

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 Ultradent Products, Inc. FCC ID: 2AXF6-5973

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:

KDB 447498 D01 General RF Exposure Guidance v06 gives the 1-g and 10-g SAR test exclusion thresholds. The limits for 100 MHz to 6 GHz and a test separation distance of ≤50 mm are defined by the following equation:

$$((\text{max EIRP} + \text{tune up tolerance, mW} / (\text{minimum separation, mm}) * \sqrt{f_{\text{GHz}}} \leq 3.0 \text{ for 1-g SAR or } \leq 7.5 \text{ for 10-g SAR}$$

EIRP calculations

Frequency (GHz)	Peak Power (dBm)	Antenna Gain (dBi)	Calculated EIRP (dBm)	Calculated EIRP (mW)
2.402	1.75	2.0	3.75	2.371
2.440	1.60	2.0	3.60	2.291
2.480	1.49	2.0	3.49	2.234

MPE and Limit are calculated as follows:

Max EIRP (mW)	Tune up (mW)	Separation (mm)	Frequency (GHz)	Density (mW/mm)	Limit (1-g)	Result	Limit (10-g)	Result
2.371	1.0	5.0	2.402	1.045	3.0	Exempt	7.5	Exempt
2.291	1.0	5.0	2.440	1.028	3.0	Exempt	7.5	Exempt
2.234	1.0	5.0	2.480	1.019	3.0	Exempt	7.5	Exempt

Result: The device meets FCC MPE limit for General Population/Uncontrolled Exposure