Ondas Networks Inc. FCC ID: X27-VNB22G-1

4 FCC §1.1307(b) (1) & §2.1091 - RF Exposure

4.1 Applicable Standards

FCC §2.1091, (a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions. See subpart I of part 1 of this chapter, in particular §1.1307(b).

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6

Note: 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

^{* =} Plane-wave equivalent power density

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4.3 Test Results

Maximum average output power at antenna input terminal (dBm): 32.712

Maximum average output power at antenna input terminal (mW): 1867.2

Prediction frequency (MHz): 454.825

Antenna Gain, maximum (dBi): 16.661

Maximum Antenna Gain (numeric): 46.355

Prediction distance (cm): 3048

Power density of prediction frequency at 3048 cm (mW/cm²): 0.0007

FCC MPE limit for controlled exposure at prediction frequency (mW/cm²): 1.52

The average output power was derived from the maximum tune up power (36 dBm) and duty cycle (46.9%). The average output power = peak output power $-10*\log(1/\text{duty cycle})=36-3.288=32.712$ dBm..

Results

The device is compliant with the requirement MPE limit for controlled exposure. The maximum power density at the distance of 3048 cm (100 ft) is 0.0007 mW/cm². Limit is 1.52mW/cm².