



REPORT No.: SZ15100023W02

FCC RF TEST REPORT

APPLICANT : ZTE Corporation
PRODUCT NAME : LTE Digital Mobile Handset
MODEL NAME : Blade V580/ZTE Blade V580
TRADE NAME : ZTE
BRAND NAME : ZTE
FCC ID : SRQ-V580
STANDARD(S) : 47 CFR Part 22, Subpart H
47 CFR Part 24, Subpart E
47 CFR Part 27, Subpart H&L&M
ISSUE DATE : 2015-11-05



SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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DIRECTORY

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Change History

Issue	Date	Reason for change
1.0	2015-11-05	First edition

**TEST REPORT DECLARATION**

Applicant	ZTE Corporation
Applicant Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R. China
Manufacturer	ZTE Corporation
Manufacturer Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R. China
Product Name	LTE Digital Mobile Handset
Model Name	Blade V580/ZTE Blade V580
Brand Name	ZTE
HW Version	V580_V1AMB
SW Version	V580_MXlusacell_FCC
Test Standards	47 CFR Part 22, Subpart H 47 CFR Part 24, Subpart E 47 CFR Part 27, Subpart H&L&M
Test Date	2015-10-13 to 2015-11-03
Test Result	PASS

Tested by : Zou Jian
Zou Jian (Test Engineer)

Reviewed by : Qiu Xiaojun
Qiu Xiaojun (RF Manager)

Approved by : Zeng Dexin
Zeng Dexin (Chief Engineer)



1. GENERAL INFORMATION

1.1 EUT Description

EUT Type: LTE Digital Mobile Handset
Serial No.: (n.a, marked #1 by test site)
Hardware Version.....: V580_V1AMB
Software Version..... V580_MXlusacell_FCC
Applicant: ZTE Corporation
ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan
District,Shenzhen,Guangdong,P.R.China
Manufacturer: ZTE Corporation
ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan
District,Shenzhen,Guangdong,P.R.China
Modulation Type.....: LTE Band 2: QPSK, 16QAM
LTE Band 4: QPSK, 16QAM
LTE Band 5: QPSK, 16QAM
LTE Band 7: QPSK, 16QAM
LTE Band 17: QPSK, 16QAM
Tx Frequency Range.....: LTE Band 2: 1850MHz ~1910MHz
LTE Band 4: 1710MHz ~1755MHz
LTE Band 5: 824MHz ~ 849MHz
LTE Band 7: 2500MHz ~ 2570MHz
LTE Band 17: 704MHz ~ 716MHz
Rx Frequency Range: LTE Band 2: 1930MHz ~ 1990MHz
LTE Band 4: 2110MHz ~ 2155MHz
LTE Band 5: 869MHz ~ 894MHz
LTE Band 7: 2620MHz ~ 2690MHz
LTE Band 17: 734MHz ~ 746MHz
Emission Designator: 1M10G7D (LTE Band 2, QPSK, BW 1.4MHz)
1M10W7D (LTE Band 2, 16QAM, BW 1.4MHz)
2M72G7D (LTE Band 2, QPSK, BW 3MHz)
2M71 W7D (LTE Band 2, 16QAM, BW 3MHz)
4M54G7D (LTE Band 2, QPSK, BW 5MHz)
4M53 W7D (LTE Band 2, 16QAM, BW 5MHz)
9M02G7D (LTE Band 2, QPSK, BW 10MHz)
9M01W7D (LTE Band 2, 16QAM, BW 10MHz)
13M59G7D (LTE Band 2, QPSK, BW 15MHz)
13M55W7D (LTE Band 2, 16QAM, BW 15MHz)



- 18M09G7D (LTE Band 2, QPSK, BW 20MHz)
- 18M10W7D (LTE Band 2, 16QAM, BW 20MHz)
- 1M10G7D (LTE Band 4, QPSK, BW 1.4MHz)
- 1M10W7D (LTE Band 4, 16QAM, BW 1.4MHz)
- 2M72G7D (LTE Band 4, QPSK, BW 3MHz)
- 2M71W7D (LTE Band 4, 16QAM, BW 3MHz)
- 4M53G7D (LTE Band 4, QPSK, BW 5MHz)
- 4M53W7D (LTE Band 4, 16QAM, BW 5MHz)
- 9M01G7D (LTE Band 4, QPSK, BW 10MHz)
- 9M01W7D (LTE Band 4, 16QAM, BW 10MHz)
- 13M52G7D (LTE Band 4, QPSK, BW 15MHz)
- 13M51W7D (LTE Band 4, 16QAM, BW 15MHz)
- 17M95G7D (LTE Band 4, QPSK, BW 20MHz)
- 17M96W7D (LTE Band 4, 16QAM, BW 20MHz)
- 1M10G7D (LTE Band 5, QPSK, BW 1.4MHz)
- 1M10W7D (LTE Band 5, 16QAM, BW 1.4MHz)
- 2M72G7D (LTE Band 5, QPSK, BW 3MHz)
- 2M71W7D (LTE Band 5, 16QAM, BW 3MHz)
- 4M53G7D (LTE Band 5, QPSK, BW 5MHz)
- 4M54W7D (LTE Band 5, 16QAM, BW 5MHz)
- 9M04G7D (LTE Band 5, QPSK, BW 10MHz)
- 9M04W7D (LTE Band 5, 16QAM, BW 10MHz)
- 4M53G7D (LTE Band 7, QPSK, BW 5MHz)
- 4M53W7D (LTE Band 7, 16QAM, BW 5MHz)
- 9M01G7D (LTE Band 7, QPSK, BW 10MHz)
- 9M01W7D (LTE Band 7, 16QAM, BW 10MHz)
- 13M53G7D (LTE Band 7, QPSK, BW 15MHz)
- 13M54W7D (LTE Band 7, 16QAM, BW 15MHz)
- 18M04G7D (LTE Band 7, QPSK, BW 20MHz)
- 18M10W7D (LTE Band 7, 16QAM, BW 20MHz)
- 4M54G7D (LTE Band 17, QPSK, BW 5MHz)
- 4M54W7D (LTE Band 17, 16QAM, BW 5MHz)
- 8M98G7D (LTE Band 17, QPSK, BW 10MHz)
- 8M98W7D (LTE Band 17, 16QAM, BW 10MHz)

Antenna Type.....: PIFA Antenna
Power Supply 3.8V DC Power

1.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2 and Part 22, Part 24,



Part 27 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-09 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-09 Edition)	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	2.1046	Transmitter Conducted Output Power	<u>PASS</u>
2	24.232(d), 27.50(d)(5)	Occupied Bandwidth	<u>PASS</u>
3	2.1049, 22.917 24.238, 27.53(g)	Frequency Stability	<u>PASS</u>
4	2.1055, 22.355 24.235, 27.54	Peak to Average Ratio	<u>PASS</u>
5	2.1051, 2.1057 24.238, 27.53(g)	Conducted Spurious Emissions	<u>PASS</u>
6	2.1051, 2.1057, 22.917, 24.238, 27.53(g)(h), 27.53(m)(4)	Band Edge	<u>PASS</u>
7	22.913, 24.232, 27.50(d)(4)	Equivalent Isotropic Radiated Power	<u>PASS</u>
8	2.1053, 2.1057, 22.917, 24.238, 27.53(g)	Radiated Spurious Emissions	<u>PASS</u>

1.3 Facilities and Accreditations

1.3.1 Facilities

Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L3572.

All measurement facilities used to collect the measurement data are located at FL.1, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China 518101. The test site is constructed in conformance with the requirements of TIA/EIA 603.D: 2010, ANSI C63.4: 2009 and CISPR Publication 22: 2010. The FCC registration number is 695796.



1.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 - 60
Atmospheric Pressure (kPa):	86 - 106

2. 47 CFR PART 2, PART 22H & 24E & 27L REQUIREMENTS

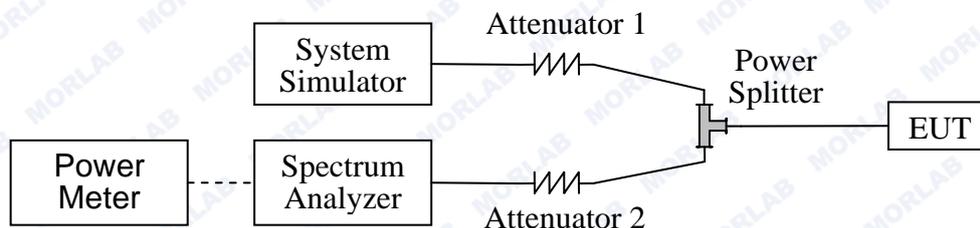
2.1 Transmitter Conducted Output Power

2.1.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2 Test Description

Test Setup:



The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Rohde& Schwarz	CMW500	1201.0002k5 0/124534/wk	2015.02.26	2016.02.25
Spectrum Analyzer	Rohde& Schwarz	FSL	10246	2015.02.26	2016.02.25
Spectrum Analyzer	Agilent	E4445A	MY44200685	2015.02.26	2016.02.25
Power Meter	Agilent	E4418B	GB43318055	2015.02.26	2016.02.25
Power Meter	Agilent	E4418B	GB43318055	2015.02.26	2016.02.25
Power Sensor	Agilent	8482A	MY41091706	2015.02.26	2016.02.25
Power Splitter	Weinschel	1506A	NW521	2015.02.26	2016.02.25
Attenuator 1	Resnet	20dB	(n.a.)	2015.02.26	2016.02.25
Attenuator 2	Resnet	3dB	(n.a.)	2015.02.26	2016.02.25

