TEST REPORT

Application No.:	SZCR2304000926AT
Applicant:	Vanstone Electronic (Beijing) Co., Ltd.
Address of Applicant:	3F No.2 Building, Aisino corporation park 18A, Xingshikou Road, Haidian District, Beijing, 100195 China
Manufacturer:	Vanstone Electronic (Beijing) Co., Ltd.
Address of Manufacturer:	3F No.2 Building, Aisino corporation park 18A, Xingshikou Road, Haidian District, Beijing, 100195 China
Equipment Under Test (EUT):	
EUT Name:	MiniPOS Terminal
Model No.:	V66
FCC ID:	OWLV66
Standard(s) :	47 CFR Part 2 47 CFR Part 22 subpart H 47 CFR Part 24 subpart E 47 CFR Part 27 subpart C
Date of Receipt:	2023-04-03
Date of Test:	2023-04-04 to 2023-05-16
Date of Issue:	2023-05-18
Test Result:	**Pass**

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

Keny Xu
EMC Laboratory Manager

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Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2023-05-18		Original

Authorized for issue by:				
		Calvin Weng **Calvin Weng/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Output Power Data	§2.1046 §22.913 §24.232 §27.50(a) §27.50(d) §27.50(h)	ERP≤ 7W(LTE Band 5) EIRP≤ 2W(LTE Band 2) EIRP≤ 250mW/5MHz(LTE Band 40) EIRP≤ 1W(LTE Band 4,66) EIRP≤ 2W(LTE Band 7)	PASS
Peak-Average Ratio	§22.913 §24.232 §27.50(d)	≤13dB	PASS
Modulation Characteristics	§2.1047	Digital modulation	PASS
Bandwidth	§2.1049(h)	OBW: No limit EBW: No limit	PASS
Band Edge Compliance	§2.1051 §22.917 §24.238 §27.50(h) §27.50(m) §27.53(a)	≤ -13dBm (LTE Band5) ≤ -13dBm (LTE Band2) ≤ -13dBm (LTE Band4,66) Refer to clause 6.4 for LTE Band7 Refer to clause 6.4 for LTE Band40	PASS
Spurious emissions at antenna terminals	§2.1051 §22.917 §24.238 §27.50(h) §27.50(m) §27.53(a)	≤ -13dBm (LTE Band5) ≤ -13dBm (LTE Band2) ≤ -13dBm (LTE Band4,66) Refer to clause 6.5 for LTE Band7 Refer to clause 6.5 for LTE Band40	PASS
Field strength of spurious radiation	§2.1051 §22.917 §24.238 §27.50(h) §27.50(m) §27.53(a)	≤ -13dBm (LTE Band5) ≤ -13dBm (LTE Band2) ≤ -13dBm (LTE Band4,66) Refer to clause 6.6 for LTE Band7 Refer to clause 6.6 for LTE Band40	PASS
Frequency stability	§2.1055 §22.355 §24.235 §27.54	≤ ±2.5ppm.	PASS

3 Contents

Page

1 Cover Page 1

2 Test Summary 3

3 Contents 4

4 General Information 6

4.1 Details of E.U.T. 6
4.2 Test Frequency 6
4.3 Test Environment 8
4.4 Description of Support Units 8
4.5 Measurement Uncertainty 8
4.6 Test Location 9
4.7 Test Facility 9
4.8 Deviation from Standards 9
4.9 Abnormalities from Standard Conditions 9

5 Equipment List 10

6 Radio Spectrum Matter Test Results 12

6.1 Effective (Isotropic) Radiated Output Power Data 12
6.1.1 E.U.T. Operation 12
6.1.2 Test Setup Diagram 12
6.1.3 Measurement Data 12
6.2 Peak-Average Ratio 13
6.2.1 E.U.T. Operation 13
6.2.2 Test Setup Diagram 13
6.2.3 Measurement Data 13
6.3 Bandwidth 14
6.3.1 E.U.T. Operation 14
6.3.2 Test Setup Diagram 14
6.3.3 Measurement Data 14
6.4 Band Edge Compliance 15
6.4.1 E.U.T. Operation 15
6.4.2 Test Setup Diagram 16
6.4.3 Measurement Data 16
6.5 Spurious emissions at antenna terminals 17
6.5.1 E.U.T. Operation 17
6.5.2 Test Setup Diagram 18
6.5.3 Measurement Data 18
6.6 Field strength of spurious radiation 19
6.6.1 E.U.T. Operation 19
6.6.2 Test Setup Diagram 20
6.6.3 Measurement Procedure and Data 21
6.7 Frequency stability 28

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6.7.1 E.U.T. Operation 28
6.7.2 Test Setup Diagram 28
6.7.3 Measurement Data 28
6.8 Modulation Characteristics 29
6.8.1 E.U.T. Operation 29
6.8.2 Test Setup Diagram 29
6.8.3 Measurement Data 29
7 Test Setup Photo 30
8 EUT Constructional Details (EUT Photos) 30

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC3.8V by Li-ion battery(2000mAh) Recharged by AC/DC power adapter Adapter M/N:SW-0018C Adapter Input: AC100-240V, 50/60Hz,0.2A Adapter Output: DC5V/1A
Cable(s):	USB cable: 1.2m unshielded cable without ferrite core
Sample Type:	Portable production
LTE Operation Frequency Band:	LTE FDD Band 2,4,5,7,40,66
Modulation Type:	QPSK, 16QAM
LTE Power Class:	Level 3
Antenna Type:	PIFA Antenna
Antenna Gain:	LTE B2:0dBi, B4: -3.4dBi, B5: -4.4dBi, B7:0dBi; B40:0.7dBi, B66: -3dBi
SIM Card:	This device has dual SIM Card sockets. Both the SIM sockets have been tested. SIM1 was worst case, only record SIM1.

4.2 Test Frequency

Test mode:	Nominal Bandwidth (MHz)	RF Channel		
		Low (L)	Middle (M)	High (H)
		MHz	MHz	MHz
LTE FDD Band 2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855.0	1880	1905.0
	15	1857.5	1880	1902.5
	20	1860.0	1880	1900.0
Test mode:	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
LTE FDD Band 4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1751.5
	5	1712.5	1732.5	1752.5
	10	1715.0	1732.5	1750.0
	15	1717.5	1732.5	1747.5

	20	1720.0	1732.5	1745.0
Test mode:	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
LTE FDD Band 5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829.0	836.5	844.0
Test mode:	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
LTE FDD Band 7	5	2502.5	2535.0	2567.5
	10	2505.0	2535.0	2565.0
	15	2507.5	2535.0	2562.5
	20	2510.0	2535.0	2560.0
Test mode:	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
LTE FDD Band 40a	5	2307.5	2310.0	2312.5
	10	/	2310.0	/
Test mode:	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
LTE FDD Band 40b	5	2352.5	2355.0	2357.5
	10	/	2355.0	/
Test mode:	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
LTE FDD Band 66	1.4	1710.7	1745.0	1779.3
	3	1711.5	1745.0	1778.5
	5	1712.5	1745.0	1777.5
	10	1715.0	1745.0	1775.0
	15	1717.5	1745.0	1772.5
	20	1720.0	1745.0	1770.0

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4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Temperature:	TL	-30°C
	TN	+20°C
	TH	+50°C
Voltage:	VL	3.23 Vdc
	VN	3.8 Vdc
	VH	4.37 Vdc

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

The EUT has been tested independent unit.

4.5 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 5.4 x 10^{-8}
2	Duty cycle	± 0.3%
3	Occupied Bandwidth	± 3%
4	RF conducted power	± 0.8dB
5	RF power density	± 0.4dB
6	Conducted Spurious emissions	± 2.7dB
7	Radiated Spurious emission test	± 3.1dB (Below 1GHz)
		± 4.4dB (Above 1GHz)
8	Temperature test	± 1°C
9	Humidity test	± 3%
10	Supply voltages	± 1.5%
11	Time	± 3%

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

5 Equipment List

RF conducted test system					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
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	2022-05-07 2023-05-06	2023-05-06 2024-05-05
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2022-04-07 2023-04-06	2023-04-06 2024-04-05
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2022-04-07 2023-04-06	2023-04-06 2024-04-05
Power Sensor	KEYSIGHT	U2021XA	SEM009-15	2022-04-07 2023-04-06	2023-04-06 2024-04-05
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2023-03-28	2024-03-27
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2022-04-07 2023-04-06	2023-04-06 2024-04-05
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07

RE in Chamber					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2022-04-02	2025-04-01
EXA Signal Analyzer (10Hz-44GHz)	Agilent Technologies Inc	N9010A	SEM004-12	2022-04-07 2023-04-06	2023-04-06 2024-04-05
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2021-09-17	2023-09-16
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2022-07-24	2024-07-23
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2022-08-10	2024-08-09
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021-09-26	2024-09-25
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2022-09-15	2023-09-14
Microwave System Amplifier(0.5-26.5GHz)	Agilent	83017A	SEM005-25	2022-09-21	2023-09-20

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Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2023-03-21	2024-03-20
Substitution Antenna	Schwarzbeck	VULB9168	SEM003-18	2022-08-07	2025-08-06
Substitution Antenna	Rohde&Schwarz	HF907	SEM003-06	2022-08-07	2024-08-06
Signal Generator(9kHz-40GHz)	N5173B	MY53270267	Agilent	2022-07-12	2023-07-11
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-06	2022-07-08	2023-07-07

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

6 Radio Spectrum Matter Test Results

6.1 Effective (Isotropic) Radiated Output Power Data

Test Requirement: §2.1046,§22.913,§24.232, §27.50(a),§27.50(d),§27.50(h)

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: ERP≤ 7W(LTE Band 5)
EIRP≤ 2W(LTE Band 2)
EIRP≤ 250mW/5MHz(LTE Band 40)
EIRP≤ 1W(LTE Band 4,66)
EIRP≤ 2W(LTE Band 7)

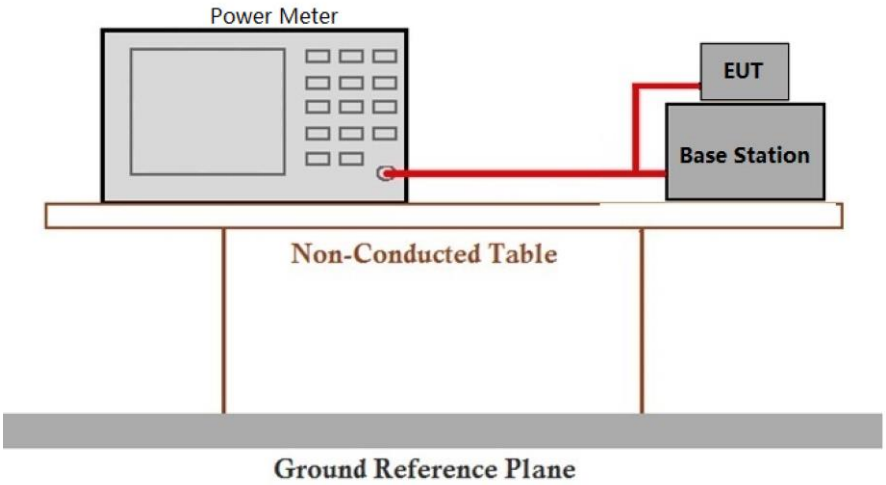
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar

Test mode 32: TX mode_Keep the EUT in transmitting mode

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

Please refer to Appendix for LTE test data.

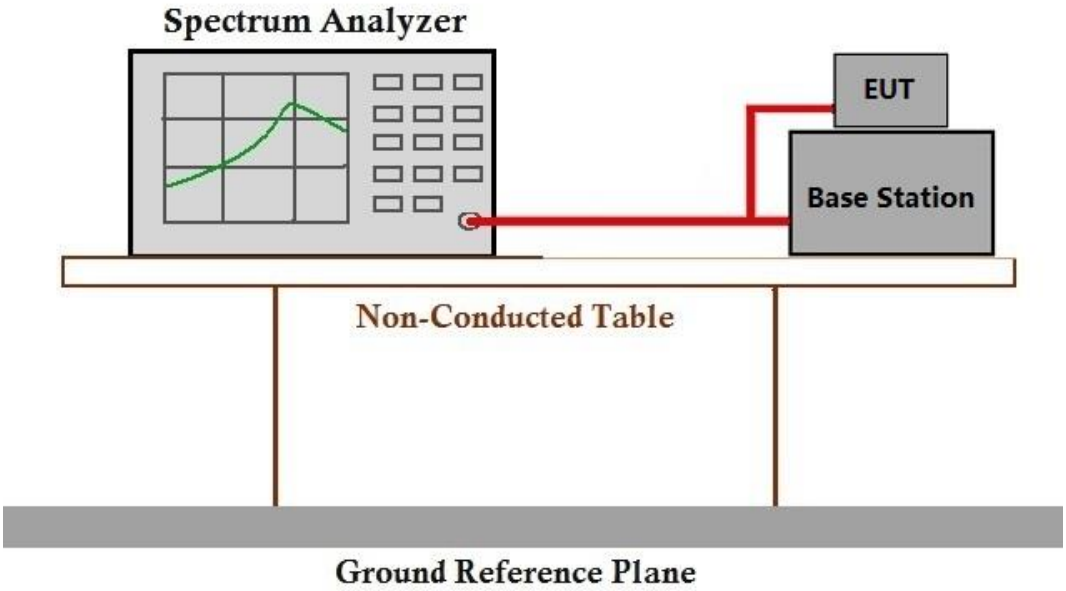
6.2 Peak-Average Ratio

Test Requirement: §22.913, §24.232, §27.50(d)
Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01
Limit: ≤13dB

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar
Test mode 32: TX mode_Keep the EUT in transmitting mode

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Please refer to Appendix for LTE test data.

6.3 Bandwidth

Test Requirement: §2.1049(h)

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: OBW: No limit
EBW: No limit

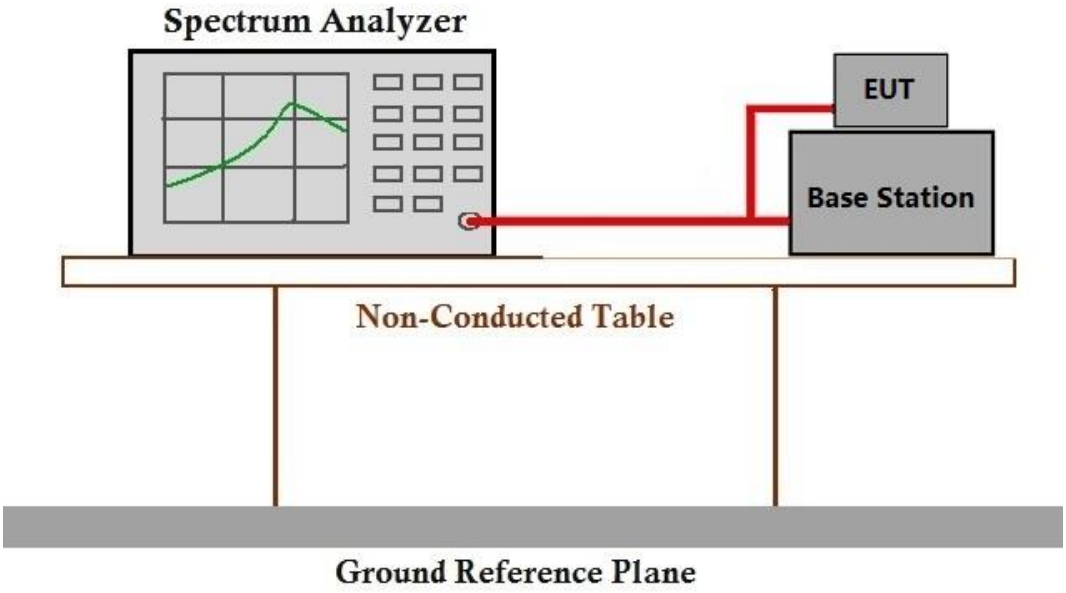
6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar

Test mode 32: TX mode_Keep the EUT in transmitting mode

6.3.2 Test Setup Diagram



6.3.3 Measurement Data

Please refer to Appendix for LTE test data.

6.4 Band Edge Compliance

Test Requirement: §2.1051,§22.917,§24.238,§27.50(h),§27.50(m),§27.53(a)

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: ≤ -13dBm (LTE Band2,4,5,66)

For Band7:

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

For Band40:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

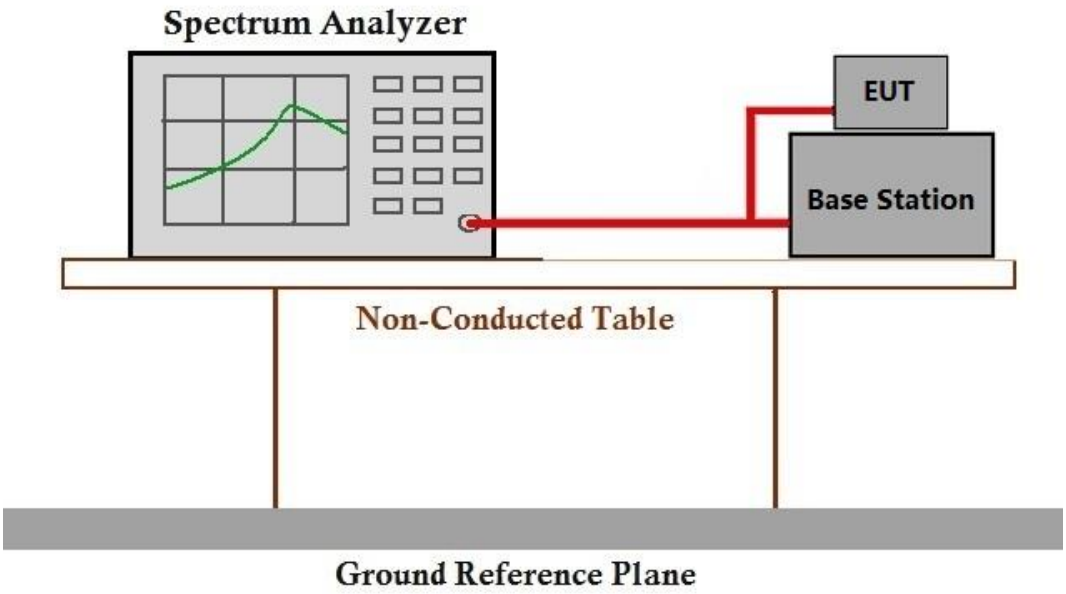
6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar

Test mode 32: TX mode_Keep the EUT in transmitting mode

6.4.2 Test Setup Diagram



6.4.3 Measurement Data

Please refer to Appendix for LTE test data.

6.5 Spurious emissions at antenna terminals

Test Requirement: §2.1051,§22.917,§24.238,§27.50(h),§27.50(m),§27.53(a)

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: ≤ -13dBm (LTE Band2,4,5,66)

For Band7:

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

For Band40:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

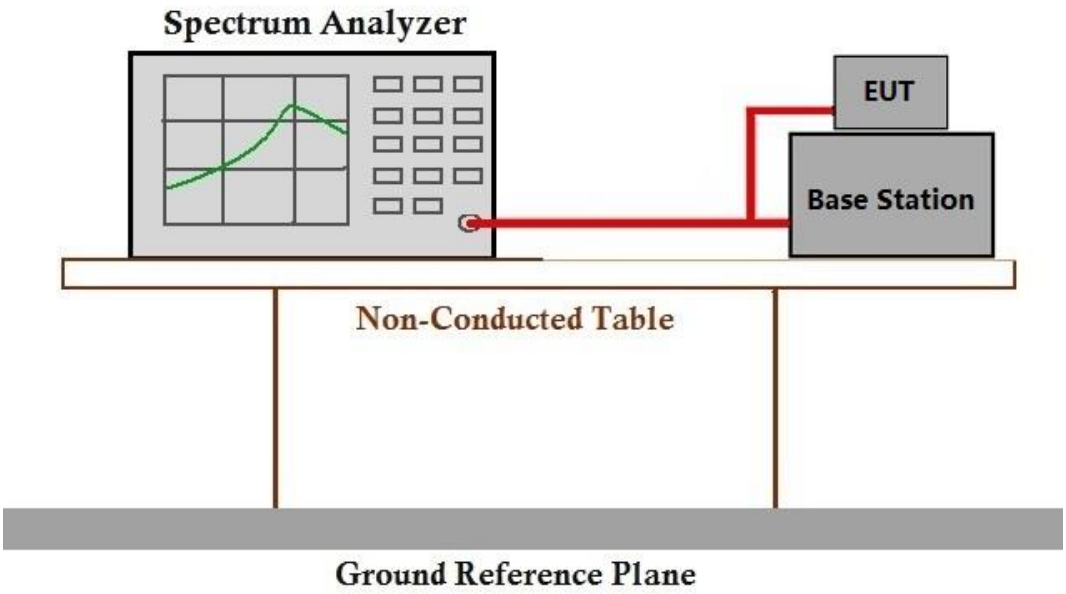
6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar

Test mode 32: TX mode_Keep the EUT in transmitting mode

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

Please refer to Appendix for LTE test data.

6.6 Field strength of spurious radiation

Test Requirement: §2.1051,§22.917,§24.238,§27.50(h),§27.50(m),§27.53(a)

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: ≤ -13dBm (LTE Band2,4,5,66)

For Band7:

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

For Band40:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

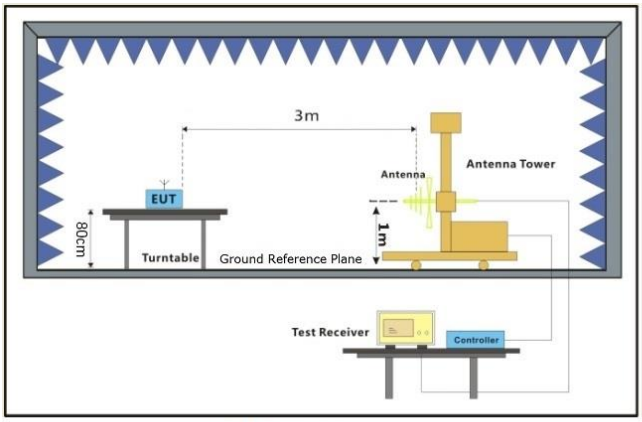
6.6.1 E.U.T. Operation

Operating Environment:

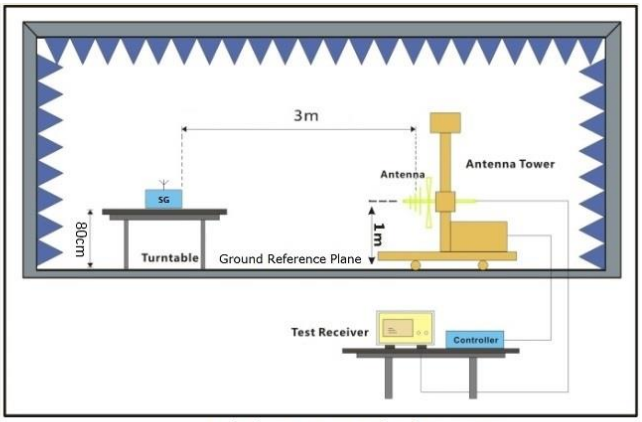
Temperature: 22.5 °C Humidity: 47.5 % RH Atmospheric Pressure: 1020 mbar

Test mode 32: TX mode_Keep the EUT in transmitting mode

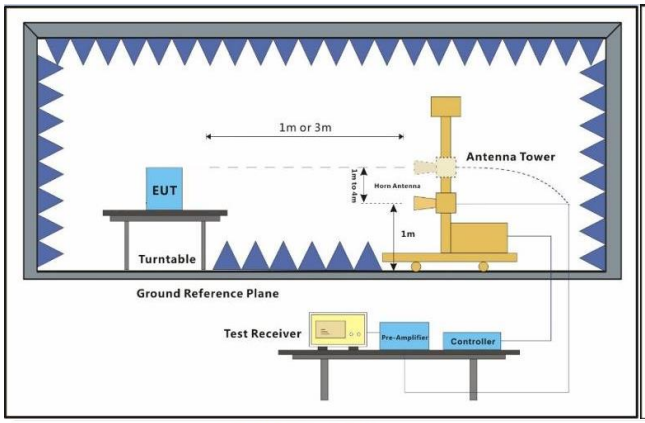
6.6.2 Test Setup Diagram



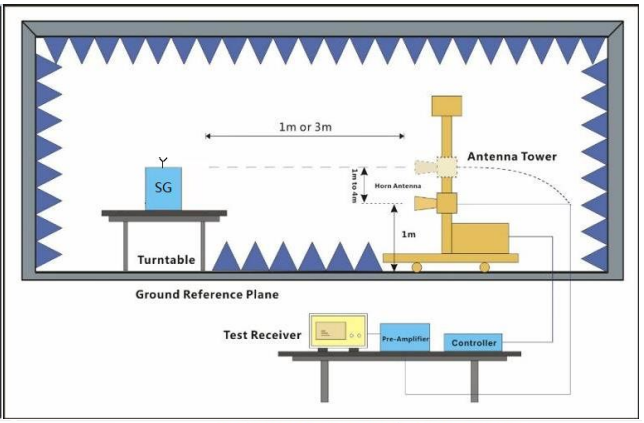
EUT



Substiute Antenna+Signal Generator



EUT



Substiute Antenna+Signal Generator

6.6.3 Measurement Procedure and Data

Test Procedure:

(1)On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
(2)The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
(3)The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
(4)The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
(5)The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
(6)The transmitter shall than be rotated through 360°in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
(7)The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
(8)The maximum signal level detected by the measuring receiver shall be noted.
(9)The measurement shall be repeated with the test antenna set to horizontal polarization.
(10) Replace the antenna with a proper Antenna (substitution antenna).
(11)The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
(12)The substitution antenna shall be connected to a calibrated signal generator.
(13)If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
(14)The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
(15)The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
(16)The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
(17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3702	-49.66	-13	-36.66	-56.55	0.71	7.6	Horizontal	Pass
5553	-46.55	-13	-33.55	-56	0.85	10.3	Horizontal	Pass
7404	-45.9	-13	-32.9	-57.8	1	12.9	Horizontal	Pass
3702	-50.48	-13	-37.48	-57.37	0.71	7.6	Vertical	Pass
5553	-47.12	-13	-34.12	-56.57	0.85	10.3	Vertical	Pass
7404	-45.43	-13	-32.43	-57.33	1	12.9	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3742	-50.64	-13	-37.64	-57.53	0.71	7.6	Horizontal	Pass
5613	-48.61	-13	-35.61	-58.06	0.85	10.3	Horizontal	Pass
7484	-44.9	-13	-31.9	-56.8	1	12.9	Horizontal	Pass
3742	-50.75	-13	-37.75	-57.64	0.71	7.6	Vertical	Pass
5613	-47.89	-13	-34.89	-57.34	0.85	10.3	Vertical	Pass
7484	-44.02	-13	-31.02	-55.92	1	12.9	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3782	-49.77	-13	-36.77	-56.66	0.71	7.6	Horizontal	Pass
5673	-49.19	-13	-36.19	-58.64	0.85	10.3	Horizontal	Pass
7564	-45.03	-13	-32.03	-57.24	0.99	13.2	Horizontal	Pass
3782	-48.62	-13	-35.62	-55.51	0.71	7.6	Vertical	Pass
5673	-48.42	-13	-35.42	-57.87	0.85	10.3	Vertical	Pass
7564	-44.07	-13	-31.07	-56.28	0.99	13.2	Vertical	Pass

FDD LTE Band4-Low channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3422	-51.23	-13	-38.23	-56.78	0.65	6.2	Horizontal	Pass
5133	-47.6	-13	-34.6	-56.38	0.82	9.6	Horizontal	Pass
6844	-46.57	-13	-33.57	-57.42	0.95	11.8	Horizontal	Pass
3422	-50.97	-13	-37.97	-56.52	0.65	6.2	Vertical	Pass
5133	-48.07	-13	-35.07	-56.85	0.82	9.6	Vertical	Pass
6844	-46.59	-13	-33.59	-57.44	0.95	11.8	Vertical	Pass

FDD LTE Band4-Middle channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3447	-51.08	-13	-38.08	-56.63	0.65	6.2	Horizontal	Pass
5170.5	-48.61	-13	-35.61	-57.39	0.82	9.6	Horizontal	Pass
6894	-46.88	-13	-33.88	-57.73	0.95	11.8	Horizontal	Pass
3447	-50.47	-13	-37.47	-56.02	0.65	6.2	Vertical	Pass
5170.5	-47.6	-13	-34.6	-56.38	0.82	9.6	Vertical	Pass
6894	-46.01	-13	-33.01	-56.86	0.95	11.8	Vertical	Pass

FDD LTE Band4-High channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3472	-50.89	-13	-37.89	-56.44	0.65	6.2	Horizontal	Pass
5208	-49.11	-13	-36.11	-57.89	0.82	9.6	Horizontal	Pass
6944	-46.2	-13	-33.2	-57.05	0.95	11.8	Horizontal	Pass
3472	-49.83	-13	-36.83	-55.38	0.65	6.2	Vertical	Pass
5208	-46.98	-13	-33.98	-55.76	0.82	9.6	Vertical	Pass
6944	-46.26	-13	-33.26	-57.11	0.95	11.8	Vertical	Pass

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FDD LTE Band5-Low channel, Modulation: QPSK, Bandwidth: 10MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1649	-58.78	-13	-45.78	-64.26	0.52	6	Horizontal	Pass
2473.5	-54.54	-13	-41.54	-59.81	0.53	5.8	Horizontal	Pass
3298	-49.95	-13	-36.95	-55.5	0.65	6.2	Horizontal	Pass
1649	-58.79	-13	-45.79	-64.27	0.52	6	Vertical	Pass
2473.5	-55.04	-13	-42.04	-60.31	0.53	5.8	Vertical	Pass
3298	-51.41	-13	-38.41	-56.96	0.65	6.2	Vertical	Pass

FDD LTE Band5-Middle channel, Modulation: QPSK, Bandwidth: 10MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1664	-59.46	-13	-46.46	-64.94	0.52	6	Horizontal	Pass
2496	-54.5	-13	-41.5	-59.77	0.53	5.8	Horizontal	Pass
3328	-50.72	-13	-37.72	-56.27	0.65	6.2	Horizontal	Pass
1664	-58.45	-13	-45.45	-63.93	0.52	6	Vertical	Pass
2496	-54.95	-13	-41.95	-60.22	0.53	5.8	Vertical	Pass
3328	-51.25	-13	-38.25	-56.8	0.65	6.2	Vertical	Pass

FDD LTE Band5-High channel, Modulation: QPSK, Bandwidth: 10MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1679	-57.85	-13	-44.85	-63.33	0.52	6	Horizontal	Pass
2518.5	-55.02	-13	-42.02	-59.73	0.59	5.3	Horizontal	Pass
3358	-51.84	-13	-38.84	-57.39	0.65	6.2	Horizontal	Pass
1679	-58.2	-13	-45.2	-63.68	0.52	6	Vertical	Pass
2518.5	-54.14	-13	-41.14	-58.85	0.59	5.3	Vertical	Pass
3358	-50.58	-13	-37.58	-56.13	0.65	6.2	Vertical	Pass

FDD LTE Band7-Low channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5002	-48.71	-25	-23.71	-57.49	0.82	9.6	Horizontal	Pass
7503	-44.53	-25	-19.53	-56.74	0.99	13.2	Horizontal	Pass
10004	-42.89	-25	-17.89	-54.33	1.26	12.7	Horizontal	Pass
5002	-48.32	-25	-23.32	-57.1	0.82	9.6	Vertical	Pass
7503	-44.91	-25	-19.91	-57.12	0.99	13.2	Vertical	Pass
10004	-42.86	-25	-17.86	-54.3	1.26	12.7	Vertical	Pass

FDD LTE Band7-Middle channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5052	-48.37	-25	-23.37	-57.15	0.82	9.6	Horizontal	Pass
7578	-45.66	-25	-20.66	-57.87	0.99	13.2	Horizontal	Pass
10104	-42.55	-25	-17.55	-53.99	1.26	12.7	Horizontal	Pass
5052	-46.63	-25	-21.63	-55.41	0.82	9.6	Vertical	Pass
7578	-44.38	-25	-19.38	-56.59	0.99	13.2	Vertical	Pass
10104	-42.54	-25	-17.54	-53.98	1.26	12.7	Vertical	Pass

FDD LTE Band7-High channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
5102	-48.33	-25	-23.33	-57.11	0.82	9.6	Horizontal	Pass
7653	-45.28	-25	-20.28	-57.49	0.99	13.2	Horizontal	Pass
10204	-42.65	-25	-17.65	-54.09	1.26	12.7	Horizontal	Pass
5102	-48.23	-25	-23.23	-57.01	0.82	9.6	Vertical	Pass
7653	-44.73	-25	-19.73	-56.94	0.99	13.2	Vertical	Pass
10204	-43.59	-25	-18.59	-55.03	1.26	12.7	Vertical	Pass

FDD LTE Band40A-Middle channel, Modulation: QPSK, Bandwidth: 10MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
4611	-49.12	-13	-36.12	-58.06	0.76	9.7	Horizontal	Pass
6916.5	-45.58	-13	-32.58	-56.43	0.95	11.8	Horizontal	Pass
9222	-43.22	-13	-30.22	-54.39	1.23	12.4	Horizontal	Pass
4611	-48.6	-13	-35.6	-57.54	0.76	9.7	Vertical	Pass
6916.5	-45.96	-13	-32.96	-56.81	0.95	11.8	Vertical	Pass
9222	-43.61	-13	-30.61	-54.78	1.23	12.4	Vertical	Pass

FDD LTE Band40B-Middle channel, Modulation: QPSK, Bandwidth: 10MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
4701	-49.66	-13	-36.66	-58.6	0.76	9.7	Horizontal	Pass
7051.5	-45.61	-13	-32.61	-57.51	1	12.9	Horizontal	Pass
9402	-42.06	-13	-29.06	-53.23	1.23	12.4	Horizontal	Pass
4701	-49.22	-13	-36.22	-58.16	0.76	9.7	Vertical	Pass
7051.5	-45.01	-13	-32.01	-56.91	1	12.9	Vertical	Pass
9402	-42.89	-13	-29.89	-54.06	1.23	12.4	Vertical	Pass

FDD LTE Band66-Low channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3422	-51.26	-13	-38.26	-56.81	0.65	6.2	Horizontal	Pass
5133	-48.1	-13	-35.1	-56.88	0.82	9.6	Horizontal	Pass
6844	-47.38	-13	-34.38	-58.23	0.95	11.8	Horizontal	Pass
3422	-51.31	-13	-38.31	-56.86	0.65	6.2	Vertical	Pass
5133	-47.99	-13	-34.99	-56.77	0.82	9.6	Vertical	Pass
6844	-46.89	-13	-33.89	-57.74	0.95	11.8	Vertical	Pass

FDD LTE Band66-Middle channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3447	-52.14	-13	-39.14	-57.69	0.65	6.2	Horizontal	Pass
5170.5	-47.76	-13	-34.76	-56.54	0.82	9.6	Horizontal	Pass
6894	-47.04	-13	-34.04	-57.89	0.95	11.8	Horizontal	Pass
3447	-51.52	-13	-38.52	-57.07	0.65	6.2	Vertical	Pass
5170.5	-48.37	-13	-35.37	-57.15	0.82	9.6	Vertical	Pass
6894	-46.95	-13	-33.95	-57.8	0.95	11.8	Vertical	Pass

FDD LTE Band66-High channel, Modulation: QPSK, Bandwidth: 20MHz, 1 RB0								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3472	-51.45	-13	-38.45	-57	0.65	6.2	Horizontal	Pass
5208	-48.41	-13	-35.41	-57.19	0.82	9.6	Horizontal	Pass
6944	-47.26	-13	-34.26	-58.11	0.95	11.8	Horizontal	Pass
3472	-51.27	-13	-38.27	-56.82	0.65	6.2	Vertical	Pass
5208	-47.92	-13	-34.92	-56.7	0.82	9.6	Vertical	Pass
6944	-46.02	-13	-33.02	-56.87	0.95	11.8	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.

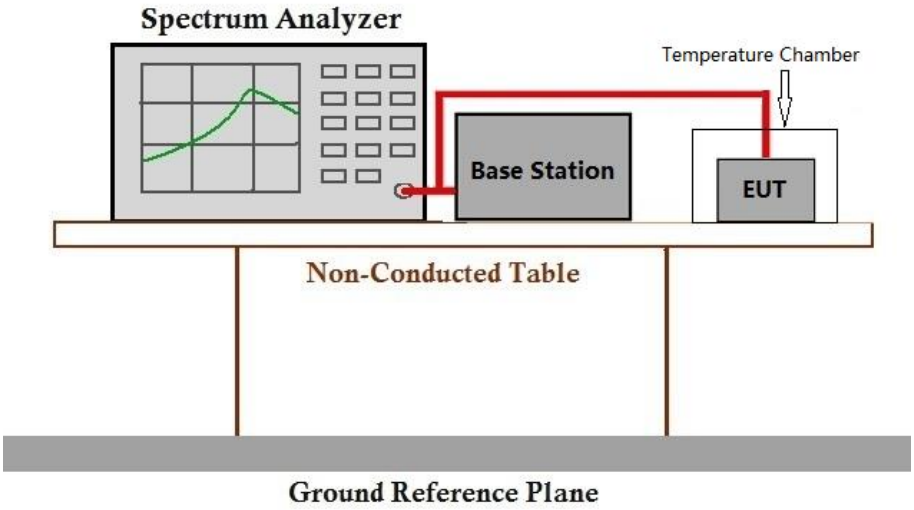
6.7 Frequency stability

Test Requirement: §2.1055,§22.355,§24.235,§27.54
Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01
Limit: ≤ ±2.5ppm.

6.7.1 E.U.T. Operation

Operating Environment:
Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar
Test mode 32: TX mode_Keep the EUT in transmitting mode

6.7.2 Test Setup Diagram



6.7.3 Measurement Data

Please refer to Appendix for LTE test data.

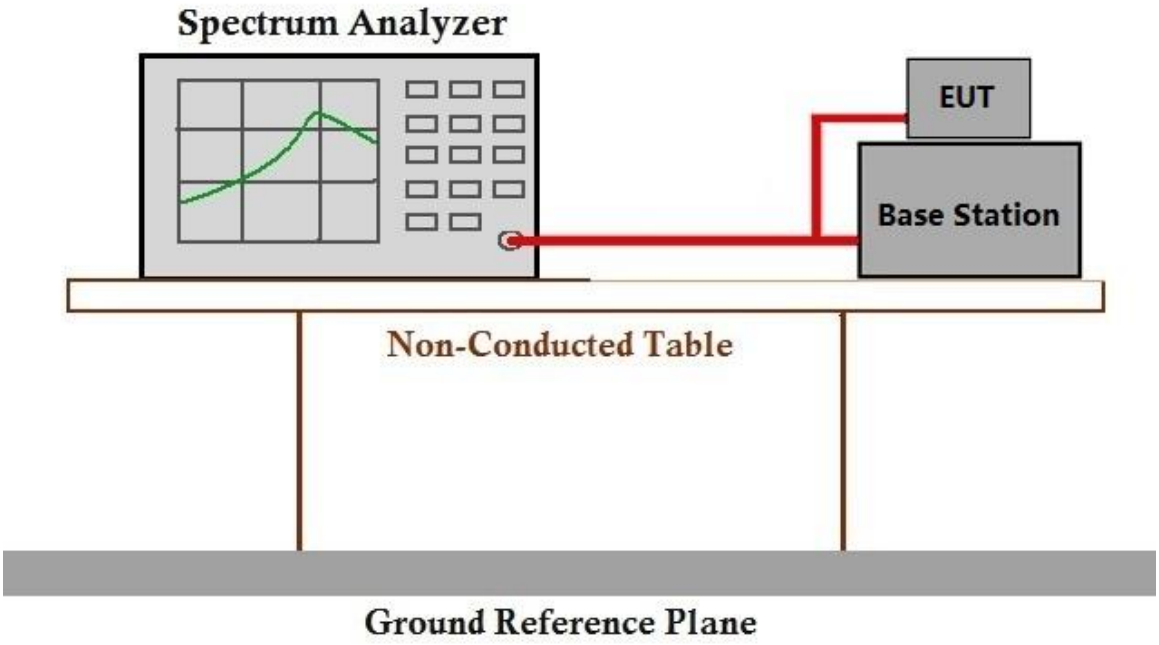
6.8 Modulation Characteristics

Test Requirement: §2.1047
Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01
Limit: Digital modulation

6.8.1 E.U.T. Operation

Operating Environment:
Temperature: 21.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1020 mbar
Test mode 32: TX mode_Keep the EUT in transmitting mode

6.8.2 Test Setup Diagram



6.8.3 Measurement Data

Pass, it's a digital modulation device.

7 Test Setup Photo

Refer to Appendix - Test Setup Photo for SZCR2304000926AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for SZCR2304000926AT

- End of the Report -

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