



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

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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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, 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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