TEST REPORT

Product Name	:	WIFI Module
Brand Name	:	N/A
Model	:	DBOX-IOT16
Series Model	:	N/A
Applicant	:	**Shanghai Quicktron Automation Technology Co., Ltd.**
Address	:	No.985 Fulian Road, Baoshan District, Shanghai, China
Manufacturer	:	**Shanghai Quicktron Automation Technology Co., Ltd.**
Address	:	No.985 Fulian Road, Baoshan District, Shanghai, China
Standard(s)	:	Article 2, paragraph 1, item 19
Date of Receipt	:	May. 13, 2026
Date of Test	:	May. 13, 2026~ May. 20, 2026
Issued Date	:	May. 20, 2026

Issued By: **Guangdong Asia Hongke Test Technology Limited**
B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community,
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Reviewed by: Nels Wang **Approved by:** Allen Wang

Note: This device has been tested and found to comply with the standard(s) listed, this test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory. This report shall not be reproduced except in full, without the written approval of Guangdong Asia Hongke Test Technology Limited. If there is a need to alter or revise this document, the right belongs to Guangdong Asia Hongke Test Technology Limited, and it should give a prior written notice of the revision document. This test report must not be used by the client to claim product endorsement.

Report Revise Record

Report Version	Issued Date	Notes
M0	May. 20, 2026	Initial Release

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1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

MIC Notice No.88 Appendix No.43

1.2 Test Summary

Test Item	Result
Frequency Error	Pass
Antenna Output Power and Output Power Tolerance	Pass
Occupied Bandwidth	Pass
Unwanted Emission Strength	Pass
Secondary Radiated Emission Strength	Pass
Construction Protection Method	Pass
Carrier Sense Capability	Pass
Interference Prevention Function	Pass
Number of Carriers	Pass

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1.3 Test Facility

Test Laboratory:
Guangdong Asia Hongke Test Technology Limited
B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified or accredited by the following organizations:
FCC-Registration No.: 251906 Designation Number: CN1376
Guangdong Asia Hongke Test Technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC —Registration No.: 31737 CAB identifier: CN0165
The 3m Semi-anechoic chamber of Guangdong Asia Hongke Test Technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 31737

A2LA-Lab Cert. No.: 7133.01
Guangdong Asia Hongke Test Technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

1.4 Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to CISPR 16 - 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the Guangdong Asia Hongke Test Technology Limited’s quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Asia Hongke laboratory is reported:

Test	Measurement Uncertainty
Frequency Error / 99% & 90% Bandwidth	± 0.85 x 10^{-7}
Antenna Power	± 0.70 dB
Spurious Emissions	± 0.80 dB
DC / AC Power Source	±1.4%

The report uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%

2 GENERAL INFORMATION

2.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Voltage	Normal Voltage	DC 3.30V
	High Voltage	DC 3.63V
	Low Voltage	DC 2.97V
Other	Normal Temperature	25°C
	Relative Humidity	55 %
	Air Pressure	989 hPa

2.2 General Description of EUT

Product Name:	WIFI Module
Model/Type reference:	DBOX-IOT16
Serial Model:	N/A
Power Rating:	Input: DC 3.3V
Hardware Version:	N/A
Software Version:	N/A
WIFI 2.4G	
Supported type:	802.11b/g/n(H20)/n(H40)
Modulation:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Operation frequency:	802.11b/g/n(H20): 2412MHz~2472MHz 802.11n(H40):2422MHz~2462MHz
Channel number:	802.11b/g/n(H20): 13 802.11n(H40):9
Channel separation:	5MHz
Antenna type:	External Antenna
Antenna gain:	3.0dBi
Remark: The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.	

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2.3 Description of Test Modes and Test Frequency

The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Operation Frequency List:

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	**2412**	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	**13**	**2472**
7	**2442**		

Note: Test performed at the lowest/middle/highest frequencies selected in the list above for EUT supported while working on specified mode.

