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Instructions for the "Acoustimeter"

(Model AM-10 RF Test Meter)

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A. Important Note About the Batteries!

Always be sure to turn off your test meter after each use, or the batteries will run down quickly. To install new batteries, slide down the battery cover at the lower back of the meter, and insert two fresh AA batteries. Look very carefully to install the two AA batteries with the correct "+" and "-" positions.

When the batteries are low, a "Low Battery" message will appear on the screen. Also, you may hear three consecutive beeps from time to time, meaning to check for a low battery condition. And of course, if the batteries are completely dead, nothing will happen when the meter is switched on.

B. Introduction to the Acoustimeter AM-10 RF Test Meter…

The Acoustimeter is a sensitive test instrument that can be used to measure the strength of the radio frequency (RF) electromagnetic fields (EMFs). There are three main ways to use the Acoustimeter:

(a) Watch the colored LEDs that light up along the two vertical columns.

(b) Listen to the audio output, to help determine when and what is being sensed.

(c) Read the measurements directly from the LCD display at the top.

The manufacturer's instructions for the Acoustimeter are very helpful, and you can probably get most of the information you need from them. In these supplemental instructions, I have included additional information that may also be helpful to you.

C. Simple Instructions for the Beginning User…

The best way to use the Acoustimeter is to hold the meter at the bottom, keeping your hand as far away as possible from the digital LCD display at the top. This helps to keep your own body from interfering with the measurements, because the RF sensor antenna is located near the top of the meter, in the back just behind the LCD display.

Turn on the Acoustimeter by moving the on/off switch (on the right side of the meter) up. Even if you are in a very low field environment, you will see the two columns of colored LEDs light up temporarily when the meter is first turned on. This is normal.

For most beginners, the easiest way to start measuring is to watch the colored LEDs. The LEDs give you a quick idea of the relative strength of the RF fields that you are measuring, without having to watch the changing numbers on the digital LCD display.

For now, begin by watching the column of LED lights on the left under the heading of "Peak, V/m". We will discuss later the difference between Peak and Average measurements, but for most testing situations you will want to focus on the Peak column, not the Average column.

Slowly move the meter around in the room or location you wish to test, and notice which of the LEDs are lighting up. The RF fields are often strongest in particular directions, and in certain parts of the room. Thus to get a good idea of the full range of measurements, it is important to do the following:

(a) Slowly sweep the meter around the room to find the strongest field locations.

(b) As you are doing this, slowly tilt the meter around in different directions to find the strongest field direction.

Once you have found the strongest field location and direction in the room using the colored LEDs, you can look at the measurement numbers shown on the LCD display at the top of the meter. There are three measurement numbers shown in the display. Two are in the top line, and the third is in the second line.

For now, you can ignore the measurement shown on the second line because this is the measurement of the Average level, and for most testing purposes we want to measure the Peak levels.

Two kinds of Peak levels are shown in the top line. The number on the top right is the Peak measurement in the present moment. This number will change with the strength of the field in each moment, and is constantly being refreshed.

The number on the top left is shown in parentheses. This is the highest or "maximum" Peak recorded by the meter since it was last turned on. This number will only change when an even greater Peak level is detected. This is often called the "Peak-Hold".

Thus, to determine the measurement of the Peak level in the present moment, look at the number in the upper right of the LCD display. Typically, this will be the measurement number you will focus on, as it shows you the exact measurement of the RF field at that moment and in that location.

If you want to know what the highest or "maximum" Peak has been, look at the number shown in parenthesis in the upper left of the display. This is called the "Peak-Hold". This is the maximum measurement recorded since you turned the meter on. If you want to reset the "Peak-Hold" and start over again, turn the meter off and then on again. The Acoustimeter will begin recording a new maximum peak from the time it was most recently turned on.

The Acoustimeter gives Peak measurements in units called "volts per meter" which is abbreviated “V/m”. There are many possible units of measure for radio frequencies, but to keep it simple for now, you can start with the "volts per meter" units.

Later, if you want to convert from “volts per meter” to other units of measure, such as the "microwatts per centimeter squared" units commonly used in the United States, there is a *"Radio Frequency Measurement Conversion Chart"* included at the end of these instructions.

To keep track of your data, I recommend that you always use a pen and paper to record your measurements, along with the unit of measure, time and location for each test. And because RF levels can vary, it may be important to take repeated RF measurements, for example at different times of the day.

