5473A Clouds Rest Road : Mariposa, CA 95338 : Phone 209-966-5420 : Fax 209-742-6133

Maximum Permissible Exposure Calculations

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Calculations prepared for:

John Kim
AnyData.net Incorporated
18902 Bardeen Rd
Irvine, CA 92612

Calculations prepared by:

Eddie Wong
110 N. Olinda Place
Brea, CA 9283

Model Number: EMIV- Dual
FCC Identification: NA

Fundamental Operating Frequency: 824.04- 848.97, 1851.25-1908.75 MHz

Maximum Rated Output Power: +25.5 dBm (0.3548Watt) Conducted
Measured Output Power: 836.52 MHz +26.1 dBm (0.4074Watt) EIRP
Measured Output Power: 1880.00 MHz +28.3 dBm (0.6792Watt) EIRP

MPE Limit in accordance with 1.1310(b): Limits for general population/uncontrolled exposure

MPE Limit for 824.25-848.97 MHz = f /1500 mW/cm^2 = 1.25 mW/cm^2 (12.5W/m^2)
MPE Limit for 1851.25-1908.75 MHz = 1 mW/cm^2 (10 W/m^2)

Power Output (Watts)	Power Density Limit (mW/cm^2)	Minimum Distance (Meters)
0.6792	**1**	0.0532m
0.4074	**1.25**	0.0509m

$$\text{Power Density (W/m}^2\text{)} = \frac{30 \times P_t \times G}{d^2 \times Z_0}$$

P_t = Power Delivered to the Antenna
G = Antenna Gain
d = Distance in meters
Zo = Impedance of Free Space

The typical antennas to be used with the EUT are structure mount antenna which under normal operation has an antenna height of at least 0.2 meters (20 cm). As can be seen from the MPE result, this device passes the limit specified in 1.1310 at a distance of 0.0532and 0.0509 meter.

Calculation:

$$d = \sqrt{\frac{30 \text{ x } 0.6792 \text{ x } 1}{10 \text{ x } 377}}$$

$= 0.0532\text{m}$

$$d = \sqrt{\frac{30 \text{ x } 0.4074 \text{ x } 1}{12.5 \text{ x } 377}}$$

$=0.0509\text{m}$