2.4 Equipment List for the Test

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Spectrum Analyzer	Keysight	N9020A	MY51280643	2025.09.23	2026.09.22
2	DC Power supply	Manson	HCS-3604	G521100129	2025.09.23	2026.09.22
3	Digital Phosphor Oscilloscope	Tektronix	TDS3012	B021220	2025.09.23	2026.09.22
4	Signal Generator	Agilent	N5182A	MY50143009	2025.09.23	2026.09.22
5	Test software	TST	TST Pass	V2.0	N/A	N/A

Calibration by the calibration agencies listed in the table correspond to paragraph 4 (ii) (c) of Article 24-2 in the Radio Law".
☐(a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) or a designated calibration agency under Article 102-18-1 of the Radio Act.
☐(b) Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act.
☒(c) Calibration conducted in foreign countries, which is equivalent to calibration conducted by the NICT or a designated calibration agency under Article 102-18-1 of the Radio Act.
☐(d) Calibration, etc. conducted by using measuring instruments and other facilities listed at the bottom of appended table 3 of the Radio Act, which is to have been calibrated as described in (a) through (c) above.

Cal. Lab: GUANGZHOULISAICALIBRATION AND TESTING CO.,LTD.

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2.5 Table for Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters:

Test Software Version	CMD Command		
Frequency	2412MHz	2442MHz	2472MHz
802.11b (20MHz)	Default	Default	Default
802.11g (20MHz)	Default	Default	Default
802.11n (20MHz)	Default	Default	Default
Frequency	2422MHz	2442MHz	2462MHz
802.11n (40MHz)	Default	Default	Default

2.6 Test Voltage

POWER SUPPLY VOLTAGE FLUCTUATION TEST

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Power supply	DC 3.30V	DC 3.63V	DC 2.97V
Output To RF Module	--	--	--
Voltage Variation (%)	--	--	--

Note:
Voltage Variation (%)
= (Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage* 100
During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/-1%. Exempt extremely high and low supply voltage condition test, EUT only operated in normal voltage to test all regulations.
During the input supply voltage to the EUT from the external power source is varied by ±10%, the fluctuation of input voltage to the circuit of RF unit of test equipment is exceed ±1%. So, all measurement has been conducted by normal and limit voltage.

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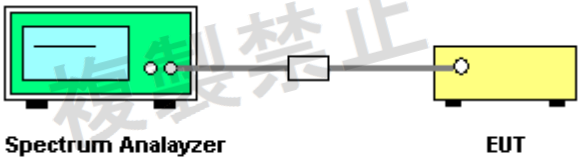
3 Test conditions and Results

3.1 Frequency Error

LIMIT

±50ppm

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

EUT Condition: non-modulation

Spectrum Condition:

Frequency: test frequency

Span: 300 KHz

RBW: 10 KHz

VBW: 10 KHz

Sweep time: Auto

Detector mode: Positive peak

Indication mode: max hold

TEST RESULTS

Raw data reference to Appendix RF test data for WIFI 2.4G.

3.2 Antenna Output Power and Output Power Tolerance

LIMIT

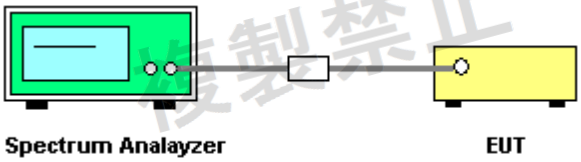
- ≤ 3 mW /MHz(FHSS from 2402-2480 MHz)
- ≤ 10 mW/MHz (OFDM, DSSS from 2400-2483.5 MHz)
- ≤ 5 mW/MHz (OFDM 26MHz≤ OBW≤ 40MHZ)
- ≤ 10 mW (other from 2400-2483.5 MHz)

The Output Power Tolerance must be within +20%, -∞%.
E.i.r.p:

- ≤6.91dBm/MHz(HFSS form 2400-2483.5MHz)
- ≤12.14dBm/MHz(OFDM,DS form 2400-2483.5MHz)
- ≤9.13dBm/MHz(OFDM 26MHz≤ OBW≤ 40MHz)
- ≤ 12.14dBm(other from 2400-2483.5 MHz)

Note: E.I.R.P will not be applied to the transmission antenna which has a gain of 2.14dBi or less.

