5 §1.1307(b) (1) & §2.1091 - RF EXPOSURE

5.1 Applicable Standard

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

Limits for General Population/Uncontrolled Exposure

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
1500-100,000	/	/	1.0	30

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

5.2 MPE Prediction

Predication 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

Cellular band

Maximum peak output power at antenna input terminal:	32.30(dBm)
Maximum peak output power at antenna input terminal:	1698.24(mW)
Prediction distance:	25 (cm)
Predication frequency:	848.8(MHz)
Antenna Gain (typical):	3 (dBi)
Antenna gain:	1.995(numeric)
Power density at predication frequency at 25 cm:	0.4314(mW/cm^2)

MPE limit for uncontrolled exposure at prediction frequency: 0.5659(mW/cm^2)

PCS band

Maximum peak output power at antenna input terminal:	29.95(dBm)
Maximum peak output power at antenna input terminal:	988.55(mW)
Prediction distance:	20 (cm)
Predication frequency:	1909.8(MHz)
Antenna Gain (typical):	3 (dBi)
Antenna gain:	1.995(numeric)
Power density at predication frequency at 20 cm:	0.3923(mW/cm^2)

MPE limit for uncontrolled exposure at prediction frequency: 1(mW/cm^2)

5.3 Test Result

The EUT is a mobile device. The power density level at 25 cm is 0.4314 mW/cm^2, which is below the uncontrolled exposure limit of 0.5659 mW/cm^2 at 848.8 MHz for Cellular band. The power density level at 20 cm is 0.3923 mW/cm^2, which is below the uncontrolled exposure limit of 1mW/cm^2 at 1909.8 MHz for PCS band. Thus, this device has overall minimum operating distance of 25 cm.