



FCC §15.247 (i), §2.1091 – RF Exposure

FCC ID: 2AQOB-LBT8

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=0.2m

TEST RESULTS

Maximum Emissions Level							
Module Specifications	Mode	Max. Power (dBm)	Tune-up Power (dBm)	Tune-up Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW)	Power Density (mW/cm ²)
MVSILICON BP1048B2	BR,EDR	-1.51	-1.0	0.79	3.37	2.17	0.000343
	BLE	-3.59	-3.0	0.50	3.37	2.17	0.000217
Qualcomm QCC3095	BR,EDR	12.81	13.0	19.95	2.84	1.92	0.007636
	BLE	8.16	8.5	7.08	2.84	1.92	0.002709

Maximum Emissions Level				
Module Specifications	Max. Power Density (mW/cm ²)	Simultaneous Transmission (mW/cm ²)	Limit (mW/cm ²)	Result
MVSILICON BP1048B2	0.000343	0.007979	1.0	PASS
Qualcomm QCC3095	0.007636			

For the max result: 0.007979 < 1.0, compliance with FCC's RF Exposure