

TEST REPORT

Application No.: SZCR2104020498AT
Applicant: Smawave Technology Co., Ltd
Address of Applicant: 3/F, Building 8, 1001 North Qinzhou Road, Xuhui District, Shanghai, China
Manufacturer: Smawave Technology Co., Ltd
Address of Manufacturer: 3/F, Building 8, 1001 North Qinzhou Road, Xuhui District, Shanghai, China
Equipment Under Test (EUT):
Product Name: LTE Indoor CPE
Model No.: SRT421
FCC ID: 2AU8HSRT421
Standard(s) : 47 CFR Part 2;
 47 CFR Part 27C
 47 CFR Part 96E
Date of Receipt: 2021-04-13
Date of Test: 2021-04-28 to 2021-04-28
Date of Issue: 2021-05-18

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.


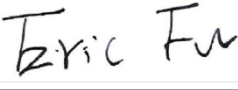
Keny Xu

Keny Xu
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-05-18		Original

Authorized for issue by:				
				
		Leo Lai/Project Engineer		
				
		Eric Fu/Reviewer		



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2 Test Summary

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Effective (Isotropic) Radiated Power Output Data	47 CFR Part 2; 47 CFR Part 27C; 47 CFR Part 96E	ANSI C63.26, KDB 971168 D01 v03	§2.1046, §96.41(b)	Pass
Peak-Average Ratio		ANSI C63.26, KDB 971168 D01 v03	§27.50(d), §96.41(g)	Pass
Modulation Characteristics		ANSI C63.26, KDB 971168 D01 v03	§2.1047	Pass
Occupied Bandwidth		ANSI C63.26, KDB 971168 D01 v03	§2.1049, §96.41	Pass
Band Edge Compliance		ANSI C63.26, KDB 971168 D01 v03	§2.1051, 27.53(m) , §96.41(e)	Pass
Spurious emissions at antenna terminals		ANSI C63.26, KDB 971168 D01 v03	§2.1051, §27.53(m), §96.41(e)	Pass
Field strength of spurious radiation		ANSI C63.26, KDB 971168 D01 v03	§2.1051, §27.53(m), §96.41(e)	Pass
Frequency stability		ANSI C63.26, KDB 971168 D01 v03	§2.1055, §27.54	Pass



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4 General Information

4.1 Details of E.U.T.

Test voltage:	120V~60Hz
Power adapter:	Model: ASS67A-120200 Input: 100-120V~50/60Hz 0.8A Output: DC 12V 2A
HW Version:	V1.0
SW Version:	ST_CBRS_V2.0.0

LTE Operation Frequency Band:	41, 48					
Modulation Type:	UL: QPSK, 16QAM, 64QAM DL: QPSK, 16QAM, 64QAM					
LTE Release Version:	R12					
LTE Power Class:	Level 3					
Working Bandwidth:	5M, 10M, 15M, 20M					
Antenna Type:	PCB Internal Antenna					
Antenna Gain:	Band 41: 4dBi; Band 48: 5dBi.					
Operating Frequency Range(s)	Band		Tx (MHz)		Rx (MHz)	
	LTE Band 41		2496 ~ 2690		2496 ~ 2690	
	LTE Band 48		3550 ~ 3700		3550 ~ 3700	
Extreme Voltage (V)	NV	12	HV	15	LV	9
Operation Temperature	Low	-30		High	60	

4.2 Description of Support Units

	Manufacturer	Model No.	Serial No.
--	--	--	--

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Effective (Isotropic) Radiated Power Output Data	4.5dB; 4.8dB
Peak-Average Ratio	3%
Bandwidth	3%
Band Edge Compliance	3%
Spurious emissions at antenna terminals	0.75dB
Field strength of spurious radiation	4.5dB; 4.8dB
Frequency stability	7.25 x 10-8



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中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Remark:

The U_{lab} (lab Uncertainty) is less than U_{cisp} (CISPR 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.

4.4 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, Shenzhen, Guangdong, China. 518057.

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

No tests were sub-contracted.

4.5 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**

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.

