

Hangzhou Tuya Information Technology Co.,Ltd.

# MPE ASSESSMENT REPORT

**Report Type:**

FCC MPE assessment report

**Model:**

UFO-R1

**REPORT NUMBER:**

181102247SHA-002

**ISSUE DATE:**

December 14, 2018

**DOCUMENT CONTROL NUMBER:**

TTRFFCCMPE-01\_V1 © 2018 Intertek



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Zhejiang, China

**Manufacturer:** Hangzhou Tuya Information Technology Co., Ltd.  
Room701, Building3, More Center, No.87 GuDun Road, Hangzhou,  
Zhejiang, China

**Manufacturing site:** Hangzhou Tuya Information Technology Co., Ltd.  
Room701, Building3, More Center, No.87 GuDun Road, Hangzhou,  
Zhejiang, China

**FCC ID:** 2ANDL-UFOR1

## SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06  
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

**PREPARED BY:**

**REVIEWED BY:**



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Project Engineer  
Eric Li

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Reviewer  
Daniel Zhao

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## Revision History

| Report No.       | Version | Description             | Issued Date       |
|------------------|---------|-------------------------|-------------------|
| 181102247SHA-002 | Rev. 01 | Initial issue of report | December 14, 2018 |
|                  |         |                         |                   |
|                  |         |                         |                   |

## 1 GENERAL INFORMATION

### 1.1 Description of Equipment Under Test (EUT)

|                       |   |
|-----------------------|---|
| Product name:         | Universal Remote Control  |
| Type/Model:           | UFO-R1  |
| Description of EUT:   | EUT is Universal Remote Control, which supports WiFi function, there is only one model, we test it and list the worst results in this report. |
| Rating:               | 5VDC 1A   |
| EUT type:             | <input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing   |
| Software Version:     | /   |
| Hardware Version:     | /   |
| Sample received date: | 2018.12.7   |
| Date of test:         | 2018.12.8~2018.12.13  |

### 1.2 Technical Specification

|                      |   |
|----------------------|---|
| Frequency Range:     | 2400MHz ~ 2483.5MHz   |
| Support Standards:   | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20   |
| Type of Modulation:  | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)<br>IEEE 802.11n-HT20: OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| Channel Number:      | 11 Channels for 802.11b, 802.11g and 802.11n(HT20)  |
| Data Rate:           | IEEE 802.11b: 1Mbps<br>IEEE 802.11g: 6Mbps<br>IEEE 802.11n-HT20: MCS0   |
| Channel Separation:  | 5MHz  |
| Antenna Information: | 3.23dBi, PCB antenna  |

### 1.3 Description of Test Facility

|            |  |
|------------|--|
| Name:      | Intertek Testing Services Shanghai                                     |
| Address:   | Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China |
| Telephone: | 86 21 61278200   |
| Telefax:   | 86 21 54262353   |

|   |  |
|---|--|
| The test facility is recognized, certified, or accredited by these organizations: | CNAS Accreditation Lab<br>Registration No. CNAS L0139                    |
|   | FCC Accredited Lab<br>Designation Number: CN1175                         |
|   | IC Registration Lab<br>Registration code No.: 2042B-1                    |
|   | VCCI Registration Lab<br>Registration No.: R-4243, G-845, C-4723, T-2252 |
|   | NVLAP Accreditation Lab<br>NVLAP LAB CODE: 200849-0                      |
|   | A2LA Accreditation Lab<br>Certificate Number: 3309.02                    |

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## 2 MPE Assessment

Test result: Pass

### 2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

| Frequency range | E-field strength (V/m) | H-field strength (A/m) | B-field (uT)        | Equivalent plane wave power density $S_{eq}$ (W/m <sup>2</sup> ) |
|-----------------|------------------------|------------------------|---------------------|--|
| 0-1 Hz          | -                      | $3,2 \times 10^4$      | $4 \times 10^4$     | -  |
| 1-8 Hz          | 10 000                 | $3,2 \times 10^4/f^2$  | $4 \times 10^4/f^2$ | -  |
| 8-25 Hz         | 10 000                 | 4 000/f                | 5 000/f             | -  |
| 0,025-0,8 kHz   | 250/f                  | 4/f                    | 5/f                 | -  |
| 0,8-3 kHz       | 250/f                  | 5                      | 6,25                | -  |
| 3-150 kHz       | 87                     | 5                      | 6,25                | -  |
| 0,15-1 MHz      | 87                     | 0,73/f                 | 0,92/f              | -  |
| 1-10 MHz        | $87/f^{1/2}$           | 0,73/f                 | 0,92/f              | -  |
| 10-400 MHz      | 28                     | 0,073                  | 0,092               | 2  |
| 400-2 000 MHz   | $1,375 f^{1/2}$        | $0,0037 f^{1/2}$       | $0,0046 f^{1/2}$    | f/200  |
| 2-300 GHz       | 61                     | 0,16                   | 0,20                | 10   |

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is  $\leq 1.0$**

**TEST REPORT****2.2 Assessment Results**

Power density (S) is calculated according to the formula:

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

Where S = power density in mW/cm<sup>2</sup>

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 181102247SHA-001:

The maximum radiated power = 19.22dBm = 83.56mW;

Here R is chosen to be 20cm,

$$S = P / (4\pi R^2) = 83.56 / (4 * 3.14 * 20 * 20) = 0.017 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

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**Appendix I**

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

\*\*\*\*\* END \*\*\*\*\*