

# FCC 47 CFR

## MPE REPORT

*Applicant By*

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*Report Number*

**MPE0809001**

*Model Number*

**N-8608I-AW**

*Issued By*

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## Maximum Permissible Exposure

### 1 Applicable Standard

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 limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

#### (a) Limits for Occupational / Controlled Exposure

Frequency(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(H)	Power Density(S) (mW/cm <sup>2</sup> )	Averaging Times   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
1500-100000			5	6

#### (b) Limits for General Population / Uncontrolled Exposure

Frequency(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(H)	Power Density(S) (mW/cm <sup>2</sup> )	Averaging Times   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
1500-100000			1.0	30

Note: f=frequency in MHz; \*Plane-wave equivalent power density

### 2 MPE Calculation Method

$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d$  Power Density:  $P_d \text{ (W/m}^2\text{)} = E^2 / 377$

**E** = Electric Field (V/m)

**P** = Peak RF output Power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$

From the peak EUT RF output power, the minimum mobile separation distance,  $d=0.2\text{m}$ , as well as the gain of the used antenna, the RF power density can be obtained.

**3 Calculated Result and Limit****802.11b****CH1 Mode**

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density(S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.0	18.55	71.614	0.028494	1	Complies

**CH6 Mode**

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density(S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.0	17.60	57.544	0.022895	1	Complies

**CH11 Mode**

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density(S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.0	16.62	41.879	0.016627	1	Complies

**802.11g****CH1 Mode**

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density(S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.0	18.26	66.988	0.026653	1	Complies

**CH6 Mode**

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density(S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.0	17.27	53.333	0.021220	1	Complies

**CH11 Mode**

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density(S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.0	16.48	44.463	0.017691	1	Complies