

FCC §15.247 (I) & §1.1307 (B) (3) & §2.1091 - 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

Result

Mode	Frequency (MHz)	Tune up conducted power [#]	Antenna Gain [#]		ERP		Evaluation Distance (m)	ERP Limit (mW)
		(dBm)	(dBi)	(dBd)	(dBm)	(mW)		
BLE	2402-2480	6.5	1.56	-0.59	5.91	3.90	0.2	768
2.4G Wi-Fi	2412-2462	27.0	2.66	0.51	27.51	563.64	0.2	768
5.2G Wi-Fi	5180-5240	11.5	3.10	0.95	12.45	17.58	0.2	768
5.3G Wi-Fi	5260-5320	13.0	3.10	0.95	13.95	24.83	0.2	768
5.6G Wi-Fi	5500-5600/ 5650-5700	12.5	3.10	0.95	13.45	22.13	0.2	768
5.8G Wi-Fi	5745-5825	11.5	3.10	0.95	12.45	17.58	0.2	768

Note: 1. The tune up conducted power and antenna gain was declared by the applicant.

2. The BLE, 2.4G Wi-Fi and 5G Wi-Fi cannot transmit at same time.

3. 0dBd=2.15dBi

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

Result: Compliant.