

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:

BLE:

Modulation	Channel Freq. (MHz)	Conducted power (dBm)	Conducted power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Result calculation	1g SAR
GFSK	2.402	1.58	1.44	1±1	2.00	1.58	0.49127	3.00
	2.441	1.11	1.29	1±1	2.00	1.58	0.49483	3.00
	2.480	0.77	1.19	1±1	2.00	1.58	0.49918	3.00
$\pi/4$ -DQPSK	2.402	0.97	1.25	1±1	2.00	1.58	0.49127	3.00
	2.441	0.84	1.21	1±1	2.00	1.58	0.49524	3.00
	2.480	0.11	1.03	1±1	2.00	1.58	0.49918	3.00
8DPSK	2.402	1.49	1.41	1±1	2.00	1.58	0.49127	3.00
	2.441	0.73	1.18	1±1	2.00	1.58	0.49524	3.00
	2.480	-0.52	0.89	1±1	2.00	1.58	0.49918	3.00

Conclusion:

For the max result : $0.49918 \leq 3.0$ for 1-g SAR, No SAR is required.

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