

FCC MPE CALCULATION (FCC ID: APV-2630MB)

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:

BLE: 2402-2480MHz
 GSM850: 824.2 - 848.8 MHz
 GSM1900: 1850.2 - 1909.8 MHz
 LTE CAT-M1 Band 2: 1850.7-1909.3MHz
 LTE CAT-M1 Band 4: 1710.7-1754.3MHz
 LTE CAT-M1 Band 5: 824.7-848.3MHz
 LTE CAT-M1 Band 12: 699.7-715.3MHz
 LTE CAT-M1 Band 13: 779.5-784.5 MHz
 LTE CAT-M1 Band 25: 1850.7 - 1914.3 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

EUT: LMU2630MB

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Antenna Gain (dBi)	Separation distance (cm)	Power Density (mW/ cm ²)	MPE Limit (mW/ cm ²)
BLE	2402-2480	5.57	1.88	20	0.001	1
GSM850	824.2-848.8	23.97	3.1	20	0.101	0.549
GSM1900	1850.2-1909.8	20.97	3.1	20	0.051	1
LTE Band2	1850.7-1909.3	24.00	3.1	20	0.102	1
LTE Band4	1710.7-1754.3	23.00	3.1	20	0.081	1
LTE Band5	824.7-848.3	24.00	3.1	20	0.102	0.550
LTE Band12	699.7-715.3	24.00	3.1	20	0.102	0.466
LTE Band13	779.5-784.5	24.00	3.1	20	0.102	0.520
LTE Band25	1850.7-1914.3	25.00	3.1	20	0.128	1

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

The BLE is able to transmit simultaneously with GSM/LTE.

The ratio = 0.001/1 + 0.102/0.466 = 0.219 < 1.0

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

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