• **FCC –Designation Number: CN1178**

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

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **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.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



5 Equipment List

RF conducted test					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2021-03-23	2022-03-22
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-17	2021-04-08	2022-04-07
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2021-04-08	2022-04-07
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2021-03-23	2022-03-22

RE in Chamber (Below 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2020-11-02	2021-11-01
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-02	2019-05-24	2022-05-23
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2021-03-24	2022-03-23
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09

RE in Chamber (Above 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2021-03-26	2024-03-25
EXA Signal Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2021-02-01	2022-01-31
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2021-04-14	2024-04-13
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09



General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2021-03-30	2022-03-29



6 Radio Spectrum Matter Test Results

6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement §2.1046, §96.41(b)
 Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: EIRP ≤ 2W(LTE Band 41)
 EIRP ≤ 1W(LTE Band 48 Category A)

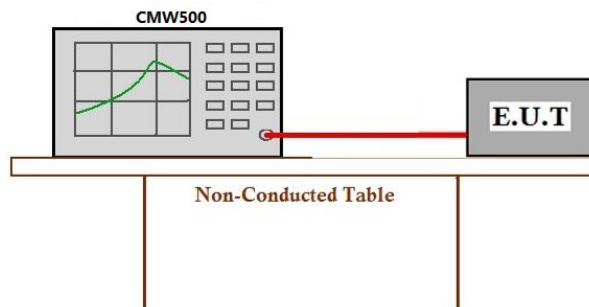
6.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.1.3 Test Setup Diagram



6.1.4 Measurement Procedure and Data

Please refer to Appendix A_LTE_4G_RF power

6.2 Peak-Average Ratio

Test Requirement §27.50(d), §96.41(g)
Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: ≤13dB

6.2.1 E.U.T. Operation

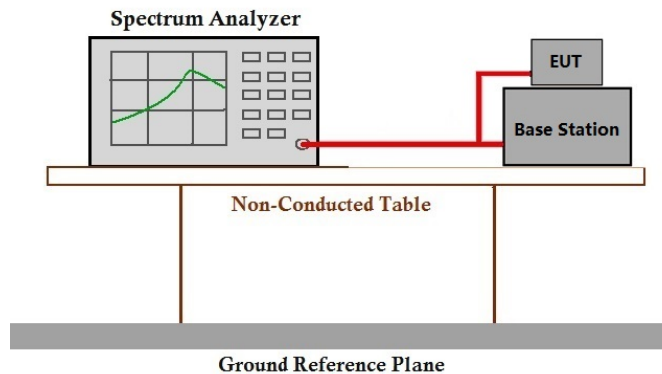
Operating Environment:

Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.2.3 Test Setup Diagram



6.2.4 Measurement Procedure and Data

Please refer to Appendix A_LTE_4G_Peak-Average Ratio

6.3 Modulation Characteristics

Test Requirement §2.1047
Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: Digital modulation

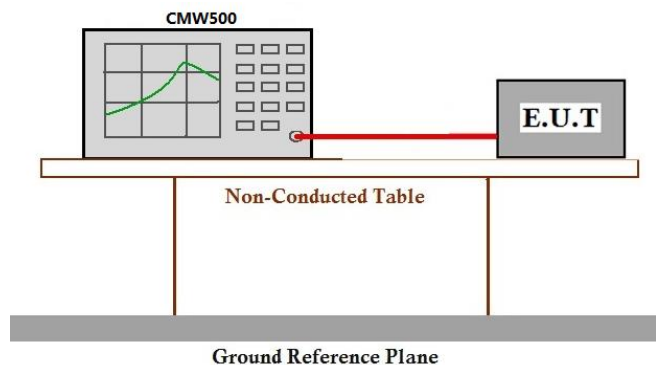
6.3.1 E.U.T. Operation

Operating Environment:
Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.3.3 Test Setup Diagram



6.3.4 Measurement Procedure and Data

Please refer to Appendix A _LTE_4G_Modulation Characteristics

6.4 Occupied Bandwidth

Test Requirement §2.1049, §96.41
 Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: OBW: No limit
 EBW: No limit

