CORNET® ED-85EXPlus5G Electrosmog meter user's manual v.1 9/12/2022

The CORNET Microsystems Inc. ED85EXPlus5G (ED85EXP5G)Electrosmog Meter measures high frequency (RF) electromagnetic wave field strength and power density, and low frequency (LF) magnetic field level (Gauss, Tesla) in living environments. It's an excellent device for anyone or any company concerned about the safety of electromagnetic waves. It has an **RF bandwidth of 100MHz to 8GHz** with a ***super high sensitivity (0.05uw/m2 to 1.8w/m2)***, and an **LF magnetic field bandwidth of 50Hz to 10 Khz** with a sensitivity of 0.1uT to 60uT (1mG–600mG), or bandwidth of 50Hz to 1kHz with sensitivity of 0.01uT to 1uT (0.1mG to 10mG). It also includes an ***RF frequency counter (100 MHz–4.2GHz)***, support ***5G network frequencies***, and has very fast sampling rate (25000 samples/second), allowing it to detect very short bursts of digital RF signals as low as 100usc. There is also ***Data logging capability for up to 50 hours of data that can be stored and displayed on the meter, and Statistical data window***.

Applications:

- High frequency RF Electromagnetic wave field strength, power density and frequency measurement
- Low frequency LF Magnetic field measurement (Gauss 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, and all 5G network bands including the 3.5GHz 5G C-band (*except 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
- 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:

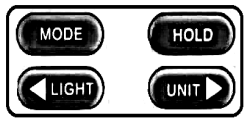
(1) Insert a 9V battery into the ED85EXP5G. Turn on the power by holding the unit with your right hand in a vertical position and turning the volume/power switch; the unit will enter RF meter mode after power on.

(2) The RF sensor is located inside of the ED85EXP5G. For field strength measurement, connect the external antenna unit with the proper frequency band to the SMA connector of the meter. For RF power measurement, connect the RF signal to the SMA connector, (Maximum RF input is +10dBm).

(3) the LF sensor is located on the top right side of the ED85EXP5G.

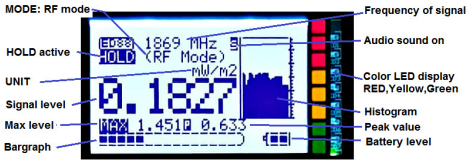
- ***Please do not cover the antenna or sensor area with your fingers, hands, or other objects***.

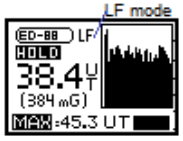
(4) The ED85EXP5G has four push buttons: "**MODE**", "**HOLD**", "**LIGHT**", and "**UNIT**".



"MODE" button is used to switch in between RF mode, and two LF modes.
"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

(5) **RF mode:** The digital LCD display shows the measured RF field strength or power (in dBm, v/m, or mw/m2). For quick RF signal level indications, 8 LED lights in red, yellow, and green are used. Three red LEDs are used to represent the three countries' safety ranges. The signal power level of each LED can be found in the table on the back panel of the ED85EXP5G.
The frequency of the detected signal is also recorded. displayed in real time on the LCD display





(6) **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:** has a high sensitivity (0.1mG-10mG) but a narrower frequency range (50Hz-1kHz) to reduce high-frequency noise. (The Histogram and LED segment display can still show up to 30mG.)
(b) **LF600 mode**: has a sensitivity (1mG-600mG), covers a wider frequency range (50Hz -10kHz).

* The magnetic field level can also be displayed using 8 different colored LED lights.
* Due to the LF30 mode's reduced frequency coverage range, the LF30 mode may show lower readings than the LF600 mode for monitoring high frequency digital/pulse signals (such as switching power supplies),

(6) **Histogram:** For RF, and LF 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.

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

(8) **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.

(9) **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.

