TEST REPORT

Reference No.	:	WTS15S0628457-4E
FCC ID	:	2AEE8LAVASTARPLUS
Applicant	:	LAVA INTERNATIONAL (H.K) LIMITED
Address	:	UNIT L 1/F MAU LAM COMM BLDG 16-18 MAU LAM ST, JORDAN KL, HK
Manufacturer	:	The same as above
Address	:	The same as above
Product Name	:	mobile phone
Model No.	:	Star Plus
Brand	:	LAVA
Standards	:	FCC CFR47 Part 24 Subpart E:2014 FCC CFR47 Part 27 Subpart L:2014
Date of Receipt sample	:	Jun. 24, 2015
Date of Test	:	Jun. 24 – Jul. 17, 2015
Date of Issue	:	Jul.21, 2015
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Compiled by:

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Approved by:

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2 Test Summary

Test Items	Test Requirement	Result
RF Output Power	2.1046 24.232 (c) 27.50(c) 27.50(d)	PASS
Peak-to-Average Ratio	24.232 (d) 27.50(d)	PASS
Bandwidth	2.1049 24.238 27.53(a)	PASS
Spurious Emissions at Antenna Terminal	2.1051 24.238 (a) 27.53(h)	PASS
Field Strength of Spurious Radiation	2.1053 24.238 (a) 27.53(h)	PASS
Out of band emission	24.238 (a) 27.53(h)	PASS
Frequency Stability	2.1055 24.235 27.5(h) 27.54	PASS
Maximum Permissible Exposure (SAR)	1.1307 2.1093	PASS

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4 General Information

4.1 General Description of E.U.T.

Product Name	: mobile phone
Model No.	: Star Plus
Model Description	: N/A
GSM Band(s)	: GSM 850/900/1800/1900MHz
GPRS/EGPRS Class	: 12
WCDMA Band(s)	: FDD Band I/II/V
LTE Bnad(s)	: LTE Band 2/4/7
Wi-Fi Specification	: 802.11b/g/n HT20/n HT40
Bluetooth Version	: Bluetooth v4.0 with BLE
GPS	: Support
NFC	: N/A
Hardware Version	: V2.0
Software Version	: S101

4.2 Details of E.U.T.

Operation Frequency	: GSM/GPRS/EGPRS 850: 824~849MHz PCS/GPRS/EGPRS1900: 1850~1910MHz WCDMA Band II: 1850-1910MHz WCDMA Band V: 824~849MHz LTE Band 2: 1850~1910MHz LTE Band 4: 1710~1755MHz LTE Band 7: 2500~2570MHz WiFi: 802.11b/g/n HT20: 2412-2462MHz 802.11n HT40: 2422-2452MHz Bluetooth: 2402-2480MHz
Max. RF output power	: GSM 850: 32.67dBm EGPRS 850: 25.96dBm PCS1900:29.66dBm EGPRS 1900:25.78dBm WCDMA Band II: 22.73dBm WCDMA Band V: 22.42dBm LTE Band 2: 23.69dBm LTE Band 4: 23.99dBm LTE Band 7: 23.87dBm WiFi: 9.44dBm Bluetooth: 2.75dBm

Type of Modulation	: GSM,GPRS: GMSK EGPRS: GMSK, 8PSK WCDMA: BPSK LTE: QPSK, 16QAM WiFi: CCK, OFDM Bluetooth: GFSK, Pi/4 DQPSK,8DPSK
Antenna installation	: GSM/WCDMA/LTE: internal permanent antenna WiFi/Bluetooth: internal permanent antenna
Antenna Gain	: GSM 850: 1.0dBi PCS1900: 1.0dBi WCDMA Band II: 1.0dBi WCDMA Band V: 1.0dBi LTE Band 2: 1.0dBi LTE Band 4: 1.0dBi LTE Band 7: 1.0dBi WiFi: 0dBi Bluetooth: 0dBi
Technical Data	:Battery DC 3.8V, 2500mAh DC 5V,1A, Charging form adapter
Adapter	Adapter Input:100-300V~50/60Hz, 0.15A :Manufacture: LAVA Model No.: CLV-14
Type of Emission	: LTE Band 2 1.4MHz: 1M12G7D(QPSK), 1M11W7D(16QAM) LTE Band 2 3MHz: 2M76G7D(QPSK), 2M76W7D(16QAM) LTE Band 2 5MHz: 4M55G7D(QPSK), 4M55W7D(16QAM) LTE Band 2 10 MHz: 9M09G7D(QPSK), 9M08W7D(16QAM) LTE Band 2 15MHz: 13M55G7D(QPSK), 13M53W7D(16QAM) LTE Band 2 20MHz: 18M08G7D(QPSK), 17M99W7D(16QAM) LTE Band 4 1.4MHz: 1M10G7D(QPSK), 1M11W7D(16QAM) LTE Band 4 3MHz: 2M88G7D(QPSK), 2M76W7D(16QAM) LTE Band 4 5MHz: 4M53G7D(QPSK),4M80W7D(16QAM) LTE Band 4 10 MHz: 9M06G7D(QPSK), 9M09W7D(16QAM) LTE Band 4 15MHz: 13M48G7D(QPSK), 13M53W7D(16QAM) LTE Band 4 20MHz: 17M96G7D(QPSK), 17M98W7D(16QAM) LTE Band 7 5MHz: 4M55G7D(QPSK), 4M56W7D(16QAM) LTE Band 7 10 MHz: 9M10G7D(QPSK), 9M10W7D(16QAM) LTE Band 7 15MHz: 13M57G7D(QPSK), 13M55W7D(16QAM) LTE Band 7 20MHz: 18M03G7D(QPSK), 17M97W7D(16QAM)

4.3 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Support Band	Test Mode BW(MHz)	Channel Frequency	Channel Number
LTE Band 2	1.4	1850.7 MHz	18607
		1880.0 MHz	18900
		1909.3 MHz	19193
	3	1851.5 MHz	18615
		1880.0 MHz	18900
		1908.5 MHz	19185
	5	1852.5 MHz	18625
		1880.0 MHz	18900
		1907.5 MHz	19175
	10	1855.0 MHz	18650
		1880.0 MHz	18900
		1905.0 MHz	19150
	15	1857.5 MHz	18675
		1880.0 MHz	18900
		1902.5 MHz	19125
	20	1860.0 MHz	18700
		1880.0 MHz	18900
		1900.0 MHz	19100
LTE Band 4	1.4	1710.7 MHz	19957
		1732.5 MHz	20175
		1754.3 MHz	20393
	3	1711.5 MHz	19965
		1732.5 MHz	20175
		1753.5 MHz	20385
	5	1712.5 MHz	19975
		1732.5 MHz	20175
		1752.5 MHz	20375
	10	1715.0 MHz	20000
		1732.5 MHz	20175
		1750.0 MHz	20350

	15	1717.5 MHz	20025
		1732.5 MHz	20175
		1747.5 MHz	20325
	20	1720.0 MHz	20050
		1732.5 MHz	20175
		1745.0 MHz	20300
LTE Band 7	5	2502.5 MHz	20775
		2535 MHz	21100
		2567.5 MHz	21425
	10	2505.0 MHz	20800
		2535 MHz	21100
		2565.0 MHz	21400
	15	2507.5 MHz	20825
		2535 MHz	21100
		2562.5 MHz	21375
	20	2510.0 MHz	20850
		2535 MHz	21100
		2560.0 MHz	21350
Remark: All mode(s) were tested and the worst data was recorded.			

4.4 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A**

  Waltek Services(Shenzhen) Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, July 12, 2012.

- **FCC Test Site 1#– Registration No.: 880581**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, April 29, 2014.

- **FCC Test Site 2#– Registration No.: 328995**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 328995, December 3, 2014.

5 Equipment Used during Test

5.1 Equipments List

RF Conducted Test						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Aug.15,2014	Aug.14,2015
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Aug.15,2014	Aug.14,2015
3.	Humidity Chamber	GF	GTH-225-40-1P	IAA061213	Aug.15,2014	Aug.14,2015
4.	Universal Radio Communication Tester	R&S	CMU 200	112461	Apr.10,2015	Apr.09,2016
3m Semi-anechoic Chamber for Radiated Emissions						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMC Analyzer	Agilent	E7405A	MY45114943	Sep.15,2014	Sep.14,2015
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep.15,2014	Sep.14,2015
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.18,2015	Apr.17,2016
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep.15,2014	Sep.14,2015
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.18,2015	Apr.17,2016
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	669	Apr.18,2015	Apr.17,2016
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Mar.17,2015	Mar.16,2016
8	Coaxial Cable (above 1GHz)	Top	1000MHz-25GHz	EW02014-7	Apr.09,2015	Apr.08,2016
9	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Sep.15,2014	Sep.14,2015
10	Universal Radio Communication Tester	R&S	CMW 500	1201.0002K50	Mar.23,2015	Mar.22,2016
11	Signal Generator	R&S	SMR20	100046	Sep.15,2014	Sep.14,2015

5.2 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	± 1 x 10^{-6}
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

5.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

6 RF OUTPUT POWER

Test Requirement:	FCC Part 2.1046, 24.232 (c) 27.50(c),27.50(d)
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
Test Mode:	Transmitting

6.1 EUT Operation

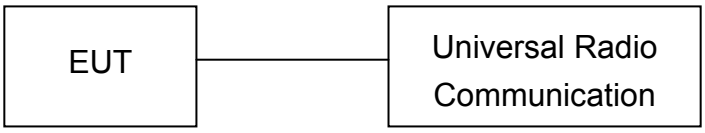
Operating Environment **:**

Temperature:	22.5 °C
Humidity:	52.1 % RH
Atmospheric Pressure:	101.2kPa

6.2 Test Procedure

Conducted method:

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.



Radiated method:

1. The setup of EUT is according with per TIA/EIA Standard 603D:2010 and ANSI C63.4-2009 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

6.3 Test Result

Conducted Power

LTE Band 2：

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
1.4MHz	18607	1850.7	QPSK	1	0	23.61
				1	2	23.47
				1	5	23.56
				3	0	23.42
				3	1	23.41
				3	2	23.38
				6	0	22.68
			16QAM	1	0	22.56
				1	2	22.62
				1	5	22.25
				3	0	22.40
				3	1	22.71
				3	2	22.36
				6	0	21.54
	18900	1880	QPSK	1	0	23.38
				1	2	23.48
				1	5	23.26
				3	0	23.14
				3	**1**	**23.69**
				3	2	23.39
				6	0	22.36
			16QAM	1	0	22.14
				1	2	22.51
				1	5	22.42
				3	0	22.14
				3	1	22.08
				3	2	22.23
				6	0	21.11
	19193	1909.3	QPSK	1	0	22.70
				1	2	22.85
				1	5	22.74
				3	0	22.69
				3	1	22.16
				3	2	22.27
				6	0	22.09
			16QAM	1	0	22.00
				1	2	22.12
				1	5	22.66
				3	0	21.26
				3	1	21.20
				3	2	21.63
				6	0	21.30

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
3MHz	18615	1851.5	QPSK	1	0	23.62
				1	8	23.24
				1	14	23.39
				6	0	22.67
				6	4	22.47
				6	9	22.61
				15	0	22.50
			16QAM	1	0	22.81
				1	8	22.57
				1	14	22.89
				6	0	21.53
				6	4	21.45
				6	9	21.10
				15	0	21.43
	18900	1880	QPSK	1	0	23.30
				1	8	23.06
				1	14	23.67
				6	0	22.38
				6	4	22.33
				6	9	22.27
				15	0	22.18
			16QAM	1	0	22.23
				1	8	22.46
				1	14	22.59
				6	0	21.20
				6	4	21.11
				6	9	21.06
				15	0	21.04
	19185	1908.5	QPSK	1	0	23.07
				1	8	23.45
				1	14	23.26
				6	0	22.80
				6	4	22.40
				6	9	22.33
				15	0	22.37
			16QAM	1	0	22.33
				1	8	22.49
				1	14	22.64
				6	0	21.34
				6	4	21.30
				6	9	21.13
				15	0	21.27

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
5MHz	18625	1852.5	QPSK	1	0	22.65
				1	12	22.36
				1	24	22.49
				12	0	21.55
				12	6	21.46
				12	11	21.12
				25	0	21.47
			16QAM	1	0	21.40
				1	12	21.18
				1	24	21.00
				12	0	20.78
				12	6	20.71
				12	11	20.52
				25	0	20.43
	18900	1880	QPSK	1	0	22.32
				1	12	22.23
				1	24	22.42
				12	0	21.24
				12	6	21.37
				12	11	21.05
				25	0	21.15
			16QAM	1	0	21.40
				1	12	21.62
				1	24	21.28
				12	0	21.06
				12	6	21.38
				12	11	21.16
				25	0	20.06
	19175	1907.5	QPSK	1	0	22.21
				1	12	22.14
				1	24	22.38
				12	0	21.48
				12	6	21.33
				12	11	21.29
				25	0	21.21
			16QAM	1	0	21.53
				1	12	21.35
				1	24	21.26
				12	0	21.11
				12	6	21.35
				12	11	21.26
				25	0	20.27

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
10MHz	18650	1855	QPSK	1	0	22.72
				1	24	22.70
				1	49	22.53
				25	0	21.48
				25	12	21.44
				25	24	21.51
				50	0	21.41
			16QAM	1	0	21.90
				1	24	21.89
				1	49	21.52
				25	0	21.13
				25	12	21.11
				25	24	21.05
				50	0	20.32
	18900	1880	QPSK	1	0	22.08
				1	24	21.77
				1	49	21.78
				25	0	21.18
				25	12	21.11
				25	24	21.05
				50	0	21.14
			16QAM	1	0	21.28
				1	24	21.00
				1	49	21.05
				25	0	20.46
				25	12	20.15
				25	24	20.36
				50	0	20.05
	19150	1905	QPSK	1	0	22.52
				1	24	22.16
				1	49	22.25
				25	0	21.49
				25	12	21.67
				25	24	21.32
				50	0	21.41
			16QAM	1	0	21.47
				1	24	21.25
				1	49	21.27
				25	0	20.81
				25	12	20.59
				25	24	20.55
				50	0	20.34

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
15MHz	18675	1857.5	QPSK	1	0	23.01
				1	37	22.72
				1	74	22.87
				36	0	22.12
				36	16	22.19
				36	35	22.05
				75	0	22.03
			16QAM	1	0	22.38
				1	37	22.11
				1	74	22.10
				36	0	21.45
				36	16	21.12
				36	35	21.43
				75	0	20.90
	18900	1880	QPSK	1	0	22.88
				1	37	22.54
				1	74	22.59
				36	0	21.87
				36	16	21.74
				36	35	21.63
				75	0	21.87
			16QAM	1	0	21.82
				1	37	21.59
				1	74	21.66
				36	0	21.21
				36	16	21.13
				36	35	21.22
				75	0	20.78
	19125	1902.5	QPSK	1	0	22.91
				1	37	22.74
				1	74	22.58
				36	0	22.03
				36	16	22.12
				36	35	21.95
				75	0	22.00
			16QAM	1	0	22.03
				1	37	22.10
				1	74	22.07
				36	0	21.36
				36	16	21.74
				36	35	21.23
				75	0	20.84

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
20MHz	18700	1860	QPSK	1	0	23.17
				1	49	22.98
				1	99	23.10
				50	0	21.90
				50	24	21.79
				50	49	21.80
				100	0	21.82
			16QAM	1	0	22.23
				1	49	22.06
				1	99	21.85
				50	0	21.64
				50	24	21.55
				50	49	21.43
				100	0	20.75
	18900	1880	QPSK	1	0	22.94
				1	49	22.69
				1	99	22.87
				50	0	21.71
				50	24	21.63
				50	49	21.45
				100	0	21.72
			16QAM	1	0	21.90
				1	49	21.77
				1	99	21.62
				50	0	21.39
				50	24	21.13
				50	49	21.23
				100	0	20.66
	19100	1900	QPSK	1	0	22.74
				1	49	22.47
				1	99	22.40
				50	0	21.81
				50	24	21.80
				50	49	21.96
				100	0	21.79
			16QAM	1	0	22.20
				1	49	22.06
				1	99	22.12
				50	0	21.63
				50	24	21.33
				50	49	21.22
				100	0	20.72

LTE Band 4：

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
1.4MHz	19957	1710.7	QPSK	1	0	23.23
				1	2	23.19
				1	5	23.41
				3	0	23.53
				3	1	23.66
				3	2	23.58
				6	0	23.44
			16QAM	1	0	23.22
				1	2	23.04
				1	5	23.41
				3	0	23.45
				3	1	23.39
				3	2	23.22
				6	0	23.44
	20175	1732.5	QPSK	1	0	23.66
				1	2	23.70
				1	5	23.86
				3	0	23.78
				3	1	23.77
				3	2	23.86
				6	0	23.70
			16QAM	1	0	23.75
				1	2	23.89
				1	5	23.62
				3	0	23.50
				3	1	23.67
				3	2	23.62
				6	0	23.62
	20393	1754.3	QPSK	1	0	23.37
				1	2	23.47
				1	5	23.39
				3	0	23.51
				3	1	23.59
				3	2	23.44
				6	0	23.38
			16QAM	1	0	23.42
				1	2	23.24
				1	5	23.56
				3	0	23.26
				3	1	23.18
				3	2	23.22
				6	0	23.29

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
3MHz	19965	1711.5	QPSK	1	0	23.41
				1	8	23.53
				1	14	23.40
				6	0	23.48
				6	4	23.32
				6	9	23.48
				15	0	23.54
			16QAM	1	0	23.93
				1	8	23.65
				1	14	23.55
				6	0	23.53
				6	4	23.41
				6	9	23.49
				15	0	23.57
	20175	1732.5	QPSK	1	0	23.72
				1	8	23.79
				1	14	23.80
				6	0	23.74
				6	4	23.69
				6	9	23.82
				15	0	23.76
			16QAM	1	0	23.82
				1	8	23.96
				1	14	23.80
				6	0	23.71
				6	4	23.52
				6	9	23.60
				15	0	23.68
	20385	1753.5	QPSK	1	0	23.41
				1	8	23.41
				1	14	23.28
				6	0	23.40
				6	4	23.36
				6	9	23.44
				15	0	23.48
			16QAM	1	0	23.43
				1	8	23.60
				1	14	23.54
				6	0	23.32
				6	4	23.27
				6	9	23.49
				15	0	23.52

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
5MHz	19975	1712.5	QPSK	1	0	23.58
				1	49	23.50
				1	99	23.66
				12	0	23.64
				12	24	23.80
				12	49	23.51
				25	0	23.63
			16QAM	1	0	23.46
				1	49	23.48
				1	99	23.55
				12	0	23.36
				12	24	23.47
				12	49	23.77
				25	0	23.66
	20175	1732.5	QPSK	1	0	23.83
				1	49	23.80
				1	99	23.91
				12	0	23.82
				12	24	23.70
				12	49	23.79
				25	0	23.75
			16QAM	1	0	23.85
				1	49	23.65
				1	99	23.69
				12	0	23.73
				12	24	23.71
				12	49	23.83
				25	0	23.74
	20375	1752.5	QPSK	1	0	23.22
				1	49	23.36
				1	99	23.48
				12	0	23.22
				12	24	23.15
				12	49	23.34
				25	0	23.17
			16QAM	1	0	23.44
				1	49	23.54
				1	99	23.61
				12	0	23.51
				12	24	23.29
				12	49	23.48
				25	0	23.14

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
10MHz	20000	1715	QPSK	1	0	23.26
				1	49	23.30
				1	99	23.21
				25	0	23.29
				25	24	23.45
				25	49	23.33
				50	0	23.36
			16QAM	1	0	23.65
				1	49	23.52
				1	99	23.39
				25	0	23.40
				25	24	23.15
				25	49	23.22
				50	0	23.33
	20175	1732.5	QPSK	1	0	23.58
				1	49	23.58
				1	99	23.47
				25	0	23.47
				25	24	23.60
				25	49	23.51
				50	0	23.47
			16QAM	1	0	23.64
				1	49	23.66
				1	99	23.52
				25	0	23.44
				25	24	23.23
				25	49	23.36
				50	0	23.40
	20350	1750	QPSK	1	0	23.21
				1	49	23.30
				1	99	23.22
				25	0	23.16
				25	24	23.08
				25	49	23.11
				50	0	23.18
			16QAM	1	0	23.14
				1	49	23.22
				1	99	23.24
				25	0	23.30
				25	24	23.29
				25	49	23.12
				50	0	23.17

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
15MHz	20025	1717.5	QPSK	1	0	23.28
				1	49	23.24
				1	99	23.55
				36	0	23.42
				36	24	23.63
				36	49	23.27
				75	0	23.50
			16QAM	1	0	23.66
				1	49	**23.99**
				1	99	23.58
				36	0	23.61
				36	24	23.41
				36	49	23.33
				75	0	23.47
	20175	1732.5	QPSK	1	0	23.58
				1	49	23.66
				1	99	23.54
				36	0	23.61
				36	24	23.50
				36	49	23.49
				75	0	23.58
			16QAM	1	0	23.63
				1	49	23.66
				1	99	23.45
				36	0	23.78
				36	24	23.35
				36	49	23.47
				75	0	23.53
	20325	1747.5	QPSK	1	0	23.35
				1	49	23.40
				1	99	23.57
				36	0	23.32
				36	24	23.23
				36	49	23.40
				75	0	23.32
			16QAM	1	0	23.65
				1	49	23.66
				1	99	23.49
				36	0	23.41
				36	24	23.16
				36	49	23.20
				75	0	23.25

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
20MHz	20050	1720	QPSK	1	0	23.34
				1	49	23.41
				1	99	23.20
				50	0	23.34
				50	24	23.28
				50	49	23.59
				100	0	23.41
			16QAM	1	0	23.43
				1	49	23.37
				1	99	23.09
				50	0	23.55
				50	24	23.36
				50	49	23.52
				100	0	23.35
	20175	1732.5	QPSK	1	0	23.57
				1	49	23.51
				1	99	23.56
				50	0	23.49
				50	24	23.44
				50	49	23.14
				100	0	23.41
			16QAM	1	0	23.57
				1	49	23.60
				1	99	23.45
				50	0	23.24
				50	24	23.47
				50	49	23.30
				100	0	23.29
	20300	1745	QPSK	1	0	23.47
				1	49	23.52
				1	99	23.36
				50	0	23.19
				50	24	23.20
				50	49	23.02
				100	0	23.17
			16QAM	1	0	23.46
				1	49	23.42
				1	99	23.55
				50	0	23.18
				50	24	23.25
				50	49	23.32
				100	0	23.20

LTE Band 7：

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
5MHz	20775	2502.5	QPSK	1	0	21.87
				1	49	21.35
				1	99	21.55
				12	0	20.77
				12	24	20.86
				12	49	20.52
				25	0	20.68
			16QAM	1	0	21.01
				1	49	21.12
				1	99	21.03
				12	0	20.62
				12	24	20.44
				12	49	20.21
				25	0	19.65
	21100	2535	QPSK	1	0	21.76
				1	49	21.41
				1	99	21.54
				12	0	20.74
				12	24	20.47
				12	49	20.70
				25	0	20.69
			16QAM	1	0	20.76
				1	49	20.63
				1	99	20.59
				12	0	20.38
				12	24	20.15
				12	49	20.00
				25	0	19.76
	21425	2567.5	QPSK	1	0	21.29
				1	49	21.39
				1	99	21.24
				12	0	21.30
				12	24	21.59
				12	49	21.63
				25	0	21.25
			16QAM	1	0	21.27
				1	49	21.47
				1	99	21.46
				12	0	21.39
				12	24	21.12
				12	49	21.26
				25	0	21.37

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
10MHz	20800	2505	QPSK	1	0	**23.87**
				1	49	23.51
				1	99	23.56
				25	0	22.69
				25	24	22.62
				25	49	22.80
				50	0	22.66
			16QAM	1	0	23.22
				1	49	23.15
				1	99	23.11
				25	0	22.47
				25	24	22.16
				25	49	22.14
				50	0	21.71
	21100	2535	QPSK	1	0	23.75
				1	49	23.45
				1	99	23.48
				25	0	22.70
				25	24	22.58
				25	49	22.63
				50	0	22.66
			16QAM	1	0	22.86
				1	49	22.84
				1	99	22.79
				25	0	22.81
				25	24	22.74
				25	49	22.59
				50	0	21.73
	21400	2565	QPSK	1	0	22.42
				1	49	22.07
				1	99	22.40
				25	0	22.19
				25	24	22.59
				25	49	22.87
				50	0	23.05
			16QAM	1	0	21.42
				1	49	21.87
				1	99	21.91
				25	0	22.02
				25	24	22.15
				25	49	22.00
				50	0	22.21

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
15MHz	20825	2507.5	QPSK	1	0	23.00
				1	49	22.74
				1	99	22.89
				36	0	21.94
				36	24	21.88
				36	49	21.90
				75	0	21.91
			16QAM	1	0	22.17
				1	49	22.00
				1	99	21.92
				36	0	22.12
				36	24	21.74
				36	49	21.88
				75	0	21.86
	21100	2535	QPSK	1	0	23.47
				1	49	23.36
				1	99	23.46
				36	0	22.76
				36	24	22.81
				36	49	22.63
				75	0	22.74
			16QAM	1	0	23.24
				1	49	23.11
				1	99	22.95
				36	0	22.63
				36	24	22.22
				36	49	22.54
				75	0	21.77
	21375	2562.5	QPSK	1	0	22.86
				1	49	22.74
				1	99	22.36
				36	0	21.67
				36	24	21.76
				36	49	21.52
				75	0	21.51
			16QAM	1	0	21.94
				1	49	21.96
				1	99	21.85
				36	0	21.63
				36	24	21.65
				36	49	21.66
				75	0	21.57

BW(MHz)	Ch	Freq(MHz)	Mode	UL RB Allocation	UL RB Offset	Average Power (dbm)
20MHz	20850	2510	QPSK	1	0	22.94
				1	49	22.57
				1	99	22.74
				50	0	21.77
				50	24	21.74
				50	49	21.69
				100	0	21.73
			16QAM	1	0	22.13
				1	49	22.01
				1	99	21.98
				50	0	21.79
				50	24	21.70
				50	49	21.71
				100	0	21.79
	21100	2535	QPSK	1	0	23.83
				1	49	23.51
				1	99	23.55
				50	0	22.68
				50	24	22.66
				50	49	22.59
				100	0	22.61
			16QAM	1	0	23.01
				1	49	22.85
				1	99	22.87
				50	0	22.25
				50	24	21.89
				50	49	21.93
				100	0	21.65
	21350	2560	QPSK	1	0	23.13
				1	49	22.98
				1	99	22.79
				50	0	21.85
				50	24	21.63
				50	49	21.54
				100	0	21.52
			16QAM	1	0	22.57
				1	49	22.54
				1	99	22.46
				50	0	22.30
				50	24	22.21
				50	49	22.12
				100	0	21.63

Radiated Power(Measured at max. conducted power channel)

ERP and EIRP

LTE Band 2 (Part 24E)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 24E	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
LTE Band 2 Channel 18900 – 1.4MHz – QPSK										
1880.0	76.27	324	1.0	H	2.42	0.31	10.40	12.51	33	-20.49
1880.0	84.88	212	1.6	V	11.76	0.31	10.40	21.85	33	-11.15
LTE Band 2 Channel 18607 – 1.4MHz – 16QAM										
1850.7	76.52	178	2.4	H	2.55	0.31	10.40	12.64	33	-20.36
1850.7	84.98	160	1.4	V	11.70	0.31	10.40	21.79	33	-11.21
LTE Band 2 Channel 18900 – 3MHz – QPSK										
1880.0	78.81	336	1.7	H	4.96	0.31	10.40	15.05	33	-17.95
1880.0	84.21	283	2.0	V	11.09	0.31	10.40	21.18	33	-11.82
LTE Band 2 Channel 18615 – 3MHz – 16QAM										
1851.5	76.22	166	1.2	H	2.25	0.31	10.40	12.34	33	-20.66
1851.5	84.63	299	1.5	V	11.35	0.31	10.40	21.44	33	-11.56
LTE Band 2 Channel 18625 – 5MHz – QPSK										
1852.5	78.54	227	1.3	H	4.57	0.31	10.40	14.66	33	-18.34
1852.5	84.65	58	2.1	V	11.37	0.31	10.40	21.46	33	-11.54
LTE Band 2 Channel 18900 – 5MHz – 16QAM										
1880.0	76.41	285	1.8	H	2.56	0.31	10.40	12.65	33	-20.35
1880.0	84.41	137	1.0	V	11.29	0.31	10.40	21.38	33	-11.62
LTE Band 2 Channel 18650 – 10MHz – QPSK										
1855.0	79.14	225	1.8	H	5.17	0.31	10.40	15.26	33	-17.74
1855.0	84.62	145	2.4	V	11.34	0.31	10.40	21.43	33	-11.57
LTE Band 2 Channel 18650 – 10MHz – 16QAM										
1855.0	79.79	192	2.0	H	5.82	0.31	10.40	15.91	33	-17.09
1855.0	84.45	271	1.0	V	11.17	0.31	10.40	21.26	33	-11.74
LTE Band 2 Channel 18675 – 15MHz – QPSK										
1857.5	78.04	84	2.1	H	4.07	0.31	10.40	14.16	33	-18.84
1857.5	84.93	244	1.6	V	11.65	0.31	10.40	21.74	33	-11.26

LTE Band 2 Channel 18675 – 15MHz – 16QAM										
1857.5	76.21	112	1.1	H	2.36	0.31	10.40	12.45	33	-20.55
1857.5	84.01	275	2.0	V	10.89	0.31	10.40	20.98	33	-12.02
LTE Band 2 Channel 18900 – 20MHz – QPSK										
1880.0	78.58	76	1.3	H	4.73	0.31	10.40	14.82	33	-18.18
1880.0	84.45	280	1.4	V	11.33	0.31	10.40	21.42	33	-11.58
LTE Band 2 Channel 18700 – 20MHz – 16QAM										
1860.0	76.30	182	2.1	H	2.57	0.32	10.40	12.65	33	-20.35
1860.0	84.88	344	1.8	V	11.92	0.32	10.40	22.00	33	-11.00

LTE Band 4 (Part 27)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 27	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
LTE Band 4 Channel 20175 – 1.4MHz – QPSK										
1732.5	77.50	275	1.0	H	3.39	0.31	10.40	13.48	30	-16.52
1732.5	84.27	317	1.5	V	10.74	0.31	10.40	20.83	30	-9.17
LTE Band 4 Channel 20175 – 1.4MHz – 16QAM										
1732.5	79.96	202	2.5	H	5.85	0.31	10.40	15.94	30	-14.06
1732.5	85.00	35	1.5	V	11.47	0.31	10.40	21.56	30	-8.44
LTE Band 4 Channel 20175 – 3MHz – QPSK										
1732.5	77.97	244	1.7	H	3.86	0.31	10.40	13.95	30	-16.05
1732.5	84.36	350	2.2	V	10.83	0.31	10.40	20.92	30	-9.08
LTE Band 4 Channel 20175 – 3MHz – 16QAM										
1732.5	78.76	111	1.8	H	4.65	0.31	10.40	14.74	30	-15.26
1732.5	84.97	328	1.5	V	11.44	0.31	10.40	21.53	30	-8.47
LTE Band 4 Channel 20175 – 5MHz – QPSK										
1732.5	78.91	102	1.2	H	4.80	0.31	10.40	14.89	30	-15.11
1732.5	84.35	172	2.0	V	10.82	0.31	10.40	20.91	30	-9.09
LTE Band 4 Channel 20175 – 5MHz – 16QAM										
1732.5	77.80	46	1.8	H	3.69	0.31	10.40	13.78	30	-16.22
1732.5	84.28	25	2.3	V	10.75	0.31	10.40	20.84	30	-9.16

LTE Band 4 Channel 20175 – 10MHz – QPSK										
1732.5	79.94	66	1.4	H	5.83	0.31	10.40	15.92	30	-14.08
1732.5	84.55	342	1.6	V	11.02	0.31	10.40	21.11	30	-8.89
LTE Band 4 Channel 20175 – 10MHz – 16QAM										
1732.5	78.17	180	1.4	H	4.06	0.31	10.40	14.15	30	-15.85
1732.5	84.77	277	2.3	V	11.24	0.31	10.40	21.33	30	-8.67
LTE Band 4 Channel 20175 – 15MHz – QPSK										
1732.5	77.51	307	2.1	H	3.40	0.31	10.40	13.49	30	-16.51
1732.5	84.23	180	1.0	V	10.70	0.31	10.40	20.79	30	-9.21
LTE Band 4 Channel 20025 – 15MHz – 16QAM										
1717.5	78.31	149	1.8	H	4.20	0.31	10.40	14.29	30	-15.71
1717.5	84.08	336	1.8	V	10.55	0.31	10.40	20.64	30	-9.36
LTE Band 4 Channel 20050 – 20MHz – QPSK										
1720.0	76.71	221	2.1	H	2.60	0.31	10.40	12.69	30	-17.31
1720.0	84.32	55	1.1	V	10.79	0.31	10.40	20.88	30	-9.12
LTE Band 4 Channel 20175 – 20MHz – 16QAM										
1732.5	76.09	83	2.1	H	1.98	0.31	10.40	12.07	30	-17.93
1732.5	84.92	162	2.0	V	11.39	0.31	10.40	21.48	30	-8.52

LTE Band 7 (Part 27)

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Substituted			Absolute Level	Part 27	
			Height	Polar	SG Level	Cable	Antenna Gain		Limit	Margin
(MHz)	(dBμV)	Degree	(m)	(H/V)	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
LTE Band 7 Channel 20775 – 5MHz – QPSK										
2502.5	78.64	81	1.1	H	4.64	0.31	10.40	14.73	30	-15.27
2502.5	81.29	107	1.4	V	11.01	0.31	10.40	21.10	30	-8.90
LTE Band 7 Channel 21425 – 5MHz – 16QAM										
2567.5	78.85	124	1.2	H	4.85	0.31	10.40	14.94	30	-15.06
2567.5	81.99	282	2.4	V	11.71	0.31	10.40	21.80	30	-8.20
LTE Band 7 Channel 20800 – 10MHz – QPSK										
2505.0	77.04	169	1.4	H	3.04	0.31	10.40	13.13	30	-16.87
2505.0	81.91	350	1.5	V	11.63	0.31	10.40	21.72	30	-8.28
LTE Band 7 Channel 20800 – 10MHz – 16QAM										
2505.0	78.34	129	1.8	H	4.34	0.31	10.40	14.43	30	-15.57
2505.0	81.80	91	2.2	V	11.52	0.31	10.40	21.61	30	-8.39
LTE Band 7 Channel 21100 – 15MHz – QPSK										
2535.0	78.24	151	2.2	H	4.24	0.31	10.40	14.33	30	-15.67
2535.0	81.87	298	2.2	V	11.59	0.31	10.40	21.68	30	-8.32
LTE Band 7 Channel 21100 – 15MHz – 16QAM										
2535.0	76.98	266	2.0	H	2.98	0.31	10.40	13.07	30	-16.93
2535.0	81.74	283	1.8	V	11.46	0.31	10.40	21.55	30	-8.45
LTE Band 7 Channel 21100 – 20MHz – QPSK										
2535.0	76.11	64	2.3	H	2.11	0.31	10.40	12.20	30	-17.80
2535.0	81.49	307	1.7	V	11.21	0.31	10.40	21.30	30	-8.70
LTE Band 7 Channel 21100 – 20MHz – 16QAM										
2535.0	76.04	133	1.1	H	2.04	0.31	10.40	12.13	30	-17.87
2535.0	81.52	97	2.0	V	11.24	0.31	10.40	21.33	30	-8.67

（note: above ERP or EIRP base on the worst case of conducted power）

7 Peak-to-Average Ratio

Test Requirement: 24.232 (d), 27.50(d)

Test Method: N/A

Test Mode: Transmitting

7.1 EUT Operation

Operating Environment **:**

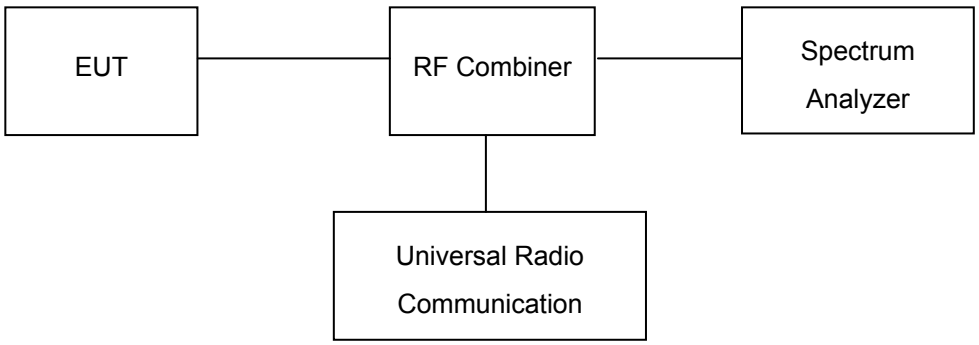
Temperature: 22.5 °C

Humidity: 52.3% RH

Atmospheric Pressure: 101.2kPa

7.2 Test Procedure

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. Set EUT to transmit at maximum output power.
3. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
4. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer. Record the maximum PAPR level associated with a probability of 0.1%.



7.3 Test Result

LTE Band 2 (part 24E)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Peak-Average Ratio (dB)	Limit(dB)
1.4	1880	RB 1/0	QPSK	3.71	13
			16QAM	4.64	13
3	1880	RB 1/0	QPSK	3.84	13
			16QAM	4.75	13
5	1880	RB 1/0	QPSK	4.06	13
			16QAM	4.86	13
10	1880	RB 1/0	QPSK	4.53	13
			16QAM	5.27	13
15	1880	RB 1/0	QPSK	5.16	13
			16QAM	6.02	13
20	1880	RB 1/0	QPSK	6.12	13
			16QAM	6.71	13

LTE Band 4 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Peak-Average Ratio (dB)	Limit(dB)
1.4	1732.5	RB 1/0	QPSK	2.73	13
			16QAM	3.18	13
3	1732.5	RB 1/0	QPSK	2.88	13
			16QAM	3.35	13
5	1732.5	RB 1/0	QPSK	2.88	13
			16QAM	3.43	13
10	1732.5	RB 1/0	QPSK	3.71	13
			16QAM	4.12	13
15	1732.5	RB 1/0	QPSK	4.93	13
			16QAM	5.24	13
20	1732.5	RB 1/0	QPSK	5.96	13
			16QAM	5.72	13

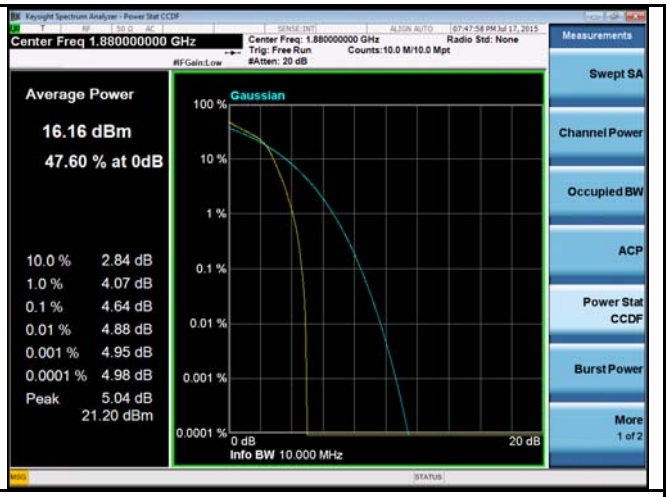
LTE Band 7 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Peak-Average Ratio (dB)	Limit(dB)
5	2535	RB 1/0	QPSK	4.69	13
			16QAM	5.49	13
10	2535	RB 1/0	QPSK	4.92	13
			16QAM	5.68	13
15	2535	RB 1/0	QPSK	5.23	13
			16QAM	6.25	13
20	2535	RB 1/0	QPSK	6.04	13
			16QAM	6.83	13

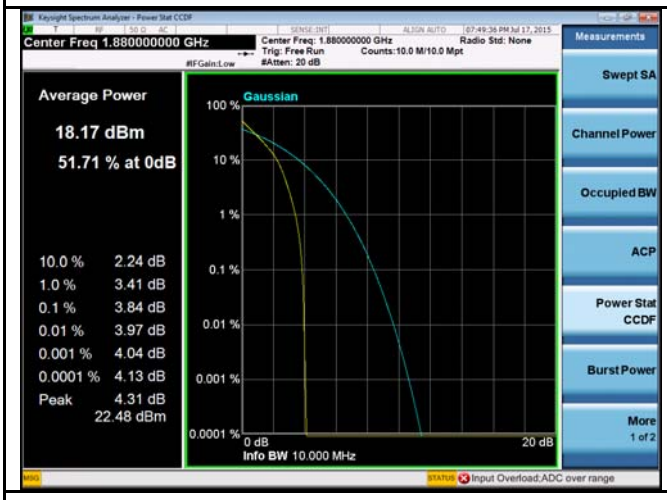
Test Plots

LTE Band 2(Part 24E):

LTE band 2 –Middle CH QPSK-1.4



LTE band 2 - Middle CH 16QAM-1.4



LTE band 2 - Middle CH QPSK-3

LTE band 2 - Middle CH 16QAM-3

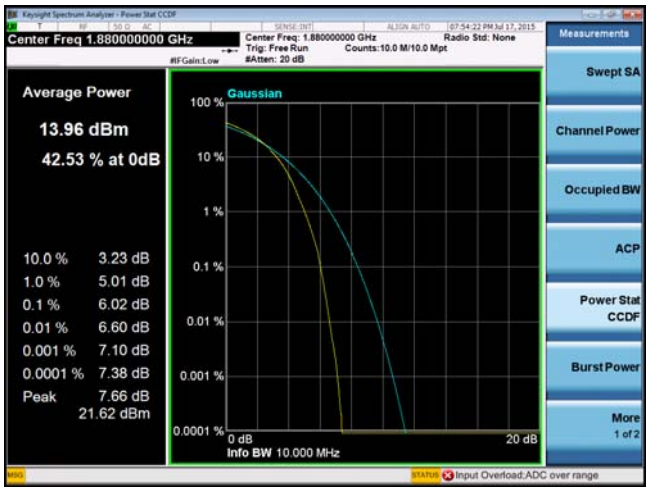
LTE band 2 - Middle CH QPSK-5

LTE band 2 - Middle CH 16QAM-5

LTE band 2 - Middle CH QPSK-10

LTE band 2 - Middle CH 16QAM-10

LTE band 2 - Middle CH QPSK-15



LTE band 2 - Middle CH 16QAM-15

LTE band 2 - Middle CH QPSK-20

LTE band 2 - Middle CH 16QAM-20

LTE Band 4(Part 27):

LTE band 4 –Middle CH QPSK-1.4

LTE band 4 - Middle CH 16QAM-1.4

LTE band 4 - Middle CH QPSK-3

LTE band 4 - Middle CH 16QAM-3

LTE band 4 - Middle CH QPSK-5

LTE band 4 - Middle CH 16QAM-5

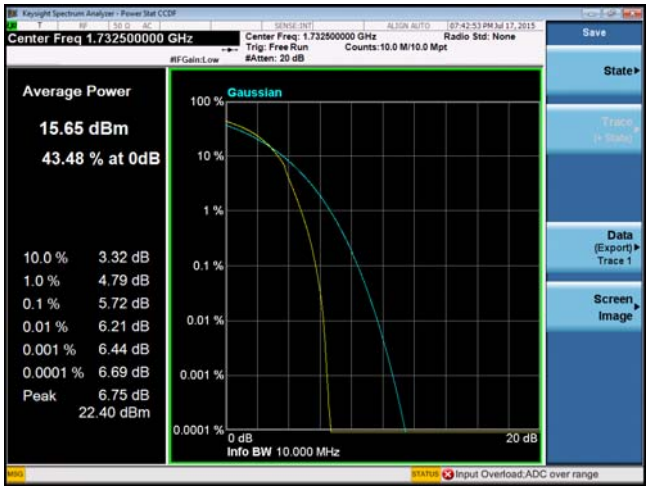
LTE band 4 - Middle CH QPSK-10

LTE band 4 - Middle CH 16QAM-10

LTE band 4 - Middle CH QPSK-15

LTE band 4 - Middle CH 16QAM-15

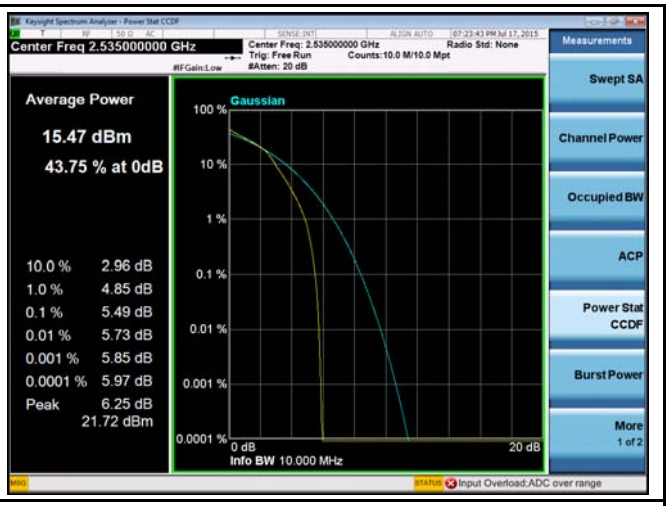
LTE band 4 - Middle CH QPSK-20



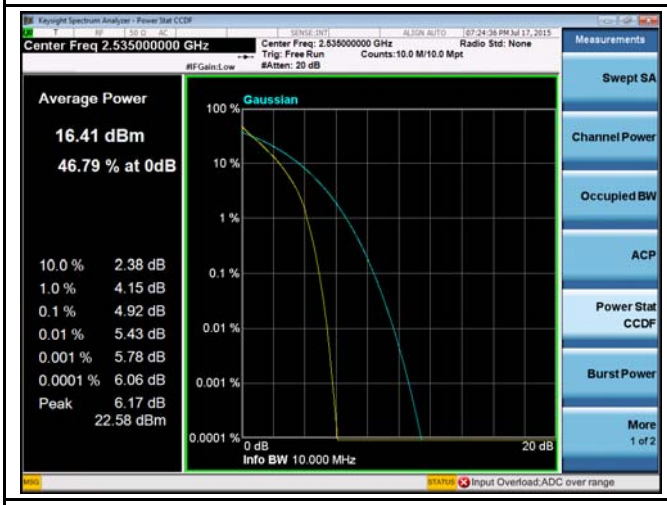
LTE band 4 - Middle CH 16QAM-20

LTE Band 7(Part 27):

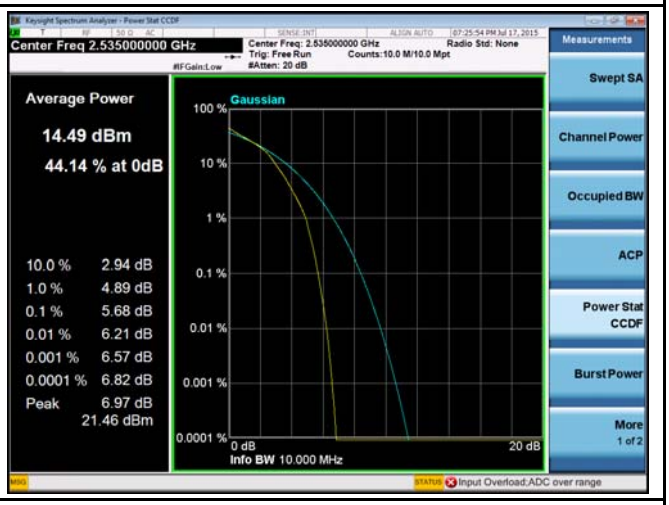
LTE band 7 - Middle CH QPSK-5



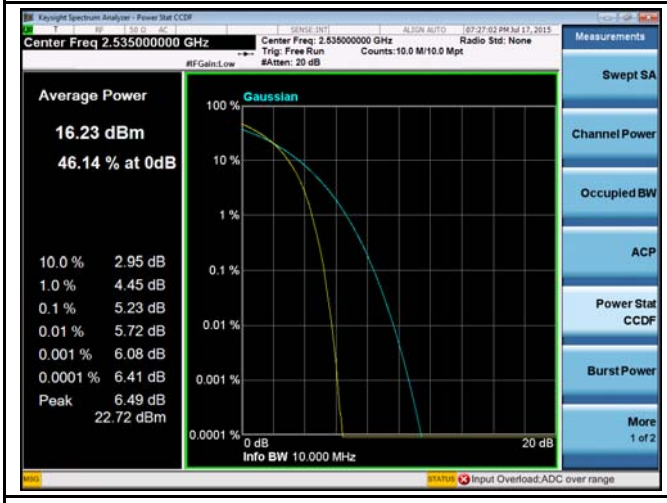
LTE band 7 - Middle CH 16QAM-5



LTE band 7 - Middle CH QPSK-10



LTE band 7 - Middle CH 16QAM-10



LTE band 7 - Middle CH QPSK-15

LTE band 7 - Middle CH 16QAM-15

	
LTE band 7 - Middle CH QPSK-20	LTE band 7 - Middle CH 16QAM-20

8 BANDWIDTH

Test Requirement:	FCC Part 2.1049, 24.238, 27.53(a)
Test Method:	ANSI C63.4:2009, TIA/EIA-603-D:2010
Test Mode:	Transmitting

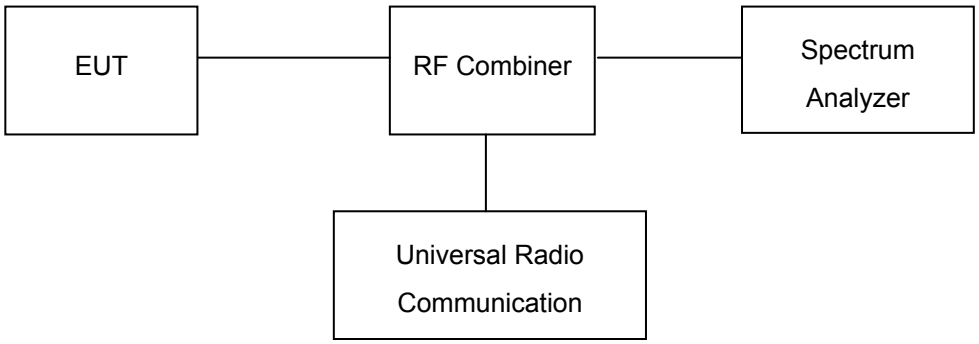
8.1 EUT Operation

Operating Environment **:**

Temperature:	22.5 °C
Humidity:	52.3% RH
Atmospheric Pressure:	101.2kPa

8.2 Test Procedure

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.
The resolution bandwidth of the spectrum analyzer was set at 3 kHz (Cellular /PCS) and the 26 dB & 99%bandwidth was recorded.



8.3 Test Result

LTE Band 2 (Part 24E):

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1850.7	QPSK	1.0966	1.322
			16QAM	1.1045	1.296
1.4	18900	1880	QPSK	1.1009	1.296
			16QAM	1.0930	1.271
1.4	19193	1909.3	QPSK	1.1197	1.994
			16QAM	1.1060	1.662
3	18615	1851.5	QPSK	2.7454	3.058
			16QAM	2.7649	3.051
3	18900	1880	QPSK	2.7500	3.081
			16QAM	2.7461	3.051
3	19185	1908.5	QPSK	2.7639	3.577
			16QAM	2.7527	3.172
5	18625	1852.5	QPSK	4.5493	5.143
			16QAM	4.5242	5.054
5	18900	1880	QPSK	4.5502	5.047
			16QAM	4.5459	5.083
5	19175	1907.5	QPSK	4.5522	5.543
			16QAM	4.5303	5.976
10	18650	1855	QPSK	9.0807	10.14
			16QAM	9.0838	10.08
10	18900	1880	QPSK	9.0575	10.21
			16QAM	9.0626	10.05
10	19150	1905	QPSK	9.0901	10.22
			16QAM	9.0799	10.15
15	18675	1857.5	QPSK	13.496	15.06
			16QAM	13.519	14.92
15	18900	1880	QPSK	13.519	15.07
			16QAM	13.509	14.84

15	19125	1902.5	QPSK	13.553	14.89
			16QAM	13.528	14.81
20	18700	1860	QPSK	17.955	20.62
			16QAM	17.949	19.44
20	18900	1880	QPSK	18.076	29.73
			16QAM	17.985	21.78
20	19100	1900	QPSK	17.920	19.31
			16QAM	17.929	19.41

LTE Band 4 (Part 27):

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1850.7	QPSK	1.0908	1.277
			16QAM	1.0927	1.264
1.4	18900	1880	QPSK	1.1033	1.263
			16QAM	1.0979	1.276
1.4	19193	1909.3	QPSK	1.0924	1.274
			16QAM	1.1063	1.302
3	18615	1851.5	QPSK	2.7407	3.049
			16QAM	2.7579	3.058
3	18900	1880	QPSK	2.7374	3.049
			16QAM	2.7391	3.033
3	19185	1908.5	QPSK	2.8821	6.700
			16QAM	2.7545	3.017
5	18625	1852.5	QPSK	4.5334	5.070
			16QAM	4.5164	5.068
5	18900	1880	QPSK	4.5209	5.062
			16QAM	4.5353	5.051
5	19175	1907.5	QPSK	4.5215	5.059
			16QAM	4.8047	5.343
10	18650	1855	QPSK	9.0469	10.15
			16QAM	9.0858	10.00

