CORNET® ED98Ultra Electrosmog meter user's manual v.1.1 10/08/2026

Product Overview

The CORNET Microsystems Inc. ED98Ultra Electrosmog Meter is a precision diagnostic instrument for measuring electromagnetic field exposure in residential, commercial, and industrial environments. This multi-mode meter helps safety personnel and individual users evaluate environmental radiation levels, isolate specific signal sources, and ensure compliance with safety standards.

Technical Specifications

High-Frequency RF Field Radiation

The device incorporates a wide high-frequency radio frequency bandwidth spanning 100 MHz to 8 GHz, providing full support for modern 5G network frequency detection. It operates with a high baseline sensitivity of 0.05 µw/m^2. An integrated frequency counter tracks active frequencies between 100MHz and 4.2GHz. To capture highly transient digital signals, the meter utilizes an ultra-fast sampling rate of 25,000 samples per second, allowing it to detect rapid digital radio frequency bursts as brief as 100 microseconds.

Low-Frequency Field Radiation

For magnetic field analysis, the meter offers dual-profile configurations depending on the required depth of analysis. The standard profile covers a bandwidth of 50 Hz to 10 KHz with a sensitivity of 0.1 µT (1 mGauss). The high-sensitivity profile narrows the bandwidth to 50 Hz to 1 KHz to deliver a finer resolution of 0.01 µT (0.1 mGauss).
Low frequency electric field measurements operate across a bandwidth of 50 Hz to 50 KHz with a minimum sensitivity threshold of 2v/m.

Data Logging and PC Interface

The internal memory structure supports up to 50 hours of continuous data logging, which saves historical measurement trends over extended monitoring periods. Users can analyze this data directly on the device using the built-in statistical data window. For advanced data management, reporting, and archival purposes, the saved logs can be transferred directly from the meter to a personal computer.

Applications:

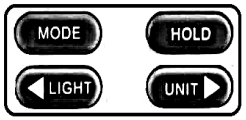
- High frequency RF Electromagnetic wave field strength, power density and frequency measurement
- Low frequency LF Magnetic field measurement (Gauss meter function)
- Low frequency ELF Electric field measurement (E-field meter function)
- Mobile phone base station antenna radiation power density measurement
- Wireless communications, both Analog & Digital RF signals AM/FM, TDMA, GSM, DECT,CDMA, 3G, 4G/LTE, and all 5G network bands including the 3.5GHz 5G C-band (*except the millimeter wave band).
- RF power measurement for radio transmitters
- Wireless LAN (Wi-Fi 2.4GHz, 5.8GHz), WiFi6, Bluetooth, Ultra-wide-band detection, installation, optimization
- Spy camera, wireless bug finder, IOT devices detection
- Cellular/Cordless phone radiation safety level, Electrical Utilities SMART METER radiation level measure
- AC power line, High voltage tower, Power Transformer, motors and small appliance EMF detection
- Microwave oven leakage detection
- Personal living environment EMF safety evaluation

Please download new version of manual from: www.cornetmicro.com

Usage guide:

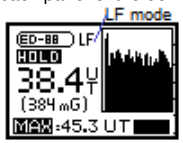
- **Power On:** Insert a 9V battery, hold the ED98Ultra vertically, turn on the power/volume switch to enter RF mode.
- **Configure:** Use the **MODE** button to change modes and the **UNIT** button to change the measurement units.
- **Measure**: Point the meter around the area to view real-time signal levels and historical histograms on the LCD screen, or check the green, yellow, and red LEDs for a quick visual reference.
- **Freeze:** Press the **HOLD** button to freeze the current reading; press it again to resume measurement.

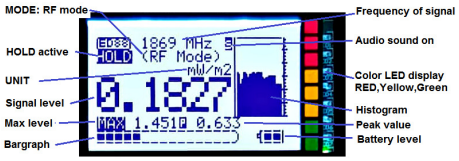
(1) The ED98Ultra has four push buttons: "**MODE**", "**HOLD**", "**LIGHT**", and "**UNIT**".



"MODE" button is used to switch in between RF mode, two LF modes, and E-field mode.
"HOLD" button is used to halt the data measurement. Push the button again to exit the "Hold" condition. a **"HOLD"** Mark is shown on the LCD screen to indicate the "Hold" condition.
"UNIT" button select the mw/m2,v/m,or dBm unit.
"LIGHT" button turn on/off the LCD backlight and Audio sound

(2) **RF mode:** The main digital screen displays real-time radio frequency measurements. It shows both field strength and power density using standard units: **dBm**, **V/m**, or **mW/m²**. The frequency counter also displays the exact frequency of the detected signal in real time
Eight colored LED lights provide quick visual feedback on signal strength. The **green** and **yellow** lights signal lower exposure levels, while the three **red** lights mark the safety thresholds established by three different countries. To cross-reference specific power levels with each individual light, consult the reference table printed on the back panel of the device.





