



REPORT No.: SZ15020045W02

FCC RF TEST REPORT

APPLICANT : ZTE Corporation
PRODUCT NAME : LTE Digital Mobile Handset
MODEL NAME : ZTE Blade V320/BGH Joy Smart
AXS II/BGH Joy Smart AXS II D
TRADE NAME : ZTE
BRAND NAME : ZTE
FCC ID : SRQ- V320
STANDARD(S) : 47 CFR Part 24 Subpart E
47 CFR Part 27, Subpart M&L
ISSUE DATE : 2015-3-27



SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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Change History		
Issue	Date	Reason for change
1.0	2015-3-27	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	ZTE
Brand Name	ZTE
HW Version	NE502JPAMB_B
SW Version	V320_Z34_ES_JSXPH1ID00H102
Test Standards	47 CFR Part 24 Subpart E 47 CFR Part 27, Subpart M&L
Test Date	2015-2-11 to 2015-3-27
Test Result	PASS

Tested by : Nie Juan

Nie Juan

Reviewed by : Peng Huarui

Peng Huarui

Approved by : Zeng Dexin

Zeng Dexin



1. GENERAL INFORMATION

1.1 EUT Description

Modulation Type..... LTE Band 7: QPSK, 16QAM
LTE Band 4: QPSK, 16QAM
LTE Band 2: QPSK, 16QAM

Tx Frequency Range..... LTE Band 7: 2502.5MHz~2567.5MHz
LTE Band 4: 1710MHz~1755MHz
LTE Band 2: 1850 - 1910MHz

Rx Frequency Range LTE Band 7: 2622.5MHz~2687.5MHz
LTE Band 4: 2110MHz~2155MHz
LTE Band 2: 1930 - 1990MHz

Emission Designator 4M51G7D (LTE Band 7, QPSK, BW 5MHz)
4M52W7D (LTE Band 7, 16QAM, BW 5MHz)
8M98G7D (LTE Band 7, QPSK, BW 10MHz)
8M97W7D (LTE Band 7, 16QAM, BW 10MHz)
13M46G7D (LTE Band 7, QPSK, BW 15MHz)
13M47W7D (LTE Band 7, 16QAM, BW 15MHz)
17M89G7D (LTE Band 7, QPSK, BW 20MHz)
17M90W7D (LTE Band 7, 16QAM, BW 20MHz)
1M11G7D (LTE Band 4, QPSK, BW 1.4MHz)
1M10 W7D (LTE Band 4, 16QAM, BW 1.4MHz)
2M72G7D (LTE Band 4, QPSK, BW 3MHz)
2M70 W7D (LTE Band 4, 16QAM, BW 3MHz)
4M51G7D (LTE Band 4, QPSK, BW 5MHz)
4M52 W7D (LTE Band 4, 16QAM, BW 5MHz)
9M00G7D (LTE Band 4, QPSK, BW 10MHz)
8M99 W7D (LTE Band 4, 16QAM, BW 10MHz)
13M48G7D (LTE Band 4, QPSK, BW 15MHz)
13M49W7D (LTE Band 4, 16QAM, BW 15MHz)
17M96G7D (LTE Band 4, QPSK, BW 20MHz)
17M94W7D (LTE Band 4, 16QAM, BW 20MHz)
1M11G7D (LTE Band 2, QPSK, BW 1.4MHz)
1M10W7D (LTE Band 2, 16QAM, BW 1.4MHz)
2M71G7D (LTE Band 2, QPSK, BW 3MHz)
2M71 W7D (LTE Band 2, 16QAM, BW 3MHz)
4M53G7D (LTE Band 2, QPSK, BW 5MHz)
4M52 W7D (LTE Band 2, 16QAM, BW 5MHz)
9M01G7D (LTE Band 2, QPSK, BW 10MHz)



9M00 W7D (LTE Band 2, 16QAM, BW 10MHz)
13M43G7D (LTE Band 2, QPSK, BW 15MHz)
13M451W7D (LTE Band 2, 16QAM, BW 15MHz)
18M84G7D (LTE Band 2, QPSK, BW 20MHz)
18M86W7D (LTE Band 2, 16QAM, BW 20MHz)

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 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 24 (10-1-09 Edition)	Personal Communications Services
3	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	PASS
2	24.232(d) ,27.50(d)(5)	Occupied Bandwidth	PASS
3	2.1049,22.917 24.238, 27.53(g)	Frequency Stability	PASS
4	2.1055, 24.235,27.54	Peak to Average Ratio	PASS
5	2.1051,2.1057 24.238,27.53(g)	Conducted Spurious Emissions	PASS
6	2.1051,2.1057 24.238,27.53(g)(h) 27.53(m)(4)	Band Edge	PASS
7	24.232,27.50(d)(4)	Equivalent Isotropic Radiated Power	PASS
8	2.1053,2.1057 24.238,27.53(g)	Radiated Spurious Emissions	PASS



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 3/F, Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen, 518055 P. R. China. 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 24E,27L REQUIREMENTS

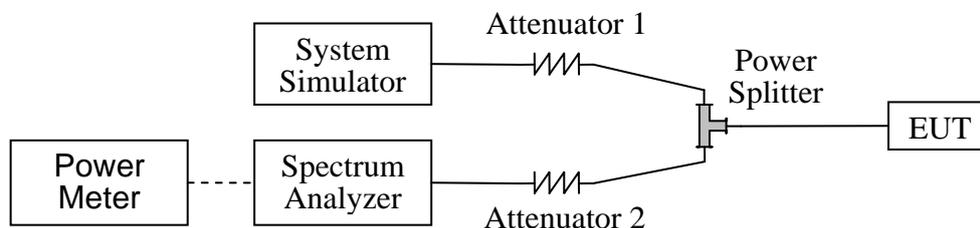
2.1 Transmitter Conducted Output Power

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 5V DC power (USB port), 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

LTE BAND 2

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 18700	1860	QPSK	1	0	22.21
				1	49	22.14
				1	99	22.04
				50	0	21.18
				50	25	21.03
				50	49	21.16
			16-QAM	100	0	21.11
				1	0	22.15
				1	49	22.19
				1	99	21.96
				50	0	21.02
				50	25	20.98
	M 18900	1880	QPSK	50	49	20.54
				50	0	20.06
				100	0	20.06
				1	0	22.11
				1	49	22.02
				1	99	21.90
			16-QAM	50	0	21.11
				50	25	21.03
				50	49	20.92
				100	0	21.05
				1	0	21.23
				1	49	21.15
	H 19100	1900	QPSK	1	99	21.10
				50	0	20.54
				50	25	20.42
				50	49	20.15
				100	0	19.98
				1	0	21.95
16-QAM			1	49	21.97	
			1	99	22.05	
			50	0	21.01	
			50	25	20.78	
			50	49	20.79	
			100	0	20.82	
				1	0	20.98
				1	49	21.02
				1	99	21.11
				50	0	20.42



			50	25	20.26
			50	49	20.18
			100	0	19.71

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 18675	1857.5	QPSK	1	0	22.14
				1	37	22.19
				1	74	22.03
				36	0	21.11
				36	18	21.05
				36	35	21.08
			16-QAM	75	0	21.03
				1	0	20.89
				1	37	20.99
				1	74	20.93
				36	0	20.68
				36	18	20.70
	M 18900	1880	QPSK	36	35	20.59
				75	0	20.01
				1	0	21.81
				1	37	21.86
				1	74	21.67
				36	0	20.91
			16-QAM	36	18	20.95
				36	35	20.84
				75	0	20.75
				1	0	20.83
				1	37	20.86
				1	74	20.63
	H 19125	1902.5	QPSK	36	0	20.24
				36	18	20.35
				36	35	20.12
				75	0	19.76
				1	0	21.55
				1	37	21.60
			16-QAM	1	74	21.63
				36	0	20.47
				36	18	20.50
				36	35	20.44
				75	0	20.35
				1	0	20.30
			1	37	20.32	
			1	74	20.40	



				36	0	20.12
				36	18	19.98
				36	35	19.86
				75	0	19.31

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 18650	1855	QPSK	1	0	21.46
				1	24	21.81
				1	49	21.45
				25	0	20.84
				25	12	20.95
				25	24	20.77
				50	0	20.77
			16-QAM	1	0	20.21
				1	24	20.55
				1	49	20.22
				25	0	20.10
				25	12	19.98
				25	24	19.83
				50	0	19.72
	M 18900	1880	QPSK	1	0	21.42
				1	24	21.66
				1	49	21.22
				25	0	20.74
				25	12	20.60
				25	24	20.58
				50	0	20.63
			16-QAM	1	0	20.19
				1	24	20.49
				1	49	20.04
				25	0	20.01
				25	12	19.88
				25	24	19.92
				50	0	19.66
	H 19150	1905	QPSK	1	0	21.29
				1	24	21.55
1				49	21.35	
25				0	20.48	
25				12	20.51	
25				24	20.49	
50				0	20.39	
16-QAM			1	0	20.45	



			1	24	20.72
			1	49	20.54
			25	0	20.11
			25	12	20.01
			25	24	19.95
			50	0	19.35

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 18625	1852.5	QPSK	1	0	21.86
				1	12	21.89
				1	24	21.90
				12	0	20.90
				12	6	20.94
				12	11	20.98
			16-QAM	25	0	20.89
				1	0	20.78
				1	12	20.83
				1	24	20.90
				12	0	20.21
				12	6	20.25
				12	11	20.12
				25	0	19.88
				QPSK	1	0
	1	12	21.77			
	1	24	21.72			
	12	0	20.83			
	12	6	20.85			
	12	11	20.75			
	25	0	20.72			
	16-QAM	1	0		20.50	
		1	12		20.41	
		1	24	20.48		
		12	0	20.12		
		12	6	20.15		
		12	11	20.05		
	QPSK	25	0	19.74		
		1	0	21.60		
		1	12	21.69		
1		24	21.71			
12		0	20.54			
12		6	20.61			
H 19175	1907.5	QPSK	12	11	20.68	



				25	0	20.55
			16-QAM	1	0	20.42
				1	12	20.46
				1	24	20.50
				12	0	20.21
				12	6	20.15
				12	11	20.01
				25	0	19.45

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 18615	1851.5	QPSK	1	0	21.88
				1	7	21.98
				1	14	21.94
				8	0	21.38
				8	4	21.55
				8	7	21.50
			16-QAM	15	0	20.86
				1	0	20.55
				1	7	20.69
				1	14	20.64
				8	0	20.15
				8	4	20.21
				8	7	20.01
				15	0	19.87
	M 18900	1880	QPSK	1	0	21.73
				1	7	21.75
				1	14	21.75
				8	0	20.84
				8	4	20.86
				8	7	20.83
			16-QAM	15	0	20.79
				1	0	20.90
				1	7	20.85
				1	14	20.93
				8	0	20.54
				8	4	20.60
				8	7	20.25
15	0	19.77				
H 19185	1908.5	QPSK	1	0	21.61	
			1	7	21.65	
			1	14	21.74	
			8	0	21.12	



				8	4	21.20
				8	7	21.08
				15	0	20.66
			16-QAM	1	0	20.45
				1	7	20.43
				1	14	20.51
				8	0	20.12
				8	4	20.23
				8	7	20.05
				15	0	19.63

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 18607	1850.7	QPSK	1	0	21.89
				1	2	21.95
				1	5	21.97
				3	0	21.93
				3	1	21.95
				3	2	21.98
			6	0	20.91	
			16-QAM	1	0	20.71
				1	2	20.74
				1	5	20.73
				3	0	20.54
				3	1	20.55
	3	2		20.49		
	M 18900	1880	QPSK	1	0	21.78
				1	2	21.75
				1	5	21.73
				3	0	21.74
				3	1	21.75
				3	2	21.68
			6	0	20.80	
			16-QAM	1	0	20.68
				1	2	20.65
				1	5	20.62
				3	0	20.54
3				2	20.48	
3	5	20.38				
H 1909.3	1909.3	QPSK	6	0	19.76	
			1	0	21.74	
				1	2	21.72



	19193			1	5	21.84
				3	0	21.70
				3	1	21.78
				3	2	21.76
				6	0	20.75
			16-QAM	1	0	20.50
				1	2	20.48
				1	5	20.54
				3	0	20.12
				3	1	20.25
				3	2	20.08
				6	0	19.73

LTE BAND 4

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 20050	1720.0	QPSK	1	0	21.78
				1	49	21.88
				1	99	21.85
				50	0	20.70
				50	25	20.78
				50	49	20.75
			16-QAM	100	0	20.81
				1	0	20.96
				1	49	20.87
				1	99	20.89
				50	0	20.21
				50	25	20.18
	M 20175	1732.5	QPSK	50	49	20.19
				100	0	19.72
				1	0	22.23
				1	49	22.14
				1	99	22.15
				50	0	21.13
			16-QAM	50	25	20.98
				50	49	20.99
				100	0	21.03
				1	0	21.31
				1	49	21.18
				1	99	21.17
			50	0	21.05	
			50	25	20.98	
			50	49	20.94	
			100	0	20.05	



	H 20300	1745.0	QPSK	1	0	21.89
				1	49	21.98
				1	99	22.02
				50	0	20.67
				50	25	20.88
				50	49	20.87
				100	0	20.75
			16-QAM	1	0	21.55
				1	49	21.72
				1	99	21.92
				50	0	21.12
				50	25	21.31
				50	49	21.40
				100	0	19.87

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 20025	1717.5	QPSK	1	0	21.81
				1	37	21.89
				1	74	21.85
				36	0	20.63
				36	18	20.69
				36	35	20.68
				75	0	20.74
			16-QAM	1	0	20.72
				1	37	20.77
				1	74	20.80
				36	0	20.41
				36	18	20.45
				36	35	20.46
				75	0	19.74
	M 20175	1732.5	QPSK	1	0	21.84
				1	37	21.80
				1	74	21.92
				36	0	20.72
				36	18	20.45
				36	35	20.65
				75	0	20.59
			16-QAM	1	0	21.10
				1	37	21.05
				1	74	21.03
			36	0	20.88	
			36	18	20.87	



	H 20325	1747.5	QPSK	36	35	20.75
				75	0	19.71
				1	0	21.84
				1	37	21.92
				1	74	21.97
				36	0	20.70
				36	18	20.94
				36	35	20.83
	16-QAM	75	0	20.75		
		1	0	21.64		
		1	37	21.69		
		1	74	21.71		
		36	0	21.10		
		36	18	21.09		
		36	35	21.21		
		75	0	19.86		

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20000	1715.0	QPSK	1	0	21.87
				1	24	21.81
				1	49	21.85
				25	0	20.79
				25	12	20.64
				25	24	20.86
			16-QAM	50	0	20.66
				1	0	20.76
				1	24	20.68
	M 20175	1732.5	QPSK	1	49	20.70
				25	0	20.34
				25	12	20.21
				25	24	20.24
				50	0	19.68
				16-QAM	1	0
			1		24	21.71
			1		49	21.81
			QPSK	25	0	20.79
25	12	20.64				
25	24	20.78				
50	0	20.77				
16-QAM	1	0		20.68		
	1	24		20.71		
	1	49	20.82			



	H 20350	1750.0	QPSK	25	0	20.42
				25	12	20.44
				25	24	20.50
				50	0	19.84
				1	0	21.89
				1	24	21.93
				1	49	22.03
				25	0	20.86
				25	12	21.01
			25	24	20.93	
			50	0	20.86	
			16-QAM	1	0	21.67
				1	24	21.72
				1	49	21.81
				25	0	21.08
				25	12	20.98
				25	24	21.01
				50	0	19.95

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 19975	1712.5	QPSK	1	0	21.79
				1	12	21.83
				1	24	21.85
				12	0	21.45
				12	6	21.50
				12	11	21.55
			16-QAM	25	0	20.75
				1	0	20.94
				1	12	20.91
				1	24	20.96
				12	0	20.45
				12	6	20.50
	M 20175	1732.5	QPSK	12	11	20.52
				25	0	19.74
				1	0	21.89
				1	12	21.86
				1	24	21.87
				12	0	21.54
12				6	21.52	
12				11	21.51	
25				0	20.87	
16-QAM			1	0	20.93	



	H	1752.5	QPSK	1	12	20.89
				1	24	20.85
				12	0	20.56
				12	6	20.52
				12	11	20.51
				25	0	19.84
				1	0	22.04
	1	12	21.97			
	1	24	22.08			
	12	0	21.68			
	12	6	21.56			
	12	11	21.71			
	25	0	20.90			
	1	0	20.96			
	1	12	20.89			
	1	24	21.02			
	12	0	20.84			
12	6	20.80				
12	11	20.88				
25	0	20.02				

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power
				RB Size	RB Offset	(dBm)
3MHz	L	1711.5	QPSK	1	0	21.90
				1	7	21.87
				1	14	21.92
				8	0	21.68
				8	4	21.65
				8	7	21.70
				15	0	20.89
	16-QAM	1	0	20.75		
		1	7	20.69		
		1	14	20.73		
		8	0	20.51		
		8	4	50.44		
		8	7	20.50		
		15	0	19.91		
	M	1732.5	QPSK	1	0	21.91
				1	7	21.79
				1	14	21.82
8				0	21.44	
8				4	21.32	
8				7	21.28	



	H 20384	1753.4	16-QAM	15	0	20.84	
				1	0	20.78	
				1	7	20.69	
				1	14	20.74	
				8	0	20.46	
				8	4	20.32	
				8	7	20.18	
				15	0	20.01	
				1	0	21.93	
	1	7	21.98				
	1	14	21.96				
	8	0	21.55				
	8	4	21.50				
	8	7	21.45				
	15	0	21.03				
				16-QAM	1	0	21.89
					1	7	21.78
					1	14	21.86
8					0	21.38	
8					4	21.40	
8					7	21.28	
15					0	20.09	

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)	
				RB Size	RB Offset		
1.4MHz	L 19957	1710.7	QPSK	1	0	21.84	
				1	2	21.87	
				1	5	21.90	
				3	0	21.78	
				3	1	21.75	
				3	2	21.76	
				6	0	20.79	
				1	0	20.65	
				1	2	20.74	
	M 20175	1732.5	QPSK	16-QAM	1	5	20.67
					3	0	20.31
					3	1	20.15
					3	2	20.20
					6	0	19.77
					1	0	21.87
					1	2	21.75
					1	5	21.78
					3	0	21.93



			16-QAM	3	1	21.84	
				3	2	21.89	
				6	0	20.92	
				1	0	20.84	
				1	2	20.80	
				1	5	20.73	
				3	0	20.65	
				3	2	20.46	
				3	5	20.56	
				6	0	19.96	
	H 20392	1754.2		QPSK	1	0	22.08
					1	2	22.11
					1	5	22.17
					3	0	22.08
					3	1	22.10
				3	2	22.12	
				6	0	21.06	
				16-QAM	1	0	21.08
					1	2	20.94
					1	5	21.02
3	0	20.89					
3	1	20.91					
3	2	20.95					
6	0	20.07					

LTE BAND 7

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)	
				RB Size	RB Offset		
20MHz	L 20850	2510	QPSK	1	0	21.72	
				1	49	21.65	
				1	99	21.87	
				50	0	20.31	
				50	25	20.28	
				50	49	20.32	
			16-QAM	100	0	20.25	
				1	0	20.74	
				1	49	20.67	
				1	99	20.69	
				50	0	20.41	
				50	25	20.42	
	M 2535			QPSK	50	49	20.46
					100	0	19.35
					1	0	21.57
					1	49	21.48



	21100				1	99	21.53					
					50	0	20.33					
					50	25	20.30					
					50	49	20.26					
					100	0	20.35					
				16-QAM	1	0	21.37					
					1	49	21.21					
					1	99	21.27					
					50	0	20.98					
					50	25	20.91					
	H 21350	2560	QPSK	50	49	20.88						
				50	25	20.91						
				50	49	20.88						
				100	0	19.45						
				1	0	21.57						
			16-QAM	1	49	21.64						
				1	99	21.48						
				50	0	20.37						
				50	25	20.34						
				50	49	20.33						
				QPSK	100	0	20.45					
					16-QAM	1	0	20.83				
						1	49	20.78				
						1	99	20.65				
						50	0	20.23				
				50		25	20.31					
										50	49	20.18
										100	0	19.40

