

Maximum Permissible Exposure Evaluation

FCC ID: 2AQ7C-M650V

1. Client Information

Applicant	:	SHENZHEN TOVISION TECHNOLOGIES CO., LTD
Address	:	136A, Yangguang Zhonglv Garden, 2057# Qianhai Road, Nanshan District, Shenzhen City, China
Manufacturer	:	SHENZHEN TOVISION TECHNOLOGIES CO., LTD
Address	:	136A, Yangguang Zhonglv Garden, 2057# Qianhai Road, Nanshan District, Shenzhen City, China

2. General Description of EUT

EUT Name	:	Wireless trail camera	
Models No.	:	M650-V	
Model Difference	:	N/A	
Product Description	:	Frequency Bands: LTE Band 4:TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz LTE Band 13: TX: 777MHz -787MHz, RX: 746MHz-756MHz	
		Antenna Type:	Dipole Antenna
		Antenna Gain:	LTE Band 4: 3dBi LTE Band 13: 3dBi
		Modulation Type:	QPSK, 16QAM
		Bandwidth:	LTE Band 4 : 1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band 13 : 5MHz/10MHz
Power Rating	:	DC 12*1.5V AA Battery. DC 6V from USB Port.	
Software Version	:	N/A	
Hardware Version	:	N/A	

Note: More test information about the EUT please refer the RF Test Report.

TB-RF-075-1.0

MPE Calculations for GSM

1. Antenna Gain:

3 dBi Dipole Antenna

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

4. Test Result:

Worst Maximum MPE Result							
Mode	N _{TX}	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
LTE BAND 4	1	23.75	23±1	24	3	20	0.0997
LTE BAND 13	1	23.22	23±1	24	3	20	0.0997
Note: (1) N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted Peak Output Power.							

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

300-1500MHz:

The worst MPE is calculated as $0.0997 \text{ mW} / \text{cm}^2 < \text{limit } 784.5/1500=0.523 \text{ mW/cm}^2$. So, RF exposure limit warning or SAR test are not required.

1500-100000MHz:

The worst MPE is calculated as $0.0997 \text{ mW} / \text{cm}^2 < \text{limit } 1\text{mW/cm}^2$. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

-----END OF THE REPORT-----