

Intertek	
Report Number: 102654813DEN-001	Issued: 7/26/2016

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 = $f/1500 = 0.6 \text{ mW/cm}^2$

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

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

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.

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/cm ²)
109	-1	0.79	20	0.017

Therefore: Power Density Margin (Δ Limit) = $0.017 - 0.6 = -0.583 \text{ mW/cm}^2$

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

$$R(\text{cm}) = \text{SQRT}[(P \cdot G)/(4 \cdot \pi \cdot S)] = 3.4 \text{ cm}$$