(10) **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:

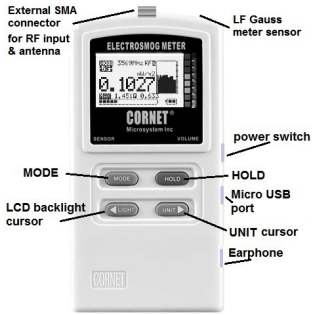
(a) **EXIT:** exiting the SysSetup menu and back to Normal operating mode.
(b) **RF level Unit select:** select mw/m2, v/m, or dBm as the default Unit when meter is powered on.
(c) **LED Level:** used to adjust customized color LED segment display level for certain safety standards. **OFF, -5,-10,-15,-20dB,** or **LED NO Display** are the options. (For "SBM2015 Building Biology Testing Methods," use -20dB)
(d) **Average/Frequency:** select **Peak average**, **whole Average**, or **Frequency** of MAX value.
(e) **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.
(f) **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).
(g) **RESET:** Reset to default (mw/m^2, LED Level OFF, MAX_CLEAR ON, Alarm OFF, PeakAvg).
(h) **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.)

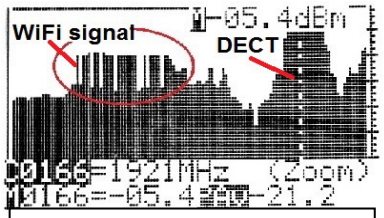
(11) ***While in LF mode (magnetic measurement), hold the meter steady to get a good stable reading, avoid fast moving the meter*** to avoid sudden changes in the reading which is caused by the Earth magnetic field or induced electric fields from nearby objects.

(12) **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 ED85EXP5G**.

(13) **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. Please see the "**ED85EXP5G Data Logging user Guide**" available at **www.cornetmicro.com** for instructions on how to transfer Data Logging data to a PC computer via a Micro-USB serial interface cable.

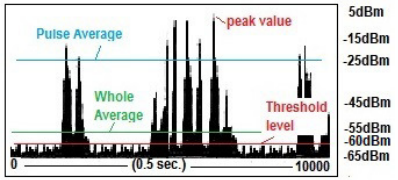
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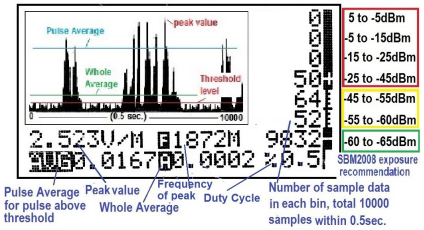




Data Logging mode captured data and display level, frequency on LCD

(14) **Statistical data window**: Press the "HOLD" button to get into Hold mode first, then press the "UNIT" button to display the statistical data. 10000 samples from the most recent screen update (0.5sec) are sorted into 7 bins (+5 to -5dBm, -5 to -15dBm, -15 to -25dBm, -25 to -45dBm, -45 to -55dBm, -55 to -60dBm, and -60 to -70dBm). It displays the actual real-time distribution of signal level within a 0.5sec period and is very useful for analyzing digital RF signals with short burst/pulse **ON-time** signals and long zero/very low level **OFF-time** signals. The 7 sample bins are organized in accordance with the **SBM2008 exposure recommendation** and the calculated **Peak Value**, **Whole Average Value**, **Peak Average Value**, **MAX value** and **the Average Pulse-power value** are also displayed. (The **Average Pulse-power value** is the average of all signals above the -60dBm threshold level; it is the average **ON-time power** of all RF burst/pulse for digital burst/pulse type of RF signal). For example, in the graph below, 9832 samples are below -60dBm and 50 samples are between -25dBm and -45dBm. (To calculate the percentage of signals in each level bin, divide the number in each bin by 100). Real time Graph of signal detected is also displayed with sampling rate of 500usec for 0.5sec screen update period in the Statistic data window. It can be used to identify the type of signal detected. (5G, WiFi,…).





(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. (for field strength measurement with external antenna units only, not for SMA connector direct signal input.)

Data Logging view mode:

The ED85EXP5G can record the measured data in the meter's internal memory automatically upto 50 hours of data and view it on the LCD display, This is an excellent tool for measuring the signals with short high level burst and long period of zero signal level time (such as AC smart meter) or to monitor the signal overnight to see the signal variations or to get average signal levels in long period of time.(such as 1min. 3 min. or 6 mins time-average value as in some safety standards). ***The logged data can be stored in the meter, view it on the LCD display or transfer it to PC computer through USB serial interface cable for further processing***. There are 1024 cell of **Data Logging Buffer memory**(Buffer memory) and 1024 cell of **Data Logging Flash memory** in the ED85EXP5G to store the data for the RF mode data logging. Both memory are organized as ring type of memory. ***The data is Logged into the Buffer memory continuously based on the Logg time in the Logger setup menu when the meter is in the RF mod***e. (up to 50 hours of data can be logged if the Logg time is set to 3min.interval). The Buffer memory will not retain the stored data if the meter is power-off. If the user wants to keep the recorded data after the meter is power-off the user must save the data from Buffer memory to the Data Logging Flash memory before the meter is power-off. The Data Logging Flash memory will keep the stored data even if the meter is power-off.

