

**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 Carefree Scott Fetzer Co Inc M/N: Eos

BLE Transceiver

EUT Device Category = General Population/Uncontrolled Exposure

EUT consists of one ISM band radio transmitting operating over a range of:
2402 MHz to 2480 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 Range (MHz)	Electric Strength (V/m)	Field	Magnetic Strength (A/m)	Field	Power Density (mW/cm ²)	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 as follows:

f (MHz)	Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Δ
2402	3.04	3.0	6.04	4.02	0.0008	1000	999.99
2440	2.33	3.0	5.33	3.41	0.0007	1000	999.99
2480	3.34	3.0	6.34	4.31	0.0009	1000	999.99

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