14. RF EXPOSURE

14.1. Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to §1.1310 and 2.1091, This is a Mobile device, the MPE is required.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz

* = Plane-wave equipment power density

14.2. Maximum Permissible Exposure (MPE) Evaluation

The worst case of Peak power of BT EDR 3M mode: refer to section 6.5 for detail measurement date.

EDR 3M Mode

Frequency (MHz)	Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2402.00	5.50	0.00	5.50	0.00355	1
2441.00	4.89	0.00	4.89	0.00308	1
2480.00	4.63	0.00	4.63	0.00290	1

MPE Prediction (BT EDR 3M Dode)

Prediction of MPE limit at a given distance

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

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

Where: 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

Maximum Peak output power at antenna input terminal:	5.5	(dBm)
Maximum Peak output power at antenna input terminal:	3.548133892	(mW)
Duty cycle:	78	(%)
Maximum Pav :	2.767544436	(mW)
Antenna gain (typical):	2.87	(dBi)
Maximum antenna gain:	1.936421964	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	2402	(MHz)
MPE limit for uncontrolled exposure at prediction	1	(mW/cm2)
Power density at predication frequency at 20 (cm)	0.0010667	(mW/cm^2)

Measurement Result

The predicted power density level at 20 cm is 0.0010mW/cm^2. This is below the uncontrolled exposure limit of 1 mW/cm^2 at 2402MHz.