OUTPUT POWER FOR LTE BAND 25 (5.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
5.0	26065	1852.5	QPSK	1	0	17.8	21.1
				1	12	17.4	20.7
				1	24	17.2	20.6
				12	0	16.7	21.0
				12	6	16.4	20.7
				12	11	16.5	20.9
				25	0	16.7	21.7
			16QAM	1	0	16.7	21.0
				1	12	16.6	20.8
				1	24	16.5	20.8
				12	0	15.8	21.1
				12	6	15.8	21.0
				12	11	15.7	21.0
				25	0	15.7	21.6
5.0	26365	1882.5	QPSK	1	0	17.4	20.7
				1	12	17.8	21.0
				1	24	18.0	21.4
				12	0	16.7	21.1
				12	6	16.8	21.2
				12	11	16.9	21.4
				25	0	16.8	21.9
			16QAM	1	0	16.7	20.9
				1	12	17.0	21.1
				1	24	16.7	21.2
				12	0	15.9	21.1
				12	6	16.0	21.2
				12	11	15.7	21.1
				25	0	15.9	21.5
5.0	26665	1912.5	QPSK	1	0	**18.2**	**22.0**
				1	12	17.6	20.8
				1	24	16.7	20.0
				12	0	16.8	21.4
				12	6	16.8	21.1
				12	11	16.6	20.9
				25	0	16.6	21.8
			16QAM	1	0	**17.3**	**22.0**
				1	12	17.2	21.0
				1	24	16.3	20.2
				12	0	15.7	21.6
				12	6	15.8	21.4
				12	11	15.5	21.0
				25	0	15.8	21.7

OUTPUT POWER FOR LTE BAND 25 (10.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
10.0	26090	1855.0	QPSK	1	0	17.8	21.1
				1	24	17.6	20.9
				1	49	17.7	21.6
				25	0	16.7	21.1
				25	12	16.6	21.0
				25	24	16.9	21.5
				50	0	16.9	**22.1**
			16QAM	1	0	16.8	21.0
				1	24	16.8	20.9
				1	49	**17.2**	21.7
				25	0	15.8	21.1
				25	12	15.9	21.2
				25	24	15.9	21.5
				50	0	15.9	21.6
10.0	26365	1882.5	QPSK	1	0	17.4	20.7
				1	24	17.8	21.1
				1	49	17.9	22.0
				25	0	16.8	21.1
				25	12	17.0	21.4
				25	24	16.9	21.8
				50	0	16.9	21.8
			16QAM	1	0	17.0	21.0
				1	24	17.2	21.2
				1	49	16.9	21.8
				25	0	16.0	21.2
				25	12	16.0	21.4
				25	24	15.6	21.4
				50	0	15.9	22.0
10.0	26640	1910.0	QPSK	1	0	**18.1**	21.4
				1	24	18.0	22.0
				1	49	16.8	20.1
				25	0	16.8	21.7
				25	12	16.9	21.8
				25	24	17.0	21.7
				50	0	16.8	21.8
			16QAM	1	0	17.2	21.3
				1	24	17.1	22.2
				1	49	16.2	20.3
				25	0	16.0	21.8
				25	12	16.1	21.7
				25	24	15.8	21.5
				50	0	16.0	**22.4**

OUTPUT POWER FOR LTE BAND 25 (15.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
15.0	26115	1857.5	QPSK	1	0	17.8	21.1
				1	37	17.9	21.4
				1	74	17.7	22.2
				36	0	16.7	21.2
				36	16	16.8	21.4
				36	35	17.0	22.0
				75	0	17.0	**22.5**
			16-QAM	1	0	16.9	21.0
				1	37	17.2	21.4
				1	74	**17.3**	**22.6**
				36	0	15.9	21.2
				36	16	16.1	21.6
				36	35	15.9	21.9
				75	0	16.0	22.2
15.0	26365	1882.5	QPSK	1	0	17.6	20.9
				1	37	17.8	21.1
				1	74	18.0	22.4
				36	0	16.8	21.2
				36	16	17.0	21.4
				36	35	17.1	21.9
				75	0	17.0	22.3
			16-QAM	1	0	17.2	21.2
				1	37	17.2	21.3
				1	74	17.0	22.2
				36	0	16.0	21.3
				36	16	16.1	21.4
				36	35	15.9	21.6
				75	0	16.1	22.3
15.0	26615	1907.5	QPSK	1	0	**18.1**	21.3
				1	37	17.9	21.8
				1	74	16.9	20.1
				36	0	17.0	21.6
				36	16	16.9	21.8
				36	35	17.0	21.8
				75	0	16.8	22.3
			16-QAM	1	0	16.9	21.3
				1	37	17.0	21.9
				1	74	16.1	20.4
				36	0	16.0	21.7
				36	16	16.0	21.9
				36	35	15.8	21.7
				75	0	15.9	22.4

OUTPUT POWER FOR LTE BAND 25 (20.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
20.0	26140	1860.0	QPSK	1	0	17.6	20.9
				1	49	17.9	21.8
				1	99	17.7	22.0
				50	0	16.8	21.4
				50	24	16.9	21.7
				50	49	16.9	21.9
				100	0	17.0	22.2
			16-QAM	1	0	16.6	20.8
				1	49	**17.1**	21.8
				1	99	16.9	22.2
				50	0	15.9	21.4
				50	24	16.0	21.8
				50	49	15.9	21.8
				100	0	16.0	22.0
20.0	26365	1882.5	QPSK	1	0	17.7	21.2
				1	49	17.7	20.9
				1	99	18.0	**22.4**
				50	0	16.7	21.2
				50	24	17.0	21.5
				50	49	17.1	22.1
				100	0	17.1	22.1
			16-QAM	1	0	17.1	21.4
				1	49	17.0	21.1
				1	99	16.9	**22.4**
				50	0	15.8	21.3
				50	24	16.1	21.5
				50	49	15.8	21.8
				100	0	16.1	22.1
20.0	26590	1905.0	QPSK	1	0	**18.0**	22.3
				1	49	17.7	21.0
				1	99	16.8	20.0
				50	0	17.0	21.7
				50	24	16.9	21.8
				50	49	17.0	21.9
				100	0	17.0	22.4
			16-QAM	1	0	17.0	22.1
				1	49	17.0	21.0
				1	99	16.6	20.3
				50	0	16.0	21.7
				50	24	16.0	21.8
				50	49	15.7	21.8
				100	0	16.1	22.3

7.4.9. LTE BAND 26

OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Average (dBm)	Peak (dBm)
1.4	26697	814.7	QPSK	1	0	**21.9**	26.8
				1	2	21.8	26.7
				1	5	21.6	26.6
				3	0	21.8	26.8
				3	1	21.6	26.7
				3	2	21.8	26.9
				6	0	20.7	26.2
			16QAM	1	0	20.7	26.4
				1	2	20.8	26.6
				1	5	20.8	26.6
				3	0	20.7	26.8
				3	1	20.7	26.8
				3	2	20.7	26.8
				6	0	19.8	26.4
1.4	26740	819.0	QPSK	1	0	21.6	26.4
				1	2	21.7	26.3
				1	5	21.4	24.8
				3	0	21.7	26.8
				3	1	21.7	26.8
				3	2	21.8	26.9
				6	0	20.7	26.0
			16QAM	1	0	21.0	26.5
				1	2	**21.1**	26.5
				1	5	20.4	24.7
				3	0	20.6	25.1
				3	1	20.6	25.1
				3	2	20.4	24.9
				6	0	19.8	26.2
1.4	26783	823.3	QPSK	1	0	21.8	26.8
				1	2	21.7	26.6
				1	5	21.6	26.6
				3	0	21.6	26.8
				3	1	21.7	26.9
				3	2	21.8	**27.0**
				6	0	20.4	26.1
			16QAM	1	0	20.9	26.8
				1	2	20.9	26.6
				1	5	20.8	26.8
				3	0	20.6	26.8
				3	1	20.6	**26.9**
				3	2	20.5	26.7
				6	0	19.7	26.3

OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Average (dBm)	Peak (dBm)
3.0	26705	815.5	QPSK	1	0	21.7	26.6
				1	7	21.8	26.6
				1	14	21.6	26.6
				8	0	20.7	25.9
				8	4	20.6	25.7
				8	7	20.7	25.9
				15	0	20.6	26.2
			16QAM	1	0	20.9	26.4
				1	7	21.1	26.5
				1	14	20.9	26.4
				8	0	19.8	25.5
				8	4	19.9	25.6
				8	7	19.8	25.6
				15	0	19.7	26.1
3.0	26740	819.0	QPSK	1	0	21.5	24.9
				1	7	21.8	26.4
				1	14	21.8	26.5
				8	0	20.7	25.2
				8	4	20.8	25.4
				8	7	20.8	25.8
				15	0	20.7	25.7
			16QAM	1	0	21.0	25.3
				1	7	**21.1**	26.3
				1	14	20.9	26.2
				8	0	19.8	25.2
				8	4	19.9	25.2
				8	7	19.7	25.0
				15	0	19.8	25.9
3.0	26775	822.5	QPSK	1	0	**21.9**	**26.7**
				1	7	21.8	26.6
				1	14	21.7	26.5
				8	0	20.7	25.9
				8	4	20.6	25.7
				8	7	20.7	25.9
				15	0	20.5	25.9
			16QAM	1	0	20.9	26.5
				1	7	21.1	**26.8**
				1	14	20.9	26.7
				8	0	19.8	25.8
				8	4	19.8	25.7
				8	7	19.6	25.5
				15	0	19.7	26.1

OUTPUT POWER FOR LTE BAND 26 (5.0 MH)

Bandwidth	UL Channel	Frequency	Modulation	RB Size	RB Offset	Average (dBm)	Peak (dBm)
5.0	26715	816.5	QPSK	1	0	21.7	26.5
				1	12	**21.8**	26.3
				1	24	21.5	26.2
				12	0	20.6	25.6
				12	6	20.5	25.4
				12	11	20.7	25.6
				25	0	20.6	**26.7**
			16QAM	1	0	20.8	26.3
				1	12	20.7	25.7
				1	24	20.8	26.3
				12	0	19.7	25.5
				12	6	19.8	25.0
				12	11	19.8	25.0
				25	0	19.7	25.5
5.0	26740	819.0	QPSK	1	0	21.4	25.4
				1	12	21.6	26.2
				1	24	21.6	26.4
				12	0	20.6	25.0
				12	6	20.7	25.5
				12	11	20.8	25.8
				25	0	20.6	26.6
			16QAM	1	0	**21.1**	25.6
				1	12	21.0	**27.0**
				1	24	21.0	26.4
				12	0	19.5	25.0
				12	6	19.6	25.3
				12	11	19.4	25.4
				25	0	19.6	25.9
5.0	26765	821.5	QPSK	1	0	21.7	26.4
				1	12	21.7	26.5
				1	24	21.4	26.4
				12	0	20.5	25.6
				12	6	20.6	25.7
				12	11	20.6	25.8
				25	0	20.4	26.0
			16QAM	1	0	20.8	26.4
				1	12	20.9	26.5
				1	24	20.8	26.6
				12	0	19.6	25.5
				12	6	19.8	25.6
				12	11	19.4	25.4
				25	0	19.6	26.0

OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
10.0	26740	819.0	QPSK	1	0	21.7	26.4
				1	24	**21.8**	26.4
				1	49	21.5	26.4
				25	0	20.8	25.8
				25	12	20.6	25.6
				25	24	20.7	25.8
				50	0	20.8	**26.6**
			16QAM	1	0	21.0	26.3
				1	24	**21.1**	**26.4**
				1	49	21.0	26.4
				25	0	19.7	25.0
				25	12	19.8	25.7
				25	24	19.8	25.7
				50	0	19.5	26.3

7.4.10. LTE BAND 41

OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
5.0	39675	2498.5	QPSK	1	0	21.3	24.5
				1	12	**21.3**	25.9
				1	24	21.1	25.9
				12	0	20.3	25.1
				12	6	20.1	24.9
				12	11	20.3	25.2
				25	0	20.3	26.0
			16QAM	1	0	20.1	24.8
				1	12	20.2	26.2
				1	24	20.4	26.2
				12	0	19.2	24.6
				12	6	19.3	24.8
				12	11	19.3	25.1
				25	0	19.2	25.9
5.0	40620	2593.0	QPSK	1	0	21.0	24.6
				1	12	21.2	25.9
				1	24	21.3	**26.2**
				12	0	20.2	25.0
				12	6	20.3	25.1
				12	11	20.4	25.4
				25	0	20.2	25.9
			16QAM	1	0	20.2	25.7
				1	12	**20.4**	26.1
				1	24	20.2	26.0
				12	0	19.2	24.6
				12	6	19.4	25.0
				12	11	19.1	24.9
				25	0	19.0	25.8
5.0	41565	2687.5	QPSK	1	0	21.2	24.8
				1	12	21.3	25.9
				1	24	21.2	26.0
				12	0	20.1	25.1
				12	6	20.2	25.0
				12	11	20.3	25.3
				25	0	20.0	25.9
			16QAM	1	0	20.2	25.2
				1	12	20.2	26.0
				1	24	20.4	**26.2**
				12	0	19.3	24.6
				12	6	19.3	24.8
				12	11	19.1	24.9
				25	0	19.2	26.0

OUTPUT POWER FOR LTE BAND 41 (10.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
10.0	39700	2501.0	QPSK	1	0	21.3	**26.1**
				1	24	21.3	26.0
				1	49	20.9	25.9
				25	0	20.3	25.2
				25	12	20.1	25.0
				25	24	20.2	25.2
				50	0	20.3	25.6
			16QAM	1	0	20.4	26.0
				1	24	20.6	26.1
				1	49	20.4	26.1
				25	0	19.2	24.6
				25	12	19.2	25.1
				25	24	19.2	25.2
				50	0	19.3	25.7
10.0	40620	2593.0	QPSK	1	0	21.0	25.8
				1	24	21.2	25.9
				1	49	21.1	26.1
				25	0	20.2	25.1
				25	12	20.3	25.2
				25	24	20.3	25.4
				50	0	20.3	25.9
			16QAM	1	0	20.5	26.1
				1	24	**20.7**	26.2
				1	49	20.3	25.9
				25	0	19.2	24.6
				25	12	19.3	25.1
				25	24	19.0	25.0
				50	0	19.1	25.8
10.0	41540	2685.0	QPSK	1	0	21.2	26.0
				1	24	**21.3**	26.0
				1	49	21.0	25.9
				25	0	20.1	25.1
				25	12	20.2	25.1
				25	24	20.2	25.3
				50	0	20.1	26.0
			16QAM	1	0	20.3	26.0
				1	24	20.6	26.1
				1	49	20.5	26.2
				25	0	19.2	24.6
				25	12	19.2	25.2
				25	24	19.0	25.0
				50	0	19.2	**26.2**

OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
15.0	39725	2503.5	QPSK	1	0	21.3	25.5
				1	37	**21.5**	25.3
				1	74	21.4	26.1
				36	0	20.3	25.0
				36	16	20.3	25.2
				36	35	20.4	25.4
				75	0	20.0	**26.3**
			16-QAM	1	0	20.3	26.1
				1	37	20.3	25.1
				1	74	20.4	25.5
				36	0	19.3	25.0
				36	16	19.3	25.5
				36	35	19.4	25.6
				75	0	18.9	25.6
15.0	40620	2593.0	QPSK	1	0	21.4	25.6
				1	37	21.4	26.0
				1	74	21.5	26.2
				36	0	20.3	25.2
				36	16	20.5	25.0
				36	35	20.5	25.1
				75	0	20.3	26.1
			16-QAM	1	0	20.3	25.2
				1	37	20.4	25.0
				1	74	**20.4**	25.1
				36	0	19.3	25.1
				36	16	19.4	26.2
				36	35	19.4	26.3
				75	0	19.2	**26.4**
15.0	41515	2682.5	QPSK	1	0	21.3	25.5
				1	37	21.3	25.7
				1	74	21.4	26.2
				36	0	20.4	25.5
				36	16	20.3	25.3
				36	35	20.4	25.6
				75	0	20.2	26.0
			16-QAM	1	0	20.3	25.2
				1	37	20.2	25.6
				1	74	20.3	26.2
				36	0	19.3	25.6
				36	16	19.3	25.7
				36	35	19.4	25.9
				75	0	19.2	26.1

OUTPUT POWER FOR LTE BAND 41 (20.0 MHz)

Bandwidth	UL Channel	Frequency	Mode	RB Size	RB Offset	Average (dBm)	Peak (dBm)
20.0	39750	2506.0	QPSK	1	0	**21.4**	24.4
				1	49	21.4	24.6
				1	99	21.3	25.2
				50	0	20.3	24.3
				50	24	20.2	24.7
				50	49	20.2	25.5
				100	0	20.0	26.0
			16-QAM	1	0	20.3	25.1
				1	49	**20.4**	25.6
				1	99	20.3	25.9
				50	0	20.3	25.3
				50	24	19.1	25.6
				50	49	19.1	26.0
				100	0	19.0	**26.1**
20.0	40620	2593.0	QPSK	1	0	21.4	25.7
				1	49	21.3	25.6
				1	99	21.3	25.9
				50	0	20.3	25.3
				50	24	20.2	25.6
				50	49	20.4	25.4
				100	0	20.1	**26.0**
			16-QAM	1	0	20.4	25.9
				1	49	20.3	25.7
				1	99	20.3	25.7
				50	0	19.3	25.1
				50	24	19.2	25.0
				50	49	19.4	25.1
				100	0	19.0	25.6
20.0	41490	2680.0	QPSK	1	0	21.3	25.2
				1	49	21.4	25.2
				1	99	21.4	25.4
				50	0	20.1	25.0
				50	24	20.3	25.6
				50	49	20.3	25.3
				100	0	20.1	25.7
			16-QAM	1	0	20.3	25.1
				1	49	20.4	25.1
				1	99	20.3	25.9
				50	0	19.1	25.4
				50	24	19.3	25.2
				50	49	19.3	25.3
				100	0	19.1	25.7

8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH (MODEL: A1634)

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41

RESULTS

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 2	1.4 MHz BAND QPSK	6/0	1880	1.0824	1.176
	1.4 MHz BAND 16QAM	6/0	1880	1.0739	1.133
	3.0 MHz BAND QPSK	15/0	1880	2.6585	2.776
	3.0 MHz BAND 16QAM	15/0	1880	2.6572	2.803
	5.0 MHz BAND QPSK	25/0	1880	4.4802	4.587
	5.0 MHz BAND 16QAM	25/0	1880	4.4165	4.632
	10.0 MHz BAND QPSK	50/0	1880	8.8538	9.439
	10.0 MHz BAND 16QAM	50/0	1880	8.8589	9.244
	15.0 MHz BAND QPSK	75/0	1880	13.4183	13.815
	15.0 MHz BAND 16QAM	75/0	1880	13.3603	13.698
	20.0 MHz BAND QPSK	100/0	1880	17.6541	18.268
	20.0 MHz BAND 16QAM	100/0	1880	**17.9137**	**18.38**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 4	1.4 MHz BAND QPSK	6/0	1732.5	1.0814	1.195
	1.4 MHz BAND 16QAM	6/0	1732.5	1.074	1.146
	3.0 MHz BAND QPSK	15/0	1732.5	2.6617	2.876
	3.0 MHz BAND 16QAM	15/0	1732.5	2.6778	2.865
	5.0 MHz BAND QPSK	25/0	1732.5	4.4293	4.633
	5.0 MHz BAND 16QAM	25/0	1732.5	4.4338	4.635
	10.0 MHz BAND QPSK	50/0	1732.5	8.9326	9.438
	10.0 MHz BAND 16QAM	50/0	1732.5	8.8179	9.162
	15.0 MHz BAND QPSK	75/0	1732.5	13.3939	14.17
	15.0 MHz BAND 16QAM	75/0	1732.5	13.3165	13.873
	20.0 MHz BAND QPSK	100/0	1732.5	**17.7644**	18.347
	20.0 MHz BAND 16QAM	100/0	1732.5	17.5898	**18.423**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 5	1.4 MHz BAND QPSK	6/0	836.5	1.0845	1.157
	1.4 MHz BAND 16QAM	6/0	836.5	1.0707	1.16
	3.0 MHz BAND QPSK	15/0	836.5	2.6753	2.860
	3.0 MHz BAND 16QAM	15/0	836.5	2.6509	2.821
	5.0 MHz BAND QPSK	25/0	836.5	4.4419	4.692
	5.0 MHz BAND 16QAM	25/0	836.5	4.4533	4.663
	10.0 MHz BAND QPSK	50/0	836.5	**8.8923**	**9.229**
	10.0 MHz BAND 16QAM	50/0	836.5	8.8465	9.185

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	5.0 MHz BAND QPSK	25/0	2535	4.4404	4.602
	5.0 MHz BAND 16QAM	25/0	2535	4.4460	4.728
	10.0 MHz BAND QPSK	50/0	2535	8.9195	9.195
	10.0 MHz BAND 16QAM	50/0	2535	8.8478	9.152
	15.0 MHz BAND QPSK	75/0	2535	13.2974	13.875
	15.0 MHz BAND 16QAM	75/0	2535	13.3457	13.786
	20.0 MHz BAND QPSK	100/0	2535	17.7349	18.342
	20.0 MHz BAND 16QAM	100/0	2535	**17.7742**	**18.373**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 12	1.4 MHz BAND QPSK	6/0	707.5	1.0809	1.157
	1.4 MHz BAND 16QAM	6/0	707.5	1.0674	1.135
	3.0 MHz BAND QPSK	15/0	707.5	2.6644	2.789
	3.0 MHz BAND 16QAM	15/0	707.5	2.646	2.807
	5.0 MHz BAND QPSK	25/0	707.5	4.452	4.573
	5.0 MHz BAND 16QAM	25/0	707.5	4.4375	4.605
	10.0 MHz BAND QPSK	50/0	707.5	**8.9068**	**9.244**
	10.0 MHz BAND 16QAM	50/0	707.5	8.8567	9.216

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 13	5.0 MHz BAND QPSK	25/0	782	4.4435	4.744
	5.0 MHz BAND 16QAM	25/0	782	4.4497	4.623
	10.0 MHz BAND QPSK	50/0	782	**8.8657**	**9.222**
	10.0 MHz BAND 16QAM	50/0	782	8.8336	9.165

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 17	5.0 MHz BAND QPSK	25/0	710	4.4589	4.676
	5.0 MHz BAND 16QAM	25/0	710	4.4409	4.642
	10.0 MHz BAND QPSK	50/0	710	8.8853	9.262
	10.0 MHz BAND 16QAM	50/0	710	**8.8908**	**9.315**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 25	1.4 MHz BAND QPSK	6/0	1882.5	1.0924	1.176
	1.4 MHz BAND 16QAM	6/0	1882.5	1.072	1.156
	3.0 MHz BAND QPSK	15/0	1882.5	2.6721	2.79
	3.0 MHz BAND 16QAM	15/0	1882.5	2.663	2.877
	5.0 MHz BAND QPSK	25/0	1882.5	4.4142	4.574
	5.0 MHz BAND 16QAM	25/0	1882.5	4.4506	4.609
	10.0 MHz BAND QPSK	50/0	1882.5	8.8522	9.214
	10.0 MHz BAND 16QAM	50/0	1882.5	8.8376	9.307
	15.0 MHz BAND QPSK	75/0	1882.5	13.3642	13.924
	15.0 MHz BAND 16QAM	75/0	1882.5	13.3518	13.768
	20.0 MHz BAND QPSK	100/0	1882.5	17.7783	18.278
	20.0 MHz BAND 16QAM	100/0	1882.5	**17.8102**	**18.362**

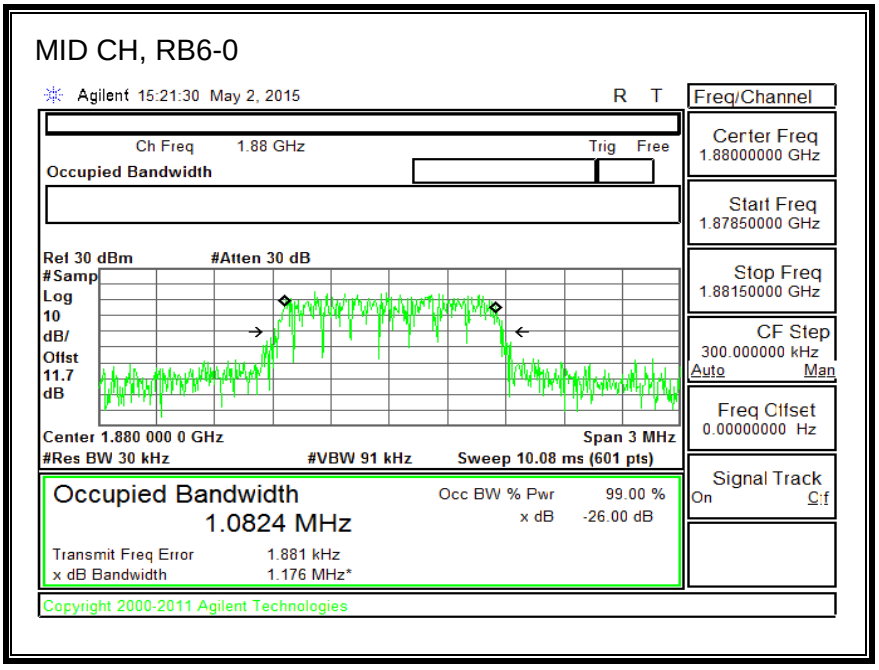
BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 26	1.4 MHz BAND QPSK	6/0	819	1.0685	1.196
	1.4 MHz BAND 16QAM	6/0	819	1.0861	1.142
	3.0 MHz BAND QPSK	15/0	819	2.6858	2.783
	3.0 MHz BAND 16QAM	15/0	819	2.6693	2.777
	5.0 MHz BAND QPSK	25/0	819	4.4558	4.686
	5.0 MHz BAND 16QAM	25/0	819	4.4514	4.67
	10.0 MHz BAND QPSK	50/0	819	**8.9442**	9.171
	10.0 MHz BAND 16QAM	50/0	819	8.9326	**9.441**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 30	5.0 MHz BAND QPSK	25/0	2310	4.4538	4.608
	5.0 MHz BAND 16QAM	25/0	2310	4.4081	4.699
	10.0 MHz BAND QPSK	50/0	2310	8.9124	9.219
	10.0 MHz BAND 16QAM	50/0	2310	**8.9352**	**9.238**

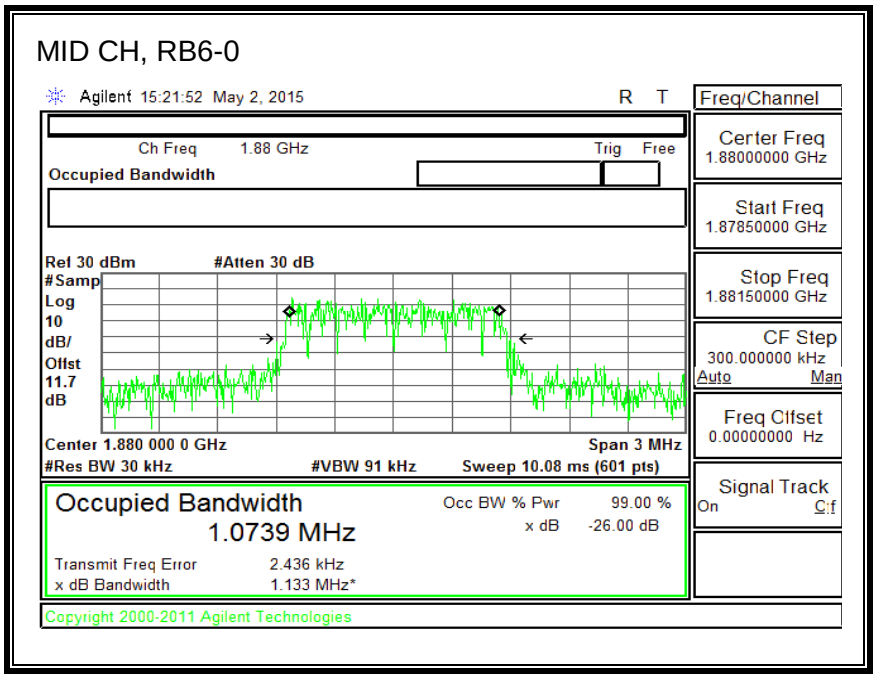
BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41	5.0 MHz BAND QPSK	25/0	2593	4.4287	4.742
	5.0 MHz BAND 16QAM	25/0	2593	4.4422	4.793
	10.0 MHz BAND QPSK	50/0	2593	8.7697	9.383
	10.0 MHz BAND 16QAM	50/0	2593	8.952	9.442
	15.0 MHz BAND QPSK	75/0	2593	13.3114	13.866
	15.0 MHz BAND 16QAM	75/0	2593	13.3467	13.892
	20.0 MHz BAND QPSK	100/0	2593	17.6018	18.39
	20.0 MHz BAND 16QAM	100/0	2593	**17.8433**	**18.96**

8.1.1. LTE BAND 2

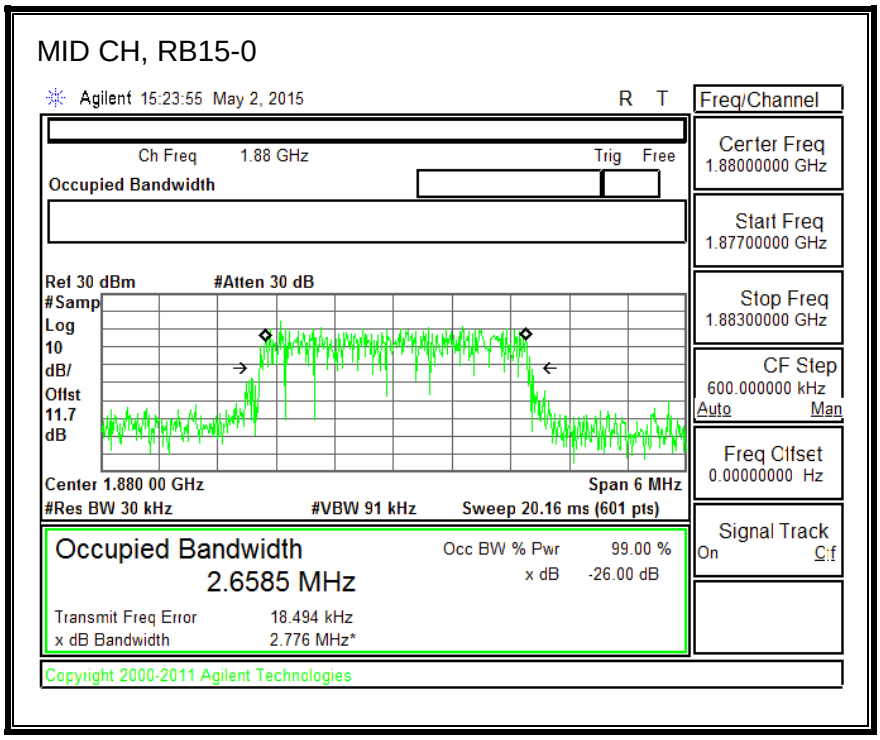
QPSK, (1.4 MHz BAND WIDTH)



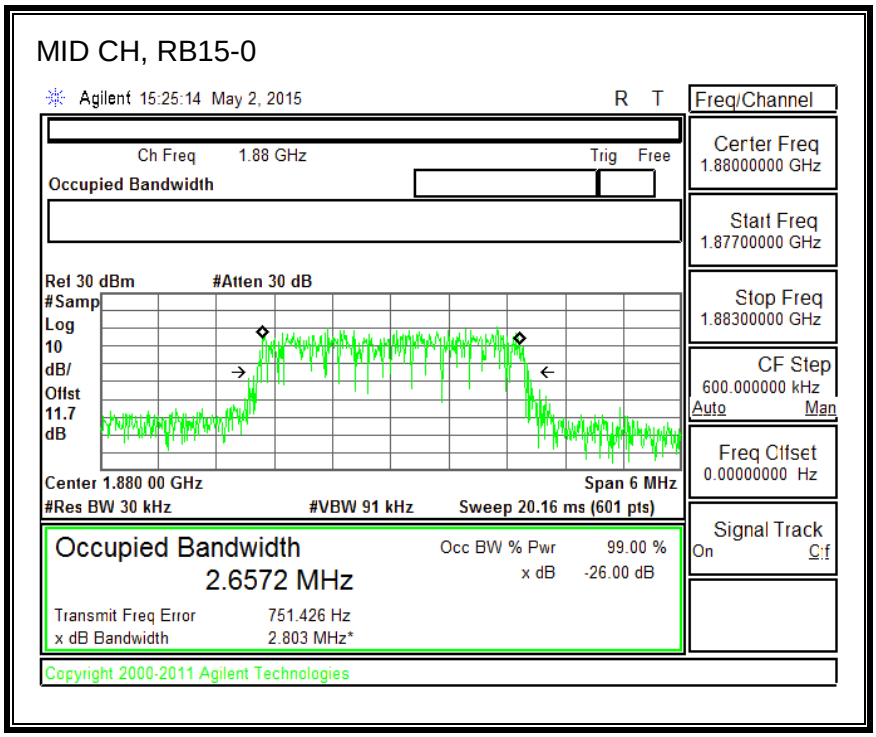
16QAM, (1.4 MHz BAND WIDTH)



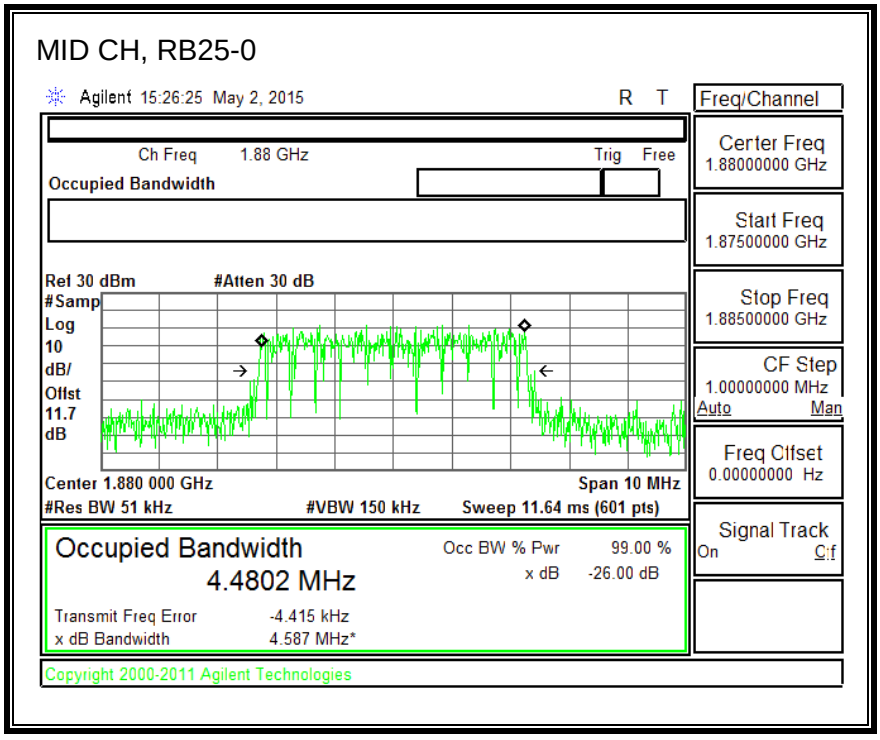
QPSK, (3.0 MHz BAND WIDTH)



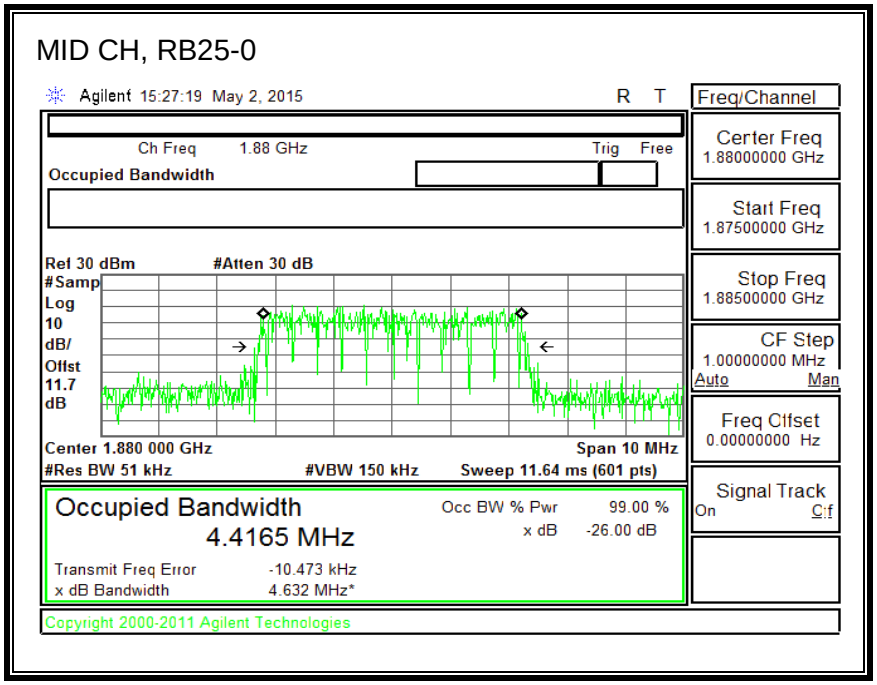
16QAM, (3.0 MHz BAND WIDTH)



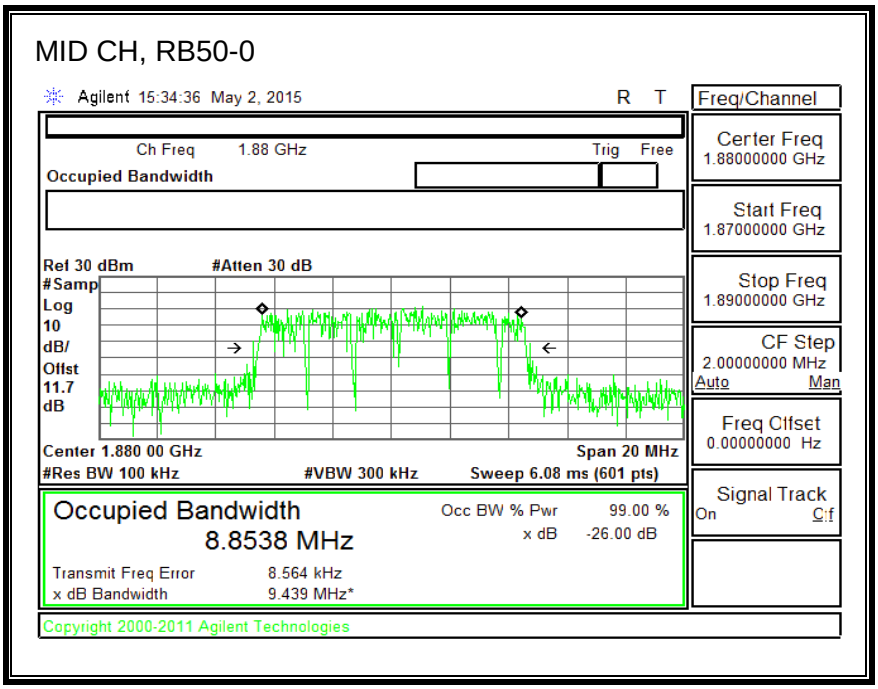
QPSK, (5.0 MHz BAND WIDTH)



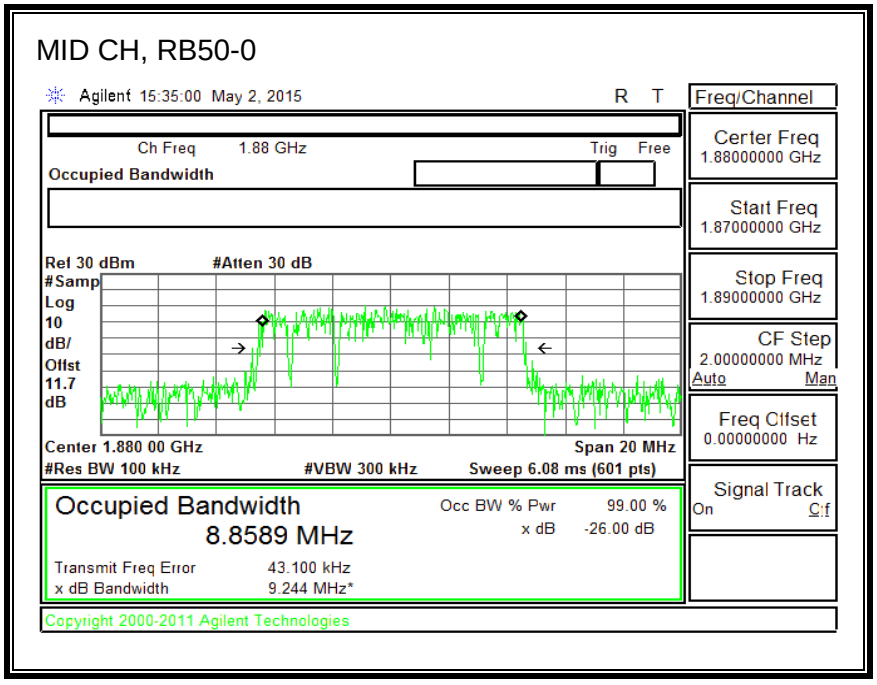
16QAM, (5.0 MHz BAND WIDTH)



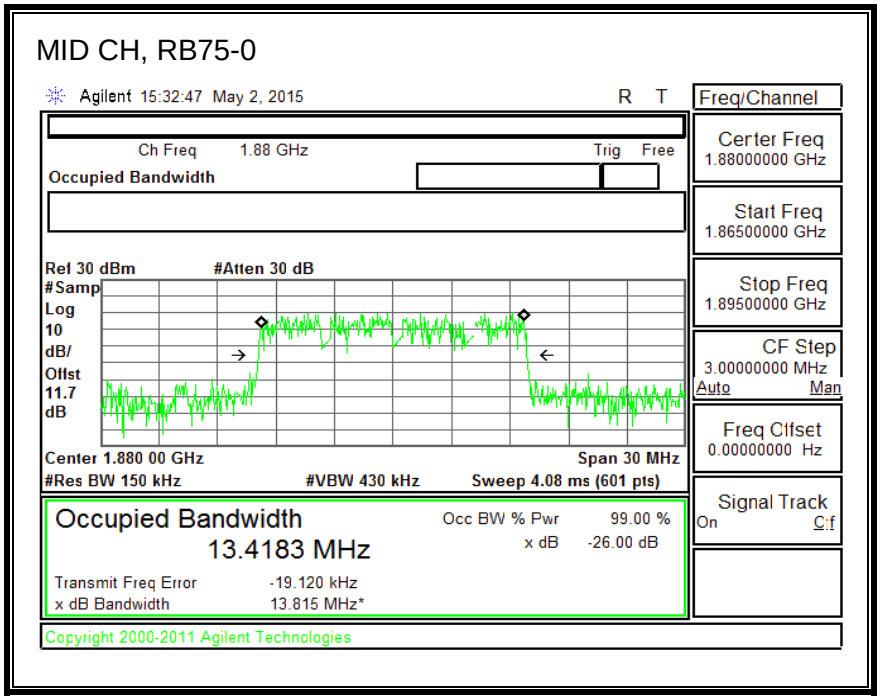
QPSK, (10.0 MHz BAND WIDTH)



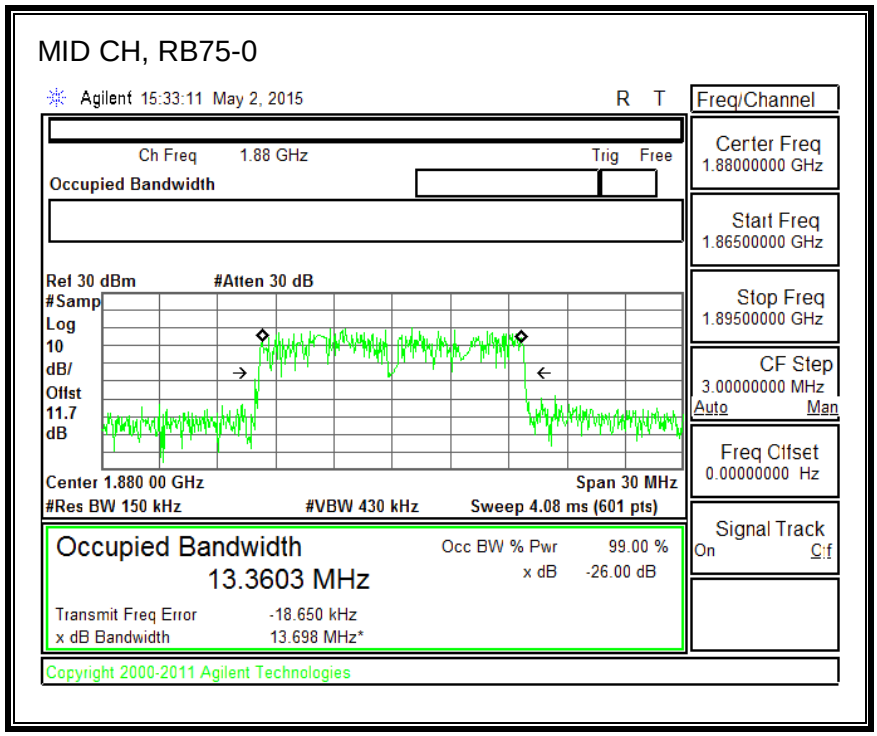
16QAM, (10.0 MHz BAND WIDTH)



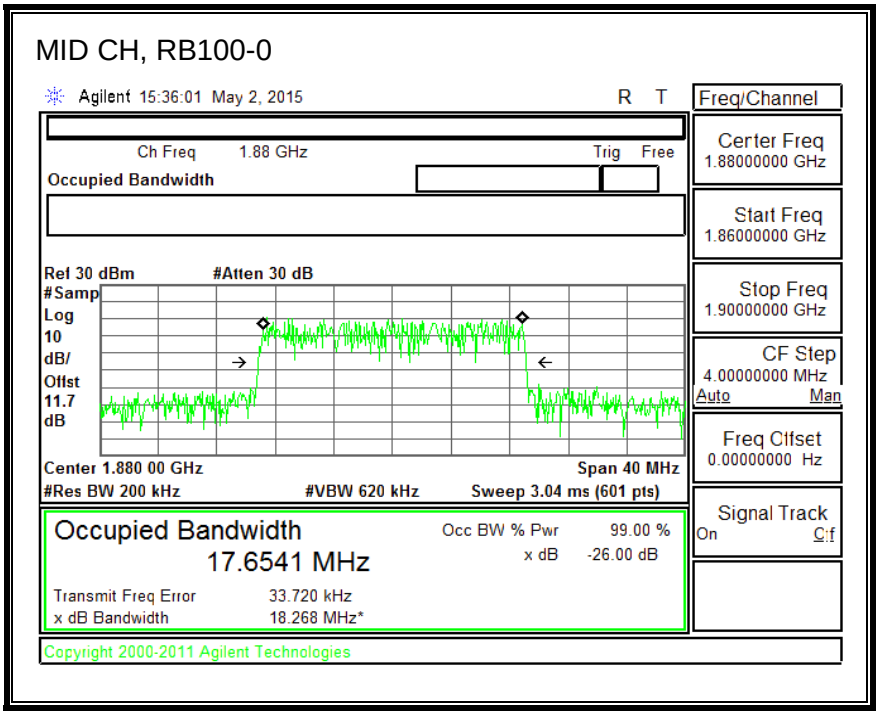
QPSK, (15.0 MHz BAND WIDTH)



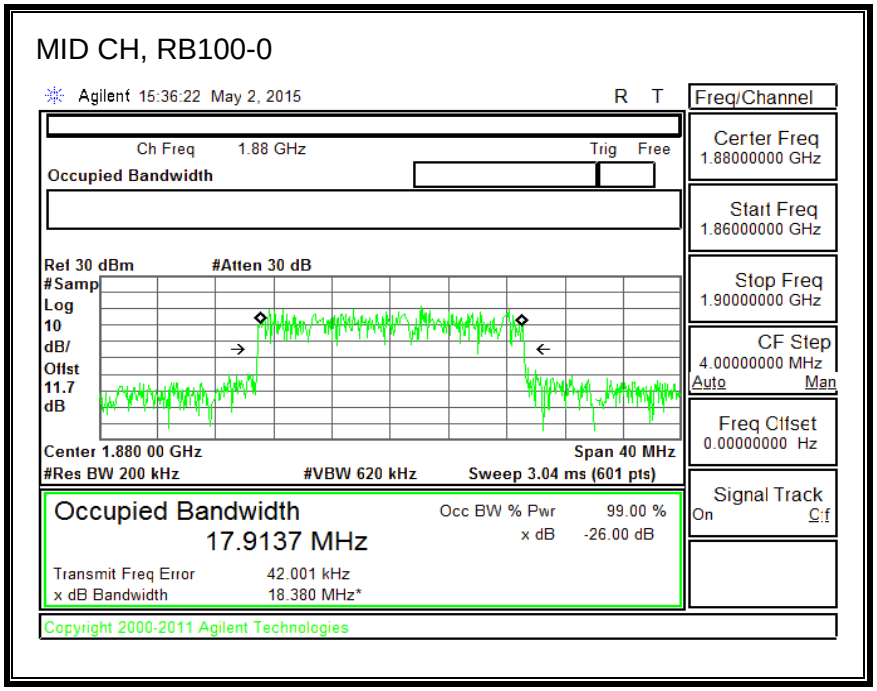
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

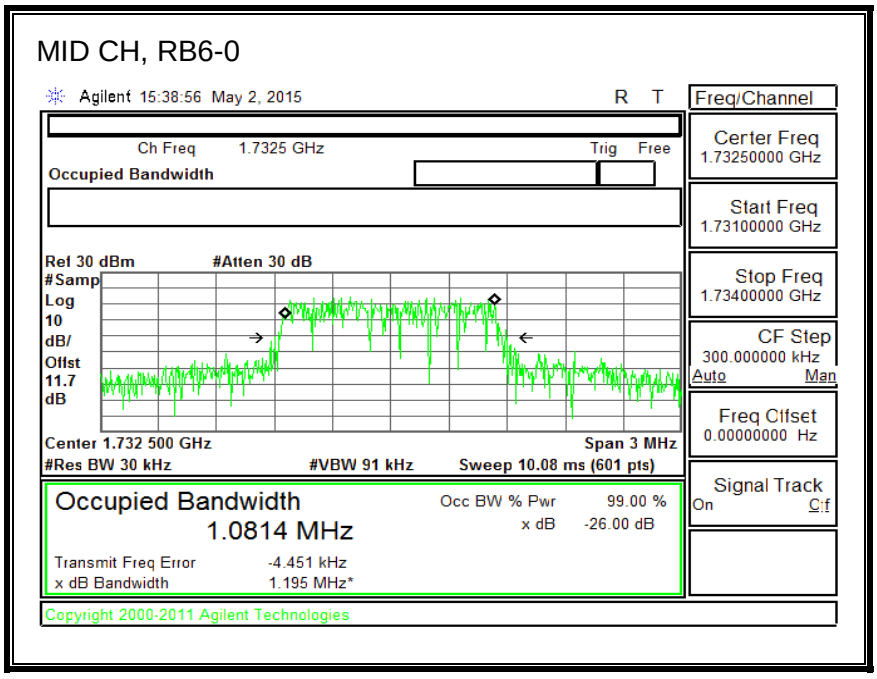


16QAM, (20.0 MHz BAND WIDTH)

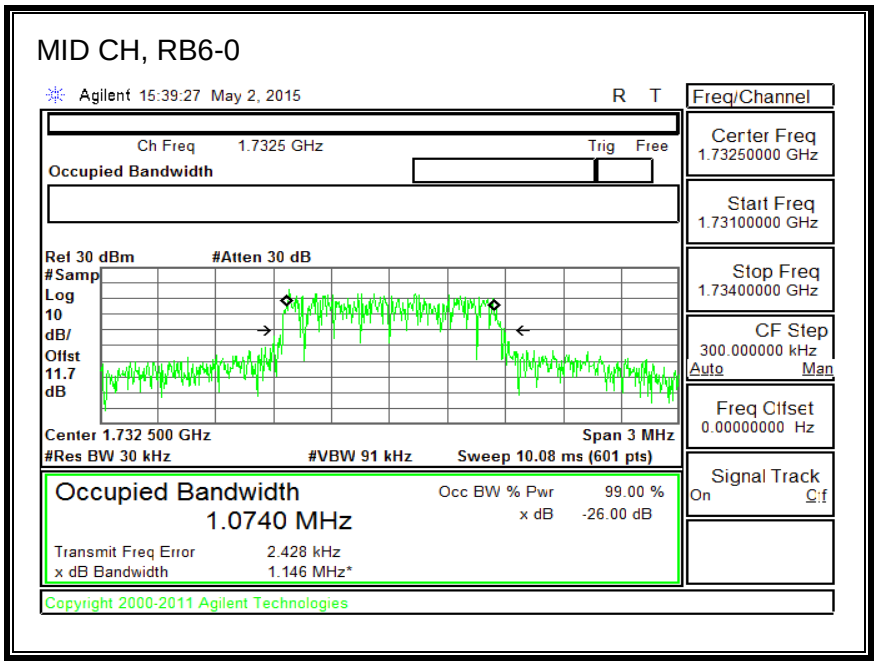


8.1.2. LTE BAND 4

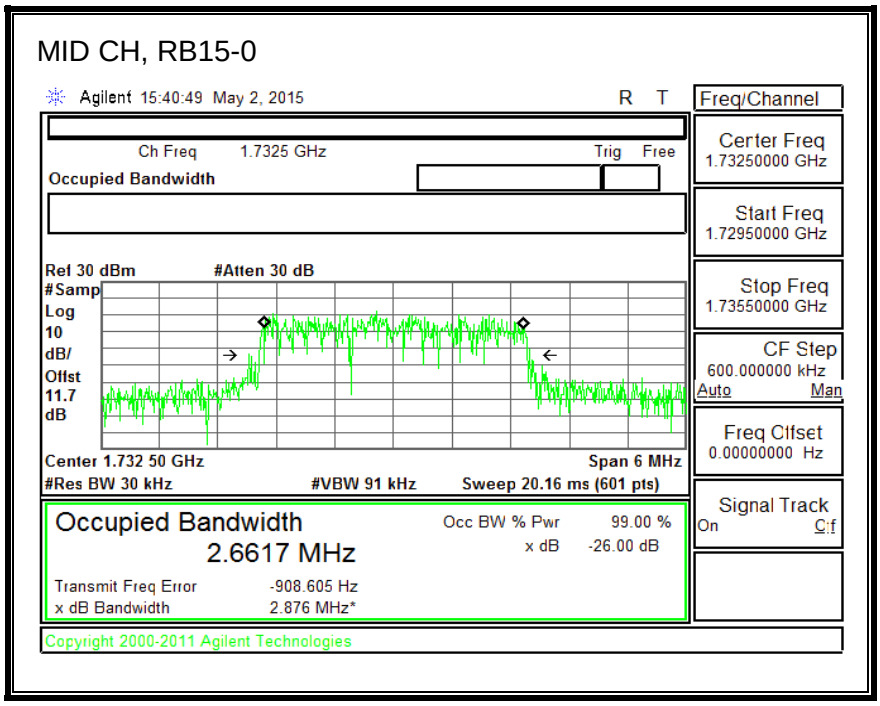
QPSK, (1.4 MHz BAND WIDTH)



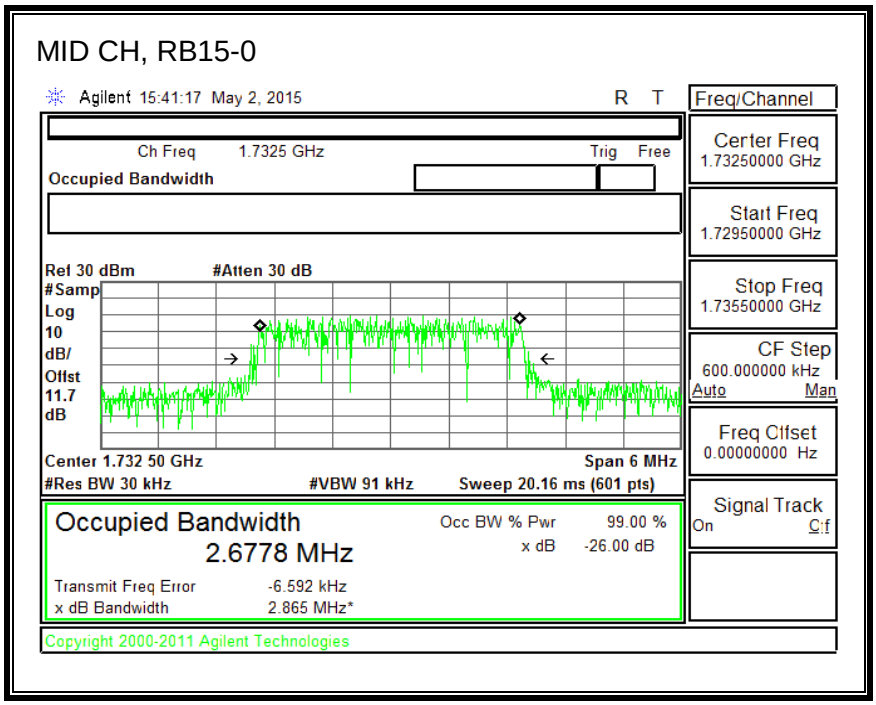
16QAM, (1.4 MHz BAND WIDTH)



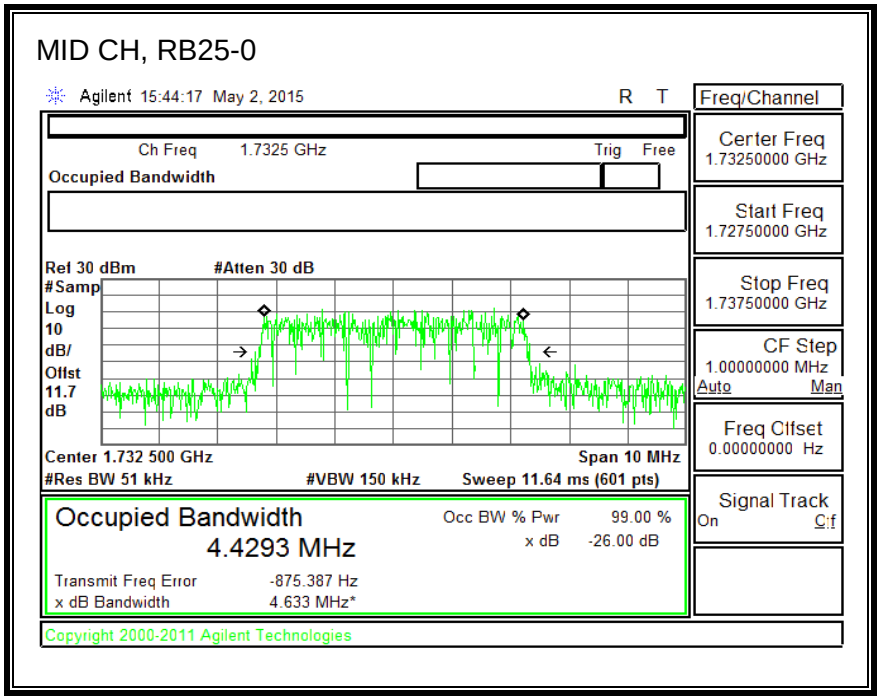
QPSK, (3.0 MHz BAND WIDTH)



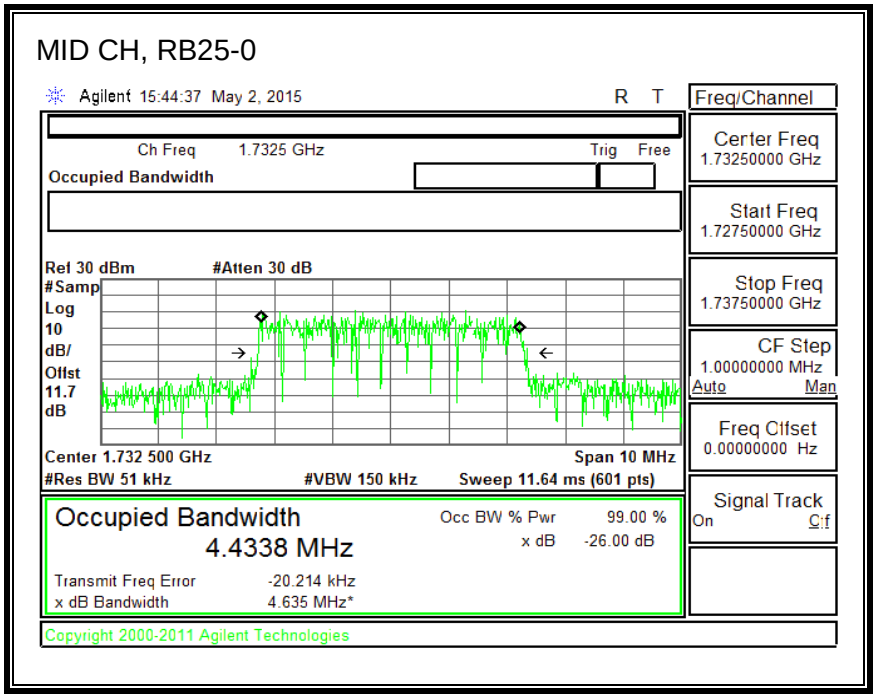
16QAM, (3.0 MHz BAND WIDTH)



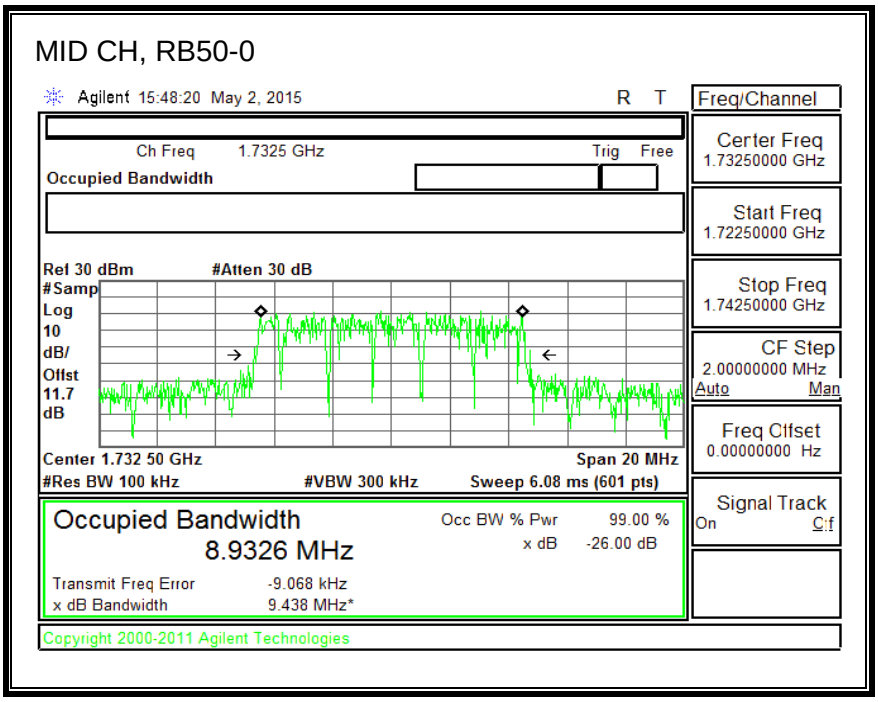
QPSK, (5.0 MHz BAND WIDTH)



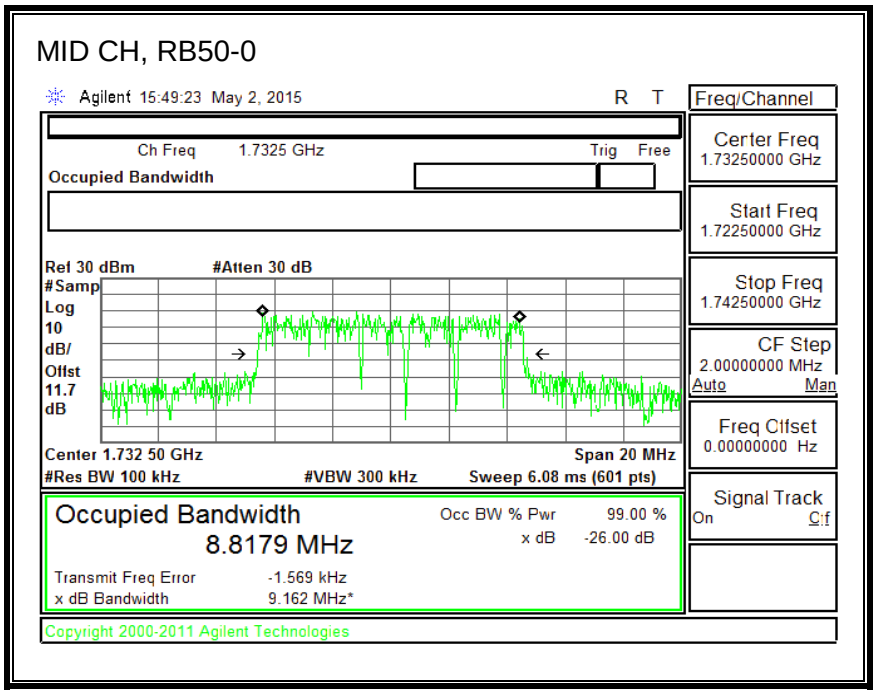
16QAM, (5.0 MHz BAND WIDTH)



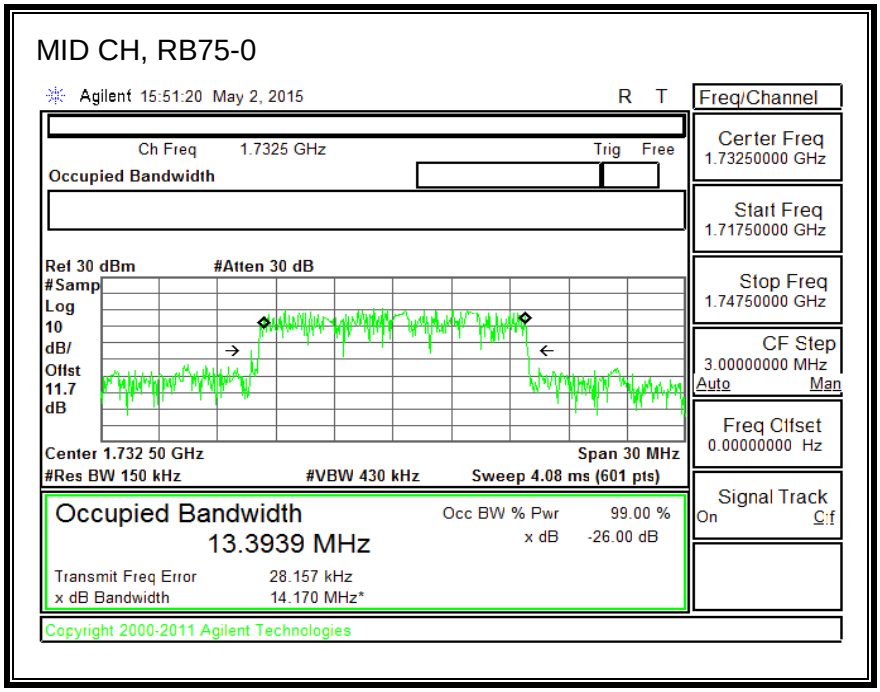
QPSK, (10.0 MHz BAND WIDTH)



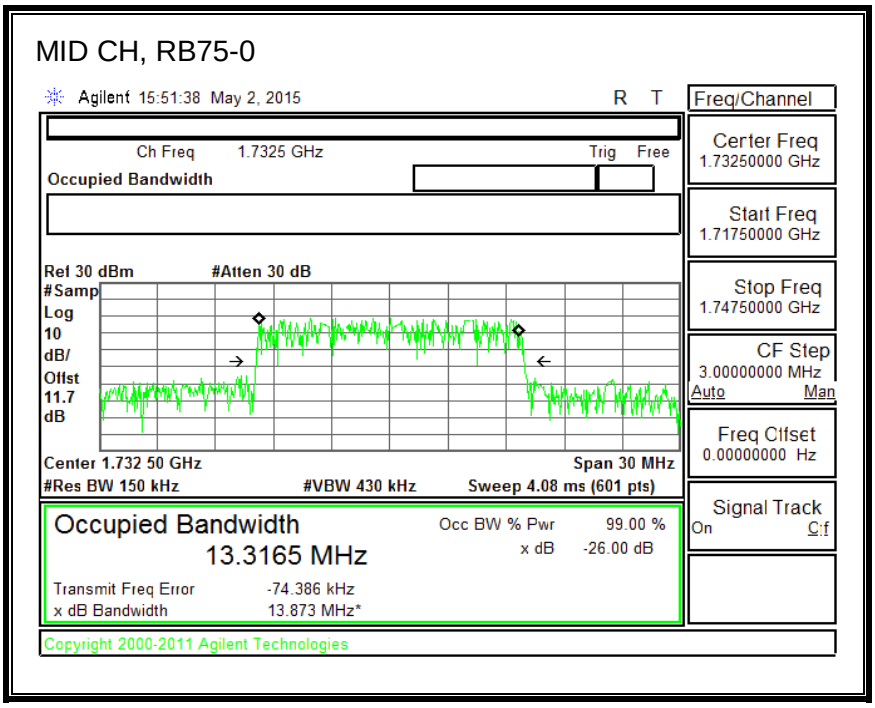
16QAM, (10.0 MHz BAND WIDTH)



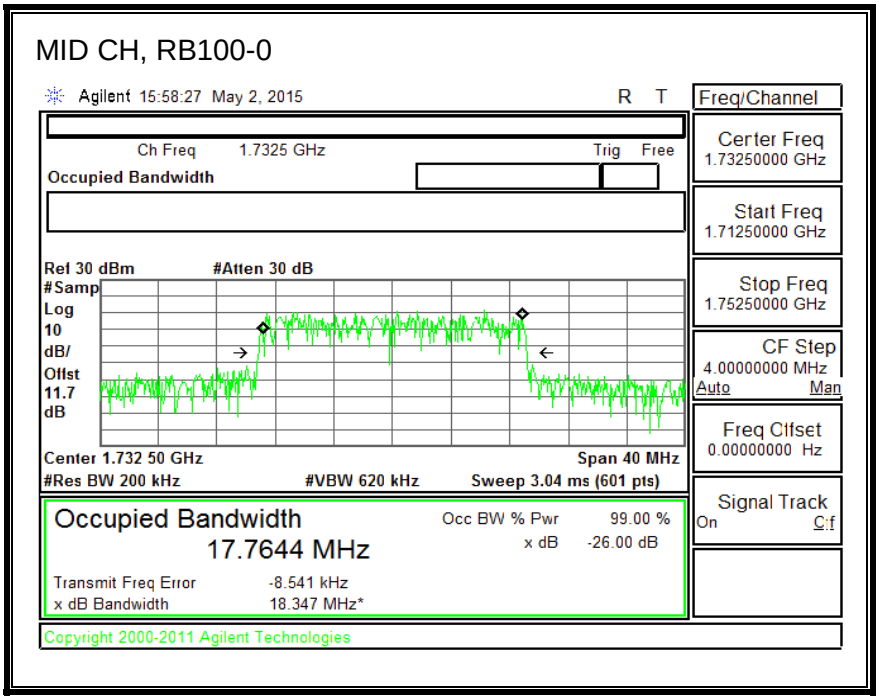
QPSK, (15.0 MHz BAND WIDTH)



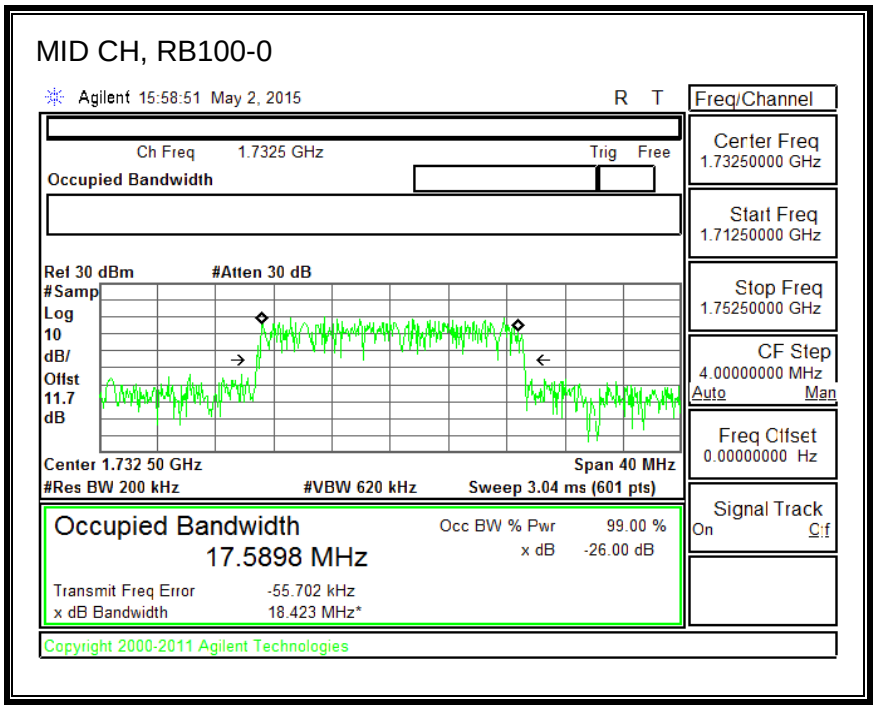
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

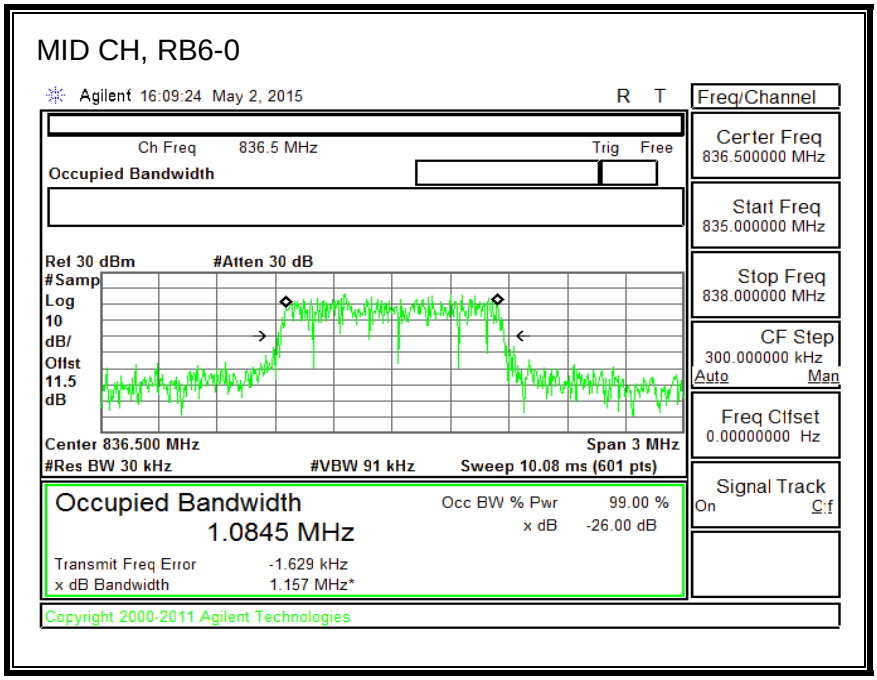


16QAM, (20.0 MHz BAND WIDTH)

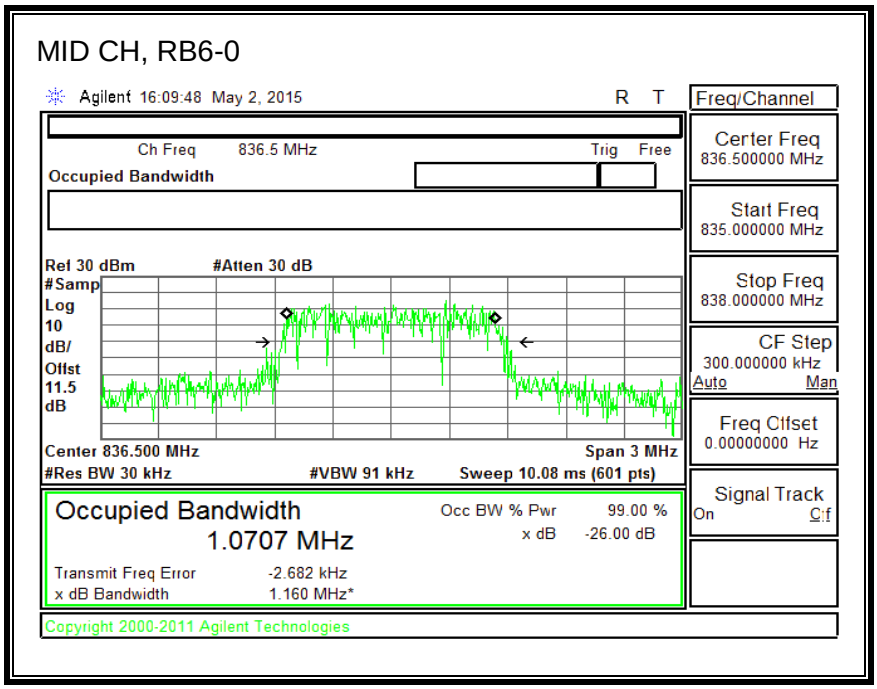


8.1.3. LTE BAND 5

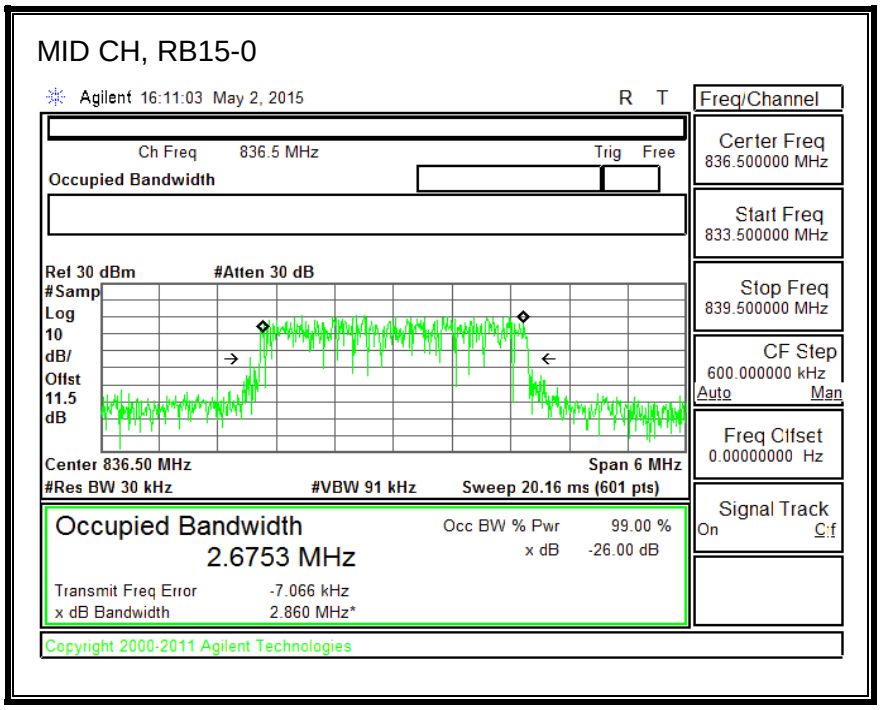
QPSK, (1.4 MHz BAND WIDTH)



