

# Maximum Permissible Exposure Evaluation

## FCC ID: 2AQ7C-M650V

### 1. Client Information

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

### 2. General Description of EUT

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

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

## 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 <sub>TX</sub> | 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 <sup>2</sup> ) [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<sub>TX</sub>= 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 <sup>2</sup> ) |
|-----------------------|--------------------------------------|
| 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-----