

FCC 22H 24E 27L, §2.1091 – RF Exposure

FCC ID: 2A73PYBT-001

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	Maximum peak output power (dBm)	Output power to antenna (mW)	Antenna Gain (numeric)	Power Density (S) (mW/cm ²)	Limit (mW/cm ²)	Result
EDR (8DPSK&HCH)	5±1	6	3.9811	0.6039 (-2.19dBi)	0.00048	1	Pass
2.4GWIFI (802.11b&2437)	8±1	9	7.9433	0.6039 (-2.19dBi)	0.00095	1	Pass
LTE BAND 2	26±1	27	501.1872	1.4421 (1.59dBi)	0.14386	1	Pass
LTE BAND 4	27±1	28	630.9573	1.5849 (2dBi)	0.19905	1	Pass
LTE BAND 5	25±1	26	398.1072	1.6943 (2.29dBi)	0.13426	0.5498	Pass
LTE BAND 7	28±1	29	794.3282	1.9953 (3dBi)	0.31546	1	
LTE BAND 12	26±1	27	501.1872	2.1184 (3.26dBi)	0.21184	0.4665	Pass
LTE BAND 13	27±1	28	630.9573	2.7861 (4.45dBi)	0.34991	0.5197	Pass
LTE BAND 25	26±1	27	501.1872	1.4421 (1.59dBi)	0.14386	1	Pass
LTE BAND 26 (814-824)	25±1	26	398.1072	1.7906 (2.53dBi)	0.14189	0.5431	Pass
LTE BAND 26 (824-849)	25±1	26	398.1072	1.7906 (2.53dBi)	0.14189	0.5498	Pass
LTE BAND 38	27±1	26	398.1072	1.6069 (2.06dBi)	0.12734	1	Pass
LTE BAND 41	28±1	29	794.3282	1.9953 (3dBi)	0.31546	1	Pass

BT+WIFI+LTE supported simultaneous transmission:

BT+2.4GWIFI+LTE: Σ MPE Ratio = 0.00048+0.00095+0.34991/0.5197
=0.67472≤1, So passed.

Remark: The module antenna is the same as the EUT antenna. Please refer to FCC ID:
XMR201903EG25G