(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**.

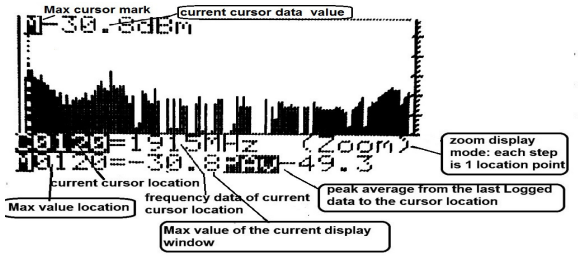
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You have two options while in Temp HOLD mode:
a) Press the "**HOLD**" button to exit the Data Logging display mode and return to HOLD mode.
b) Press the "**MODE**" button to return to the Data Logging view mode again.

(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.



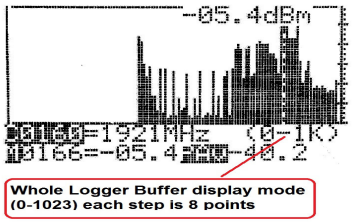
(3) To move the cursor in the display window: The cursor in the display window is pointing to the cell address of the Buffer memory. The 1024 signal level and frequency data stored in Buffer memory can be displayed by Moving the cursor with "<" and ">" button in the Data Logging view mode. Push and hold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

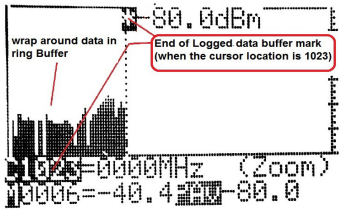
(4) The current cursor location is displayed as Cxxxx=yyyyMHz, the xxxx is the cursor location (the cell address of the 1024 cell Buffer memory), the yyyy is the Frequency of the signal at the cursor location, the signal level of the cursor location is displayed on the top of the dash cursor line in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

NOTE: The Data Logging Buffer memory (Buffer Memory) is set up as a FIFO buffer (first in, first out), which means that the most recent new data is always stored in cell address 0000 of the Buffer memory, and the old data in cell address 0000 is pushed into the next available cell (cell address 0001) when new data arrives. When the Buffer memory is full or exceeds 1024, the oldest data is lost and replaced by new data. The data stored in the Buffer memory is displayed in the Data Logging view mode.
* To view the data inside the Data Loggin Flash memory you need to read it into the Buffer memory first.





(7) End of Buffer cursor mark: 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)

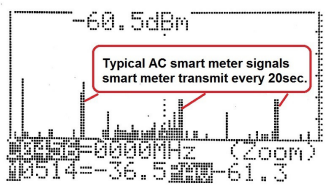
(8) To save the data from Buffer memory to the Data Logging Flash memory: first press the "HOLD" button to enter the Temp HOLD mode, then press and hold the UNIT button, then click the MODE button to enter the Logger Setup menu, move the cursor to item# 7" Save to FlashMem," and then press the "<" button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

(9) To read the data from Data Logging Flash memory to the Buffer memory: (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.

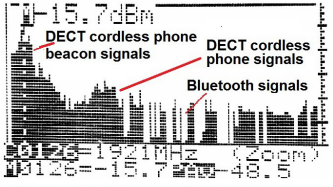




(10) Calculate the time Average value: On the display window, the Peak average value (PAv) of the data over a specific time period (from the most recent Logged data to the cursor location data) can be displayed. Set the Logg time (Log interval time) in the Logger Setup menu item #3 "**Logg time**" first, 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

