

# Safe and Sound Pro II Operation Manual



**Safe Living Technologies Inc.**

70 Watson Pkwy S, Unit 6

Guelph, ON N1L 0C3

1.888.814.2425

Support@SafeLivingTechnologies.com

www.SafeLivingTechnologies.com

## ABOUT

Safe Living Technologies is pleased to introduce the Safe and Sound Pro II RF Meter. Designed to meet our professional standards of accuracy and reliability, the Safe and Sound Pro II features:

- A true  $\pm 6\text{dB}$  response from 400 MHz - 7.2 GHz and a full frequency response from 200 MHz - 8 GHz
- Linear measurements 0.1 - 1,000,000  $\mu\text{W}/\text{m}^2$
- Reduced tolerance up to 3,180,000  $\mu\text{W}/\text{m}^2$  or 34.6 V/m
- Reduced tolerance down to 0.005  $\mu\text{W}/\text{m}^2$  or 0.001 V/m
- High sensitivity and resolution at low levels
- Ability to detect very short pulses ( $< 5 \mu\text{s}$ ) including 5G
- Can display units of measure in  $\mu\text{W}/\text{m}^2$  or V/m
- Temperature compensate accuracy -20 to +60 °C
- Long battery life: > up to 15 hours with speaker on
- A clear display with PEAK, MAX & AVG readings
- Loud adjustable speaker sound output: 3 levels
- 1/8" stereo headphone jack
- Continuous operation via USB power



This sensitive meter is capable of measuring potentially harmful RF or microwave radiation from any continuous or pulsed digital sources. To help identify these various sources, the Safe and Sound Pro II includes a built in speaker with adjustable volume levels. Each source has its own unique sound signature.

[Click here to view our sound library.](#)

## BACKGROUND

Biological damage from microwave radiation at a cellular level occurs at levels much lower than the current government safety standards. They only consider the heating of tissue to be a health concern. This meter reflects the latest science and Building Biology standards.

Environments with high levels of RF are often a reality now. The goal is to reduce your exposure as much as possible. This is especially important in sleeping areas.

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## OPERATION

To turn on the unit, simply slide the power switch up to the middle or top position. The top position will enable sound. Upon startup, the screen will show the self-calibration process and the percentage of approximate battery level remaining.

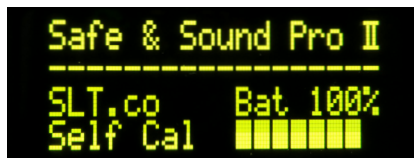
With sound enabled, the speaker volume switch can be set to three levels: Low, Medium or High.

Scan the area to record the highest MAX reading by moving the meter in all directions while keeping it at least 30 cm or 1 foot from your body. If the RF levels are at or below a safe, long-term exposure level for sleeping areas, the green LED will be solid or flashing.

To change the displayed units from  $\mu\text{W}/\text{m}^2$  to  $\text{V}/\text{m}$  or vice versa, press and hold the MAX RESET button down until the units change. To change the default units, press and hold the MAX RESET button while turning the meter on.



### STARTUP SCREEN



### MEASUREMENT SCREEN



## QUICK VIEW INDICATOR LIGHTS



**RED:** Extreme

Move away from this exposure.

Flashing indicates more than 10x extreme.

Fast flashing indicates more than 100x extreme.

Fastest flashing indicates more than 1000x extreme.



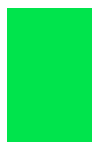
**ORANGE:** High

Try to limit the time of your exposure at this level.



**YELLOW:** Moderate

Reduce this level for long term exposure.



**GREEN:** Slight

Good for sleeping areas and long term exposure.

Flashing indicates best and ideal conditions.



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### Peak Values



(2.4 GHz signal level reference)

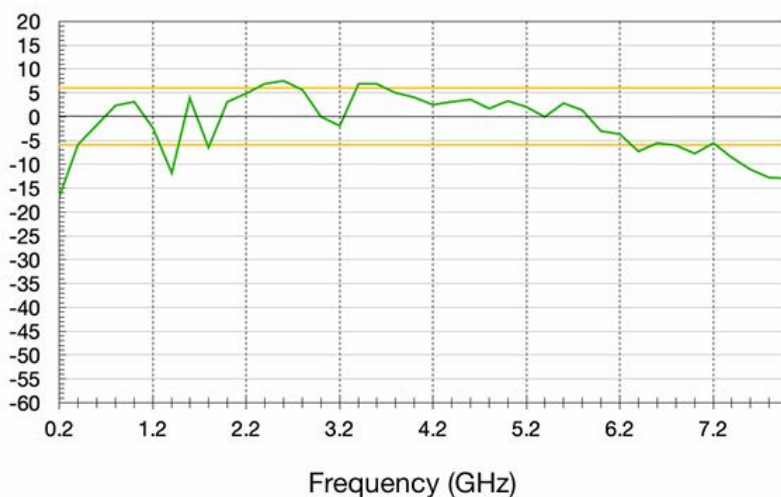
Recommended Battery Type: 2 x AA alkaline

Battery Life:  $> 15$  hours with speaker on

$> 18$  hours with speaker off

## ***Safe and Sound Pro II***

### Technical Specifications



Frequency Response: 200MHz - 8GHz

Response Time:  $< 5 \mu\text{s}$



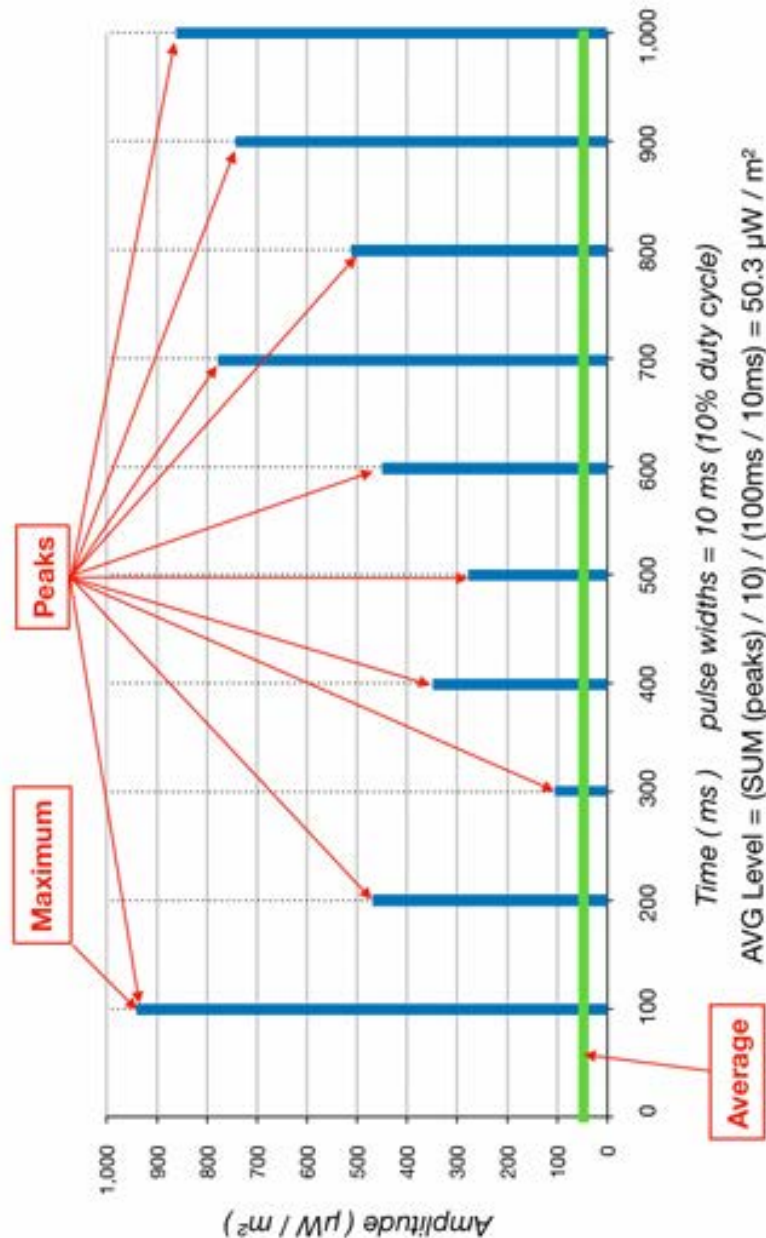
## TERMINOLOGY

**PEAK:** Maximum instantaneous signal level.

**MAX:** Highest measured PEAK value.

**AVG:** Time averaged signal power density.

The graph below shows how average signal levels are calculated and why these levels are often much lower than peak levels. Example WiFi beacon:



## NOTES

The unit will automatically turn itself off after 30 minutes. To turn it on again, move the power switch to the OFF position, then back ON again.

To use the Safe and Sound Pro II continuously, or without batteries, connect a computer or 5V USB charger to the micro USB jack.

When headphones are connected to the 1/8" jack, the internal speaker is automatically muted.

Press the 'Max Reset' button to clear the 'MAX' value or hold for 3 seconds to toggle units of measure.

AA alkaline batteries only.

Please note: the Pro II is not capable of charging with a micro USB cable.

## RF / MICROWAVE EXPOSURE GUIDELINES

### 1> BUILDING BIOLOGY PRECAUTIONARY GUIDELINES (SBM-2015) For Sleeping Areas\*

Power density (Peak)	No Concern	Slight Concern	Severe Concern	Extreme Concern
microWatts per square meter $\mu\text{W}/\text{m}^2$	< 0.1	0.1 - 10	10 - 1000	> 1000
microWatts per square cm $\mu\text{W}/\text{cm}^2$	< 0.000,01	0.000,01 - 0.001	0.001 - 0.1	> 0.1
milliWatts per square meter $\text{mW}/\text{m}^2$	<0.000,1	0.000,1 - 0.01	0.01 - 1	> 1
Signal strength				
Volts per meter V/m	< 0.006,14	0.006,14 – 0.061,4	0.061,4 – 0.614	> 0.614

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### 2> BIOINITIATIVE REPORT PRECAUTIONARY GUIDELINES (Dec 31, 2012) Updated 2014-2020 [www.bioinitiative.org](http://www.bioinitiative.org)

**Bioinitiative Working Group**, Cindy Sage and David O. Carpenter, Editors. A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Radiation. Precautionary target level is **3 - 6  $\mu\text{W}/\text{m}^2$**  or **0.000,3 – 0.000,6  $\mu\text{W}/\text{cm}^2$**  (Peak)

### 3> CANADA AND UNITED STATES GOVERNMENT GUIDELINES (1999, 2009, 2019)

In Canada, guidelines for Radio Frequency Wave exposure lay under the jurisdiction of Health Canada. Safety code 6 was developed in 1999 and offers federal guidelines for safe RF exposure levels. These limits are in the range of **2,000,000 to 10,000,000  $\mu\text{W}/\text{m}^2$**  or **200 to 1000  $\mu\text{W}/\text{cm}^2$**  (Time Averaged) and are based solely on the short term thermal effects or the heating of body tissue. Adverse biological effects have been documented at levels far below Safety Code 6 guidelines. No Canadian biological exposure guidelines exist for long term exposure to low level Radio Frequency Radiation. This also holds true for the USA and their FCC guidelines.

## CONTACT US

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