(3) **LF mode**: The digital LCD display shows the measured LF magnetic field strength (in uT and mGauss). Using the "**MODE**" button, you can choose between two LF modes:
(a) **LF30 mode:** with high sensitivity (0.1mG-10mG) but a narrower frequency range (50Hz-1kHz) (The Histogram and LED segment display can still show up to 30mG.)
(b) **LF600 mode**: has a sensitivity of (1mG-600mG), covers a wider frequency range (50Hz -10kHz).

The LF30 mode has a narrower frequency range than the LF600 mode, may show lower readings than the LF600 mode when measuring high-frequency digital or pulsed signals like switching power supplies. Eight separate colored LED lights provide quick visual feedback on magnetic field intensity.

(4) **E-field mode**: measured ELF electric field strength is shown on the digital LCD display with V/m.

(5) **Histogram:** For RF, LF, and E-field modes, the previous 30 signal level values are recorded and shown as a moving graph on the LCD display. It can be used to locate the source of a signal and to record digital RF burst bursts such as transmissions from AC Smart meter.

(6) **MAX:** The LCD display displays the maximum measured data value since the last power-on.

(7) **Average:** The "**A**" or "**P**" mark on the LCD indicates whether the result is **Whole-average** or **Peak-average**. The Peak-average is the average of the 30 data in the histogram, and the Whole-Average is the total of all sampled data divided by the number of data within the screen update period.

(8) **Sound function & LCD backlight:** Toggling the "**LIGHT**" button turns on/off the LCD backlight and the Audio Sound function (a "**S**" symbol on the LCD indicates the sound mode is on). The sound level can be adjusted using the wheel volume control. Audio Sound may be used to detect type of RF signals, or for the detection of low level radio frequency (RF) signals. (down to 0.05uw/m2). When not in use, turn off the LCD backlight or the sound to save battery power.

(9) **SysSetup Menu:** To access the SysSetup menu, press and hold the "**UNIT**" button, then click the "**HOLD**" button. To move the cursor in the Menu, use the "**>**" button, and to enable/disable the functionalities, use the "**<**" button. From the SysSetup menu, select:
(**EXIT):** exiting the SysSetup menu and back to Normal operating mode.
1) **RF level Unit select:** select mw/m2, v/m, or dBm as the default Unit when meter is powered on.
2) **LED Level:** used to adjust customized color LED segment display level for certain safety standards. **OFF, -5,-10,-15,-20dB,** or **LED NO Display** are the options. (For "SBM2024 Building Biology Testing Methods," set it to -20dB)
3) **Average/Frequency:** select **Peak average**, **whole Average**, or **Frequency** of MAX value.
4) **MAX_Clear** bit: If it is "ON" the MAX value can be cleared by toggling the "**HOLD**" button. If it is "OFF" the MAX value can be cleared only by power-off the meter.
5} **Alarm:** ON/OFF or one of the 8 trigger levels (0, -5,-10,-15,-20,-25,-30,-35dBm) can be selected to trigger the audio Alarm. *(Alarm function is for RF mode only).
6) **RESET:** Reset to default (mw/m^2, LED Level OFF, MAX_CLEAR ON, Alarm OFF, PeakAvg).
7) **SAVE:** To save the changes to EEPROM memory, press the "**<**" button, **wait until it is "done!" before turning off the meter.** (If you exit without first saving the changes to memory, the changes will still work, but they will be lost if the meter is turned off.)

Note: While in SysSetup menu click the MODE key will display the 2nd option of the SysSetup menu: (click the MODE key again to get back to normal menu)
4)**Freq_trigger level**: adjust the frequency counter trigger level or on/off, default is -35dBm.
5)**Statis_Send:** Statistics data from Bin #1 to Bin #7 will be transmitted along with the signal level and frequency to USB serial port. See data Logging manual.

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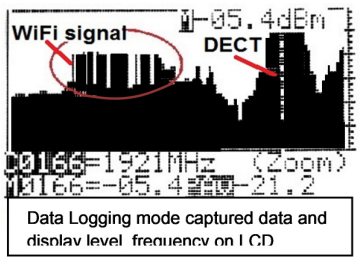
(10) ***While in LF or E-field mode (magnetic/electric field measurement), hold the meter steady to get a good stable reading, avoid fast moving the meter*** to avoid sudden changes in the reading which is caused by the Earth magnetic field or induced electric fields from nearby objects.

(11) **AC Smart meters emit RF signals in short bursts every few minutes, which can be captured and viewed on the LCD screen using the Histogram or Data Logging function of the ED98Ultra**.

(12) **Data Logging menu:** To access the Logger Setup menu, press and hold the "**UNIT**" button, then click the "**MODE**" button. Logging time intervals (1msec, 0.5sec, 1sec, 10 sec, 30 sec, 1min, 2min, and 3min.) are programmable.

(13) **Real-Fast-mode:** For ED98Ultras and later model, the detected signal data can be continuously transmitted to the meter's USB serial port in real time, allowing it to be logged and viewed on a PC. Please see the "**ED98Ultra Data Logging user Guide** " available at **www.cornetmicro.com** for instructions on how to transfer Logged data to a PC computer via a Micro-USB serial interface cable.



(14) **Statistical Data Window**

Press **HOLD** to enter Hold Mode, then press **UNIT** to open the statistics window.

Data Sorting

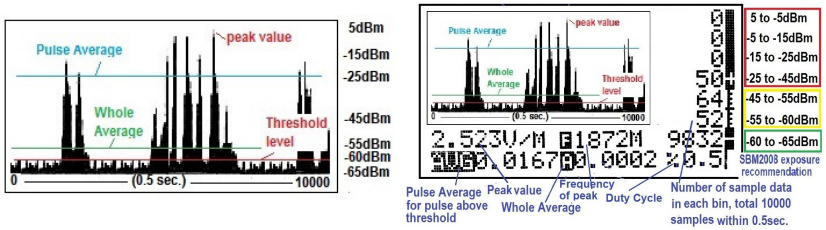
The device captures 10,000 samples during each 0.5-second screen update. It sorts these samples into seven SBM2024-compliant bins from +5 dBm down to -65 dBm. To find the percentage of signals in any bin, divide its sample count by 100.

Measurements

The screen displays the Peak Value, Whole Average Value, Frequency, and Duty Cycle. It also shows the Average Pulse-Power, which averages all signals above -60 dBm to measure the active ON-time power of digital bursts.

Signal Analysis Graph

This real-time distribution Graph helps analyze digital RF signals with short ON-times and long OFF-times, like Wi-Fi. A built-in graph updates every 0.5 seconds at a 500 µs sampling rate, allowing operators to visually identify signal types like 5G and Wi-Fi.



(15) **5G indicator:** When a 5G network frequency signal (5G channels n5, n71, n77, and n78) is detected, the **<5G>** mark on the display will be displayed as **=5G=** with reverse color. The frequency counter display is capable of operating at frequencies of up to 4.2GHz**.**

Data Logging view mode:

Overview--The ED98Ultra can record up to 50 hours of measured RF data in its internal memory. This feature captures short, high-level signal bursts with long idle periods, such as AC smart meters. It also monitors overnight variations and calculates long-term averages for safety compliance over 1-minute, 3-minute, or 6-minute intervals.
Memory System--The meter utilizes two 1024-cell ring-type memories to manage data logging. The first is the Data Logging Buffer Memory, which records continuously based on the interval configured in the Logger Setup menu. Setting this interval to 3 minutes allows for the maximum 50 hours of tracking. The buffer is volatile and clears automatically when the device powers off.The second is the Data Logging Flash Memory, which provides permanent storage. To retain data after turning off the meter, operators must manually save the recorded data from the volatile buffer into the flash memory before powering down.

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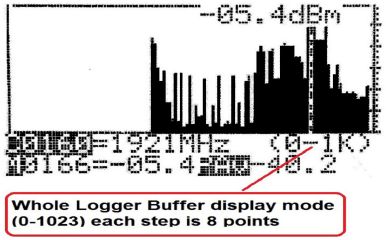
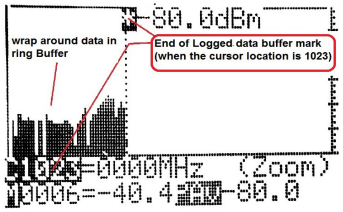
Data Access--Log data remains accessible through multiple channels. Operators can review the recorded values directly on the integrated LCD screen or transfer the saved datasets to a PC using a USB serial interface cable for advanced analytical processing.

Buffer Memory Mechanics
FIFO Structure--The Data Logging Buffer Memory operates as a First-In, First-Out (FIFO) system. The most recent data point always populates cell address 0000, which pushes existing data down into the next sequential address.
Capacity Overwrites--When the active buffer reaches its maximum 1024-cell capacity, the arrival of new readings automatically overwrites and discards the oldest stored data points.
Data Viewing--The Data Logging view mode exclusively displays information currently held inside the volatile buffer memory. To review any datasets saved inside the Data Logging Flash Memory, operators must first execute a command to read that flash data back into the active buffer memory.