LTE BAND 7 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power
				RB Size	RB Offset	(dBm)
15MHz	L 20825	2507.5	QPSK	1	0	21.67
				1	37	21.59
				1	74	21.68
				36	0	20.35
				36	18	20.32
				36	35	20.31
				75	0	20.23
			16-QAM	1	0	20.56
				1	37	20.43
				1	74	20.55
				36	0	20.12
				36	18	20.22
				36	35	20.15
				75	0	19.34



	M 21100	2535	QPSK	1	0	21.37
				1	37	21.40
				1	74	21.46
				36	0	20.35
				36	18	20.28
			36	35	20.32	
			75	0	20.34	
			16-QAM	1	0	20.88
				1	37	20.95
				1	74	20.88
	36	0		20.54		
	36	18		20.48		
	H 21375	2562.5	QPSK	36	35	20.09
				75	0	19.35
				1	0	21.33
				1	37	21.38
				1	74	21.48
			16-QAM	36	0	20.42
				36	18	20.48
				36	35	20.34
75				0	20.28	
1				0	21.05	
16-QAM	1	37	21.12			
	1	74	21.03			
	36	0	20.86			
	36	18	20.82			
	36	35	20.79			
75	0	19.40				

LTE BAND 7 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20800	2505	QPSK	1	0	21.54
				1	24	21.53
				1	49	21.58
				25	0	20.43
				25	12	20.49
				25	24	20.41
				50	0	20.34
			16-QAM	1	0	20.61
				1	24	20.45
				1	49	20.58
				25	0	20.12
				25	12	20.22
				25	24	20.22



	M 21100	2535	QPSK	25	24	20.18
				50	0	19.39
				1	0	21.43
				1	24	21.40
				1	49	21.48
				25	0	20.38
			25	12	20.45	
			25	24	20.40	
			50	0	20.36	
			16-QAM	1	0	20.61
				1	24	20.35
				1	49	20.43
	25	0		20.12		
	25	12		20.15		
	25	24		20.25		
	H 21400	2565	QPSK	50	0	19.37
				1	0	21.60
				1	24	21.42
				1	49	21.44
				25	0	20.49
				25	12	20.25
			25	24	20.53	
			50	0	20.39	
			16-QAM	1	0	21.03
1				24	21.08	
1				49	20.97	
25				0	20.68	
25	12	20.59				
25	24	20.42				
50	0	19.44				

LTE BAND 7 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 20775	2502.5	QPSK	1	0	21.68
				1	12	21.56
				1	24	21.62
				12	0	21.32
				12	6	21.28
				12	11	21.15
				25	0	20.42
			16-QAM	1	0	21.03
				1	12	20.89
				1	24	20.92



				12	0	20.64
				12	6	20.57
				12	11	20.48
				25	0	19.56
M 21100	2535	QPSK		1	0	21.48
				1	12	21.47
				1	24	21.53
				12	0	21.22
				12	6	21.25
				12	11	21.35
		25	0	20.40		
		16-QAM		1	0	20.61
				1	12	20.56
				1	24	20.67
				12	0	20.12
				12	6	20.09
12	11			20.03		
25	0	19.38				
H 21425	2567.5	QPSK		1	0	21.48
				1	12	21.59
				1	24	21.40
				12	0	21.09
				12	6	21.12
				12	11	21.24
		25	0	20.35		
		16-QAM		1	0	20.41
				1	12	20.38
				1	24	20.51
				12	0	20.01
				12	6	20.05
12	11			19.98		
25	0	19.52				



1. Occupied Bandwidth

1.1.1 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.

1.1.2 Test Description

See section 2.1.2 of this report.

1.1.3 Test Results

LTE Band 7

Low channel:

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20755	2502.5	4.5197	4.5199	20800	2505	8.9602	8.9674
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20755	2502.5	4.997	5.020	20800	2505	9.881	9.918
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20825	2507.5	13.455	13.450	20850	2510	17.914	17.914
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20825	2507.5	14.66	14.73	20850	2510	19.35	19.39

Middle channel:

Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	4.5145	4.5170	21100	2535	8.9847	8.9704



Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	5.011	4.985	21100	2535	9.925	9.911
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	13.455	13.466	21100	2535	17.890	17.896
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	14.82	14.77	21100	2535	19.44	19.40

High channel:

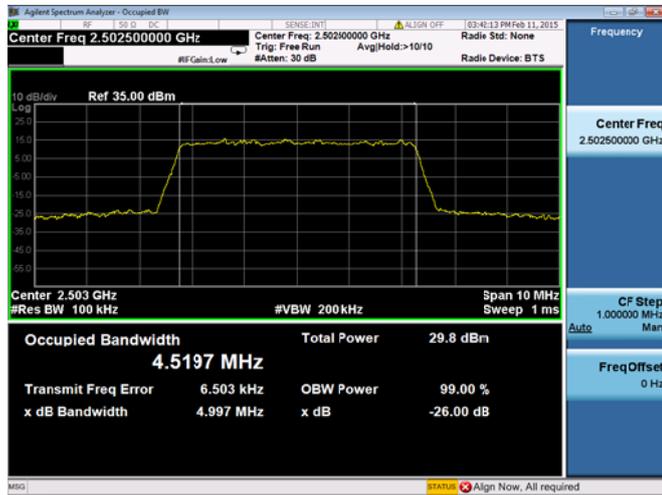
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21425	2567.5	4.5214	4.5175	21400	2565	8.9934	8.9814
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21425	2567.5	5.052	5.011	21400	2565	9.867	9.886
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21375	2562.5	13.423	13.474	21350	2560	17.899	17.963
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21375	2562.5	14.75	14.69	21350	2560	19.34	19.45



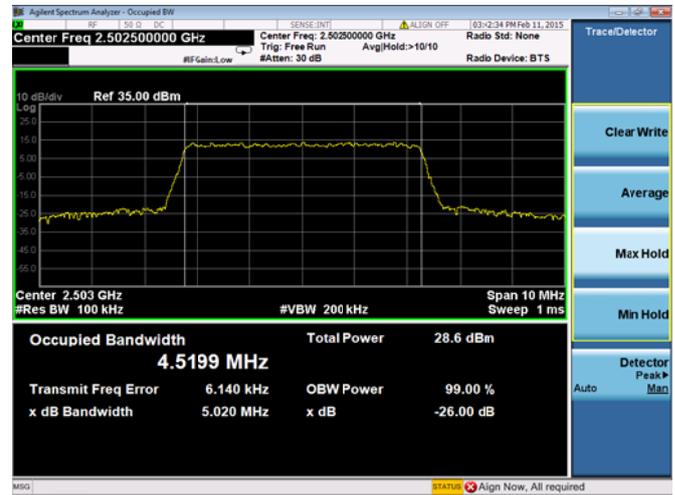
Low channel:

