

# TEST REPORT

**Application No.:** SHEM2005003899CR  
**Japan MIC No.:**  
**Applicant:** Anhui Huami Information Technology Co., Ltd.  
**Address of Applicant:** Room 1201, Building A4, National Animation Industry Base, No. 800 Wangjiang West Road, Gaoxin District, Hefei, Anhui, China  
**Manufacturer:** Anhui Huami Information Technology Co., Ltd.  
**Address of Manufacturer:** Room 1201, Building A4, National Animation Industry Base, No. 800 Wangjiang West Road, Gaoxin District, Hefei, Anhui, China  
**Factory:** Hi-P (Suzhou) Electronics & Technology Co., Ltd.  
**Address of Factory:** No. 86, Liufeng Road, Wuzhong District, Suzhou, Jiangsu Province, P.R.China.

**Equipment Under Test (EUT):**  
**EUT Name:** Amazfit GTS 2  
**Model No.:** A1969  
**Trade mark:** AMAZFIT  
**Standard(s) :** MIC Item 19 of Article 2 Paragraph 1  
**Date of Receipt:** 2020-07-22  
**Date of Test:** 2020-08-11 to 2020-08-31  
**Date of Issue:** 2020-09-09

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

*Parlam Zhan*

Parlam Zhan  
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Revision Record			
Version	Description	Date	Remark
00	Original	2020-09-09	/

Authorized for issue by:			
		Bill Wu	
		Bill Wu / Project Engineer	
		Parlam zhan	
		Parlam Zhan / Reviewer	

## 2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	MIC Item 19 of Article 2 Paragraph 1	N/A	MIC Item 19 of Article 2 Paragraph 1	Pass
Interference prevention capability	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass
Carrier sense capability	MIC Item 19 of Article 2 Paragraph 1	N/A	MIC Item 19 of Article 2 Paragraph 1	Pass
RF accessibility	MIC Item 19 of Article 2 Paragraph 1	N/A	MIC Item 19 of Article 2 Paragraph 1	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Frequency Error	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass
Occupied Bandwidth(99%)	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass
Spread spectrum Bandwidth(90%)	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass
Antenna Power	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass
Spurious emission Intensity	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass
Limit of secondary radiated emissions	MIC Item 19 of Article 2 Paragraph 1	MIC Notice No.88 Appendix No.43	MIC Item 19 of Article 2 Paragraph 1	Pass

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## 4 General Information

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

Power supply:	DC 3.85V 240mAh Rechargeable battery
Test voltage:	DC 3.85V
Cable:	USB Cable 80cm
Antenna Gain	-6.36dBi
Antenna Type	Integral Antenna
Channel Spacing	5MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Laptop	Lenovo	ThinkPad X100e	/
Serial port adapter plate	/	Test Plate 3	/

**4.3 Measurement Uncertainty**

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4 x 10 <sup>-8</sup>
2	Timeout	2s
3	Duty cycle	0.4%
4	Occupied Bandwidth	3%
5	RF conducted power	0.6dB
6	RF power density	2.9dB
7	Conducted Spurious emissions	0.75dB
8	RF Radiated power	5.1dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious emission test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
10	Temperature test	1°C
11	Humidity test	3%
12	Supply voltages	1.5%
13	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

#### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

#### 4.5 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (LAB CODE: 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

- **FCC (Designation Number: CN5033)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory. Test Firm Registration Number: 479755.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. ISED#: 8617A.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