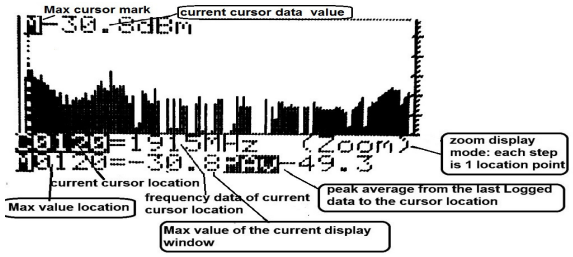


(1) ***To enter and exit the Data Logging view mode***, do the following**:**
press the "**HOLD**" button to enter the Hold mode first, then the "**MODE**" button to enter the Data Logging view mode. While in the Data Logging view mode, Push the "**HOLD**" button will enter the **Temp HOLD mode**. You have two options while in Temp HOLD mode:
a) Press the "**HOLD**" button to exit the Data Logging display mode and return to HOLD mode.
b) Press the "**MODE**" button to return to the Data Logging view mode again.

(2) To switch in between the two Data Logging view mode LCD display window:
While in the Data Logging view mode, use The "MODE" button to switch between the two LCD display windows in Data Logging view mode ((0-1K) display window and (Zoom) display window). Each display window can display the Logged data in the Buffer memory with the window size of 122 points on the LCD display.

(0-1K) display mode: The entire 1024 Logged data in the Buffer memory is scaled down and displayed within the 0-122 point LCD display window (the step size is 8 for each display point).

(Zoom) display mode: The 122 point sliding display window is scrolling through the whole 0-1024 cell Buffer memory (with step size of 1 for each display point). When the cursor reaches the two edges of the 122 point display window, it will automatically slide move the display window.



(3) To move the cursor in the display window: The cursor in the display window is pointing to the cell address of the Buffer memory. The 1024 signal level and frequency data stored in Buffer memory can be displayed by Moving the cursor with "<" and ">" button in the Data Logging view mode. Push and hold down the "<" or ">" button will fast move the cursor.

(4) The current cursor location is displayed as Cxxxx=yyyyMHz, the xxxx is the cursor location (the cell address of the 1024 cell Buffer memory), the yyyy is the Frequency of the signal at the cursor location, the signal level of the cursor location is displayed on the top of the dash cursor line in the window display.

(5) The Max value within the displayed window is shown as Mxxxx=yyyy, where xxxx is the cursor location (the cell address) and yyyy is the Max value of the 122 data within the display window.

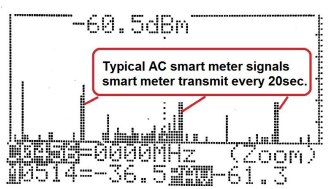
(6) **<u>The Peak average value</u>** is displayed as **PAVxxxx,** the peak average value is the average of all the data from the most recent logged data (cell address 0000) to the current cursor location.

(7) **<u>End of Buffer cursor mark</u>:** If you move the cursor to cell #1023 of the Buffer memory, you'll see a "*" sign at the top of the dash cursor line, the cursor will come to a halt when it reaches cell #1023. Please ignore the data on the left hand side of the cursor (it's a duplicate of the data) when you get to cell #1023 on the left hand side of the cursor)

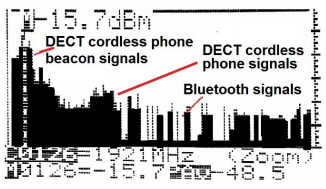
(8) **<u>To save the data from Buffer memory to the Data Logging Flash memory</u>:** first press the "HOLD" button to enter the Temp HOLD mode, then press and hold the UNIT button, then click the MODE button to enter the Logger Setup menu, move the cursor to item# 7" Save to FlashMem," and then press the "<" button to activate the save command, wait until the save is done!

(9) **<u>To read the data from Data Logging Flash memory to the Buffer memory</u>:** (for displaying the logged data in Data Logging Flash memory), first press the "HOLD" button to enter the Temp HOLD mode, then press and hold the UNIT button, then click the MODE button to enter the **Logger Setup menu**, move the cursor to item# 8" **Read from FlashMem**" (the menu will scroll up automatically to item#8 when the menu cursor reached the bottom of the menu) and press the "**<**" button to initiate the read command.

(10) **<u>Calculate the time Average value</u>:** On the display window, the Peak average value (PAv) of the data over a specific time period (from the most recent Logged data to the cursor location data) can be displayed. Set the Logg time (Log interval time) in the Logger Setup menu item #3 "**Logg time**" first, then move the cursor to the 1min, 2min, 3min,..., etc. time location in the display window, and the **time average value** will be displayed as **PAv**. For example: if the **Logg time** is setup to 0.5sec. the Data Logger will Logg the data every 0.5sec. By moving the cursor location to 120 (which is 0.5sec.x120=60sec). the **PAv** will be the **1min. time average** value (from the latest Logged data at cell#0000 to cell#120). Again, moving the cursor to location 240 you will get the 2min. average in **PAv**



