

FCC 22H24E 27L, §2.1091 – RF Exposure

FCC ID: 2A7MV-100-EIARA

Applied procedures / limit

According to FCC §15.247(i) and §1.1307(b)(1), 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.

Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Note: f is frequency in MHz

* = Power density limit is applicable at frequencies greater than 100 MHz

Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz

* = Plane-wave equivalent power density

MPE PREDICTION

Predication of MPE limit at a given distance, Equation from 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, R=20cm

Test Result of RF Exposure Evaluation

	Tune up Produce power	Maximu m peak output power (dBm)	Output power to antenn a (mW)	Antenn a Gain (numer ic)	Power Density (S) (mW/ cm2)	Limit (mW / cm2)	Result
GSM 850	26±1	27	501.187	1.694 (2.29dBi)	0.16902	0.549	Pass
GSM 1900	23±1	24	251.189	1.442 (1.59dBi)	0.07210	1	Pass
WCDMA BAND 2	25±1	26	398.107	1.442 (1.59dBi)	0.11427	1	Pass
WCDMA BAND 4	25±1	26	398.107	1.585 (2.00dBi)	0.12559	1	Pass
WCDMA BAND 5	25±1	26	398.107	1.694 (2.29dBi)	0.13426	0.549	Pass
LTE BAND 2	25±1	26	398.107	1.442 (1.59dBi)	0.11427	1	Pass
LTE BAND 4	25±1	26	398.107	1.585 (2.00dBi)	0.12559	1	Pass
LTE BAND 5	25±1	26	398.107	1.694 (2.29dBi)	0.13426	0.549	Pass
LTE BAND 7	25±1	26	398.107	1.995 (3.00dBi)	0.15811	1	Pass
LTE BAND 12	25±1	26	398.107	2.118 (3.26dBi)	0.16786	0.466	Pass
LTE BAND 13	25±1	26	398.107	2.793 (4.46dBi)	0.22128	0.519	Pass
LTE BAND 25	25±1	26	398.107	1.442 (1.59dBi)	0.11427	1	Pass
LTE BAND 38	25±1	26	398.107	1.607 (2.06dBi)	0.12734	1	Pass
LTE BAND 41	25±1	26	398.107	1.995 (3.00dBi)	0.15811	1	Pass