TEST CONFIGURATION



TEST PROCEDURE

Step 1:
Connect the UUT to the spectrum analyzer as TEST CONFIGURATION and use the following settings:

- Centre Frequency: The centre frequency of the channel under test.
- RBW: 1 MHz
- VBW: 1 MHz
- Span: Wide enough to cover the complete power envelope of the signal of the UUT.
- Detector: Peak
- Trace Mode: Max Hold

Step 2:
When the trace is complete, find the peak value of the power envelope and record the frequency.

Step 3:
Make the following changes to the settings of the spectrum analyzer:

- Centre Frequency: Equal to the frequency recorded in step 2.
- Span: 0 MHz
- RBW: 1 MHz
- VBW: 1 MHz
- Detector: RMS
- Trace Mode: Clear Write

TEST RESULTS

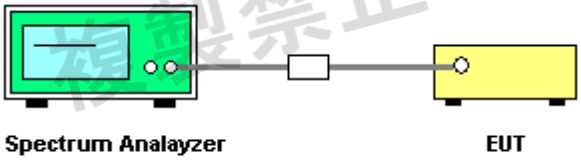
Raw data reference to Appendix RF test data for WIFI 2.4G.

3.3 Occupied Bandwidth

LIMIT

• Occupied bandwidth: FH≤83.5 MHz; OFDM(802.11n(HT40)):26-40MHz;OFDM(802.11g/n(HT20))≤ 26MHz, DS≤26 MHz; Others≤26 MHz
• Spread Bandwidth:≥ 500 kHz(FH,DS)
• Spread factor>5.

TEST CONFIGURATION



TEST PROCEDURE

1. Setting of SA is following as fellow:
   RBW: 300 kHz
   VB: 300 kHz
   Sweep time: Auto
   Sweep Mode: Continuous sweep
   Detect mode: Positive peak
   Trace mode: Max hold
2. EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth.

TEST RESULTS

Raw data reference to Appendix RF test data for WIFI 2.4G.

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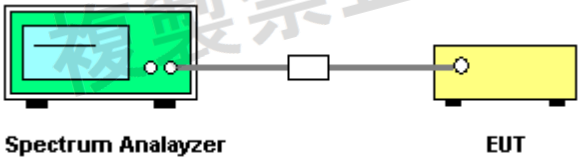
3.4 Unwanted Emission Strength

LIMIT

Below 2387 MHz: 2.5μW/MHz or less
2387 to 2400 MHz: 25μW/MHz or less
2483.5 Through 2496.5 MHz: 25μW/MHz or less
Over 2496.5 MHz: 2.5μW/MHz or less

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

EUT Condition: modulation

Spectrum Condition:

Frequency: 30MHz-12.5GHz

RBW: 1MHz (30MHz-12.5GHz)

VBW: 1MHz (30MHz-12.5GHz)

Sweep time: Auto

Detector mode: Positive peak

Indication mode: max hold

TEST RESULTS

Raw data reference to Appendix RF test data for WIFI 2.4G.

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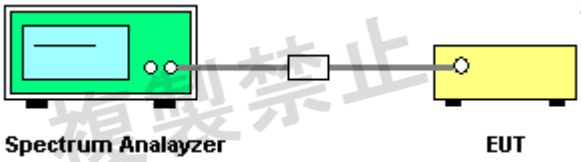
3.5 Secondary Radiated Emission Strength

LIMIT

Below 1GHz: 4.0nW or less
Above 1GHz: 20nW or less

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

EUT Condition: modulation

Spectrum Condition:

Frequency: 30MHz-12.5GHz

RBW: 100 KHz (30MHz-1GHz), 1MHz (1GHz-12.5GHz)

VBW: 100 KHz (30MHz-1GHz), 1MHz (1GHz-12.5GHz)

Sweep time: Auto

Detector mode: Positive peak

Indication mode: max hold

TEST RESULTS

Raw data reference to Appendix RF test data for WIFI 2.4G.

