1.0 Maximum Permissible Exposure Evaluation

The results of power measurement and intended use/proximity are compared against the requirements for safety of RF exposure.

1.2 Criteria

Section Reference	Date
2.1091, FCC OET Bulletin 65 IC RSS-102	2014-06-25

1.3 Procedure

Using measurement of peak power and intended application, determine the permissible exposure level or whether additional exposure tests (SAR) are indicated. Justify conclusion for selected exposure area and separation distance.

1.4 Power to Exposure Calculation

The antenna for this device is affixed to the top side of an industrial metal enclosure. The antenna is a vertically polarized monopole. Installation is per contractual professional means only. A separation distance of 20 cm was selected. Exposure limit is then determined for the transmitter frequency as indicated.

Power is determined from the measured conducted port power. This is then adjusted according to any applicable duty cycle factor and antenna gain. Duty cycle is assumed to be maximum 100% as worse-case.

Measured Conducted Port Power dBm	Source Duty Cycle Factor dB	Calculated Average Field Strength dBm	Antenna Gain dBi	Calculated Total Power dBm	Calculated EIRP mW
19.90	0.0	19.90	5.5	19.9 + 5.5 = 25.4	347

*This is the peak measurement.

The field density limit is determined as:

1.0 mW/cm^2 Ref. FCC Bulletin OET-65 Table 1(B)

Field density is determined at 20 cm:

$S = EIRP / (4 \pi 20^2)$ Ref. FCC Bulletin OET-65 Equation (4)

$S = 347 mW / 5026.55 cm^2$

$S = 0.069 mW/cm^2$

The field density level is below the respective limit and it therefore meets the criteria for exclusion from SAR testing.

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