



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

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

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

Report No.: SZEM180400347804
Page: 1 of 36

TEST REPORT

Application No.: SZEM1804003478CR
Applicant / Manufacturer Furrion Ltd.
Address of Applicant / Manufacturer Units 503c & 505-508, Level 5, Core D, Cyberport 3, 100 Cyberport Road, Hong Kong
Factory: Furrion Ltd.
Address of Factory: Units 503c & 505-508, Level 5, Core D, Cyberport 3, 100 Cyberport Road, Hong Kong

Equipment Under Test (EUT):

EUT Name: LTE WiFi Router
Model No.: FAN17B8B, FAN17B83 ♣
♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Trade mark: FURRIION
FCC ID: 2ABH3-FAN17
Standard(s) : 47 CFR Part 2(2017)
47 CFR Part 24 subpart E
47 CFR Part 27 subpart C

Date of Receipt: 2018-05-22
Date of Test: 2018-05-24 to 2018-06-15
Date of Issue: 2018-06-20

Test Result:	Pass*
---------------------	--------------

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



Keny Xu
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



<i>Revision Record</i>				
<i>Version</i>	<i>Chapter</i>	<i>Date</i>	<i>Modifier</i>	<i>Remark</i>
01		2018-06-20		Original

Authorized for issue by:			
			
	<hr/>		
	Edison Li /Project Engineer		
			
	<hr/>		
	Eric Fu /Reviewer		



2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232 §27.50(b) (9) §27.50(d) (4)	EIRP≤ 2W(LTE Band 2) EIRP≤ 1W(LTE Band 4) EIRP≤ 30W(LTE Band 13)	PASS
Peak-Average Ratio	§24.232 §27.50(b) §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, §24.238 §27.53(h) §27.53(g)	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block(LTE Band2,4,13)	PASS
Spurious emissions at antenna terminals	§2.1051, §24.238 §27.53(h) §27.53(g)	≤ -13dBm(LTE Band2,4,13)	PASS
Field strength of spurious radiation	§2.1051, §24.238 §27.53(h) §27.53(g)	≤ -13dBm(LTE Band2,4,13)	PASS
Frequency stability	§2.1055, §24.235 §27.54	≤ ±2.5ppm	PASS

Declaration of EUT Family Grouping:

Model No.: FAN17B8B, FAN17B83

Only the model FAN17B8B was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, only the difference as below:

Model	Description
FAN17B8B	Internet Access Point, LTE and Wi-Fi Booster, with ceiling mount bracket
FAN17B83	Internet Access Point, LTE and Wi-Fi Booster, without ceiling mount bracket



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 Max ERP/EIRP Power, Frequency Tolerance and Emission Designator	7
4.4 Test Environment	7
4.5 Description of Support Units	8
4.6 Measurement Uncertainty	8
4.7 Test Location	9
4.8 Test Facility	9
4.9 Deviation from Standards	9
4.10 Abnormalities from Standard Conditions	9
5 EQUIPMENT LIST	10
6 RADIO SPECTRUM MATTER TEST RESULTS	12
6.1 Effective (Isotropic) Radiated Power Output 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	15
6.4.3 Measurement Data	15
6.5 Spurious emissions at antenna terminals	16
6.5.1 E.U.T. Operation	16
6.5.2 Test Setup Diagram	16
6.5.3 Measurement Data	16
6.6 Field strength of spurious radiation	17
6.6.1 E.U.T. Operation	17
6.6.2 Test Setup Diagram	17
6.6.3 Measurement Procedure and Data	18
6.7 Frequency stability	26
6.7.1 E.U.T. Operation	26
6.7.2 Test Setup Diagram	26
6.7.3 Measurement Data	26
6.8 Modulation Characteristics	35



6.8.1	<i>E.U.T. Operation</i>	35
6.8.2	<i>Test Setup Diagram</i>	35
6.8.3	<i>Measurement Data</i>	35-36



4 General Information

4.1 Details of E.U.T.

Power supply:	DC 12V	
Internal source:	More than 108MHz	
Sample Type:	Fixed production	
LTE Operation Frequency Band:	LTE FDD Band 2, 4, 13	
Modulation Type:	QPSK, 16QAM	
LTE Release Version:	R9	
LTE Power Class:	Level 3	
Antenna Type:	External	
Antenna Ports:	Tx & Rx Port	1
	Tx-only Port	0
	Rx-only Port	1
Antenna Gain:	6dBi	

4.2 Test Frequency

Test Mode	Nominal Bandwidth (MHz)	RF Channel		
		Low (L)	Middle (M)	High (H)
		MHz	MHz	MHz
LTE FDD Band 2	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	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 13	5	779.5	782.0	784.5
	10	/	782.0	/



4.3 Max ERP/EIRP Power, Frequency Tolerance and Emission Designator

FCC Rule	Band	Modulation	BW (MHz)	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP (W)
Part24E	LTE Band2	QPSK	5	4M49G7D	/	0.6368
Part24E	LTE Band2	16QAM	5	4M50W7D	/	0.5598
Part24E	LTE Band2	QPSK	10	8M94G7D	/	0.6516
Part24E	LTE Band2	16QAM	10	8M96W7D	/	0.5408
Part24E	LTE Band2	QPSK	15	13M6G7D	/	0.8147
Part24E	LTE Band2	16QAM	15	13M6W7D	/	0.7228
Part24E	LTE Band2	QPSK	20	18M0G7D	-0.00246	0.7161
Part24E	LTE Band2	16QAM	20	18M0W7D	-0.00246	0.6252
Part27	LTE Band4	QPSK	5	4M49G7D	/	0.6266
Part27	LTE Band4	16QAM	5	4M49W7D	/	0.5483
Part27	LTE Band4	QPSK	10	8M94G7D	/	0.7534
Part27	LTE Band4	16QAM	10	8M94W7D	/	0.6266
Part27	LTE Band4	QPSK	15	13M5G7D	/	0.8414
Part27	LTE Band4	16QAM	15	13M5W7D	/	0.7396
Part27	LTE Band4	QPSK	20	18M0G7D	-0.00288	0.7430
Part27	LTE Band4	16QAM	20	18M0W7D	-0.00288	0.6397
Part27	LTE Band13	QPSK	5	4M49G7D	/	0.3954
Part27	LTE Band13	16QAM	5	4M49W7D	/	0.3404
Part27	LTE Band13	QPSK	10	8M92G7D	-0.00647	0.3357
Part27	LTE Band13	16QAM	10	8M94W7D	-0.00647	0.3327

4.4 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	52%	
Atmospheric Pressure:	1015Pa	
Temperature:	TN	25 °C
Voltage:	VL	10.2 V
	VN	12 V
	VH	13.8 V

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



4.5 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
DC power	ZHAOXIN	RXN-305D	REF. No.SEA2700

4.6 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.25×10^{-8}
2	Duty cycle	0.37%
3	Occupied Bandwidth	3%
4	RF conducted power	0.75dB
5	RF power density	2.84dB
6	Conducted Spurious emissions	0.75dB
7	RF Radiated power	4.5dB (below 1GHz)
		4.8dB (above 1GHz)
8	Radiated Spurious emission test	4.5dB (Below 1GHz)
		4.8dB (Above 1GHz)
9	Temperature test	1 °C
10	Humidity test	3%
11	Supply voltages	1.5%
12	Time	3%



4.7 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.