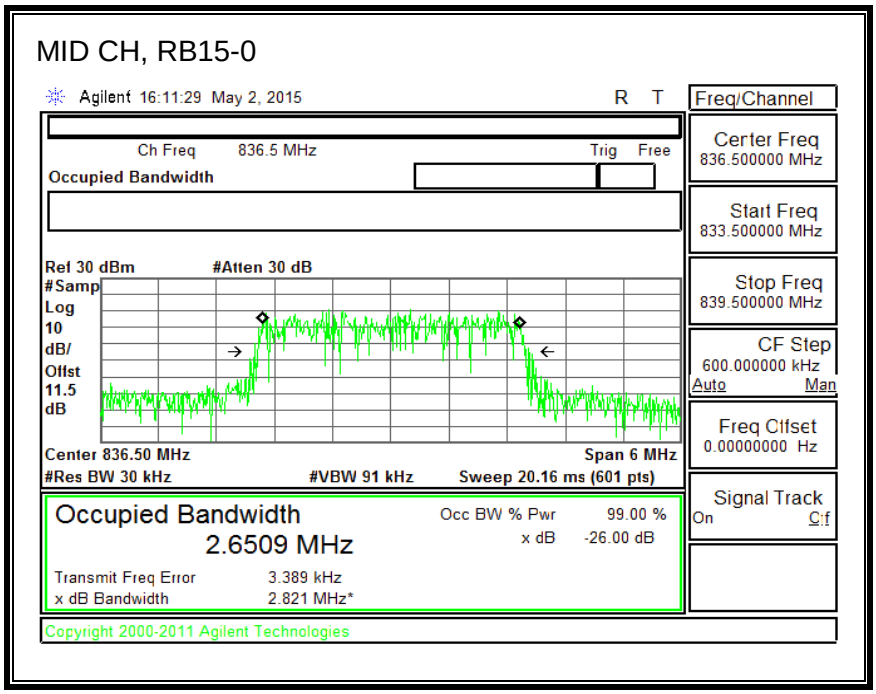
16QAM, (1.4 MHz BAND WIDTH)



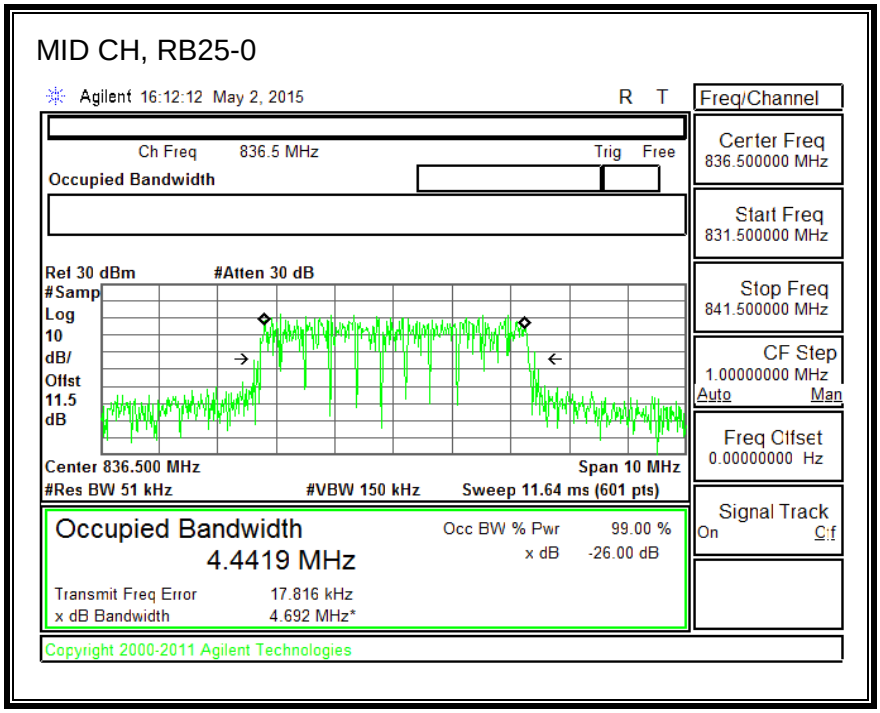
QPSK, (3.0 MHz BAND WIDTH)



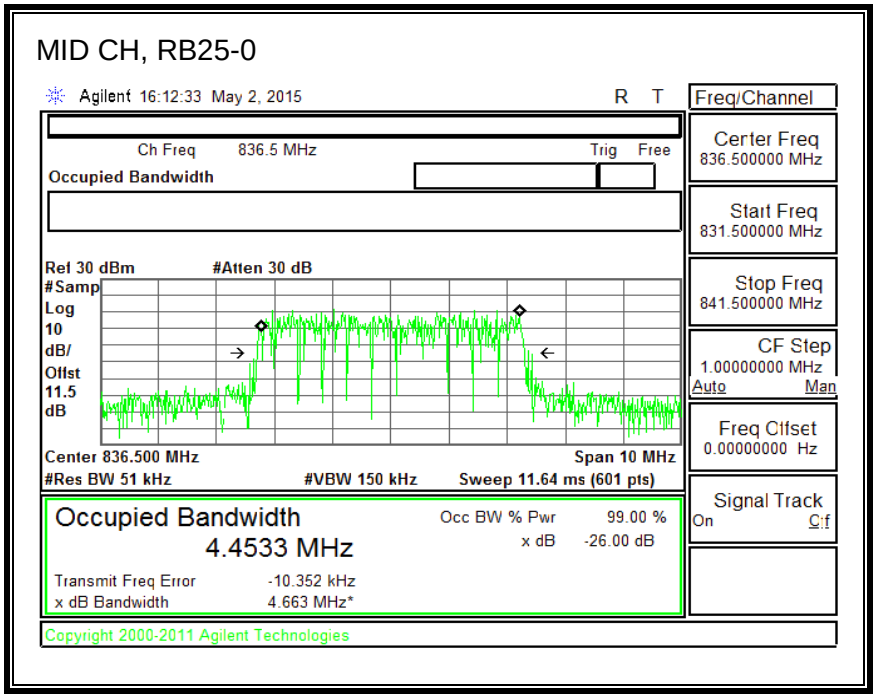
16QAM, (3.0 MHz BAND WIDTH)



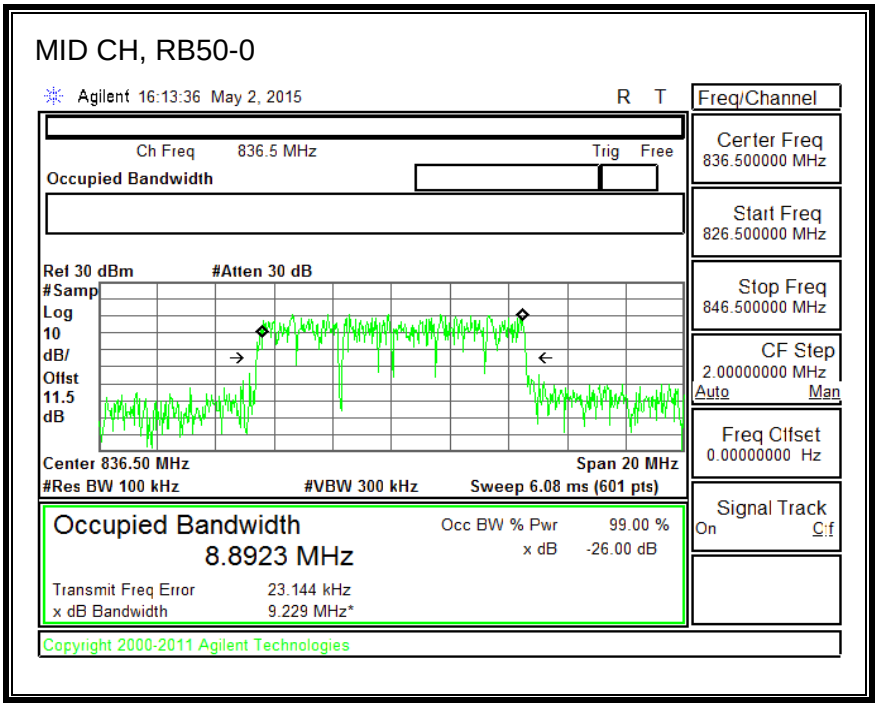
QPSK, (5.0 MHz BAND WIDTH)



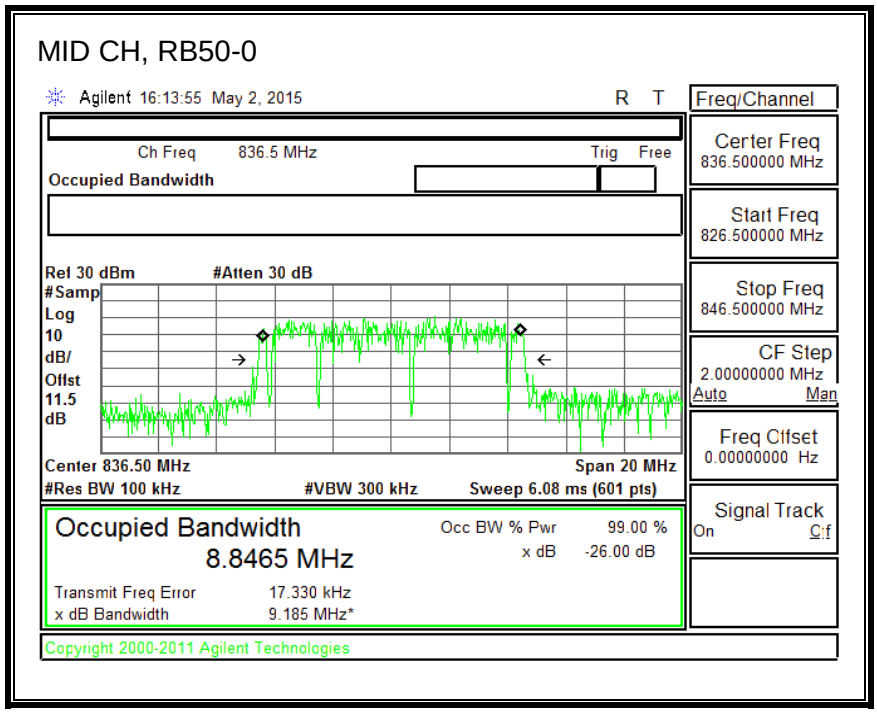
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

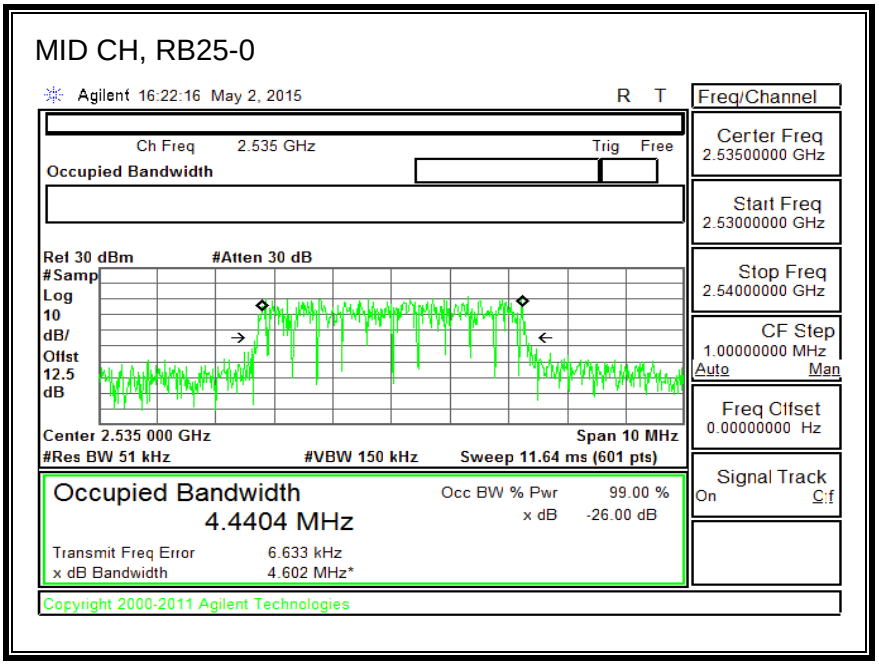


16QAM, (10.0 MHz BAND WIDTH)

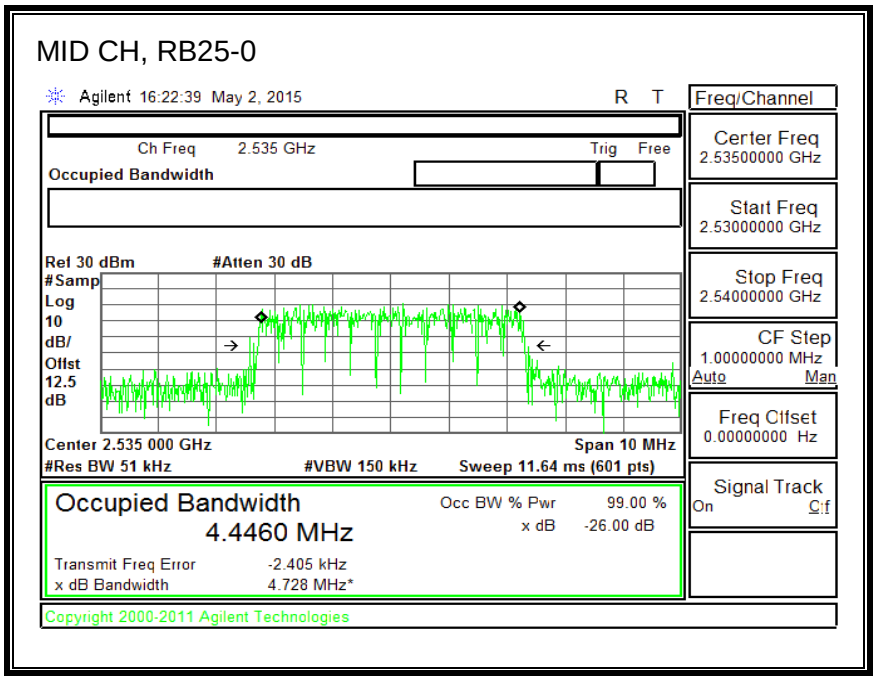


8.1.4. LTE BAND 7

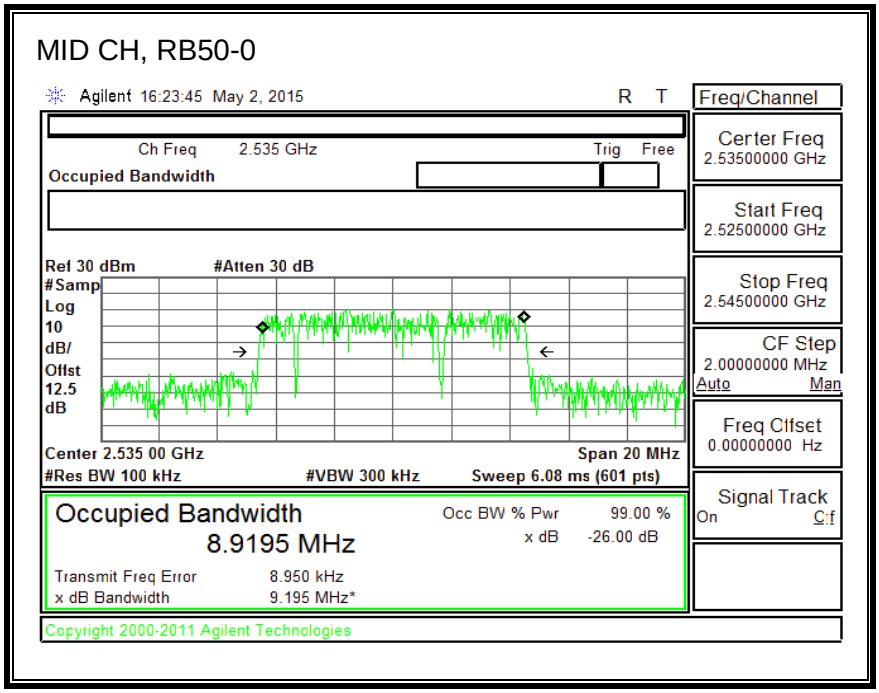
QPSK, (5.0 MHz BAND WIDTH)



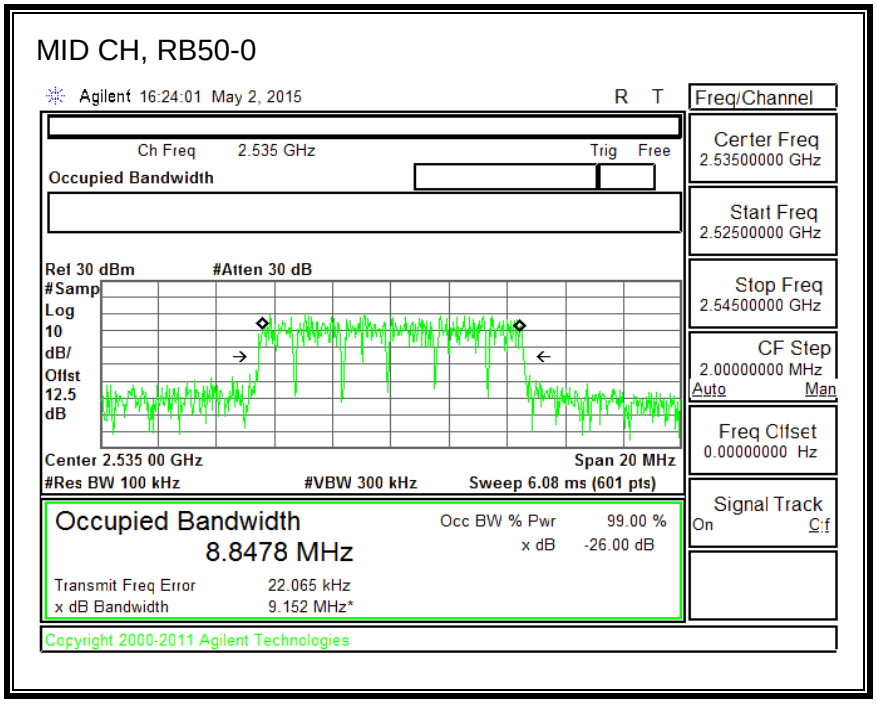
16QAM, (5.0 MHz BAND WIDTH)



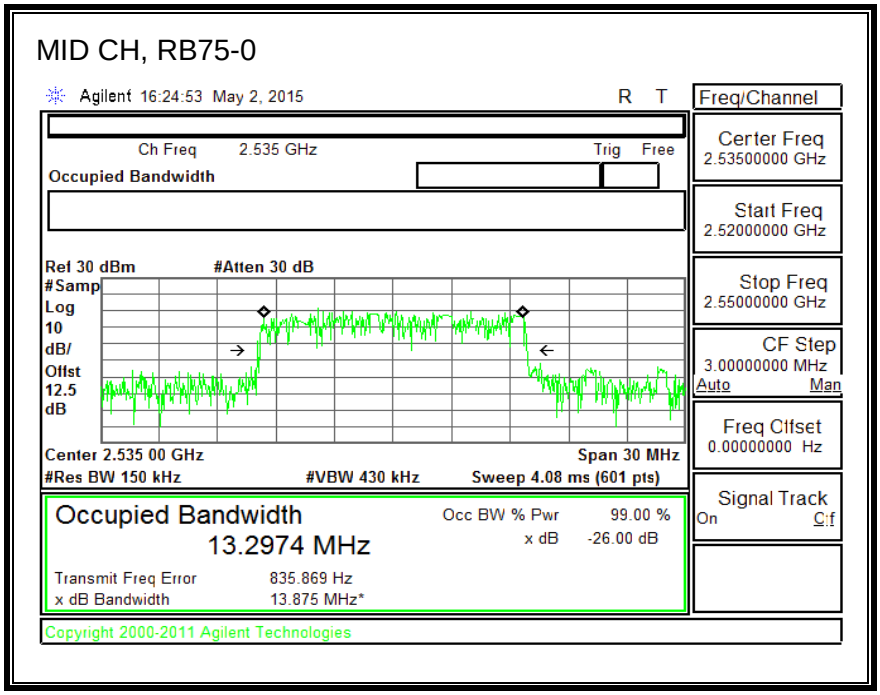
QPSK, (10.0 MHz BAND WIDTH)



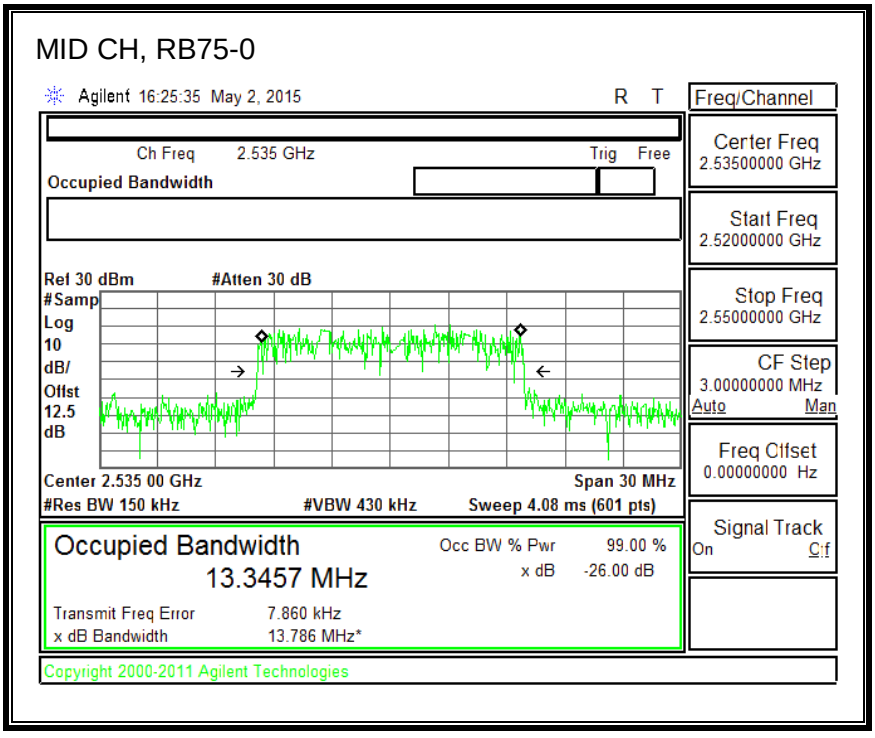
16QAM, (10.0 MHz BAND WIDTH)



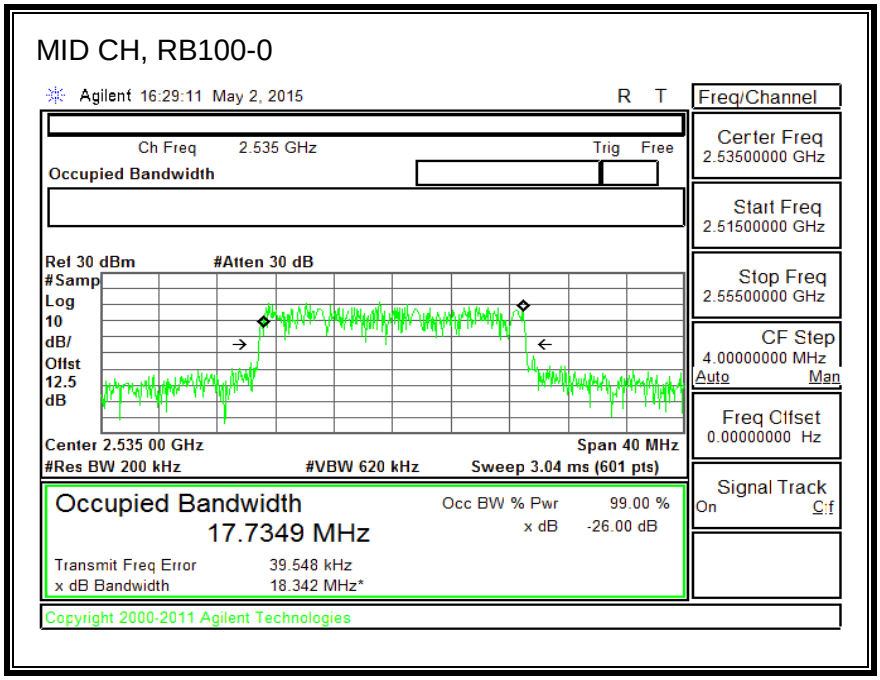
QPSK, (15.0 MHz BAND WIDTH)



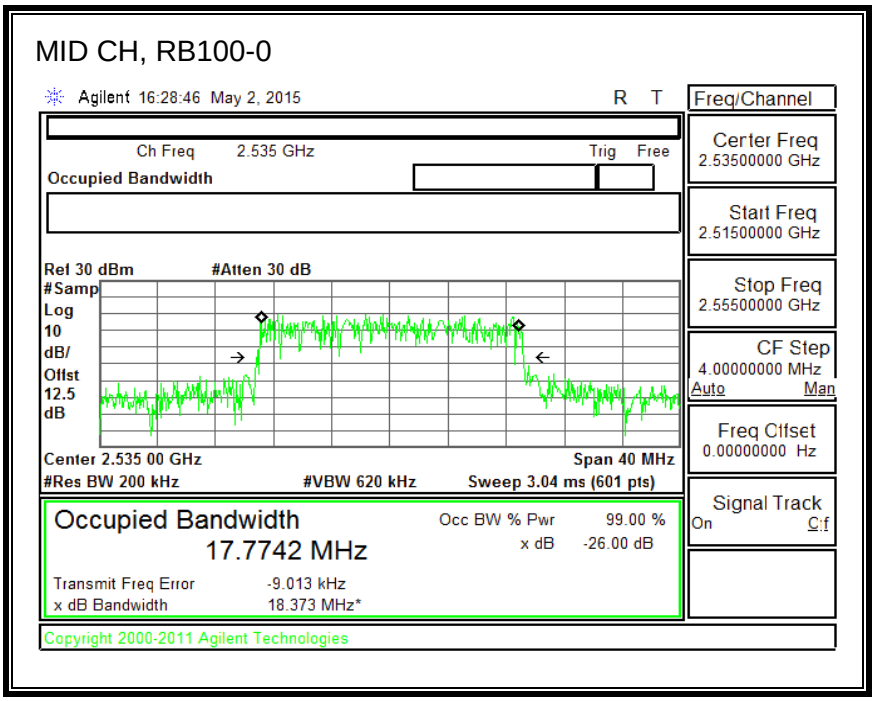
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

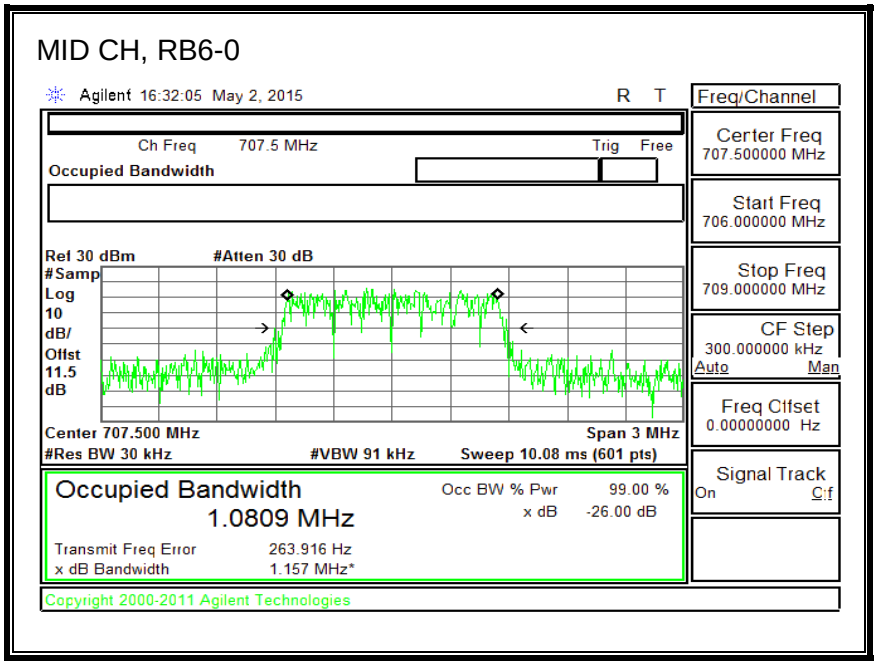


16QAM, (20.0 MHz BAND WIDTH)

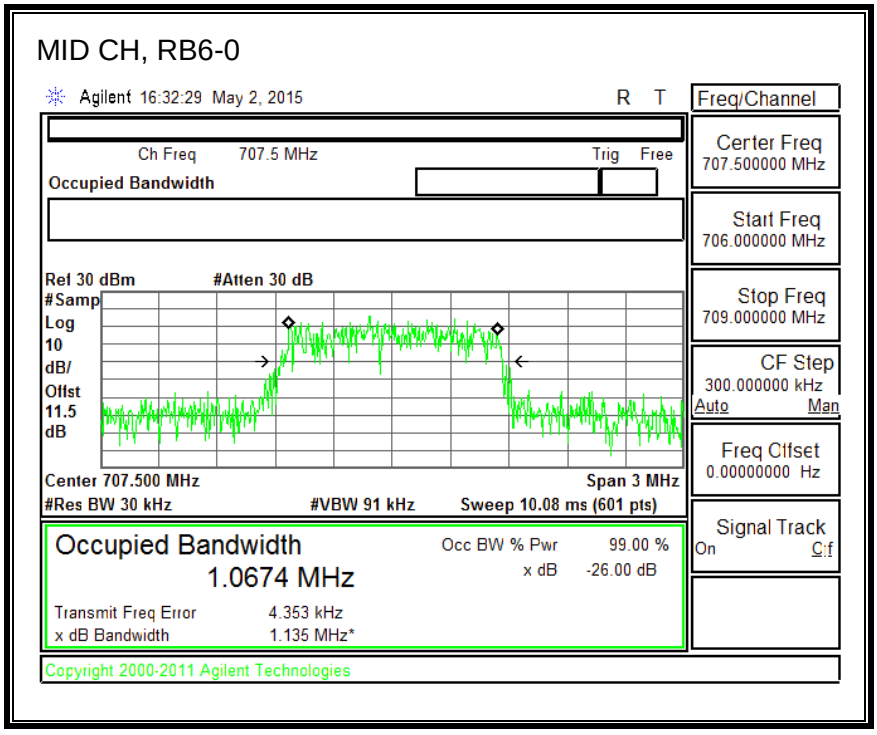


8.1.5. LTE BAND 12

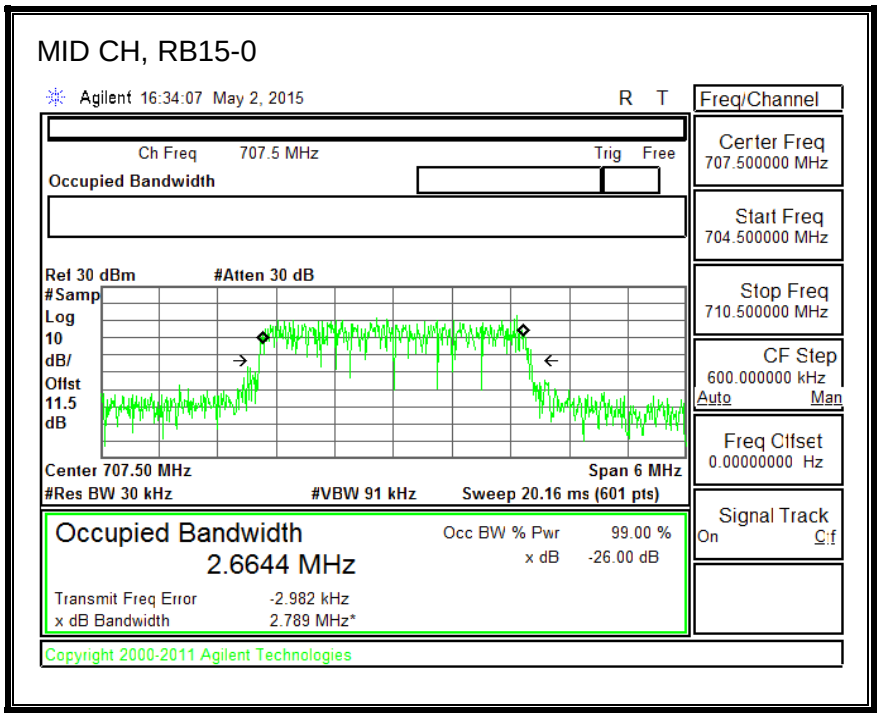
QPSK, (1.4 MHz BAND WIDTH)



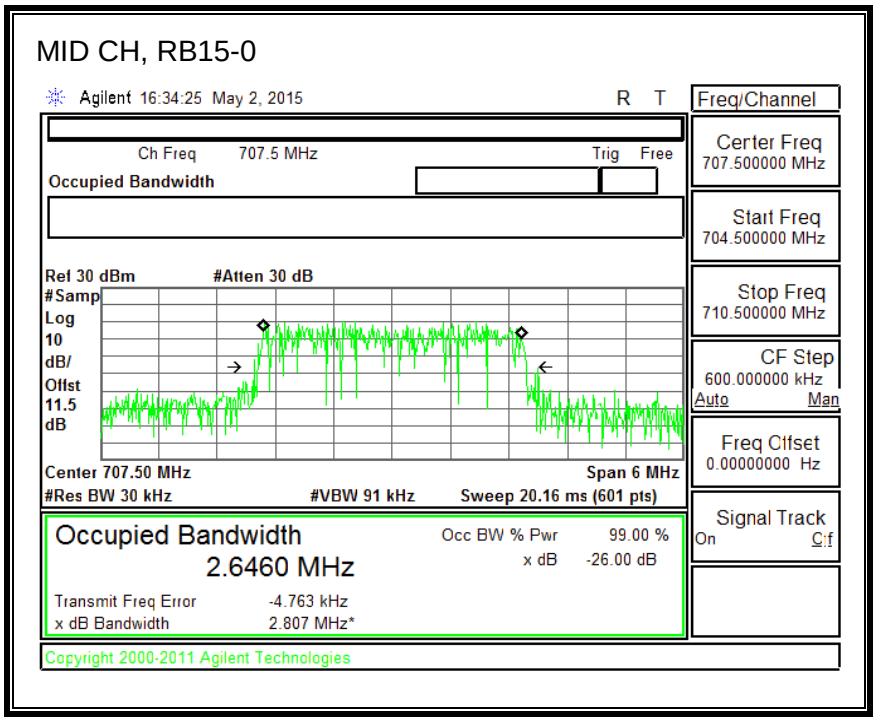
16QAM, (1.4 MHz BAND WIDTH)



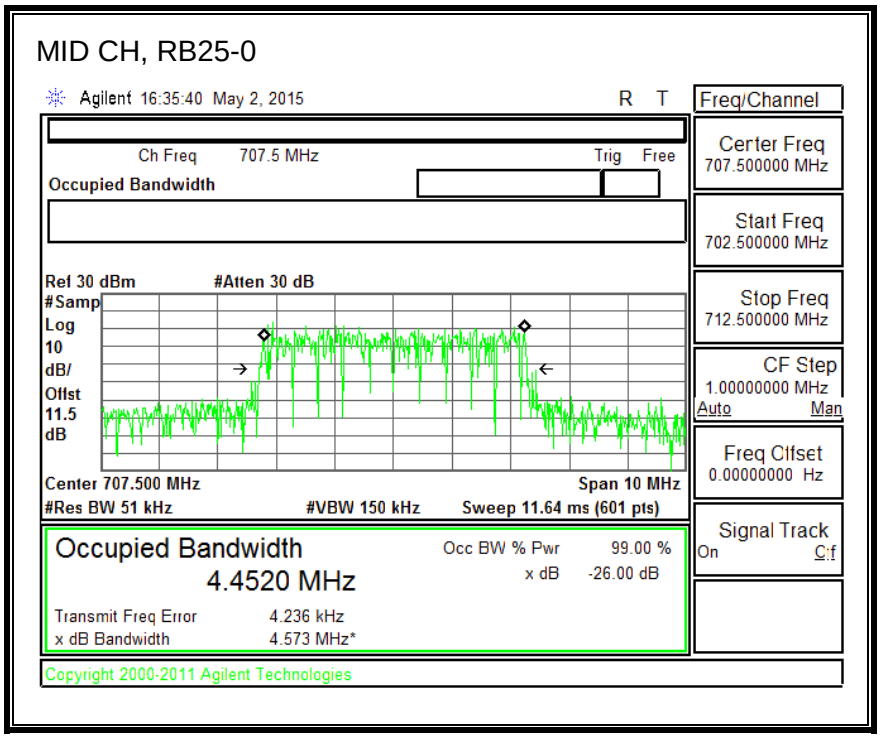
QPSK, (3.0 MHz BAND WIDTH)



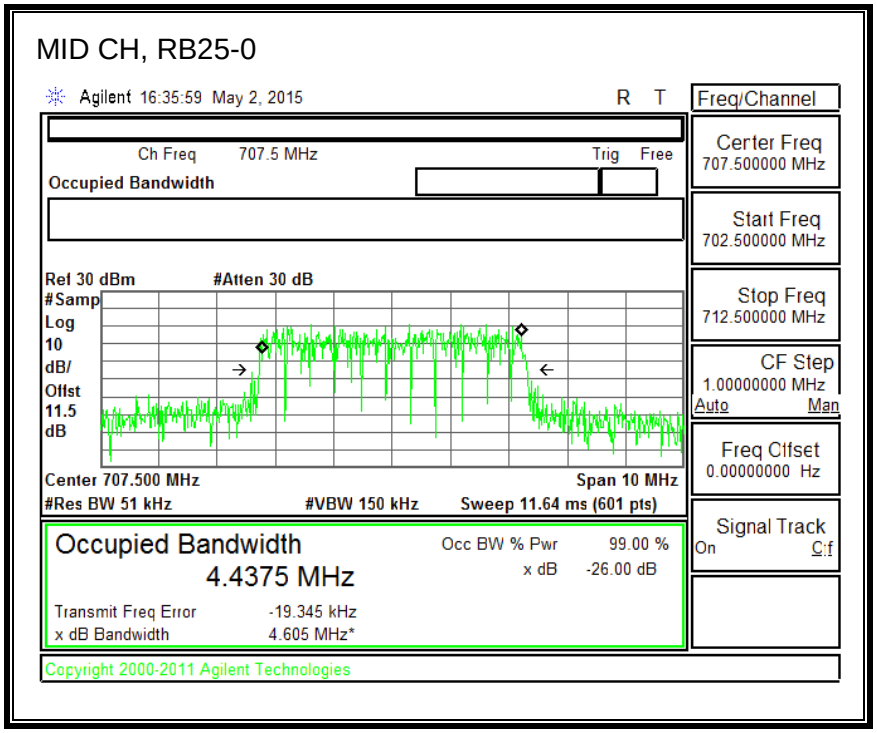
16QAM, (3.0 MHz BAND WIDTH)



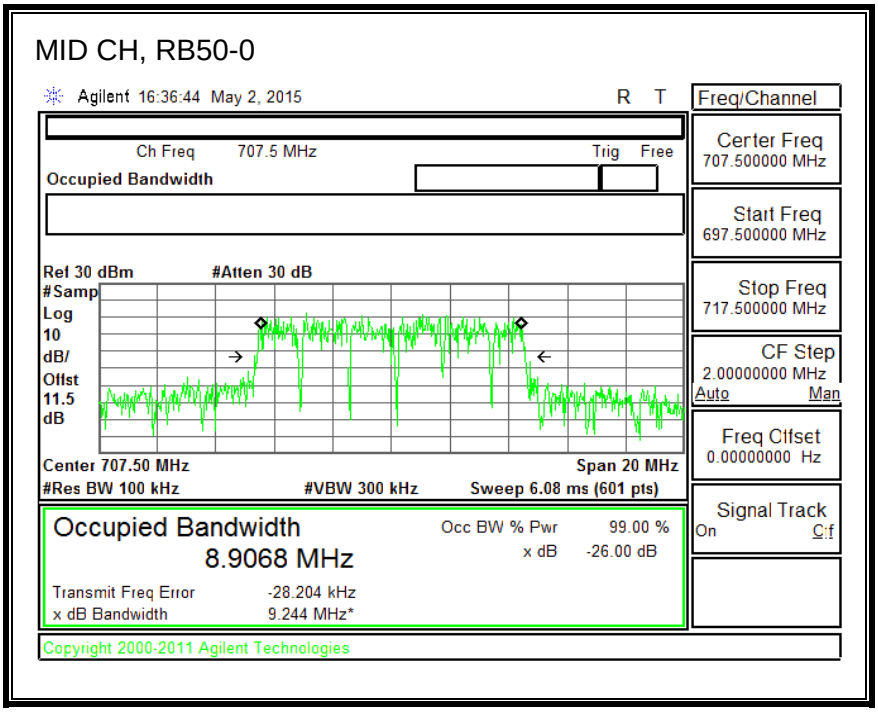
QPSK, (5.0 MHz BAND WIDTH)



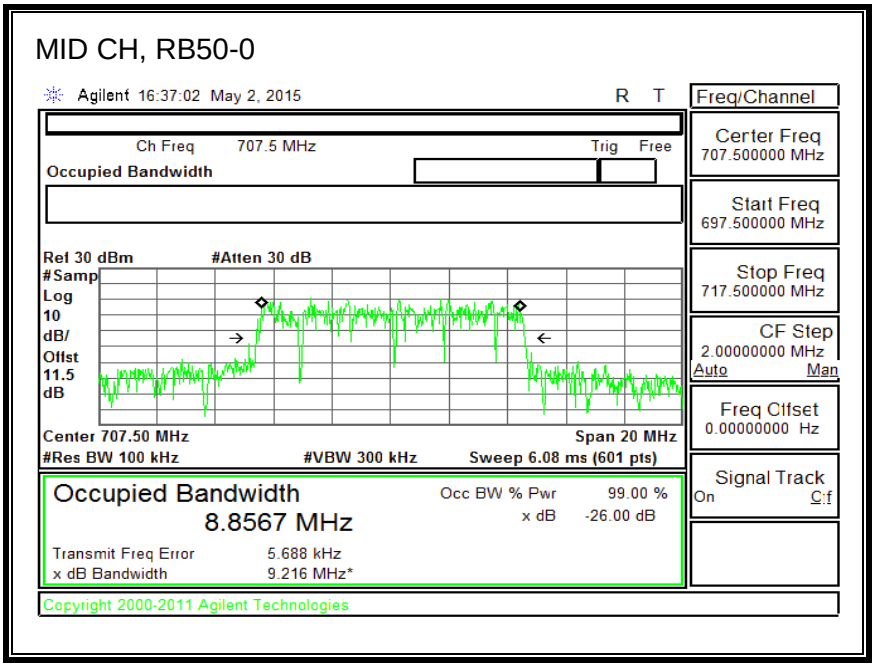
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

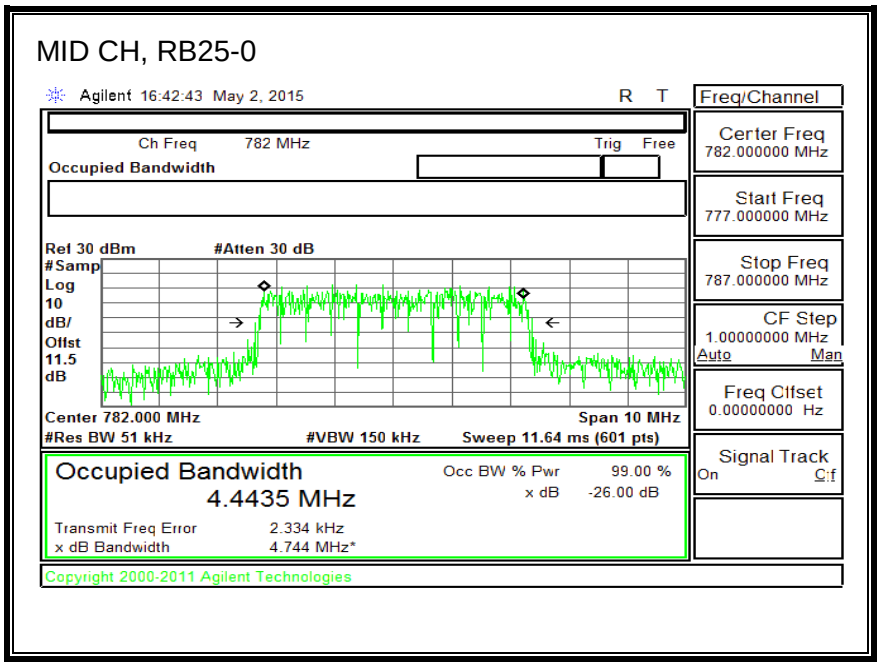


16QAM, (10.0 MHz BAND WIDTH)

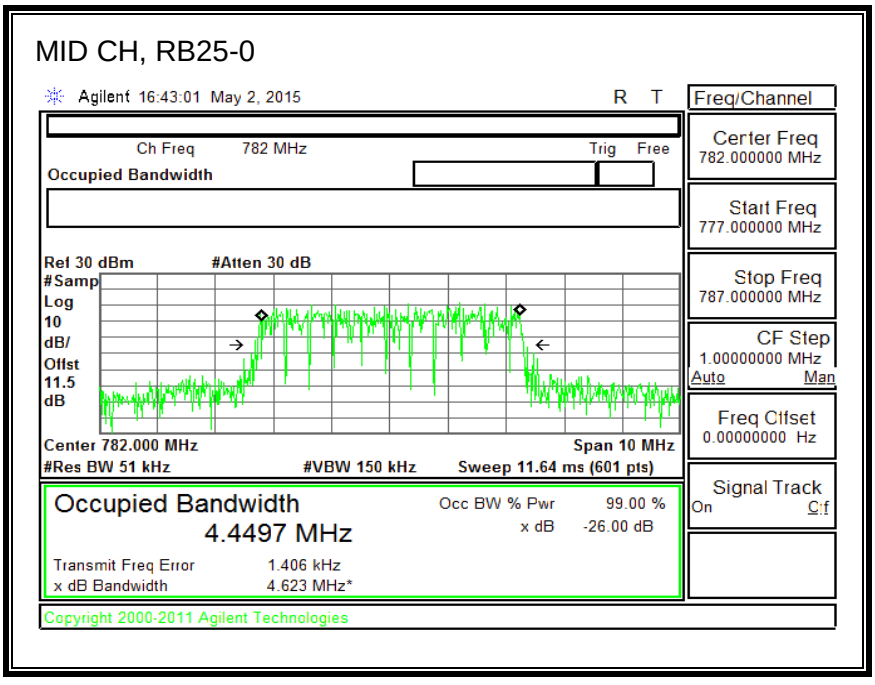


8.1.6. LTE BAND 13

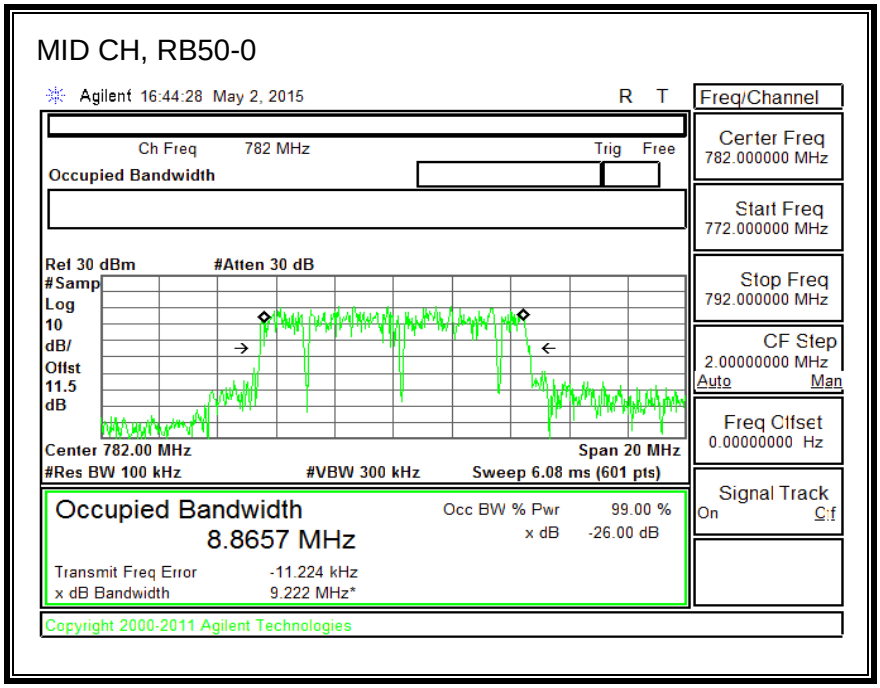
QPSK, (5.0 MHz BAND WIDTH)



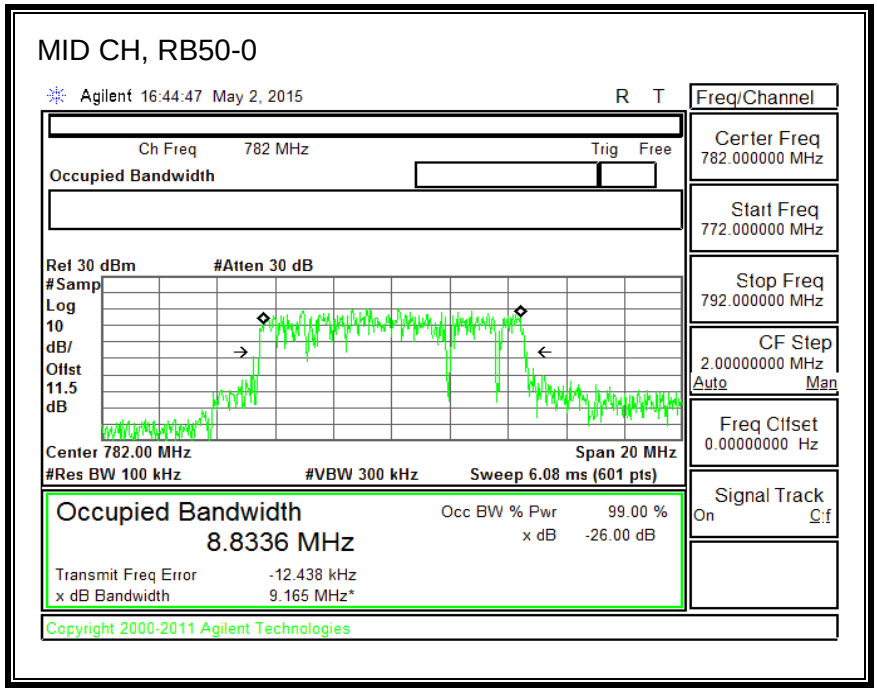
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

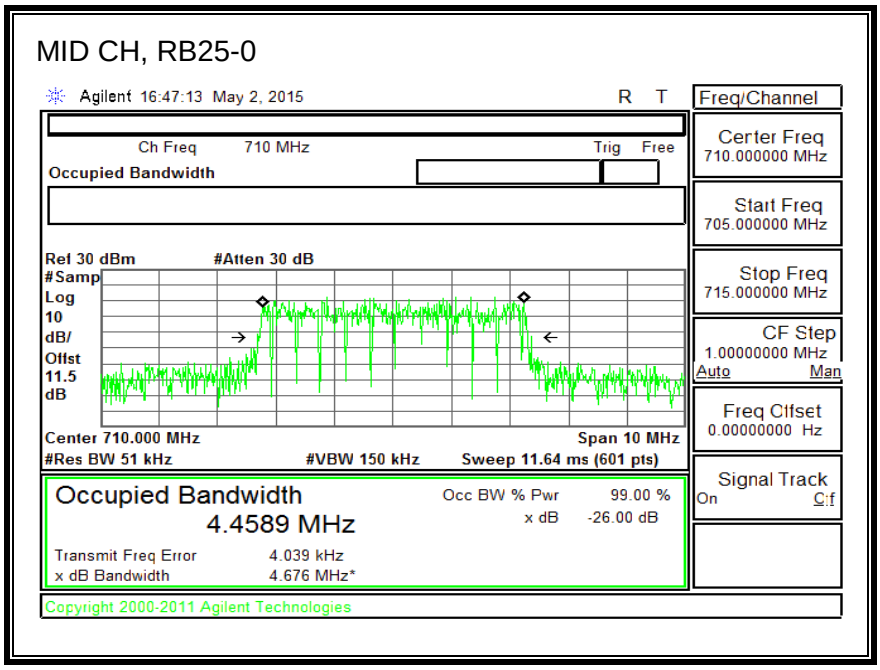


16QAM, (10.0 MHz BAND WIDTH)

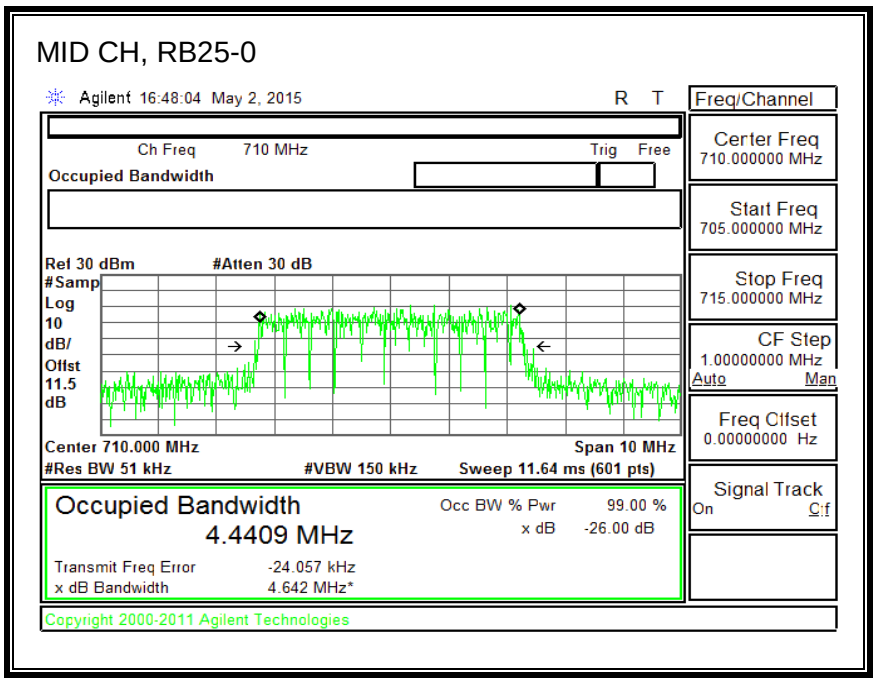


8.1.7. LTE BAND 17

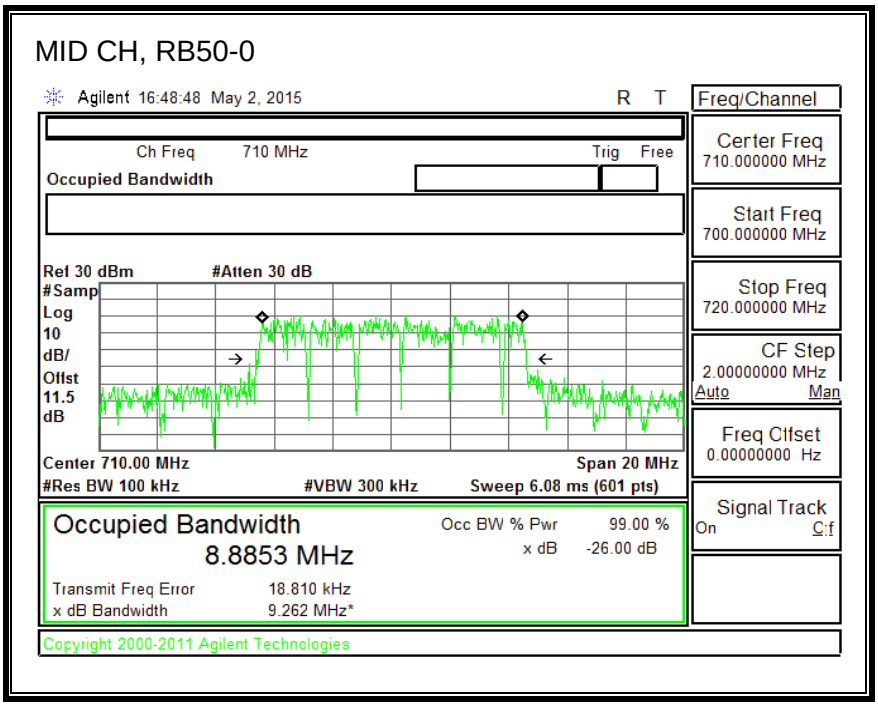
QPSK, (5.0 MHz BAND WIDTH)



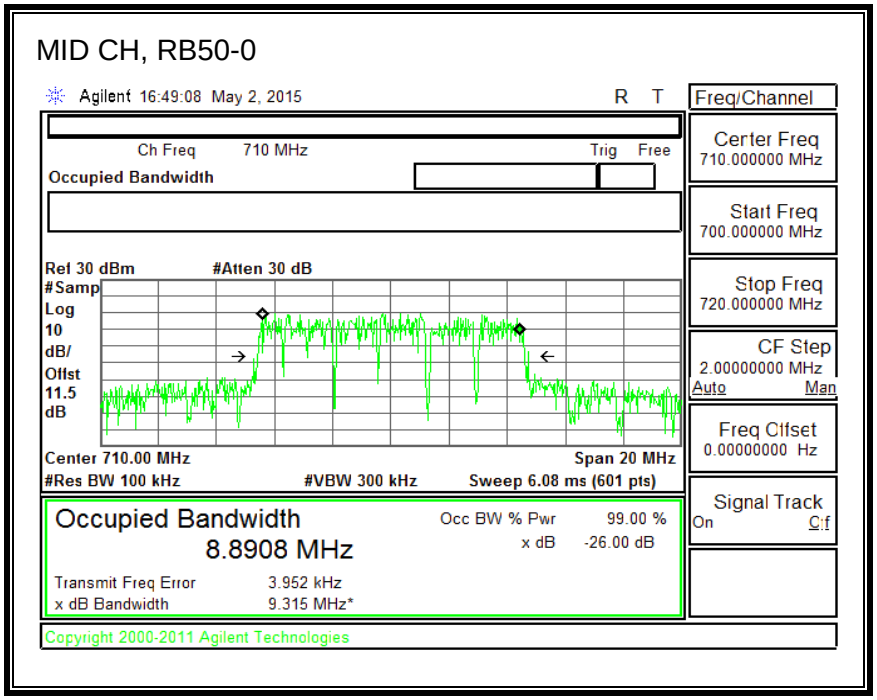
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

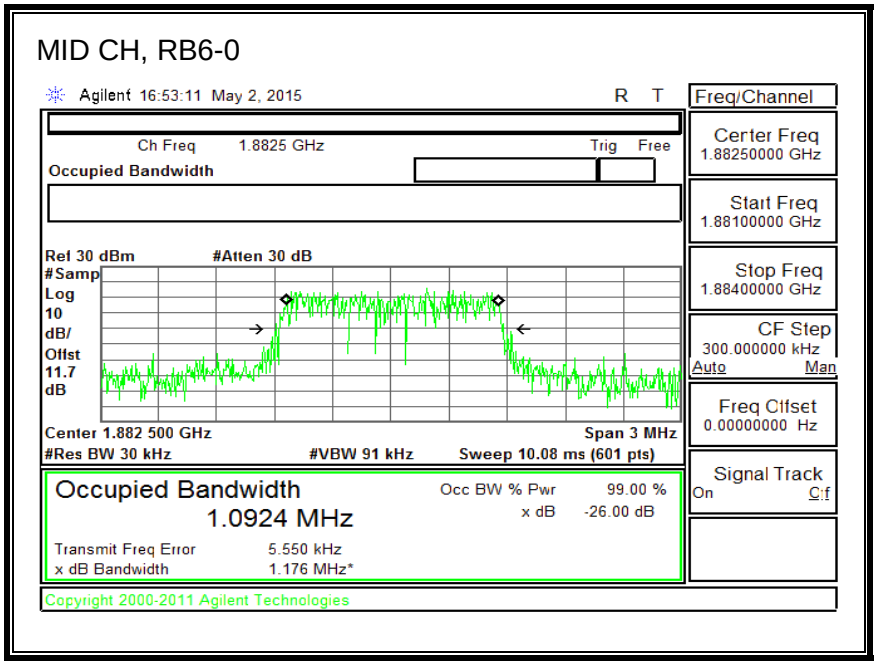


16QAM, (10.0 MHz BAND WIDTH)

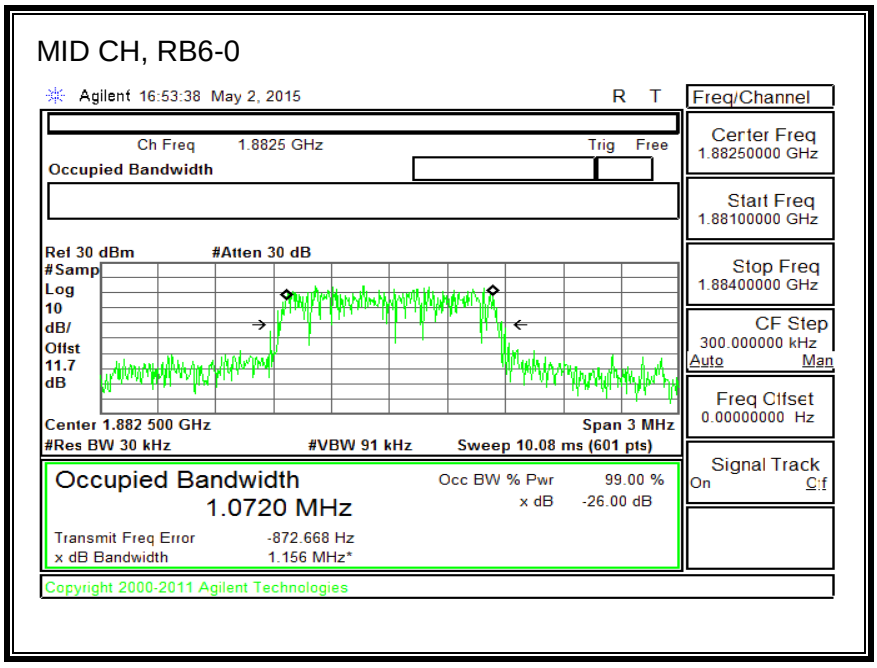


8.1.8. LTE BAND 25

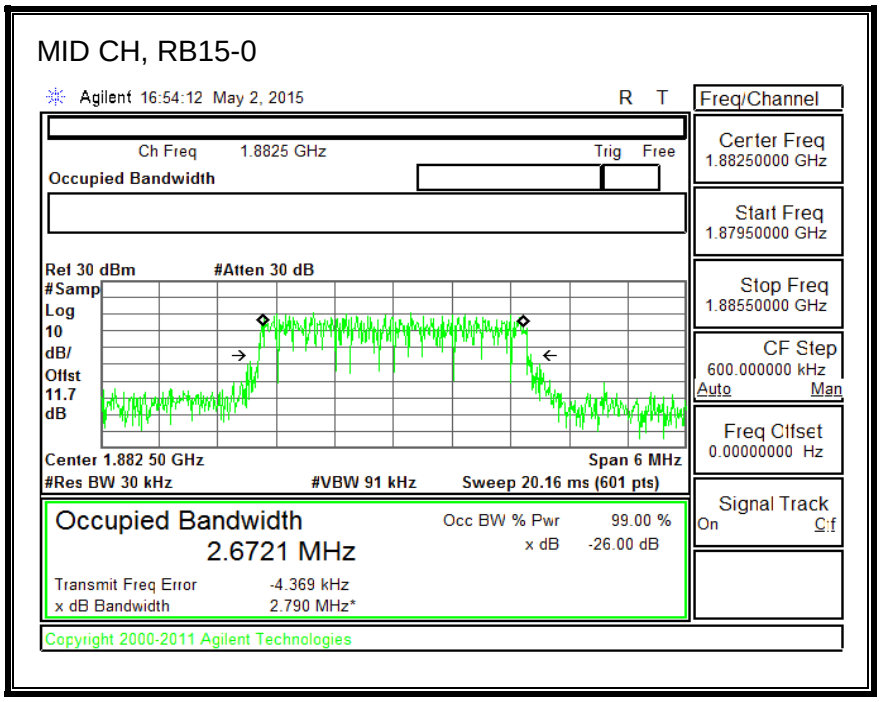
QPSK, (1.4 MHz BAND WIDTH)



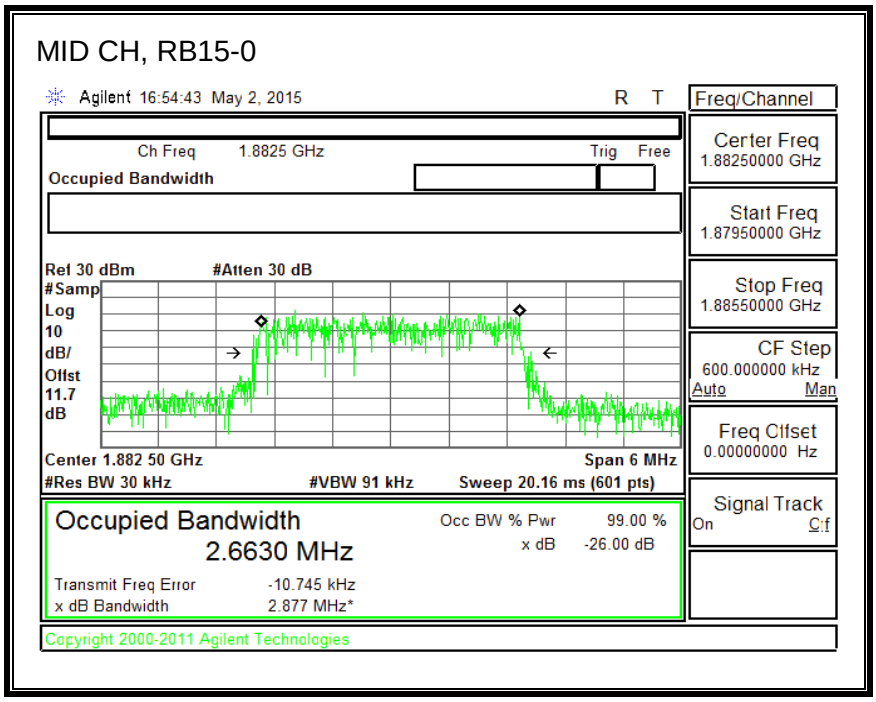
16QAM, (1.4 MHz BAND WIDTH)



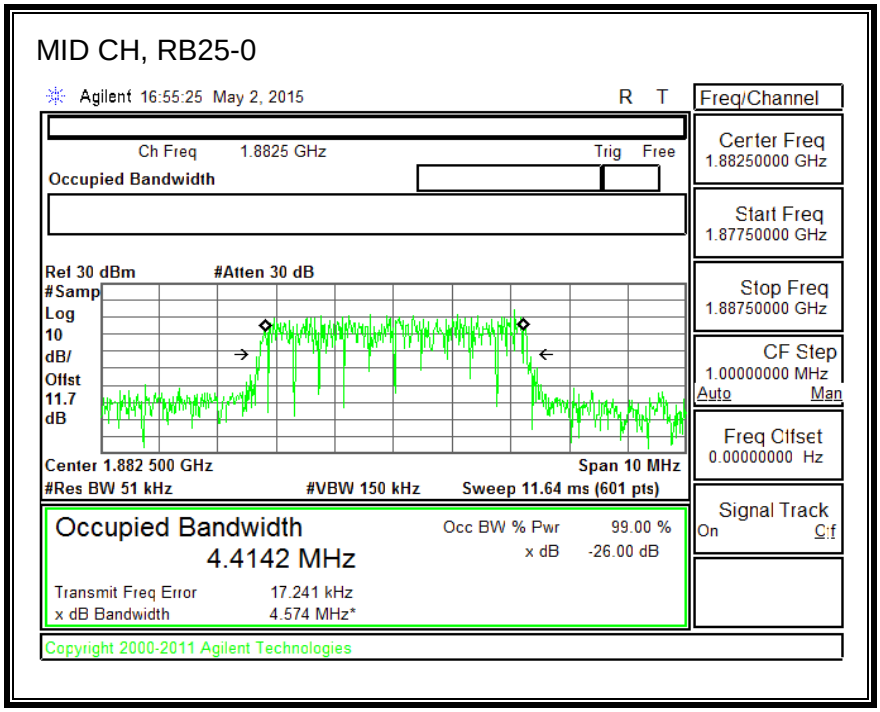
QPSK, (3.0 MHz BAND WIDTH)



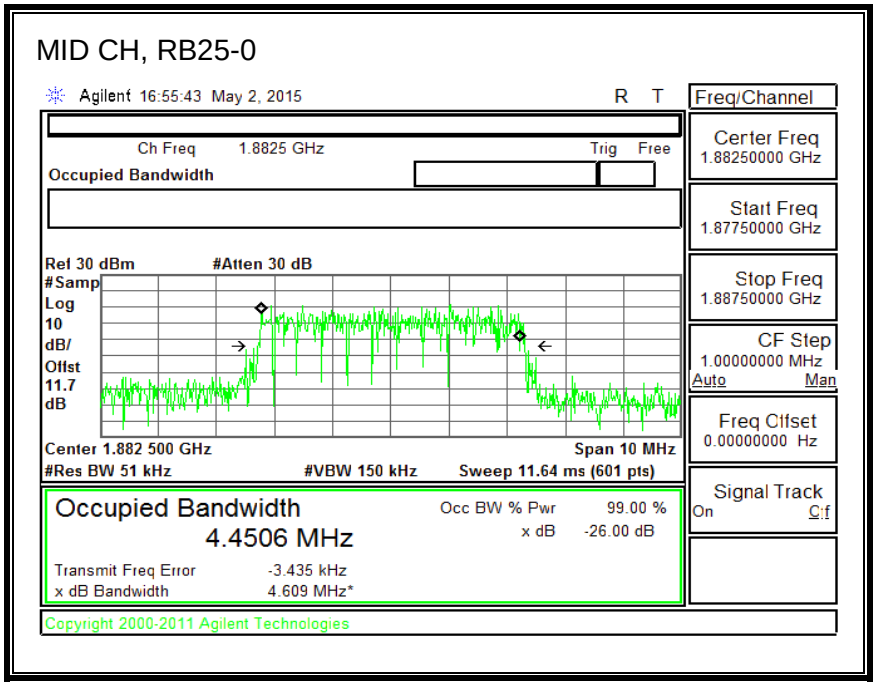
16QAM, (3.0 MHz BAND WIDTH)



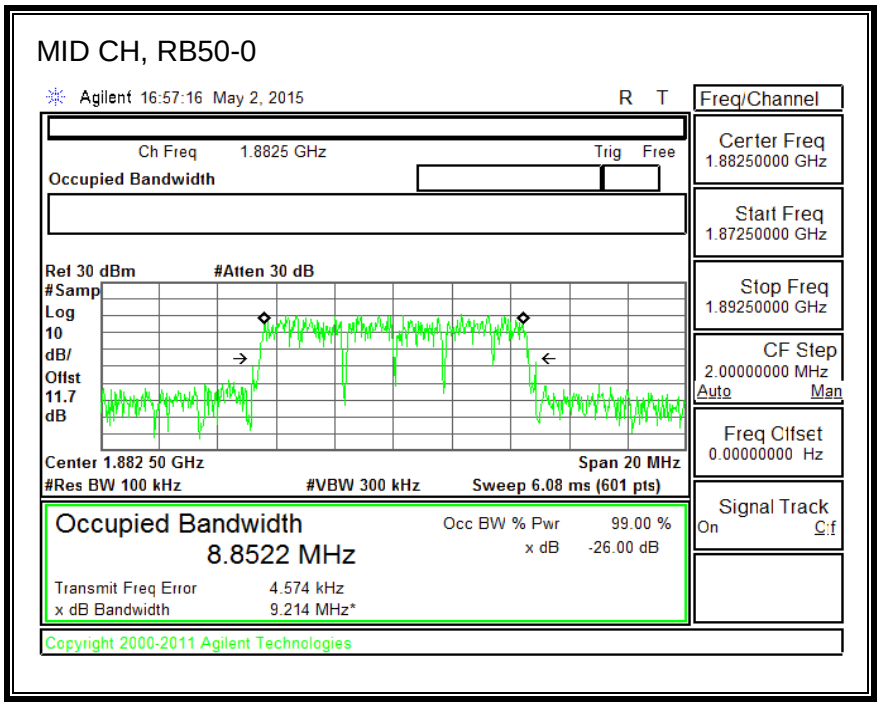
QPSK, (5.0 MHz BAND WIDTH)



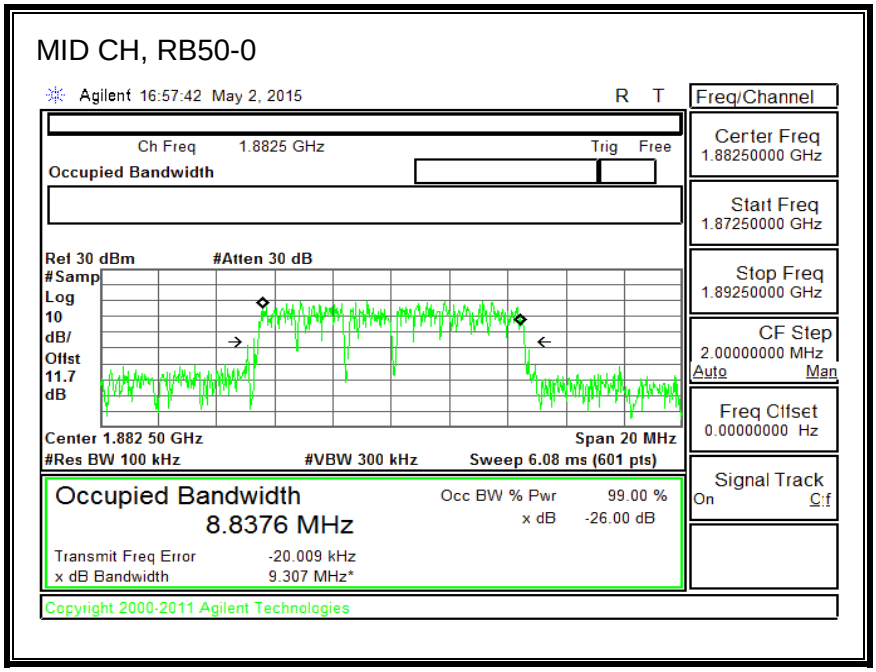
16QAM, (5.0 MHz BAND WIDTH)



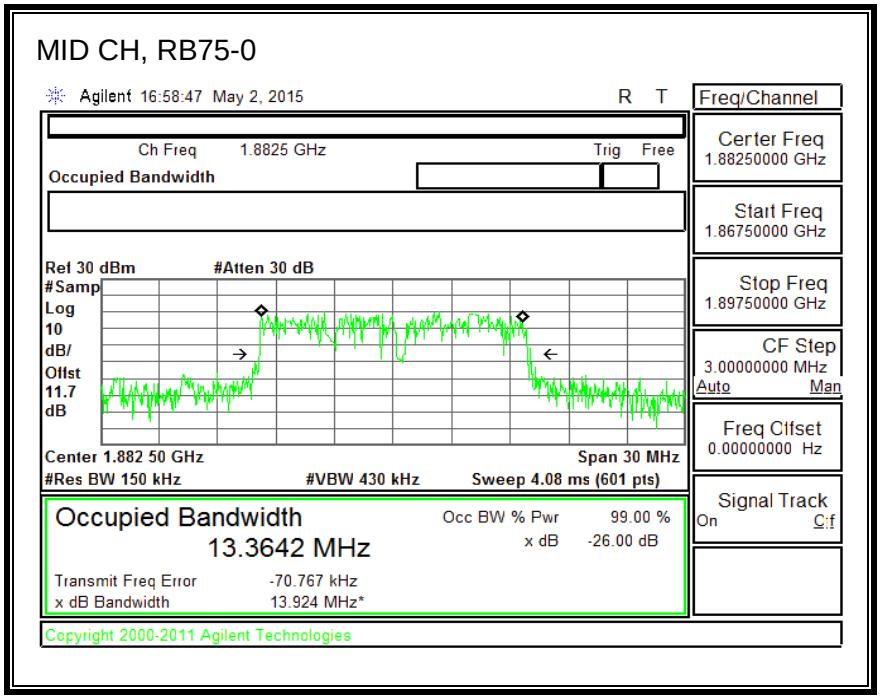
QPSK, (10.0 MHz BAND WIDTH)



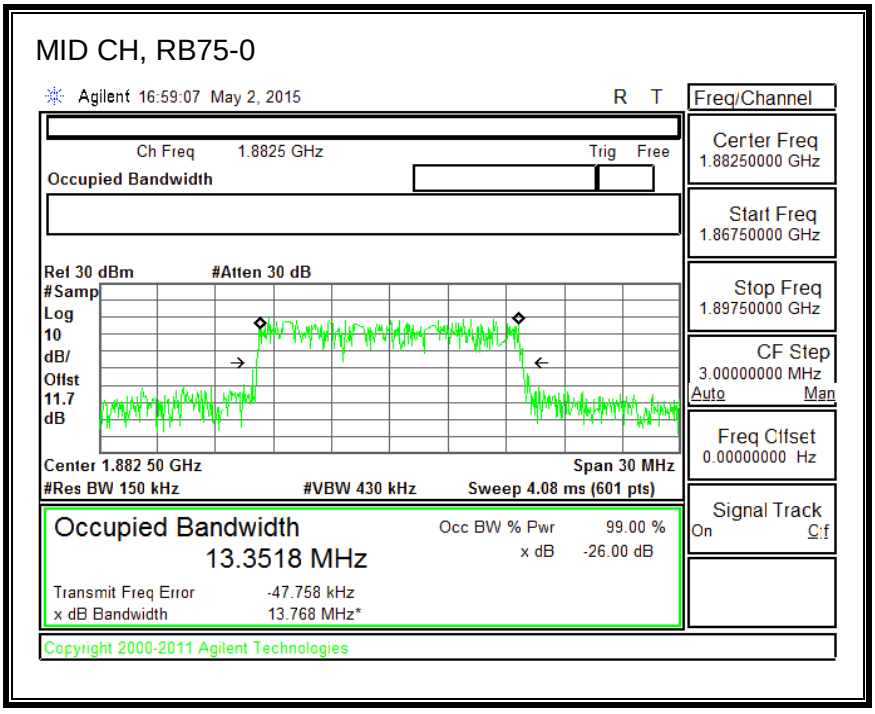
16QAM, (10.0 MHz BAND WIDTH)



