

FCC TEST REPORT

APPLICANT : GUANGDONG OPPO MOBILE
TELECOMMUNICATIONS CORP.,LTD

PRODUCT NAME : Mobile Phone

MODEL NAME : OPPO R8106

TRADE NAME : OPPO

BRAND NAME : OPPO

FCC ID : R9C-R8106

STANDARD(S) : 47 CFR Part 27, Subpart L

ISSUE DATE : 2014-10-24



SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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DIRECTORY

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Test Report Declaration

Applicant	GUANGDONG OPPO MOBILE TELECOMMUNICATIONS CORP.,LTD
Applicant Address	NO.18 HAIBIN ROAD, WUSHA, CHANG'AN, DONGGUAN, GUANGDONG,CHINA
Manufacturer	GUANGDONG OPPO MOBILE TELECOMMUNICATIONS CORP.,LTD
Manufacturer Address	NO.18 HAIBIN ROAD, WUSHA, CHANG'AN, DONGGUAN, GUANGDONG,CHINA
Product Name	Mobile Phone
Model Name	OPPO R8106
Brand Name	OPPO
HW Version	11
SW Version	ColorOS V2.0.0i
Test Standards	47 CFR Part 27, Subpart L
Test Date	2014-06-24 to 2014-07-14
Test Result	PASS

Tested by : _____

Liu Zhisen

Reviewed by : _____

Peng Huarui

Approved by : _____

Zeng Dexin



1. GENERAL INFORMATION

1.1. EUT Description

EUT Type Mobile Phone
Serial No. (n.a, marked #1 by test site)
Hardware Version..... 11
Software Version..... ColorOS V2.0.0i
Applicant GUANGDONG OPPO MOBILE TELECOMMUNICATIONS
CORP.,LTD
NO.18 HAIBIN ROAD, WUSHA, CHANG'AN, DONGGUAN,
GUANGDONG,CHINA
Manufacturer GUANGDONG OPPO MOBILE TELECOMMUNICATIONS
CORP.,LTD
NO.18 HAIBIN ROAD, WUSHA, CHANG'AN, DONGGUAN,
GUANGDONG,CHINA.
Modulation Type..... LTE Band 7: QPSK, 16QAM
LTE Band 4: QPSK, 16QAM
Tx Frequency Range..... LTE Band 7: 2502.5MHz~2567.5MHz
LTE Band 4: 1710MHz~1755MHz
Rx Frequency Range LTE Band 7: 2622.5MHz~2687.5MHz
LTE Band 4: 2110MHz~2155MHz
Emission Designator 4M52G7D (LTE Band 7, QPSK, BW 5MHz)
4M52W7D (LTE Band 7, 16QAM, BW 5MHz)
9M02G7D (LTE Band 7, QPSK, BW 10MHz)
9M02W7D (LTE Band 7, 16QAM, BW 10MHz)
9M02G7D (LTE Band 7, QPSK, BW 15MHz)
9M02W7D (LTE Band 7, 16QAM, BW 15MHz)
9M02G7D (LTE Band 7, QPSK, BW 20MHz)
9M02W7D (LTE Band 7, 16QAM, BW 20MHz)
1M11G7D (LTE Band 4, QPSK, BW 1.4MHz)
1M11W7D (LTE Band 4, 16QAM, BW 1.4MHz)
2M72G7D (LTE Band 4, QPSK, BW 3MHz)
2M73 W7D (LTE Band 4, 16QAM, BW 3MHz)
4M53G7D (LTE Band 4, QPSK, BW 5MHz)
4M54 W7D (LTE Band 4, 16QAM, BW 5MHz)
9M06G7D (LTE Band 4, QPSK, BW 10MHz)

9M03 W7D (LTE Band 4, 16QAM, BW 10MHz)
13M54G7D (LTE Band 4, QPSK, BW 15MHz)
13M52 W7D (LTE Band 4, 16QAM, BW 15MHz)
17M99G7D (LTE Band 4, QPSK, BW 20MHz)
18M04W7D (LTE Band 4, 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 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 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	27.50(d)(5)	Occupied Bandwidth	<u>PASS</u>
3	2.1049,27.53(g)	Frequency Stability	<u>PASS</u>
4	2.1055, 27.54	Peak to Average Radio	<u>PASS</u>
5	2.1051,2.1057,27.53(g)	Conducted Spurious Emissions	<u>PASS</u>
6	2.1051,2.1057 27.53(g)(h)	Band Edge	<u>PASS</u>
7	27.50(d)(4)	Equivalent Isotropic Radiated Power	<u>PASS</u>
8	2.1053,2.1057 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 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 27L REQUIREMENTS

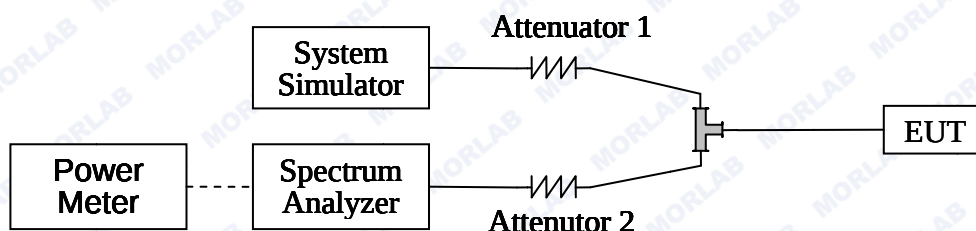
2.1. Transmitter Conducted Output Power

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

1. 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.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Rohde& Schwarz	CMW500	1201.0002k5 0/124534/wk	2014.02.26	2015.02.25
Spectrum Analyzer	Rohde& Schwarz	FSL	10246	2014.02.26	2015.02.25

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4445A	MY44200685	2014.02.26	2015.02.25
Power Meter	Agilent	E4418B	GB43318055	2014.02.26	2015.02.25
Power Meter	Agilent	E4418B	GB43318055	2014.02.26	2015.02.25
Power Sensor	Agilent	8482A	MY41091706	2014.02.26	2015.02.25
Power Splitter	Weinschel	1506A	NW521	2014.02.26	2015.02.25
Attenuator 1	Resnet	20dB	(n.a.)	2014.02.26	2015.02.25
Attenuator 2	Resnet	3dB	(n.a.)	2014.02.26	2015.02.25

2.1.3. Test Results

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	22.28
				1	49	22.17
				1	99	22.43
				50	0	21.64
				50	25	21.83
				50	49	21.70
				100	0	21.78
			16-QAM	1	0	21.68
				1	49	22.25
				1	99	22.40
				50	0	21.90
				50	25	21.96
				50	49	21.89
				100	0	21.59
	M 20175	1732.5	QPSK	1	0	22.39
				1	49	22.44
				1	99	22.45
				50	0	21.86
				50	25	21.89
				50	49	21.91
				100	0	21.64
			16-QAM	1	0	21.88
				1	49	22.22
				1	99	22.41
				50	0	21.90
				50	25	21.89
				50	49	21.94

				100	0	21.38
				1	0	22.30
				1	49	22.32
				1	99	22.41
			QPSK	50	0	21.89
				50	25	21.91
				50	49	21.94
				100	0	21.48
				1	0	21.77
				1	49	22.03
				1	99	22.15
			16-QAM	50	0	21.94
				50	25	21.99
				50	49	21.94
				100	0	21.37

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	22.47
				1	37	21.57
				1	74	21.73
				36	0	21.89
				36	18	21.96
				36	35	21.92
			16-QAM	75	0	21.49
				1	0	21.56
				1	37	21.96
				1	74	22.08
				36	0	22.09
				36	18	21.96
	M 20175	1732.5	QPSK	36	35	21.98
				75	0	21.80
			16-QAM	1	0	22.42
				1	37	22.36
				1	74	22.67
				36	0	21.96
				36	18	21.94
				36	35	21.91
				75	0	21.38
			16-QAM	1	0	21.88
				1	37	22.30
				1	74	22.23
				36	0	21.86
				36	18	21.89

				36	35	21.97
				75	0	21.44
	H 20325	1747.5	QPSK	1	0	22.36
				1	37	22.42
				1	74	22.46
				36	0	22.64
				36	18	21.72
				36	35	21.76
				75	0	21.43
			16-QAM	1	0	21.61
				1	37	21.98
				1	74	21.90
				36	0	21.99
				36	18	21.93
				36	35	21.88
				75	0	21.35

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	22.50
				1	24	22.28
				1	49	22.37
				25	0	21.65
				25	12	21.90
				25	24	21.87
				50	0	21.32
			16-QAM	1	0	21.65
				1	24	22.13
				1	49	22.17
				25	0	22.08
				25	12	22.12
				25	24	22.13
				50	0	21.34
	M 20175	1732.5	QPSK	1	0	22.56
				1	24	22.02
				1	49	21.90
				25	0	22.03
				25	12	22.08
				25	24	22.06
				50	0	21.18
			16-QAM	1	0	21.61
				1	24	21.17
				1	49	21.21
				25	0	21.18

	H 20350	1750.0	QPSK	25	12	21.11
				25	24	21.04
				50	0	21.01
				1	0	22.37
				1	24	21.69
				1	49	21.73
				25	0	21.68
				25	12	21.80
				25	24	21.71
			16-QAM	50	0	21.90
				1	0	21.61
				1	24	21.75
				1	49	21.75
				25	0	21.82
				25	12	21.83
				25	24	21.92
				50	0	21.11

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	22.60
				1	12	21.89
				1	24	21.91
				12	0	21.89
				12	6	21.82
				12	11	21.87
			16-QAM	25	0	21.84
				1	0	21.55
				1	12	21.60
				1	24	21.65
				12	0	21.87
				12	6	21.88
				12	11	21.83
	M 20175	1732.5	QPSK	25	0	21.82
				1	0	21.55
				1	12	21.79
				1	24	21.76
				12	0	21.77
				12	6	21.80
				12	11	21.87
			16-QAM	25	0	21.91
				1	0	21.75
			16-QAM	1	12	21.83
				1	24	21.87

