MPE CALCULATION

FCC ID: GKM-XT6475A

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 – 1500MHz

Power Density Limit: f/1500 mW / cm^2

Limits for General Population/Uncontrolled Exposure in the band of: 1500 - 100,000 MHz

Power Density Limit: 1 mW / 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

EUT: XT6475A Global LTE CAT1 Container Monitoring Device, Model No.: XT6475A

Type	CH Freq (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Directional Gain (dBi)	Tune-Up Tolerance	Tolerance Max Power (dBm)	Measurement Distance (cm)	Calculated MPE (mW/cm^2)	MPE Limit (mW/cm^2)	Pass/Fail
Zigbee	2405	6.98	-1	-1	±1dB	7.98	20	0.001	1	Pass
GSM 850	848.8	30.5	-2	-2	±1dB	31.5	20	0.177	0.56	Pass
GSM1900	1909.8	27.5	-2	-2	±1dB	28.5	20	0.088	1	Pass
UMTS FDD 2	1907.6	24.5	-2	-2	±1dB	25.5	20	0.044	1	Pass
UMTS FDD 5	836.0	24.5	-2	-2	±1dB	25.5	20	0.044	0.56	Pass
LTE eFDD 2	1902.5	24	-2	-2	±1dB	25	20	0.397	1	Pass
LTE eFDD 4	1902.5	24	-2	-2	±1dB	25	20	0.397	1	Pass
LTE eFDD 5	825.5	24	-2	-2	±1dB	25	20	0.397	0.55	Pass
LTE eFDD 12	711.0	24	-2	-2	±1dB	25	20	0.397	0.47	Pass

The output power for GSM850/1900 includes a -3dB correction factor for duty cycle.
Worst case: Zigbee and GSM850 co-location: 0.001/1 + 0.353/0.56 = 0.63 < 1 which meets the requirement.

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

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