Spectrum Plot of Worst Value

5MHz/QPSK



5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK



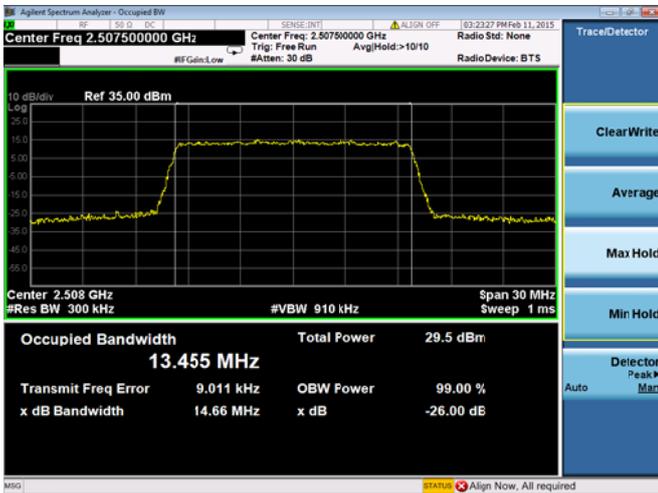
10MHz/16QAM



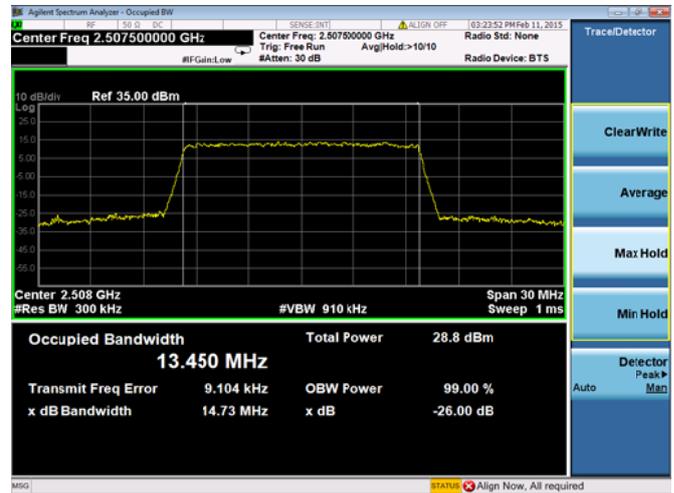


Spectrum Plot of Worst Value

15MHz/QPSK

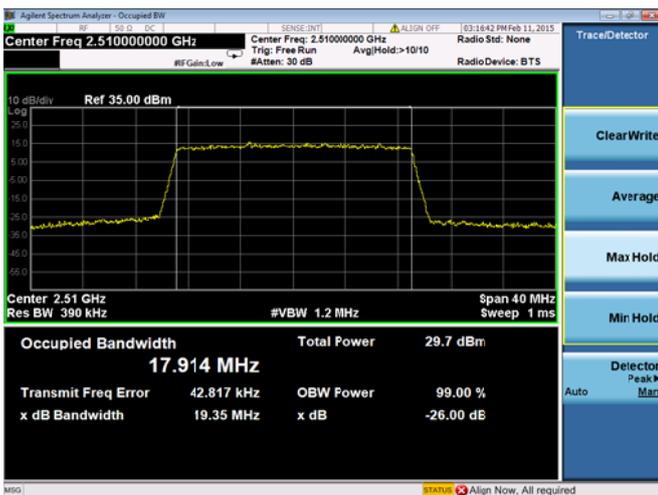


15MHz/16QAM

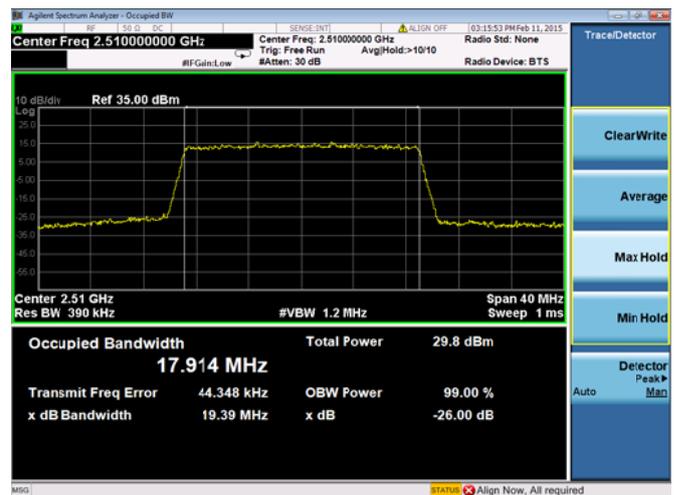


Spectrum Plot of Worst Value

20MHz/QPSK



20MHz/16QAM

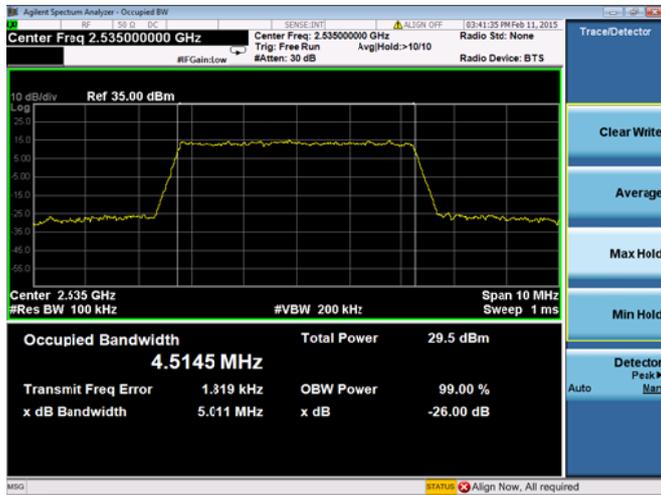




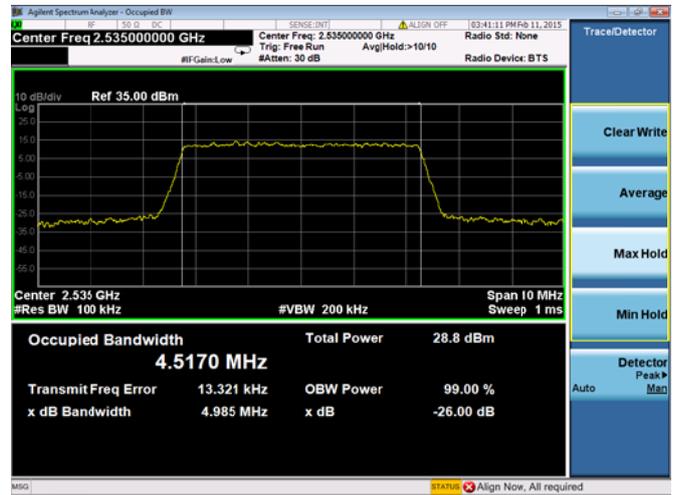
Middle channel:

