

# MPE CALCULATION

FCC ID: S9GR720

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: 2.4GHz	2412-2462 MHz
EUT Frequency Band: 5 GHz	5180- 5320MHz, 5500-5720MHz, 5745-5825MHz 5210-5290MHz, 5530-5610MHz, 5690-5775MHz
Limits for General Population/Uncontrolled Exposure in the band of:	1500 - 100,000 MHz
Power Density Limit:	1 mW / cm <sup>2</sup>

**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

## EUT: R720 Access Point, Model No. : R720

(2.4GHz Band): Power = 29.39 dBm, Array Gain + Antenna Gain = 5.5 dBi, Power density = 0.393 mW/ cm<sup>2</sup>

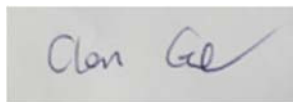
(5 GHz Band): Power = 29.19 dBm, Array Gain + Antenna Gain = 6.5 dBi, Power density = 0.472 mW/ cm<sup>2</sup>

Type	CH Freq (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Directional Gain (dBi)	Tune-Up Tolerance	Tolerance Max Power (dBm)	Measurement Distance (cm)	Calculated MPE (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )	Pass/Fail
2.4 GHz WLAN	2412	29.39	2.5	5.5	±1dB	30.39	25	0.393	1	Pass
5 GHz WLAN	5230	29.19	3.5	6.5	±1dB	30.19	25	0.472	1	Pass

If 2.4GHz and 5GHz transmit simultaneously.

Total MPE=0.393 + 0.472 = 0.865 mW/cm<sup>2</sup>

The Above Result had shown that the Device complied with MPE requirement.



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