

RF Exposure

FCC ID: LLBY99850

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 1.135 W and the gain of the antenna is 0 dBi.

There is be firmware control duty cycle. The firmware is set to limit duty cycle a 5% duty cycle or less in any given 6-minute period. In most cases, the duty cycle is much less than 5%. For all all calculations, 5% will be used as a worst-case in any given 6-minute period, as this is a worst case.

1.0 RF EXPOSURE PER FCC 1.1310

MHz	Max Power dBm	Max Ant Gain dBi	Duty Cycle %	EIRP Watts	(S) GP Limit mW/cm ²	Declared Minimum Separation Distance (cm)	EUT power Density mW/cm ²	Result
450	30.35	0	5	0.0542	0.300	20.0	0.0108	Pass
460	30.4	0	5	0.0542	0.307	20.0	0.0108	Pass
470	30.55	0	5	0.0568	0.313	20.0	0.0113	Pass

Notes on the above table:

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

POWER DENSITY

Power density is given by:

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

Where

S = Power density in mW/cm²

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 OET 65 requirements for the general population.