



Maximum Permissible Exposure

ROCK05;

Rockwell Collins IMS-6010

FCC, Part 15 §1.1310

Industry Canada RSS-Gen §5.6

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4\pi d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10^{(G \text{ (dBi)}/10)}$$

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is 1.0 mW/cm²

The calculations in the table below use highest gain antennas for the client EUT. Where the antenna gain exceeds 6dBi the transmitter power is reduced where necessary to meet the EIRP requirements. These calculations represent worst case in terms of the exposure levels.

| Freq. Band (MHz) | Antenna Gain (dBi) | Numeric Gain (numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Calculated Power Density @ 20cm | Distance (cm) | |
|------------------|--------------------|------------------------|-------------------------|------------------------|---------------------------------|--|---------|
| | | | | | | Calculated Safe Distance @ 1mW/cm ² Limit | Minimum |
| 2.4 GHz | 4.8 | 3.02 | 19.65 | 92.3 | 0.06 | 4.7 | 20.0 |

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification

Maximum Permissible Exposure Limits

FCC §1.1310 Limit = 1mW / cm² from 1.310 Table 1

RSS-Gen §3.2 In addition to RSS-Gen, the requirements in Radio Standards Specification RSS-102,

Laboratory Measurement Uncertainty for Power Measurements

| | |
|-------------------------|----------|
| Measurement uncertainty | ±1.33 dB |
|-------------------------|----------|