

# FCC MPE CALCULATION (FCC ID: KMH-SYNCG4)

**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:** BT/BLE: 2402-2480MHz  
 WLAN 802.11b/g/n: 2412-2462MHz  
 802.11a/n: 5180-5320MHz, 5500-5720MHz, 5725-5825MHz  
 802.11n-40MHz: 5190-5310MHz, 5510-5710MHz, 5755-5795MHz  
 802.11ac: 5210-5290MHz, 5530-5690MHz, 5775MHz

**Limits for General Population/Uncontrolled Exposure in the band of:** 300 - 1500 MHz,  
**Power Density Limit:** f/1500 mW/cm<sup>2</sup>

**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

Prediction distance 20 cm

**EUT: SYNC-G4**

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Antenna Gain (dBi)	Separation distance (cm)	Power Density (mW/ cm <sup>2</sup> )	MPE Limit (mW/ cm <sup>2</sup> )
BT/BLE	2402-2480	11.559	2.68	20	0.005	1
WLAN 11b/g	2412-2462	18.34	4.95	20	0.042	1
WLAN 11a/n/ac	5725-2825	17.926	9.70	20	0.115	1

The above results show that the device complies with the MPE requirement.

The BT/BLE is able to transmit simultaneously with WLAN, LTE.

The ratio = 0.005/1 + 0.042/1 + 0.115/1 = 0.162 < 1.0

The above results show that the device complies with the simultaneous transmission MPE requirement.

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