



RADIO FREQUENCY ASSESSMENT

Petaluma Avenue Homes
565 – 577 Petaluma Avenue, Sebastopol
Updated November 30, 2018

Introduction

I am a Building Biology Environmental Consultant (BBEC), trained and certified by the International Institute for Building Biology and Ecology (IBE) in the measurement and mitigation of electromagnetic fields (EMFs). I also completed an advanced certification program from IBE and was certified as an Electromagnetic Radiation Specialist (EMRS) in December, 2014.

I was hired by the City of Sebastopol to measure the radio frequency levels at the Petaluma Avenue Homes. These are a mix of 45 apartments and town homes. The buildings are two to three stories tall. There is a cell tower located approximately 260 feet southeast of the nearest unit in the complex. See Appendix A for a map of the complex, as well as an aerial view of the complex with the cell tower.

I took measurements on Friday, November 16, 2018 between 3:54 p.m. and 6:59 p.m. I returned on Saturday, November 24, 2018 to take an additional measurement between 4:45 p.m. and 5:16 p.m. I took 30-minute data logs in five locations at the complex. Three of the locations were interior and two were exterior. For readings taken inside the homes, we turned off all the wireless devices inside the unit.

These results may not be repeatable if conditions change or for results collected during a different time of day or season. These measurements should not be relied upon to be representative of conditions at any other time.

I used the following equipment:

- Gigahertz Solutions HFE59B radio frequency meter with UBB27 omni-antenna and DG20_G10 attenuator. This meter was factory calibrated and is within the manufacturer's two-year warranty period for calibration. See attached certification and warranty (Appendix B). The measurements were taken in "peak" mode and are reported in microwatts per meter squared ($\mu\text{W}/\text{m}^2$).
- Gigahertz Solutions NFA1000 gaussmeter/electric fields meter (used for the data logging). This meter was factory calibrated and is within the manufacturer's two-year warranty period for calibration. See attached certification and warranty (Appendix B).

Results

Radio Frequency Measurements (in microwatts per meter squared)					
Log #	Date	Time of Data Logging	Location	Maximum Recorded Level*	Comments
L035	11/16/18	3:54 - 4:25 p.m.	Building 565, 2nd floor, unit #260	66,000 uW/m2	In the bedroom by an open window, facing the cell tower at a height of about 4 feet off the floor.
L036	11/16/18	4:52 - 5:23 p.m.	Building 565, 3 rd floor, center stairwell landing	362,600 uW/m2	We placed the meter on several boxes at a height of about 4 feet.
L037	11/16/18	5:37 - 6:08 p.m.	Building 565 parking lot, in front of #150	52,000 uW/m2	We placed the meter on several boxes at a height of about 4 feet.
L038	11/16/18	6:27 - 6:59 p.m.	Building 567, unit #150	4,320 uW/m2	In an upstairs bedroom by an open window, facing the cell tower, at height of about 4 feet off the floor.
L040	11/24/18	4:45 – 5:16 p.m.	Building 565, 3 rd floor, unit #370	224,200 uW/m2	In bedroom, by an open window facing cell tower at a height of about 4 feet off the floor.

*See Appendix C for the summary printouts from the data logs.

I will email this report to Larry McLaughlin, City Manager and attach the text files from the data logging.

I also observed as Paul McGavin opened a package of USB thumb drives. Connie Vondralee took a thumb drive out of the package and used her computer to copy the files from the SD card to the thumb drive. She will deliver the thumb drive to the City.

