

EMFs / 5G and beyond

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This E-book contains my personal ‘go-to’ resources dealing with all things EMF/RF and 5G.

It is an evolving diary of a curious ‘do-it-yourselfer’, a sifting of ‘tips and tricks’ learned along the way.

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Table of Contents

- 1. Introductory note**
- 2. Sources of EMF/RF radiation in our lives**
- 3. Terms / definitions / overviews**
- 4. Recommended basic information sources**
- 5. Equipment tips**
- 6. My personal EMF / dirty electricity meters, accessories ...**
- 7. Canadian sources of EMF meters, accessories, shielding products**
- 8. Meter demonstrations / EMF tutorials**
- 9. Industry stakeholders / activists**
- 10. Talking points:**
 - A. Safe EMF exposure limits**
 - B. Best place to begin ...**
 - C. Next steps to take ...**
 - D. Dirty electricity – what is it?**
 - E. Measuring body voltage**
 - F. 5G in Canada – what’s happening?**
 - G. EMFs in cars**
 - H. Gizmos and harmonizers – do they work?**

EMFs / 5G and beyond

1) Introductory note

What's all the fuss? EMF (electromagnetic field) and RF (radio field) radiation is everywhere, and unavoidable, isn't it? What can anyone do about it anyway?

We live literally engulfed in a sea of EMF/RF radiation. At home, at work, in stores, and in government buildings. Also on roadways and in our modern cars. Much of this exposure is known to be potentially harmful, and often knowingly self-inflicted. We just cannot seem to resist our cellphones, wi-fi modems, our wireless 'smart' appliances and blue-toothed cars .

Common sources of radiofrequency radiation (RF radiation) - our ubiquitous DECT cordless telephones, microwave ovens, TVs and radios, computer screens, Wi-Fi Internet modems/routers, Bluetooth wireless networks, baby monitors, telephone cell towers, Wi-Fi hotspots in coffee houses, pagers, RFID and metal detector anti-theft security systems at store entrances, wireless stereo speakers. RF radiation exposure comes from virtually all wireless devices. While it is non-ionizing and generally considered safe by health authorities, RF radiation is definitely not hazard-free, and potential threats must be recognized.

Electric and magnetic fields (EMFs) come from very common sources – virtually all things that run on, or carry, electricity. Everything that plugs into an electrical wall plug, like small home appliances, lighting fixtures, electric wall wiring, computers and printers, copiers, main electrical panels, electric and induction stoves, washers and dryers, power tools (saws, drills), sewing machines.

Electric appliance cords can radiate significant electric and magnetic fields, typically to a radius of 3 feet along their length. Radiating appliance cords are definitely not a good thing when they run under, or by your bed, when you are sleeping.

Radiation exposure is intensifying as 5G and the 'Internet of Things' roll out, making harmful levels of radiation exposure unavoidable. Investors are eagerly exploiting the wealth-generating possibilities in connecting billions of electronic devices and consumers. Governments everywhere are eager to make a 5G/6G world happen.

EMFs / 5G and beyond

It may be a bit ambitious for one person to fix the world, but certainly, we can all find at least a few ways of reducing harmful personal exposures in our living and working environments.

Much is becoming known about the various physical harms of EMF/RF and 5G energies. For those wishing to support and boost the strength and adaptive resilience of their immune systems, there is much that can be done about EMF/RFs- easily and inexpensively.

2) Sources of EMF/RF radiation in our lives:

- [Navigating EMFs: Types, Sources, and Mitigation Strategies for a Healthier Living Environment.](#) SENERGY360. February 12, 2024.
- [10 Powerful Sources of EMF Radiation in Your Home.](#) R Blank. SYB/Shield Your Body. Updated February 12, 2024.
- [45 Typical Sources of EMF-Radiation At Home \(With Numbers\).](#) EMF caution.
- [Radiation Sources and Doses.](#) US Environmental Protection Agency. Updated February 22, 2024.
- [Are there regulations concerning radiation emissions from power lines?](#) US Environmental Protection Agency (EPA). Updated December 27, 2023.
- [Why electrohypersensitivity and related symptoms are caused by non-ionizing man-made electromagnetic fields: An overview and medical assessment.](#) Dominique Belpomme, et al. Elsevier / ScienceDirect. September 2022.
- [8 most common sources of EMFs in your home.](#) Berenike Stone. Waveguard. September 7, 2020.
- [Sources of EMF exposure and how to avoid them.](#) EMF environmental health initiative. Cindy Sage and Nancy Evans. August 22, 2008.

EMFs / 5G and beyond

- [Everyday things that emit radiation](#): learn about common products and devices that give off radiation. Health Canada. December 2020.

