

# **Create Healthy Homes**

## **Environmental Design and Inspection Services**

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## **EMF Initial Evaluation Report for Yoho Residence**

**Client:** Dr. Robert Yoho

**Date of Evaluation:** 5/29/23

**Date of Report:** 5/31/23

**Location of Building:** 9701 Wornom Avenue, Shadow Hills, California

This is a preliminary report that contains the Specific Recommendations as well as a List of Items to Purchase so that you can begin to acquire the devices you will need to implement the recommendations that I make, as well as EMF readings. The full report will be forthcoming in a few days.

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### Specific Recommendations for Yoho Household

1. I could return with a licensed electrician to trace and repair wiring errors that cause elevated **magnetic field EMF levels**. These wiring errors likely exist on circuits powered by circuit breakers in the main electrical panel on the east end of the house, outside the bathroom. These wiring errors primarily cause a magnetic field under the route of the electrical feeder cable from the main panel to the sub panel outside the laundry room. This feeder cable runs over the bathroom between your bedrooms, over the center of the living room, over the south-most seat at the kitchen peninsula counter and over the center of the kitchen, halfway between the sink/stove area and the den.
2. I can return with your electrician or mine. See details below.
3. The magnetic field exposure at head level is only slightly elevated when sitting at the south-most seat at the kitchen peninsula counter.
4. To reduce nighttime **electric field EMF levels** where each of you sleep, keep lamp and other appliance cords away from your bed, more than six to eight feet. It would be ideal to shut off power to all plugged-in cords in your bedrooms.
5. If you need to plug cords into an outlet closer than six feet from your bed, use simple plug-in manual or remote outlet shut off switches in your bedrooms to kill power in power cords plugged in within six to eight feet of the bed. This will provide a more restful and restorative sleep. I recommend various devices to accomplish this in the parts list below.
6. To reduce daytime electric field EMFs where you sit at your home office, use the same manual and remote outlet shut off devices listed below.
7. To further reduce electric field EMF levels at Robert's desk, you can replace the existing AC power cords for your MacBook with an Apple power adapter extension cable to ground your MacBook laptop when you use it while it is charging, or when it is charged but still plugged into an outlet. This avoids high electric fields when you put your hands on the laptop when it is not grounded. Do not use the two-pronged adapter that slides onto the corner of the inline transformer. You will have one in a drawer if you owned an older MacBook model, because Apple provided all customers with the Apple Power Adapter Extension Cable. However, they do not provide the Extension Cable with new MacBooks with oval USB-C ports on the sides. If you have one, slide the adapter with the two blades off the corner of the white inline transformer and slide on the old Extension Cable. If you don't already have an Extension Cable, the power adapter Extension Cable is available from Amazon at [https://www.amazon.com/dp/B00VU31O7Y/?ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=2293fb96a3afa4030dabf678cbb06546&creativeASIN=B00VU31O7Y](https://www.amazon.com/dp/B00VU31O7Y/?ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=2293fb96a3afa4030dabf678cbb06546&creativeASIN=B00VU31O7Y) .
8. Ground your metal desk with a plug-to-ring patch cord to reduce electric field EMFs (provided).
9. You may need a three-to-one outlet adapter to make it easier to use this remote outlet switch in the floor outlet. Purchase that from Amazon at <https://>

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[www.amazon.com/dp/B000P9SXTG/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG](https://www.amazon.com/dp/B000P9SXTG/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG) .

10. You can also purchase a shielded AC power strip/surge protector, available from Electrahealth at [https://www.electrahealth.com/shielded\\_grounded\\_low\\_emf\\_6\\_outlet\\_power\\_strip.html](https://www.electrahealth.com/shielded_grounded_low_emf_6_outlet_power_strip.html) .
11. Purchase a grounded, shielded Ethernet cable (with metal ends) and a properly grounded adapter to connect the Ethernet cable to your laptop.
12. If you use your MacBook on battery, purchase a grounded, shielded Ethernet cable from Amazon at the length you need to move your laptop around the room to give you some portability, at [https://www.amazon.com/dp/B00CJLEHPM/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=6c26365cc333cc7e6bd6865bdc3a9bf0&creativeASIN=B00CJLEHPM&th=1](https://www.amazon.com/dp/B00CJLEHPM/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=6c26365cc333cc7e6bd6865bdc3a9bf0&creativeASIN=B00CJLEHPM&th=1) .
13. You will also need an Ethernet Grounding Adapter to properly ground your Ethernet cables and the device you are putting your hands upon when your laptop is on battery and you have an Ethernet cable plugged in in order to get online when the laptop has WiFi and Bluetooth turned off. Purchase the Ethernet Grounding Adapter from Electrahealth at [https://www.electrahealth.com/Ethernet-grounding-adapter-kit\\_p\\_129.html?aff=10](https://www.electrahealth.com/Ethernet-grounding-adapter-kit_p_129.html?aff=10) .
14. To reduce elevated **radio frequency (RF) EMF levels** in your house during the day, you can do the following:
15. Cover your Spectrum router in the kitchen with a Radio Frequency (RF)-shielding cloth pouch, the Signal Tamer, from LessEMF. Purchase an extra strength, extra large size model, at <https://lessemf.com/product/signal-tamer/?affid=8> .
16. When you connect a MacBook or PC laptop to the network with an Ethernet cable when on battery, be sure to manually disable WiFi on your MacBook or PC computer so that they do not continue to transmit a WiFi radio signal from the computer in front of you (you won't need the WiFi, at least not for your computers, because you would be connected with a fast, stable, secure Ethernet cable).
17. To avoid **dirty electricity EMFs**, you can purchase Greenwave plug-in filters, discussed below.

### Discussion of Electromagnetic Field (EMF) Characteristics and Measured Levels

#### Building Biology Safe Evaluation Guidelines

To see the Building Biology Safe Evaluation Levels referred to in this report, click on <https://createhealthyhomes.com/education/bb-standards/> . We break our recommended levels down to four categories, all in regards to sleeping areas:

**No Concern** is defined by the Building Biology profession as follows: "This category provides the highest degree of precaution. It reflects the unexposed

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natural conditions or the common and nearly inevitable background level of our modern living environment.”

**Slight Concern** is defined as follows: “As a precaution and especially with regard to sensitive and ill people, remediation should be carried out whenever it is possible.”

**Severe Concern** is defined as follows: “Values in this category are not acceptable from a building biology point of view. They call for action. Remediation should be carried out soon. In addition to numerous case histories, scientific studies indicate biological effects and health problems within this reference range.”

**Extreme Concern** is defined as follows: “These values call for immediate and rigorous action. In this category international guidelines and recommendations for public and occupational exposures may be reached or even exceeded.”

For my profession’s understanding of the specific types of EMFs discussed below, please link to separate articles on each type of EMF, accessed from the EMFs category in the Education section of my website at <https://createhealthyhomes.com/education/category/emfs/> .

### Introduction to Magnetic Field EMFs

I have written an article on my profession’s understanding of AC Magnetic Field EMFs, which is accessed on my website (<https://createhealthyhomes.com/education/magnetic-fields/>) from the EMFs category, at <https://createhealthyhomes.com/education/category/emfs/> . In that article I discuss in detail the fact that our country and the state of California do not have any official safe exposure guidelines for magnetic field exposure levels, and there is a wide range of accepted safe exposure levels internationally. I also discuss coverage of this issue by local Southern California electric utilities and the California EMF Program. The file path for the Edison quote is: [Southern California Edison's](#) main website, then Safety, Your Family's Safety, and then Electric & Magnetic Fields.

The acceptable level of 833 mG quoted by Southern California Edison on their EMF page is actually lower than some safe exposure limits accepted around the world for magnetic field exposure, which vary greatly. The high end of the range includes values of 50,000 mG (5 million nanoTesla) set by the [DKE German Commission for Electrical, Electronic & Information Technologies](#) of DIN and VDE and the German Association of Professional Engineers for occupational workers and 4,000 mG (400,000 nanoTesla) set by the same two agencies for the general public in Germany, and 2,000 mG (200,000 nT) according to the [American Conference of Governmental Industrial Hygienists](#) (1996) for occupational TLV (Total Load Volume). (References provided [here](#).)

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The safe exposure level quoted by Southern California Edison on their website from the International Commission for Non-Ionizing Radiation Protection ([ICNIRP](#)) of 833 mG is therefore quite a bit less than the acceptable levels of these other agencies just mentioned.

Compare that 833 mG level, however, to safe exposure levels of only: 10 mG (1,000 nT) set by the Swiss and [Brazilian](#) Governments; 4 mG (400 nT) as recommended in Israel; 3-4 mG (300-400 nT) recommended by the World Health Organization as being "possibly carcinogenic" (referenced [here](#)); 2 mG (200 nT) as recommended by both Swedish engineers within the [Tjanstemannens Centralorganisation](#) (TCO) and the US Congress (1996); and to a level of 1 mG (100 nT) recommended by the [BioInitiative Working Group](#). Natural background levels of magnetic field exposure are found to be less than 0.0002 nT (0.02 mG). (References provided [here](#).)

The reference for the Israeli safe exposure level is an Israeli television news story mentioned in [WEEP News](#) for November 24, 2013 entitled, "Israeli TV investigation: electrical beds 'irradiate and carcinogenic', which can be found [here](#). The original link for this news story (in Hebrew) is found [here](#).

