

Appendix IV RF Exposure evaluation

FCC ID: 2BDJ4-UL101Y

According to 447498 D01 General RF Exposure Guidance v06

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:

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

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

The result is rounded to one decimal place for comparison.

BLE:

Worse case output power is as below: [2402MHz: 2.32dBm]

Maximum output power is 2.32dBm (1.71 mW).

$(1.71\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402 (\text{GHz})}] = 0.53 < 3.0$ for 1-g SAR.

EDR:

Worse case output power is as below: [2441MHz: 2.43dBm]

Maximum output power is 2.43dBm (1.75 mW).

$(1.75\text{mW} / 5\text{mm}) \cdot [\sqrt{2.441(\text{GHz})}] = 0.55 < 3.0$ for 1-g SAR.

2.4G WIFI:

Worse case output power is as below: [2437MHz: 7.27dBm]

Maximum output power is 7.27dBm (5.33 mW).

$(5.33\text{mW} / 5\text{mm}) \cdot [\sqrt{2.437(\text{GHz})}] = 1.67 < 3.0$ for 1-g SAR.

5G WIFI:

Worse case output power is as below: [5755MHz: 6.99dBm]

Maximum output power is 6.99dBm (5.00 mW).

$(5.00\text{mW} / 5\text{mm}) \cdot [\sqrt{5.755(\text{GHz})}] = 2.40 < 3.0$ for 1-g SAR.

Maximum RF Exposure evaluation for BT+WIFI: $0.55 + 2.40 < 3.0$ for 1-g SAR.

Then SAR evaluation is not required.