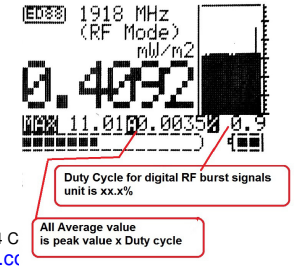
AC Smart meter signals

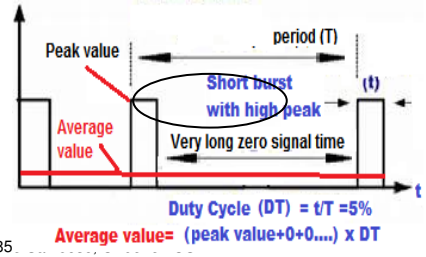


DECT Cordless phone base unit beacon signal, handset signal, Bluetooth signal

<u>Duty Cycle of the digital RF burst signal:</u>

The duty cycle represents the percentage of "ON" time when a digital radio frequency burst signal is actively transmitting. Modern digital signals send high-level pulses during short "ON" periods and drop to near-zero levels during longer "OFF" periods. The whole-average value calculates the average of both these brief high-level pulses and the long low-level idle periods, which means the overall average reading can be very low even if the individual signal bursts are extremely high.
The **Duty Cycle** can be use to calculate the **Whole-Average** value or to indicate the signal is a digital RF burst type of signal. Typical Duty cycle value of the WiFi, DECT, Bluetooth signal is less than 1% if the device is with low data traffic. The **Duty Cycle** of the continue wave analog AM/FM signal will be close to 100%.



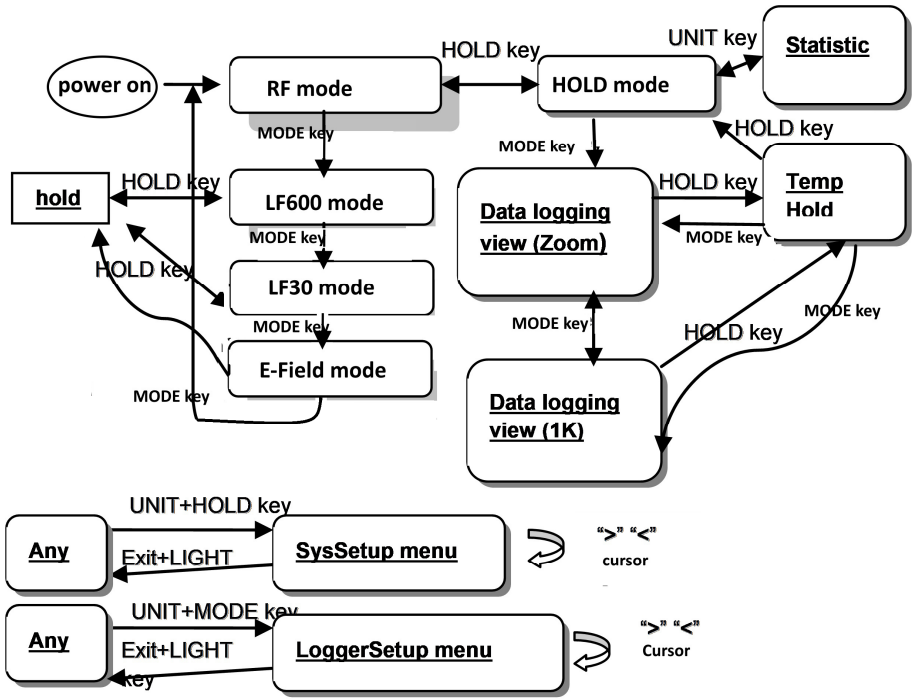


<u>Frequency counter display:</u>

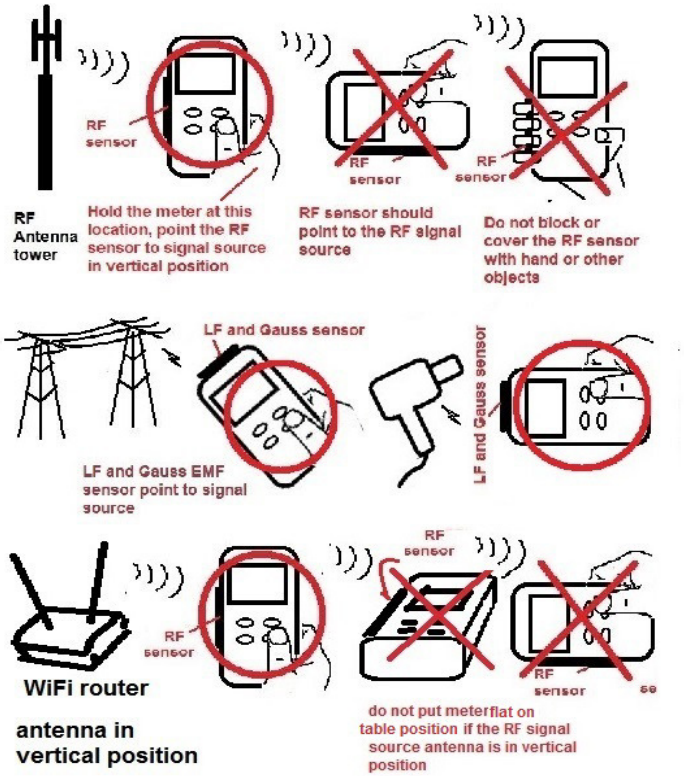
The Frequency counter function (100 MHz–4.2GHz) of ED98Ultra is a real-time frequency counter that detects the frequency of each RF burst/pulse and displays the actual frequency and signal level of the same RF pulse. The ED98Ultra is a peak power meter that samples the incoming RF signal 25000 times per second, displays the signal level and frequency of the sampled RF burst/pulse which has the highest signal level, and updates the LCD screen every 0.5 seconds. The frequency of the signal is critical for determining the type of radiation signal (Wifi, 3G, 4G, DECT, Bluetooth, and 5G... etc.,) and providing solutions to the problem.

