

Precautionary Exposure Guidelines for Electric & Magnetic Fields

Please note: These PDF documents are compiled from various Building Biology and other internet sources and are part of the information on Electromagnetic Fields (EMFs) and RF/Microwave Radiation provided by **Natural Energy Works** to our **Trifield TF2 Meter** and **Cornet ED88T Plus Meter** customers.

Introduction

Once you have obtained an EMF meter, the next question is how to evaluate its readings. What are acceptable exposure levels?

A good answer is provided by the Building Biology profession. Building Biology (also: Bau-Biology, from the original German "Baubiologie") is a field of building science investigating the indoor living environment for a variety of irritants that can impact the health of the occupants, including electromagnetic fields (EMFs) and radiation (EMR).

Following the principle of **Nature is Our Guideline**, the Building Biology profession has developed a set of standards to provide **Exposure Guidelines** that are as low as possible in order to create a healthy living environment. In the case of **electric and magnetic fields** as well as **radiofrequency/microwave radiation** levels, these guidelines are particularly important to protect infants, the elderly, and those individuals who suffer from electro-(hyper)sensitivity (EHS) to what has become known colloquially as *electropollution* or *electrosmog*.

Man-made electromagnetic pollution comes both from outdoor electrical transmission lines and indoor electrical wiring and appliances, as found inside homes and offices. In addition, ever since the start of the "cell phone age" in 1996, the high-power electromagnetic radiation from **radio frequencies (RF) in the microwave range** has begun to directly impact our lives. It's this type of radiation that facilitates the wireless communication of all mobile devices, and it now constitutes a form of serious environmental pollution affecting not just ourselves, but also both plant and animal life exposed to these frequencies that **do not naturally exist on Earth**.

Especially in urban areas, even if a person has chosen not to use wireless devices of any kind, their homes are likely still polluted by various microwave radiation sources around them, such as their neighbor's Wi-Fi, any "smart meter" networks, and of course the cell towers and antenna stations in the surrounding area whose output levels are high enough to penetrate into buildings.

For the recommended limits on **RF/Microwave Radiation Exposure**, please see the separate document => **(2)Guidelines-RF-Microwave-Exposure.pdf!**

The Building Biology EMF Exposure Guidelines were developed specifically for **sleeping areas**, because our bodies heal and regenerate during sleep. They are broken down into four levels: "**No concern**", "**Slight concern**", "**Severe concern**", and "**Extreme concern**".

The "No concern" level is generally almost impossible to reach in the industrialized world, and getting most of their clients out of the "Severe concern" and **into the "Slight concern" range** is an acceptable Building Biology goal. These levels are also on a par with the general consensus for EMF exposure among non-industry EMF experts and researchers around the world. Only the most highly EHS-afflicted people need to try to achieve the "No concern" level.

The Building Biology EMF Exposure Guidelines are published by the [Institut für Baubiologie + Nachhaltigkeit](https://www.ibn-partner.com/), or IBN (Institute for Building Biology + Sustainability) in Germany. Their webpage <https://buildingbiology.com/ibn-partner/> contains the contact information for various affiliated international Building Biology organizations.

To locate a Certified Building Biologist in **North America** specifically, the US-based **Building Biology Institute** can be contacted here: <https://buildingbiologyinstitute.org/>, or simply do an internet search for your area.

Precautionary Guidelines for Power Line Magnetic Fields

Building Biology regards **magnetic fields** as the more serious type of EMF, because they are considered to be carcinogenic. Fortunately, with the exception of magnetic fields from overhead power lines, they generally occur only in certain parts of the house, such as:

- at the circuit breaker panel;
- around transformers (converting AC power to DC), both outside (as part of the power cable) or inside devices, like in an alarm clock/radio;
- around any operating electric motors, such as a vacuum cleaner or the refrigerator when the compressor is running.

For **sleeping areas**, Building Biology has established the following **Guidelines for Magnetic Fields** (in milligauss):

No Concern	Slight Concern	Severe Concern	Extreme Concern
<0.2 mG	0.2 mG to 1 mG	1 mG to 5 mG	> 5 mG

Also both the [BioInitiative Working Group](http://www.bioinitiative.org) (www.bioinitiative.org) and the European [Seletun Resolution](http://www.iemfa.org) (www.iemfa.org > seletun-statement), two international organizations of independent scientists, recommend exposures less than or equal to **1 milligauss**.

For comparison, in terms of power line magnetic fields, the regulations of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) allow for a generous AC (alternating current) magnetic field of 100,000 mG in Europe and 83,330 mG in North America.

Precautionary Guidelines for Power Line Electric Fields

Electric fields are mostly a problem when we sleep. Electric fields cause an agitating influence at night when the body should be in a recuperative environment. According to Building Biology experience, while *"magnetic fields wear you down, causing a depressing influence on the immune system, electric fields wear you out"*, thereby preventing restful sleep. Most sleeping areas have elevated electric field levels, which usually come from wiring in the walls and any plugged-in AC power cords and electric devices.

When using a hand-held meter such as the **Trifield TF2** or the **Cornet ED88T Plus** to measure **electric fields**, Building Biology provides the following **guidelines for sleeping areas** (in Volts per meter):

No Concern	Slight Concern	Severe Concern	Extreme Concern
<0.3 V/m	0.3 to 1.5 V/m	1.5 to 10 V/m	> 10 V/m

Eliminating electric fields is often more difficult than magnetic fields, because there is generally not much you can do about any problematic wiring in the walls on your own, except trying to move your bed away. But for starters any power cables can be unplugged, and the power to the bedroom shut down (by turning off the appropriate circuit breaker at the fuse box). If this is not an option, it is recommended to at least remove all electric appliances within six to eight feet (ca. 2 to 2.5 meters) of your bed.

If these measures don't help to significantly reduce electric field exposure where you sleep, it may be necessary to consult a Certified Building Biologist.

Please note: *These PDF documents are provided for educational purposes only and are not intended to be used as a substitute for medical or professional environmental health advice. Customers are encouraged to make their own informed health care decisions at their own risk and expense.*

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These documents may be updated as new information comes to our attention. Check back occasionally at <http://www.naturalenergyworks.net/> !