5 FCC §15.407(f), §1.1310, § 2.1091 - Maximum Permissible Exposure (MPE)

5.1 Applicable Standard

According to§15.407(f) and §1.1310, U-NII devices are subject to the radio frequency radiation exposure requirements specified in §§ 1.1307(b), and 2.1091 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

5.2 RF Exposure Evaluation Result

FCC

Worse case:

MPE evaluation for single transmission:

Mode	Frequency Range (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G WIFI	2412-2462	4.85	3.055	30	1000	30	0.2701	1.0
5G WIFI B1	5150-5250	5.52	3.565	29.5	891.251	30	0.2809	1.0
5G WIFI B2	5250-5350	5.83	3.828	24	251.189	30	0.0850	1.0
5G WIFI B3	5470-5725	4.85	3.055	24	251.189	30	0.0678	1.0
5G WIFI B4	5725-5825	4.85	3.055	30	1000	30	0.2701	1.0

Note: the maximum antenna gain was used for evaluation.

MPE evaluation for simultaneous transmission:

2.4G WIFI and 5G WIFI can transmit at the same time, MPE evaluation is as below formula:

PD1/Limit1+PD2/Limit2+……＜1, PD (Power Density)

MPE evaluation = MPE of 2.4G WIFI/1 + MPE of 5G WIFI/1 = 0.2701/1+0.2809/1=0.551＜1.0

Result: MPE evaluation of single and simultaneous transmission meet 30cm the requirement of standard.