The traditional scanning spectrum analyzer is ineffective for modern digital RF signals with fast and short burst/pulse, because the scanning speed of the spectrum analyzer is too slow to capture the RF pulse, resulting in "hit or miss" most of the time. Only the real-time frequency counter can capture and solve the short burst/pulse problem. The ED98Ultra Frequency counter works up to 4.2GHz. It covers all the 5G network frequency bands (except the millimeter wave band) and the frequency of the wireless communication, broadcasting systems and wireless devices around the world. .

<u>Operating modes and key sequence:</u>



How to hold the ED98Ultra to measure different signals:

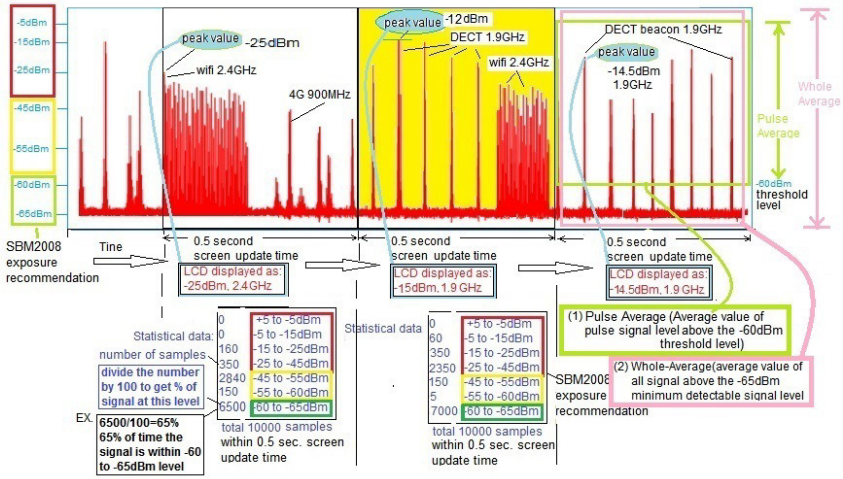


Field strength/power density of color LED readout:

ED98Ultra use 8 high brightness LED to indicate the measured power density with **3 safety Indications of three countries**. *Action is reference to ICNIRP (for reference only).

LED color	***RF Power level***	***RF Power density***	***LF600/LF30 level***	***E-field level***	***Indication***	***Action***
RED3	-5 dBm up	0.18 w/m^2	30uT/3uT up	500 v/m	Italy RF safety standard (0.1w/m^2)	Caution!
RED2	-10 dBm	0.058 w/m^2	20uT/2uT	200 v/m	Swiss RF safety standard (0.04w/m^2)	Caution!
RED1	-15 dBm	0.018 w/m^2	10uT/1uT	100 v/m	Russian RF safety standard (0.02w/m^2)	Caution!
YELLOW3	-20 dBm	5.8 mw/m^2	5uT/0.5uT	75 v/m		RF Safe*
YELLOW2	-25 dBm	1.8 mw/m^2	2uT/0.2uT	50 v/m		RF Safe*
YELLOW1	-30 dBm	0.58 mw/m^2	0.5uT/0.05uT	30 v/m		RF Safe*
GREEN3	-35 dBm	0.18 mw/m^2	0.2uT/0.02uT	20 v/m	WiFi Wireless LAN typically in this range	Safe*
GREEN2	-40 dBm down	0.06 mw/m^2	0.2uT/0.02uT down	10vm	Some signal source around	Safe*

The Statistical data, average values, peak value and frequency are displayed on LCD (updated every 0.5sec. screen update time)



NOTE:

- **While in RF mode**, because most high-frequency RF antennas, such as mobile phone base stations, are vertically polarized (in the vertical direction), the ED98Ultra is typically used in the vertical position. **In the LF mode**, the LF sensor is located in the top right hand of the meter and the meter is usually used in Horizontal position. **In the E-field mode**, the E-field sensor is located in the top middle of the meter, please point the sensor to the ELF signal source. ***The ED98Ultra is single axis device, please rotate the meter to get the maximum reading direction.*** (only single axis meter can detect the signal source direction). As you get closer to the signal source, the maximum reading will also rise. It can be used to locate the source of a signal.
- The ED98Ultra measures the signal's peak power density with a very short sampling time (25000 samples/sec.). It can detect RF burst signals as short as 100usec. In the DECT phone base station, The beacon signal is continuously transmitted with a very high signal level but only has a burst time of 150usec. The duty cycle is less than 1%, and not all EMF meters can detect it. The ED98Ultra has the ability to detect it and display both the signal level and frequency.
- The strength/density of the electromagnetic wave field decreases very quickly with distance (distance squared), keeping a good distance from the high frequency RF signal source can reduce the high frequency radiation effect. For most RF radiations, alumina foil or window sun reflector film (silver color) can be used as an effective and low-cost shielding material.
- The ED98Ultra is intended for quick living environment RF radiation evaluation at home and is for reference only. The official RF safety radiation measurement procedure is complicated and should only be performed by a trained technical person using lab instruments. The safety range standard listed in this manual is for reference only. ***The ED98Ultra is not a medical instrument, it should not be used in medical, legal, commercial rental, or other related applications.(for personal use only).***
- To avoid accidental ear damage from high-level audio sound produced by digital RF signals, turn the volume control to the lowest setting before plugging in the earphone to the meter.
- The audio sound output of the sound function is the demodulated RF signal; it is suitable for detecting AM and modern digital RF signals (pulse/burst), but not for FM or constant amplitude RF signals or LF/ELF modes. Various RF signals, such as Wifi, GSM, DECT, 4G, 5G..., etc., all have different sound frequency signatures of the demodulated RF signal. It is an excellent tool for determining the type of RF signal and for very low level signal detection.
- When in E-field mode, the electric field induced by the human body or large objects nearby can affect measurement results; therefore, hold the meter by hand on the lower right side of the meter, avoid covering the E-field sensor area (top of the meter) with your hand or other objects, and keep away from large metal doors or objects. When measuring VLF/ELF E-field radiation from AC power lines or AC towers, point the top of the meter to the high voltage AC power line (with the meter at least 1 meter above the ground). In E-field mode, the average value is displayed to reduce background noise. Readings will be lower for narrow spike type E-field radiation, such as from a FL lamp.
- RF Power density is defined as the received RF power divided by the area receiving the RF power; if the distance between the RF source and the meter is close to zero, the "area" will be nearly zero and the Power density will mathematically become infinitely large. ***When performing the measurement, keep a distance from the RF source. Most safety standards require a distance of 1 meter or 3 meters.***

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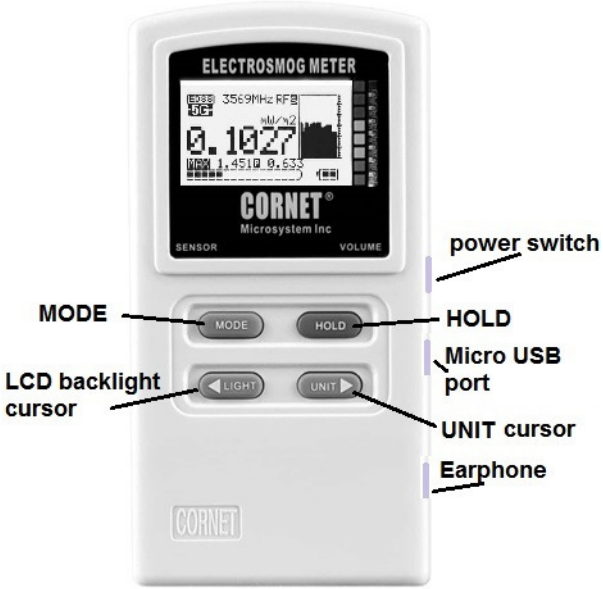
Specification

