MPE CALCULATION

FCC ID: 2AJW5FLEXCM

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, 824.2 MHz-848.8MHz,1850.2MHz to 1909.8MHz

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

Frequency Range (MHz)	Power Density (mW/cm^2)
1,500-100,000	1.0
300-1,500	f/1500

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

Prediction distance 20cm

(Bluetooth-BDR/EDR): Output Power = 6.70dBm, Antenna Gain = 4.5dBi , Power density =0.0033 mW/cm^2

(WLan 2.4GHz): Output Power = 11.25dBm, Antenna Gain = 4.5dBi, Power density =0.0094 mW/cm^2

Type	CH Freq (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Tune-Up Tolerance	Tolerance Max Power (dBm)	Measurement Distance (cm)	Calculated MPE (mW/cm^2)	MPE Limit (mW/cm^2)	Pass/Fail
Bluetooth BDR/EDR	2402	6.70	4.5	±1dB	7.70	20	0.0033	1	Pass
WLAN 2.4 GHz	2462	11.25	4.5	±1dB	12.25	20	0.0094	1	Pass

GSM/WCDMA:

Prediction distance 20cm

(GSM850 848.8MHz): Conducted Output Power = 32.95dBm, Antenna Gain = 5.5dBi

The Average power calculation:

Average power = Maximum burst averaged power (1 T x Slot) – 9dB

Duty Cycle = 12.5 %

The frame-averaged power calculated as:

Average EIRP = Peak EIRP - 9dB

CH Freq (MHz)	Average Output Power (dBm)	Antenna Gain (dBi)	Tune-Up Tolerance	Tolerance Max Power (dBm)	Measurement Distance (cm)	Calculated MPE (mW/cm^2)	MPE Limit (mW/cm^2)	Pass/Fail
848.8 (GSM850)	23.95	5.5	±1dB	24.95	20	0.221	0.55	Pass

If Bluetooth (BDR/EDR) and GSM/WCDMA transmit simultaneously.
Blutooth (BDR/EDR) = (0.0033 / 1) x 100 = 0.33 %
GSM/WCDMA = (0.221 / 0.55) x 100 = 40.18 %

Total MPE Percentage = 0.33 + 40.18 = 40.51 % < 100 %

If WLAN (2.4GHz)and GSM/WCDMA transmit simultaneously.
WLAN (2.4GHz) = (0.0094 / 1) x 100 = 0.94 %
GSM/WCDMA = (0.221 / 0.55) x 100 = 40.18 %

Total MPE Percentage = 0.94 + 40.18 = 41.12 % < 100 %

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

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