

MPE CALCULATION

BLE module
FCC ID: APV-BLD01
GSM module
FCC ID: QIPEHS5-US

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

Limits for General Population/Uncontrolled Exposure in the band of: 300 - 1500 MHz
Power Density Limit: $f/1500 \text{ mW} / \text{cm}^2$
Limits for General Population/Uncontrolled Exposure in the band of: 1500 - 100,000 MHz
Power Density Limit: $1 \text{ mW} / \text{cm}^2$

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

Model No.: LMU-3035

Type	CH Freq (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Directional Gain (dBi)	Measurement Distance (cm)	Calculated MPE (mW/cm ²)	MPE Limit (mW/cm ²)	Pass/Fail
BLE	2402	0.00	2.5	2.5	20	0.00035	1	Pass
GSM	837	32.99	-2	-2	20	0.250	0.558	Pass
WCDMA	1852.6	24.20	-2	-2	20	0.033	1	Pass

Bluetooth and GSM transmit simultaneously. (GSM and WCDMA does not transmit simultaneously)

Total MPE=0.00035/1 + 0.25/0.558 = **0.448** < 1

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

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