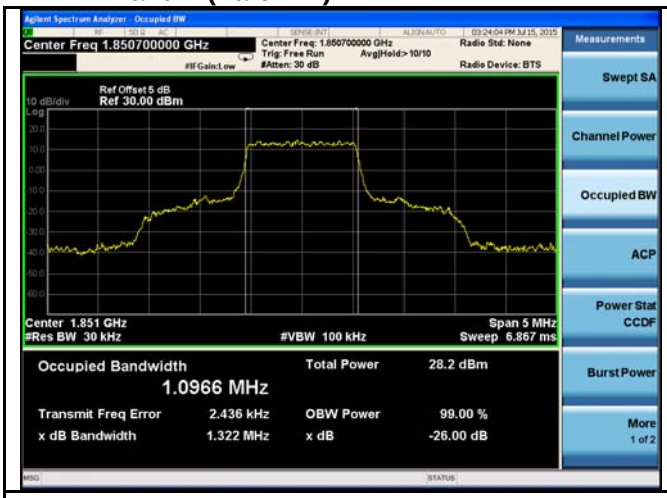
10	18900	1880	QPSK	9.0270	9.860
			16QAM	9.0388	10.03
10	19150	1905	QPSK	9.0624	10.03
			16QAM	9.0556	10.05
15	18675	1857.5	QPSK	13.478	14.78
			16QAM	13.522	14.76
15	18900	1880	QPSK	13.468	14.85
			16QAM	13.527	14.80
15	19125	1902.5	QPSK	13.475	14.83
			16QAM	13.478	14.94
20	18700	1860	QPSK	17.955	19.23
			16QAM	17.980	19.27
20	18900	1880	QPSK	17.902	19.20
			16QAM	17.933	20.20
20	19100	1900	QPSK	17.954	19.51
			16QAM	17.963	23.21

LTE Band 7 (Part 27):

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	18625	1852.5	QPSK	4.5452	7.683
			16QAM	4.5587	7.831
5	18900	1880	QPSK	4.5242	5.125
			16QAM	4.5430	5.097
5	19175	1907.5	QPSK	4.5369	5.100
			16QAM	4.5300	5.052
10	18650	1855	QPSK	9.0577	10.04
			16QAM	9.0526	10.04
10	18900	1880	QPSK	9.0956	10.10
			16QAM	9.0487	10.13
10	19150	1905	QPSK	9.0603	10.04
			16QAM	9.0869	9.917

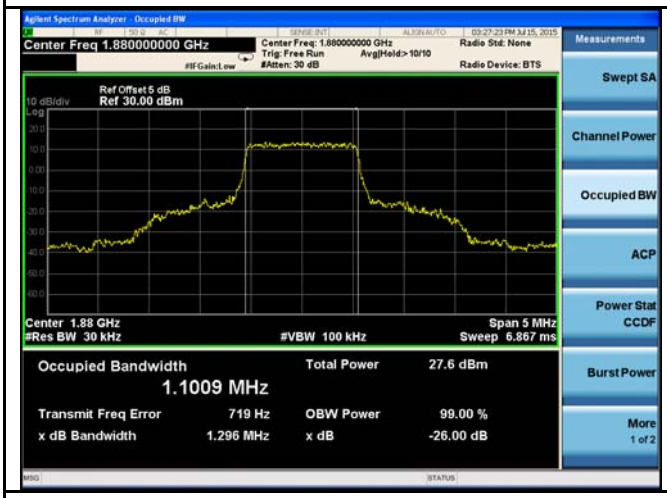
15	18675	1857.5	QPSK	13.569	20.94
			16QAM	13.548	15.46
15	18900	1880	QPSK	13.538	18.80
			16QAM	13.553	15.68
15	19125	1902.5	QPSK	13.509	15.93
			16QAM	13.512	14.91
20	18700	1860	QPSK	18.027	28.82
			16QAM	17.973	19.40
20	18900	1880	QPSK	17.931	19.46
			16QAM	17.944	19.43
20	19100	1900	QPSK	18.023	22.75
			16QAM	17.966	19.35

Test Plots
LTE Band 2 (Part 24E)



LTE band 2 - Low CH QPSK-1.4

LTE band 2 - Low CH 16QAM-1.4

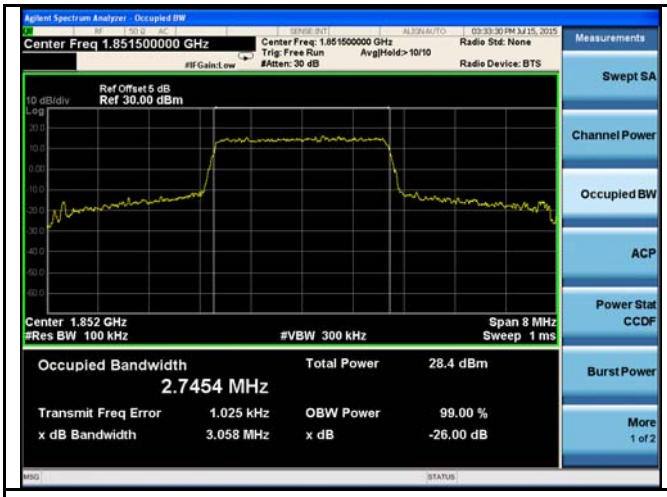


LTE band 2 - Middle CH QPSK-1.4

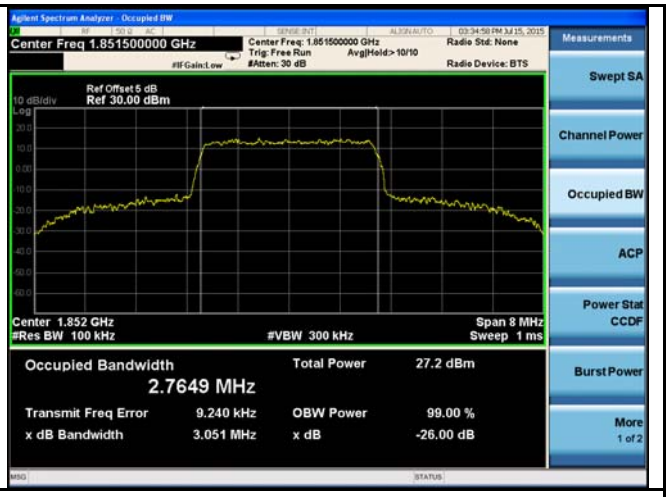
LTE band 2 - Middle CH 16QAM-1.4

LTE band 2 - High CH QPSK-1.4

LTE band 2 - High CH 16QAM-1.4



LTE band 2 - Low CH QPSK-3



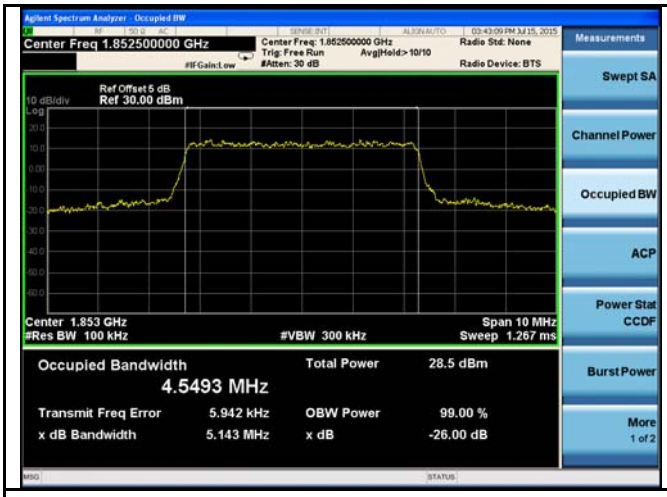
LTE band 2 - Low CH 16QAM-3

LTE band 2 - Middle CH QPSK-3

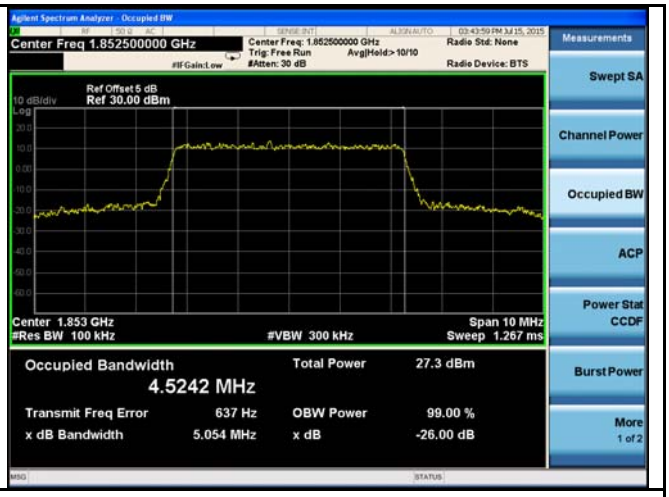
LTE band 2 - Middle CH 16QAM-3

LTE band 2 - High CH QPSK-3

LTE band 2 - High CH 16QAM-3



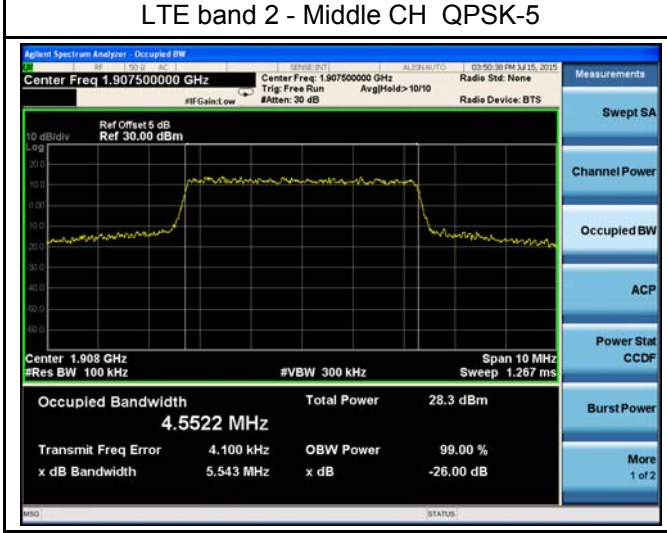
LTE band 2 - Low CH QPSK-5



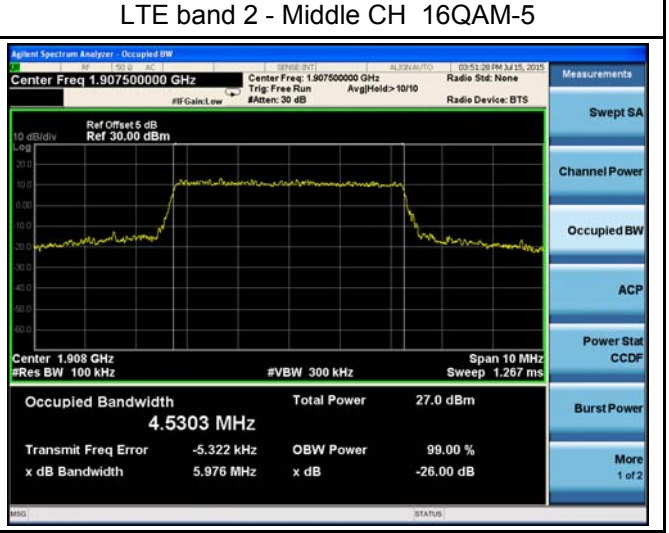
LTE band 2 - Low CH 16QAM-5

LTE band 2 - Middle CH QPSK-5

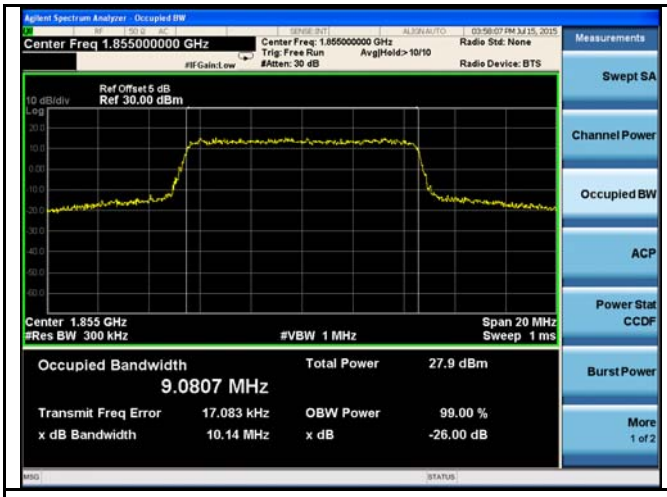
LTE band 2 - Middle CH 16QAM-5



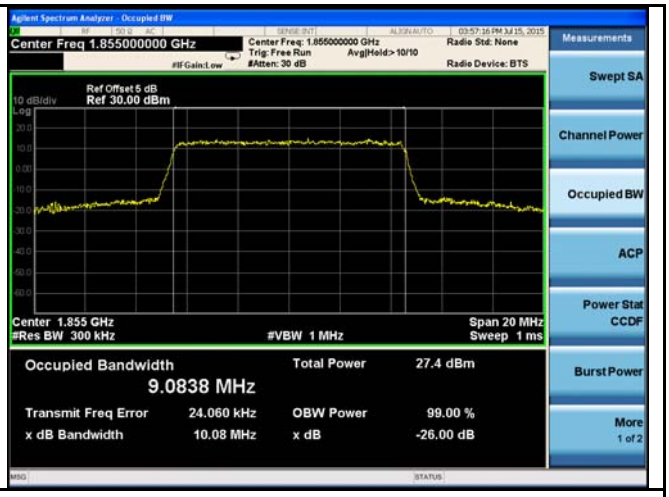
LTE band 2 - High CH QPSK-5



LTE band 2 - High CH 16QAM-5



LTE band 2 - Low CH QPSK-10



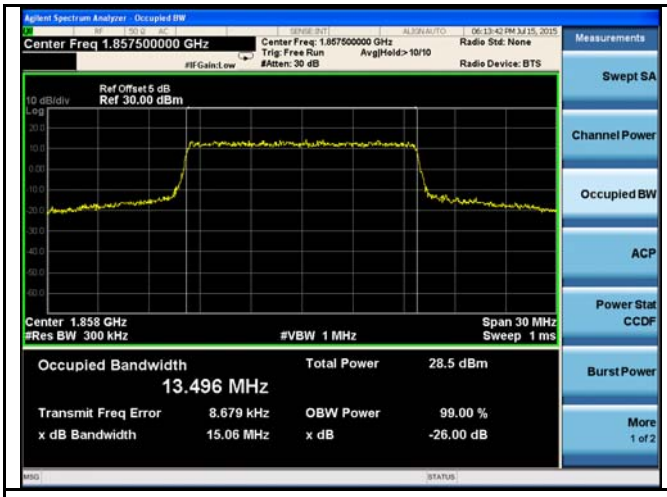
LTE band 2 - Low CH 16QAM-10

LTE band 2 - Middle CH QPSK-10

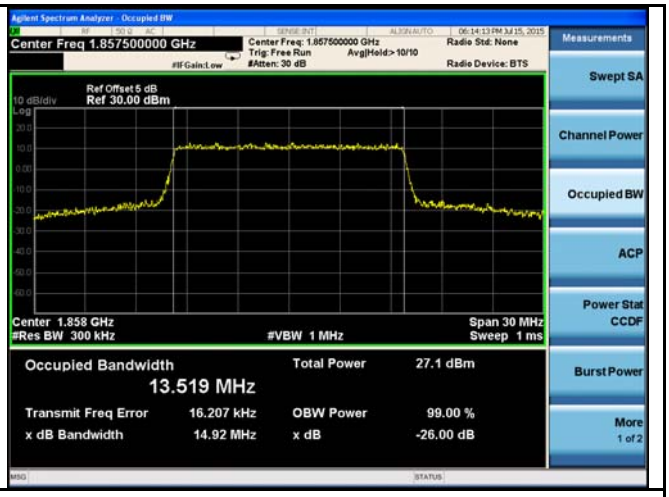
LTE band 2 - Middle CH 16QAM-10

LTE band 2 - High CH QPSK-10

LTE band 2 - High CH 16QAM-10



LTE band 2 - Low CH QPSK-15



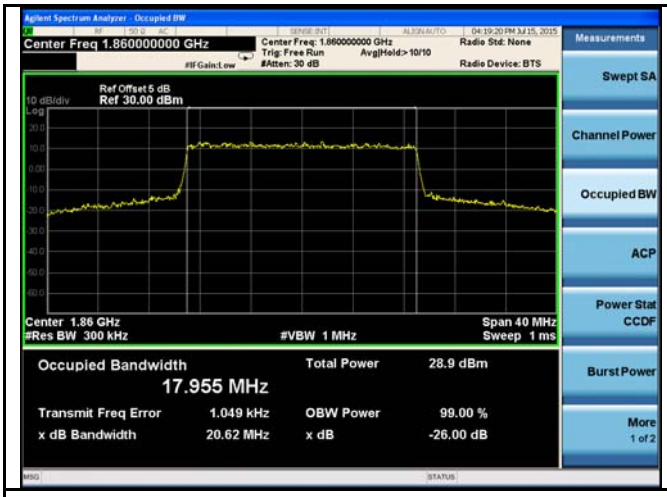
LTE band 2 - Low CH 16QAM-15

LTE band 2 - Middle CH QPSK-15

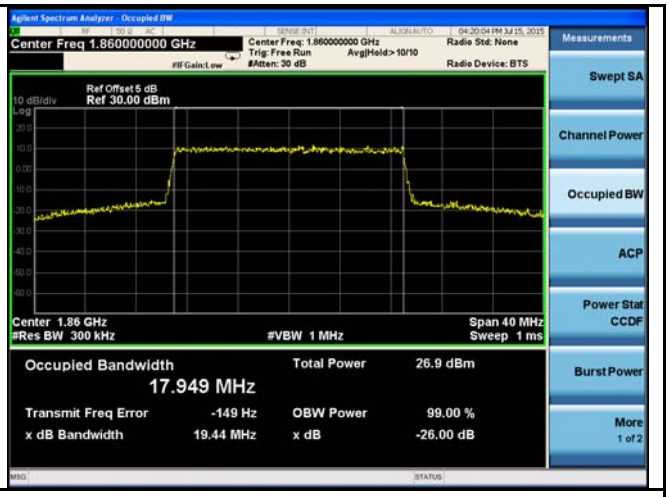
LTE band 2 - Middle CH 16QAM-15

LTE band 2 - High CH QPSK-15

LTE band 2 - High CH 16QAM-15



LTE band 2 - Low CH QPSK-20



LTE band 2 - Low CH 16QAM-20

LTE band 2 - Middle CH QPSK-20

LTE band 2 - Middle CH 16QAM-20

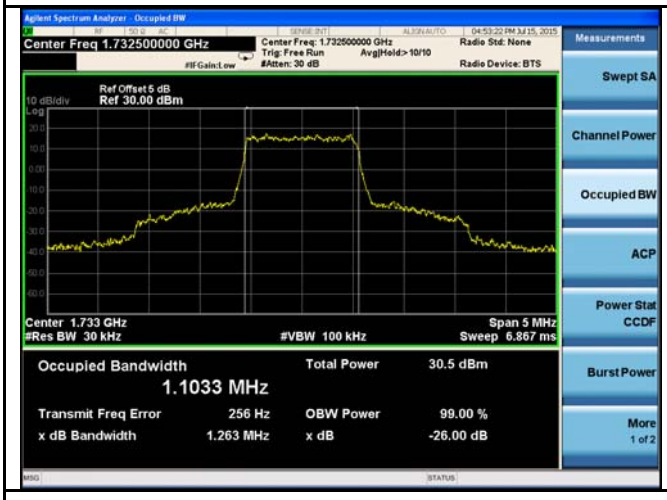
LTE band 2 - High CH QPSK-20

LTE band 2 - High CH 16QAM-20

LTE Band 4 (Part 27)

