7. RADIO FREQUENCY EXPOSURE

7.1. Limit

According to §1.1310 and §2.1091 RF exposure is calculated.

Table: Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Power Density (S) (mW/cm2)
0.3–1.34	*(100)
1.34–30	*($180/f^2$)
30–300	0.2
300–1500	f/1500
1500–100,000	1.0

F = frequency in MHz

* = Plane-wave equivalent power density

Maximum Permissible Exposure

The MPE was calculated at 20cm to show compliance with the power density limit.

$S = PG/4\pi R^2$

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.

Note:

1. Manufacturer declared the maximum antenna gain (0.53dBi(max.) for GSM 850; 0.58dBi(max.) for PCS 1900; 0.53dBi(max.) for WCDMA Band V; 0.0dBi(max.) for WCDMA Band II)

2. Manufacturer declared that the nearest distance between human and the EUT is 20cm.

3. Only record worst case data.

7.2. Test Results

Test Mode	Max. Tune Up Power (dBm, Average)	Max. Tune Up Power (mW)	MPE (mW/cm^2)	Limit (mW/cm^2)
GSM 850	33.0±1.0	2511.89	0.5647	1.0
GPRS 850	33.0±1.0	2511.89	0.5647	1.0
PCS 1900	30.0±1.0	1258.93	0.2863	1.0
GPRS 1900	30.0±1.0	1258.93	0.2863	1.0
WCDMA Band V RMC 12.2K	23.0±1.0	251.19	0.0565	1.0
HSDPA Band V	23.0±1.0	251.19	0.0565	1.0
WCDMA Band II RMC 12.2K	23.0±1.0	251.19	0.0500	1.0
HSDPA Band II	23.0±1.0	251.19	0.0565	1.0

Antenna Gain (typical): 0.53dBi / 1.130(numeric) For GSM 850;

0.58dBi / 1.143(numeric) For PCS 1900;

0.53dBi / 1.130(numeric) For WCDMA Band V;

0.0dBi / 1.0(numeric) For WCDMA Band II.

Prediction distance: >=20cm

The power density level worst case at 20 cm is below the uncontrolled exposure limit.