

SAR Exclusion Evaluation

FCC SAR Test Exclusion Thresholds (FCC KDB Publication 447498 D01 v06):

For $100 \text{ MHz} \leq f \leq 6 \text{ GHz}$ and $d_{\min} \leq 50 \text{ mm}$:

$$\frac{P_{\max}}{d_{\min}} \cdot [Vf_{(\text{GHz})}] \leq 3.0 \quad \text{for 1-g SAR, and}$$

$$\leq 7.5 \quad \text{for 10-g extremity SAR}$$

where $P_{\max}$ = max. power of channel in mW
 $d_{\min}$ = minimum test separation distance in mm
 f = RF channel transmit frequency

Calculation:

BLE and IEC 802.15.4 transmitters do not transmit simultaneously.

Type of TX	Frequency, f (GHz)	Minimum Separation Distance, $d_{\min}$ (mm)	Power*, $P_{\max}$ (dBm eirp)	Peak Antenna Gain (dBi)	Power, $P_{\max}$ (dBm cond.)	Power, $P_{\max}$ (mW cond.)	$(P_{\max}/d_{\min})^*$ SQRT(f)	SAR Test Exclusion Threshold (Extremity)	Result
BLE	2.442	5	14.17	2	12.17	16.48	5.15	7.5	Compliant
801.15.4	2.440	5	10.98	2	8.98	7.91	2.47	7.5	Compliant

*: data was taken from Intertek 104363035BOX-003 test report

Evaluation Results, FCC: **Complies**