4.8 Test Facility

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **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.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.9 Deviation from Standards

None

4.10 Abnormalities from Standard Conditions

None



5 Equipment List

RF Conducted Test					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26
Audio Analyzer	Rohde & Schwarz	UPL	SEM0093	2017-09-27	2018-09-26
Universal Radio Communication Tester	Rohde & Schwarz	CMU200	W005-02	2018-04-14	2019-04-13
Wireless Communication Tester	Rohde & Schwarz	CMW500	W005-03	2018-04-14	2019-04-13
Splitter	MACOM	2090-6214-00	SEL0226	2018-04-14	2019-04-13

Radiated Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2017-07-13	2018-07-12
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2018-04-02	2019-04-01
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017-06-27	2020-06-26
Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna (15GHz-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2017-09-27	2018-09-26
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118- 352810	SEM005-05	2017-09-27	2018-09-27
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2018-04-02	2019-04-01
Pre-amplifier (26GHz-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2018-04-02	2019-04-01
DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21
Band filter	N/A	N/A	SEM023-01	N/A	N/A



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

Report No.: SZEM180400347804

Page: 11 of 36

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2017-09-29	2018-09-28
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2018-04-18	2019-04-17

6 Radio Spectrum Matter Test Results

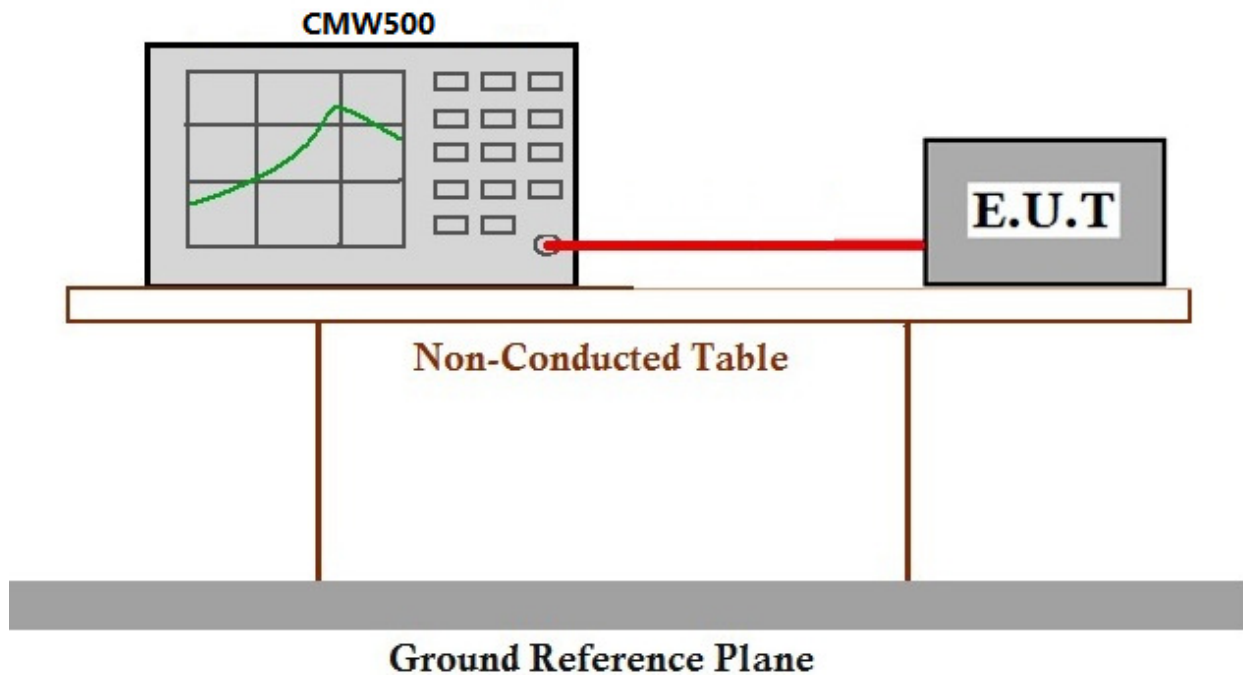
6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: §2.1046, §24.232, §27.50(c), §27.50(d)
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: EIRP ≤ 2W(LTE Band 2)
 EIRP ≤ 1W(LTE Band 4)
 EIRP ≤ 30W(LTE Band 13)

6.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
 Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

Please refer to Appendix B-Output power

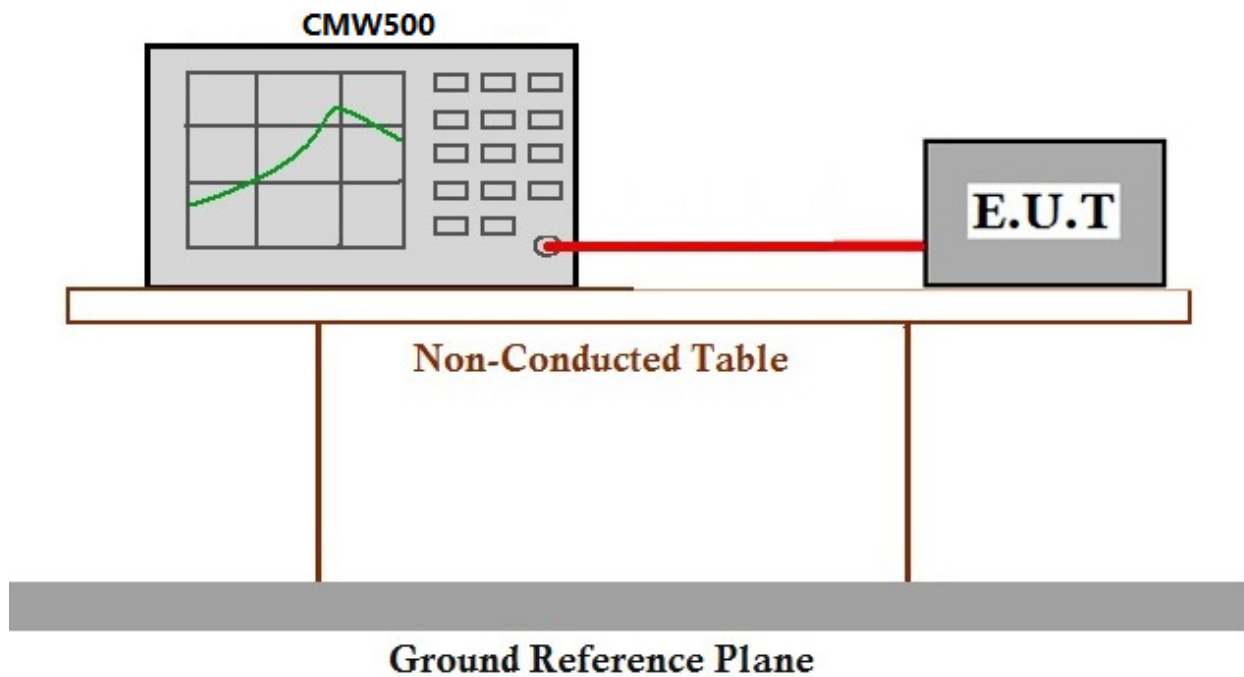
6.2 Peak-Average Ratio

Test Requirement: §24.232
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: ≤13dB

6.2.1 E.U.T. Operation

Operating Environment:
 Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
 Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Please refer to Appendix C- Peak-Average Ratio