#### 4.6 Deviation from Standards

None

#### 4.7 Abnormalities from Standard Conditions

None

## 5 Equipment List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	Cal body	Certifier
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2019-12-20	2020-12-19	JEPSI*	(c)
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2019-08-13	2020-08-12	JEPSI*	(c)
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2020-08-13	2021-08-12	JEPSI*	(c)
Signal Generator	R&S	SMR20	SHEM006-1	2019-08-13	2020-08-12	JEPSI*	(c)
Signal Generator	R&S	SMR20	SHEM006-1	2020-08-13	2021-08-12	JEPSI*	(c)
Signal Generator	Agilent	N5182A	SHEM182-1	2019-08-13	2020-08-12	JEPSI*	(c)
Signal Generator	Agilent	N5182A	SHEM182-1	2020-08-13	2021-08-12	JEPSI*	(c)
Communication Tester	R&S	CMW270	SHEM183-1	2019-08-13	2020-08-12	JEPSI*	(c)
Communication Tester	R&S	CMW270	SHEM183-1	2020-08-13	2021-08-12	JEPSI*	(c)
Switcher+ Power Sensor	Tonscend / Keysight	JS0806 U2021XA*4	SHEM184-1	2019-08-13	2020-08-12	JEPSI*	(c)
Switcher+ Power Sensor	Tonscend / Keysight	JS0806 U2021XA*4	SHEM184-1	2020-08-13	2021-08-12	JEPSI*	(c)
Splitter	Anritsu	MA1612A	SHEM185-1	/	/	JEPSI*	(c)
Coupler	e-meca	803-S-1	SHEM186-1	/	/	JEPSI*	(c)
EMI Test Receiver	R&S	ESU40	SHEM051-1	2019-12-20	2020-12-19	JEPSI*	(c)
High-low Temp Cabinet	Suzhou Zhihe	TL-40	SHEM087-1	2017-09-25	2020-09-24	SGS SHCAL	(c)
AC Power Stabilizer	APC	KDF-31020T-V0-F0	SHEM216-1	2019-12-20	2020-12-19	JEPSI*	(c)
DC Power Supply	MCH	MCH-303A	SHEM210-1	2019-12-20	2020-12-19	JEPSI*	(c)
Conducted test Cable	/	RF01~RF04	/	2019-12-20	2020-12-19	JEPSI*	(c)

**Remark:**

- Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.
- Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992).
- Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).
- Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

From JRL Article 24-2, paragraph 4, Item 2

**Notice: Calibration duration for above equipments is 1 year.**

## 6 Radio Spectrum Technical Requirement

### 6.1 Radio Technical Requirements Specification

Table 1: Radio Technical Requirements Specification for 2.4 GHz band wide-band low-power data communication system (Item 19 of Article 2-1)

Items	Technical standard
Assigned frequency or designated frequency	2400-2483.5MHz
Communication method	One-way communication, simplex, semi-duplex, or duplex operation of digital signal transmission including spread spectrum
Tolerance of frequency ( $\times 10^{-6}$ )	$\pm 50$
Tolerance of occupied bandwidth	FH: 83.5MHz or less FH + DS: 83.5MHz or less FH + OFDM: 83.5MHz or less OFDM: 38MHz or less Others: 26MHz or less
Antenna power	Designated value (1) FH, FH+DS, FH+OFDM: 3mW (used in the range of 2427 - 2470.75 MHz) (2) OFDM, DS other than (1) 10mW (3) Other than (1) & (2) 10mW (4) OFDM OBW 26 - 38MHz: 5mW Tolerance:+20%,-80%
Antenna gain	1) 12.14 dBi or less in principle 2) In case of directional antenna (1) FH, FH+DS or FH+OFDM using 2427-2470.75 MHz EIRP $\leq$ 16.91 dBm/MHz (2) OFDM or DS other than (1) EIRP $\leq$ 22.14 dBm/MHz (3) Other than (1) and (2): 22.14 dBm or less (4) OFDM OBW 26 - 38MHz: 19.14dBm/MHz (5) Half-power angle of directional antenna ( $\theta$ ) in case of the item 2): $\theta \leq 360/A$ (The A is 10 in maximum.)
Tolerance of spurious emission intensity	(1) Below 2387 MHz: 2.5 $\mu$ W (2) 2387 to 2400 MHz: 25 $\mu$ W (3) 2483.5 through 2496.5 MHz: 25 $\mu$ W (4) Over 2496.5 MHz: 2.5 $\mu$ W
Spreading bandwidth	DS,FH,FH+DS,FH+OFDM: 500kHz or more
Spreading rate of spectrum	For DS system;(Spreading bandwidth) / (Frequency corresponding to transmission rate) $\geq 5$
Limit of secondary radiated emissions	(1) Below 1 GHz: 4nW (2) 1 GHz or higher: 20nW
Interference prevention function	Shall have the function of automatic transmission and reception of identification sign.
Structure	Shall be of the structure that the RF and modulator sections excluding antenna cannot easily be opened.
Note	DS: Direct spread FH: Frequency hopping OFDM: Orthogonal frequency division multiplexing



and antenna configurations at lowest channel, the data rates of worse case as above were chosen for final test.