3) Terms / definitions / overviews

- [How Electromagnetic Fields \(EMFS\) Impact Your Health](#). Michael Kummer. Updated January 19, 2024.
- [Radiofrequency Radiation Profile: General Information](#). CAREX Canada.
- [Electric Magnetic Fields \(EMFs\)](#). Overview and links to research. Electricity Canada.
- [Electric and magnetic fields](#). Hydro Quebec.
- [What is EMF Radiation?](#) (2023 Update). Tasneem S. Atmosure.
- [What to Know About Cellphone Radiation](#). Peter Elkind. ProPublica. January 4, 2023.
- [Non-Ionizing Radiation From Wireless Technology](#). US Environmental Protection Agency (EPA). Updated September 19, 2023.
- [Radiofrequency \(RF\) Radiation](#). American Cancer Society. Updated October 28, 2022.
- [RF Safety FAQ](#). US Federal Communications Commission (FCC).
- [Electromagnetic Fields and Cancer](#). U.S. National Cancer Institute. May 30, 2022.
- [What Is 5G? Everything You Need To Know](#) – Updated June 7, 2023. Alexander Maxham. AH/Android Headlines.
- [Electromagnetic Fields](#). World Health Organization (WHO).
- [Introduction to the Electromagnetic Spectrum](#). NASA Science.

EMFs / 5G and beyond

- [Should You Be Worried About EMF Exposure?](#) Alana Biggers. MD. Healthline. Updated December 8, 2023.
- [Introduction to EMFs.](#) Oram Miller. Create Healthy Homes. July 13, 2021.
- [Glossary of Terms.](#) EMF & RF Solutions.
- [EMF Units Explained: V/m, milliGauss, W/m2 Etc. \(Beginners\).](#) EMF caution.
- [What Is EMF Radiation?](#) A Beginners Explanation In Plain English. EMF caution.
- [What is EMR? Electromagnetic Radiation.](#) Safe Living Technologies.
- [Electromagnetic Fields \(EMFs\) Explained](#) – Easy To Understand Definitions. ElectricSense. Updated May 17, 2013.
- [EMF Radiation: Everything You Need To Know.](#) Bonnie Collins. EMF Empowerment. June 4, 2023.
- [What is 5G?](#) Everything you need to know about 5G. Qoualcomm. May 6, 2020.
- [Electric and Magnetic Fields.](#) Ontario. Hydro One.
- [EMF Protection 101: How To Manage Exposure For Better Health.](#) The Chalkboard.
- [Power Lines, Electrical Devices, and Extremely Low Frequency Radiation: What is extremely low frequency \(ELF\) radiation?](#) American Cancer Society.

4) General information

- [Create Healthy Homes](#). Oram Miller, Certified Electromagnetic Radiation Specialist.
- [Effects of Exposure to Electromagnetic Fields: Thirty years of research](#). Joel M Moskowitz. Electromagnetic Radiation Safety. January 24, 2024.
- [Environmental Health Trust](#) – the latest EMF and 5G news and information.
- [ElectricSense](#) – EMF Protection / Natural Solutions. Lloyd Burrell
- [Stop 5G on Earth and in Space](#) – International Appeal
- [Cellular Phone Task Force](#) / Arthur firstenberg
- [Electromagnetic Health](#) / Martin Pall, PhD
- [Best EMF Meter Reviews](#). Shinta. MeasureDay. November 1, 2023.
- [Frequently Asked Questions \(FAQ\) on Radiofrequency \(RF\) Energy and Health](#). Government of Canada. November 21, 2018.
- [Radiofrequency Radiation](#). National Collaborating Centre for Environmental Health. Vancouver, British Columbia. June 14, 2017.
- [Do EMFs Really Affect Our Health?](#) Michael Neuert. EMF Center. 2023.
- [The Electromagnetic Spectrum – Simplified](#). Dr Magda Havas.
- [EMFs.info](#) (A guide to the debate on electric and magnetic fields and health)
- [EMF-Portal](#) (summaries of research data on the effects of EMFs)
- [Are EMFs Dangerous? The Real Risks of EMF to Your Health](#). Dr Ruscio. June 30, 2023.

EMFs / 5G and beyond

- [Why EMF Shielding Doesn't Work](#). Practical ways we can minimize harm from EMF. Roman S Shapoval. Substack. February 26, 2024.
- [Protecting Children from EMF Radiation: Tips and Guidelines](#). UC Baby.

5) Equipment tips - consider the following before purchasing any meters or accessories ...

