

## Prediction of MPE at a given distance

### 1. Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) 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 <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

### 2. Test Procedure

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

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

R = distance to the centre of radiation of the antenna

### 3. Result

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm <sup>2</sup> )	Limits for General Population/ Uncontrolled Exposure (mW/cm <sup>2</sup> )
CDMA MB-BC0							
848.31	23.96	248.89	2	1.58	20.00	0.0785	0.5655
CDMA MB-BC1							
1880.00	23.69	233.88	2	1.58	20.00	0.0738	1.0
LTE Band 4							
1753.50	23.34	215.77	2	1.58	20.00	0.0681	1.0
LTE Band 12							
707.50	23.26	211.84	2	1.58	20.00	0.0668	0.4717
LTE Band 25							
1882.50	23.45	221.31	2	1.58	20.00	0.0698	1.0
LTE Band 5&26(part 22H)							
836.50	23.53	225.42	2	1.58	20.00	0.0711	0.5577
LTE Band 26(part 90S)							
819.00	23.55	226.46	2	1.58	20.00	0.0714	0.5460
2.4G wifi							
2437.00	16.23	41.98	2	1.58	20.00	0.0132	1.0

Note: Just the worst case mode was shown in report.

#### Max Simultaneous MPE calculation results

Mode	MPE Ratio	Results
2.4G WiFi + CDMA MB-BC0	0.0132 + 0.0785	0.0971 < 0.5655
2.4G WiFi + LTE Band 12	0.0132 + 0.0668	0.0800 < 0.4717
2.4G WiFi + LTE Band 26(part 90S)	0.0132 + 0.0714	0.0846 < 0.5460

### 4. Conclusion

The device is exempt from the RF exposure evaluation.