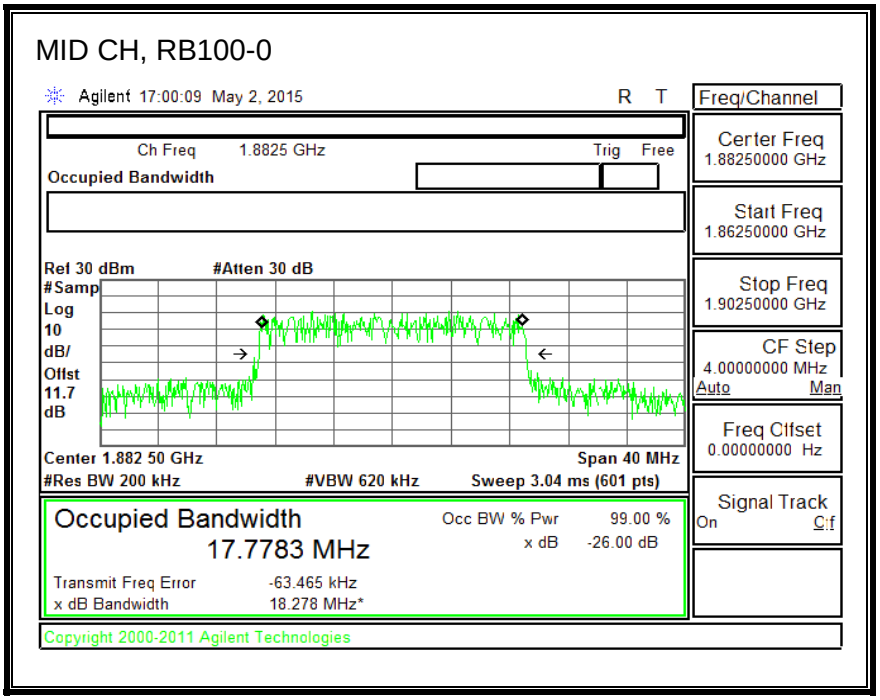
QPSK, (15.0 MHz BAND WIDTH)



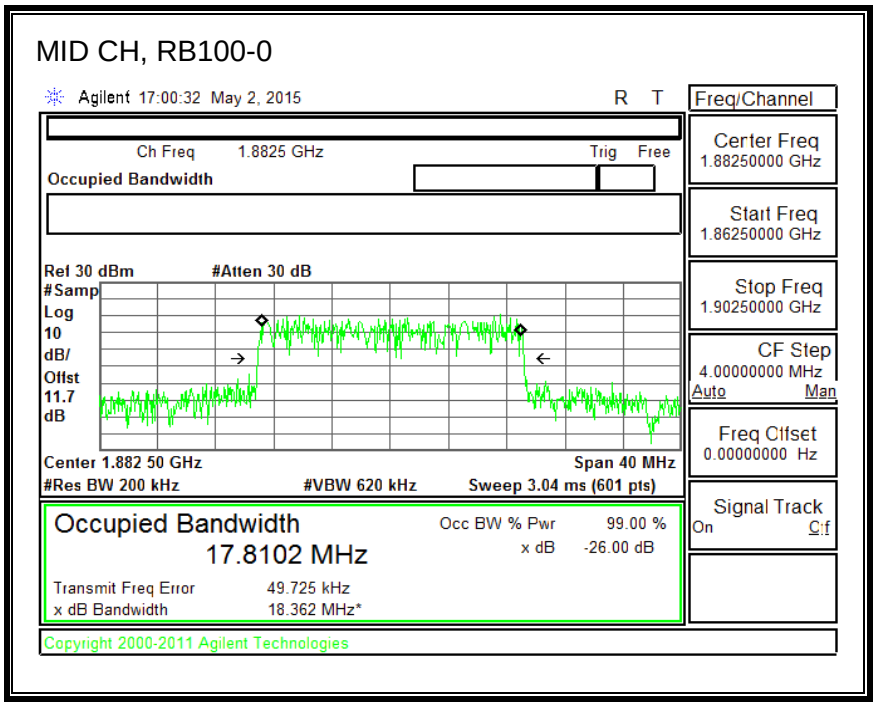
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

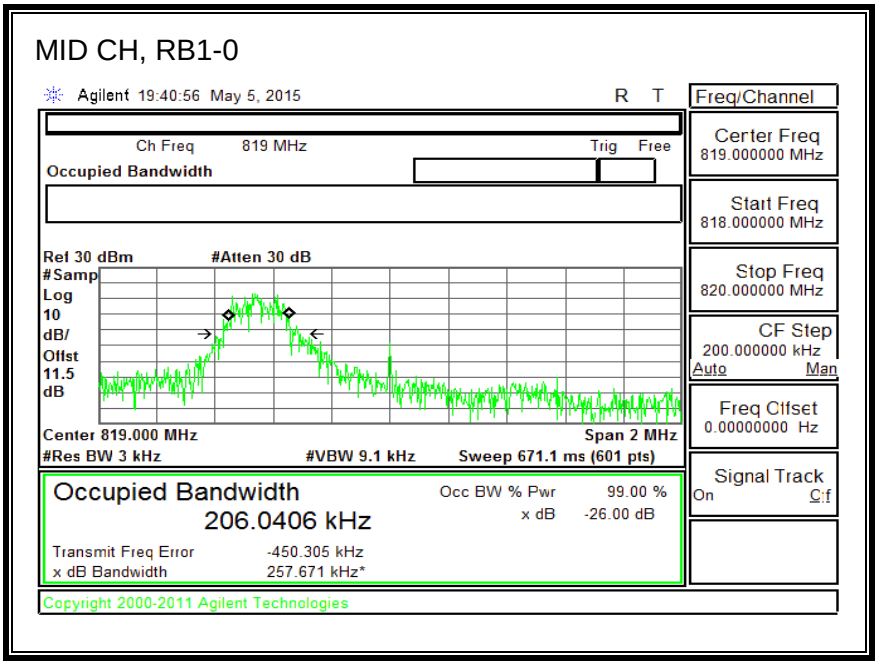


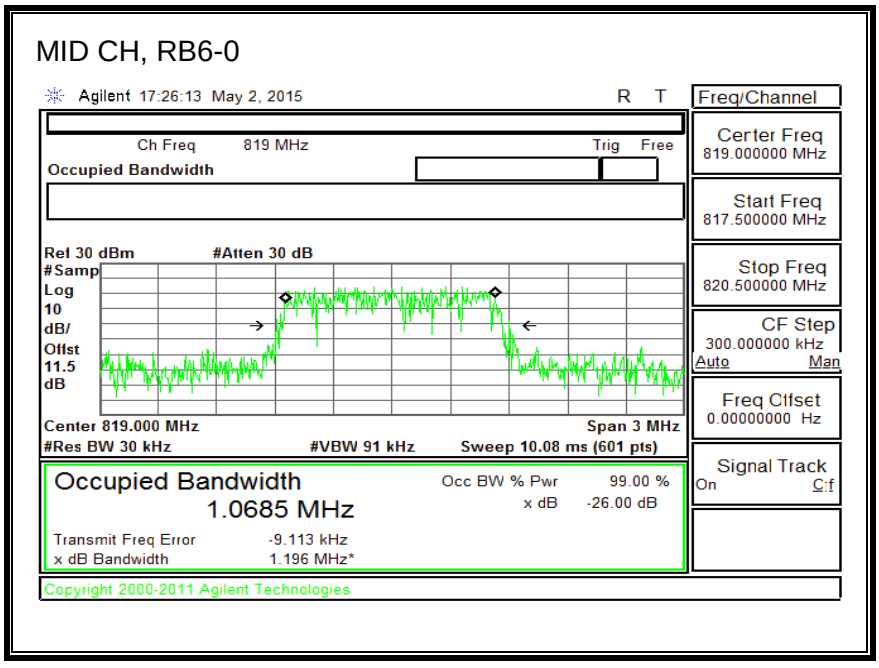
16QAM, (20.0 MHz BAND WIDTH)



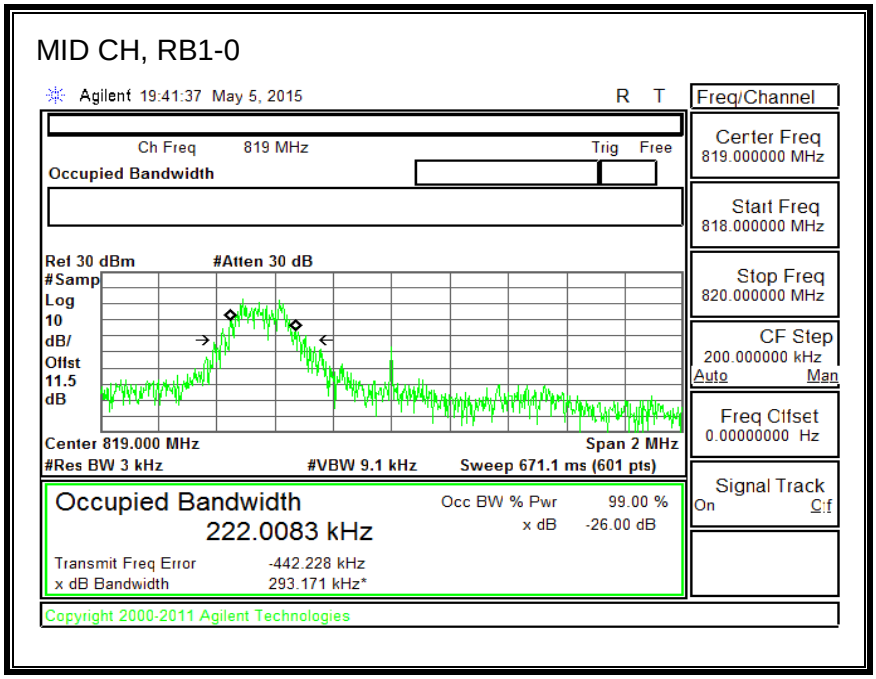
8.1.9. LTE BAND 26

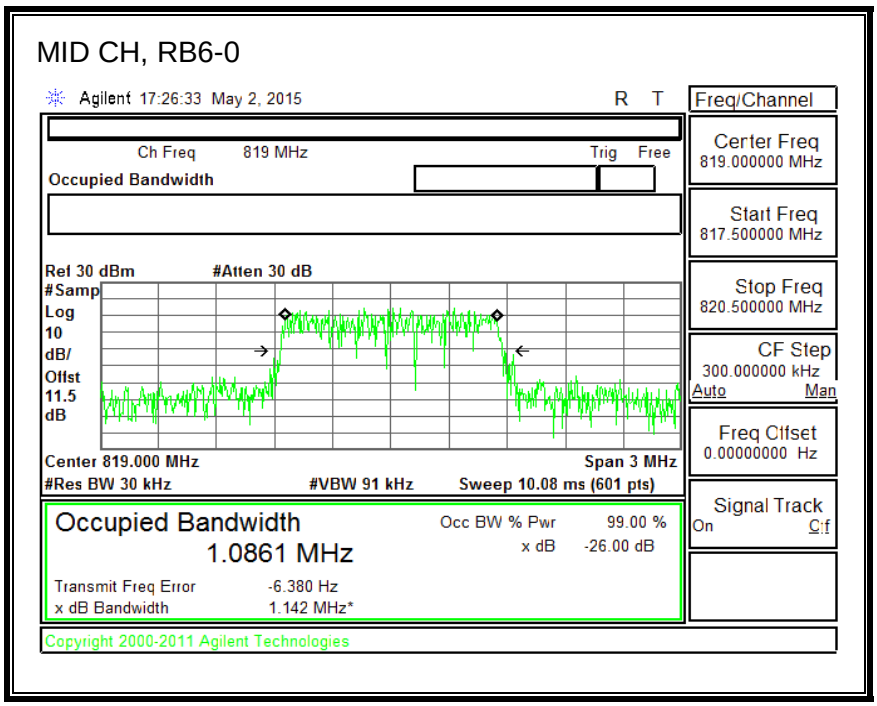
QPSK, (1.4 MHz BAND WIDTH)



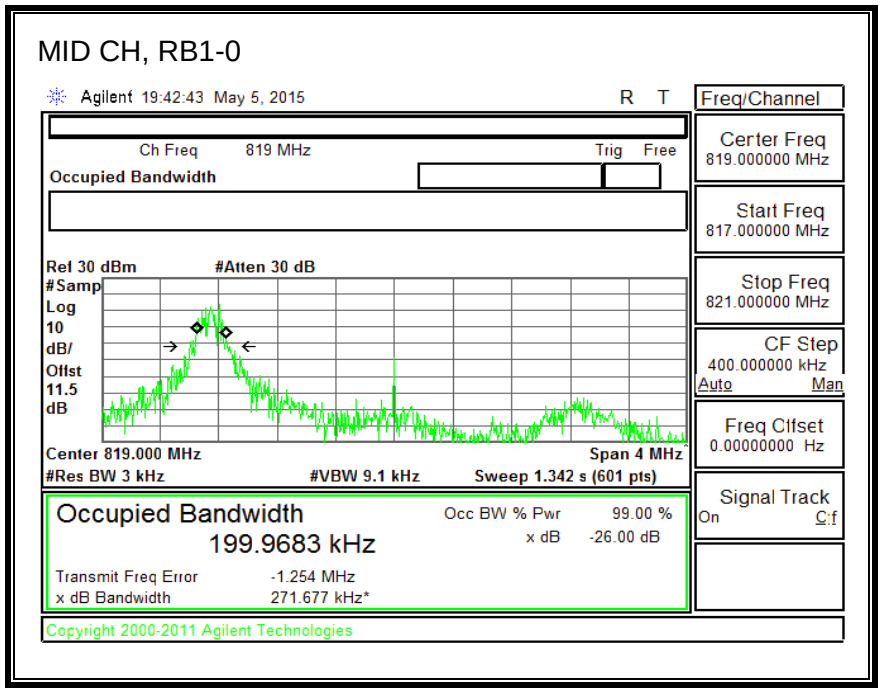


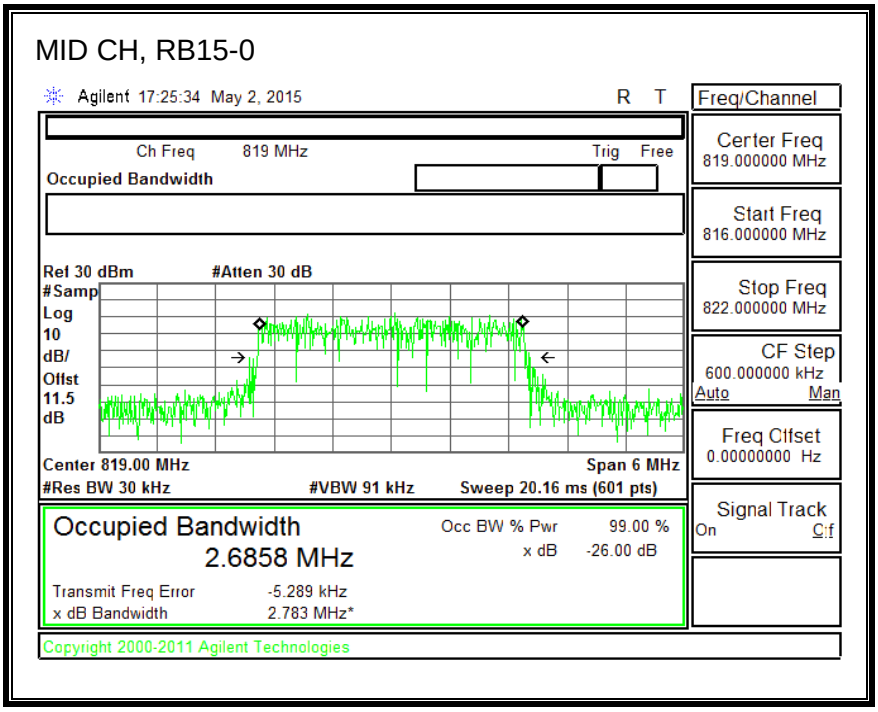
16QAM, (1.4 MHz BAND WIDTH)



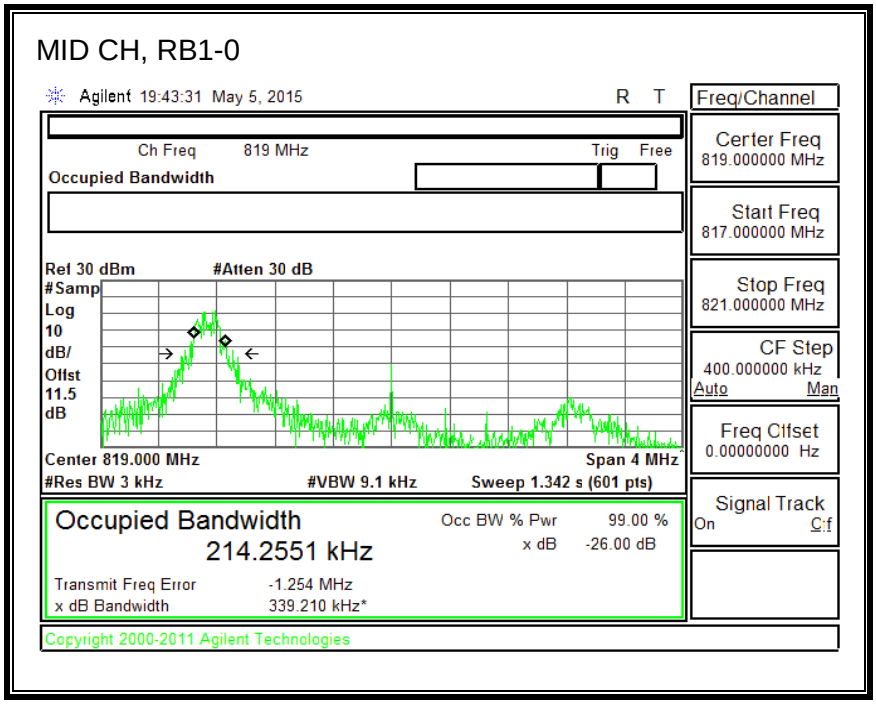


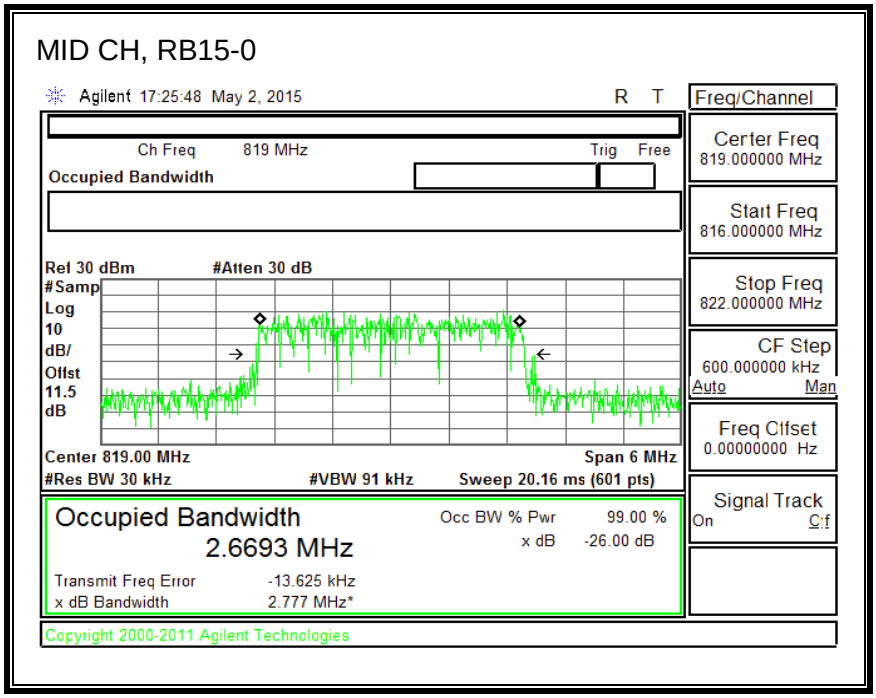
QPSK, (3.0 MHz BAND WIDTH)



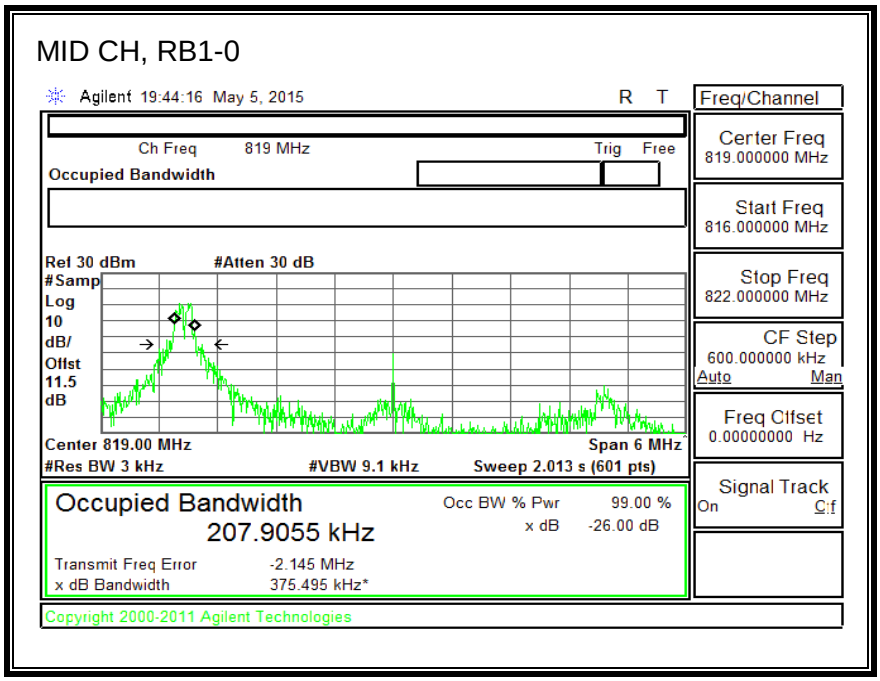


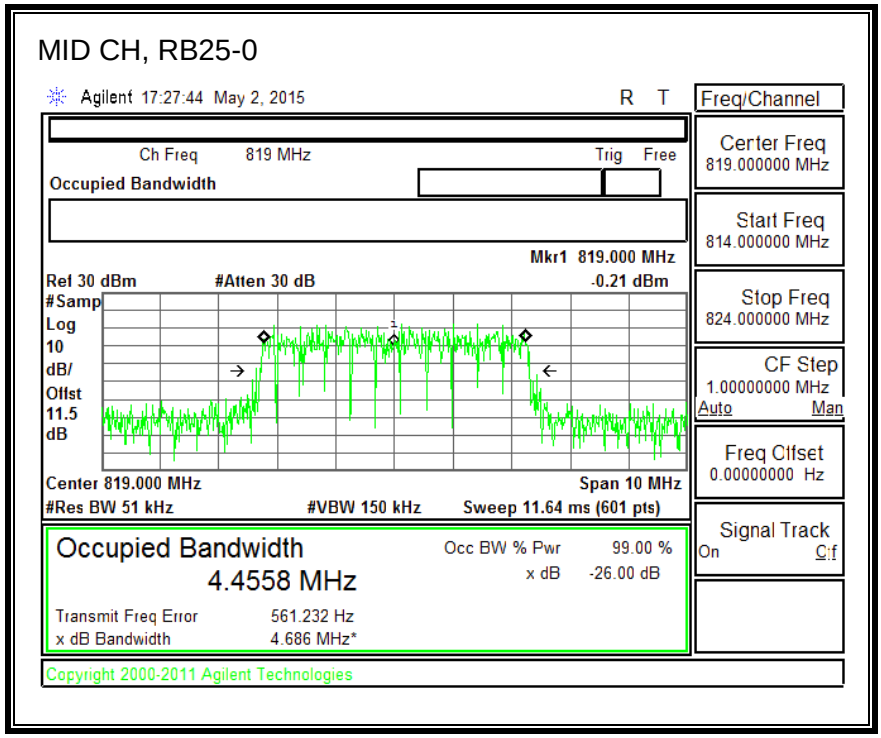
16QAM, (3.0 MHz BAND WIDTH)



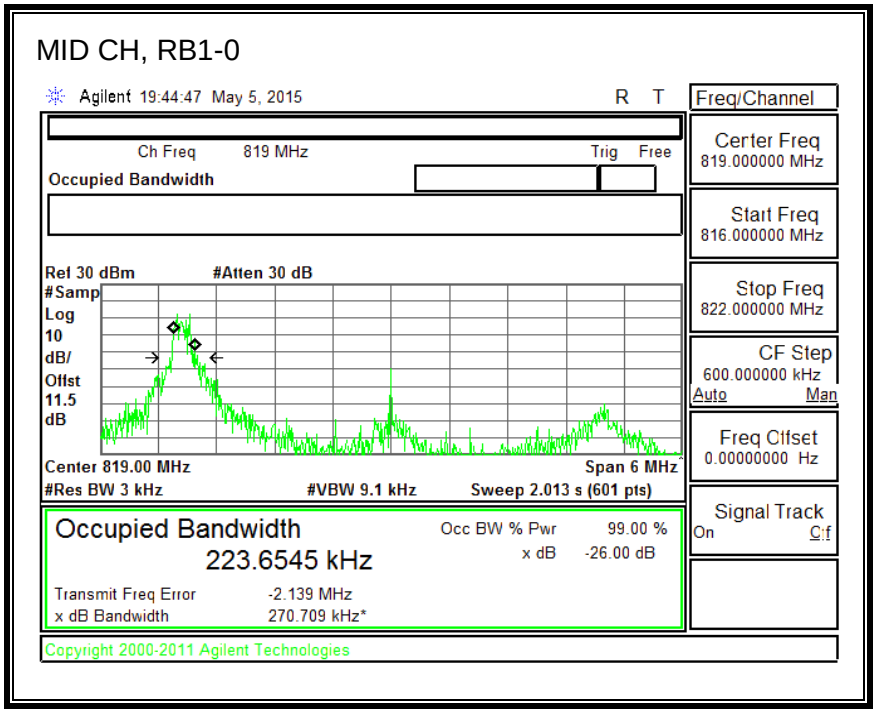


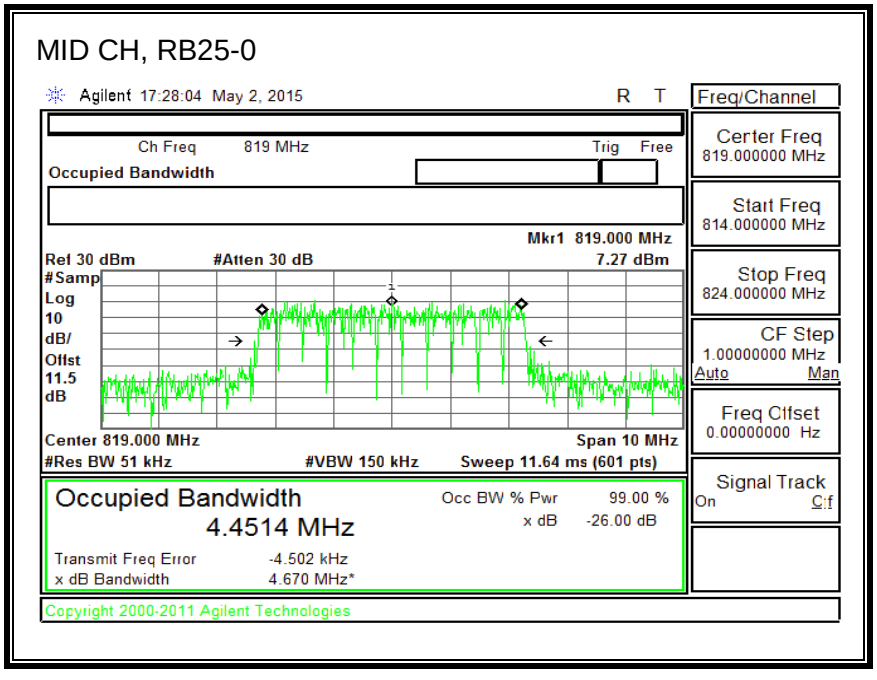
QPSK, (5.0 MHz BAND WIDTH)





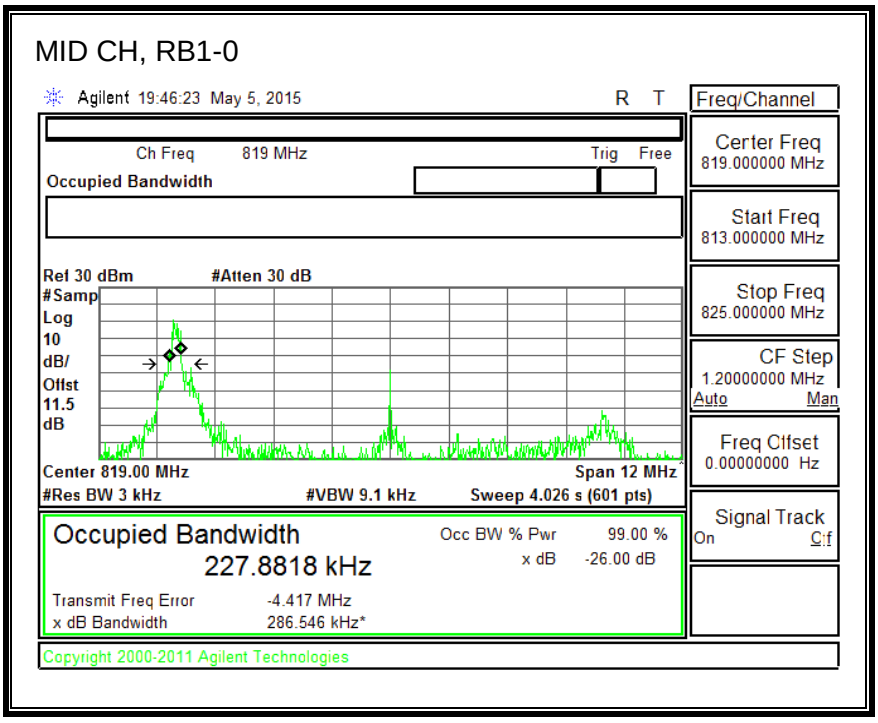
16QAM, (5.0 MHz BAND WIDTH)



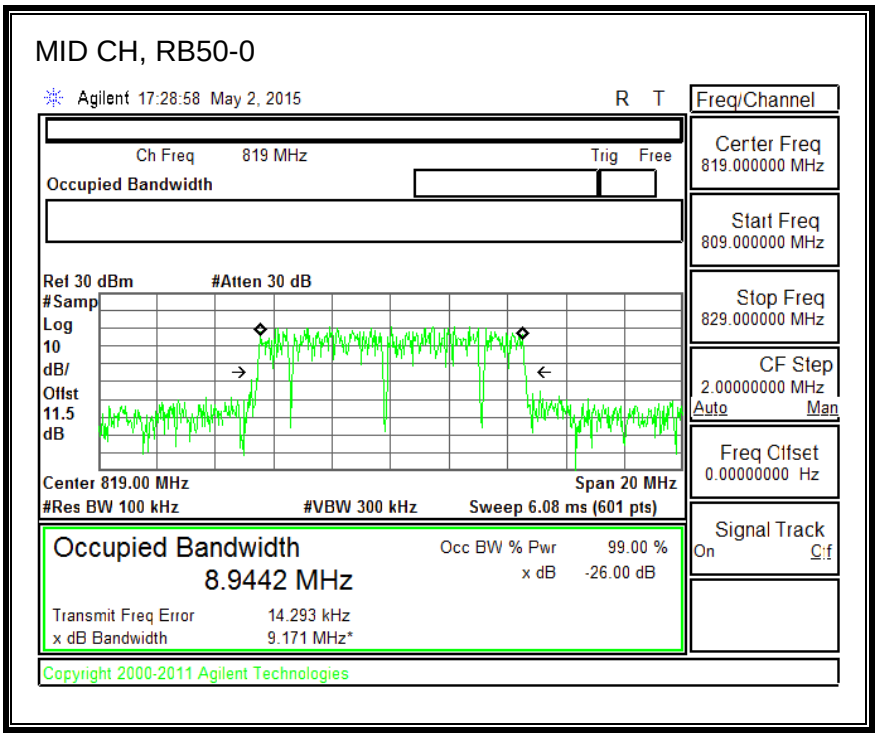


QPSK, (10.0 MHz BAND WIDTH)

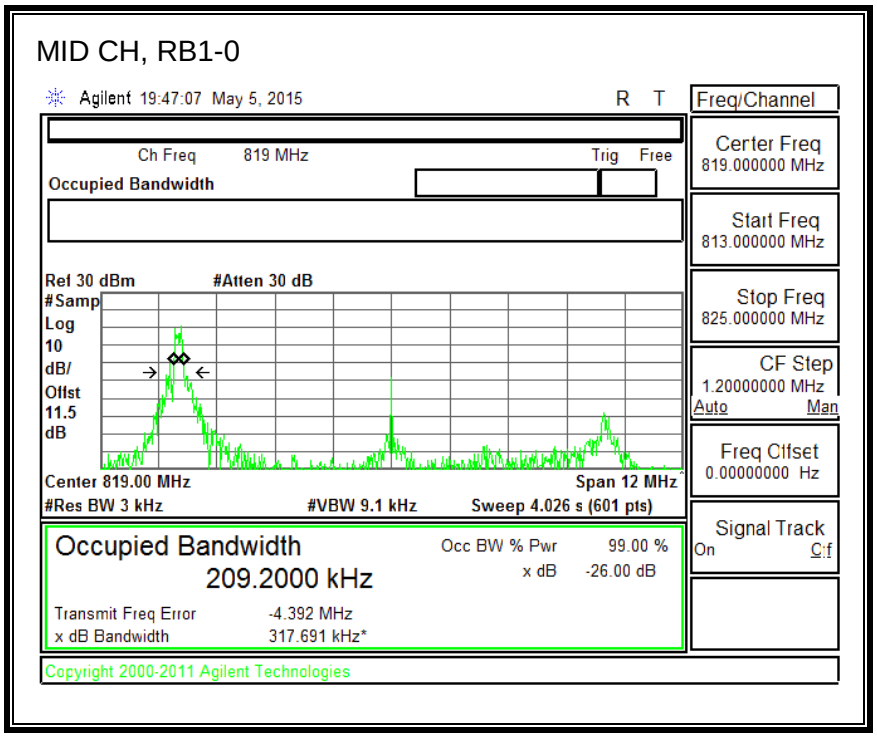
MID CH, RB1-0

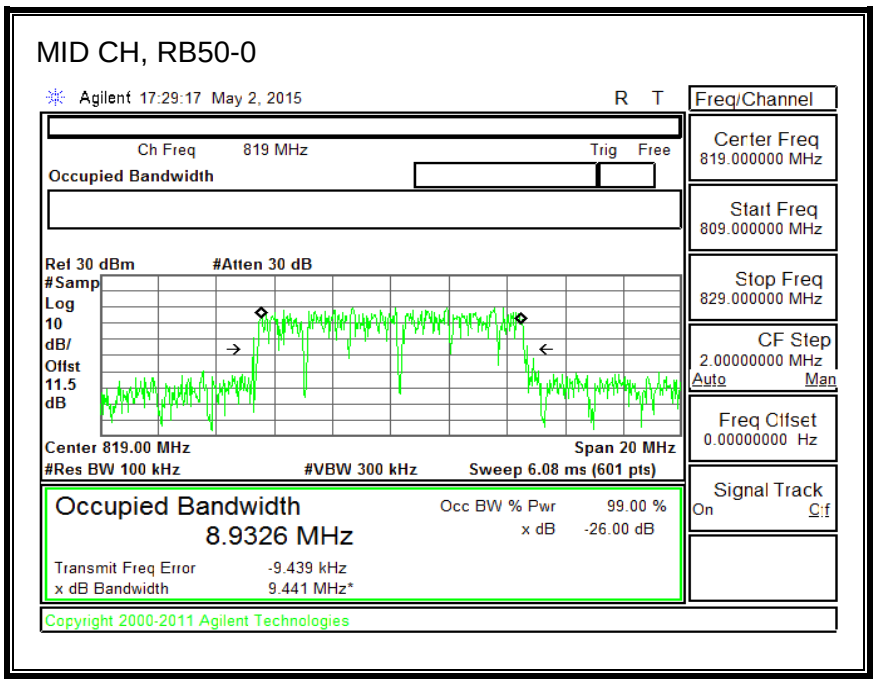


MID CH, RB50-0



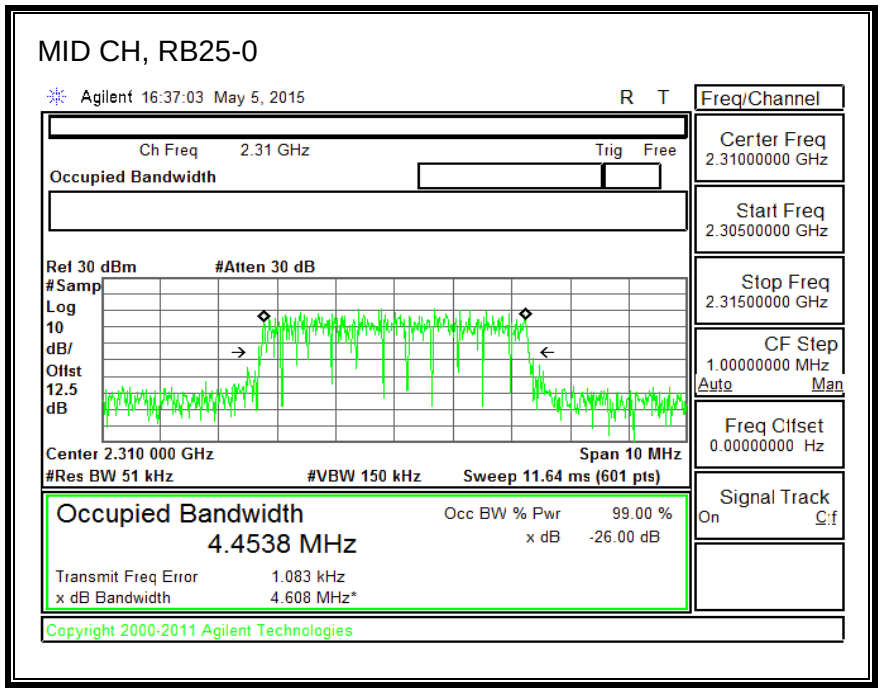
16QAM, (10.0 MHz BAND WIDTH)



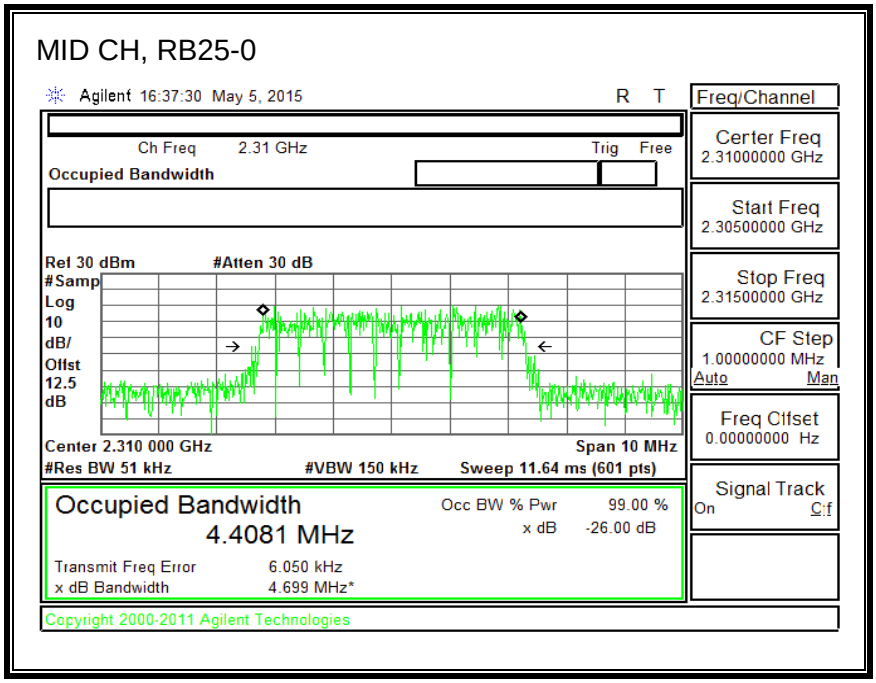


8.1.10. LTE BAND 30

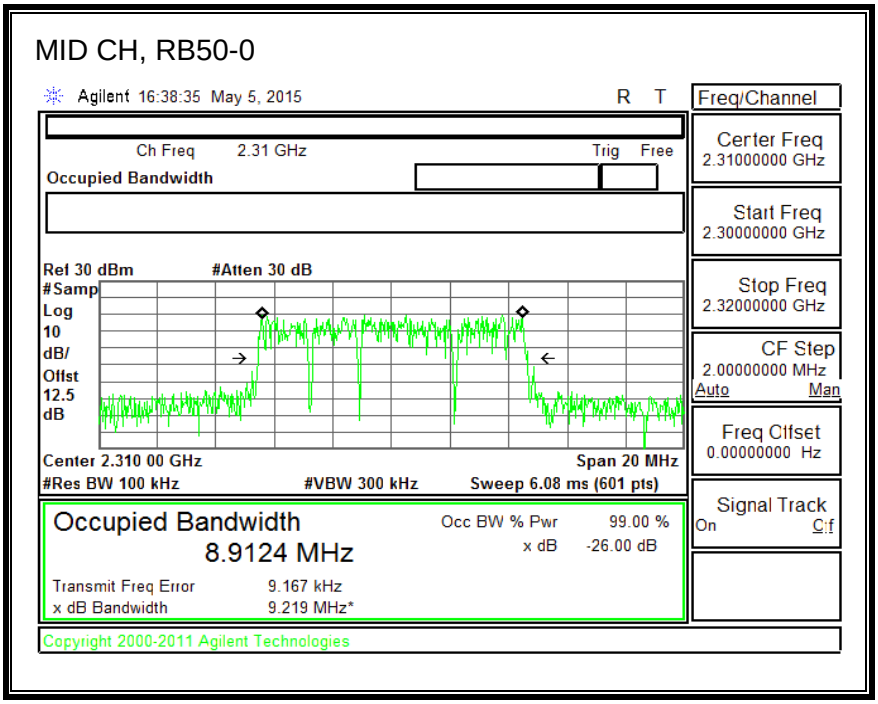
QPSK, (5.0 MHz BAND WIDTH)



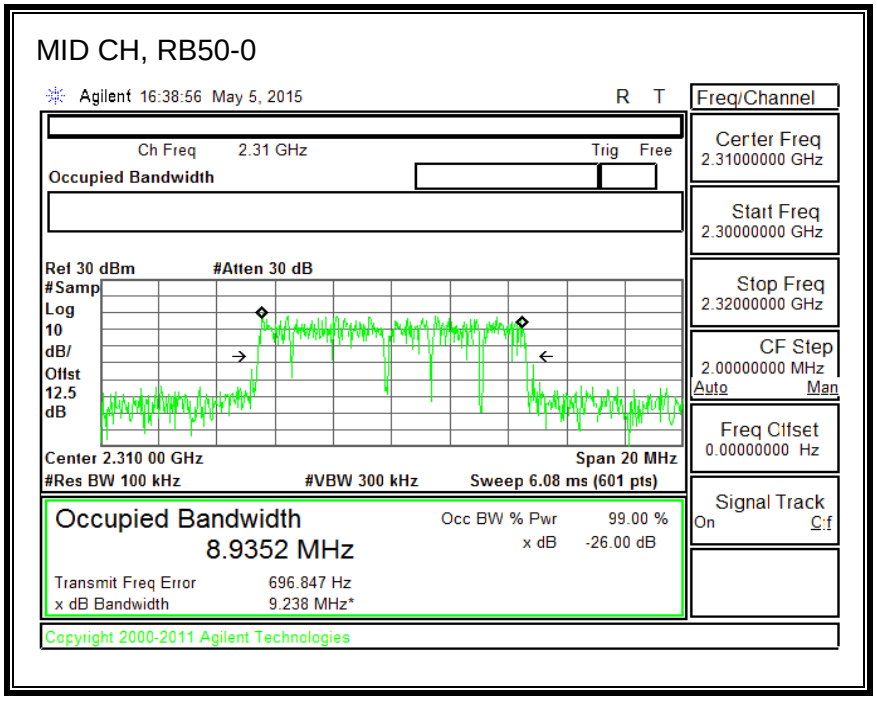
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

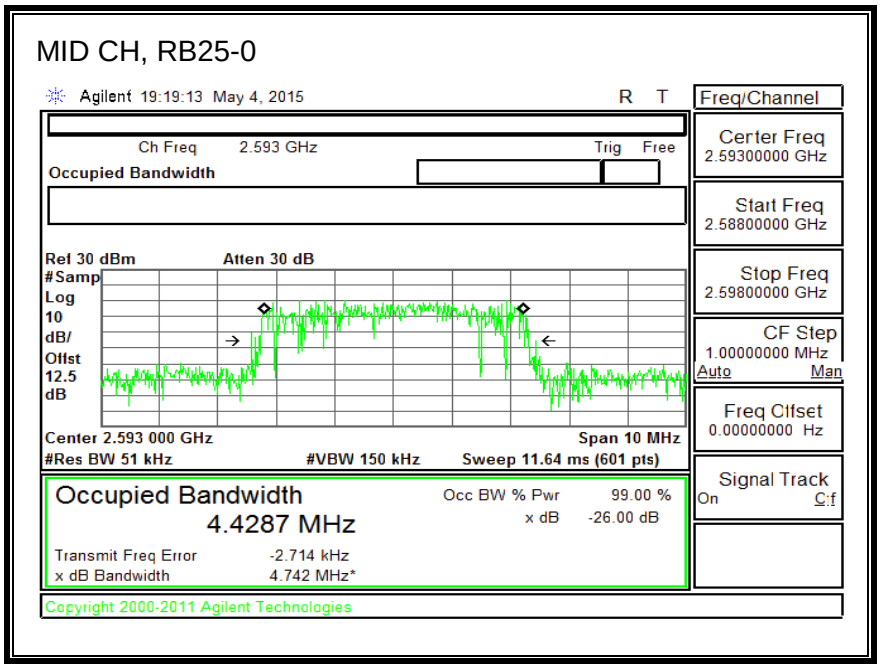


16QAM, (10.0 MHz BAND WIDTH)

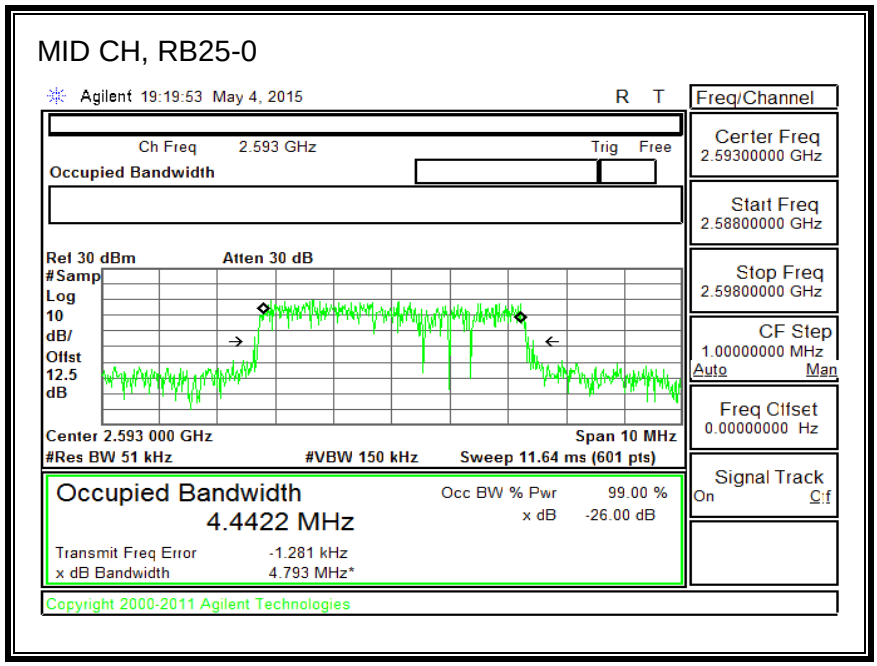


8.1.11. LTE BAND 41

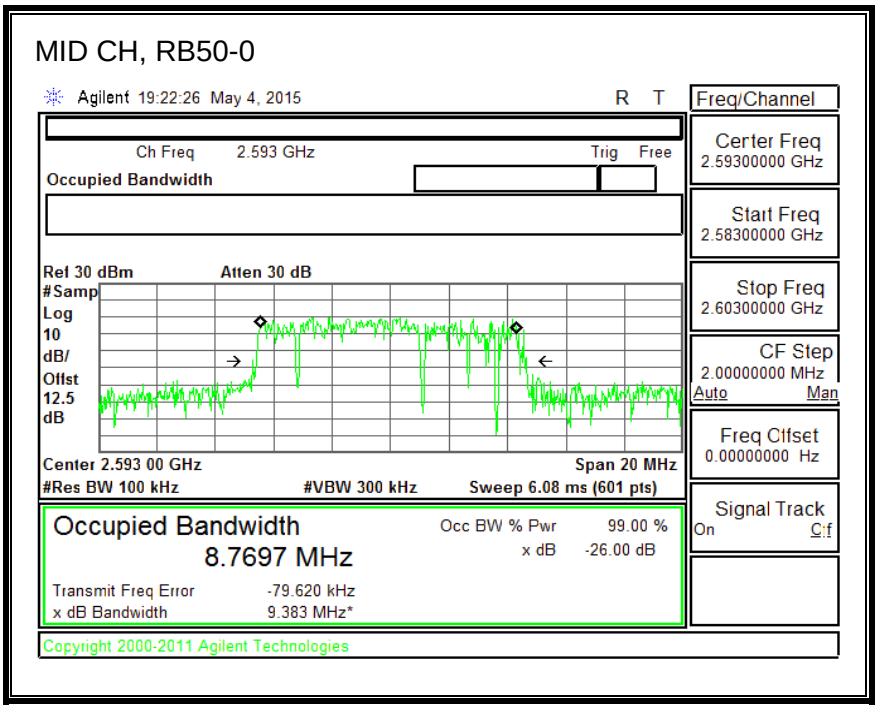
QPSK, (5.0 MHz BAND WIDTH)



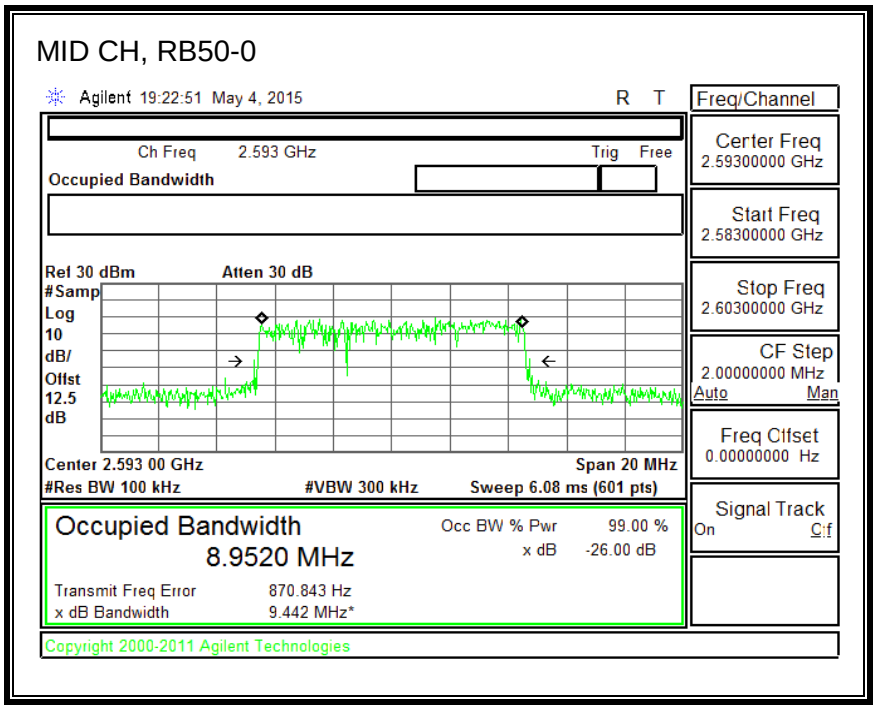
16QAM, (5.0 MHz BAND WIDTH)



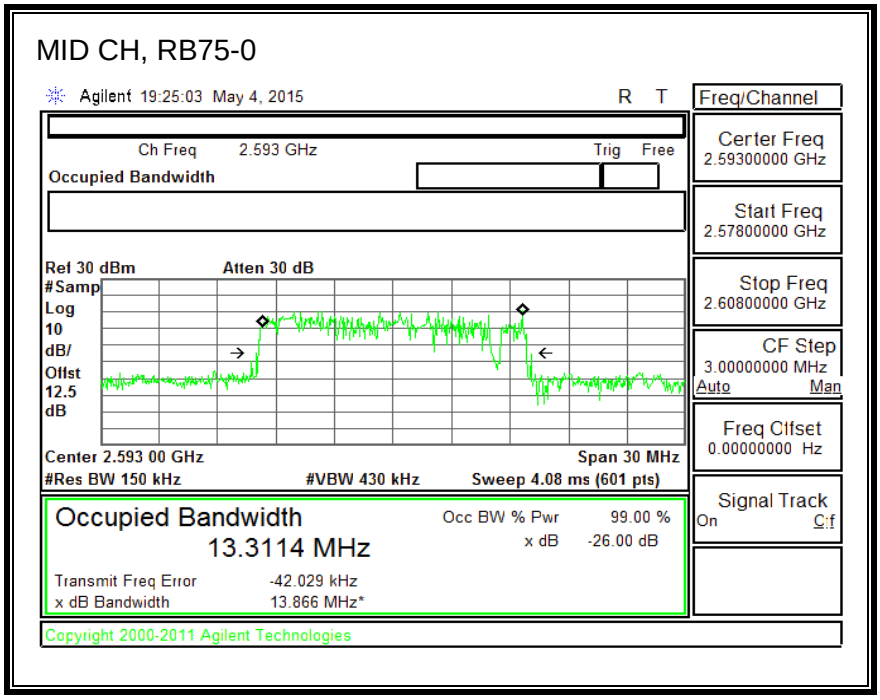
QPSK, (10.0 MHz BAND WIDTH)



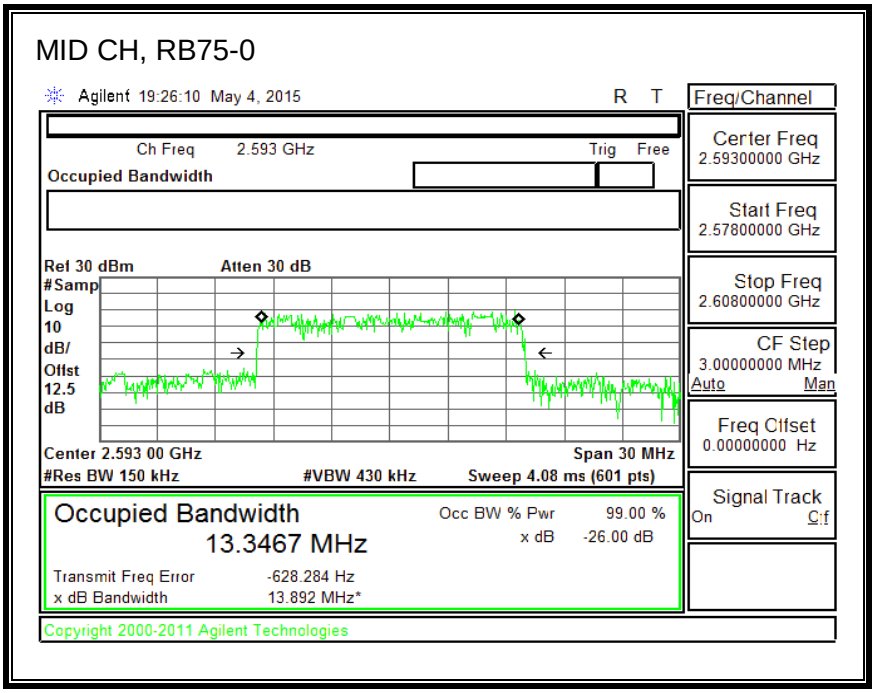
16QAM, (10.0 MHz BAND WIDTH)



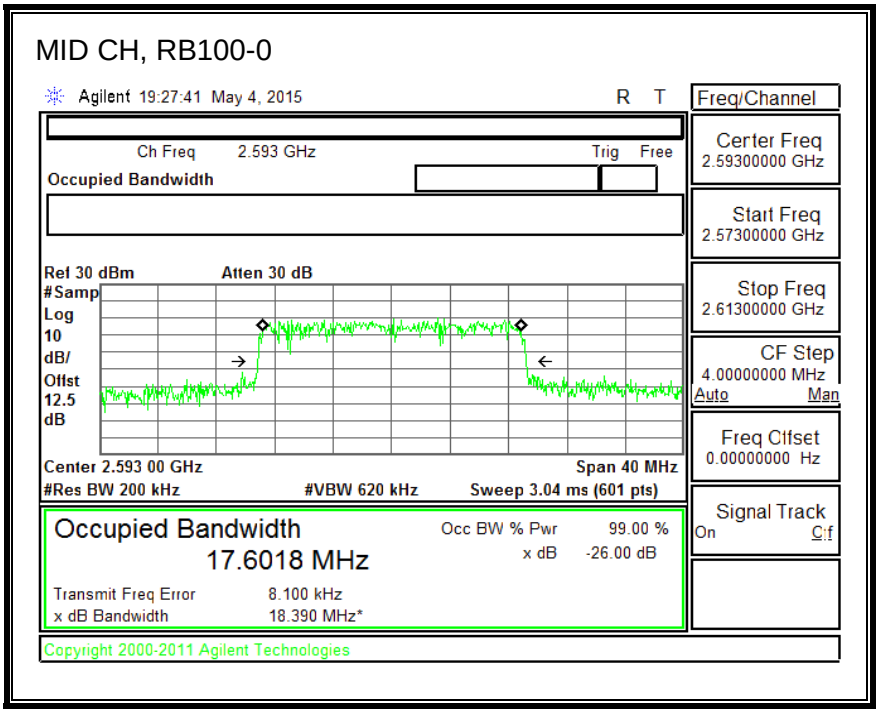
QPSK, (15.0 MHz BAND WIDTH)



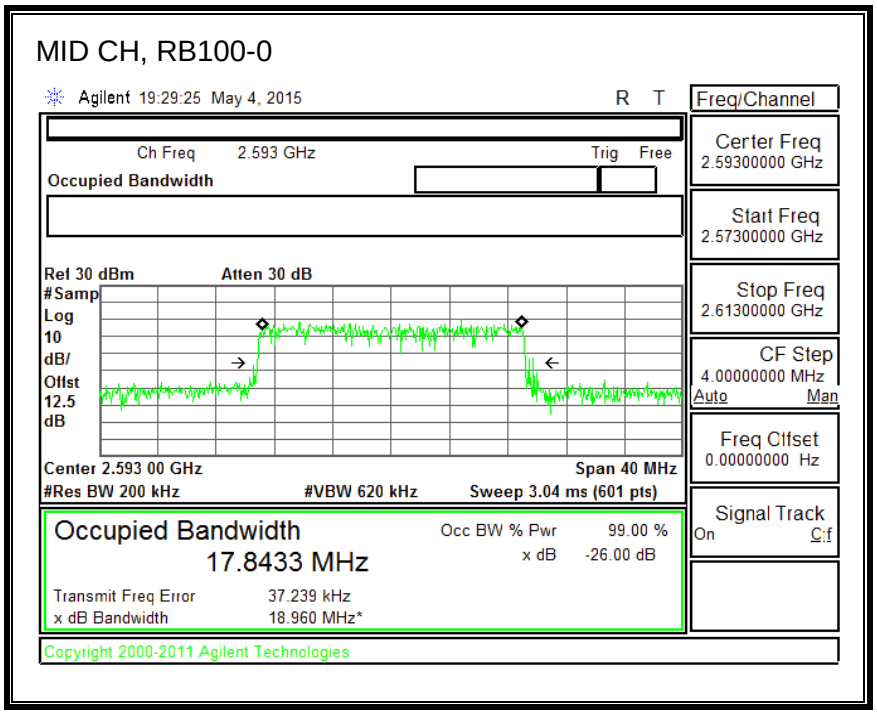
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)



16QAM, (20.0 MHz BAND WIDTH)



8.2. OCCUPIED BANDWIDTH (MODEL: A1687)

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 2	1.4 MHz BAND QPSK	6/0	1880	1.059	1.211
	1.4 MHz BAND 16QAM	6/0	1880	1.0956	1.153
	3.0 MHz BAND QPSK	15/0	1880	2.6518	2.757
	3.0 MHz BAND 16QAM	15/0	1880	2.6579	2.772
	5.0 MHz BAND QPSK	25/0	1880	4.4744	4.600
	5.0 MHz BAND 16QAM	25/0	1880	4.4368	4.607
	10.0 MHz BAND QPSK	50/0	1880	8.7613	9.217
	10.0 MHz BAND 16QAM	50/0	1880	8.9135	9.195
	15.0 MHz BAND QPSK	75/0	1880	13.0763	13.788
	15.0 MHz BAND 16QAM	75/0	1880	13.3875	13.724
	20.0 MHz BAND QPSK	100/0	1880	**17.8297**	**18.382**
	20.0 MHz BAND 16QAM	100/0	1880	17.6879	18.238

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 4	1.4 MHz BAND QPSK	6/0	1732.5	1.077	1.194
	1.4 MHz BAND 16QAM	6/0	1732.5	1.0643	1.153
	3.0 MHz BAND QPSK	15/0	1732.5	2.6514	2.757
	3.0 MHz BAND 16QAM	15/0	1732.5	2.6542	2.804
	5.0 MHz BAND QPSK	25/0	1732.5	4.4534	4.804
	5.0 MHz BAND 16QAM	25/0	1732.5	4.4499	4.645
	10.0 MHz BAND QPSK	50/0	1732.5	8.812	9.177
	10.0 MHz BAND 16QAM	50/0	1732.5	8.7591	9.222
	15.0 MHz BAND QPSK	75/0	1732.5	13.2508	13.781
	15.0 MHz BAND 16QAM	75/0	1732.5	13.4017	13.695
	20.0 MHz BAND QPSK	100/0	1732.5	17.7152	**18.613**
	20.0 MHz BAND 16QAM	100/0	1732.5	**17.9022**	18.486

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 5	1.4 MHz BAND QPSK	6/0	836.5	1.0914	1.17
	1.4 MHz BAND 16QAM	6/0	836.5	1.0764	1.15
	3.0 MHz BAND QPSK	15/0	836.5	2.6533	2.796
	3.0 MHz BAND 16QAM	15/0	836.5	2.6791	2.876
	5.0 MHz BAND QPSK	25/0	836.5	4.4241	4.681
	5.0 MHz BAND 16QAM	25/0	836.5	4.4251	4.688
	10.0 MHz BAND QPSK	50/0	836.5	8.8161	9.159
	10.0 MHz BAND 16QAM	50/0	836.5	**8.8478**	**9.428**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	5.0 MHz BAND QPSK	25/0	2535	4.4603	4.622
	5.0 MHz BAND 16QAM	25/0	2535	4.4340	4.573
	10.0 MHz BAND QPSK	50/0	2535	8.8673	9.262
	10.0 MHz BAND 16QAM	50/0	2535	8.8222	9.173
	15.0 MHz BAND QPSK	75/0	2535	13.2243	13.794
	15.0 MHz BAND 16QAM	75/0	2535	13.3695	13.648
	20.0 MHz BAND QPSK	100/0	2535	**17.9460**	18.318
	20.0 MHz BAND 16QAM	100/0	2535	17.6619	**18.373**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 12	1.4 MHz BAND QPSK	6/0	707.5	1.0544	1.18
	1.4 MHz BAND 16QAM	6/0	707.5	1.0837	1.175
	3.0 MHz BAND QPSK	15/0	707.5	2.6834	2.898
	3.0 MHz BAND 16QAM	15/0	707.5	2.6829	2.857
	5.0 MHz BAND QPSK	25/0	707.5	4.4639	4.632
	5.0 MHz BAND 16QAM	25/0	707.5	4.4204	4.685
	10.0 MHz BAND QPSK	50/0	707.5	**8.882**	9.256
	10.0 MHz BAND 16QAM	50/0	707.5	8.844	**9.43**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 13	5.0 MHz BAND QPSK	25/0	782	4.4315	4.695
	5.0 MHz BAND 16QAM	25/0	782	4.4751	4.598
	10.0 MHz BAND QPSK	50/0	782	8.7395	**9.497**
	10.0 MHz BAND 16QAM	50/0	782	**8.8158**	9.216

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 17	5.0 MHz BAND QPSK	25/0	710	4.4506	4.685
	5.0 MHz BAND 16QAM	25/0	710	4.4454	4.689
	10.0 MHz BAND QPSK	50/0	710	**8.8697**	**9.307**
	10.0 MHz BAND 16QAM	50/0	710	8.858	9.246

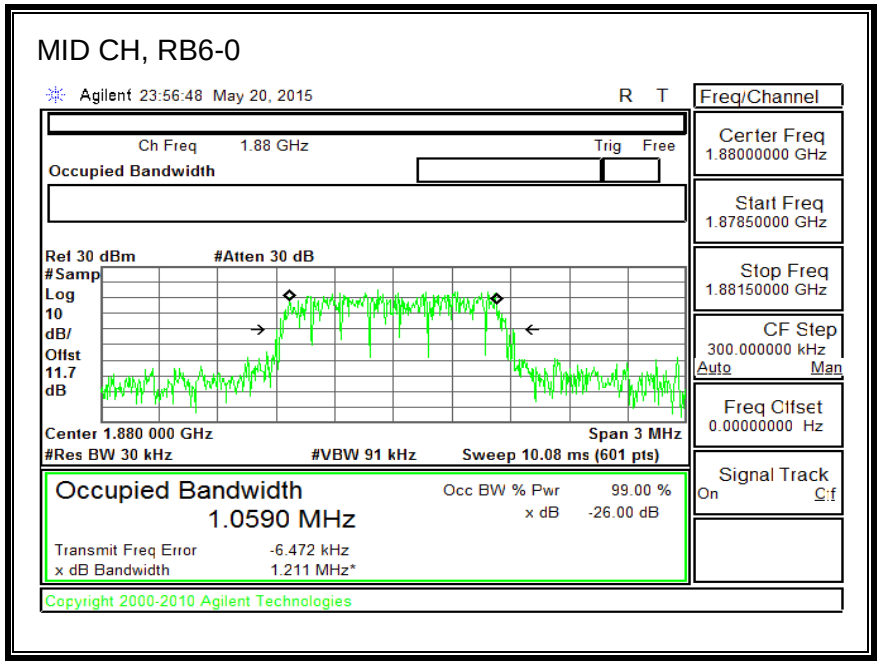
BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 25	1.4 MHz BAND QPSK	6/0	1882.5	1.0823	1.18
	1.4 MHz BAND 16QAM	6/0	1882.5	1.0675	1.175
	3.0 MHz BAND QPSK	15/0	1882.5	2.6792	2.861
	3.0 MHz BAND 16QAM	15/0	1882.5	2.6541	2.883
	5.0 MHz BAND QPSK	25/0	1882.5	4.4458	4.723
	5.0 MHz BAND 16QAM	25/0	1882.5	4.4464	4.693
	10.0 MHz BAND QPSK	50/0	1882.5	8.8765	9.228
	10.0 MHz BAND 16QAM	50/0	1882.5	8.7694	9.11
	15.0 MHz BAND QPSK	75/0	1882.5	13.1685	13.768
	15.0 MHz BAND 16QAM	75/0	1882.5	13.308	13.939
	20.0 MHz BAND QPSK	100/0	1882.5	17.8539	18.308
	20.0 MHz BAND 16QAM	100/0	1882.5	**17.8858**	**18.377**

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 26	1.4 MHz BAND QPSK	6/0	819	1.077	1.197
	1.4 MHz BAND 16QAM	6/0	819	1.0866	1.177
	3.0 MHz BAND QPSK	15/0	819	2.6712	2.784
	3.0 MHz BAND 16QAM	15/0	819	2.6611	2.879
	5.0 MHz BAND QPSK	25/0	819	4.4020	4.693
	5.0 MHz BAND 16QAM	25/0	819	4.4679	4.633
	10.0 MHz BAND QPSK	50/0	819	**8.8895**	**9.321**
	10.0 MHz BAND 16QAM	50/0	819	8.8214	9.14

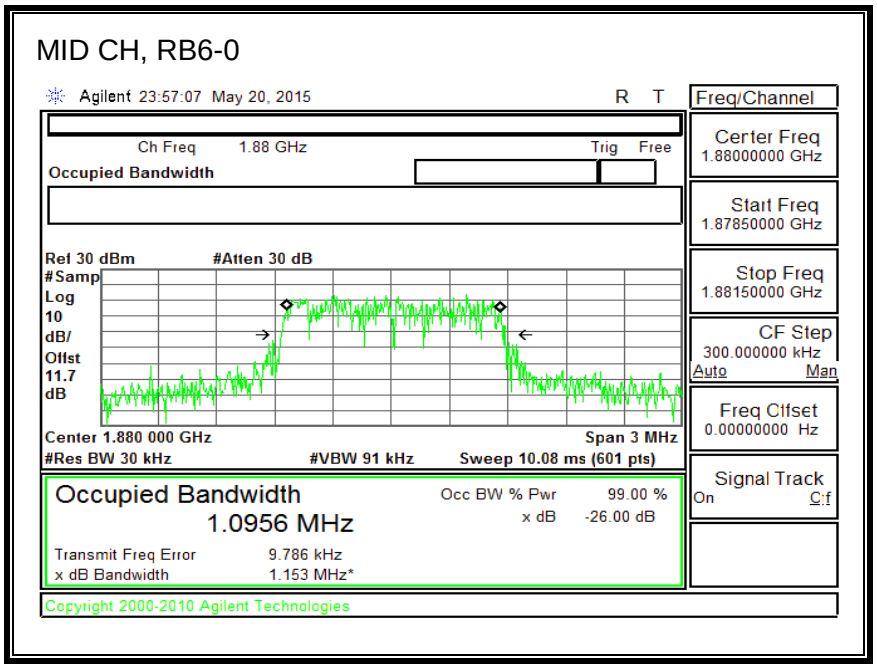
BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41	5.0 MHz BAND QPSK	25/0	2593	4.4592	4.738
	5.0 MHz BAND 16QAM	25/0	2593	4.4309	4.683
	10.0 MHz BAND QPSK	50/0	2593	8.8409	9.165
	10.0 MHz BAND 16QAM	50/0	2593	8.8423	9.291
	15.0 MHz BAND QPSK	75/0	2593	13.4121	13.835
	15.0 MHz BAND 16QAM	75/0	2593	13.3002	13.952
	20.0 MHz BAND QPSK	100/0	2593	**17.7995**	18.334
	20.0 MHz BAND 16QAM	100/0	2593	17.5739	**18.602**

8.2.1. LTE BAND 2

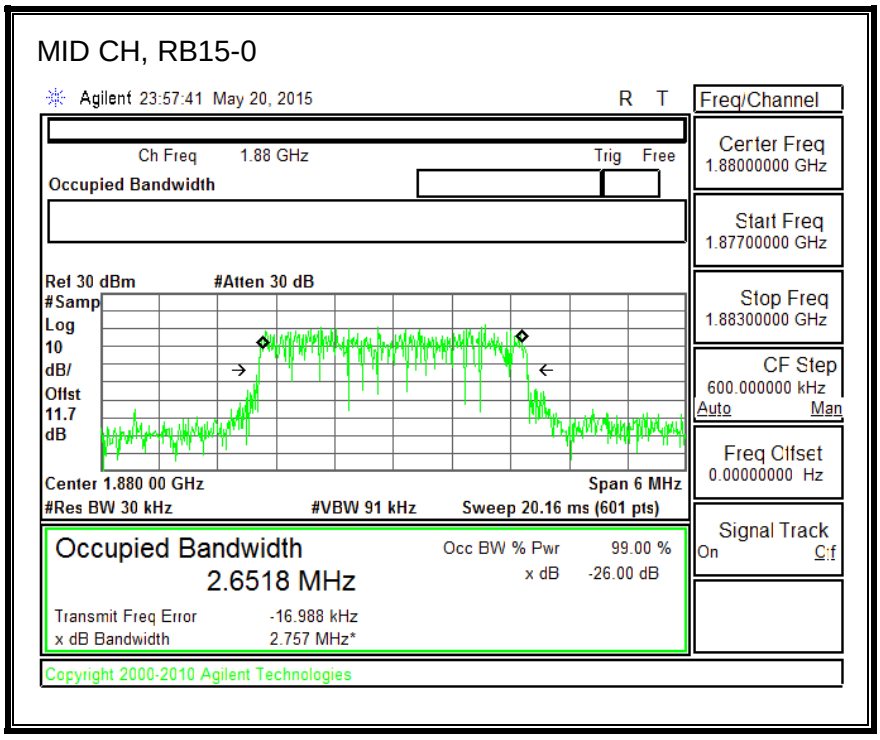
QPSK, (1.4 MHz BAND WIDTH)



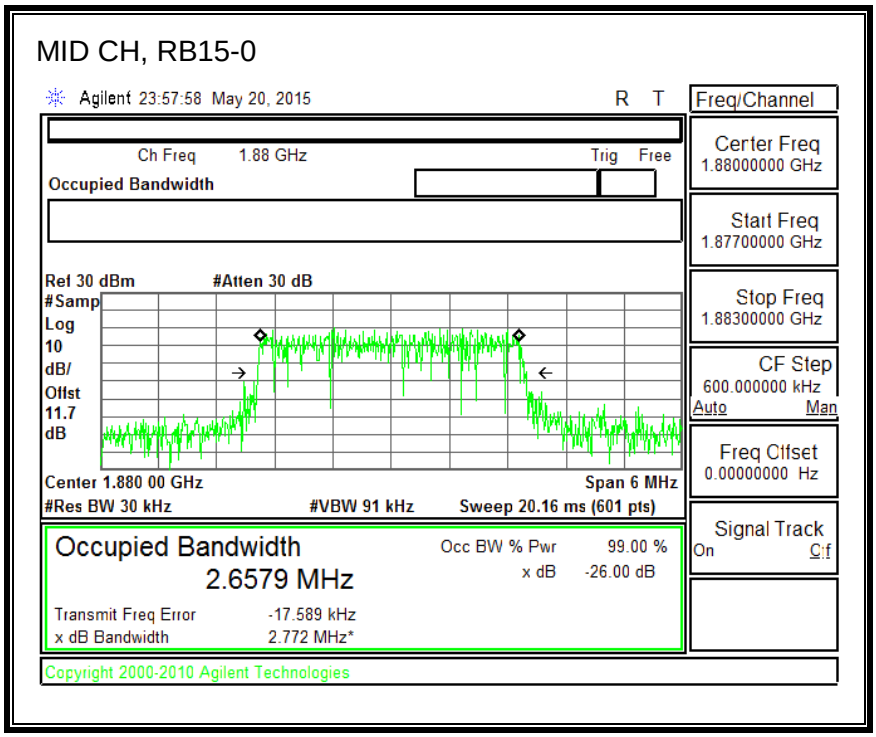
16QAM, (1.4 MHz BAND WIDTH)



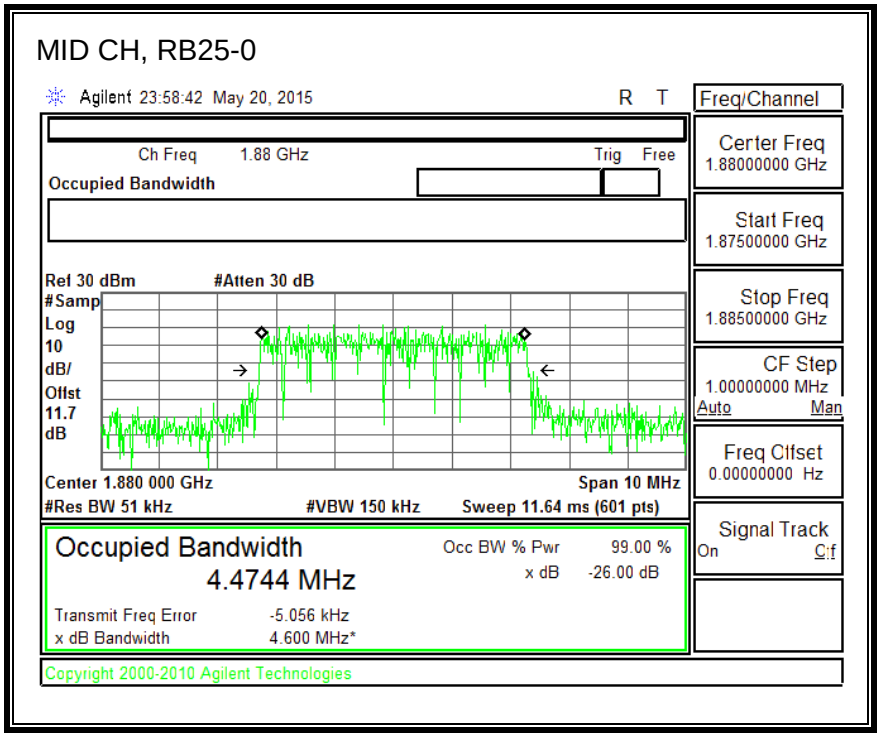
QPSK, (3.0 MHz BAND WIDTH)



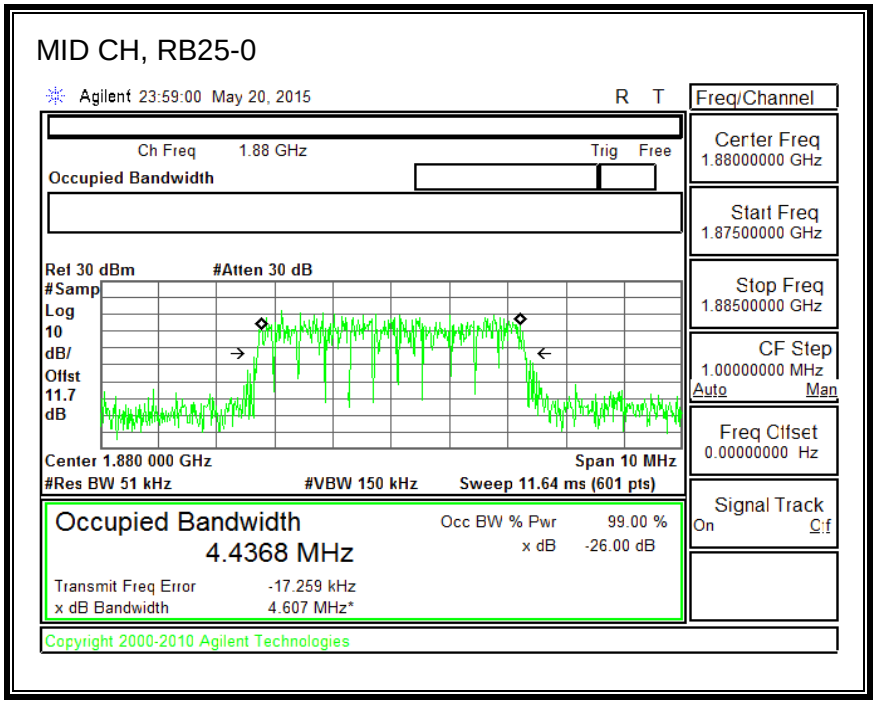
16QAM, (3.0 MHz BAND WIDTH)



