

## RF EXPOSURE EVALUATION (FCC ID: T4K5188U1)

### Limit

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

### Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (Minute)
<b>Limits for Occupational / Controlled Exposure</b>				
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100 000	/	/	5	6

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (Minute)
<b>Limits for General population / Uncontrolled Exposure</b>				
0.3 – 3.0	614	1.63	(100)*	30
3.0 – 30	842/f	2.19/f	(180/f)*	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

\* = Plane-wave equivalent power density

### Test Data

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: **45.90(dBm)**

Maximum peak output power at antenna input terminal: **38.90(W)**

Prediction distance: **110 (cm)**

Predication frequency: **445 (MHz)**

Antenna Gain (Max): **3.5 (dBi)**

Power density at predication frequency at **110 cm**: **0.29 (mW/cm<sup>2</sup>)**

MPE limit for controlled exposure at prediction frequency: **1.5 (mW/cm<sup>2</sup>)**

MPE limit for uncontrolled exposure at prediction frequency: **0.3 (mW/cm<sup>2</sup>)**

**Test Result: Pass**