TEST REPORT

Application No.:	XEWM2310000533RG
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 Outdoor Unit
Model No.:	ODU2x02 (Where 'x' represents the numbers '0-9')
Trade Mark:	inhand
FCC ID:	2AANY-ODU
Standards:	47 CFR Part 2.1091 FCC KDB 447498 D01 v06
Date of Receipt:	2023/09/21
Date of Issue:	2023/11/14
Test Result:	**PASS***

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

Authorized Signature:

Peter Tan
Regulatory Technical Manager

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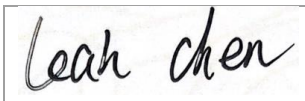
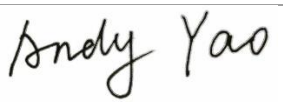
1 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2023/11/14		Original

Prepared By	 **(Leah Chen) / Test Engineer**
Checked By	 **(Andy Yao) /Reviewer**

Remark:

According to the Declaration letter from client, Models No.: ODU2x02, Where 'x' represents the numbers '0-9'. Therefore in this report only the Model No.(ODU2002) was recalculated, and internal wiring were identical for all above items. Only different on model No. for marketing requirement.

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2 General Information

2.1 Client Information

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

2.2 Test Facility

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

•A2LA (Certificate No. 4854.01)

SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0095.

IC#: 25613.

• FCC –Designation Number: CN1337

SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN1337.

Test Firm Registration Number: 917410

2.3 General Description of EUT

EUT Description:	5G Outdoor Unit			
Model No.:	ODU2x02 (Where 'x' represents the numbers '0-9')			
Trade Mark:	inhand			
Hardware Version:	V1.2			
Software Version:	V2.0			
Power Supply:	POE 50V			
Antenna Type:	TNC fiberglass rod antenna			
Antenna Gain:	LTE Band 48:	3.01dBi (Ant1); 3.01dBi (Ant6);	WIFI 2.4G:	4.21dBi (Ant0);
	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 RF Exposure Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Limits

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4* Pi * R^2)$

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

3.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually

3.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:
This confirmed that the device comply with MPE limit.

Operating Band	Frequency (MHz)	Antenna Gain (dBi)	Max Conducted Power (dBm)	EIRP(ERP) (dBm)	EIRP(ERP) Limit (dBm)	Power Density at R = 20 cm (mW/cm2)	Limit (mW/cm2)	Gain according to EIRP(ERP) (dBi)	Gain according to Pd (dBi)	Max Gain Allowed (dBi)	conclusion
LTE Band 48	3552.5	3.01	19.50	22.51	23.00	0.0355	1.0000	3.50	17.51	3.50	Pass
2.4G WiFi	2412.0	4.21	22.00	26.21	30.00	0.0831	1.0000	NA			Pass

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3.1.4 Exposure calculations for multiple sources

When a number of sources at different frequencies, and/or broadband sources, contribute to the total exposure, it becomes necessary to weigh each contribution relative to the MPE in accordance with the provisions of Table(A) and Table(B). To comply with the MPE, the fraction of the MPE in terms of E2, H2 (or power density) incurred within each frequency interval should be determined and the sum of all such fractions should not exceed unity.

In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^{n} \frac{S_i}{MPE_i} \leq 1$$

The product also has multiple transmitters The Simultaneous Transmission Possibilities are as below:

Simultaneous Tx Combination	Configuration
1	LTE Band 48 + WiFi 2.4G

No.	Mode	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)	Result Ratio	Total Ratio	Limit	Result
1	LTE Band 48	0.0355	1.0000	0.0355	0.1186	1.00	Pass
	WiFi 2.4G	0.0831	1.0000	0.0831			

---End of Report---

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