The European building biology profession adopted rather stringent limits for EMF exposure in sleeping areas, saying that the level of no concern is 0.2 mG or less. Slight concern is between 0.2-1.0 mG, and measured levels between 1.0-5.0 mG are in the severe concern range in sleeping areas. Levels above 5.0 mG are considered to be of extreme concern by our profession in sleeping areas. Click [here](#) to see the levels.

Our generally accepted safe exposure levels for magnetic field exposure in sleeping areas are therefore as follows. (We extrapolate from these values for day and evening use areas, as we do not have separate values for those areas):

Magnetic Field Level	Concern Level
Less than or equal to 0.2 milliGauss (mG)	None
0.2 mG – 1.0 mG	Slight
1 – 5 mG	Severe
More than 5 mG	Extreme

If you are interested in knowing how my profession and the EMF safety community arrived at the recommendation that AC magnetic field exposure below 1-2 mG is best, I present links to research studies and articles on the health effects of EMFs, particularly AC magnetic fields, in the article on Magnetic Field

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EMFs on my website, <https://createhealthyhomes.com/education/magnetic-fields/>

### Magnetic Field EMF Readings In This Home

In and around this house, I measured magnetic field exposure levels as follows (the concern level noted is in regards to the building biology standards for sleeping areas—we extrapolate from these values for day and evening use areas, as we do not have separate values for those areas):

Location	Magnetic Field Level	Concern Level
Front yard	0.02 mG	None
Back patio	0.02 mG	None
Kitchen peninsula, at chair at south end of counter, under feeder electrical cable to sub panel, at head level	1.2 mG	Low end of severe
Living room, at ceiling, at route of electrical cable to sub panel	3-5 mG	Severe
Living room, head level, under sub panel feeder cable	0.5 mG	Slight
Living room, at couch	0.3 mG	Just above none
Judy's bedroom, at head of bed	0.2 mG	None
Living room, rest of bedroom	0.2-0.4 mG	None to just above none
Robert's bedroom, at head of bed	0.02 mG	None
Robert's office/guest bedroom	0.03-0.05 mG	None

See above in the summary for recommended steps to mitigate elevated magnetic field EMFs.

## **Introduction to Electric Field EMFs**

Regarding AC electric field EMFs, they are the “E” of EMFs. We call them the “unknown EMF” because they are not known by people within the EMF Safety Community. Yet they are the most common type of EMF. They primarily affect the depth and quality of your sleep but they can also drain your vitality in the daytime if you put your hands on an ungrounded laptop or stand near an ungrounded refrigerator.

Electric fields are usually present in every bedroom in an average home or apartment unit wired with plastic-jacketed “Romex” wiring. Electric fields affect the depth of sleep, and for that reason we pay particular attention to evaluating and reducing them in bedrooms.

In rooms that we use in the day and evening time, however, we don’t pay as much attention to electric fields for healthy people as we do where we sleep as long as you don’t put your hands on ungrounded devices, such as computers. We do try to reduce electric fields where we sit for long periods of time, such as a desk, couch or easy chair, particularly for electrically sensitive individuals, but everyone benefits when we do that. In particular, energy and vitality levels are maintained.

In your home, I determined that the bedrooms are wired with metal-clad wiring. This is fortunate because it means that there are no significant electric fields from circuits in your walls at any time.

However, you do still have electric fields from plastic AC power cords that are plugged into outlets within 6-8 feet of each bed. It turns out that when electric loads, such as lights, are turned off, the hot conductor in the plastic-jacketed AC power cord to lamps and other appliances still emits an electric field into the room. This comes from the voltage (120 Volts) that is always present on the hot wire, regardless of whether the load is turned on or not.

These electric fields will encompass the entire body when your bed is within six to eight feet of bedside lamps and electric clock cords, even when plugged in on the other side of the wall of your bedroom (near your bed). This causes a subtle agitation of all charged particles in atoms and molecules within the cells of our body as we sleep, preventing us from having deep, refreshing Stage Four sleep during each sleep cycle throughout the night.

Electric fields also prevent the full release of melatonin by the pineal gland, resulting in the possible growth of hormone-dependent tumors, lack of full functioning of the immune system, lower serum levels of “happy hormones,” such as dopamine and serotonin (causing insomnia, depression, headaches and fibromyalgia), lack of inhibition of the growth of cancers, and lack of nighttime cleansing of the body by the liver and lymphatic system.

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Clients of ours who reduce their electric field levels at night report deeper, longer sleep and more energy and reduction of symptoms of ill health in the daytime. See Comments from Clients in the Testimonials section on my website at <https://createhealthyhomes.com/testimonials/> .

Our goal is to reduce nighttime electric field exposure levels in bedrooms to as close to or below 1.5 Volts/meter or 100 milliVolts as possible. The way we do this in your home is to unplug the plastic AC cords to lamps and other electric devices on the bedside tables. However, this is not a long term solution. Long term solutions are discussed above.

Finally, most healthy people can tolerate some degree of exposure to elevated electric fields, which are all around us, in the day and evening time when we need power for our lamps and appliances. We are therefore mostly concerned about them at night when we sleep.

We do, however, strive to also keep electric fields low in places where we spend a good deal of time in the day and evening. That would primarily include a couch or easy chair where we watch TV or read, as well as at any desk, especially with a computer, at your home or office. This particularly includes making sure you do not have high electric fields when you put your hands on an ungrounded computer keyboard or when you are in the kitchen in proximity to an ungrounded refrigerator.

The safe exposure levels for electric fields in sleeping areas according to our profession are as follows:

Electric Field Level	Concern Level
Less than or equal to 10 milliVolts (mV)	None
10-100 mV	Slight
100-1,000 mV	Severe
More than 1,000 mV	Extreme

### Electric Field EMF Readings In This Home

In this home, I measured AC electric field exposure levels in bedrooms and home offices as follows. We extrapolate from these levels for daytime areas:



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Location	Electric Field Level	Concern Level
Master bedroom, at bed, initial, cords in room plugged in	500 mV	Severe
Master bedroom, at bed, all cords in room unplugged	90 mV	Slight
Judy's bedroom, at bed, initial, cords in room plugged in	500-600 mV	Severe
Judy's bedroom, at bed, initial, cords in room unplugged	Measured but not recorded in notes	N/A
Robert's office, at desk, ungrounded MacBook power cord	1,000 mV	Extreme
Robert's office, at desk, MacBook power cord grounded with Apple Power Adapter Extension Cable	100 mV	Slight
Robert's office, at desk, when touching metal desk, ungrounded, unshielded power cords draped over metal desk legs	2,500 mV	Extreme

See above in the summary for recommended steps to mitigate elevated electric field EMFs.

**Introduction to Radio Frequency EMFs**

Research conducted primarily outside the United States on radio frequency EMFs supports the understanding within the international EMF safety community that long-term use of wireless devices can affect one's health. We are woefully ill informed of this in the US, and that is by design by an industry that has co-opted the flow of information and the official positions of governmental regulatory agencies to perpetuate the notion that there is no harm.

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Nothing could be further from the truth. We are witnessing the same arc of history that we went through with tobacco, asbestos and lead in gasoline; that is, a powerful industry that denied and withheld the truth as long as they could while the public was adversely affected. Countries outside the US where they pay for the healthcare of their citizens are actively taking steps to remove WiFi from schools, hospitals and other public places and recommend that their citizens reduce use of these devices.

For these reasons, we recommend that our clients reduce use, increase distance and favor hardwired alternatives to the chronic use of wireless devices at close range, especially for children. I tell my clients they will thank themselves five to ten years from now for listening to and adopting my profession's recommendations when they hear in the future from their friends that their son was just diagnosed with a brain tumor, because that is already happening.

For more information on the growing evidence of this from worldwide research and how other countries are dealing with it, go to Recent EMF News under the Interviews tab on my website at <https://createhealthyhomes.com/emf-news/> as well as my article on my profession's understanding of Radio Frequency EMFs at <https://createhealthyhomes.com/education/radio-frequencies/>. I discuss how the FCC's guidelines are based solely upon heating effects on cells, intentionally ignoring cellular biological effects from chronic exposure to radio frequency EMFs at much lower power density levels than those needed to create heating effects. Remember how long it took industry and government to acknowledge that cigarette smoking caused harm.

In fact, the FCC was ordered by the U.S. Court of Appeals for the District of Columbia in August 2021 to revise their safe exposure guidelines for the public regarding exposure to wireless devices. A summary of the ruling is provided at the Environmental Health Trust website, at <https://ehtrust.org/in-historic-decision-federal-court-finds-fcc-failed-to-explain-why-it-ignored-scientific-evidence-showing-harm-from-wireless-radiation/>. The text of the actual ruling can be found at <https://www.cadc.uscourts.gov/internet/opinions.nsf/FB976465BF00F8BD85258730004EFDF7/%24file/20-1025-1910111.pdf>.

You will also find an interesting discussion of how the FCC is heavily influenced by the very industry it is tasked with regulating in a report by Norm Alster, published by the [Harvard University Center for Ethics](#), entitled, "Captured Agency: How the Federal Communications Commission is Dominated by the Industries It Presumably Regulates". The full text of the e-book is available through the [Environmental Health Trust](#) website, at <https://ehtrust.org/wp-content/uploads/2015/11/Captured-Agency-How-the-Federal-Communications-Commission-is-Dominated-by-the-Industries-it-Presumably-Regulates.pdf>.

