

RF Exposure

FCC ID: 4546A-2017025

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 1.074 W and the max gain of the antenna is 5 dBi.

The duty cycle is controlled by firmware before leaving the factory. The firmware is set to limit duty cycle to a 25% duty cycle for Max power, 32% for Extended Range and 100% for Standard range. The duty cycle is for any given 6-minute period.

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	30.31	5	25	0.849	0.300	20.0	0.169	Pass
460	30.3	5	25	0.849	0.307	20.0	0.169	Pass
470	30.31	5	25	0.849	0.313	20.0	0.169	Pass
450	29.1	5	32	0.823	0.300	20.0	0.164	Pass
460	28.9	5	32	0.784	0.307	20.0	0.156	Pass
470	29.16	5	32	0.834	0.313	20.0	0.166	Pass
450	23.74	5	100	0.748	0.300	20.0	0.149	Pass
460	23.8	5	100	0.750	0.307	20.0	0.149	Pass
470	24.31	5	100	0.853	0.313	20.0	0.170	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.

$$\text{EIRP} = (\text{Average Conducted Power} + \text{Antenna gain}) * \text{Duty Cycle}.$$

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.