

**FCC RF EXPOSURE REQUIREMENTS**

**General Information**

FCC ID: G9H2-5831A 5.8GHz (Base)

Device Category:  
EUT: Base Unit: Mobile per Part 2.1091

Environment: General Population/Uncontrolled Exposure

**Operating Configurations and Exposure Conditions:**

The EUT base unit is normally operated at least 20 cm away from the human body.

**Maximum Permissible Exposure Calculation: BASE UNIT**

The minimum separation distance, for compliance with the limit, is calculated as follows:

$$E (V/m) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power density: } P_d (mW/cm^2) = \frac{E^2}{3770}$$

The limit for general population/uncontrolled exposure environment above 1500MHz is 1mW/cm2

Separation Distance	Antenna Gain (dBi)	
	Integral	
Time Division Source Based Average Power EIRP (mW)	(in)	(cm)
280 mW	1.52	3.86

**BASE UNIT**

**RF Exposure Calculations**

1. The limit for general population/uncontrolled environment above 1500 MHz is 1.0 mW/cm<sup>2</sup>.
2. The Field Strength  $E \text{ V/M} = \sqrt{1.4928 \times 3770} = 75.02$
3. The distance d to achieve the 1.0 mW/cm<sup>2</sup> power density is as follows

$$d = \frac{\sqrt{30 \times P \times G}}{E}$$

$$d = \frac{\sqrt{30 \times 0.280 \text{ W} \times 1}}{75.02} = \frac{2.898}{75.02} = 3.86 \text{ cm}$$

**RF Field Strength Calculations:**

1. F.S. = 123.48 dB $\mu$ V/m
2.  $F.S. = \text{antilog } \frac{123.78}{20} = \text{antilog } 6.174 = 1.4928 \text{ V/M}$

$$3. ERP = \frac{(1.4928)^2 \times 9}{49.2} = 0.407 \text{ W}$$

$$4. \text{EIRP} = 0.407 \times 1.64 = 0.667 \text{ mW}$$

$$5. \text{Time Division Source Based Average Power}$$

$$= 667 \times \frac{1.05 \text{ ms (ontime 4 + slots)}}{10 \text{ ms}} = 667 \times 0.42 = 280 \text{ mW}$$

**Conclusion:**

The device complies with the MPE requirements by providing a safe separation distance between the antenna, including any radiating structure, and any persons (human body excluding hands, wrists, ankles, and feet).

**Proposed RF Exposure Safety Information to Include in User's Manual:**

**“RF Radiation Exposure Statement**

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located in conjunction with any other antenna or transmitter.”