Spectrum Plot of Worst Value

5MHz/QPSK

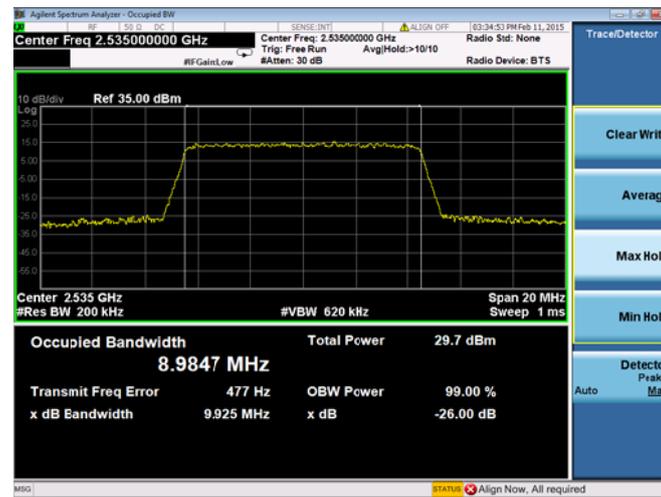


5MHz/16QAM

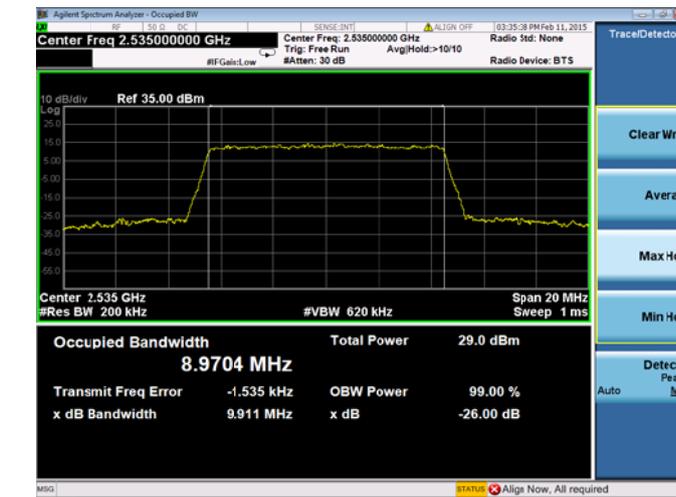


Spectrum Plot of Worst Value

10MHz/QPSK



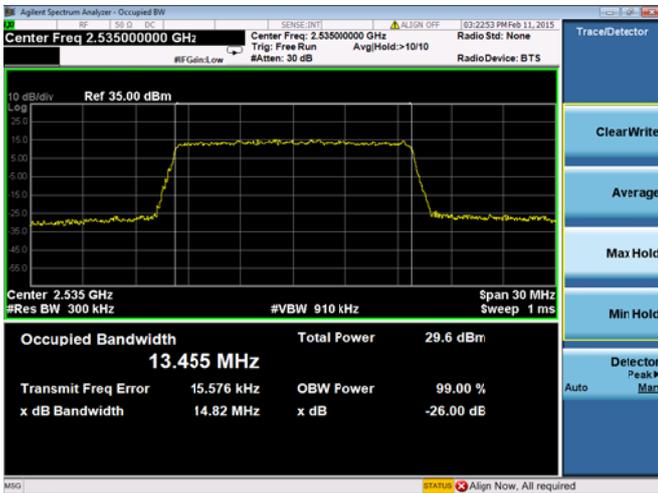
10MHz/16QAM



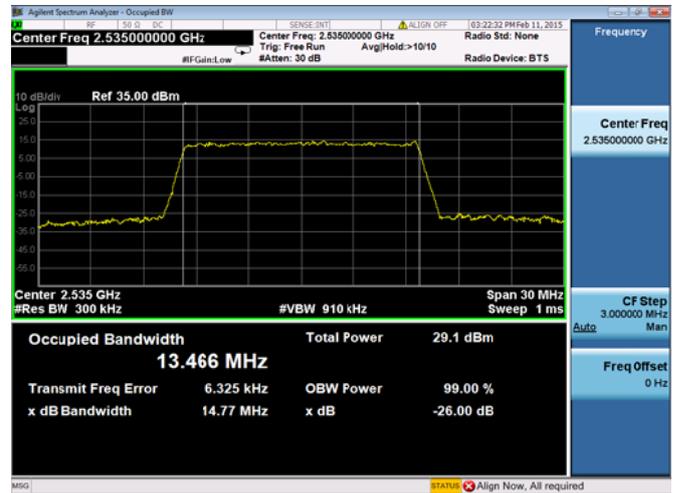


Spectrum Plot of Worst Value

15MHz/QPSK

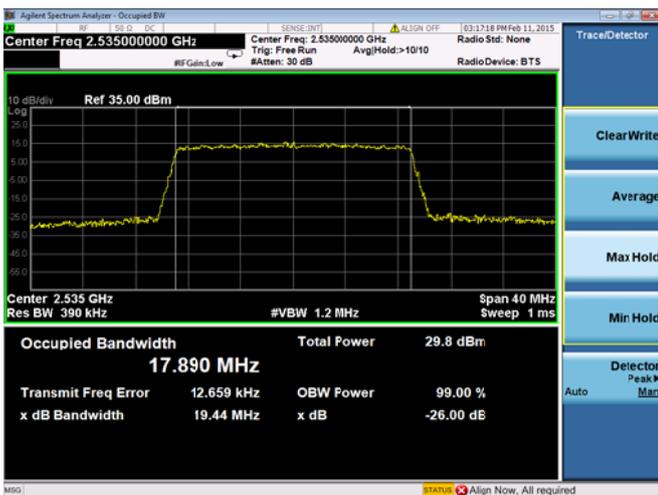


15MHz/16QAM

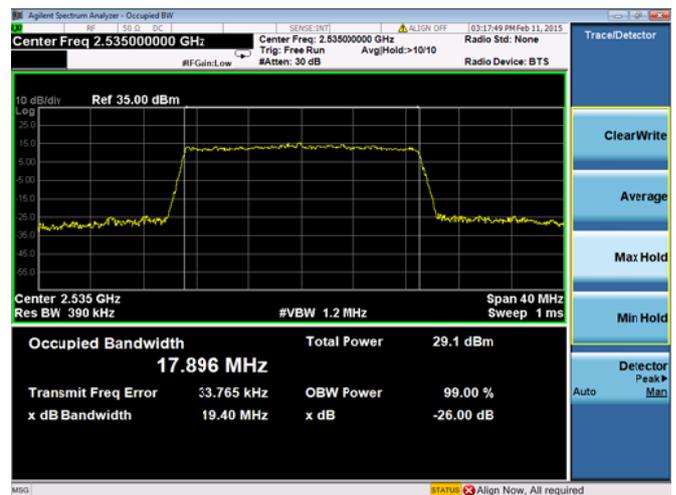


Spectrum Plot of Worst Value

20MHz/QPSK



20MHz/16QAM

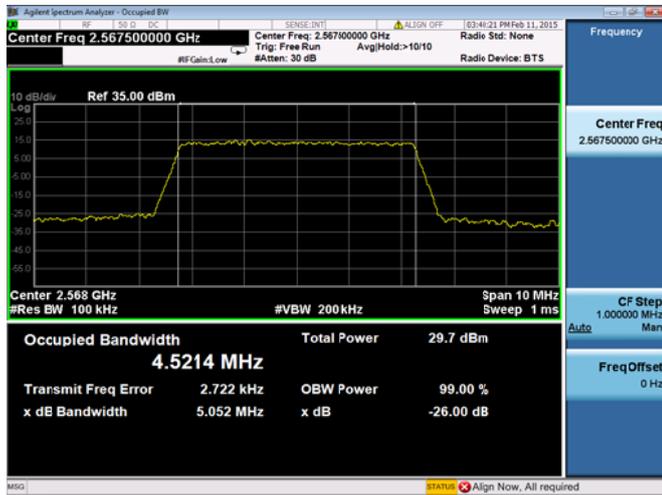




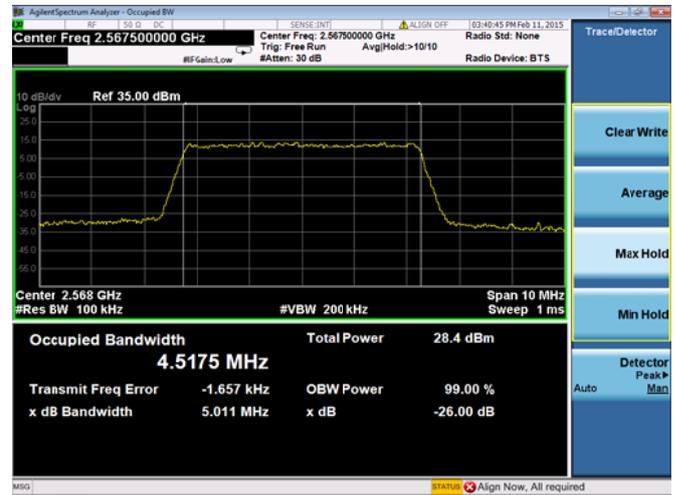
High channel:

Spectrum Plot of Worst Value

5MHz/QPSK



5MHz/16QAM

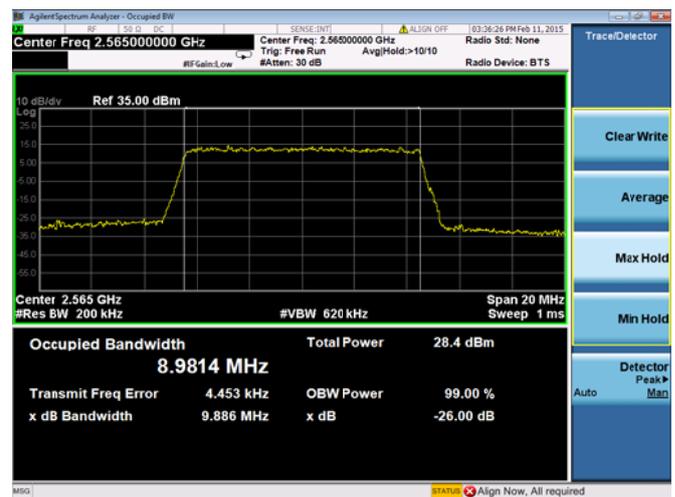


Spectrum Plot of Worst Value

10MHz/QPSK



10MHz/16QAM

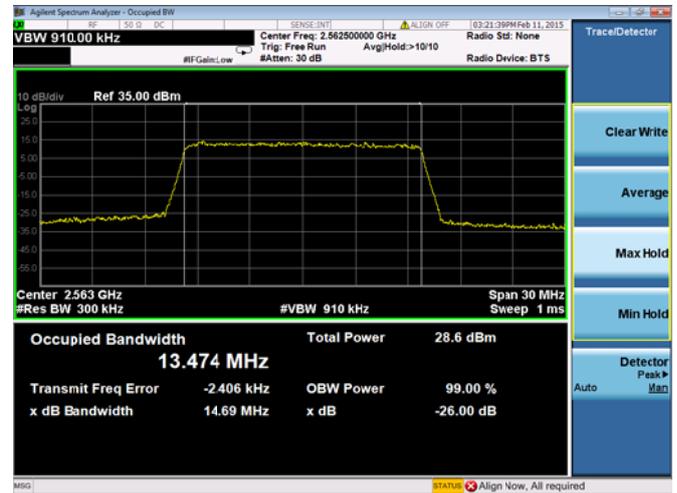
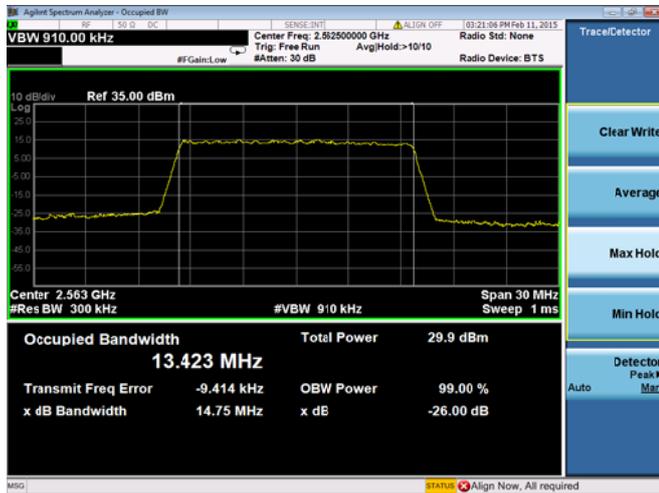




Spectrum Plot of Worst Value

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	1.0996	1.1004	19965	1711.5	2.7059	2.7101

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	1.302	1.302	19965	1711.5	2.983	3.001

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	4.5178	4.5144	20000	1715.0	8.9984	8.9741

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	5.051	5.043	20000	1715.0	9.992	9.864

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	13.396	13.402	20050	1720.0	17.876	17.864

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	14.67	14.66	20050	1720.0	19.38	19.47



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	1.0985	1.1005	20175	1732.5	2.7169	2.7043
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	1.305	1.285	20175	1732.5	3.010	3.017

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	4.5113	4.5225	20175	1732.5	9.0007	8.9939
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	5.000	4.997	20175	1732.5	9.935	9.932

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	13.478	13.468	20175	1732.5	17.958	17.943
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	14.75	14.71	20175	1732.5	19.62	19.48



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	1.1017	1.0968	20384	1753.4	2.7160	2.7063
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	1.290	1.298	20384	1753.4	3.000	3.003

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	4.5207	4.5177	20350	1750.0	8.9827	8.9923
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	4.990	5.045	20350	1750.0	9.854	9.897

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	13.466	13.466	20300	1745.0	17.904	17.963
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	14.74	14.75	20300	1745.0	19.38	19.44

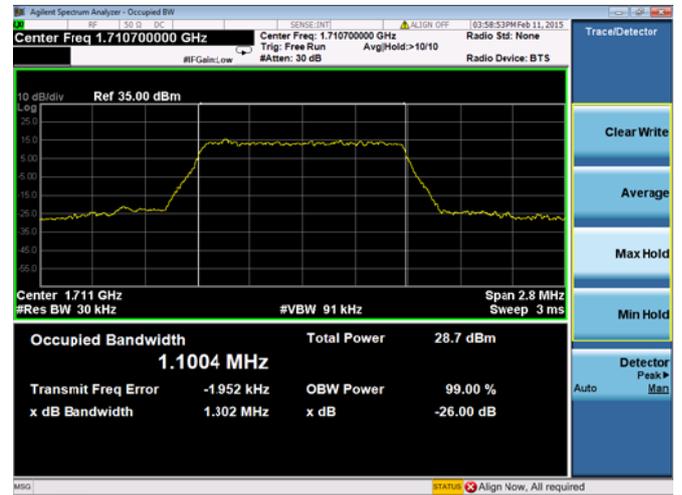
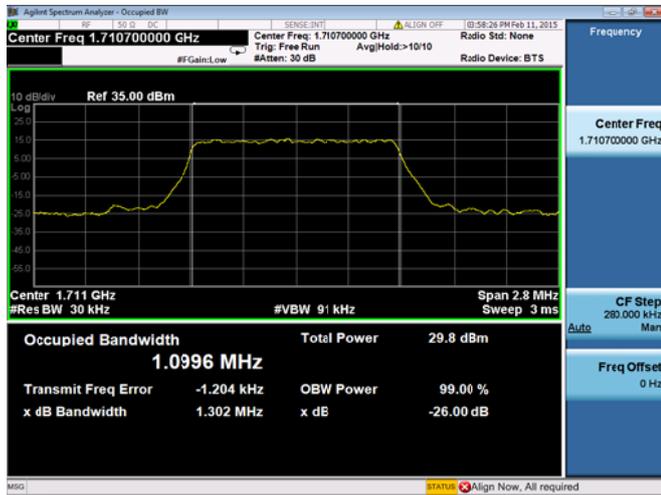


Low channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

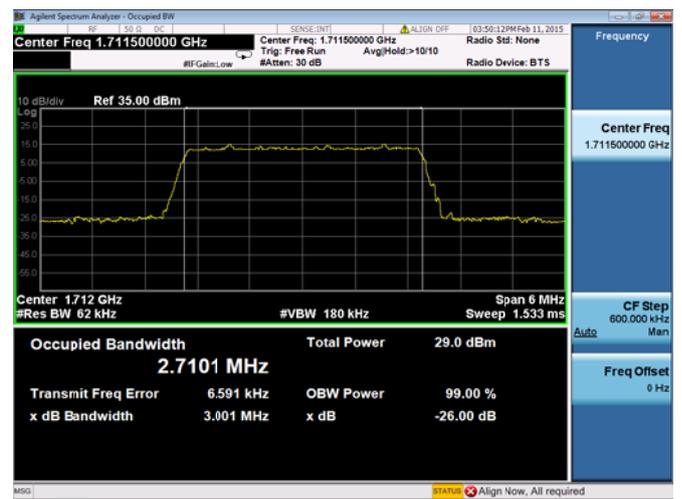
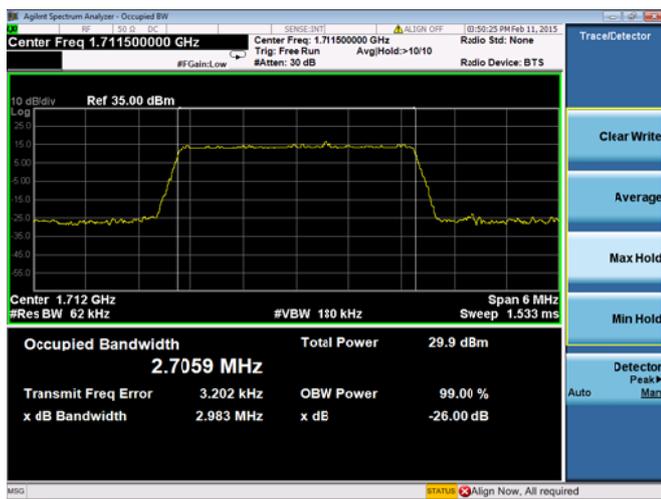
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