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3.6 Construction protection method

Requirement

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily

Confirmation method

The high-frequency section and modulation section use SMT technology, not easy to change. (The chip have more than 10 chip pins, less than 1.5mm pin distance.)

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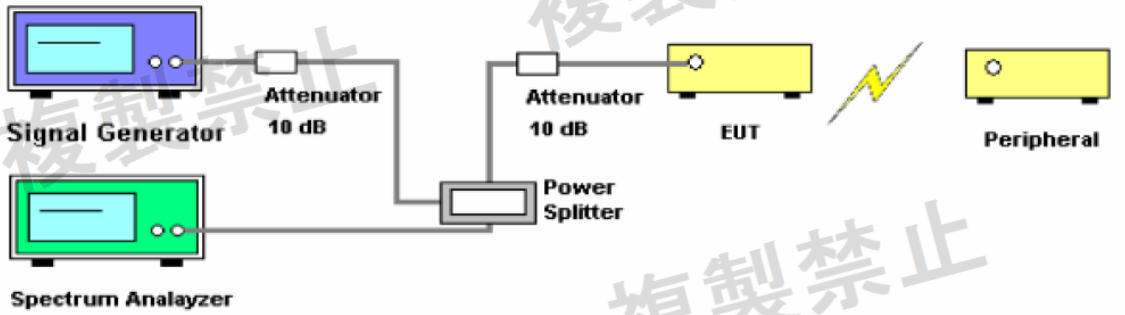
3.7 Carrier Sense Capability

Limit

EUT stop RF transmission signal after carrier inject to EUT for the OFDM system with occupied frequency bandwidth below 38MHz and exceed 26MHz.

TEST CONFIGURATION



TEST PROCEDURE

1. Set The EUT state in “normal mode link with wireless router”.
2. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is (on 22.79+G-20*log (f) dBm)(G is the antenna gain is the test frequency).
3. Turn off the RF signal of the SG.
4. EUT have transmitted the maximum modulation signal and fixed channelize.
5. Setting the spectrum as fellow :
   RBW/VBW=1MHz/1MHz
   Span=50MHz
   Sweep time=auto
   Sweep mode=continuous
   Detect mode=positive peak
6. SG RF signal on.
7. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous transmitted signal.

TEST RESULTS

Good , Compliant

3.8 Interference Prevention Function

Requirement

Clarify, the one automatically to transmit and to receive identification code with the wireless equipment of the wireless station used in the same premises.

Interference Prevention Function Confirm

A communication link was made where the ID code is correct (Identical).

TEST PROCEDURE

1. Connect the EUT in network
2. Open the software
3. We can get the information as follows:

TEST RESULTS

MAC: ff:3e:af:e0:26:5d

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3.9 Number of Carriers

LIMIT

The number of carriers:1 or more/MHz

TEST RESULTS

This device has more than 1 sub-carrier in 1MHz, compliances with the requirement.

