

FCC § 1.1307(b)(1) & § 2.1091-RF EXPOSURE

1. Applicable Standard

According to § 11310 and § 2.1091 (Mobile Devices) RF exposure is calculated.

Frequency Range(Mhz)	Electric Field Stength(V/m)	Magnetic Field Stength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
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

*=Plane-wave equivalent power density

2.Prediction of MPE limit at given distance, equations from OET Bulletin 65, Edition 97-01:

$$S = (1.64 * P * G) / (4 * \pi * R^2) \quad (\text{where } PG = ERP)$$

$$S = (P * G) / (4 * \pi * R^2) \quad (\text{where } PG = EIRP)$$

Where:

S = power density

P= power input to antenna

G= numeric gain of the antenna

R= distance to the center of radiation of the antenna

700MHz Band:

Maximum peak output power at antenna input terminal (dBm):	18
Maximum peak output power at antenna input terminal (mW):	63.1
Prediction distance (cm):	40
Prediction frequency (MHz):	752
Maximum antenna gain (dBd):	13.6
Maximum antenna gain (numeric):	22.9
Maximum RF output power (ERP, mW):	1450
Power density at predication frequency and distance (mW/cm ²):	0.12
MPE limit for uncontrolled exposure at predication frequency (mW/ cm ²):	0.50

850MHz Band:

Maximum peak output power at antenna input terminal (dBm):	26
Maximum peak output power at antenna input terminal (mW):	398.1
Prediction distance (cm):	40
Prediction frequency (MHz):	881.6
Maximum antenna gain (dBd):	5.6
Maximum antenna gain (numeric):	3.63
Maximum RF output power (ERP, mW):	1450
Power density at predication frequency and distance (mW/cm ²):	0.12
MPE limit for uncontrolled exposure at predication frequency (mW/ cm ²):	0.59

1900MHz

Maximum peak output power at antenna input terminal (dBm):	26
Maximum peak output power at antenna input terminal (mW):	398.1
Prediction distance (cm):	40
Prediction frequency (MHz):	1962.6
Maximum antenna gain (dBi):	7.75
Maximum antenna gain (numeric):	5.96
Maximum RF output power (EIRP, mW):	2372
Power density at predication frequency and distance (mW/cm ²):	0.12
MPE limit for uncontrolled exposure at predication frequency (mW/ cm ²):	1

According to the following formula:

850 MPE value / 850 MPE limit + 1900 MPE value / 1900 MPE limit + 700 MPE value / 700 MPE limit < = 1, get

$$0.12/0.59+0.12/1+0.12/0.50=0.58$$

3. Test Results

The device is compliant with the requirement MPE limit for uncontrolled exposure.