

Appendix A: RF Exposure FCC Part 1.1307, 1.1310, 2.1091, 2.1093

From FCC 1.1310 Table 1A, the maximum permissible RF exposure for an uncontrolled environment is 1 mW/cm². The electric field generated for a 1 mW/cm² exposure (S) is calculated as follows:

$$S = (P \times G) / (4 \times \pi \times d^2)$$

where:

S = Power density
 P = Transmitter conducted power in milliwatts
 G = Numeric gain
 d = distance to radiation center

Fundamental Operating Frequency: 5725 – 5850 MHz
 Measured Maximum Output Power: 0.085 Watts (85 mW)
 Antenna Gain = 23 dBi; Numeric Gain = 199.5

$$S = (85 \times 199.5) / (4 \times \pi \times 36.73^2) = 1 \text{ mW/cm}^2$$

Calculated Power Density

Antenna Gain = 23 dBi Conducted Power (milli-Watt) = 0.085	
Separation Distance = 36.73 cm	
FCC Power Density Limit	Calculated Power Density at 36.73 cm Distance
1 mW/cm ²	1 mW/cm ²