

8. RADIO FREQUENCY EXPOSURE

8.1. Limit

According to §1.1310 and §2.1091 RF exposure is calculated.

Table: Limits for General Population/Uncontrolled Exposure

| Frequency Range (MHz) | Power Density (S) (mW/cm ²) |
|--------------------------|--|
| 0.3–1.34 | *(100) |
| 1.34–30 | *(180/f ²) |
| 30–300 | 0.2 |
| 300–1500 | f/1500 |
| 1500–100,000 | 1.0 |

F = frequency in MHz

* = Plane-wave equivalent power density

Maximum Permissible Exposure

The MPE was calculated at 20cm to show compliance with the power density limit.

$$S = PG/4\pi R^2$$

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna.

Note:

1. Manufacturer declared that the maximum antenna gain is 4.0dBi(Max.) .
2. Manufacturer declared that the nearest distance between human and the EUT is 20cm.
3. Only record worst case data.

8.2 Test Results

2.4G wifi:

| Test | Channel | ANT Power (dBm) | ANT Max. Tune Up Power (mW) | ANT Max. Tune Up Power (mW) | ANT MPE (mW/cm ²) | Limit (mW/cm ²) |
|-----------|---------|-----------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|
| 802.11b | 1 | 15.38 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 6 | 15.26 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 11 | 15.82 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| 802.11g | 1 | 15.66 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 6 | 15.00 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 11 | 15.29 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| 802.11n20 | 1 | 15.12 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 6 | 15.23 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 11 | 15.11 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| 802.11n40 | 3 | 15.46 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 6 | 15.55 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |
| | 9 | 15.42 | 15.0±1.0 | 39.8107 | 0.0199 | 1.0 |

Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.