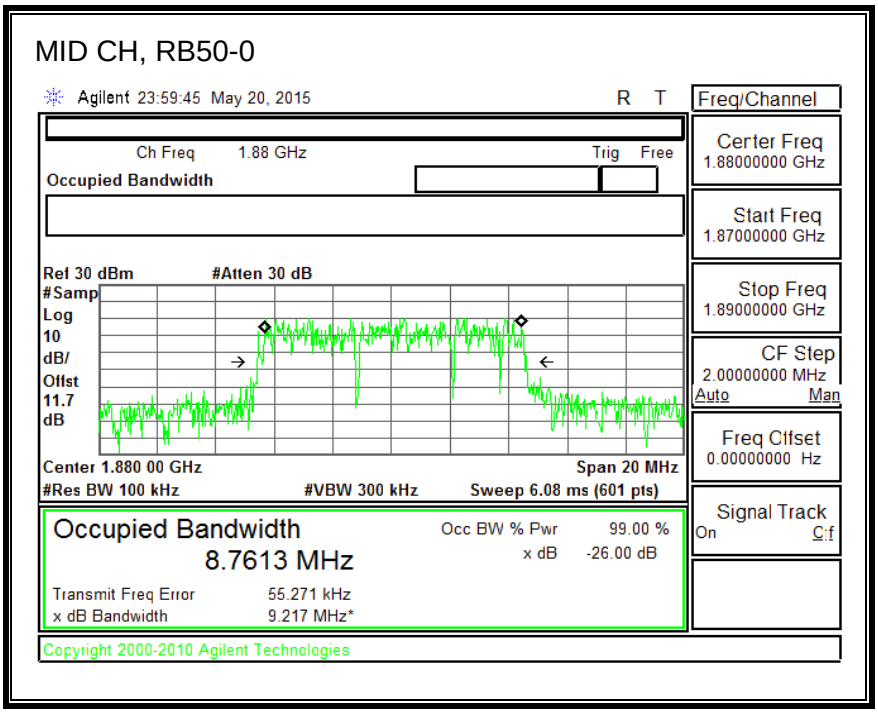
QPSK, (5.0 MHz BAND WIDTH)



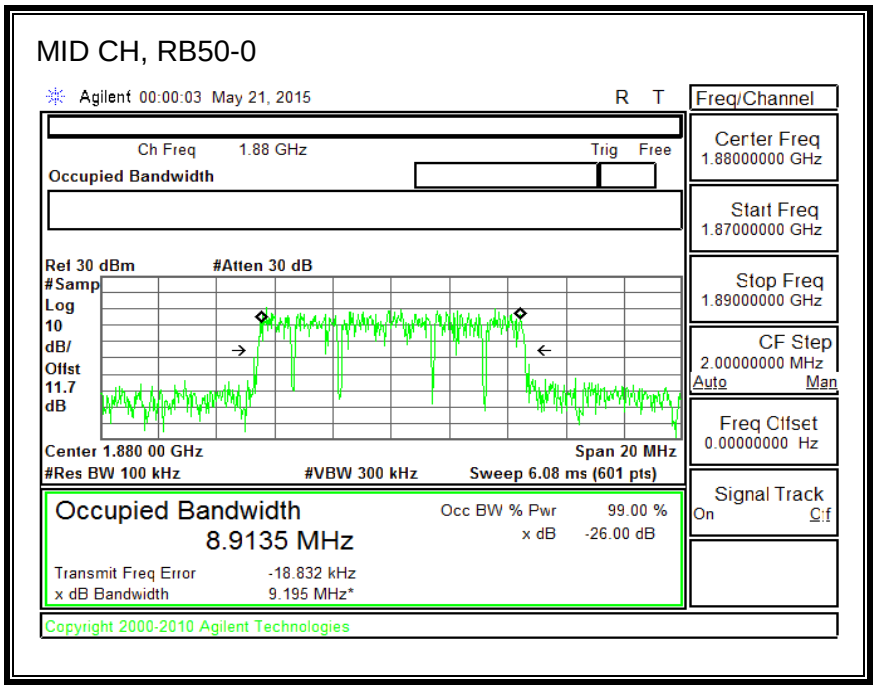
16QAM, (5.0 MHz BAND WIDTH)



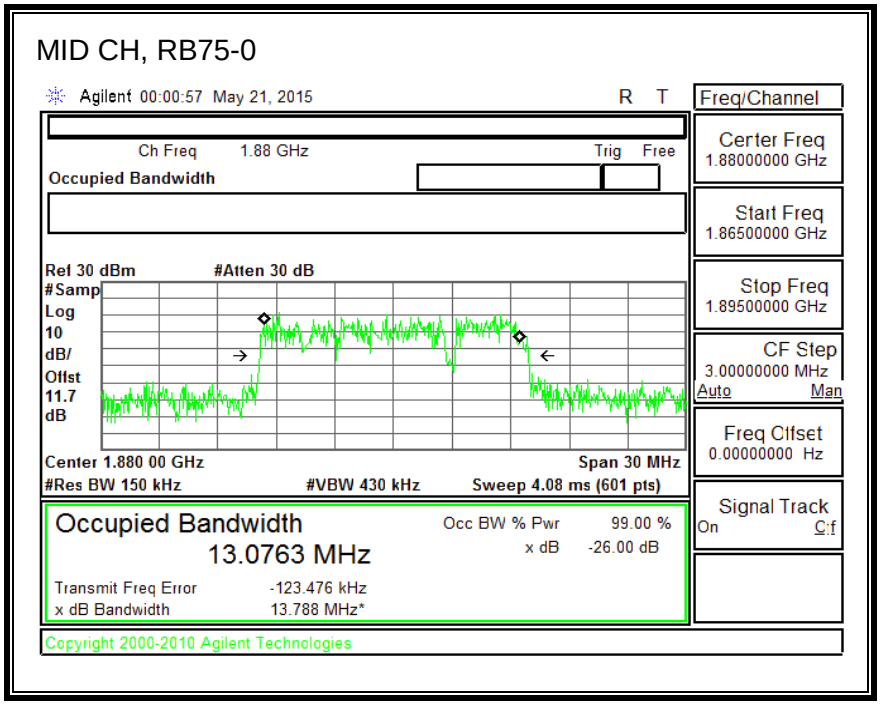
QPSK, (10.0 MHz BAND WIDTH)



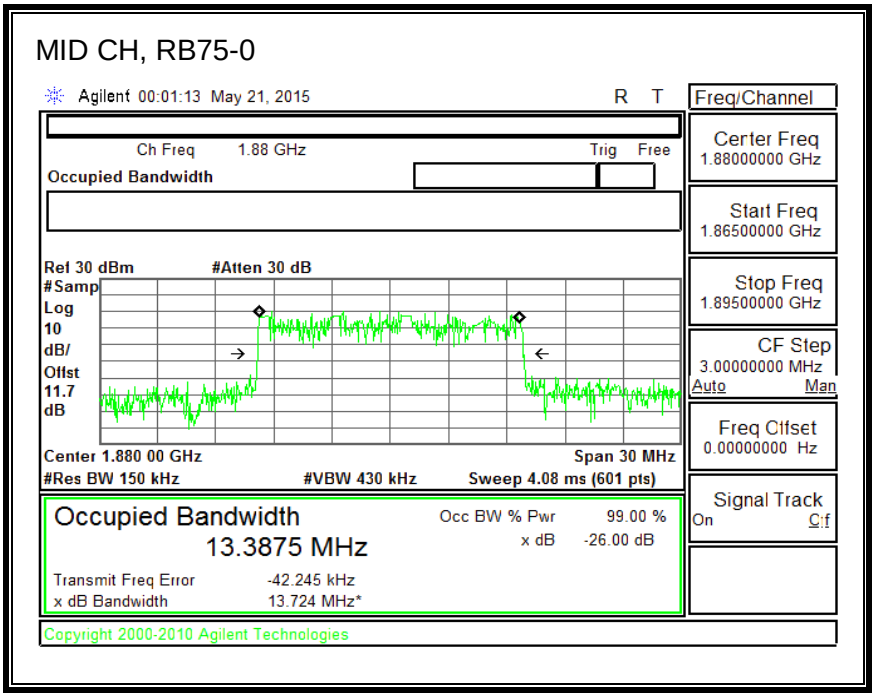
16QAM, (10.0 MHz BAND WIDTH)



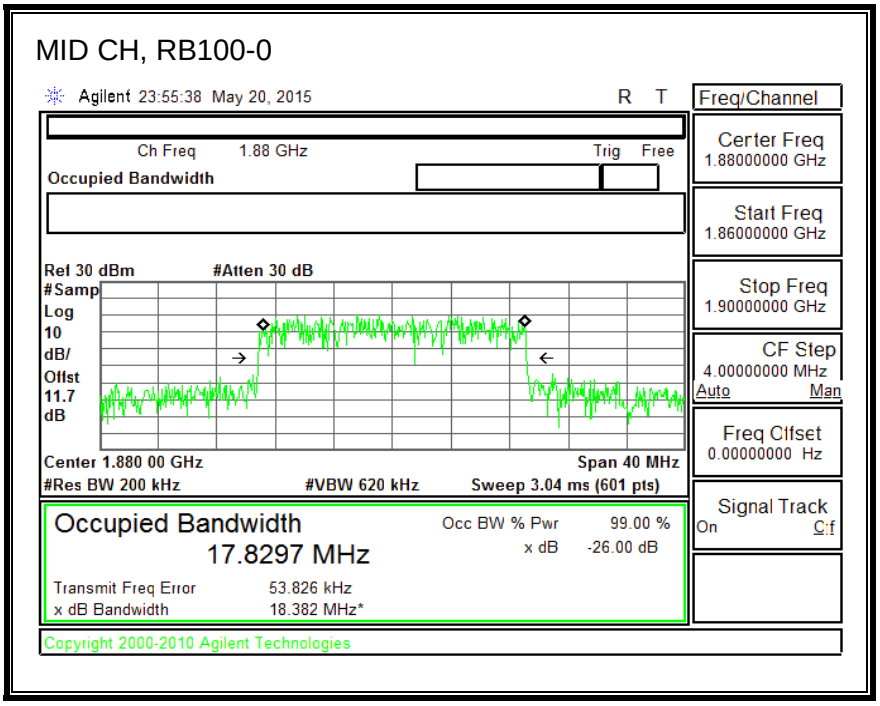
QPSK, (15.0 MHz BAND WIDTH)



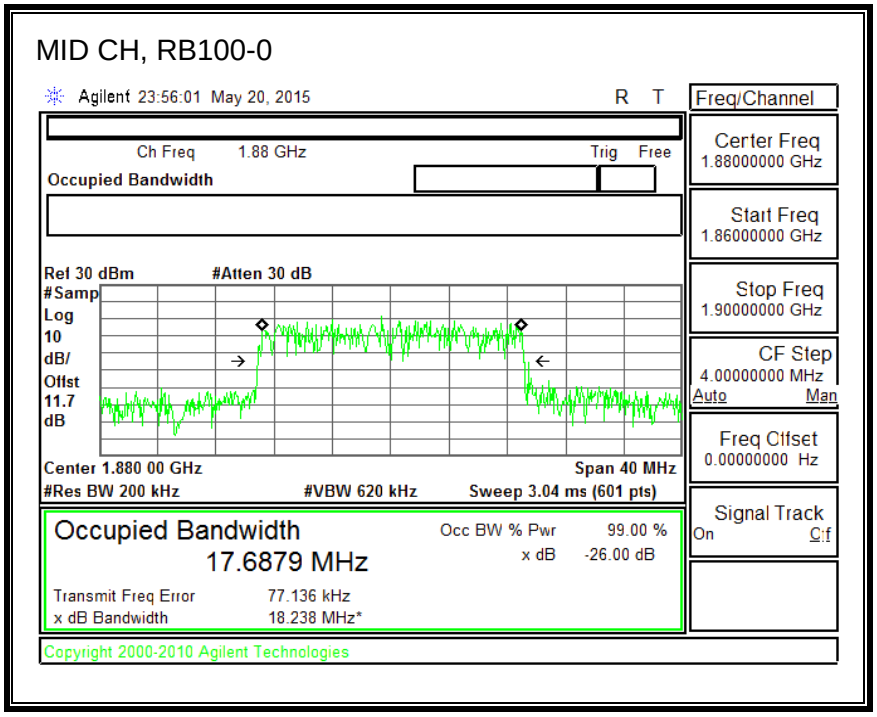
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

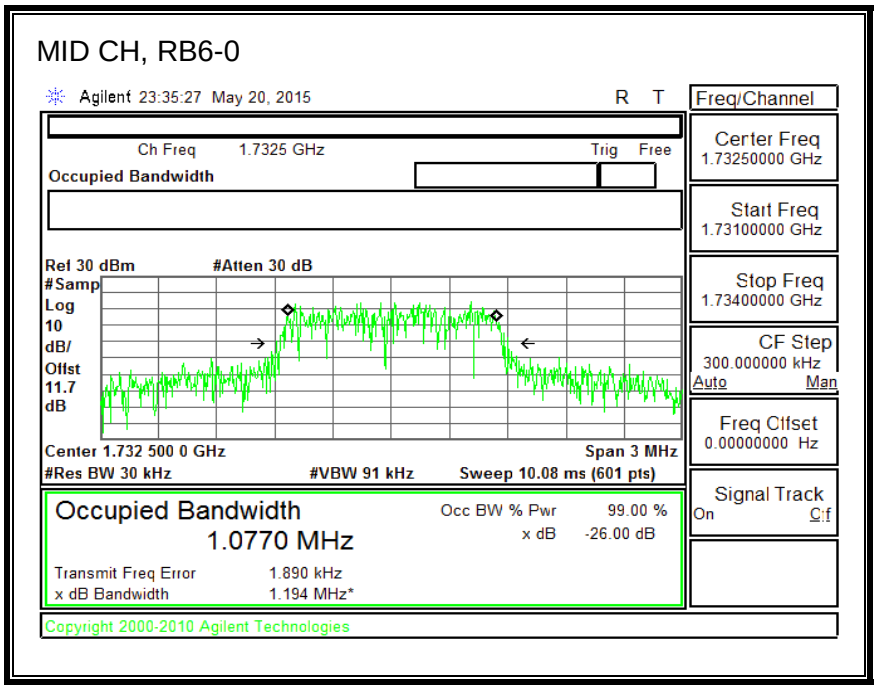


16QAM, (20.0 MHz BAND WIDTH)

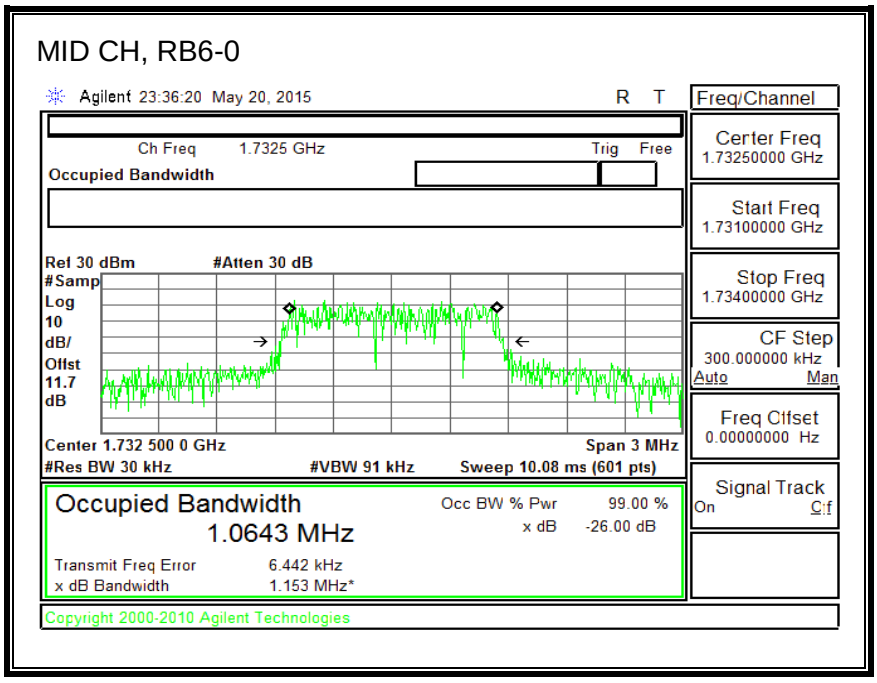


8.2.2. LTE BAND 4

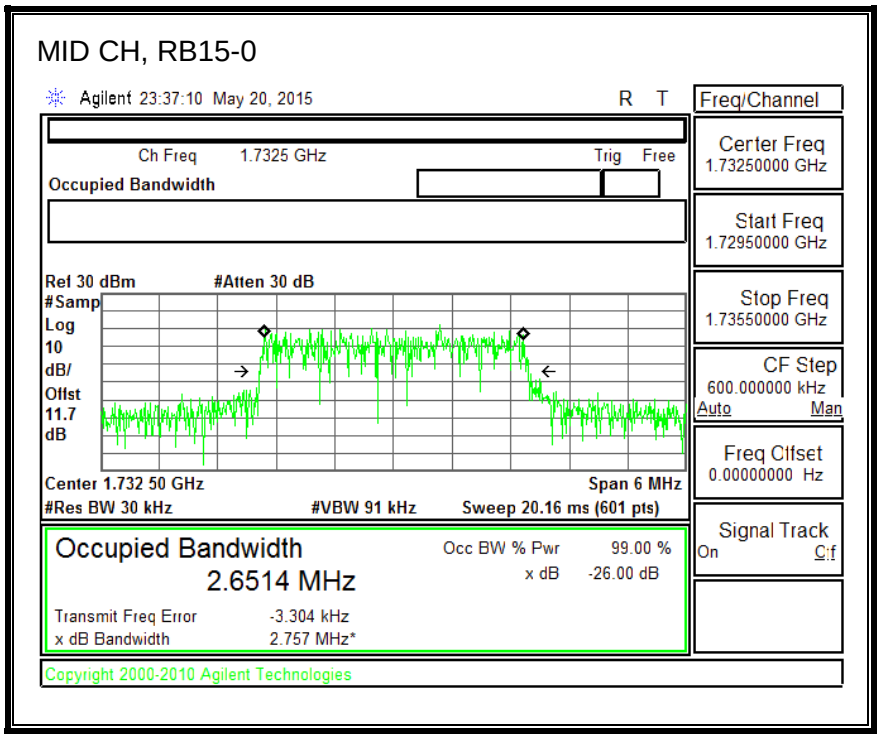
QPSK, (1.4 MHz BAND WIDTH)



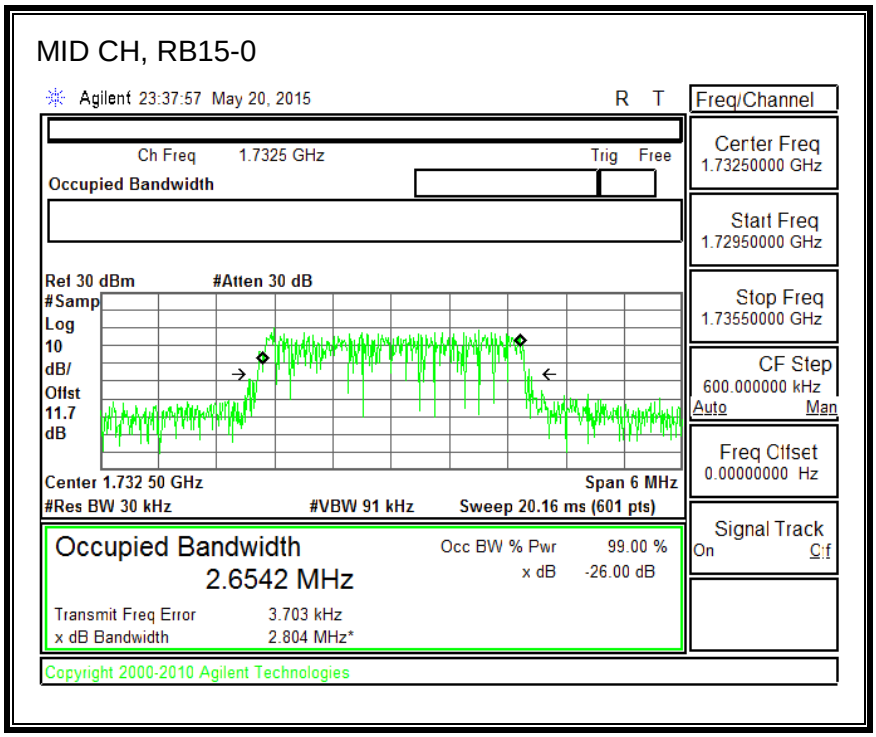
16QAM, (1.4 MHz BAND WIDTH)



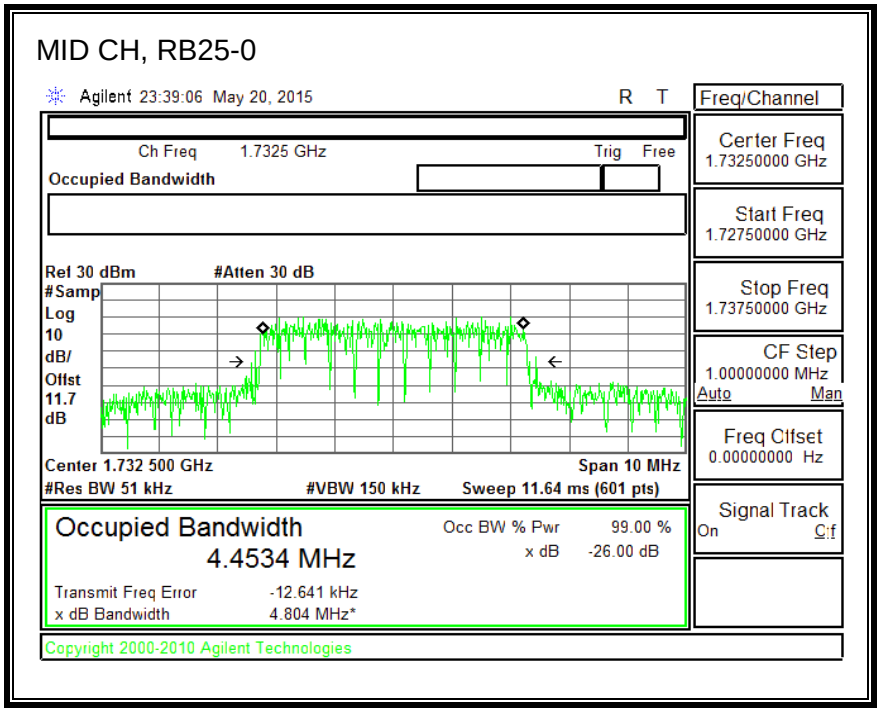
QPSK, (3.0 MHz BAND WIDTH)



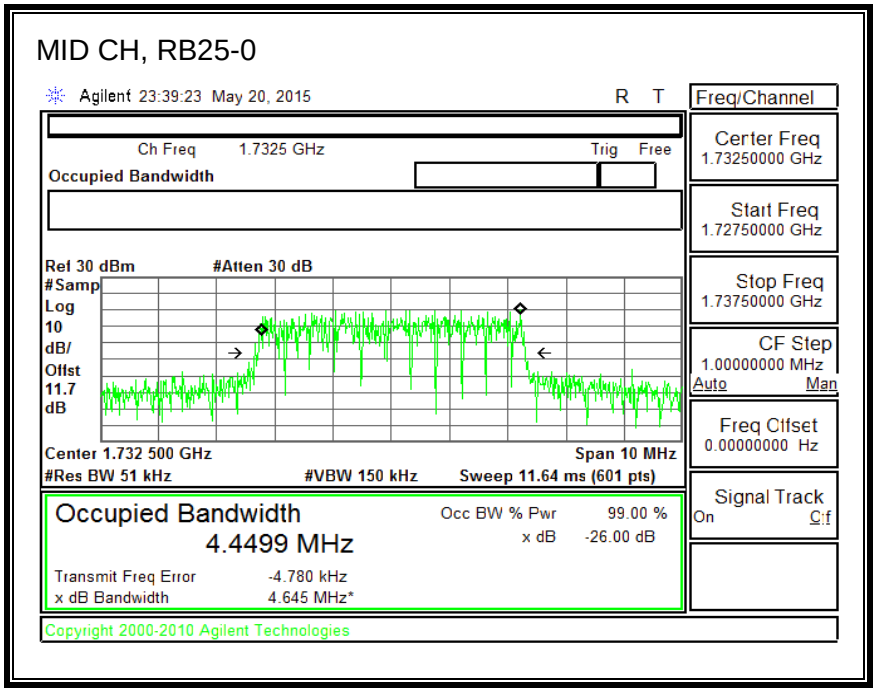
16QAM, (3.0 MHz BAND WIDTH)



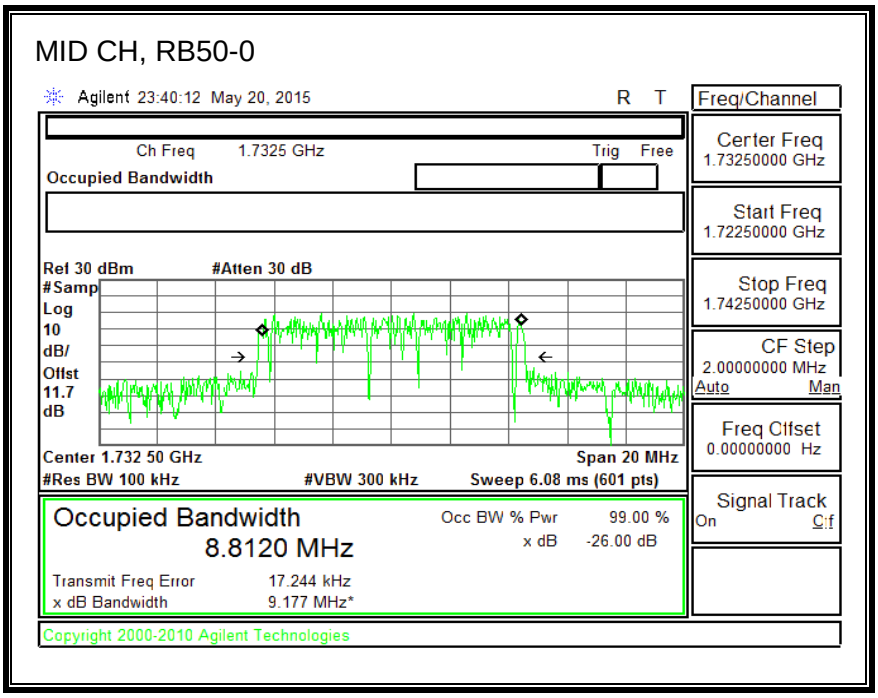
QPSK, (5.0 MHz BAND WIDTH)



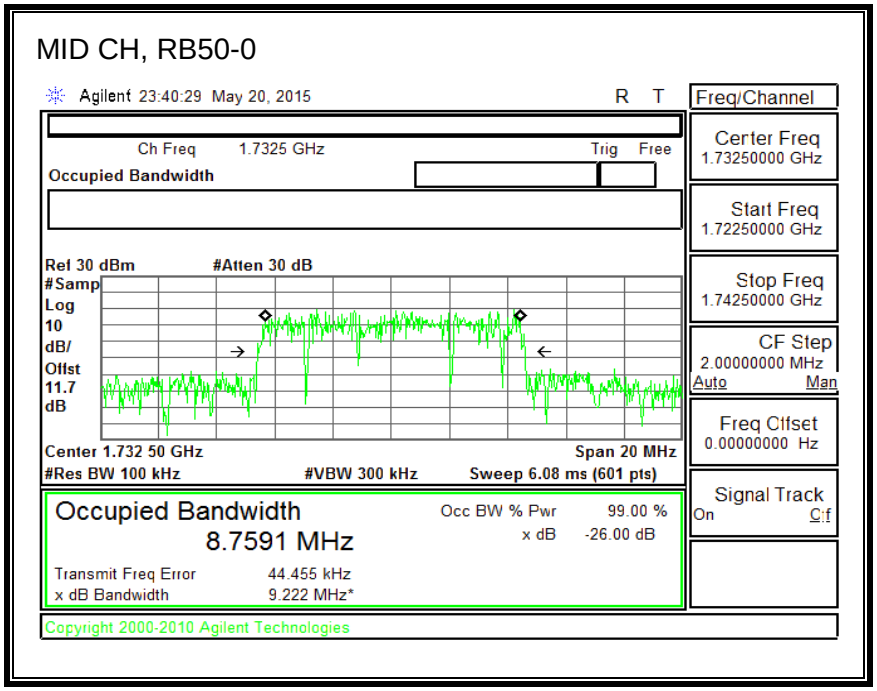
16QAM, (5.0 MHz BAND WIDTH)



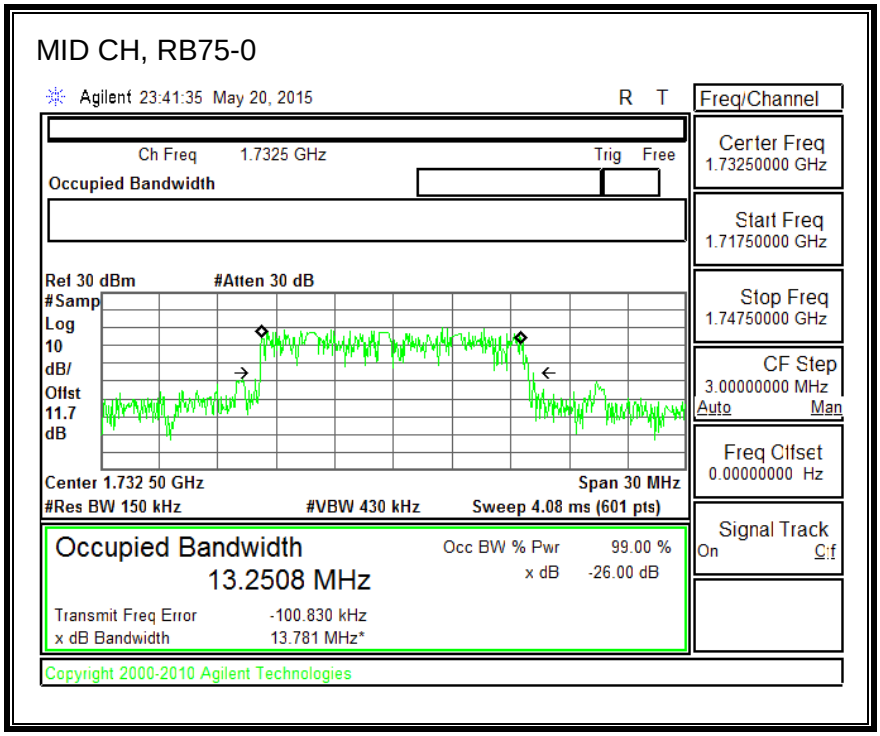
QPSK, (10.0 MHz BAND WIDTH)



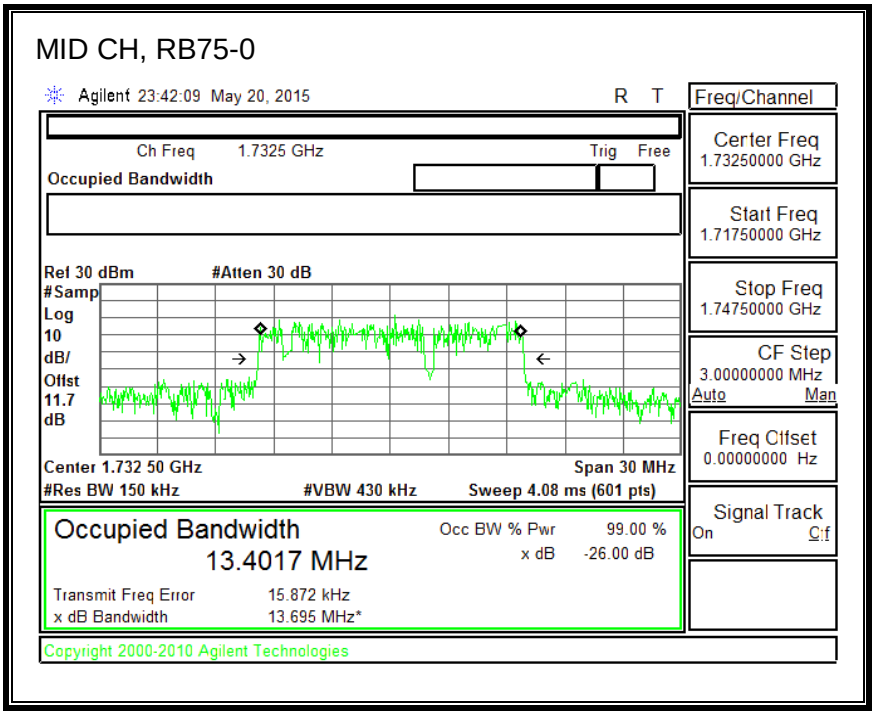
16QAM, (10.0 MHz BAND WIDTH)



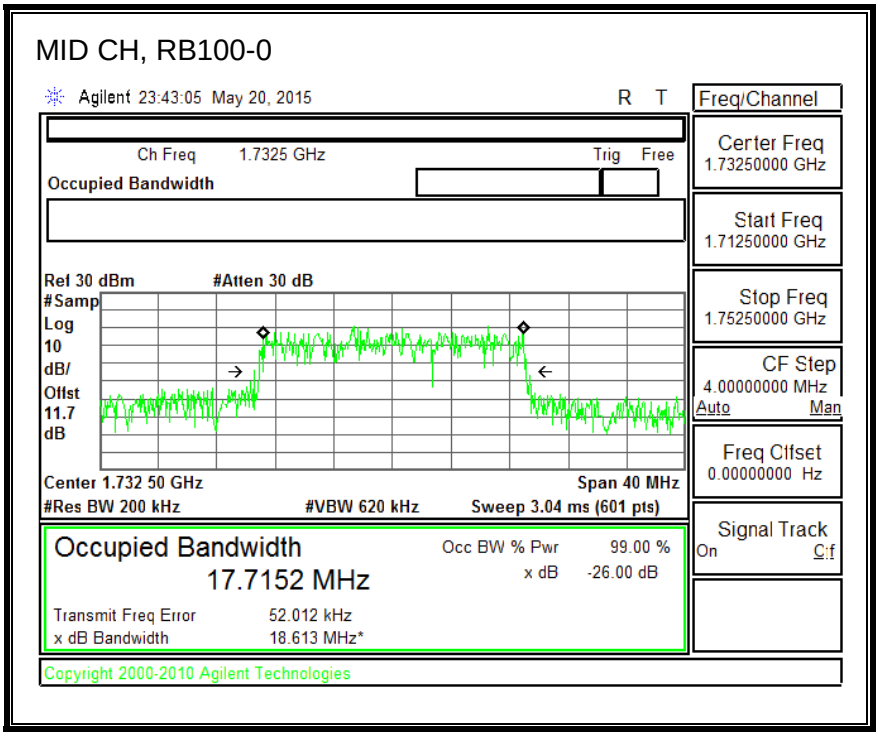
QPSK, (15.0 MHz BAND WIDTH)



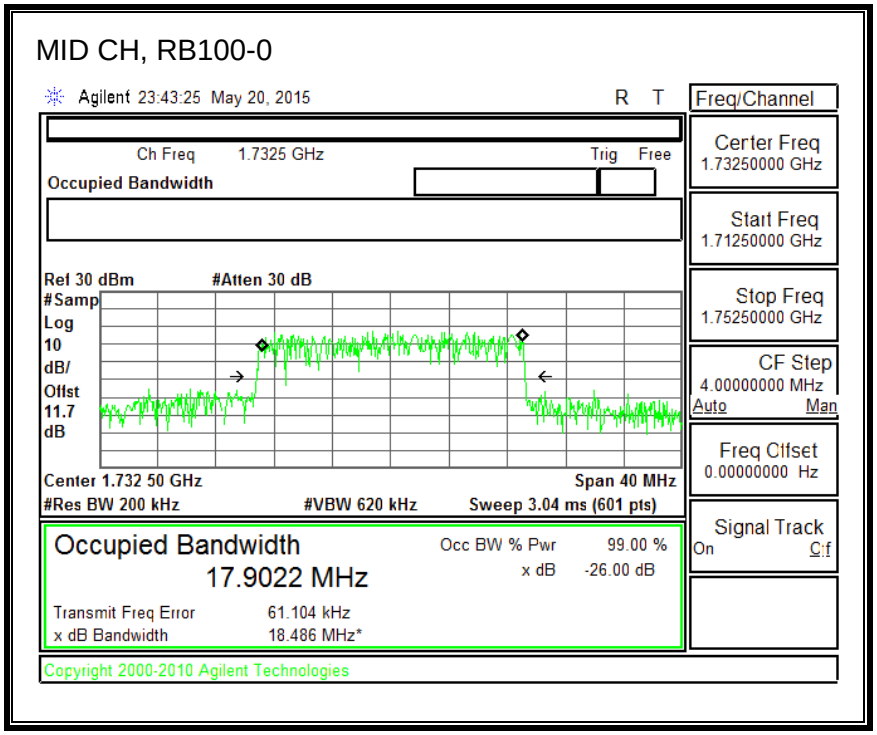
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

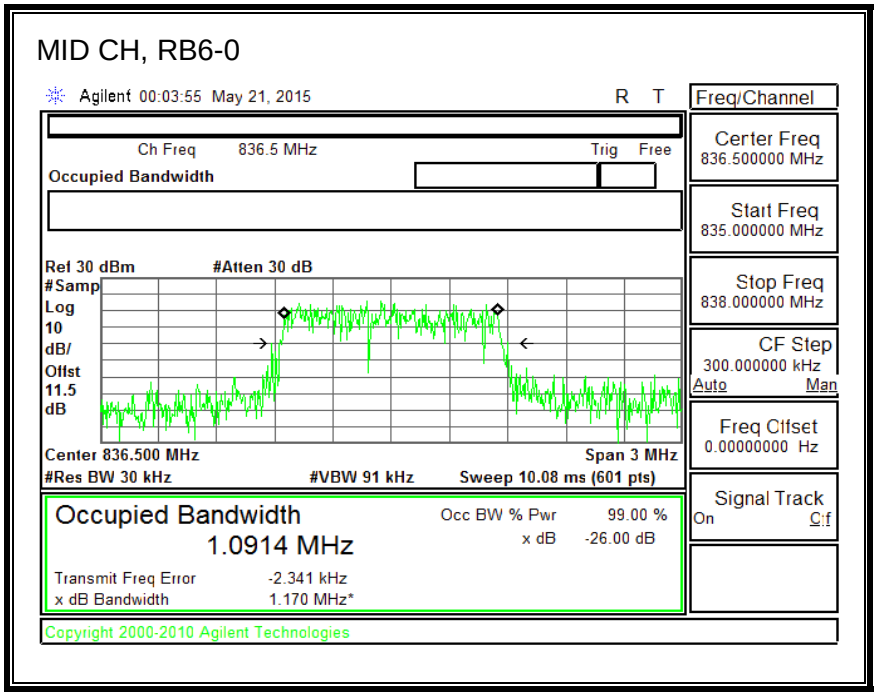


16QAM, (20.0 MHz BAND WIDTH)

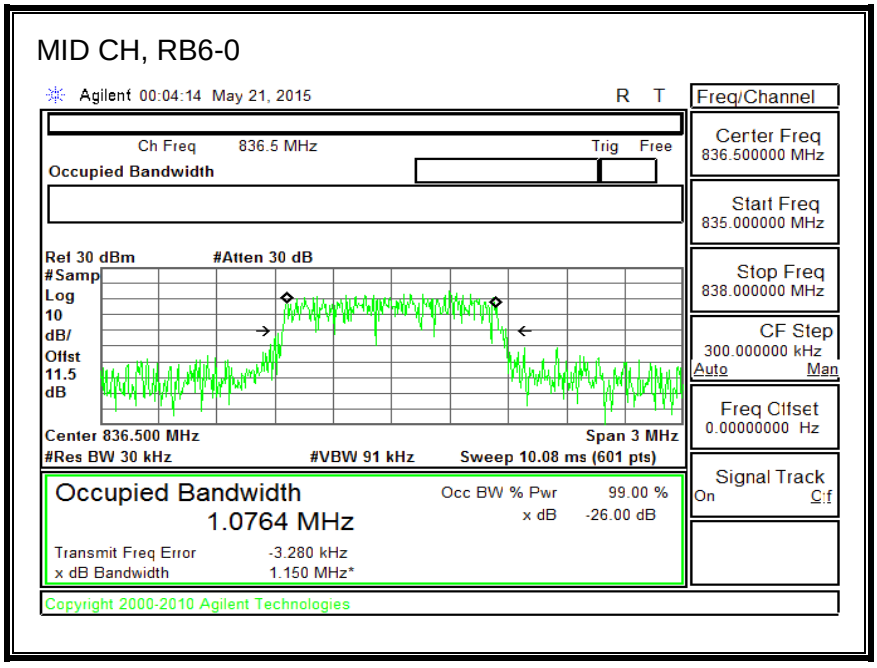


8.2.3. LTE BAND 5

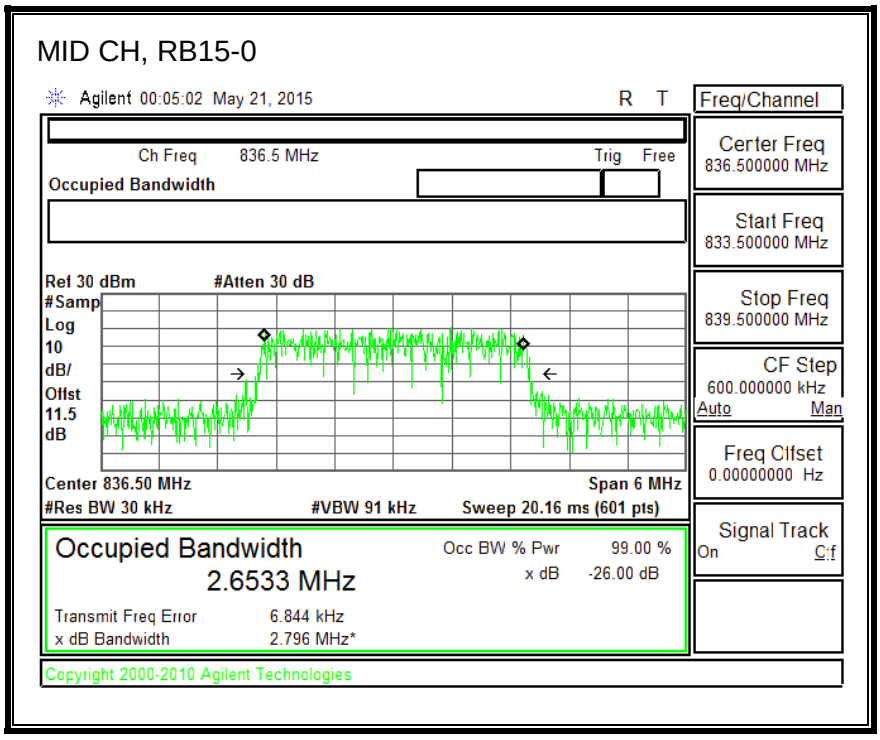
QPSK, (1.4 MHz BAND WIDTH)



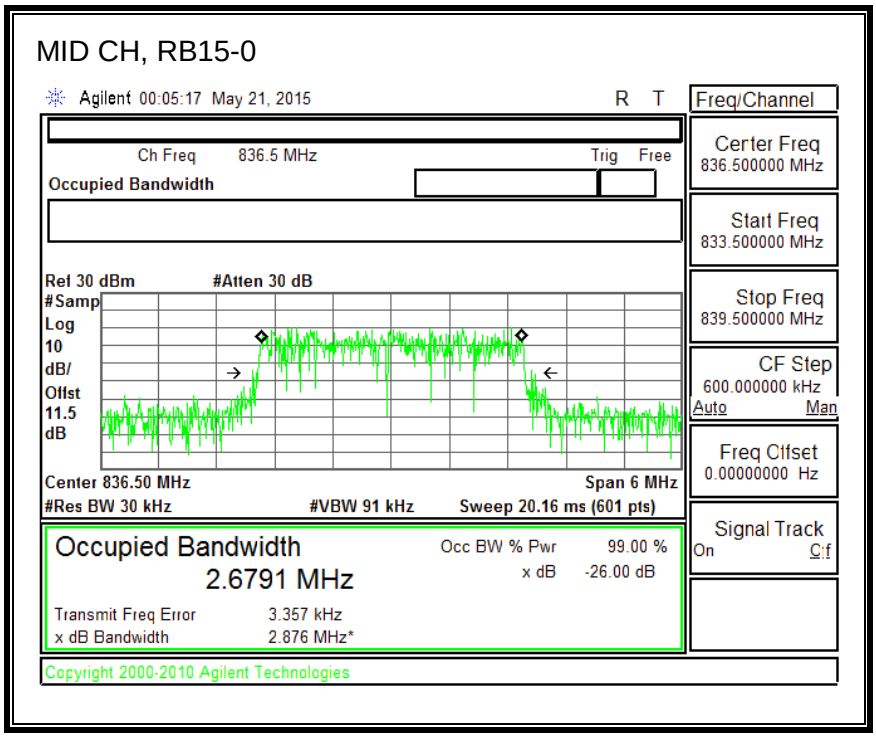
16QAM, (1.4 MHz BAND WIDTH)



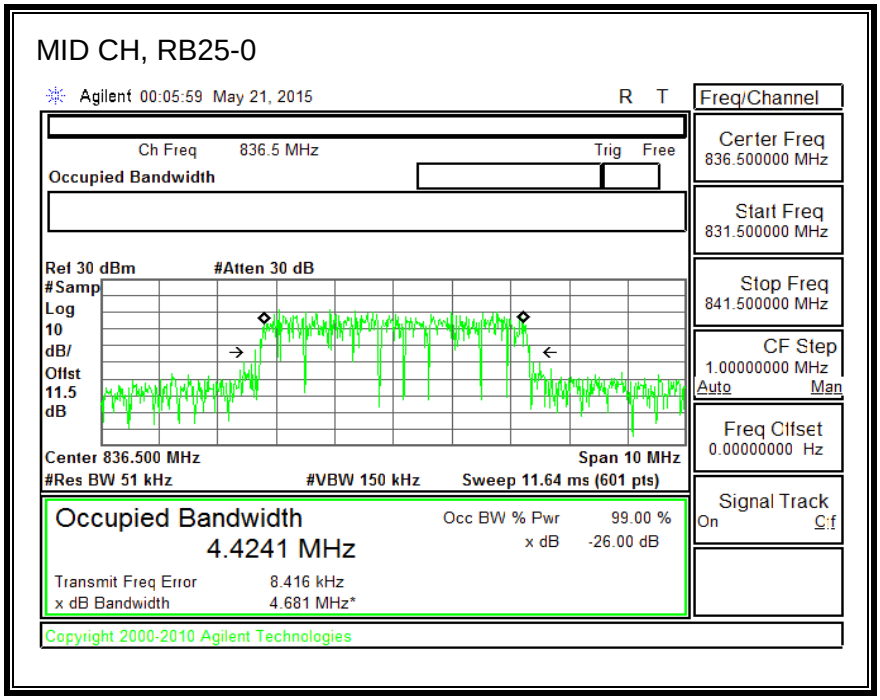
QPSK, (3.0 MHz BAND WIDTH)



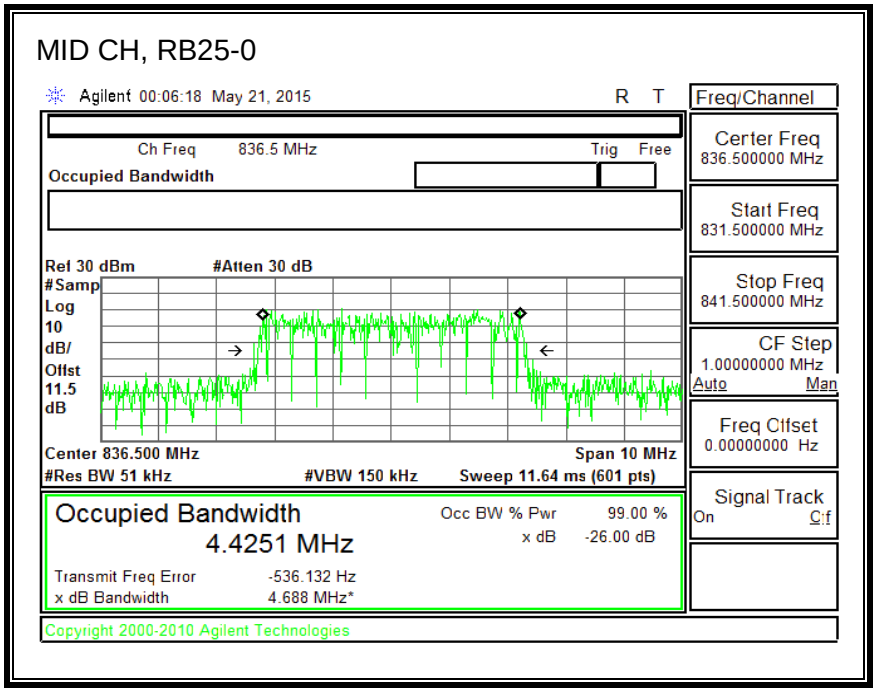
16QAM, (3.0 MHz BAND WIDTH)



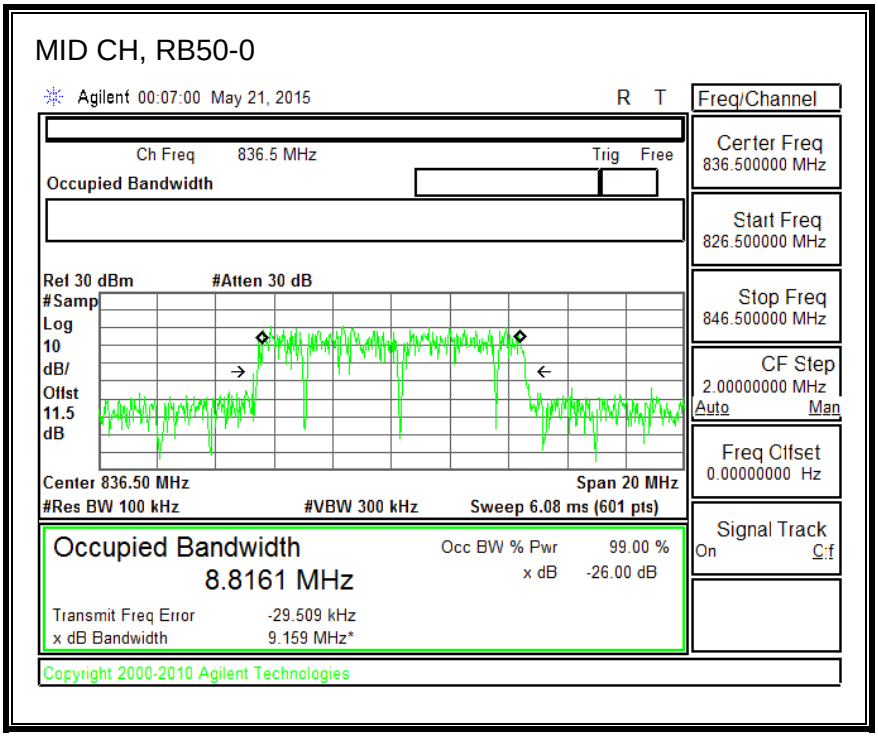
QPSK, (5.0 MHz BAND WIDTH)



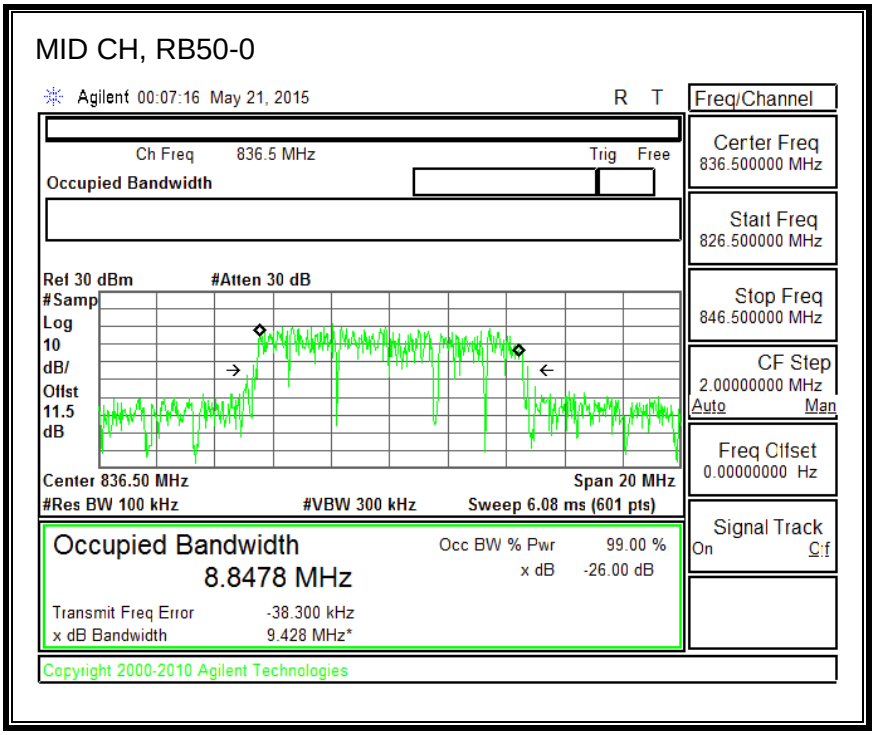
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

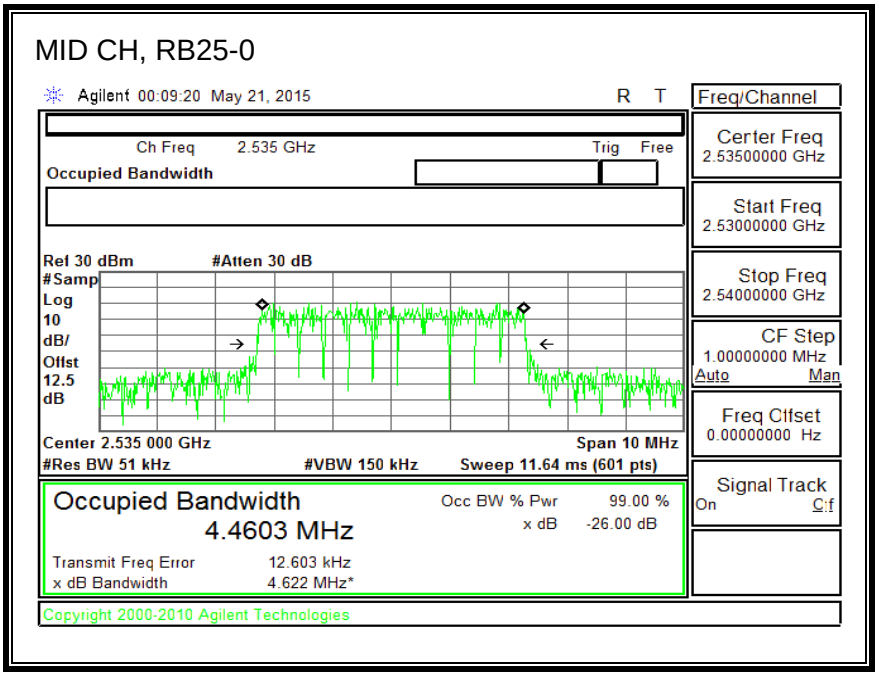


16QAM, (10.0 MHz BAND WIDTH)

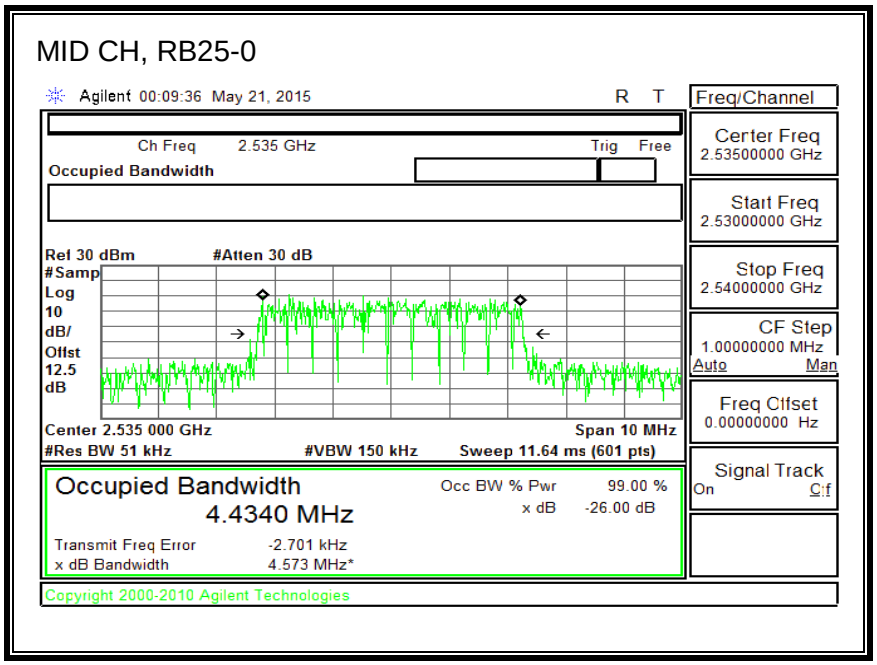


8.2.4. LTE BAND 7

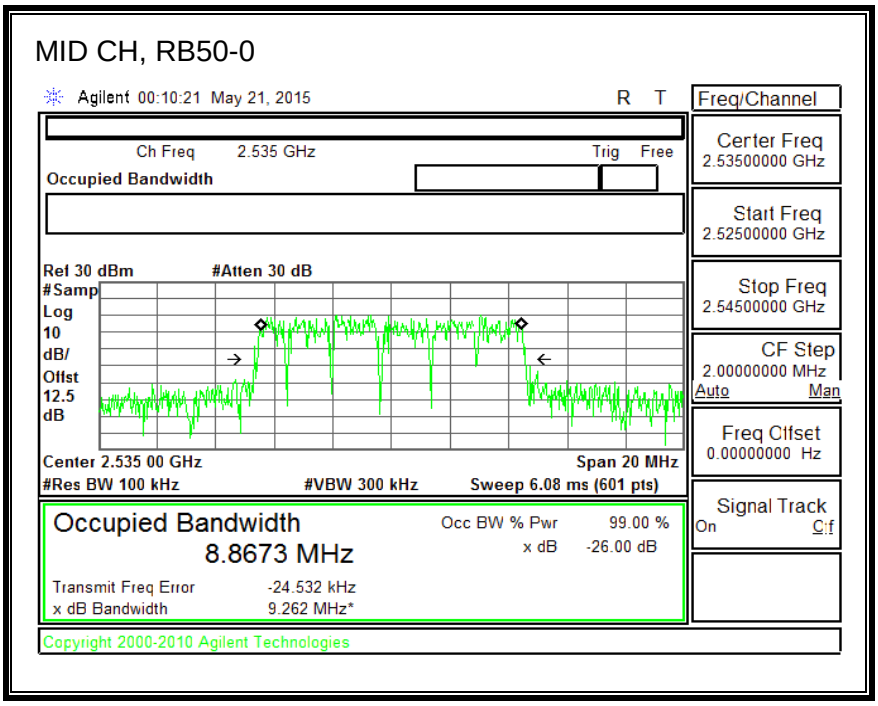
QPSK, (5.0 MHz BAND WIDTH)



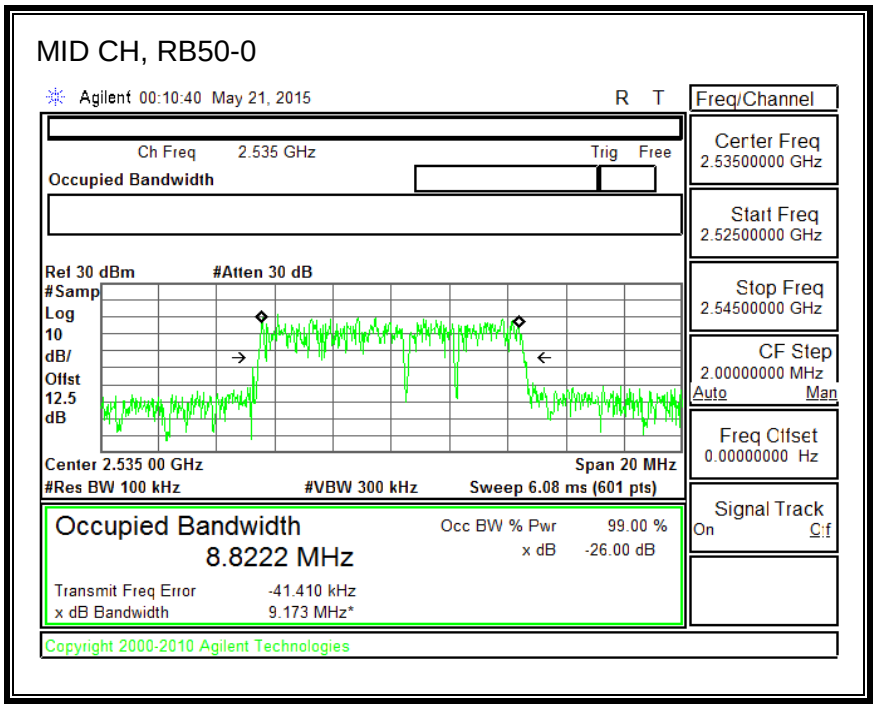
16QAM, (5.0 MHz BAND WIDTH)



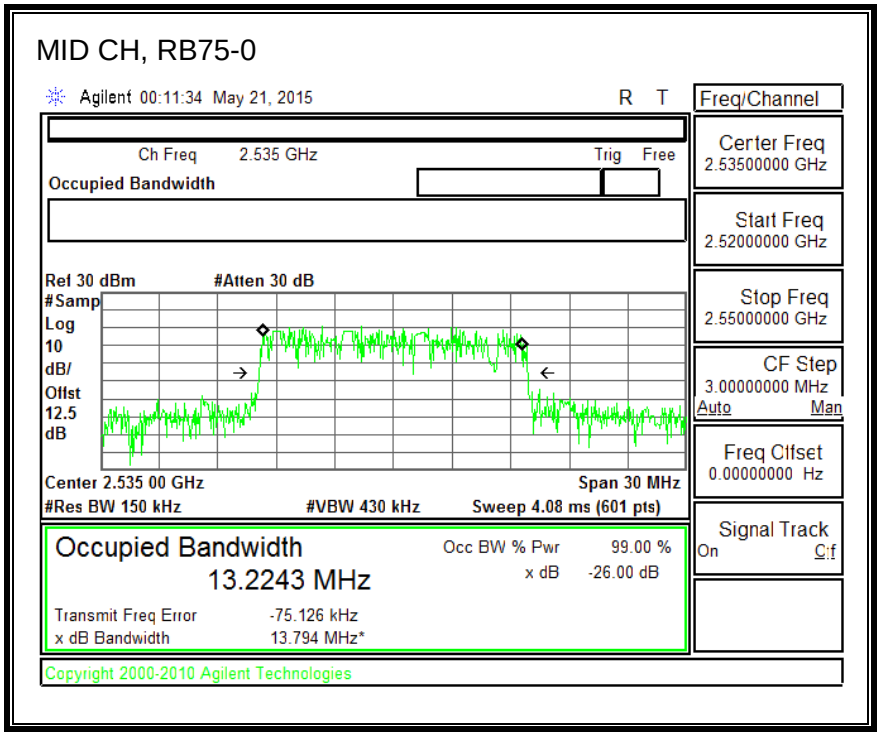
QPSK, (10.0 MHz BAND WIDTH)



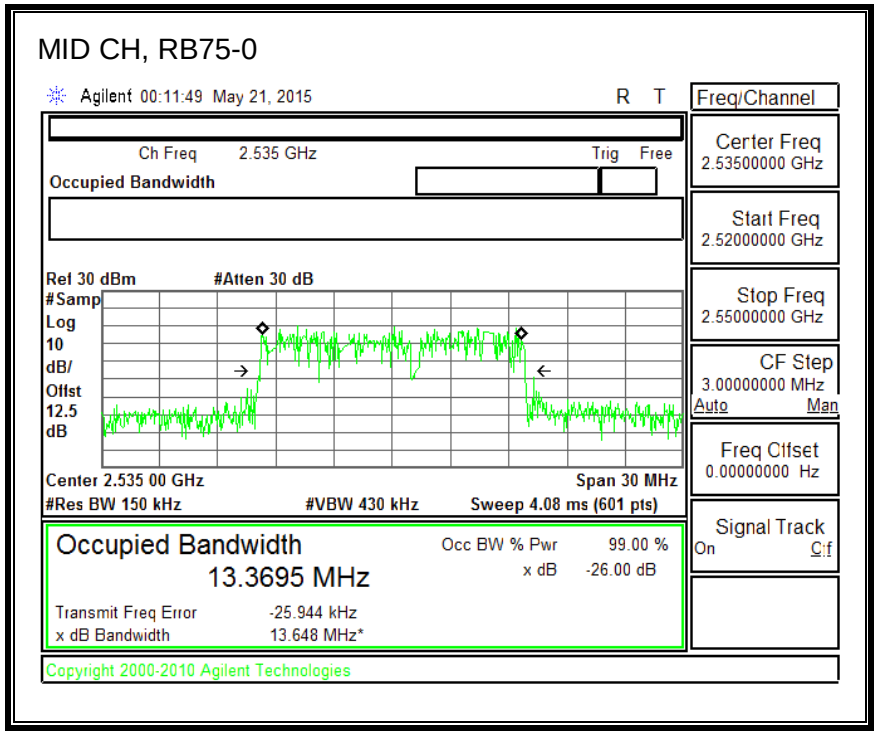
16QAM, (10.0 MHz BAND WIDTH)



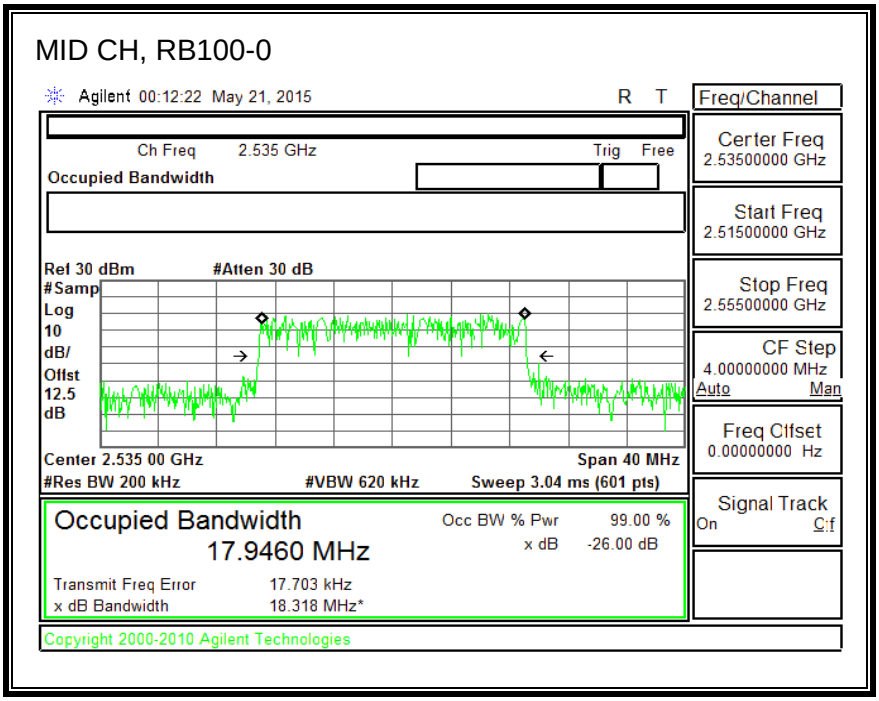
QPSK, (15.0 MHz BAND WIDTH)



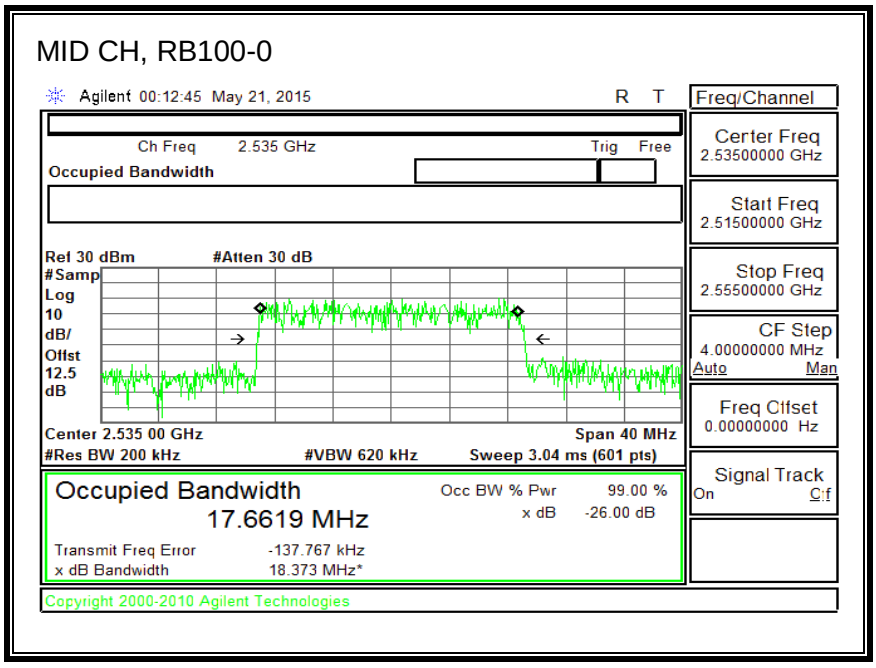
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

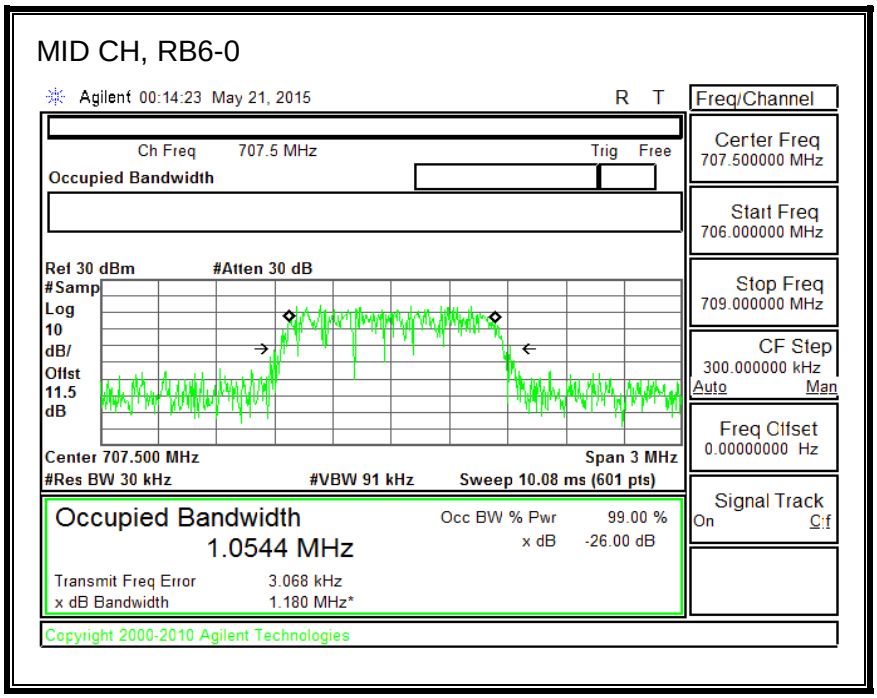


16QAM, (20.0 MHz BAND WIDTH)

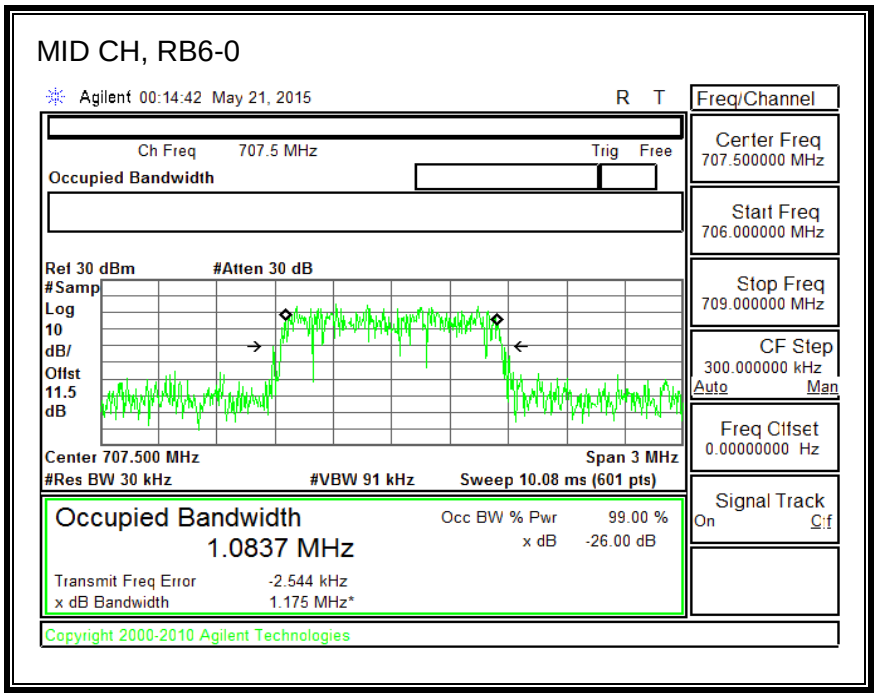


8.2.5. LTE BAND 12

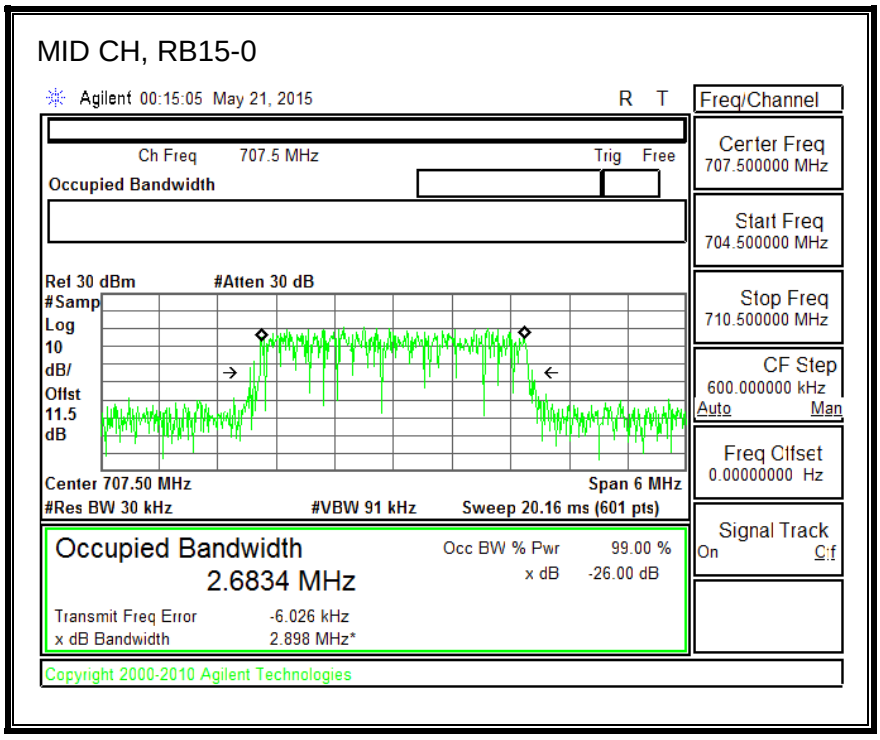
QPSK, (1.4 MHz BAND WIDTH)



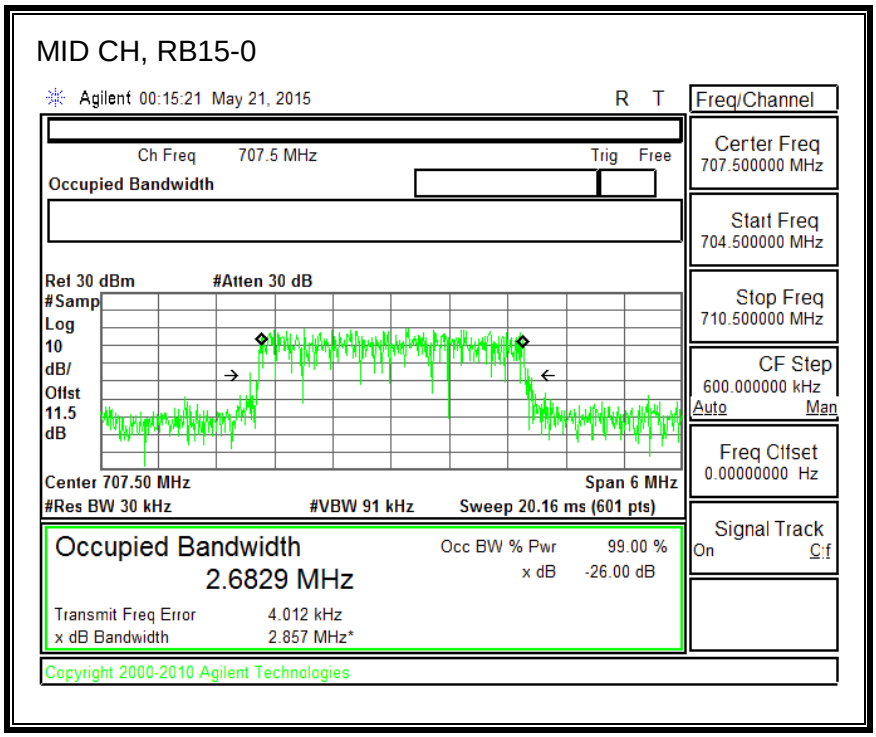
16QAM, (1.4 MHz BAND WIDTH)



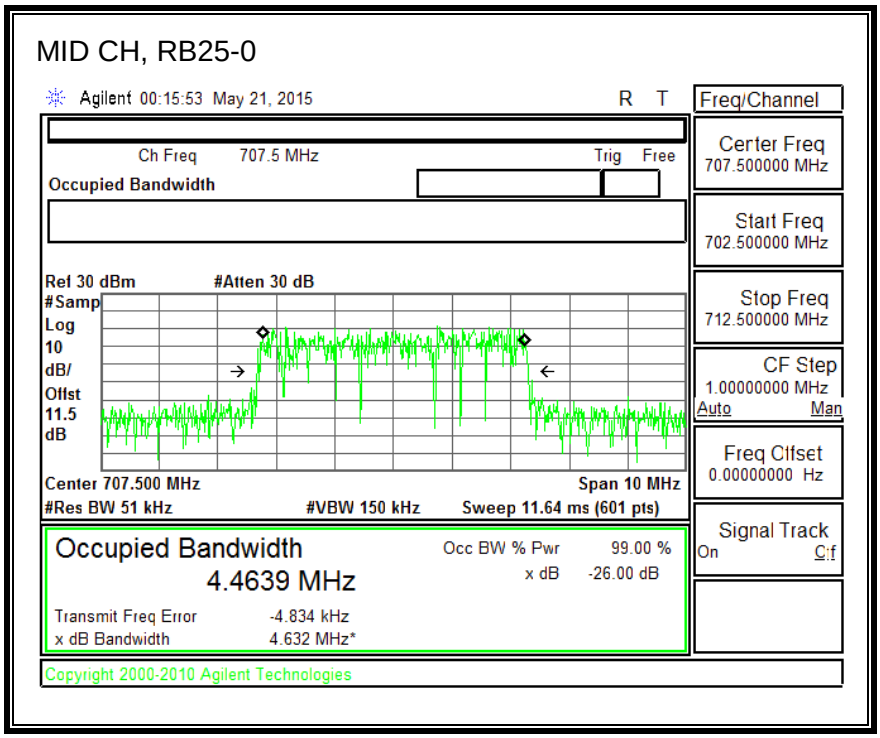
QPSK, (3.0 MHz BAND WIDTH)