A new world-wide organization launched in October 2022 to showcase the biological effects of EMFs on human health, named the International Commission

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on the Biological Effects of EMFs, or ICBE-EMF. It can be accessed at <https://icbe-emf.org> . A companion article discussing this new organization appeared in Environmental Health entitled, “Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G”. It can be accessed at <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-022-00900-9> .

In addition, U.C. Berkeley’s Professor Joel Moskowitz, Ph.D. has compiled abstracts on research on the harm caused by EMFs. It is entitled, “Recent Research on Wireless Radiation and Electromagnetic Fields”. Dr. Moskowitz’s article appears at <https://www.saferemr.com/2022/06/recent-research-on-wireless-radiation.html> . The direct link to download the abstracts is: <https://drive.google.com/file/d/1QSei61Bb5TwQcbVL-75VTqdxu2gT-Uyb/view> .

An important source of information on the potential harm from continued use of wireless devices as well as efforts by industry and regulatory agencies, at least in the US, to keep this information from the public is the documentary, Generation Zapped, from Los Angeles-based filmmaker Sabine El Gemayel. The website to see the trailer is <https://generationzapped.com> . Go to Recent EMF News under the Interviews tab on my website to see a number of links to download or order a DVD of this important documentary, at <https://createhealthyhomes.com/emf-news/> . Then scroll down to the specific item mentioning this documentary. You will find the links to view it there.

Additionally, to underscore how important it is to consider the true potential harm that too frequent use of wireless devices at close range can cause, I refer you to an article in The Nation magazine’s April 23, 2018 print edition (available online). Entitled, “How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation: The disinformation campaign—and massive radiation increase—behind the 5G rollout”, the article is an expose on the lengths to which the cell phone industry has gone to actively hide and distort information about the harm that radio frequency radiation from wireless devices can cause in people.

The article was written by Mark Hertsgaard and Mark Dowie. Both authors have written extensively in the past on how various industries have hidden unresponsive research. The link to the article is <https://www.thenation.com/article/how-big-wireless-made-us-think-that-cell-phones-are-safe-a-special-investigation/> . The authors have been interviewed on numerous radio shows. Links to archives of these interviews can be found in Recent EMF News under the Interviews tab on my website, at <https://createhealthyhomes.com/emf-news/> . Then scroll down to the specific item mentioning this article.

The article also discusses how these effects will be worse, with no prior testing, with the rollout of the next generation of cell phone technology, known as Fifth Generation, or 5G. This is a part of the coming “Internet of Things”, or IoT. I have

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written an article on 5G on my website, at <https://createhealthyhomes.com/education/5g/> .

Finally, for those dealing with cell towers on top of their building, an article was published in 2010 on the potential health risks to occupants living and working below by two of the US's top EMF experts, B. Blake Levitt, and Henry Lai. Dr. Lai is a PhD at the Department of Bioengineering, University of Washington in Seattle. The article is entitled, "Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays". The link is [http://www.nrcresearchpress.com/doi/full/10.1139/A10-018#.Ws6lbi\\_MxKg](http://www.nrcresearchpress.com/doi/full/10.1139/A10-018#.Ws6lbi_MxKg) .

The safe levels of radio frequency EMFs in sleeping areas as recognized by my profession are as follows. We extrapolate from these levels for daytime areas:

Radio Frequency Level	Concern Level
Less than or equal to 0.1 $\mu\text{W}/\text{m}^2$	None
0.1-10 $\mu\text{W}/\text{m}^2$	Slight
10-1,000 $\mu\text{W}/\text{m}^2$	Severe
More than 1,000 $\mu\text{W}/\text{m}^2$	Extreme

### Radio Frequency EMF Readings In This Home

I measured radio frequency (RF) levels in and around this house as follows:

Location	Radio Frequency Level	Concern Level
Typical router, Wireless Access Point (WAP), cordless telephone base unit or Sonos unit at 6-10 feet	1,000-10,000 $\mu\text{W}/\text{m}^2$	Extreme
Typical cell phone, tablet, laptop or cordless telephone base unit next to you (within a few feet)	10,000-500,000 $\mu\text{W}/\text{m}^2$	Extreme

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Location	Radio Frequency Level	Concern Level
Typical cell phone or cordless telephone handset held next to your head	1,000,000-2,000,000 (1-2 million) $\mu\text{W}/\text{m}^2$	Extreme
Front yard (typical reading in urban neighborhood—from distant cell towers and neighbor's WiFi)	120-150 $\mu\text{W}/\text{m}^2$	Low end of severe
Kitchen, at island seats, WiFi-enabled router on counter	5,000-10,000 $\mu\text{W}/\text{m}^2$	Extreme
Master bedroom, at bed	1-10 $\mu\text{W}/\text{m}^2$	Slight
Judy's bedroom, at bed	47 $\mu\text{W}/\text{m}^2$	Just above slight
Office, router in kitchen	185 $\mu\text{W}/\text{m}^2$	Low end of severe
Office, router in kitchen unplugged	8 $\mu\text{W}/\text{m}^2$	Slight
Den, at couch	5,700 $\mu\text{W}/\text{m}^2$	Extreme

See above in the summary for recommended steps to mitigate elevated radio frequency field EMFs.

**“Dirty Electricity” EMF Readings In This Home**

Dirty electricity is common in almost all homes, apartments, condo units and offices that we evaluate. I typically measure between 200-2,000 Units of dirty electricity, and higher in some cases, with my plug-in Stetzer Microsurge meter. This is due to the many sources of dirty electricity present in most homes, including homes of neighbors.

Safe levels of dirty electricity are generally agreed to be 50 Units or less, although it is often not possible to get down to that level even with one or more capacitive (Stetzer, Greenwave) filters plugged into outlets. I am happy when I get dirty electricity levels down below 100 Units in my clients' homes in Southern California with filters.

Dirty electricity, when present, can cause headaches, restless sleep, and it has an agitating influence on the physiology. For more information, read my article on

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my profession's understanding of the subject on my website at <https://createhealthyhomes.com/education/dirty-electricity/> . Sources can include dimmer switches, electronic appliances (computers, printers), and variable speed motors such as in energy-efficient heating and cooling forced air units and front-load washing machines.

I measured the following levels of dirty electricity in this home, along with the levels they reduced to when I plugged in one Greenwave filter:

Room	Dirty Electricity Field Level	Concern Level	Dirty Electricity Level after Insertion of One Greenwave Filter	% Reduction
Robert's bedroom	300 Units	Moderately above recommended level of 25-50 Units	90 Units	70%
Judy's bedroom	329 Units	Moderately above recommended level of 25-50 Units	Measured, not recorded	N/a
Office	177 Units	Slightly above recommended level of 25-50 Units	Measured, not recorded	N/A

See above in the summary for recommended steps to mitigate elevated dirty electricity EMFs.

### Healthy Lighting Choices

We recommend that you use incandescent light bulbs (preferably full spectrum) instead of compact fluorescent lamps (CFLs), wherever possible. Incandescent bulbs made with tungsten filaments are highly energy *inefficient* (90% of the electricity was wasted as heat for the decades that we used them), which is why they are no longer available in stores in California and in many parts of the U.S.

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Tungsten filament incandescent light bulbs have been replaced by an array of highly energy efficient light bulbs including compact fluorescent lamps (CFLs), LEDs and incandescent light bulbs made with a halogen filament.

Each of these light bulbs has its pros and cons, besides cost and how much light they produce as well as the color spectrum.

First of all, CFLs contain mercury, making them quite dangerous if they break. There are mercury-free CFLs on the market, but we still don't recommend them because of the dirty electricity that all CFLs emit. See below. LEDs and halogens, on the other hand, have no mercury.

From an EMF standpoint, which is what we are interested in, the main concern we have is whether and how much any of the low energy replacement bulbs produce so-called "dirty electricity," which is the one type of EMF produced by any bulb with what is called a "switched mode power supply." Flicker is also a factor, which is present with LEDs, but not incandescent bulbs.

Dirty electricity is defined as the electric and magnetic field components of higher frequency voltage transients carried on building wiring and power cords plugged into outlets. These are frequencies above the frequency of electricity delivered to homes in North America, which is 60 Hz. 60 Hz is the frequency of alternating current (AC) electricity supplied by the power company and carried on the circuits in your house. Electricity that has been delivered to buildings for over one hundred years did not contain harmful dirty electricity in the early decades.

However, over the last many decades, we no longer have a completely clean electric grid due to the introduction of voltage transients of dirty electricity from many sources. These can include dimmer switches, compact fluorescent lamps (CFLs), solar panel inverters, power tools, pool pump motors, energy-efficient furnace motors, and other sources.

These higher frequency transients, and their harmonics, oscillate at a rate in the hundreds, thousands and tens of thousands of cycles per second (Hertz, or Hz). They ride along with the 60 Hz base frequency on electric circuits.

More importantly from a health standpoint, the magnetic and electric fields caused by these frequencies emit several feet into our rooms, radiating off circuits and AC power cords that are plugged in within six to eight feet of where we sit, sleep and stand. These fields affect us all on a cellular basis, manifesting as symptoms of ill health for some people. I discuss dirty electricity in more detail on my website, available by going to <https://createhealthyhomes.com/education/dirty-electricity/> .