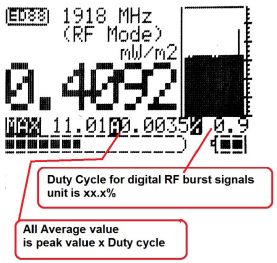


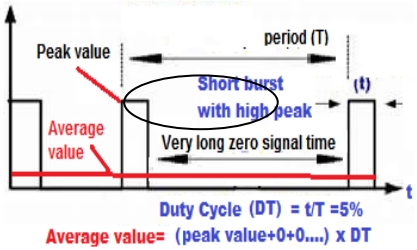
DECT Cordless phone base unit beacon signal, handset signal, Bluetooth signal

Duty Cycle of the digital RF burst signal:

The **Duty Cycle** of a Digital RF Burst Signal is the percentage of the "**ON" time** that the signal is being transmitted. The modern digital RF burst signal transmits a high level signal with short burst time (the "**ON" time**) and zero or extremely low signal level when not transmitting a signal (the "**OFF" time**). The Whole-Average value in the ED85EXP5G is the average of all these short but high signal level "ON" time values and the long but extremely low level "OFF" time values. ***The Whole-Average value could be very low even if the signal level of the very short "ON" time signal is very 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%.

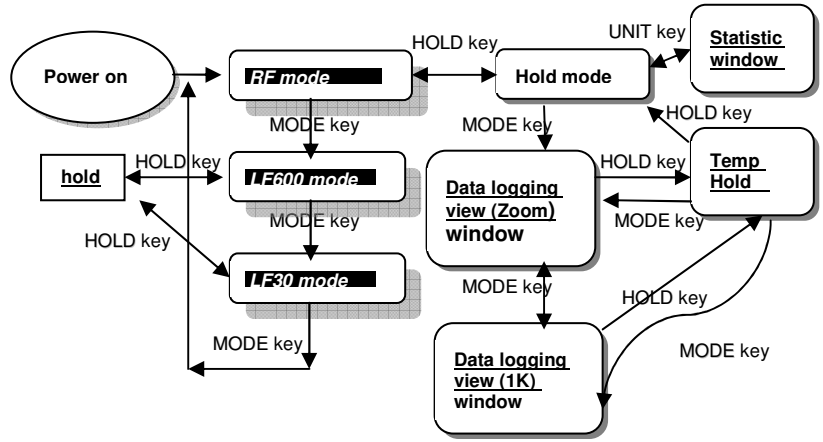


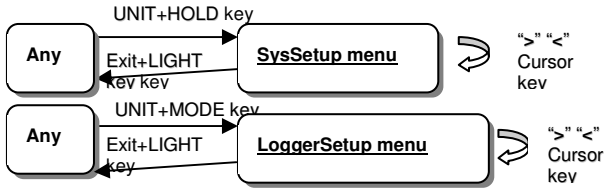


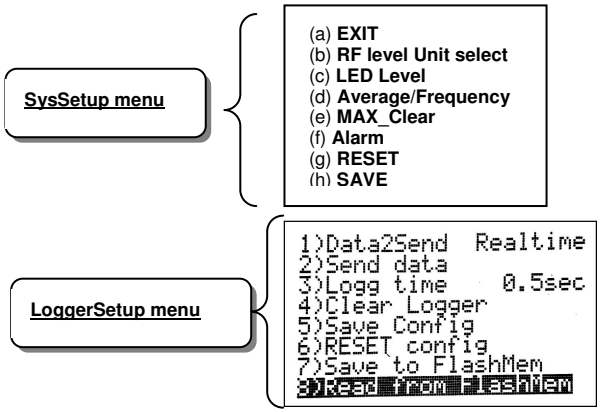
Frequency counter display:

The Frequency counter function (100 MHz–4.2GHz) of ED85EXP5G 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 ED85EXP5G 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. (for field strength measurement with external antenna units only, not for SMA connector direct input.) 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 ED85EXP5G 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. (Frequency counter function uses separate build-in antenna inside the ED85EXP5G, the external antenna unit is for field strength measurement only.)

