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

TEST REPORT

Application No.:	SZEM1806005356CR
Applicant:	Sensoro Co., Ltd.
Address of Applicant:	Room 2807, Building 1B, Wangjing SOHO, No.10, Wangjing Street, Chaoyang District, Beijing, China
Manufacturer:	Sensoro Co., Ltd.
Address of Manufacturer:	Room 2807, Building 1B, Wangjing SOHO, No.10, Wangjing Street, Chaoyang District, Beijing, China
Factory:	Sensoro Co., Ltd.
Address of Factory:	Room 2807, Building 1B, Wangjing SOHO, No.10, Wangjing Street, Chaoyang District, Beijing, China
Equipment Under Test (EUT):	
EUT Name:	α Gateway
Model No.:	GW-1209
Trade Mark:	SENSORO
FCC ID：	2ADYO-S001209
Standard(s) :	47 CFR Part 2(2017) 47 CFR Part 22 subpart H 47 CFR Part 24 subpart E 47 CFR Part 27 subpart C
Date of Receipt:	2018-06-27
Date of Test:	2018-07-03 to 2018-07-22
Date of Issue:	2018-07-25
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.

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2018-07-25		Original

Authorized for issue by:				
				
		Harry Wu /Project Engineer		
				
		Eric Fu /Reviewer		

2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §22.293(a)(5) §24.232(c) §27.50(b) (9) §27.50(d) (4)	EIRP≤ 2W(LTE Band 2) EIRP≤ 1W(LTE Band 4) ERP≤ 7W(LTE Band 5) ERP≤ 30W(LTE Band 13,17)	PASS
Peak-Average Ratio	§22.293(d) §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 §22.917(a) §24.238(a) §27.53(c) §27.53(h) §27.53(g)	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block	PASS
Spurious emissions at antenna terminals	§2.1051 §22.917(a) §24.238(a) §27.53(c) §27.53(h) §27.53(g)	≤ -13dBm	PASS
Field strength of spurious radiation	§2.1053 §22.917(a) §24.238(a) §27.53(h) §27.53(g)	≤ -13dBm	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:	AC/DC Adapter Model: GP304C-120-200 Input: AC100-240V, 50/60Hz, 1A Max Output: DC12V, 2A	
LTE Operation Frequency Band:	LTE FDD Band 2, 4, 5,13, 17	
Modulation Type:	QPSK, 16QAM	
LTE Release Version:	R9	
LTE Power Class:	Level 3	
Antenna Type:	External Antenna	
Antenna Ports:	Tx & Rx Port	1
	Tx-only Port	0
	Rx-only Port	1
Antenna Gain:	3dBi	
Extreme temp. Tolerance:	-20℃ to +55℃	

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	1880.0	1909.3
	3	1851.5	1880.0	1908.5
	5	1852.5	1880.0	1907.5
	10	1855.0	1880.0	1905.0
	15	1857.5	1880.0	1902.5
	20	1860.0	1880.0	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	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	837.5
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	-
Test Mode	Nominal Bandwidth (MHz)	RF Channel		
		Low (L)	Middle (M)	High (H)
		MHz	MHz	MHz
LTE FDD Band 17	5	706.5	710.0	713.5
	10	709.0	710.0	711.0

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	1.4	1M10G7D	/	0.3899
Part24E	LTE Band2	16QAM	1.4	1M10W7D	/	0.3097
Part24E	LTE Band2	QPSK	3	2M69G7D	/	0.3141
Part24E	LTE Band2	16QAM	3	2M69W7D	/	0.2443
Part24E	LTE Band2	QPSK	5	4M50G7D	/	0.3873
Part24E	LTE Band2	16QAM	5	4M50W7D	/	0.3162
Part24E	LTE Band2	QPSK	10	8M96G7D	/	0.4009
Part24E	LTE Band2	16QAM	10	8M94W7D	/	0.3319
Part24E	LTE Band2	QPSK	15	13M50G7D	/	0.3917
Part24E	LTE Band2	16QAM	15	13M50W7D	/	0.3177
Part24E	LTE Band2	QPSK	20	17M96G7D	-0.00246	0.4027
Part24E	LTE Band2	16QAM	20	17M92W7D	-0.00234	0.3236
Part27	LTE Band4	QPSK	1.4	1M10G7D	/	0.3013
Part27	LTE Band4	16QAM	1.4	1M10W7D	/	0.2312
Part27	LTE Band4	QPSK	3	2M68G7D	/	0.2944
Part27	LTE Band4	16QAM	3	2M69W7D	/	0.2388
Part27	LTE Band4	QPSK	5	4M50G7D	/	0.2992
Part27	LTE Band4	16QAM	5	4M50W7D	/	0.2399
Part27	LTE Band4	QPSK	10	8M96G7D	/	0.3034
Part27	LTE Band4	16QAM	10	8M94W7D	/	0.2291
Part27	LTE Band4	QPSK	15	13M53G7D	/	0.3126
Part27	LTE Band4	16QAM	15	13M53W7D	/	0.2410
Part27	LTE Band4	QPSK	20	17M96G7D	-0.00288	0.2897
Part27	LTE Band4	16QAM	20	17M96W7D	-0.00271	0.2388
Part22H	LTE Band5	QPSK	1.4	1M10G7D	/	0.2630
Part22H	LTE Band5	16QAM	1.4	1M10W7D	/	0.2138
Part22H	LTE Band5	QPSK	3	2M68G7D	/	0.2698
Part22H	LTE Band5	16QAM	3	2M68W7D	/	0.2089
Part22H	LTE Band5	QPSK	5	4M50G7D	/	0.2630
Part22H	LTE Band5	16QAM	5	4M51W7D	/	0.2104
Part22H	LTE Band5	QPSK	10	8M94G7D	-0.00587	0.2600
Part22H	LTE Band5	16QAM	10	8M94W7D	0.00571	0.2168
Part27	LTE Band13	QPSK	5	4M48G7D	-0.00739	0.1995
Part27	LTE Band13	16QAM	5	4M49W7D	-0.00582	0.1995
Part27	LTE Band13	QPSK	10	8M90G7D	/	0.2023
Part27	LTE Band13	16QAM	10	8M92W7D	/	0.1972

Part27	LTE Band17	QPSK	5	4M51G7D	/	0.1945
Part27	LTE Band17	16QAM	5	4M52W7D	/	0.1517
Part27	LTE Band17	QPSK	10	8M92G7D	0.00683	0.1954
Part27	LTE Band17	16QAM	10	8M92W7D	0.00701	0.1531

4.4 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	52%	
Atmospheric Pressure:	1015Pa	
Temperature:	TN	25 ℃
Voltage:	VL	AC207V
	VN	AC230V
	VH	AC253V

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

4.5 Description of Support Units

The EUT has been tested as an independent unit.

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℃
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	2018-07-13	2019-07-12
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	2018-07-13	2019-07-12
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

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

RE in Chamber

Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2017-09-27	2018-09-26
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26
Trilog-Broadband Antenna(30M-1GHz)	Schwarzbeck	VULB9168	SEM003-18	2016-06-29	2019-06-28
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2017-04-14	2018-04-13
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2018-07-13	2019-07-12
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

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, §22.913(a)(5), §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)
ERP≤ 5W(LTE Band 5)
ERP≤ 30W(LTE Band 13)
ERP≤ 30W(LTE Band 17)

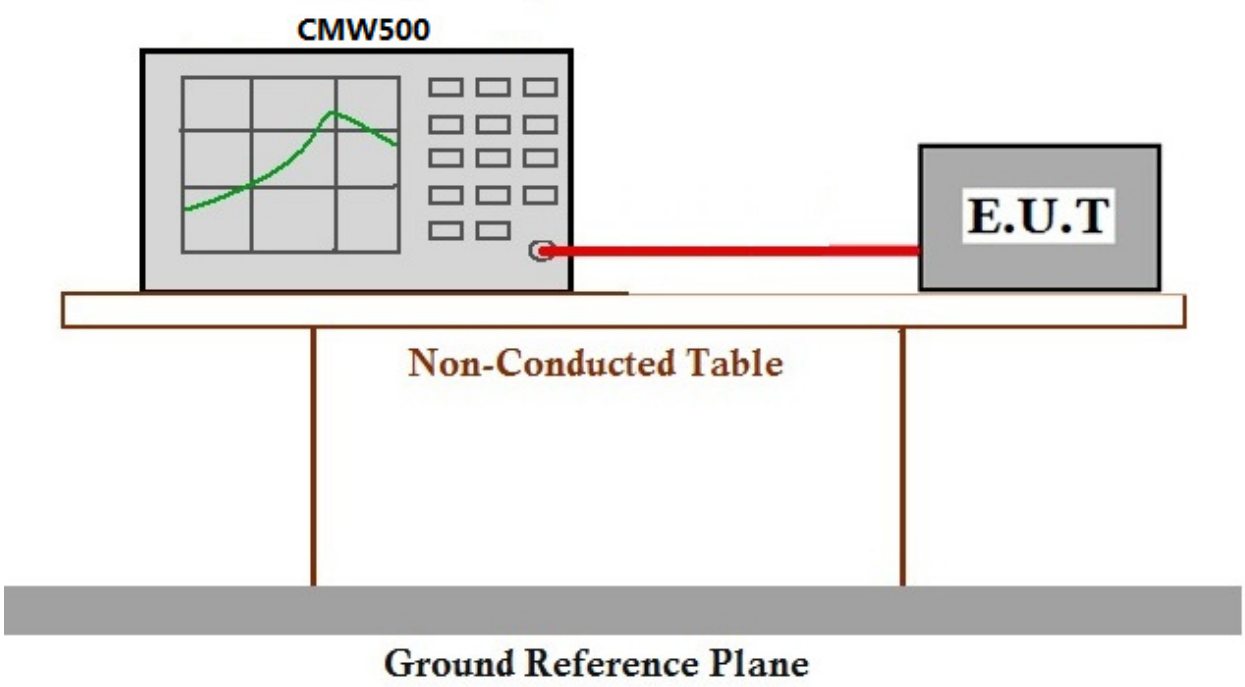
6.1.1 E.U.T. Operation

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: §22.913(d), §24.232, §27.50(d)