As far as lighting choices and dirty electricity is concerned, the reason that certain bulbs create dirty electricity is because these light bulbs do not operate at

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120 Volts, and therefore they need a transformer to change that voltage. The transformer inside these bulbs is a chip-based version of the linear transformer used for electronic appliances, such as your cell phone charger, computer or television set. Linear transformers are big (three inches by three inches). They contain coils of wires placed inside the black plastic box plugged into an outlet, the so-called “wall wart,” or in the box in the middle of your laptop AC power cord. These transformers step 120 Volts down to 19 Volts for the laptop or even lower voltages for other electronic devices.

The base of a light bulb, however, is too small to house a big, wire-wound transformer. To change the voltage, manufacturers use small, chip-based transformers that fit into the base of these bulbs. These chip-based transformers are called “switching mode power supplies” because they change voltage, while a rectifier converts electricity from AC to DC, thereby switching the mode of the power because the bulb itself runs on low DC voltage. Many electronic device chargers are also now using switching mode power supplies instead of heavier wire-wound transformers.

The problem with switching mode power supplies is that they reduce voltage and convert from AC to DC by squaring off the sine wave of 60 Hz AC electricity, thereby producing higher frequency voltage transients, causing dirty electricity as a side effect. Switching mode power supplies in fact transform electricity best at higher frequencies.

Magnetic and electric fields from these higher frequencies and their harmonics then radiate into rooms off circuits in your walls running throughout the house and from AC power cords that you plug into outlets. These transients even travel upstream on power lines from dimmer switches, CFLs, solar panel inverters and other sources of dirty electricity to the neighborhood transformer from your neighbors' homes, and then flow down into other neighbors' homes (including your's) on their electrical wiring.

Some say just plug filters into various outlets around the house to control dirty electricity. We recommend first removing and replacing sources of dirty electricity wherever possible, and then use filters for what comes in from outside the house, if the readings are still above 50 Units or so as measured on a Stetzer, Greenwave or Satic plug-in meter.

As for lighting, as mentioned above, some energy-efficient bulbs cause dirty electricity, and some do not. In general, halogen incandescent light bulbs, still available in most parts of the country (but no longer in California) can be used as replacement bulbs for the tungsten filament light bulbs we have used for over a century. Halogen incandescent bulbs are completely clean because they run straight off 120 Volts and have no switched mode power supply in them.



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You can still purchase halogen incandescent bulbs at grocery and hardware stores throughout the U.S., although, as stated above, not in California. The halogen incandescent light bulbs sold by GE say, “Uses 28% less energy” at the top of the package. In the middle of the package, they say, “Incandescent bulbs,” and at the bottom, you will see the words, “Halogen Bulbs.” See them by clicking [www.gelighting.com/LightingWeb/na/solutions/technologies/halogen/](http://www.gelighting.com/LightingWeb/na/solutions/technologies/halogen/) .

You can purchase halogen incandescent bulbs at grocery stores (outside California), or from Amazon by clicking [http://www.amazon.com/GE-82139-100-Watt-Reveal-Halogen/dp/B000LPVIAA/ref=sr\\_1\\_15?ie=UTF8&qid=1398640337&sr=8-15&keywords=ge+halogen++light+bulbs](http://www.amazon.com/GE-82139-100-Watt-Reveal-Halogen/dp/B000LPVIAA/ref=sr_1_15?ie=UTF8&qid=1398640337&sr=8-15&keywords=ge+halogen++light+bulbs) (although Amazon will not sell them to California addresses). This link is for a Reveal version of halogen bulbs, meaning it has a light spectrum more like that of the sun.

Use these bulbs wherever you previously used tungsten incandescent light bulbs. They screw into what is called an Edison light bulb socket, into which we have put our tungsten filament incandescent light bulbs all these years.

If you live in California, we cannot buy them at local stores and Amazon, for instance, will not ship them to California addresses. Some California clients have arranged for friends who are out of state to send incandescent light bulbs to them, although this may violate California state law.

Here is a retailer with a number of incandescent light bulbs that they will still ship to California addresses. This list is supplied by Building Biology student Ron Frazer in Georgia ([rwfrazier@emfsmartchoices.com](mailto:rwfrazier@emfsmartchoices.com)). Ron has given me permission to share these links that he found and his comments:

Ron states: “I was browsing through the Regency lighting products website. I set the filters (on the ordering web page) to show incandescent light bulbs over 50 Watts that you can buy in California. I only found 11 excluding the oddly shaped and colored ones, etc. Other dealers may have different stock:

“Here are the links with my observations of each versus a 60 Watt traditional bulb or a 100 Watt traditional bulb. For reference, a traditional 60 Watt bulb puts out 800 lumens. A traditional 100 Watt bulb puts out 1600 lumens.

- <https://shop.regencylighting.com/philips-224832-116a21-ts-120v.html> — Philips 116 Watt Incandescent Lamp — MORE power than normal, LARGER size than normal, LESS light than normal, LONGER life than normal
- <https://shop.regencylighting.com/lamps/incandescent/a-line/bulbrite-717100-100a21f-sb.html> — Halco 100 Watt Incandescent Lamp
- <https://shop.regencylighting.com/philips-149716-100a-rs-tf-120-130v-60pk.html> — Philips 100 Watt Incandescent Lamp — NORMAL power, LARGER size than normal, LESS light than normal, NORMAL life

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- <https://shop.regencylighting.com/philips-222042-69a21-ts-130v.html> — Philips 69 Watt Incandescent Lamp — MORE power than normal, LARGER size than normal, LESS light than normal, LONGER life than normal
- <https://shop.regencylighting.com/philips-224857-116a21-ts-130v.html> — Philips 116 Watt Incandescent Lamp — MORE power than normal, LARGER size than normal, LESS light than normal, LONGER life than normal
- <https://shop.regencylighting.com/sylvania-12817-116a21-ts-130.html> — Sylvania 116 Watt Incandescent Lamp — MORE power than normal, LARGER size than normal, LESS light than normal, LONGER life than normal
- <https://shop.regencylighting.com/norman-60ars-cl.html> — Norman 60 Watt Incandescent Lamp — NORMAL power, NORMAL size, PROBABLY LESS light than normal, LONGER life than normal

(End of Ron's list)

There are other halogen light fixtures that do produce a significant amount of dirty electricity. These are generally fixtures that have what we call, "drivers," which are a type of transformer. These halogen light fixtures are usually custom installed by an electrician, such as under counter lighting or overhead can lighting in ceilings. These overhead can fixtures can contain halogen spot light bulbs, particularly the kind that push into the fixture rather than screw in.

As for LEDs, some can be screwed into an Edison light socket while others come in strip lighting or have pins at their base that have to be pushed into a socket. If an LED bulb has a switching mode power supply, it can produce dirty electricity, although, not always. Newer LED bulbs tend to be cleaner as far as we can tell.

You can purchase a dirty electricity meter and test LED, halogen and CFL light bulbs for yourself. Purchase the Stetzer microsurge tester (High Frequency Pollution Meter) from LessEMF in New York for \$99 (<https://lessemf.com/product/stetzer-meter/?affid=8> ). This is also known as an ElectroMagnetic Interference (EMI) tester.

You can also purchase a Greenwave EMI Meter from Greenwave for \$149 (<http://greenwavefilters.3dcartstores.com/?Affid=12> ). The Greenware meter measures higher amounts of dirty electricity than the Stetzer meter, has sound, and gives the percentage of reduction when you plug in a Greenwave filter.

To use one of these meters to measure dirty electricity in LED, CFL or any other energy-efficient light bulbs, screw the bulb into a lamp and plug the lamp into an extension cord. Turn off the lamp.

Next plug the Stetzer microsurge or Greenwave EMI tester into the same extension cord that you plug the lamp into. Measure the baseline dirty electricity level on the circuit you are plugged into before turning on the bulb in the lamp.

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Then turn on the lamp and see if the measurement of dirty electricity increases or not. If not, the bulb is clean and you can go ahead and use it.

If, on the other hand, the level does increase by more than a few units or if you are electrically sensitive and feel worse when it is on even if the reading does not increase, we would not recommend that you use the bulb.

You cannot use this apparatus to test push-in LED bulbs. This method only works for LED or any other bulbs you want to test that screw into a regular Edison light bulb socket. You can have your electrical contractor hardwire a bulb holder that accepts push-in bulbs. Then you can test various low voltage push-in bulbs for dirty electricity, using your EMI plug-in meter.

California's new Title 24 energy-saving protocol requires use of push-in low-energy bulbs in many parts of a new or remodeled house, so you will have to elicit the help of your electrician to hardwire a push-in bulb socket to test the bulbs being proposed for the construction or remodel job, if you are in that process.

I do know that Ecosmart brand LEDs sold at Home Depot are clean, at least the 40 Watt equivalent bulbs I tested, as are the GE Energy Smart brand LED bulbs, at least their 60 Watt equivalent bulbs. There are many LED bulbs on the market. Use this method to test the ones you want to use.

The only problem with LEDs is there are reports that flicker is present, as with CFLs, and this bothers certain people and is not healthy for the rest of us. If this is of concern for you, stick with incandescent bulbs.