Operating modes and key sequence:

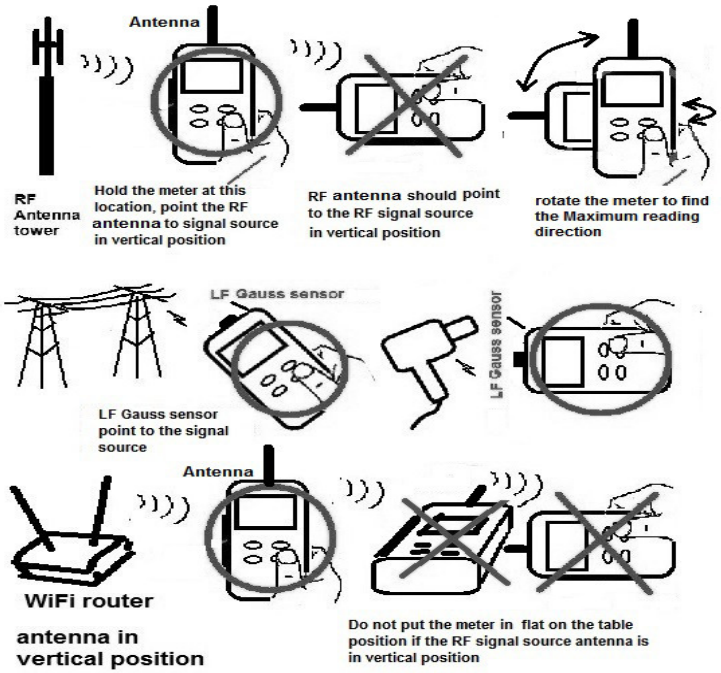






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How to hold the ED85EXP5G to measure different signals:

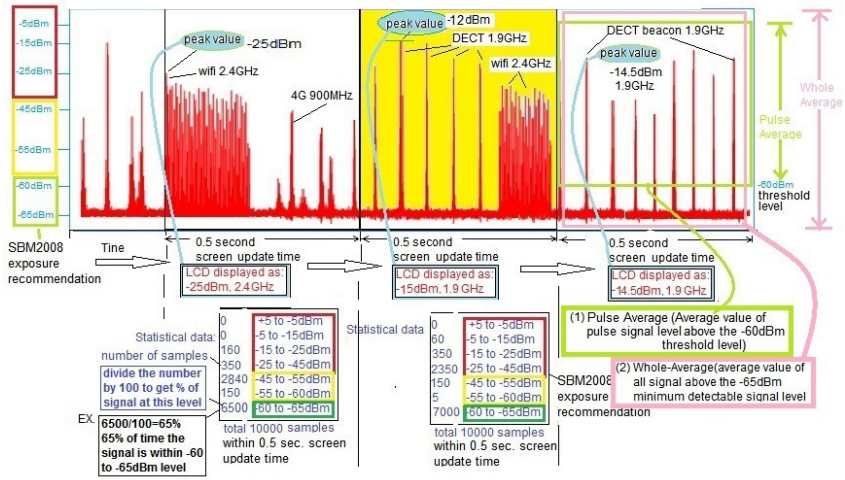


Field strength/power density of color LED readout:

ED85EXP5G 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		Safe*
YELLOW2	-25 dBm	1.8 mw/m^2	2uT/0.2uT	50 v/m		Safe*
YELLOW1	-30 dBm	0.58 mw/m^2	0.5uT/0.05uT	30 v/m		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)



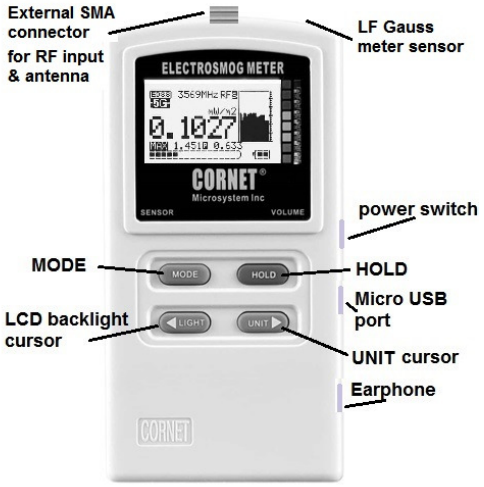
NOTE:

- **While in RF mode**, because most high-frequency RF antennas, such as mobile phone base stations, are vertically polarized (in the vertical direction), the ED85EXP5G 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. ***The ED85EXP5G 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 ED85EXP5G 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. **I**n 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 ED85EXP5G 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 ED85EXP5G 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 ED85EXP5G 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 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.
- 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.***
- Maximum RF input power to SMA connector of the meter is +10dBm, use RF attenuator in front of the SMA input connector to protect the RF sensor inside the meter from burn out.

