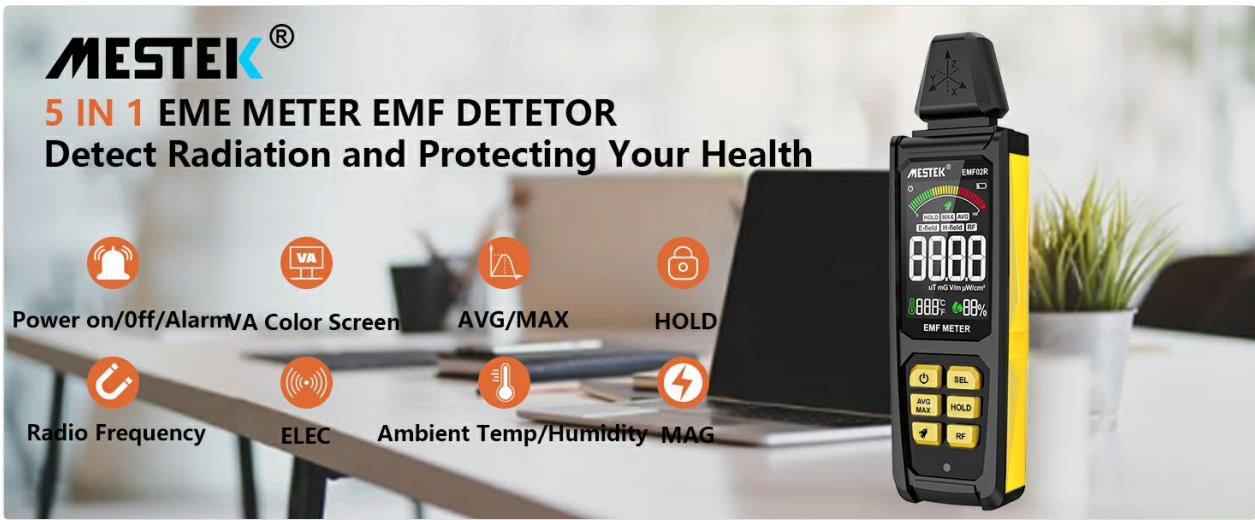


Figure 4.2: RF Measurement near a Wi-Fi Router

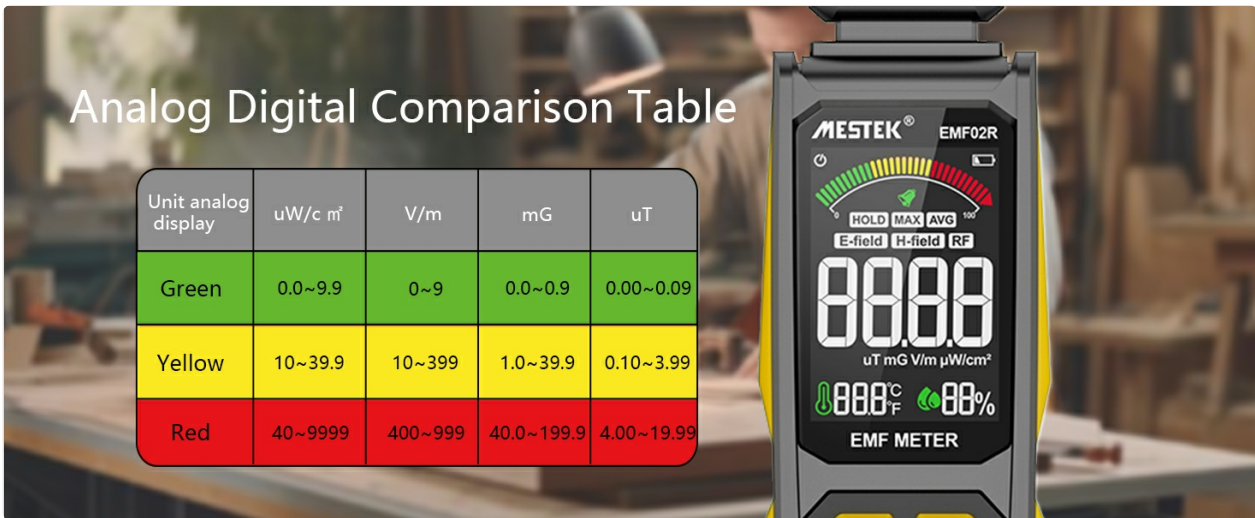


Figure 4.3: EMF Measurement near Appliances

4.2.4 Temperature and Humidity Measurement

The meter continuously displays ambient temperature in °C or °F and relative humidity in %. Use the appropriate button (refer to the full manual for specific button if not SEL) to switch between Celsius and Fahrenheit.

4.3 Alarm Function

When the measured radiation value exceeds the safety threshold, the meter will activate both an audible alarm (beeping sound) and a visual alarm (screen flashing, analog bar turning red). This alerts you to potentially high radiation areas.

- To mute the audible alarm: Press the **Mute button** (bell icon). The visual alarm will remain active.
- To unmute: Press the **Mute button** again.



Figure 4.4: Sound-Light Alarm Indication

4.4 Analog Digital Comparison Table