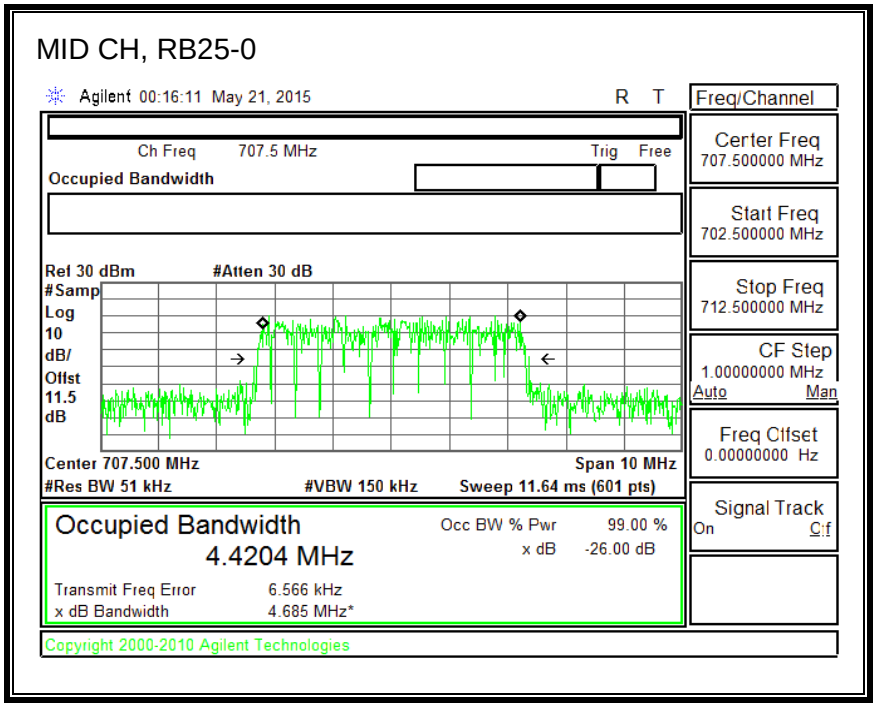
16QAM, (3.0 MHz BAND WIDTH)



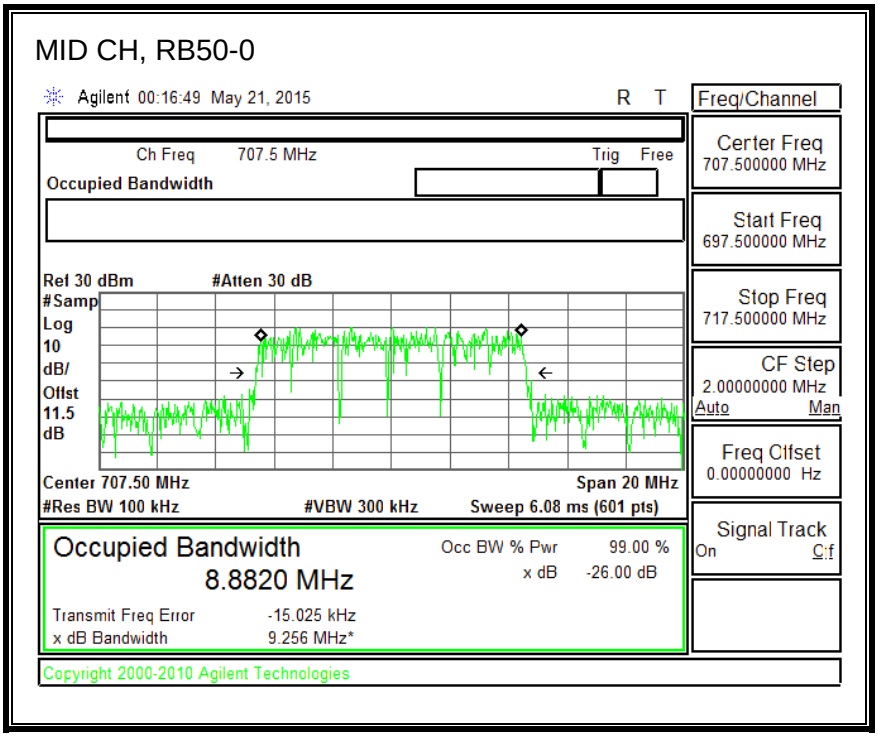
QPSK, (5.0 MHz BAND WIDTH)



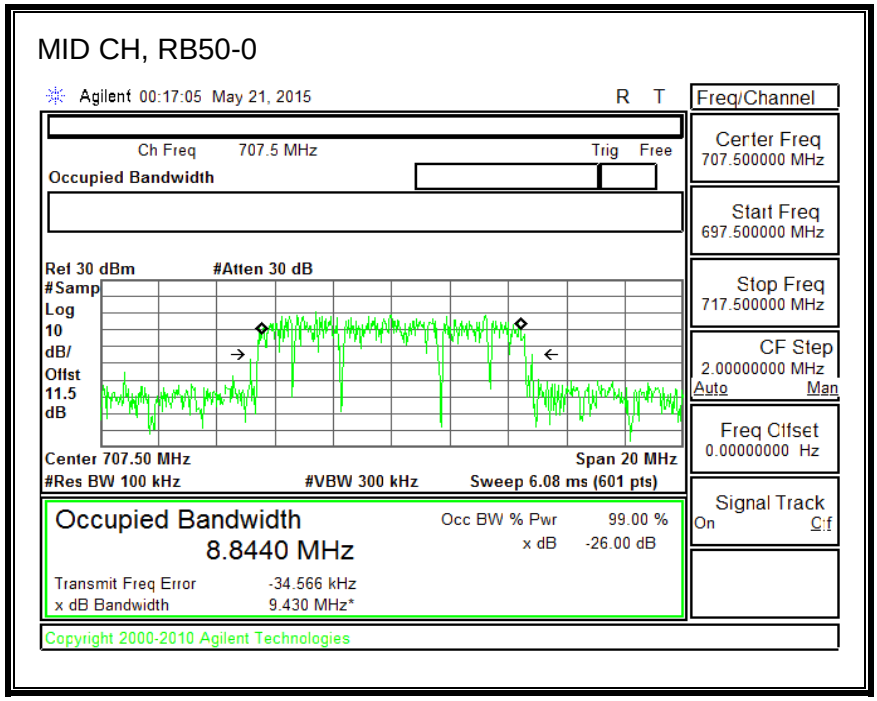
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

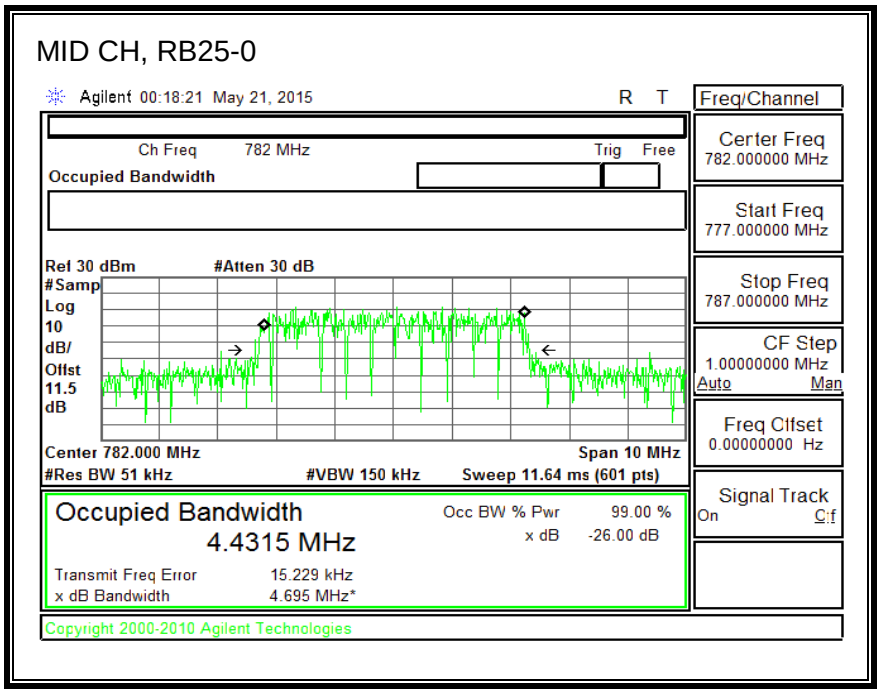


16QAM, (10.0 MHz BAND WIDTH)

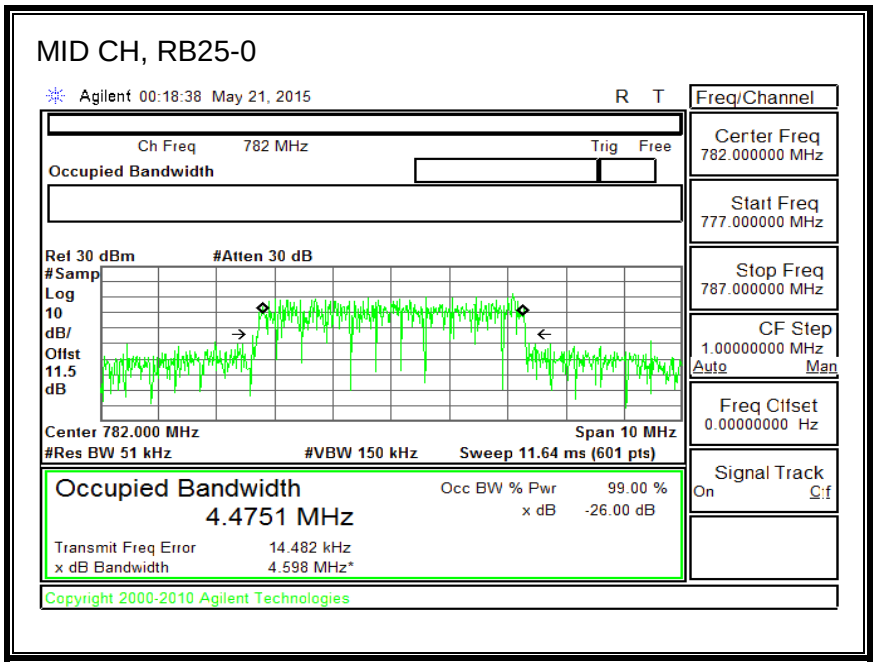


8.2.6. LTE BAND 13

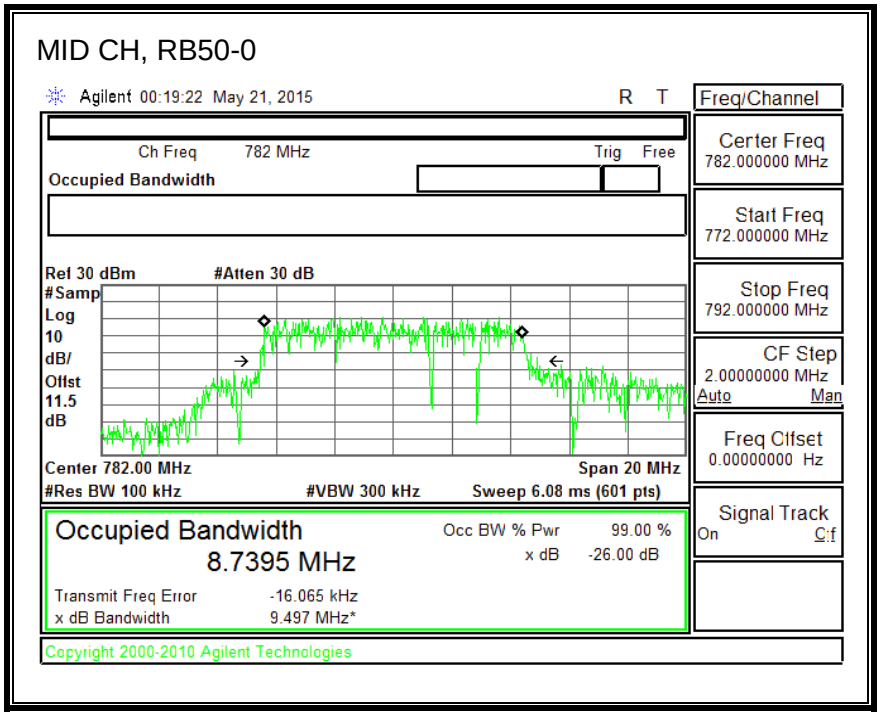
QPSK, (5.0 MHz BAND WIDTH)



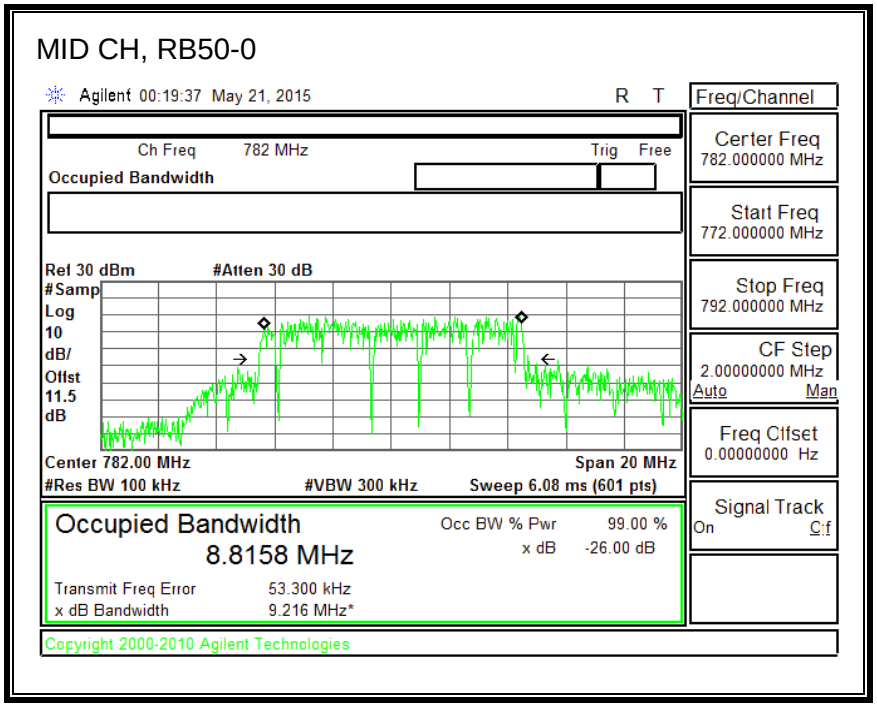
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

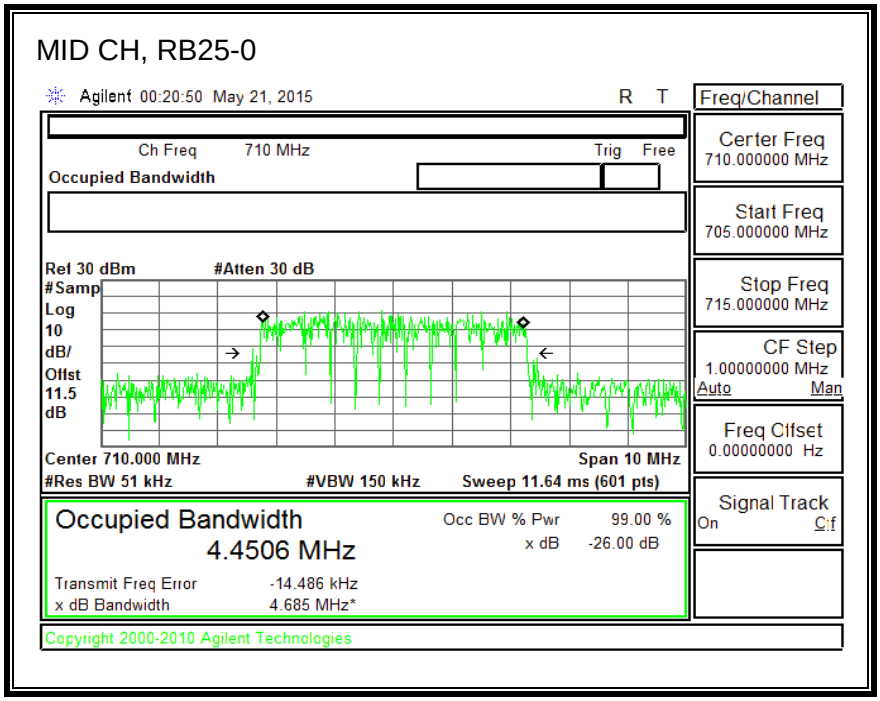


16QAM, (10.0 MHz BAND WIDTH)

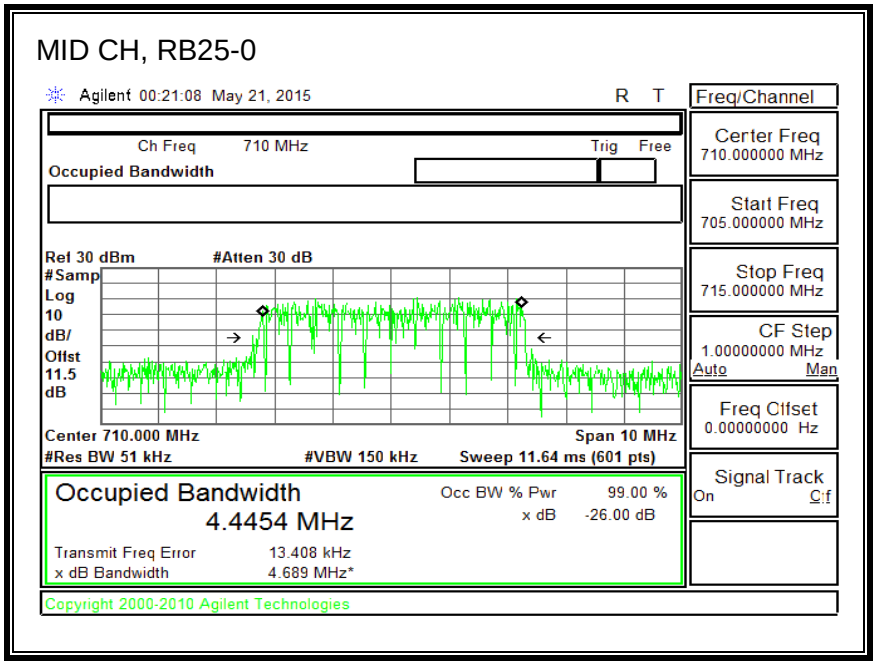


8.2.7. LTE BAND 17

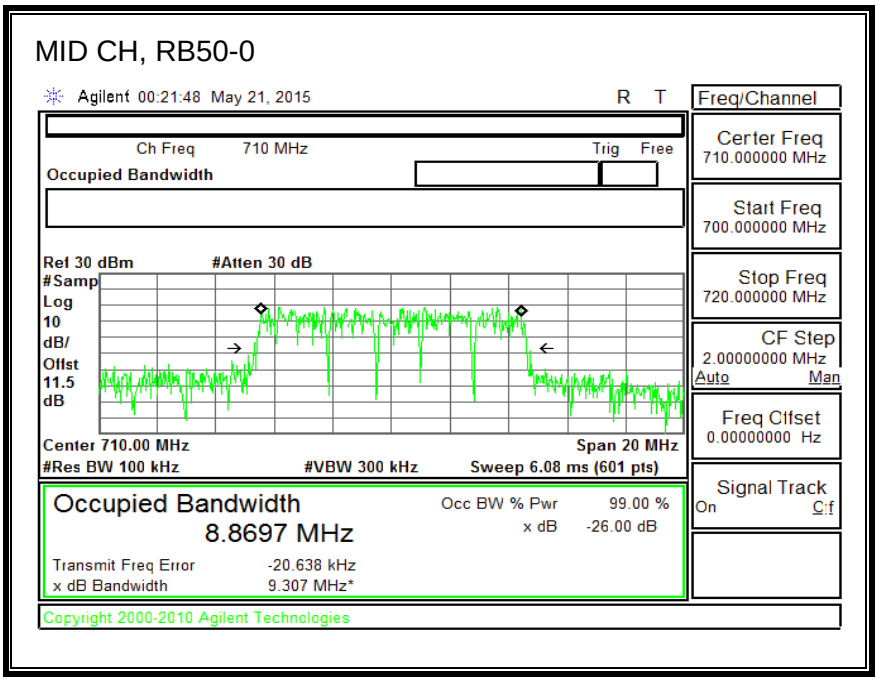
QPSK, (5.0 MHz BAND WIDTH)



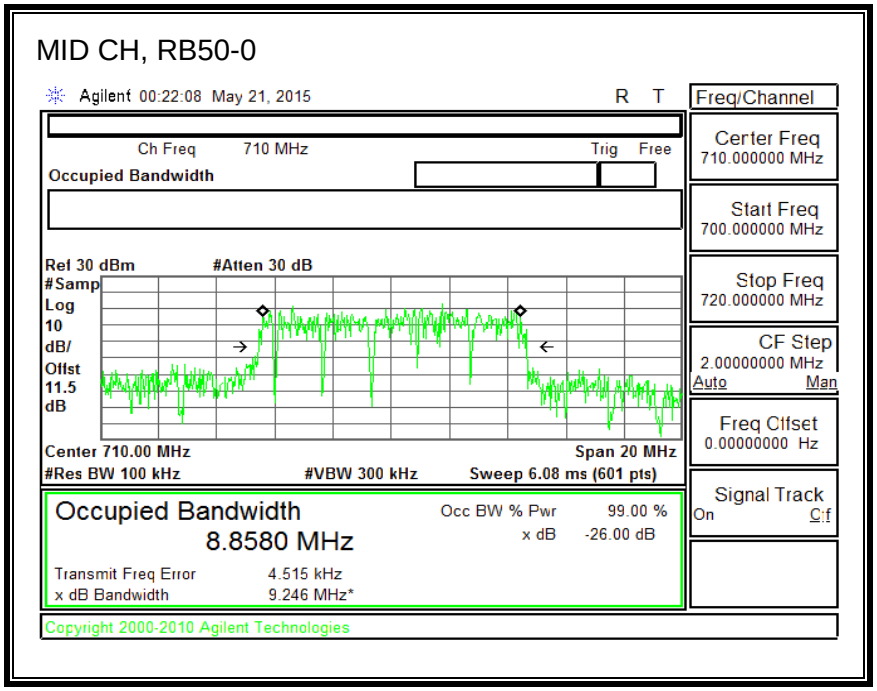
16QAM, (5.0 MHz BAND WIDTH)



QPSK, (10.0 MHz BAND WIDTH)

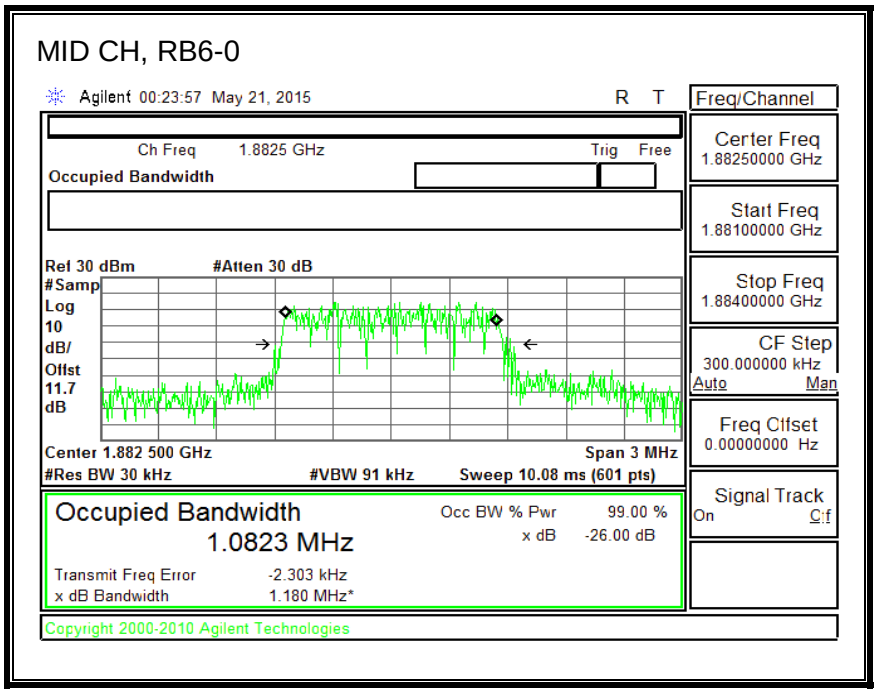


16QAM, (10.0 MHz BAND WIDTH)

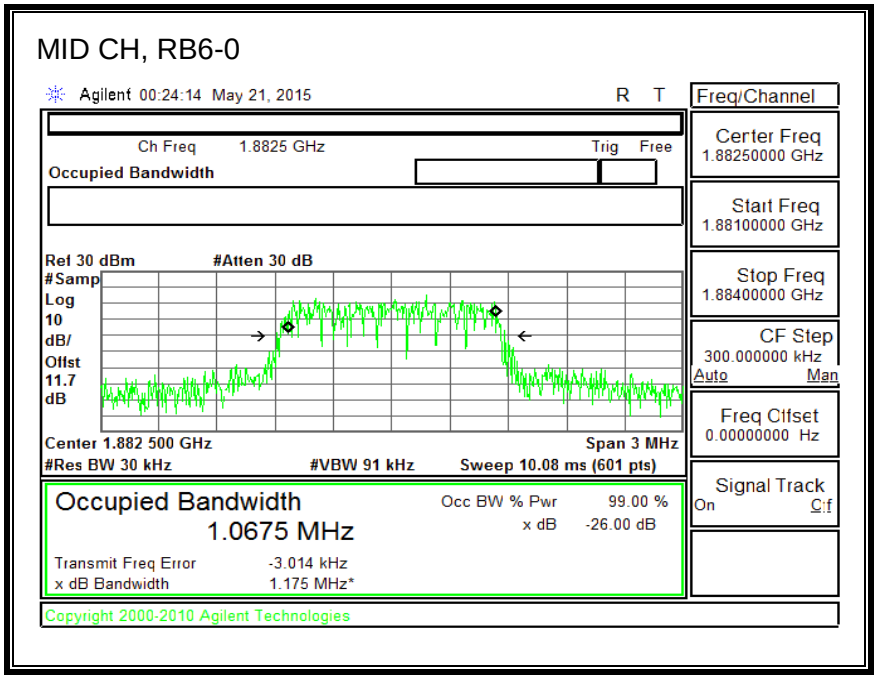


8.2.8. LTE BAND 25

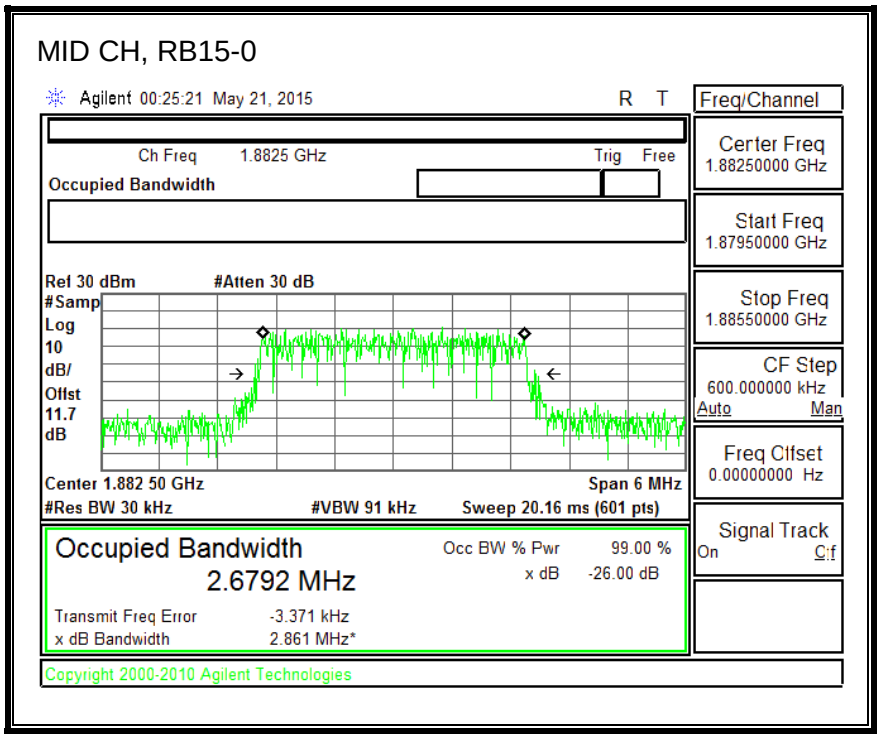
QPSK, (1.4 MHz BAND WIDTH)



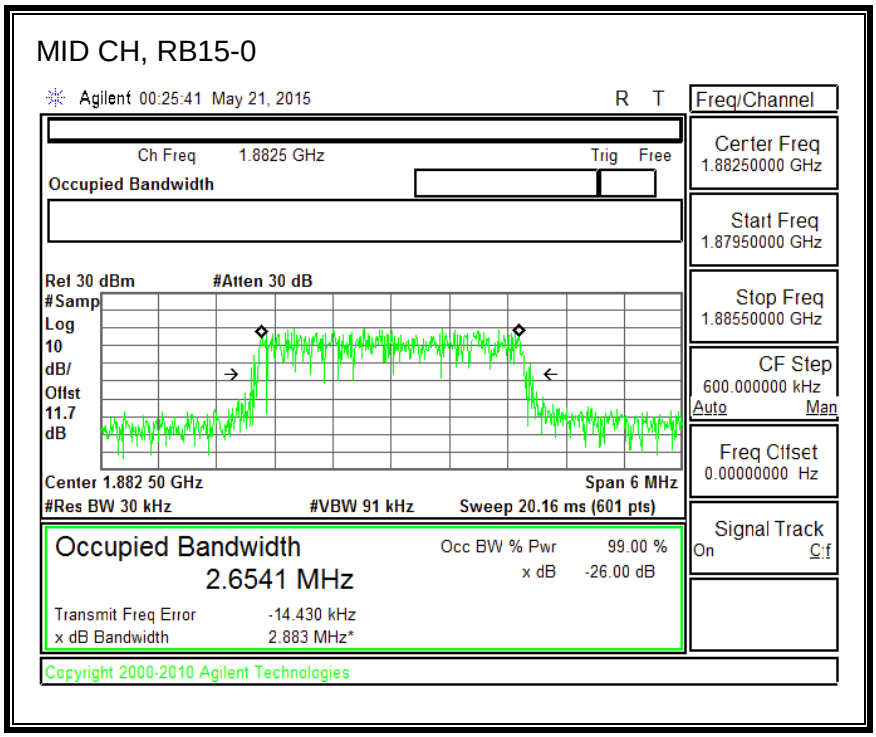
16QAM, (1.4 MHz BAND WIDTH)



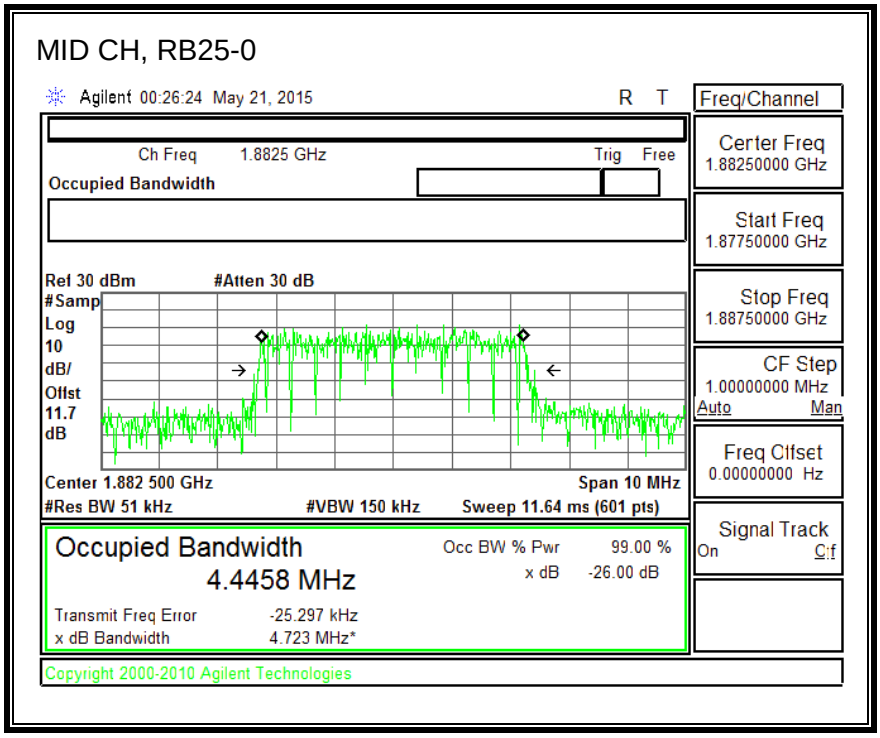
QPSK, (3.0 MHz BAND WIDTH)



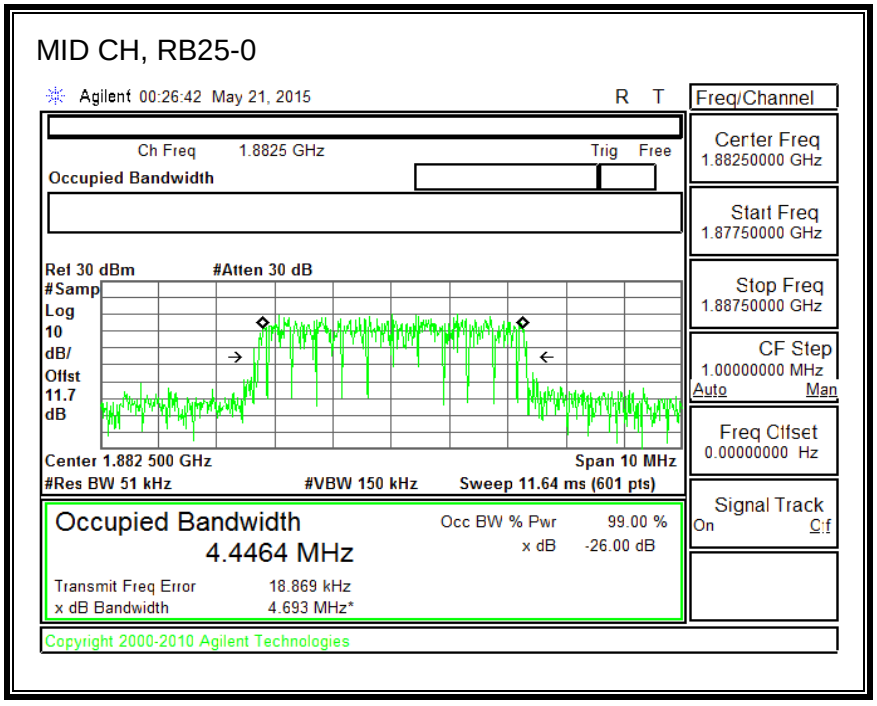
16QAM, (3.0 MHz BAND WIDTH)



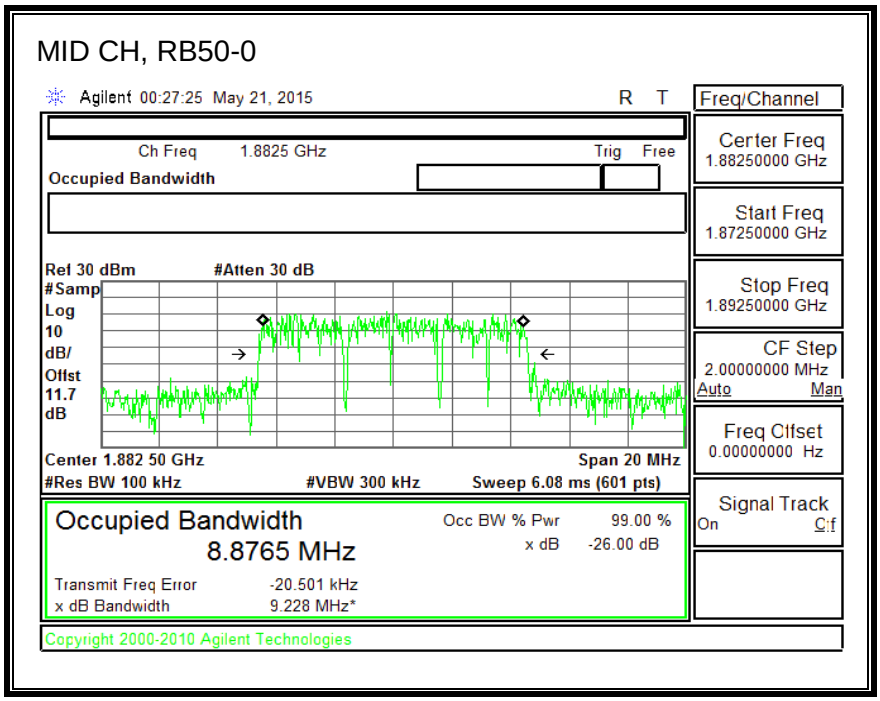
QPSK, (5.0 MHz BAND WIDTH)



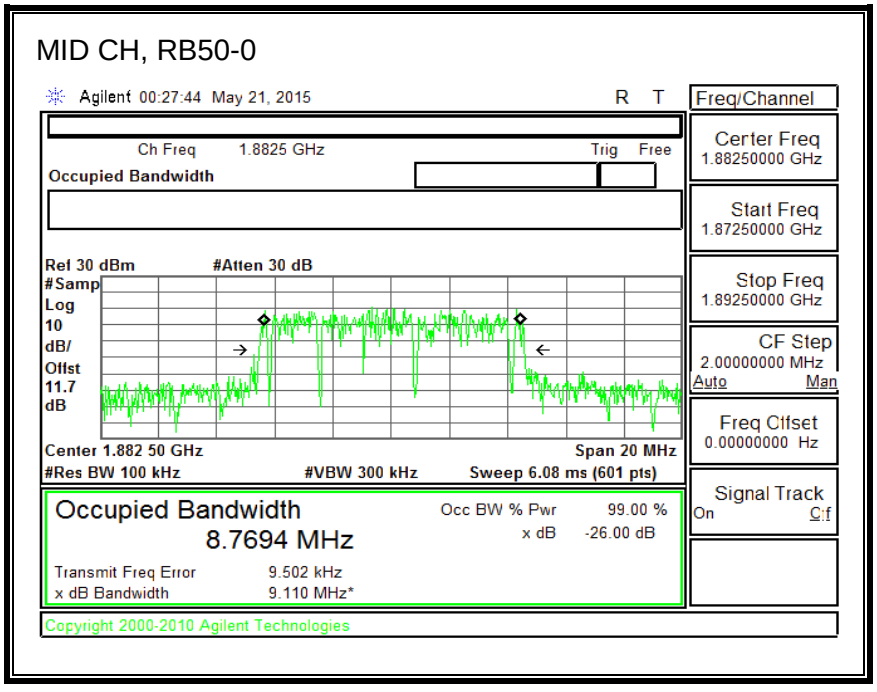
16QAM, (5.0 MHz BAND WIDTH)



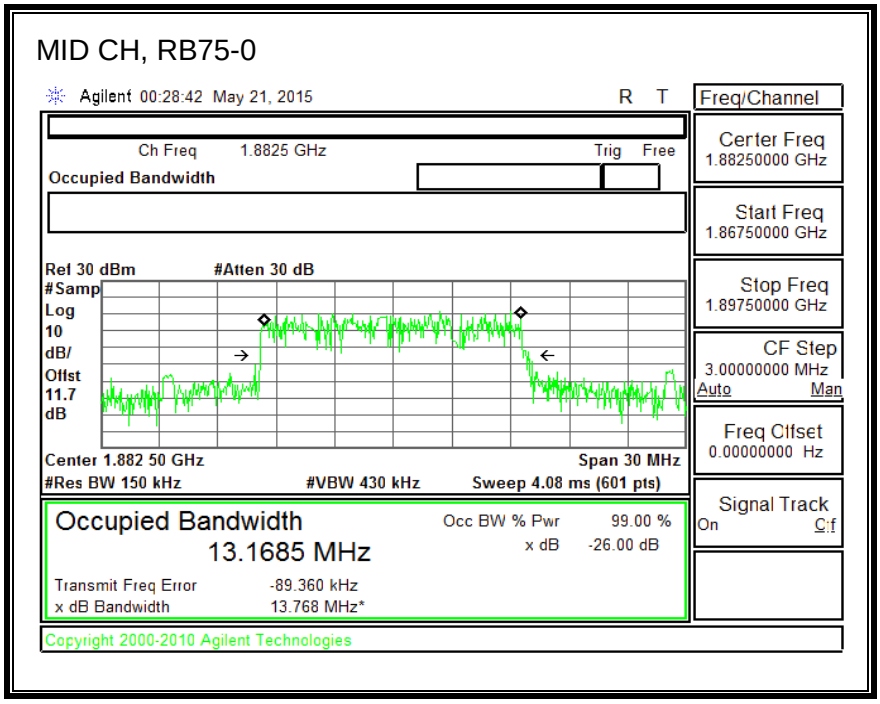
QPSK, (10.0 MHz BAND WIDTH)



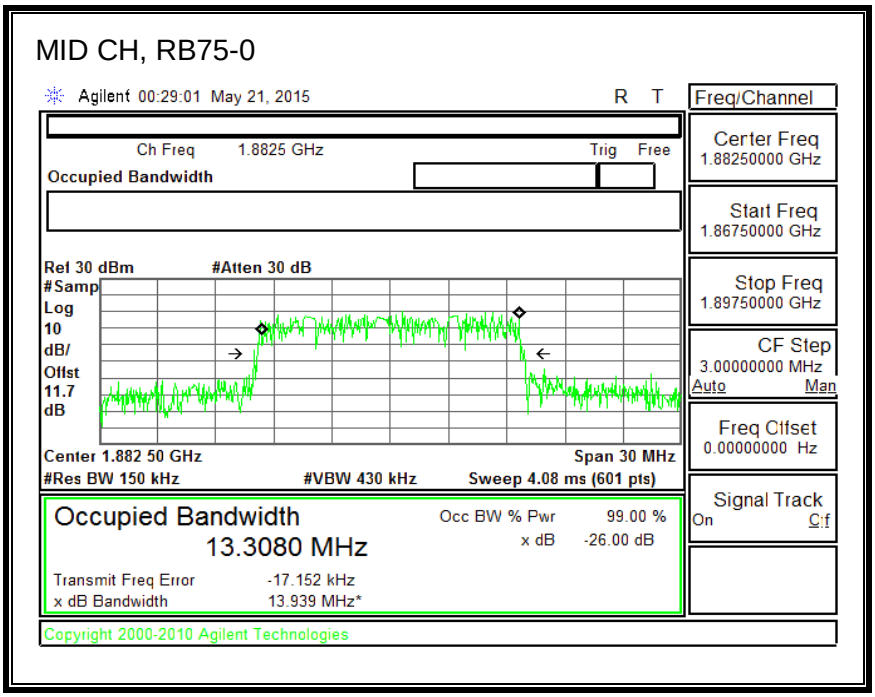
16QAM, (10.0 MHz BAND WIDTH)



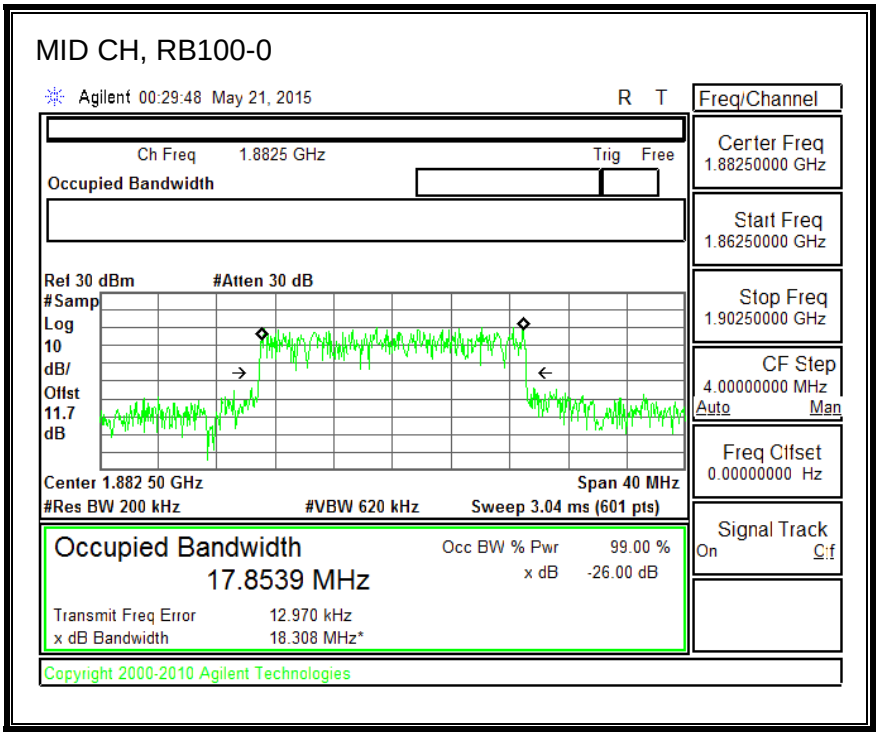
QPSK, (15.0 MHz BAND WIDTH)



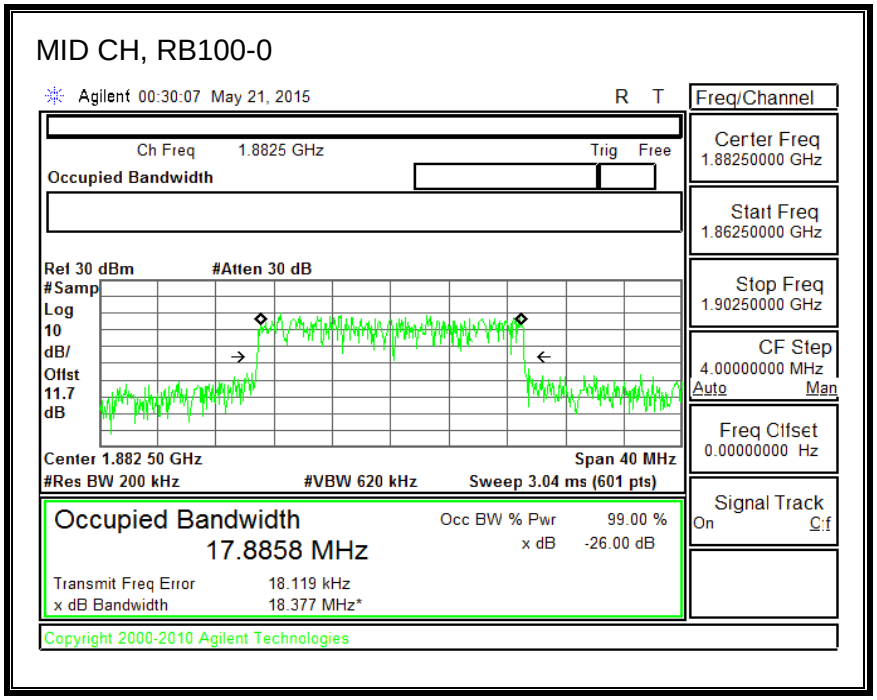
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)

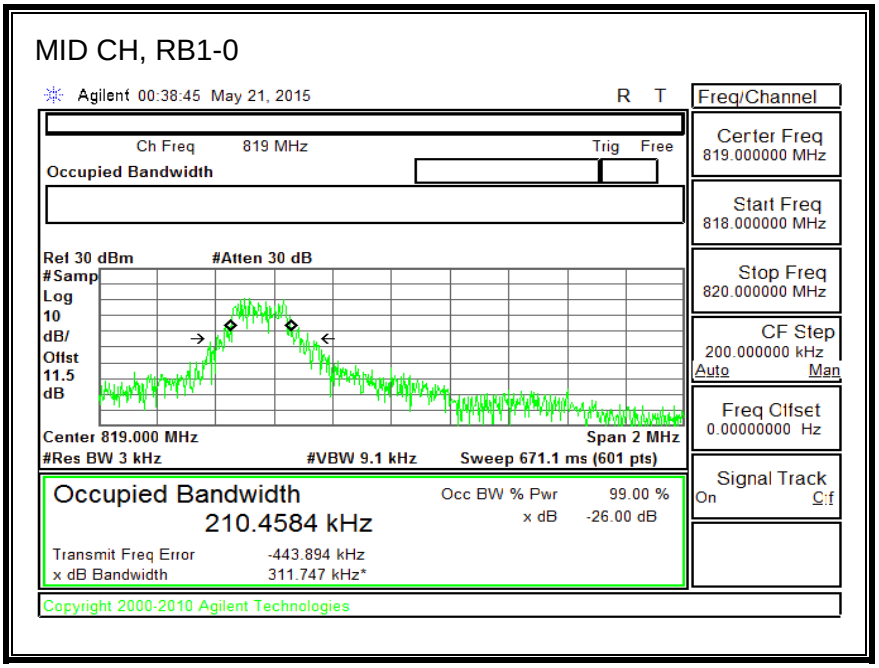


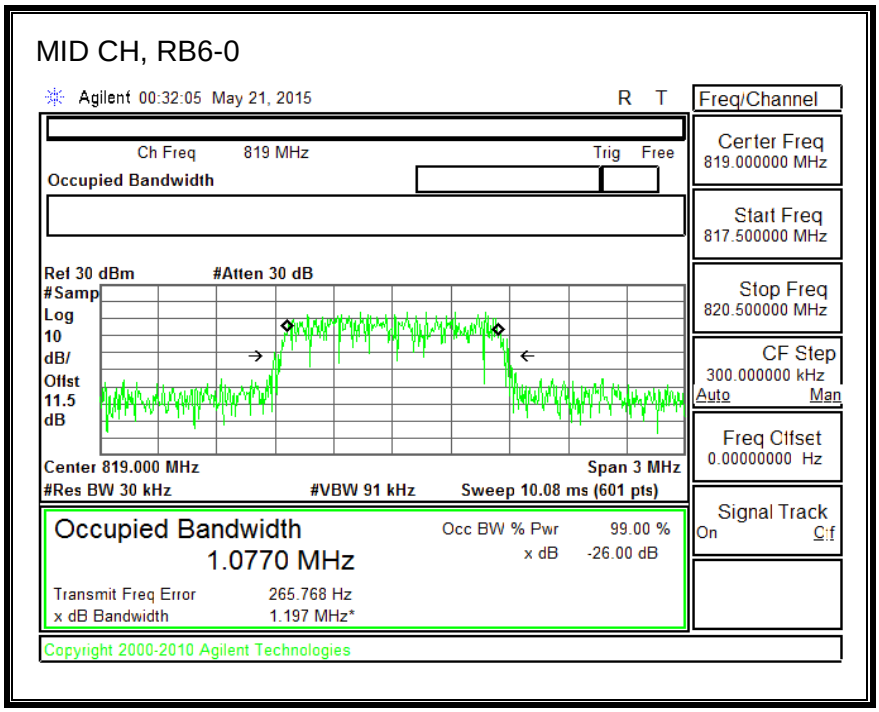
16QAM, (20.0 MHz BAND WIDTH)



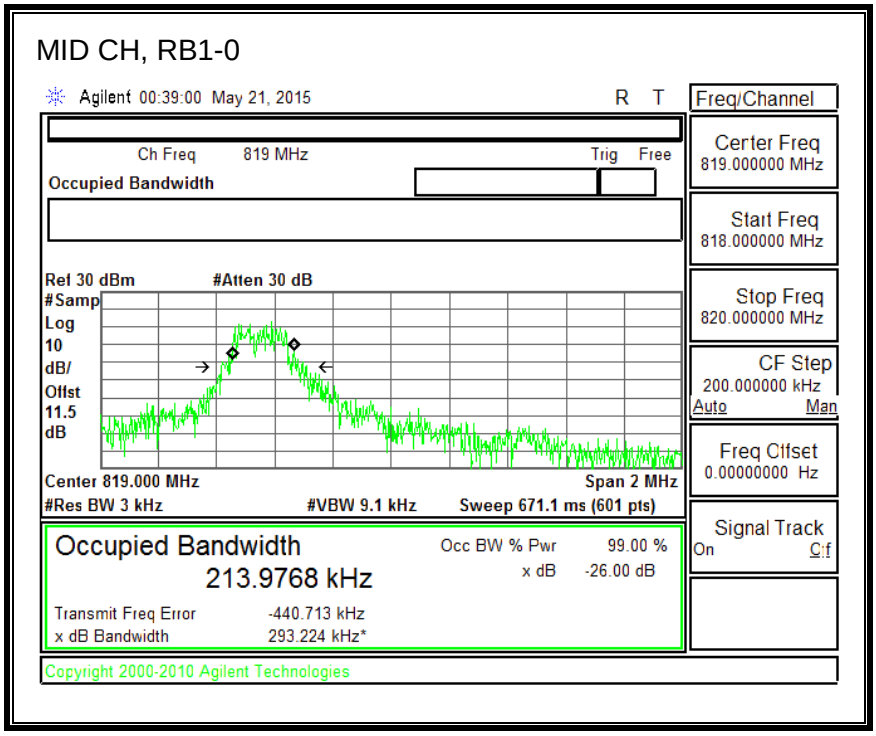
8.2.9. LTE BAND 26

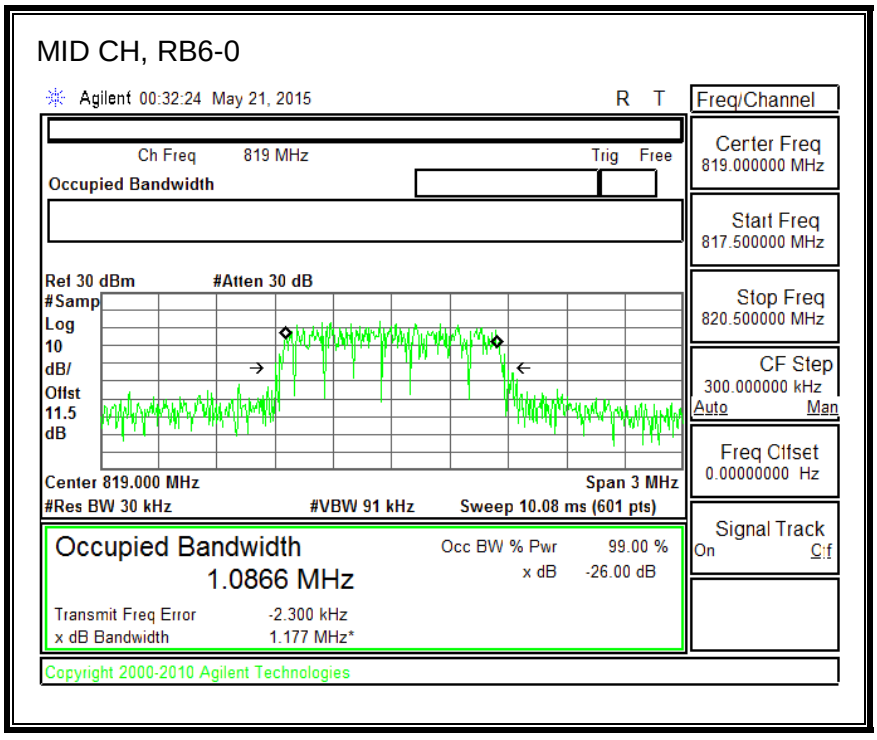
QPSK, (1.4 MHz BAND WIDTH)





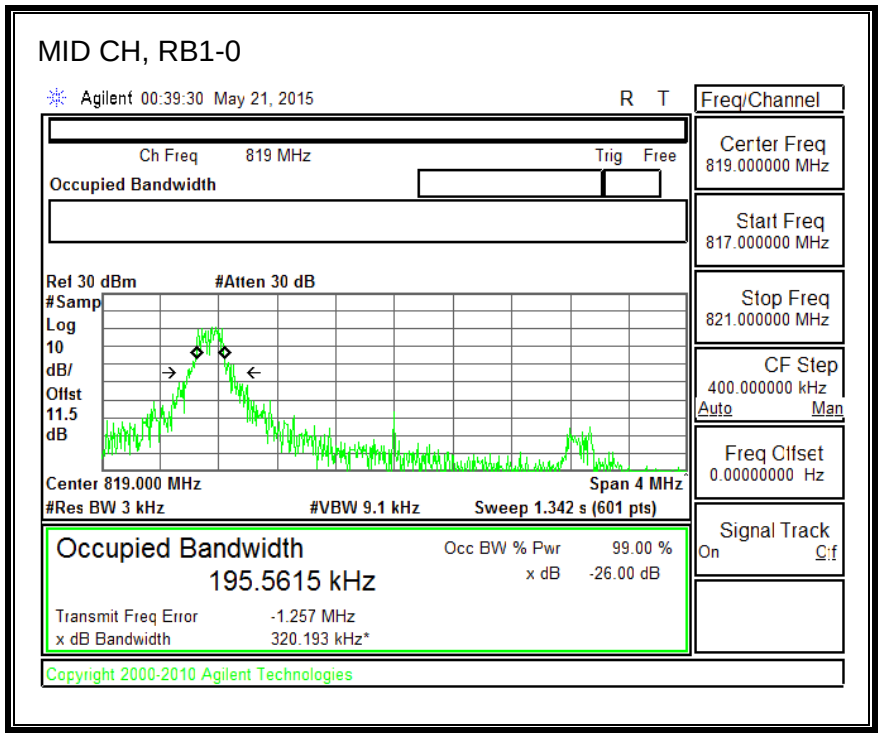
16QAM, (1.4 MHz BAND WIDTH)



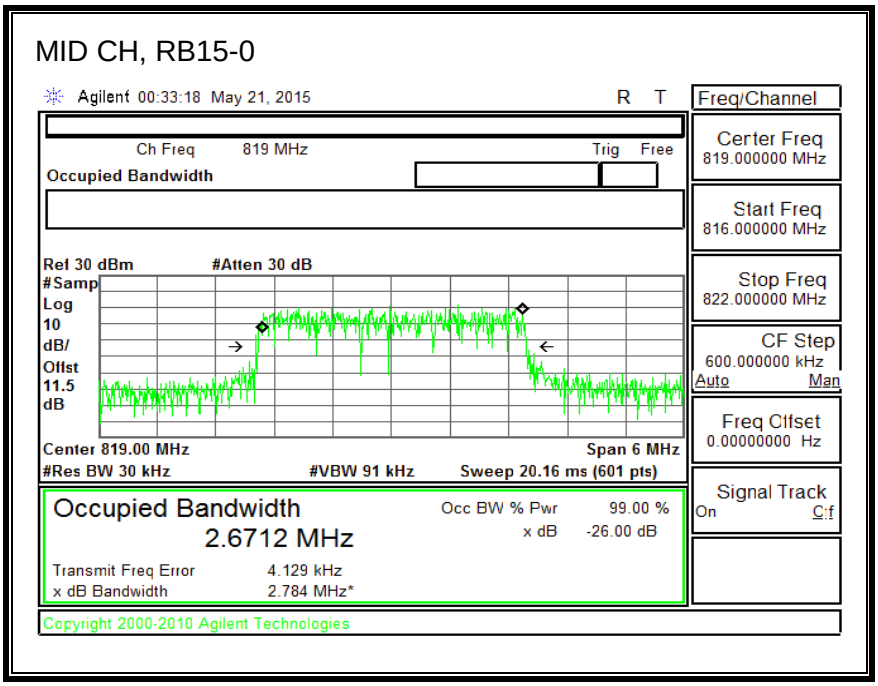


QPSK, (3.0 MHz BAND WIDTH)

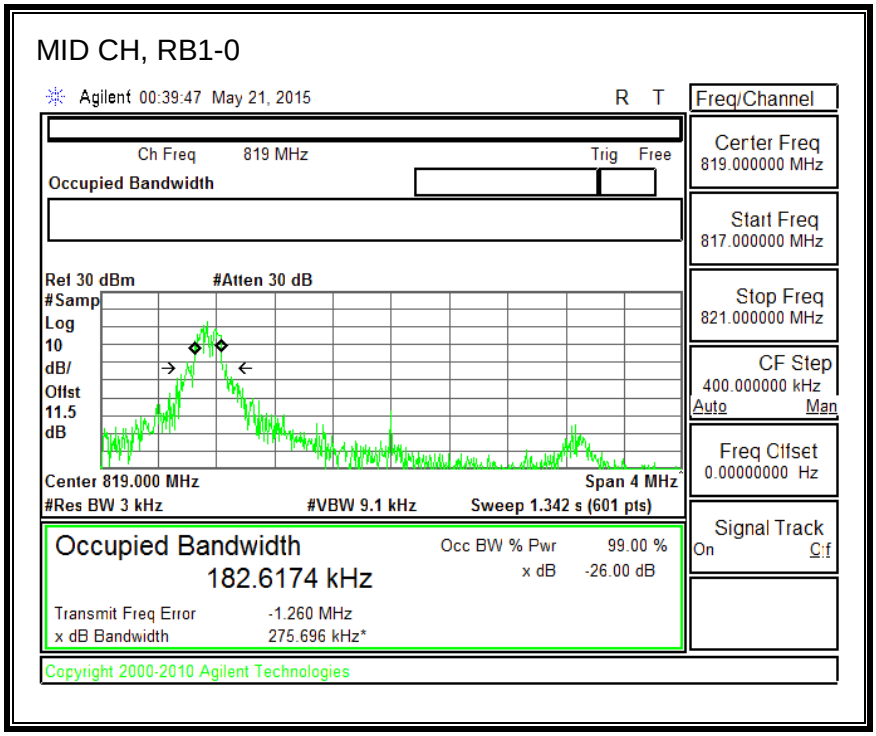
MID CH, RB1-0

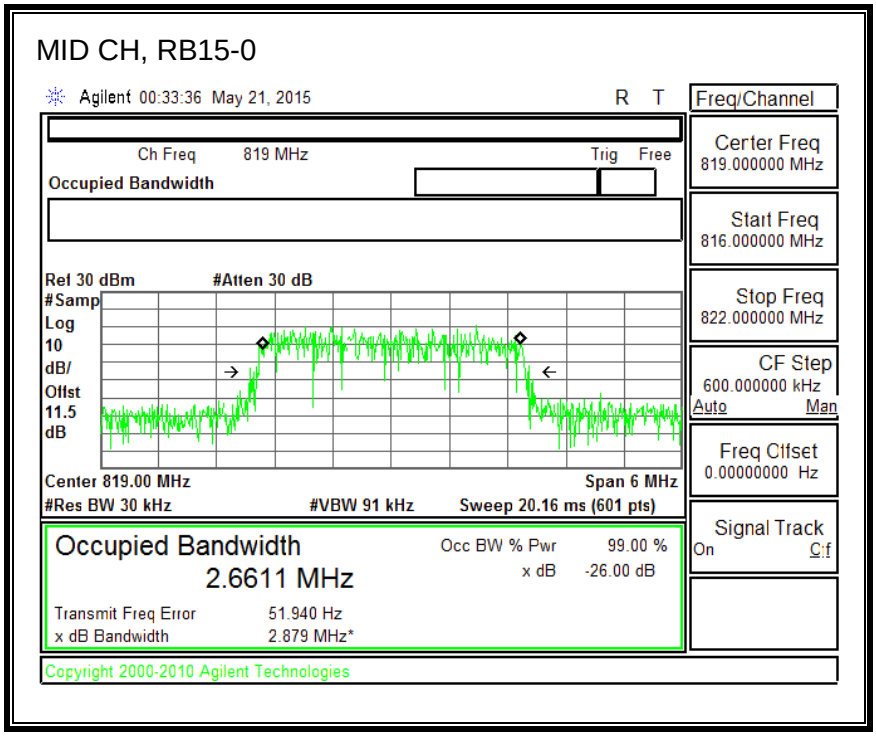


MID CH, RB15-0

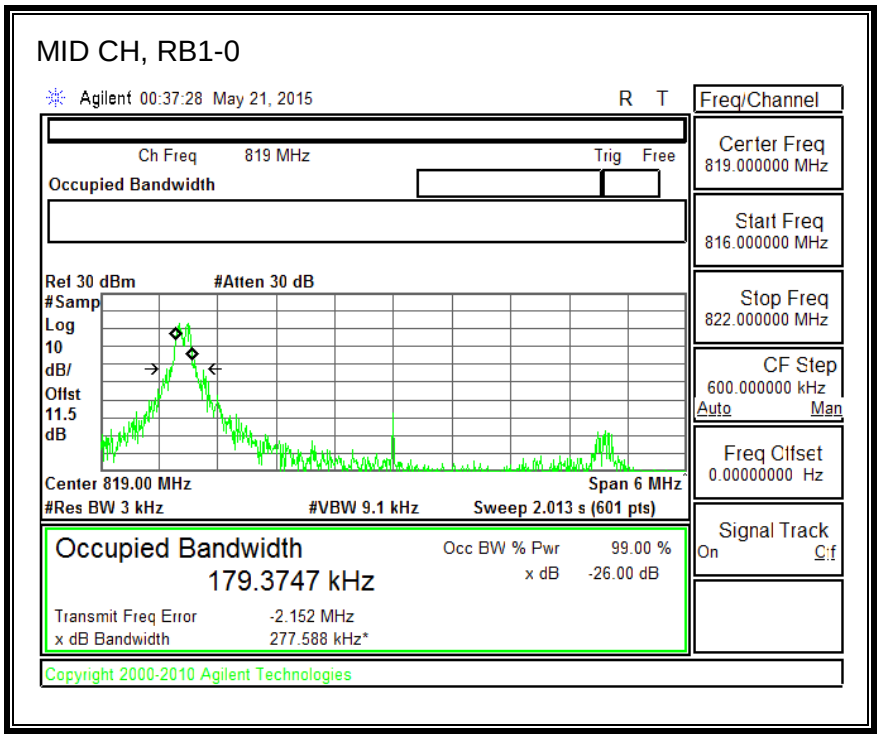


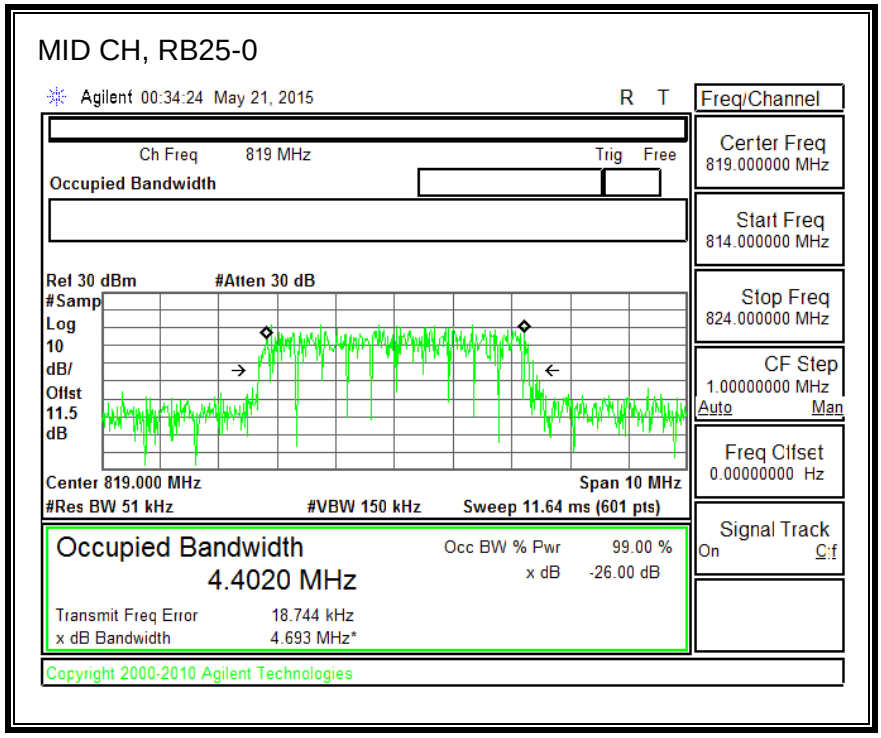
16QAM, (3.0 MHz BAND WIDTH)



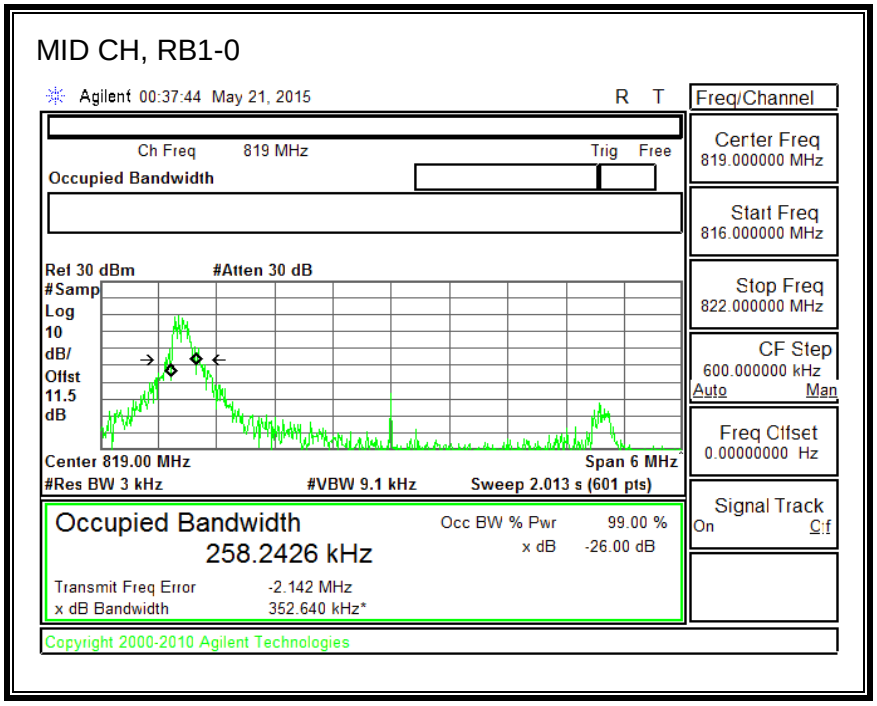


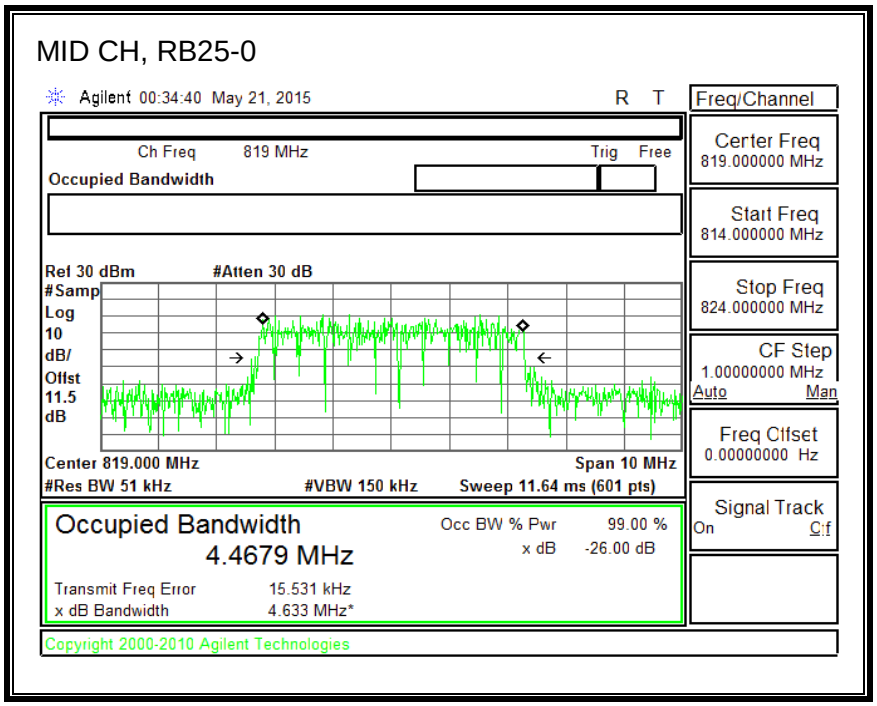
QPSK, (5.0 MHz BAND WIDTH)





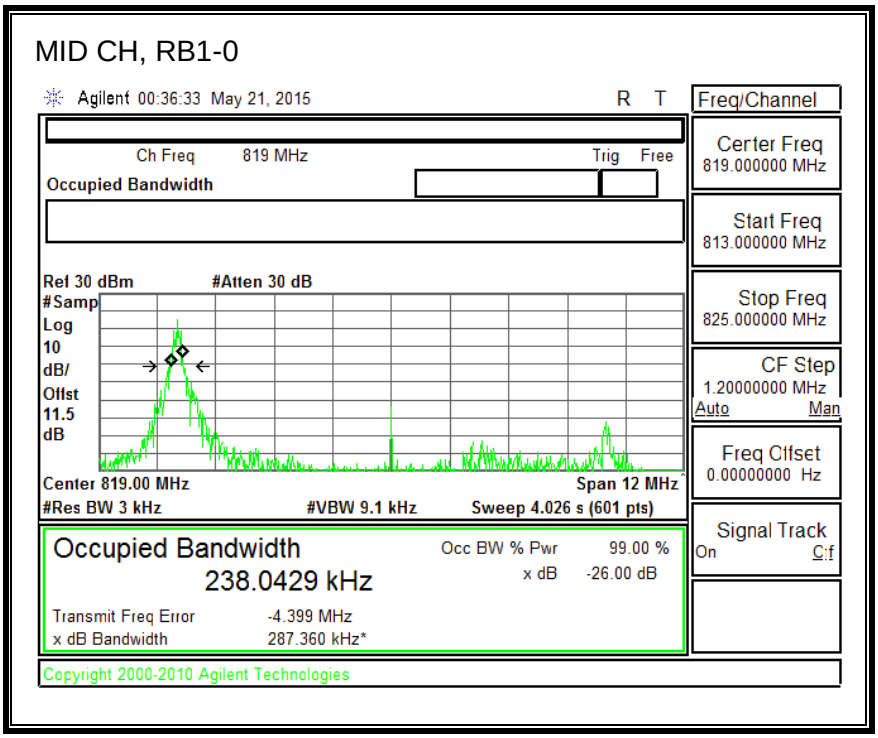
16QAM, (5.0 MHz BAND WIDTH)



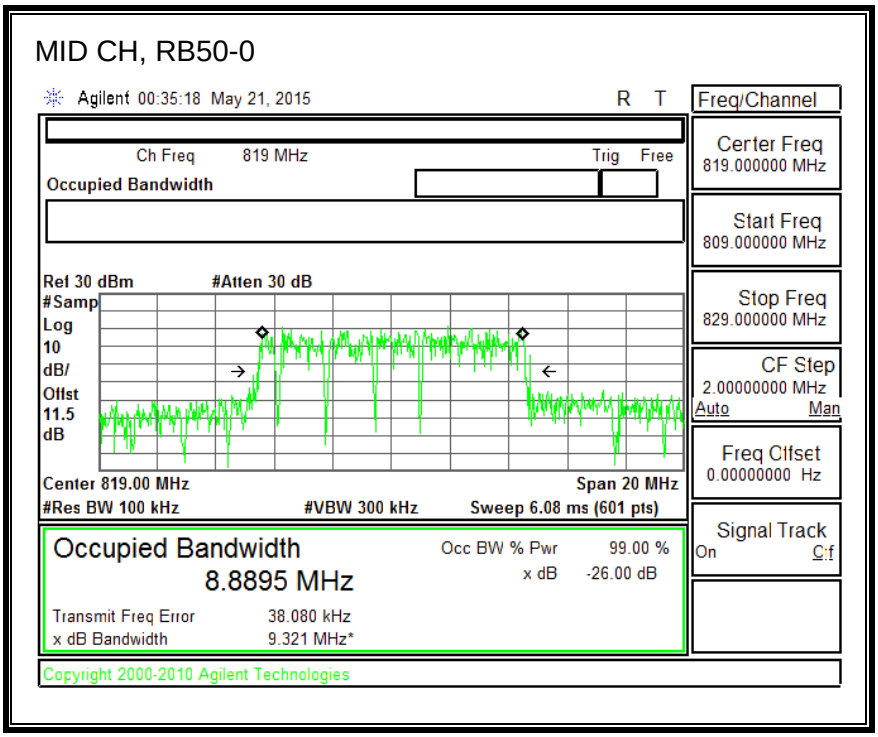


QPSK, (10.0 MHz BAND WIDTH)