For under-cabinet lighting, you can purchase fixtures that contain longer incandescent bulbs, similar to piano lights. These have no magnetic or radio frequency fields because they have no drivers or ballasts (transformers). You can also use LED strip lighting, which is usually clean (although, please note the mention about flicker in the preceding paragraph).

### **Healthy Saunas**

I have several brands of recommended saunas for those considering purchasing a sauna. These are described in my article, Saunas and EMFs, on my website, at <https://createhealthyhomes.com/education/saunas-and-emfs/> .

Most sauna manufacturers have figured out how to build saunas that have low *magnetic* field EMF levels. Magnetic fields are the "M" of EMFs. We want magnetic field levels to be below 1.0 mG and most saunas are close to or below that. Magnetic field EMFs are generally not our concern.

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When it comes to *electric* field EMFs, the “E” of EMFs, on the other hand, it is a different story. No manufacturers knew about this a few years ago (or thought electric fields were low because they measured them with in-sensitive electric field meters). They assumed that magnetic fields were all they had to be concerned with.

However, many electrically sensitive individuals have a hard time being in saunas that have high electric fields. This is because manufacturers use plastic-jacketed wiring and ungrounded heating elements. They think that twisting hot and neutral wires is sufficient to eliminate EMFs, but that does nothing for electric fields, which can be sky-high in saunas with unshielded, ungrounded wiring.

I have worked directly with three sauna manufacturers over the years to advise them on how to keep their electric field EMFs low. Three additional companies also have low electric field levels, perhaps because of the efforts of the other manufacturers to keep their electric fields low.

These six manufacturers are:

1. Heavenly Heat Saunas (<https://www.heavenlyheatsaunas.com> )
2. Radiant Health Saunas (<https://www.radianthealthsaunas.com> )
3. High Tech Health Saunas (<https://www.hightechhealth.com> )
4. Sauna Space ([www.saunaspace.com](http://www.saunaspace.com) )
5. ClearLight Saunas (<https://infraredsauna.com> )
6. Influence Saunas (<https://influencesauna.com> )

I recommend these saunas in the order listed above. The first four have the lowest electric field levels, and are very similar in their low levels. I have personally measured Heavenly Heat, Radiant Health and Sauna Space models, and I have reviewed the test results for High Tech Health Saunas ([https://www.hightechhealth.com/wp-content/uploads/2017/10/HighTechHealth\\_EMF\\_report.pdf](https://www.hightechhealth.com/wp-content/uploads/2017/10/HighTechHealth_EMF_report.pdf) ).

These four companies have the absolute lowest electric field EMF levels, in my opinion. They accomplish this by using metal-clad wiring and by grounding the heating elements (or placing a grounded grate in front of the elements).

The electric field levels that we measure sitting inside of them are lower than you will experience from plastic-jacketed Romex wiring to outlets in the wall behind where the sauna is located. (I measured Heavenly Heat, Radiant Health and Sauna Space saunas in homes with metal-clad wiring in the walls behind the sauna).

The other two saunas, by ClearLight and Influence, also have low electric field levels. They are commensurate with electric field levels that you would experience if you sat in a chair two feet from a wall with Romex wiring inside of it,

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which is what you would experience sitting inside of any sauna wired with shielded circuits to avoid emitting electric fields from the sauna's wiring. This is because the electric field from Romex wiring in walls passes right into the sauna just as it does through sheetrock from the circuit.

Thus, if you live in a home that already has metal-clad wiring, which avoid electric fields, and/or you are electrically sensitive, you might prefer one of the first four saunas. If your house has plastic-jacketed wiring and you are not particularly electrically sensitive, any of six saunas will be safe from an electric field standpoint.

Other saunas not on this list, on the other hand, may have exorbitantly high electric field levels that are not tolerated well by electrically sensitive individuals. They are also not generally healthy for anyone for more than a few minutes, in our experience.

See my Saunas and EMFs article for more information, at <https://createhealthyhomes.com/education/saunas-and-emfs/> .

### **List of Items to Consider for Purchase (see action steps above for details)**

*Note:* As noted above, not all items in the list below apply to your situation. Just skip over those items that do not pertain to you but keep them as a reference for possible future use. If you have any questions as to whether a specific item pertains to you or not, please let me know.

#### **AC Magnetic Field EMFs**

1. You can purchase an affordable and relatively accurate Gauss meter to measure AC magnetic field EMFs in three axes from the Tri-Field company. Their TF2 model is the same price, roughly \$168, as their popular 100XE model combination meter. That older model was *overly* sensitive when measuring magnetic fields and highly *insensitive* when measuring electric and radio frequency (RF) fields, in my opinion. The new, TF2 model combination meter is accurate for measuring magnetic fields (and much more sensitive for electric and RF readings). Order the Tri-Field TF2 from LessEMF at <https://lessemf.com/product/trifield-meter-model-tf2/?affid=8> .
2. An even more accurate Gauss meter (which does not measure any other type of EMF) is the 3-Axis Backlight Gaussmeter, model MT-263 from Magnii, available from LessEMF for \$269 at [https://lessemf.com/product/3-axis-backlight-gaussmeter/?attribute\\_pa\\_variation=standard&affid=8](https://lessemf.com/product/3-axis-backlight-gaussmeter/?attribute_pa_variation=standard&affid=8) .
3. If you ever install an under-tile electric in-floor heating system for a bathroom or other room, choose from one of these three companies:
4. Warmzone (<https://www.warmzone.com/floor-heating/heated-floors-overview.php> )

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5. Thermosoft (<https://www.thermosoft.com/en-US/radiant-under-floor-heating/cable-loose-wire/schluter-ditra-heat> and <https://www.thermosoft.com/en-US/radiant-under-floor-heating/for-tile-ceramic-stone> )
6. SunTouch (<http://www.suntouch.com/> )

### **AC Electric Field EMFs**

7. To reduce daytime electric field EMFs from a desktop computer or monitor, you can order shielded AC power cord, 6 or 12 foot, from Safe Living Technologies, at <https://safelivingtechnologies.com/products/shielded-power-cords.html/?aff=6> . Or, 6 foot shielded power cable cord also available from [http://www.stetzerizer-us.com/Shielded-Power-Cable-Cord--Multipurpose--6-foot-long--18-AWG\\_p\\_112.html](http://www.stetzerizer-us.com/Shielded-Power-Cable-Cord--Multipurpose--6-foot-long--18-AWG_p_112.html) . Make sure your monitor accepts this cord. iMacs will accept this cord. Gently wiggle the round plastic plug back and forth that is plugged into the back of the iMac in order to pull the cord out. Some monitors, on the other hand, have a low power DC cord attached to them (after a step-down transformer), or the 120 Volt cord is hardwired directly into the back of the monitor and cannot be removed. This shielded AC power cord will not work on these last two examples.
8. You can purchase a grounded, shielded AC extension cord from TechWellness, at <https://techwellness.com/collections/popular-products/products/shielded-extension-cord-built-to-building-biology-standards?variant=39667941015587?aff=7> . Choose an 8- or 16-foot cord.
9. Shielded Surge Suppressor Power Strip to reduce AC Electric Field EMFs — Custom Modified, from Electrahealth, available at [http://www.stetzerizer-us.com/Shielded-Surge-Suppressor-Power-Strip--Custom-Modified\\_p\\_121.html](http://www.stetzerizer-us.com/Shielded-Surge-Suppressor-Power-Strip--Custom-Modified_p_121.html) .
10. Purchase shielded Mu-cord from LessEMF for rewiring lamps by local lamp repair shop. Download a protocol at [https://createhealthyhomes.com/wp-content/uploads/2022/07/Lamp\\_Rewiring\\_Protocol\\_Calif\\_7\\_22.pdf](https://createhealthyhomes.com/wp-content/uploads/2022/07/Lamp_Rewiring_Protocol_Calif_7_22.pdf) . Take lamps to lamp repair shop near you. Order MuCord from LessEMF in New York at <https://lessemf.com/product/mucord/?affid=8> . See handout to determine quantity to buy. Be sure to emphasize to the repair person that they absolutely need to follow my instructions closely and completely to provide a properly shielded lamp and cord for you without electric fields. I have now had two other lamp shops in greater Los Angeles repair lamps for my clients without reducing electric fields because they did not follow my instructions fully. You will need to re-check the lamp for electric fields with a body voltage meter. I can guide you on how to do that. Finally, the lamp needs to ideally have the on/off switch at the top of the lamp stem, right at the base of the light bulb as traditional lamps do. Having the on/off switch down at the base of the lamp or on the cord will not work if you want to rewire the lamp as your solution for eliminating this type of EMF from the lamp.
11. You can shut off the WiFi in a smart TV in your bedroom at night by using the Century Long Range Wireless Remote Control Electrical Outlet Switch, which shuts off the entire TV when you sleep: [https://www.amazon.com/Century-Resistant-Wireless-Electrical-Decorative/dp/B07FFKR6FM/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?](https://www.amazon.com/Century-Resistant-Wireless-Electrical-Decorative/dp/B07FFKR6FM/ref=as_sl_pc_qf_sp_asin_til?)