The following table provides a general guide for interpreting the analog bar display and corresponding digital values for different radiation types. These are indicative thresholds and may vary based on specific regulations or personal sensitivity.

Unit Analog Display	RF ($\mu\text{W}/\text{cm}^2$)	EF (V/m)	MF (mG)	MF (μT)
Green (Low)	0.0 ~ 9.9	0 ~ 9	0.0 ~ 0.9	0.00 ~ 0.09
Yellow (Moderate)	10 ~ 39.9	10 ~ 399	1.0 ~ 39.9	0.10 ~ 3.99
Red (High)	40 ~ 9999	400 ~ 999	40.0 ~ 199.9	4.00 ~ 19.99

Figure 4.5: Analog Digital Comparison Table for Radiation Levels

5. APPLICATIONS

The MESTEK EMF Meter is a versatile tool for various applications:

- **Home and Office:** Identify radiation sources from household appliances (TVs, computers, printers, microwave ovens, refrigerators) and office equipment.
- **Environmental Monitoring:** Detect high-frequency radiation signals near base stations, mobile phone antenna masts, and high-voltage cables.
- **Personal Safety:** Assess potential exposure to harmful electromagnetic fields in your living and working

spaces.

- **Specialized Use:** Can be used for ghost hunting or identifying unusual electromagnetic phenomena.

