

FCC MPE CALCULATION (FCC ID: KMH-14H074-NA1)

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-HT20/HT40: 2412-2462MHz
802.11a/n: 5500-5720MHz, 5725-5825MHz
802.11n-40MHz: 5510-5710MHz, 5755-5795MHz
802.11ac: 5530-5690MHz, 5775MHz
WCDMA Band2: 1852.4-1907.6 MHz
WCDMA Band 4: 1712.4 - 1752.6 MHz
WCDMA Band5: 826.4-846.6 MHz
LTE Band 2: 1850.7-1909.3 MHz
LTE Band 4: 1710.7-1754.3 MHz
LTE Band 5: 824.7-848.3 MHz
LTE Band 12: 699.7-715.3 MHz
LTE Band 17: 706.5-713.5 MHz
LTE Band 66: 1710.7-1779.3 MHz

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

300 - 1500 MHz,

Power Density Limit:

f/1500 mW/cm²

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

1500 - 100,000 MHz

Power Density Limit:

1 mW / cm²

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

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Antenna Gain (dBi)	Separation distance (cm)	Power Density (mW/ cm ²)	MPE Limit (mW/ cm ²)
BT/BDR&EDR	2402-2480	8.68	3.40	20	0.003	1
BT/BLE	2402-2480	11.12	3.40	20	0.006	1
WLAN 11b/g	2412-2462	18.30	12.59	20	0.174	1
WLAN 11a/n/ac	5500-5825	12.68	10.143	20	0.038	1
WCDMA B2	1852.4-1907.6	24.36	5.53	20	0.194	1
WCDMA B4	1712.4 - 1752.6	24.07	5.53	20	0.181	1
WCDMA B5	826.4-846.6	24.23	4.32	20	0.142	0.551
LTE Band2	1850.7-1909.3	23.79	5.53	20	0.170	1
LTE Band4	1710.7-1754.3	23.85	5.53	20	0.172	1
LTE Band5	824.7-848.3	23.30	4.32	20	0.115	0.550
LTE Band12	699.7-715.3	22.91	4.32	20	0.105	0.466
LTE Band17	706.5-713.5	23.07	4.32	20	0.109	0.471
LTE Band66	1710.7-1779.3	23.82	5.53	20	0.171	1

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

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

The ratio = $0.006/1 + 0.174/1 + 0.142/0.551 = 0.406 < 1.0$

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

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