MPE CALCULATION

FCC ID: WBV-AP245/ IC ID: 7774A-AP245

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: 2402MHz-2480MHz, 2412-2462 MHz, 5180-5825MHz

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

Omnidirectional Antenna

Prediction distance 20cm

(Bluetooth LE): Power = 5.21dBm, Antenna Gain = 4.57dBi,Apparent Gain = 4.57dBi, Power density =0.0030 mW/cm^2

(WLan 2.4GHz): Power = 24.17dBm, Antenna Gain = 5.7dBi,Apparent Gain = 10.47dBi, Power density =0.0536 mW/cm^2

(WLan 5GHz): Power = 24.44dBm, Antenna Gain = 5.7dBi, Apparent Gain = 10.47 dBi, Power density = 0.0542 mW/cm^2

Type	CH Freq (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Apparent Gain (dBi)	Measurement Distance (cm)	Calculated MPE (mW/cm^2)	MPE Limit (mW/cm^2)	Pass/Fail
Bluetooth LE	2440	5.21	4.57	4.57	20	0.0030	1	Pass
2.4 GHz WLAN	2437	24.17	5.7	10.47	20	0.0536	1	Pass
5 GHz WLAN	5210	24.44	5.7	10.47	20	0.0542	1	Pass

If BTLE, 2.4GHz & 5GHz transmit simultaneously.

Total MPE=0.0030+ 0.0536 + 0.0542 =0.1108 mW/cm^2

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

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