- You will likely need several types of meters to do a full EMF/RF home survey; no single meter will detect and measure all types of energy (RF/electric/magnetic/body voltage)
 - the [CORNET ED88TPlus 5G2 RF-EMF](#) meter is an effective and inexpensive meter that detects electric, magnetic, and RF/Wi-Fi fields
- To better understand what your RF meter readings mean, take a look at the following sources for converting units of measurements –
 - [Powerwatch Conversion of RF Units](#)
 - [EMF / RF Conversion Tables](#)
 - [EMF Units Explained: V/m, milliGauss, W/m2 Etc. \(Beginners\)](#). EMF caution.
- A meter with a built-in speaker will let you hear the unique signature sound made by a particular EMF/RF source; this greatly helps in identifying the type of EMF/RF frequency detected; a compact digital voice recorder will let you record sounds for later study.
- Own your own equipment for your personal use; a professional home inspection will give you a satisfying one-time snapshot of your radiation exposure, but you will need to do multiple readings throughout a single day (plus over days, weeks, and even months) to catch intermittent or evolving EMF/RF exposures.
- Buy the best equipment you can comfortably afford; you can't fix what you can't reliably detect and measure; be prepared to upgrade equipment as available or as EMF/RF frequencies evolve; improved

EMFs / 5G and beyond

meter sensitivity and expanded frequency range will provide better detection.

- **Check YouTube for equipment reviews, comparisons, and ‘how-to’ demonstration tutorials**
- **Check Kijiji or Craigs List for used equipment at a good price; also check Amazon (sometimes with surprisingly good prices plus quick & inexpensive shipping)**
- **Contact equipment vendors for advice; you should always get good friendly help.**
- **Consider ‘do-it-yourself’ shielding solutions (for example, layered sheets of tin foil or home-made faraday cages made from inexpensive metal mosquito mesh can provide really effective RF shielding.**
- **re-purpose old electrical extension cords rather than purchase long lengths of expensive copper wire; carefully strip the extension cord’s outer plastic covering, and expose the inner plastic-covered copper wires; fasten alligator clips and electric socket plugs to the ends of these copper wire strands, and you’ll have rugged and cheap DIY copper grounding cables**

6) My personal EMF / dirty electricity meters & accessories

- **CORNET ED88TPLUS Tri-mode Electrosmog meter. Cornet Microsystem Inc.**
A newer version is available – [CORNET ED88TPlus 5G2 RF-EMF meter](#).
- [HF35C RF Meter](#) / Gigahertz Solutions
- [CL600 Digital Clamp Meter AC/DC](#) / Klein Tools
- [GreenWave Dirty Electricity Filters](#)

EMFs / 5G and beyond

- [HTP-6P Digital Circuit Breaker Detector](#) / Hi-Tech Electronic Products & Mfg.
- **Miscellaneous accessories**: various lengths of copper grounding wire for measuring body voltage; alligator clips and electric socket plugs for creating your own inexpensive DIY grounding cables

7) Canadian sources of EMF meters / accessories / shielding products

- [Safe Living Technologies](#). Guelph, Ontario.
- [EMF Solutions Canada](#). Milton, Ontario.
- [EMR Shielding Solutions](#). Woodbridge, Ontario.
- [Benchmark EMF Solutions](#). Greater Vancouver, British Columbia.
- [Smart EMF Protection](#). Greater Toronto area. Ontario.
- [DeviceShield](#) / EMF Protection Canada. Vancouver, British Columbia
- [Blushield EMF Protection](#). Guelph, Ontario.
- Kijiji – search for '[emf meter](#)' in All Categories in Canada
- Amazon Canada – search for '[emf meter](#)'

8) Meter demonstrations / EMF tutorials

- [CORNET ED88T Meter + EMF tutorial](#). Oram Miller. Certified EMF Radiation Specialist. YouTube.
- [Body Voltage Meter Tutorial](#). Oram Miller. YouTube
- [How To Measure EMFs – A Practical Guide](#). EMF Academy
- [What is EMF Testing and How to Do It Yourself](#). SYB/Shield Your Body. Updated November 10, 2022.

EMFs / 5G and beyond

9) Industry stakeholders / activists

5G

- [Rogers Communications / 5G](#)
- [Bell Canada / Bell Mobility / 5G Network](#)
- [Telus Corporation / 5G](#)
- [Shaw Mobile / About 5G](#)
- [5G Canada Council](#)
- [ENCQOR 5G / Ontario Region](#)
- [5GAA Automotive Association](#)
- [SafeTech International](#)

Other stakeholders / activists

- [C4ST / Canadians For Safe Technology](#)
- [Canadian Radiation Protection Association](#)
- [EMF Groups Worldwide / The EMF Experts](#)
- [Global EMF Websites / EMF Safety Network](#)
- [Links & Resources / Physicians for Safe Technology](#). Updated January 1, 2023.
- [ICNIRP / International Commission in Non-Ionizing Radiation Protection](#)
- [WEEP Initiative / The Canadian Initiative To Stop Wireless, Electric, and Electromagnetic Pollution](#)
- [EM – Radiation Research Trust](#)
- [Cellular Phone Task Force / Arthur Firstenberg](#)
- [Environmental Health Trust / Dr Devra Davis](#)

EMFs / 5G and beyond

Talking points ...