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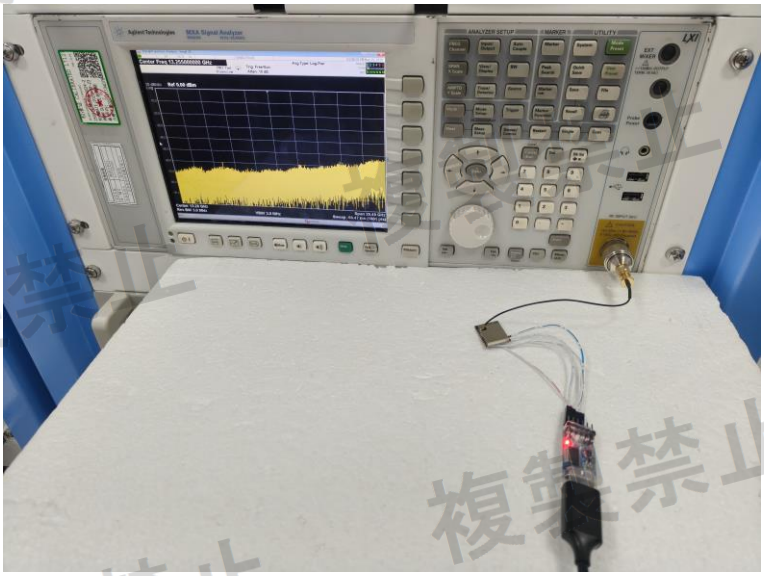
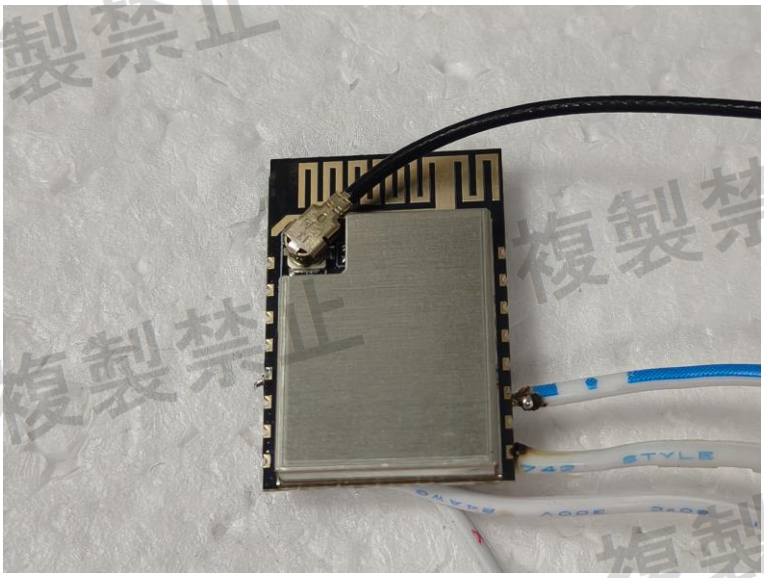
4 Test Setup Photographs of EUT