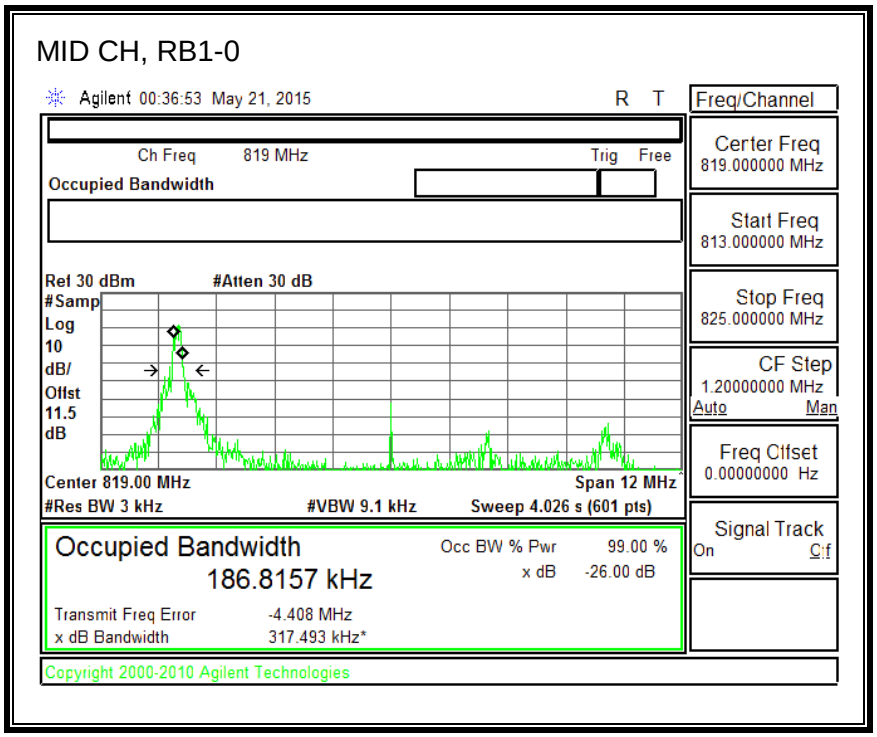
MID CH, RB1-0

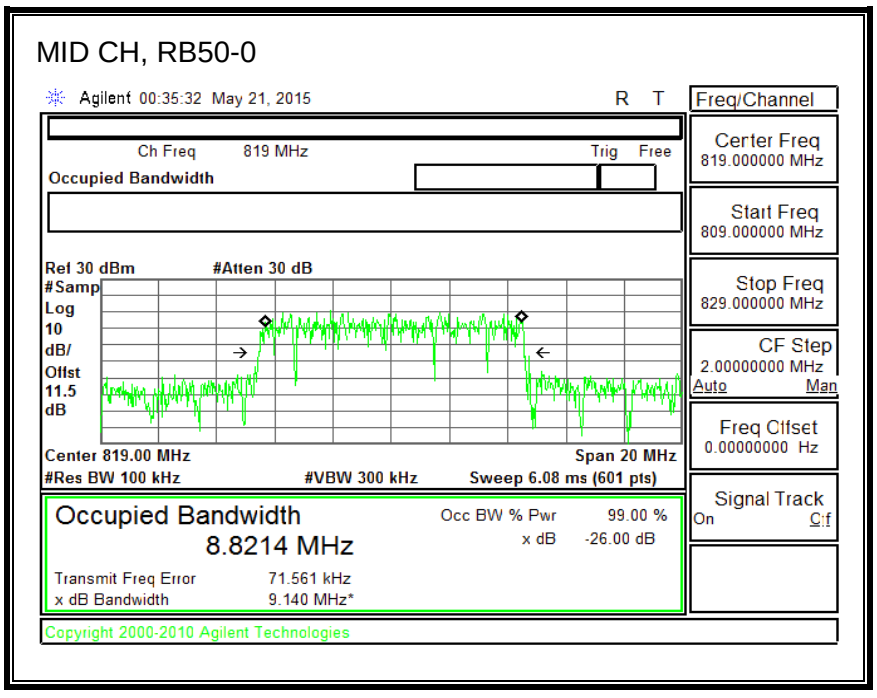


MID CH, RB50-0



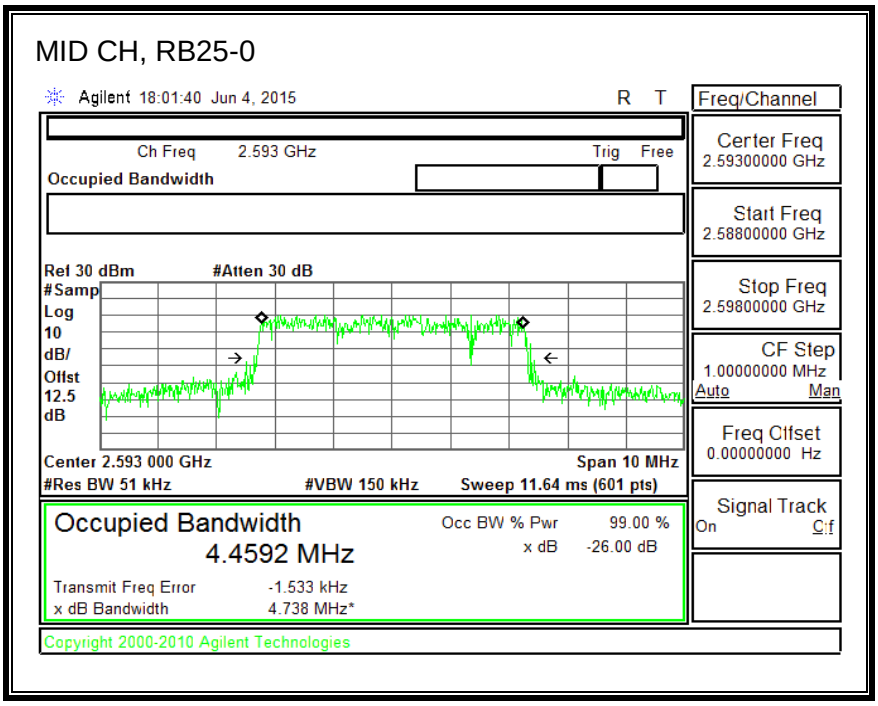
16QAM, (10.0 MHz BAND WIDTH)



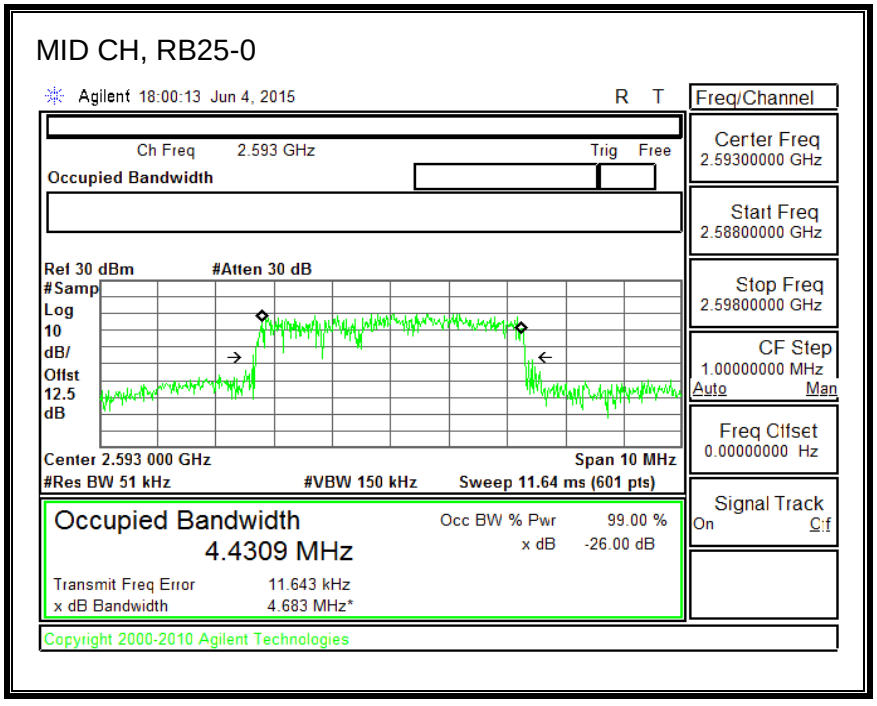


8.2.10. LTE BAND 41

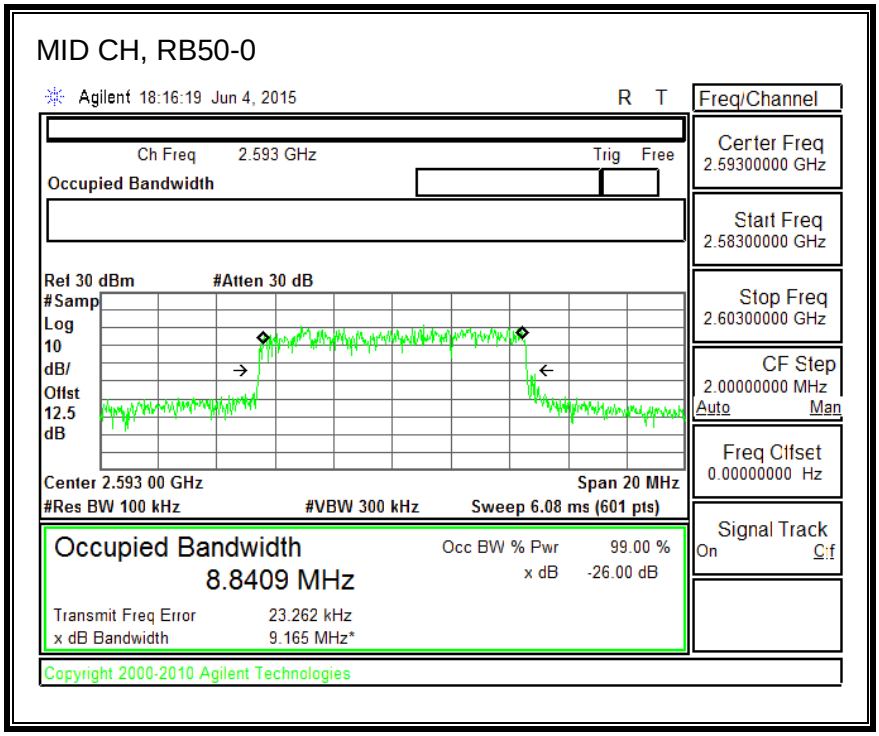
QPSK, (5.0 MHz BAND WIDTH)



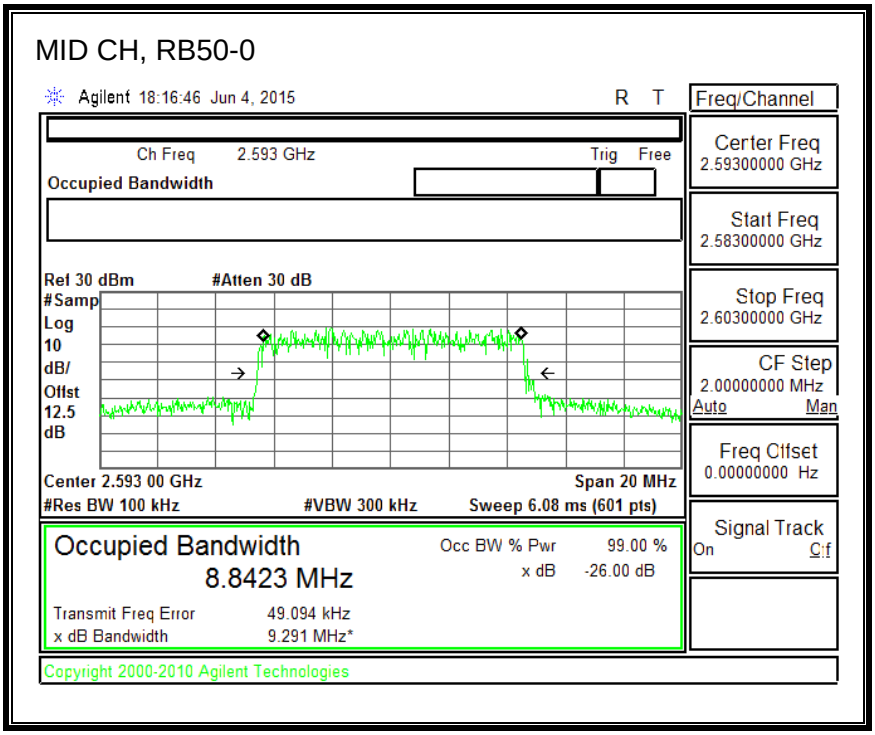
16QAM, (5.0 MHz BAND WIDTH)



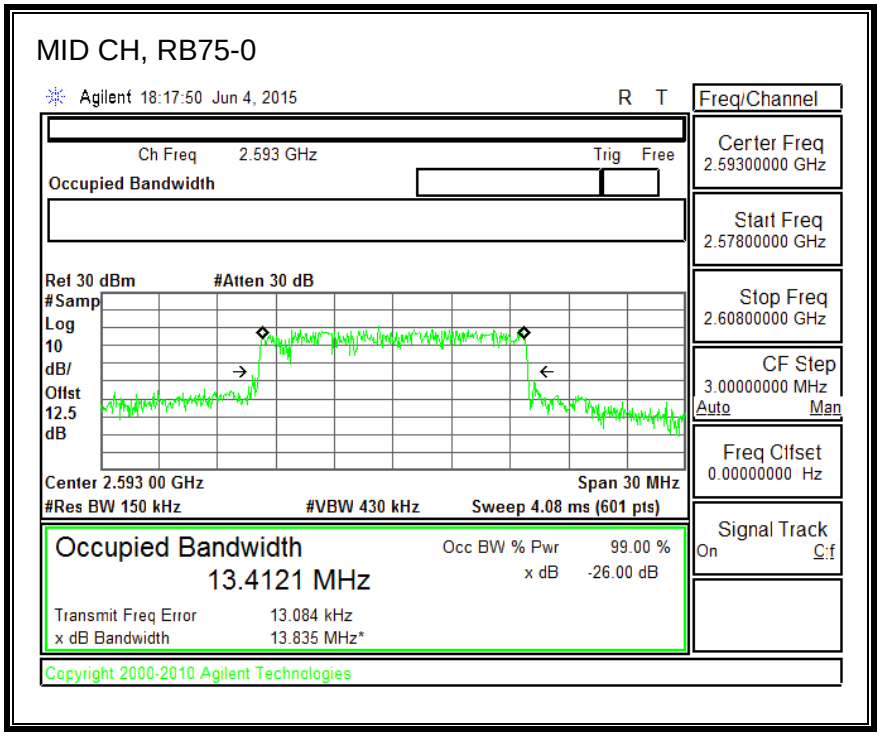
QPSK, (10.0 MHz BAND WIDTH)



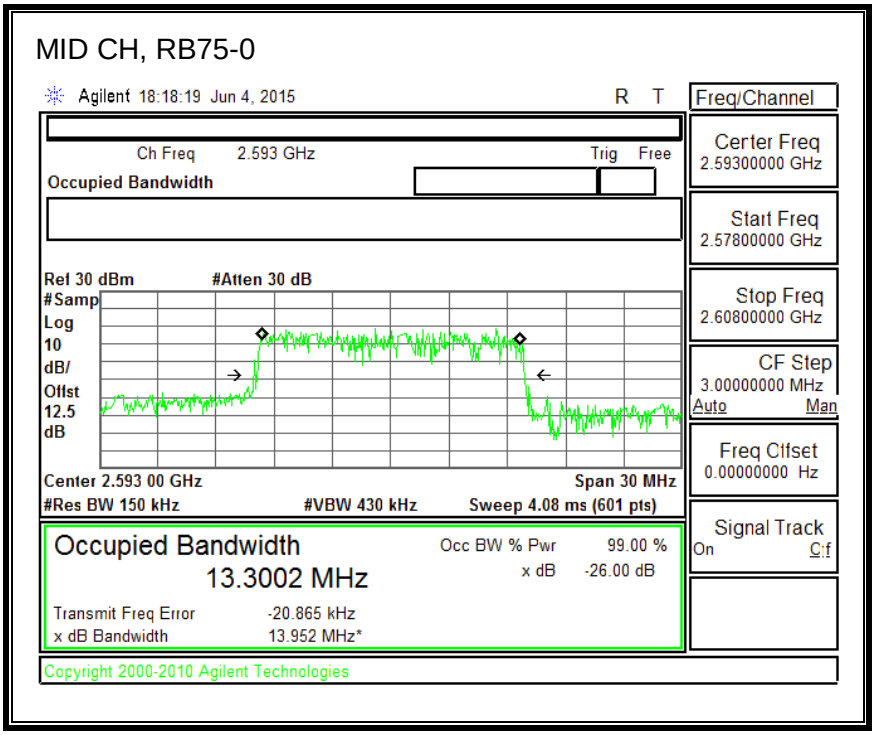
16QAM, (10.0 MHz BAND WIDTH)



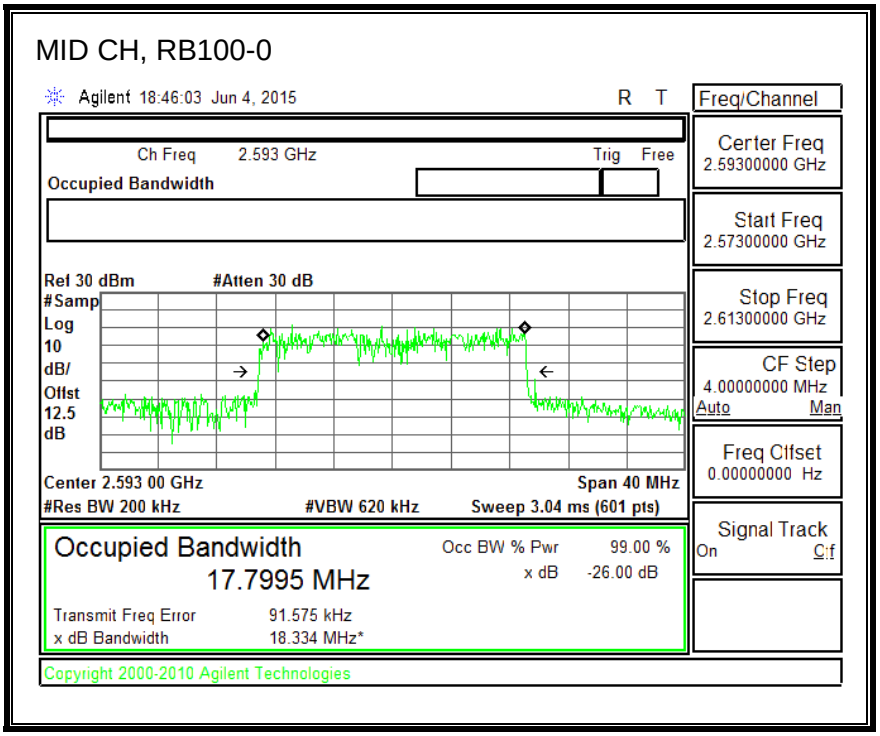
QPSK, (15.0 MHz BAND WIDTH)



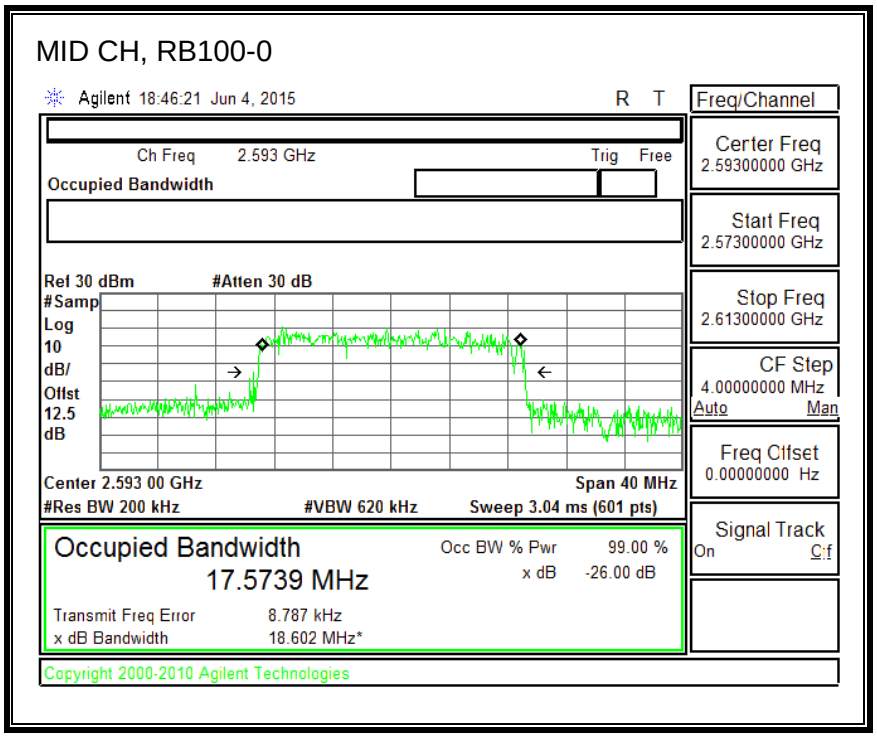
16QAM, (15.0 MHz BAND WIDTH)



QPSK, (20.0 MHz BAND WIDTH)



16QAM, (20.0 MHz BAND WIDTH)



8.3. BANDEDGE AND EMISSION MASK (MODEL: A1634)

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53, and §90.691

LIMITS

FCC: §24.238, §27.53
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

FCC: §90.210, and §90.691 (LTE BAND 26)
(a)(1)For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10 (f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
(a)(2)For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. (NOTE: Use 100 kHz reference bandwidth.)

FCC: §27.53
(c) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;
(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;
(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC: §27.53 (LTE BAND 41)
(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.Show citation box.

FCC: §90.210, and §90.691
(a)(1)For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
(a)(2)For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. {NOTE: Use 100 kHz reference bandwidth.}

TEST PROCEDURE

The transmitter output was connected to a CMW500Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:
Set the spectrum analyzer span to include the block edge frequency (704, 716, 824, 849, 1710 and 1755, 1850 and 1910MHz)
Set a marker to point the corresponding band edge frequency in each test case.
Set display line at -13 dBm
Set resolution bandwidth to at least 1% of emission bandwidth.

MODES TESTED

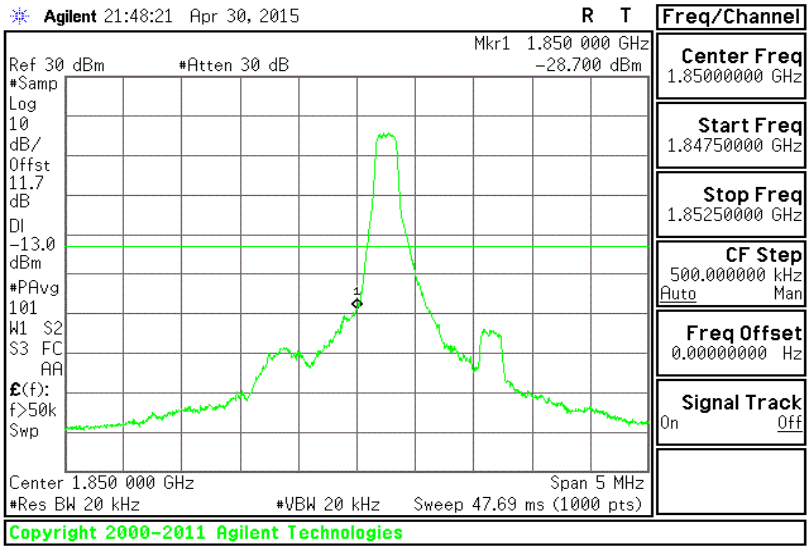
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41

RESULTS

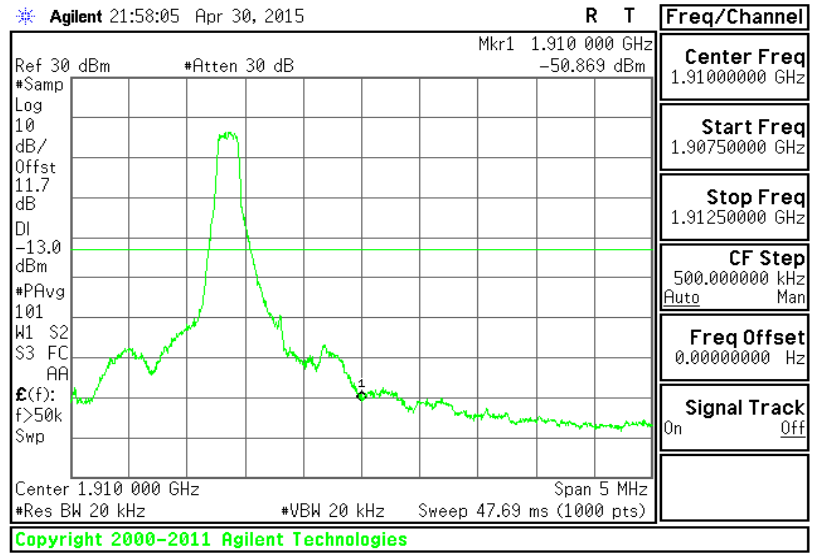
8.3.1. LTE BAND 2 BANDEDGE

QPSK, (1.4 MHz BAND WIDTH)

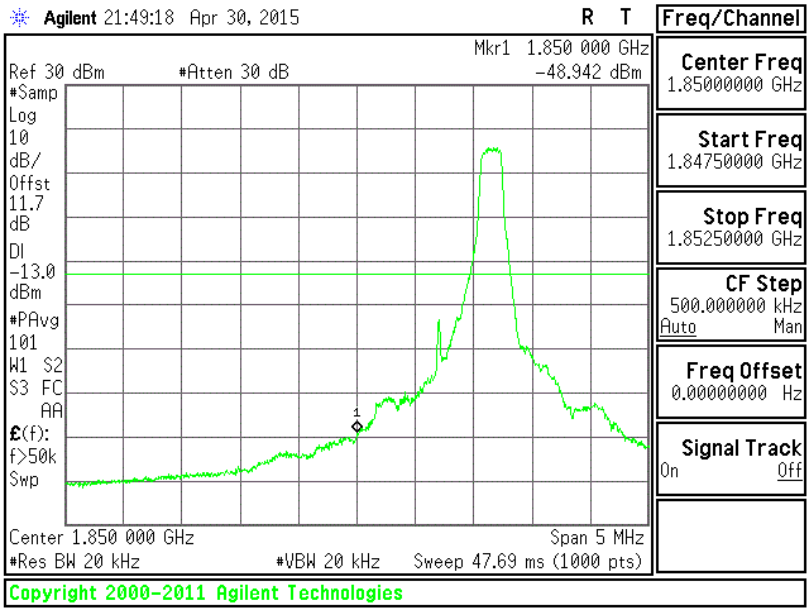
LOW CH, RB1-0



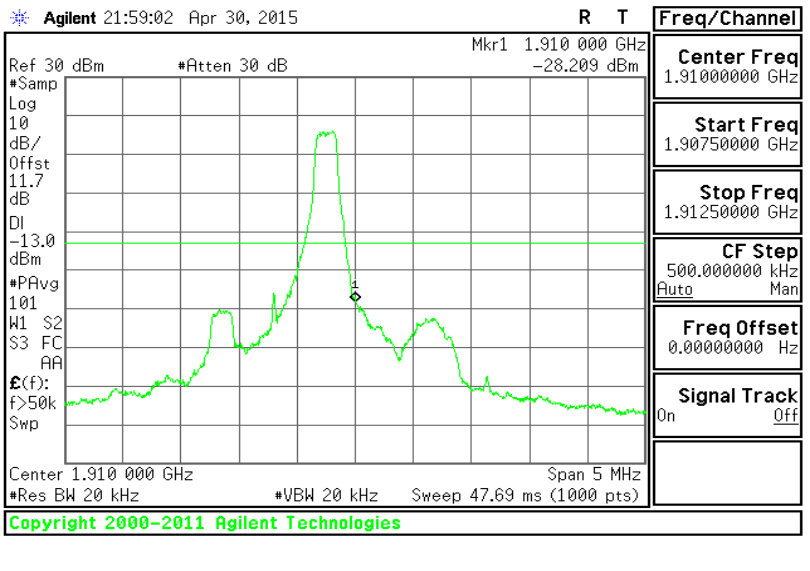
HIGH CH, RB1-0



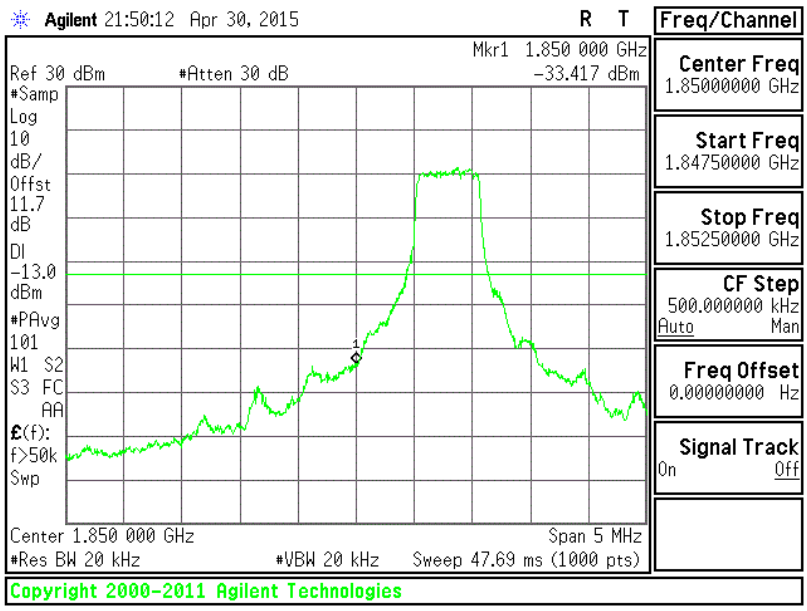
LOW CH, RB1-5



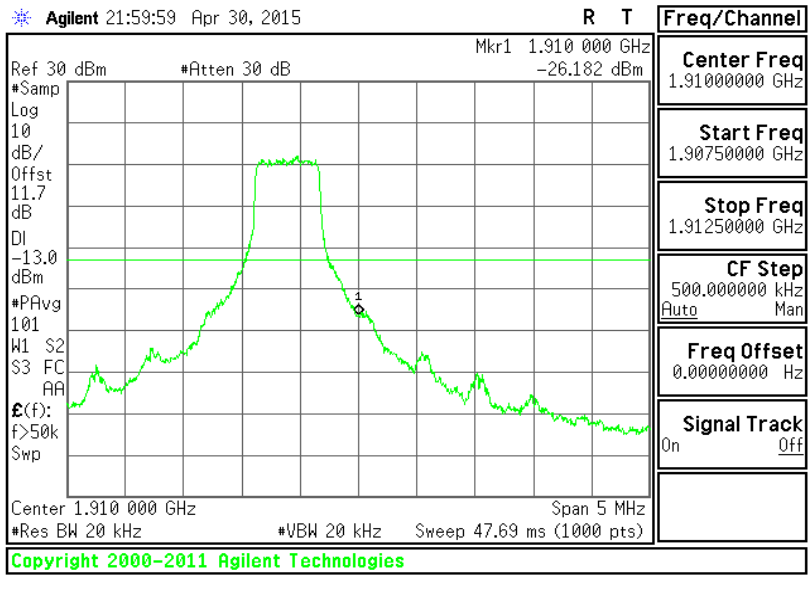
HIGH CH, RB1-5



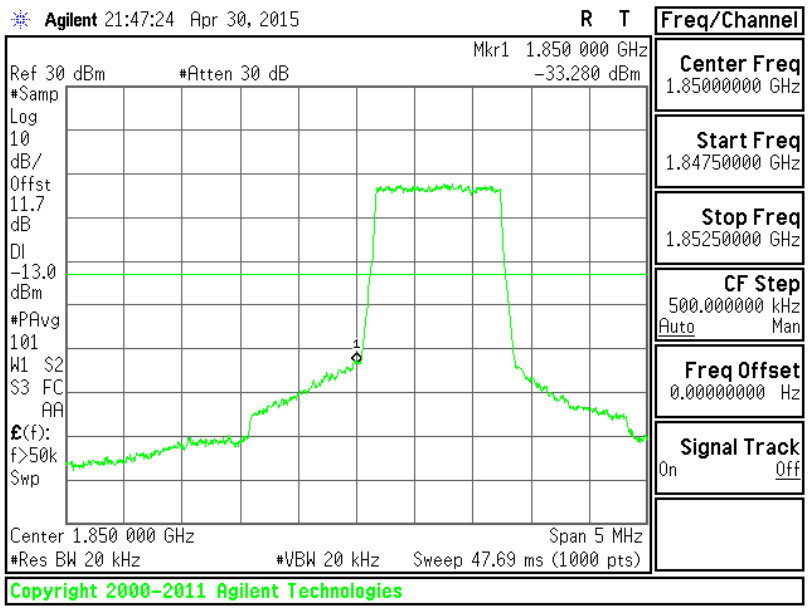
LOW CH, RB3-2



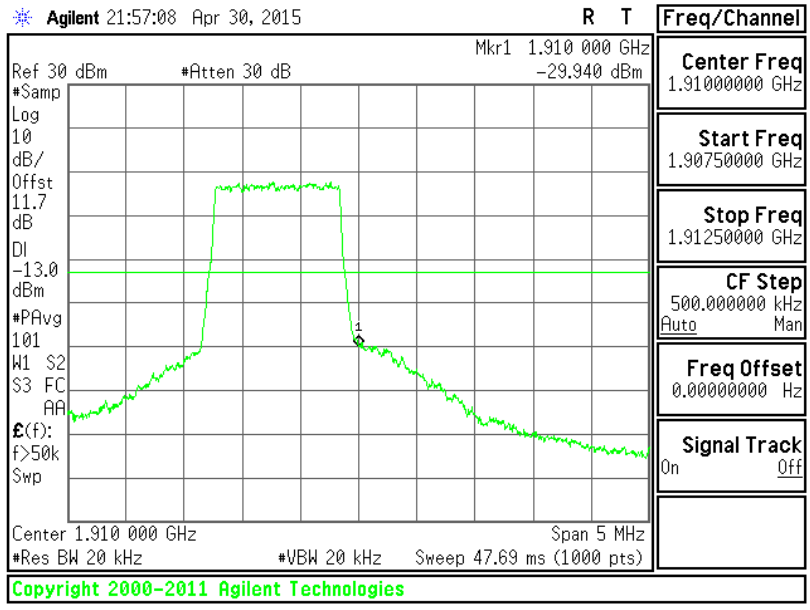
HIGH CH, RB3-2



LOW CH, RB6-0

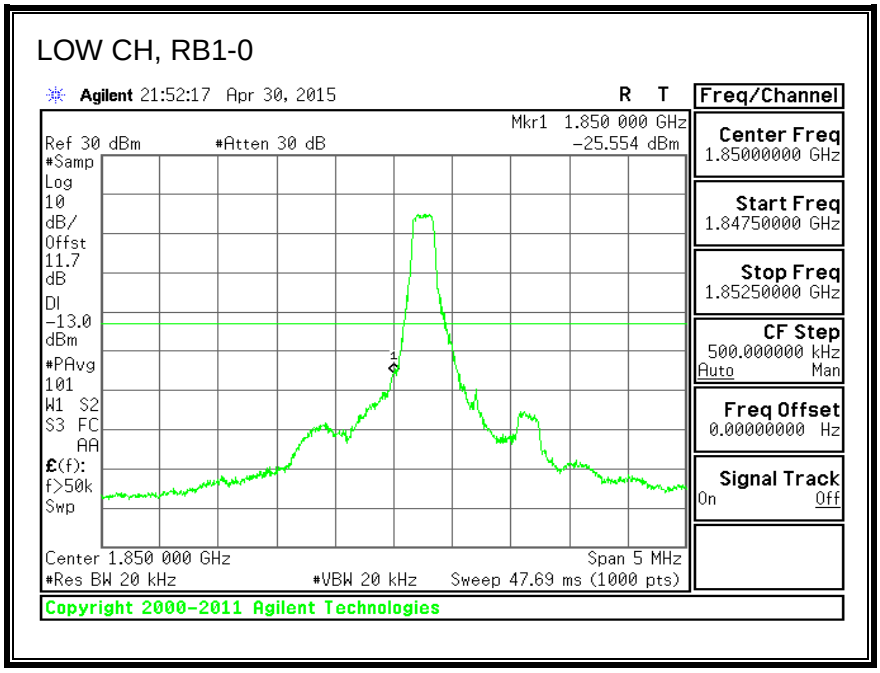


HIGH CH, RB6-0

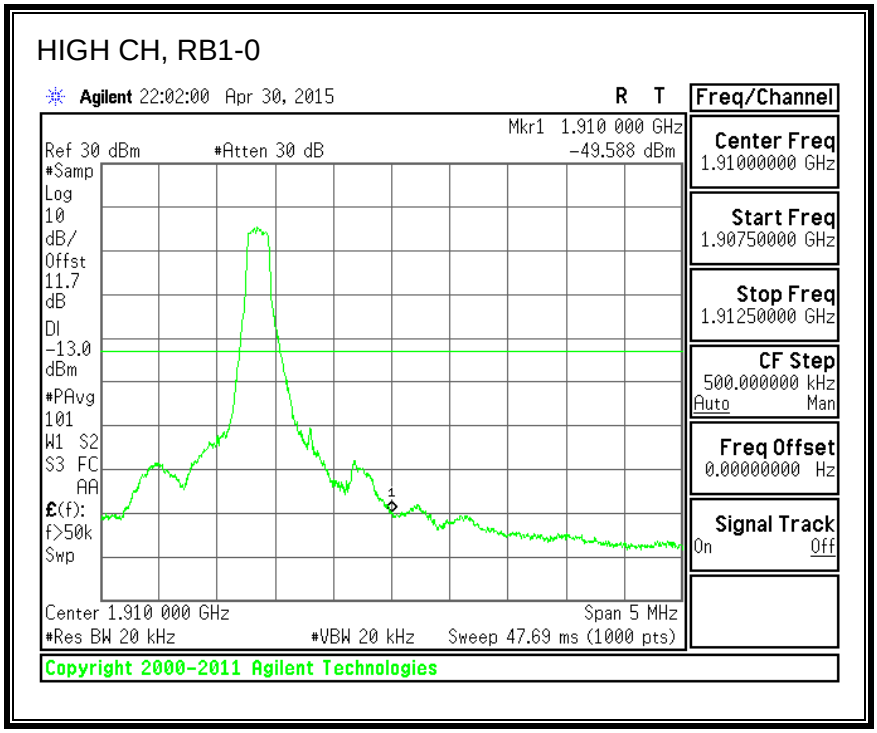


16QAM, (1.4 MHz BAND WIDTH)

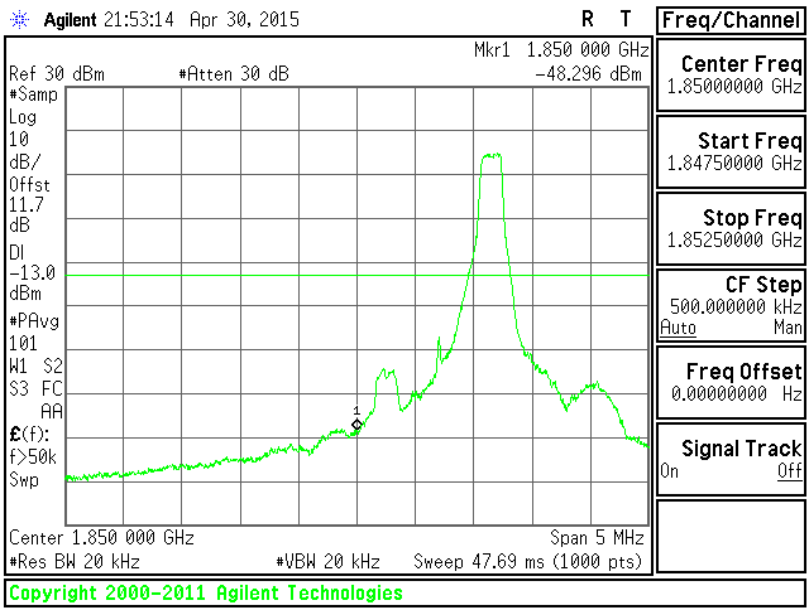
LOW CH, RB1-0



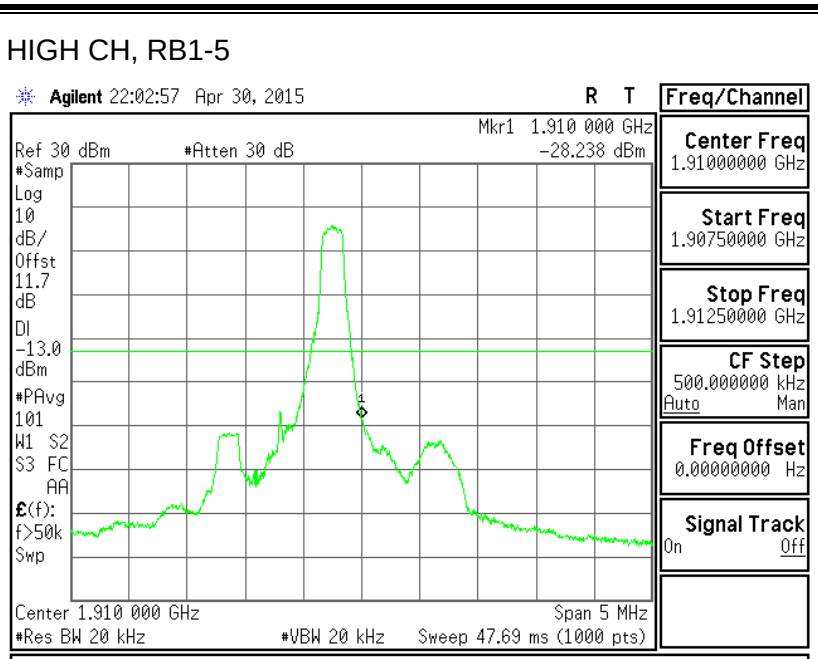
HIGH CH, RB1-0



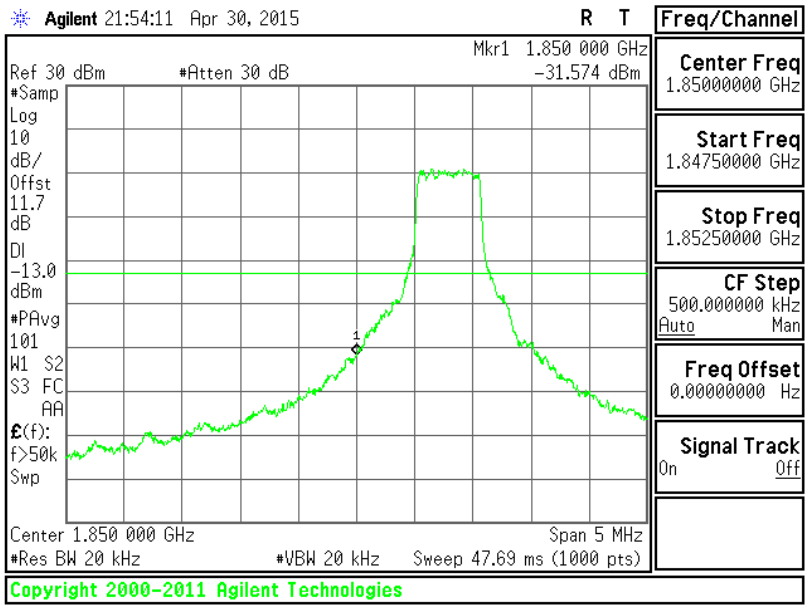
LOW CH, RB1-5



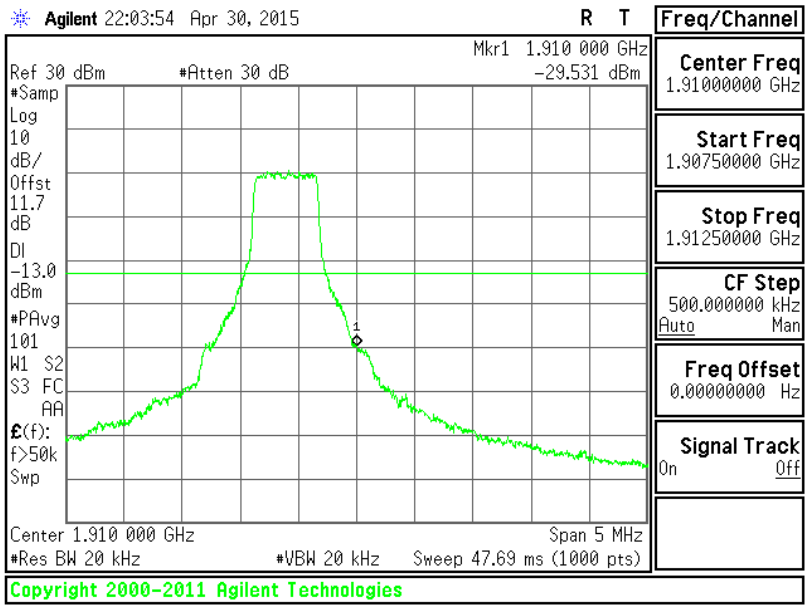
HIGH CH, RB1-5



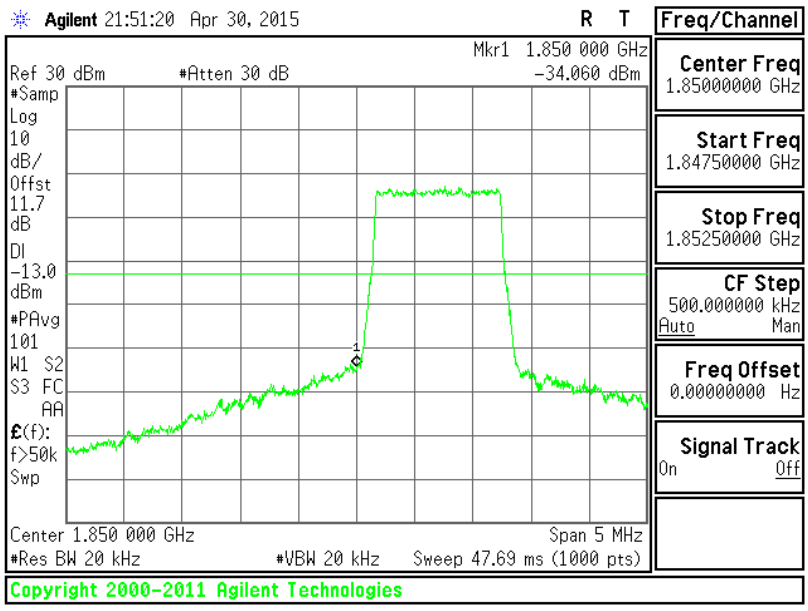
LOW CH, RB3-2



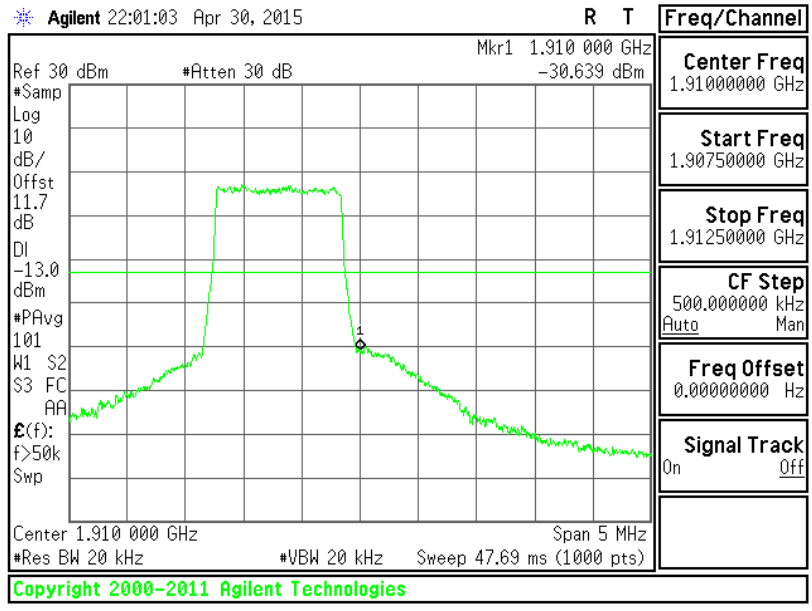
HIGH CH, RB3-2



LOW CH, RB6-0

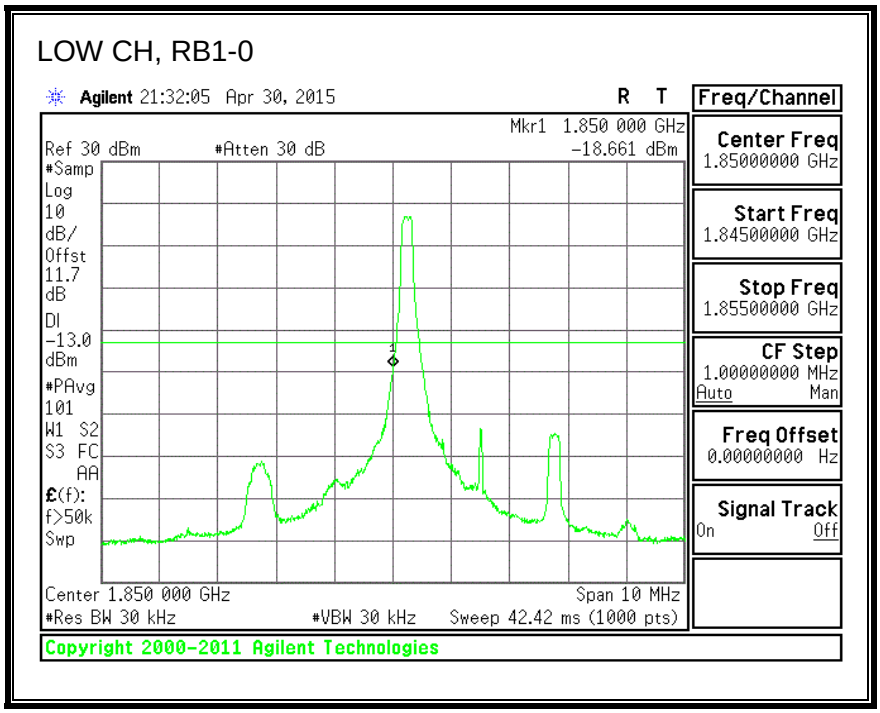


HIGH CH, RB6-0

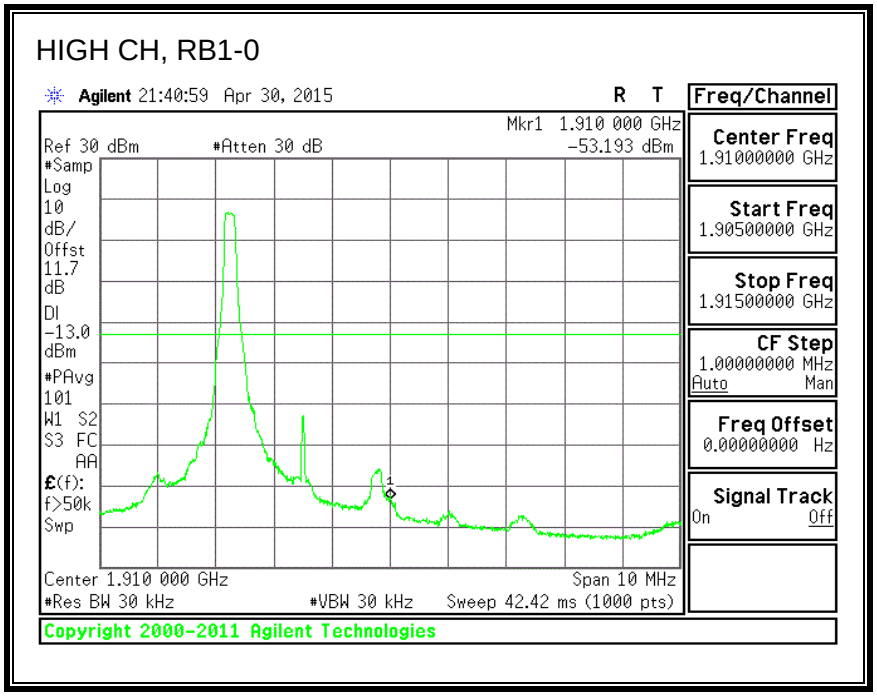


QPSK, (3.0 MHz BAND WIDTH)

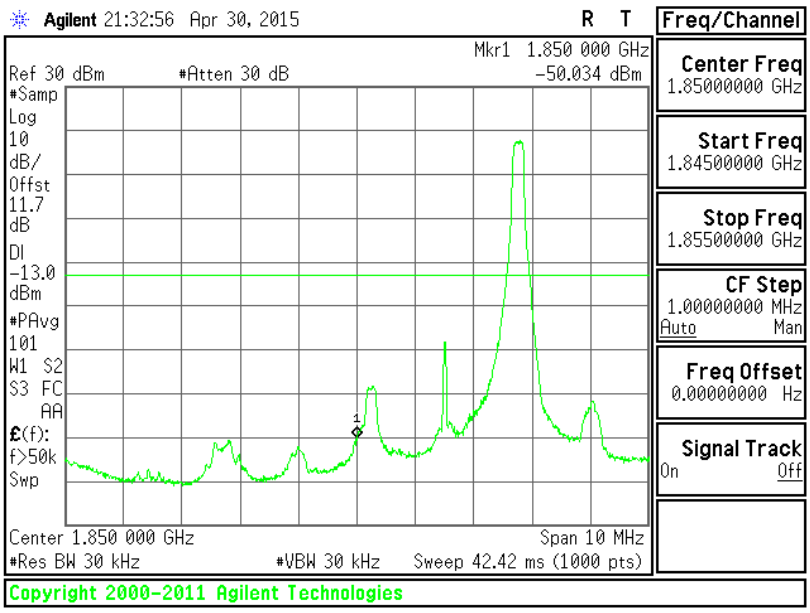
LOW CH, RB1-0



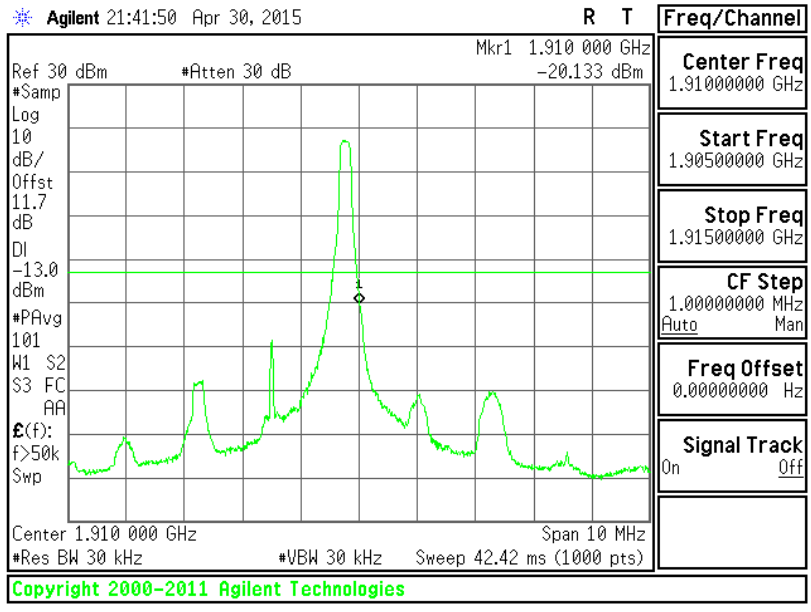
HIGH CH, RB1-0



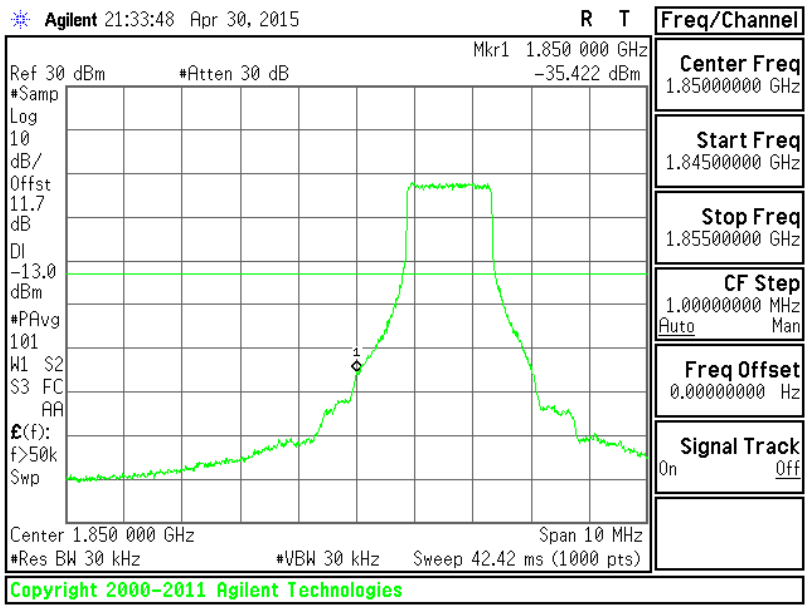
LOW CH, RB1-14



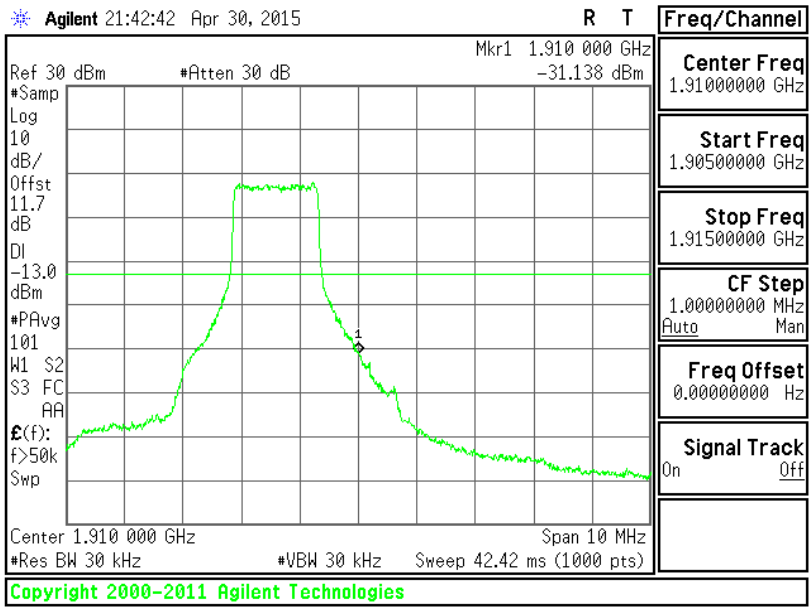
HIGH CH, RB1-14



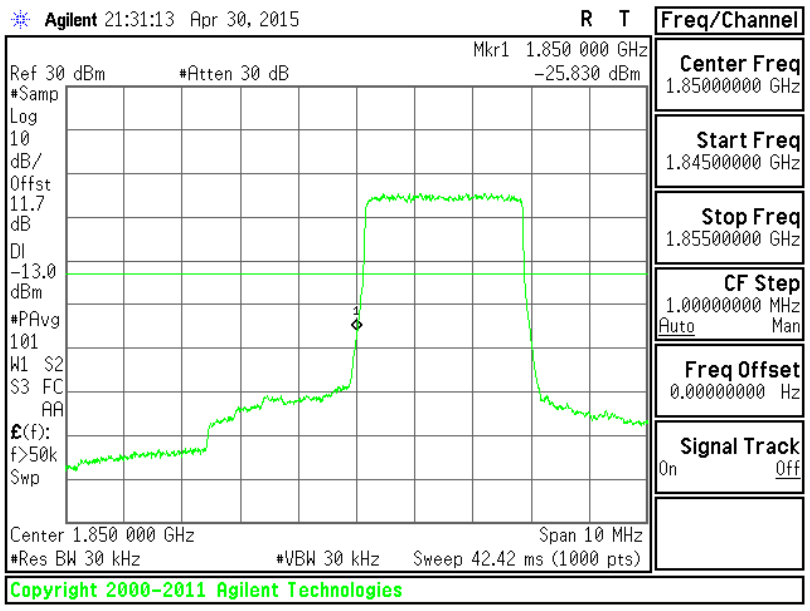
LOW CH, RB8-4



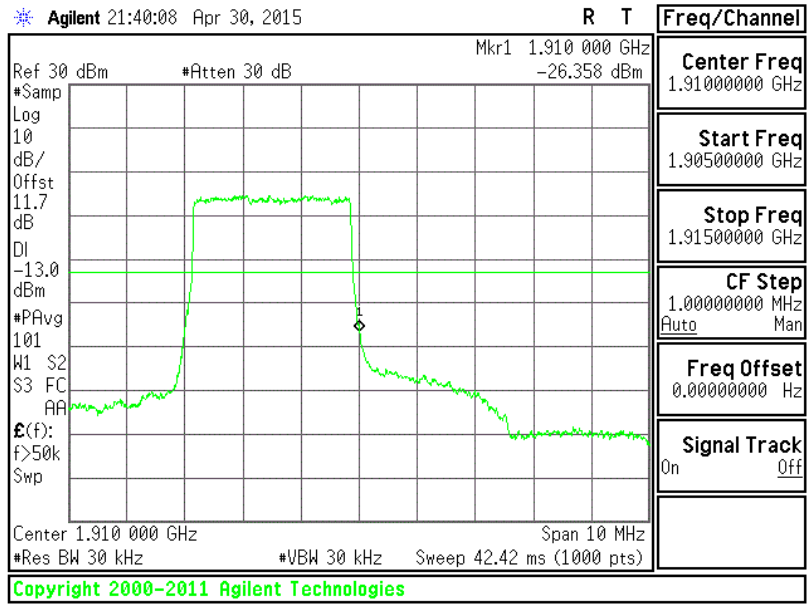
HIGH CH, RB8-4



LOW CH, RB15-0

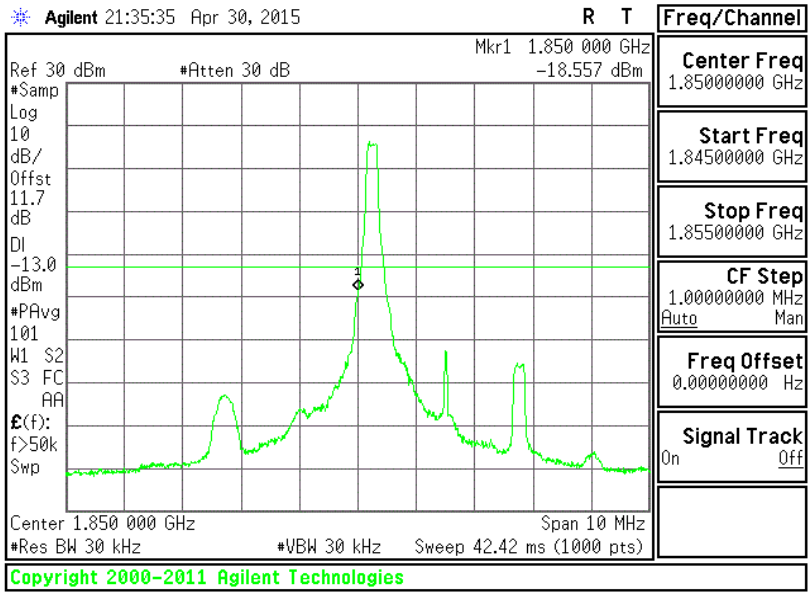


HIGH CH, RB15-0

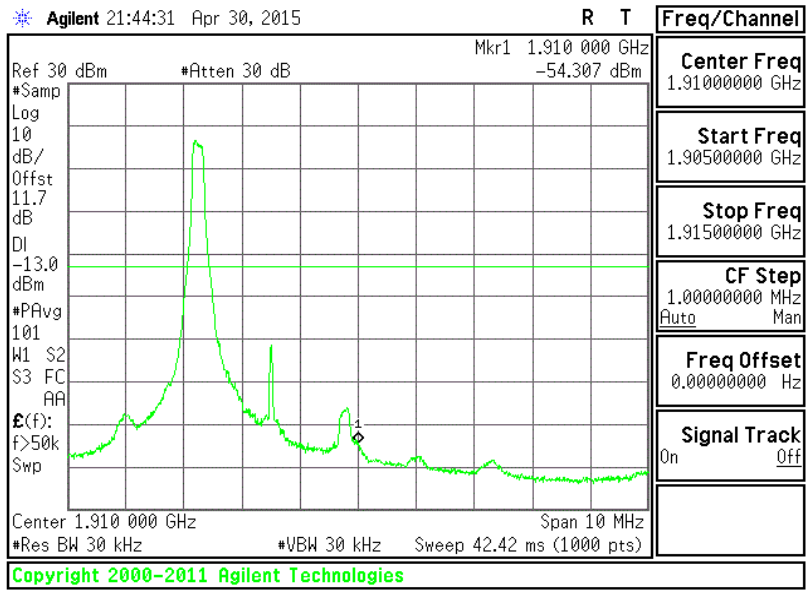


16QAM, (3.0 MHz BAND WIDTH)

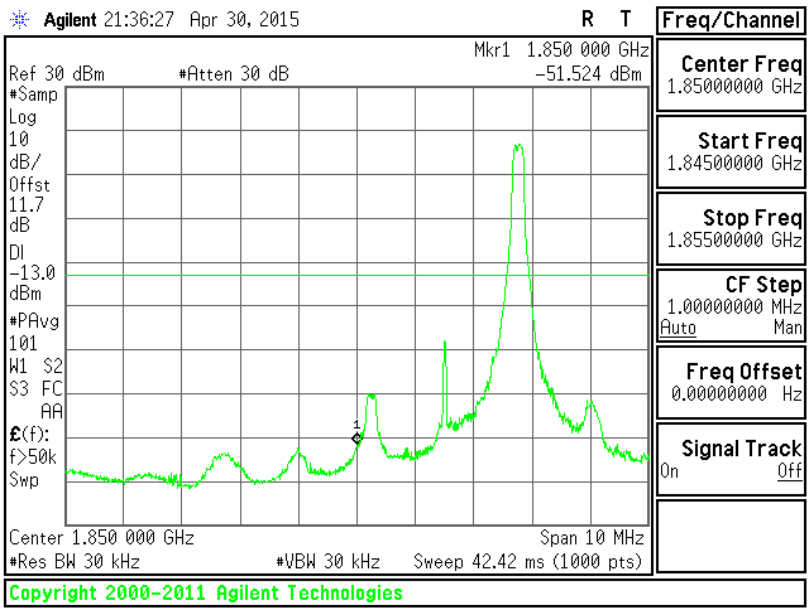
LOW CH, RB1-0



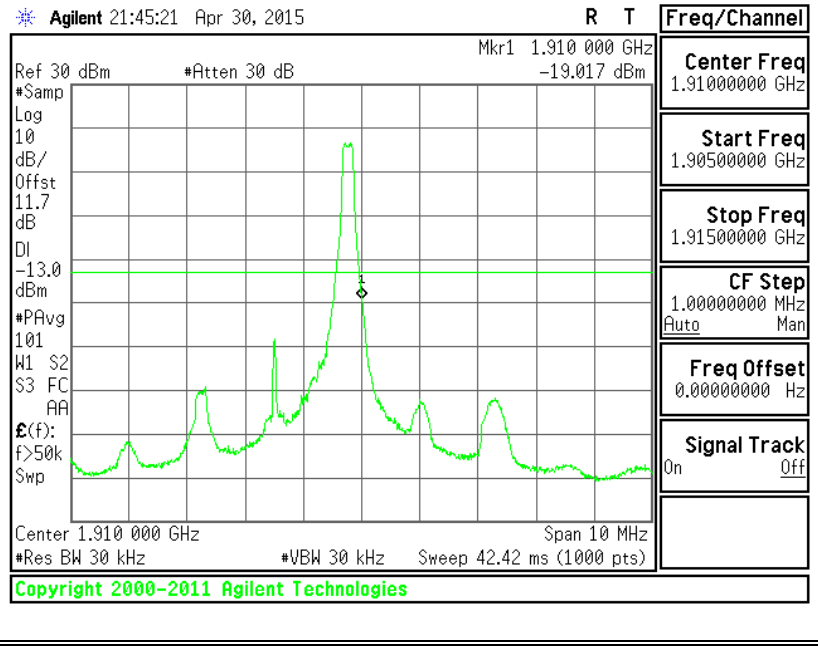
HIGH CH, RB1-0



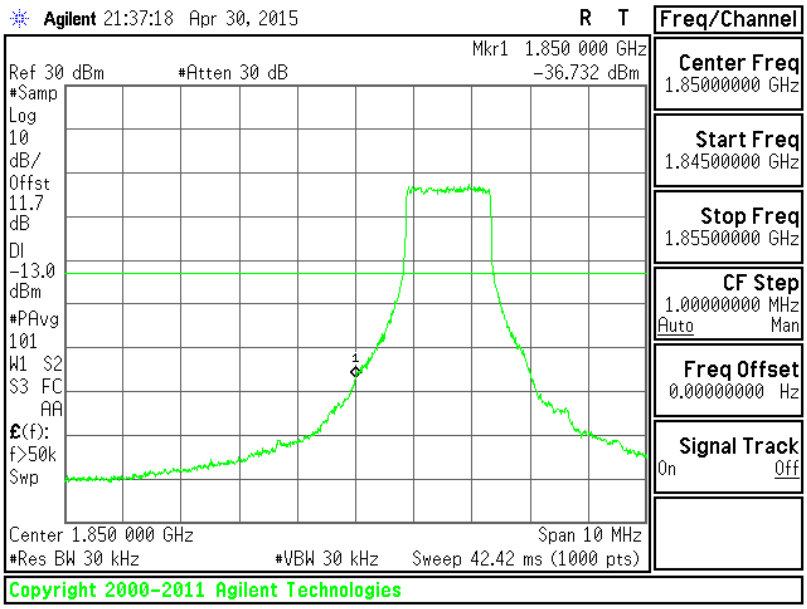
LOW CH, RB1-14



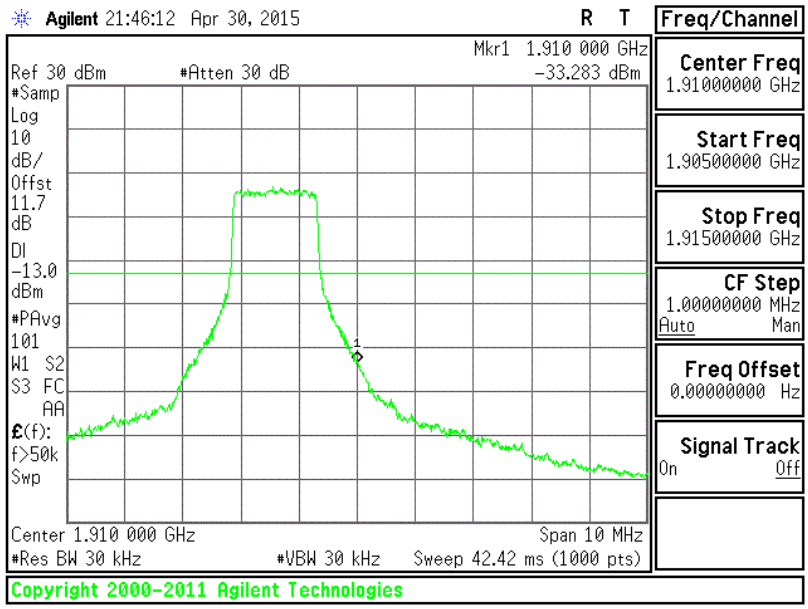
HIGH CH, RB1-14



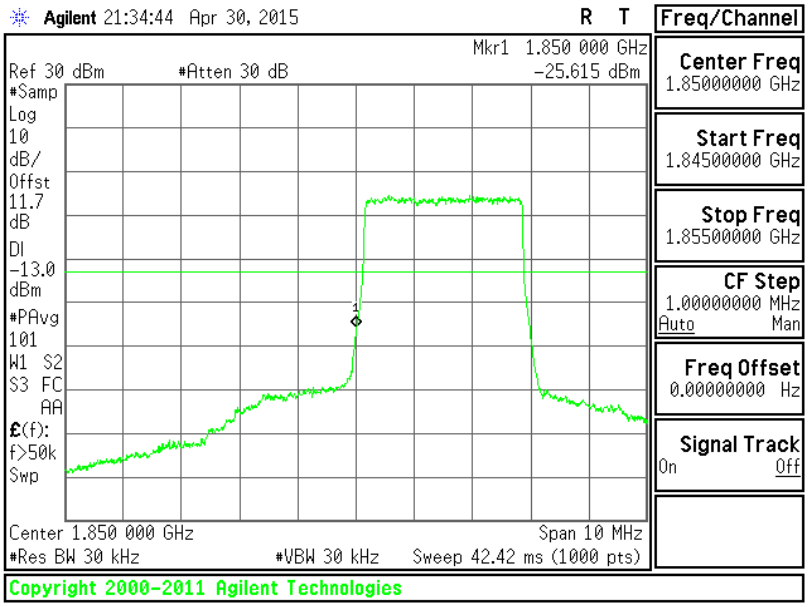
LOW CH, RB8-4



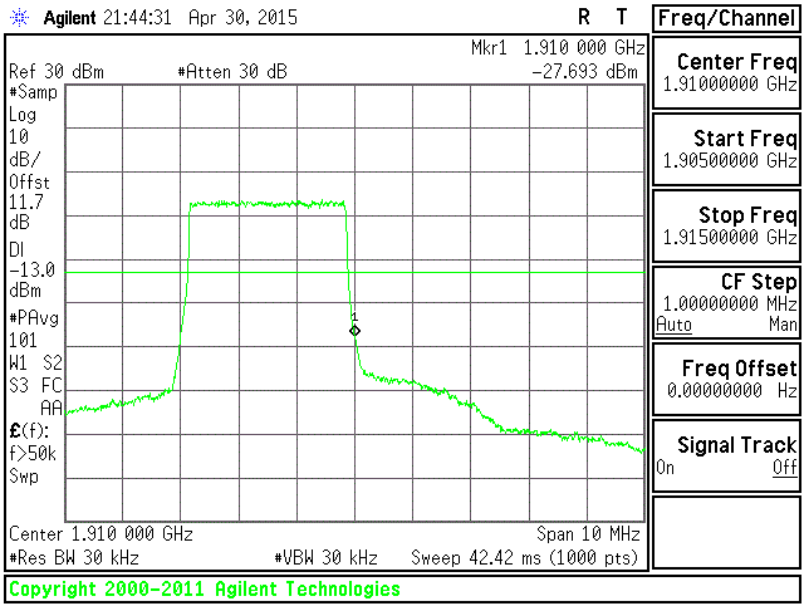
HIGH CH, RB8-4



LOW CH, RB15-0

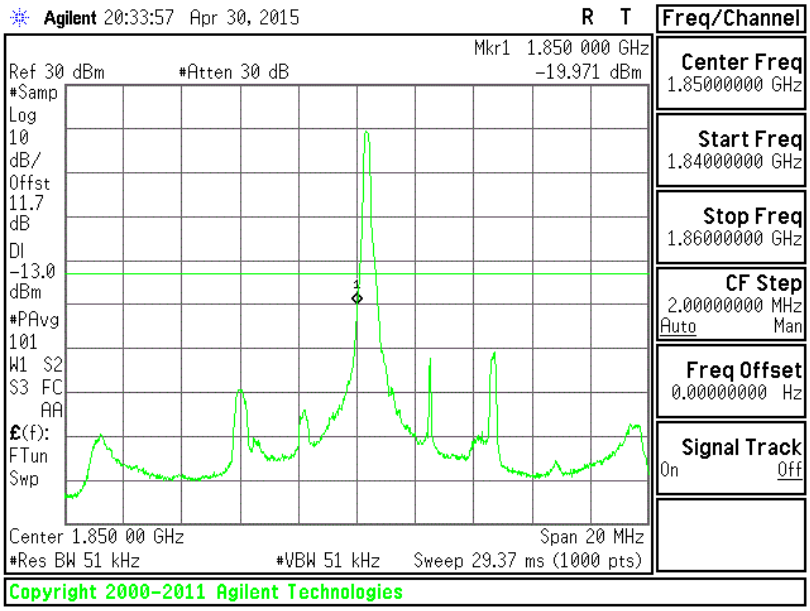


HIGH CH, RB15-0

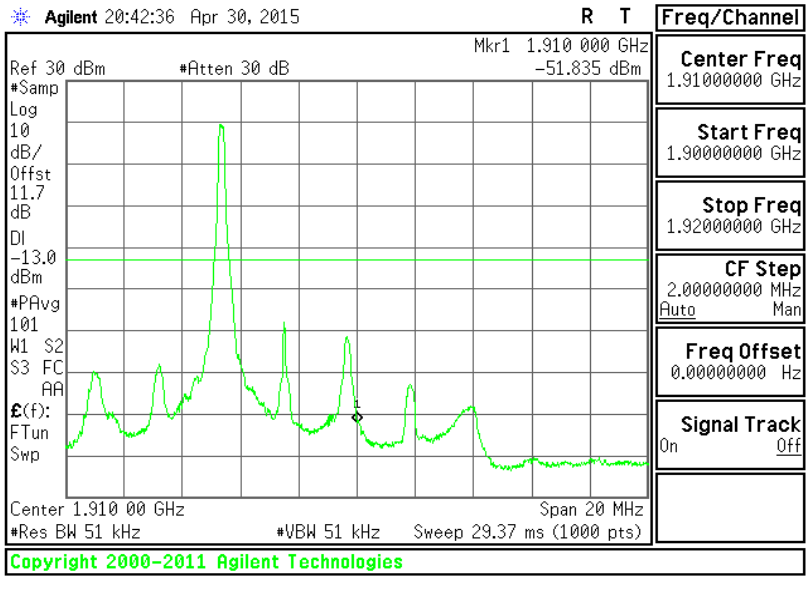


QPSK, (5.0 MHz BAND WIDTH)

