

Test Result of RF Exposure Evaluation

According to the KDB-447498 D01 V06, FCC 47CFR § 2.1091 the following RF exposure evaluation shall to demonstrate RF exposure compliance.

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm², P_{out} = output power to antenna in mW;

G = gain of antenna in linear scale, $\pi = 3.1416$;

R = distance between observation point and center of the radiator in cm.

2.4G

ANT 1

	Channel Frequency (MHz)	Target power W/ tolerance (dBm)	Max tune up power tolerance(dBm)	Max Output power to antenna (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
802.11b	2412MHz	15±1	16	39.81	0.02505	1.0	Pass
802.11g	2412MHz	13±1	14	25.12	0.01580	1.0	Pass
802.11n (HT20)	2412MHz	12±1	13	19.95	0.01255	1.0	Pass
802.11n(HT40)	2422MHz	11±1	12	15.85	0.00997	1.0	Pass

ANT 2

	Channel Frequency (MHz)	Target power W/ tolerance (dBm)	Max tune up power tolerance(dBm)	Max Output power to antenna (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
802.11b	2412MHz	14±1	15	31.62	0.01989	1.0	Pass
802.11g	2412MHz	12±1	13	19.95	0.01255	1.0	Pass
802.11n (HT20)	2412MHz	11±1	12	15.85	0.00997	1.0	Pass
802.11n(HT40)	2422MHz	10±1	11	12.59	0.00792	1.0	Pass

5.2G

ANT 3

	Channel Frequency (MHz)	Target power W/ tolerance (dBm)	Max tune up power tolerance(dBm)	Max Output power to antenna (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/c m ²)	Result
802.11a	5180MHz	15±1	16	39.81	0.02505	1.0	Pass
802.11n (HT20)	5180MHz	11±1	12	15.85	0.00997	1.0	Pass
802.11n(HT40)	5190MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT20)	5180MHz	11±1	12	15.85	0.00997	1.0	Pass
802.11ac (VHT40)	5190MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT80)	5210 MHz	10±1	11	12.59	0.00792	1.0	Pass

ANT4

	Channel Frequency (MHz)	Target power W/ tolerance (dBm)	Max tune up power tolerance(dBm)	Max Output power to antenna (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/c m ²)	Result
802.11a	5180MHz	14±1	15	31.62	0.01989	1.0	Pass
802.11n (HT20)	5180MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11n(HT40)	5190MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT20)	5180MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT40)	5190MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT80)	5210 MHz	10±1	11	12.59	0.00792	1.0	Pass

5.8G

ANT3

	Channel Frequency (MHz)	Target power W/ tolerance (dBm)	Max tune up power tolerance(dBm)	Max Output power to antenna (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/c m ²)	Result
802.11a	5745MHz	15±1	16	39.81	0.02505	1.0	Pass
802.11n (HT20)	5745MHz	11±1	12	15.85	0.00997	1.0	Pass
802.11n(HT40)	5755MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT20)	5745MHz	11±1	12	15.85	0.00997	1.0	Pass
802.11ac (VHT40)	5755MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT80)	5775 MHz	10±1	11	12.59	0.00792	1.0	Pass

ANT4

	Channel Frequency (MHz)	Target power W/ tolerance (dBm)	Max tune up power tolerance(dBm)	Max Output power to antenna (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/c m ²)	Result
802.11a	5745MHz	14±1	15	31.62	0.01989	1.0	Pass
802.11n (HT20)	5745MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11n(HT40)	5755MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT20)	5745MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT40)	5755MHz	10±1	11	12.59	0.00792	1.0	Pass
802.11ac (VHT80)	5775 MHz	10±1	11	12.59	0.00792	1.0	Pass

Simultaneous transmission MPE According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations; Σ of MPE ratios ≤ 1.0

ANT 1+ANT2+ ANT 3+ANT4 (The worst)

Power Density at R=20cm (mW/cm ²) ANT 1	Power Density at R=20cm (mW/cm ²) ANT 2	Power Density at R=20cm (mW/cm ²) ANT3	Power Density at R=20cm (mW/cm ²) ANT 4	Power Density at R=20cm (mW/cm ²) ANT 1+ANT 2 +ANT3+ANT4	Limit (mW/cm ²)	Result
0.02505	0.01989	0.02505	0.01989	0.08988	1.0	Pass