				12	0	21.90
				12	6	21.92
				12	11	21.87
				25	0	21.01
	H 20375	1752.5	QPSK	1	0	22.49
				1	12	21.91
				1	24	21.88
				12	0	21.87
			16-QAM	12	6	21.91
				12	11	21.88
				25	0	21.92
				1	0	21.56
				1	12	21.41
				1	24	21.33
				12	0	21.12
				12	6	21.18
				12	11	21.09
				25	0	20.92

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 19965	1711.5	QPSK	1	0	22.57
				1	7	21.80
				1	14	21.87
				8	0	21.80
				8	4	21.78
				8	7	21.81
			16-QAM	15	0	21.82
				1	0	21.63
				1	7	21.11
				1	14	21.15
				8	0	21.01
				8	4	21.69
	M 20175	1732.5	QPSK	8	7	21.72
				15	0	21.63
			16-QAM	1	0	22.56
				1	7	21.50
				1	14	21.79
				8	0	21.59
				8	4	21.61
				8	7	21.69
				15	0	21.67
				1	0	21.63
				1	7	21.39

	H 20384	1753.4	QPSK	1	14	21.48
				8	0	21.51
				8	4	21.49
				8	7	21.52
				15	0	21.91
				1	0	22.52
				1	7	21.89
				1	14	21.80
				8	0	22.79
				8	4	22.81
				8	7	22.82
				15	0	22.80
			16-QAM	1	0	21.53
				1	7	21.11
				1	14	21.13
				8	0	21.03
				8	4	21.59
				8	7	21.42
				15	0	21.43

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	22.39
				1	2	21.81
				1	5	22.57
				3	0	21.78
				3	1	21.82
				3	2	21.89
				6	0	21.88
			16-QAM	1	0	21.97
				1	2	21.89
				1	5	21.60
				3	0	21.10
				3	1	21.12
				3	2	21.18
				6	0	21.88
	M 20175	1732.5	QPSK	1	0	21.93
				1	2	21.89
				1	5	21.56
				3	0	21.92
				3	1	22.91
				3	2	21.89
				6	0	21.99
			16-QAM	1	0	21.18

				1	2	21.14
				1	5	21.63
				3	0	21.05
				3	2	21.07
				3	5	21.04
				6	0	21.03
	H 20392	1754.2	QPSK	1	0	21.34
				1	2	21.20
				1	5	21.52
				3	0	21.81
				3	1	21.82
				3	2	21.81
			16-QAM	6	0	20.89
				1	0	21.78
				1	2	21.76
				1	5	21.78
				3	0	21.82
				3	1	21.80
				3	2	21.79
				6	0	20.80

LTE BAND 7 (Continue)

20MHz	L 20850	2510	QPSK	1	0	23.28
				1	49	23.17
				1	99	23.43
				50	0	22.64
				50	25	22.83
				50	49	22.70
			16-QAM	100	0	22.78
				1	0	22.68
				1	49	23.25
				1	99	23.40
				50	0	22.90
				50	25	22.96
				50	49	22.89
				100	0	22.59
	M 21100	2535	QPSK	1	0	23.39
				1	49	23.44
				1	99	23.45
				50	0	22.86
				50	25	22.89
				50	49	22.91
			16-QAM	100	0	22.64
				1	0	22.88
				1	49	23.22

	H 21350	2560	QPSK	1	99	23.41
				50	0	22.90
				50	25	22.89
				50	49	22.94
				100	0	22.38
				1	0	23.30
				1	49	23.32
				1	99	23.41
				50	0	22.89
				50	25	22.91
				50	49	22.94
				100	0	22.48
			16-QAM	1	0	22.77
				1	49	23.03
				1	99	23.15
				50	0	22.94
				50	25	22.99
				50	49	22.94
				100	0	22.37

LTE BAND 7 (Continue)

15MHz	L 20825	2507.5	QPSK	1	0	23.47
				1	37	22.57
				1	74	22.73
				36	0	22.89
				36	18	22.96
				36	35	22.92
				75	0	22.49
			16-QAM	1	0	22.56
				1	37	22.96
				1	74	23.08
				36	0	23.09
				36	18	22.96
				36	35	22.98
				75	0	22.80
	M 21100	2535	QPSK	1	0	23.42
				1	37	23.36
				1	74	23.67
				36	0	22.96
				36	18	22.94
				36	35	22.91
				75	0	22.38
			16-QAM	1	0	22.88
				1	37	23.30
				1	74	23.23

				36	0	22.86
				36	18	22.89
				36	35	22.97
				75	0	22.44
	H 21375	2562.5	QPSK	1	0	23.36
				1	37	23.42
				1	74	23.46
				36	0	23.64
				36	18	22.72
				36	35	22.76
				75	0	22.43
			16-QAM	1	0	22.61
				1	37	22.98
				1	74	22.90
				36	0	22.99
				36	18	22.93
				36	35	22.88
				75	0	22.35

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	23.86
				1	24	23.98
				1	49	24.03
				25	0	23.01
				25	12	23.03
				25	24	23.02
				50	0	23.10
			16-QAM	1	0	23.19
				1	24	23.07
				1	49	23.20
				25	0	21.95
				25	12	21.94
				25	24	21.93
				50	0	22.06
	M 21100	2535	QPSK	1	0	23.82
				1	24	23.93
				1	49	24.13
				25	0	22.95
				25	12	22.96
				25	24	23.19
				50	0	22.59
			16-QAM	1	0	23.10
				1	24	23.10

	H 21400	2565	QPSK	1	49	23.47
				25	0	22.01
				25	12	22.05
				25	24	22.03
				50	0	22.10
				1	0	23.78
				1	24	23.90
				1	49	24.12
				25	0	23.08
				25	12	23.04
				25	24	23.11
				50	0	23.18
			16-QAM	1	0	23.05
				1	24	23.08
				1	49	23.40
				25	0	22.13
				25	12	22.10
				25	24	22.17
				50	0	22.14

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	24.14
				1	12	23.79
				1	24	23.85
				12	0	22.89
				12	6	22.92
				12	11	22.90
			16-QAM	25	0	22.93
				1	0	22.96
				1	12	22.94
				1	24	22.87
				12	0	21.88
				12	6	21.93
				12	11	21.88
				25	0	21.79
	M 21100	2535	QPSK	1	0	24.12
				1	12	24.05
				1	24	24.14
				12	0	23.02
				12	6	23.04
				12	11	23.03
				25	0	22.10
			16-QAM	1	0	23.23

				1	12	22.96
				1	24	23.23
H 21425	2567.5	QPSK		12	0	22.12
				12	6	22.10
				12	11	22.15
				25	0	22.14
				1	0	24.08
				1	12	23.55
				1	24	23.57
				12	0	22.26
		16-QAM		12	6	22.22
				12	11	22.27
				25	0	22.20
				1	0	23.00
				1	12	23.03
				1	24	23.11
				12	0	23.17
				12	6	23.14
				12	11	23.15
				25	0	22.28

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 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	4.5236	4.5212	20800	2505	9.0085	9.0184
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	5.013	5.026	20800	2505	9.900	9.964

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	13.452	13.499	20850	2510	17.948	17.977

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	14.69	14.71	20850	2510	19.43	19.44

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	4.5148	4.5289	21100	2535	8.9911	8.9900
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	5.037	4.992	21100	2535	9.957	9.898

Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	13.451	13.475	21100	2535	17.939	17.950
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21100	2535	14.74	14.56	21100	2535	19.50	19.40

High channel:

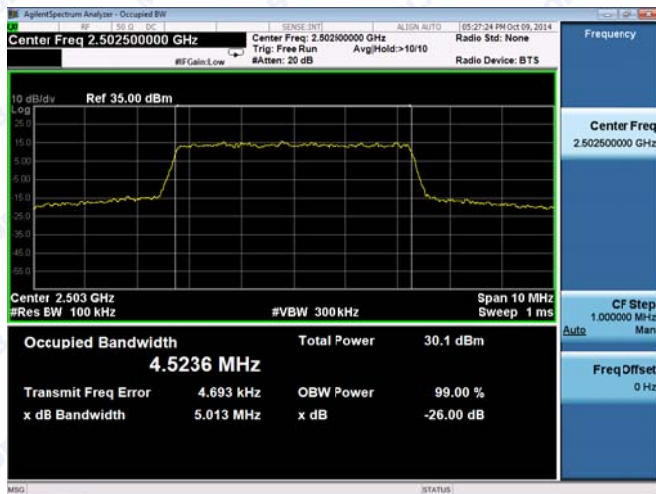
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21425	2567.5	4.5263	4.5188	21400	2565	9.0056	8.9882
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
21425	2567.5	4.988	5.018	21400	2565	9.966	9.817

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	13.445	13.472	21350	2560	17.875	17.889
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	14.67	14.69	21350	2560	19.25	19.26

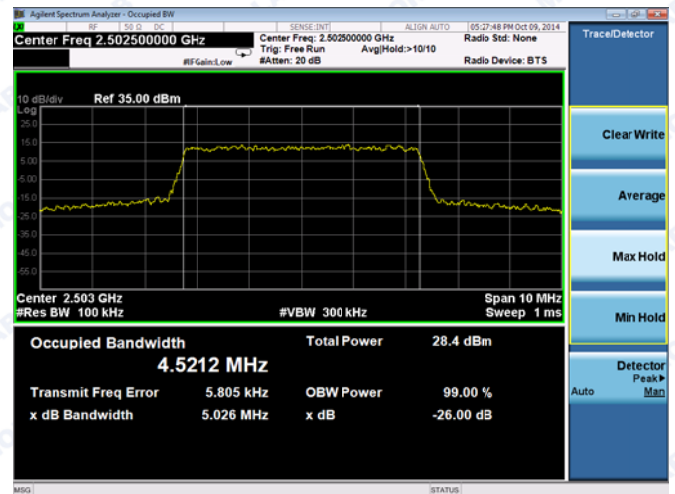
Low channel:

Spectrum Plot of Worst Value

5MHz/QPSK

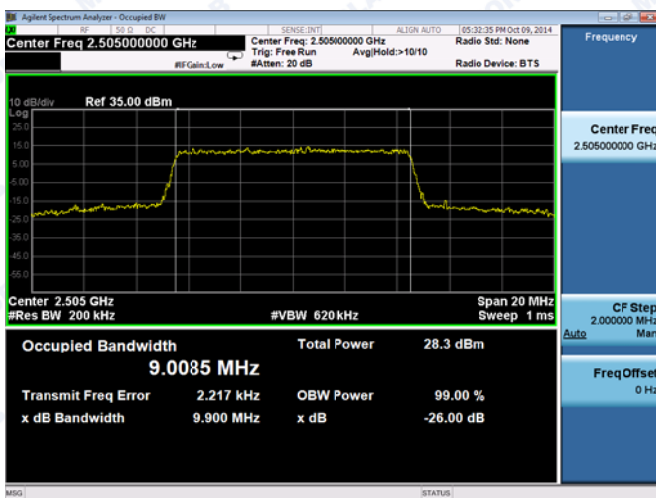


5MHz/16QAM

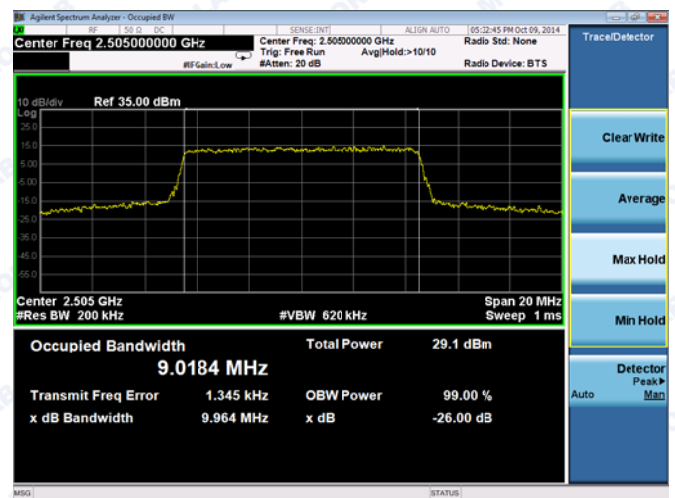


Spectrum Plot of Worst Value

10MHz/QPSK

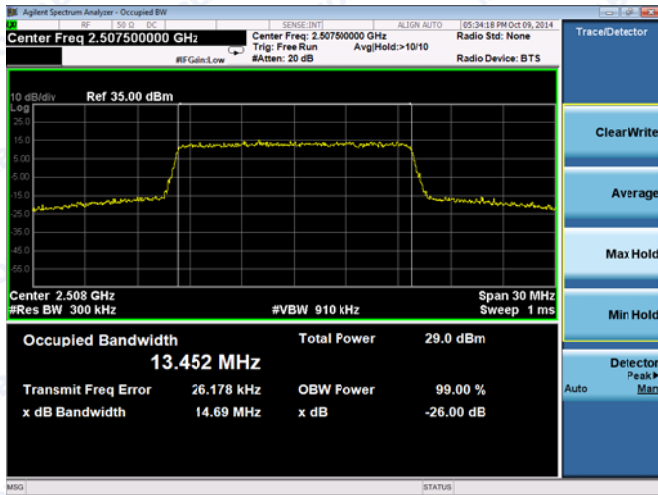


10MHz/16QAM

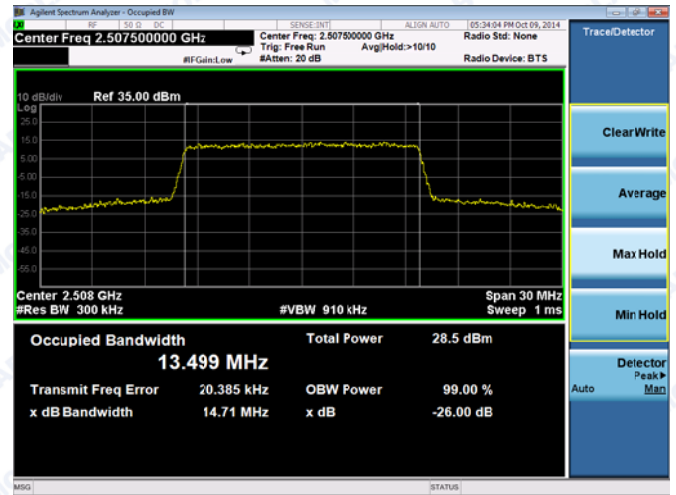


Spectrum Plot of Worst Value

15MHz/QPSK

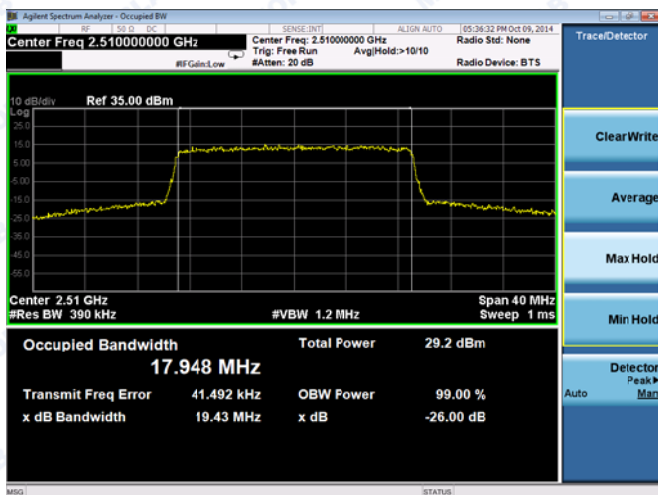


15MHz/16QAM

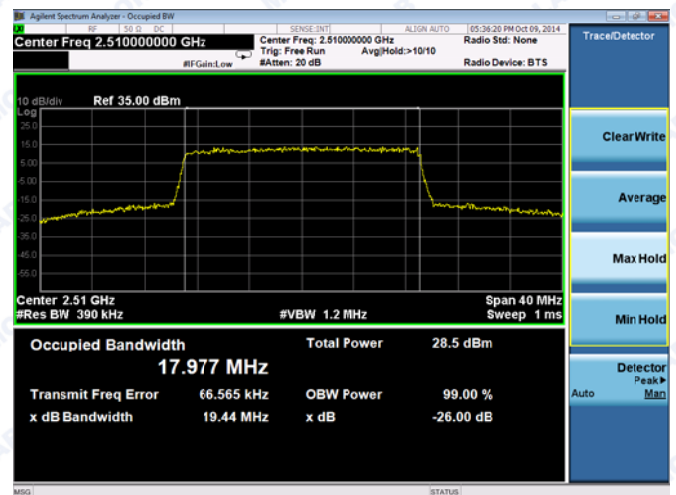


Spectrum Plot of Worst Value

20MHz/QPSK



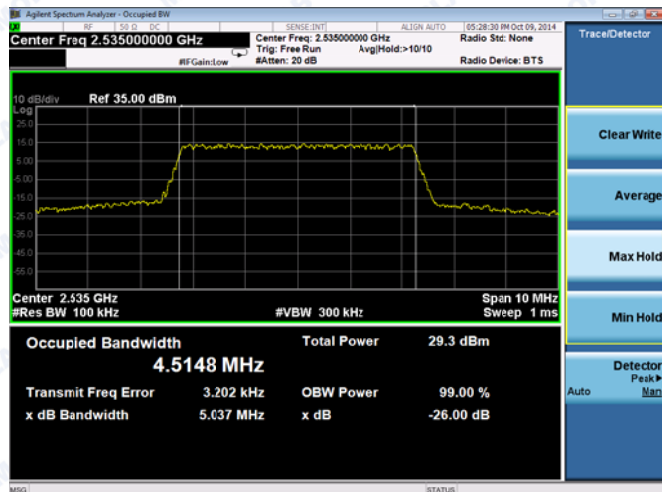
20MHz/16QAM



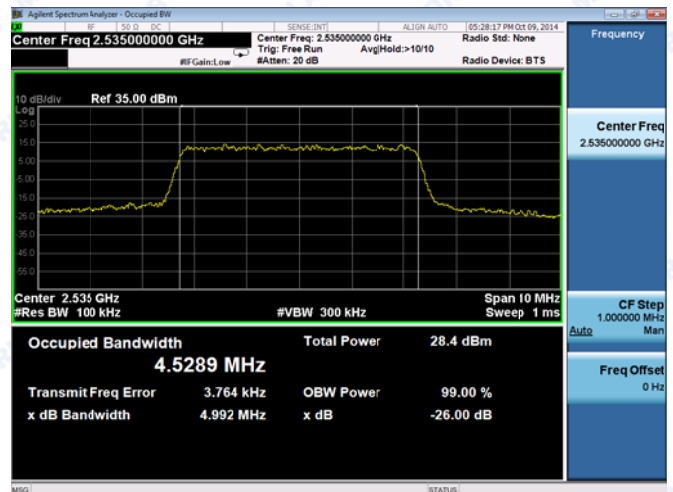
Middle channel:

Spectrum Plot of Worst Value

5MHz/QPSK



5MHz/16QAM

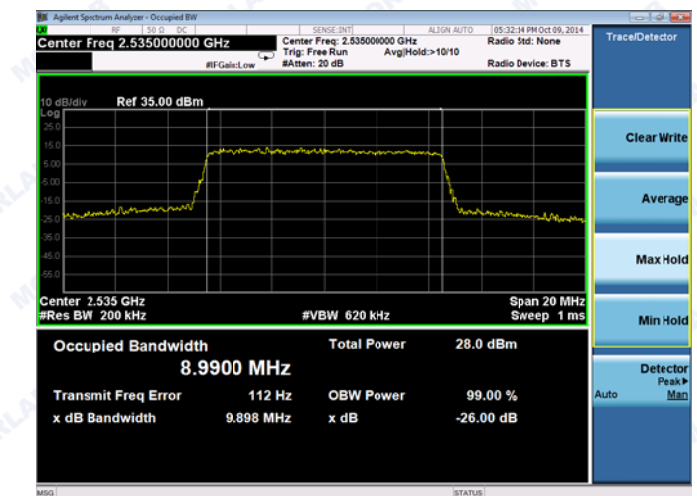


Spectrum Plot of Worst Value

10MHz/QPSK

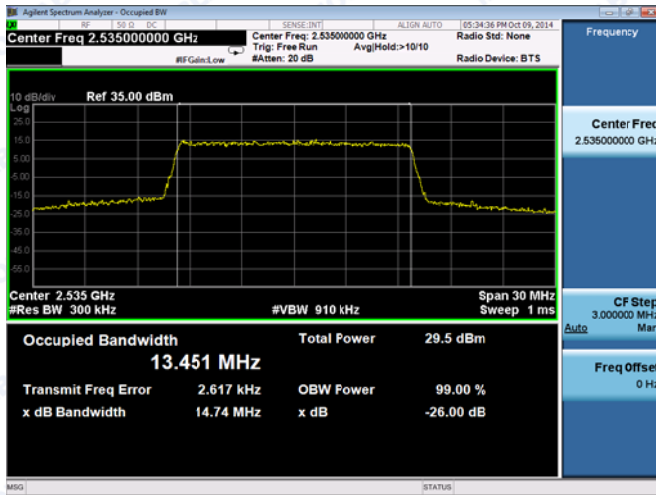


10MHz/16QAM

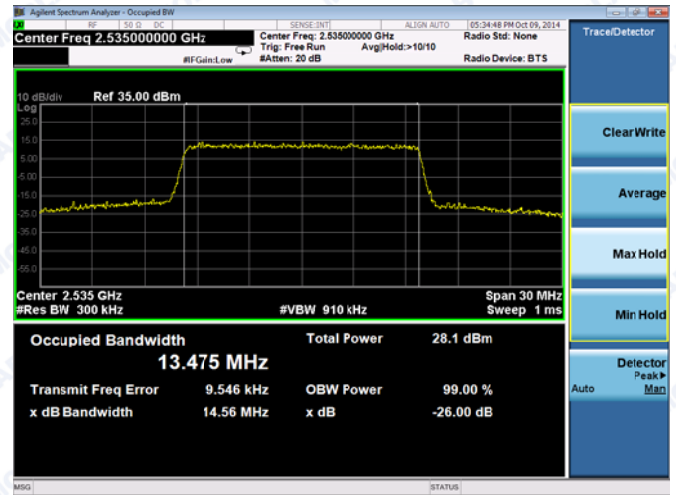


Spectrum Plot of Worst Value

15MHz/QPSK

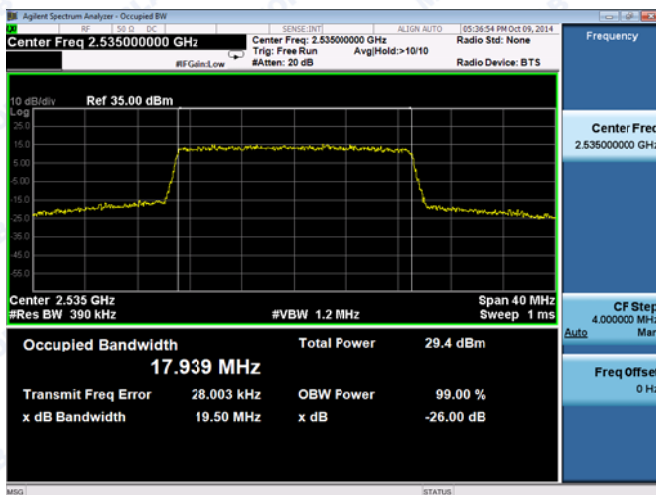


15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK



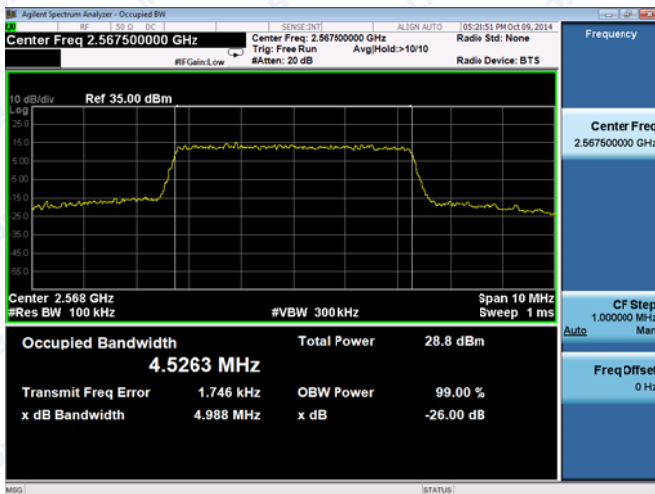
20MHz/16QAM



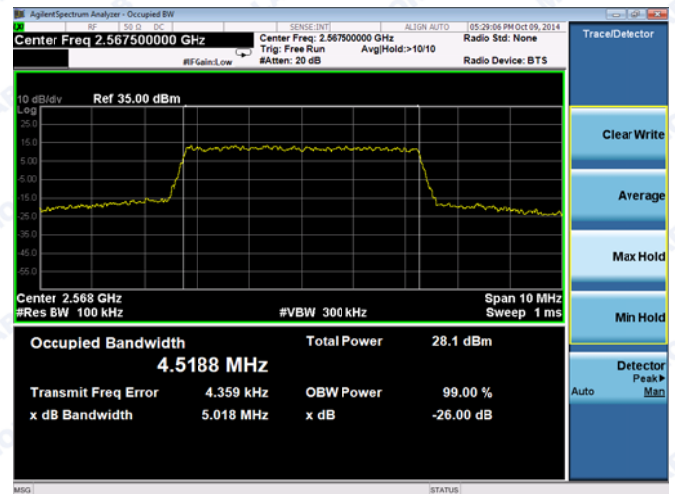
High channel:

Spectrum Plot of Worst Value

5MHz/QPSK



5MHz/16QAM

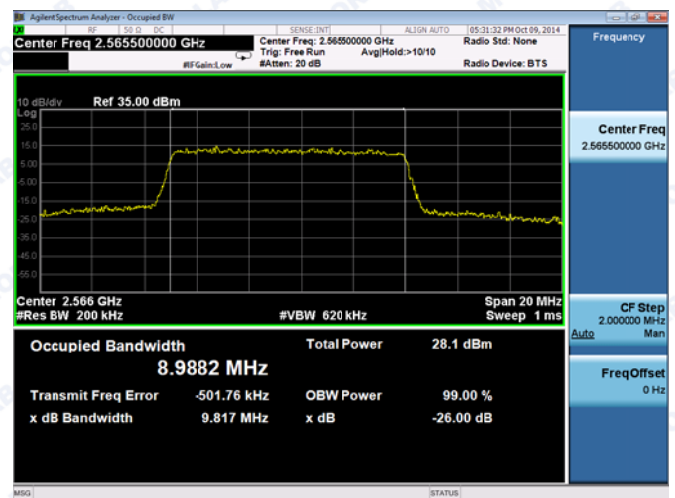


Spectrum Plot of Worst Value

10MHz/QPSK



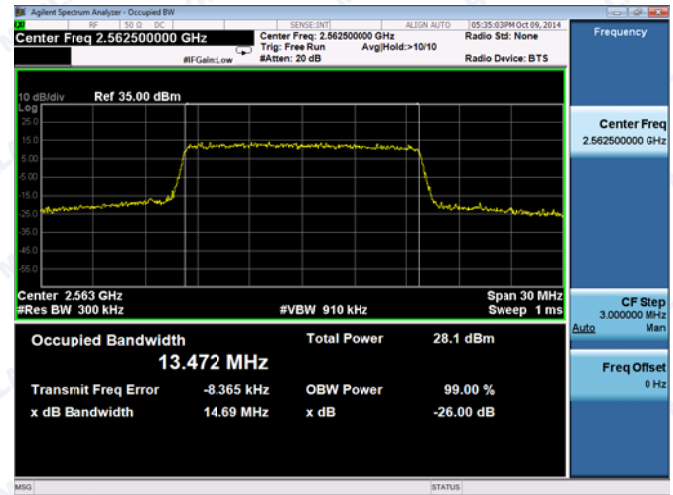
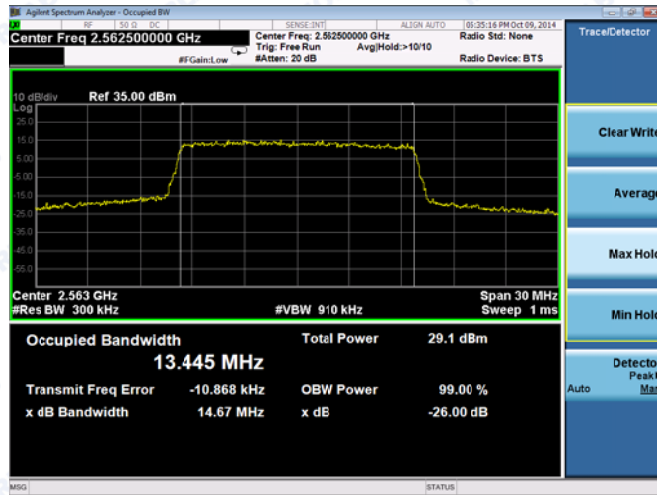
10MHz/16QAM



Spectrum Plot of Worst Value

15MHz/QPSK

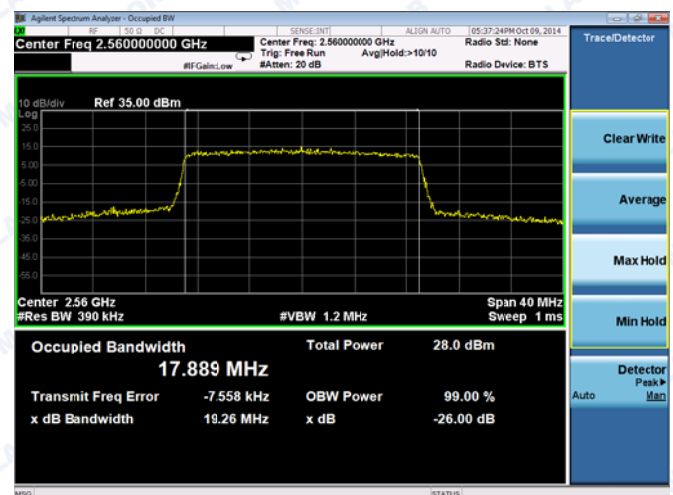
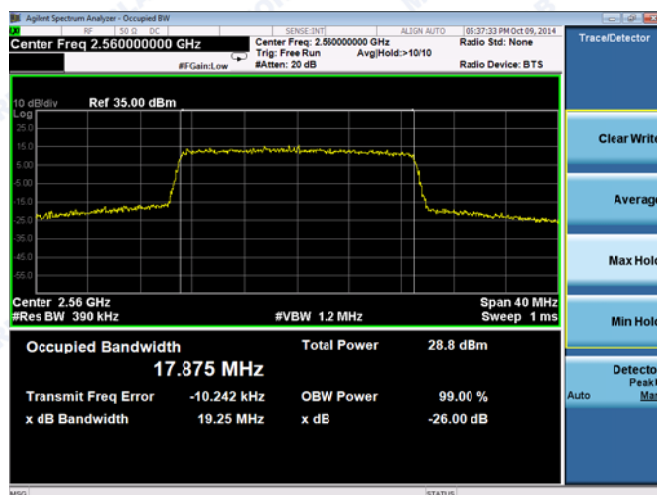
15MHz/16QAM



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	1.1069	1.1016	19965	1711.5	2.7097	2.7075
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	1.316	1.290	19965	1711.5	2.972	2.993

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	4.5286	4.5294	20000	1715.0	8.9924	9.0075
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	5.062	5.010	20000	1715.0	9.959	9.893

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	13.456	13.505	20050	1720.0	17.971	17.967
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	14.77	14.80	20050	1720.0	19.43	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	1.1092	1.1011	20175	1732.5	2.7054	2.7059
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	1.293	1.307	20175	1732.5	2.992	2.996

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	4.5250	4.5266	20175	1732.5	9.0119	9.0068
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	5.013	5.002	20175	1732.5	9.910	9.989

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	13.481	13.484	20175	1732.5	17.912	17.921
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	14.81	14.81	20175	1732.5	19.53	19.34

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	1.0977	1.1061	20384	1753.4	2.7200	2.7088
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	1.293	1.332	20384	1753.4	3.003	2.997

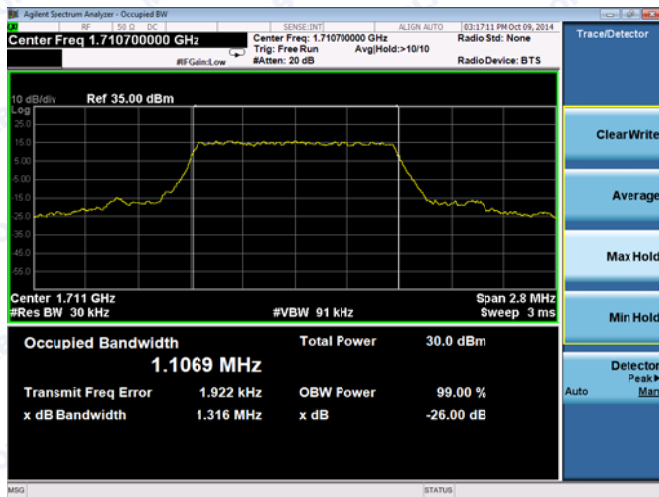
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	99% Bandwidth (MHz)		Channel	Frequency (MHz)	99% Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20375	1752.5	4.5262	4.5221	20350	1750.0	9.0255	9.0321
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		Channel	Frequency (MHz)	26dB Bandwidth(MHz)	
		QPSK	16QAM			QPSK	16QAM
20375	1752.5	5.014	5.023	20350	1750.0	9.919	10.03

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	13.484	13.482	20300	1745.0	17.930	17.911
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	14.66	14.68	20300	1745.0	19.34	19.35

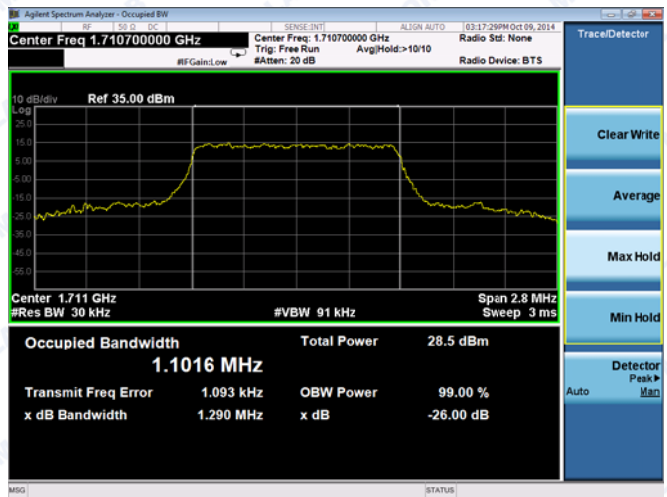
Low channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