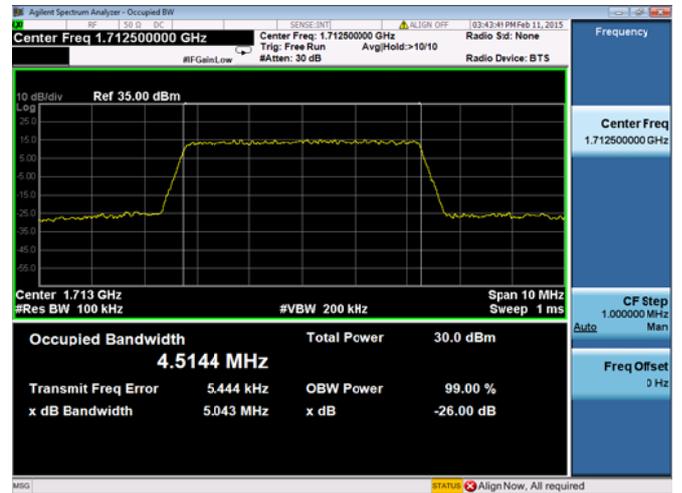
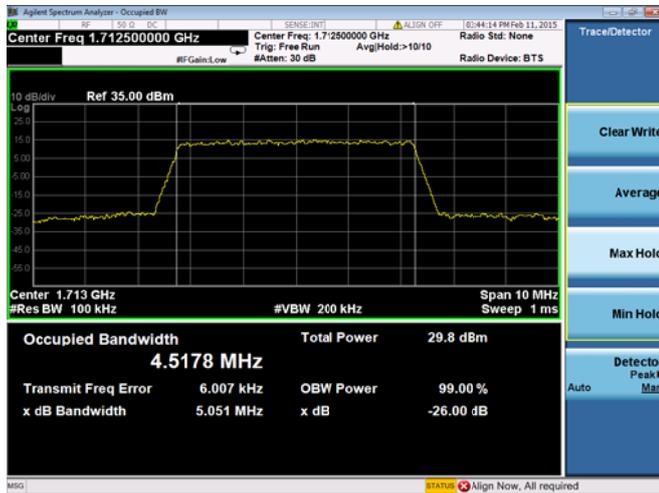




Spectrum Plot of Worst Value

5MHz/QPSK

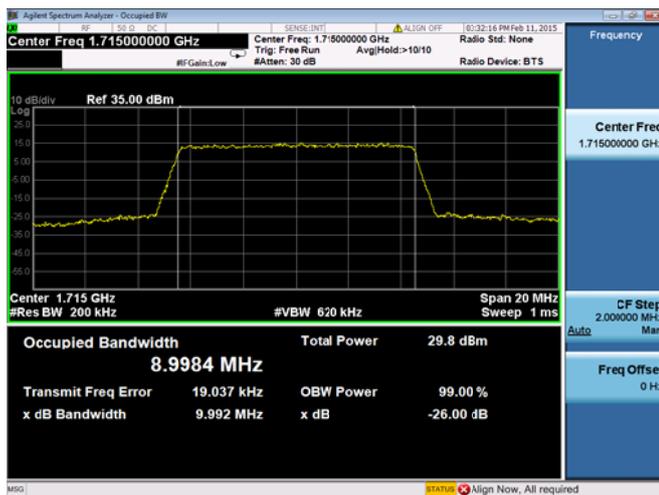
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

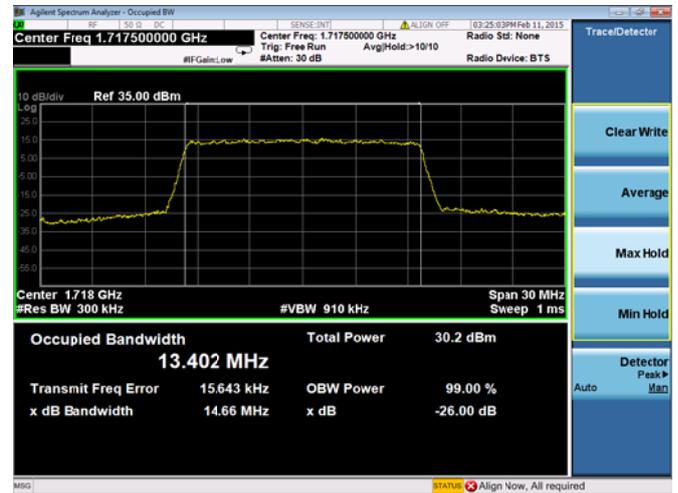
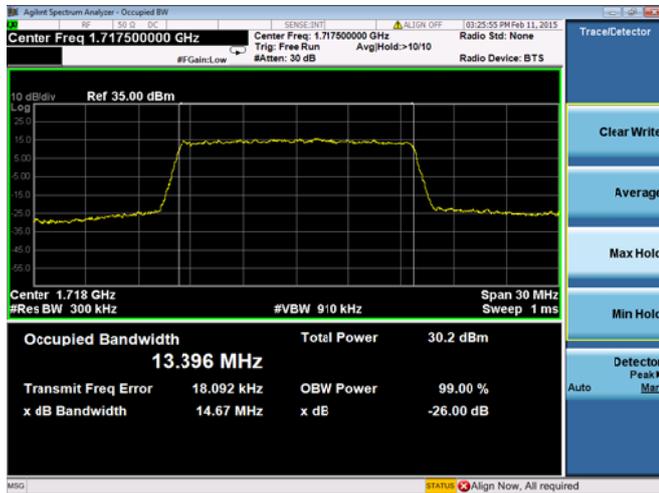




Spectrum Plot of Worst Value

15MHz/QPSK

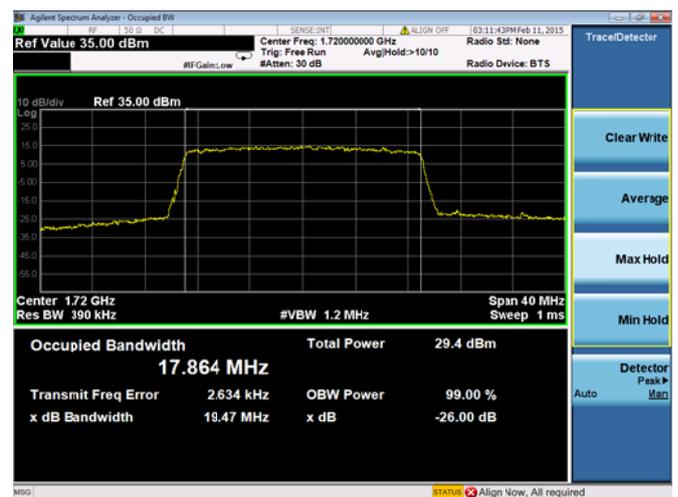
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM



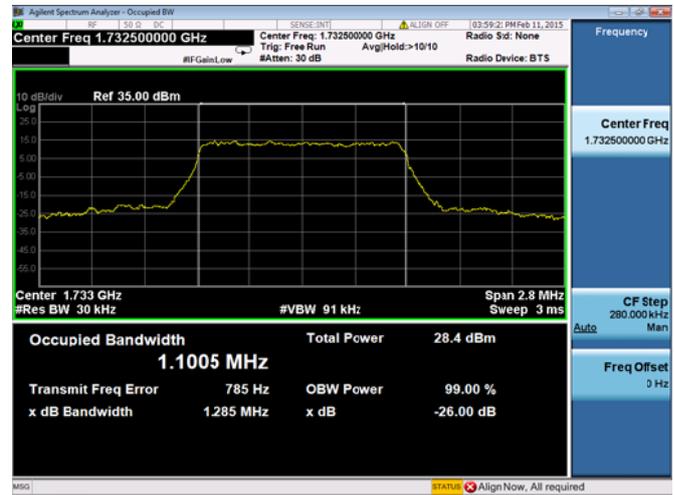
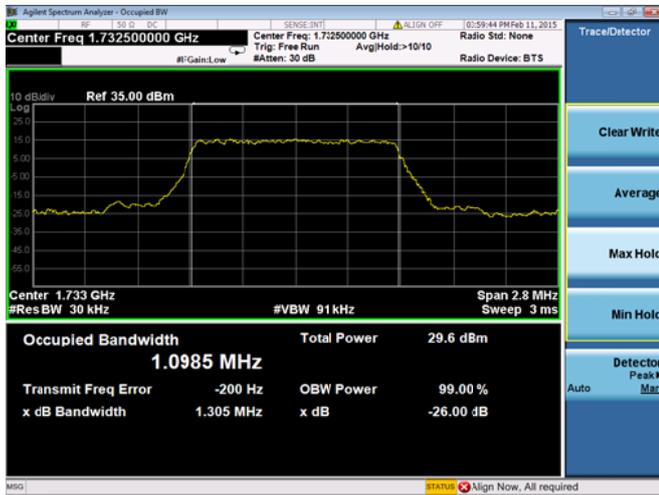


