Measuring Wireless Radiation

To be really empowered when it comes to electromagnetic fields one has to learn to measure the location with a meter or detector. Otherwise, one is guessing what the exposures might be.

The very best way to measure would be with a microwave ‘spectrum analyzer’ that can tell you what your exposures are, with specificity regarding the exact frequencies present. A spectrum analyzer can cost tens of thousands of dollars so they are mostly used in industry and government. It is not a practical tool for most consumers, nor is it necessary. Instead, meters that measure composite power density are used, without the specific details of what frequencies are present. It is a very rare case when a spectrum analyzer will need to be brought in to identify and resolve a problem.

For the layman, the basic Electrosmog Meter manufactured by TES Corporation is available at www.emfsafetystore.com or lessemf.com for about $200. It is a handy choice for both detecting and measuring radiation in the lower end of the microwave band where cell towers transmit. Its bandwidth (range: 50MHz to 3.5 GHz) is too high to detect AM radio or amateur radio (except VHF and higher frequencies), and too low to detect 5.8 GHz cordless phones, radar, and higher frequency microwave transmissions. But it will detect cell phone, cell towers, TV, and FM radio transmissions, as well as microwave ovens.

A step up from the basic Electrosmog Meter is the newer 8 Gigahertz Electrosmog Meter that runs about $500. The advantage over the basic meter is it will pick up a much broader range of exposures, including portable phones on the high end as well as some new forms of Wi-Fi that operate at 5 Gigahertz (most are at 2.4 Gigahertz). The meter's range is 10 MHz to 8 Ghz.

Several experts have compared the Electrosmog Meters with far more expensive European meters that run into the thousands of dollars, and find the Electrosmog Meters to be comparable, thus they are a real value in making microwave radiation measurement affordable to larger audiences.

The meters are fairly user-friendly once one is walked through the basics of how to use it. We are confident school personnel can learn to use these meters if given a scale for a frame of reference in order to understand what the readings mean. There are several units of measurement to choose from. I personally use 'microwatts per meter squared' unit of measurement on the meter so I can compare the readings obtained with the scale prepared by the Institute for Bau Biologie & Ecology (http://tinyurl.com/2g7lngo).**p://tinyurl.com/2g7lngo**

Many experts do not recommend the popular Trifield Meter for microwave measurements, although note the Trifield is considered very reliable for magnetic field measurements (except in high RF environments). When it comes to RF meters in particular, its best to buy a brand trusted by experts who use these meters in the course of their daily life and understand their reliability and quirks.

Meters can be found at www.emfsafetystore.com or

www.lessemf.com.

We'll review exactly how to use the Electrosmog Meter in a subsequent **EMF-Help Blog™,** explaining the advantages and disadvantages of using the different units of measurement possible, and other features of the meter. We are confident this is a tool that most school buildings personnel and faculty will come to find most valuable.

Detecting vs. Measuring

For simply *detecting* radio frequency radiation, instead of measuring it, an excellent meter is the Zapchecker 185, available from www.emfsafetystore.com or www.zapchecker.com. The Zapchecker, though only displaying relative readings, is highly sensitive and was developed for security personnel to detect hidden bugs and cameras. Its range is far broader than the TES-92 Electrosmog Meter. It also has a vibrate mode for undercover detection. Its very fast analog needle display and blinking LED light make EMF detection obvious and easy. For simply *finding* RF or MW sources so one can know to shield oneself from these sources it is a highly sensitive, excellent choice.

The Cheapest Way of Detecting Radiofrequency

It is possible to use a portable AM radio to detect some RF sources. First turn the radio dial between stations where there is no radio signal. Move about, and turn the radio antenna in all directions. When you hear static this means there is a source of radiofrequency present. As an experiment, place the AM radio near a Compact Fluorescent Bulb and listen to what happens. Next check out what happens near an operating cell phone or other items with a low frequency and high electric field. An AM radio can be a

useful initial screen when no meters are available, but note it won't pick up all sources, such as Wi-Fi, which is too high a frequency and not a strong enough electric field. Nonetheless, a simple inexpensive AM radio can be a good initial scout for microwave and RF fields on a low budget.

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*This blog brings the wisdom of world-class experts in electromagnetic fields to your school. In addition to the written blog, **Campaign for Radiation Free Schools** will also feature audio interviews with scientists, remediation experts and physicians that you can listen to and share among faculty and staff so all stakeholders can learn about this important emerging public health issue together.*

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