[tag=createhealthy-20&linkCode=w00&linkId=0abb5658e7d0a1aae529acb2ac01a56c&creativeASIN=B07FFKR6FM](https://www.amazon.com/dp/B07FK5SP9H/ref=as_li_qf_asin_il_tl?ie=UTF8&tag=createhealthy-20&linkCode=w00&linkId=0abb5658e7d0a1aae529acb2ac01a56c&creativeASIN=B07FFKR6FM) . You may need to synch up the remote with the plug-in remote switch when you first plug it in. Follow instructions in the box. (Sony, Sharp and some LG and Vizio brand smart TVs that I have evaluated allow you to disable the WiFi when you connect an Ethernet cable in Wired mode to stream Netflix and other content, in which case you would not have to shut off the TV when you sleep to avoid WiFi. This may also be true for new Samsung models.)

12. Since you have metal-clad wiring in your walls, you can reduce electric field EMFs at night when you sleep by plugging a BN-LINK Wireless Remote Control Electrical Outlet Switch into the outlet by the bed, and then plug in your lamp or any other cords into the switch. Turn off the light using the remote switch rather than the switch on the lamp because the remote outlet switch shuts off the agitating voltage in the plastic lamp cord, disallowing it from emitting agitating electric fields into the air at the bed while you sleep. Purchase this remote outlet switch from Amazon, at [https://www.amazon.com/gp/product/B07FK5SP9H/ref=as\\_li\\_qf\\_asin\\_il\\_tl?ie=UTF8&tag=createhealthy-20&creative=9325&linkCode=as2&creativeASIN=B07FK5SP9H&linkId=655af354282bcd09a2805ac65d5419a8](https://www.amazon.com/gp/product/B07FK5SP9H/ref=as_li_qf_asin_il_tl?ie=UTF8&tag=createhealthy-20&creative=9325&linkCode=as2&creativeASIN=B07FK5SP9H&linkId=655af354282bcd09a2805ac65d5419a8) .
13. You may need a three-to-one “tap cube” outlet adapter to allow plugging up to three cords into one BN-LINK remote outlet shut off switch, available from Amazon at [https://www.amazon.com/dp/B000P9SXTG/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_tl?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG](https://www.amazon.com/dp/B000P9SXTG/ref=as_sl_pc_qf_sp_asin_tl?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG) .
14. You can also purchase a Shielded Power Strip from Electrahealth, available at [http://www.stetzerizer-us.com/Shielded-Surge-Suppressor-Power-Strip--Custom-Modified\\_p\\_121.html](http://www.stetzerizer-us.com/Shielded-Surge-Suppressor-Power-Strip--Custom-Modified_p_121.html) .
15. At bedside outlets that you can easily reach, you can use a simple plug-in switch from LessEMF at <https://lessemf.com/product/outlet-shut-off/?affid=8> or from Amazon at [http://www.amazon.com/Leviton-1469-W-Plug--Switch-Non-Grounding/dp/B000MXMH6U/ref=sr\\_1\\_2?ie=UTF8&qid=1456686425&sr=8-2&keywords=plug+in+switch](http://www.amazon.com/Leviton-1469-W-Plug--Switch-Non-Grounding/dp/B000MXMH6U/ref=sr_1_2?ie=UTF8&qid=1456686425&sr=8-2&keywords=plug+in+switch) .
16. Or use a grounded GE plug-in switch from Amazon, if you need to plug in a three-pronged plug near the bed, at [https://www.amazon.com/gp/product/B0113VTPSW/ref=as\\_li\\_qf\\_sp\\_asin\\_il\\_tl?ie=UTF8&tag=createhealthy-20&camp=1789&creative=9325&linkCode=as2&creativeASIN=B0113VTPSW&linkId=3c999b34e8fe4ee3978d6ec50f8a8718](https://www.amazon.com/gp/product/B0113VTPSW/ref=as_li_qf_sp_asin_il_tl?ie=UTF8&tag=createhealthy-20&camp=1789&creative=9325&linkCode=as2&creativeASIN=B0113VTPSW&linkId=3c999b34e8fe4ee3978d6ec50f8a8718) .
17. Or use a grounded Belkin Conserve Power Switch from Amazon at [https://www.amazon.com/Belkin-Conserve-Power-Switch-F7C016q/dp/B005MYN3OO/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_tl?tag=createhealthy-20&linkCode=w00&linkId=11c90f3385872f6c82491db68ecf60ad&creativeASIN=B005MYN3OO](https://www.amazon.com/Belkin-Conserve-Power-Switch-F7C016q/dp/B005MYN3OO/ref=as_sl_pc_qf_sp_asin_tl?tag=createhealthy-20&linkCode=w00&linkId=11c90f3385872f6c82491db68ecf60ad&creativeASIN=B005MYN3OO) .

### **Electric Fields from Computers**

18. If you have a Mac laptop and its power cord plugs into an outlet or surge protector with a two-pronged, ungrounded plug that is directly attached to the

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corner of the inline transformer, you need to remove that two-pronged adapter and slide on the long, round thicker cord with the grounded plug that came with every MacBook (prior to the new model). This is called the Apple power adapter extension cable. If you have a new MacBook model, you will need to purchase one (because Apple no longer provides them with their new MacBooks). You also may have this extension cable from previous MacBook laptops that you have owned.

19. If you do not have the grounded extension cable, order it from Amazon, the Apple Power Adapter Extension Cable (for MacBook Pro, MacBook, MacBook Air), at [https://www.amazon.com/dp/B00VU31O7Y/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=2293fb96a3afa4030dabf678cbb06546&creativeASIN=B00VU31O7Y](https://www.amazon.com/dp/B00VU31O7Y/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=2293fb96a3afa4030dabf678cbb06546&creativeASIN=B00VU31O7Y) .
20. If you have a PC laptop with a two-pronged, ungrounded power cord, you will need the USB Ground Cord from LessEMF. [https://lessemf.com/product/ground-cord-w-plug/?attribute\\_pa\\_connector=usb&affid=8](https://lessemf.com/product/ground-cord-w-plug/?attribute_pa_connector=usb&affid=8) . Plug this into an open USB-A (rectangular) port on the side of your PC laptop.
21. You may need one or more tap cubes in order to plug the grounded plug into the same electrical outlet as other plugs. Available from Amazon, at [https://www.amazon.com/Leviton-692-W-Triple-Grounding-Adapter/dp/B000P9SXTG/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG](https://www.amazon.com/Leviton-692-W-Triple-Grounding-Adapter/dp/B000P9SXTG/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG) .
22. When you plug an Ethernet cable into your laptop, iPad or iPhone using the adapters mentioned below in this list, you can put the device into Airplane mode to eliminate radio frequency EMFs. However, you need to also eliminate electric field EMFs that come from a regular Ethernet cable plugged into an ungrounded router or other device. To do this, order an Ethernet grounding adapter kit from Electrahealth, at [https://www.electrahealth.com/Ethernet-grounding-adapter-kit\\_p\\_129.html?aff=10](https://www.electrahealth.com/Ethernet-grounding-adapter-kit_p_129.html?aff=10) .
23. You will also need to use a shielded, grounded Cat 6A, 7 or 8 Ethernet cable in order for this Ethernet grounding adapter kit to successfully reduce the electric fields. A selection of shielded, grounded Ethernet cables is available from Amazon here: [https://www.amazon.com/gp/search/ref=as\\_li\\_qf\\_sp\\_sr\\_il\\_tl?ie=UTF8&tag=createhealthy-20&keywords=shielded%20ethernet%20cable&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=dc2325a56baf718658cc9bb31af7231a](https://www.amazon.com/gp/search/ref=as_li_qf_sp_sr_il_tl?ie=UTF8&tag=createhealthy-20&keywords=shielded%20ethernet%20cable&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=dc2325a56baf718658cc9bb31af7231a) .

### **Radio Frequency (RF) EMFs**

24. To **measure radio frequency (RF) EMFs** from wireless sources and to determine if electronics, appliances and other devices are emitting RF, purchase one of the following radio frequency detectors:
25. The Safe and Sound Classic II for \$159 US Dollars from Safe Living Technologies, at <https://safelivingtechnologies.com/products/safe-and-sound-classic-ii.html/?aff=6> . This RF meter has colored LED lights and a speaker so you can hear



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the actual sound of the RF sources to help differentiate them. It shares the same sensitivity and ability to hear RF sound as the more expensive Safe and Sound Pro II RF meter listed in the next item.

26. The Safe and Sound Pro II for \$385 US Dollars, also from Safe Living Technologies, at <https://safelivingtechnologies.com/products/safe-and-sound-pro-ii-rf-meter.html?aff=6> . This RF meter has a digital display that shows RF readings in microWatts/meter squared, and it has a max hold clear button.
27. A new 5G millimeter Wave 5G RF meter is also coming on the market from Safe Living Technologies, their Safe and Sound Pro mmWave Meter. This meter measures high-band 5G cell signals from cell antennas and cell phones, radar and other RF frequencies from 24-40 GHz. The Safe and Sound Pro mmWave Meter can be pre-ordered at <https://safelivingtechnologies.com/5g-mmwave-meter/?aff=6> .
28. You can also purchase the FM5 millimeter Wave 5G RF meter from Shielded Healing, at <https://shieldedhealing.com/collections/products/products/fm5-mmwave-meter> . This meter measures cell antennas, cell phones and WiFi in the standard 4G LTE low and mid bands, as well as 5G cell antennas and cell phones in the high, millimeter Wave band from 20-32 GHz.
29. The following information is for you and your Internet Technology, or IT, contractor to use to help reduce RF EMFs in your home or office. He or she can contact me for details and assistance in implementing any of these recommendations.
30. The devices I recommend below do not emit significant EMFs. Your IT/AV contractor will likely have their own favorite devices that fulfill the same purposes as the devices recommended below, which is fine and expected. If any substitutions are made, I can work with them to make sure the devices they normally use also keep EMFs to a minimum.