2.1.3 Test Results



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 2	20MHz	L 18700	1860	QPSK	1	0	20.92
					1	49	20.05
					1	99	21.03
					50	0	20.05
					50	25	20.10
					50	49	20.09
				100	0	20.01	
				16-QAM	1	0	20.19
					1	49	20.16
					1	99	20.24
					50	0	20.17
					50	25	20.12
		50	49		20.09		
		M 18900	1880	QPSK	1	0	20.21
					1	49	20.22
					1	99	21.23
					50	0	20.19
					50	25	20.08
					50	49	20.21
				100	0	20.03	
				16-QAM	1	0	20.54
					1	49	20.76
					1	99	20.43
					50	0	20.24
					50	25	20.22
		50	49		20.19		
		100	0	20.20			
		H 19100	1900	QPSK	1	0	21.09
					1	49	21.05
					1	99	21.32
50	0				20.00		
50	25				20.35		
50	49				20.09		
100	0			20.05			
16-QAM	1			0	20.48		
	1			49	20.39		
	1			99	20.59		
	50			0	20.33		
	50			25	20.21		
	50	49	20.02				
100	0	19.14					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 2	15MHz	L 18675	1857.5	QPSK	1	0	20.74
					1	37	20.85
					1	74	20.68
					36	0	20.05
					36	18	20.30
					36	35	20.04
				75	0	20.08	
				16-QAM	1	0	20.22
					1	37	20.15
					1	74	20.18
					36	0	20.06
					36	18	20.13
		36	35		20.07		
		M 18900	1880	QPSK	1	0	21.24
					1	37	21.27
					1	74	21.05
					36	0	20.30
					36	18	20.29
					36	35	20.32
				75	0	20.31	
				16-QAM	1	0	20.68
					1	37	20.80
					1	74	20.55
					36	0	20.44
					36	18	20.23
		36	35		20.11		
		H 19125	1902.5	QPSK	1	0	21.11
					1	37	21.16
					1	74	21.27
					36	0	20.06
36	18				20.24		
36	35				20.25		
75	0			20.18			
16-QAM	1			0	20.55		
	1			37	20.58		
	1			74	20.70		
	36			0	20.65		
	36			18	20.44		
	36	35	20.17				
75	0	19.28					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 2	10MHz	L 18650	1855	QPSK	1	0	20.94
					1	24	20.95
					1	49	20.98
					25	0	20.05
					25	12	20.01
					25	24	20.04
				16-QAM	50	0	20.08
					1	0	20.22
					1	24	20.15
					1	49	20.18
					25	0	20.11
					25	12	20.15
		M 18900	1880	QPSK	25	24	20.17
					50	0	19.09
					1	0	21.24
					1	24	21.27
					1	49	21.05
					25	0	20.30
				16-QAM	25	12	20.22
					25	24	20.32
					50	0	20.31
					1	0	20.68
					1	24	20.80
					1	49	20.55
		H 19150	1905	QPSK	25	0	20.31
					25	12	20.42
					25	24	20.53
					50	0	19.43
					1	0	21.11
					1	24	21.16
16-QAM	1			49	21.27		
	25			0	20.06		
	25			12	20.18		
	25			24	20.25		
	50			0	20.18		
	1			0	20.55		
1	24	20.58					
1	49	20.70					
25	0	20.63					
25	12	20.55					
25	24	20.21					
50	0	19.28					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 2	3MHz	L 18615	1851.5	QPSK	1	0	20.45
					1	7	20.67
					1	14	20.98
					8	0	20.50
					8	4	20.10
					8	7	20.04
				16-QAM	15	0	20.08
					1	0	20.22
					1	7	20.14
					1	14	20.15
					8	0	20.11
					8	4	20.16
		M 18900	1880	QPSK	8	7	20.17
					8	0	19.09
					15	0	21.24
					1	0	21.27
					1	7	21.05
					1	14	21.05
				16-QAM	8	0	20.30
					8	4	20.22
					8	7	20.32
					8	0	20.31
					15	0	20.31
					1	0	20.68
		H 19185	1908.5	QPSK	1	7	20.80
					1	14	20.55
					8	0	20.31
					8	4	20.42
					8	7	20.53
					15	0	19.43
				16-QAM	1	0	21.11
					1	7	21.16
					1	14	21.27
					8	0	20.06
					8	4	20.18
					8	7	20.25
16-QAM	15	0	20.18				
	1	0	20.55				
	1	7	20.58				
	1	14	20.70				
	8	0	20.63				
	8	4	20.55				
8	7	20.21					
15	0	19.28					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 2	1.4MHz	L 18607	1850.7	QPSK	1	0	20.98
					1	2	21.04
					1	5	21.00
					3	0	21.16
					3	1	21.14
					3	2	21.13
				6	0	19.99	
				16-QAM	1	0	20.18
					1	2	20.20
					1	5	20.11
					3	0	20.12
					3	1	20.10
		3	2		20.04		
		M 18900	1880	QPSK	1	0	21.30
					1	2	21.32
					1	5	21.33
					3	0	21.48
					3	1	21.21
					3	2	21.51
				6	0	20.34	
				16-QAM	1	0	20.20
					1	2	20.24
					1	5	20.20
					3	0	20.34
					3	2	20.02
		3	5		20.11		
		H 19193	1909.3	QPSK	1	0	19.39
					1	2	21.30
					1	5	21.62
					3	0	21.06
3	1				21.25		
3	2				21.33		
6	0			20.27			
16-QAM	1			0	20.01		
	1			2	20.03		
	1			5	20.08		
	3			0	20.05		
	3			1	20.03		
	3	2	20.01				
6	0	19.29					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 4	20MHz	L 20050	1720.0	QPSK	1	0	19.01
					1	49	19.45
					1	99	20.24
					50	0	18.98
					50	25	19.10
					50	49	19.18
				16-QAM	100	0	19.08
					1	0	19.01
					1	49	19.18
					1	99	19.35
					50	0	19.33
					50	25	19.23
		M 20175	1732.5	QPSK	50	49	19.22
					100	0	18.13
					1	0	20.25
					1	49	20.47
					1	99	20.10
					50	0	19.24
				16-QAM	50	25	19.21
					50	49	19.12
					100	0	19.18
					1	0	19.55
					1	49	19.66
					1	99	19.35
		H 20300	1745.0	QPSK	50	0	19.46
					50	25	19.21
					50	49	19.10
					100	0	18.26
					1	0	20.29
					1	49	19.99
16-QAM	1			99	19.96		
	50			0	19.98		
	50			25	19.66		
	50			49	18.84		
	100			0	18.92		
	1			0	19.53		
1	49	19.27					
1	99	19.85					
50	0	19.68					
50	25	19.51					
50	49	19.33					
100	0	17.98					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 4	15MHz	L 20025	1717.5	QPSK	1	0	19.02
					1	37	19.44
					1	74	20.24
					36	0	18.99
					36	18	19.11
					36	35	19.17
				16-QAM	75	0	19.09
					1	0	19.01
					1	37	19.18
					1	74	19.35
					36	0	19.32
					36	18	19.23
		M 20175	1732.5	QPSK	36	35	19.22
					75	0	18.11
					1	0	20.25
					1	37	20.47
					1	74	20.13
					36	0	19.22
				16-QAM	36	18	19.21
					36	35	19.12
					75	0	19.18
					1	0	19.56
					1	37	19.64
					1	74	19.35
		H 20325	1747.5	QPSK	36	0	19.46
					36	18	19.27
					36	35	19.18
					75	0	18.26
					1	0	20.29
					1	37	19.90
16-QAM	1			74	19.96		
	36			0	19.98		
	36			18	19.66		
	36			35	18.85		
	75			0	18.92		
	1			0	19.53		
1	37	19.27					
1	74	19.85					
36	0	19.63					
36	18	19.51					
36	35	19.33					
75	0	17.98					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 4	10MHz	L 20000	1715.0	QPSK	1	0	19.01
					1	24	19.43
					1	49	20.23
					25	0	18.98
					25	12	19.10
					25	24	19.16
		50	0	19.08			
		16-QAM	1	0	19.02		
			1	24	19.17		
			1	49	19.34		
			25	0	19.32		
			25	12	19.22		
	25		24	19.22			
	50	0	18.11				
		M 20175	1732.5	QPSK	1	0	20.24
					1	24	20.46
					1	49	20.12
					25	0	19.22
					25	12	19.21
	25				24	19.12	
	50	0	19.17				
		16-QAM	1	0	19.56		
			1	24	19.65		
			1	49	19.34		
25			0	19.45			
25			12	19.27			
25	24		19.18				
50	0	18.26					
	H 20350	1750.0	QPSK	1	0	20.28	
				1	24	19.89	
				1	49	19.95	
				25	0	19.97	
				25	12	19.66	
25				24	18.85		
50	0	18.92					
	16-QAM	1	0	19.53			
		1	24	19.27			
		1	49	19.85			
		25	0	19.63			
		25	12	19.51			
25		24	19.33				
50	0	17.98					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 4	5MHz	L 19975	1712.5	QPSK	1	0	19.99
					1	12	20.07
					1	24	20.04
					12	0	18.86
					12	6	18.84
					12	11	18.91
				16-QAM	25	0	18.85
					1	0	19.36
					1	12	19.45
					1	24	19.44
					12	0	19.23
					12	6	19.21
		M 20175	1732.5	QPSK	12	11	19.10
					25	0	17.84
					1	0	20.31
					1	12	20.36
					1	24	20.22
					12	0	19.33
				16-QAM	12	6	19.32
					12	11	19.30
					25	0	19.29
					1	0	19.06
					1	12	19.08
					1	24	18.96
		H 20375	1752.5	QPSK	12	0	18.54
					12	6	18.32
					12	11	18.45
					25	0	18.37
					1	0	19.85
					1	12	19.92
16-QAM	1			24	19.93		
	12			0	18.88		
	12			6	18.89		
	12			11	18.93		
	25			0	18.87		
	1			0	19.17		
					1	12	19.23
					1	24	19.19
					12	0	19.18
					12	6	19.21
					12	11	19.20
					25	0	17.89
					25	0	17.89