Channel	802.11 b/g/n(HT20)				
	No.	Frequency	Data rate		
			b	g	n20
Lowest	CH01	2412MHz	1Mbps	6Mbps	MCS0
Middle	CH07	2442MHz	1Mbps	6Mbps	MCS0
Highest	CH13	2472MHz	1Mbps	6Mbps	MCS0

### 6.3 Antenna Requirement

#### 6.3.1 Test Requirement:

MIC Item 19 of Article 2 Paragraph 1

#### 6.3.2 Conclusion

Standard requirement:

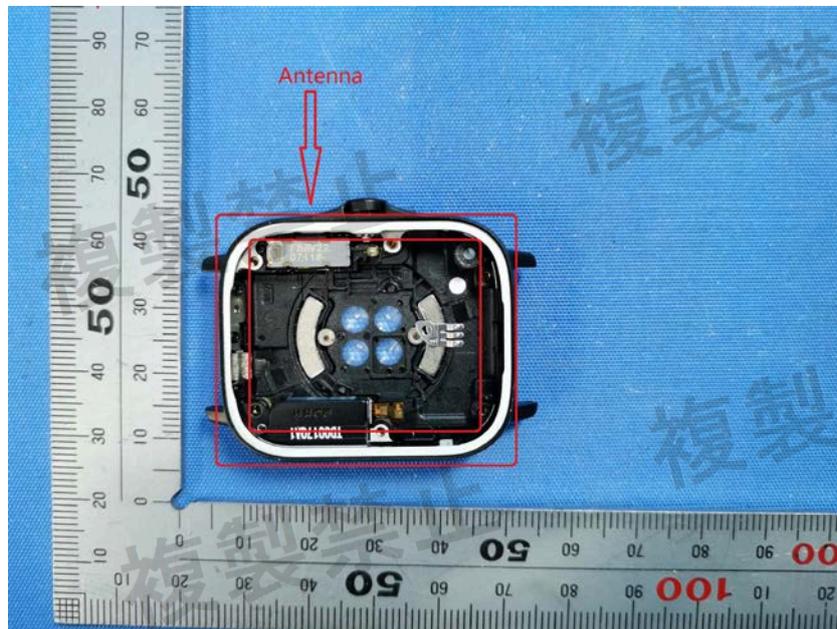
Applicable for equipment with an antenna terminal, including testing terminals. If an antenna connector is available, all relevant tests will be carried out conducted. If not, tests will be carried out in an anechoic room or with a suitable test-fixture.

EUT Details:

The antenna is integral antenna and no consideration of replacement. The best case gain of the antenna is -6.36dBi.

Result:

An antenna connector is available, all relevant tests will be carried out conducted.



## 6.4 Interference prevention capability

### 6.4.1 Test Requirement:

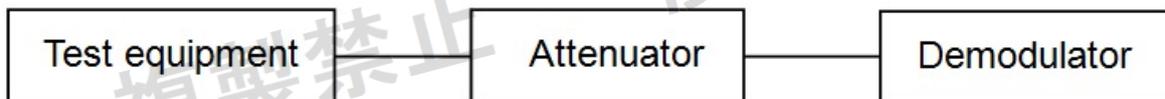
MIC Item 19 of Article 2 Paragraph 1

Limit:

Article 2, Item (19) Notice 88 Appendix 43, 44, 45

The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common type(s) like a Phillips, but special versions like Torx, so that the user cannot open the device with common tools.

### 6.4.2 Test Setup Diagram



### 6.4.3 Conclusion

Standard Requirement:

- 1) Measurement system diagram as shown above and test equipment keep transmitting identification code.
- 2) Condition of measuring instrument
  - (1) Demodulator must be able to demodulate the transmitting signal emitted by test equipment and to indicate the identification code.
  - 3) Condition of test equipment The mode of normal use.
  - 4) Measuring operation procedure
    - (1) When test equipment has the function to transmit identification code automatically:
      - A) Transmit the predetermined identification code from test equipment.
      - B) Confirm the transmitted identification code by demodulator.

EUT Details:

The unit does meet the requirements (Good).

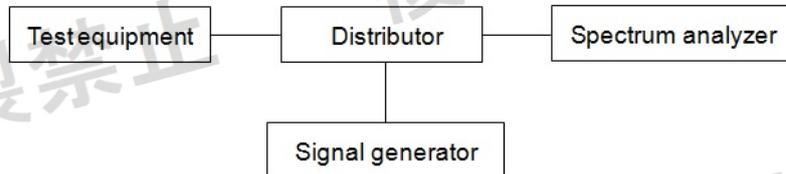
FB:63:46:57:0B:70

## 6.5 Carrier sense capability

### 6.5.1 Test Requirement:

MIC Item 19 of Article 2 Paragraph 1

### 6.5.2 Test Setup Diagram



### 6.5.3 Conclusion

Standard Requirement:

#### 1. Measurement system diagram

(1) Test with test equipment only

#### 2. Condition of measuring instrument

(1) Set the standard signal generator as follows:

Carrier frequency: Center frequency of receiving frequency band of test equipment.

Modulation: No modulation.(note1)

Output level: regulated level on antenna input of test equipment

Note 1: The un-modulated carrier in the center frequency, when the carrier sense function of test equipment is not worked, if necessary, change the frequency or modulate it.

(2) Set the spectrum analyzer as follows:

Center frequency: Center frequency of the bandwidth used.(note2)

Sweep frequency band: 50MHz(note2)

Resolution bandwidth: Approximately 1 MHz

Video bandwidth: Comparable level with resolution bandwidth

Trigger condition: Free-run

Detective mode: positive peak

Note 2: Under 26MHz of OFDM or other modulated method that with transmit function, set sweep frequency band as 0Hz, detective mode as sample, center frequency as the carrier frequency from 13MHz to 19MHz.

#### 3. Condition of test equipment

Set the test equipment at the test frequency and the test spread code, and set it to the receiving mode in the beginning. When using external test device, connect with the test equipment by line connection.

#### 4. Measuring operation procedure

(1) Test with test equipment only:

a. Set the spectrum analyzer according to (2) of 2).

b. Set the test equipment to the transmitting operation with the output of standard signal generator OFF, and confirm that it emits over 26MHz occupied frequency bandwidth OFDM radio wave, by using spectrum analyzer.

c. Set the test equipment to the receiving mode.

d. With the output of standard signal generator ON, set the test equipment to the transmitting operation, and confirm that it does not emit over 26MHz occupied frequency bandwidth OFDM radio wave, by using spectrum analyzer.

EUT Details:

The unit does meet the requirements (Good).

**6.6 RF accessibility**

**6.6.1 Test Requirement:**

MIC Item 19 of Article 2 Paragraph 1

**6.6.2 Conclusion**

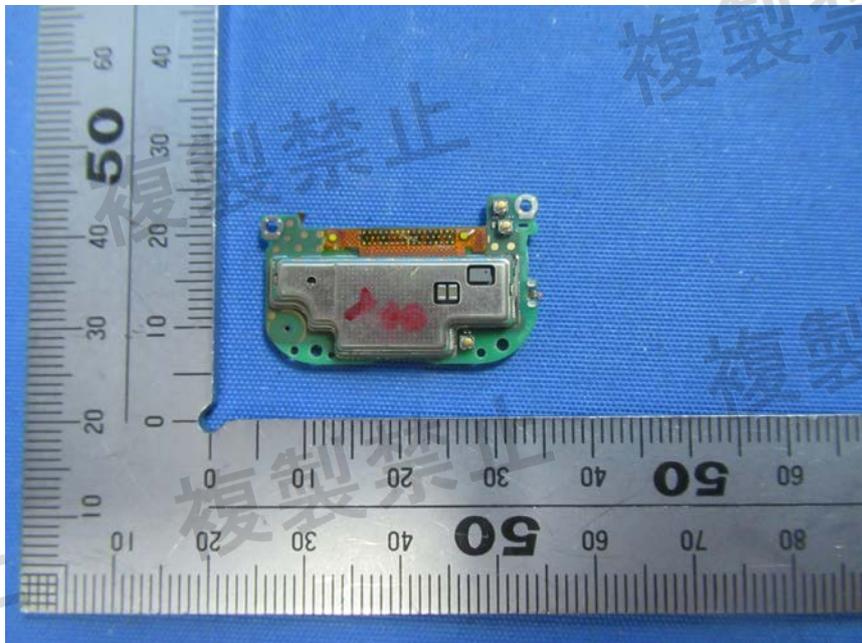
Standard Requirement:

The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common type(s) like a Phillips, but special versions like Torx, so that the user cannot open the device with common tools.

