

9 FCC §2.1091 & §1.1310 – Exposure of Human to RF Fields

9.1 Applicable Standards

Before equipment certification is granted, the procedure of RSS-102 must be followed concerning the exposure of humans to RF fields.

According to FCC 1.1310, RF limits used for general public will be applied to the EUT.

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (min)
0.3–1.34	614	1.63	100	30
1.34–30	824/f	2.19/f	900/f ²	30
30–300	27.5	0.073	0.2	30
300–1 500	-	-	f/1500	30
1 500–100 000	-	-	1.0	30

F = frequency in MHz * = Plane-wave equivalent power density

9.2 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

9.3 Test Results

<u>Maximum peak output power at antenna input terminal (dBm):</u>	<u>35.1</u>
<u>Maximum peak output power at antenna input terminal (mW):</u>	<u>3235.93</u>
<u>Prediction distance (cm):</u>	<u>36</u>
<u>Prediction frequency (MHz):</u>	<u>220</u>
<u>Antenna Gain, typical (dBi):</u>	<u>0</u>
<u>Power density at predication frequency and distance (mW/cm²):</u>	<u>0.19879</u>
<u>MPE limit for uncontrolled exposure at predication frequency (mW/cm²):</u>	<u>0.2</u>
<u>Maximum peak output power at antenna input terminal (dBm):</u>	<u>35.1</u>
<u>Maximum peak output power at antenna input terminal (mW):</u>	<u>3235.93</u>
<u>Prediction distance (cm):</u>	<u>100</u>
<u>Prediction frequency (MHz):</u>	<u>220</u>
<u>Antenna Gain, typical (dBi):</u>	<u>6</u>
<u>Power density at predication frequency and distance (mW/cm²):</u>	<u>0.1026</u>
<u>MPE limit for uncontrolled exposure at predication frequency (mW/cm²):</u>	<u>0.2</u>