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 4	3MHz	L 19965	1711.5	QPSK	1	0	20.00
					1	7	20.06
					1	14	20.04
					8	0	18.86
					8	4	18.84
					8	7	18.90
				16-QAM	15	0	18.86
					1	0	19.36
					1	7	19.44
					1	14	19.46
					8	0	19.24
					8	4	19.22
		M 20175	1732.5	QPSK	8	7	19.10
					15	0	17.84
					1	0	20.32
					1	7	20.36
					1	14	20.22
					8	0	19.34
				16-QAM	8	4	19.32
					8	7	19.30
					15	0	19.28
					1	0	19.06
					1	7	19.08
					1	14	18.96
		H 20385	1753.5	QPSK	8	0	18.54
					8	4	18.32
					8	7	18.44
					15	0	18.36
					1	0	19.86
					1	7	19.92
16-QAM	1			14	19.94		
	8			0	18.88		
	8			4	18.90		
	8			7	18.94		
	15			0	18.88		
	1			0	19.16		
1	7	19.24					
1	14	19.20					
8	0	19.18					
8	4	19.22					
8	7	19.20					
15	0	17.88					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 4	1.4MHz	L 19957	1710.7	QPSK	1	0	18.87
					1	2	18.92
					1	5	18.91
					3	0	18.94
					3	1	18.91
					3	2	18.90
				6	0	17.93	
				16-QAM	1	0	17.68
					1	2	17.69
					1	5	17.67
					3	0	17.61
					3	1	17.66
		3	2		17.55		
		M 20175	1732.5	QPSK	1	0	18.69
					1	2	18.75
					1	5	18.63
					3	0	18.52
					3	1	18.23
					3	2	17.93
				6	0	17.99	
				16-QAM	1	0	18.22
					1	2	18.32
					1	5	18.55
					3	0	18.45
					3	2	18.43
		3	5		18.27		
		H 20393	1754.3	QPSK	1	0	18.42
					1	2	18.40
					1	5	18.44
					3	0	18.50
3	1				18.54		
3	2				18.52		
6	0			17.55			
16-QAM	1			0	18.38		
	1			2	18.41		
	1			5	18.43		
	3			0	18.42		
	3			1	18.36		
	3	2	18.25				
6	0	16.50					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 5	10MHz	L 20450	829	QPSK	1	0	20.84
					1	24	20.86
					1	49	20.91
					25	0	20.02
					25	12	20.05
					25	24	20.07
				16-QAM	50	0	20.04
					1	0	20.06
					1	24	20.09
					1	49	20.14
					25	0	20.11
					25	12	20.08
		M 20525	836.5	QPSK	25	24	20.01
					50	0	19.02
					1	0	21.05
					1	24	21.17
					1	49	20.91
					25	0	20.11
				16-QAM	25	12	20.10
					25	24	20.08
					50	0	20.06
					1	0	20.54
					1	24	20.65
					1	49	20.44
		H 20600	844	QPSK	25	0	20.42
					25	12	20.36
					25	24	20.14
50	0				19.08		
1	0				20.95		
1	24				20.94		
16-QAM	1			49	21.02		
	25			0	19.99		
	25			12	20.00		
	25			24	20.00		
	50			0	19.99		
	1			0	20.98		
1	24	20.93					
1	49	21.02					
25	0	21.01					
25	12	20.89					
25	24	20.45					
50	0	19.01					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 5	5MHz	L 20425	826.5	QPSK	1	0	20.83
					1	12	20.87
					1	24	20.91
					12	0	20.03
					12	6	20.05
					12	11	20.07
				25	0	20.05	
				16-QAM	1	0	20.07
					1	12	20.09
					1	24	20.13
					12	0	20.11
					12	6	20.07
		12	11		20.01		
		M 20525	836.5	QPSK	1	0	21.05
					1	12	21.17
					1	24	20.91
					12	0	20.11
					12	6	20.10
					12	11	20.09
				25	0	20.07	
				16-QAM	1	0	20.55
					1	12	20.65
					1	24	20.46
					12	0	20.42
					12	6	20.36
		12	11		20.14		
		25	0	19.08			
		H 20625	846.5	QPSK	1	0	20.95
					1	12	20.94
					1	24	21.02
12	0				19.99		
12	6				20.00		
12	11				20.00		
25	0			19.99			
16-QAM	1			0	20.98		
	1			12	20.93		
	1			24	21.02		
	12			0	21.01		
	12			6	20.89		
	12	11	20.45				
25	0	19.01					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 5	3MHz	L 20415	825.5	QPSK	1	0	20.82
					1	7	20.86
					1	14	20.91
					8	0	20.02
					8	4	20.04
					8	7	20.06
				16-QAM	15	0	20.04
					1	0	20.08
					1	7	20.10
					1	14	20.12
					8	0	20.11
					8	4	20.06
		M 20525	836.5	QPSK	8	7	20.02
					8	0	19.01
					1	0	21.06
					1	7	21.18
					1	14	20.92
					8	0	20.11
				16-QAM	8	4	20.10
					8	7	20.09
					15	0	20.08
					1	0	20.56
					1	7	20.65
					1	14	20.46
		H 20635	847.5	QPSK	8	0	20.42
					8	4	20.36
					8	7	20.14
					15	0	19.08
					1	0	20.95
					1	7	20.94
16-QAM	1			14	21.02		
	8			0	19.99		
	8			4	20.00		
	8			7	20.00		
	15			0	19.99		
	1			0	20.98		
1	7	20.94					
1	14	21.02					
8	0	21.01					
8	4	20.89					
8	7	20.45					
15	0	19.01					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 5	1.4MHz	L 20407	824.7	QPSK	1	0	20.69
					1	2	20.82
					1	5	20.66
					3	0	20.80
					3	1	20.80
					3	2	20.73
				16-QAM	6	0	19.70
					1	0	19.79
					1	2	19.87
					1	5	19.79
					3	0	19.77
					3	1	19.48
		M 20525	836.5	QPSK	3	2	19.36
					6	0	18.69
					1	0	21.07
					1	2	21.16
					1	5	21.08
					3	0	21.18
				16-QAM	3	1	21.16
					3	2	21.18
					6	0	20.15
					1	0	19.94
					1	2	20.01
					1	5	19.98
		H 20643	848.3	QPSK	3	0	19.85
					3	2	19.63
					3	5	19.42
					6	0	19.19
					1	0	20.71
					1	2	20.76
16-QAM	1			5	20.72		
	3			0	20.79		
	3			1	20.76		
	3			2	20.02		
	6			0	19.81		
	1			0	19.59		
1	2	19.62					
1	5	19.56					
3	0	19.38					
3	1	19.40					
3	2	19.25					
6	0	18.84					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 7	20MHz	L 20850	2510	QPSK	1	0	19.91
					1	49	19.82
					1	99	19.88
					50	0	18.28
					50	25	18.25
					50	49	18.21
				100	0	18.19	
				16-QAM	1	0	19.42
					1	49	19.32
					1	99	19.33
					50	0	18.42
					50	25	18.34
		50	49		18.22		
		M 21100	2535	QPSK	1	0	19.58
					1	49	19.84
					1	99	19.96
					50	0	18.68
					50	25	18.55
					50	49	18.30
				100	0	18.17	
				16-QAM	1	0	19.80
					1	49	19.04
					1	99	19.19
					50	0	18.84
					50	25	18.48
		50	49		18.32		
		100	0	18.03			
		H 21350	2560	QPSK	1	0	19.53
					1	49	19.94
					1	99	19.99
50	0				18.67		
50	25				18.02		
50	49				18.11		
100	0			18.13			
16-QAM	1			0	19.85		
	1			49	19.86		
	1			99	19.32		
	50			0	18.54		
	50			25	18.44		
	50	49	18.33				
100	0	18.02					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 7	15MHz	L 20825	2507.5	QPSK	1	0	19.27
					1	37	19.24
					1	74	19.20
					36	0	19.10
					36	18	19.01
					36	35	19.07
				75	0	18.88	
				16-QAM	1	0	19.01
					1	37	19.02
					1	74	19.02
					36	0	18.42
					36	18	18.34
		36	35		18.22		
		M 21100	2535	QPSK	1	0	19.58
					1	37	19.84
					1	74	19.06
					36	0	18.68
					36	18	18.55
					36	35	18.30
				75	0	18.47	
				16-QAM	1	0	19.80
					1	37	19.04
					1	74	19.19
					36	0	18.84
					36	18	18.48
		36	35		18.32		
		H 21375	2562.5	QPSK	1	0	19.53
					1	37	19.94
					1	74	19.80
					36	0	18.67
36	18				18.02		
36	35				18.11		
75	0			18.13			
16-QAM	1			0	19.85		
	1			37	19.86		
	1			74	19.32		
	36			0	18.54		
	36			18	18.44		
	36	35	18.33				
75	0	18.22					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 7	10MHz	L 20800	2505	QPSK	1	0	19.06
					1	24	19.03
					1	49	18.99
					25	0	18.89
					25	12	18.80
					25	24	18.86
				50	0	18.67	
				16-QAM	1	0	18.80
					1	24	18.81
					1	49	18.81
					25	0	18.21
					25	12	18.13
		25	24		18.01		
		M 21100	2535	QPSK	1	0	19.37
					1	24	19.63
					1	49	18.85
					25	0	18.47
					25	12	18.34
					25	24	18.09
				50	0	18.26	
				16-QAM	1	0	19.59
					1	24	18.83
					1	49	18.98
					25	0	18.63
					25	12	18.27
		25	24		18.11		
		H 21400	2565	QPSK	1	0	19.32
					1	24	19.73
					1	49	19.59
					25	0	18.46
25	12				17.81		
25	24				17.90		
50	0			17.92			
16-QAM	1			0	19.64		
	1			24	19.65		
	1			49	19.11		
	25			0	18.33		
	25			12	18.23		
	25	24	18.12				
50	0	18.01					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 7	5MHz	L 20775	2502.5	QPSK	1	0	19.01
					1	12	18.98
					1	24	18.94
					12	0	18.84
					12	6	18.75
					12	11	18.81
				25	0	18.62	
				16-QAM	1	0	18.75
					1	12	18.76
					1	24	18.76
					12	0	18.16
					12	6	18.08
		12	11		17.96		
		M 21100	2535	QPSK	1	0	19.32
					1	12	19.58
					1	24	18.8
					12	0	18.42
					12	6	18.29
					12	11	18.04
				25	0	18.21	
				16-QAM	1	0	19.54
					1	12	18.78
					1	24	18.93
					12	0	18.58
					12	6	18.22
		12	11		18.06		
		25	0	18.37			
		H 21425	2567.5	QPSK	1	0	19.27
					1	12	19.68
					1	24	19.54
					12	0	18.41
					12	6	17.76
					12	11	17.85
				25	0	17.87	
				16-QAM	1	0	19.59
					1	12	19.6
1	24				19.06		
12	0				18.28		
12	6				18.18		
12	11	18.07					
25	0	17.96					



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 17	10MHz	L 23780	709	QPSK	1	0	20.70
					1	24	20.73
					1	49	20.88
					25	0	19.84
					25	12	19.77
					25	24	19.75
				16-QAM	50	0	19.83
					1	0	19.92
					1	24	19.96
					1	49	19.79
					25	0	19.74
					25	12	19.63
		M 23790	710	QPSK	25	24	19.52
					50	0	19.76
					1	0	20.76
					1	24	20.83
					1	49	20.70
					25	0	19.80
				16-QAM	25	12	19.65
					25	24	19.77
					50	0	19.78
					1	0	20.27
					1	24	20.29
					1	49	20.11
		H 23800	711	QPSK	25	0	19.36
					25	12	19.14
					25	24	19.10
					50	0	19.79
					1	0	20.84
					1	24	20.75
16-QAM	1			49	20.73		
	25			0	19.82		
	25			12	19.69		
	25			24	19.72		
	50			0	19.80		
	1			0	20.37		
					1	24	20.10
					1	49	20.16
					25	0	19.10
					25	12	19.05
					25	24	19.01
					50	0	18.78



Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		Average Power (dBm)
					RB Size	RB Offset	
LTE Band 17	5MHz	L 23755	706.5	QPSK	1	0	20.79
					1	12	20.90
					1	24	20.85
					12	0	19.73
					12	6	19.80
					12	11	19.82
				16-QAM	25	0	19.74
					1	0	20.26
					1	12	20.42
					1	24	20.31
					12	0	20.21
					12	6	20.11
		M 23790	710	QPSK	12	11	20.10
					25	0	18.75
					1	0	20.64
					1	12	20.77
					1	24	20.71
					12	0	19.75
				16-QAM	12	6	19.68
					12	11	19.66
					25	0	19.62
					1	0	19.52
					1	12	19.55
					1	24	19.44
		H 23825	713.5	QPSK	12	0	19.82
					12	6	19.71
					12	11	19.69
					25	0	19.21
					1	0	19.72
					1	12	20.74
16-QAM	1			24	20.75		
	12			0	20.68		
	12			6	19.64		
	12			11	19.67		
	25			0	19.66		
	1			0	19.55		
1	12	19.84					
1	24	19.36					
12	0	19.31					
12	6	19.24					
12	11	19.02					
25	0	18.55					



2.2 Occupied Bandwidth

2.2.1 Definition

According to FCC section 2.1049 and 27.53(g), the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth.

2.2.2 Test Description

See section 2.1.2 of this report.

2.2.3 Test Results

LTE Band 2

Low channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.1027	1.0905	18615	1851.5	2.7108	2.7033
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.291	1.263	18615	1851.5	2.970	2.975

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	4.5321	4.5317	18650	1855.0	8.9908	9.0108
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	5.115	5.032	18650	1855.0	9.966	9.855

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	13.469	13.529	18700	1860.0	18.007	18.078
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	14.73	14.94	18700	1860.0	19.64	20.13



Middle channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18900	1880.0	1.0957	1.1015	18900	1880.0	2.7165	2.7140

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18900	1880.0	1.269	1.285	18900	1880.0	2.970	2.992

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18900	1880.0	4.5390	4.5307	18900	1880.0	9.0274	9.0007

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18900	1880.0	5.080	5.072	18900	1880.0	9.968	9.940

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18900	1880.0	13.591	13.550	18900	1880.0	18.087	18.100

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
18900	1880.0	14.87	14.91	18900	1880.0	19.72	19.69



High channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19192	1909.2	1.1046	1.0990	19184	1908.4	2.7117	2.7003
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19192	1909.2	1.259	1.291	19184	1908.4	2.978	2.973

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19175	1907.5	4.5289	4.5353	19150	1905.0	9.0380	9.0147
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19175	1907.5	5.048	5.087	19150	1905.0	9.962	9.973

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19125	1902.5	13.555	13.549	19100	1900.0	18.079	18.051
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19125	1902.5	14.90	14.91	19100	1900.0	19.90	19.80



Low channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

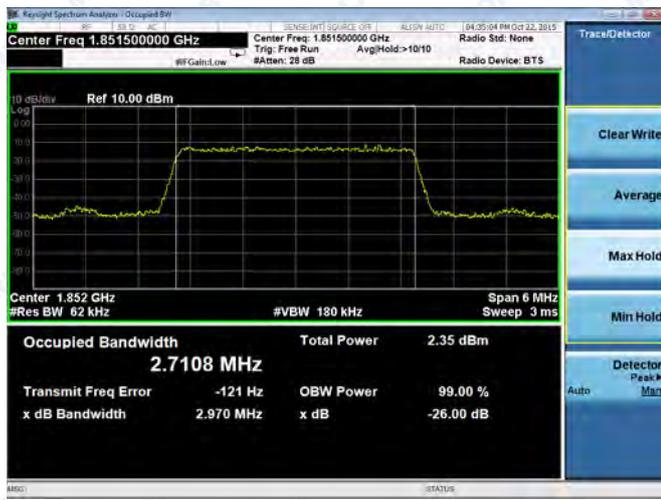
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM





Spectrum Plot of Worst Value

5MHz/QPSK

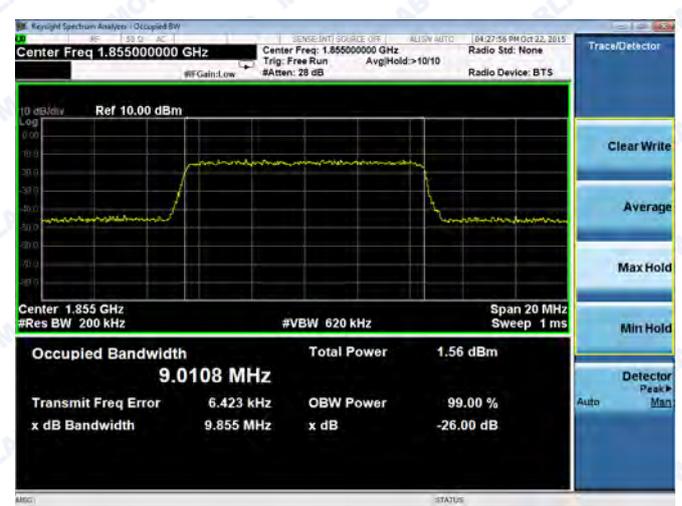
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

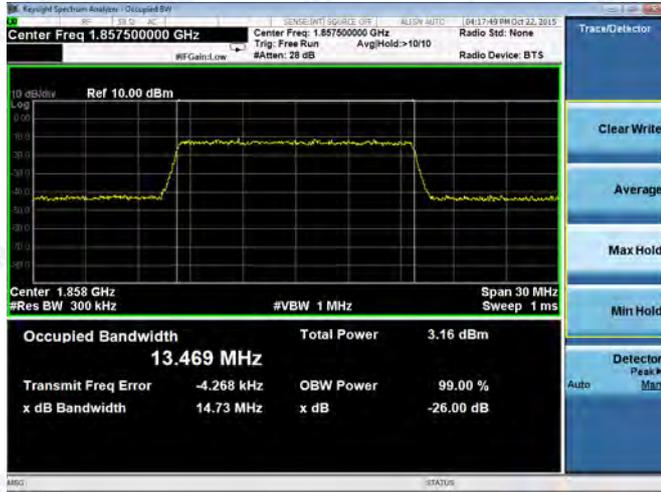




Spectrum Plot of Worst Value

15MHz/QPSK

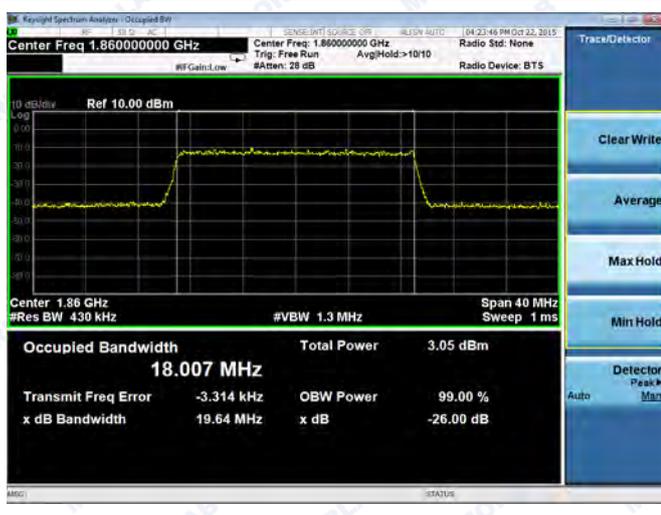
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM



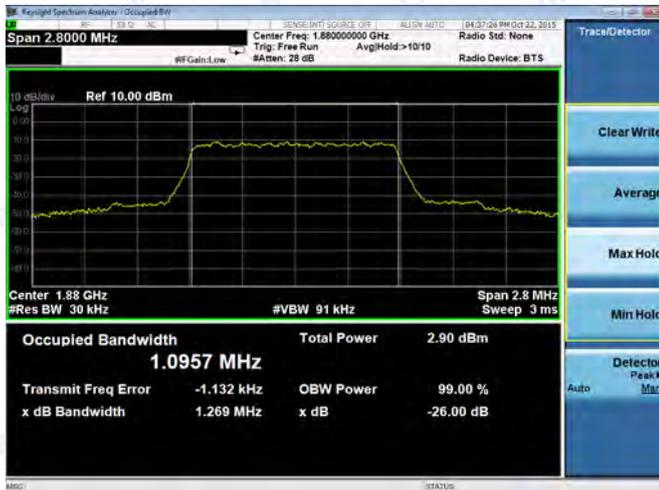


Middle channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

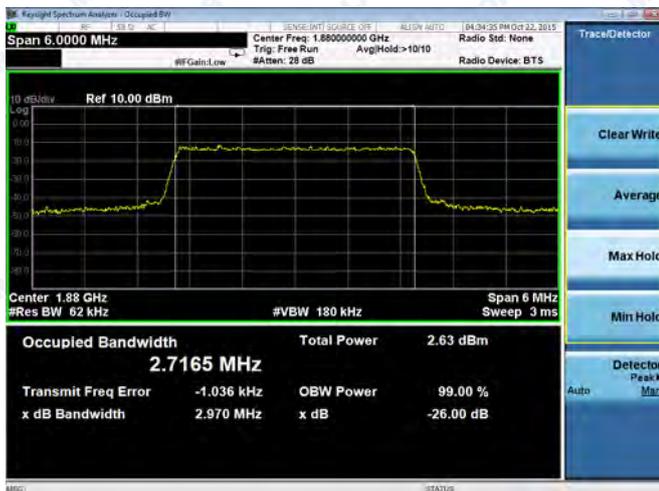
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

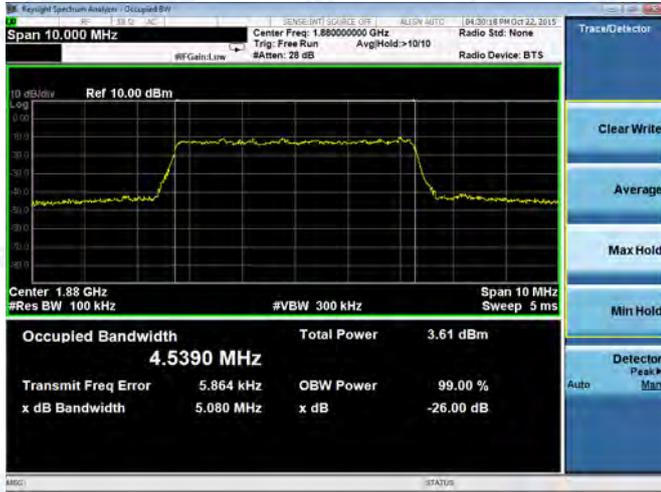




Spectrum Plot of Worst Value

5MHz/QPSK

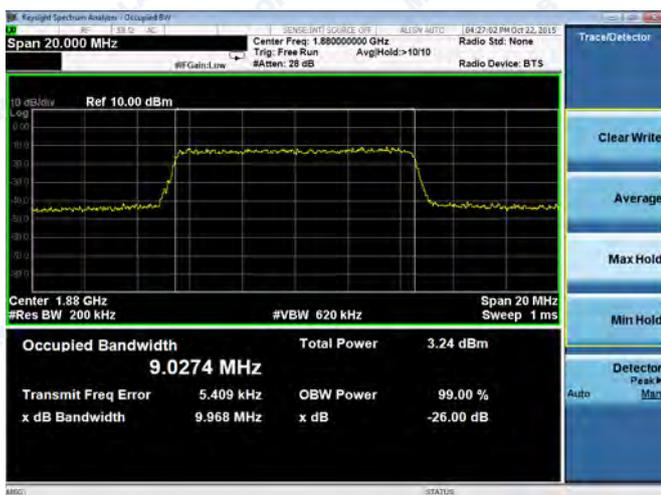
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

