

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, π = 3.1416;

R = 20cm, distance between observation point and center of the radiator in cm.

WIFI 2.4GHz Antenna 1

| Frequency (MHz) | Output Power (dBm) | Target power W/ tolerance (dBm) | Max tune up power tolerance (dBm) | Output power to antenna (mW) | Antenna Gain(dBi) | Power Density at R=20cm (mW/cm ²) | Limit (mW/cm ²) | Result |
|-----------------|--------------------|---------------------------------|-----------------------------------|------------------------------|-------------------|---|-----------------------------|--------|
| 802.11b | | | | | | | | |
| 2412 | 11.13 | 10.2±1.0 | 11.2 | 13.183 | 3.03 | 0.00527 | 1.0 | Pass |
| 2437 | 11.17 | 10.2±1.0 | 11.2 | 13.183 | 3.03 | 0.00527 | 1.0 | Pass |
| 2462 | 11.09 | 10.2±1.0 | 11.2 | 13.183 | 3.03 | 0.00527 | 1.0 | Pass |
| 802.11g | | | | | | | | |
| 2412 | 10.35 | 9.5±1.0 | 10.5 | 11.220 | 3.03 | 0.00449 | 1.0 | Pass |
| 2437 | 10.42 | 9.5±1.0 | 10.5 | 11.220 | 3.03 | 0.00449 | 1.0 | Pass |
| 2462 | 10.28 | 9.5±1.0 | 10.5 | 11.220 | 3.03 | 0.00449 | 1.0 | Pass |
| 802.11n(HT20) | | | | | | | | |
| 2412 | 9.34 | 8.4±1.0 | 9.4 | 8.710 | 3.03 | 0.00348 | 1.0 | Pass |
| 2437 | 9.25 | 8.4±1.0 | 9.4 | 8.710 | 3.03 | 0.00348 | 1.0 | Pass |
| 2462 | 9.26 | 8.4±1.0 | 9.4 | 8.710 | 3.03 | 0.00348 | 1.0 | Pass |
| 802.11n(HT40) | | | | | | | | |
| 2422 | 8.27 | 7.4±1.0 | 8.4 | 6.918 | 3.03 | 0.00277 | 1.0 | Pass |
| 2437 | 8.31 | 7.4±1.0 | 8.4 | 6.918 | 3.03 | 0.00277 | 1.0 | Pass |
| 2452 | 8.22 | 7.4±1.0 | 8.4 | 6.918 | 3.03 | 0.00277 | 1.0 | Pass |

Antenna 2

| Frequency (MHz) | Output Power (dBm) | Target power W/ tolerance (dBm) | Max tune up power tolerance (dBm) | Output power to antenna (mW) | Antenna Gain(dBi) | Power Density at R=20cm (mW/cm ²) | Limit (mW/cm ²) | Result |
|-----------------|--------------------|---------------------------------|-----------------------------------|------------------------------|-------------------|---|-----------------------------|--------|
| 802.11b | | | | | | | | |
| 2412 | 11.05 | 10.2±1.0 | 11.2 | 13.183 | 3.03 | 0.00527 | 1.0 | Pass |
| 2437 | 11.09 | 10.2±1.0 | 11.2 | 13.183 | 3.03 | 0.00527 | 1.0 | Pass |
| 2462 | 11.12 | 10.2±1.0 | 11.2 | 13.183 | 3.03 | 0.00527 | 1.0 | Pass |
| 802.11g | | | | | | | | |
| 2412 | 10.23 | 9.3±1.0 | 10.3 | 10.715 | 3.03 | 0.00428 | 1.0 | Pass |
| 2437 | 10.24 | 9.3±1.0 | 10.3 | 10.715 | 3.03 | 0.00428 | 1.0 | Pass |
| 2462 | 10.17 | 9.3±1.0 | 10.3 | 10.715 | 3.03 | 0.00428 | 1.0 | Pass |
| 802.11n(HT20) | | | | | | | | |
| 2412 | 9.16 | 8.3±1.0 | 9.3 | 8.511 | 3.03 | 0.00340 | 1.0 | Pass |
| 2437 | 9.23 | 8.3±1.0 | 9.3 | 8.511 | 3.03 | 0.00340 | 1.0 | Pass |
| 2462 | 9.22 | 8.3±1.0 | 9.3 | 8.511 | 3.03 | 0.00340 | 1.0 | Pass |
| 802.11n(HT40) | | | | | | | | |
| 2422 | 8.16 | 7.3±1.0 | 8.3 | 6.761 | 3.03 | 0.00270 | 1.0 | Pass |
| 2437 | 8.17 | 7.3±1.0 | 8.3 | 6.761 | 3.03 | 0.00270 | 1.0 | Pass |
| 2452 | 8.21 | 7.3±1.0 | 8.3 | 6.761 | 3.03 | 0.00270 | 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

WIFI 2.4G Antenna 1+ Antenna 2

| Model | Frequency (MHz) | 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) ANT 1+ANT 2 | Limit (mW/cm ²) | Result |
|----------------|-----------------|---|---|---|-----------------------------|--------|
| 802.11b | 2412 | 0.00527 | 0.00527 | 0.01054 | 1.0 | Pass |
| | 2437 | 0.00527 | 0.00527 | 0.01054 | 1.0 | Pass |
| | 2462 | 0.00527 | 0.00527 | 0.01054 | 1.0 | Pass |
| 802.11g | 2412 | 0.00449 | 0.00428 | 0.00877 | 1.0 | Pass |
| | 2437 | 0.00449 | 0.00428 | 0.00877 | 1.0 | Pass |
| | 2462 | 0.00449 | 0.00428 | 0.00877 | 1.0 | Pass |
| 802.11n (HT20) | 2412 | 0.00348 | 0.00340 | 0.00688 | 1.0 | Pass |
| | 2437 | 0.00348 | 0.00340 | 0.00688 | 1.0 | Pass |
| | 2462 | 0.00348 | 0.00340 | 0.00688 | 1.0 | Pass |
| 802.11n (HT40) | 2422 | 0.00277 | 0.00270 | 0.00554 | 1.0 | Pass |
| | 2437 | 0.00277 | 0.00270 | 0.00554 | 1.0 | Pass |
| | 2452 | 0.00277 | 0.00270 | 0.00547 | 1.0 | Pass |

Conclusion:

So no SAR is required.