6. Radio Frequency Exposure (FCC)

Test standard : FCC Part2: Section 2.1091
KDB 447498 D01 General RF Exposure Guidance v06

6.1 Product Classification

This device defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

6.2 Radio Frequency Exposure Limit

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)
300-1,500			f/1500
1,500-100,000			1.0

6.3 Radio Frequency Exposure Calculation Formula

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW)
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 (appropriate units, e.g., cm)

or:

$$S = \frac{EIRP}{4\pi R^2}$$

where: EIRP = equivalent (or effective) isotropically radiated power

6.4 Calculation Result

RF Output Power (Conducted)	2.4GHz Band	16dBm±2dB
	5GHz Bands	10dBm±2dB

Mode	Frequency (MHz)	*Measured RF Output Power (mW)	Max RF Output Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
2.4GHz band	2412	56.62	63.10	2.27	20	0.021	1.0
5GHz bands	5180	47.86	15.85	5.18	20	0.010	1.0

Note:
1. *2.4GHz Band RF Output Power refer to 50086251 002 Appendix A;
2. *5GHz Bands RF Output Power refer to 50086251 003 Appendix A;
3. 2.4GHz band and 5GHz band share the same Tx antenna and cannot transmit simultaneously.

6.5 Conclusion

Therefore the maximum calculations result of above are meet the requirement of Radio Frequency Exposure (MPE) limit.