

11 FCC §1.1307(b), §27.52 & §2.1091 - RF EXPOSURE

11.1 Applicable Standard

According to FCC §1.1310 and §2.1091 (Mobile Devices) RF exposure is calculated.

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 (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

Note: f = frequency in MHz

* = Plane-wave equivalent power density

11.2 MPE Prediction

Predication of MPE limit at a given distance, equation from 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

11.3 Test Result

700 MHz Band:	Maximum peak output power at antenna input terminal (dBm):	<u>15.08</u>
	Maximum peak output power at antenna input terminal (mW):	<u>32.21</u>
	Prediction distance (cm):	<u>20</u>
	Prediction frequency (MHz):	<u>752</u>
	Antenna Gain, typical (dBi):	<u>8.0</u>
	Maximum Antenna Gain (numeric):	<u>6.310</u>
AWS Band:	Power density at predication frequency and distance (mW/cm ²):	<u>0.0404</u>
	MPE limit for uncontrolled exposure at predication frequency (mW/cm ²):	<u>0.5013</u>
	Maximum peak output power at antenna input terminal (dBm):	<u>14.98</u>
	Maximum peak output power at antenna input terminal (mW):	<u>31.477</u>
	Prediction distance (cm):	<u>20</u>
	Prediction frequency (MHz):	<u>2112.4</u>
AWS Band:	Antenna Gain, typical (dBi):	<u>8</u>
	Maximum Antenna Gain (numeric):	<u>6.310</u>
	Power density at predication frequency and distance (mW/cm ²):	<u>0.04322</u>
	MPE limit for uncontrolled exposure at predication frequency (mW/cm ²):	<u>1.0</u>