

## § 15.407(f) Maximum Permissible Exposure

- 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 @ 5150-5250 MHz; **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

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

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

For Antenna Gain → dBi = 10log(Numeric)

### Test Results:

| Frequency (MHz) | Conducted Power (dBm) | Conducted Power (mW) | Antenna Gain (dBi) | Antenna Gain (Numeric) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Margin | Distance (cm) | Result |
|-----------------|-----------------------|----------------------|--------------------|------------------------|-------------------------------------|-----------------------------|--------|---------------|--------|
| 5340            | 20.70                 | 117.49               | 5.0                | 3.162                  | 0.0739                              | 1                           | 0.928  | 20            | Pass   |

# § 15.407(f)

## Maximum Permissible Exposure

### 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 @ 5250-5350 MHz and 5470 – 5725 MHz; **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

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

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

For Antenna Gain → dBi = 10log(Numeric)

### Test Results:

| Frequency (MHz) | Conducted Power (dBm) | Conducted Power (mW) | Antenna Gain (dBi) | Antenna Gain (Numeric) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Margin | Distance (cm) | Result |
|-----------------|-----------------------|----------------------|--------------------|------------------------|-------------------------------------|-----------------------------|--------|---------------|--------|
| 5500            | 19.34                 | 85.901               | 5.0                | 3.162                  | 0.054                               | 1                           | 0.945  | 20            | Pass   |

## § 15.407(f)

**Maximum Permissible Exposure****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 @ 5725 - 5850 MHz; **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

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

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

For Antenna Gain → dBi = 10log(Numeric)

**Test Results:**

| Frequency (MHz) | Conducted Power (dBm) | Conducted Power (mW) | Antenna Gain (dBi) | Antenna Gain (Numeric) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Margin | Distance (cm) | Result |
|-----------------|-----------------------|----------------------|--------------------|------------------------|-------------------------------------|-----------------------------|--------|---------------|--------|
| 5785            | 20.33                 | 107.894              | 5.0                | 3.162                  | 0.0679                              | 1                           | 0.932  | 20            | Pass   |