

# RF Exposure

FCC ID: FCC ID: LLB9975T

This calculation is based on the highest EIRP possible from the EUT considering maximum power and antenna gain. The highest output power of the EUT is 2 W and the max gain of the antenna is 7.15 dBi.

There is a firmware control duty cycle. The firmware is set to limit duty cycle at 10% duty cycle or less in any given 6-minute period.

## 1.0 RF EXPOSURE PER FCC 1.1310 FOR STAND ALONE DEVICES

MHz	Max Power dBm	Tune up Tolerance dB	Max Ant Gain dBi	Duty Cycle %	EIRP Watts	(S) GP Limit mW/cm <sup>2</sup>	Declared Minimum separation Distance (cm)	EUT power Density mW/cm <sup>2</sup>
450	33.00	1.0	7.15	10	1.303	0.300	100.0	0.010
460	33.00	1.0	7.15	10	1.303	0.307	100.0	0.010
470	33.00	1.0	7.15	10	1.303	0.313	100.0	0.010

Notes on the above table:

- a. S is the power density General Population Limit from FCC 1.1310 Table 1
- b. EIRP Power is the Peak Effective Radiated Power.  
EIRP = (Average Conducted Power + Antenna gain) \* Duty Cycle.

### POWER DENSITY

Power density is given by:

$$S = \text{EIRP} / (4 * \text{Pi} * \text{D}^2)$$

Where

S = Power density in mW/cm<sup>2</sup>

EIRP = Equivalent Isotropic Radiated Power in mW

D = Separation distance in cm

Since the calculated power density is less than the limit, this product fully meets the RF exposure limits requirements for the general population.

## 2.0 RF EXPOSURE PER FCC 1.1310 FOR MULTIPLE DEVICES

MHz	Max Power dBm	Tune up Tolerance dB	Max Ant Gain dBi	Duty Cycle %	EIRP Watts	(S) GP Limit mW/cm <sup>2</sup>	Declared Minimum separation Distance (cm)	EUT power Density mW/cm <sup>2</sup>
450	33.00	1.0	7.15	10	1.303	0.300	100.0	0.010
460	33.00	1.0	7.15	10	1.303	0.307	100.0	0.010
470	33.00	1.0	7.15	10	1.303	0.313	100.0	0.010

Notes on the above table:

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- c. S is the power density General Population Limit from FCC 1.1310 Table 1
- d. EIRP Power is the Peak Effective Radiated Power.  
EIRP = (Average Conducted Power + Antenna gain) \* Duty Cycle.

Since the calculated power density is less than the limit, this product fully meets the RF exposure limits requirements for the general population.