

RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v05 The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by: $[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 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

Ant gain 0dBi; so Ant numeric gain=1.0

For Bluetooth BR/EDR

pt=2.002dBm =1.59mW at 2480MHz

So $(1.59\text{mW}/5\text{mm}) \times \sqrt{2.480\text{GHz}} = 0.501 < 3$

For BLE

pt=-5.411dBm =0.29mW at 2440MHz

So $(0.29\text{mW}/5\text{mm}) \times \sqrt{2.440\text{GHz}} = 0.091 < 3$

For 2.4GHz wifi

pt=9.43dBm =8.77mW at 2437MHz

So $(8.77\text{mW}/5\text{mm}) \times \sqrt{2.437\text{GHz}} = 2.738 < 3$

For 5GHz wifi

pt=6.82dBm =4.81mW at 5180MHz

So $(4.81\text{mW}/5\text{mm}) \times \sqrt{5.180\text{GHz}} = 2.189 < 3$