

MPE Calculation : GSM, WCDMA

RF function or Mode	Frequency range (MHz)		Max Target Power (dBm)	ANT Gain (dBi)	Calculated EIRP(dBm)	Measured EIRP(dBm)	Maximum EIRP (dBm)	Maximum EIRP (mW)	Maximum power density (mW/cm ²)	Requiriment (mW/cm ²)
GPRS850	824.20	~ 848.80	30.50	-1.83	28.67	25.82	28.67	736.208	0.147	0.549
WCDMA850	826.40	~ 846.60	24.20	-1.83	22.37	18.19	22.37	172.584	0.035	0.550
GPRS1900	1850.20	~ 1909.80	30.50	-7.98	22.52	23.63	23.63	230.675	0.046	1.000
WCDMA1900	1852.40	~ 1907.60	24.20	-7.98	16.22	18.49	18.49	70.632	0.015	1.000
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The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.

The MPE sample calculation for this exposure is shown below.

$$\begin{aligned}
 S &= \text{EIRP} / (4 R^2 \pi) \\
 &= 736.208 / (4 \times 20^2 \times \pi) \\
 &= 0.147 \text{ mW/cm}^2
 \end{aligned}$$

- Note

S= Maximum power density(mW/cm²)

EIRP= Equivalent Isotropic Radiated Power

R= Distance to the center of the radiation of the antenna

▪ Limits for General Population/Uncontrolled Exposure

Frequency range (MHz)		Electric Field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm ²)	Averageing 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	~ 1,500			f / 1500	30
1,500	~ 100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Conclusion : The exposure condition of this device is compliant with FCC