Protective Structure:

<input type="checkbox"/>	1.Sealed with special screws.
<input type="checkbox"/>	2.Plastic chassis is being welded using ultrasonic waves.
<input type="checkbox"/>	3.Chassis is glued using a special adhesive.
<input type="checkbox"/>	4.Metal covers are spot-fused.
<input type="checkbox"/>	5.Cover is specially interlocked
<input type="checkbox"/>	6.RF and Modulation components are covered with shielding case and this shielding case is soldered.
<input type="checkbox"/>	7.Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.
<input type="checkbox"/>	8.Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.
<input type="checkbox"/>	9.Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent.
<input checked="" type="checkbox"/>	10.RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable parts on PCB or adjustable parts are not exposed.

EUT Photo:



## 7 Radio Spectrum Matter Test Results

### 7.1 Frequency Error

Test Requirement	MIC Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
Limit:	Tolerance of frequency: $\pm 50E-6$

#### 7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar

Test mode b:TX mode\_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.

#### 7.1.2 Test Setup Diagram



#### 7.1.3 Measurement Procedure and Data

1. Test Conditions:

Spectrum Analyzer is used for measurement.

2. EUT conditions:

Modulation/Spread/Hopping OFF, CW Tx

3. Spectrum Analyzer conditions:

Frequency: Test Frequency

Span 1MHz

RBW 10 kHz (Modulation OFF),

VBW 10 kHz (Modulation OFF),

Sweep Time Auto

Detector mode Positive peak

Indication mode Max hold

Alternative method:

Frequency: Test Frequency

Span 2 times channel bandwidth

RBW 100 kHz (Modulation ON),

VBW 100 kHz (Modulation ON),

Sweep Time Auto

Detector mode Positive peak

Indication mode Max hold

The detailed test data see: Appendix C for SHEM200500389903

## 7.2 Occupied Bandwidth(99%)

Test Requirement	MIC Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
Limit:	FH: 83.5MHz or less FH + DS: 83.5MHz or less FH + OFDM: 83.5MHz or less OFDM: 38MHz or less Others: 26MHz or less

### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar

Test mode b:TX mode\_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20);. Only the data of worst case is recorded in the report.

### 7.2.2 Test Setup Diagram



### 7.2.3 Measurement Procedure and Data

#### 1. Test Conditions:

Spectrum Analyzer is used for measurement.

#### 2. EUT conditions:

Modulation/Spread/Hopping ON, Modulation Tx

For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.

#### 3. Spectrum Analyzer conditions:

Frequency: Test Frequency

Span 83.5 MHz (FHSS); 40/80 MHz (OFDM; DSSS); 2-3.5 times OBW (Others)

RBW 1 MHz (FHSS); 300kHz (OFDM; DSSS); 3% OBW (Others)

VBW 1 MHz (FHSS); 300kHz (OFDM; DSSS); 3 times RBW (Others)

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

OBW 99%

The detailed test data see: Appendix C for SHEM200500389903

### 7.3 Spread spectrum Bandwidth(90%)

Test Requirement	MIC Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
Limit:	DS,FH,FH+DS,FH+OFDM: 500kHz or more

#### 7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar

Test mode b:TX mode\_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20);Only the data of worst case is recorded in the report.

#### 7.3.2 Test Setup Diagram



#### 7.3.3 Measurement Procedure and Data

##### 1. Test Conditions:

Spectrum Analyzer is used for measurement.

##### 2. EUT conditions:

Modulation/Spread/Hopping ON, Modulation Tx

For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.