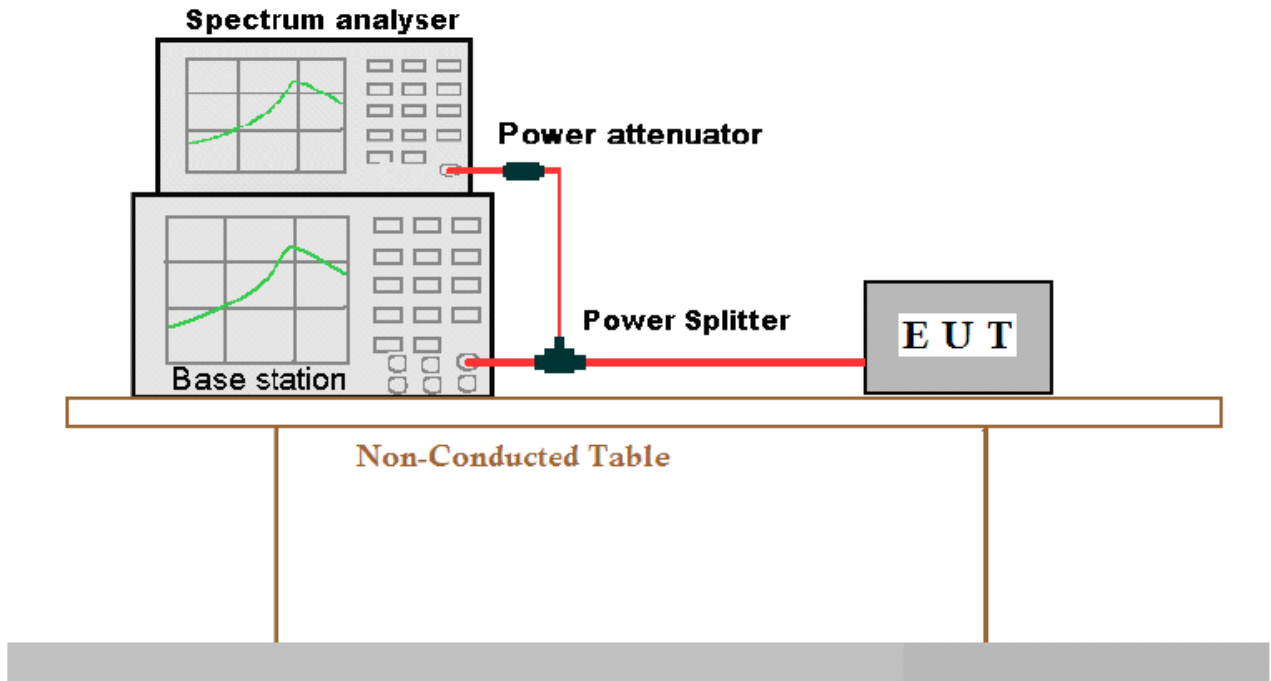
6.3 Bandwidth

Test Requirement: §2.1049(h), §22.917, §24.238
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: OBW: No limit
 EBW: No limit

6.3.1 E.U.T. Operation

Operating Environment:
 Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
 Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.3.2 Test Setup Diagram



6.3.3 Measurement Data

Please refer to Appendix D- Bandwidth

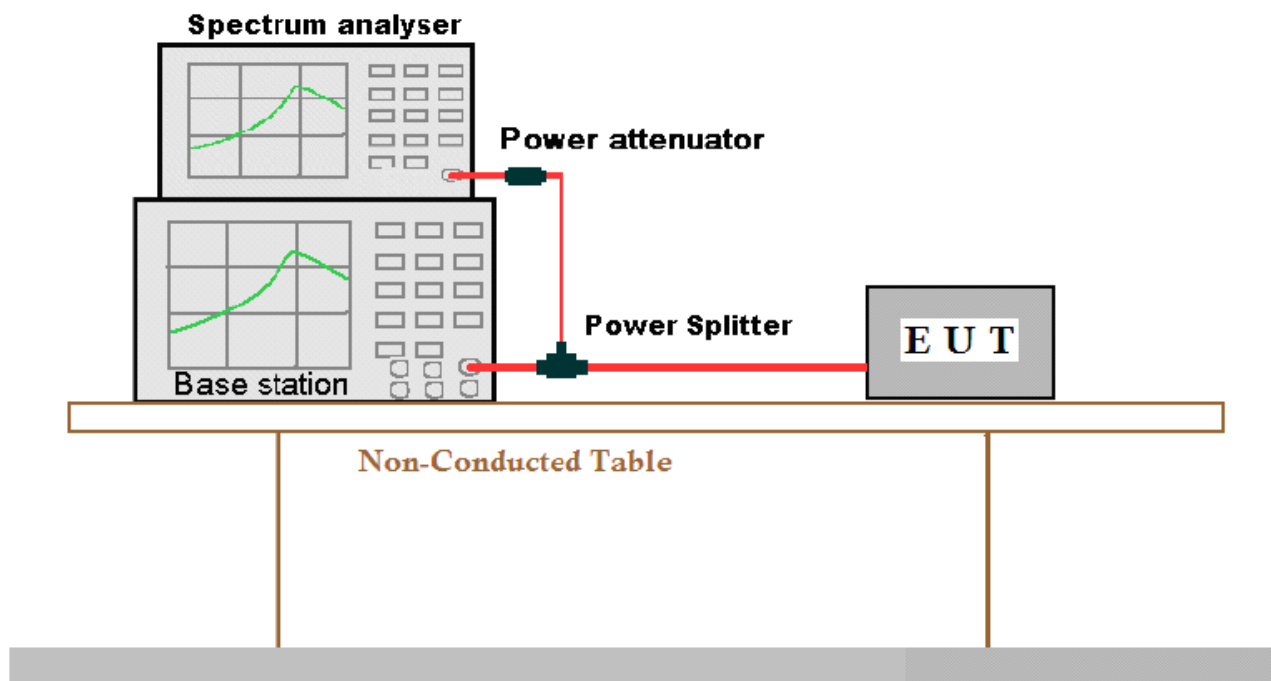
6.4 Band Edge Compliance

Test Requirement: §2.1051, §22.917, §24.238
 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(LTE Band2,4,13)

6.4.1 E.U.T. Operation

Operating Environment:
 Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
 Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.4.2 Test Setup Diagram



6.4.3 Measurement Data

Please refer to Appendix E- Band Edge

6.5 Spurious emissions at antenna terminals

Test Requirement: §2.1051, §22.917, §24.238
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: $\leq -13\text{dBm}$ (LTE Band2,4,13)

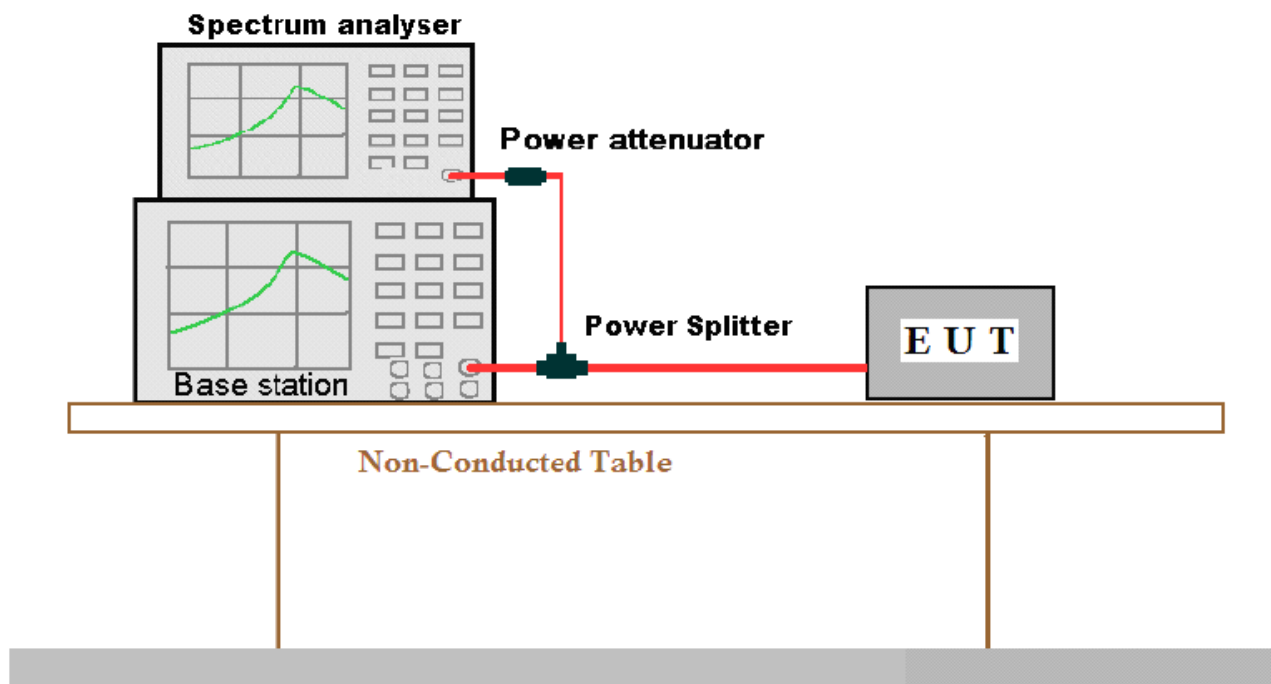
6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar

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

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

Please refer to Appendix F- Spurious emissions at antenna terminals

6.6 Field strength of spurious radiation

Test Requirement: §2.1051, §22.917, §24.238
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: $\leq -13\text{dBm}$ (LTE Band2,4,13)

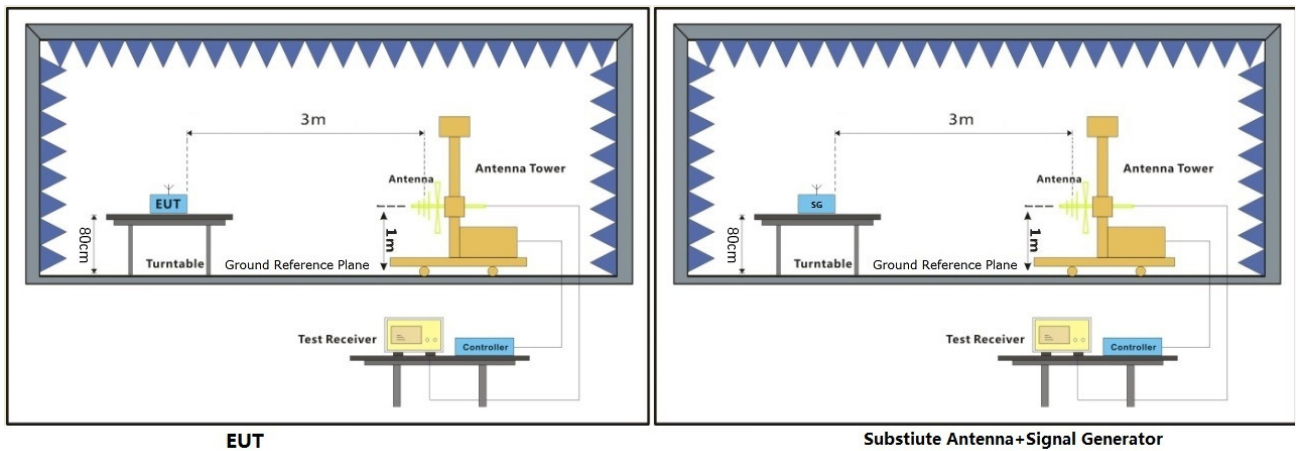
6.6.1 E.U.T. Operation

Operating Environment:

Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar

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

6.6.2 Test Setup Diagram





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 then 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.

Note: All modes have been tested and we found max bandwidth, full RB test mode of QPSK has the worst test result. Only record the worst test result.



FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3700.5	-70.97	0.71	7.6	-64.08	-13	-51.08	Horizontal	Pass
5550.75	-65.84	0.85	10.3	-56.39	-13	-43.39	Horizontal	Pass
7401	-66.5	1	12.9	-54.6	-13	-41.6	Horizontal	Pass
3700.5	-69.5	0.71	7.6	-62.61	-13	-49.61	Vertical	Pass
5550.75	-66.44	0.85	10.3	-56.99	-13	-43.99	Vertical	Pass
7401	-67.12	1	12.9	-55.22	-13	-42.22	Vertical	Pass

FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3701	-70.27	0.71	7.6	-63.38	-13	-50.38	Horizontal	Pass
5551.5	-67.02	0.85	10.3	-57.57	-13	-44.57	Horizontal	Pass
7402	-65.35	1	12.9	-53.45	-13	-40.45	Horizontal	Pass
3701	-71.32	0.71	7.6	-64.43	-13	-51.43	Vertical	Pass
5551.5	-67.33	0.85	10.3	-57.88	-13	-44.88	Vertical	Pass
7402	-67.9	1	12.9	-56	-13	-43	Vertical	Pass

FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 15MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3701.5	-70.12	0.71	7.6	-63.23	-13	-50.23	Horizontal	Pass
5552.25	-64.7	0.85	10.3	-55.25	-13	-42.25	Horizontal	Pass
7403	-66.92	1	12.9	-55.02	-13	-42.02	Horizontal	Pass
3701.5	-70.39	0.71	7.6	-63.5	-13	-50.5	Vertical	Pass
5552.25	-67.46	0.85	10.3	-58.01	-13	-45.01	Vertical	Pass
7403	-67.19	1	12.9	-55.29	-13	-42.29	Vertical	Pass

FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 20MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3702	-70.05	0.71	7.6	-63.16	-13	-50.16	Horizontal	Pass
5553	-66.95	0.85	10.3	-57.5	-13	-44.5	Horizontal	Pass
7404	-65.82	1	12.9	-53.92	-13	-40.92	Horizontal	Pass
3702	-70.59	0.71	7.6	-63.7	-13	-50.7	Vertical	Pass
5553	-66.62	0.85	10.3	-57.17	-13	-44.17	Vertical	Pass
7404	-67.43	1	12.9	-55.53	-13	-42.53	Vertical	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3755.5	-70.48	0.71	7.6	-63.59	-13	-50.59	Horizontal	Pass
5633.25	-67.15	0.85	10.3	-57.7	-13	-44.7	Horizontal	Pass
7511	-66.04	0.99	13.2	-53.83	-13	-40.83	Horizontal	Pass
3755.5	-70.88	0.71	7.6	-63.99	-13	-50.99	Vertical	Pass
5633.25	-65.97	0.85	10.3	-56.52	-13	-43.52	Vertical	Pass
7511	-65.2	0.99	13.2	-52.99	-13	-39.99	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3751	-70.79	0.71	7.6	-63.9	-13	-50.9	Horizontal	Pass
5626.5	-67.1	0.85	10.3	-57.65	-13	-44.65	Horizontal	Pass
7502	-66.26	0.99	13.2	-54.05	-13	-41.05	Horizontal	Pass
3751	-71	0.71	7.6	-64.11	-13	-51.11	Vertical	Pass
5626.5	-67.99	0.85	10.3	-58.54	-13	-45.54	Vertical	Pass
7502	-66.16	0.99	13.2	-53.95	-13	-40.95	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 15MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3746.5	-69.6	0.71	7.6	-62.71	-13	-49.71	Horizontal	Pass
5619.75	-66.99	0.85	10.3	-57.54	-13	-44.54	Horizontal	Pass
7493	-67.65	1	12.9	-55.75	-13	-42.75	Horizontal	Pass
3746.5	-70.7	0.71	7.6	-63.81	-13	-50.81	Vertical	Pass
5619.75	-65.32	0.85	10.3	-55.87	-13	-42.87	Vertical	Pass
7493	-66.27	1	12.9	-54.37	-13	-41.37	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 20MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3742	-71.05	0.71	7.6	-64.16	-13	-51.16	Horizontal	Pass
5613	-67.67	0.85	10.3	-58.22	-13	-45.22	Horizontal	Pass
7484	-66.06	1	12.9	-54.16	-13	-41.16	Horizontal	Pass
3742	-70.71	0.71	7.6	-63.82	-13	-50.82	Vertical	Pass
5613	-68.44	0.85	10.3	-58.99	-13	-45.99	Vertical	Pass
7484	-67.15	1	12.9	-55.25	-13	-42.25	Vertical	Pass



FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3810.5	-71.22	0.71	7.6	-64.33	-13	-51.33	Horizontal	Pass
5715.75	-66.26	0.85	10.3	-56.81	-13	-43.81	Horizontal	Pass
7621	-67.3	0.99	13.2	-55.09	-13	-42.09	Horizontal	Pass
3810.5	-71.43	0.71	7.6	-64.54	-13	-51.54	Vertical	Pass
5715.75	-66.52	0.85	10.3	-57.07	-13	-44.07	Vertical	Pass
7621	-67.56	0.99	13.2	-55.35	-13	-42.35	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3801	-70.13	0.71	7.6	-63.24	-13	-50.24	Horizontal	Pass
5701.5	-66.08	0.85	10.3	-56.63	-13	-43.63	Horizontal	Pass
7602	-66.39	0.99	13.2	-54.18	-13	-41.18	Horizontal	Pass
3801	-70.15	0.71	7.6	-63.26	-13	-50.26	Vertical	Pass
5701.5	-66.16	0.85	10.3	-56.71	-13	-43.71	Vertical	Pass
7602	-66.67	0.99	13.2	-54.46	-13	-41.46	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 15MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3791.5	-70.36	0.71	7.6	-63.47	-13	-50.47	Horizontal	Pass
5687.25	-66.45	0.85	10.3	-57	-13	-44	Horizontal	Pass
7583	-67.15	0.99	13.2	-54.94	-13	-41.94	Horizontal	Pass
3791.5	-69.69	0.71	7.6	-62.8	-13	-49.8	Vertical	Pass
5687.25	-64.31	0.85	10.3	-54.86	-13	-41.86	Vertical	Pass
7583	-67.58	0.99	13.2	-55.37	-13	-42.37	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 20MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3782	-69.93	0.71	7.6	-63.04	-13	-50.04	Horizontal	Pass
5673	-65.98	0.85	10.3	-56.53	-13	-43.53	Horizontal	Pass
7564	-65.91	0.99	13.2	-53.7	-13	-40.7	Horizontal	Pass
3782	-70.48	0.71	7.6	-63.59	-13	-50.59	Vertical	Pass
5673	-67.09	0.85	10.3	-57.64	-13	-44.64	Vertical	Pass
7564	-66.96	0.99	13.2	-54.75	-13	-41.75	Vertical	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



FDD LTE Band4-Low channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3420.5	-70.9	0.65	6.2	-65.35	-13	-52.35	Horizontal	Pass
5130.75	-68.44	0.82	9.6	-59.66	-13	-46.66	Horizontal	Pass
6841	-64.67	0.95	11.8	-53.82	-13	-40.82	Horizontal	Pass
3420.5	-69.43	0.65	6.2	-63.88	-13	-50.88	Vertical	Pass
5130.75	-68.63	0.82	9.6	-59.85	-13	-46.85	Vertical	Pass
6841	-64.72	0.95	11.8	-53.87	-13	-40.87	Vertical	Pass

FDD LTE Band4-Low channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3421	-67.84	0.65	6.2	-64.44	-13	-51.44	Horizontal	Pass
5131.5	-66.29	0.82	9.6	-59.66	-13	-46.66	Horizontal	Pass
6842	-62.52	0.95	11.8	-53.82	-13	-40.82	Horizontal	Pass
3421	-67.28	0.65	6.2	-63.88	-13	-50.88	Vertical	Pass
5131.5	-66.48	0.82	9.6	-59.85	-13	-46.85	Vertical	Pass
6842	-62.57	0.95	11.8	-53.87	-13	-40.87	Vertical	Pass

FDD LTE Band4-Low channel, Modulation: QPSK, Bandwidth: 15MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3421.5	-69.95	0.65	6.2	-64.4	-13	-51.4	Horizontal	Pass
5132.25	-68.15	0.82	9.6	-59.37	-13	-46.37	Horizontal	Pass
6843	-63.9	0.95	11.8	-53.05	-13	-40.05	Horizontal	Pass
3421.5	-69.77	0.65	6.2	-64.22	-13	-51.22	Vertical	Pass
5132.25	-67.84	0.82	9.6	-59.06	-13	-46.06	Vertical	Pass
6843	-64.19	0.95	11.8	-53.34	-13	-40.34	Vertical	Pass

FDD LTE Band4-Low channel, Modulation: QPSK, Bandwidth: 20MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3422	-69.03	0.65	6.2	-63.48	-13	-50.48	Horizontal	Pass
5133	-67.68	0.82	9.6	-58.9	-13	-45.9	Horizontal	Pass
6844	-64.41	0.95	11.8	-53.56	-13	-40.56	Horizontal	Pass
3422	-70.24	0.65	6.2	-64.69	-13	-51.69	Vertical	Pass
5133	-67.77	0.82	9.6	-58.99	-13	-45.99	Vertical	Pass
6844	-63.27	0.95	11.8	-52.42	-13	-39.42	Vertical	Pass



FDD LTE Band4-Middle channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3460.5	-69.66	0.65	6.2	-64.11	-13	-51.11	Horizontal	Pass
5190.75	-69.43	0.82	9.6	-60.65	-13	-47.65	Horizontal	Pass
6921	-65.3	0.95	11.8	-54.45	-13	-41.45	Horizontal	Pass
3460.5	-70.58	0.65	6.2	-65.03	-13	-52.03	Vertical	Pass
5190.75	-68.59	0.82	9.6	-59.81	-13	-46.81	Vertical	Pass
6921	-63.55	0.95	11.8	-52.7	-13	-39.7	Vertical	Pass

FDD LTE Band4-Middle channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3456	-69.91	0.65	6.2	-64.36	-13	-51.36	Horizontal	Pass
5184	-67.9	0.82	9.6	-59.12	-13	-46.12	Horizontal	Pass
6912	-65.76	0.95	11.8	-54.91	-13	-41.91	Horizontal	Pass
3456	-69.59	0.65	6.2	-64.04	-13	-51.04	Vertical	Pass
5184	-68.88	0.82	9.6	-60.1	-13	-47.1	Vertical	Pass
6912	-65.77	0.95	11.8	-54.92	-13	-41.92	Vertical	Pass

FDD LTE Band4-Middle channel, Modulation: QPSK, Bandwidth: 15MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3451.5	-66.37	0.65	6.2	-62.97	-13	-49.97	Horizontal	Pass
5177.25	-64.72	0.82	9.6	-58.09	-13	-45.09	Horizontal	Pass
6903	-63.04	0.95	11.8	-54.34	-13	-41.34	Horizontal	Pass
3451.5	-67.26	0.65	6.2	-63.86	-13	-50.86	Vertical	Pass
5177.25	-66.12	0.82	9.6	-59.49	-13	-46.49	Vertical	Pass
6903	-62.31	0.95	11.8	-53.61	-13	-40.61	Vertical	Pass

FDD LTE Band4-Middle channel, Modulation: QPSK, Bandwidth: 20MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3447	-69.87	0.65	6.2	-64.32	-13	-51.32	Horizontal	Pass
5170.5	-67.35	0.82	9.6	-58.57	-13	-45.57	Horizontal	Pass
6894	-65.35	0.95	11.8	-54.5	-13	-41.5	Horizontal	Pass
3447	-70.83	0.65	6.2	-65.28	-13	-52.28	Vertical	Pass
5170.5	-66.55	0.82	9.6	-57.77	-13	-44.77	Vertical	Pass
6894	-65.97	0.95	11.8	-55.12	-13	-42.12	Vertical	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



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

Report No.: SZEM180400347804

Page: 24 of 36

FDD LTE Band4-High channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3500.5	-70.49	0.71	7.6	-63.6	-13	-50.6	Horizontal	Pass
5250.75	-66.94	0.82	9.6	-58.16	-13	-45.16	Horizontal	Pass
7001	-65.53	1	12.9	-53.63	-13	-40.63	Horizontal	Pass
3500.5	-70.76	0.71	7.6	-63.87	-13	-50.87	Vertical	Pass
5250.75	-68.03	0.82	9.6	-59.25	-13	-46.25	Vertical	Pass
7001	-66.62	1	12.9	-54.72	-13	-41.72	Vertical	Pass

FDD LTE Band4-High channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3491	-69.48	0.65	6.2	-63.93	-13	-50.93	Horizontal	Pass
5236.5	-67.33	0.82	9.6	-58.55	-13	-45.55	Horizontal	Pass
6982	-63.96	0.95	11.8	-53.11	-13	-40.11	Horizontal	Pass
3491	-69.47	0.65	6.2	-63.92	-13	-50.92	Vertical	Pass
5236.5	-67.73	0.82	9.6	-58.95	-13	-45.95	Vertical	Pass
6982	-64.81	0.95	11.8	-53.96	-13	-40.96	Vertical	Pass

FDD LTE Band4-High channel, Modulation: QPSK, Bandwidth: 15MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3481.5	-70.48	0.65	6.2	-64.93	-13	-51.93	Horizontal	Pass
5222.25	-67.1	0.82	9.6	-58.32	-13	-45.32	Horizontal	Pass
6963	-64.77	0.95	11.8	-53.92	-13	-40.92	Horizontal	Pass
3481.5	-69.81	0.65	6.2	-64.26	-13	-51.26	Vertical	Pass
5222.25	-67.59	0.82	9.6	-58.81	-13	-45.81	Vertical	Pass
6963	-64.97	0.95	11.8	-54.12	-13	-41.12	Vertical	Pass