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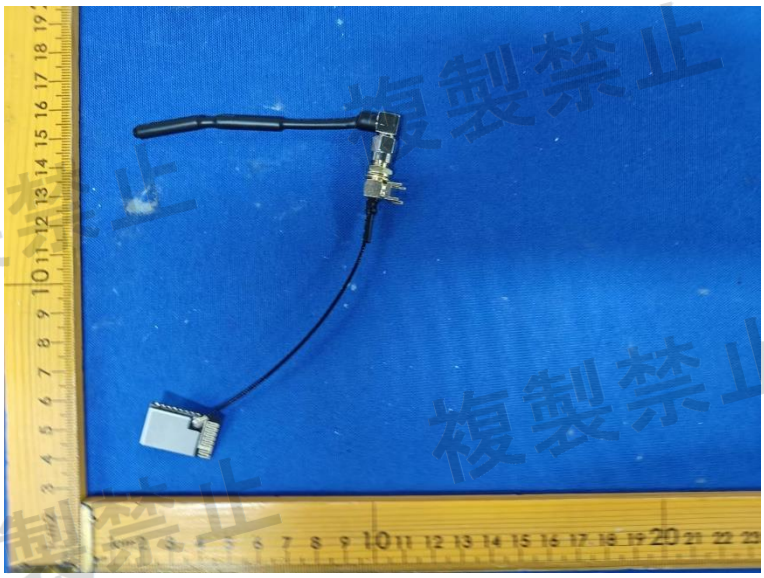
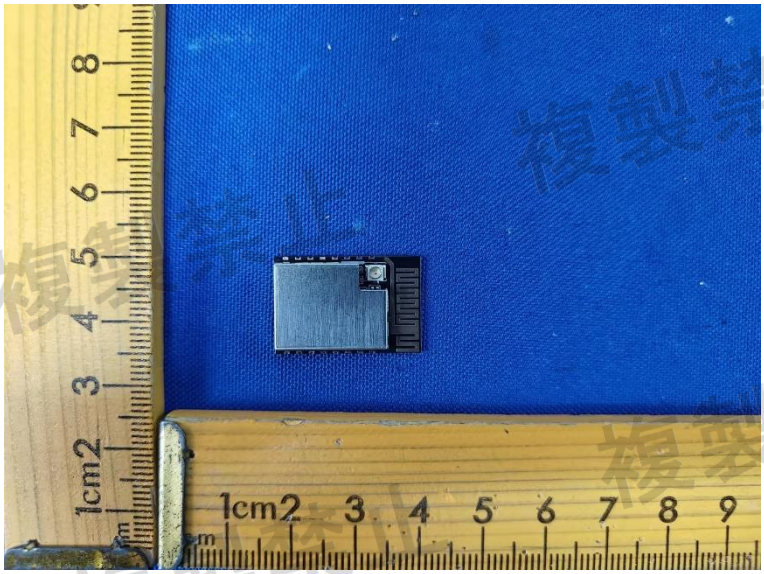
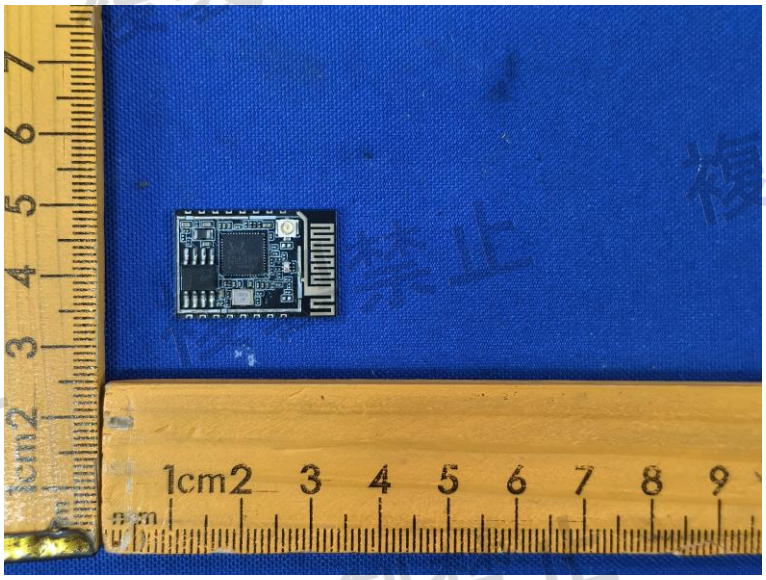
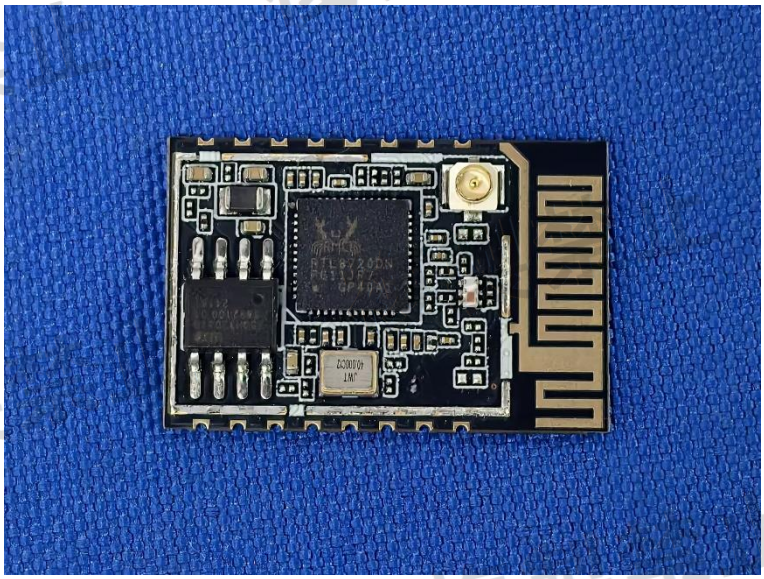
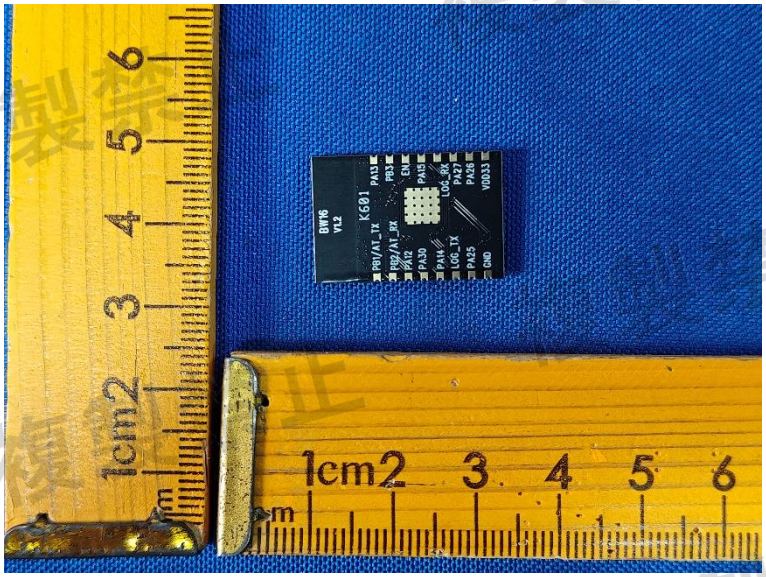
5 Photos of EUT