Sensor type:	Electric field sensor, Magnetic field sensor
Frequency range & Sensitivity:	**RF:** 100MHz to 8GHz (0.05µw/m^2 to 1.8w/m^2), (0.00005mw/m² to 1.8w/m²) (0.004v/m to 26.2v/m), (-70dBm to +5dBm)) **LF1:** 50Hz to 10kHz (0.1µT to 60uT)/(1mG to600mG) **LF2:** 50Hz to 1kHz (0.01µT to 1µT)/(0.1mG to 10mG) **E-field/ELF:** 50Hz to 50kHz (2v/m to 1000v/m) **Frequency counter:** for RF mode only, 100MHz-4.2GHz, (-35dBm minimum signal input required)
RF Peak power measurement:	0.05uw/m² to 1.8w/m², (0.00005mw/m² to 1.8w/m²)
Display type:	Digital LCD graphic display
Unit of measurements:	dBm, mw/m², v/m, µT, mG, MHz, %
LCD back light:	15 seconds auto-off and manual on/off control
Display of data:	LCD 4 and 5 digit, 8 LED color segment, Moving Histogram (level/time) of previous 30 recorded data, Analog segment bar
Data update rate:	Sampling rate: 25000/sec. Display update rate: 2/sec.
Error rate:	RF: +/- 3.5dB, LF: 20%, E-field: 25%
Functions:	Hold, Max, Average, Sound signature, Alarm, Frequency, Duty cycle
Sound & Alarm:	Sound on/off/volume control, programmable Alarm triggering level
Safety standard indication:	3 safety range indication by 3 Red LED, adjustable LED level
Data Logging:	1000 data storage memory cell for logging/recording measured RF signal level, (RF level, RF Frequency), up to 50 hours of data can be stored in the build-in memory. Magnetic field level, Electric field level can also be logged and transfered to PC computer through USB serial interface.
Data Logging view:	Data stored in data logging memory can be displayed and reviewed on LCD graphic display window.
Statistical data:	Statistical data of 1000 samples are displayed on window display.
Battery used:	9V alkaline battery or external power supply through USB port (5V) (the USB port does not support battery charging).
Battery life:	>20 hours



The European Community provided general guidelines in its Council Recommendation of July 1999.1 ICNIRP published similar guidelines in April 1998.2 Table I gives a sampling of the international and national field-strength limit values for the general public and continuous exposure (for Reference only !)

		950Mhz	1850Mhz
International	Council Recommendation 1999/519/EC	42 V/m (4.75W/m^2)	59 V/m (9.25W/m^2)
International	ICNIRP Guidelines, April 1998	42 V/m (4.75W/m^2)	59 V/m (9.25W/m^2)
Austria	ÖNORM S1120	49 V/m (6.33W/m^2)	61 V/m (10W/m^2)
Belgium	Belgisch Staatsblad F.2001-1365	21 V/m (1.18W/m^2)	30 V/m (2.31W/m^2)
Germany	26. Deutsche Verordnung	42 V/m (4.75W/m^2)	59 V/m (9.25W/m^2)
Italy	Decreto n. 381, 1998	6 V/m (0.1W/m^2) 20 V/m (1W/m^2)	6 V/m (0.1W/m^2) 20 V/m (1W/m^2)
The Netherlands	Health Council	51 V/m (6.92W/m^2)	83 V/m (18W/m^2)
Switzerland	Verordnung 1999	4 V/m (0.04W/m^2)	6 V/m (0.1W/m^2)
United States	IEEE C95.1	49 V/m (6.33W/m^2)	68 V/m (12W/m^2)
China	Draft: National Quality Technology Monitoring Bureau	49 V/m (6.33W/m^2)	61 V/m (10W/m^2)
Japan	Radio-Radiation Protection Guidelines, 1990	49 V/m (6.33W/m^2)	61 V/m (10W/m^2)

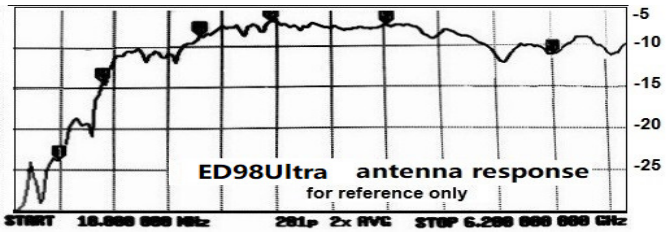
1W/m^2 = 1000mW/m^2, 1uW/m^2 = 0.001mW/m^2 = 0.0001uw/cm^2
1uT = 10mG, 0.1uT = 1mG 1mV/m = 0.001V/m

SBM2024 Building Biology Institute- Recommended EMF exposure level

	Units	No Concern	Slight Concern	Severe Concern	Extreme Concern
ELF Electric without ground	V/m	<0.3	0.3-1.5	1.5-10	>10
ELF Magnetic	mG µT	<0.2 <0.02	0.2-1 0.02-0.1	1-5 0.1-0.5	>5 >0.5
RF	mw/m^2 µw/m²	<0.0001 <0.1	0.0001-0.01 0.1-10	0.01-1 10-1000	>1 >1000

BioInitiative Target Limit - Recommended EMF exposure Level

EMF field type	Units	Target Limit
ELF Magnetic	mG	1
RF	mw/m^2	0.003-0.006
ELF Electric	v/m	n/a



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