FCC §1.1307 & §2.1091 - RF EXPOSURE

Applicable Standard

According to FCC §1.1307(b)(1) and §2.1091, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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

Limits for General Population/Uncontrolled Exposure

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 (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
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

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

Test Data

Predication of MPE limit at a given distance

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

Where:
S = power density (in appropriate units, e.g. mW/cm2)
P = output power to antenna
G= Antenna Gain
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Frequency Band	Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
Uplink	1880	14	25.12	19.89	97.50	20	0.488	1.0
Downlink	1989.8	7	5.01	26.99	500.03	20	0.499	1.0

The predicted power density level at 20 cm is 0.488 mw/cm^2 for uplink, 0.499 mw/cm^2 for downlink, which is below the ordinary/controlled exposure limit of 1 mw/cm^2, The EUT is used at least 20 cm away from user's body. It is determined as mobile equipment and complies with the MPE limit.

Result: Pass