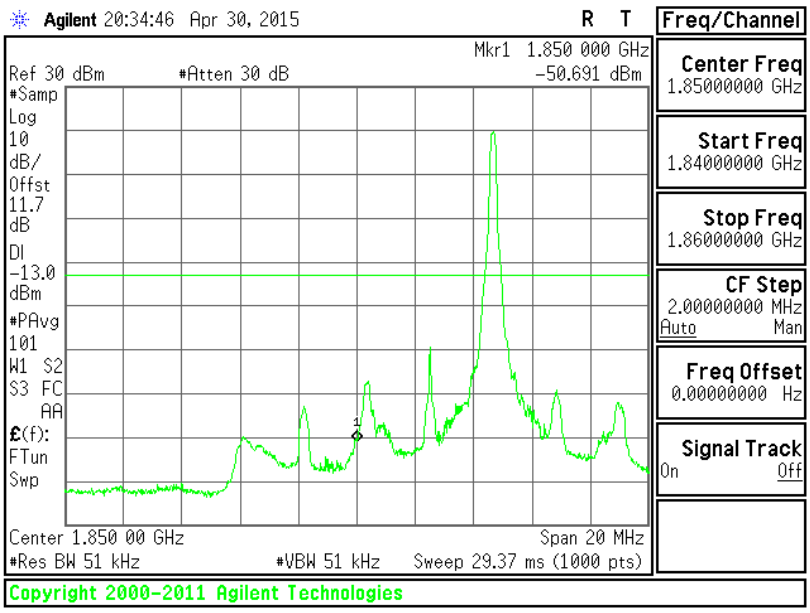
LOW CH, RB1-0



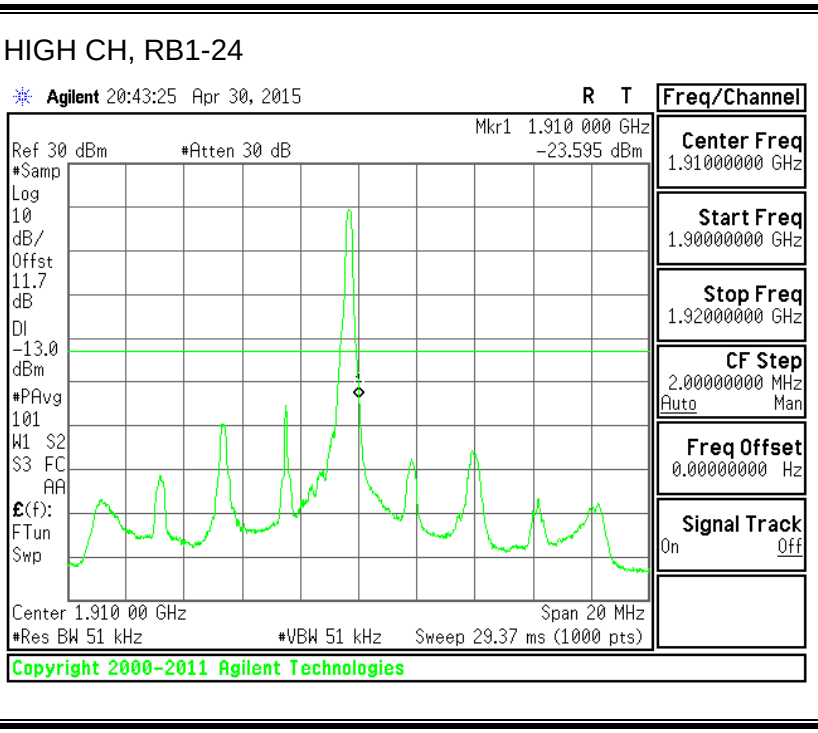
HIGH CH, RB1-0



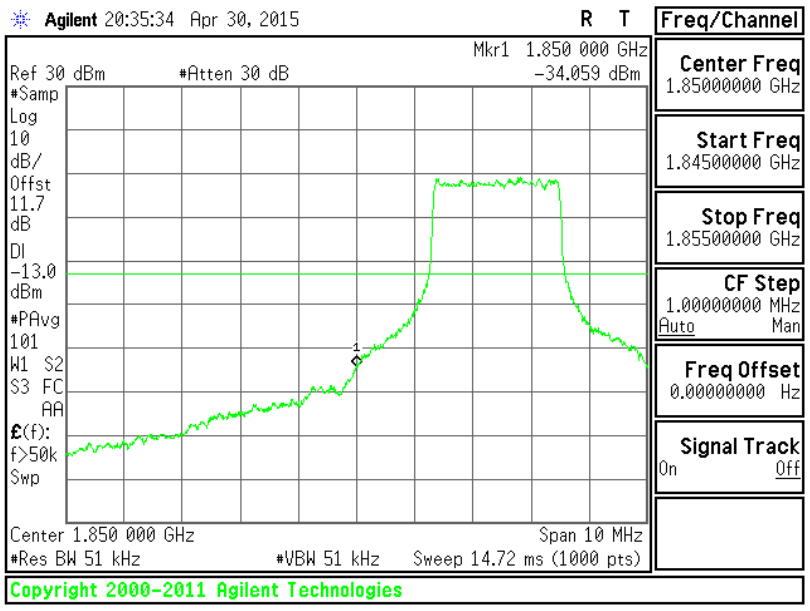
LOW CH, RB1-24



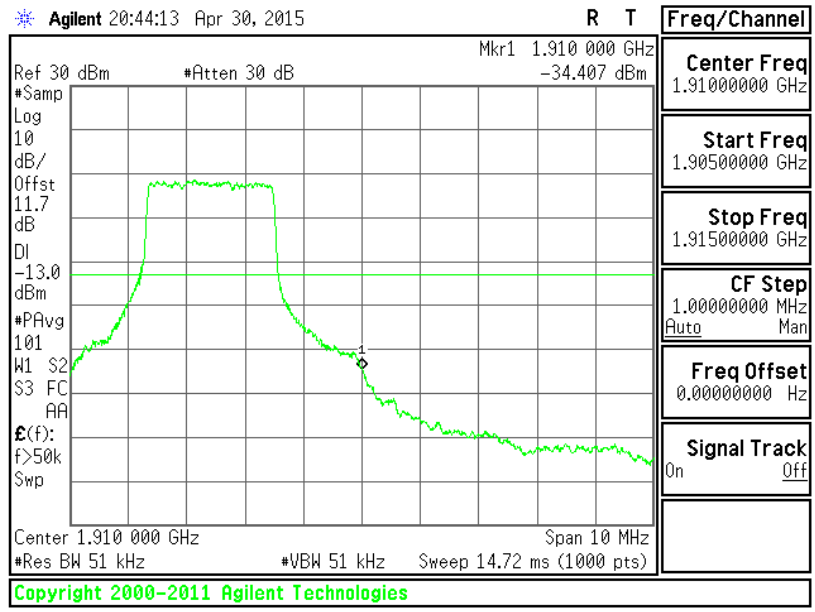
HIGH CH, RB1-24



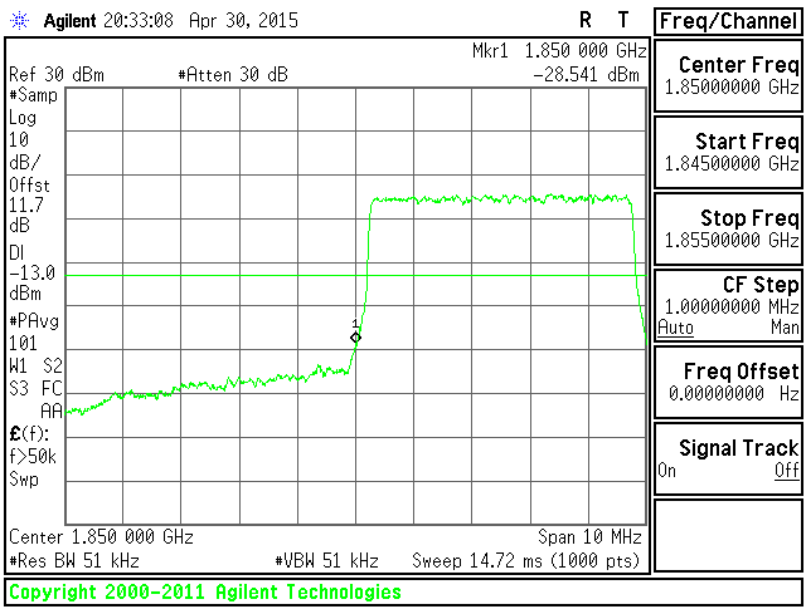
LOW CH, RB12-6



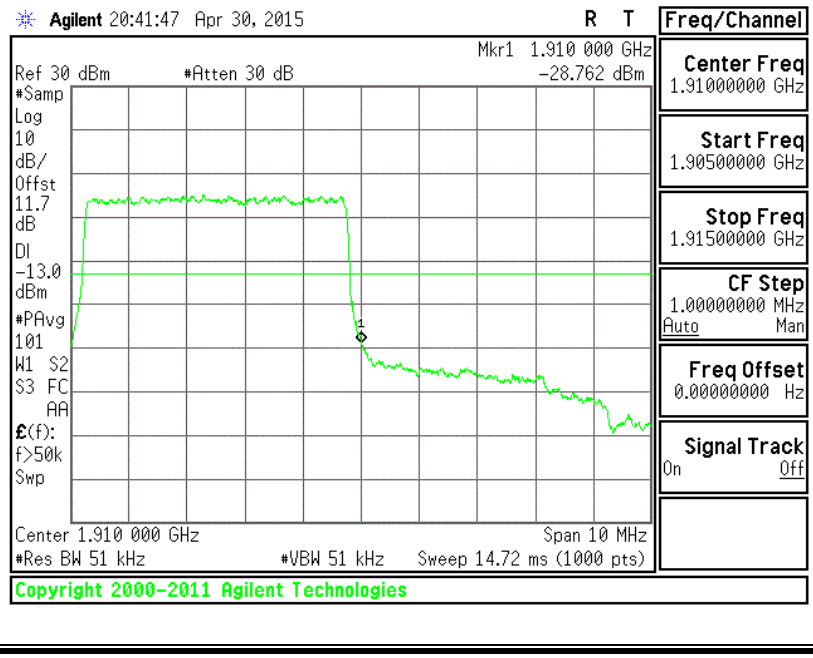
HIGH CH, RB12-6



LOW CH, RB25-0

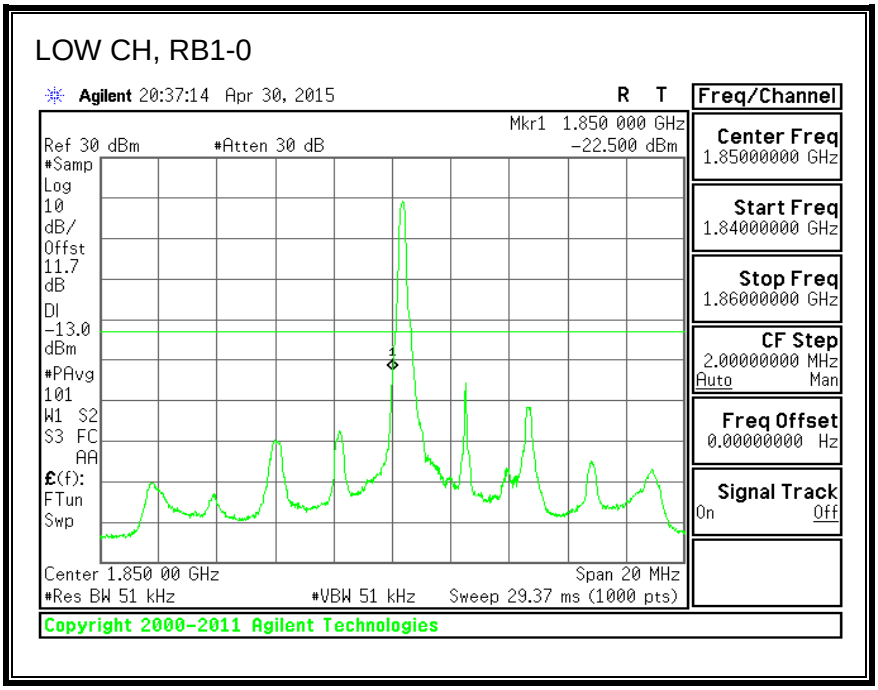


HIGH CH, RB25-0

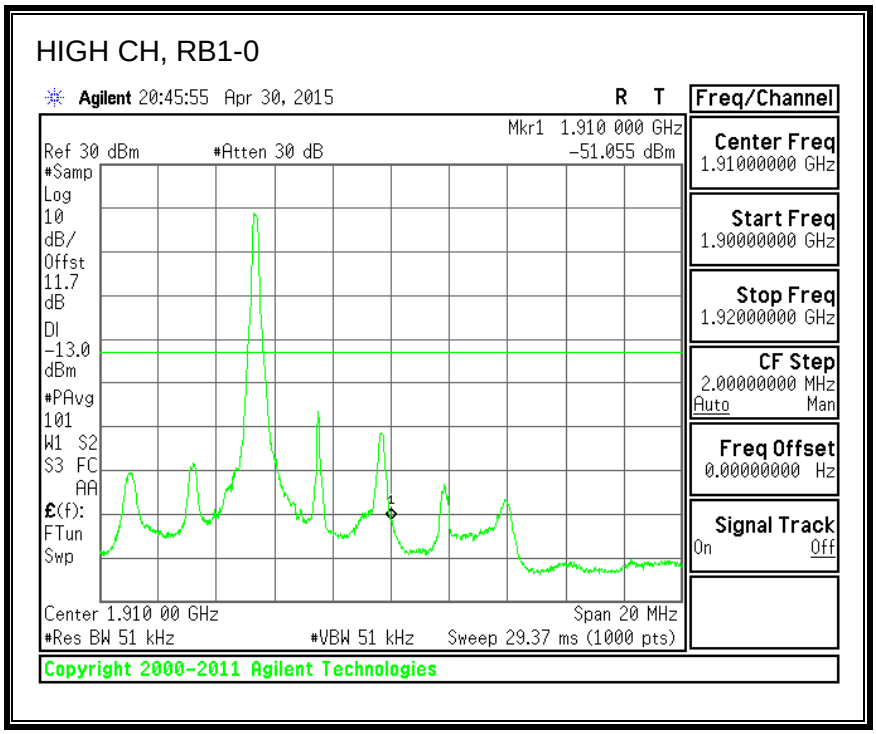


16QAM, (5.0 MHz BAND WIDTH)

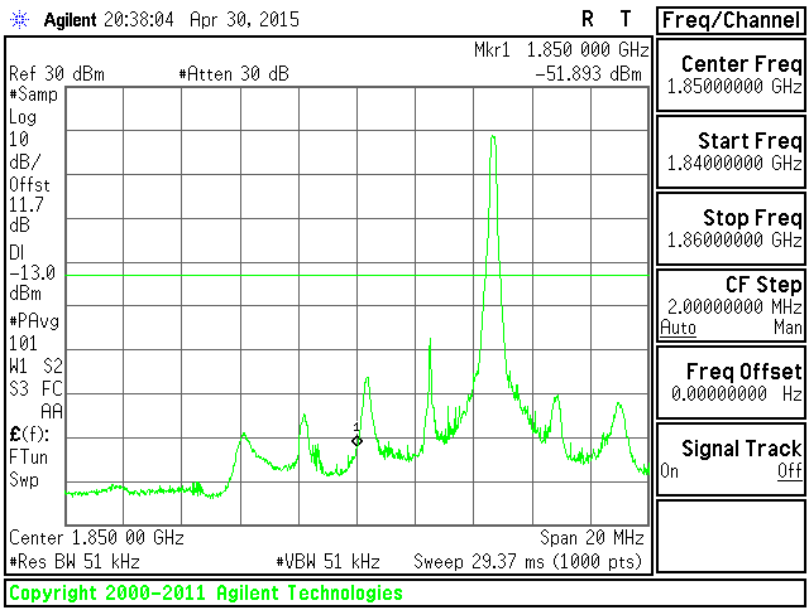
LOW CH, RB1-0



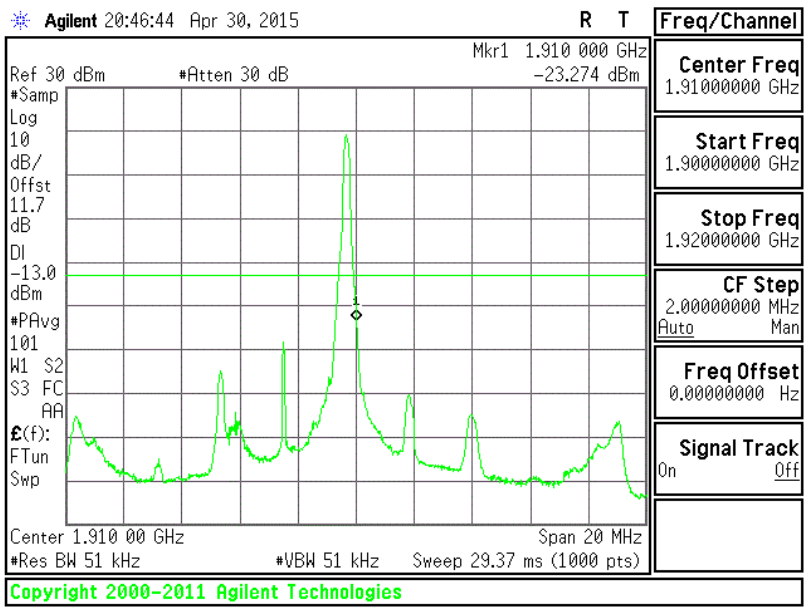
HIGH CH, RB1-0



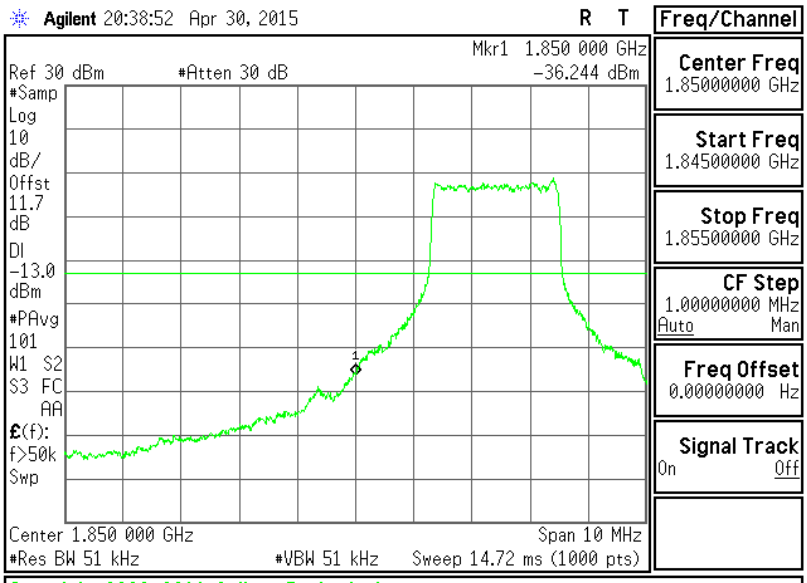
LOW CH, RB1-24



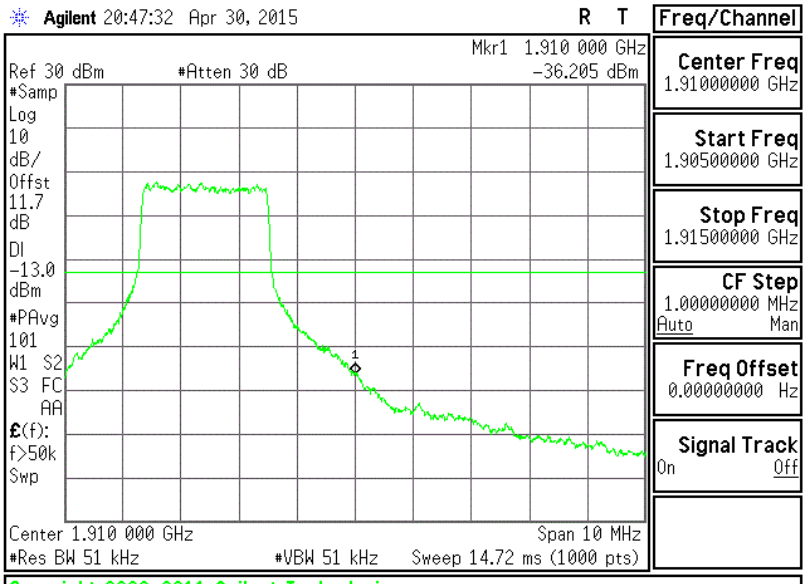
HIGH CH, RB1-24



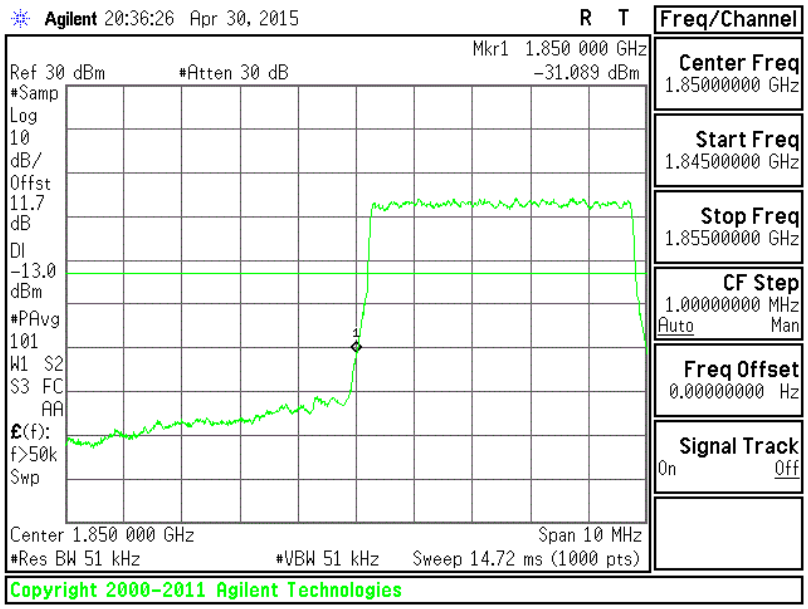
LOW CH, RB12-6



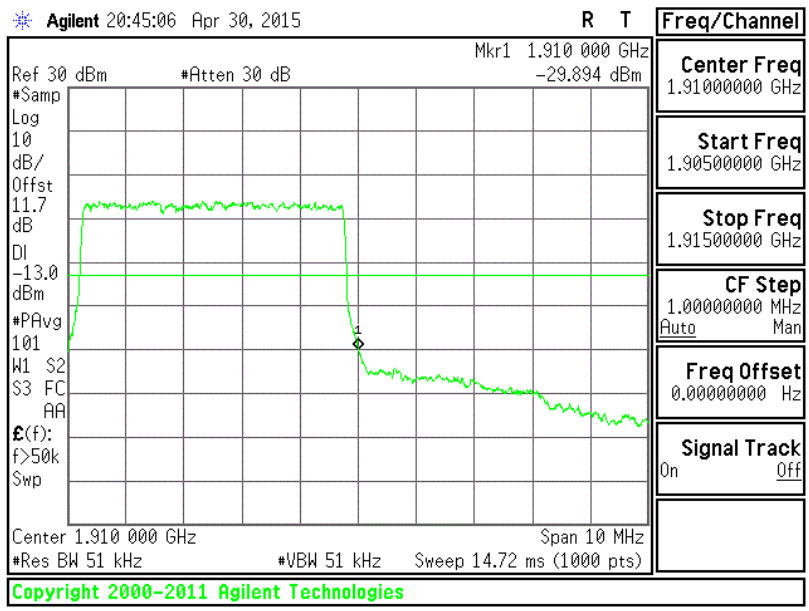
HIGH CH, RB12-6



LOW CH, RB25-0

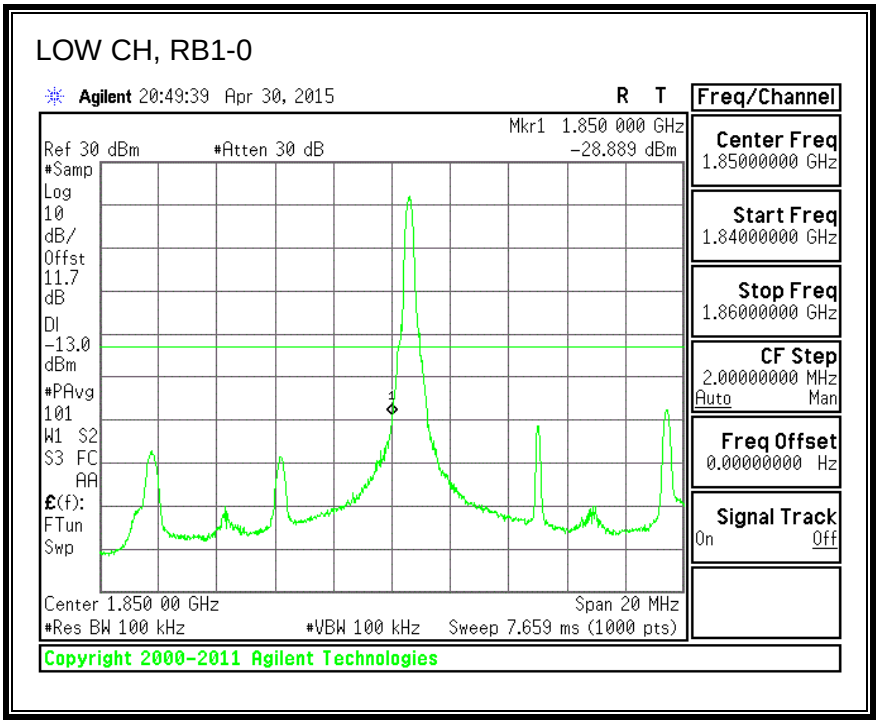


HIGH CH, RB25-0

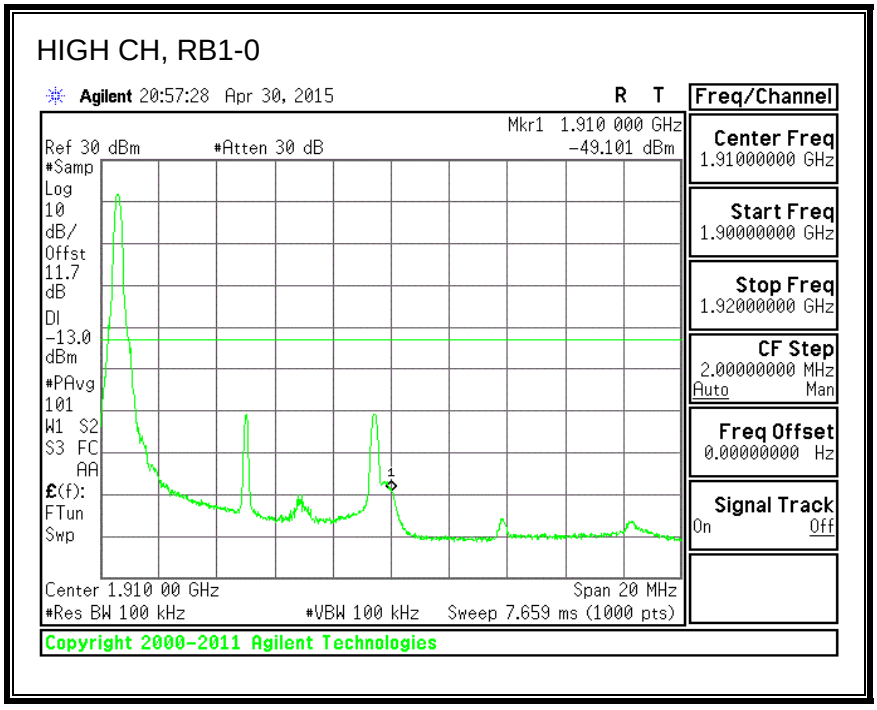


QPSK, (10.0 MHz BAND WIDTH)

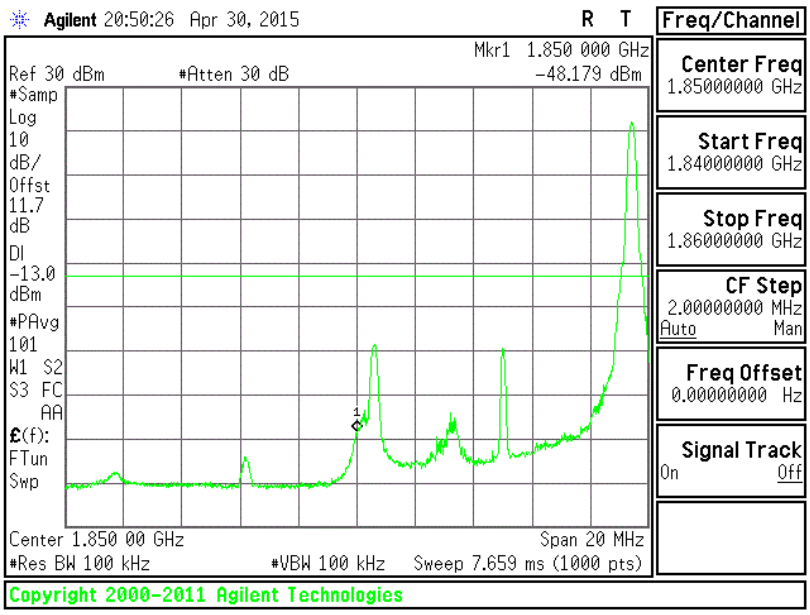
LOW CH, RB1-0



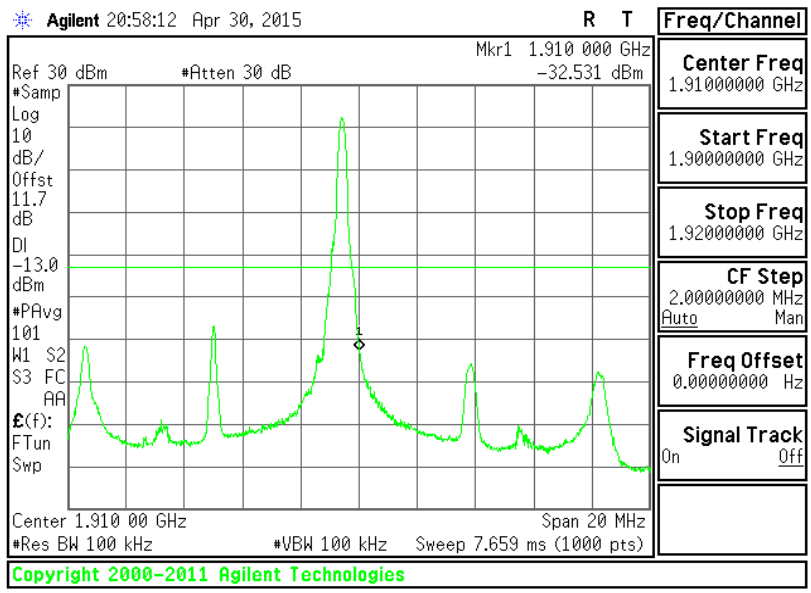
HIGH CH, RB1-0



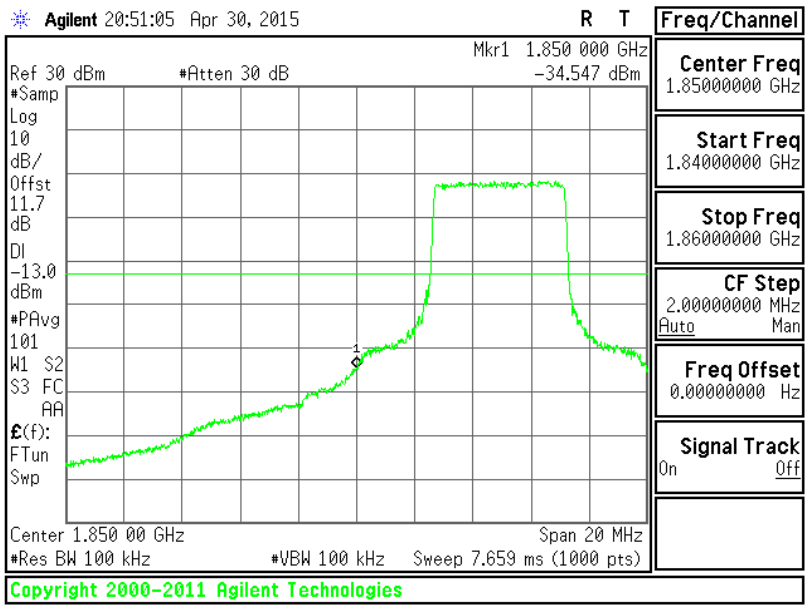
LOW CH, RB1-49



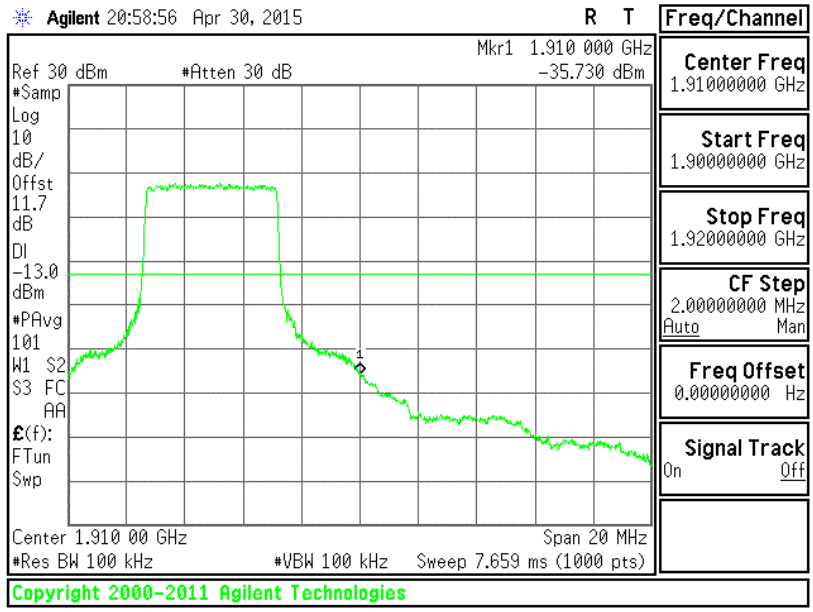
HIGH CH, RB1-49



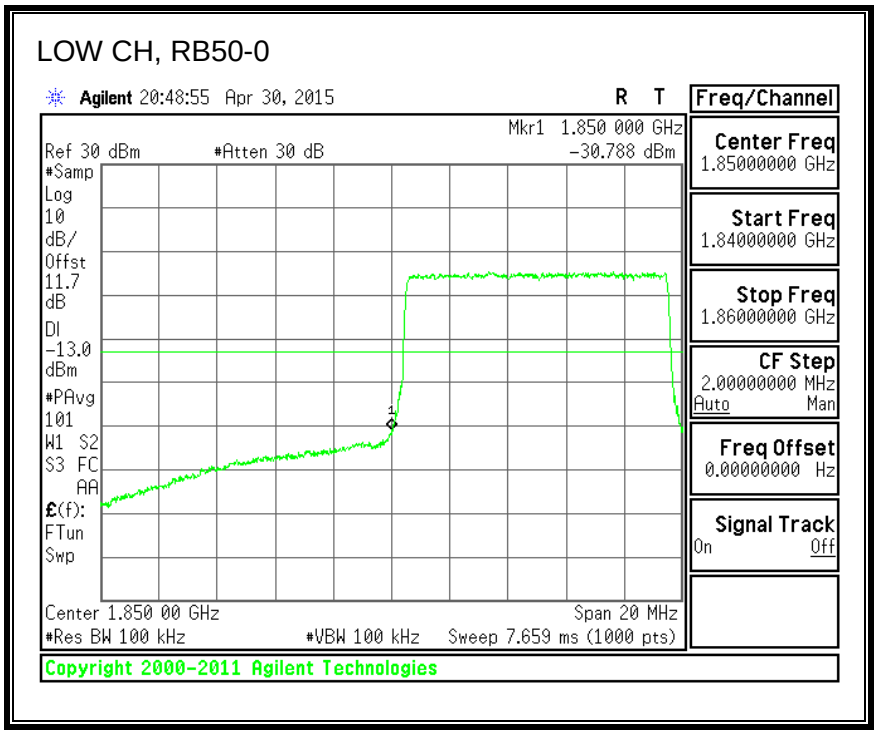
LOW CH, RB25-12



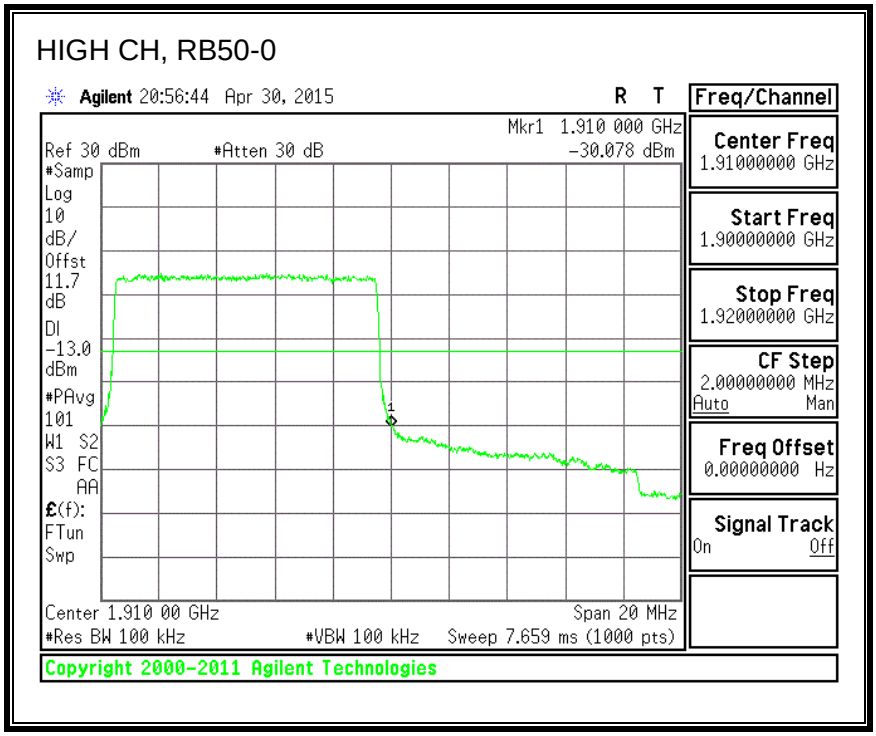
HIGH CH, RB25-12



LOW CH, RB50-0

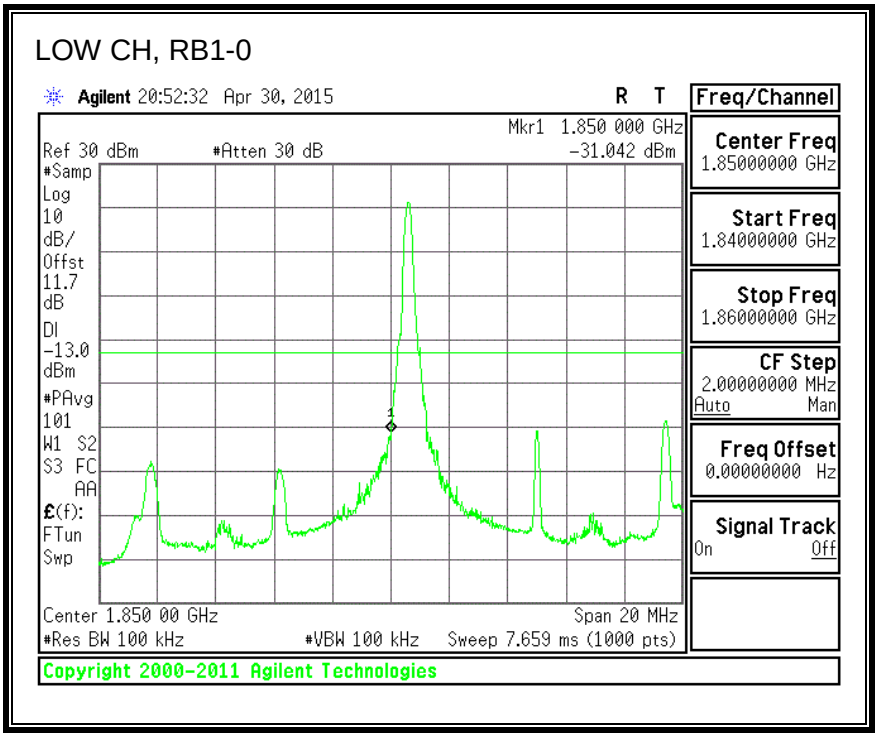


HIGH CH, RB50-0

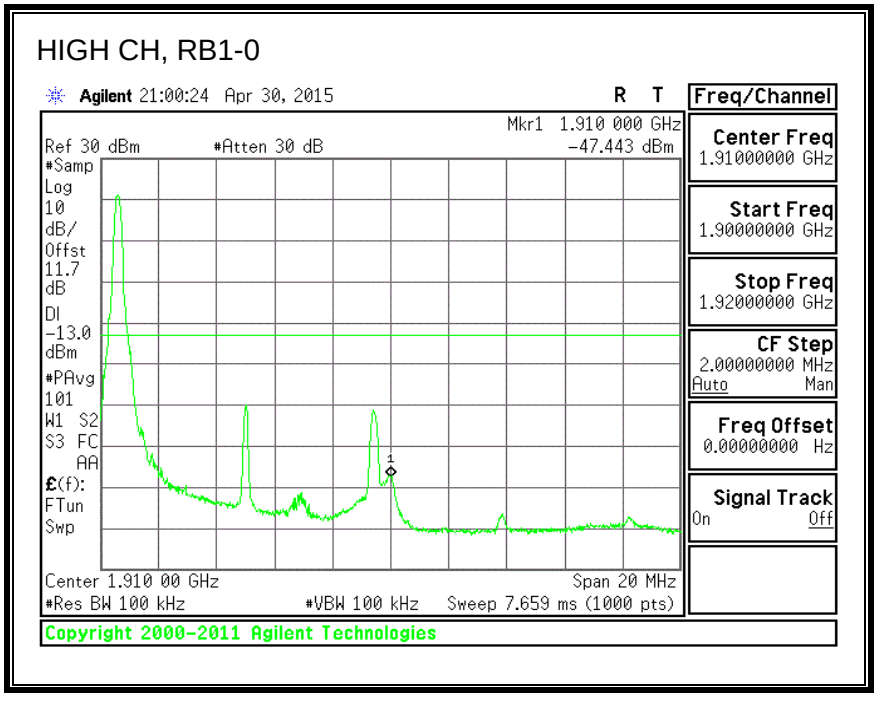


16QAM, (10.0 MHz BAND WIDTH)

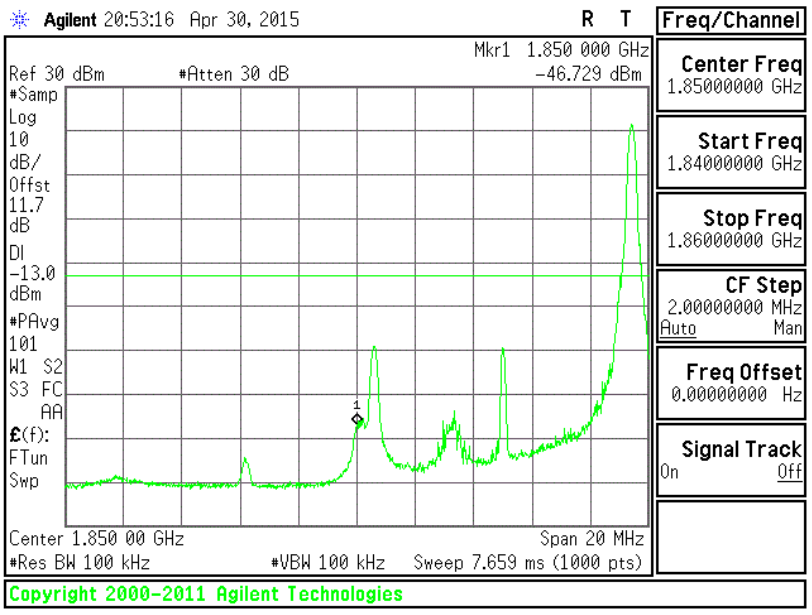
LOW CH, RB1-0



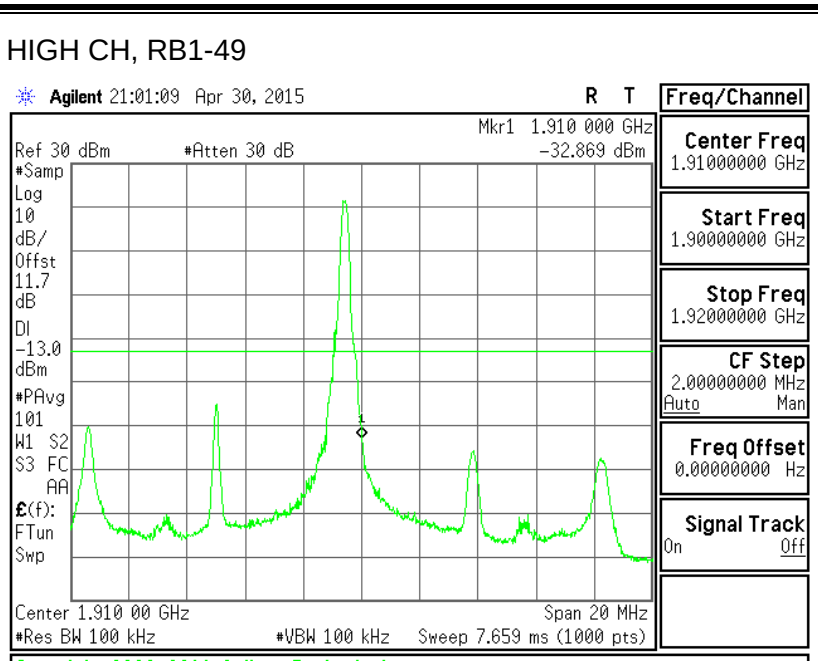
HIGH CH, RB1-0



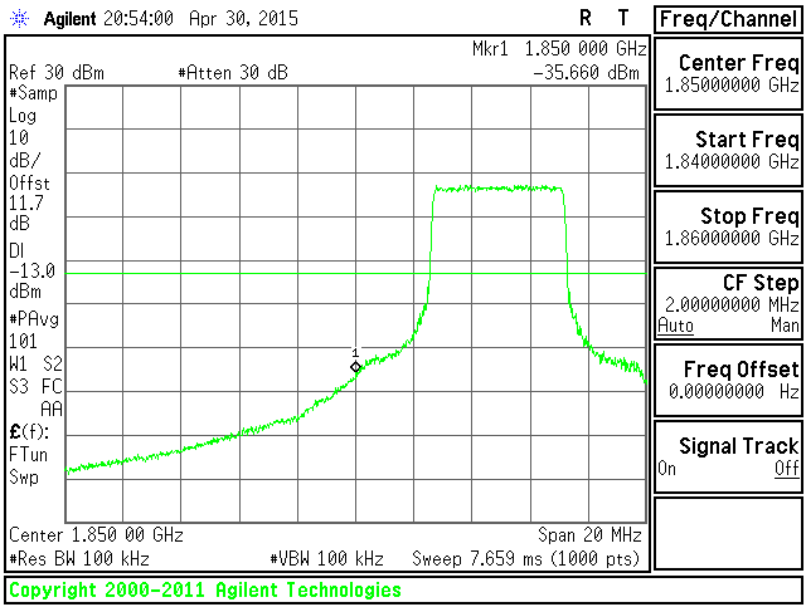
LOW CH, RB1-49



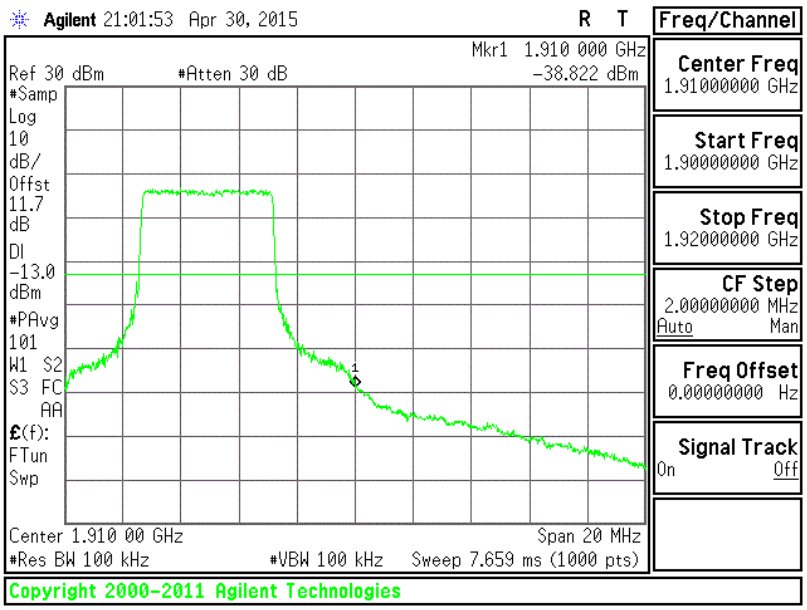
HIGH CH, RB1-49



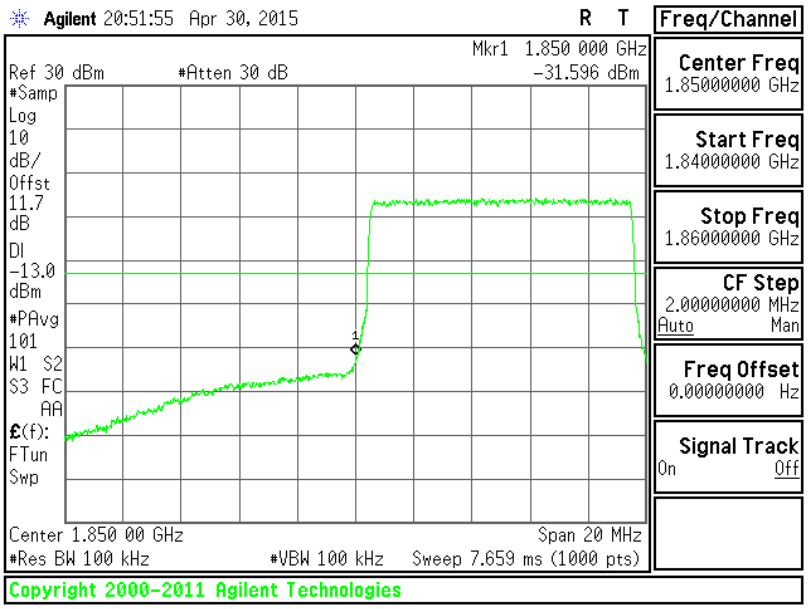
LOW CH, RB25-12



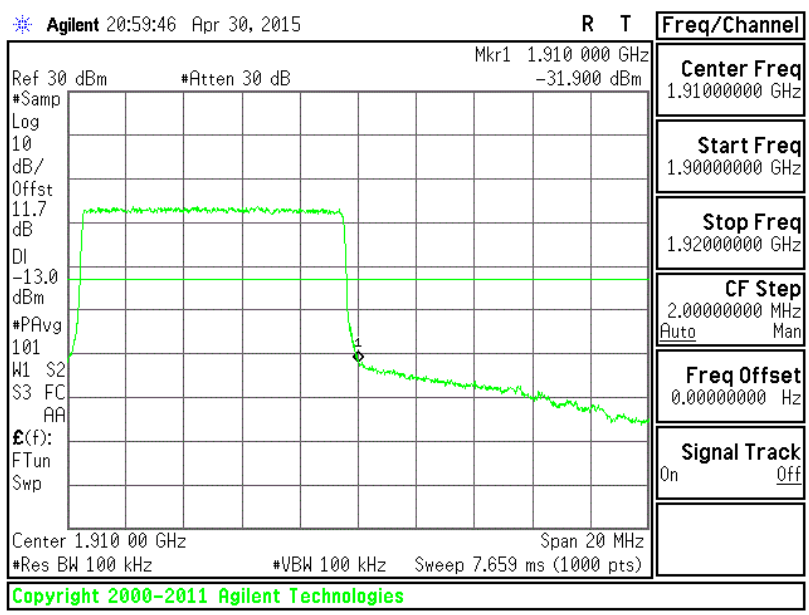
HIGH CH, RB25-12



LOW CH, RB50-0

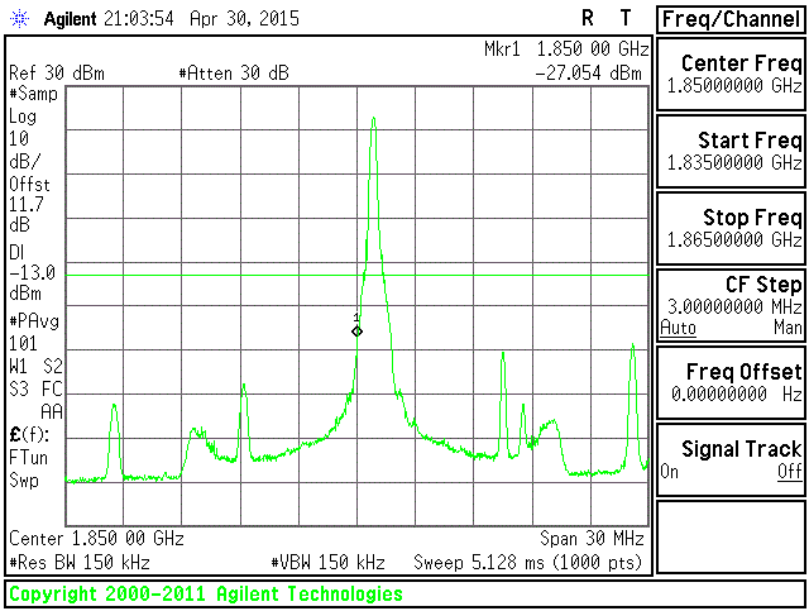


HIGH CH, RB50-0

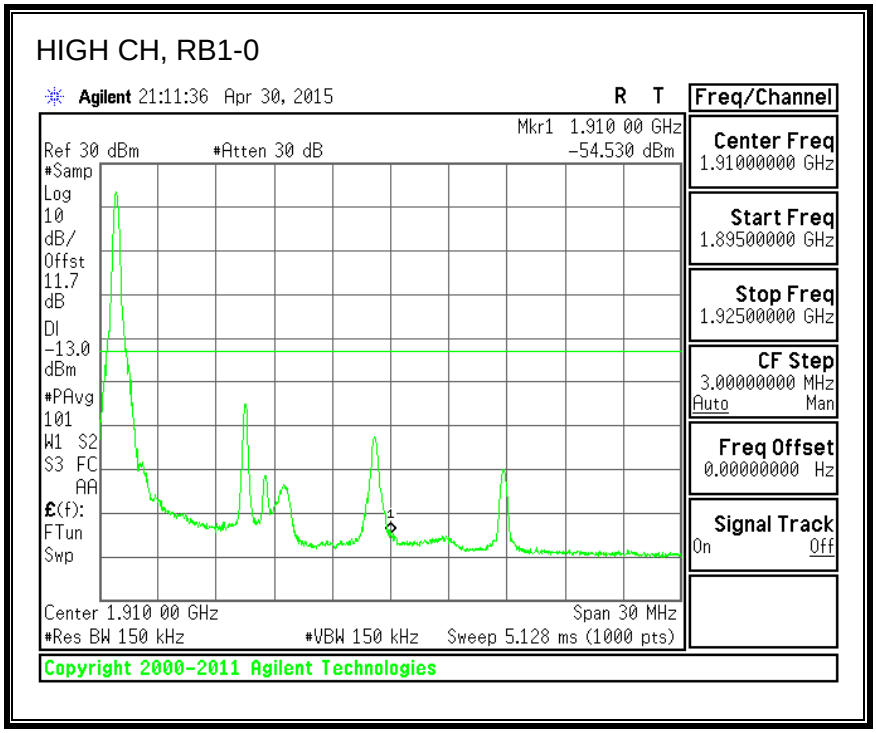


QPSK, (15.0 MHz BAND WIDTH)

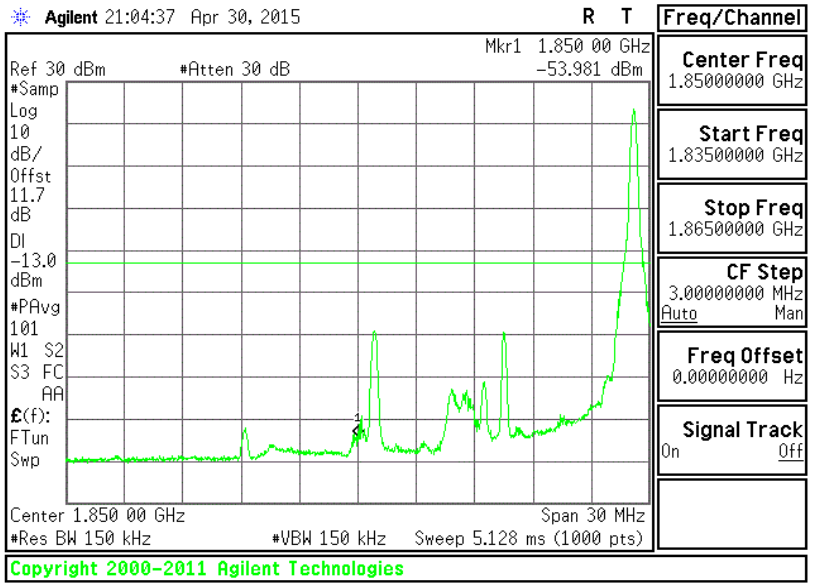
LOW CH, RB1-0



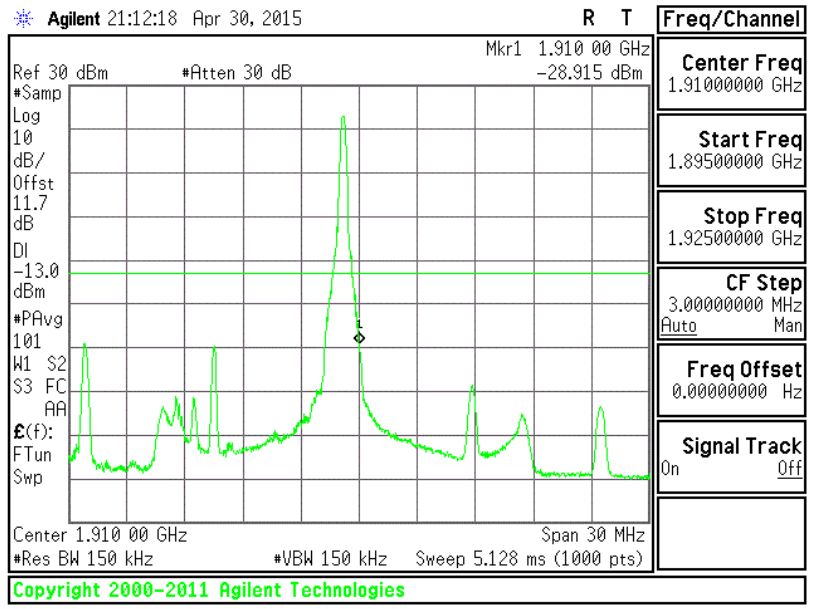
HIGH CH, RB1-0



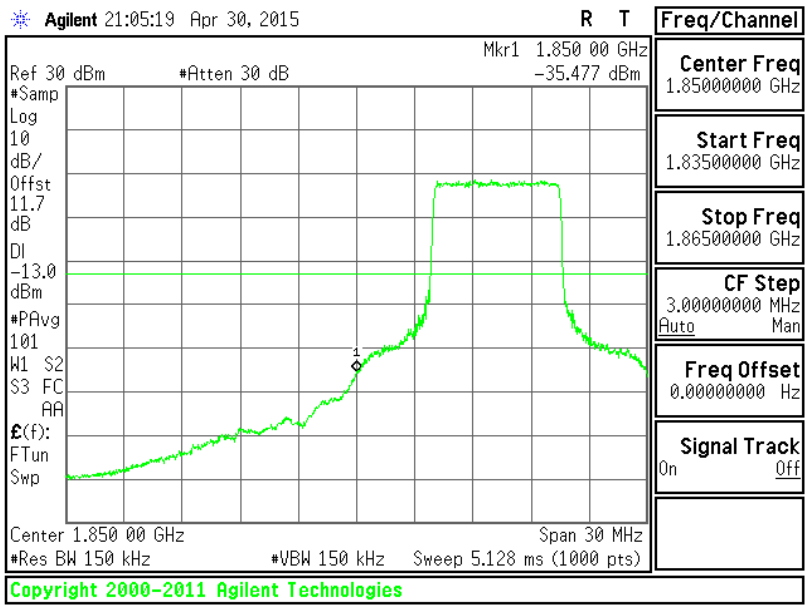
LOW CH, RB1-74



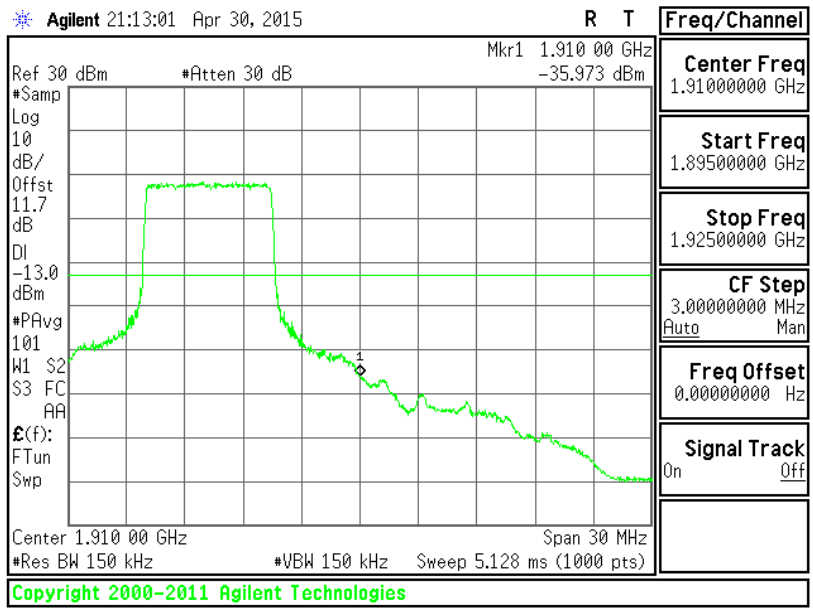
HIGH CH, RB1-74



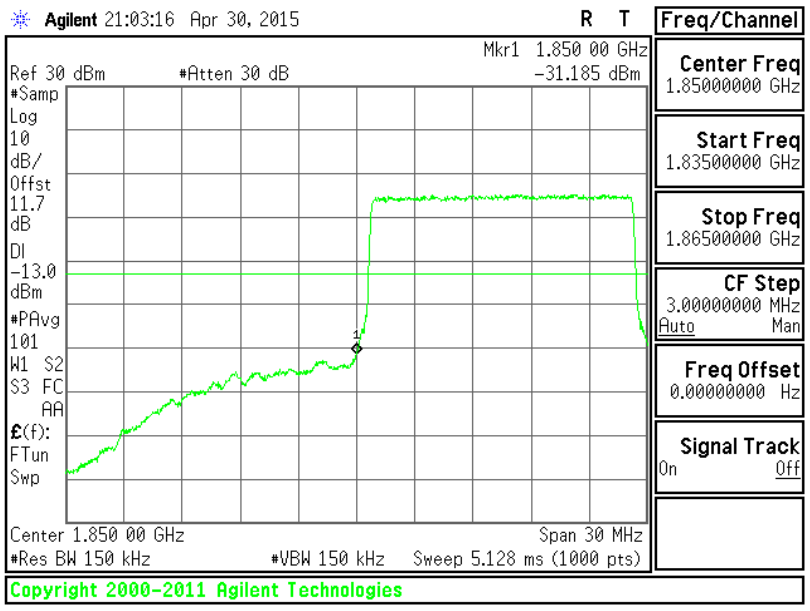
LOW CH, RB36-18



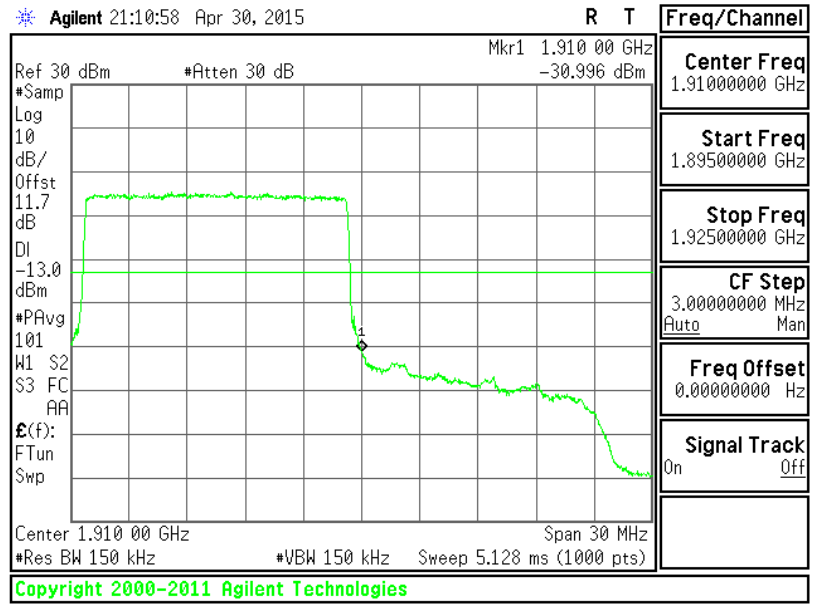
HIGH CH, RB36-18



LOW CH, RB75-0

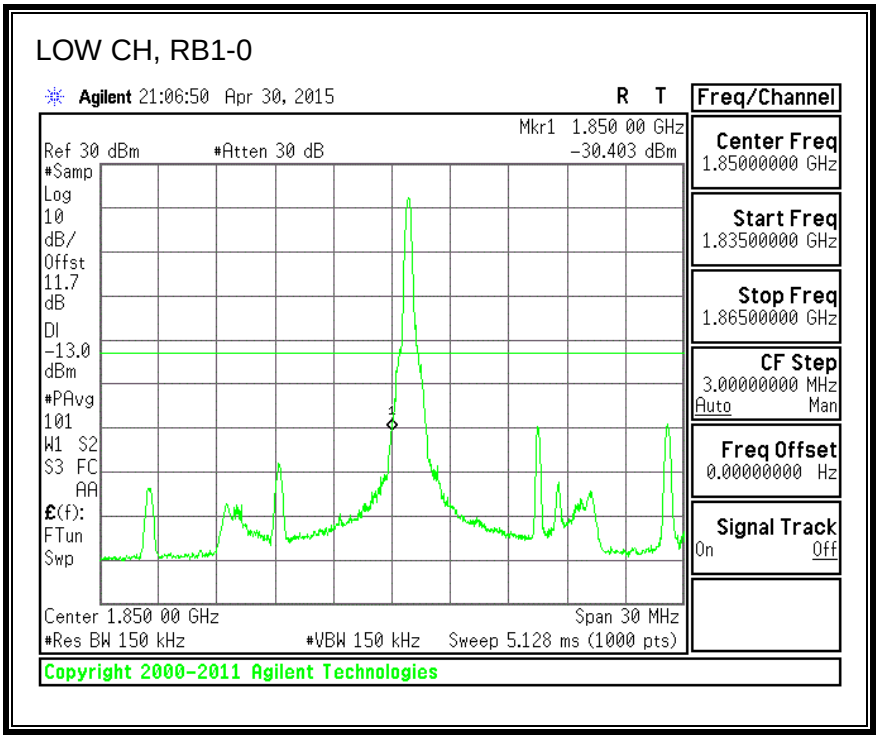


HIGH CH, RB75-0

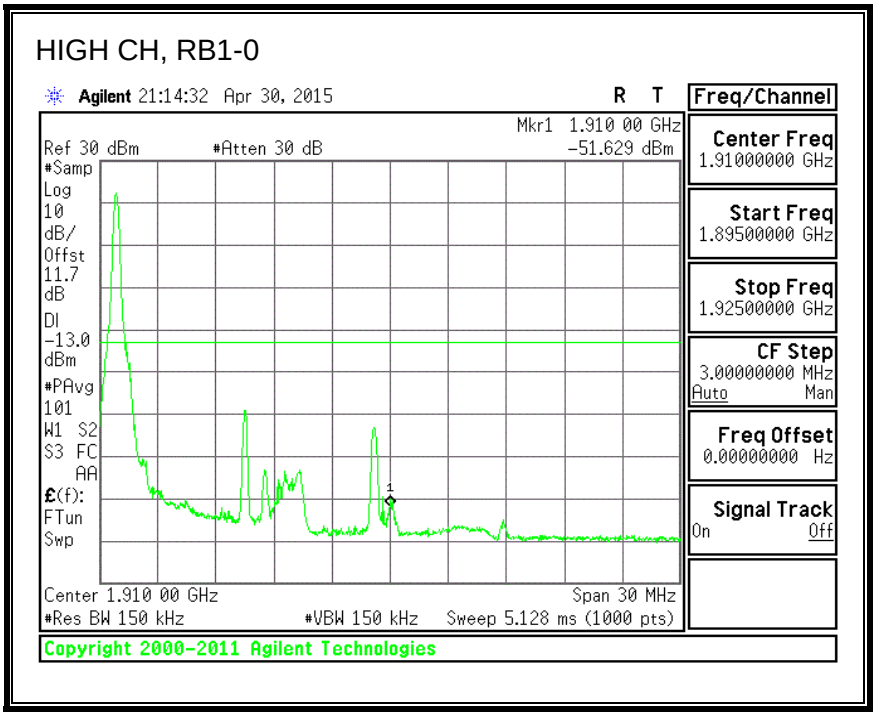


16QAM, (15.0 MHz BAND WIDTH)

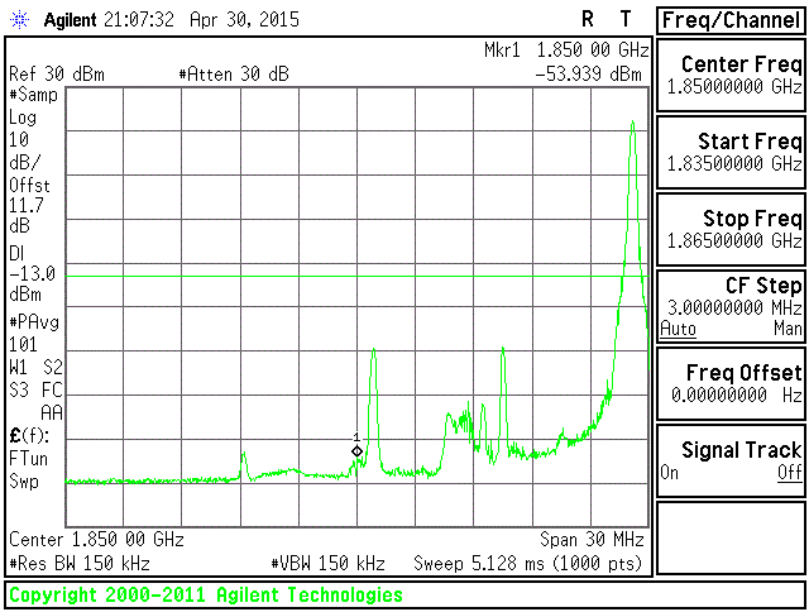
LOW CH, RB1-0



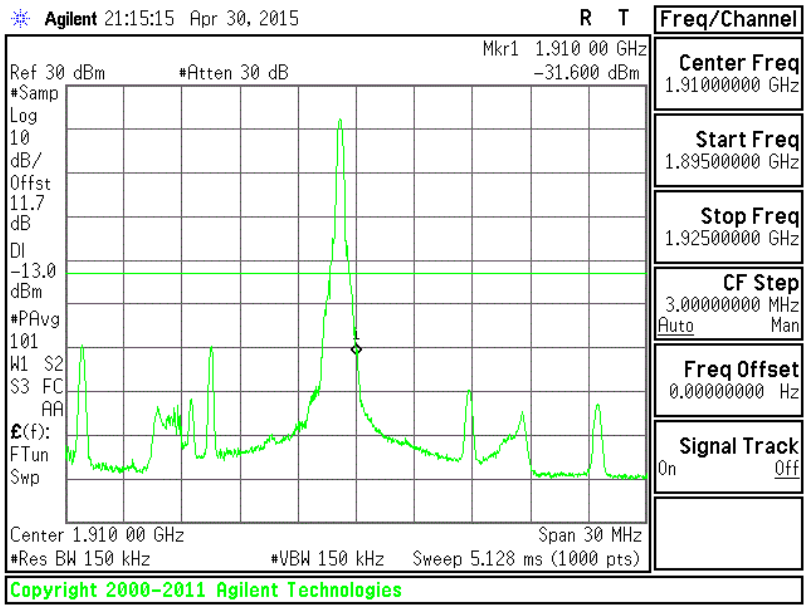
HIGH CH, RB1-0



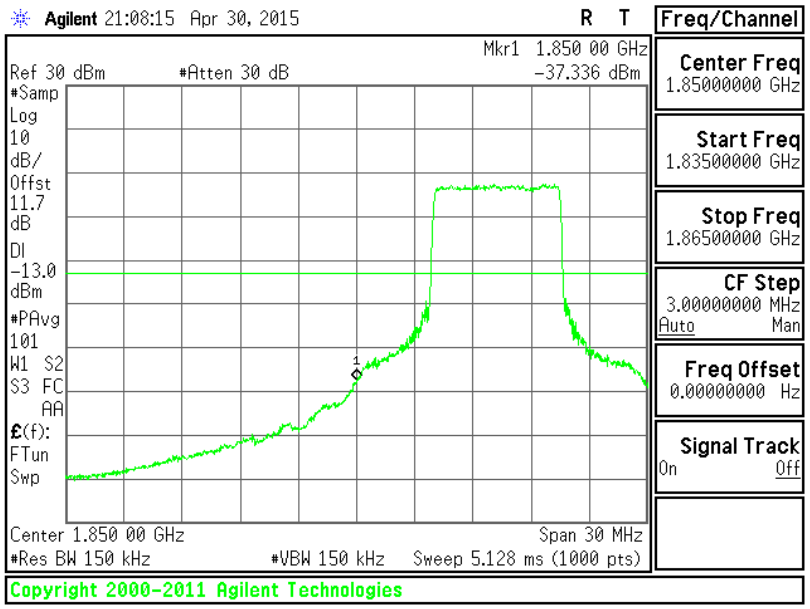
LOW CH, RB1-74



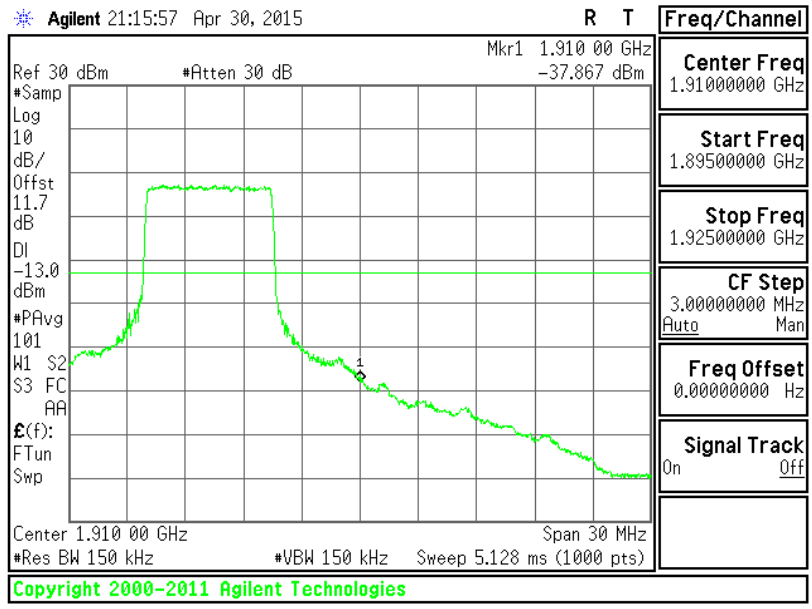
HIGH CH, RB1-74



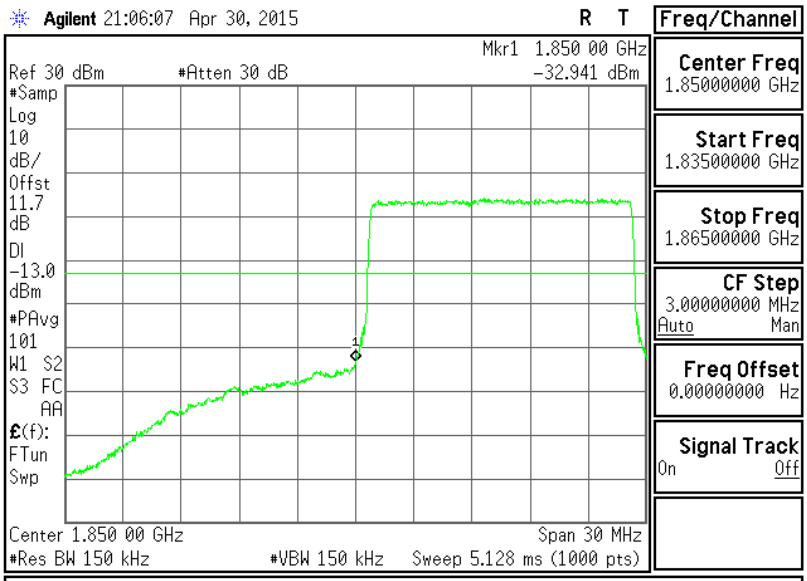
LOW CH, RB36-18



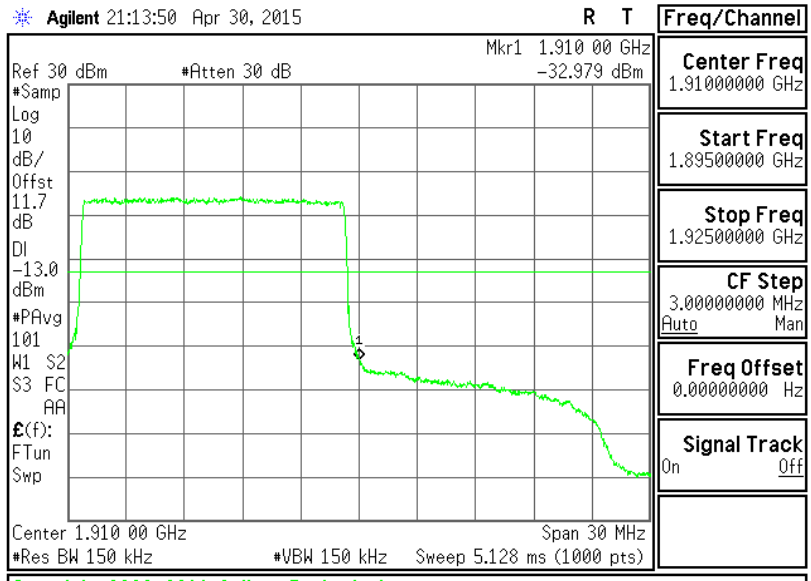
HIGH CH, RB36-18



LOW CH, RB75-0

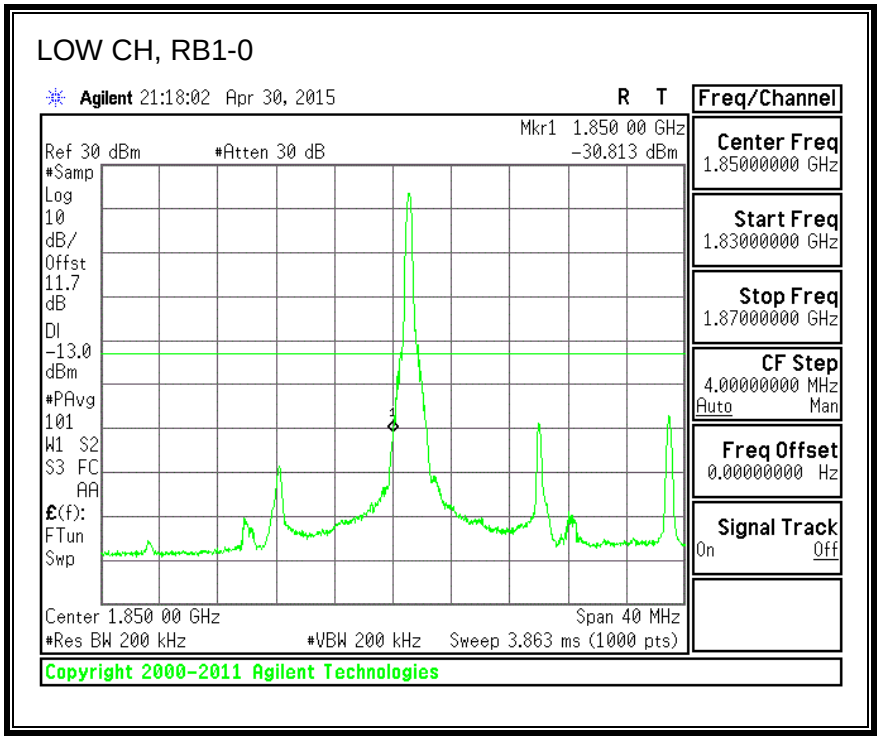


HIGH CH, RB75-0

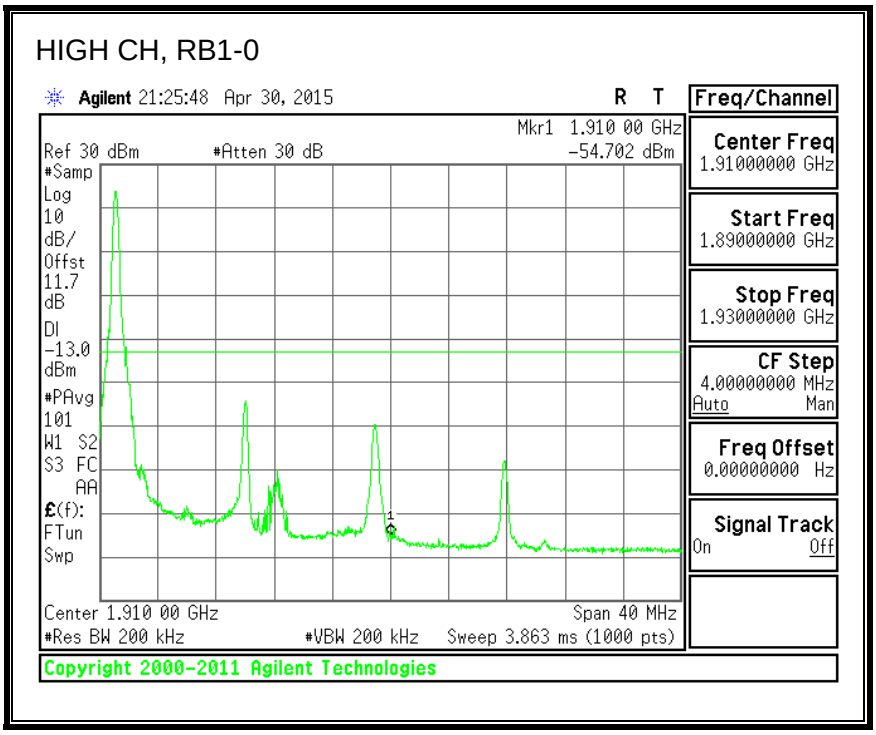


QPSK, (20.0 MHz BAND WIDTH)

