15 RF Exposure Requirements

Method

Unless otherwise stated no deviations were made from FCC Part 2.1091/2.093.

This testing was performed at Intertek Denver, located at 1795 Dogwood St. Suite 200, Louisville, CO 80027.

Test Requirement/ Specification:

- Power Density Limit for Frequency Range: 1500 to 100,000 MHz = 3 mW/cm²

Test Results:

The sample tested was found to comply.

RF Exposure Requirements - MPE

The following limit is from table 1 (B) Limits for General Population/Uncontrolled Exposure in FCC part 1.1310:

Power Density Limit for Frequency Range: 300 to 1500 MHz = f/1500 = 0.6 mW/cm²)

The following calculation was used to determine compliance to the above limit. The calculation is from FCC OET bulletin 65.

Power Density(S) =$PG/4\pi R^2$ or $S=EIRP/4\pi R^2$

Where:
S = power density (in appropriate units, e.g. mW/cm²)
P = power input to the antenna (mW).
G = numeric 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 (cm)

In this case, 20cm will be used.
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Maximum measured rf output power = 20.4dBm = 109 mW

Maximum typical gain declared by the manufacture = -1 dBi = 0.79 (numeric gain)

Power Density

Power (mW)	Gain (dbi)	Gain numeric	Distance (cm)	Power Density (mW/cm²)
109	-1	0.79	20	0.017

Therefore: Power Density Margin (Δ Limit) = 0.017 – 0.6 = - 0.583 mW/cm²

To determine what minimum distance the product can satisfy the Power Density Limit:

R(cm) = SQRT[(P*G)/(4*π*S)] = 3.4cm