##### 3. Spectrum Analyzer conditions:

Center Frequency: Test Frequency

Span 83.5 MHz (FHSS); 40/80 MHz (OFDM; DSSS); 2-3.5 times OBW (Others)

RBW 1 MHz (FHSS); 300kHz (OFDM; DSSS); 3% OBW (Others)

VBW 1 MHz (FHSS); 300kHz (OFDM; DSSS); 3 times RBW (Others)

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

OBW 90%

The detailed test data see: Appendix C for SHEM200500389903

**7.4 Antenna Power**

Test Requirement MIC Item 19 of Article 2 Paragraph 1  
 Test Method: MIC Notice No.88 Appendix No.43  
 Limit: Designated value  
 (1) FH, FH+DS, FH+OFDM: 3mW  
 (used in the range of 2427 - 2470.75 MHz)  
 (2) OFDM, DS other than (1) 10mW  
 (3) Other than (1) & (2) 10mW  
 (4) OFDM OBW 26 - 38MHz: 5mW  
 Tolerance:+20%,-80%

**7.4.1 E.U.T. Operation**

Operating Environment:  
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar  
 Test mode b:TX mode\_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); Only the data of worst case is recorded in the report.

**7.4.2 Test Setup Diagram**



**7.4.3 Measurement Procedure and Data**

1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping ON, Modulation Tx  
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
3. Spectrum Analyzer conditions:  
Frequency: Test Frequency  
Span 25 MHz(FHSS); 40/80 MHz (OFDM; DSSS); Enough to capture the emission (Others)  
RBW 1 MHz (FHSS; OFDM; DSSS); More than OBW (Others)  
VBW 1 MHz (FHSS; OFDM; DSSS); More than RBW (Others)  
Sweep Time Auto  
detector mode Positive Peak  
Indication mode Max hold  
The detailed test data see: Appendix C for SHEM200500389903

**7.5 Spurious emission Intensity**

Test Requirement	MIC Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
Limit:	(1) Below 2387 MHz: 2.5μW/MHz (2) 2387 to 2400 MHz: 25μW/MHz (3) 2483.5 through 2496.5 MHz: 25μW/MHz (4) Over 2496.5 MHz: 2.5μW/MHz

**7.5.1 E.U.T. Operation**

Operating Environment:	
Temperature:	22 °C      Humidity: 50 % RH      Atmospheric Pressure: 1001 mbar
Test mode	b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20);. Only the data of worst case is recorded in the report.

**7.5.2 Test Setup Diagram**



### 7.5.3 Measurement Procedure and Data

#### 1. Test Conditions:

Spectrum Analyzer is used for measurement.

#### 2. EUT conditions:

Modulation/Spread/Hopping ON, , Modulation Tx

For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.

#### 3. Spectrum Analyzer conditions:

##### Step 1

All spurious are measured from 30 MHz to 13 GHz by peak mode.

##### Step 2

IF the value measured by Step1 is 2 dB or less, measure in average mode.

Test setup for Step 1:

Frequency: 30 MHz – 2400 MHz , 2483.5 MHz –13 GHz

RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

Test setup for Step 2:

Frequency: Spurious Frequency

RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

Sweep Time Auto

detector mode Sample

Indication mode Max hold

The detailed test data see: Appendix C for SHEM200500389903

## 7.6 Limit of secondary radiated emissions

Test Requirement	MIC Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
Limit:	(1) Below 1 GHz : 4 nW or less (2) 1 GHz and over : 20 nW or less

### 7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar

Test mode b:TX mode\_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20);. Only the data of worst case is recorded in the report.

### 7.6.2 Test Setup Diagram



### 7.6.3 Measurement Procedure and Data

1. Test Conditions:

Spectrum Analyzer is used for measurement.

2. EUT conditions:

Modulation/Spread/Hopping ON

For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.

3. Spectrum Analyzer conditions:

Step 1

All spurious are measured from 30 MHz to 13 GHz by peak mode.

Step 2

IF the value measured by Step1 is 2 dB or less, measure in average mode.

Test setup for Step 1:

Frequency: 30 MHz – 2400 MHz , 2483.5 MHz –13 GHz

RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

Test setup for Step 2:

Frequency: Spurious Frequency

Span 0 Hz

RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)

Sweep Time Auto

detector mode Sample

Indication mode Max hold

The detailed test data see: Appendix C for SHEM200500389903

## 8 Photographs

Refer to the < Photographs >

- End of the Report -