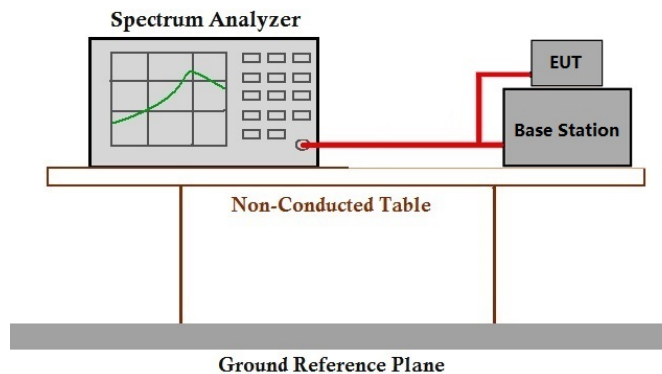
6.4.1 E.U.T. Operation

Operating Environment:
 Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.4.3 Test Setup Diagram



6.4.4 Measurement Procedure and Data

Please refer to Appendix A_LTE_4G_99% & 26dB Bandwidth

6.5 Band Edge Compliance

Test Requirement §2.1051, 27.53(m) , §96.41(e)
Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: $\leq -13\text{dBm}/1\% \cdot \text{EBW}$, in 1 MHz bands immediately outside and adjacent to the frequency block

6.5.1 E.U.T. Operation

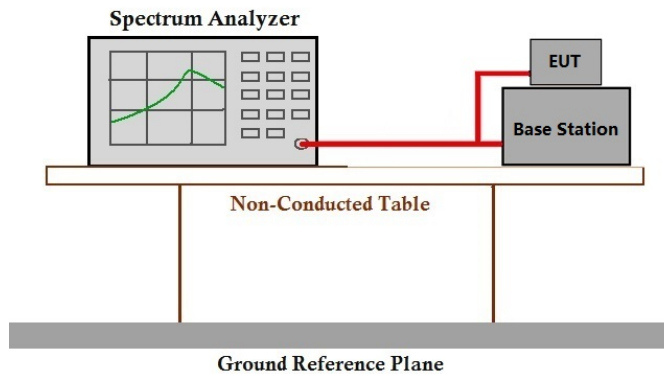
Operating Environment:

Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.5.3 Test Setup Diagram



6.5.4 Measurement Procedure and Data

Please refer to Appendix A_LTE_4G_Spurious Emission at antenna port

6.6 Spurious emissions at antenna terminals

Test Requirement §2.1051, §27.53(m), §96.41(e)
Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: $\leq -25\text{dBm}$ (LTE Band41)
 $\leq -40\text{dBm}$ (LTE Band48)

Rule Part 96.41(e) (2) specifies that "Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz , and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz ."

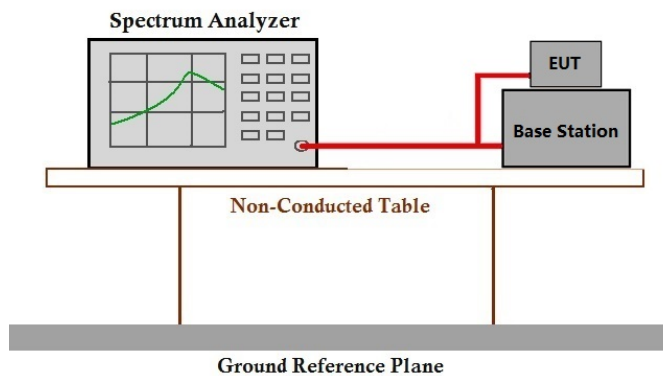
6.6.1 E.U.T. Operation

Operating Environment:
Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.6.3 Test Setup Diagram



6.6.4 Measurement Procedure and Data

Please refer to Appendix A_LTE_4G_Spurious Emission at antenna port

6.7 Field strength of spurious radiation

Test Requirement §2.1051, §27.53(m), §96.41(e)
Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: $\leq -25\text{dBm}(\text{LTE Band41})$
 $\leq -40\text{dBm}(\text{LTE Band48})$

Rule Part 96.41(e) (2) specifies that "Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz , and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz ."

