



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230700213002

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TEST REPORT

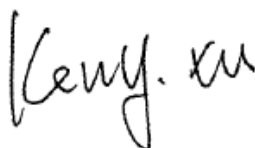
Application No.: SZCR2307002130AT
Applicant: Mercku Inc.
Address of Applicant: 3600 Steeles Avenue East, Suite C108B, Markham, Ontario, L3R 9Z7, Canada
Manufacturer: Mercku Inc.
Address of Manufacturer: 3600 Steeles Avenue East, Suite C108B, Markham, Ontario, L3R 9Z7, Canada
Factory: Shenzhen Broadlink Communication Technology Co., Ltd
Address of Factory: 6th floor, Saibo building, Tenglong Road, Longhua District, Shenzhen City, Guangdong Province

Equipment Under Test (EUT):
EUT Name: Mercku 5G CPE X6
Model No.: X1NA0
Trademark:  MERCKU
FCC ID: 2APR4-X6
Standard(s) : 47 CFR Part 2
47 CFR Part 96
Date of Receipt: 2023-07-03
Date of Test: 2023-07-03 to 2023-07-11
Date of Issue: 2023-07-17

Test Result:

Pass

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



Keny Xu
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (EMC) EMC Laboratory

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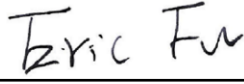
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023-07-17		Original

Authorized for issue by:				
				
		Vincent Chen/Project Engineer		
				
		Eric Fu/Reviewer		



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2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §96.41	EIRP≤ 47dBm/10MHz PSD≤ 37dBm/MHz (LTE Band 48)	PASS

Remark for report SZCR230700213002:

Model No.: X1NA0

Only the model X1NA0 was tested.

This test report (Ref. No.: SZCR230700213002) is only valid with the modular test report (Ref. No.: 2204RSU037-U5)

According to the declaration from the applicant, the module used in this report and the one in original report were identical (5G Sub-6 GHz LGA Module, model No.: RG520N-NA).

Therefore in this report Effective (Isotropic) Radiated Power Output Data was fully retested on model X1NA0 and shown the data in this report, other tests please refer to modular test report 2204RSU037-U5.



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4 General Information

4.1 Details of E.U.T.

Power supply:	Powered by AC Adapter Model: P120W2000U Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 12V, 2.0A, 24.0W
Test voltage:	DC 12V
Sample Type:	End User device
LTE Operation Frequency Band:	LTE Band 48
Frequency range:	3550~3700MHz
Modulation Type:	QPSK, 16QAM, 64QAM, 256QAM
Support Channel Bandwidth:	5/10/15/20MHz
Antenna Type:	Integrated Antenna
Antenna Gain:	5.33dBi
MIMO supported	Not Support
Antenna Port:	4
Hardware version:	X1NA0
Software version:	v1.0.1

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Test Frequency

Test mode:	Nominal Bandwidth (MHz)	RF Channel		
		Low (L)	Middle (M)	High (H)
		MHz	MHz	MHz
B48	5	3552.5	3625	3697.5
	10	3555	3625	3695
	15	3557.5	3625	3692.5
	20	3560	3625	3690

4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	54%	
Atmospheric Pressure:	1010Pa	
Temperature:	TL	0 °C
	TN	25 °C
	TH	40 °C
Voltage:	VL	10.8 V
	VN	12 V
	VH	13.2 V

NOTE: VL= lower extreme test voltage
 VN= nominal voltage
 VH= upper extreme test voltage
 TL= lower extreme test temperature
 TN= normal temperature
 TH= upper extreme test temperature

4.4 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--
The EUT has been tested as an independent unit.			

4.5 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	RF conducted power	$\pm 0.75\text{dB}$
2	Temperature test	$\pm 1^\circ\text{C}$
3	Humidity test	$\pm 3\%$
4	Supply voltages	$\pm 1.5\%$
5	Time	$\pm 3\%$

Remark:

The Ulab (lab Uncertainty) is less than Ucispr/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.



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4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.7 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 EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

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. Shenzhen EMC laboratory 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.

• FCC –Designation Number: CN1336

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

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

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

CAB identifier: CN0006.

IC#: 4620C.

4.8 Deviation from Standards

None

4.9 Abnormalities from Standard Conditions

None



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5 Equipment List

RF test system					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
Shielding Room	SAEMC	MSR733	SEM001-09	2022-05-14	2025-05-13
MXA Signal Analyzer	KEYSIGHT	N9020B	SEM004-17	2023-03-20	2024-03-14
Mobile Communications DC Source	Agilent	66319D	SEM011-12	2023-05-06	2024-05-05
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2023-04-06	2024-04-05
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2023-04-06	2024-04-05
Power Sensor	KEYSIGHT	U2021XA	SEM009-15	2023-04-06	2024-04-05
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-04-06	2024-04-05
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2023-03-28	2024-03-27
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08 2023-07-07	2023-07-07 2023-07-08

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2022-09-04	2023-09-03
Humidity/ Temperature Indicator	Anymetre	TH101B	SEM002-09	2022-09-04	2023-09-03
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2023-03-20	2024-03-19



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6 Radio Spectrum Matter Test Results

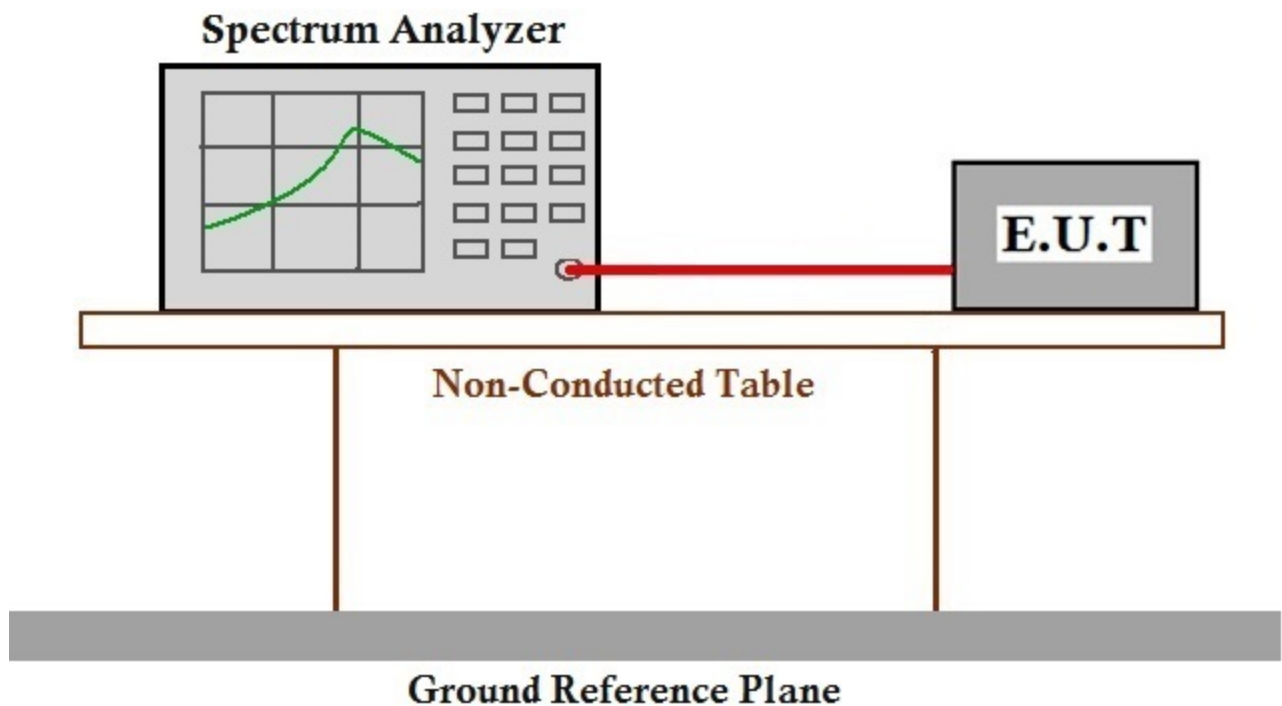
6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: §2.1046, §96.41
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: EIRP ≤ 47dBm/10MHz, PSD ≤ 37dBm/MHz (LTE Band 48)

6.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 22.5 °C Humidity: 54 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

Please refer to Appendix A- Effective (Isotropic) Radiated Power Output Data.

7 Photographs

7.1 Setup photo

Please refer to setup photos.

7.2 EUT Constructional Details (EUT Photos)

Please Refer to external and internal photos for details.

- End of the Report -