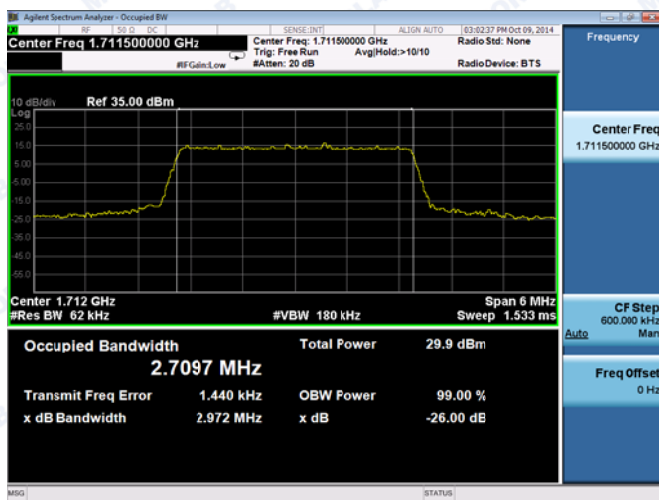


1.4MHz/16QAM

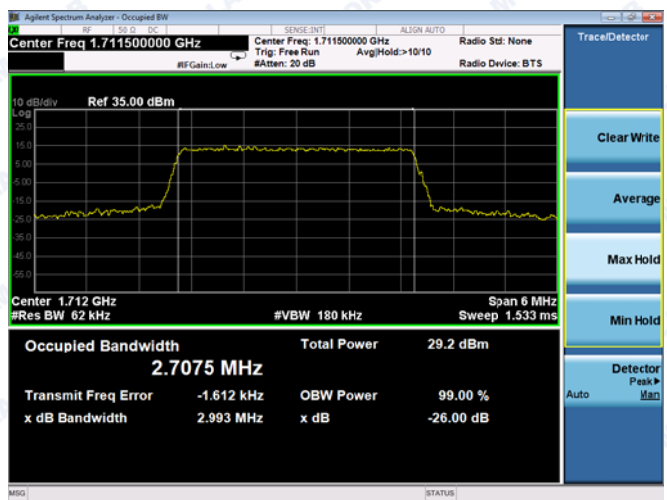


Spectrum Plot of Worst Value

3MHz/QPSK

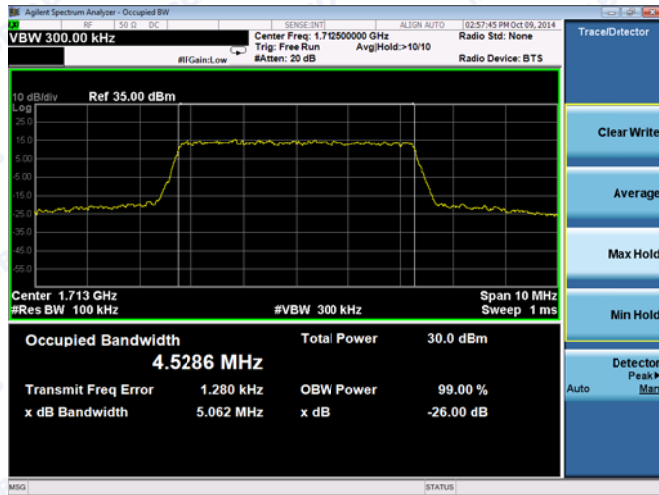


3MHz/16QAM

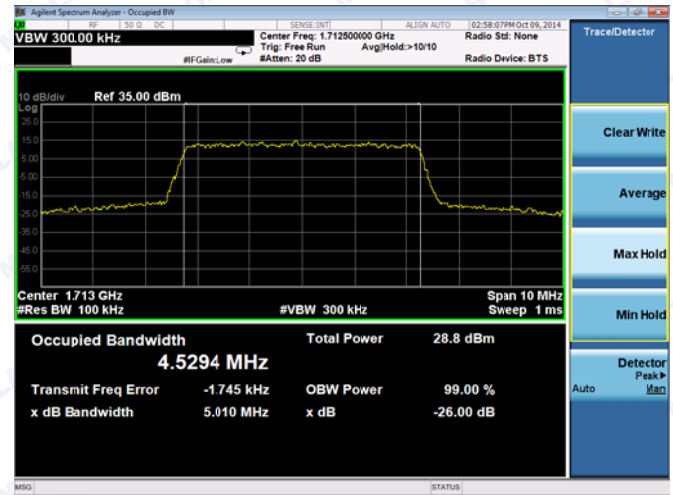


Spectrum Plot of Worst Value

5MHz/QPSK

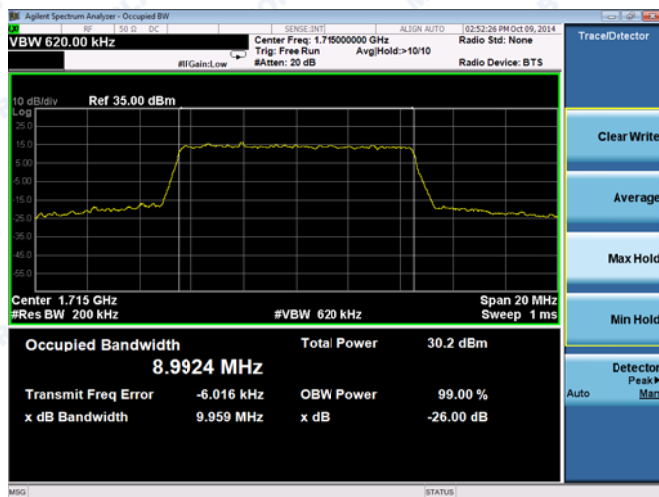


5MHz/16QAM

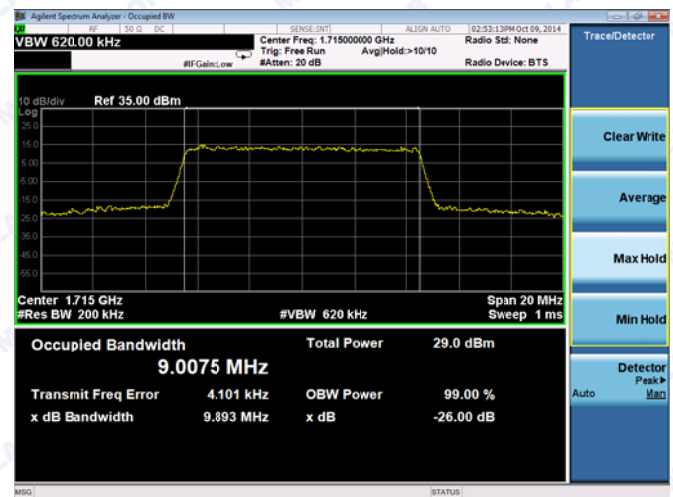


Spectrum Plot of Worst Value

10MHz/QPSK

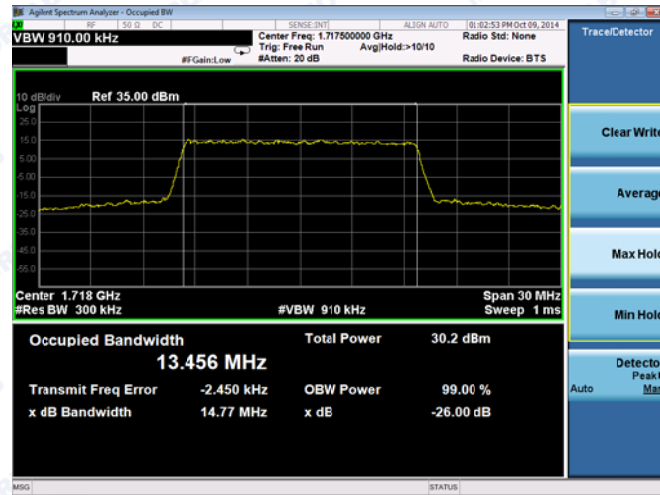


10MHz/16QAM

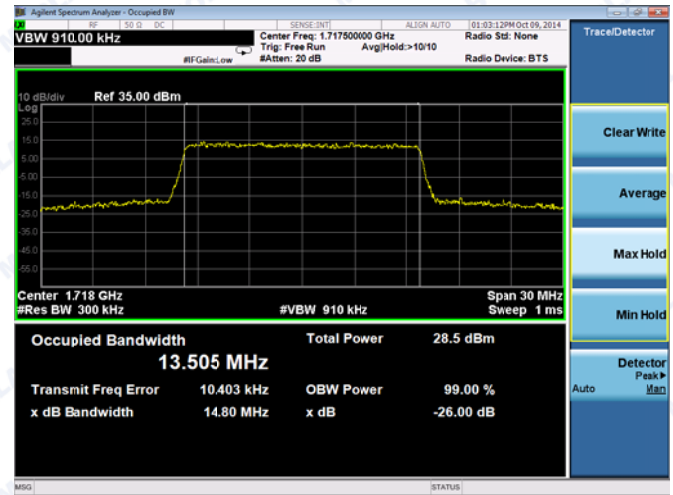


Spectrum Plot of Worst Value

15MHz/QPSK

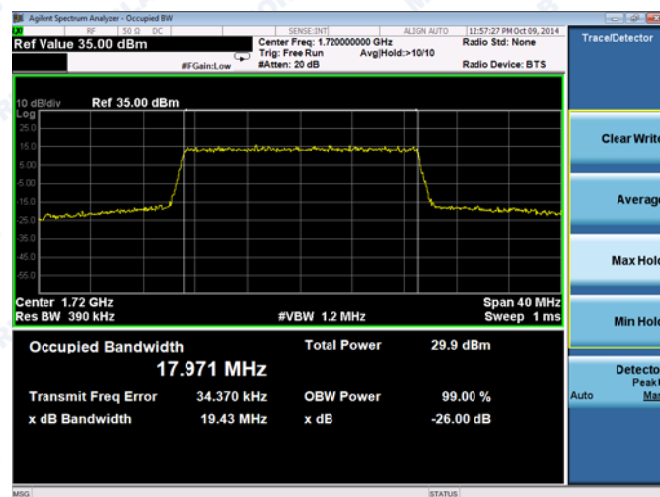


15MHz/16QAM

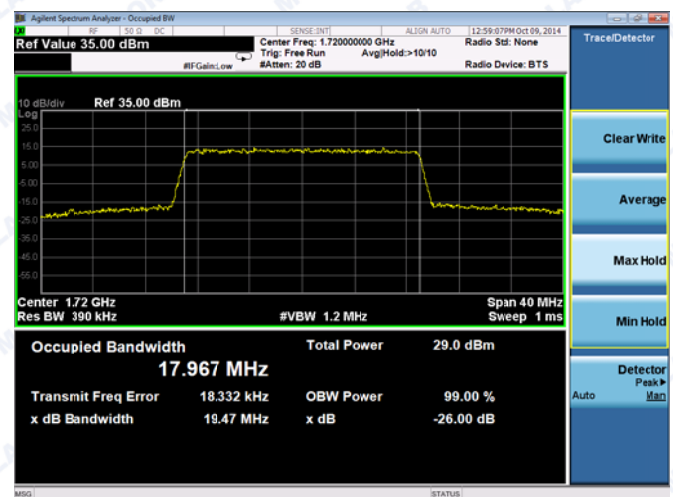


Spectrum Plot of Worst Value

20MHz/QPSK



20MHz/16QAM

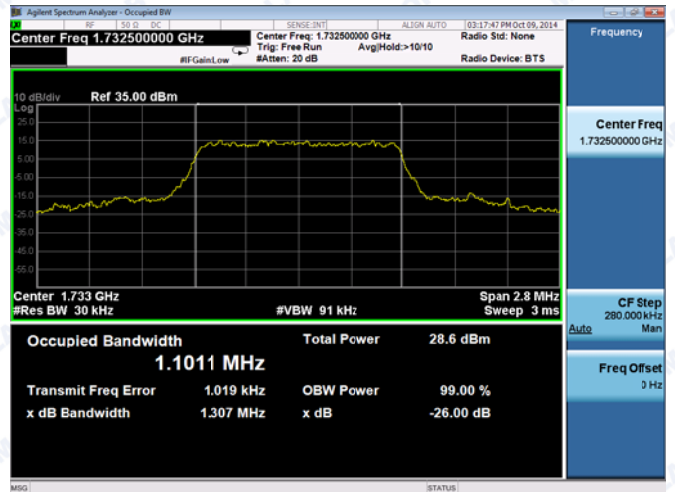
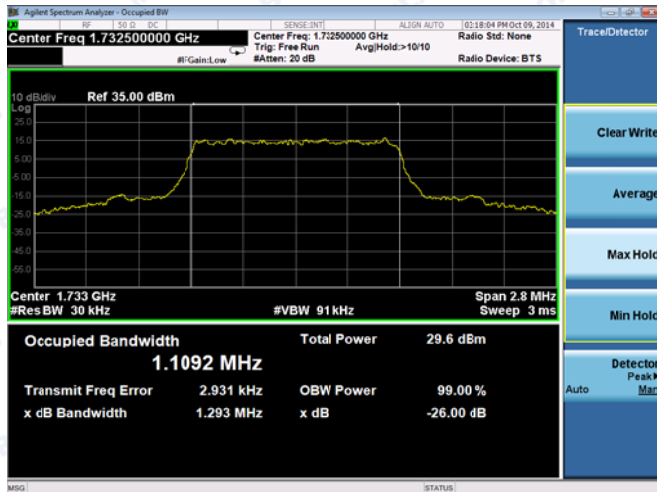


