

# TEST REPORT

**Application No.:** HKEM2606000651PF  
**Applicant:** EME Americas Inc.  
**Address of Applicant:** 124 Broadkill Rd., Ste. 457, Milton, DE 19968  
**Manufacturer:** Winner Sky Technology Malaysia Sdn. Bhd  
**Address of Manufacturer:** PMT759, Jalan Cassia Selatan 3/7, Batu Kawan Industrial Park, BANDAR CASSIA Penang 14110  
**Factory:** Winner Sky Technology Malaysia Sdn. Bhd  
**Address of Factory:** PMT759, Jalan Cassia Selatan 3/7, Batu Kawan Industrial Park, BANDAR CASSIA Penang 14110  
**Equipment Under Test (EUT):**  
**EUT Name:** MATTER connected thermostat  
**Model No.:** ORT-TRWH-1  
**Trade Mark:** LUX  
**FCC ID:** 2BRDM-TQT  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
KDB 447498 D04 interim General RF Exposure Guidance v01  
**Date of Receipt:** 2026-06-18  
**Date of Test:** 2026-06-24 to 2026-06-30  
**Date of Issue:** 2026-07-02

|                     |              |
|---------------------|--------------|
| <b>Test Result:</b> | <b>Pass*</b> |
|---------------------|--------------|

\* In the configuration tested, the EUT complied with the standards specified above.



**Jeffrey Chen**  
EMC Manager

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



| Revision Record |      |                   |        |
|-----------------|------|-------------------|--------|
| Revision No.    | Date | Report superseded | Remark |
|                 |      |                   |        |
|                 |      |                   |        |
|                 |      |                   |        |

|                          |  |                                                                                   |                  |
|--------------------------|--|-----------------------------------------------------------------------------------|------------------|
| Authorized for issue by: |  |                                                                                   |                  |
|                          |  |  |                  |
|                          |  | ChunLok_Chan/Project Engineer                                                     | Date: 2026-07-02 |
|                          |  |  |                  |
|                          |  | Jeffrey Chen /Reviewer                                                            | Date: 2026-07-02 |



## 2 Test Summary

| Radio Spectrum Technical Requirement |                                      |              |              |        |
|--------------------------------------|--------------------------------------|--------------|--------------|--------|
| Item                                 | Standard                             | Method       | Requirement  | Result |
| RF Exposure                          | 47 CFR Part 1.1310<br>KDB 447498 D04 | KDB447498D04 | KDB447498D04 | PASS   |

**Declaration of EUT Family Grouping:**

N/A

**Abbreviation:**

- Tx: In this whole report Tx (or tx) means Transmitter.
- Rx: In this whole report Rx (or rx) means Receiver.
- RF: In this whole report RF means Radiated Frequency.
- CH: In this whole report CH means channel.
- Volt: In this whole report Volt means Voltage.
- Temp: In this whole report Temp means Temperature.
- Humid: In this whole report Humid means humidity.
- Press: In this whole report Press means Pressure.
- N/A: In this whole report not application.
-



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## 4 General Information

### 4.1 Details of E.U.T.

|                      |                          |
|----------------------|--------------------------|
| Power supply:        | Powered by AC 24 V, 60Hz |
| Test Voltage:        | AC 120V, 60Hz            |
| Cable(s):            | N/A                      |
| Operation Frequency: | 2405MHz to 2480MHz       |
| Modulation Type:     | O-QPSK                   |
| Number of Channels:  | 16                       |
| Channel Spacing:     | 5MHz                     |
| Antenna Type:        | PCB Antenna              |
| Antenna Gain:        | 1.44 dBi                 |

|                                                                             |                       |
|-----------------------------------------------------------------------------|-----------------------|
| RF Specification of module with FCC ID: 2AC7Z-ESPS3WROOM1 (BLE & WLAN 2.4G) |                       |
| BLE:                                                                        |                       |
| Operation Frequency:                                                        | 2402MHz to 2480MHz    |
| Modulation Type:                                                            | GFSK                  |
| Antenna Type:                                                               | PCB Antenna           |
| Antenna Gain:                                                               | 3.26dBi               |
| WLAN 2.4G:                                                                  |                       |
| Operation Frequency:                                                        | 2412MHz to 2462MHz    |
| Mode:                                                                       | 802.11b/g/n HT20/HT40 |
| Antenna Type:                                                               | PCB antenna           |
| Gain:                                                                       | 3.26dBi               |

### 4.2 Description of Support Units

| Description      | Manufacturer                              | Model No.  | Serial No. |
|------------------|-------------------------------------------|------------|------------|
| AC Power Adapter | Dongguan Xiao'erduo Electronics Co., Ltd. | HMQ-SM2402 | N/A        |

#### 4.3 Test Location

All tests were performed at:

SGS Hong Kong Limited  
Unit 2 and 3, G/F, Block A, Po Lung Centre,  
11 Wang Chiu Road, Kowloon Bay, Kowloon, Hong Kong  
Tel: +852 2305 2570 Fax: +852 2756 4480

No tests were sub-contracted.

