



FCC §15.247 (i), §2.1091 – RF Exposure

FCC ID: 2AIDM-DFR1093-915

Applied procedures / limit

According to FCC §15.247(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.

Limits for Occupational / Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------------------------------|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842 / f | 4.89 / f | (900 / f)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | F/300 | 6 |
| 1500-100,000 | | | 5 | 6 |

Note: f is frequency in MHz

* = Power density limit is applicable at frequencies greater than 100 MHz

Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------------------------------|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | F/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

Note: f = frequency in MHz

* = Plane-wave equivalent power density

MPE PREDICTION

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

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

Where: 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, R=0.2m

TEST RESULTS

WIFI

| Mode | Tune up Produce power | Maximu m peak output power (dBm) | Output power to antenn a (mW) | Antenna Gain (numeric) | Power Density (S) (mW/ cm ²) | Limit (mW / cm ²) | Result |
|----------|-----------------------------|----------------------------------------------|----------------------------------------------|------------------------------|---------------------------------------------|-------------------------------------------|--------|
| WIFI 2.4 | 13±1 | 14 | 25.12 | 2.138 (3.30dBi) | 0.01068 | 1 | Pass |
| DTS | 11±1 | 12 | 15.85 | 2.133 (3.29dBi) | 0.00673 | 0.60 | Pass |
| DSS | 25±1 | 26 | 398.11 | 2.133 (3.29dBi) | 0.16892 | 0.60 | Pass |

For the Max simultaneous transmission:

Simultaneous transmitting = $0.01068/1 + 0.16892/0.60 = 0.29221 \leq 1.0$

Conclusion:

For the max result : $0.29221 \leq 1.0$, compliance with FCC's RF Exposure