A) Safe EMF/RF exposure standards / levels. What are they? Do they actually ensure our safety?

How do you know if you are being exposed to harmful levels of EMF/RF radiation? Who, and what, makes reliable exposure standards? And where can these standards be found, how are they enforced, and how can they be used in real-life situations?

Since each of the different EMF/RF energies – electric, magnetic, and RF – has unique wave-form properties and biological effects, each energy must be measured separately, using different units of measurement and specialized metering equipment.

Sorting out these complexities can be somewhat challenging.

Governments regulate EMF/RF/Wi-Fi radiation and claim their safety standards ensure no one is exposed to harmful EMF levels. Governments readily admit that significant EMF/RF frequencies abound everywhere, but also typically argue there is no evidence proving that EMF/RF frequencies – below their regulated levels – have harmful effects.

Canada claims [there are no EMF health risks from exposure to Wi-Fi devices in your home](#). Governments seem caught in a dilemma – safeguarding public health while at the same time promoting the financial health of ‘big business’.

Telecom industry and other corporate stakeholders claim their products, services, and technologies all operate within strict government-mandated safety levels and thus present no harmful effects to consumers.

You have a choice to make. Either trust government reassurances of EMF/RF safety - or - determine your own personal radiation exposures yourself. That means acquiring your own metering equipment, learning its use, and finding trustable safety standards in order to determine your own personal exposure and potential risks.

- **[CORNET ED88T Meter + EMF standards tutorial](#). The best starting place to learn about meter readings and interpreting safety standards. YouTube. A ‘must-see’ for beginners.**

EMFs / 5G and beyond

- [EMF And RF Exposure Guidelines](#). Safe Living Technologies, Guelph, Ontario.
- [Is There A Safe Level Of Wireless EMF? We've got the EMF Levels Charts!](#) August Brice. Tech Wellness.
- [Understanding Safety Code 6](#): Health Canada's radiofrequency exposure guidelines. Health Canada.
- [Safety Code 6 \(2015\)](#) – text (PDF) of the code. Health Canada.
- [What is Safety Code 6?](#) C4ST / Canadians For Safe Technology. Explains why we should NOT rely on current Safety Code 6 guidelines.
- [Advancements in Safety Code 6](#): Ensuring Safe Telecommunication Infrastructure in Canada. Red Oak Technologies. Medium. February 12, 2024.
- [Understanding Safety Code 6: EMF Exposure Guidelines in Canada](#). Anish Lamba. Red Oak Technologies. October 5, 2023.
- [Radiofrequency safety standards](#). Canadian Telecommunications Association.
- [Wireless radiation exposure limits outdated and unsafe](#). Ontario Workers Health & Safety Centre. November 15, 2022.
- [Are EMF Safety Regulations Really Keeping Us Safe?](#) Bonnie Collins. EMF Empowerment. August 7, 2022.
- [Building Biology Evaluation Guidelines](#). SBM-2008.
- [International EMF Exposure Guidelines](#). GSMA. October 14, 2021.
- [BioInitiative 2012 Report](#): A Rationale for Biologically-Based Exposure Standards for Low-Intensity Electromagnetic Radiation. Report updated 2014-2020.

EMFs / 5G and beyond

B) If much can be done easily and inexpensively to reduce harmful EMF/RF exposure, where's the best place to begin?

The top priority should be detecting, identifying, and measuring your EMF/RF and 5G exposures so you can devise actions to reduce those exposures.

Think of four basic principles –

- **avoidance**: eliminate or avoid sources of EMF/RF radiation
- **reduction**: reduce the duration of exposure to EMF/RFs
- **distance**: don't place yourself in close proximity to EMF/RF sources (distance is your best friend)
- **remedial action**: take steps to shield yourself with reflective, blocking, or absorbing materials

Start by detoxing your home

Your most harmful EMF/RF exposures will likely occur where you spend the most time standing, sitting, or sleeping. Bedrooms, particularly, should be as clear of EMF/RFs as possible because high-quality sleeping is needed for cellular and other bodily healing to take place.

You will quickly and permanently eliminate a huge range of harmful EMF/RF exposures, without purchasing any new equipment, by completing these simple cheap actions:

- turn off the Wi-Fi in your modems and routers (hardwire your computer connections with ethernet cable instead)
- ditch your DECT mobile phones (replace with corded models)
- reduce or turn off electricity passing through your bedroom at night (unplug all appliances or, much better, turn off all electrical circuit breakers feeding the appliances in your sleeping area)
- keep cell phones out of the bedroom at night

EMFs / 5G and beyond

- **make healthy lifestyle choices so your body is strong and resilient to EMF/RF stress (commit to good healthy food, chemical-free water, regular exercise, good quality sleep, emotional stress reduction, and targeted nutritional supplements)**
- **be careful when buying new appliances – don't bring anything capable of broadcasting Wi-Fi or 5G radiation into your home; choose 'dumb' appliances where possible**

C) What are the next steps to take?