### **Internet Networks and Routers**

31. To reduce the strength of WiFi signals from your Spectrum router in the kitchen, use a Signal Tamer from LessEMF: <https://lessemf.com/product/signal-tamer/?affid=8> . These pouches come in regular and extra-large sizes and in regular and extra-strength RF-reduction capacities. The extra-strength pouch provides greater reduction of the RF signal from the device you are enclosing. That is the model I recommend that you purchase.
32. Ideally we don't recommend having a smart speaker in any room you occupy, as they constantly emit strong and potentially harmful radio frequency EMFs. Go without them ideally, especially if you are electrically sensitive. If you must have one and you are not electrically sensitive, move it as far away from where you sit as possible and order a RadiaFence to put in front of it. <https://lessemf.com/product/radiafence/?affid=8> . Be aware that there will be radio frequency EMF levels in the room that are not suitable for electrically sensitive individuals, even with the distance and RadiaFence.

### **Ethernet Data Switch**

33. If you need to connect more than one device to the Internet in the same room, but only have one Ethernet port at the wall, you will need an Ethernet data switch, which acts like an extension cord for Ethernet cables. Purchase the

TP-Link TL-SG105 5-port Gigabit Ethernet Desktop Switch for \$19 at [http://www.amazon.com/TP-LINK-TL-SG105-Gigabit-Ethernet-Desktop/dp/B00A128S24/ref=sr\\_1\\_1?s=pc&ie=UTF8&qid=1455292430&sr=1-1-spons&keywords=ethernet+switch&psc=1](http://www.amazon.com/TP-LINK-TL-SG105-Gigabit-Ethernet-Desktop/dp/B00A128S24/ref=sr_1_1?s=pc&ie=UTF8&qid=1455292430&sr=1-1-spons&keywords=ethernet+switch&psc=1) .

34. An 8-port switch is also available from Amazon, at [https://www.amazon.com/dp/B00A121WN6/ref=as\\_sl\\_pc\\_as\\_ss\\_li\\_til?tag=createhealthy-20&linkCode=w00&linkId=2e34a9db1e9f9df558e072377adce2db&creativeASIN=B00A121WN6](https://www.amazon.com/dp/B00A121WN6/ref=as_sl_pc_as_ss_li_til?tag=createhealthy-20&linkCode=w00&linkId=2e34a9db1e9f9df558e072377adce2db&creativeASIN=B00A121WN6) .

### **Ethernet Cables**

35. You can purchase flat or round double shielded white Cat 8 Ethernet cables at 10, 25, 50 or 75 feet (round only at 75 feet) from TechWellness, at <https://techwellness.com/collections/how-to-hard-wire-phones-computer-tablet-guide/products/best-cat-8-no-emf-ethernet-internet-cable-ct8?aff=7> .
36. Or, purchase shielded, grounded Cat 6A Ethernet cables from Amazon by clicking here: [https://www.amazon.com/Tera-Grand-Shielded-Ethernet-Connectors/dp/B00CJLEHPM/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=6c26365cc333cc7e6bd6865bdc3a9bf0&creativeASIN=B00CJLEHPM](https://www.amazon.com/Tera-Grand-Shielded-Ethernet-Connectors/dp/B00CJLEHPM/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=6c26365cc333cc7e6bd6865bdc3a9bf0&creativeASIN=B00CJLEHPM) . Choose your length and color from the choices they provide (currently only black and white).

### **For Macs**

37. To connect to the Internet with an Ethernet cable so you can turn off WiFi from newer MacBook laptops, purchase a USB-C-to-Ethernet adapter from Amazon at <https://createhealthyhomes.com/amazon-codes/> , then scroll down to “Adapters for Newest MacBook with USB-C ports (USB-C to Ethernet Adapter)”. These USB-C ports are oval in shape.
38. If you have an older, but still thinner MacBook, order a Thunderbolt-to-Ethernet adapter. [http://www.amazon.com/Apple-Thunderbolt-Gigabit-Ethernet-MD463LL/dp/B011K4RKFW/ref=sr\\_1\\_1?s=pc&ie=UTF8&qid=1450279596&sr=1-1&keywords=thunderbolt+to+ethernet](http://www.amazon.com/Apple-Thunderbolt-Gigabit-Ethernet-MD463LL/dp/B011K4RKFW/ref=sr_1_1?s=pc&ie=UTF8&qid=1450279596&sr=1-1&keywords=thunderbolt+to+ethernet) . The Thunderbolt-to-Ethernet adapter is faster than the alternative USB-A-to-Ethernet adapter because the Thunderbolt port is faster—plus you keep the rectangular USB-A ports free for other purposes. (We recommend that you not use a USB-A-to-Ethernet adapter because it does not ground the laptop the way a Thunderbolt-to-Ethernet adapter does.)
39. You will also need to ground the shielded Ethernet cable, adapter and laptop to avoid electric field EMFs. To do this, order an Ethernet grounding adapter kit from Electrahealth, at <https://createhealthyhomes.com/electrahealth-codes/> , then scroll down to “Ethernet Grounding Adapter Kit”. Plug this into the data port in the wall or into a Network Adapter, or directly into the router or hub if you are in the same room as these devices. Then plug your shielded Ethernet cable (see next item) into the Ethernet grounding adapter kit’s metal Ethernet coupler.
40. You will also need to use a shielded, grounded Cat 6A Ethernet cable in order for this Ethernet grounding adapter kit to successfully reduce the electric fields, offered above.

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41. You may need one or more tap cubes in order to plug multiple grounded plugs into the same electrical outlet. Available from Amazon, at [https://www.amazon.com/Leviton-692-W-Triple-Grounding-Adapter/dp/B000P9SXTG/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_tl?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG](https://www.amazon.com/Leviton-692-W-Triple-Grounding-Adapter/dp/B000P9SXTG/ref=as_sl_pc_qf_sp_asin_tl?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG) .
42. Consider *corded* mouse and keyboard from Apple (wired mice and keyboards for PCs are provided below). Purchase an affordable used or refurbished Apple mouse at [https://www.amazon.com/gp/product/B00DIVY4Y6/ref=as\\_li\\_qf\\_sp\\_asin\\_il\\_tl?ie=UTF8&tag=createhealthy-20&camp=1789&creative=9325&linkCode=as2&creativeASIN=B00DIVY4Y6&linkId=c0ee8d9d7f9696c8a4ae8ef929fafc96](https://www.amazon.com/gp/product/B00DIVY4Y6/ref=as_li_qf_sp_asin_il_tl?ie=UTF8&tag=createhealthy-20&camp=1789&creative=9325&linkCode=as2&creativeASIN=B00DIVY4Y6&linkId=c0ee8d9d7f9696c8a4ae8ef929fafc96) . Purchase a new wired Apple mouse at [https://www.amazon.com/gp/product/B071HZ58C1/ref=as\\_li\\_qf\\_sp\\_asin\\_il\\_tl?ie=UTF8&tag=createhealthy-20&camp=1789&creative=9325&linkCode=as2&creativeASIN=B071HZ58C1&linkId=60673a09be3c1a45e0259cfd5f4eae8b](https://www.amazon.com/gp/product/B071HZ58C1/ref=as_li_qf_sp_asin_il_tl?ie=UTF8&tag=createhealthy-20&camp=1789&creative=9325&linkCode=as2&creativeASIN=B071HZ58C1&linkId=60673a09be3c1a45e0259cfd5f4eae8b) .
43. A selection of Apple wired keyboards is available here: [https://www.amazon.com/gp/search/ref=as\\_li\\_qf\\_sp\\_sr\\_il\\_tl?ie=UTF8&tag=createhealthy-20&keywords=Apple%20keyboard%20wired&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=21922f7332ab0df37ee815011280edbf](https://www.amazon.com/gp/search/ref=as_li_qf_sp_sr_il_tl?ie=UTF8&tag=createhealthy-20&keywords=Apple%20keyboard%20wired&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=21922f7332ab0df37ee815011280edbf) .
44. For your iPhones and iPads, when you want to access the Web without RF EMFs use a hardwired workaround that includes a Lightning to Ethernet adapter, available from TechWellness at <https://techwellness.com/collections/how-to-hard-wire-phones-computer-tablet-guide/products/adapter-iphone-without-wifi?aff=7> .
45. Another option is from Amazon, at <https://createhealthyhomes.com/amazon-codes/> , then scroll down to “Adapter for Lightning to Ethernet (for iPads and iPhones)”.
46. The newest iPads (iPad Mini, iPad Pro) have an oval USB-C port, not a Lightning port. You will then need a USB-C to Ethernet adapter, linked to above.
47. You must also use a shielded, grounded Ethernet cable (<https://techwellness.com/collections/how-to-hard-wire-phones-computer-tablet-guide/products/best-cat-8-no-emf-ethernet-internet-cable-ct8?aff=7> ) and Ethernet grounding adapter kit ([https://www.electrahealth.com/Ethernet-grounding-adapter-kit\\_p\\_129.html?aff=10](https://www.electrahealth.com/Ethernet-grounding-adapter-kit_p_129.html?aff=10) ) to avoid high electric fields when you hold the iPhone or iPad in your hand. For more information on this iPhone and iPad hardwired workaround, go to Safer Use of Computers on my website: [https://createhealthyhomes.com/education/safer-use-of-computers/#Avoiding\\_Electric\\_Fields\\_When\\_Connecting\\_an\\_Ethernet\\_Cable\\_to\\_a\\_Laptop\\_Computer](https://createhealthyhomes.com/education/safer-use-of-computers/#Avoiding_Electric_Fields_When_Connecting_an_Ethernet_Cable_to_a_Laptop_Computer) .