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

Limit: ≤13dB

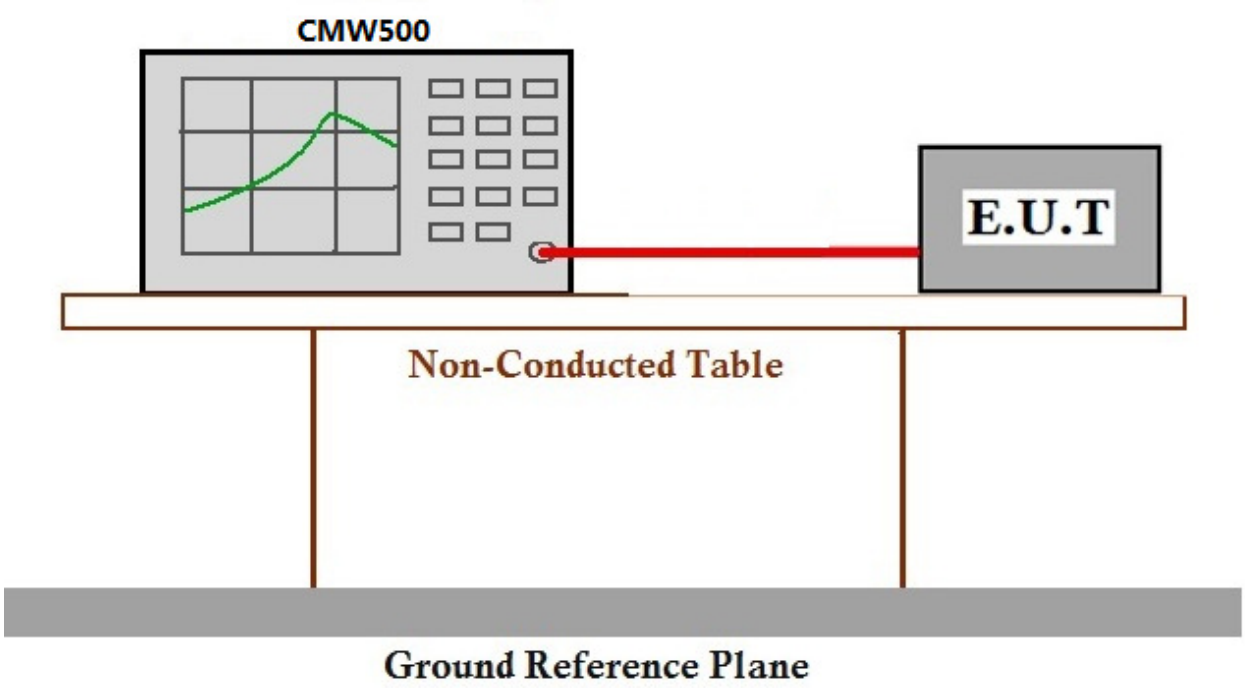
6.2.1 E.U.T. Operation

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)

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

Limit: OBW: No limit
EBW: No limit

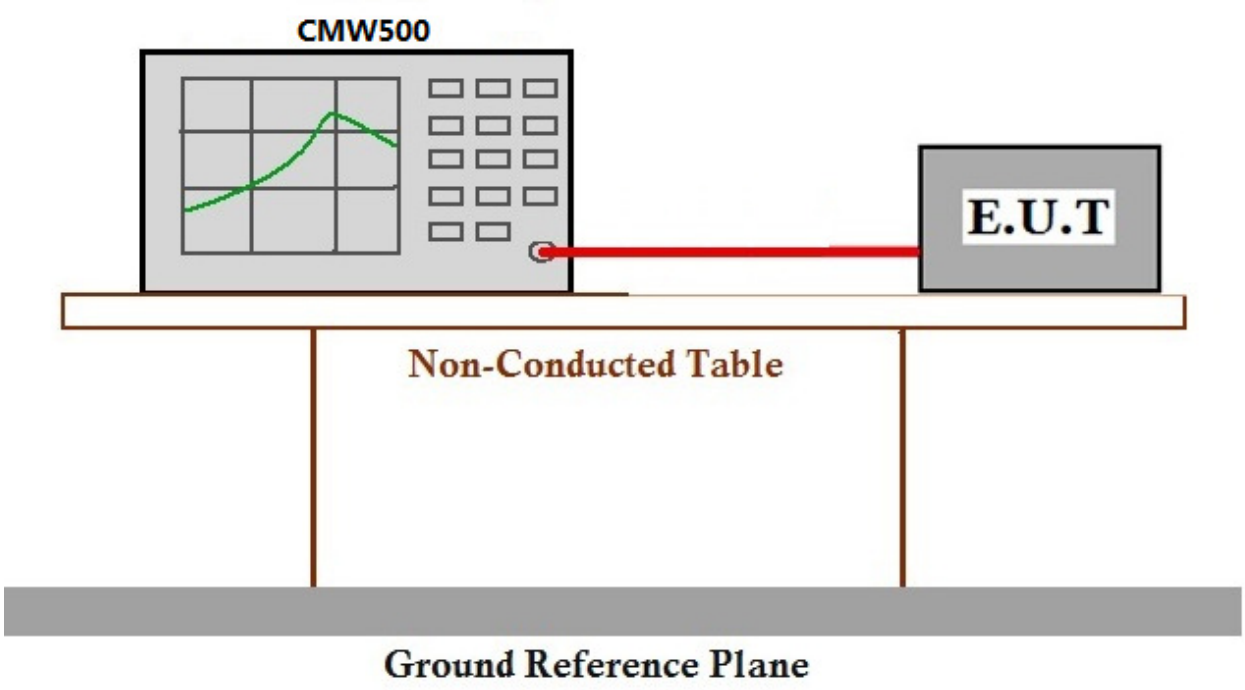
6.3.1 E.U.T. Operation

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(a), §24.238(a),§27.53(c),§27.53(h),§27.53(g)

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

Limit: ≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block

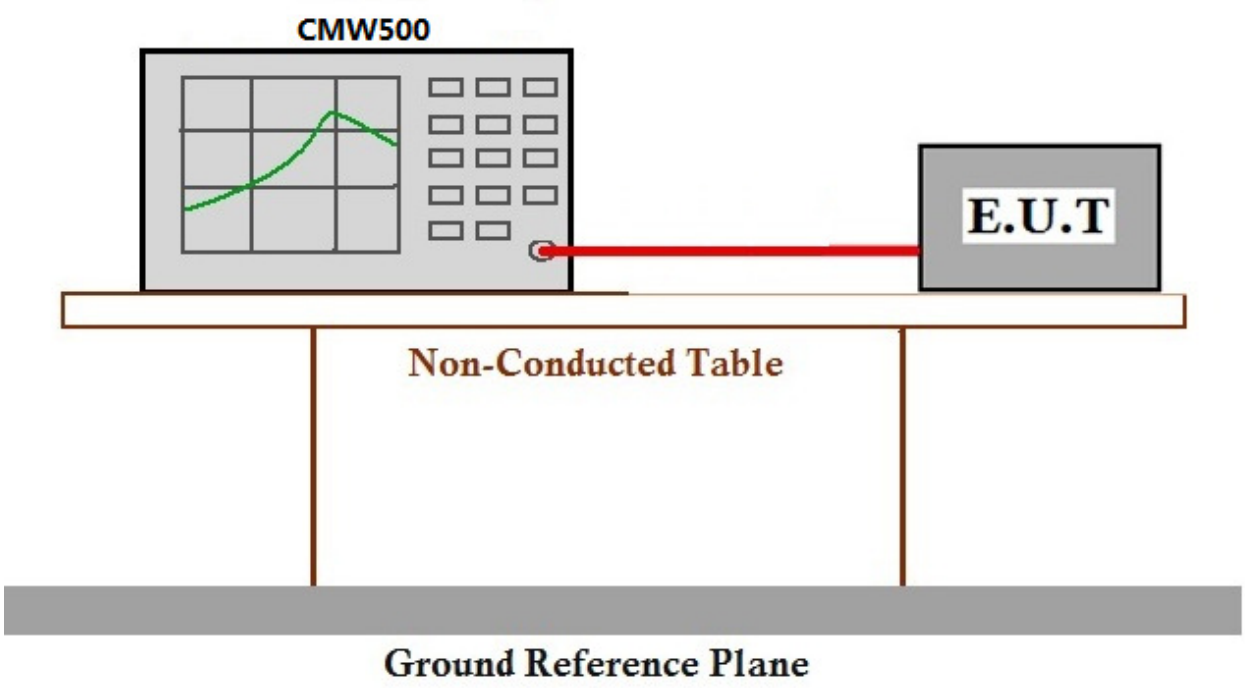
6.4.1 E.U.T. Operation

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

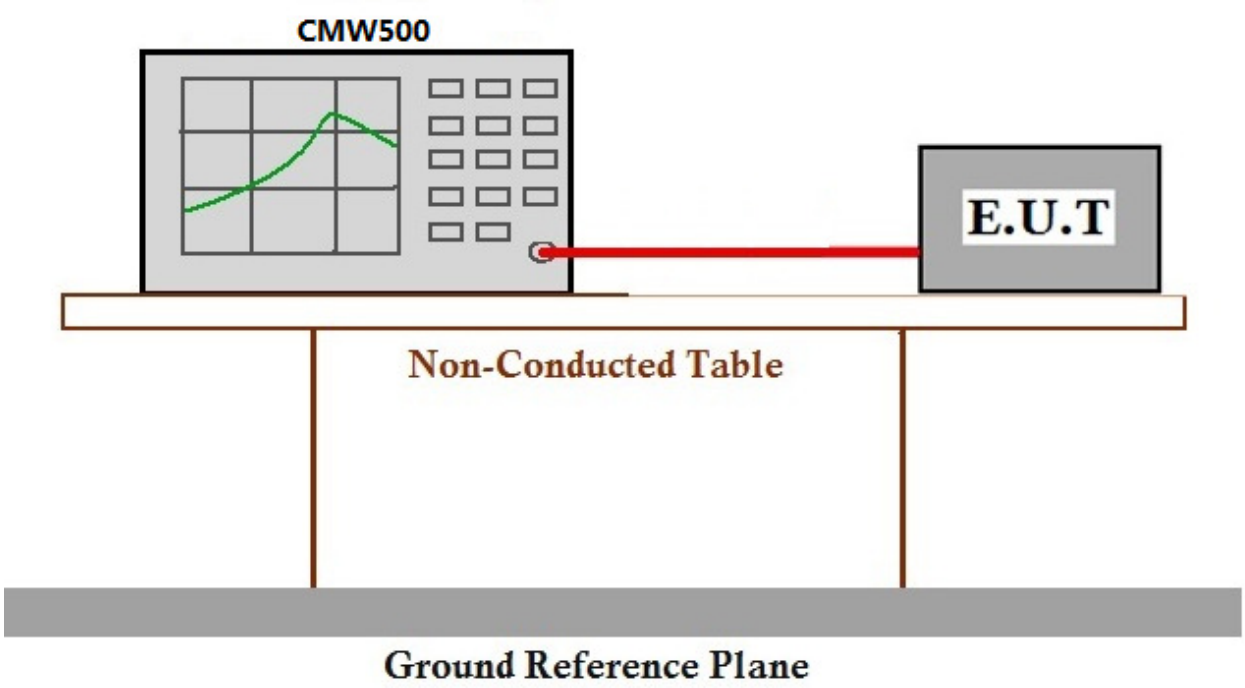
6.5 Spurious emissions at antenna terminals

