



Maximum Permissible Exposure

SSNT108

Silver Spring Networks NIC 510

FCC Title 47, Part §1.1310

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4\pi d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10^{(G \text{ (dBi)})/10}$$

EUT belongs to the General Population/Uncontrolled Exposure

The calculations in the tables below use highest gain antennas for the client EUT. These calculations represent worst case in terms of the exposure levels.

Per FCC 1.1310 Power density Limit for device operating in frequency range 300 to 1500MHz = $f/1500$ (mW/cm²)

Freq. Band (MHz)	Antenna Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 0.6mW/cm ² Limit(cm)	Minimum Separation Distance (cm)
900 - 928	+4.5	2.82	30.00	1000	19.33	20.0

Per FCC 1.1310 Power density Limit for device operating in frequency range 1500 to 100,000MHz = 1 mW/cm²

Freq. Band (MHz)	Antenna Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1 mW/cm ² Limit(cm)	Minimum Separation Distance (cm)
2400 – 2483.5	+5.0	3.16	28.26	670.0	13.00	20.0

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification

Maximum Permissible Exposure Limits

FCC §1.1310 Table 1

300 to 1500MHz = $f/1500$ (mW/cm²)

1500 to 100,000MHz = 1 mW/cm²

Laboratory Measurement Uncertainty for Power Measurements

Measurement uncertainty	±1.33 dB
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