Finally, if you are wondering how your own measurements compare to the various RF safety guidelines, the *"Radio Frequency Measurement Conversion Chart"* included at the end of these instructions summarizes several of the RF safety standards that you might want to consider.

D. Using the Special "Audio" Function…

One of the most helpful features of the Acoustimeter, is the special audio function which can help you determine what type of RF field is being detected and when it is being emitted.

The volume control is located on the right side of the meter. If you want to increase the volume, turn up the volume control. If you do not want to hear the audio function at all, turn the volume control to the lowest setting.

The audio function works similar to the radio in your car. But instead of tuning into one particular RF frequency like your car radio does, the Acoustimeter receives a very wide range of RF frequencies and amplifies them all just a little bit. Thus you may hear both familiar sounds like a nearby radio station, as well as more unnatural sounds like the pulsed frequencies of Wi-Fi, cell towers and cordless phones.

And just as different people have distinctive voices, different sources of RF also have distinctive sound patterns that you can become familiar with and recognize. To get a sample of some of the sounds from various RF sources that you might encounter, go to http://www.emfields.org/detectors/acoustimeter.asp. But mostly, you will learn the different types of RF sounds by your own personal experience.

For example, when you hear a distinctive sound near a cordless phone or a Wi-Fi router, simply unplug the power to the wireless device to shut it off, and then confirm that the particular sound pattern was indeed from that device. To familiarize yourself with the distinctive sound of cell towers, use your Acoustimeter very close to a cell tower and the sound pattern will become obvious.

Special Note: The frequencies used by digital wireless technologies such as cell towers, smart phones, cordless phones, Wi-Fi and smart meters are actually much too high in pitch for our human ears to hear. However, most of these wireless signals are "modulated", meaning that they are pulsed on/off many times each second. These modulated frequencies are often within our hearing range, and that is what you actually hear on the Acoustimeter.

When you are in a clean environment that is relatively free of these digital modulated RF fields, you will mostly hear a soft "white noise" sound in the background. You may also hear a low level "click–click–clicking" sound, which is actually the Acoustimeter picking up its own internal electronic noise, and is not due to any external RF field.

E. "Peak" versus "Average" Measurements…

Most of the official governmental standards for protecting humans from RF fields are "thermal" standards. This means that the main concern is to keep the human body from being heated up by the RF signal, similar to the way that food can be heated up in a microwave oven!

To measure this ability of the RF signals to heat up the body, we would use an "average power" type of measurement. In the US, this is what the "FCC Guidelines for the General Public" are based upon. And this is the "Average" measurement on the Acoustimeter.

But hundreds of scientific studies have also reported significant biological effects at exposures well below the thermal safety limits. Although the biological mechanisms are not well understood, the negative health effects appear to be more closely linked to electromagnetic interference effects upon the natural bio-electromagnetic processes within our bodies, than from the actual heating of our body tissues.

Think of this as being similar to the way that you can sometimes get some annoying interference on your car radio, perhaps from a nearby power line or even a cell phone placed near the speakers. The EMF levels from the power line or cell phone are not so strong that they heat up the radio in the car, they are just strong enough to cause some kind of interference issue.

Most RF digital signals are modulated on/off many times each second so that they often have very high “peak” emission levels for one brief instant, followed by very low levels in the next. And this happens many times each second. Because of this, electromagnetic interference problems are more often related to the strength of these instantaneous "Peak" signals than to the "Average" (heating) levels.

Thus, as any electrical engineer already knows, interference issues with electronics can occur at much weaker exposure levels than would be needed for heating effects, and interference is more often related to Peak than Average levels. Similarly, the EMF research data is starting to show that the same may also be true for potential effects on human health:

1. *Human exposure to RF signals below the official heating thresholds may have adverse health effects.*

2. *For health considerations, Peak measurements may be more important than Average measurements.*

On the Acoustimeter, the column of LEDs on the left show the Peak values, and the colored LEDs on the right show the Average. Because many of the health concerns appear to be linked to the Peak levels which cause interference, rather than the Average levels which cause heating, you may want to focus on the Peak column rather than the Average column.

Similarly, the LCD digital display at the top of the meter shows both Peak and Average measurements. The Peak levels are shown in the top line, and the Average on the second line. For most health testing purposes, you may want to pay more attention the top line, than the second line.

F. Why Do "Peak" and "Average" Have Different Units of Measure?

One of the "peculiar" features of the Acoustimeter is that it uses different units of measure for Peak and Average. Peak levels are shown in units of "volts per meter" (V/m), and Average levels are shown in "microwatts per meter squared" (µW/m²).

This is perhaps more confusing than it needs to be. The difference comes down to the different ways of measuring the Peak versus the Average for modern digital RF signals. For most purposes, you can simply convert from one unit of measure to the other, as they are essentially equivalent. See the attached *"Radio Frequency Measurement Conversion Chart"* at the end of these instructions, or use one of the online conversion websites.

Most digital RF signals are pulsed on and off many times each second. The Average level is the "average" power measured over a period of time, and thus is closely related to the ability of the RF digital signal to cause a heating effect.

In contrast, the Peak measurement is an attempt to detect the highest "instant" or “maximum peak” of the digital RF signal during the brief period of time when it is actually being pulsed on. The Peak measurement can be many times greater than the corresponding Average measurement.

The Acoustimeter shows both Peak and Average measurements. The Average measurements are shown in "power density" units, which describe how much power (e.g. heat) is contained in the RF signal. In Europe, the power density unit of measure is called "microwatts per meter squared" (µW/m²), and this is what is shown on the Acoustimeter.

Special Note: In the United States, a slightly different power density unit is usually used, called "microwatts per centimeter squared" (µW/cm²). To help you convert from European units to the American units, refer to the attached *"Radio Frequency Measurement Conversion Chart"*.

Technically speaking, the Peak levels are not an average "power density" level, and thus the Acoustimeter does not use power density units for the Peak measurements. Instead, it uses another unit called "volts per meter" (V/m). Most other RF test meters avoid this technical issue by simply defining the Peak level as the "instantaneous" power density, and then use the standard American or European units.

In contrast, "volts per meter" expresses the strength of the RF field by measuring only the electric field half of the radio frequency field. You will sometimes see this unit of measurement also expressed as "millivolts per meter" (mV/m), which is a thousandth of a volt per meter. To convert from volts per meter to the American or European power density units, refer to the attached *"Radio Frequency Measurement Conversion Chart"*.

Special Note: In actual practice, almost all the RF test meters available measure only the electric field half of the radio frequency field – the "volts per meter" as with the Acoustimeter. Most other RF test meters simply convert the "volts per meter" sensed by the instrument into the equivalent RF power density units, such as "microwatts per meter

squared" as commonly used in Europe. This is exactly what the Acoustimeter does for the Average measurements,

G. How to Convert Between the Different Units of Measure…

For most purposes, it is easiest to record the Peak measurements using the Acoustimeter's own units of "volts per meter" (V/m). Later, if you need to convert to either microwatts/m² (Europe) or microwatts/cm² (United States), you can do that then.

With the Acoustimeter, you can actually make a quick conversion between the two units of measure by simply looking at the two columns of colored LEDs. For any measurement number that is listed in one column, you can look directly across the meter to see the approximately equivalent value in the other column.

For example, looking at the top of the left column you can see that 6.00 V/m is roughly equivalent to 100,000 microwatts/m². Similarly, if you looked down to 100 microwatts/m² shown in the right column, you could look across the meter to find the roughly equivalent value of 0.20 V/m in the left column.

Be careful, as all of these different measurement units can be confusing. To help you convert from one unit to another, you can refer to the *"Radio Frequency Measurement Conversion Chart"* at the end of these instructions. You can also go online and use one of the RF unit conversion websites.

Unfortunately, the Acoustimeter does not give measurements directly in the standard American units of "microwatts per centimeter squared". In the US, to help you convert to American units, refer to the attached *"Radio Frequency Measurement Conversion Chart".*

H. Some Tips for Better Accuracy…

1. The sensor antenna is located in the back, at the top end of the meter behind the digital LCD display. Try to keep your hands away from that part of the meter to avoid shielding the sensor antenna in any way.

2. Hold the Acoustimeter with your arm extended to help keep the test meter as far away from your body as possible. This will also help to reduce any shielding or interference from your body.

3. To measure any specific RF source, make sure that no parts of your body are located between the RF source and your meter. Typically, you will point the back side of the test meter toward the RF source.

4. RF fields can be much stronger in one direction than another. The sensor inside the Acoustimeter is a single-axis RF antenna, and thus it is sensitive to directional placement. To find the strongest field direction, slowly rotate the body of the meter around into various different directions.

5. RF levels can vary dramatically from place to place within the same room, depending on reflections and absorptions from various building materials and furniture, and on the location of RF sources and windows. Take multiple measurements in various locations for each room. Usually, the highest levels from outside sources will enter through the windows.

6. Whenever you are moving the meter, nearby static electric charges and the earth's electromagnetic field will sometimes be detected as a false reading for a brief moment. Always hold the meter completely still for a second before you read the final value on the display.

7. On a sheet of paper, write down the number shown in the LCD display at the top right, or the measurement next to the colored LED, always paying careful attention to the decimal point. Also note the time, location and units.

8. Because the human body interacts readily with radio frequency (RF) fields – e.g., your own skin can absorb, reflect or even amplify the RF fields – your body affects the accuracy of your testing! For highest accuracy, find a way to stand the Acoustimeter up on a bed, table or large cardboard box, and then step away to take the reading. You can also tape the meter onto a plastic stick or wooden pole to help keep the meter away from your skin.

I. Using the "Peak-Hold" Function…

The value shown in the parentheses in the upper left part of the LCD digital display will always show the highest Peak measurement that the Acoustimeter has detected since you last turned it on. This is called the "Peak-Hold" function, and it is a helpful feature.

One of the ways that you can use the Peak-Hold function is to turn the meter on and then slowly take it around the room for a set period of time (perhaps for one or two minutes), twisting the Acoustimeter around in different directions. At the end of the time period, read off the Peak-Hold measurement and record this number in your notes.

One of the easiest, quickest and most helpful ways to compare one room to another, is to compare these Peak-Hold measurements for each room, or even for the same room at different times.

J. What Types of RF Fields Are Being Detected?

The Acoustimeter measures radio frequency (RF) electromagnetic fields in the frequency range from 200 MHz (megahertz) up to 8.0 GHz (gigahertz). This includes the most commonly used RF frequencies emitted from cell towers, smart phones, cordless phones, wireless computers, routers, Wi-Fi, Bluetooth, baby monitors, smart meters, microwave ovens, GPS satellites, and US broadcast TV channels 12 and up.

This meter is particularly helpful for detecting the brief, instantaneous peak levels emitted from modern pulsed digital microwave signals, as well as most common analog signals.

However, the frequency range of this test meter does not include detection of frequencies below 200 MHz, such as AM and FM radio broadcasting and US broadcast TV channels 2 through 11. This meter also does not detect frequencies greater than 8.0 GHz, such as many of the microwave satellite communication frequencies.

K. Why Measure the RF Electromagnetic Fields?

In our modern world, human exposure to RF/microwave energy is increasing at a rapid pace. While there is still great controversy, a growing number of scientific research studies are reporting that radio frequency (RF) fields may be linked to important biological changes and various adverse health effects.

Typical sources of RF exposure are from the personal use of smart phones, tablets, cordless phones, microwave ovens, Wi-Fi, wireless routers and other devices, as well as exposures from nearby cell towers, radio and TV broadcast towers, Smart Meters, and the growing number of wireless devices and systems in our modern world.

For an extensive review of the recent scientific findings that have linked RF field exposures to adverse health effects in humans, you can go to www.bioinitiative.org for more detailed information.

L. What Level is Safe?

There is still a great on-going debate about the potential health effects related to radio frequency (RF) fields and the recommended safety limits for human exposure. Please refer to the proper health authorities and research literature to decide for yourself what RF level to consider safe.

International researchers have reported important biological effects at relatively low RF exposure levels – levels below the current FCC standards for human safety in the United States. For further information on these potential low-exposure health effects, go to the BioInitiative Report (www.bioinitiative.org). In particular, the “RF Color Charts” give a helpful summary of many of the studies and the observed health effects (www.bioinitiative.org/rf-color-charts/).

In the US, the FCC safety limits for RF exposure depend on the frequency, and are set to only protect humans from adverse heating effects. For example, for the 860 MHz frequency used by many cell towers and cell phones, the FCC limit for the public is 573 microwatts per centimeter squared (µW/cm^2). For the common frequencies of 1500 MHz and more, the FCC safety limit is 1,000 µW/cm^2. When converted to the units of the Acoustimeter, this is equivalent to 61.4 V/m (Peak) or 10,000,000 µW/m^2 (Average)!

In contrast, the safety limit recommended by independent EMF researchers in the 2012 Updated BioInitiative Report (www.bioinitiative.org) addresses concerns about potential "non-thermal" effects at much lower exposure levels (being increasingly reported in the international research studies). Their 2012 recommendation is for a maximum limit of only 0.0003 µW/cm^2! When converted to the units shown on the Acoustimeter, this is the same as 0.034 V/m or 3.0 µW/m^2.

I have found that the RF levels inside modern homes and buildings can vary greatly – from less than 0.0001 µW/cm^2 to more than 0.5 µW/cm^2. And within 10 feet of cordless phones, wireless routers, cell phones, microwave ovens and other wireless devices, the exposure levels are often greater.

In my work with individuals who report having symptoms and sensitivity to EMFs – as well as clients with serious health issues such as cancer, Lyme disease, chronic fatigue and chemical sensitivity – we usually try to reduce exposures down to 0.0001 µW/cm^2 or less, if possible. When converted to the units shown on the Acoustimeter, this is the equivalent to 0.02 V/m or 1.0 µW/m^2 – the lowest sensitivity levels of the Acoustimeter.

Unfortunately, some highly sensitive individuals have reported severe symptoms even at exposure levels below 0.0001 µW/cm^2. Thus it may be prudent for sensitive individuals to remove all possible sources of RF fields from the home and office. And some may find it helpful to install special RF shielding materials onto the windows, walls, floors and ceilings, to help reduce exposures even further.

For further information on several of the possible safety standards that you might want to consider and compare to your own measurements, please refer to the bottom section of the *"Radio Frequency Measurement Conversion Chart"* included in the addendum.

M. How to Reduce the RF Fields…

In many homes and offices, certain locations will have higher RF levels, while other areas will be lower. Using your test meter, you can arrange your environment to avoid the highest RF fields. For example, you can place beds, couches and chairs in the lowest RF areas, and perhaps use the highest RF areas for storage.

You can often determine quickly what is causing the RF fields, because the strongest sources are often very close – the devices you use in your own home such as cell phones, cordless telephones, Wi-Fi and wireless computer hardware. The best way to reduce these exposures is to completely eliminate the wireless equipment, unplug it, or turn it off (especially at night).

Whenever possible, use corded (land line) telephones and hard-wired computer cables (e.g., Ethernet cables, avoid all wireless). Try to avoid any products that have wireless capabilities, because in many cases even if the software is turned off, the wireless hardware will emit RF all the time.

One of the most important things to check regularly is whether the wireless of your computer system is indeed turned off and not emitting RF. Also test all cordless phones and bases because many will emit RF even when not being used. In the long term, an important way to reduce your RF exposure would be to use your test meter to pretest new homes or apartments before you buy or rent them.

Special RF shielding materials can be installed to help reduce the RF fields further, but placement, geometry and grounding of the shielding material can be critical for effectiveness. Remember that most RF shield materials act like “mirrors” and reflect the RF fields away from you. But they can also reflect some of the RF back to you. For further technical assistance with your RF shielding needs, please call my office to schedule a telephone consultation or on-site shielding appointment.

N. Need Professional Assistance?

My telephone consultation fee is $150 per hour, prorated for the actual time used, with a $25 minimum. In northern California, I also provide on-site testing and shielding services, as well as the design and installation of special EMF-Free electrical wiring. If you need further assistance, please contact my office at 1-800-638-3781 or 707-578-1645 to set up an appointment.

Thank you,

Michael R. Neuert

"Radio Frequency Measurement Conversion Chart" for the Acoustimeter

By Michael R. Neuert, MA, BSME, Neuert Electromagnetic Services, ©2014

Unit of RF measure:	**Volts per meter**	**Millivolts per meter**	**Microwatts per centimeter squared**	**Microwatts per meter squared**	**Milliwatts per meter squared**
Abbreviation:	**V/m**	**mV/m**	**µW/cm²**	**µW/m²**	**mW/m²**
Where used:	International Units	International Units	American Units	European Units	European Units
	6.00	6,000	9.5	95,000	95
	4.50	4,500	5.4	54,000	54
	3.00	3,000	2.4	24,000	24
	2.00	2,000	1.1	11,000	11
	1.50	1,500	0.60	6,000	6.0
	1.00	1,000	0.27	2,700	2.7
	0.70	700	0.13	1,300	1.3
	0.50	500	0.066	660	0.66
	0.30	300	0.024	240	0.24
	0.20	200	0.011	110	0.11
	0.10	100	0.0027	27	0.027
	0.07	70	0.0013	13	0.013
	0.05	50	0.00066	6.6	0.0066
	0.03	30	0.00024	2.4	0.0024
	0.02	20	0.00011	1.1	0.0011
Possible RF Safety Levels[1] for Consideration…					
Average Level in US Homes [2]	0.019 to 1.4	19 to 1,400	0.0001 to 0.5	1.0 to 5,000	0.001 to 5.0
Lowest Level Linked to Cancer[3]	0.87	870	0.2	2,000	2.0
BioInitiative 2007 Report [4]	0.61	610	0.1	1,000	1.0
Precautionary Safety Level [5]	0.19	190	0.01	100	0.1
Building Biology Severe Concern [6]	0.061	61	0.001	10	0.01
BioInitiative 2012 Update [4]	0.034	34	0.0003	3.0	0.003
Hypersensitivity Health Advice [7]	0.020 or less	20 or less	0.0001 or less	1 or less	0.001 or less
FCC Safety Limit (Thermal) [8, 9]	61.4 note 9	61,400 note 9	1,000 note 9	10,000,000 [9]	10,000 note 9

Notes on Possible RF Safety Levels for Consideration

[1] The following information on safety limits is given as information to help you make your own decisions regarding your health. I am engineer, not a medical doctor, and thus I cannot diagnose or treat any EMF-related medical issues. Please consult with your own doctor or other health professional regarding medical treatment and exposure guidelines.

[2] The Average Level in US Homes is the typical range of RF exposures that I encounter in my professional EMF testing of homes and offices in the San Francisco Bay area. Average RF exposure levels have increased substantially in recent years, mostly due to the use of wireless technologies inside buildings.

[3] The Lowest Level Linked to Cancer: Two studies of radio/TV broadcasting towers in Sydney, Australia have reported increased childhood leukemia at exposure levels as low as 0.2 microwatts/cm². The first study (Hocking, 1996) found that leukemia death rates were more than doubled for exposed children. A follow-up study (Hocking, 2000) found that children recovering from leukemia were about two times more likely to survive their cancer if they lived in a less exposed home.

[4] The BioInitiative Report Recommendations are from the 2007 "BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields". In 2012, the recommended RF safety limits were lowered due to mounting evidence from almost 2,000 new studies. (For more information, go to www.bioinitiative.org and for specific information on documented health effects and exposure levels, go to the BioInitiative RF Color Charts at www.bioinitiative.org/report/wp-content/uploads/pdfs/BioInitiativeReport-RF-Color-Charts.pdf.)

[5] The Precautionary Safety Level of 0.01 microwatt/cm² is my own offering to concerned clients – *to provide for a margin of safety below the cancer link level* – for people who are generally healthy but wish to be proactive and protect their health.

[6] The Building Biology Severe Concern level is from the "Standard of Building Biology Testing Methods" published by the Institute for Baubiology. (Go to www.hbelc.org/pdf/standards/sbm2008.pdf.) 6

[7] The EMF Hypersensitivity Advisory is based on anecdotal experience by EMF professionals like myself who often find it necessary to reduce EMF exposures below these levels for sensitive individuals to report relief of their symptoms. However, there is no guarantee that these levels will be low enough for any particular person – especially with RF exposure – as some people report symptoms at surprisingly low levels.

[8] The FCC Safety Limit is the current US standard for "Maximum Permissible Exposure" for the general public. It is a thermal safety standard, based on the ICNIRP guidelines, as found in FCC/OET Bulletin #56 (http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf). The ICNIRP Guidelines are the commonly cited 1998 publication by the International Commission on Non-Ionizing Radiation Protection (www.icnirp.de/documents/emfgdl.pdf).

[8] The value of the FCC Maximum Exposure Limit depends on the frequency of the RF. The value shown here is for RF frequencies of 1500 MHz (1.5 GHz) or higher, such as for devices like Wi-Fi routers and microwave ovens. (For frequencies below 1500 MHz, refer to the formulas on page 15 of Bulletin #56, http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf.)