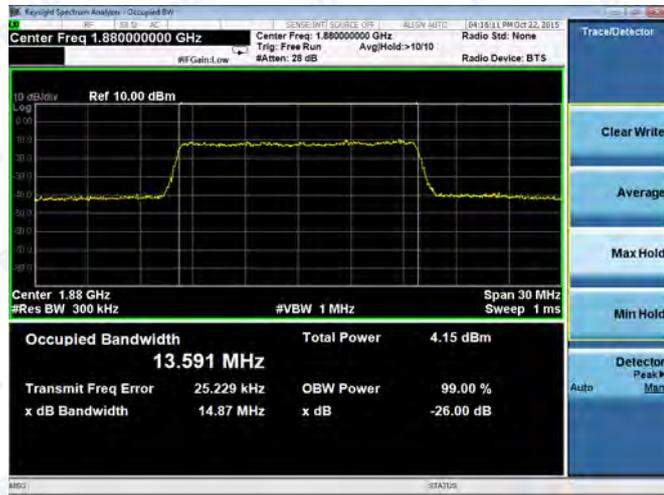
10MHz/16QAM



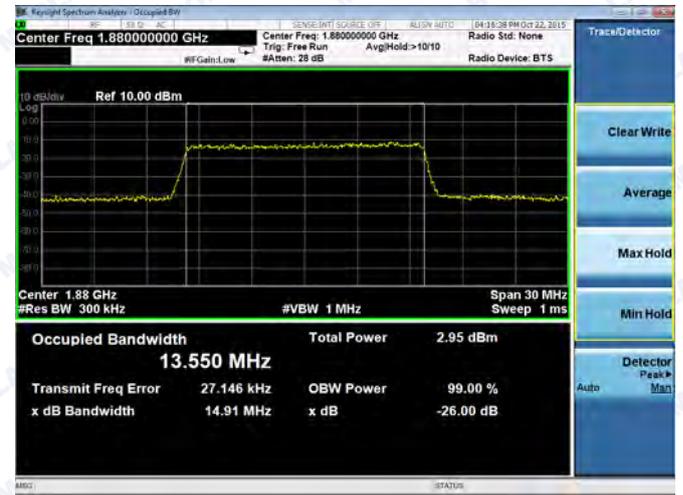


Spectrum Plot of Worst Value

15MHz/QPSK



15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK



20MHz/16QAM





High channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

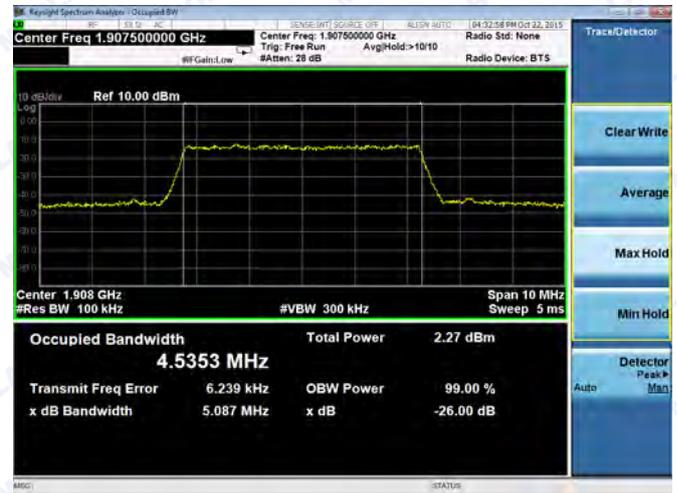
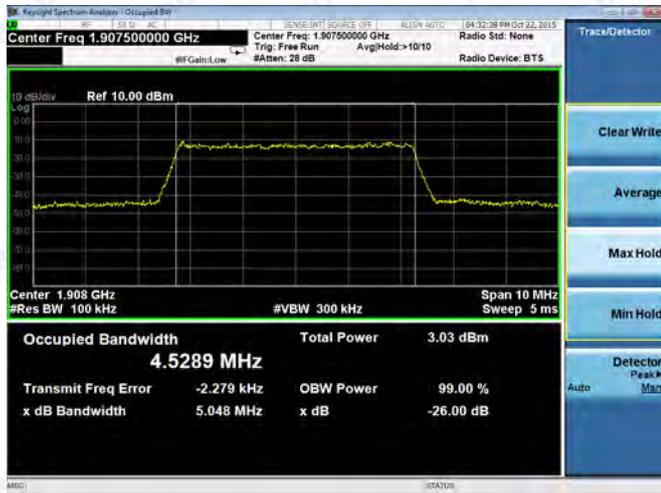




Spectrum Plot of Worst Value

5MHz/QPSK

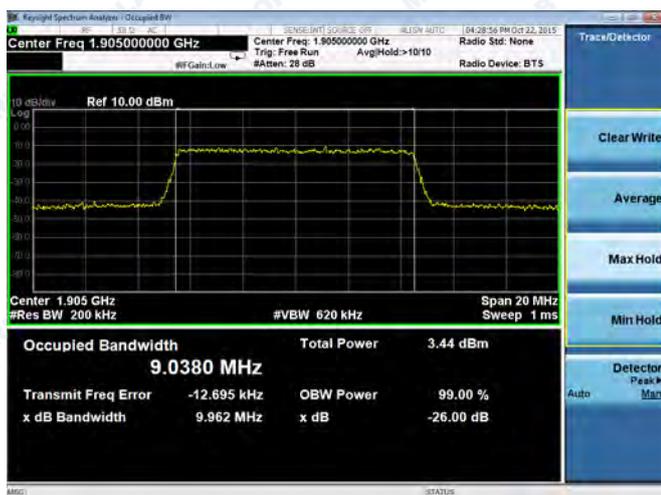
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

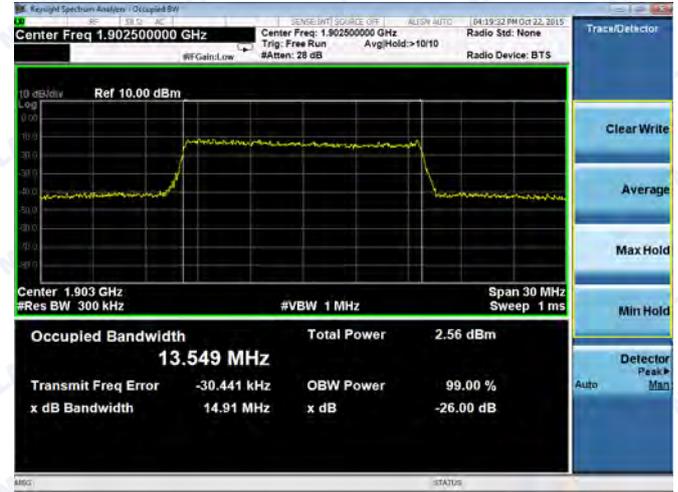
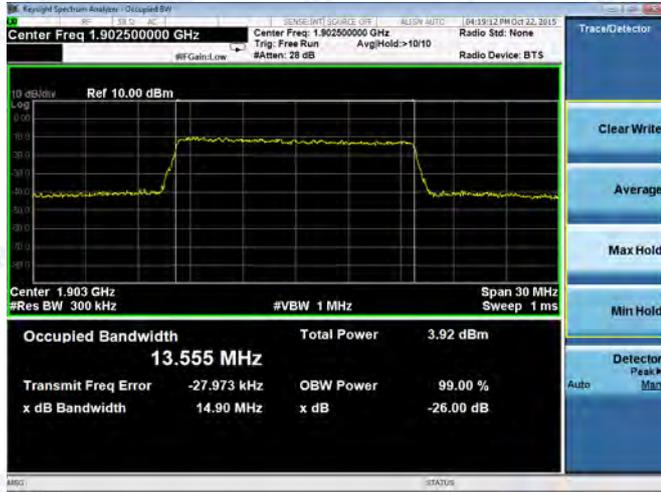




Spectrum Plot of Worst Value

15MHz/QPSK

15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM





LTE Band 4

Low channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19957	1710.7	1.0941	1.0921	19965	1711.5	2.7132	2.6987

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19957	1710.7	1.282	1.254	19965	1711.5	2.967	2.975

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19975	1712.5	4.5246	4.5148	20000	1715.0	8.9721	8.9985

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
19975	1712.5	5.081	5.039	20000	1715.0	9.846	9.989

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20025	1717.5	13.482	13.499	20050	1720.0	17.932	17.962

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20025	1717.5	14.80	14.86	20050	1720.0	19.42	19.36



Middle channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	1.0967	1.1003	20175	1732.5	2.7120	2.7111

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	1.275	1.268	20175	1732.5	2.976	2.980

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	4.5344	4.5219	20175	1732.5	9.0125	9.0067

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	5.025	5.068	20175	1732.5	10.04	9.846

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	13.517	13.509	20175	1732.5	17.930	17.949

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	14.80	14.77	20175	1732.5	19.28	19.51



High channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20392	1754.2	1.1030	1.0957	20384	1753.4	2.7081	2.6996
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20392	1754.2	1.265	1.258	20384	1753.4	2.981	2.978

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20375	1752.5	4.5156	4.5239	20350	1750.0	9.0022	8.9938
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20375	1752.5	4.984	5.070	20350	1750.0	9.921	9.924

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20325	1747.5	13.503	13.510	20300	1745.0	17.952	17.923
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20325	1747.5	14.90	14.88	20300	1745.0	19.60	19.34



Low channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

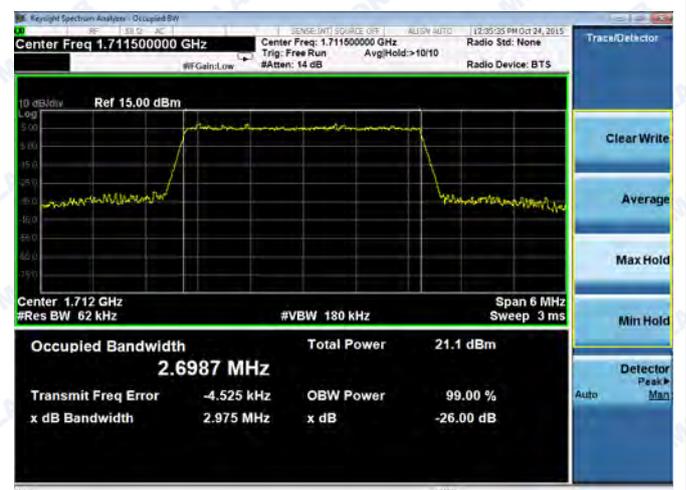
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