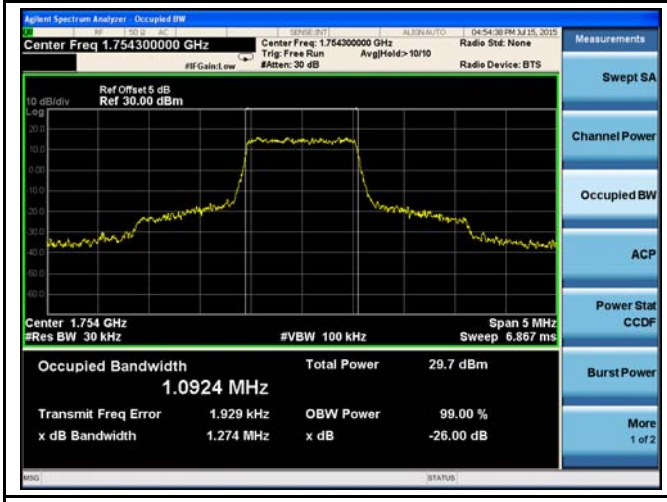
LTE band 4 - Low CH QPSK-1.4

LTE band 4 - Low CH 16QAM-1.4

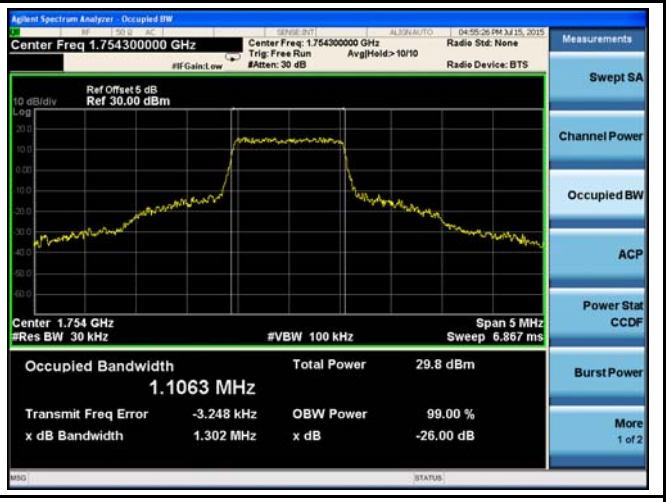


LTE band 4 - Middle CH QPSK-1.4

LTE band 4 - Middle CH 16QAM-1.4

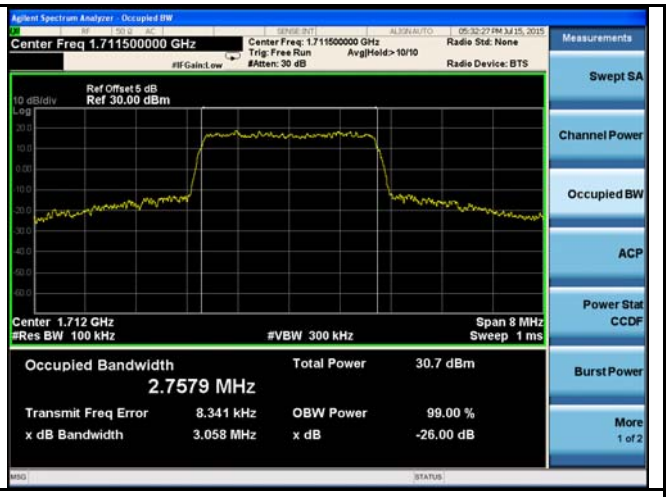


LTE band 4 - High CH QPSK-1.4

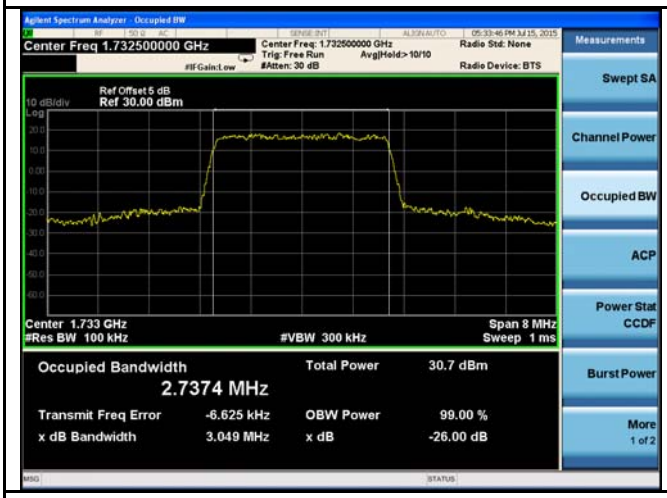


LTE band 4 - High CH 16QAM-1.4

LTE band 4 - Low CH QPSK-3



LTE band 4 - Low CH 16QAM-3

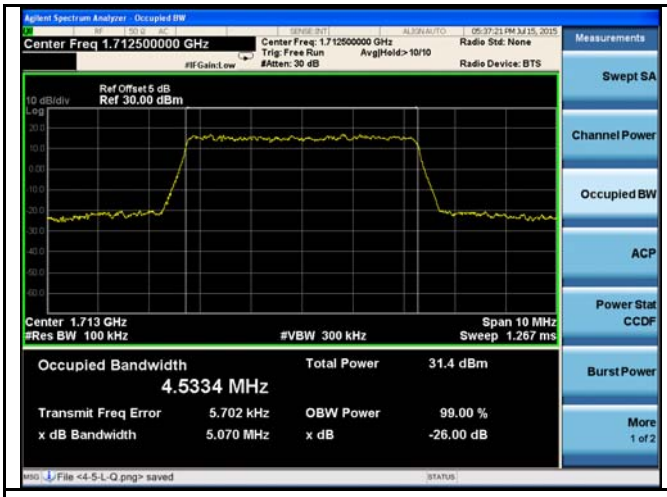


LTE band 4 - Middle CH QPSK-3

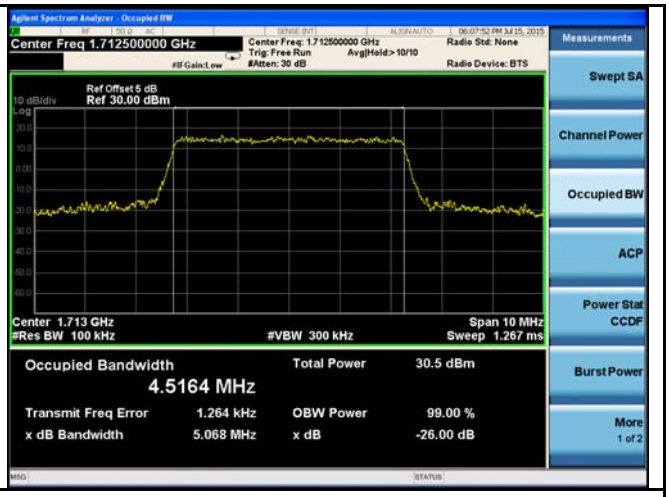
LTE band 4 - Middle CH 16QAM-3

LTE band 4 - High CH QPSK-3

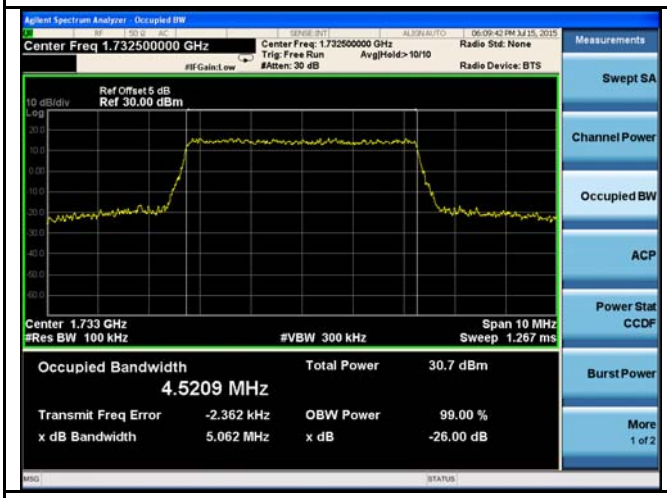
LTE band 4 - High CH 16QAM-3



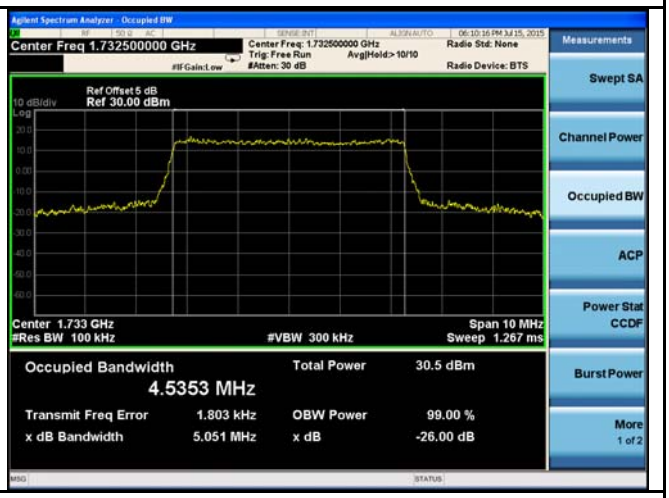
LTE band 4 - Low CH QPSK-5



LTE band 4 - Low CH 16QAM-5



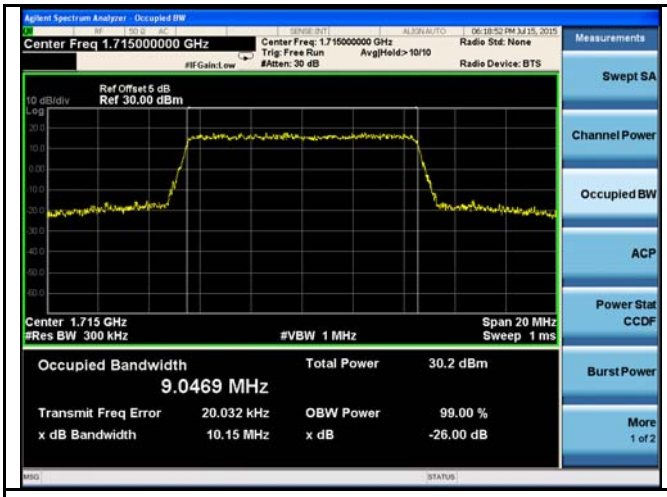
LTE band 4 - Middle CH QPSK-5



LTE band 4 - Middle CH 16QAM-5

LTE band 4 - High CH QPSK-5

LTE band 4 - High CH 16QAM-5



LTE band 4 - Low CH QPSK-10

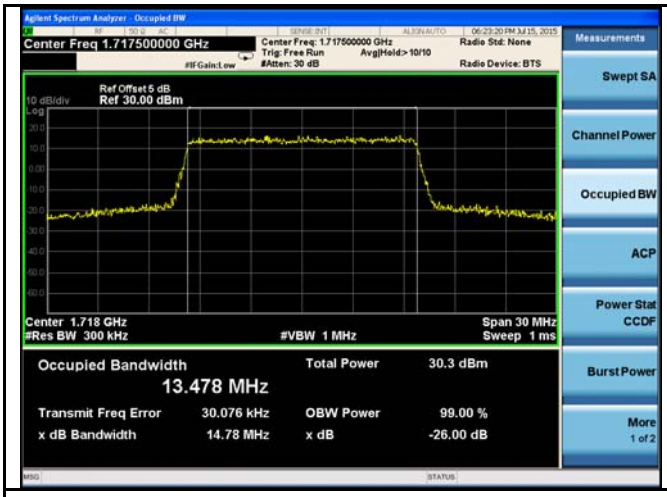
LTE band 4 - Low CH 16QAM-10

LTE band 4 - Middle CH QPSK-10

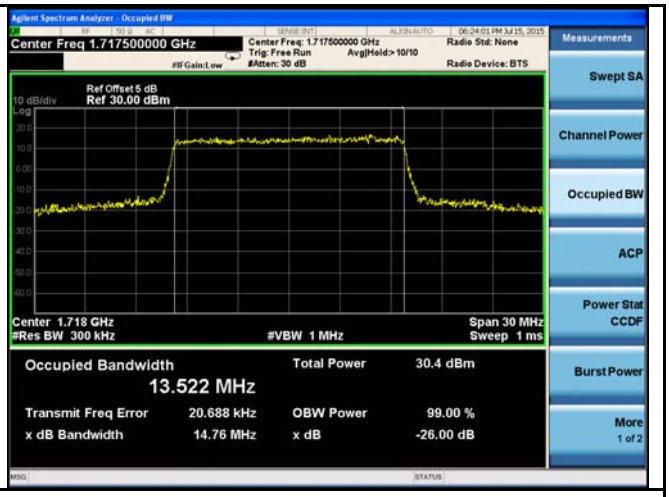
LTE band 4 - Middle CH 16QAM-10

LTE band 4 - High CH QPSK-10

LTE band 4 - High CH 16QAM-10

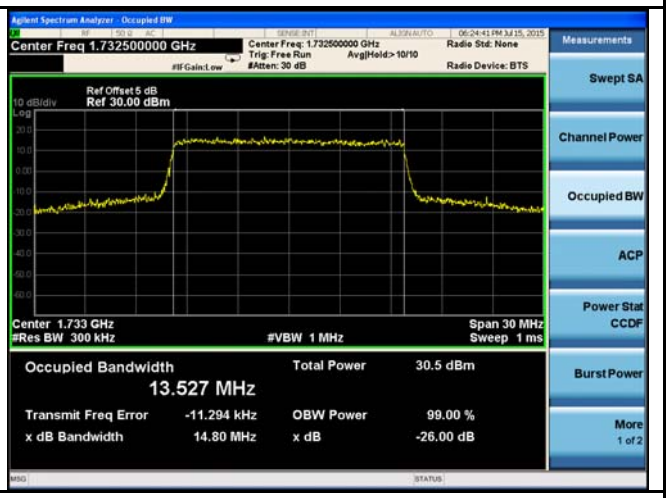


LTE band 4 - Low CH QPSK-15

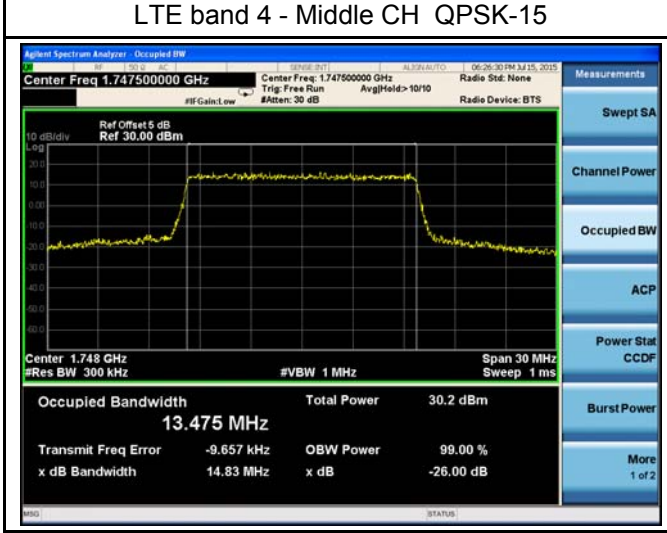


LTE band 4 - Low CH 16QAM-15

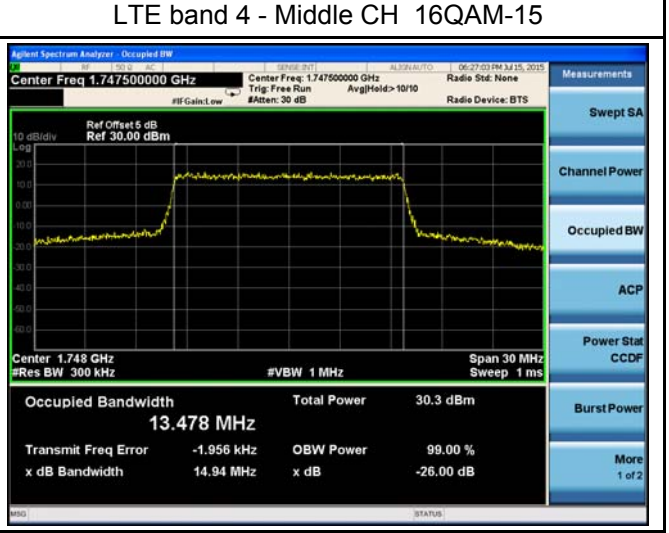
LTE band 4 - Middle CH QPSK-15



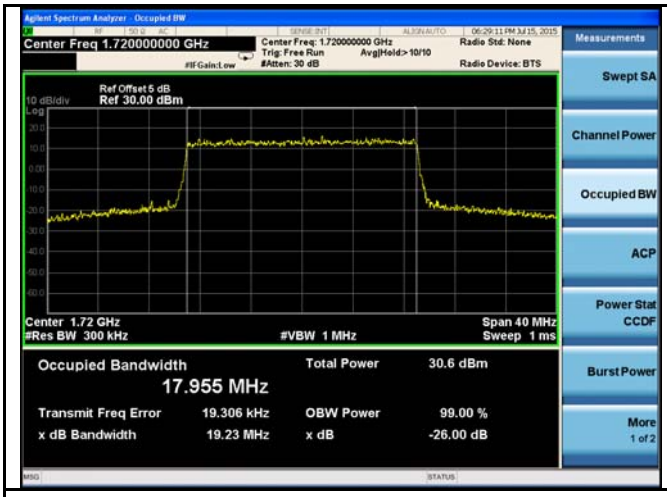
LTE band 4 - Middle CH 16QAM-15



LTE band 4 - High CH QPSK-15



LTE band 4 - High CH 16QAM-15



LTE band 4 - Low CH QPSK-20

LTE band 4 - Low CH 16QAM-20

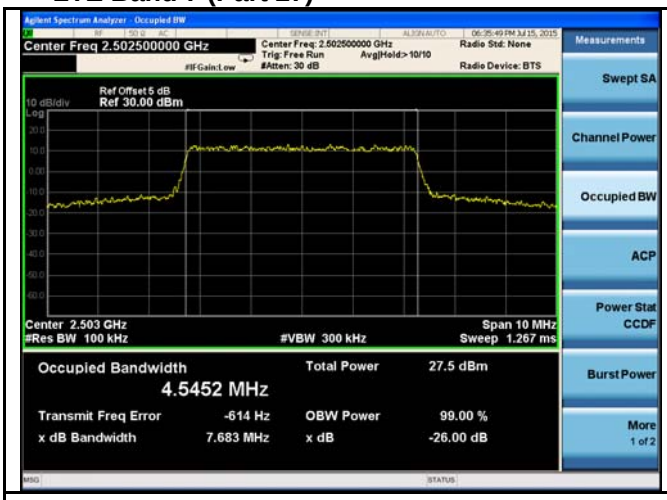
LTE band 4 - Middle CH QPSK-20

LTE band 4 - Middle CH 16QAM-20

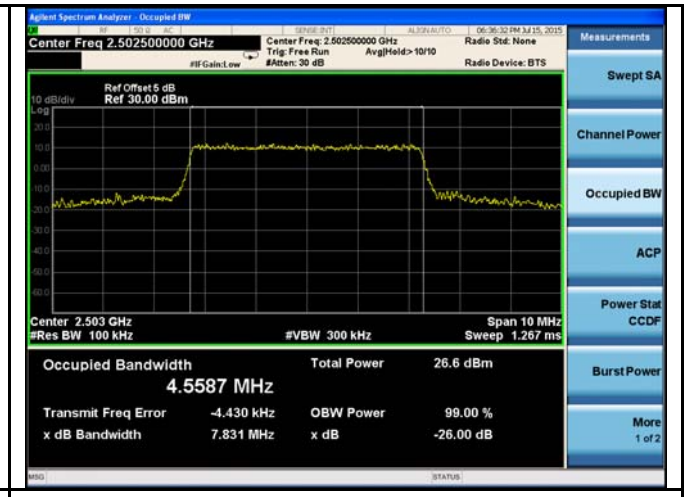
LTE band 4 - High CH QPSK-20

LTE band 4 - High CH 16QAM-20

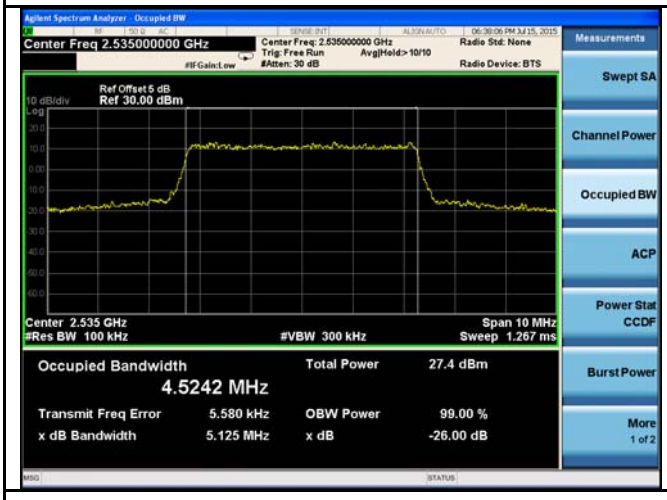
LTE Band 7 (Part 27)



