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Alpha RF Field Strength Meter
Instructions

Important Note About the Battery!

Always be sure to turn off the Alpha RF Meter after each use, or the battery will run down and need replacement. To install a new battery, slide off the back door at the bottom of the meter and insert a fresh 9 Volt battery.

Turn On Your Meter…

To turn your meter on, turn the knob on the front to either "19.999", "199.99" or"1999.9". *Remember, always be sure to turn off your meter after use, or the battery will run down quickly.*

Set Up Your meter…

In most cases, you will turn the knob to "19.99", and keep the two switches in the "up" position.

Left Knob: In most cases, you will turn this knob clockwise to "19.99". At this setting, the highest field level you can measure is 19.99 microwatts per centimeter squared (μW/cm^2). If the field is actually greater than 19.99, then you will need to rotate the knob to a higher range which is "199.99". And if the field level is higher than 199.99 μW/cm^2, then turn the knob to the highest range, marked "1999.9".

Bandwidth Switch: Usually, you will keep the bandwidth switch in the "up" position to detect the widest range of EMF frequencies possible. This "wide" range of frequencies includes EMFs from 0.5 Mhz up to 3 Ghz. If you move the switch to the "down" position, the meter will only detect a more "narrow" range of frequencies from 100 Mhz to 3 Ghz.

Update Switch: In most cases, you will also leave this switch in the "up" position, so that the measurements are updated as fast as possible. If the readings are fluctuating so fast that they are hard to read, then flip the switch to the "slow" position.

Take a Measurement…

Turn your meter "on" as described above, and hold the meter wherever you wish to test. Twist the meter around in all possible directions and find the direction with the highest reading. Then hold it still for a few seconds, and record the measurement on the display, paying attention to the decimal point.

The sensor antenna is located in the top end of the meter, so make sure that you do not cover the top end of the meter with your hand or body, thus shielding the antenna. The Alpha RF Meter measures the Radio Frequency (RF) fields in units called "microwatts per centimeter squared", which is abbreviated "$\mu W/cm^2$".

Use your meter to take measurements in any location you wish to test – at your bed, on a couch, outside where children play, at your computer, etc. Always hold the meter still for a moment before you read the value from the display.

And For More Accuracy…

Because the human body interacts significantly with RF fields, your hand and body can reflect, shield or even amplify the RF field, thus altering the measurement shown on the meter! For highest accuracy, position the Alpha RF Meter on a table or counter top, and then step a few feet away to take the reading.

To get a full measurement including all three orthogonal directions, first take a reading with the top end of the meter pointing up. Then point the top end of the meter horizontally towards the south or north, and take a second reading. Finally, point the top end towards the east or west and take a third reading. If you add these three numbers together, you calculate the total measurement that includes all directions.

The Alpha RF Meter will measure as low as 0.001 microwatt/cm^2 but is sensitive to temperature and other factors, so it is really accurate to about 0.01 microwatt/cm^2. Also, the meter will average the highs and lows of common digital RF/microwave signals to provide an "average" level. For more accurate measurement of the momentary peaks from digital signals, and sensitivity below the 0.01 microwatt/cm^2 level, a test meter such as the Electrosmog RF Meter is required.

What Types of RF Are Being Detected?

The meter measures RF and microwave emissions from AM, FM and TV towers, cell phones and cell towers, Wi-Fi and other wireless systems, most military/government and ham radio frequencies, microwave ovens, common electronics, and many cordless phones. (The meter detects frequencies from 500 kHz to 3 GHz, which does not include 5.8 GHz cordless phones. While the meter will detect this frequency somewhat, it will read it low.)

Why Measure the RF Electromagnetic Fields?

While there is still great controversy, many scientific studies show that Radio Frequency (RF) electromagnetic fields can cause important biological changes and potential health effects. And in our modern world, our exposure to RF/microwave energy is increasing at a rapid pace.

Typical sources of RF exposure are from the personal use of cell phones and cordless phones, from cellular antennas and radio and TV broadcast towers, from microwave ovens, and more and more from the growing number of wireless computer devices and wireless systems such as Wi-Fi.

What Level is Safe?

There is still great debate about the potential health effects and recommended safety levels for RF electromagnetic fields. The average level inside homes can range greatly, from less than 0.01 microwatt/cm^2 to more than 1.0 microwatt/cm^2.

In our work, we usually try to keep long-term exposures below 0.1 microwatt/cm^2 – and if there are any serious health issues, below 0.01 microwatt/cm^2. Anecdotally, many sensitive individuals have reported symptoms from digital signals like Wi-Fi at even lower levels. So it might even be wise to consider a safety level of 0.001 microwatt/cm^2 or less. You will have to decide for yourself what level to consider safe.

How to Reduce the RF Fields…

In many homes and offices, certain locations will have higher levels, while other areas may be much lower. Using your meter, you can arrange your environment to avoid the highest fields. For example, you can place beds and furniture in the lower field areas, and use the higher exposure areas for storage.

Often, you can determine exactly what is causing the RF fields, since the highest emitters are sometimes very close – e.g., the devices you use like cell phones, cordless phones, and wireless computer products. The best way to reduce these exposures is to turn them off and not use them. Instead, use hard-wired phones and computer cables.

An important way to reduce your RF exposure in the long term, may be to use your Alpha RF Meter to test new homes or apartments before you buy or rent.

Need Professional Assistance?

The phone consultation fee with Michael Neuert is $120 per hour, prorated for actual time used. In California, we also provide professional testing, repairs, shielding, EMF-Free electrical wiring, and other services. If you need further assistance, please contact our office.

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