



MPE Test Report

Report No.: ARFR-19AU0427VTSHPB-3

FCC ID: 2ANDLTYGWBS-01

Product: BLEMESH(SIG) Gateway

Model: TYGWBS-01;TYGWBS-01N

Received Date: Aug.06, 2019

Test Date: Aug.06 to Aug.15, 2019

Issued Date: Aug.20, 2019

Applicant: Hangzhou Tuya Information Technology Co., Ltd

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Manufacturer: Hangzhou Tuya Information Technology Co., Ltd

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Issued By: BUREAU VERITAS ADT (Shanghai) Corporation

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Release Control Record

| Issue No. | Description | Date Issued |
|-----------------------|------------------|--------------|
| ARFR-19AU0427VTSHPB-3 | Original release | Aug.20, 2019 |



1 Certificate of Conformity

Product: BLEMESH(SIG) Gateway

Brand: --

Model: TYGWBS-01; TYGWBS-01N

Applicant: Hangzhou Tuya Information Technology Co., Ltd

Test Date: Aug.06 to Aug.15, 2019

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



, Date:

Aug.20, 2019

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Approved by :


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RF Supervisor

, Date:

Aug.20, 2019

2 General Information

2.1 General Description of EUT

WiFi

| | |
|-----------------------|---|
| Product | BLEMESH(SIG) Gateway |
| Brand | -- |
| Test Model | TYGWBS-01;TYGWBS-01N |
| Model Difference | -- |
| Power Rating | 5VDC/1A with adaptor 100-240V~,50/60Hz |
| Modulation Type | CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM |
| Modulation Technology | DSSS, OFDM |
| Operating Frequency | See clause 3.2 |
| Number of Channel | See clause 3.2 |
| Antenna Type | PCB Antenna |
| Antenna Connector | -- |
| Antenna Gain | 2.5dBi |

BLE

| | |
|-----------------------|--|
| Product | MESH(SIG) |
| Brand | -- |
| Test Model | TYGWBS-01; TYGWBS-01N |
| Model Difference | -- |
| Power Rating | 5VDC/1A with adaptor 100-240V~,50/60Hz |
| Modulation Type | GFSK |
| Modulation Technology | Bluetooth Low Energy 4.2&5.0 |
| Operating Frequency | 2402 ~ 2480MHz |
| Number of Channel | 40 |
| Antenna Type | PCB Antenna |
| Antenna Connector | -- |
| Antenna Gain | 2.5dBi |

Note: For more details, please refer to the User's manual of the EUT.

3 RF Exposure

3.1 Limits For Maximum Permissible Exposure (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Average Time (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| Limits For General Population / Uncontrolled Exposure | | | | |
| 300-1,500 | - | - | F/1500 | 30 |
| 1,500-100,000 | - | - | 1.0 | 30 |

F = Frequency in MHz

3.2 MPE Calculation Formula

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

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

Where S = power density in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna (numeric gain=Log-1(dB antenna gain/10))

R = distance (cm)

3.3 MPE Calculation Formula

The antenna of this product, under normal use condition, is at least 20cm from the body of the user. So the device is classified as Mobile Device.

3.4 Calculation Result of Maximum Permissible Exposure

| Frequency Band (MHz) | Max. Conducted output power(dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|----------------------|----------------------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| WLAN 2.4GHz | | | | | |
| 2412-2462 | 16.31 | 2.5 | 20 | 0.015134 | 1 |
| BLE | | | | | |
| 2402-2480 | 8.49 | 2.5 | 20 | 0.002500 | 1 |

Conclusion:

The calculation result of MPE is less than the limit.

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