



## Maximum Permissible Exposure

### FCC Part 2 Sections §2.1091 and §2.1093

**Test Requirement(s):** §15.407(f): U-NII devices are subject to the radio frequency radiation exposure requirements specified in §1.1307(b), §2.1091 and §2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a “general population/uncontrolled” environment.

**RF Exposure Requirements:** §1.1307(b)(1) and §1.1307(b)(2): Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission’s guidelines.

**RF Radiation Exposure Limit:** §1.1310: As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter.

MPE Limit: EUT’s operating frequencies @ WiFi 2412 – 2462 MHz; UNII-1 5180 – 5240 MHz; UNII-2a 5260 – 5320 MHz; UNII-2c 5500 – 5720 MHz; UNII-3 5745 – 5825 MHz; UNII-5 5955 – 6415; UNII-6 6435 – 6515; UNII-7 6535 – 6885; UNII-8 6895 – 7115; Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>

Equation from page 18 of OET 65, Edition 97-01

$$S = PG / 4\pi R^2 \quad \text{or} \quad R = \sqrt{PG / 4\pi S}$$

where, S = Power Density (mW/cm<sup>2</sup>)  
 P = Power Input to antenna (mW)  
 G = Antenna Gain (numeric value)  
 R = Distance (cm)

**Test Results:**

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Frequency (MHz)	Con. Pwr. (dBm)	Con. Pwr. (mW)	Ant. Gain (dBi)	Ant. Gain numeric	Pwr. Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Margin	Distance (cm)	Result
2437*	29.26	843.33	4	2.51	0.270	1.0	-0.730	25	Pass
5240	27.32	539.51	6	3.98	0.274	1.0	-0.726	25	Pass
5260	23.59	228.56	6	3.98	0.116	1.0	-0.884	25	Pass
5720	23.99	250.61	6	3.98	0.127	1.0	-0.873	25	Pass
5775*	29.25	841.40	6	3.98	0.427	1.0	-0.573	25	Pass
6265	23.59	228.56	5.8	3.80	0.111	1.0	-0.889	25	Pass
6505	21.80	151.36	5.8	3.80	0.073	1.0	-0.927	25	Pass
6585*	23.71	234.96	5.8	3.80	0.114	1.0	-0.886	25	Pass
6905	22.82	191.43	5.8	3.80	0.093	1.0	-0.907	25	Pass
*Simultaneous Transmission (Worse case):					0.811	1.0	-0.189	25	Pass

The safe distance for SWX-U7PROP where Power Density is less than the MPE Limit listed above was found to be 25 cm. This device does not perform power tune-ups, therefore the maximum power is used for this analysis.