FCC §15.247 (i) & §1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Report No.: RSZ160407011-00

Limits for General Population/Uncontrolled Exposure										
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (Minutes)						
0.3-1.34	614	1.63	*(100)	30						
1.34-30	824/f	2.19/f	$*(180/f^2)$	30						
30-300	27.5	0.073	0.2	30						
300-1500	/	/	f/1500	30						
1500-100,000	/	/	1.0	30						

f = frequency in MHz

Result

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For worst case:

Item	Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation	Power	MPE Limit
		(dBi)	(numeric)	(dBm)	(mW)	Distance (cm)	Density (mW/cm ²)	(mW/cm ²)
Onboard Antenna	2412 - 2472	1.5	1.41	13.35	21.63	20	0.006	1
External Antenna	2412 - 2472	4.4	2.75	13.35	21.63	20	0.012	1

Note: To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliance

FCC Part 15.247 Page 10 of 56

^{* =} Plane-wave equivalent power density