

FCC§15.247 (i), §1.1307 (b) (3) &§2.1091 – RF EXPOSURE

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)(1)(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	$0.0128 R^2f$.
1,500-100,000	$19.2R^2$.

R is the minimum separation distance in meters
f = frequency in MHz

Result

Mode	Frequency (MHz)	Antenna Gain		Tune up conducted power (dBm)	ERP		Evaluation Distance (m)	ERP Limit (W)
		(dBi)	(dBd)		(dBm)	(W)		
BLE	2402-2480	-4.32	-6.47	5.0	-1.47	0.0007	0.2	0.768
Wi-Fi	2412-2472	-4.32	-6.47	15.0	8.53	0.007	0.2	0.768

Note: Wi-Fi and BLE cannot transmit simultaneous,

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

Result: Compliance