

**FCC RF EXPOSURE REQUIREMENTS**

**General Information**

FCC ID:            G9HFH58R19            5.8GHz (Base)

Device Category:

EUT: Base Unit:            Mobile per Part 2.1091

EUT: Handset Unit:        Portable per Part 2.1093

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:

$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$	$\text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$
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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)
<b>488.9 mW</b>	<b>0.0244</b>	<b>0.062</b>

**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  $E \text{ V/M} = \sqrt{1.00 \times 3770} = 61.4$
3. The distance  $d$  to achieve the 1.0 mW/cm<sup>2</sup> power density is as follows

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

$$d = \frac{\sqrt{30 \times 0.4889 \text{ W} \times 1}}{61.4} = \frac{3.829}{61.4} = 0.062 \text{ cm}$$

**RF Field Strength Calculations:**

1. F.S. = 126.66 dB $\mu$ V/M
2.  $F.S. = \text{antilog} \frac{126.66}{20} = \text{antilog} 6.333 = 2.1527 \text{ V/M}$
3.  $ERP = \frac{(2.1527)^2 \times 9}{49.2} = 847 \text{ mW}$
4.  $EIRP = 847 \times 1.64 = 1389 \text{ mW}$
5. Time Division Source Based Average Power  
$$= 1389 \times \frac{0.880 \text{ ms (ontime} \times 4 \text{ slot)}}{10 \text{ ms}} = 1389 \times 0.352 = \underline{488.9 \text{ mW}}$$

**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**

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."