Test Requirement: §2.1051,§22.917(a), §24.238(a),§27.53(c),§27.53(h),§27.53(g)
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤ -13dBm

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

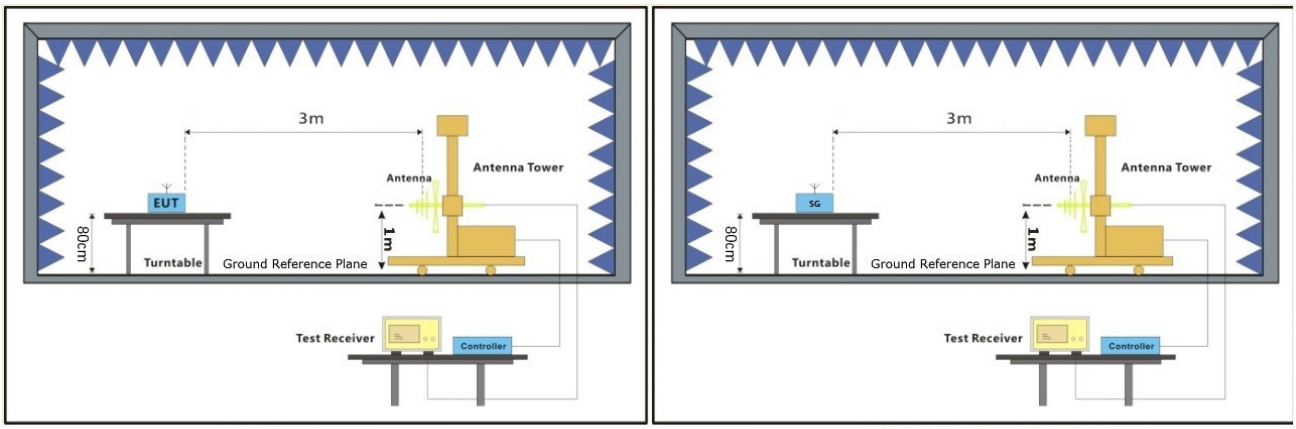
6.6 Field strength of spurious radiation

Test Requirement: §2.1053,§22.917(a), §24.238(a),§27.53(c),§27.53(h),§27.53(g)
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤ -13dBm(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



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.

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: 1.4MHz, 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
3700.14	-57.82	0.71	7.6	-50.93	-13	-37.93	Horizontal	Pass
5550.21	-54.39	0.85	10.3	-44.94	-13	-31.94	Horizontal	Pass
7400.28	-54.76	1	12.9	-42.86	-13	-29.86	Horizontal	Pass
3700.14	-57.81	0.71	7.6	-50.92	-13	-37.92	Vertical	Pass
5550.21	-55.05	0.85	10.3	-45.6	-13	-32.6	Vertical	Pass
7400.28	-55.42	1	12.9	-43.52	-13	-30.52	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
3758.74	-58.07	0.71	7.6	-51.18	-13	-38.18	Horizontal	Pass
5638.11	-55.58	0.85	10.3	-46.13	-13	-33.13	Horizontal	Pass
7517.48	-57.41	0.99	13.2	-45.2	-13	-32.2	Horizontal	Pass
3758.74	-59.09	0.71	7.6	-52.2	-13	-39.2	Vertical	Pass
5638.11	-56.06	0.85	10.3	-46.61	-13	-33.61	Vertical	Pass
7517.48	-58.25	0.99	13.2	-46.04	-13	-33.04	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
3817.34	-60.12	0.71	7.6	-53.23	-13	-40.23	Horizontal	Pass
5726.01	-57.07	0.85	10.3	-47.62	-13	-34.62	Horizontal	Pass
7634.68	-58.06	0.99	13.2	-45.85	-13	-32.85	Horizontal	Pass
3817.34	-58.92	0.71	7.6	-52.03	-13	-39.03	Vertical	Pass
5726.01	-57.7	0.85	10.3	-48.25	-13	-35.25	Vertical	Pass
7634.68	-58.65	0.99	13.2	-46.44	-13	-33.44	Vertical	Pass

FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3700.3	-59.01	0.71	7.6	-52.12	-13	-39.12	Horizontal	Pass
5550.45	-55.69	0.85	10.3	-46.24	-13	-33.24	Horizontal	Pass
7400.6	-55.37	1	12.9	-43.47	-13	-30.47	Horizontal	Pass
3700.3	-57.97	0.71	7.6	-51.08	-13	-38.08	Vertical	Pass
5550.45	-55.39	0.85	10.3	-45.94	-13	-32.94	Vertical	Pass
7400.6	-56.69	1	12.9	-44.79	-13	-31.79	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3757.3	-58.65	0.71	7.6	-51.76	-13	-38.76	Horizontal	Pass
5635.95	-56.64	0.85	10.3	-47.19	-13	-34.19	Horizontal	Pass
7514.6	-59.17	0.99	13.2	-46.96	-13	-33.96	Horizontal	Pass
3757.3	-58.53	0.71	7.6	-51.64	-13	-38.64	Vertical	Pass
5635.95	-56.17	0.85	10.3	-46.72	-13	-33.72	Vertical	Pass
7514.6	-57.47	0.99	13.2	-45.26	-13	-32.26	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3814.3	-59.6	0.71	7.6	-52.71	-13	-39.71	Horizontal	Pass
5721.45	-56.64	0.85	10.3	-47.19	-13	-34.19	Horizontal	Pass
7628.6	-57.84	0.99	13.2	-45.63	-13	-32.63	Horizontal	Pass
3814.3	-60.01	0.71	7.6	-53.12	-13	-40.12	Vertical	Pass
5721.45	-56.45	0.85	10.3	-47	-13	-34	Vertical	Pass
7628.6	-57.57	0.99	13.2	-45.36	-13	-32.36	Vertical	Pass

FDD LTE Band2-Low channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-58.85	0.71	7.6	-51.96	-13	-38.96	Horizontal	Pass
5550.75	-56.41	0.85	10.3	-46.96	-13	-33.96	Horizontal	Pass
7401	-58.01	1	12.9	-46.11	-13	-33.11	Horizontal	Pass
3700.5	-59.2	0.71	7.6	-52.31	-13	-39.31	Vertical	Pass
5550.75	-55.64	0.85	10.3	-46.19	-13	-33.19	Vertical	Pass
7401	-57.55	1	12.9	-45.65	-13	-32.65	Vertical	Pass

FDD LTE Band2-Middle channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-60.46	0.71	7.6	-53.57	-13	-40.57	Horizontal	Pass
5633.25	-57.47	0.85	10.3	-48.02	-13	-35.02	Horizontal	Pass
7511	-59.95	0.99	13.2	-47.74	-13	-34.74	Horizontal	Pass
3755.5	-59.68	0.71	7.6	-52.79	-13	-39.79	Vertical	Pass
5633.25	-58.2	0.85	10.3	-48.75	-13	-35.75	Vertical	Pass
7511	-60.23	0.99	13.2	-48.02	-13	-35.02	Vertical	Pass

FDD LTE Band2-High channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-58.43	0.71	7.6	-51.54	-13	-38.54	Horizontal	Pass
5715.75	-56.45	0.85	10.3	-47	-13	-34	Horizontal	Pass
7621	-57.74	0.99	13.2	-45.53	-13	-32.53	Horizontal	Pass
3810.5	-60.92	0.71	7.6	-54.03	-13	-41.03	Vertical	Pass
5715.75	-56.93	0.85	10.3	-47.48	-13	-34.48	Vertical	Pass
7621	-58.9	0.99	13.2	-46.69	-13	-33.69	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	-59.32	0.71	7.6	-52.43	-13	-39.43	Horizontal	Pass
5551.5	-56.23	0.85	10.3	-46.78	-13	-33.78	Horizontal	Pass
7402	-56.85	1	12.9	-44.95	-13	-31.95	Horizontal	Pass
3701	-59.31	0.71	7.6	-52.42	-13	-39.42	Vertical	Pass
5551.5	-56.67	0.85	10.3	-47.22	-13	-34.22	Vertical	Pass
7402	-57.35	1	12.9	-45.45	-13	-32.45	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	-60.36	0.71	7.6	-53.47	-13	-40.47	Horizontal	Pass
5626.5	-57.27	0.85	10.3	-47.82	-13	-34.82	Horizontal	Pass
7502	-58.9	0.99	13.2	-46.69	-13	-33.69	Horizontal	Pass
3751	-60.8	0.71	7.6	-53.91	-13	-40.91	Vertical	Pass
5626.5	-57.37	0.85	10.3	-47.92	-13	-34.92	Vertical	Pass
7502	-57.75	0.99	13.2	-45.54	-13	-32.54	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	-59.29	0.71	7.6	-52.4	-13	-39.4	Horizontal	Pass
5701.5	-56.69	0.85	10.3	-47.24	-13	-34.24	Horizontal	Pass
7602	-58.26	0.99	13.2	-46.05	-13	-33.05	Horizontal	Pass
3801	-60.41	0.71	7.6	-53.52	-13	-40.52	Vertical	Pass
5701.5	-57.13	0.85	10.3	-47.68	-13	-34.68	Vertical	Pass
7602	-58.62	0.99	13.2	-46.41	-13	-33.41	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	-59.85	0.71	7.6	-52.96	-13	-39.96	Horizontal	Pass
5552.25	-56.69	0.85	10.3	-47.24	-13	-34.24	Horizontal	Pass
7403	-55.75	1	12.9	-43.85	-13	-30.85	Horizontal	Pass
3701.5	-57.37	0.71	7.6	-50.48	-13	-37.48	Vertical	Pass
5552.25	-55.47	0.85	10.3	-46.02	-13	-33.02	Vertical	Pass
7403	-56.59	1	12.9	-44.69	-13	-31.69	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	-60.36	0.71	7.6	-53.47	-13	-40.47	Horizontal	Pass
5619.75	-56.97	0.85	10.3	-47.52	-13	-34.52	Horizontal	Pass
7493	-59.42	1	12.9	-47.52	-13	-34.52	Horizontal	Pass
3746.5	-59.94	0.71	7.6	-53.05	-13	-40.05	Vertical	Pass
5619.75	-57.01	0.85	10.3	-47.56	-13	-34.56	Vertical	Pass
7493	-58.13	1	12.9	-46.23	-13	-33.23	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	-59.45	0.71	7.6	-52.56	-13	-39.56	Horizontal	Pass
5687.25	-56.05	0.85	10.3	-46.6	-13	-33.6	Horizontal	Pass
7583	-57.9	0.99	13.2	-45.69	-13	-32.69	Horizontal	Pass
3791.5	-60.8	0.71	7.6	-53.91	-13	-40.91	Vertical	Pass
5687.25	-56.72	0.85	10.3	-47.27	-13	-34.27	Vertical	Pass
7583	-59.29	0.99	13.2	-47.08	-13	-34.08	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	-59.26	0.71	7.6	-52.37	-13	-39.37	Horizontal	Pass
5553	-56.14	0.85	10.3	-46.69	-13	-33.69	Horizontal	Pass
7404	-57.81	1	12.9	-45.91	-13	-32.91	Horizontal	Pass
3702	-58.27	0.71	7.6	-51.38	-13	-38.38	Vertical	Pass
5553	-55.94	0.85	10.3	-46.49	-13	-33.49	Vertical	Pass
7404	-57.85	1	12.9	-45.95	-13	-32.95	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	-60.02	0.71	7.6	-53.13	-13	-40.13	Horizontal	Pass
5613	-56.68	0.85	10.3	-47.23	-13	-34.23	Horizontal	Pass
7484	-57.14	1	12.9	-45.24	-13	-32.24	Horizontal	Pass
3742	-61.51	0.71	7.6	-54.62	-13	-41.62	Vertical	Pass
5613	-57.71	0.85	10.3	-48.26	-13	-35.26	Vertical	Pass
7484	-58.79	1	12.9	-46.89	-13	-33.89	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	-60.29	0.71	7.6	-53.4	-13	-40.4	Horizontal	Pass
5673	-56.94	0.85	10.3	-47.49	-13	-34.49	Horizontal	Pass
7564	-58.37	0.99	13.2	-46.16	-13	-33.16	Horizontal	Pass
3782	-60.12	0.71	7.6	-53.23	-13	-40.23	Vertical	Pass
5673	-57.87	0.85	10.3	-48.42	-13	-35.42	Vertical	Pass
7564	-59.06	0.99	13.2	-46.85	-13	-33.85	Vertical	Pass

