Ruckus Wireless Inc. FCC ID: S9GR500

4 FCC §2.1091 & §15.407(f) - RF Exposure

4.1 Applicable Standard

According to FCC §15.407(f) and §1.1307(b)(1), 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 of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* (100)	30
1.34-30	824/f	2.19/f	* (180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz

4.2 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

4.3 MPE Results

5250-5350 MHz

Maximum peak output power at antenna input terminal (dBm):22.82Maximum peak output power at antenna input terminal (mW):191.42Prediction distance (cm):20Prediction frequency (MHz):5270Maximum Antenna Gain, typical (dBi):3Maximum Antenna Gain (numeric):1.99Power density of prediction frequency at 20.0 cm (mW/cm²):0.0759

MPE limit for uncontrolled exposure at prediction frequency (mW/cm²): 1.0

^{* =} Plane-wave equivalent power density

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5470-5725 MHz

Maximum peak output power at antenna input terminal (dBm):22.12Maximum peak output power at antenna input terminal (mW):162.92Prediction distance (cm):20Prediction frequency (MHz):5690

Maximum Antenna Gain, typical (dBi): 3

Maximum Antenna Gain (numeric): 1.99

Power density of prediction frequency at 20.0 cm (mW/cm²): 0.0646

MPE limit for uncontrolled exposure at prediction frequency (mW/cm²): 1.0

The EUT has two radios which is alloed to transmission simulataneously.

2.4 GHz band:

23.12 Maximum peak output power at antenna input terminal (dBm): 205.11 Maximum peak output power at antenna input terminal (mW): Prediction distance (cm): 20 Prediction frequency (MHz): 2437 Maximum Antenna Gain, typical (dBi): 1.0 Maximum Antenna Gain (numeric): 1.258 Power density of prediction frequency at 20.0 cm (mW/cm²): 0.0513 MPE limit for uncontrolled exposure at prediction frequency (mW/cm²): 1.0

The sum of the MPE for all simultaneous transmitting antennas incorporated in the host device is less than 1.0 mW/cm² limit for the uncontrolled exposure environment at 20 cm distance.