

47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091
Maximum Permissible Exposure Calculations

For FCC ID: 2AJAC-VIBRSB

EUT Device Category = General Population/Uncontrolled Exposure

EUT consists of one ISM band radio transmitter operating over a range of **2405 MHz to 2475 MHz**.

MPE Summary:

According subpart 1.1307 (b)(1) and 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.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure						
Frequency (MHz)	Range	Electric Strength (V/m)	Field Magnetic Strength (A/m)	Field	Power Density (mW/cm²)	Averaging Time (Minutes)
0.3-1.34	614	1.63		*(100)	30	
1.34-30		824/f	2.19/f	*(180/f ²)	30	
30-300		27.5	0.073	0.2	30	
300-1500	/	/		f/1500	30	
1500-100,000	/	/		1.0	30	

f = frequency in MHz;

* = Plane-wave equivalent power density

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

PG = EIRP

MPE and Limit are calculated for this device as follows:

2405 MHz to 2475 MHz Frequency Band							
Freq	Output Power (dBm)	Max Antenna Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density at 20 cm (mW/cm ²)	Limit (mW)	Margin (mW)
2405	18.44	-0.64	17.80	60.30	0.012	1.0	0.988
2440	18.48	-0.64	17.84	60.80	0.012	1.0	0.988
2475	18.57	-0.64	17.93	62.10	0.012	1.0	0.988

Result: The device meets FCC MPE limit at 20 cm for General Population/Uncontrolled Exposure as specified in 47 CRF §1.1310 and §2.1091.