FDD LTE Band4-High channel, Modulation: QPSK, Bandwidth: 20MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3472	-70.25	0.65	6.2	-64.7	-13	-51.7	Horizontal	Pass
5208	-68.11	0.82	9.6	-59.33	-13	-46.33	Horizontal	Pass
6944	-65.62	0.95	11.8	-54.77	-13	-41.77	Horizontal	Pass
3472	-68.5	0.65	6.2	-62.95	-13	-49.95	Vertical	Pass
5208	-68.14	0.82	9.6	-59.36	-13	-46.36	Vertical	Pass
6944	-65.56	0.95	11.8	-54.71	-13	-41.71	Vertical	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



FDD LTE Band13-Low channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1658.00	-70.38	0.52	6	-67.05	-13	-54.05	Horizontal	Pass
2487.00	-62.36	0.53	5.8	-59.24	-13	-46.24	Horizontal	Pass
3316.00	-72	0.65	6.2	-68.60	-13	-55.6	Horizontal	Pass
1658.00	-70.64	0.52	6	-67.31	-13	-54.31	Vertical	Pass
2487.00	-61.58	0.53	5.8	-58.46	-13	-45.46	Vertical	Pass
3316.00	-71.22	0.65	6.2	-67.82	-13	-54.82	Vertical	Pass

FDD LTE Band13-Middle channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1673.00	-70.8	0.52	6	-67.47	-13	-54.47	Horizontal	Pass
2509.50	-61.8	0.59	5.3	-59.24	-13	-46.24	Horizontal	Pass
3346.00	-61.12	0.65	6.2	-57.72	-13	-44.72	Horizontal	Pass
1673.00	-70.4	0.52	6	-67.07	-13	-54.07	Vertical	Pass
2509.50	-68.16	0.59	5.3	-65.60	-13	-52.6	Vertical	Pass
3346.00	-62.26	0.65	6.2	-58.86	-13	-45.86	Vertical	Pass

FDD LTE Band13-High channel, Modulation: QPSK, Bandwidth: 5MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1688.00	-70.8	0.52	6	-67.47	-13	-54.47	Horizontal	Pass
2532.00	-68.8	0.59	5.3	-66.24	-13	-53.24	Horizontal	Pass
3376.00	-62.65	0.65	6.2	-59.25	-13	-46.25	Horizontal	Pass
1688.00	-69.83	0.52	6	-66.50	-13	-53.5	Vertical	Pass
2532.00	-68.91	0.59	5.3	-66.35	-13	-53.35	Vertical	Pass
3376.00	-61.53	0.65	6.2	-58.13	-13	-45.13	Vertical	Pass

FDD LTE Band13-Middle channel, Modulation: QPSK, Bandwidth: 10MHz, Full RB								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1683.00	-70.4	0.52	6	-67.07	-13	-54.07	Horizontal	Pass
2524.50	-68.14	0.59	5.3	-65.58	-13	-52.58	Horizontal	Pass
3366.00	-61.12	0.65	6.2	-57.72	-13	-44.72	Horizontal	Pass
1683.00	-69.99	0.52	6	-66.66	-13	-53.66	Vertical	Pass
2524.50	-67.04	0.59	5.3	-64.48	-13	-51.48	Vertical	Pass
3366.00	-62.25	0.65	6.2	-58.85	-13	-45.85	Vertical	Pass

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

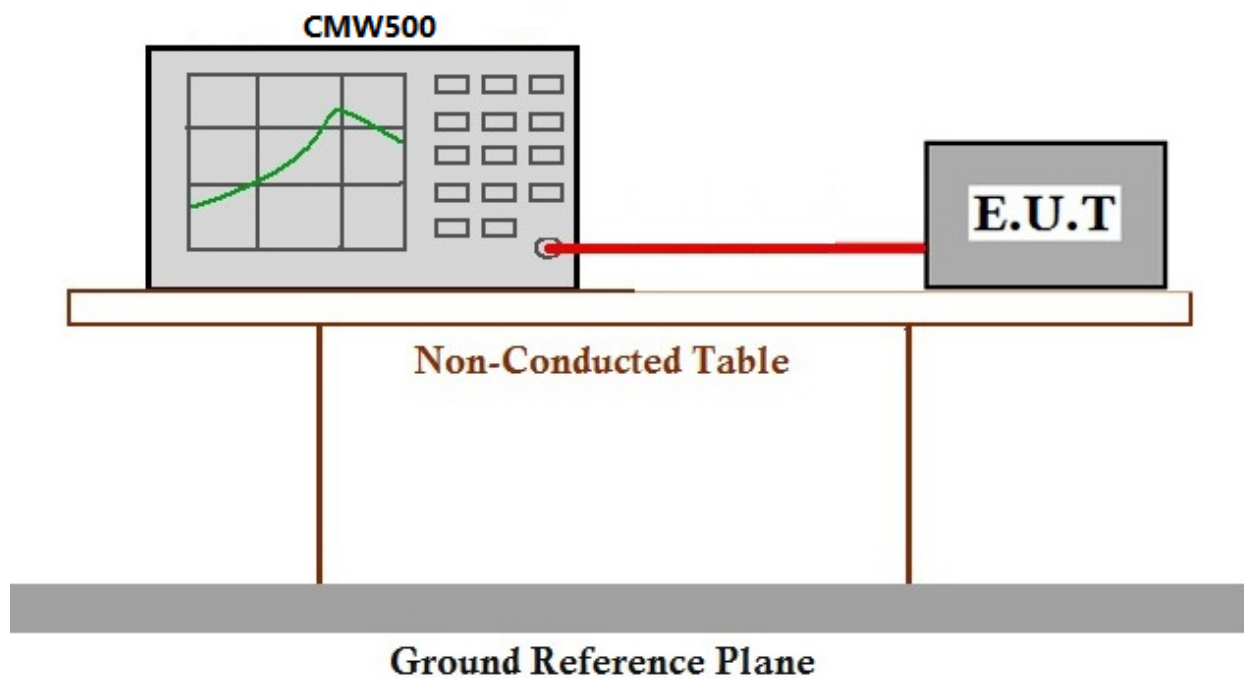
6.7 Frequency stability

Test Requirement: §2.1055, §22.355, §24.235
Test Method: ANSI C63.26, KDB 971 168 D01 v03
Limit: $\leq \pm 2.5\text{ppm}$.

6.7.1 E.U.T. Operation

Operating Environment:
Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.7.2 Test Setup Diagram



6.7.3 Measurement Data



Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband2	QPSK/20MHz	LCH	TN	VL	-4.51	-0.00242	PASS
				VN	0.45	0.00024	PASS
				VH	-2.76	-0.00148	PASS
		MCH	TN	VL	1.41	0.00075	PASS
				VN	-2.88	-0.00153	PASS
				VH	2.66	0.00141	PASS
		HCH	TN	VL	-1.52	-0.00080	PASS
				VN	-1.13	-0.00059	PASS
				VH	-0.71	-0.00037	PASS
	16QAM/20MHz	LCH	TN	VL	-4.20	-0.00226	PASS
				VN	-2.93	-0.00158	PASS
				VH	-3.18	-0.00171	PASS
		MCH	TN	VL	1.59	0.00085	PASS
				VN	-2.88	-0.00153	PASS
				VH	2.52	0.00134	PASS
		HCH	TN	VL	-3.02	-0.00159	PASS
				VN	-2.09	-0.00110	PASS
				VH	1.48	0.00078	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband4	QPSK/20MHz	LCH	TN	VL	-4.52	-0.00263	PASS
				VN	0.48	0.00028	PASS
				VH	-1.78	-0.00103	PASS
		MCH	TN	VL	1.43	0.00083	PASS
				VN	-2.81	-0.00162	PASS
				VH	2.66	0.00154	PASS
		HCH	TN	VL	-2.59	-0.00148	PASS
				VN	-1.12	-0.00064	PASS
				VH	-0.71	-0.00041	PASS
	16QAM/20MHz	LCH	TN	VL	-4.22	-0.00245	PASS
				VN	-2.91	-0.00169	PASS
				VH	-1.16	-0.00067	PASS
		MCH	TN	VL	1.57	0.00091	PASS
				VN	-2.88	-0.00166	PASS
				VH	2.51	0.00145	PASS
		HCH	TN	VL	-3.02	-0.00173	PASS
				VN	-2.07	-0.00119	PASS
				VH	0.49	0.00028	PASS



Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband13	QPSK/10MHz	LCH	TN	VL	-4.51	-0.00579	PASS
				VN	0.47	0.00060	PASS
				VH	-1.76	-0.00226	PASS
		MCH	TN	VL	1.48	0.00189	PASS
				VN	-2.89	-0.00370	PASS
				VH	2.63	0.00336	PASS
		HCH	TN	VL	-2.58	-0.00329	PASS
				VN	-1.12	-0.00143	PASS
				VH	-0.71	-0.00091	PASS
	16QAM/10MHz	LCH	TN	VL	-4.22	-0.00541	PASS
				VN	-2.91	-0.00373	PASS
				VH	-2.16	-0.00277	PASS
		MCH	TN	VL	1.52	0.00194	PASS
				VN	-2.81	-0.00359	PASS
				VH	2.57	0.00329	PASS
		HCH	TN	VL	-3.03	-0.00386	PASS
				VN	-1.09	-0.00139	PASS
				VH	0.47	0.00060	PASS



Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband2	QPSK/20MHz	LCH	VN	-30	0.81	0.00044	PASS
				-20	0.82	0.00044	PASS
				-10	-0.07	-0.00004	PASS
				0	3.63	0.00195	PASS
				10	3.02	0.00162	PASS
				20	2.98	0.00160	PASS
				30	1.42	0.00076	PASS
				40	0.91	0.00049	PASS
				50	1.18	0.00063	PASS
		MCH	VN	-30	-3.56	-0.00189	PASS
				-20	-3.58	-0.00190	PASS
				-10	-4.63	-0.00246	PASS
				0	-1.16	-0.00062	PASS
				10	-4.31	-0.00229	PASS
				20	-2.74	-0.00146	PASS
				30	-2.69	-0.00143	PASS
				40	-4.35	-0.00231	PASS
				50	-3.34	-0.00178	PASS
		HCH	VN	-30	1.82	0.00096	PASS
				-20	1.81	0.00095	PASS
				-10	-0.11	-0.00006	PASS
				0	2.86	0.00151	PASS
				10	-1.52	-0.00080	PASS
				20	3.98	0.00209	PASS
30	0.72			0.00038	PASS		
40	-1.31			-0.00069	PASS		
50	-4.18			-0.00220	PASS		



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband2	16QAM/20MHz	LCH	VN	-30	0.27	0.00015	PASS
				-20	0.25	0.00013	PASS
				-10	-1.68	-0.00090	PASS
				0	4.06	0.00218	PASS
				10	3.52	0.00189	PASS
				20	2.69	0.00145	PASS
				30	0.88	0.00047	PASS
				40	0.52	0.00028	PASS
				50	2.72	0.00146	PASS
		MCH	VN	-30	-2.53	-0.00135	PASS
				-20	-2.51	-0.00134	PASS
				-10	-4.39	-0.00234	PASS
				0	-2.73	-0.00145	PASS
				10	-3.81	-0.00203	PASS
				20	-0.07	-0.00004	PASS
				30	2.72	0.00145	PASS
				40	-2.56	-0.00136	PASS
				50	-1.73	-0.00092	PASS
		HCH	VN	-30	2.55	0.00134	PASS
				-20	2.51	0.00132	PASS
				-10	-1.46	-0.00077	PASS
				0	2.67	0.00141	PASS
				10	-2.48	-0.00131	PASS
				20	3.76	0.00198	PASS
				30	-0.49	-0.00026	PASS
				40	-2.12	-0.00112	PASS
				50	-3.45	-0.00182	PASS



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband4	QPSK/20MHz	LCH	VN	-30	0.52	0.00030	PASS
				-20	0.51	0.00030	PASS
				-10	-0.36	-0.00021	PASS
				0	3.33	0.00194	PASS
				10	2.73	0.00159	PASS
				20	2.68	0.00156	PASS
				30	1.11	0.00065	PASS
				40	0.75	0.00044	PASS
				50	0.82	0.00048	PASS
		MCH	VN	-30	-2.87	-0.00166	PASS
				-20	-2.85	-0.00165	PASS
				-10	-4.99	-0.00288	PASS
				0	-2.43	-0.00140	PASS
				10	-4.67	-0.00270	PASS
				20	-3.02	-0.00174	PASS
				30	-3.91	-0.00226	PASS
				40	-4.66	-0.00269	PASS
				50	-3.69	-0.00213	PASS
		HCH	VN	-30	1.66	0.00095	PASS
				-20	1.68	0.00096	PASS
				-10	-0.42	-0.00024	PASS
				0	2.56	0.00147	PASS
				10	-1.82	-0.00104	PASS
				20	3.69	0.00211	PASS
30	0.41			0.00023	PASS		
40	-1.62			-0.00093	PASS		
50	-4.46			-0.00256	PASS		



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband4	16QAM/20MHz	LCH	VN	-30	0.81	0.00047	PASS
				-20	0.81	0.00047	PASS
				-10	-1.06	-0.00062	PASS
				0	4.66	0.00271	PASS
				10	4.13	0.00240	PASS
				20	3.27	0.00190	PASS
				30	1.48	0.00086	PASS
				40	1.23	0.00072	PASS
				50	3.33	0.00194	PASS
		MCH	VN	-30	-1.98	-0.00114	PASS
				-20	-1.93	-0.00111	PASS
				-10	-3.78	-0.00218	PASS
				0	-1.12	-0.00065	PASS
				10	-3.21	-0.00185	PASS
				20	0.65	0.00038	PASS
				30	3.33	0.00192	PASS
				40	-1.94	-0.00112	PASS
				50	-1.13	-0.00065	PASS
		HCH	VN	-30	3.12	0.00179	PASS
				-20	3.11	0.00178	PASS
				-10	-0.86	-0.00049	PASS
				0	3.28	0.00188	PASS
				10	-1.72	-0.00099	PASS
				20	4.36	0.00250	PASS
30	0.12			0.00007	PASS		
40	-1.51			-0.00087	PASS		
50	-2.72			-0.00156	PASS		



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband13	QPSK/10MHz	LCH	VN	-30	0.55	0.00071	PASS
				-20	0.52	0.00067	PASS
				-10	-0.32	-0.00041	PASS
				0	3.36	0.00431	PASS
				10	2.77	0.00355	PASS
				20	2.51	0.00322	PASS
				30	1.16	0.00149	PASS
				40	0.67	0.00086	PASS
				50	0.74	0.00095	PASS
		MCH	VN	-30	-3.84	-0.00491	PASS
				-20	-3.82	-0.00488	PASS
				-10	-5.06	-0.00647	PASS
				0	-1.44	-0.00184	PASS
				10	-4.76	-0.00609	PASS
				20	-3.18	-0.00407	PASS
				30	-2.07	-0.00265	PASS
				40	-4.64	-0.00593	PASS
				50	-3.78	-0.00483	PASS
		HCH	VN	-30	1.54	0.00196	PASS
				-20	1.51	0.00192	PASS
				-10	-0.58	-0.00074	PASS
				0	2.43	0.00310	PASS
				10	-1.97	-0.00251	PASS
				20	3.53	0.00450	PASS
				30	0.47	0.00060	PASS
				40	-1.78	-0.00227	PASS
				50	-4.43	-0.00565	PASS



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband13	16QAM/10MHz	LCH	VN	-30	0.11	0.00014	PASS
				-20	0.14	0.00018	PASS
				-10	-1.61	-0.00207	PASS
				0	3.94	0.00505	PASS
				10	3.59	0.00461	PASS
				20	2.53	0.00325	PASS
				30	0.71	0.00091	PASS
				40	0.53	0.00068	PASS
				50	2.76	0.00354	PASS
		MCH	VN	-30	-2.68	-0.00343	PASS
				-20	-2.69	-0.00344	PASS
				-10	-4.35	-0.00556	PASS
				0	-1.84	-0.00235	PASS
				10	-3.97	-0.00508	PASS
				20	-0.08	-0.00010	PASS
				30	2.78	0.00355	PASS
				40	-2.53	-0.00324	PASS
				50	-1.88	-0.00240	PASS
		HCH	VN	-30	2.58	0.00329	PASS
				-20	2.59	0.00330	PASS
				-10	-1.43	-0.00182	PASS
				0	2.52	0.00321	PASS
				10	-2.47	-0.00315	PASS
				20	3.61	0.00460	PASS
				30	-0.42	-0.00054	PASS
				40	-2.25	-0.00287	PASS
				50	-3.48	-0.00444	PASS

Note: All modes have been tested and we only record the worst test result.

