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 that the maximum antenna gain is 3.0dBi(Max.).

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

3. Only record worst case data.

Test Mode		Channel	Frequency (MHz)	Power (dBm, Burst Average)	Power Tune Up (dBm)
GSM 850	GSM	Low	824.2	32.88	32.0±1.0
		Middle	836.6	32.91	32.0±1.0
		High	848.8	32.90	32.0±1.0
	GPRS	Low	824.2	31.82	31.0±1.0
		Middle	836.6	31.81	31.0±1.0
		High	848.8	31.79	31.0±1.0
	EGPRS	Low	824.2	26.25	26.0±1.0
		Middle	836.6	26.24	26.0±1.0
		High	848.8	26.27	26.0±1.0
GSM 1900	GSM	Low	1850.2	30.01	30.0±1.0
		Middle	1880.0	30.00	30.0±1.0
		High	1909.8	30.00	30.0±1.0
	GPRS	Low	1850.2	28.77	28.0±1.0
		Middle	1880.0	28.80	28.0±1.0
		High	1909.8	28.78	28.0±1.0
	EGPRS	Low	1850.2	25.07	25.0±1.0
		Middle	1880.0	25.08	25.0±1.0
		High	1909.8	25.09	25.0±1.0

7.2 Test Results

Test Mode		Channel	Max. Tune Up Power (dBm, Burst Average)	Max. Tune Up Power (mW)	MPE (mW/cm²)	Limit (mW/cm²)
GSM 850	GSM	Low	33.0	1995.26	0.79	1.0
		Middle	33.0	1995.26	0.79	1.0
		High	33.0	1995.26	0.79	1.0
GSM 1900	GSM	Low	31.0	1258.93	0.50	1.0
		Middle	31.0	1258.93	0.50	1.0
		High	31.0	1258.93	0.50	1.0

Antenna Gain (typical): 3dBi, 2(numeric)

Prediction distance: >=20cm

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