Middle channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

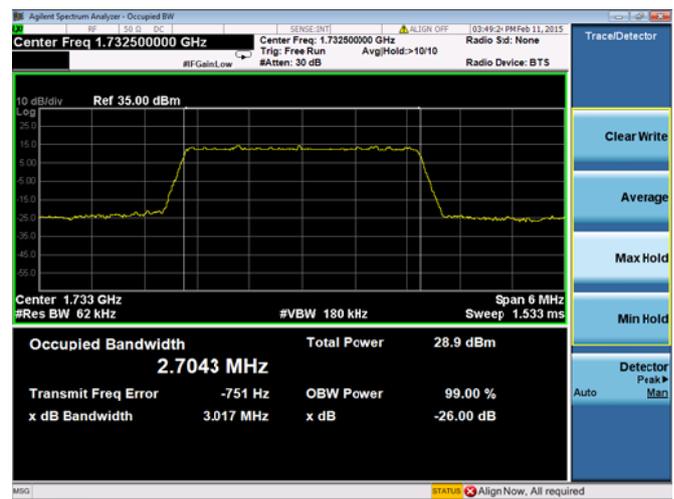
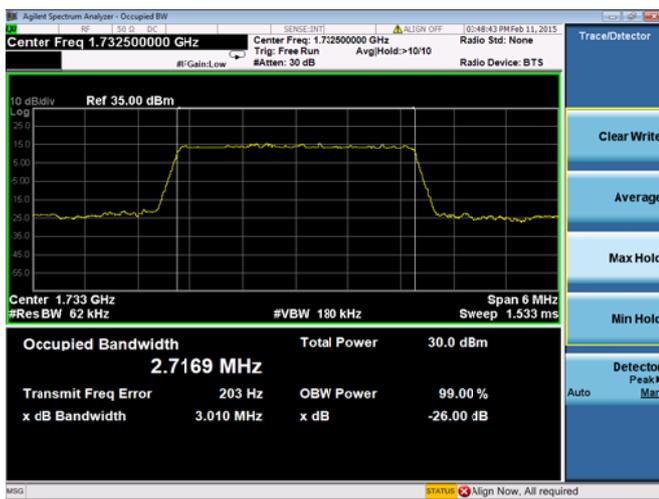
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

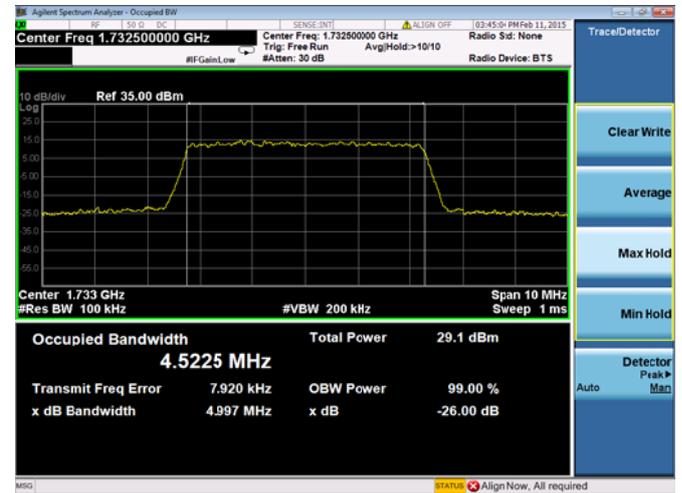
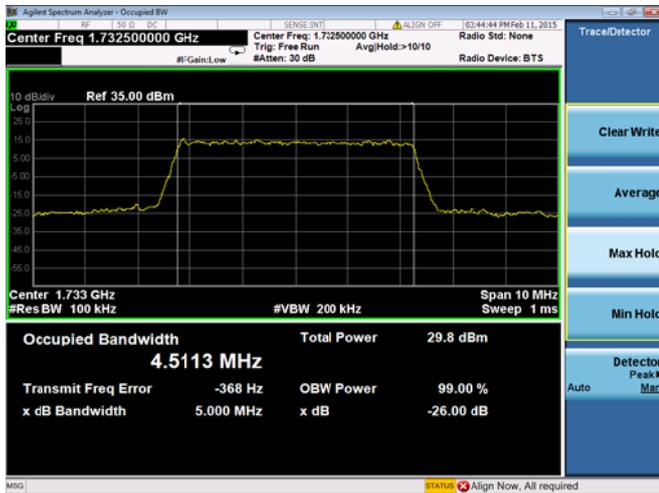




Spectrum Plot of Worst Value

5MHz/QPSK

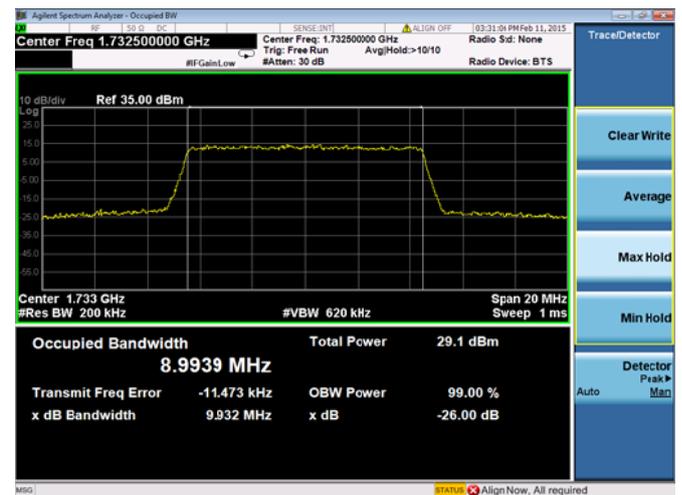
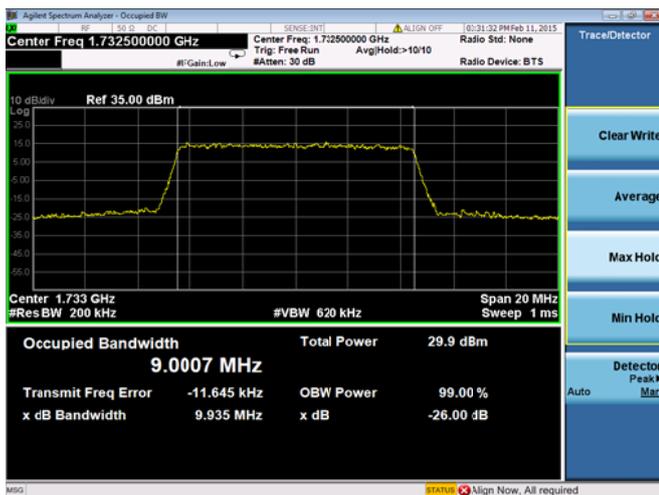
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

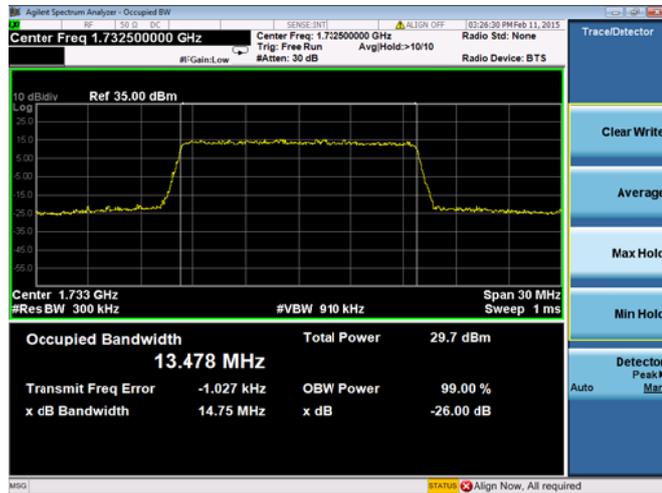
10MHz/16QAM



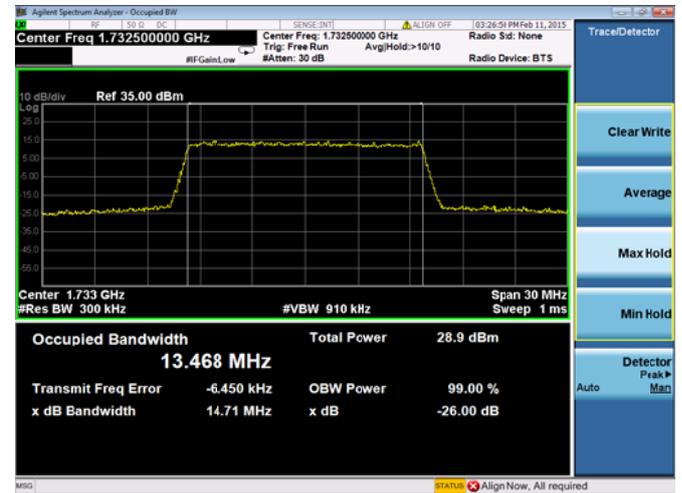


Spectrum Plot of Worst Value

15MHz/QPSK

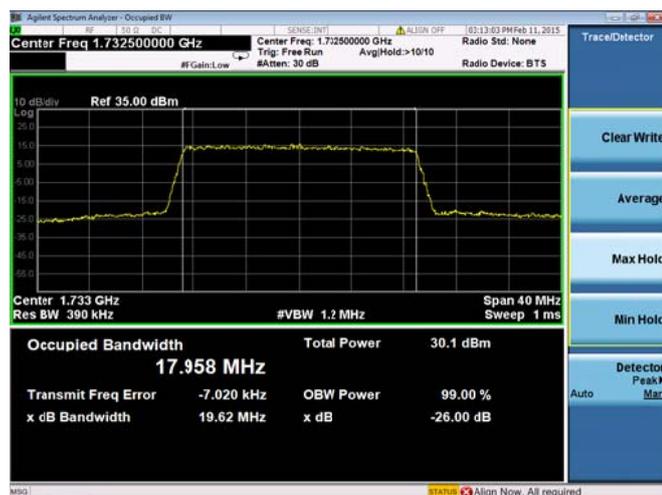


15MHz/16QAM

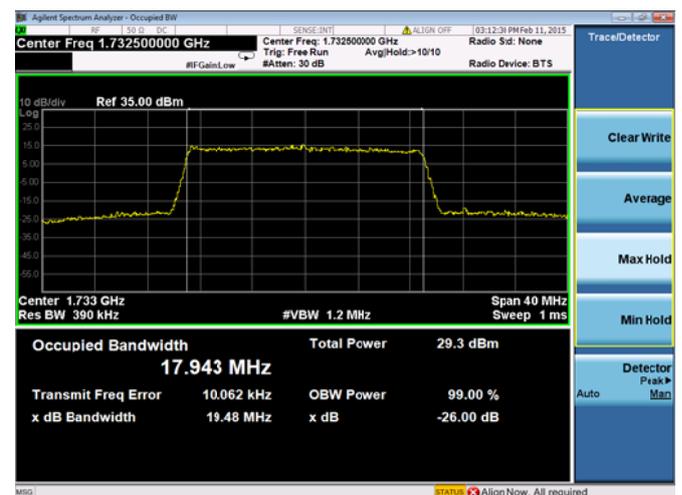


Spectrum Plot of Worst Value

20MHz/QPSK



20MHz/16QAM



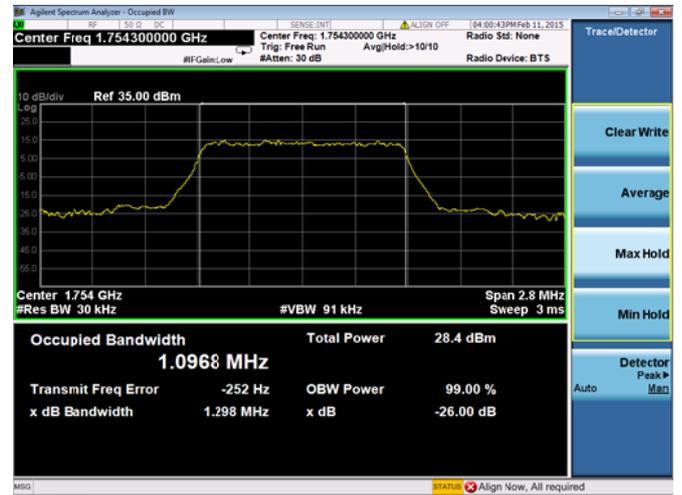
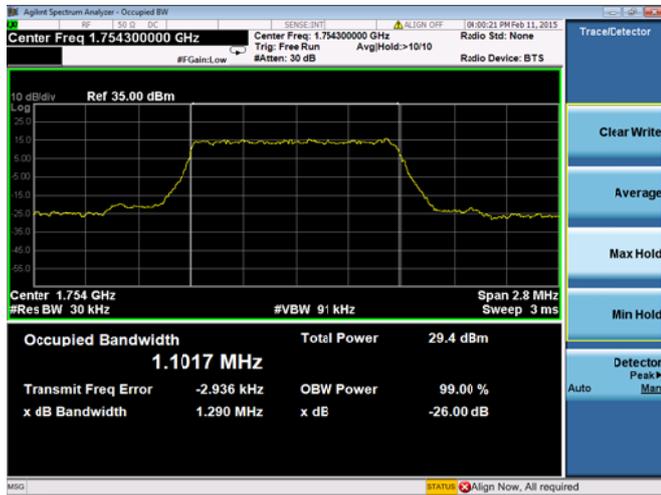


High channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

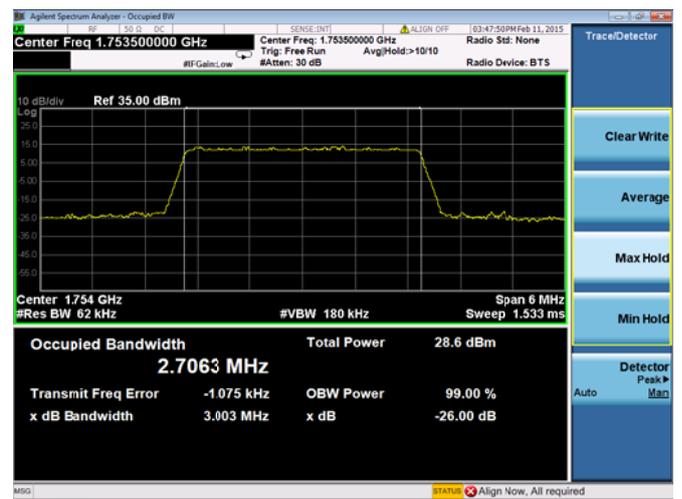
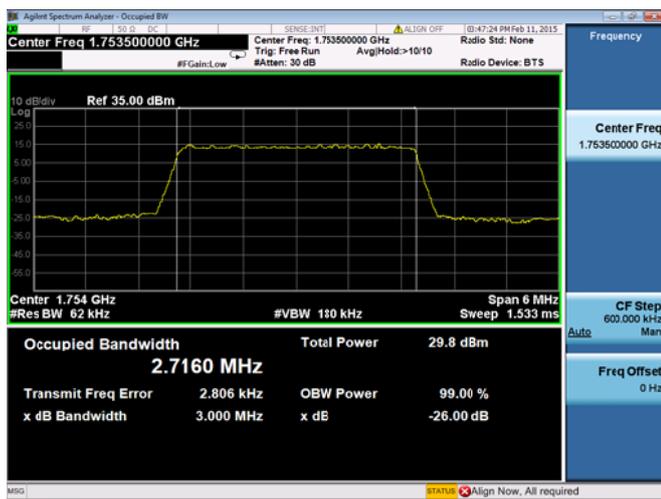
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

3MHz/16QAM

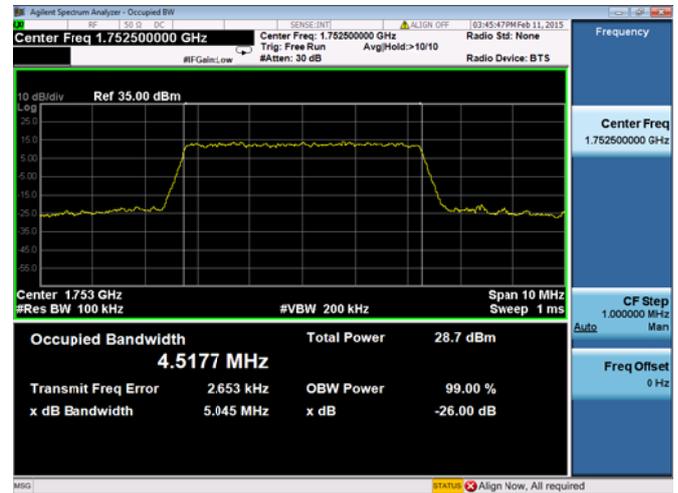
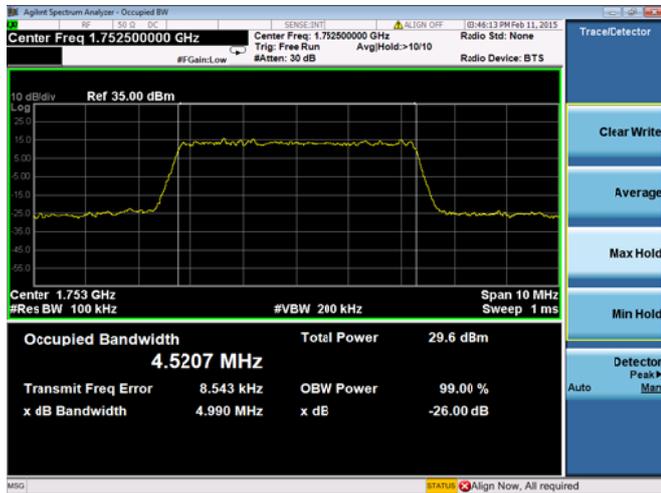




Spectrum Plot of Worst Value

5MHz/QPSK

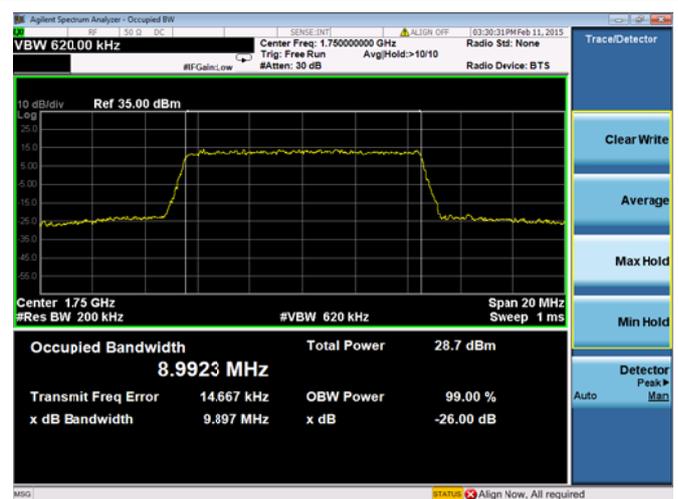
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM

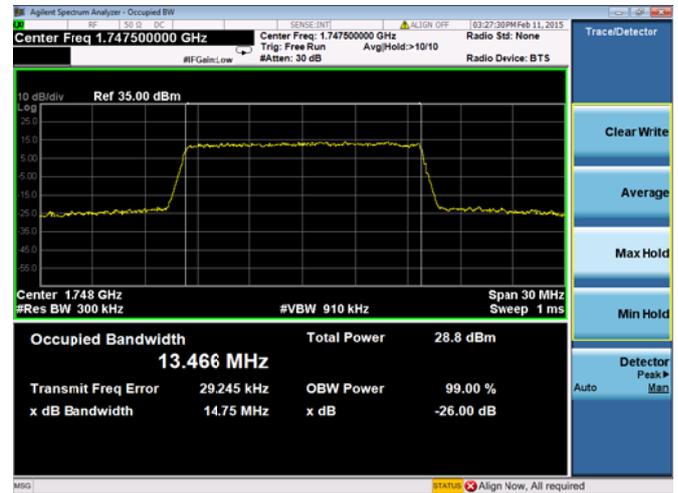
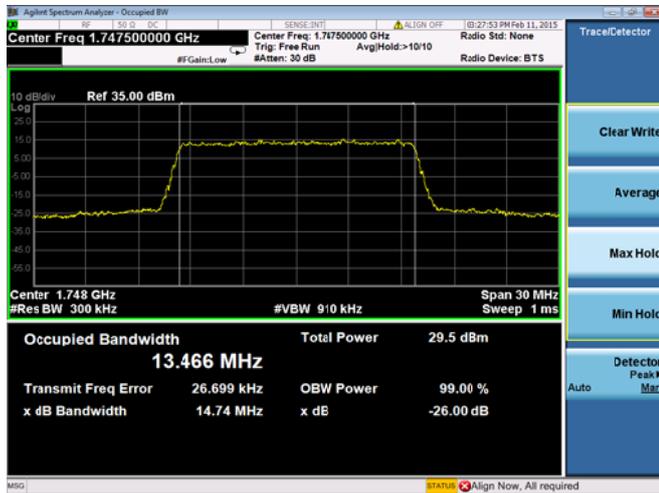




Spectrum Plot of Worst Value

15MHz/QPSK

15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM