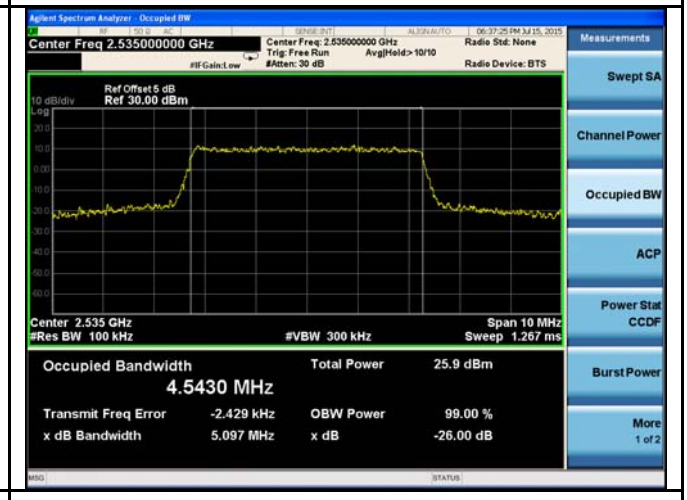
LTE band 7 - Low CH QPSK-5



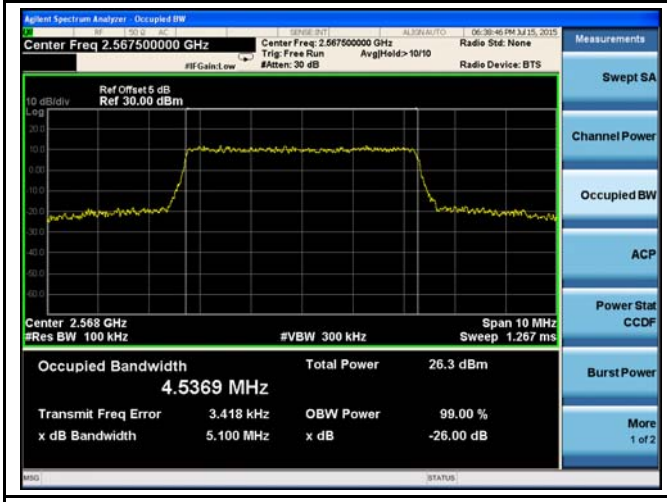
LTE band 7 - Low CH 16QAM-5



LTE band 7 - Middle CH QPSK-5



LTE band 7 - Middle CH 16QAM-5



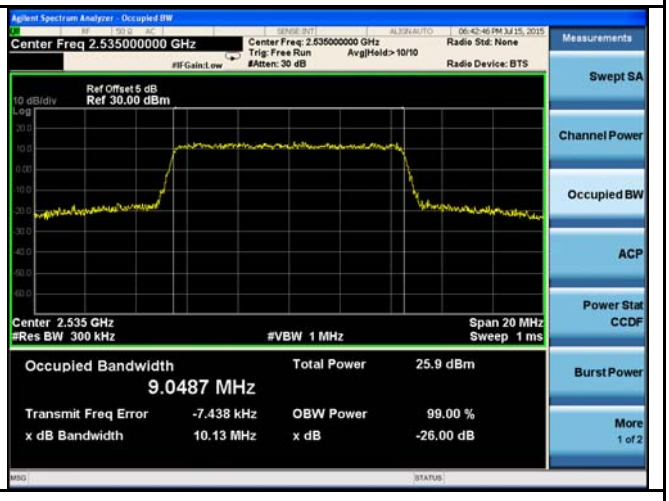
LTE band 7 - High CH QPSK-5

LTE band 7 - High CH 16QAM-5

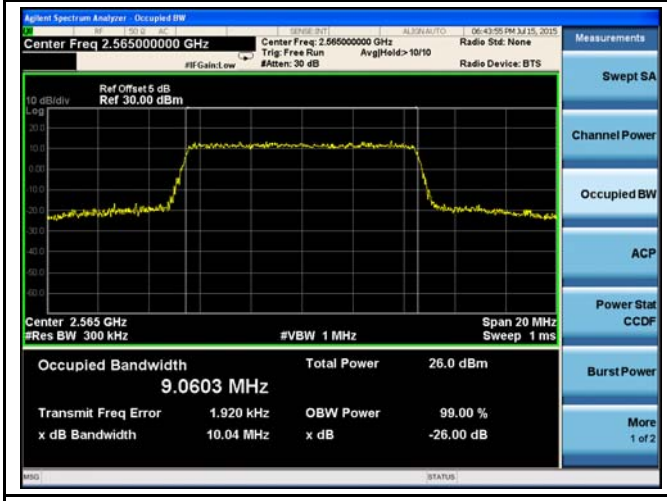
LTE band 7 - Low CH QPSK-10

LTE band 7 - Low CH 16QAM-10

LTE band 7 - Middle CH QPSK-10

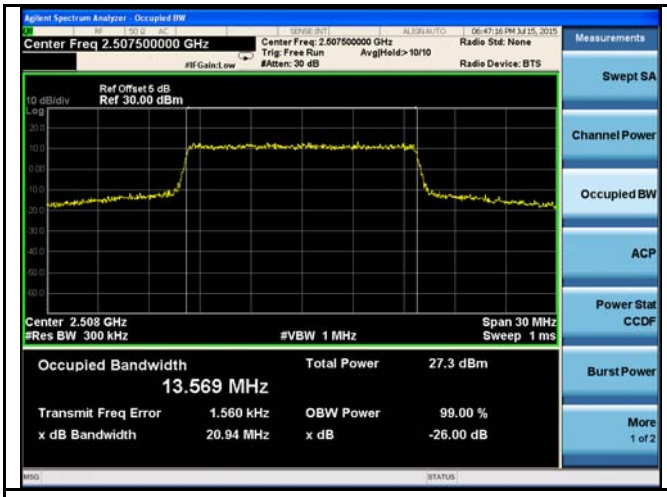


LTE band 7 - Middle CH 16QAM-10

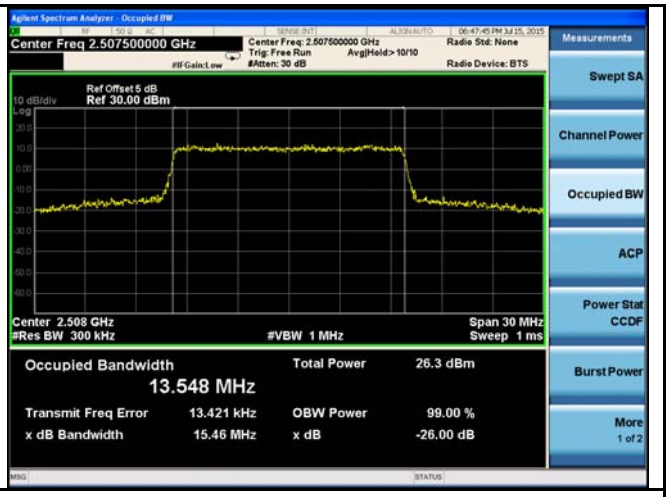


LTE band 7 - High CH QPSK-10

LTE band 7 - High CH 16QAM-10

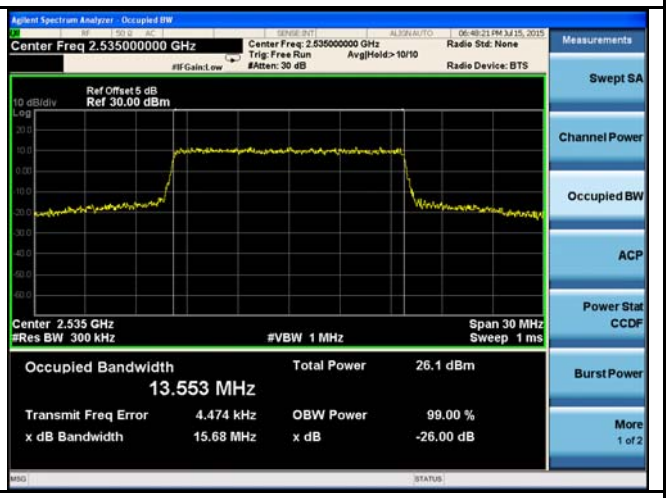


LTE band 7 - Low CH QPSK-15



LTE band 7 - Low CH 16QAM-15

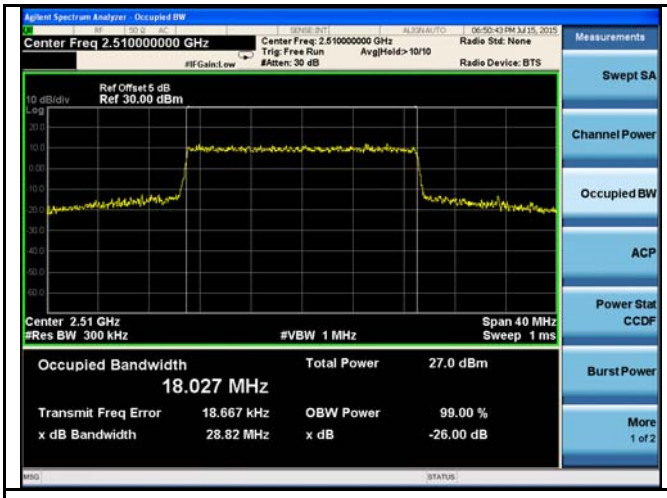
LTE band 7 - Middle CH QPSK-15



LTE band 7 - Middle CH 16QAM-15

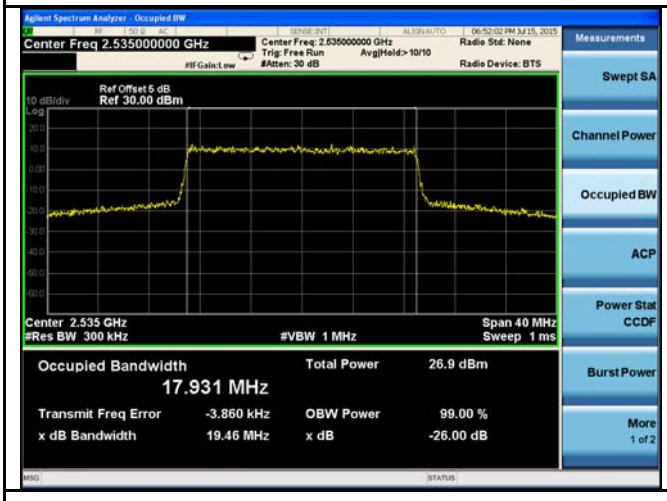
LTE band 7 - High CH QPSK-15

LTE band 7 - High CH 16QAM-15

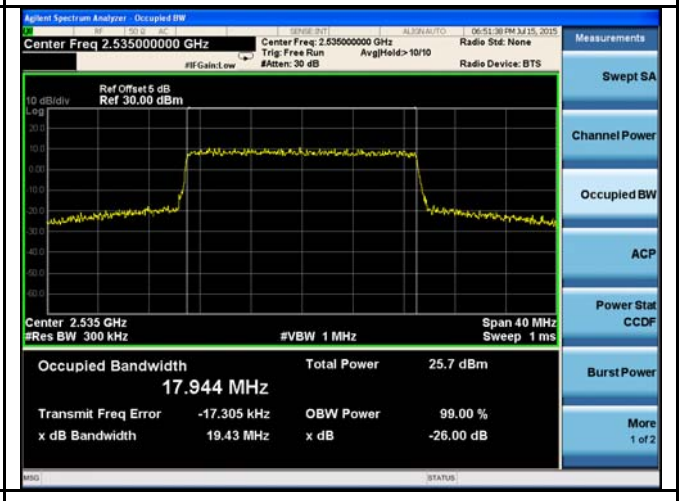


LTE band 7 - Low CH QPSK-20

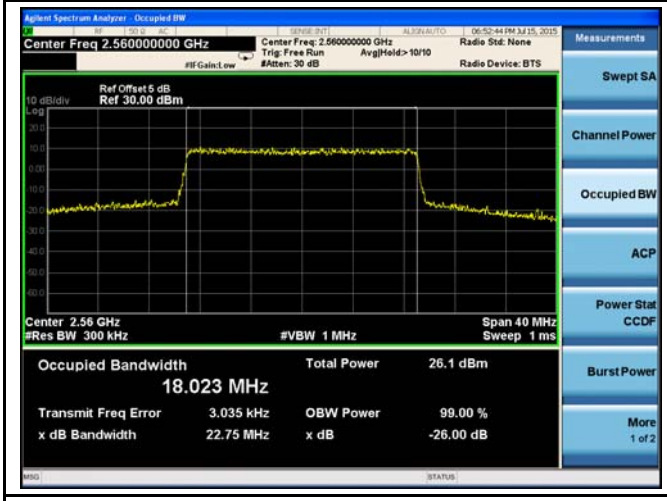
LTE band 7 - Low CH 16QAM-20



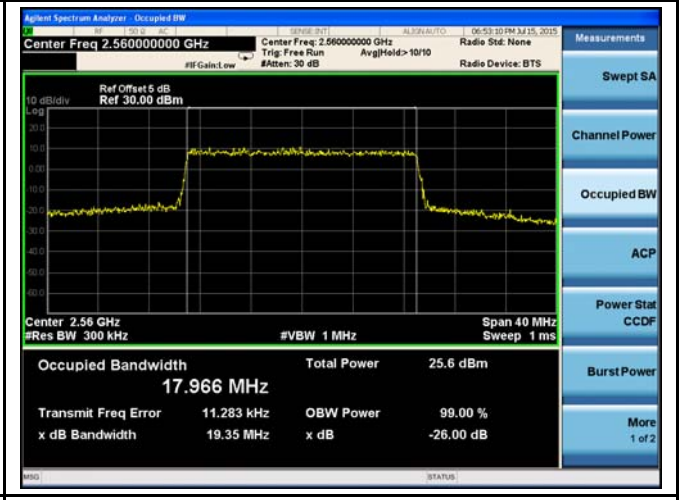
LTE band 7 - Middle CH QPSK-20



LTE band 7 - Middle CH 16QAM-20



LTE band 7 - High CH QPSK-20



LTE band 7 - High CH 16QAM-20