



## RF Exposure evaluation

According to 447498 D01 and 47CRF part 2.1093.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where  $f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

Here,

### For BLE

| Frequency (MHz) | Max power (dBm) | Max power (mW) | Min. distance (mm) | Calculation Value | Threshold Value |
|-----------------|-----------------|----------------|--------------------|-------------------|-----------------|
| 2440            | 0.93            | 1.24           | 5                  | 0.39              | 3.0             |

### For 2.4G

| Fre. (GHz) | E (dBuV/m) | EIRP (dBm) | Max ERP (dBm) | Max ERP (mW) | Separation distance (mm) | Calculation Value | Threshold Value |
|------------|------------|------------|---------------|--------------|--------------------------|-------------------|-----------------|
| 2.402      | 92.78      | -2.42      | -4.57         | 0.35         | 5                        | 0.11              | 3.0             |

1.  $\text{EIRP(dBm)} = \text{E(dBuV/m)} - 95.2 = 92.78 \text{ (dBuV/m)} - 95.2 = -2.42\text{dBm}$

2.  $\text{ERP} = \text{EIRP(dBm)} - 2.15$

So SAR test is not required