FDD LTE Band 4-Low channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
3420.14	-59.51	0.65	6.2	-53.96	-13	-40.96	Horizontal	Pass
5130.21	-57.42	0.82	9.6	-48.64	-13	-35.64	Horizontal	Pass
6840.28	-54.39	0.95	11.8	-43.54	-13	-30.54	Horizontal	Pass
3420.14	-58.63	0.65	6.2	-53.08	-13	-40.08	Vertical	Pass
5130.21	-57.13	0.82	9.6	-48.35	-13	-35.35	Vertical	Pass
6840.28	-53.69	0.95	11.8	-42.84	-13	-29.84	Vertical	Pass

FDD LTE Band 4-Middle channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
3463.74	-60.47	0.65	6.2	-54.92	-13	-41.92	Horizontal	Pass
5195.61	-57.73	0.82	9.6	-48.95	-13	-35.95	Horizontal	Pass
6927.48	-55.73	0.95	11.8	-44.88	-13	-31.88	Horizontal	Pass
3463.74	-59.07	0.65	6.2	-53.52	-13	-40.52	Vertical	Pass
5195.61	-56.75	0.82	9.6	-47.97	-13	-34.97	Vertical	Pass
6927.48	-55.33	0.95	11.8	-44.48	-13	-31.48	Vertical	Pass

FDD LTE Band 4-High channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
3507.34	-61.41	0.71	7.6	-54.52	-13	-41.52	Horizontal	Pass
5261.01	-56.26	0.82	9.6	-47.48	-13	-34.48	Horizontal	Pass
7014.68	-56.63	1	12.9	-44.73	-13	-31.73	Horizontal	Pass
3507.34	-62.77	0.71	7.6	-55.88	-13	-42.88	Vertical	Pass
5261.01	-57.32	0.82	9.6	-48.54	-13	-35.54	Vertical	Pass
7014.68	-58.46	1	12.9	-46.56	-13	-33.56	Vertical	Pass

FDD LTE Band 4-Low channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3420.3	-59.83	0.65	6.2	-54.28	-13	-41.28	Horizontal	Pass
5130.45	-57.43	0.82	9.6	-48.65	-13	-35.65	Horizontal	Pass
6840.6	-56.06	0.95	11.8	-45.21	-13	-32.21	Horizontal	Pass
3420.3	-60.38	0.65	6.2	-54.83	-13	-41.83	Vertical	Pass
5130.45	-58.03	0.82	9.6	-49.25	-13	-36.25	Vertical	Pass
6840.6	-55.34	0.95	11.8	-44.49	-13	-31.49	Vertical	Pass

FDD LTE Band 4-Middle channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3462.3	-60.41	0.65	6.2	-54.86	-13	-41.86	Horizontal	Pass
5193.45	-58.55	0.82	9.6	-49.77	-13	-36.77	Horizontal	Pass
6924.6	-56.29	0.95	11.8	-45.44	-13	-32.44	Horizontal	Pass
3462.3	-59.8	0.65	6.2	-54.25	-13	-41.25	Vertical	Pass
5193.45	-56.76	0.82	9.6	-47.98	-13	-34.98	Vertical	Pass
6924.6	-54.93	0.95	11.8	-44.08	-13	-31.08	Vertical	Pass

FDD LTE Band 4-High channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3504.3	-61.32	0.71	7.6	-54.43	-13	-41.43	Horizontal	Pass
5256.45	-56.67	0.82	9.6	-47.89	-13	-34.89	Horizontal	Pass
7008.6	-56.19	1	12.9	-44.29	-13	-31.29	Horizontal	Pass
3504.3	-61.13	0.71	7.6	-54.24	-13	-41.24	Vertical	Pass
5256.45	-57.35	0.82	9.6	-48.57	-13	-35.57	Vertical	Pass
7008.6	-57.44	1	12.9	-45.54	-13	-32.54	Vertical	Pass

FDD LTE Band 4-Low channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-58.4	0.65	6.2	-52.85	-13	-39.85	Horizontal	Pass
5130.75	-57.39	0.82	9.6	-48.61	-13	-35.61	Horizontal	Pass
6841	-54.44	0.95	11.8	-43.59	-13	-30.59	Horizontal	Pass
3420.5	-61.08	0.65	6.2	-55.53	-13	-42.53	Vertical	Pass
5130.75	-58.48	0.82	9.6	-49.7	-13	-36.7	Vertical	Pass
6841	-56.11	0.95	11.8	-45.26	-13	-32.26	Vertical	Pass

FDD LTE Band 4-Middle channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-60.29	0.65	6.2	-54.74	-13	-41.74	Horizontal	Pass
5190.75	-58.31	0.82	9.6	-49.53	-13	-36.53	Horizontal	Pass
6921	-56.43	0.95	11.8	-45.58	-13	-32.58	Horizontal	Pass
3460.5	-60.63	0.65	6.2	-55.08	-13	-42.08	Vertical	Pass
5190.75	-56.67	0.82	9.6	-47.89	-13	-34.89	Vertical	Pass
6921	-55.69	0.95	11.8	-44.84	-13	-31.84	Vertical	Pass

FDD LTE Band 4-High channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-61.43	0.71	7.6	-54.54	-13	-41.54	Horizontal	Pass
5250.75	-57.61	0.82	9.6	-48.83	-13	-35.83	Horizontal	Pass
7001	-56.57	1	12.9	-44.67	-13	-31.67	Horizontal	Pass
3500.5	-62.52	0.71	7.6	-55.63	-13	-42.63	Vertical	Pass
5250.75	-57.5	0.82	9.6	-48.72	-13	-35.72	Vertical	Pass
7001	-57.79	1	12.9	-45.89	-13	-32.89	Vertical	Pass

FDD LTE Band 4-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	-59.68	0.65	6.2	-54.13	-13	-41.13	Horizontal	Pass
5131.5	-57.24	0.82	9.6	-48.46	-13	-35.46	Horizontal	Pass
6842	-55.81	0.95	11.8	-44.96	-13	-31.96	Horizontal	Pass
3421	-60.97	0.65	6.2	-55.42	-13	-42.42	Vertical	Pass
5131.5	-58.75	0.82	9.6	-49.97	-13	-36.97	Vertical	Pass
6842	-55.63	0.95	11.8	-44.78	-13	-31.78	Vertical	Pass

FDD LTE Band 4-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	-61.38	0.65	6.2	-55.83	-13	-42.83	Horizontal	Pass
5184	-57.95	0.82	9.6	-49.17	-13	-36.17	Horizontal	Pass
6912	-57.38	0.95	11.8	-46.53	-13	-33.53	Horizontal	Pass
3456	-57.99	0.65	6.2	-52.44	-13	-39.44	Vertical	Pass
5184	-57.22	0.82	9.6	-48.44	-13	-35.44	Vertical	Pass
6912	-55.58	0.95	11.8	-44.73	-13	-31.73	Vertical	Pass

FDD LTE Band 4-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	-60	0.65	6.2	-54.45	-13	-41.45	Horizontal	Pass
5236.5	-56.89	0.82	9.6	-48.11	-13	-35.11	Horizontal	Pass
6982	-55.71	0.95	11.8	-44.86	-13	-31.86	Horizontal	Pass
3491	-59.82	0.65	6.2	-54.27	-13	-41.27	Vertical	Pass
5236.5	-60.28	0.82	9.6	-51.5	-13	-38.5	Vertical	Pass
6982	-55.19	0.95	11.8	-44.34	-13	-31.34	Vertical	Pass

FDD LTE Band 4-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	-59.74	0.65	6.2	-54.19	-13	-41.19	Horizontal	Pass
5132.25	-57.29	0.82	9.6	-48.51	-13	-35.51	Horizontal	Pass
6843	-55.42	0.95	11.8	-44.57	-13	-31.57	Horizontal	Pass
3421.5	-60.88	0.65	6.2	-55.33	-13	-42.33	Vertical	Pass
5132.25	-58.51	0.82	9.6	-49.73	-13	-36.73	Vertical	Pass
6843	-53.3	0.95	11.8	-42.45	-13	-29.45	Vertical	Pass

FDD LTE Band 4-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	-59.83	0.65	6.2	-54.28	-13	-41.28	Horizontal	Pass
5177.25	-57.07	0.82	9.6	-48.29	-13	-35.29	Horizontal	Pass
6903	-54.92	0.95	11.8	-44.07	-13	-31.07	Horizontal	Pass
3451.5	-60.01	0.65	6.2	-54.46	-13	-41.46	Vertical	Pass
5177.25	-57.07	0.82	9.6	-48.29	-13	-35.29	Vertical	Pass
6903	-54.92	0.95	11.8	-44.07	-13	-31.07	Vertical	Pass

FDD LTE Band 4-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	-59.18	0.65	6.2	-53.63	-13	-40.63	Horizontal	Pass
5222.25	-56.15	0.82	9.6	-47.37	-13	-34.37	Horizontal	Pass
6963	-53.34	0.95	11.8	-42.49	-13	-29.49	Horizontal	Pass
3481.5	-61.17	0.65	6.2	-55.62	-13	-42.62	Vertical	Pass
5222.25	-57.94	0.82	9.6	-49.16	-13	-36.16	Vertical	Pass
6963	-56.58	0.95	11.8	-45.73	-13	-32.73	Vertical	Pass

FDD LTE Band 4-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	-60.27	0.65	6.2	-54.72	-13	-41.72	Horizontal	Pass
5133	-57.56	0.82	9.6	-48.78	-13	-35.78	Horizontal	Pass
6844	-54.16	0.95	11.8	-43.31	-13	-30.31	Horizontal	Pass
3422	-60.14	0.65	6.2	-54.59	-13	-41.59	Vertical	Pass
5133	-58.32	0.82	9.6	-49.54	-13	-36.54	Vertical	Pass
6844	-55.41	0.95	11.8	-44.56	-13	-31.56	Vertical	Pass

FDD LTE Band 4-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	-60.35	0.65	6.2	-54.8	-13	-41.8	Horizontal	Pass
5170.5	-58.35	0.82	9.6	-49.57	-13	-36.57	Horizontal	Pass
6894	-56.26	0.95	11.8	-45.41	-13	-32.41	Horizontal	Pass
3447	-60.02	0.65	6.2	-54.47	-13	-41.47	Vertical	Pass
5170.5	-56.85	0.82	9.6	-48.07	-13	-35.07	Vertical	Pass
6894	-56.12	0.95	11.8	-45.27	-13	-32.27	Vertical	Pass

FDD LTE Band 4-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	-60.5	0.65	6.2	-54.95	-13	-41.95	Horizontal	Pass
5208	-57.04	0.82	9.6	-48.26	-13	-35.26	Horizontal	Pass
6944	-55.46	0.95	11.8	-44.61	-13	-31.61	Horizontal	Pass
3472	-61.81	0.65	6.2	-56.26	-13	-43.26	Vertical	Pass
5208	-57.27	0.82	9.6	-48.49	-13	-35.49	Vertical	Pass
6944	-56.69	0.95	11.8	-45.84	-13	-32.84	Vertical	Pass

FDD LTE Band 5-Low channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
1554.5	-60.92	0.52	6	-55.44	-13	-42.44	Horizontal	Pass
2331.75	-64.49	0.53	5.8	-59.22	-13	-46.22	Horizontal	Pass
3109	-59.03	0.65	6.2	-53.48	-13	-40.48	Horizontal	Pass
1554.5	-61.83	0.52	6	-56.35	-13	-43.35	Vertical	Pass
2331.75	-64.41	0.53	5.8	-59.14	-13	-46.14	Vertical	Pass
3109	-58.16	0.65	6.2	-52.61	-13	-39.61	Vertical	Pass

FDD LTE Band 5-Middle channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
1559.5	-67.35	0.52	6	-61.87	-13	-48.87	Horizontal	Pass
2339.25	-65.46	0.53	5.8	-60.19	-13	-47.19	Horizontal	Pass
3119	-60.33	0.65	6.2	-54.78	-13	-41.78	Horizontal	Pass
1559.5	-68.94	0.52	6	-63.46	-13	-50.46	Vertical	Pass
2339.25	-66.89	0.53	5.8	-61.62	-13	-48.62	Vertical	Pass
3119	-61.97	0.65	6.2	-56.42	-13	-43.42	Vertical	Pass

FDD LTE Band 5-High channel, Modulation: QPSK, Bandwidth: 1.4MHz, 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
1564.5	-68.06	0.52	6	-62.58	-13	-49.58	Horizontal	Pass
2346.75	-65.35	0.53	5.8	-60.08	-13	-47.08	Horizontal	Pass
3129	-60.73	0.65	6.2	-55.18	-13	-42.18	Horizontal	Pass
1564.5	-67.2	0.52	6	-61.72	-13	-48.72	Vertical	Pass
2346.75	-66.68	0.53	5.8	-61.41	-13	-48.41	Vertical	Pass
3129	-60.77	0.65	6.2	-55.22	-13	-42.22	Vertical	Pass

FDD LTE Band 5-Low channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3420.3	-59.83	0.65	6.2	-54.28	-13	-41.28	Horizontal	Pass
5130.45	-57.43	0.82	9.6	-48.65	-13	-35.65	Horizontal	Pass
6840.6	-56.06	0.95	11.8	-45.21	-13	-32.21	Horizontal	Pass
3420.3	-60.38	0.65	6.2	-54.83	-13	-41.83	Vertical	Pass
5130.45	-58.03	0.82	9.6	-49.25	-13	-36.25	Vertical	Pass
6840.6	-55.34	0.95	11.8	-44.49	-13	-31.49	Vertical	Pass

FDD LTE Band 5-Middle channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3462.3	-60.41	0.65	6.2	-54.86	-13	-41.86	Horizontal	Pass
5193.45	-58.55	0.82	9.6	-49.77	-13	-36.77	Horizontal	Pass
6924.6	-56.29	0.95	11.8	-45.44	-13	-32.44	Horizontal	Pass
3462.3	-59.8	0.65	6.2	-54.25	-13	-41.25	Vertical	Pass
5193.45	-56.76	0.82	9.6	-47.98	-13	-34.98	Vertical	Pass
6924.6	-54.93	0.95	11.8	-44.08	-13	-31.08	Vertical	Pass

FDD LTE Band 5-High channel, Modulation: QPSK, Bandwidth: 3.0MHz, 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
3504.3	-61.32	0.71	7.6	-54.43	-13	-41.43	Horizontal	Pass
5256.45	-56.67	0.82	9.6	-47.89	-13	-34.89	Horizontal	Pass
7008.6	-56.19	1	12.9	-44.29	-13	-31.29	Horizontal	Pass
3504.3	-61.13	0.71	7.6	-54.24	-13	-41.24	Vertical	Pass
5256.45	-57.35	0.82	9.6	-48.57	-13	-35.57	Vertical	Pass
7008.6	-57.44	1	12.9	-45.54	-13	-32.54	Vertical	Pass

FDD LTE Band 5-Low channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-58.4	0.65	6.2	-52.85	-13	-39.85	Horizontal	Pass
5130.75	-57.39	0.82	9.6	-48.61	-13	-35.61	Horizontal	Pass
6841	-54.44	0.95	11.8	-43.59	-13	-30.59	Horizontal	Pass
3420.5	-61.08	0.65	6.2	-55.53	-13	-42.53	Vertical	Pass
5130.75	-58.48	0.82	9.6	-49.7	-13	-36.7	Vertical	Pass
6841	-56.11	0.95	11.8	-45.26	-13	-32.26	Vertical	Pass

FDD LTE Band 5-Middle channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-60.29	0.65	6.2	-54.74	-13	-41.74	Horizontal	Pass
5190.75	-58.31	0.82	9.6	-49.53	-13	-36.53	Horizontal	Pass
6921	-56.43	0.95	11.8	-45.58	-13	-32.58	Horizontal	Pass
3460.5	-60.63	0.65	6.2	-55.08	-13	-42.08	Vertical	Pass
5190.75	-56.67	0.82	9.6	-47.89	-13	-34.89	Vertical	Pass
6921	-55.69	0.95	11.8	-44.84	-13	-31.84	Vertical	Pass

FDD LTE Band 5-High channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-61.43	0.71	7.6	-54.54	-13	-41.54	Horizontal	Pass
5250.75	-57.61	0.82	9.6	-48.83	-13	-35.83	Horizontal	Pass
7001	-56.57	1	12.9	-44.67	-13	-31.67	Horizontal	Pass
3500.5	-62.52	0.71	7.6	-55.63	-13	-42.63	Vertical	Pass
5250.75	-57.5	0.82	9.6	-48.72	-13	-35.72	Vertical	Pass
7001	-57.79	1	12.9	-45.89	-13	-32.89	Vertical	Pass

FDD LTE Band 5-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	-59.68	0.65	6.2	-54.13	-13	-41.13	Horizontal	Pass
5131.5	-57.24	0.82	9.6	-48.46	-13	-35.46	Horizontal	Pass
6842	-55.81	0.95	11.8	-44.96	-13	-31.96	Horizontal	Pass
3421	-60.97	0.65	6.2	-55.42	-13	-42.42	Vertical	Pass
5131.5	-58.75	0.82	9.6	-49.97	-13	-36.97	Vertical	Pass
6842	-55.63	0.95	11.8	-44.78	-13	-31.78	Vertical	Pass

FDD LTE Band 5-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	-61.38	0.65	6.2	-55.83	-13	-42.83	Horizontal	Pass
5184	-57.95	0.82	9.6	-49.17	-13	-36.17	Horizontal	Pass
6912	-57.38	0.95	11.8	-46.53	-13	-33.53	Horizontal	Pass
3456	-57.99	0.65	6.2	-52.44	-13	-39.44	Vertical	Pass
5184	-57.22	0.82	9.6	-48.44	-13	-35.44	Vertical	Pass
6912	-55.58	0.95	11.8	-44.73	-13	-31.73	Vertical	Pass

FDD LTE Band 5-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	-60	0.65	6.2	-54.45	-13	-41.45	Horizontal	Pass
5236.5	-56.89	0.82	9.6	-48.11	-13	-35.11	Horizontal	Pass
6982	-55.71	0.95	11.8	-44.86	-13	-31.86	Horizontal	Pass
3491	-59.82	0.65	6.2	-54.27	-13	-41.27	Vertical	Pass
5236.5	-60.28	0.82	9.6	-51.5	-13	-38.5	Vertical	Pass
6982	-55.19	0.95	11.8	-44.34	-13	-31.34	Vertical	Pass

FDD LTE Band 13-Low channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-58.4	0.65	6.2	-52.85	-13	-39.85	Horizontal	Pass
5130.75	-57.39	0.82	9.6	-48.61	-13	-35.61	Horizontal	Pass
6841	-54.44	0.95	11.8	-43.59	-13	-30.59	Horizontal	Pass
3420.5	-61.08	0.65	6.2	-55.53	-13	-42.53	Vertical	Pass
5130.75	-58.48	0.82	9.6	-49.7	-13	-36.7	Vertical	Pass
6841	-56.11	0.95	11.8	-45.26	-13	-32.26	Vertical	Pass

FDD LTE Band 13-Middle channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-60.29	0.65	6.2	-54.74	-13	-41.74	Horizontal	Pass
5190.75	-58.31	0.82	9.6	-49.53	-13	-36.53	Horizontal	Pass
6921	-56.43	0.95	11.8	-45.58	-13	-32.58	Horizontal	Pass
3460.5	-60.63	0.65	6.2	-55.08	-13	-42.08	Vertical	Pass
5190.75	-56.67	0.82	9.6	-47.89	-13	-34.89	Vertical	Pass
6921	-55.69	0.95	11.8	-44.84	-13	-31.84	Vertical	Pass

FDD LTE Band 13-High channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-61.43	0.71	7.6	-54.54	-13	-41.54	Horizontal	Pass
5250.75	-57.61	0.82	9.6	-48.83	-13	-35.83	Horizontal	Pass
7001	-56.57	1	12.9	-44.67	-13	-31.67	Horizontal	Pass
3500.5	-62.52	0.71	7.6	-55.63	-13	-42.63	Vertical	Pass
5250.75	-57.5	0.82	9.6	-48.72	-13	-35.72	Vertical	Pass
7001	-57.79	1	12.9	-45.89	-13	-32.89	Vertical	Pass

FDD LTE Band 13-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	-59.68	0.65	6.2	-54.13	-13	-41.13	Horizontal	Pass
5131.5	-57.24	0.82	9.6	-48.46	-13	-35.46	Horizontal	Pass
6842	-55.81	0.95	11.8	-44.96	-13	-31.96	Horizontal	Pass
3421	-60.97	0.65	6.2	-55.42	-13	-42.42	Vertical	Pass
5131.5	-58.75	0.82	9.6	-49.97	-13	-36.97	Vertical	Pass
6842	-55.63	0.95	11.8	-44.78	-13	-31.78	Vertical	Pass

FDD LTE Band 13-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	-61.38	0.65	6.2	-55.83	-13	-42.83	Horizontal	Pass
5184	-57.95	0.82	9.6	-49.17	-13	-36.17	Horizontal	Pass
6912	-57.38	0.95	11.8	-46.53	-13	-33.53	Horizontal	Pass
3456	-57.99	0.65	6.2	-52.44	-13	-39.44	Vertical	Pass
5184	-57.22	0.82	9.6	-48.44	-13	-35.44	Vertical	Pass
6912	-55.58	0.95	11.8	-44.73	-13	-31.73	Vertical	Pass

FDD LTE Band 13-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	-60	0.65	6.2	-54.45	-13	-41.45	Horizontal	Pass
5236.5	-56.89	0.82	9.6	-48.11	-13	-35.11	Horizontal	Pass
6982	-55.71	0.95	11.8	-44.86	-13	-31.86	Horizontal	Pass
3491	-59.82	0.65	6.2	-54.27	-13	-41.27	Vertical	Pass
5236.5	-60.28	0.82	9.6	-51.5	-13	-38.5	Vertical	Pass
6982	-55.19	0.95	11.8	-44.34	-13	-31.34	Vertical	Pass

FDD LTE Band 17-Low channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-58.4	0.65	6.2	-52.85	-13	-39.85	Horizontal	Pass
5130.75	-57.39	0.82	9.6	-48.61	-13	-35.61	Horizontal	Pass
6841	-54.44	0.95	11.8	-43.59	-13	-30.59	Horizontal	Pass
3420.5	-61.08	0.65	6.2	-55.53	-13	-42.53	Vertical	Pass
5130.75	-58.48	0.82	9.6	-49.7	-13	-36.7	Vertical	Pass
6841	-56.11	0.95	11.8	-45.26	-13	-32.26	Vertical	Pass

FDD LTE Band 17-Middle channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-60.29	0.65	6.2	-54.74	-13	-41.74	Horizontal	Pass
5190.75	-58.31	0.82	9.6	-49.53	-13	-36.53	Horizontal	Pass
6921	-56.43	0.95	11.8	-45.58	-13	-32.58	Horizontal	Pass
3460.5	-60.63	0.65	6.2	-55.08	-13	-42.08	Vertical	Pass
5190.75	-56.67	0.82	9.6	-47.89	-13	-34.89	Vertical	Pass
6921	-55.69	0.95	11.8	-44.84	-13	-31.84	Vertical	Pass

FDD LTE Band 17-High channel, Modulation: QPSK, Bandwidth: 5.0MHz, 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	-61.43	0.71	7.6	-54.54	-13	-41.54	Horizontal	Pass
5250.75	-57.61	0.82	9.6	-48.83	-13	-35.83	Horizontal	Pass
7001	-56.57	1	12.9	-44.67	-13	-31.67	Horizontal	Pass
3500.5	-62.52	0.71	7.6	-55.63	-13	-42.63	Vertical	Pass
5250.75	-57.5	0.82	9.6	-48.72	-13	-35.72	Vertical	Pass
7001	-57.79	1	12.9	-45.89	-13	-32.89	Vertical	Pass

FDD LTE Band 17-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	-59.68	0.65	6.2	-54.13	-13	-41.13	Horizontal	Pass
5131.5	-57.24	0.82	9.6	-48.46	-13	-35.46	Horizontal	Pass
6842	-55.81	0.95	11.8	-44.96	-13	-31.96	Horizontal	Pass
3421	-60.97	0.65	6.2	-55.42	-13	-42.42	Vertical	Pass
5131.5	-58.75	0.82	9.6	-49.97	-13	-36.97	Vertical	Pass
6842	-55.63	0.95	11.8	-44.78	-13	-31.78	Vertical	Pass

FDD LTE Band 17-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	-61.38	0.65	6.2	-55.83	-13	-42.83	Horizontal	Pass
5184	-57.95	0.82	9.6	-49.17	-13	-36.17	Horizontal	Pass
6912	-57.38	0.95	11.8	-46.53	-13	-33.53	Horizontal	Pass
3456	-57.99	0.65	6.2	-52.44	-13	-39.44	Vertical	Pass
5184	-57.22	0.82	9.6	-48.44	-13	-35.44	Vertical	Pass
6912	-55.58	0.95	11.8	-44.73	-13	-31.73	Vertical	Pass

FDD LTE Band 17-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	-60	0.65	6.2	-54.45	-13	-41.45	Horizontal	Pass
5236.5	-56.89	0.82	9.6	-48.11	-13	-35.11	Horizontal	Pass
6982	-55.71	0.95	11.8	-44.86	-13	-31.86	Horizontal	Pass
3491	-59.82	0.65	6.2	-54.27	-13	-41.27	Vertical	Pass
5236.5	-60.28	0.82	9.6	-51.5	-13	-38.5	Vertical	Pass
6982	-55.19	0.95	11.8	-44.34	-13	-31.34	Vertical	Pass

6.7 Frequency stability

Test Requirement: §2.1055, §22.355, §24.235, §27.54

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

Limit: ≤ ±2.5ppm.