Middle channel:

Spectrum Plot of Worst Value

1.4MHz/QPSK

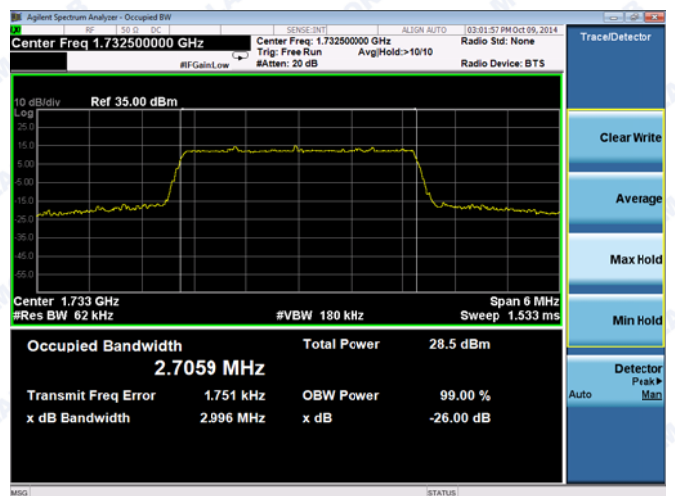
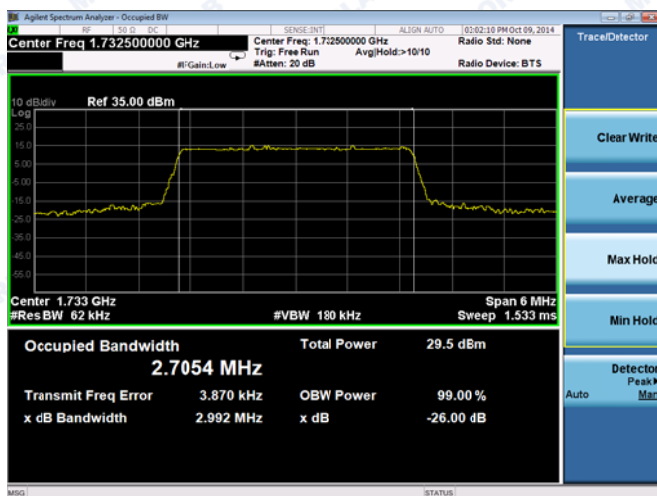
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

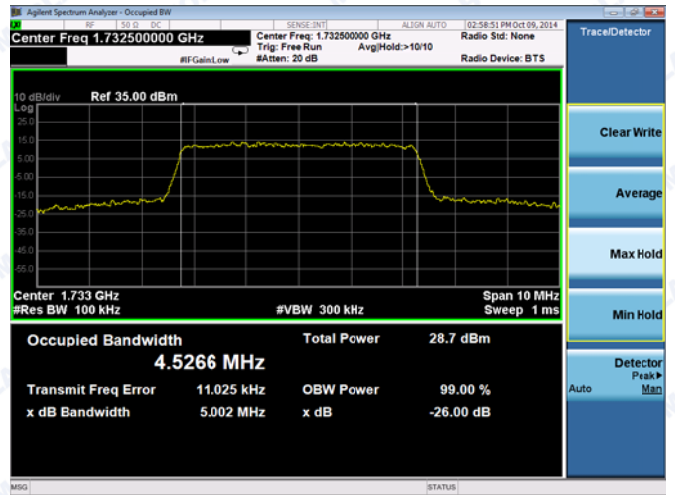
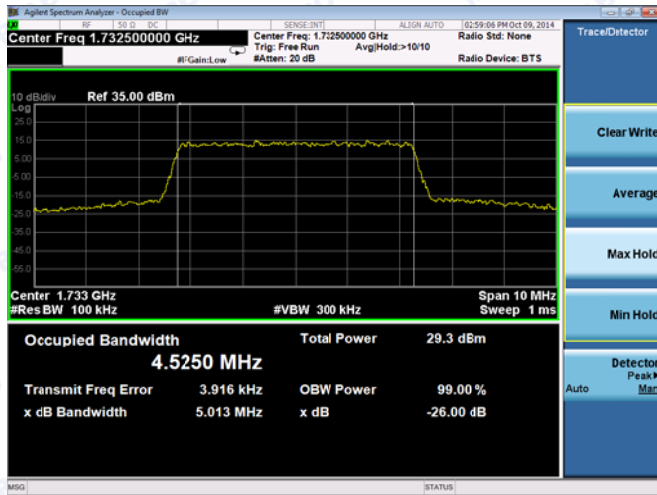
3MHz/16QAM



Spectrum Plot of Worst Value

5MHz/QPSK

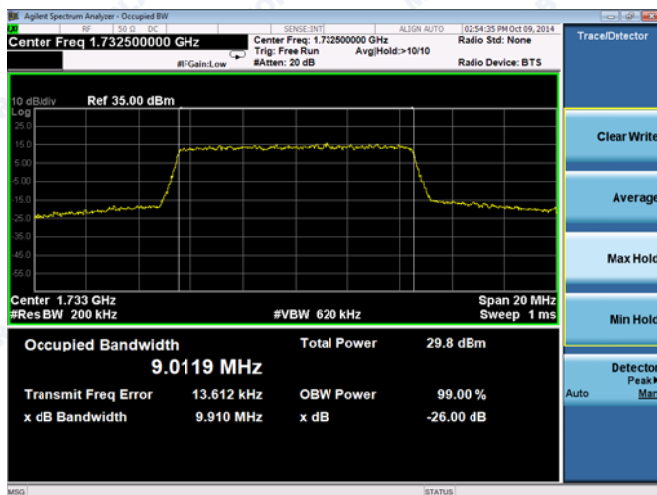
5MHz/16QAM



Spectrum Plot of Worst Value

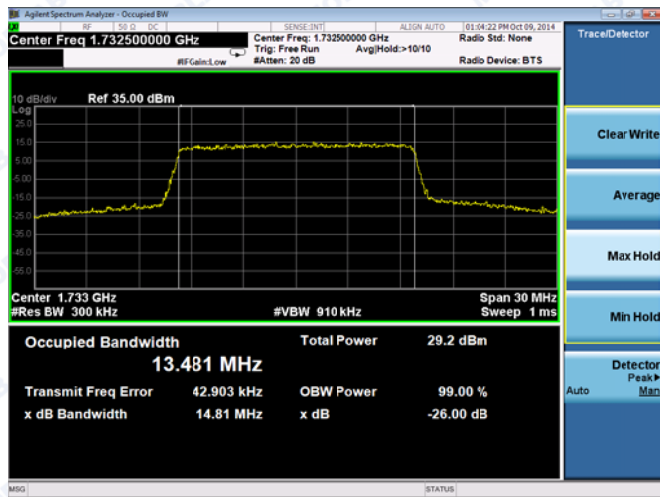
10MHz/QPSK

10MHz/16QAM

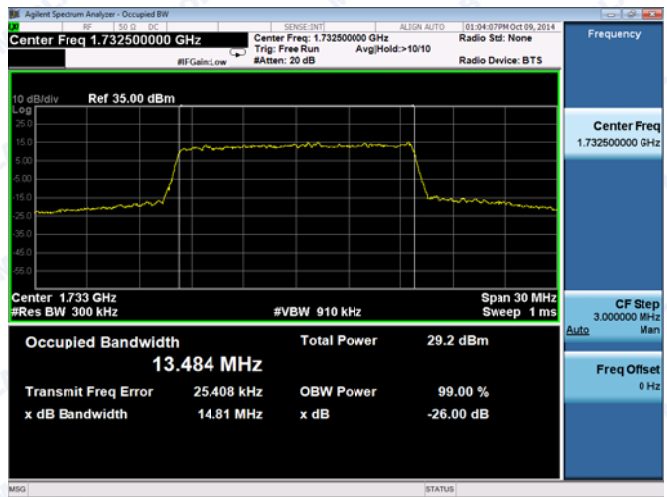


Spectrum Plot of Worst Value

15MHz/QPSK



15MHz/16QAM

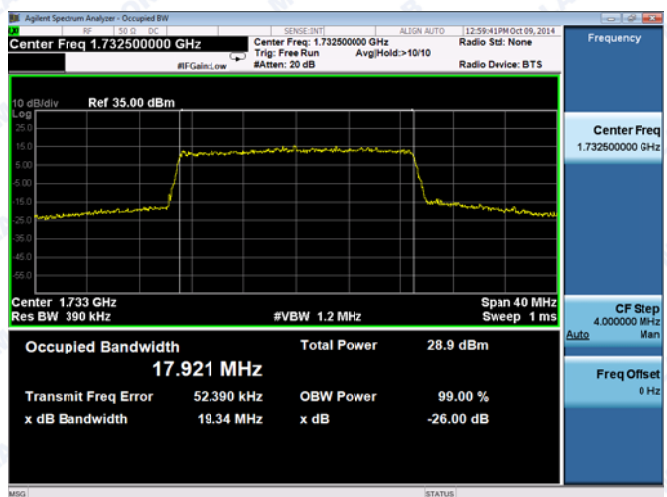


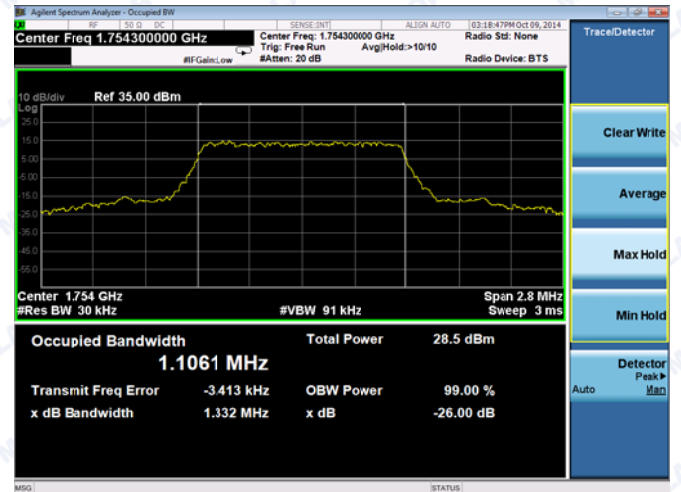
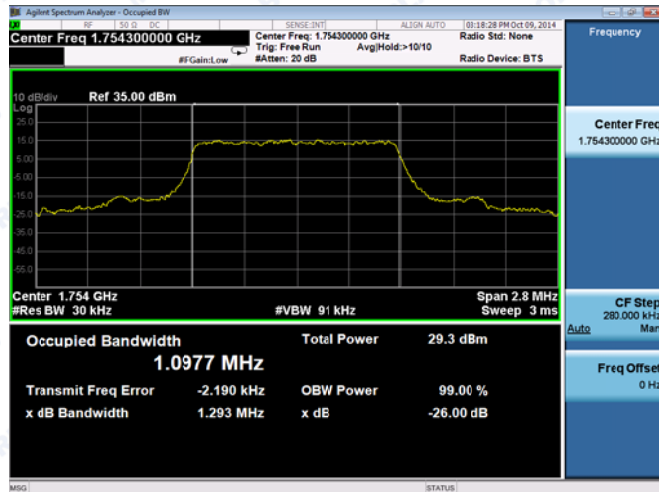
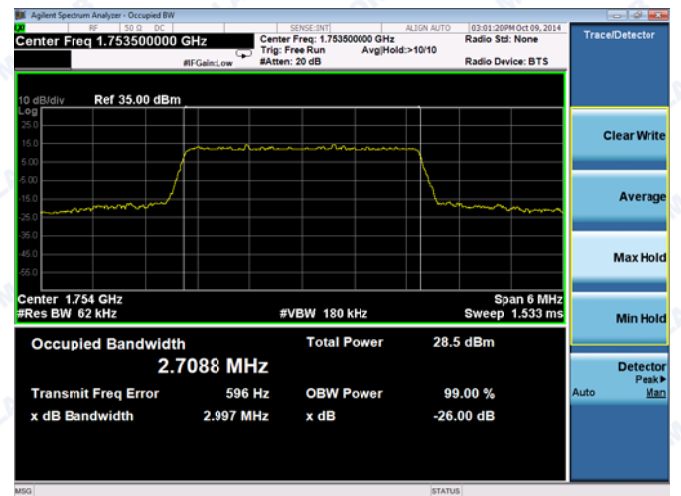
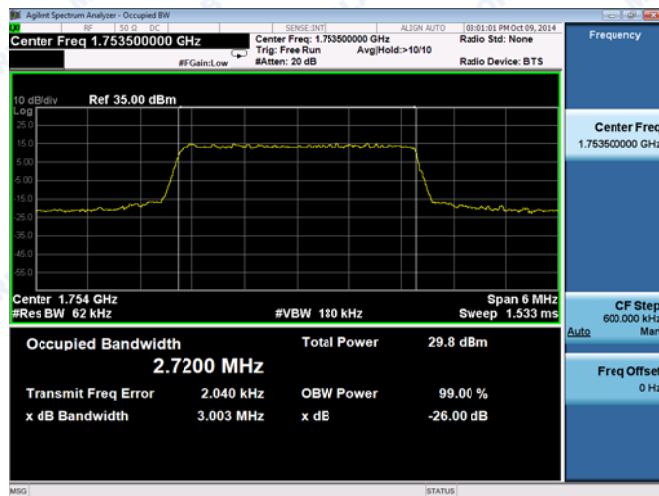
Spectrum Plot of Worst Value

20MHz/QPSK



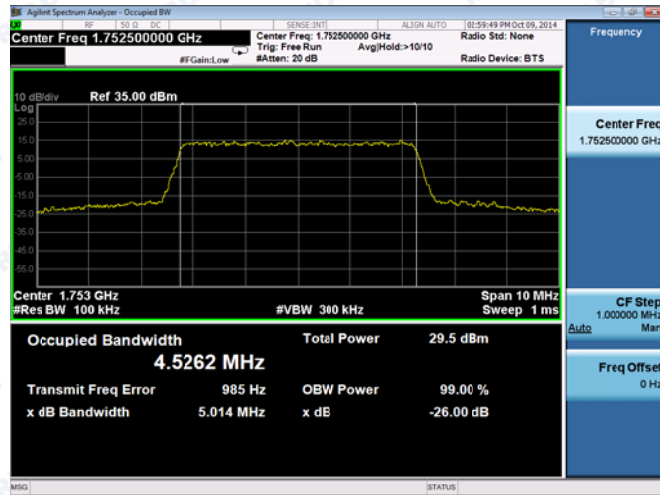
20MHz/16QAM



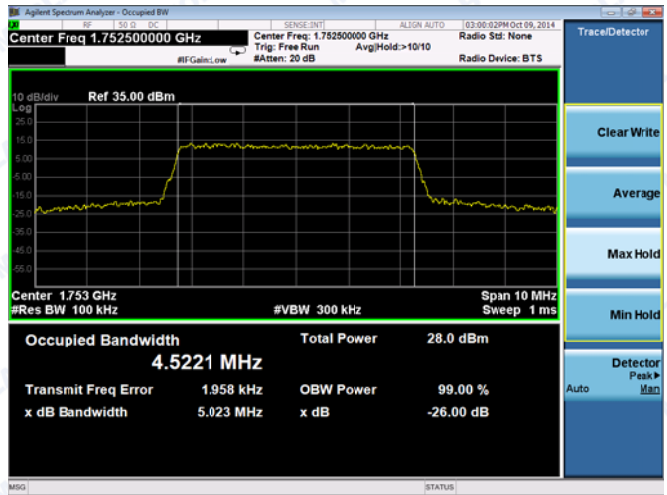
High channel:**Spectrum Plot of Worst Value****1.4MHz/QPSK****1.4MHz/16QAM****Spectrum Plot of Worst Value****3MHz/QPSK****3MHz/16QAM**

Spectrum Plot of Worst Value

5MHz/QPSK



5MHz/16QAM

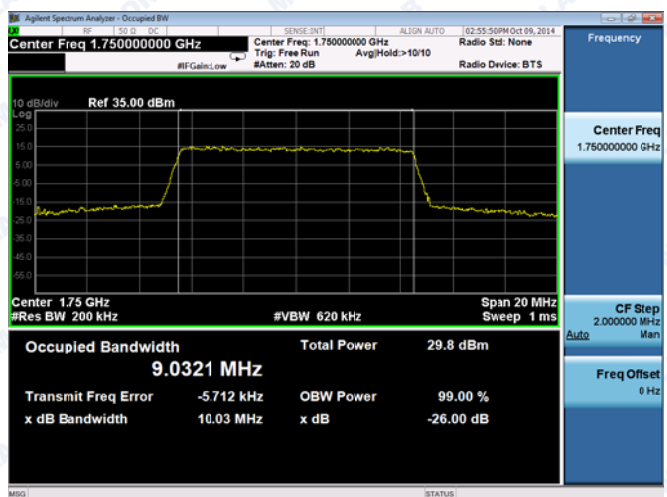


Spectrum Plot of Worst Value

10MHz/QPSK



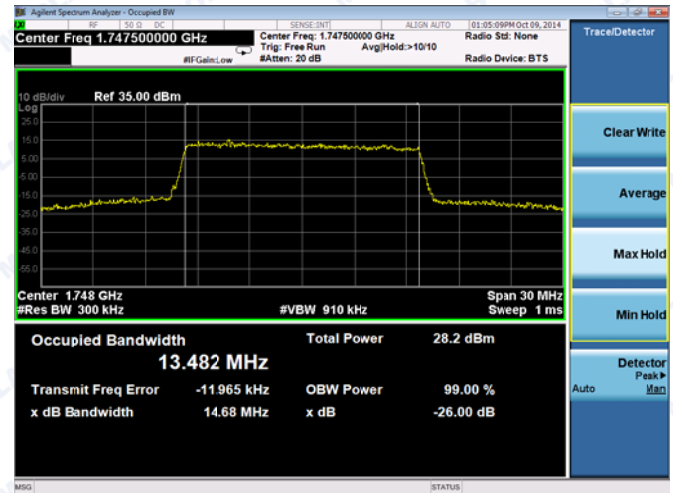
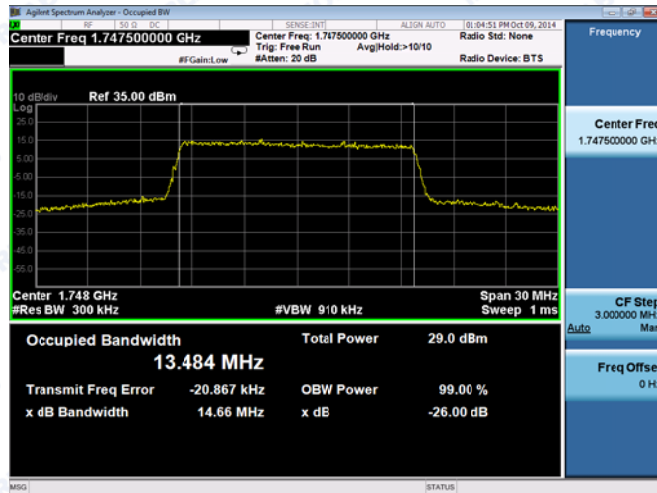
10MHz/16QAM



Spectrum Plot of Worst Value

15MHz/QPSK

15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM

