



RF Exposure evaluation

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

Left earphone:

BT BLE

Worse case output power is as below: [2440MHz: 3.90dBm (2.46mW)]

Antenna Gain is -0.51dBi

Maximum output power is 3.90dBm (2.46mW).

$(2.46\text{mW} / 5\text{mm}) \cdot [\sqrt{2.440(\text{GHz})}] = 0.77 < 3.0$ for 1-g SAR

BT EDR

Worse case output power is as below: [2480MHz: 3.52dBm (2.25mW)]

Antenna Gain is -0.51dBi

Maximum output power is 3.52dBm (2.25mW).

$(2.25\text{mW} / 5\text{mm}) \cdot [\sqrt{2.480(\text{GHz})}] = 0.71 < 3.0$ for 1-g SAR



Right earphone:

BT BLE

Worse case output power is as below: [2440MHz: 2.71dBm (1.87mW)]

Antenna Gain is -1.13dBi

Maximum output power is 2.71dBm (1.87mW).

$(1.87\text{mW} / 5\text{mm}) \cdot [\sqrt{2.440(\text{GHz})}] = 0.58 < 3.0$ for 1-g SAR

BT EDR

Worse case output power is as below: [2480MHz: 3.06dBm (2.02mW)]

Antenna Gain is -1.13dBi

Maximum output power is 3.06dBm (2.02mW).

$((2.02\text{mW} / 5\text{mm}) \cdot [\sqrt{2.480(\text{GHz})}]) = 0.64 < 3.0$ for 1-g SAR

Then SAR evaluation is not required