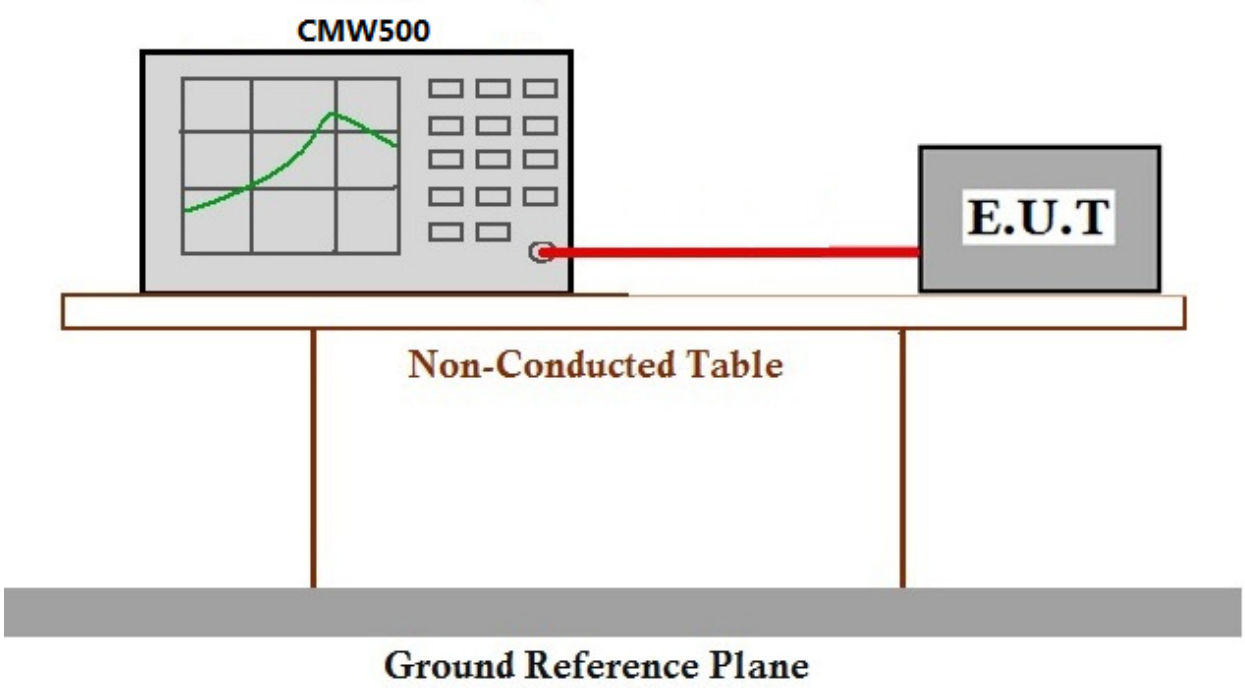
6.7.1 E.U.T. Operation

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
LTEband5	QPSK/20MHz	LCH	TN	VL	-4.87	**-0.00587**	PASS
				VN	0.58	0.00070	PASS
				VH	-1.95	-0.00235	PASS
		MCH	TN	VL	1.67	0.00200	PASS
				VN	-2.38	-0.00285	PASS
				VH	2.95	0.00353	PASS
		HCH	TN	VL	-2.22	-0.00265	PASS
				VN	-1.67	-0.00199	PASS
				VH	-0.24	-0.00029	PASS
	16QAM/20MHz	LCH	TN	VL	-4.67	-0.00563	PASS
				VN	-2.86	-0.00345	PASS
				VH	-1.35	-0.00163	PASS
		MCH	TN	VL	1.64	0.00196	PASS
				VN	-2.26	-0.00270	PASS
				VH	2.19	0.00262	PASS
		HCH	TN	VL	-3.64	-0.00435	PASS
				VN	-2.95	-0.00352	PASS
				VH	0.87	0.00104	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	-4.34	-0.00557	PASS
				VN	0.75	0.00096	PASS
				VH	-1.33	-0.00171	PASS
		MCH	TN	VL	1.65	0.00211	PASS
				VN	-2.27	-0.00290	PASS
				VH	2.86	0.00366	PASS
		HCH	TN	VL	-3.76	-0.00479	PASS
				VN	-1.10	-0.00140	PASS
				VH	-0.56	-0.00071	PASS
	16QAM/10MHz	LCH	TN	VL	-4.54	**-0.00582**	PASS
				VN	-2.25	-0.00289	PASS
				VH	-2.56	-0.00328	PASS
		MCH	TN	VL	1.75	0.00224	PASS
				VN	-2.86	-0.00366	PASS
				VH	2.24	0.00286	PASS
		HCH	TN	VL	-3.75	-0.00478	PASS
				VN	-1.86	-0.00237	PASS
				VH	0.36	0.00046	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband17	QPSK/20MHz	LCH	TN	VL	-3.76	-0.00530	PASS
				VN	4.24	0.00598	PASS
				VH	-1.62	-0.00228	PASS
		MCH	TN	VL	1.93	0.00272	PASS
				VN	-2.24	-0.00315	PASS
				VH	2.64	0.00372	PASS
		HCH	TN	VL	-2.18	-0.00307	PASS
				VN	-1.08	-0.00152	PASS
				VH	-0.55	-0.00077	PASS
	16QAM/20MHz	LCH	TN	VL	-4.97	**-0.00701**	PASS
				VN	-2.64	-0.00372	PASS
				VH	-1.48	-0.00209	PASS
		MCH	TN	VL	1.73	0.00244	PASS
				VN	-2.27	-0.00320	PASS
				VH	2.52	0.00355	PASS
		HCH	TN	VL	-3.62	-0.00509	PASS
				VN	-2.46	-0.00346	PASS
				VH	0.23	0.00032	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
LTEband5	QPSK/10MHz	LCH	VN	-30	1.45	0.00175	PASS
				-20	1.32	0.00159	PASS
				-10	-0.87	-0.00105	PASS
				0	3.02	0.00364	PASS
				10	2.73	0.00329	PASS
				20	2.45	0.00296	PASS
				30	1.64	0.00198	PASS
				40	0.24	0.00029	PASS
				50	0.67	0.00081	PASS
		MCH	VN	-30	-2.35	-0.00281	PASS
				-20	-2.95	-0.00353	PASS
				-10	-4.39	-0.00525	PASS
				0	-2.34	-0.00280	PASS
				10	-4.76	-0.00569	PASS
				20	-3.23	-0.00386	PASS
				30	-3.73	-0.00446	PASS
				40	-4.43	-0.00530	PASS
				50	-3.26	-0.00390	PASS
		HCH	VN	-30	1.67	0.00199	PASS
				-20	1.83	0.00219	PASS
				-10	-0.65	-0.00078	PASS
				0	2.34	0.00279	PASS
				10	-1.26	-0.00150	PASS
				20	3.73	0.00445	PASS
				30	0.74	0.00088	PASS
				40	-1.23	-0.00147	PASS
				50	-4.86	**-0.00580**	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband5	16QAM/10MHz	LCH	VN	-30	0.35	0.00042	PASS
				-20	0.53	0.00064	PASS
				-10	-1.53	-0.00185	PASS
				0	4.24	0.00511	PASS
				10	4.56	0.00550	PASS
				20	3.75	0.00452	PASS
				30	1.76	0.00212	PASS
				40	1.42	0.00171	PASS
				50	3.16	0.00381	PASS
		MCH	VN	-30	-1.75	-0.00209	PASS
				-20	-1.26	-0.00151	PASS
				-10	-3.64	-0.00435	PASS
				0	-1.57	-0.00188	PASS
				10	-3.74	-0.00447	PASS
				20	0.35	0.00042	PASS
				30	3.75	0.00448	PASS
				40	-1.46	-0.00175	PASS
				50	-1.75	-0.00209	PASS
		HCH	VN	-30	3.37	0.00402	PASS
				-20	3.74	0.00447	PASS
				-10	-0.95	-0.00113	PASS
				0	3.68	0.00439	PASS
				10	-1.16	-0.00139	PASS
				20	4.78	**0.00571**	PASS
				30	0.99	0.00118	PASS
				40	-1.57	-0.00187	PASS
				50	-2.65	-0.00316	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband13	QPSK/5MHz	LCH	VN	-30	1.45	0.00186	PASS
				-20	0.97	0.00124	PASS
				-10	-0.64	-0.00082	PASS
				0	3.78	0.00485	PASS
				10	2.63	0.00337	PASS
				20	2.57	0.00330	PASS
				30	1.34	0.00172	PASS
				40	0.52	0.00067	PASS
				50	0.63	0.00081	PASS
		MCH	VN	-30	-3.56	-0.00455	PASS
				-20	-3.27	-0.00418	PASS
				-10	-5.78	**-0.00739**	PASS
				0	-1.08	-0.00138	PASS
				10	-4.63	-0.00592	PASS
				20	-3.26	-0.00417	PASS
				30	-2.75	-0.00352	PASS
				40	-4.85	-0.00620	PASS
				50	-3.37	-0.00431	PASS
		HCH	VN	-30	1.85	0.00236	PASS
				-20	1.86	0.00237	PASS
				-10	-0.64	-0.00082	PASS
				0	2.28	0.00291	PASS
				10	-1.85	-0.00236	PASS
				20	3.26	0.00416	PASS
				30	0.57	0.00073	PASS
				40	-1.24	-0.00158	PASS
				50	-4.27	-0.00544	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband13	16QAM/5MHz	LCH	VN	-30	2.23	0.00286	PASS
				-20	1.53	0.00196	PASS
				-10	-1.23	-0.00158	PASS
				0	3.64	0.00467	PASS
				10	3.86	0.00495	PASS
				20	2.83	0.00363	PASS
				30	0.37	0.00047	PASS
				40	0.75	0.00096	PASS
				50	2.37	0.00304	PASS
		MCH	VN	-30	-2.84	-0.00363	PASS
				-20	-2.84	-0.00363	PASS
				-10	-4.25	**-0.00543**	PASS
				0	-1.36	-0.00174	PASS
				10	-3.64	-0.00465	PASS
				20	-0.27	-0.00035	PASS
				30	2.85	0.00364	PASS
				40	-2.58	-0.00330	PASS
				50	-1.34	-0.00171	PASS
		HCH	VN	-30	2.98	0.00380	PASS
				-20	2.85	0.00363	PASS
				-10	-1.34	-0.00171	PASS
				0	2.65	0.00338	PASS
				10	-2.58	-0.00329	PASS
				20	3.25	0.00414	PASS
				30	-0.86	-0.00110	PASS
				40	-2.26	-0.00288	PASS
				50	-3.58	-0.00456	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband17	QPSK/10MHz	LCH	VN	-30	2.64	0.00372	PASS
				-20	1.56	0.00220	PASS
				-10	-0.74	-0.00104	PASS
				0	3.34	0.00471	PASS
				10	2.25	0.00317	PASS
				20	2.25	0.00317	PASS
				30	1.64	0.00231	PASS
				40	0.36	0.00051	PASS
				50	0.67	0.00094	PASS
		MCH	VN	-30	-2.43	-0.00342	PASS
				-20	-2.74	-0.00386	PASS
				-10	-4.25	-0.00599	PASS
				0	-2.47	-0.00348	PASS
				10	-4.85	**-0.00683**	PASS
				20	-3.26	-0.00459	PASS
				30	-3.26	-0.00459	PASS
				40	-4.06	-0.00572	PASS
				50	-3.45	-0.00486	PASS
		HCH	VN	-30	1.26	0.00177	PASS
				-20	1.64	0.00231	PASS
				-10	-0.22	-0.00031	PASS
				0	2.75	0.00387	PASS
				10	-1.24	-0.00174	PASS
				20	3.86	0.00543	PASS
				30	0.88	0.00124	PASS
				40	-1.94	-0.00273	PASS
				50	-4.25	-0.00598	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTEband17	16QAM/10MHz	LCH	VN	-30	0.54	0.00076	PASS
				-20	0.63	0.00089	PASS
				-10	-1.27	-0.00179	PASS
				0	4.85	0.00682	PASS
				10	4.35	0.00612	PASS
				20	3.86	0.00543	PASS
				30	1.17	0.00165	PASS
				40	1.86	0.00262	PASS
				50	3.64	0.00512	PASS
		MCH	VN	-30	-1.66	-0.00234	PASS
				-20	-1.35	-0.00190	PASS
				-10	-3.86	-0.00544	PASS
				0	-1.88	-0.00265	PASS
				10	-3.63	-0.00511	PASS
				20	0.27	0.00038	PASS
				30	3.97	0.00559	PASS
				40	-1.65	-0.00232	PASS
				50	-1.46	-0.00206	PASS
		HCH	VN	-30	3.25	0.00457	PASS
				-20	3.53	0.00496	PASS
				-10	-0.75	-0.00105	PASS
				0	3.56	0.00501	PASS
				10	-1.27	-0.00179	PASS
				20	4.86	**0.00684**	PASS
				30	0.14	0.00020	PASS
				40	-1.89	-0.00266	PASS
				50	-2.23	-0.00314	PASS

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

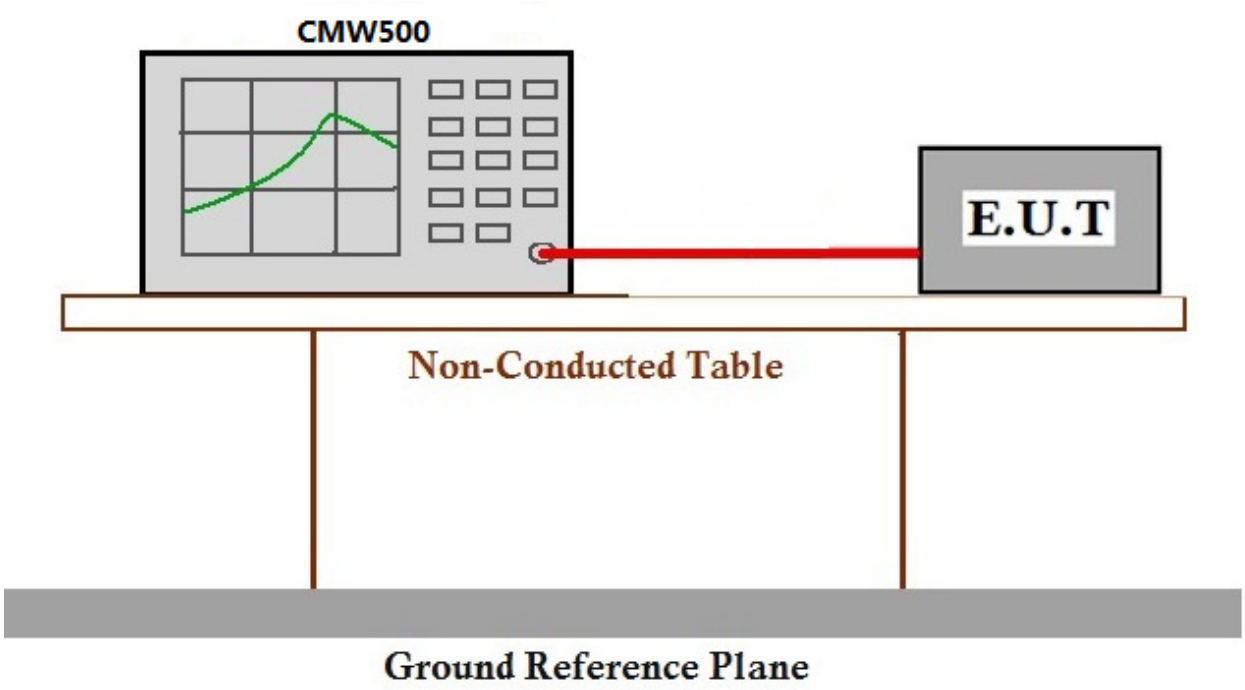
6.8 Modulation Characteristics

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

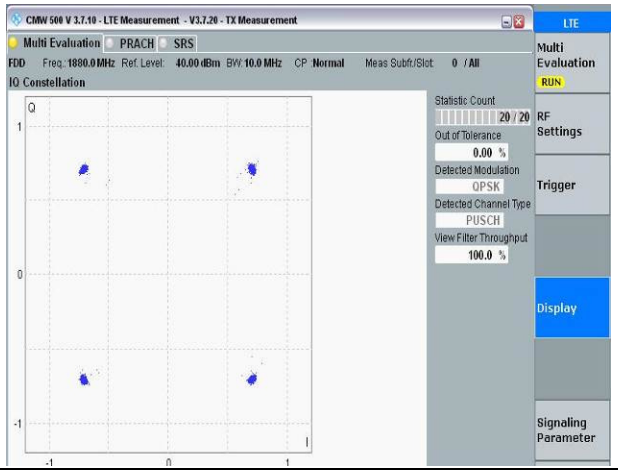
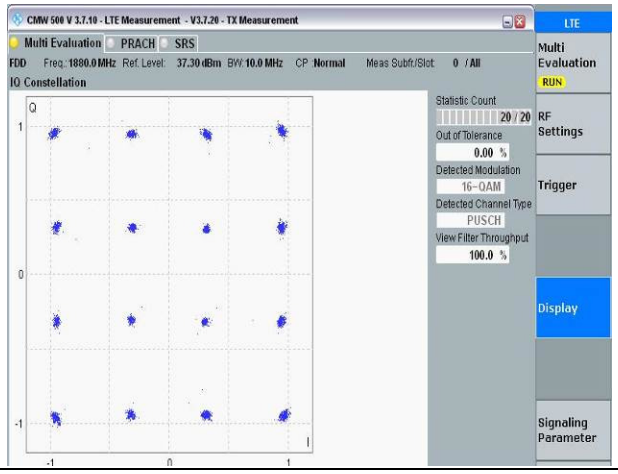
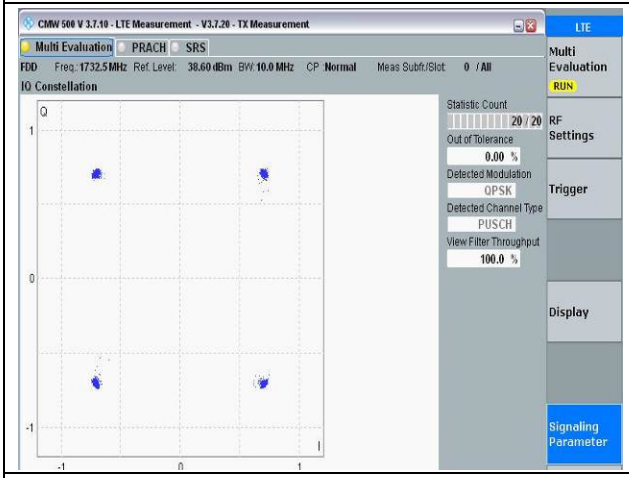
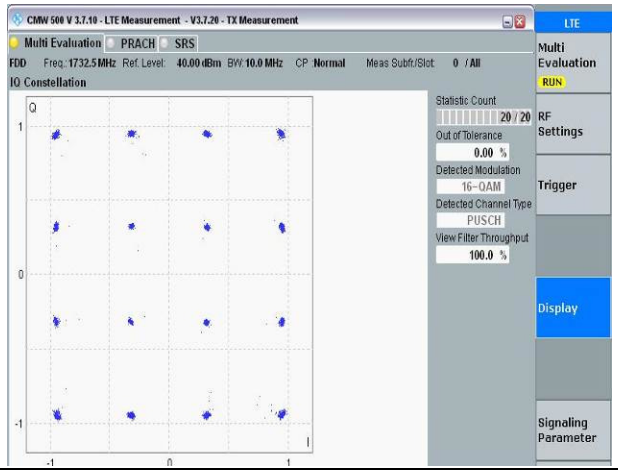
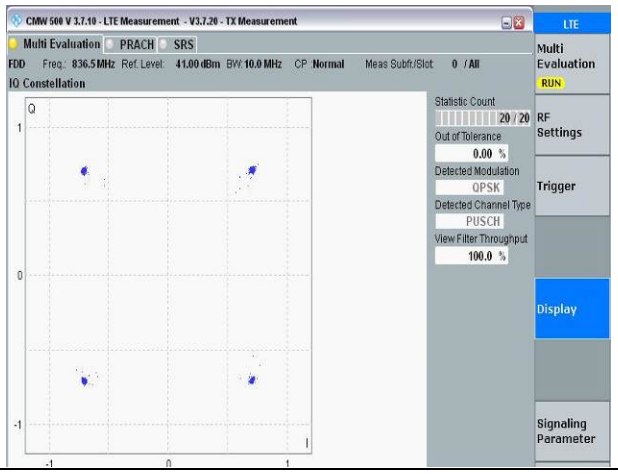
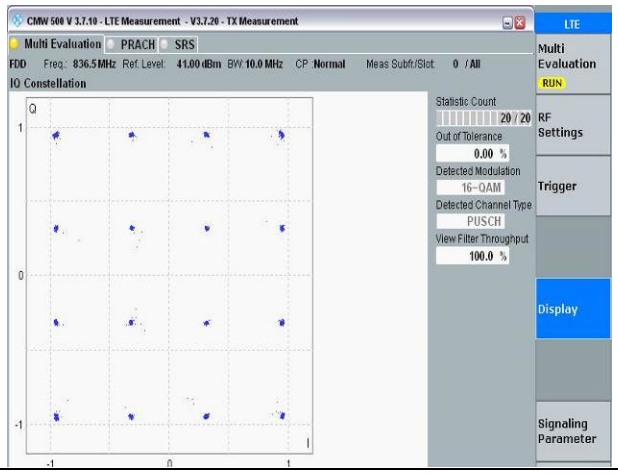
6.8.1 E.U.T. Operation

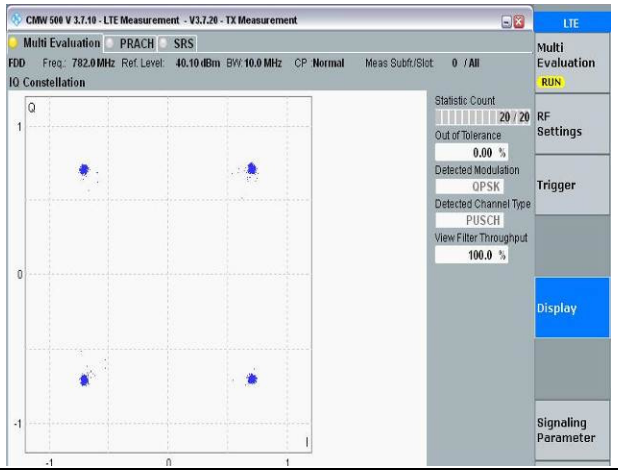
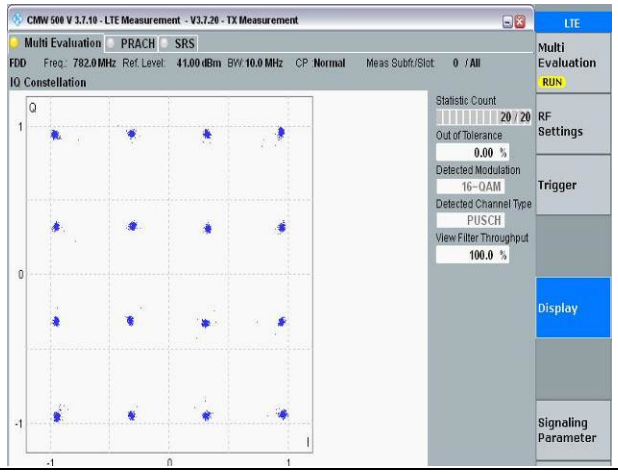
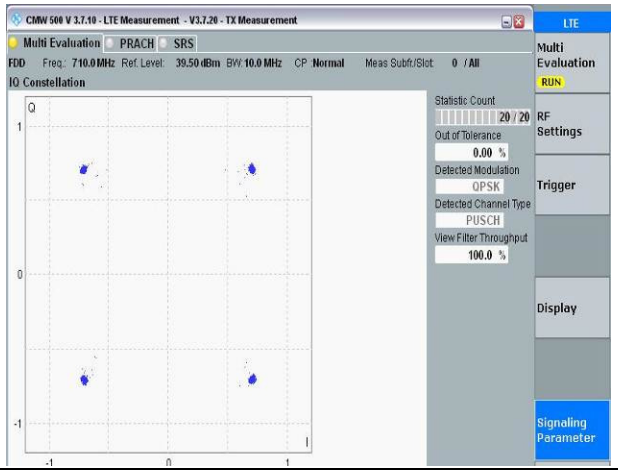
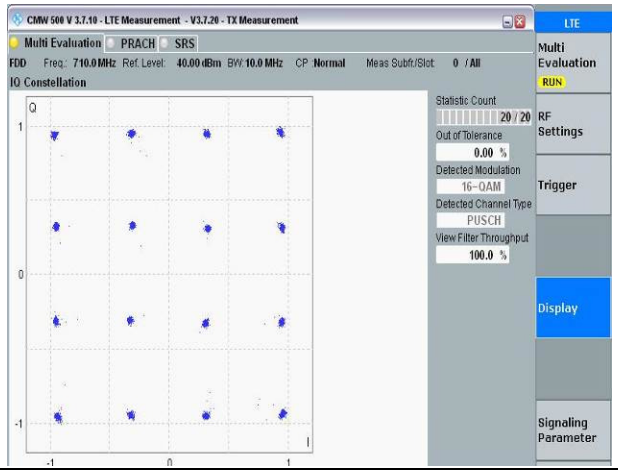
Operating Environment:
Temperature: 18.6 °C Humidity: 29.1 % RH Atmospheric Pressure: 1025 mbar
Test mode b: Tx mode, Keep the EUT in transmitting mode.

6.8.2 Test Setup Diagram



6.8.3 Measurement Data

Test Plot	
LTE FDD Band 2 QPSK	LTE FDD Band 2 16QAM
	
LTE FDD Band 4 QPSK	LTE FDD Band 4 16QAM
	
LTE FDD Band 5 QPSK	LTE FDD Band 5 16QAM
	

LTE FDD Band 13 QPSK	LTE FDD Band 13 16QAM
	
LTE FDD Band 17 QPSK	**LTE FDD Band 17 16QAM**
	

- End of the Report -