

# MPE CALCULATION

FCC ID: XNI-IDS23004  
XMR201605EC25A

**RF Exposure Requirements:**  
**RF Radiation Exposure Limits:**  
**RF Radiation Exposure Guidelines:**

47 CFR §1.1307(b)  
47 CFR §1.1310  
FCC OST/OET Bulletin Number 65

**EUT Frequency Band:**

699-716MHz, 824-849MHz, 1710-1755MHz, 1850-1910MHz, 2412-2462 MHz,  
300-1500MHz, 1500-100,000 MHz

**Limits for General Population/Uncontrolled Exposure in the band of:**

f/1500; 1 mW / cm<sup>2</sup>

**Power Density Limit:**

**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: WiFi On-The-Go, Model No.: WE826-T**

Omnidirectional Antenna

Prediction distance 20cm

(WLAN 2.4GHz): Power = 22.13 dBm, Antenna Gain = 5 dBi, Power density = 0.258 mW/cm<sup>2</sup>

WCDMA Band V: Power=22.5 dBm, Antenna Gain = 2 dBi, Power density = 0.141 mW/cm<sup>2</sup>

WCDMA Band II: Power=22.5 dBm, Antenna Gain = 3 dBi, Power density = 0.177 mW/cm<sup>2</sup>

WCDMA Band IV: Power=22.5 dBm, Antenna Gain = 3 dBi, Power density = 0.177 mW/cm<sup>2</sup>

LTE Band II: Power=22 dBm, Antenna Gain = 3 dBi, Power density = 0.199 mW/cm<sup>2</sup>

LTE Band IV: Power=22 dBm, Antenna Gain = 3 dBi, Power density = 0.199 mW/cm<sup>2</sup>

LTE Band XII: Power=22 dBm, Antenna Gain = 2 dBi, Power density = 0.158 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
WLAN 2.4GHz	2462	22.13	5	8	±1dB	23.13	20	0.258	1	Pass
WCDMA (Band V)	824.0	22.5	2	5	±1dB	23.5	20	0.141	0.549	Pass
WCDMA (Band II)	1850.0	22.5	3	6	±1dB	23.5	20	0.177	1	Pass
WCDMA (Band IV)	1732.4	22.5	3	6	±1dB	23.5	20	0.177	1	Pass
LTE (Band II)	1850	22	3	6	±2dB	24	20	0.199	1	Pass
LTE (Band IV)	1755	22	3	6	±2dB	24	20	0.199	1	Pass
LTE (Band XII)	699.0	22	2	5	±2dB	24	20	0.158	0.466	Pass

Co-location worse case:

2.4GHz WLAN =  $(0.258/1) \times 100\% = 25.8\%$

LTE Band II =  $(0.199/1) \times 100\% = 19.9\%$

Total MPE Percentage =  $(25.8 + 19.9)\% = 45.7\% < 100\%$

The Above Result had shown that the device complied with MPE requirement at a prediction distance of 30cm .

Completed By: Deon Dai



SIEMIC, Inc

775 Montague Expressway, Milpitas, CA 95035

Phone: (408) 526-1188

Date: 05/30/2018