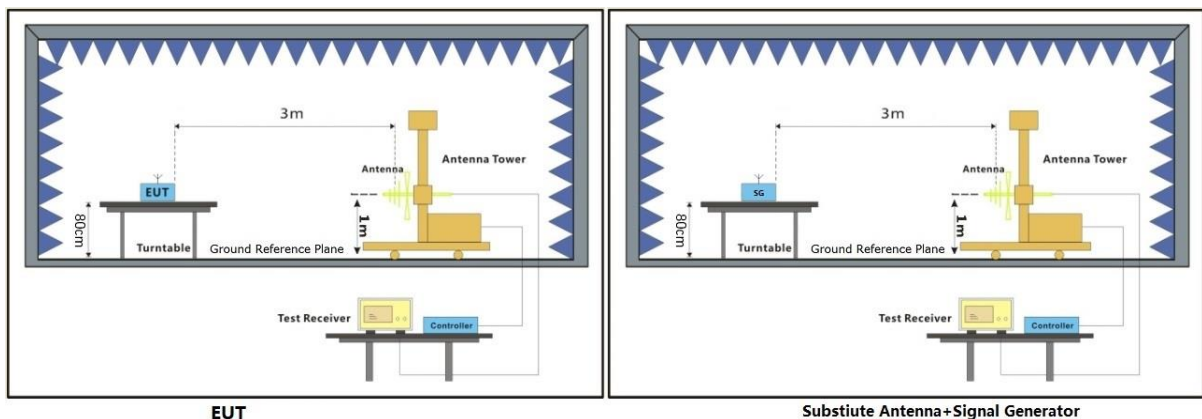
6.7.1 E.U.T. Operation

Operating Environment:
Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.7.3 Test Setup Diagram



6.7.4 Measurement Procedure and Data

LTE Band 41

TDD LTE Band 41, Modulation: QPSK, Bandwidth: 5MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
4992.5	-42.55	-25	-17.55	-51.49	0.76	9.7	Horizontal	Pass
7488.75	-36.66	-25	-11.66	-48.56	1	12.9	Horizontal	Pass
9985	-42.89	-25	-17.89	-54.62	1.27	13	Horizontal	Pass
4992.5	-43.05	-25	-18.05	-51.99	0.76	9.7	Vertical	Pass
7488.75	-40.77	-25	-15.77	-52.67	1	12.9	Vertical	Pass
9985	-41.71	-25	-16.71	-53.44	1.27	13	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5181.5	-41.79	-25	-16.79	-50.57	0.82	9.6	Horizontal	Pass
7772.25	-29.44	-25	-4.44	-41.65	0.99	13.2	Horizontal	Pass
10363	-43.48	-25	-18.48	-54.92	1.26	12.7	Horizontal	Pass
5181.5	-39.82	-25	-14.82	-48.6	0.82	9.6	Vertical	Pass
7772.25	-35.24	-25	-10.24	-47.45	0.99	13.2	Vertical	Pass
10363	-42.37	-25	-17.37	-53.81	1.26	12.7	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5370.5	-42.13	-25	-17.13	-50.91	0.82	9.6	Horizontal	Pass
8055.75	-31.13	-25	-6.13	-43.02	1.01	12.9	Horizontal	Pass
10741	-42.08	-25	-17.08	-54.09	1.49	13.5	Horizontal	Pass
5370.5	-37.72	-25	-12.72	-46.5	0.82	9.6	Vertical	Pass
8055.75	-28.72	-25	-3.72	-40.61	1.01	12.9	Vertical	Pass
10741	-41.88	-25	-16.88	-53.89	1.49	13.5	Vertical	Pass



TDD LTE Band 41, Modulation: QPSK, Bandwidth: 10MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
4993	-44.32	-25	-19.32	-53.26	0.76	9.7	Horizontal	Pass
7489.5	-37.68	-25	-12.68	-49.58	1	12.9	Horizontal	Pass
9986	-41.61	-25	-16.61	-53.34	1.27	13	Horizontal	Pass
4993	-44.1	-25	-19.1	-53.04	0.76	9.7	Vertical	Pass
7489.5	-41.96	-25	-16.96	-53.86	1	12.9	Vertical	Pass
9986	-42.07	-25	-17.07	-53.8	1.27	13	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5177	-43.62	-25	-18.62	-52.4	0.82	9.6	Horizontal	Pass
7765.5	-32.03	-25	-7.03	-44.24	0.99	13.2	Horizontal	Pass
10354	-43.8	-25	-18.8	-55.24	1.26	12.7	Horizontal	Pass
5177	-40.38	-25	-15.38	-49.16	0.82	9.6	Vertical	Pass
7765.5	-34.8	-25	-9.8	-47.01	0.99	13.2	Vertical	Pass
10354	-40.68	-25	-15.68	-52.12	1.26	12.7	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5361	-39.8	-25	-14.8	-48.58	0.82	9.6	Horizontal	Pass
8041.5	-31.92	-25	-6.92	-43.81	1.01	12.9	Horizontal	Pass
10722	-40.92	-25	-15.92	-52.93	1.49	13.5	Horizontal	Pass
5361	-38.27	-25	-13.27	-47.05	0.82	9.6	Vertical	Pass
8041.5	-29.54	-25	-4.54	-41.43	1.01	12.9	Vertical	Pass
10722	-41.08	-25	-16.08	-53.09	1.49	13.5	Vertical	Pass



TDD LTE Band 41, Modulation: QPSK, Bandwidth: 15MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
4993.5	-45.93	-25	-20.93	-54.87	0.76	9.7	Horizontal	Pass
7490.25	-36.71	-25	-11.71	-48.61	1	12.9	Horizontal	Pass
9987	-41.87	-25	-16.87	-53.6	1.27	13	Horizontal	Pass
4993.5	-44.01	-25	-19.01	-52.95	0.76	9.7	Vertical	Pass
7490.25	-41.62	-25	-16.62	-53.52	1	12.9	Vertical	Pass
9987	-41.64	-25	-16.64	-53.37	1.27	13	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5172.5	-42.03	-25	-17.03	-50.81	0.82	9.6	Horizontal	Pass
7758.75	-29.79	-25	-4.79	-42	0.99	13.2	Horizontal	Pass
10345	-43.01	-25	-18.01	-54.45	1.26	12.7	Horizontal	Pass
5172.5	-41.69	-25	-16.69	-50.47	0.82	9.6	Vertical	Pass
7758.75	-35.25	-25	-10.25	-47.46	0.99	13.2	Vertical	Pass
10345	-43.45	-25	-18.45	-54.89	1.26	12.7	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5351.5	-42.15	-25	-17.15	-50.93	0.82	9.6	Horizontal	Pass
8027.25	-29.83	-25	-4.83	-41.72	1.01	12.9	Horizontal	Pass
10703	-42.95	-25	-17.95	-54.96	1.49	13.5	Horizontal	Pass
5351.5	-38.45	-25	-13.45	-47.23	0.82	9.6	Vertical	Pass
8027.25	-28.28	-25	-3.28	-40.17	1.01	12.9	Vertical	Pass
10703	-43.29	-25	-18.29	-55.3	1.49	13.5	Vertical	Pass



TDD LTE Band 41, Modulation: QPSK, Bandwidth: 20MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
4994	-38.21	-25	-13.21	-47.15	0.76	9.7	Horizontal	Pass
7491	-34.18	-25	-9.18	-46.08	1	12.9	Horizontal	Pass
9988	-41.85	-25	-16.85	-53.58	1.27	13	Horizontal	Pass
4994	-40.91	-25	-15.91	-49.85	0.76	9.7	Vertical	Pass
7491	-36.81	-25	-11.81	-48.71	1	12.9	Vertical	Pass
9988	-42.24	-25	-17.24	-53.97	1.27	13	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5168	-40.43	-25	-15.43	-49.21	0.82	9.6	Horizontal	Pass
7752	-31.88	-25	-6.88	-44.09	0.99	13.2	Horizontal	Pass
10336	-43.09	-25	-18.09	-54.53	1.26	12.7	Horizontal	Pass
5168	-40.95	-25	-15.95	-49.73	0.82	9.6	Vertical	Pass
7752	-37.58	-25	-12.58	-49.79	0.99	13.2	Vertical	Pass
10336	-40.6	-25	-15.6	-52.04	1.26	12.7	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5342	-40.93	-25	-15.93	-49.71	0.82	9.6	Horizontal	Pass
8013	-30.74	-25	-5.74	-42.63	1.01	12.9	Horizontal	Pass
10684	-42.87	-25	-17.87	-54.88	1.49	13.5	Horizontal	Pass
5342	-39	-25	-14	-47.78	0.82	9.6	Vertical	Pass
8013	-31.75	-25	-6.75	-43.64	1.01	12.9	Vertical	Pass
10684	-42.1	-25	-17.1	-54.11	1.49	13.5	Vertical	Pass



LTE Band 48

TDD LTE Band 48, Modulation: QPSK, Bandwidth: 5MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7100.5	-45.23	-40	-5.23	-57.13	1	12.9	Horizontal	Pass
10650.75	-50.14	-40	-10.14	-62.15	1.49	13.5	Horizontal	Pass
14201	-50.01	-40	-10.01	-61.94	1.67	13.6	Horizontal	Pass
7100.5	-52.4	-40	-12.4	-64.3	1	12.9	Vertical	Pass
10650.75	-50.72	-40	-10.72	-62.73	1.49	13.5	Vertical	Pass
14201	-49.92	-40	-9.92	-61.85	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7245.5	-48.89	-40	-8.89	-60.79	1	12.9	Horizontal	Pass
10868.25	-50.17	-40	-10.17	-62.18	1.49	13.5	Horizontal	Pass
14491	-48.34	-40	-8.34	-60.27	1.67	13.6	Horizontal	Pass
7245.5	-52.75	-40	-12.75	-64.65	1	12.9	Vertical	Pass
10868.25	-49.84	-40	-9.84	-61.85	1.49	13.5	Vertical	Pass
14491	-48.76	-40	-8.76	-60.69	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7390.5	-41.79	-40	-1.79	-53.69	1	12.9	Horizontal	Pass
11085.75	-47.46	-40	-7.46	-59.47	1.59	13.6	Horizontal	Pass
14781	-46.25	-40	-6.25	-57.28	1.37	12.4	Horizontal	Pass
7390.5	-51.98	-40	-11.98	-63.88	1	12.9	Vertical	Pass
11085.75	-49.5	-40	-9.5	-61.51	1.59	13.6	Vertical	Pass
14781	-48.24	-40	-8.24	-59.27	1.37	12.4	Vertical	Pass



TDD LTE Band 48, Modulation: QPSK, Bandwidth: 10MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7101	-46.39	-40	-6.39	-58.29	1	12.9	Horizontal	Pass
10651.5	-50.7	-40	-10.7	-62.71	1.49	13.5	Horizontal	Pass
14202	-50.22	-40	-10.22	-62.15	1.67	13.6	Horizontal	Pass
7101	-50.35	-40	-10.35	-62.25	1	12.9	Vertical	Pass
10651.5	-49.9	-40	-9.9	-61.91	1.49	13.5	Vertical	Pass
14202	-50.16	-40	-10.16	-62.09	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7241	-47.09	-40	-7.09	-58.99	1	12.9	Horizontal	Pass
10861.5	-50.49	-40	-10.49	-62.5	1.49	13.5	Horizontal	Pass
14482	-49.38	-40	-9.38	-61.31	1.67	13.6	Horizontal	Pass
7241	-52.65	-40	-12.65	-64.55	1	12.9	Vertical	Pass
10861.5	-49.55	-40	-9.55	-61.56	1.49	13.5	Vertical	Pass
14482	-48.61	-40	-8.61	-60.54	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7381	-41.25	-40	-1.25	-53.15	1	12.9	Horizontal	Pass
11071.5	-45.78	-40	-5.78	-57.79	1.59	13.6	Horizontal	Pass
14762	-47.32	-40	-7.32	-58.35	1.37	12.4	Horizontal	Pass
7381	-49.6	-40	-9.6	-61.5	1	12.9	Vertical	Pass
11071.5	-47.09	-40	-7.09	-59.1	1.59	13.6	Vertical	Pass
14762	-48.11	-40	-8.11	-59.14	1.37	12.4	Vertical	Pass



TDD LTE Band 48, Modulation: QPSK, Bandwidth: 15MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7101.5	-45.26	-40	-5.26	-57.16	1	12.9	Horizontal	Pass
10652.25	-50.82	-40	-10.82	-62.83	1.49	13.5	Horizontal	Pass
14203	-49.43	-40	-9.43	-61.36	1.67	13.6	Horizontal	Pass
7101.5	-49.66	-40	-9.66	-61.56	1	12.9	Vertical	Pass
10652.25	-50.15	-40	-10.15	-62.16	1.49	13.5	Vertical	Pass
14203	-49.61	-40	-9.61	-61.54	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7236.5	-48.98	-40	-8.98	-60.88	1	12.9	Horizontal	Pass
10854.75	-50.8	-40	-10.8	-62.81	1.49	13.5	Horizontal	Pass
14473	-49.13	-40	-9.13	-61.06	1.67	13.6	Horizontal	Pass
7236.5	-51.26	-40	-11.26	-63.16	1	12.9	Vertical	Pass
10854.75	-50.45	-40	-10.45	-62.46	1.49	13.5	Vertical	Pass
14473	-49.54	-40	-9.54	-61.47	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7371.5	-41.39	-40	-1.39	-53.29	1	12.9	Horizontal	Pass
11057.25	-46.22	-40	-6.22	-58.23	1.59	13.6	Horizontal	Pass
14743	-47.77	-40	-7.77	-58.8	1.37	12.4	Horizontal	Pass
7371.5	-52.37	-40	-12.37	-64.27	1	12.9	Vertical	Pass
11057.25	-47.69	-40	-7.69	-59.7	1.59	13.6	Vertical	Pass
14743	-48.34	-40	-8.34	-59.37	1.37	12.4	Vertical	Pass



TDD LTE Band 48, Modulation: QPSK, Bandwidth: 20MHz, 1 RB

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7102	-46.53	-40	-6.53	-58.43	1	12.9	Horizontal	Pass
10653	-50.19	-40	-10.19	-62.2	1.49	13.5	Horizontal	Pass
14204	-49.44	-40	-9.44	-61.37	1.67	13.6	Horizontal	Pass
7102	-52.45	-40	-12.45	-64.35	1	12.9	Vertical	Pass
10653	-50.36	-40	-10.36	-62.37	1.49	13.5	Vertical	Pass
14204	-49.86	-40	-9.86	-61.79	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7232	-46.8	-40	-6.8	-58.7	1	12.9	Horizontal	Pass
10848	-50.26	-40	-10.26	-62.27	1.49	13.5	Horizontal	Pass
14464	-49.79	-40	-9.79	-61.72	1.67	13.6	Horizontal	Pass
7232	-52.27	-40	-12.27	-64.17	1	12.9	Vertical	Pass
10848	-49.36	-40	-9.36	-61.37	1.49	13.5	Vertical	Pass
14464	-48.91	-40	-8.91	-60.84	1.67	13.6	Vertical	Pass

Frequency (MHz)	EIRP(dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
7362	-42.8	-40	-2.8	-54.7	1	12.9	Horizontal	Pass
11043	-48.7	-40	-8.7	-60.71	1.59	13.6	Horizontal	Pass
14724	-49.07	-40	-9.07	-60.1	1.37	12.4	Horizontal	Pass
7362	-51.12	-40	-11.12	-63.02	1	12.9	Vertical	Pass
11043	-47.22	-40	-7.22	-59.23	1.59	13.6	Vertical	Pass
14724	-49.6	-40	-9.6	-60.63	1.37	12.4	Vertical	Pass

Note: All modes have been tested and we found QPSK test mode has the worst test result. Only record the worst test result.



6.8 Frequency stability

Test Requirement §2.1055, §27.54
Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: $\pm 2.5\text{ppm}$.

6.8.1 E.U.T. Operation

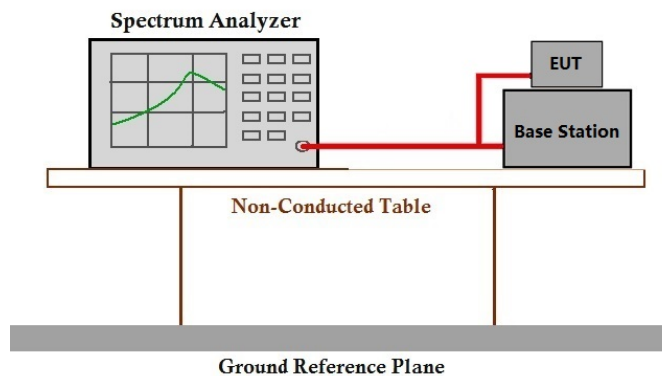
Operating Environment:

Temperature: 24.0 °C Humidity: 37.1 % RH Atmospheric Pressure: 1010 mbar

6.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	03	TX mode_Keep the EUT in transmitting mode

6.8.3 Test Setup Diagram



6.8.4 Measurement Procedure and Data

Please refer to Appendix A_LTE_4G_Frequency stability

7 Test Setup Photo

Refer to Setup Photos.

8 EUT Constructional Details (EUT Photos)

Refer to external and internal photos for SZCR2104020498AT.

- End of the Report -

