

Portable device

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB447498 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:

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

$f(\text{GHz})$ 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;

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm

and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

We use 5mm as separation distance to calculate.

Maximum measured transmitter power:

Bluetooth:

Transmit Frequency (GHz)	Mode	Measured Power (dBm)	Tune-up power (dBm)	Max tune-up power(dBm)	Result calculation	1-g SAR
2.402	GFSK	2.37	2±1	3	0.6185	3
2.441	GFSK	2.08	2±1	3	0.6235	3
2.48	GFSK	2.24	2±1	3	0.6284	3
2.402	$\pi/4$ -DQPSK	3.00	3±1	4	0.7786	3
2.441	$\pi/4$ -DQPSK	2.66	3±1	4	0.7849	3
2.48	$\pi/4$ -DQPSK	2.91	3±1	4	0.7911	3
2.402	8DPSK	3.20	3±1	4	0.7786	3
2.441	8DPSK	2.83	3±1	4	0.7849	3
2.48	8DPSK	3.14	3±1	4	0.7911	3

Conclusion:

For the max result : $0.7911 \leq 3.0$ for 1-g SAR extremity SAR, No SAR is required.

Signature: 

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