

FCC ID : BRCPC7023ME

WiFi Transmitting Mode:

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 KDB 447498 D01 General RF Exposure Guidance v05, section 4.3.1

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16} \text{ where}$$

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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.

Maximum measured transmitter power

Conducted Power (mw)	Max Antenna Gain (dBi)	
7.89	0	

Remark: The best case gain of the antenna is 0dBi.

0dBi logarithmic terms convert to numeric result is nearly 1

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√ f(GHz)]=7.89/5* √ 2.437=2.46 ≤ 3.0

Threshold at which no SAR required is 10mw and ≤ 3.0 for 1-g SAR, Separation distance is 5mm.
Maximum Tx power is 7.89mW (EIRP).

Conclusion: No SAR is required.

Bluetooth Transmitting Mode:

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 KDB 447498 D01 General RF Exposure Guidance v05, section 4.3.1

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5400	6	13	19	26	32	
5800	6	12	19	25	31	

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16} \text{ where}$$

$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz}$$

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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.

Maximum measured transmitter power

Conducted Power (mw)	Max Antenna Gain (dBi)	
0.313	0	

Remark: The best case gain of the antenna is 0dBi.

0dBi logarithmic terms convert to numeric result is nearly 1

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] = 0.313/5 \cdot \sqrt{2.402} = 0.097 \leq 3.0$$

Threshold at which no SAR required is 10mw and ≤ 3.0 for 1-g SAR, Separation distance is 5mm.
Maximum Tx power is 0.313mW (EIRP).

Conclusion: No SAR is required.

Bluetooth and WIFI Both Transmitting: **Portable device**

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According to KDB 447498 D01 General RF Exposure Guidance v05, section 4.3.1

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

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5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

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:

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion: (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [$\sqrt{f(\text{GHz})/x}$] W/kg for test separation distances ≤ 50 mm; where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

Remark: The best case gain of the antenna is 0dBi.

WIFI and Bluetooth Both Transmitting:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [$\sqrt{f(\text{GHz})/x}$] W/kg = $7.89/5 \cdot [\sqrt{2.437/7.5}] + 0.313/5 \cdot [\sqrt{2.402/7.5}] = 0.329$ W/kg 1-g SAR

Threshold at which no SAR required is 10mw and ≤ 1.6 W for 1-g SAR, Separation distance is 5mm.

Conclusion: No SAR is required.