MPE Calculation : GSM,WCDMA

RF function or Mode	Frequency range (MHz)			Max Target Power (dBm)	ANT Gain (dBi)	Maximum EIRP (dBm)	Maximum EIRP (mW)	Maximum power density (mW/cm^2)	Requriment (mW/cm^2)
GPRS850	824.20	~	848.80	24.00	4.74	28.74	748.170	0.149	0.549
WCDMA850	826.40	~	846.60	24.20	4.74	28.94	783.430	0.156	0.550
GPRS1900	1850.20	~	1909.80	21.50	5.51	27.01	502.343	0.100	1.000
WCDMA1900	1852.40	~	1907.60	24.20	5.51	29.71	935.406	0.187	1.000
		~							
		~							

The max target power of gprs-mode was based on the frame average power.

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.

▪ $S =$ EIRP / (4 R^2 π)

$= 748.17$ / (4 X 20^2 X π)

$= 0.149$ mW/cm^2

- Note

S= Maximum power density(mW/cm^2)

EIRP= Equivalent Isotropic Radiated Power(mW)

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

▪ **Limits for Maximum Permissible Exposure (MPE)**

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

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