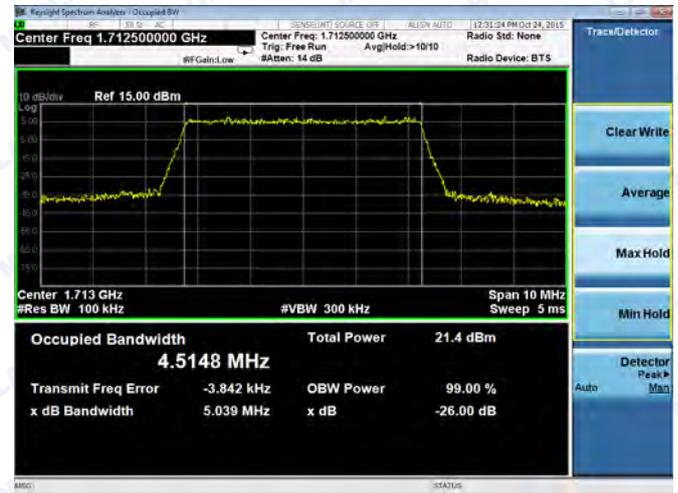




Spectrum Plot of Worst Value

5MHz/QPSK

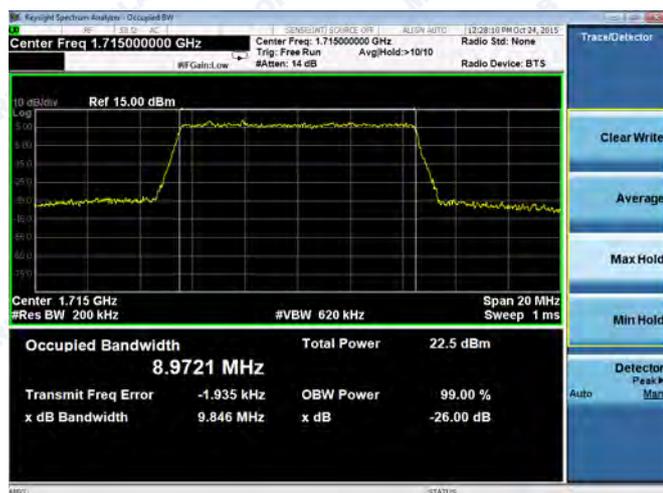
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

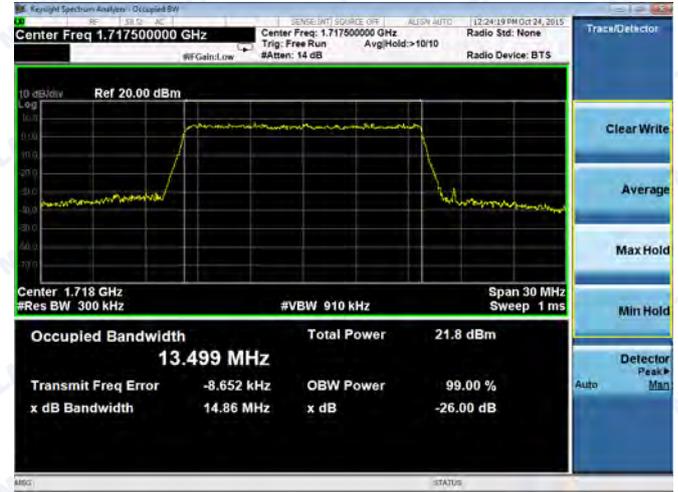
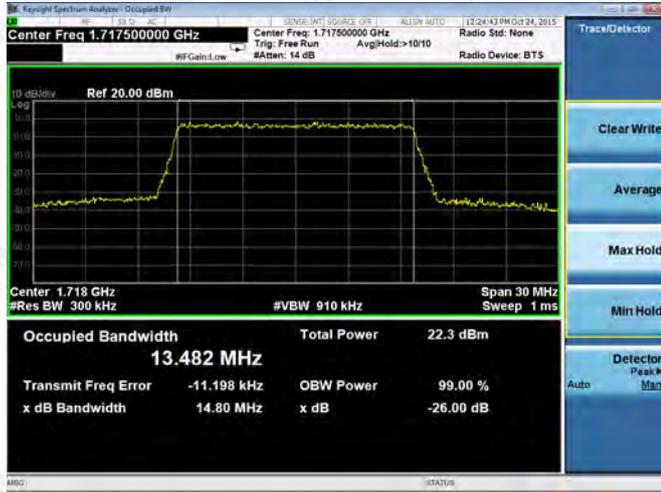




Spectrum Plot of Worst Value

15MHz/QPSK

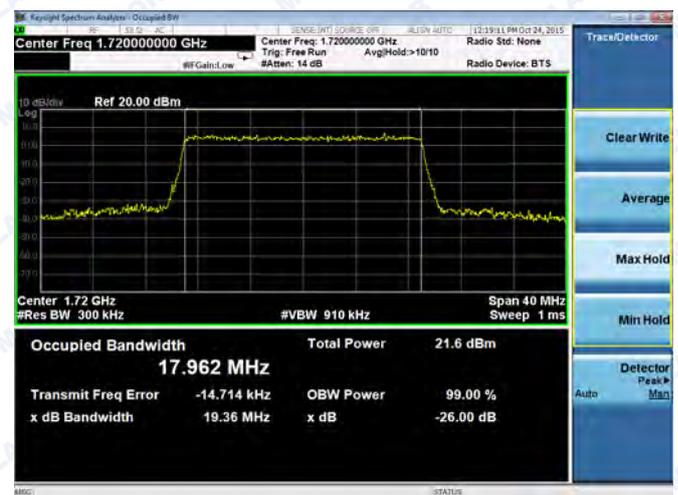
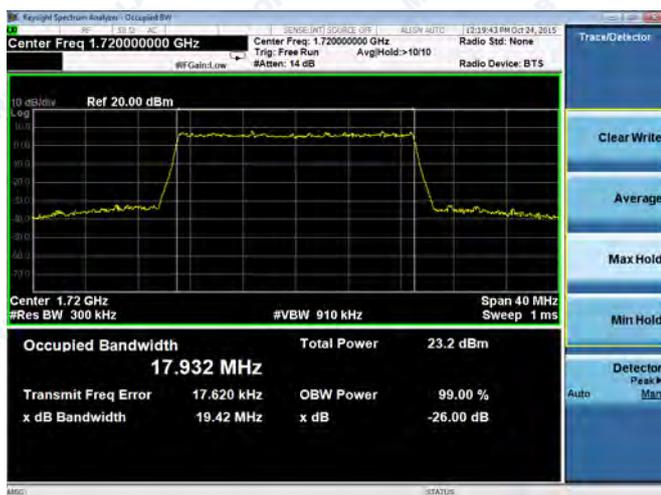
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM



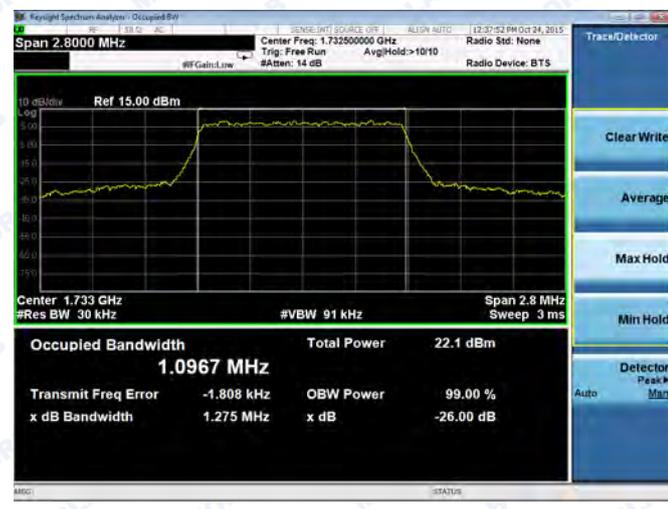


Middle channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

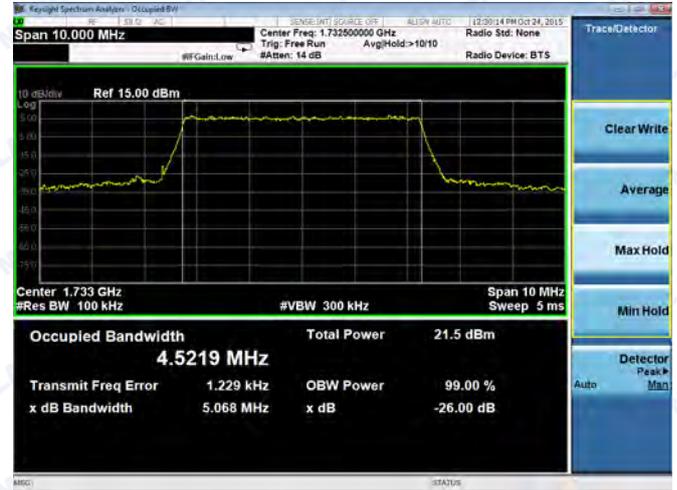
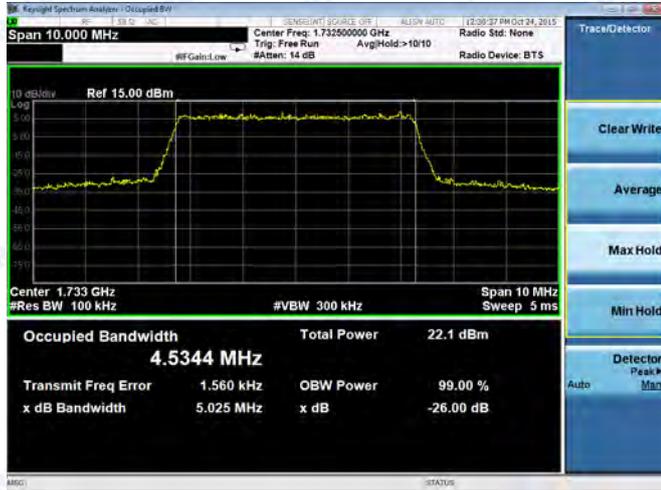




Spectrum Plot of Worst Value

5MHz/QPSK

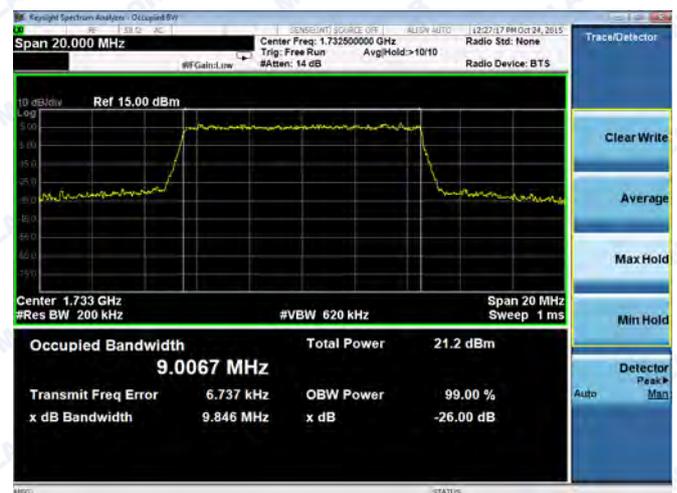
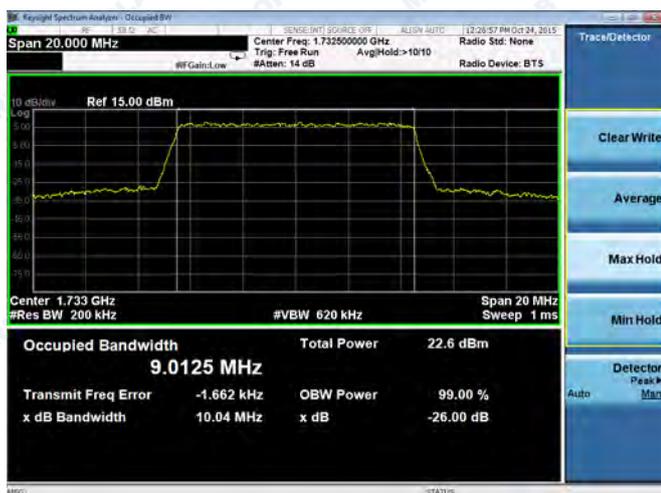
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

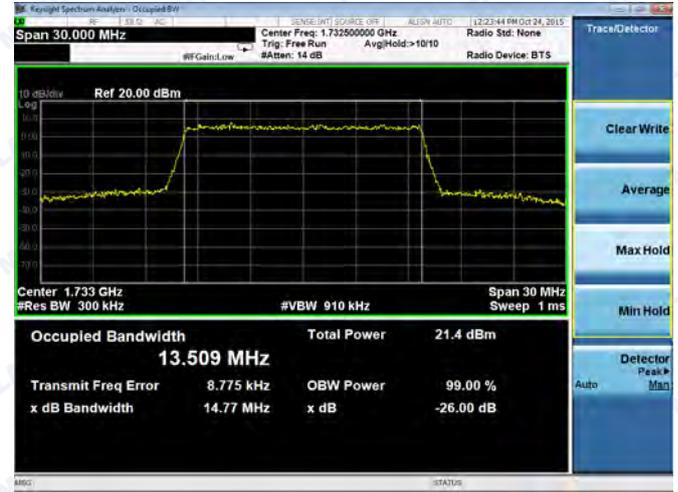
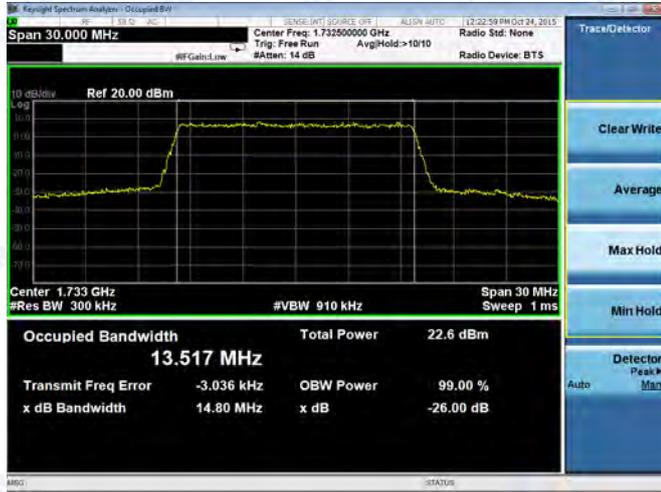




Spectrum Plot of Worst Value

15MHz/QPSK

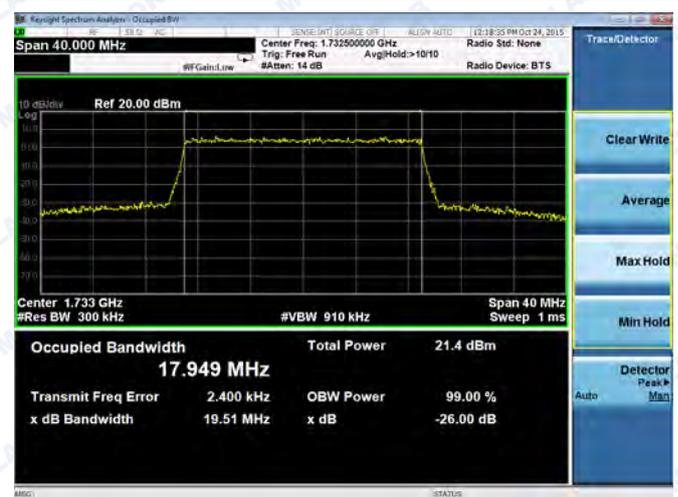
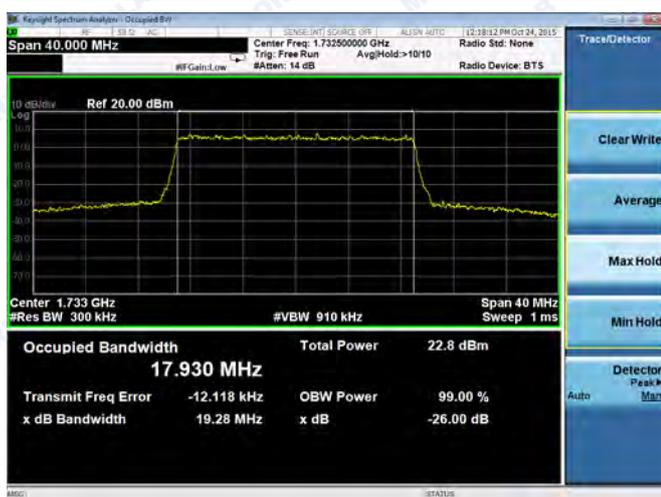
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM



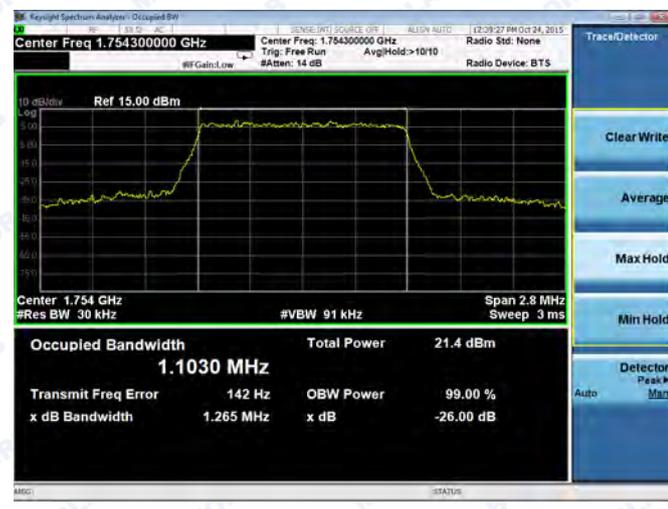


High channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

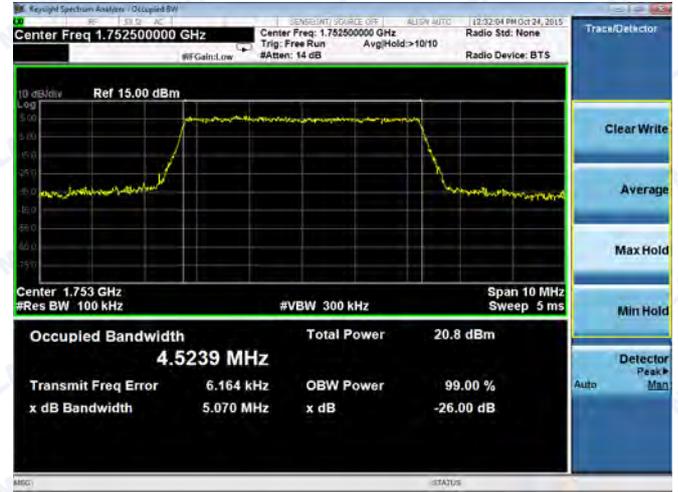
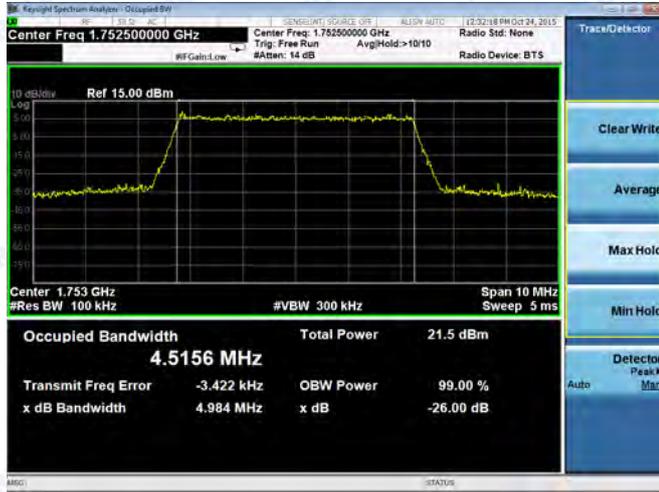




Spectrum Plot of Worst Value

5MHz/QPSK

5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

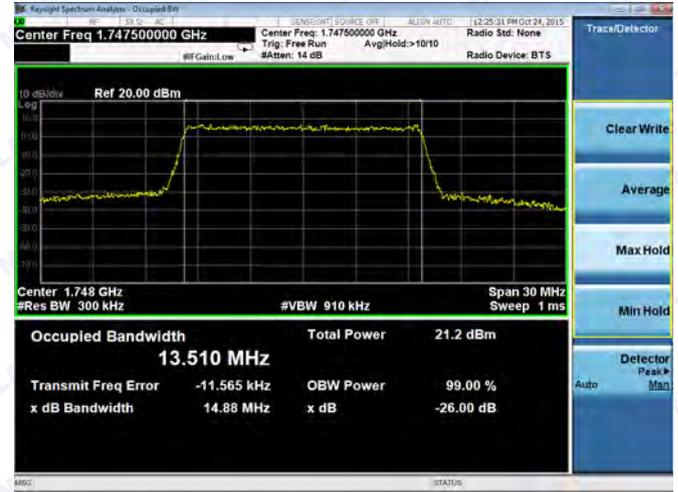
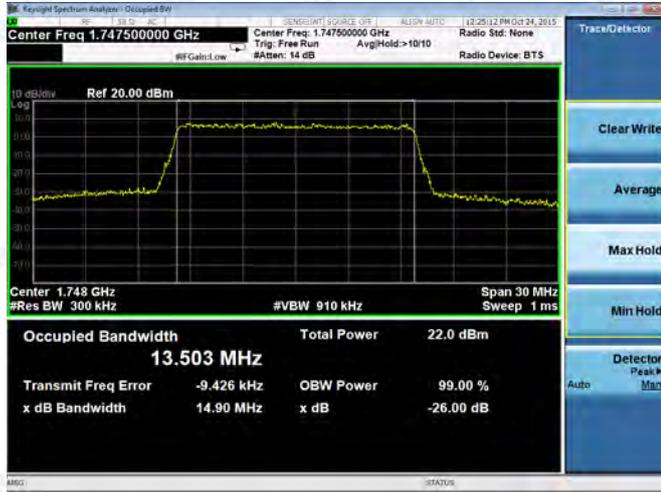




Spectrum Plot of Worst Value

15MHz/QPSK

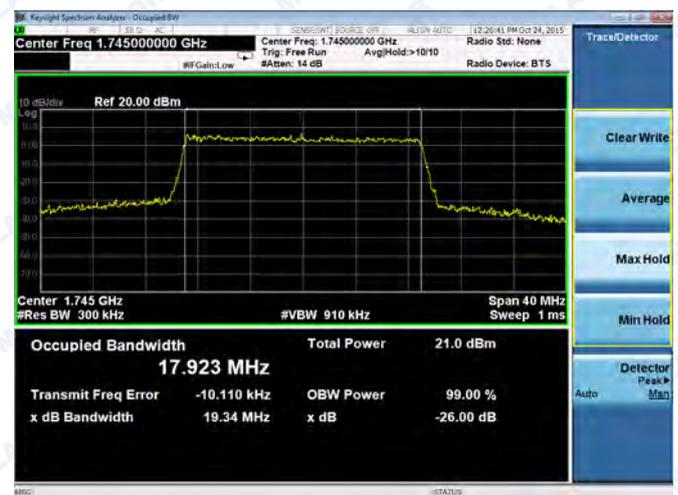
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM





LTE Band 5

Low channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	1.1006	1.0928	20415	825.5	2.7172	2.7062

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	1.281	1.257	20415	825.5	2.940	2.988

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	4.5315	4.5362	20450	829.0	9.0169	9.0449

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	5.096	5.045	20450	829.0	9.929	10.07

Middle channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20525	836.5	1.0955	1.1020	20525	836.5	2.7121	2.7109

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20525	836.5	1.262	1.294	20525	836.5	2.972	2.983



Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20525	836.5	4.5151	4.5280	20525	836.5	9.0359	9.0344
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20525	836.5	5.040	5.089	20525	836.5	9.923	9.997

High channel:

Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20643	848.3	1.1035	1.0970	20635	847.5	2.7090	2.7004
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20643	848.3	1.262	1.262	20635	847.5	2.969	2.982

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20625	846.5	4.5187	4.5209	20600	844.0	9.0405	9.0363
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20625	846.5	5.014	5.078	20600	844.0	10.07	10.10

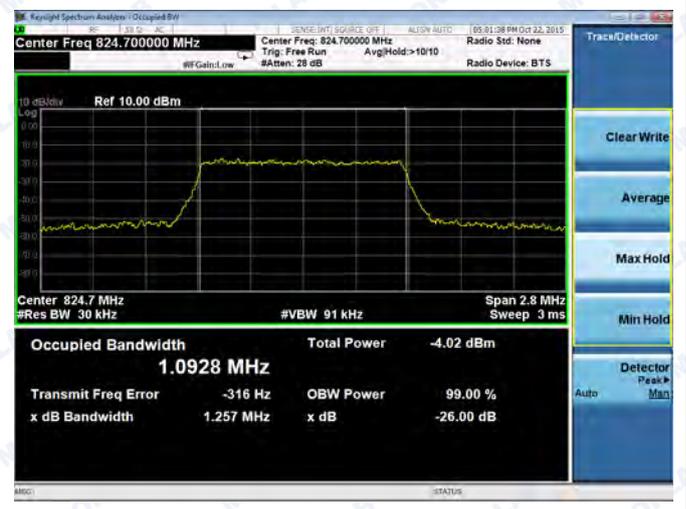


Low channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

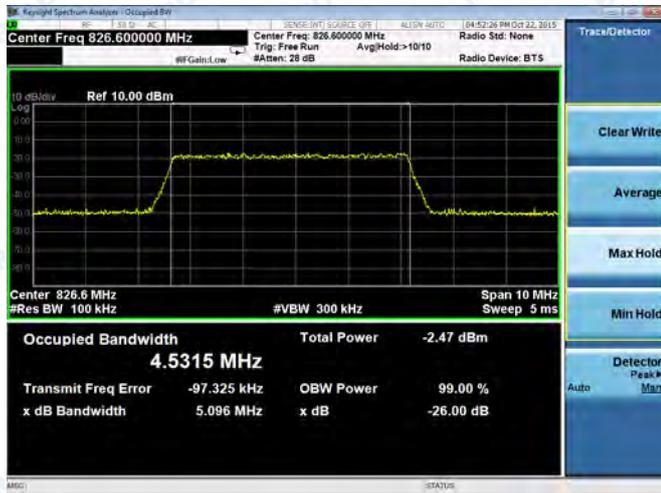




Spectrum Plot of Worst Value

5MHz/QPSK

5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM





Middle channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

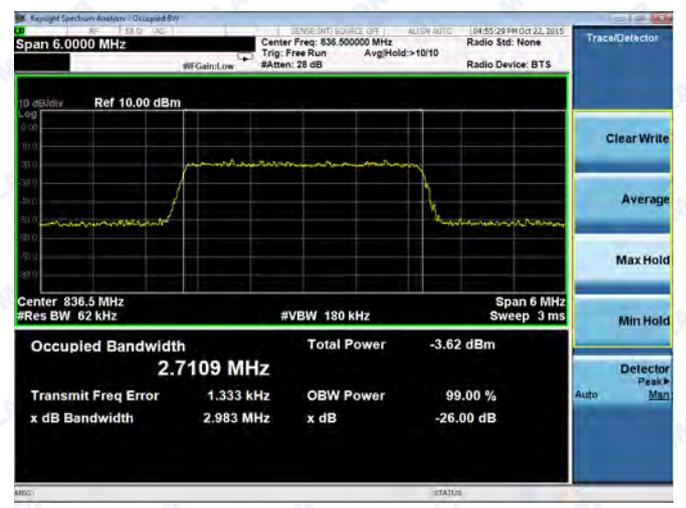
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

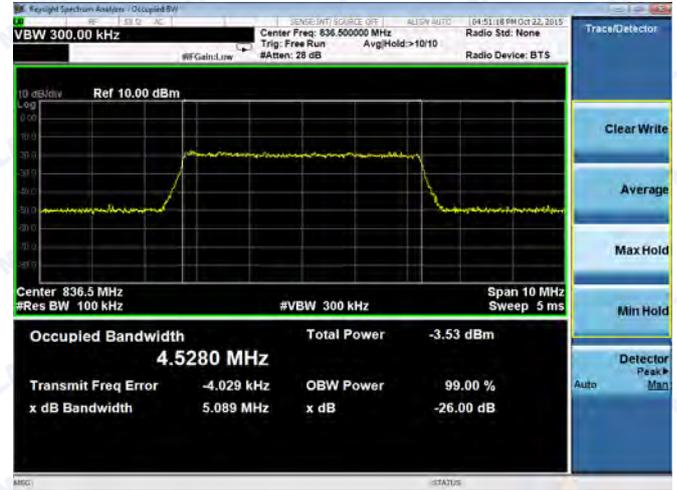
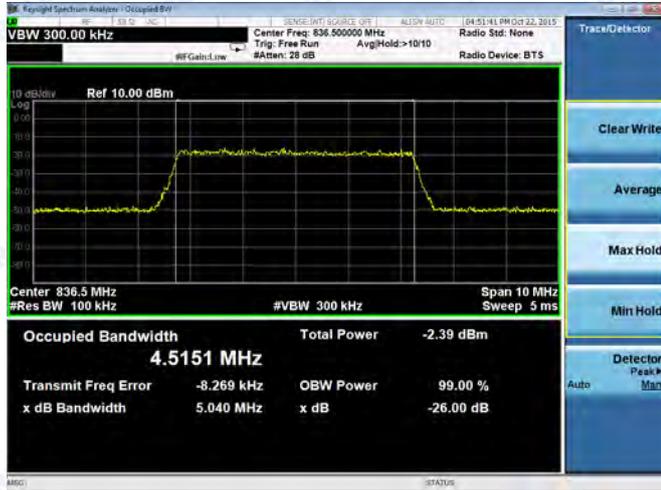




Spectrum Plot of Worst Value

5MHz/QPSK

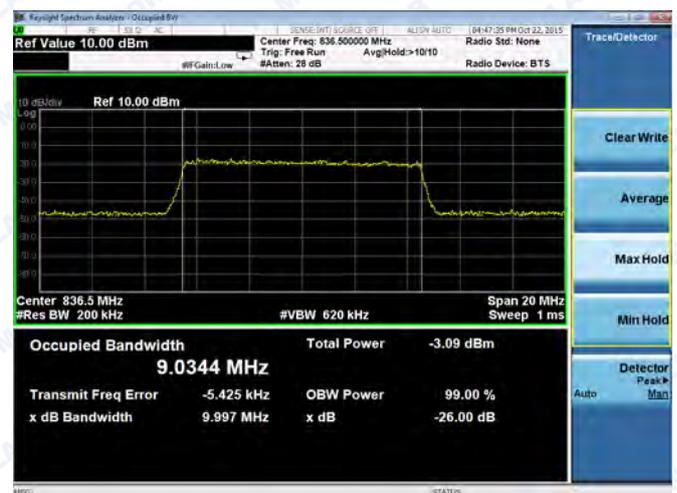
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM



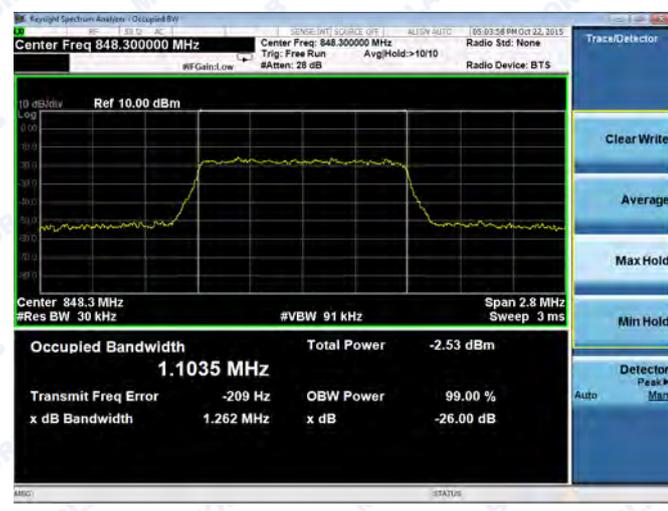


High channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