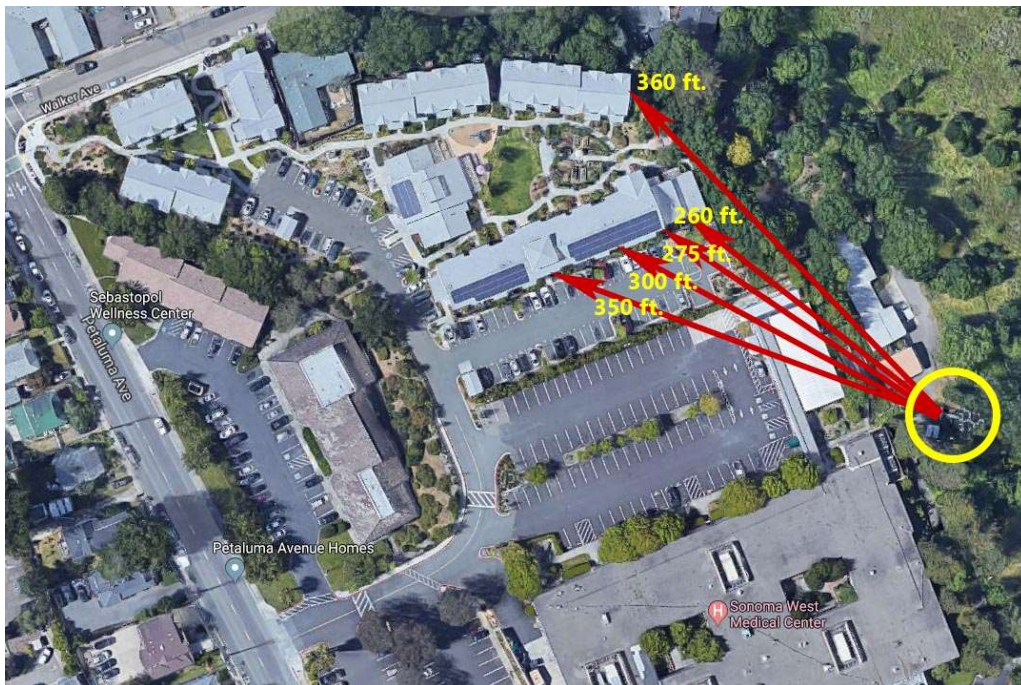
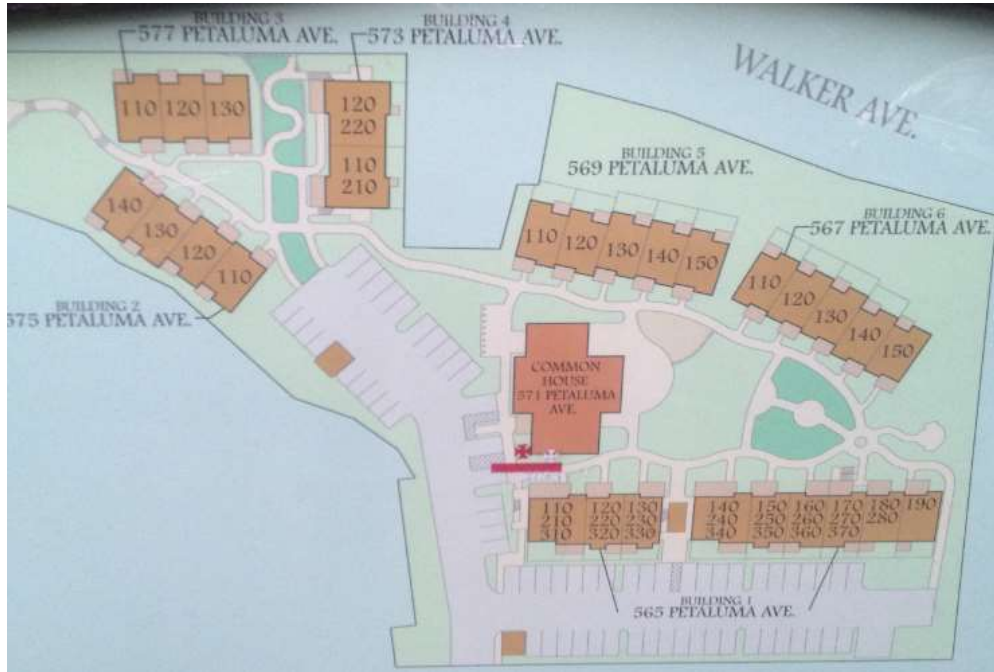
Sincerely,



Liz Menkes, BBEC, EMRS
 Certified Building Biologist
 Certified Electromagnetic Radiation Specialist
 EMF Healthy
 925-937-1754

Appendix A

Maps of Petaluma Avenue Homes



APPENDIX B



**CERTIFICATE
OF CALIBRATION**

Gigahertz Solutions GmbH hereby certifies that this instrument for measuring alternating fields was calibrated during the manufacturing process.

Gigahertz Solutions GmbH further certifies that the laboratory instrumentation used to prove this instrument's quality have been calibrated to a laboratory standard directly traceable to the German "Physikalisch-Technische Bundesanstalt", the National Institute of Standards, or natural physical constants at planned intervals.

Gigahertz Solutions' "Total Quality" System is monitored by VDE, the German Association for Electrical, Electronic & Information Technologies to assure the compliance of the manufactured products to published specifications, especially for the safety of the produced demand switches.

HFE 59B

Purchased 6/15/18

C. [Signature]
Quality Assurance Representative

Gigahertz Solutions GmbH, Am Galgenberg 12, 90579 Langenzenn, Germany

2 Year Extended Warranty

Your purchase of a Gigahertz meter is covered by a 2 year manufacturer's extended warranty. Claims made for meters purchased in Canada or the U.S.A. should be directed to Safe Living Technologies; www.slt.co, Tel: (519) 240-8735. A copy of your original sales invoice will be required to validate the date of purchase.

Valid for all Gigahertz Solutions Meters



[Signature]
global sales director





CERTIFICATE OF CALIBRATION

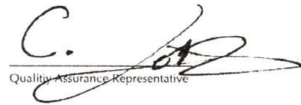
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NFA1000

purchased 1/22/18


Quality Assurance Representative

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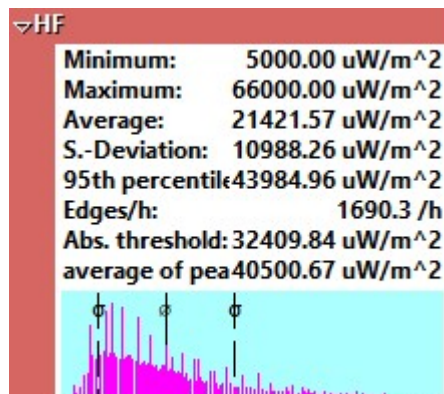



global sales director

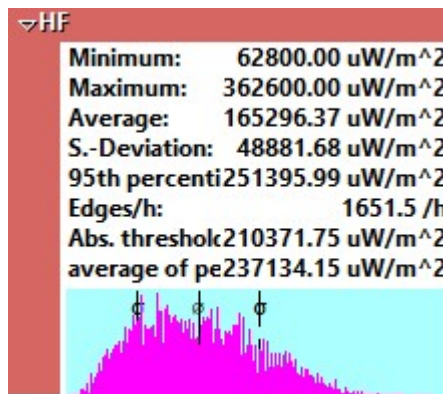


Appendix C

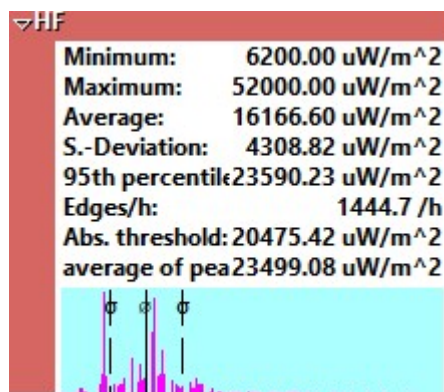
Log 035: Building 565, Unit #260



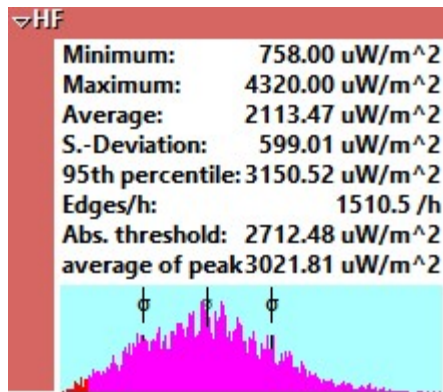
Log 036: Building 565 Stairwell



Log 037: Building 565 Parking Lot



Log 038: Building 567, unit #150



Log 040: Building 565, Unit #370

