

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/cm²) |
|----------------------------------|--|
| 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 0dBi(Max.).
2. Manufacturer declared that the nearest distance between human and the EUT is 20cm.
3. Only record worst case data.

| Test Mode | Channel | Frequency (MHz) | ANT Power (dBm) | ANT Power Tune Up (dBm) |
|-----------------|---------|-----------------|-----------------|-------------------------|
| 802.11b | Low | 2412 | 15.08 | 15.0±1.0 |
| | Middle | 2437 | 15.12 | 15.0±1.0 |
| | High | 2462 | 15.38 | 15.0±1.0 |
| 802.11g | Low | 2412 | 12.98 | 13.0±1.0 |
| | Middle | 2437 | 13.23 | 13.0±1.0 |
| | High | 2462 | 13.40 | 13.0±1.0 |
| 802.11n HT20 | Low | 2412 | 12.01 | 12.0±1.0 |
| | Middle | 2437 | 12.24 | 12.0±1.0 |
| | High | 2462 | 12.20 | 12.0±1.0 |

8.2 Test Results

| Test Mode | Channel | ANT Max. Tune Up Power (mW) | ANT MPE (mW/cm ²) | Limit (mW/cm ²) |
|-----------------|---------|-----------------------------|-------------------------------|-----------------------------|
| 802.11b | Low | 39.8107 | 0.00792 | 1.0 |
| | Middle | 39.8107 | 0.00792 | 1.0 |
| | High | 39.8107 | 0.00792 | 1.0 |
| 802.11g | Low | 25.1189 | 0.00500 | 1.0 |
| | Middle | 25.1189 | 0.00500 | 1.0 |
| | High | 25.1189 | 0.00500 | 1.0 |
| 802.11n HT20 | Low | 19.9526 | 0.00397 | 1.0 |
| | Middle | 19.9526 | 0.00397 | 1.0 |
| | High | 19.9526 | 0.00397 | 1.0 |

Antenna Gain (typical): 0dBi, 1.0(numeric)

Prediction distance: >=20cm

The power density level worst case at 20 cm is below the uncontrolled exposure limit.