

FCC RF EXPOSURE REQUIREMENTS

General Information

FCC ID: G9H2-1105A

Device Category:

Base Unit: Mobile per Part 2.1091

Handset Unit: Portable per Part 2.1093

Environment: General Population/Uncontrolled Exposure

Operating Configurations and Exposure Conditions:

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

The EUT handset is operated close to the head and to the body with belt clip. The maximum Time Division Source based average was 9.6 mW [see D(2)-3 for calculations]. Since this is less than 25mW SAR test was not conducted.

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	
Power EIRP (mW)	(in)	(cm)
50.5	0.787	2.0

BASE UNIT**RF Exposure Calculations**

1. The limit for general population/uncontrolled environment above 1500 MHz is 1.0 mW/cm².

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/cm² power density is as follows

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

$$d = \frac{\sqrt{30 \times 0.505 \text{ W} \times 1}}{61.4} = \frac{1.230}{61.4} = 2.0 \text{ cm}$$

RF Field Strength Calculations:

1. F.S. = 117 dBμV/m

2. $F.S. = \text{antilog} \frac{117}{20} = \text{antilog } 5.85 = 0.7079 \text{ V/M}$

3. $ERP = \frac{(0.7079)^2 \times 9}{49.2} = 91.7 \text{ mW}$

4. EIRP = 91.7 x 1.64 = 150.4 mW

5. Time Division Source Based Average Power

$$= 150.4 \times \frac{0.840 \text{ mS} [\times 4 (\text{slots})]}{10 \text{ mS}} = 150.4 \times 0.336 = \underline{50.5 \text{ mW}}$$

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."

HANDSET UNIT**RF Field Strength Calculations:**

1. F.S. = 113 dB μ VM
2. $F.S. = \text{antilog} \frac{113}{20} = \text{antilog } 5.65 = 0.4466 \text{ V/M}$
3. $ERP \frac{(0.4466)^2 \times 9}{49.2} = 36.5 \text{ mW}$
4. EIRP = 36.5 x 1.64 = 59.9 mW
5. Time Division Source Based Average Power

$$= 59.9 \times \frac{0.800 \text{ mS (ontime 2 + slots)}}{10\text{mS}} = 59.9 \times 0.16 = \underline{9.6 \text{ mW}}$$

Conclusion:

The device complies with the MPE requirements by virtue of the fact that it is considered to comply with SAR evaluation without testing.

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

For body worn operation, this phone has been tested and meets the FCC RF exposure guidelines when used with the belt clip supplied with this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines."