


 Report No.: ZEWM2310001619RG02  
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## TEST REPORT

**Application No.:** ZEWM2310001619RG  
**Applicant:** Beijing InHand Networks Technology Co., Ltd.  
**Address of Applicant:** Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing  
**Manufacturer:** Beijing InHand Networks Technology Co., Ltd.  
**Address of Manufacturer:** Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing  
**EUT Description:** 5G Fixed Wireless Access  
**Model No.:** FWA02  
 FWA03  
 FWA12  
 FWA32  
 FWA62  
 FWA92  
**Trade Mark:**   
**FCC ID:** 2AANY-FWA  
**Standards:** 47 CFR Part 96.47  
**Date of Receipt:** 2023/11/02  
**Date of Test:** 2023/11/07 to 2023/11/16  
**Date of Issue:** 2023/11/21

<b>Test Result :</b>	<b>PASS *</b>
----------------------	---------------

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

 Keny Xu  
 Laboratory Manager

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## 1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023/11/21		Original

Prepared By	 _____ (Jack Huang) / Test Engineer
Checked By	 _____ (Flora Wang) / Reviewer



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Shenzhen Branch Inspection & Testing Services Laboratory

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## 2 Test Summary

Test Item	FCC Rule No.	Test Result	Verdict
End User Device additional requirement	§96.47	Clause 4.1	Pass

### Remark:

According to the Declaration letter from client, these models are the same in these: appearance, PCB layout and basic software function; The only difference is that the products are used in different markets.

Therefore in this report only the Model No.(FWA02) was tested, and internal wiring were identical for all above items. Only different on model No. for marketing requirement.


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### 3 General Information

#### 3.1 Details of Client

Applicant:	Beijing InHand Networks Technology Co., Ltd.
Address of Applicant:	Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing
Manufacturer:	Beijing InHand Networks Technology Co., Ltd.
Address of Manufacturer:	Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing

#### 3.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China
Post code:	518057
Test engineer:	Jinhua Wei

#### 3.3 Test Facility

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

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

- **FCC –Designation Number: CN1336**

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch has been recognized as an accredited testing laboratory.

Designation Number: CN1336.

Test Firm Registration Number: 787754



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### 3.4 General Description of EUT

EUT Description:	5G Fixed Wireless Access
Model No.:	FWA02 FWA03 FWA12 FWA32 FWA62 FWA92
Trade Mark:	
Hardware Version:	V1.2
Software Version:	V2.0
Power Supply:	DC 12V
IMEI:	862424050368280
Antenna Type:	External rod antenna
Transmitter Frequency Band:	LTE Band 48
Transmitter Frequency Range:	3550 to 3700 MHz
Antenna Gain:	LTE Band 48: 1.96dBi (Ant6);
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.
Remark:	As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.





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## 3.5 Test Environment

Environment Parameter	101 kPa Selected Values During Tests	
Relative Humidity	44-46 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	22~23	12
Remark: NV: Normal Voltage                      NT: Normal Temperature		

## 3.6 Description of Support Units

Description	Manufacturer	Model No.
Adapter*	KUANTEN LIMITED	KT36W120300US
LTE Base Station	Baicells Technologies Co.,Ltd.	mBS31001 (FCC ID: 2AG32MBS3100196N)
Remark: the information with"*" are provided by client.		



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## 4 Description of Tests

### 4.1 End User Device additional requirement

Test Requirement:	FCC Part 96.47
Test Method:	WINNF-18-IN-00178 CBRS End User Devices as UUT Test Guidelines
Requirement:	<p>(a)End User Devices may operate only if they can positively receive and decode anauthorization signal transmitted by a CBSD, including the frequencies and power limits fortheir operation.</p> <p>(1)An End User Device must discontinue operations, change frequencies, or changeits operational power level within 10 seconds of receiving instructions from its associated CBSD.</p>
Test Procedure:	<ol style="list-style-type: none"> <li>1. Setup with frequency 3550-3570MHz and power level 17dBm/MHz</li> <li>2. Enable AP service from Ruckus Cloud management</li> <li>3. Check EUD Tx Frequency and power</li> <li>4. Disable AP service from Ruckus Cloud management</li> <li>5. Check EUD stops transmission within 10seconds.</li> <li>6. Setup with 3590-3610MHz &amp; power level 13dBm/MHz</li> <li>7. Enable AP service from Ruckus Cloud management</li> <li>8. Check EUD Tx Frequency and power</li> <li>9. Disable AP service from Ruckus Cloud management</li> <li>10. Check EUD stops transmission within 10seconds.</li> </ol>
Test setup:	<p>The diagram illustrates the test setup. A Spectrum Analyzer (green box) is connected to an ATT (Attenuator, black box). The ATT is connected to a Direct Coupler (black box). The Direct Coupler is connected to a Companion Device (white box) and an EUT (End User Device, yellow box).</p>





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[Step 1] Setup with frequency 3550-3570MHz and power level 17dBm/MHz

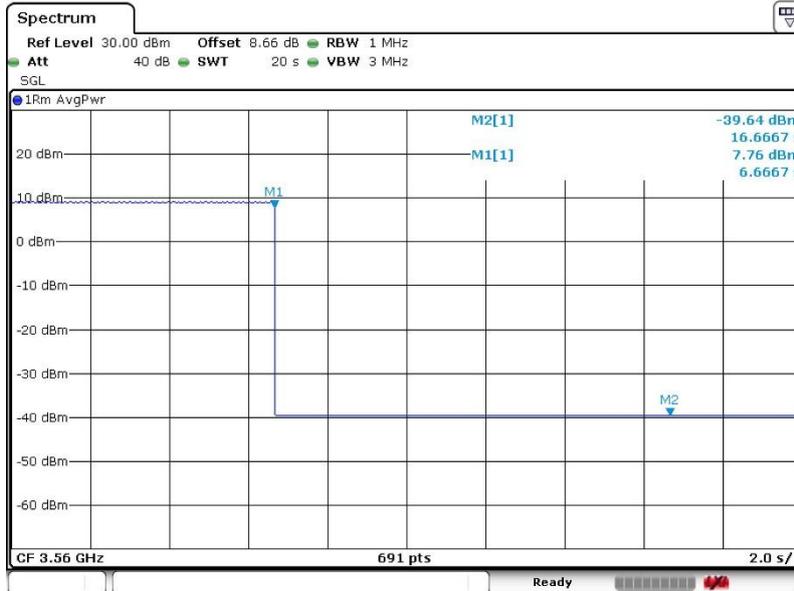
[Step 3] Check EUD Tx Frequency and power



Date: 14.NOV.2023 12:06:26

EIRP PSD=9.85+1.96+1.1=12.91dBm/MHz, Antenna gain is 1.96dBi, the pass loss is 1.1dB

[Step 5] EUD stops transmission within 10 seconds of receiving instructions from its associated CBSD.



Date: 14.NOV.2023 11:35:11



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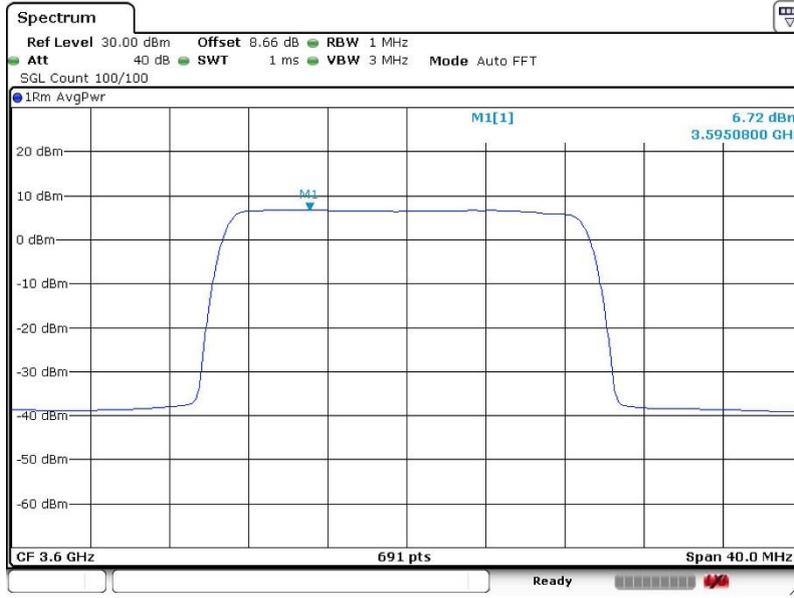


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[Step 6] Setup with 3590-3610MHz & power level 13dBm/MHz

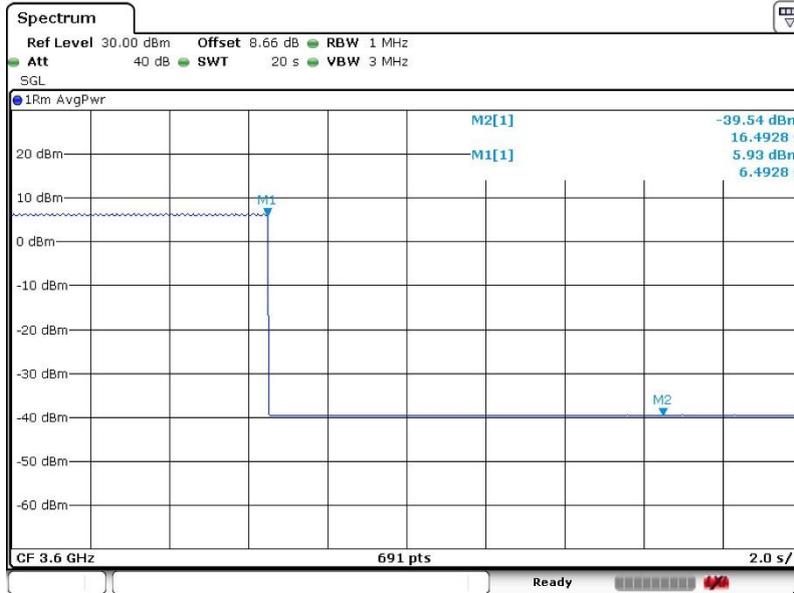
[Step 8] Check EUD Tx Frequency and power



Date: 14.NOV.2023 12:04:55

EIRP PSD=6.72+1.96+1.1=9.78dBm/MHz, Antenna gain is 1.96dBi, the pass loss is 1.1dB

[Step 10] EUD stops transmission within 10 seconds of receiving instructions from its associated CBSD.



Date: 14.NOV.2023 12:03:44



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## 5 Main Test Instruments

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	SZ-WRG-M-032	2023/02/17	2024/02/16
Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-012	2023/02/16	2024/02/15


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## 6 Measurement Uncertainty

For a 95% confidence level ( $k = 2$ ), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 9.84\text{Hz}$
2	RF conducted power	$\pm 0.42\text{dB}$

**Remark:**

The  $U_{\text{lab}}$  (lab Uncertainty) is less than  $U_{\text{CISPR/ETSI}}$  (CISPR/ETSI Uncertainty), so the test results  
 – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;  
 – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.





## 7 Appendixes

Setup Photos	Appendix A.4 - Setup Photos-part96.47
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---End of Report---