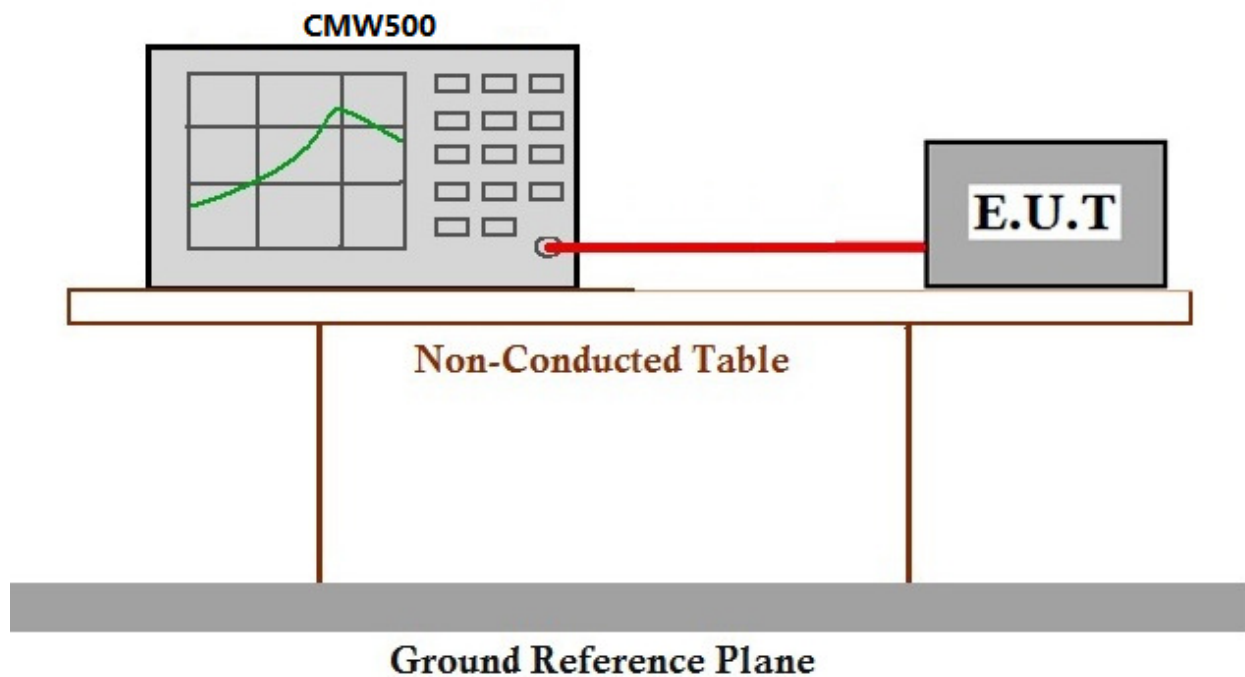
6.8 Modulation Characteristics

Test Requirement: §2.1047
 Test Method: ANSI C63.26, KDB 971 168 D01 v03
 Limit: Digital modulation

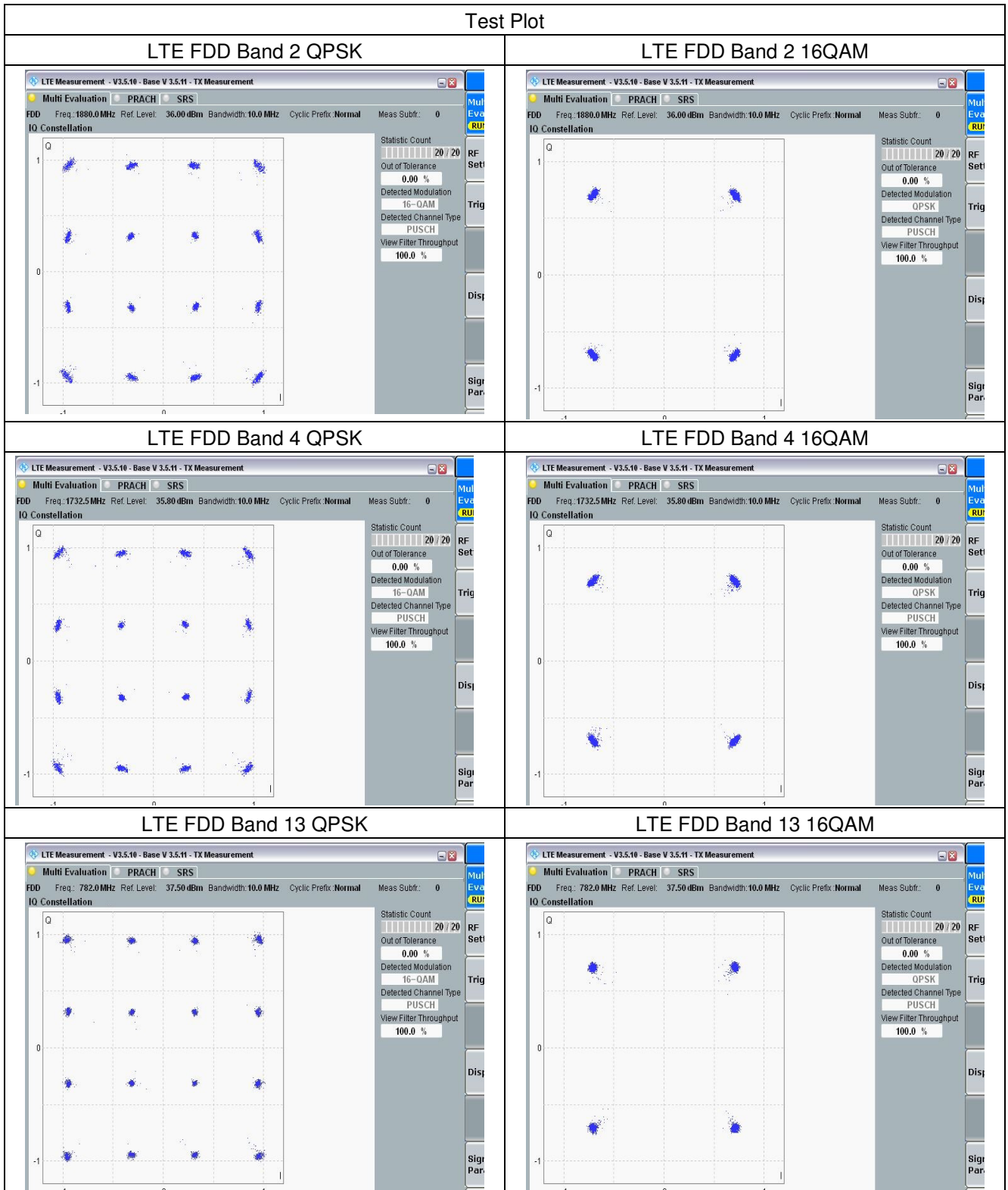
6.8.1 E.U.T. Operation

Operating Environment:
 Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
 Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.8.2 Test Setup Diagram



6.8.3 Measurement Data



- End of the Report -