

# RF Exposure Evaluation

## FCC ID: 2AEUS-A07

### 1. Client Information

**Applicant** : Shenzhen Sunshine Technology Development Co.,Ltd  
**Address** : 4/F, block 4, HongHuaLing Industrial Park(zone 2), Taoyuan street, Xili, Nanshan District, Shenzhen, China  
**Manufacturer** : Shenzhen Sunshine Technology Development Co.,Ltd  
**Address** : 4/F, block 4, HongHuaLing Industrial Park(zone 2), Taoyuan street, Xili, Nanshan District, Shenzhen, China

### 2. General Description of EUT

|                               |                        |                                                                                                                                                        |
|-------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT Name</b>               | :                      | Action camera                                                                                                                                          |
| <b>Models No.</b>             | :                      | A07, A01, A04, A05, A06, A07B, A07C                                                                                                                    |
| <b>Model Difference</b>       | :                      | All models are identical in the same PCB layout, interior structure and electrical circuits, the only difference is model name for commercial purpose. |
| <b>Product Description</b>    | :                      | Operation Frequency:<br>802.11b/g/n(HT20): 2412MHz~2462MHz<br>802.11n(HT40): 2422MHz~2452MHz                                                           |
|                               | Number of Channel:     | 802.11b/g/n(HT20):11 channels see note(3)<br>802.11n(HT40): 7 channels see note(3)                                                                     |
|                               | Max Peak Output Power: | 802.11b: 9.27 dBm<br>802.11g: 9.09 dBm<br>802.11n (HT20): 8.85 dBm<br>802.11n (HT40): 9.08 dBm                                                         |
|                               | Antenna Gain:          | 2 dBi (FPC Antenna)                                                                                                                                    |
|                               | Modulation Type:       | 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>802.11g: OFDM<br>802.11n: OFDM                                                                                    |
| <b>Power Supply</b>           | :                      | DC power supplied by Car Charger.<br>DC power by Li-ion Battery.                                                                                       |
| <b>Power Rating</b>           | :                      | Input: DC 12V~24V.<br>Output: 5V, 1A.<br>DC 3.7V 700mAh Li-ion Battery.                                                                                |
| <b>Connecting I/O Port(S)</b> | :                      | Please refer to the User's Manual                                                                                                                      |

#### Note:

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

TB-RF-074-1.0

## SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v05r02.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance  $\leq 5$  mm are determined by:

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{GHz}}]} \leq 3.0 \text{ for 1-g SAR}$$

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{GHz}}]} \leq 7.5.0 \text{ for 10-g SAR}$$

## 2. Calculation:

| Test separation: 5mm     |                       |                |                              |                                     |                   |                 |
|--------------------------|-----------------------|----------------|------------------------------|-------------------------------------|-------------------|-----------------|
| WiFi Mode(802.11b)       |                       |                |                              |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Ant Gain (dBi) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.412                    | 9.08                  | 2              | ±0.5                         | 9.08                                | 2.820             | 3.0             |
| 2.437                    | 9.13                  | 2              | ±0.5                         | 9.18                                | 2.867             | 3.0             |
| 2.462                    | 9.27                  | 2              | ±0.5                         | 9.48                                | 2.976             | 3.0             |
| WiFi Mode(802.11g)       |                       |                |                              |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Ant Gain (dBi) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.412                    | 9.04                  | 2              | ±0.5                         | 8.99                                | 2.794             | 3.0             |
| 2.437                    | 9.09                  | 2              | ±0.5                         | 9.10                                | 2.841             | 3.0             |
| 2.462                    | 9.06                  | 2              | ±0.5                         | 9.04                                | 2.836             | 3.0             |
| WiFi Mode(802.11n(HT20)) |                       |                |                              |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Ant Gain (dBi) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.412                    | 8.51                  | 2              | ±0.5                         | 7.96                                | 2.473             | 3.0             |
| 2.437                    | 8.77                  | 2              | ±0.5                         | 8.45                                | 2.639             | 3.0             |
| 2.462                    | 8.85                  | 2              | ±0.5                         | 8.61                                | 2.702             | 3.0             |
| WiFi Mode(802.11n(HT40)) |                       |                |                              |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Ant Gain (dBi) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.422                    | 9.00                  | 2              | ±0.5                         | 8.913                               | 2.774             | 3.0             |
| 2.437                    | 8.97                  | 2              | ±0.5                         | 8.851                               | 2.763             | 3.0             |
| 2.452                    | 9.08                  | 2              | ±0.5                         | 9.078                               | 2.843             | 3.0             |

So standalone SAR measurements are not required.