

FCC ID: SMQAX3EDAN

Portable device

According to §15.247(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 and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

$f(\text{GHz})$ 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.

For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

- 1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) * (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz
- 2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) * 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz

For the WIFI the test minimum separation is 330mm (see the following page photo)

Two WIFI antennas cannot be sent at the same time

Maximum measured transmitter power:

WIFI: 2400MHz-2483.5MHz

Antenna 1:

	Channel Freq. (MHz)	Max Transmit Power (dBm)	Max tune-up power (dBm)	Result calculation	Exclusion threshold at 330mm (mW)
802.11b	2412	17.00	18	63.10	2802
	2437	17.01	18	63.10	2802
	2462	17.19	18	63.10	2802
802.11g	2412	15.65	16	39.81	2801
	2437	15.32	16	39.81	2801
	2462	15.12	16	39.81	2801
802.11n (HT20)	2412	15.21	16	39.81	2801
	2437	15.22	16	39.81	2801
	2462	15.06	16	39.81	2801

Antenna 2:

	Channel Freq. (MHz)	Max Transmit Power (dBm)	Max tune-up power (dBm)	Result calculation	Exclusion threshold at 330mm (mW)
802.11b	2412	16.86	17	50.12	2802
	2437	16.95	17	50.12	2802
	2462	17.01	18	63.10	2802
802.11g	2412	15.53	16	39.81	2801
	2437	15.28	16	39.81	2801
	2462	15.22	16	39.81	2801
802.11n (HT20)	2412	15.10	16	39.81	2801
	2437	15.22	16	39.81	2801
	2462	15.08	16	39.81	2801

Conclusion:

No SAR is required.

