

RF EXPOSURE EVALUATION

MPE-Based Exemption

Applicable Standard

According to subpart 15.247 (i) and subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 Interim General RF Exposure Guidance

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power(ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(3)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

R is the minimum separation distance in meters

f = frequency in MHz

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Result

Mode	Frequency (MHz)	Tune up conducted power [#] (dBm)	Antenna Gain [#]		ERP		Evaluation Distance (m)	ERP Limit (W)
			(dBi)	(dBd)	(dBm)	(W)		
BT	2402-2480	-1.5	-0.1	-2.25	-3.75	0.0004	0.2	0.768
LTE B2	1850-1910	25.0	0.5	-1.65	23.35	0.216	0.2	0.768
LTE B4	1710-1755	25.0	0.5	-1.65	23.35	0.216	0.2	0.768
LTE B5	824-849	25.0	0.5	-1.65	23.35	0.216	0.2	0.422
LTE B12	699-716	25.0	0.5	-1.65	23.35	0.216	0.2	0.358
LTE B13	777-787	25.0	0.5	-1.65	23.35	0.216	0.2	0.398
LTE B17	704-716	25.0	0.5	-1.65	23.35	0.216	0.2	0.360
LTE B25	1850-1915	25.0	0.5	-1.65	23.35	0.216	0.2	0.768
LTE B66	1710-1780	25.0	0.5	-1.65	23.35	0.216	0.2	0.768
LTE B85	698-716	25.0	0.5	-1.65	23.35	0.216	0.2	0.357

Note: The tune up conducted power and antenna gain was declared by the applicant.
The device contains a certified WWAN model (model: BC660K-GL, FCC ID: XMR2021BC660KGL)

Simultaneously transmitting condition:

The worst case ratio= $0.0004/0.768+0.216/0.357=0.61<1$

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant