TEST REPORT

Application No.:	FYCR2210000400AT
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:	Android POS Terminal
Model No.:	A90 Pro
FCC ID:	OWLA90-PRO
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:	2022-10-14
Date of Test:	2022-10-19 to 2022-11-26
Date of Issue:	2023-02-20
Test Result:	**Pass**

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

Winkey Wang
EMC Technical Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2023-02-20		Original

Authorized for issue by:				
		Tree Zhan **Tree Zhan/Project Engineer**		
		Winkey Wang **Winkey Wang/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(d) §27.50(h)	ERP≤ 7W(LTE Band 5) EIRP≤ 2W(LTE Band 2) EIRP≤ 1W(LTE Band 4) EIRP≤ 2W(LTE Band 7,38)	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)	≤ -13dBm (LTE Band5) ≤ -13dBm (LTE Band2) ≤ -13dBm (LTE Band4) Refer to clause 6.4 for LTE Band7,38	PASS
Spurious emissions at antenna terminals	§2.1051 §22.917 §24.238 §27.50(h) §27.50(m)	≤ -13dBm (LTE Band5) ≤ -13dBm (LTE Band2) ≤ -13dBm (LTE Band4) Refer to clause 6.5 for LTE Band7,38	PASS
Field strength of spurious radiation	§2.1051 §22.917 §24.238 §27.50(h) §27.50(m)	≤ -13dBm LTE Band5 ≤ -13dBm LTE Band2 ≤ -13dBm LTE Band4 Refer to clause 6.6 for LTE Band7,38	PASS
Frequency stability	§2.1055 §22.355 §24.235 §27.54	≤ ±2.5ppm.	PASS

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC3.6V by li-ion battery(5200mAh) Recharge by AC/DC power adapter Adapter M/N:SW-0983 Adapter input: AC100/240V, 50/60Hz, 0.5A Adapter output: DC5V/2A
Cable(s):	USB cable: 1.5m shielded cable without ferrite core
Sample Type:	Portable production
LTE Operation Frequency Band:	LTE FDD Band 2,4,5,7,38
Modulation Type:	QPSK, 16QAM
LTE Power Class:	Level 3
Antenna Type:	PIFA Antenna
Antenna Gain:	LTE B2: 2.63dBi; B4: 1.14dBi: B5: -1.24dBi; B7: 3.58dBi; B38: 2.98dBi
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	1753.5
	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:		**RF Channel**		

	Nominal Bandwidth (MHz)	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 38	5	2572.5	2595.0	2617.5
	10	2575.0	2595.0	2615.0
	15	2577.5	2595.0	2612.5
	20	2580.0	2595.0	2610.0

4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Temperature:	TL	-30°C
	TN	+20°C
	TH	+50°C
Voltage:	VL	3.3 V
	VN	3.6 V
	VH	4.2 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

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:

Compliance Certification Services（Kunshan）Inc. Shenzhen branch.

Fuyong lab. Xinlong TechnoPark,Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China

Tel: +86 755 8866 3988 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. 6606.01)

Compliance Certification Services（Kunshan）Inc. Shenzhen branch is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6606.01.

• FCC –Designation Number: CN1322

Compliance Certification Services（Kunshan）Inc. Shenzhen branch has been recognized as an accredited testing laboratory.

Designation Number: CN1322. Test Firm Registration Number: 718073

• Innovation, Science and Economic Development Canada

Compliance Certification Services（Kunshan）Inc. Shenzhen branch has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0129.

IC#: 28189.

4.8 Deviation from Standards

None

4.9 Abnormalities from Standard Conditions

None

5 Equipment List

RF conducted test					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date**	**Cal. Due date**
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2022/07/12	2023/07/11
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2022/07/12	2023/07/11
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2022/07/12	2023/07/11
Measurement Software	TST	TST PASS V2.0	N/A	N/A	N/A
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2022/07/12	2023/07/11
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2022/03/29	2023/03/28
Power Sensor	KEYSIGHT	U2021XA	SEM009-15	2022/07/12	2023/07/11

RE in Chamber					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date**	**Cal. Due date**
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-33	2021/9/25	2024/9/24
MXE EMI receiver	Agilent	N9038A	SEM004-05	2022/07/12	2023/07/11
Pre-amplifier	HP	8447D	SEM005-02	2022/07/12	2023/07/11
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2022/07/12	2023/07/11
Low Noise Amplifier	CLAVIIO	BDLNA-0118-352810	SEM005-05	2022/07/12	2023/07/11
Substitution Antenna	Schwarzbeck	VULB9168	SEM003-18	2022/08/07	2025/08/06
Signal Generator(9kHz-40GHz)	N5173B	MY53270267	Agilent	2022/07/12	2023/07/11
Pre-amplifier	HP	8447D	SEM005-02	2022/07/12	2023/07/11
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25
Double-ridged waveguide horn	ETS-LINDGREN	3117	SEM003-34	2021/9/25	2024/9/24
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2022/07/12	2023/07/11
Low Noise Amplifier	CLAVIIO	BDLNA-0118-352810	SEM005-05	2022/07/12	2023/07/11

Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2022/07/12	2023/07/11
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2022/07/12	2023/07/11
Substitution Antenna	ETS-Lindgren	3142C	SEM003-01	2020/06/26	2023/06/25
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2022/03/29	2023/03/28

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-22	2022-07-12	2023-07-11
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-23	2022-07-12	2023-07-11
Barometer	DUMAI	DYM3	SEM002-24	2022-07-12	2023-07-11

6 Radio Spectrum Matter Test Results

6.1 Effective (Isotropic) Radiated Output Power Data

Test Requirement: §2.1046,§22.913,§24.232,§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≤ 1W(LTE Band 4)
EIRP≤ 2W(LTE Band 7,38)

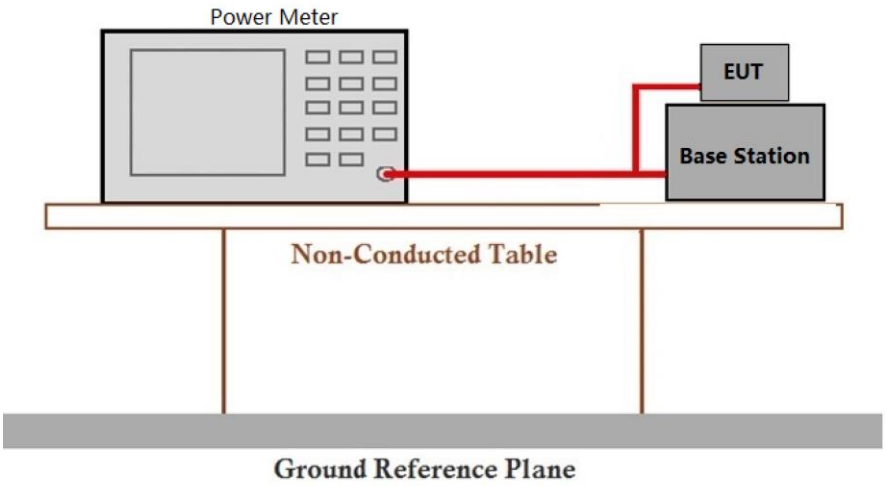
6.1.1 E.U.T. Operation

Operating Environment:

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

Test mode 30: 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 RF power test data.

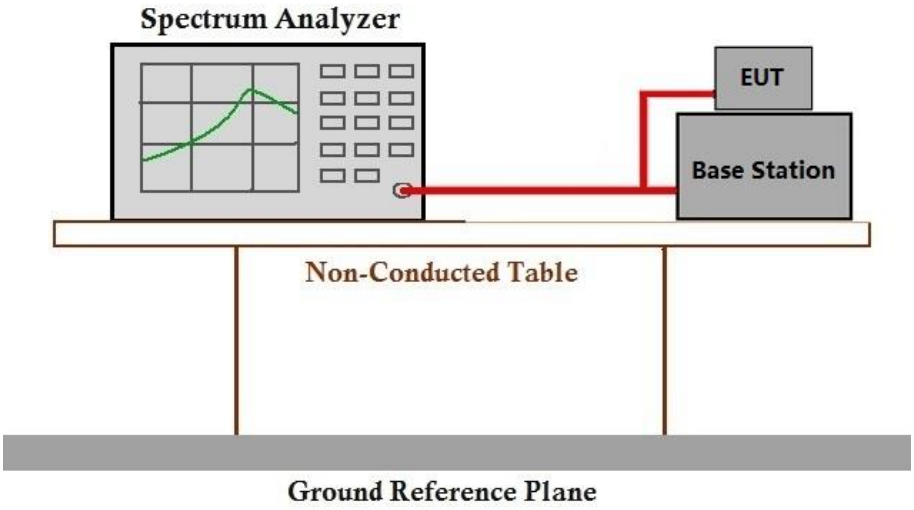
6.2 Peak-Average Ratio

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 30: 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 PAR test data.

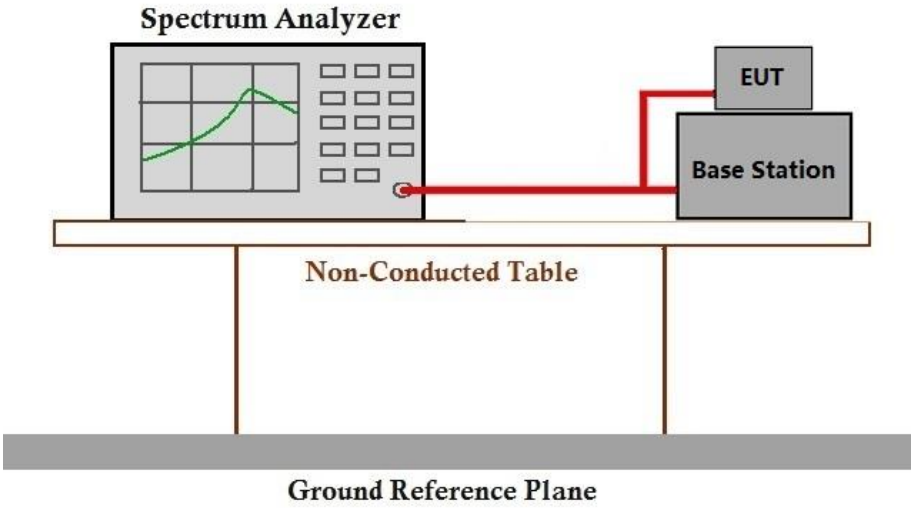
6.3 Bandwidth

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 30: 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 Bandwidth test data.

6.4 Band Edge Compliance

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

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

Limit: ≤ -13dBm (**LTE Band2,4,5**)

For **Band7,38**:

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.

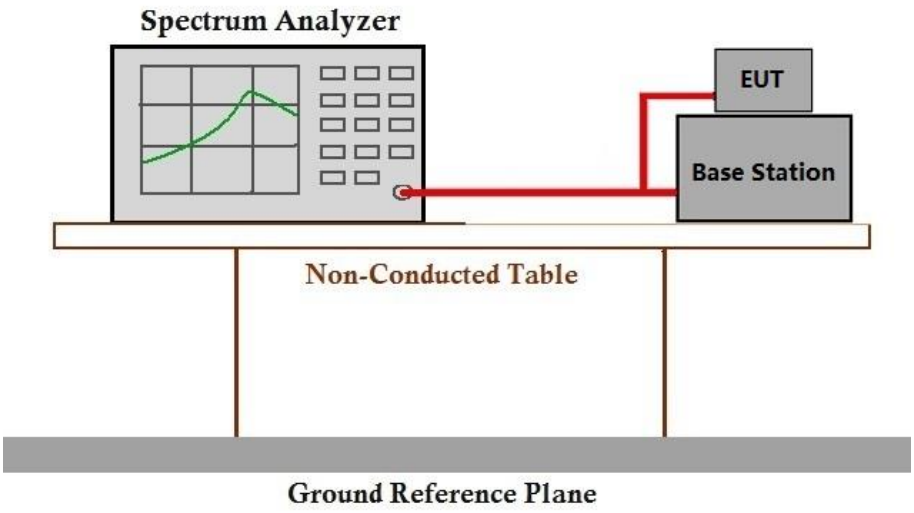
6.4.1 E.U.T. Operation

Operating Environment:

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

Test mode 30: 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 CSE test data.

6.5 Spurious emissions at antenna terminals

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

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

Limit: ≤ -13dBm (**LTE Band2,4,5**)

For **Band7,38**:

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.

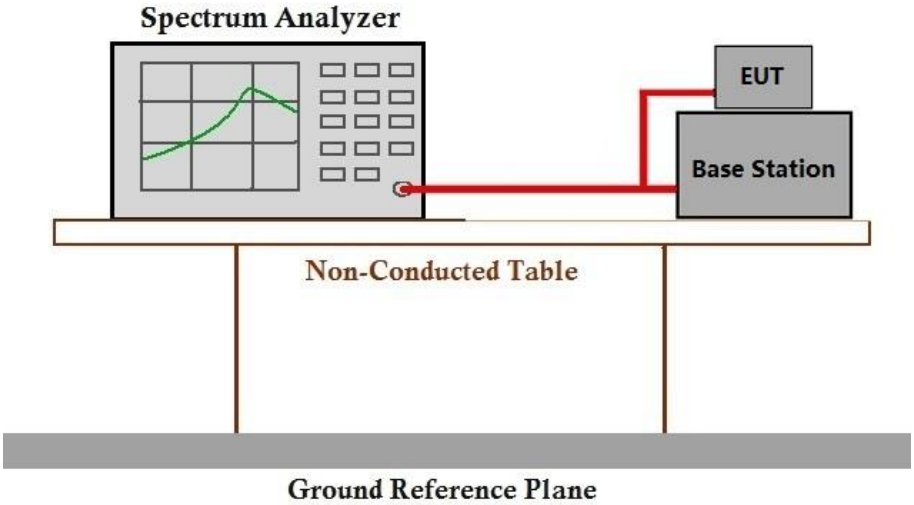
6.5.1 E.U.T. Operation

Operating Environment:

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

Test mode 30: 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 CSE test data.

6.6 Field strength of spurious radiation

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

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

Limit: ≤ -13dBm (**LTE Band2,4,5**)

For **Band7,38**:

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.

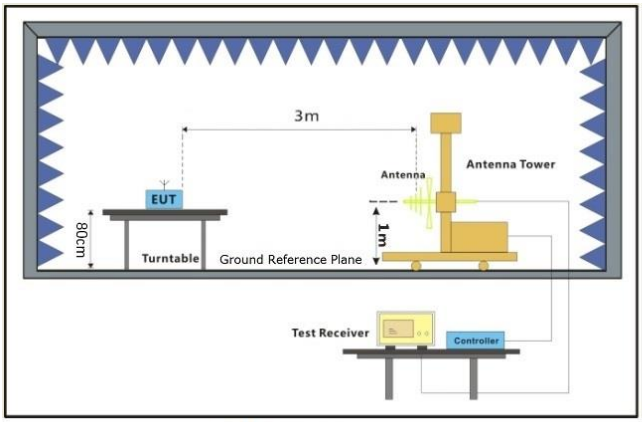
6.6.1 E.U.T. Operation

Operating Environment:

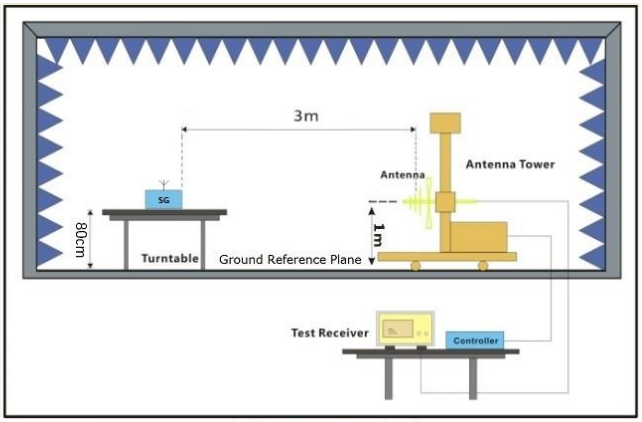
Temperature: 18.5 °C Humidity: 39.5 % RH Atmospheric Pressure: 1020 mbar

Test mode 30: Tx mode, Keep the EUT in transmitting mode.

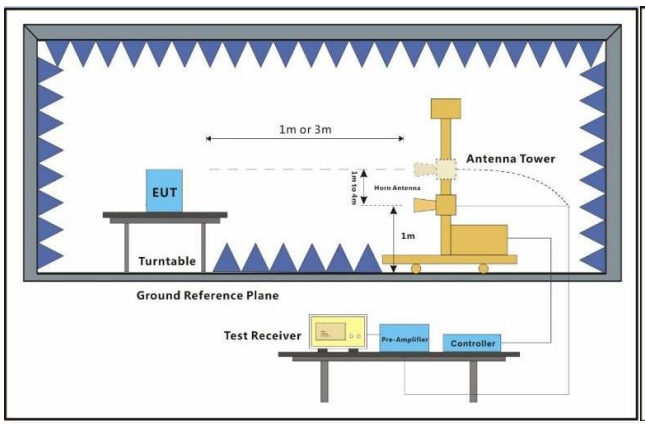
6.6.2 Test Setup Diagram



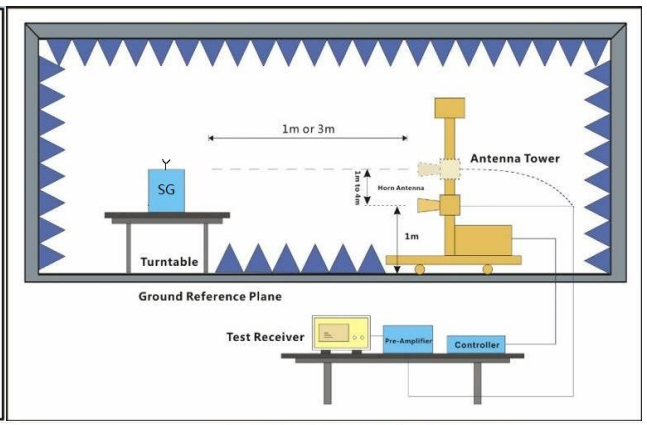
EUT



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	-49.47	-13	-36.47	-51.69	6.99	9.21	Horizontal	Pass
5553	-47.38	-13	-34.38	-49.7	8.27	10.59	Horizontal	Pass
7404	-44.1	-13	-31.1	-47.64	8.19	11.73	Horizontal	Pass
3702	-50.13	-13	-37.13	-52.35	6.99	9.21	Vertical	Pass
5553	-46.8	-13	-33.8	-49.12	8.27	10.59	Vertical	Pass
7404	-44.16	-13	-31.16	-47.7	8.19	11.73	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	-49.8	-13	-36.8	-52.02	6.99	9.21	Horizontal	Pass
5613	-48.19	-13	-35.19	-50.51	8.27	10.59	Horizontal	Pass
7484	-44.05	-13	-31.05	-47.59	8.19	11.73	Horizontal	Pass
3742	-49.84	-13	-36.84	-52.06	6.99	9.21	Vertical	Pass
5613	-48.63	-13	-35.63	-50.95	8.27	10.59	Vertical	Pass
7484	-42.84	-13	-29.84	-46.38	8.19	11.73	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	-49.53	-13	-36.53	-51.75	6.99	9.21	Horizontal	Pass
5673	-48.47	-13	-35.47	-50.79	8.27	10.59	Horizontal	Pass
7564	-43.1	-13	-30.1	-46.93	8.43	12.26	Horizontal	Pass
3782	-48.95	-13	-35.95	-51.17	6.99	9.21	Vertical	Pass
5673	-48.36	-13	-35.36	-50.68	8.27	10.59	Vertical	Pass
7564	-43.81	-13	-30.81	-47.64	8.43	12.26	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	-54.9	-13	-41.9	-57.48	5.72	8.3	Horizontal	Pass
5133	-54.64	-13	-41.64	-56.64	8.3	10.3	Horizontal	Pass
6844	-51.61	-13	-38.61	-55.16	7.7	11.25	Horizontal	Pass
3422	-56.01	-13	-43.01	-58.59	5.72	8.3	Vertical	Pass
5133	-54.11	-13	-41.11	-56.11	8.3	10.3	Vertical	Pass
6844	-51.79	-13	-38.79	-55.34	7.7	11.25	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	-56.22	-13	-43.22	-58.8	5.72	8.3	Horizontal	Pass
5170.5	-54.47	-13	-41.47	-56.47	8.3	10.3	Horizontal	Pass
6894	-52.01	-13	-39.01	-55.56	7.7	11.25	Horizontal	Pass
3447	-55.78	-13	-42.78	-58.36	5.72	8.3	Vertical	Pass
5170.5	-55.1	-13	-42.1	-57.1	8.3	10.3	Vertical	Pass
6894	-51.13	-13	-38.13	-54.68	7.7	11.25	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	-54.65	-13	-41.65	-57.23	5.72	8.3	Horizontal	Pass
5208	-55.13	-13	-42.13	-57.13	8.3	10.3	Horizontal	Pass
6944	-50.65	-13	-37.65	-54.2	7.7	11.25	Horizontal	Pass
3472	-54.94	-13	-41.94	-57.52	5.72	8.3	Vertical	Pass
5208	-55.09	-13	-42.09	-57.09	8.3	10.3	Vertical	Pass
6944	-51.02	-13	-38.02	-54.57	7.7	11.25	Vertical	Pass

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	-62.17	-13	-49.17	-65.83	3.77	7.43	Horizontal	Pass
2473.5	-56.52	-13	-43.52	-58.85	4.75	7.08	Horizontal	Pass
3298	-53.68	-13	-40.68	-56.26	5.72	8.3	Horizontal	Pass
1649	-62.53	-13	-49.53	-66.19	3.77	7.43	Vertical	Pass
2473.5	-57.02	-13	-44.02	-59.35	4.75	7.08	Vertical	Pass
3298	-54.31	-13	-41.31	-56.89	5.72	8.3	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	-62.29	-13	-49.29	-65.95	3.77	7.43	Horizontal	Pass
2496	-57.38	-13	-44.38	-59.71	4.75	7.08	Horizontal	Pass
3328	-54.17	-13	-41.17	-56.75	5.72	8.3	Horizontal	Pass
1664	-61.5	-13	-48.5	-65.16	3.77	7.43	Vertical	Pass
2496	-56.05	-13	-43.05	-58.38	4.75	7.08	Vertical	Pass
3328	-54.04	-13	-41.04	-56.62	5.72	8.3	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	-60.71	-13	-47.71	-64.37	3.77	7.43	Horizontal	Pass
2518.5	-57.55	-13	-44.55	-60.02	5.13	7.6	Horizontal	Pass
3358	-53.92	-13	-40.92	-56.5	5.72	8.3	Horizontal	Pass
1679	-61.33	-13	-48.33	-64.99	3.77	7.43	Vertical	Pass
2518.5	-56.92	-13	-43.92	-59.39	5.13	7.6	Vertical	Pass
3358	-53.33	-13	-40.33	-55.91	5.72	8.3	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	-54.41	-25	-29.41	-56.41	8.3	10.3	Horizontal	Pass
7503	-48.84	-25	-23.84	-52.67	8.43	12.26	Horizontal	Pass
10004	-46.78	-25	-21.78	-49.03	11.12	13.37	Horizontal	Pass
5002	-52.56	-25	-27.56	-54.56	8.3	10.3	Vertical	Pass
7503	-48.18	-25	-23.18	-52.01	8.43	12.26	Vertical	Pass
10004	-46.93	-25	-21.93	-49.18	11.12	13.37	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	-54.24	-25	-29.24	-56.24	8.3	10.3	Horizontal	Pass
7578	-48.19	-25	-23.19	-52.02	8.43	12.26	Horizontal	Pass
10104	-46.01	-25	-21.01	-48.26	11.12	13.37	Horizontal	Pass
5052	-54.71	-25	-29.71	-56.71	8.3	10.3	Vertical	Pass
7578	-50.13	-25	-25.13	-53.96	8.43	12.26	Vertical	Pass
10104	-45.46	-25	-20.46	-47.71	11.12	13.37	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	-54.79	-25	-29.79	-56.79	8.3	10.3	Horizontal	Pass
7653	-49.43	-25	-24.43	-53.26	8.43	12.26	Horizontal	Pass
10204	-47.56	-25	-22.56	-49.81	11.12	13.37	Horizontal	Pass
5102	-55.08	-25	-30.08	-57.08	8.3	10.3	Vertical	Pass
7653	-49.7	-25	-24.7	-53.53	8.43	12.26	Vertical	Pass
10204	-47.55	-25	-22.55	-49.8	11.12	13.37	Vertical	Pass

FDD LTE Band38-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
5142	-54.55	-25	-29.55	-56.55	8.3	10.3	Horizontal	Pass
7713	-50.19	-25	-25.19	-54.02	8.43	12.26	Horizontal	Pass
10284	-46.35	-25	-21.35	-48.6	11.12	13.37	Horizontal	Pass
5142	-55.66	-25	-30.66	-57.66	8.3	10.3	Vertical	Pass
7713	-49.81	-25	-24.81	-53.64	8.43	12.26	Vertical	Pass
10284	-46.27	-25	-21.27	-48.52	11.12	13.37	Vertical	Pass

FDD LTE Band38-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
5172	-54.86	-25	-29.86	-56.86	8.3	10.3	Horizontal	Pass
7758	-49.5	-25	-24.5	-53.33	8.43	12.26	Horizontal	Pass
10344	-46.89	-25	-21.89	-49.14	11.12	13.37	Horizontal	Pass
5172	-56.21	-25	-31.21	-58.21	8.3	10.3	Vertical	Pass
7758	-50.25	-25	-25.25	-54.08	8.43	12.26	Vertical	Pass
10344	-47.28	-25	-22.28	-49.53	11.12	13.37	Vertical	Pass

FDD LTE Band38-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
5202	-56.03	-25	-31.03	-58.03	8.3	10.3	Horizontal	Pass
7803	-50.28	-25	-25.28	-54.11	8.43	12.26	Horizontal	Pass
10404	-47.52	-25	-22.52	-49.77	11.12	13.37	Horizontal	Pass
5202	-55.86	-25	-30.86	-57.86	8.3	10.3	Vertical	Pass
7803	-50.43	-25	-25.43	-54.26	8.43	12.26	Vertical	Pass
10404	-47.38	-25	-22.38	-49.63	11.12	13.37	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.

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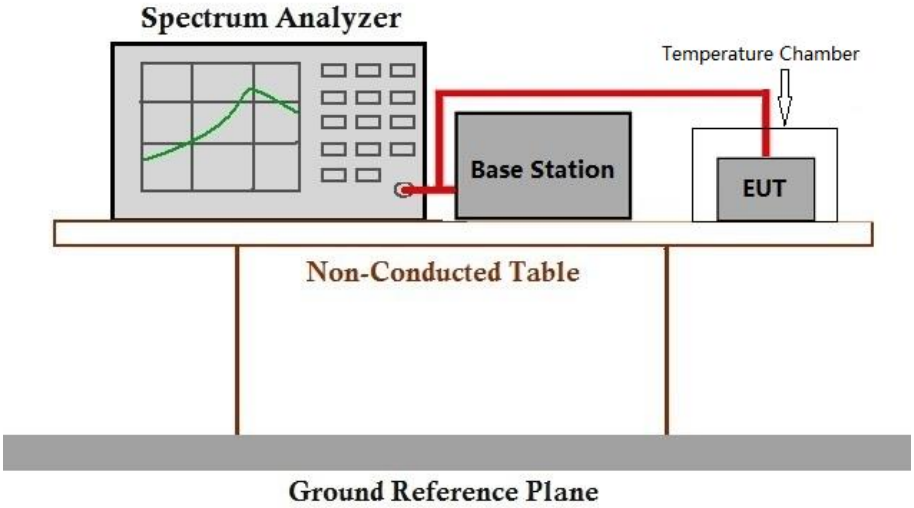
6.7 Frequency stability

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 30: 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 FE test data.

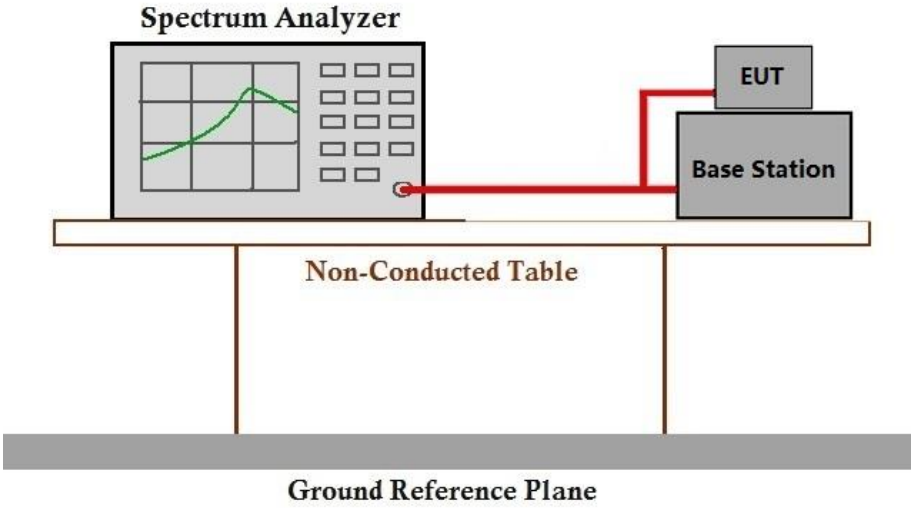
6.8 Modulation Characteristics

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 30: 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 FYCR2210000400AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for FYCR2210000400AT

- End of the Report -