

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 V06

The 1-g SAR 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

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

WIFI:

Modulation	Channel Freq. (GHz)	Conducted power (dBm)	Conducted power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculation	SAR Exclusion threshold	SAR test exclusion
802.11b	2.412	9.6	9.12	8.8±1	9.8	9.55	<5	2.96632	3.00	YES
	2.442	9.8	9.55	8.8±1	9.8	9.55	<5	2.98471	3.00	YES
	2.462	9.7	9.33	8.8±1	9.8	9.55	<5	2.99691	3.00	YES
802.11g	2.412	9.8	9.55	8.8±1	9.8	9.55	<5	2.96632	3.00	YES
	2.442	9.6	9.12	8.8±1	9.8	9.55	<5	2.98471	3.00	YES
	2.462	9.5	8.91	8.8±1	9.8	9.55	<5	2.99691	3.00	YES
802.11n HT20	2.412	9.4	8.71	8.7±1	9.7	9.33	<5	2.89880	3.00	YES
	2.442	9.6	9.12	8.7±1	9.7	9.33	<5	2.91677	3.00	YES
	2.462	9.7	9.33	8.7±1	9.7	9.33	<5	2.92869	3.00	YES

BT:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculation	SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	0.89	1.23	1.8±1	2.8	1.91	<5	0.59063	3.00	YES
	2.441	1.62	1.45	1.8±1	2.8	1.91	<5	0.59541	3.00	YES
	2.480	2.12	1.63	1.8±1	2.8	1.91	<5	0.60014	3.00	YES
$\pi/4$ -DQPSK	2.402	0.65	1.16	1.6±1	2.6	1.82	<5	0.56405	3.00	YES
	2.441	1.32	1.36	1.6±1	2.6	1.82	<5	0.56861	3.00	YES
	2.480	1.85	1.53	1.6±1	2.6	1.82	<5	0.57313	3.00	YES
8-DPSK	2.402	0.74	1.19	1.7±1	2.7	1.86	<5	0.57719	3.00	YES
	2.441	1.41	1.38	1.7±1	2.7	1.86	<5	0.58185	3.00	YES
	2.480	1.94	1.56	1.7±1	2.7	1.86	<5	0.58648	3.00	YES

BLE:

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculation	SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	0.77	1.19	1.7±1	2.7	1.86	<5	0.57719	3.00	YES
	2.440	1.37	1.37	1.7±1	2.7	1.86	<5	0.58173	3.00	YES
	2.480	1.85	1.53	1.7±1	2.7	1.86	<5	0.58648	3.00	YES

Conclusion:

For the max result : $2.99691 \leq 3.0$ for Max Power Density, compliance RF exposure.

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Signature:

Date: 2019-06-19

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