BW16
V1.2
K601
PB1/AT_TX
PB2/AT_RX
PA32
PA30
PA14
LOG_TX
PA25
GND
PA13
PB3
EN
PA15
LOG_RX
PA27
PA28
VDD33
1cm2 3 4 5 6

1cm2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

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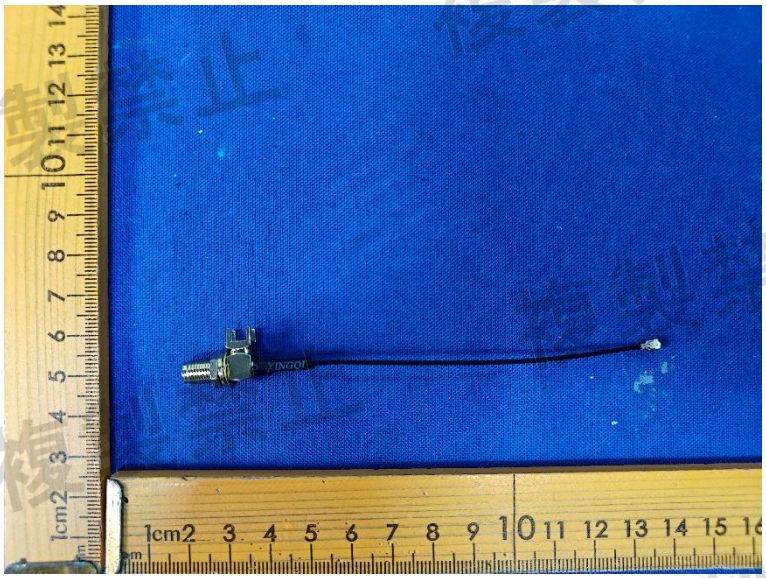

********** End of Report **********

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