THREE COLORS INDICATION ANALOG DISPLAY



Figure 5.1: Widely Used EMF Radiation Tester

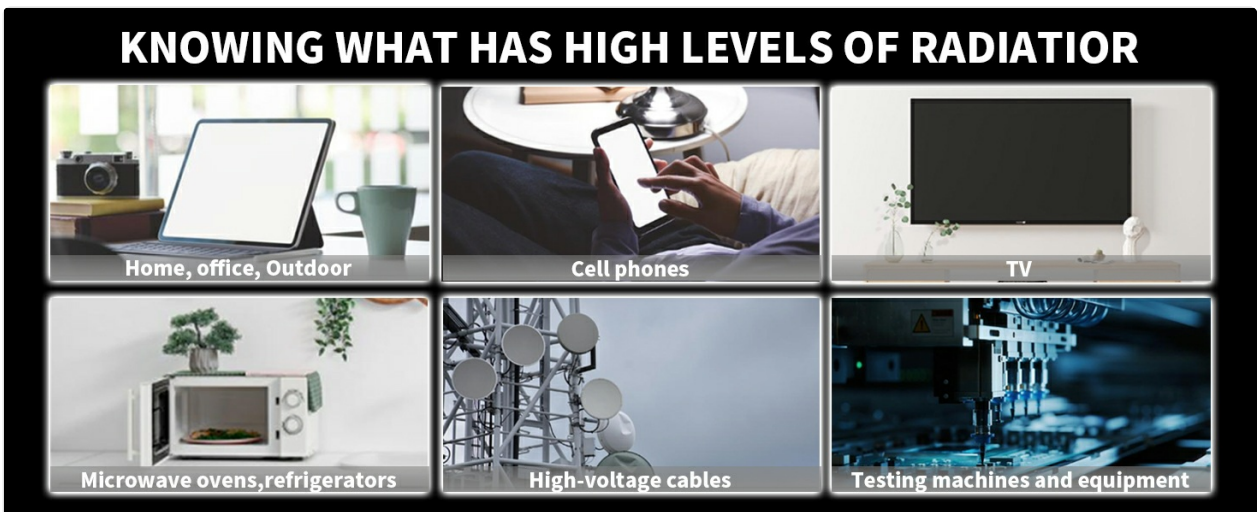


Figure 5.2: Identifying High Radiation Sources

SUITABLE FOR FAMILY, CHILDREN, WORKERS



Figure 5.3: Suitable for Various Users

6. MAINTENANCE

6.1 Cleaning

To clean the device, use a soft, dry cloth. Do not use abrasive cleaners, solvents, or immerse the device in water. Ensure the device is powered off before cleaning.

6.2 Storage

When not in use for extended periods, store the meter in its provided storage bag in a cool, dry place, away from direct sunlight and extreme temperatures. Ensure the battery is partially charged before storage to prolong its lifespan.

6.3 Battery Care

The integrated Lithium-Ion battery should be recharged regularly, even if the device is not frequently used, to maintain battery health. Avoid completely draining the battery for prolonged periods.

7. TROUBLESHOOTING

If you encounter issues with your MESTEK EMF Meter, refer to the following common problems and solutions:

- **Device does not power on:**

- Ensure the battery is charged. Connect the device to a power source using the USB Type-C cable.
- Press and hold the Power button for a few seconds to ensure it registers.

- **Inaccurate or inconsistent readings:**

- Ensure there are no strong interfering electromagnetic sources nearby that are not the target of measurement.
- Check if the device is in the correct measurement mode (EF, MF, or RF) for the type of radiation you are trying to detect.
- Move the device slowly and steadily during measurement.

- **Audible alarm not working:**

- Press the Mute button (bell icon) to ensure the alarm is not muted.

- Check if the radiation level is above the alarm threshold.
- **Screen is blank or frozen:**
 - Try pressing the HOLD button to see if the display was simply frozen.
 - Power off the device and restart it. If the issue persists, ensure the battery is charged.

If these steps do not resolve the issue, please contact customer support.

8. SPECIFICATIONS

Feature	Specification
Model Number	MESTEK EMF02R-YW
Manufacturer	MESTEK
Dimensions	20.32 x 6.35 x 3.3 cm (8 x 2.5 x 1.3 inches)
Weight	220 g
Battery Type	1x Lithium Ion (included)
Measurement Accuracy	+/-1
MF Test Range	0.1-99.9 mG / 0.01-9.99 μ T
EF Test Range	1-999 V/m
RF Test Range	0.0-9999 μ W/cm ² (30 MHz - 8 GHz)
Temperature Range	°C/°F (32-122°F)
Humidity Range	0-90% RH
Auto Power Off	After 15 minutes of inactivity
Display	Large VA Color LCD with Analog Bar

9. WARRANTY AND SUPPORT

MESTEK provides a **24-month warranty** for this product, covering manufacturing defects and malfunctions under normal use. Additionally, lifetime technical support is available to assist you with any questions or issues you may encounter.

For warranty claims, technical assistance, or any product-related inquiries, please contact MESTEK customer service through the platform where you purchased the product or refer to the contact information provided in your product packaging.

We are committed to providing high-quality products and excellent customer service. Your satisfaction is our priority.