### **For PC Laptops**

48. Here is a USB-to-Ethernet adapter for PC laptops that do not have an Ethernet port. No driver needed. Plug and play: [https://www.amazon.com/dp/B00DMSCHWG/ref=as\\_sl\\_pc\\_as\\_ss\\_li\\_tl?](https://www.amazon.com/dp/B00DMSCHWG/ref=as_sl_pc_as_ss_li_tl?)

[tag=createhealthy-20&linkCode=w00&linkId=3a1624146660ffaafc5cac0f81f9f80c&creativeASIN=B00DMSCHWG](#) .

49. To find a wired PC mouse, here is a large selection: [https://www.amazon.com/gp/search/ref=as\\_li\\_qf\\_sp\\_sr\\_il\\_tl?ie=UTF8&tag=createhealthy-20&keywords=PC%20mouse%20wired&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=3488d6eb21a7be0918e951475e127b96](https://www.amazon.com/gp/search/ref=as_li_qf_sp_sr_il_tl?ie=UTF8&tag=createhealthy-20&keywords=PC%20mouse%20wired&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=3488d6eb21a7be0918e951475e127b96) .

50. Here is a large selection of wired PC keyboards: [https://www.amazon.com/gp/search/ref=as\\_li\\_qf\\_sp\\_sr\\_il\\_tl?ie=UTF8&tag=createhealthy-20&keywords=PC%20keyboard%20wired&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=d15c928c4419d76e4d3fc0457a6d63bb](https://www.amazon.com/gp/search/ref=as_li_qf_sp_sr_il_tl?ie=UTF8&tag=createhealthy-20&keywords=PC%20keyboard%20wired&index=aps&camp=1789&creative=9325&linkCode=xm2&linkId=d15c928c4419d76e4d3fc0457a6d63bb) .

### **Printer Cable**

51. Order a ten-foot printer cable from Amazon at [https://www.amazon.com/AmazonBasics-USB-Printer-Cable-Male/dp/B00NH13DV2/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=f78b2916f0b7294852946043e931409c&creativeASIN=B00NH13DV2](https://www.amazon.com/AmazonBasics-USB-Printer-Cable-Male/dp/B00NH13DV2/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=f78b2916f0b7294852946043e931409c&creativeASIN=B00NH13DV2) .

52. You can order a 32-foot printer cable from Amazon, at [https://www.amazon.com/BlueRigger-Female-Active-Extension-Repeater/dp/B005LJKEXS/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=9ff0dbfed6276634296251979d8d3da4&creativeASIN=B005LJKEXS](https://www.amazon.com/BlueRigger-Female-Active-Extension-Repeater/dp/B005LJKEXS/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=9ff0dbfed6276634296251979d8d3da4&creativeASIN=B005LJKEXS) .

### **USB Extension Cable**

53. If you already have a printer cable and need another ten feet of cable, order a USB Extension Cable from Amazon, at [https://www.amazon.com/AmazonBasics-Extension-Cable-Male-Female/dp/B00NH12O5I/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=1ae652def83faeb11625327c85ae2a2b&creativeASIN=B00NH12O5I](https://www.amazon.com/AmazonBasics-Extension-Cable-Male-Female/dp/B00NH12O5I/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=1ae652def83faeb11625327c85ae2a2b&creativeASIN=B00NH12O5I) . If you need more than ten feet, order two or more extension cables and plug them in end-to-end.

### **Cell Phone Cases**

54. To order a stylish cell phone case custom made here in Los Angeles that protects you somewhat from wireless frequencies, go to <https://iamlivingharmony.com/shielding-accessories/> or call Monica, Living Harmony Project's Executive Director, at 310-383-9781.

55. Or you can see a selection of cell phone cases, pouches and air tube earphones from LessEMF at <https://lessemf.com/product-category/emf-shielding/phones-computers/?affid=8> .

### **Air Tube Earphones**

56. Order stylish and comfortable air tube earphones at <https://techwellness.com/products/anti-radiation-emf-protection-headphone-headset?aff=7> . Colors include rose gold, gold and black.

### **RF Shielding for Pregnant Mom**

57. Order a Belly Band from LessEMF at <https://lessemf.com/product/rf-belly-band/?affid=8> . (This does not mean using a cell phone by a pregnant woman

is now safe. She should always find hardwired alternatives to connect to the outside world by voice and data, even after the baby is born and being held in the arms of his or her mother.)

### **Corded Baby Monitor**

58. One option is to use a D-Link HD Wi-Fi HD Camera with Remote Viewing, Model DCS-2132L-ES (the wireless shuts off when you plug in an Ethernet cable). This model has been discontinued by D-Link, however, new and used models are still available on Ebay at [https://www.ebay.com/sch/i.html?from=R40&trksid=p2380057.m570.l1313&nkw=D-Link+HD+Wi-Fi+Camera+with+Remote+Viewing+%28DCS-2132L%29&\\_sacat=0](https://www.ebay.com/sch/i.html?from=R40&trksid=p2380057.m570.l1313&nkw=D-Link+HD+Wi-Fi+Camera+with+Remote+Viewing+%28DCS-2132L%29&_sacat=0) . (Unfortunately, I found that the WiFi does not shut off when I plugged an Ethernet cable into D-Link's newer model of Indoor WiFi Camera, Model DCS-8525LH-US, and synched it up with a router.) You would plug in an Ethernet cable that you would bring into the bedroom from the room with the router installed by you or a low voltage audio video contractor, or by using a network adapter, discussed above.
59. Or, have a low voltage contractor install a hardwired camera and microphone (that does not also emit RF). Display the video and audio feed to the mother's laptop with hardwired Ethernet cables.
60. If you must use a radio controlled baby monitor, the SmartNOVA wireless baby monitor made by Norwegian manufacturer NOVA and RadioShield Technologies is the least harmful I have found. The SmartNOVA sells for \$149 at <https://www.bellyarmor.com/smart-nova-baby-monitor/> . (However, it is currently on back order. Check with the company to see when it will be available again. In the meantime, order the D-Link camera.)

### **RF-Shielding Clothing**

61. You can protect yourself at home and away from your house by wearing RF-shielding clothing, available from LessEMF, at <https://lessemf.com/product-category/emf-shielding/clothing-emf-shielding/?affid=8> .

### **Corded Telephones**

62. Corded landline telephones can be ordered from Amazon here: <https://createhealthyhomes.com/amazon-codes/> , then scroll down to "Corded Telephones". Be sure to avoid "cordless / corded" hybrid models. To see an article on Corded Telephones, go to <https://createhealthyhomes.com/education/corded-phones/> .

### **Dirty Electricity EMFs**

63. For elevated Dirty Electricity levels, order Greenwave filters: <https://createhealthyhomes.com/greenwave-codes/> . You will need one or two for each room where you and the family spend time. Put two in the rooms with high dirty electricity readings, as shown in the table above. You can purchase a Greenwave dirty electricity meter from Greenwave at <http://greenwavefilters.com/store-front/?partners=44> . Or purchase a Stetzer dirty electricity meter from LessEMF at <https://lessemf.com/product/stetzer-meter/?affid=8> .
64. Note: Greenwave states, "Greenwave filters and other dirty electricity filters that utilize capacitance technology should NOT be used in buildings being

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powered by a generator (for example during power outages). If you have a generator to provide electricity during power outages or at other times, make sure to UNPLUG your Greenwave filters while the generator is operating. You can plug them back in when power to the grid has been restored and the generator is no longer running.”

65. Likewise, the Stetzer company states the following: “Stetzerizer filters should not be used with a generator. The added capacitance from the filters tricks the voltage regulator of a generator into thinking it needs to output higher voltages. This can damage the filters, other electrical devices, and ultimately the generator itself. This shouldn't be a great concern for a short duration (a monthly test/maintenance cycle, for example), but it would be best to remove filters from home outlets whenever there is a power outage of unknown duration.”
66. You may need one or more tap cubes in order to plug a Greenwave filter into an electrical outlet that is already full with other plugs. Available from Amazon, at [https://www.amazon.com/Leviton-692-W-Triple-Grounding-Adapter/dp/B000P9SXTG/ref=as\\_sl\\_pc\\_qf\\_sp\\_asin\\_til?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG](https://www.amazon.com/Leviton-692-W-Triple-Grounding-Adapter/dp/B000P9SXTG/ref=as_sl_pc_qf_sp_asin_til?tag=createhealthy-20&linkCode=w00&linkId=8a427793858d51cc07e1f72b44ca35af&creativeASIN=B000P9SXTG) .

Please let me know if you have any questions about my findings and implementation of any of these recommendations.

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