#### 4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **IAS Accreditation (Lab Code: TL-817)**

SGS Hong Kong Limited has met the requirements of AC89, IAS Accreditation Criteria for Testing Laboratories, and has demonstrated compliance with ISO/IEC Standard 17025:2017, General requirements for the competence of testing and calibration laboratories. This organization is accredited to provide the services specified in the scope of accreditation maintained on the IAS website ([www.iasonline.org](http://www.iasonline.org)).

The report must not be used by the client to claim product certification, approval, or endorsement by IAS, NIST, or any agency of the Federal Government.

• **FCC Recognized Accredited Test Firm(CAB Registration No.: 514599)**

SGS Hong Kong Limited has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: HK0015, Test Firm Registration Number: 514599.

• **Industry Canada (Site Registration No.: 26103; CAB Identifier No.: HK0015)**

SGS Hong Kong Limited has been recognized by Department of Innovation, Science and Economic Development (ISED) Canada as a wireless testing laboratory. The acceptance letter from the ISED is maintained in our files. CAB Identifier No: HK0015, Site Registration Number: 26103.

#### 4.5 Deviation from Standards

None

#### 4.6 Abnormalities from Standard Conditions

None

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## 5 Radio Spectrum Technical Requirement

### 5.1 RF Exposure

#### 5.1.1 Test Requirement:

CFR 47 Part 1.1310

Limit:

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1310(b)

**TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

| Frequency range (MHz)                                          | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposure</b>         |                               |                               |                                     |                          |
| 0.3-3.0                                                        | 614                           | 1.63                          | *100                                | 6                        |
| 3.0-30                                                         | 1842/f                        | 4.89/f                        | *900/f <sup>2</sup>                 | 6                        |
| 30-300                                                         | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500                                                      |                               |                               | f/300                               | 6                        |
| 1,500-100,000                                                  |                               |                               | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                               |                               |                                     |                          |
| 0.3-1.34                                                       | 614                           | 1.63                          | *100                                | 30                       |
| 1.34-30                                                        | 824/f                         | 2.19/f                        | *180/f <sup>2</sup>                 | 30                       |
| 30-300                                                         | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1,500                                                      |                               |                               | f/1500                              | 30                       |
| 1,500-100,000                                                  |                               |                               | 1.0                                 | 30                       |

f = frequency in MHz

\* = Plane-wave equivalent power density

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

*S* = power density (mW/cm<sup>2</sup>)  
*P* = the net power delivered to the antenna (mW)  
*G* = gain of the antenna in linear scale  
*d* = distance between observation point and center of the radiator (cm)



### 5.1.1 EUT RF Exposure Evaluation

The Power Data is based on the RF Test Report HKEM260600065102

Antenna Gain: 1.44 dBi.

Output Power Into Antenna & RF Exposure Evaluation Distance:

| Operation mode | Maximum Conduct power (including Tune-up tolerance) (dBm) | Conduct power (mW) | Power Density at R = 20 cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Ratio | Result |
|----------------|-----------------------------------------------------------|--------------------|--------------------------------------------------|-----------------------------|-------|--------|
| O-QPSK         | 9.4                                                       | 8.7                | 0.002                                            | 1.0                         | 0.002 | Pass   |

The Power Data is based on the RF Test Report FR1N0920-02 of FCC ID: 2AC7Z-ESPS3WROOM1.

Antenna Gain: 3.26dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

| Operation mode | Maximum Conduct power (including Tune-up tolerance) (dBm) | Conduct power (mW) | Power Density at R = 20 cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Ratio | Result |
|----------------|-----------------------------------------------------------|--------------------|--------------------------------------------------|-----------------------------|-------|--------|
| BLE            | 10                                                        | 10                 | 0.004                                            | 1.0                         | 0.004 | Pass   |

The Power Data is based on the RF Test Report FR1N0920B of FCC ID: 2AC7Z-ESPS3WROOM1.

Antenna Gain: 3.26dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

| Operation mode | Maximum Conduct power (including Tune-up tolerance) (dBm) | Conduct power (mW) | Power Density at R = 20 cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Ratio | Result |
|----------------|-----------------------------------------------------------|--------------------|--------------------------------------------------|-----------------------------|-------|--------|
| WLAN 2.4G      | 25.56                                                     | 359.75             | 0.152                                            | 1.0                         | 0.152 | Pass   |

#### Simultaneous transmission

| Operation mode | WLAN 2.4G | BLE   | O-QPSK | Total Ratio | Limit | Verdict |
|----------------|-----------|-------|--------|-------------|-------|---------|
| Ratio          | 0.152     | 0.004 | 0.002  | 0.158       | 1.0   | Pass    |

So, the device is to qualify for SAR test exemption, the exemption report is in lieu of the SAR report.



## **6 Photographs**

### **6.1 EUT Constructional Details (EUT Photos)**

Refer to the appendices external, internal and setup photos.

- End of the Report -