At this point, the detection, identification, and measurement of your remaining EMF/5G exposures is absolutely necessary in order to develop targeted remedial action.

You have two basic choices, with pros and cons for each –

- **hire a professional EMF specialist to conduct a formal home inspection.**
- **purchase your own EMF detection equipment and carry out your own do-it-yourself EMF inspections.**

An EMF specialist hired for an inspection will bring sophisticated equipment and, most importantly, the experience with radiation safety standards to help you understand and interpret radiation readings. An inspection will likely take the better part of a day, and typically costs \$800 – \$1500. You won't have to purchase meters and invest the time in learning their use.

A 'do-it-yourself' inspection has some major advantages despite the cost of acquiring equipment and learning its use. You can easily identify the EMF hotspots in your environment with an inexpensive and easy-to-use multi-meter. Best of all, once you have your own detection equipment, you can do your own inspections any time you wish. Monthly inspections should be done to catch radiation changes in your environment.

Most importantly, you will want to measure the effect(s) of any remedial actions you make.

EMFs / 5G and beyond

Do-it-yourself home inspections:

- [EMF Home Inspection – What You Need To Know](#). Lloyd Burrell. ElectricSense. July 30, 2019.
- [Cornet ED88T demonstration and EMF tutorial](#). Oram Miller. YouTube. 2019.
- [How to Test for EMFs – Do-It-Yourself EMF Testing](#). EMFGuide.com
- [Here are 10 Reasons to conduct an EMF Survey before Buying a New House](#). The House Shop. February 22, 2017.
- [Complete RF Shielding of Bedroom with “Faraday Cage” Approach](#). Michael Neuert. YouTube. 2020.
- [How Much EMF Radiation Are We Exposed To?](#) A home-inspection walk-about demo. TheUrbanPrepper. YouTube. 2021.
- [SYB Webinar: At-Home EMF Testing](#). Shield Your Body. YouTube. 2021.
- [DIY EMF Home Inspection Guide: Learn How to Eliminate Harmful Radiation from Your Home](#). Paperback. Amazon Canada. December 14, 2020.

Professional home inspections:

- [EMF Inspections Canada / directory](#). Safe Living Technologies.
- [EMF Home Inspections](#) – EMF Solutions Canada.
- [EMF Consulting: Providing Professional EMF Assessments in the Greater Toronto Area & Beyond](#). EMF Inspections.
- [We do EMF home inspections in the Toronto Ontario area \(GTA\)](#). IAHP EMF inspections.

EMFs / 5G and beyond

- [Comprehensive Home EMF Radiation Detection Service Illuminating Occupant Exposures.](#) Smart EMF Protection.
- [Using the Wrong EMF Meter for EMF Testing and Home Inspections: A Case Study in Professional Judgment.](#) SCANTECH Technical Consulting. EMF Survey. August 20, 2023.
- [EMF Home Inspections: Your Complete Guide.](#) Bonnie Collins. EMF Empowerment. January 6, 2023.

D) It's time to move on to 'dirty electricity'. What's that?

Think of 'dirty electricity' as being electrical current 'noise and clutter' flowing along your copper wiring. It is considered one of the most dangerous forms of EMFs, and everyone is exposed to it to some degree. It is an inherent part of our North American electrical wiring and grounding methods, as well as the way our electrical appliances operate.

There are easy ways to detect and reduce it.

In North America, standard copper wall wiring carries a 60 Hz/120-volt AC current that shows on an oscilloscope display ideally as a somewhat orderly and coherent wave form pattern. The problem arises when appliances like air conditioners and furnaces, solar panel power inverters, dimmer switches for room lights, transformers in small electronics, machines with variable-speed motors or fans, all draw electrical energy in varying amounts from this electricity flow in the wall wiring.

This irregular and chaotic energy draw inevitably causes transient micro spikes and dips in the electrical current creating a chaos of current flow along the wires. This is 'dirty electricity'.

Harm comes when this chaos flowing along the electrical wiring radiates an equally chaotic energy field outwards, interacting with all objects within a field range of approx. 6 feet in radius along the wire. The human body acts like an antenna and will absorb this noisy electrical field energy and be affected by it.

EMFs / 5G and beyond

Dirty electricity filters like the well-known [Greenwave](#) or [Stetzer](#) versions plug directly into wall sockets and act like mini-batteries. An internal capacitor allows these plug-in filters to temporarily store electrical energy from transient spikes or surges, contributing this stored energy back onto the wiring during transient dips in the current flow. By dampening both spikes and dips, these filters act to smooth out the electrical flow, improving order and coherence along the wiring.

A single filter costs approx. \$30CAD, a meter approx. \$120CAD. A whole-house treatment could involve 16 – 20 plug-ins, which many consider well-worth the cost in removing potentially harmful energy fields.

- [Dirty Electricity – Is it really “Electropollution” or a Real Threat to Health and Safety? The Dirtier Truth.](#) Scantech Technical Consulting. EMF Survey. Updated February 29, 2024.
- [What is Dirty Electricity?](#) Jeromy Johnson. EMF Analysis / Protect Your Family from EMF Pollution. February 17, 2024.
- [What is it? Dirty Electricity.](#) Greenwave Filters. 2024.
- [An Introduction to Dirty Electricity](#) (full presentation). Greenwave Filters. YouTube. 2021.
- [EMF Protection Guide: What is Dirty Electricity?](#) Satic Shield.
- [Dirty Electricity: What it is and how to fix it.](#) Scotties Tech Info. YouTube. March 2022.
- [The Inside Outside Guys: The lowdown on dirty electricity.](#) Ken Calverley, et al. The Detroit News. January 27, 2022.
- [How to Measure Dirty Electricity in Your Home](#) (using a Green Wave filter & meter). Healthy Construction. YouTube. 2022.
- [How to Fix Dirty Electricity Affecting Your Health](#) (using a Stetzer filter & meter). Amanda Gates Feng Shui. YouTube. May 8, 2018.
- [Dirty Electricity Filter EMF Test: Greenwave Filter vs Stetzerizer Filter.](#) Atmosure. YouTube. April 28, 2020.

EMFs / 5G and beyond

- [Dirty Electricity Filters – A Complete Guide](#). Christian Thomas. EMF Academy.

E) Measuring body electrical voltage - what is that, and why is it so important?

We live in a virtual sea of electrical field energies, most of this electrical energy radiating outwards from our electrical appliances (particularly, older ungrounded ones), electric cords, and hidden wall wiring. Our bodies are incredibly efficient antennas, easily attracting and absorbing this chaotic external electrical energy. Electrons will always move from an area of higher voltage (like in a lamp cord) to lower voltage (like in the body).

Significant harms arise when this absorbed external electrical energy mixes and overwhelms our own internal microcurrents of electricity that are already miraculously flowing along nerve pathways to animate our organs and tissues, muscle movement, and everything else right down to our most critical cellular processes of repair and regeneration.

We can easily measure how much of this external electrical field energy we have absorbed internally into our body, and there are easy ways to reduce and even eliminate this avoidable electrical field burden in our bodies. All it takes is a digital multimeter (\$40-\$150) commonly used by electricians everywhere, and a length or two of copper grounding wire.

Of course, you'll also need a little bit of 'know-how' to do the body voltage measurements. The following resources will describe human body voltage, and show various methods for measuring the extent and burden of absorbed electrical field energies –

- [How do you measure body voltage using a body volt meter and what meters would you suggest?](#) Michael Merritt. BlockEMF's. March 7, 2023.
- [Body Voltage Kit and tutorial](#). Safe Living Technologies, Guelph, ON. YouTube.
See also their [Body Voltage Home Test Kit](#).
- [Test your body voltage](#). Acu Earthing. YouTube.

EMFs / 5G and beyond

- [Body Voltage Meter Tutorial](#). Oram Miller. YouTube.
- [How to Use a Body Volt Meter To Measure Electric Fields](#). Michael Neuert. YouTube.
- [What are the volts of electricity in your body?!](#) Bruce H Lipton, PhD. September 12, 2022.
- [How to Make Your Own Body Voltage Meter](#). Michael Neuert. EMF Center. 2021.
- [Body Voltage – What it is & How You Should Measure it](#). Cathy Cookie. SYB/Shield Your Body. Updated June 30, 2022.
- [How to Use a Multimeter & Electricity Basics](#). AMRE Supply. YouTube. December 9, 2019.
- [Body Voltage Meters](#). EMR Shielding Solutions. Woodbridge, Ontario.

F) 5G in Canada - what's happening, what are the major issues of concern, what can you do to protect yourself?

From a slow start when 5G was first introduced to Canadians in 2020, Canada has, by 2023, fully engaged in its 5G roll-out.

While Canadians were preoccupied with the ‘Pandemic’, industry stakeholders and telecoms (Bell, Telus, Rogers, and Videotron) were aggressively competing to increase their established 5G reach and availability, quickening download speeds, and enhancing 5G gaming - each carrier using different 5G bands and frequency ranges.

To attract Canadians undecided about how, and when, to upgrade their smartphones or subscriptions to the new 5G technology, industry stakeholders have been working hard to increase consumer awareness, hard selling the message that ‘the 5G future is here, now’.

EMFs / 5G and beyond

In Canada, 5G networks use primarily two regions of spectrum frequency: **Range 1**, from 410MHz – 7.125 GHz, and **Range 2**, from 24 GHz – 52.5 GHz. The **5G low band** runs on frequencies below 1 GHz, the **mid band** from 1 GHz to 6 GHz, and **high band** from 24 GHz to 40 GHz.

Until 2022, the major carriers in Canada were running 5G mostly in the low and mid frequency bands, below 2.5 GHz. In 2022, major carriers began implementing their 5G networks in the higher-frequency **c-band** between 4-8 GHz (3500 MHz). In June, Bell announced its network readiness for '5G+' in the **c-band** at the same time as Rogers announced its similar deployment.

The 5G rollout in Canada is happening at a breakneck pace, available now on the latest smartphones, laptops and tablets. New cars have become virtually rolling computers, enabling 5G for information, entertainment, navigation and communication.

Depending on your point of view, this race to 5G and beyond is either creating the foundation for a global super-convenient network of smart appliances, cities, homes, and workplaces - or - enabling an Orwellian nightmare world of 24/7 surveillance and control. An 'Internet of Things' or even an 'Internet of Thinking'.

With all the industry and government hype, as well as the suppression of potential 5G radiation harms, it's hard to know exactly what's going on. Taking individual responsibility for becoming aware of 5G capabilities and its risks would appear to be the best strategy these days.

Industry / stakeholder news:

- [Where is 5G Available in Canada \(Updated for 2023\)](#). Tim Fisher. LifeWire. Updated January 2, 2023.
- [Four million Canadians want to switch to 5G in 2023, reveals Ericsson study](#). Renaud Larue-Langlois. ITWorldCanada. November 23, 2022.
- [4 million Canadians will upgrade to 5G in the next 12-15 months: report](#). Nida Zafar. MobileSyrup. November 21, 2022.
- [What does the next wave of 5G mean for Canadian consumers?](#) Jasmeet Sethi, et al. Ericsson. November 21, 2022.

EMFs / 5G and beyond

- [5G bands in Canada](#). OneSDR – A Wireless Technology Blog.
- [U.S. C-band 5G rollout a glimpse of what's coming in Canada](#). Jonathan Lamont. MobileSyrup. January 23, 2022.
- [WhistleOut Compares 5G on Rogers, Bell, and Telus](#). Stephen Clark. WhistleOut. Updated September 1, 2022.
- [Bell announces '5G+' deployment starting in Toronto](#). Jonathan Lamont. MobileSyrup. June 15, 2022.
- [What's next for 5G in 2022 and beyond?](#) From Standalone networks to satellite comms. Robert Triggs. ANDROID Authority. June 5, 2022.
- [5G is soon coming to your car](#). Marc Saltzman. The Toronto Star. May 7, 2022.
- [Telus' 5G network now reaches 70% of the Canadian population](#). TELUS Communications. GlobeNewswire. January 14, 2022.
- [5G in Canada Guide: WhistleOut Answers Your Questions](#). Stephen Clark. WhistleOut. February 8, 2021.
- [Canada unlocks more mid-band spectrum for faster 5G](#). Tom Li. IT World Canada. May 25, 2021.
- [New technologies are coming as Canada's 5G future dawns](#). Bernard Bureau. MobileSyrup. January 19, 2021.
- [5G "Mobile" Communications](#) – summaries of major issues. Physicians for Safe Technology. Updated January 22, 2021.

Potential harms / dangers - 5G / EMFs / cellphones:

- [Scientific Paper on Children, Wireless Technology, and Health Effects by Renowned Experts in Environmental Health](#). Environmental Health Trust. Global Research. March 26, 2023.

EMFs / 5G and beyond

- [Human 6G Antennas? ‘One of the Worst Ideas Ever,’ Critic Says.](#) Dr Suzanne Burdick. Global Research. February 27, 2023.
- [What to know about cellphone radiation.](#) Peter Elkind. Salon. January 20, 2023.
- [The EMF Hazards Summit 2023 Review – Electromagnetic Radiation Protection Event.](#) Outlook India. January 14, 2023.
- [5G Towers in Canada: Is there a Health Concern?](#) Richad Galazzo. CENGN. Updated January 31, 2022.
- [We Have No Reason to Believe 5G Is Safe.](#) Joel M. Moskowitz. Scientific American. October 17, 2019.

G) What about EMFs in cars? Are there any health issues of concern? Do all cars have EMFs?

Cars definitely expose occupants to significant EMF energies, particularly frequencies in the extremely low frequency (ELF) range.

The metal construction of cars, the multiple point-sources of magnetic, electrical and RF radiation built into them, not to mention the often-lengthy exposure time trapped in close proximity to these EMF sources, all raise legitimate health concerns.

Batteries and generators create magnetic fields, electrical cables running throughout the metal chassis carry voltage that radiates electric fields, wireless Bluetooth and Wi-Fi communications systems are now standard features on new cars.

