MPE CALCULATION

FCC ID : WBV-HIVEAP1X1

RF Exposure Requirements:	47 CFR §1.1307(b)
RF Radiation Exposure Limits:	47 CFR §1.1310
RF Radiation Exposure Guidelines:	FCC OST/OET Bulletin Number 65
EUT Frequency Band:	5745 - 5825MHz , 2412-2462MHz
Limits for General Population/Uncontrolled Exposure in the band of:	1500 - 100,000 MHz
Power Density Limit:	1 mW / cm^2;

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

Where, S = Power Density

P = Power Input to Antenna

G = Antenna Gain

R = distance to the center of radiated antenna

Power density Limit = 1mW/cm^2,

R=20cm

$S = PG / 4\pi R^2$

Frequency (MHz)	Modulation Mode	Antenna Gain (dBi)	Max Power (dBm)	Distance (cm)	Power density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	802.11b	4	21.34	23	0.051	1
	802.11g	4	27.28	23	0.202	
	802.11n (20MHz)	7	26.52	23	0.338	
5180-5240	802.11a	5	14.76	23	0.014	
	802.11n (20MHz)	8	12.21	23	0.016	
	802.11n (40MHz)	8	13.86	23	0.023	
5745-5825	802.11a	5	25.12	23	0.155	
	802.11n (20MHz)	8	26.88	23	0.463	
	802.11n (40MHz)	8	26.85	23	0.459	

2.4GHz Antenna gain , SISO = 4dBi , MIMO = 4 + 10log(2) = 7dBi

5GHz Antenna gain , SISO = 5dBi , MIMO = 5 + 10log(2) = 8 dBi

Simultaneous Transmission , 0.338 + 0.459 = 0.797 mW/cm^2 < 1 mW/cm^2

Conclusion , the MPE has meet the limit requirement for individual transmitting and simultaneous conditions,

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