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Specification

Sensor type:	Electric field sensor and Magnetic field sensor
Frequency range & Sensitivity:	1MHz to 8GHz (SMA connector direct input) (-65dBm to +5dBm), (0.18u w/m² to 1.8 w/m²), -- (calibrated) (0.008v/m to 26.2v/m) -- (calibrated) down to -70dBm (0.05u w/m²)(0.004v/m) -- (uncalibrated) **LF1:** 50Hz to 10kHz (0.1uT to 60uT)/(1mG to 600mG) **LF2:** 50Hz to 1kHz (0.01uT to 1uT)/(0.1mG to 10mG)
Frequency counter:	**100MHz-4.2GHz** (for field strength measurement with external antenna units only, not for SMA connector direct signal input.) -35dBm or higher signal input level required
RF Peak power density :	0.05uw/m² to 1.8w/m²
Maximum input power:	+10dBm, use RF attenuator to protect RF sensor if over +10dBm
Display type:	Digital LCD graphic display
Unit of measurements:	dBm, mw/m², v/m, uT, 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: +/- 1.5dB, LF: 20%
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

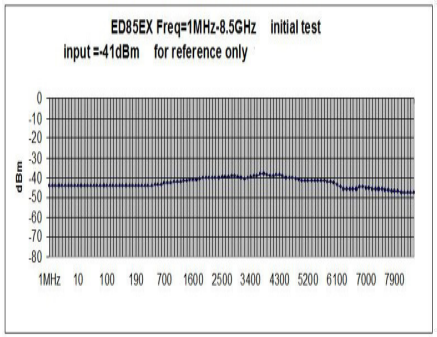


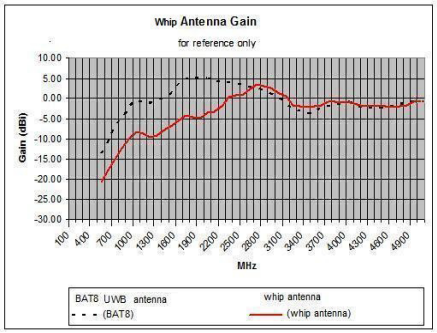
The European Community provided general guidelines in its Council Recommendation of July 1999.1 ICNIRP published similar guidelines in April 1998.2 Table I gives a sampling of the international and national field-strength limit values for the general public and continuous exposure (for Reference only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

		950Mhz	1850Mhz
International	Council Recommendation 1999/519/EC	42 V/m (4.75W/m²)	59 V/m (9.25W/m²)
International	ICNIRP Guidelines, April 1998	42 V/m (4.75W/m²)	59 V/m (9.25W/m²)
Austria	ÖNORM S1120	49 V/m (6.33W/m²)	61 V/m (10W/m²)
Belgium	Belgisch Staatsblad F.2001-1365	21 V/m (1.18W/m²)	30 V/m (2.31W/m²)
Germany	26. Deutsche Verordnung	42 V/m (4.75W/m²)	59 V/m (9.25W/m²)
Italy	Decreto n. 381, 1998	6 V/m (0.1W/m²) 20 V/m (1W/m²)	6 V/m (0.1W/m²) 20 V/m (1W/m²)
The Netherlands	Health Council	51 V/m (6.92W/m²)	83 V/m (18W/m²)
Switzerland	Verordnung 1999	4 V/m (0.04W/m²)	6 V/m (0.1W/m²)
United States	IEEE C95.1	49 V/m (6.33W/m²)	68 V/m (12W/m²)
China	Draft: National Quality Technology Monitoring Bureau	49 V/m (6.33W/m²)	61 V/m (10W/m²)
Japan	Radio-Radiation Protection Guidelines, 1990	49 V/m (6.33W/m²)	61 V/m (10W/m²)

SBM2015 Building Biology Institute- Recommended EMF exposure Level

	Units	No Concern	Slight Concern	Severe Concern	Extreme Concern
ELF Electric	V/m	<0.3	0.3-1.5	1.5-10	>10
ELF Magnetic	mG uT	<0.2 <0.02	0.2-1 0.02-0.1	1-5 0.1-0.5	>5 >0.5
RF	mw/m²	<0.0001	0.0001-0.01	0.01-1	>1





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