Other vehicle features add to overall EMF exposure – computerized engine management systems, speakers and other sound equipment, electrically-heated seats, radar sensors and cameras (front, back, side) that alert drivers to things like inadvertent lane departures, pedestrians obscured by nighttime darkness or rain, forward/rear collision risks, or objects hidden in blind spots.

EMFs / 5G and beyond

Consider the following:

- all cars, new and old, gasoline, diesel, electric or hybrid powered, will expose occupants to EMF radiation; older cars may lack the latest electronic gizmos but will still have a battery, a maze of electric cables running throughout, and spark plugs generating considerable voltage particularly under acceleration
- when buying a car, a test drive and thorough inside check with an EMF meter is crucial; check readings while the car is ON and standing still, as well as accelerating; check everywhere inside – front and back seats, passenger and driver side, and all levels – at floor, seat, and head heights
- motorcycles present comparable EMF risks because they also have radiation sources close to a cyclist's body
- the metal chassis of a car can act like a Faraday cage, effectively trapping a cellphone's RF signal inside the car, and intensifying radiation exposure to car occupants
- if looking for a car without all the new wireless/RF gadgets and radars, look for models older than 2014 or 2015

There's lots of information available on the 'Net, for example –

- [Do electric cars emit electromagnetic fields \(EMFs\) and are they dangerous to human health?](#) EMF Inspections. March 19, 2023.
- [Are EV and TESLA EMFs Safe? What the Science Says.](#) Colby Maxwell. History Computer. Updated March 7, 2023.
- [Is Your Electric Car Zapping You With EMF Radiation?](#) Alliance for natural health. January 24, 2023.
- [Hybrid & Electric Cars: Electromagnetic Radiation Risks.](#) Joel M Moskowitz. Electromagnetic Radiation Safety. December 30, 2022.

EMFs / 5G and beyond

- [5G is soon coming to your car](#). Marc Saltzman. The Toronto Star. May 7, 2022.
- [EMF Protection For Cars](#) (Best of 2023). Christian. EMF Academy.
- [Field Guide: 14 Common EMF Sources Found in Cars & Other Vehicles](#). EMF Guide.
- [EMF Radiation from Electric and Hybrid Cars](#). Daniel. EMF Advice.
- [Cars & EMF Radiation: How Safe Is Your Car?](#) Cathy Cooke. SYB / Shield Your Body. Updated July 11, 2022.
- [Electric cars and EMFs](#). Dr. Pascaline Phillips. Citizens For 5G Awareness. March 23, 2021.
- [Cars and EMF: Healthful Tips](#). Tirza Derflinger. The Thermogram Center, Inc.
- [Finding A Low EMF Car: A Step-By-Step Guide](#). Adam Short. EMF Empowerment. March 5, 2021.
- [Introduction to Low EMF Cars](#). The EI Wellspring.
- [Electric Cars & EMF Radiation: Could Your Tesla Be Bad For You?](#) Daniel T. Debaun. Defender Shield. Updated March 19, 2021.
- [EMF Radiation from Electric and Hybrid Cars](#). EMFAdvice.

H) Gizmos / harmonizers/ and beyond: do they work?

Crystal pendulums; ceramic resonators and diodes; adhesive cellphone stickers and chips; rare earth mineral pendants; new elements like graphene and the fullerene carbon-60 molecule; scalar energy devices that normalize body Hz; sacred geometry pendants, symbols, and numbers; small plug-in passive frequency converters; wearables and jewelry; appliances for whole-house protection.

EMFs / 5G and beyond

Hundreds of different kinds of devices available, all claiming to reduce the effects of EMF / 5G radiation.

Do these subtle energy devices work as claimed?

There are skeptics, but there are also reputable experts who believe these devices may offer some level of protection in certain conditions. Who, and what, to believe?

Most EMF experts suggest implementing a combined protection strategy. Use these devices if drawn to them, but never as your first, or only, method of protection. Use them only after already implementing proven, measurable, and verifiable remedial measures against threats you have actually measured.

Experts recommend – ‘buyer beware’.

Never assume you are fully protected by these devices – a false sense of security could leave you exposed to a world of harm. Long-term effectiveness is largely unknown.

- [13 EMF Protection Products That Actually Work](#). Christian. EMF Academy.
- [Why EMF Shielding Doesn't Work](#). Practical ways we can minimize harm from EMF. Roman S Shapoval. Substack. February 26, 2024.
- [Subtle Energy Devices Factsheet](#). Building Biology Institute.
- [What You Need To Know About EMF Protection Products](#). D-Tox Academy.
- [EMF Protection: These actually work?](#) Scotties Tech Info. YouTube.
- [Statement on “EMF-Harmonizing” Chips, Pendants & Other Gizmos](#). Electro-pollution FIX
- [Shungite Canada](#)
- [Tesla369 Solar Disc](#)