

FCC ID: 2A2WF-AT01

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.

NFC:

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 calculatio n	SAR Exclusion threshold	SAR test exclusion
ASK	0.01356	-23.01	0.01	-23±1	-22.00	0.01	<5	0.00015	3.00	YES

NFC: Note: $\text{dbm} = \text{dbuv/m} - 95.2 = 68.49 - 95.2 + 4.7 = -22.01 \text{ dBm (EIRP)}$,
so the conduct peak power $= -22.01 - 1 = -23.01 \text{ dBm}$

EDR:

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 calculatio n	SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	-5.668	0.27	-5±1	-4.00	0.40	<5	0.12340	3.00	YES
	2.441	-4.773	0.33	-4±1	-3.00	0.50	<5	0.15661	3.00	YES
	2.480	-5.62	0.27	-5±1	-4.00	0.40	<5	0.12539	3.00	YES
(π/4)DQPSK	2.402	-5.992	0.25	-5±1	-4.00	0.40	<5	0.12340	3.00	YES
	2.441	-4.992	0.32	-4±1	-3.00	0.50	<5	0.15661	3.00	YES
	2.480	-5.698	0.27	-5±1	-4.00	0.40	<5	0.12539	3.00	YES
8DPSK	2.402	-5.848	0.26	-5±1	-4.00	0.40	<5	0.12340	3.00	YES
	2.441	-5.041	0.31	-5±1	-4.00	0.40	<5	0.12440	3.00	YES
	2.480	-5.83	0.26	-5±1	-4.00	0.40	<5	0.12539	3.00	YES

2.4GWIFI:

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
802.11b	2.412	8.44	6.98	8±1	9.00	7.94	<5	2.46728	3.00	YES
	2.437	8.2	6.61	8±1	9.00	7.94	<5	2.48003	3.00	YES
	2.462	8.14	6.52	8±1	9.00	7.94	<5	2.49272	3.00	YES
802.11g	2.412	7.35	5.43	8±1	9.00	7.94	<5	2.46728	3.00	YES
	2.437	7.05	5.07	8±1	9.00	7.94	<5	2.48003	3.00	YES
	2.462	7.08	5.11	8±1	9.00	7.94	<5	2.49272	3.00	YES
802.11n(HT20)	2.412	6.2	4.17	6±1	7.00	5.01	<5	1.55675	3.00	YES
	2.437	6.41	4.38	6±1	7.00	5.01	<5	1.56480	3.00	YES
	2.462	6.06	4.04	6±1	7.00	5.01	<5	1.57280	3.00	YES
802.11ax(HE20)	2.412	5.26	3.36	6±1	7.00	5.01	<5	1.55675	3.00	YES
	2.437	5.83	3.83	6±1	7.00	5.01	<5	1.56480	3.00	YES
	2.462	5.7	3.72	6±1	7.00	5.01	<5	1.57280	3.00	YES
802.11n(HT40)	2.422	4.96	3.13	5±1	6.00	3.98	<5	1.23913	3.00	YES
	2.437	4.98	3.15	5±1	6.00	3.98	<5	1.24296	3.00	YES
	2.452	4.9	3.09	5±1	6.00	3.98	<5	1.24678	3.00	YES
802.11ax(HE40)	2.422	3.31	2.14	4±1	5.00	3.16	<5	0.98428	3.00	YES
	2.437	3.74	2.37	4±1	5.00	3.16	<5	0.98732	3.00	YES
	2.452	3.78	2.39	4±1	5.00	3.16	<5	0.99035	3.00	YES

Conclusion:

For the max result: 2.49272≤ FCC Limit 3.0 for 1g SAR.