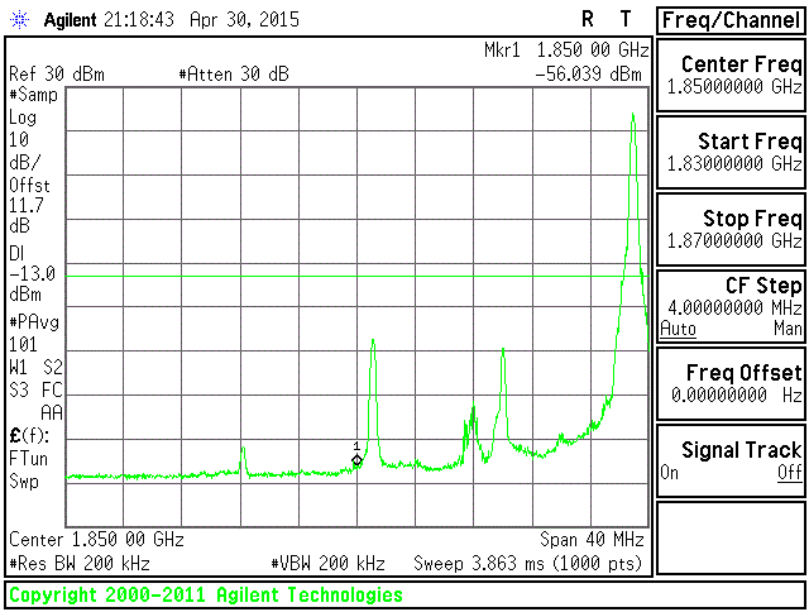
LOW CH, RB1-0



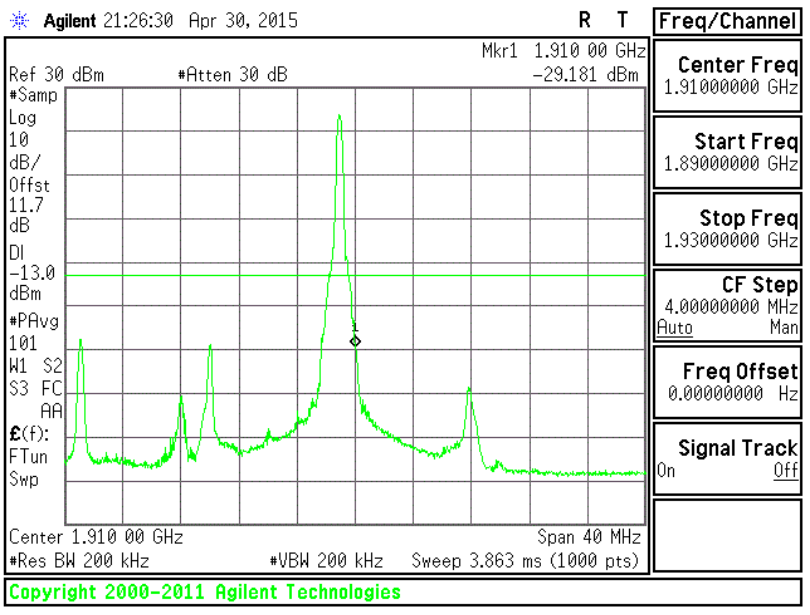
HIGH CH, RB1-0



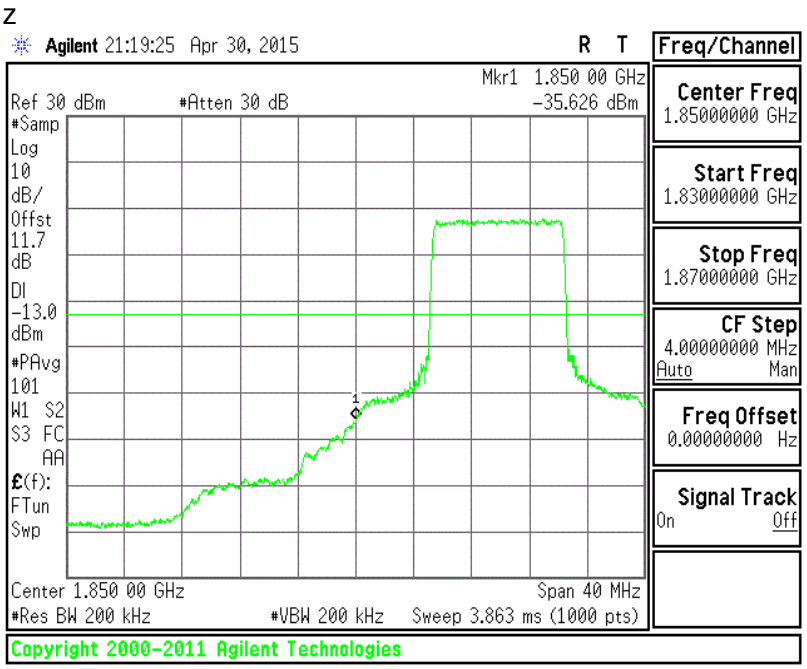
LOW CH, RB1-99



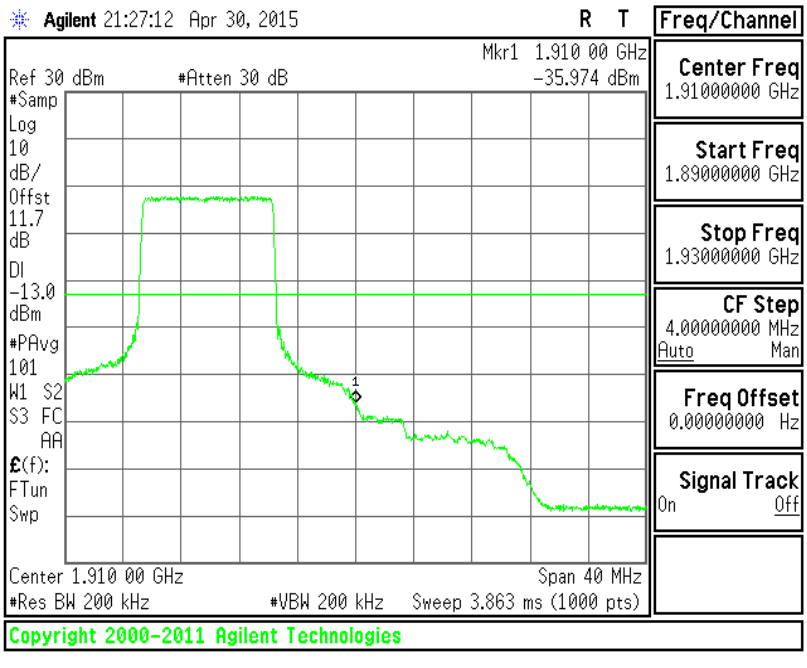
HIGH CH, RB1-99



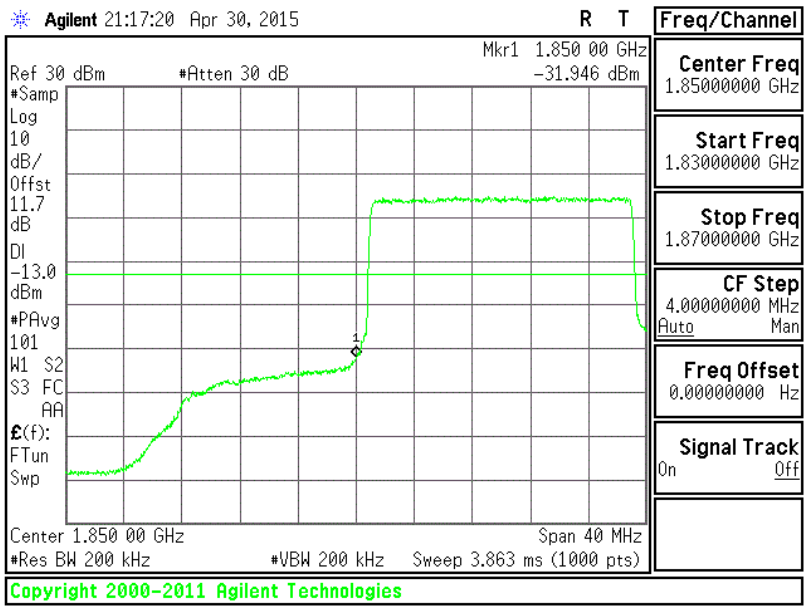
LOW CH, RB50-24



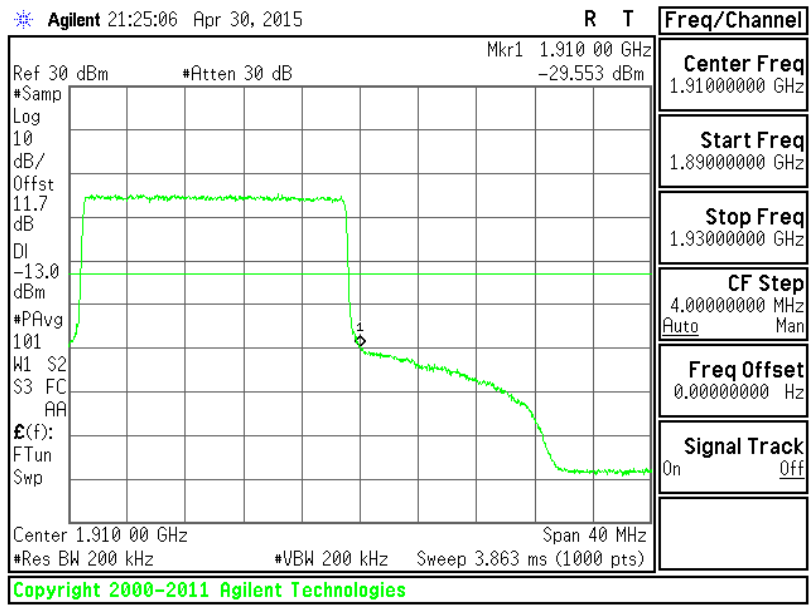
HIGH CH, RB50-24



LOW CH, RB100-0

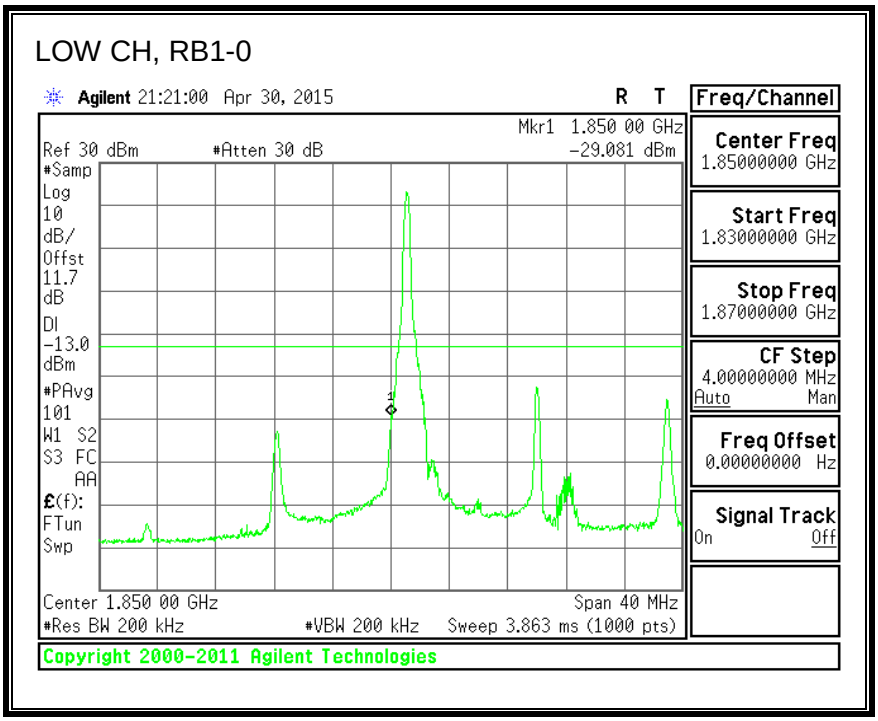


HIGH CH, RB100-0

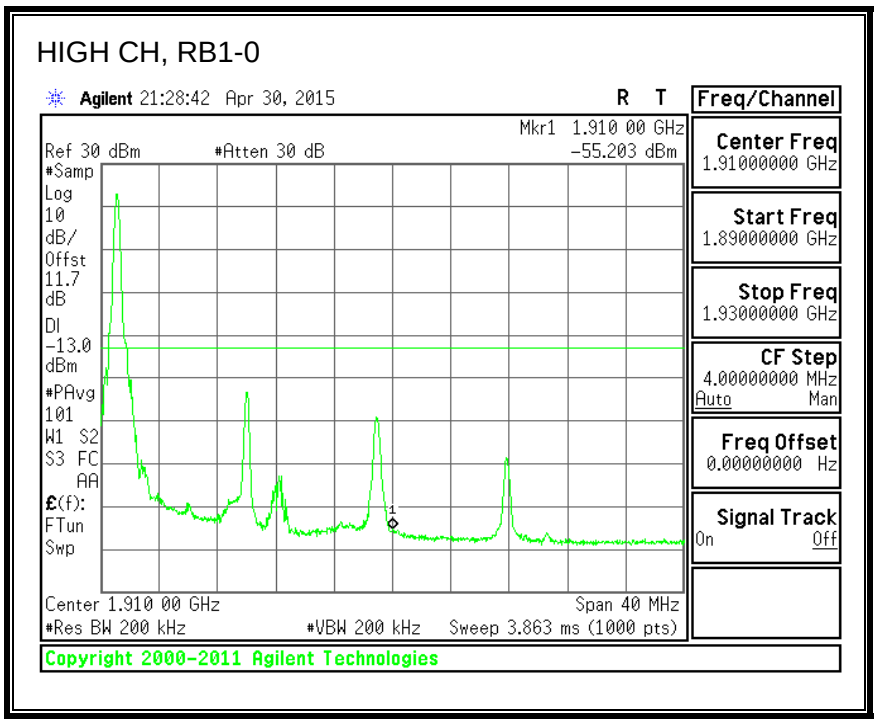


16QAM, (20.0 MHz BAND WIDTH)

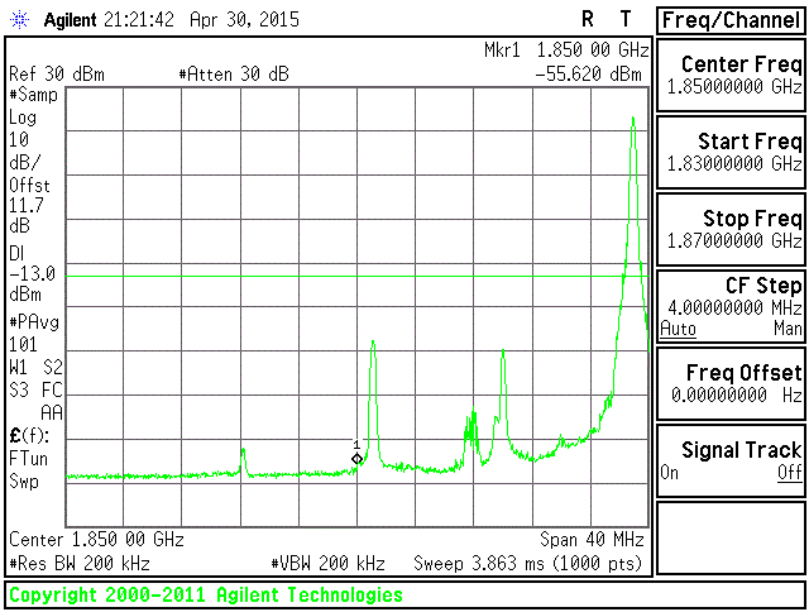
LOW CH, RB1-0



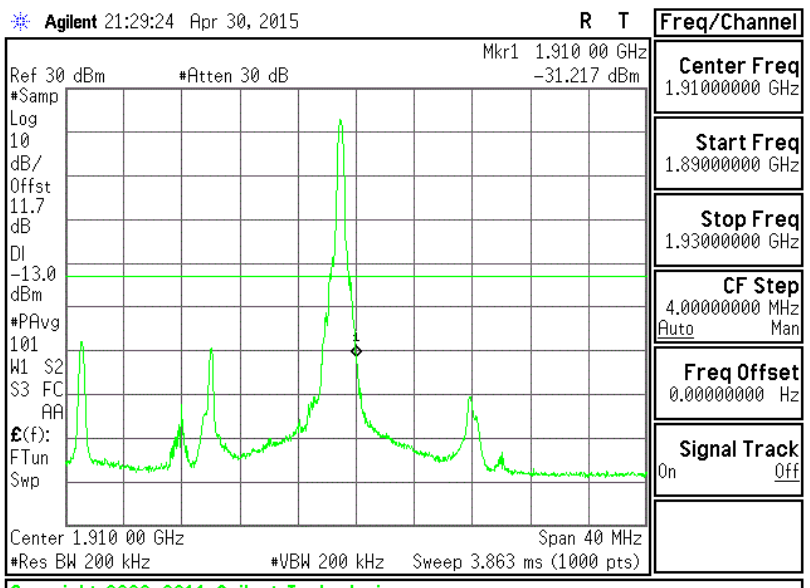
HIGH CH, RB1-0



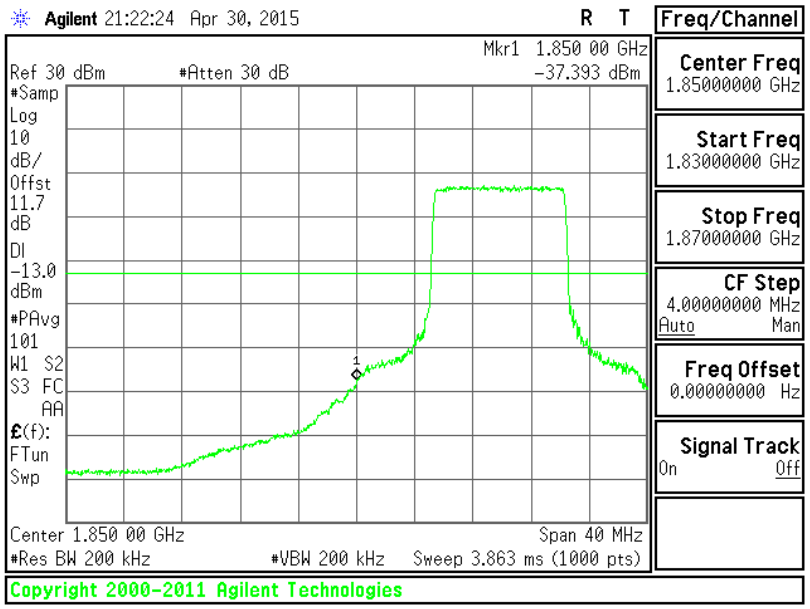
LOW CH, RB1-99



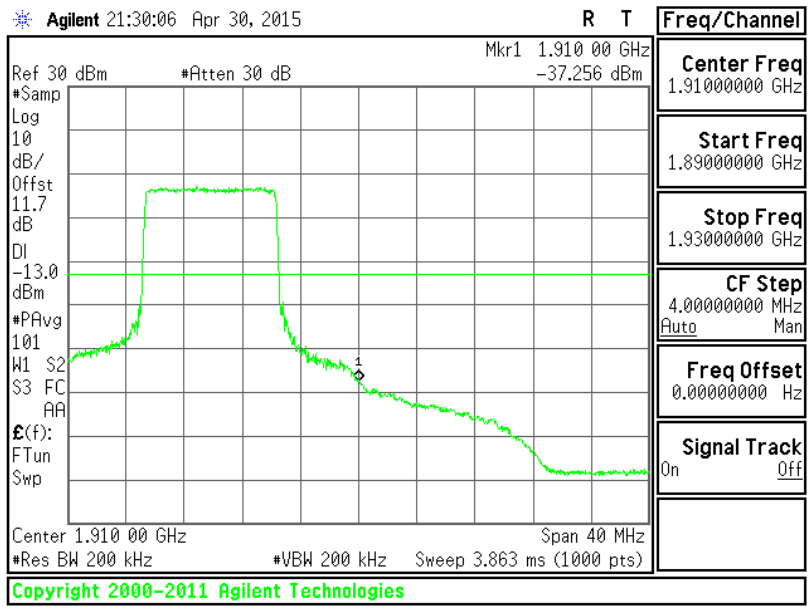
HIGH CH, RB1-99



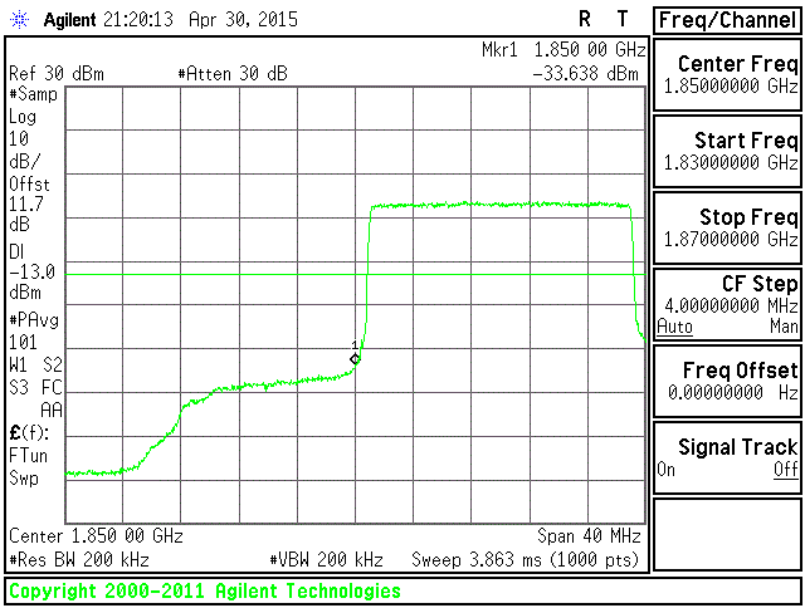
LOW CH, RB50-24



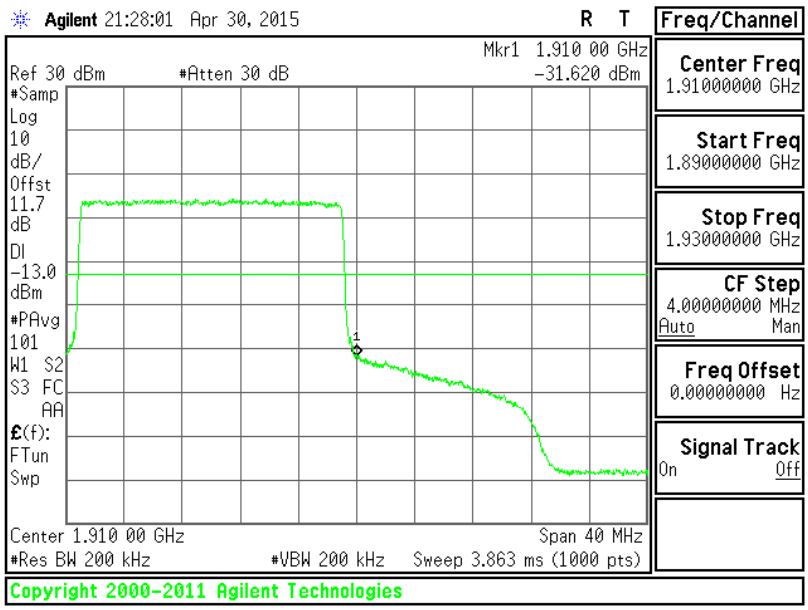
HIGH CH, RB50-24



LOW CH, RB100-0



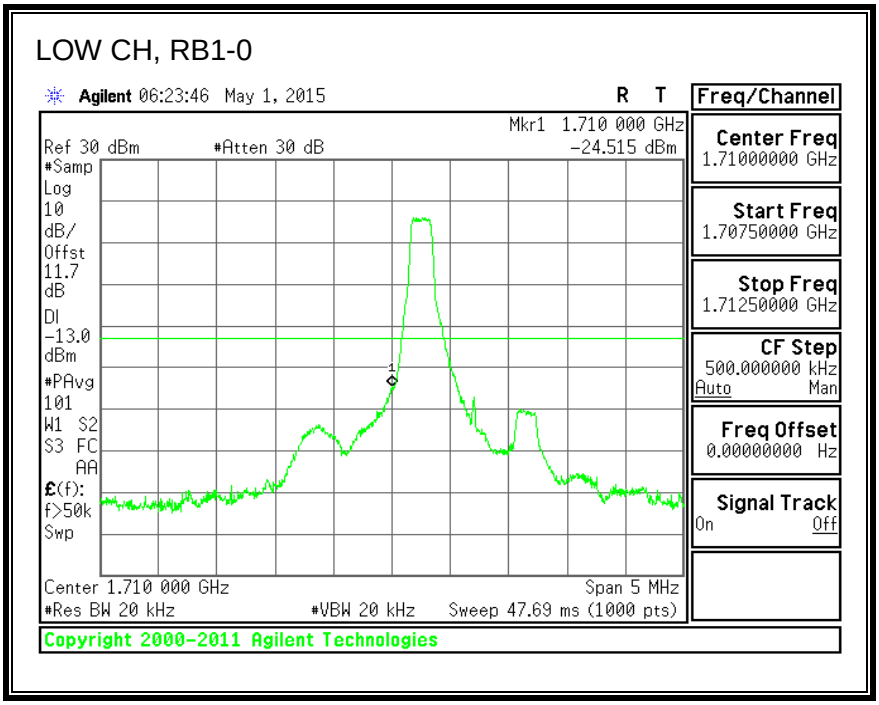
HIGH CH, RB100-0



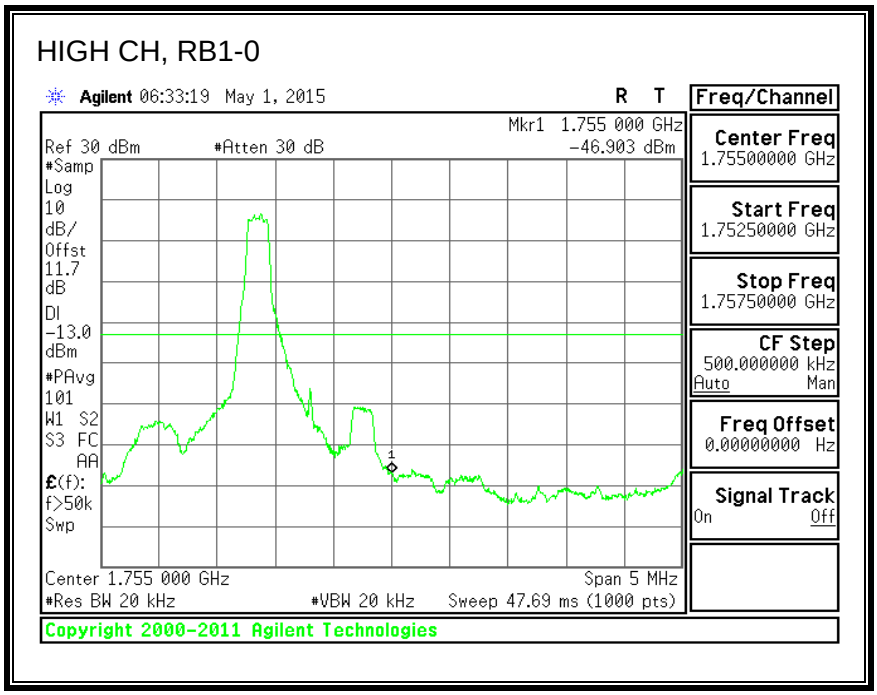
8.3.2. LTE BAND 4 BANDEDGE

QPSK, (1.4 MHz BAND WIDTH)

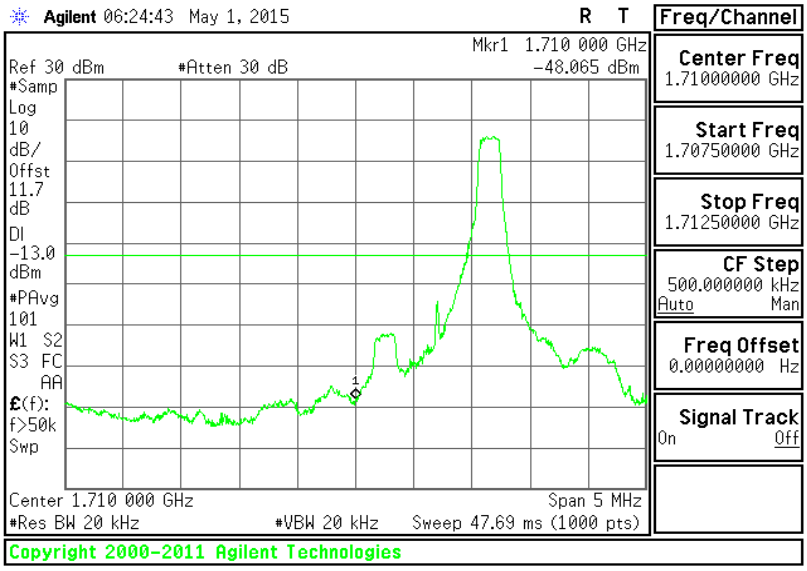
LOW CH, RB1-0



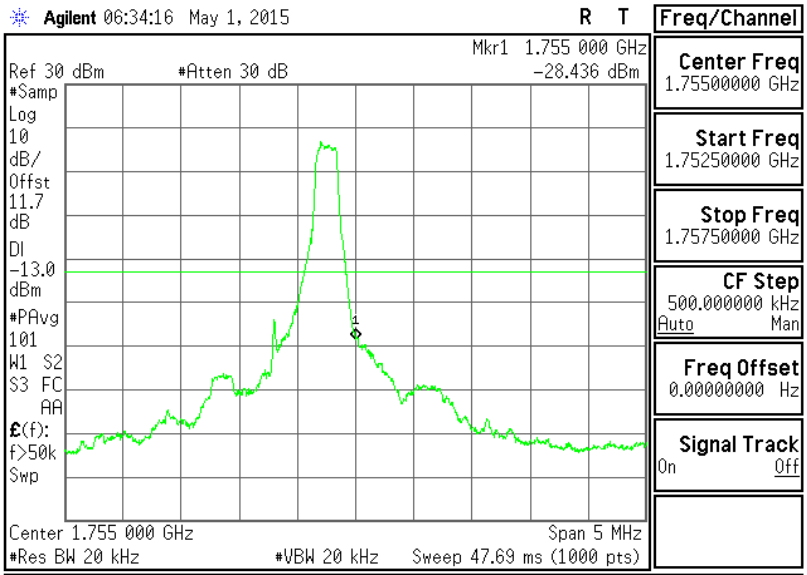
HIGH CH, RB1-0



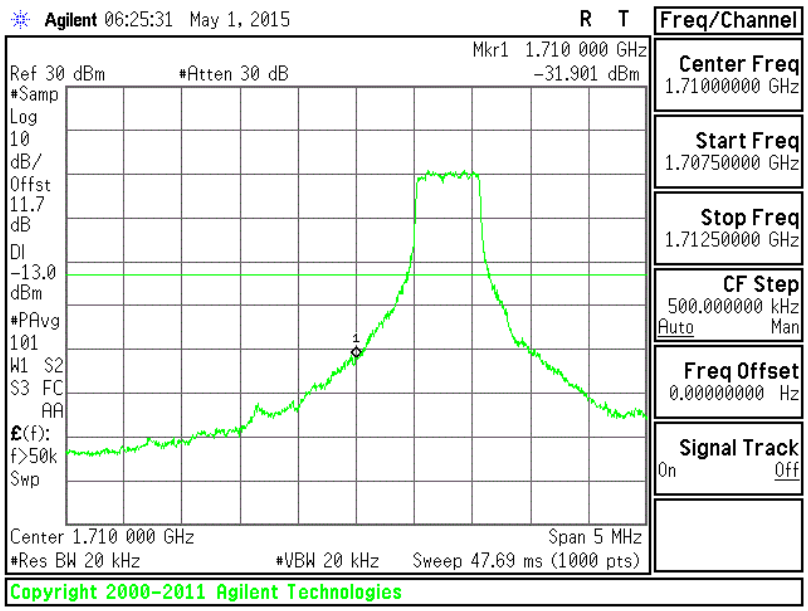
LOW CH, RB1-5



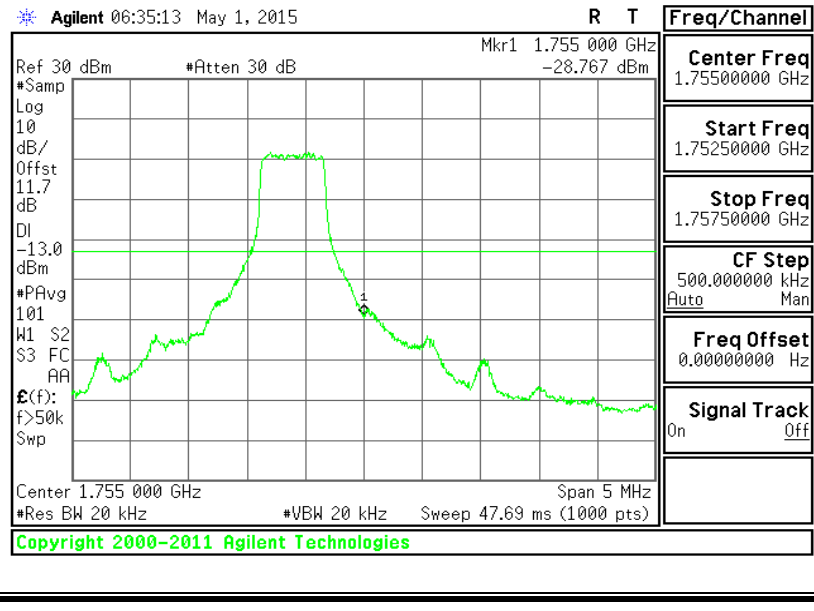
HIGH CH, RB1-5



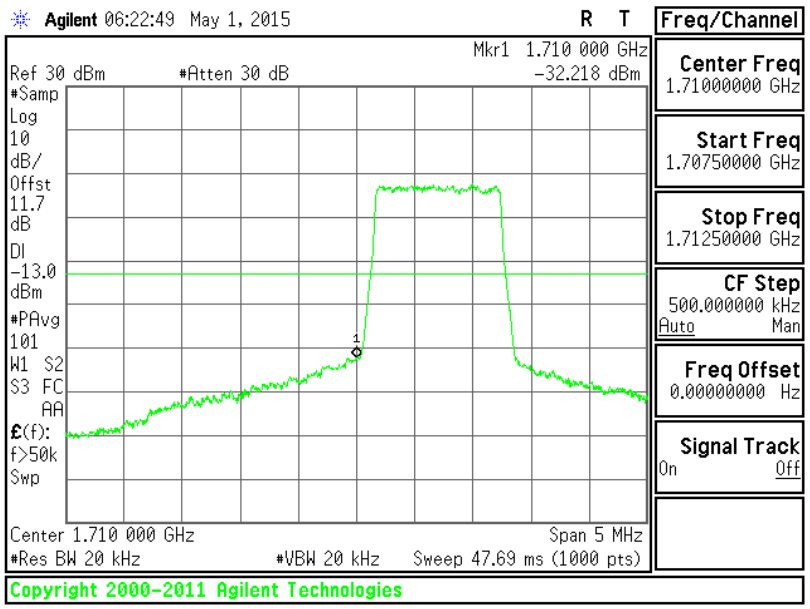
LOW CH, RB3-2



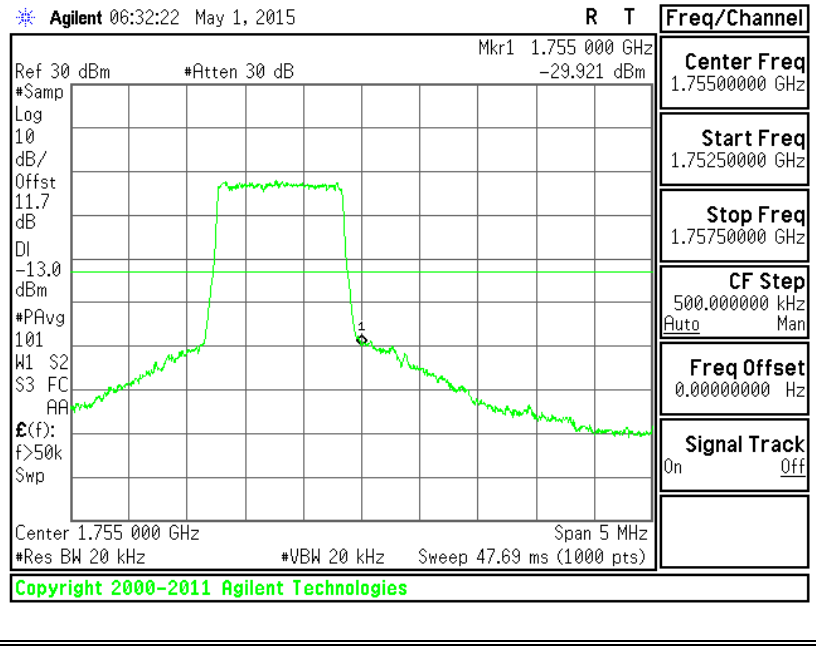
HIGH CH, RB3-2



LOW CH, RB6-0

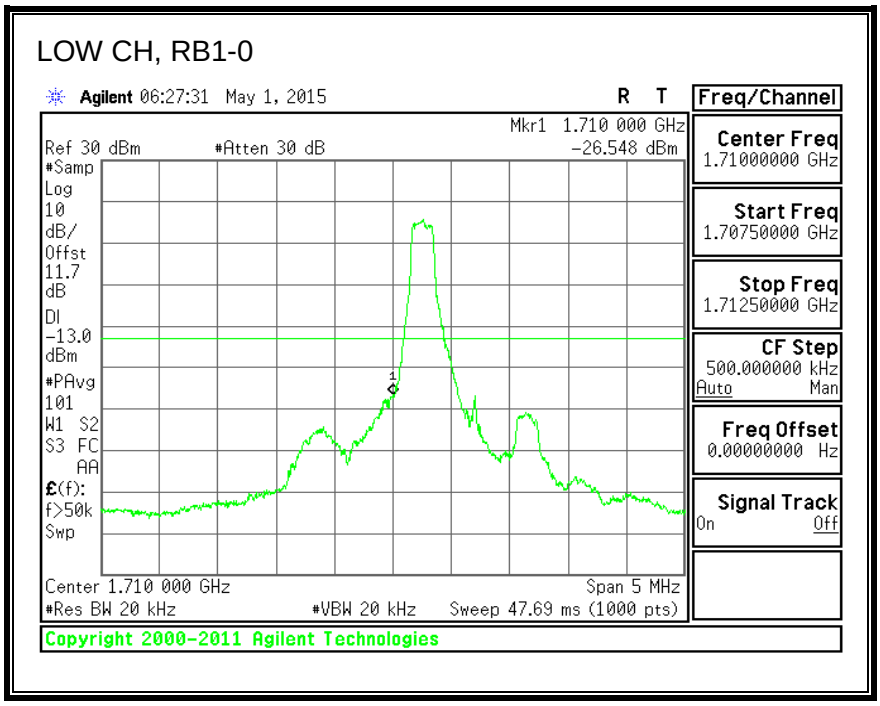


HIGH CH, RB6-0

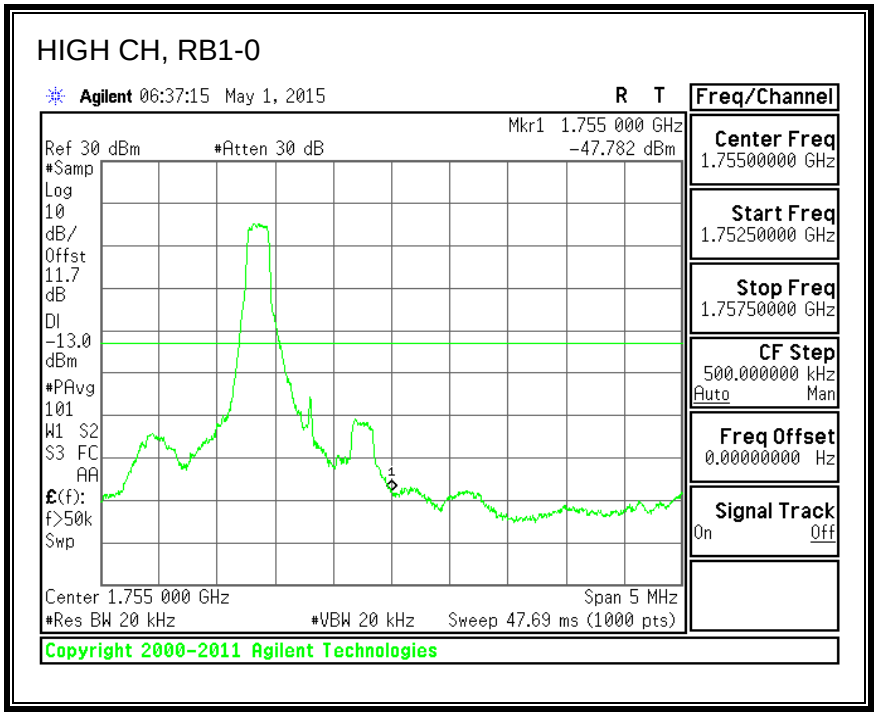


16QAM, (1.4 MHz BAND WIDTH)

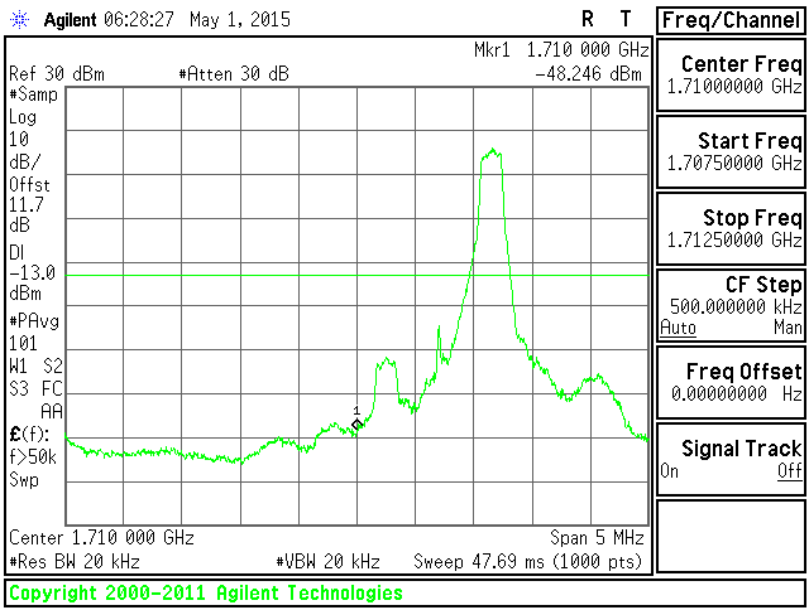
LOW CH, RB1-0



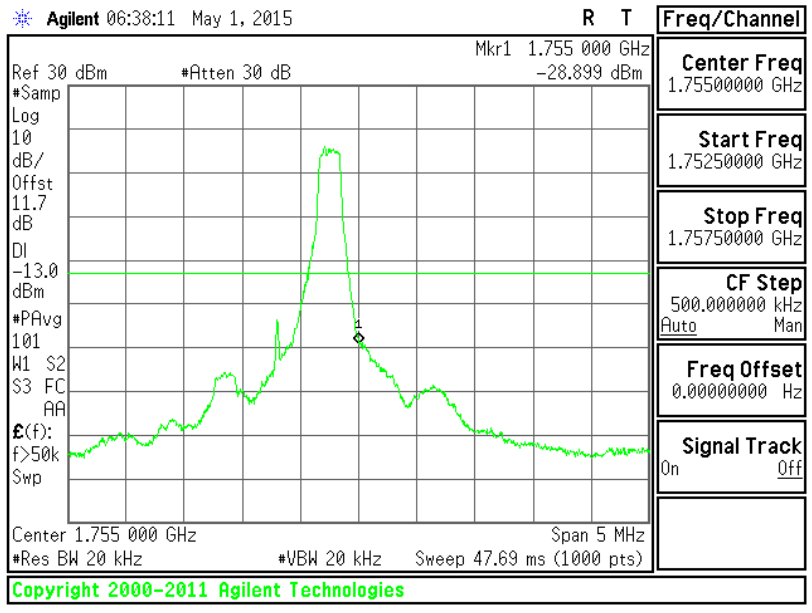
HIGH CH, RB1-0



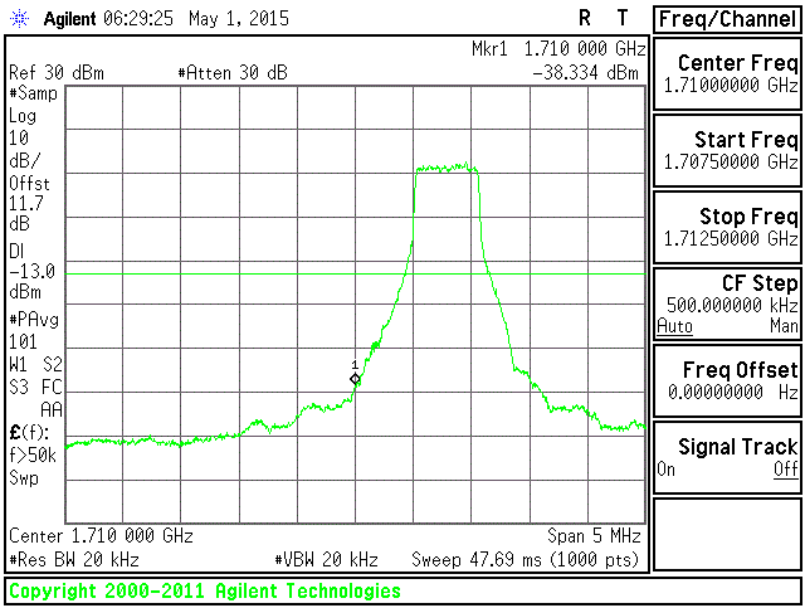
LOW CH, RB1-5



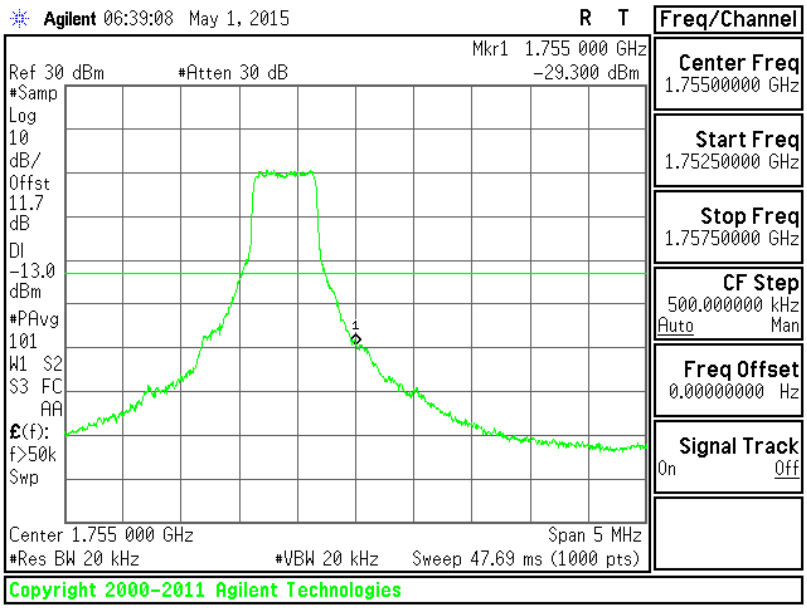
HIGH CH, RB1-5



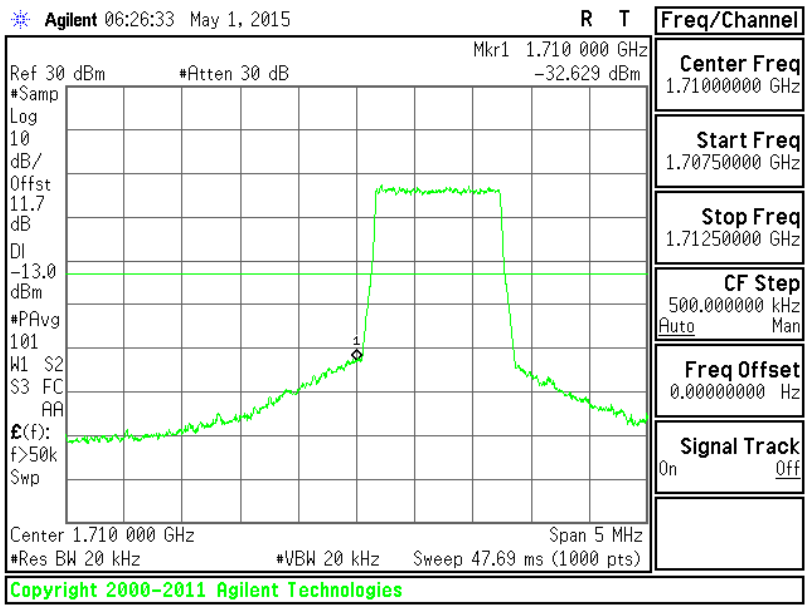
LOW CH, RB3-2



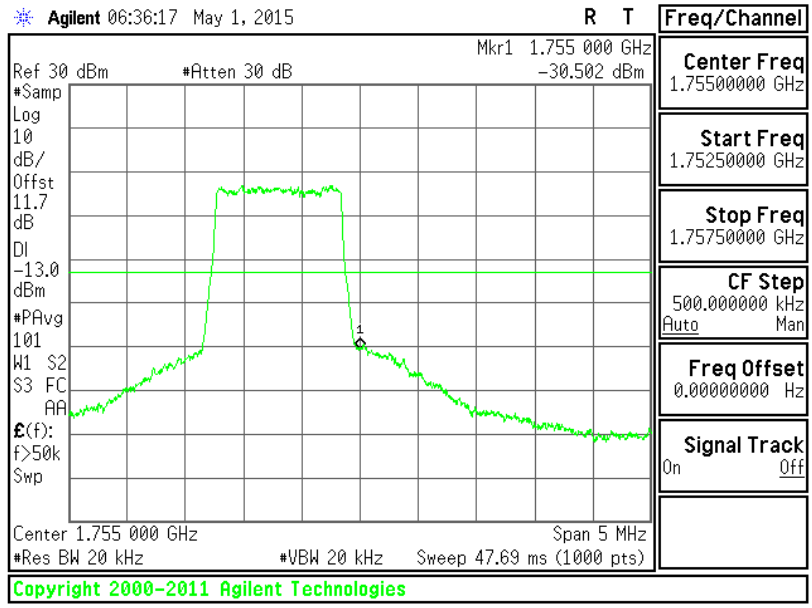
HIGH CH, RB3-2



LOW CH, RB6-0

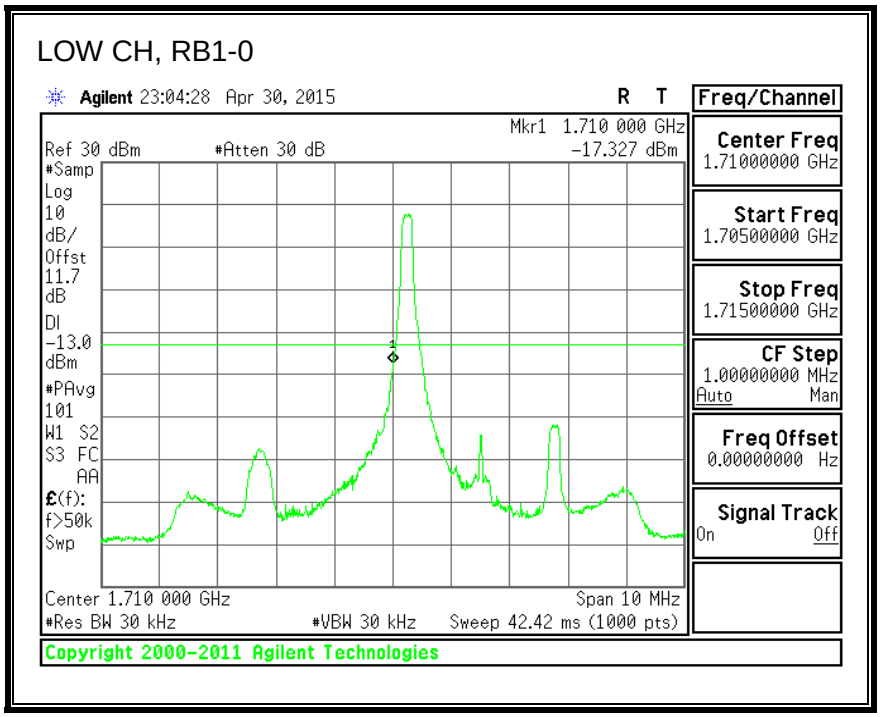


HIGH CH, RB6-0

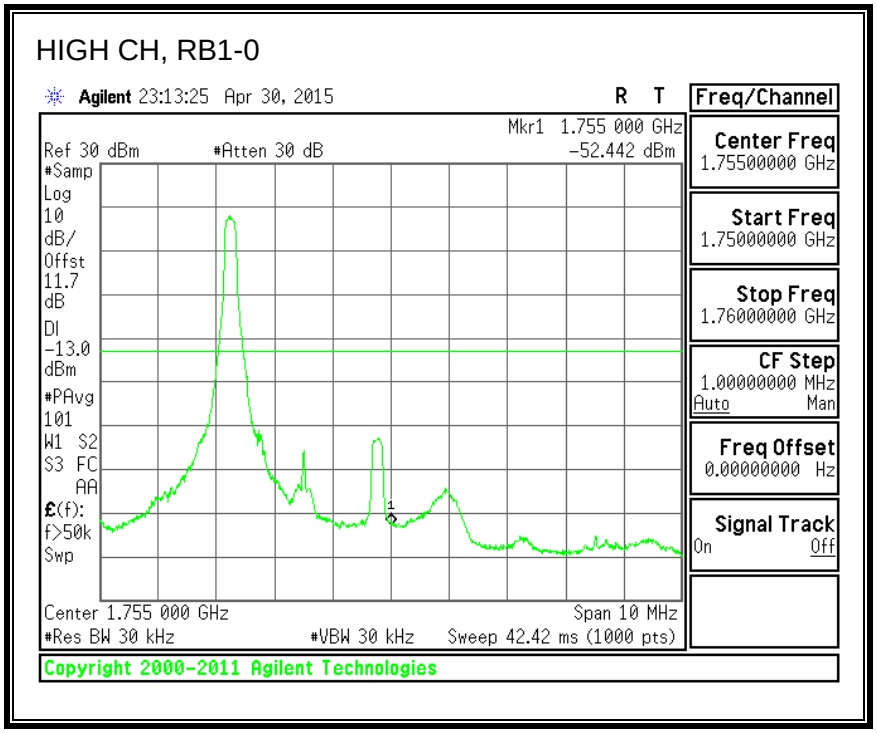


QPSK, (3.0 MHz BAND WIDTH)

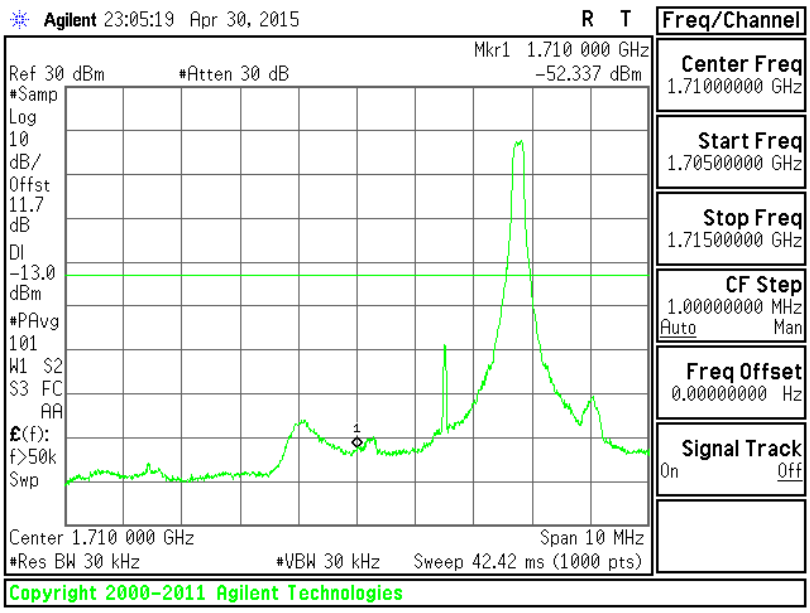
LOW CH, RB1-0



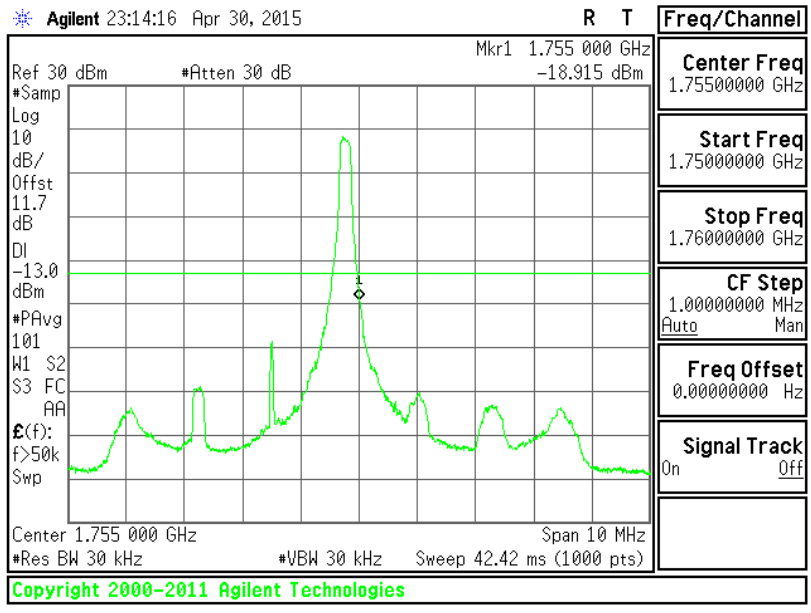
HIGH CH, RB1-0



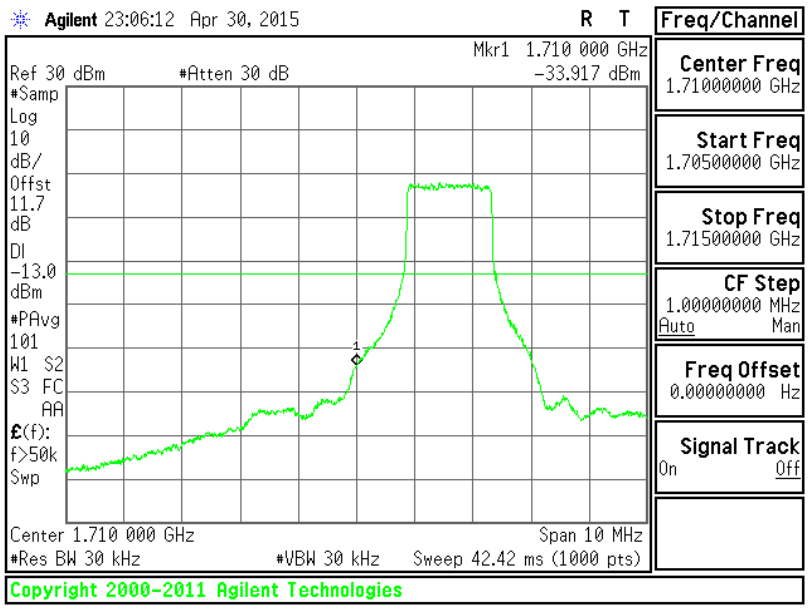
LOW CH, RB1-14



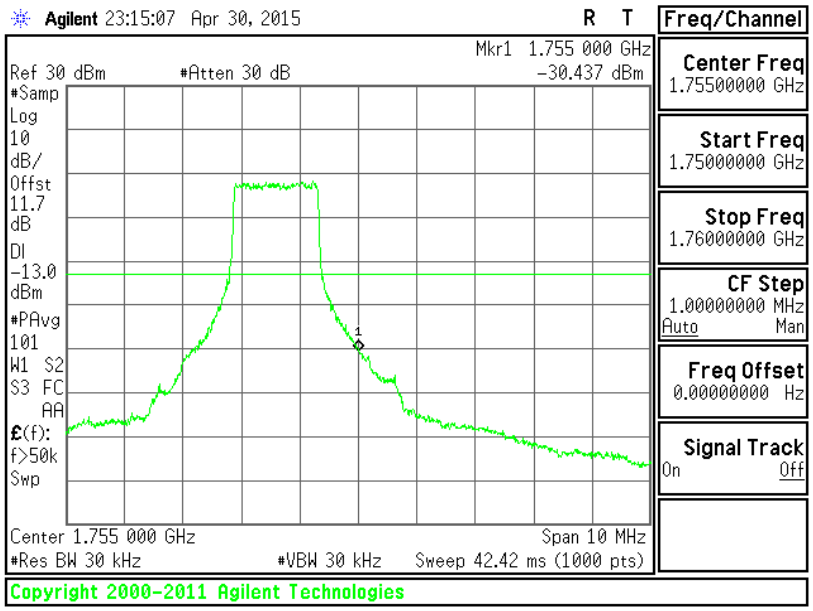
HIGH CH, RB1-14



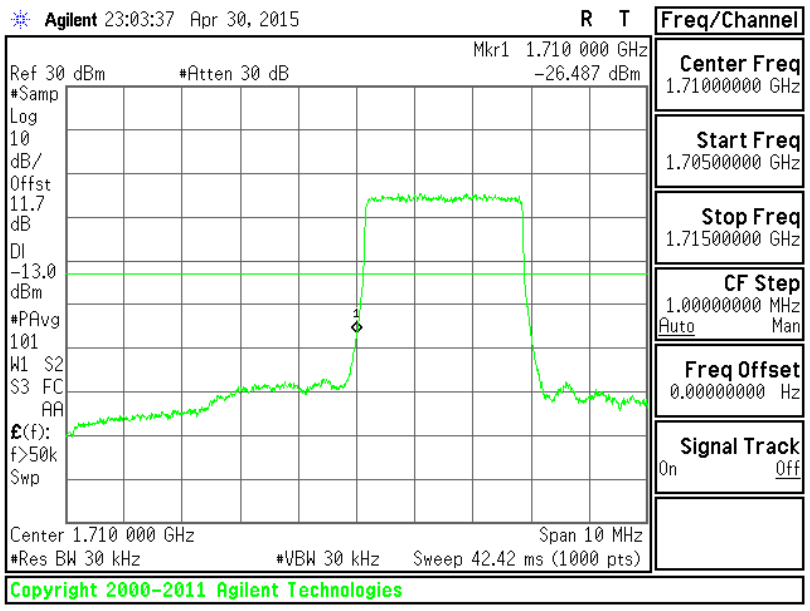
LOW CH, RB8-4



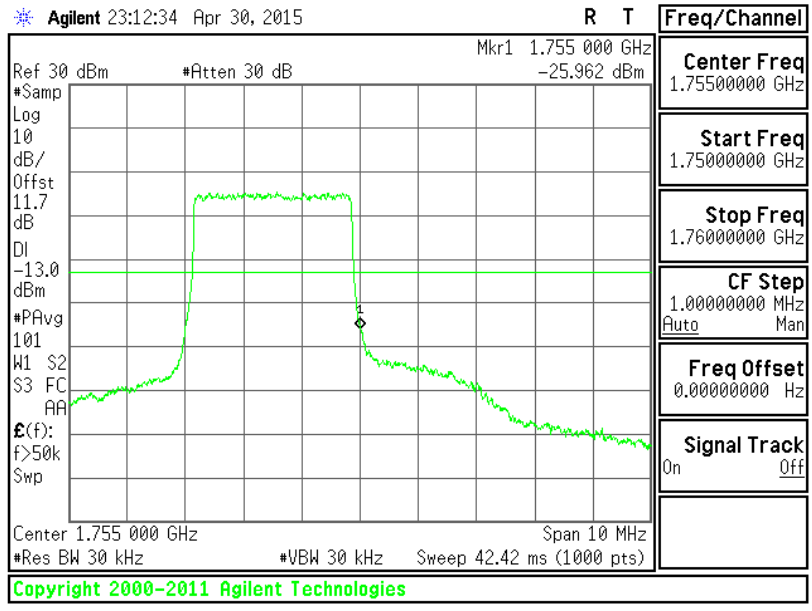
HIGH CH, RB8-4



LOW CH, RB15-0

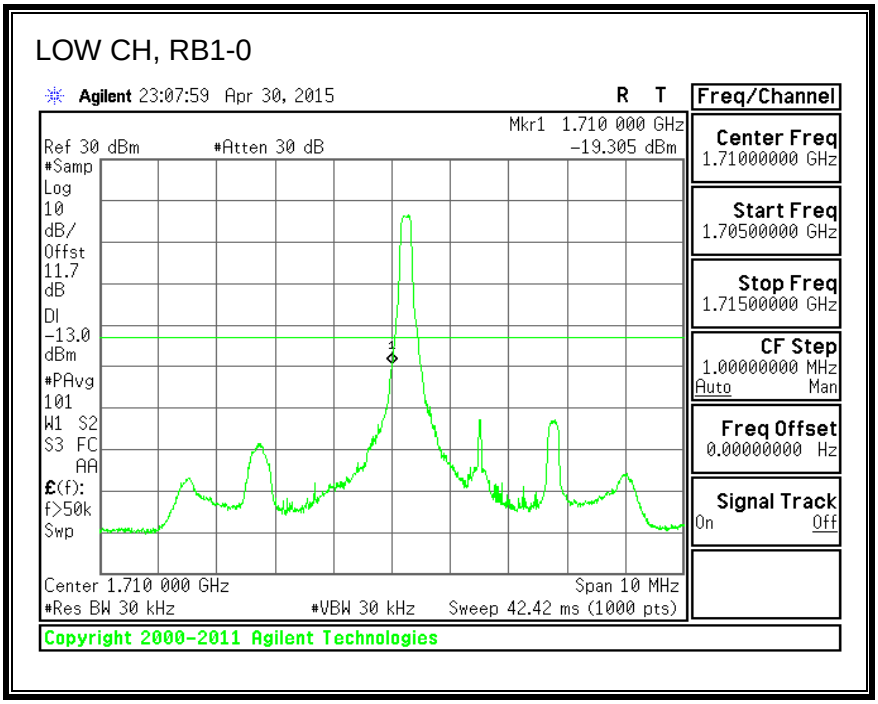


HIGH CH, RB15-0

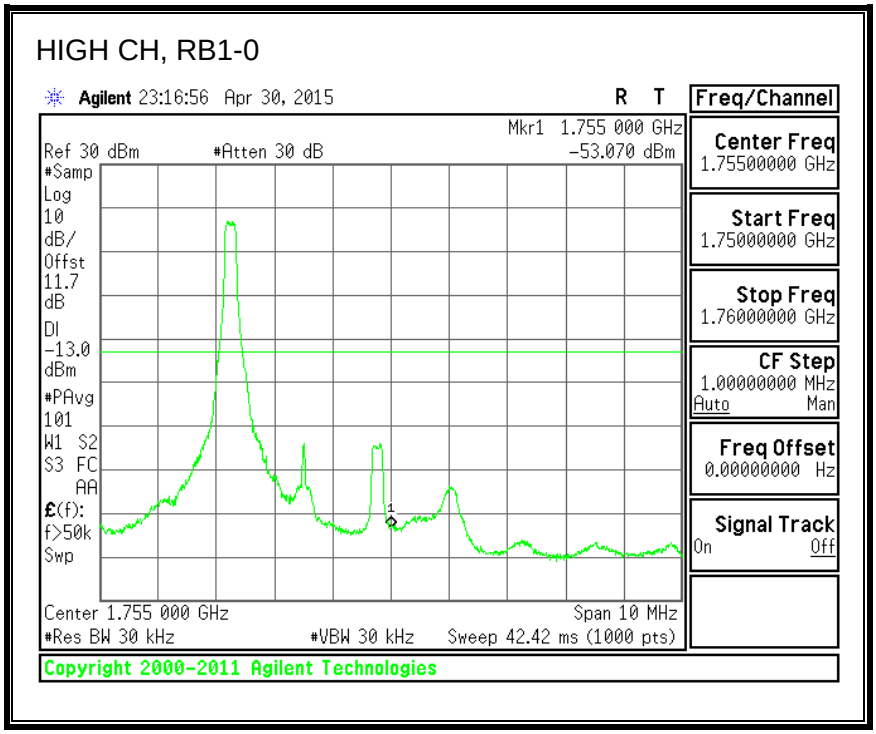


16QAM, (3.0 MHz BAND WIDTH)

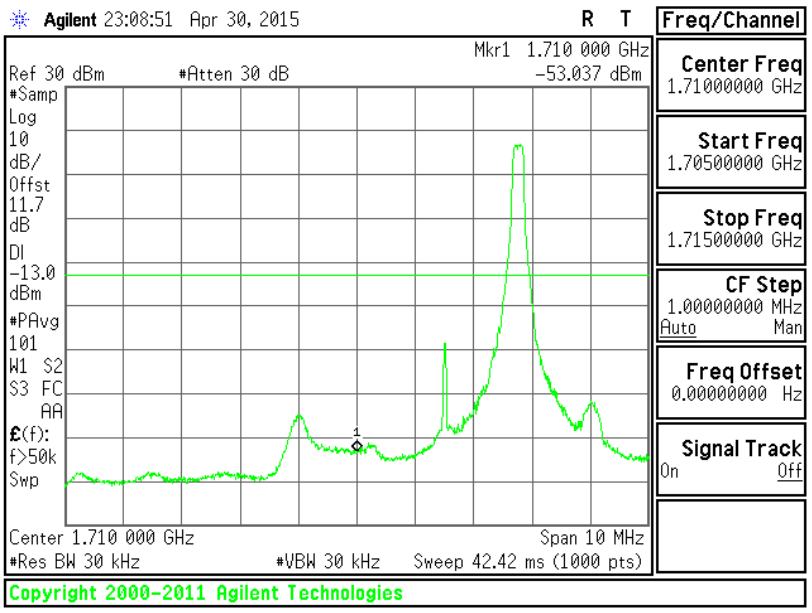
LOW CH, RB1-0



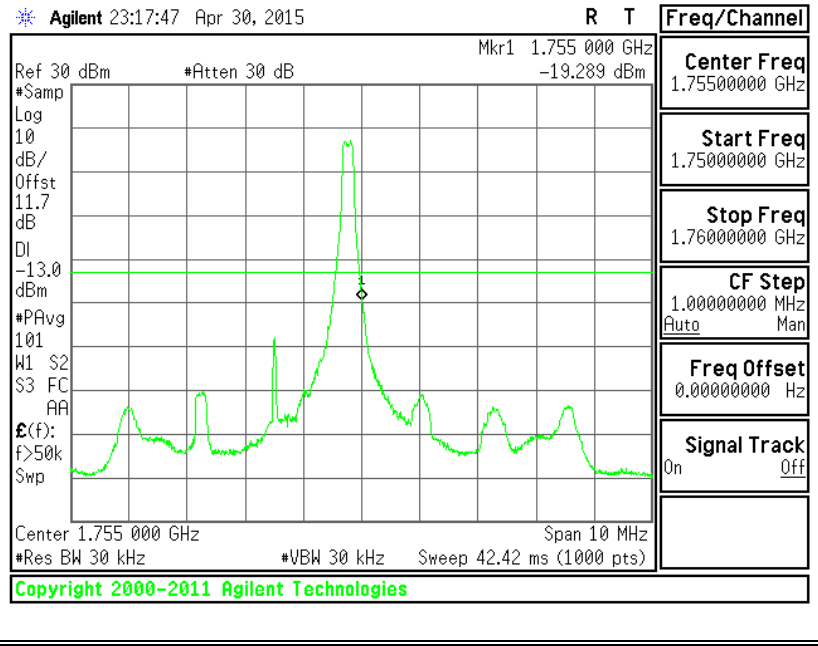
HIGH CH, RB1-0



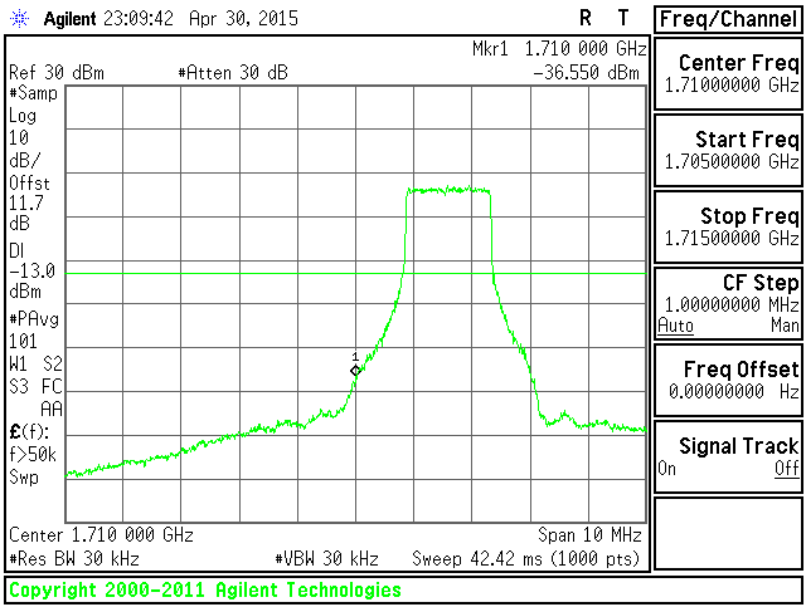
LOW CH, RB1-14



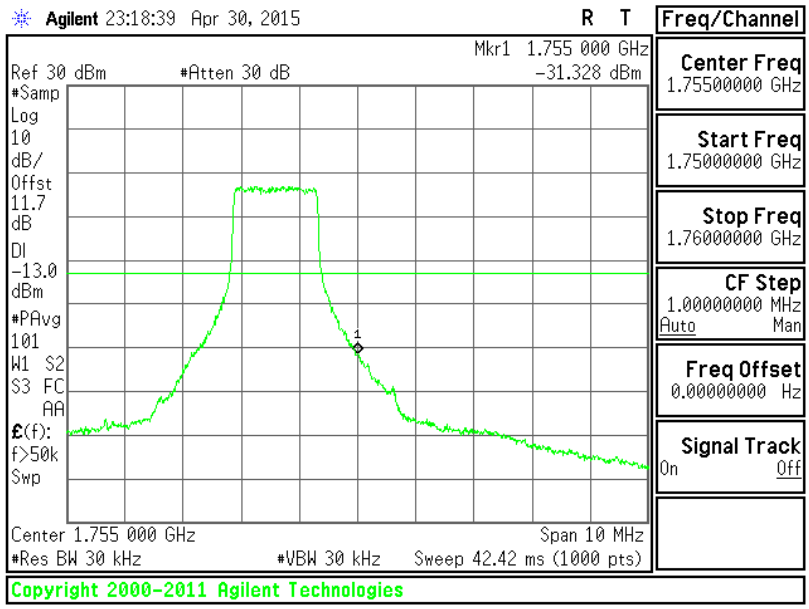
HIGH CH, RB1-14



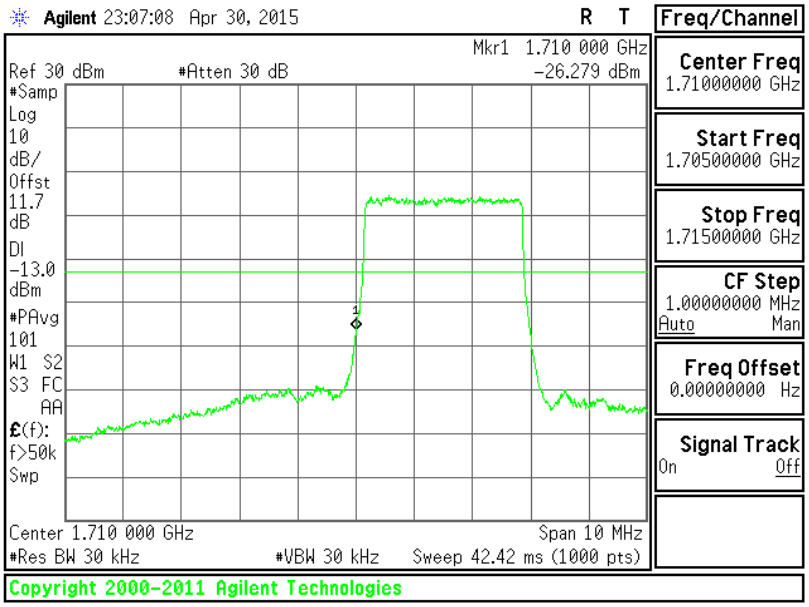
LOW CH, RB8-4



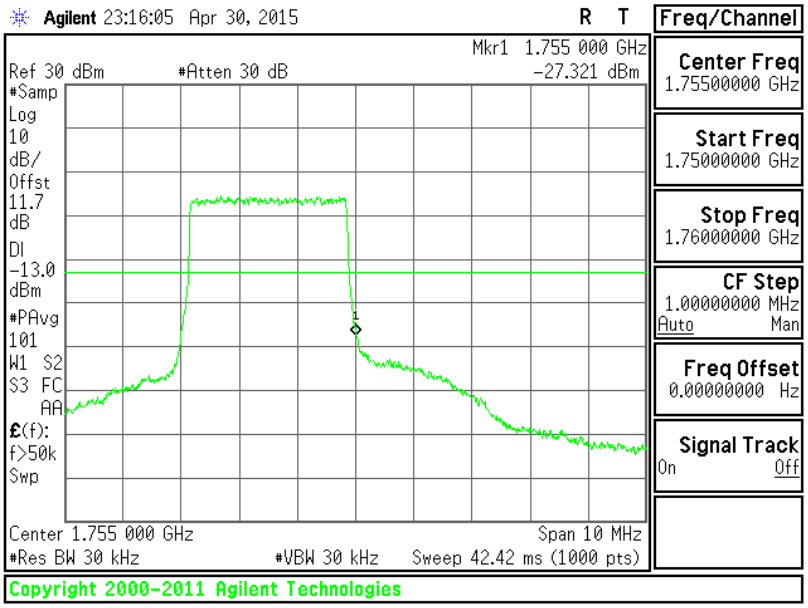
HIGH CH, RB8-4



LOW CH, RB15-0

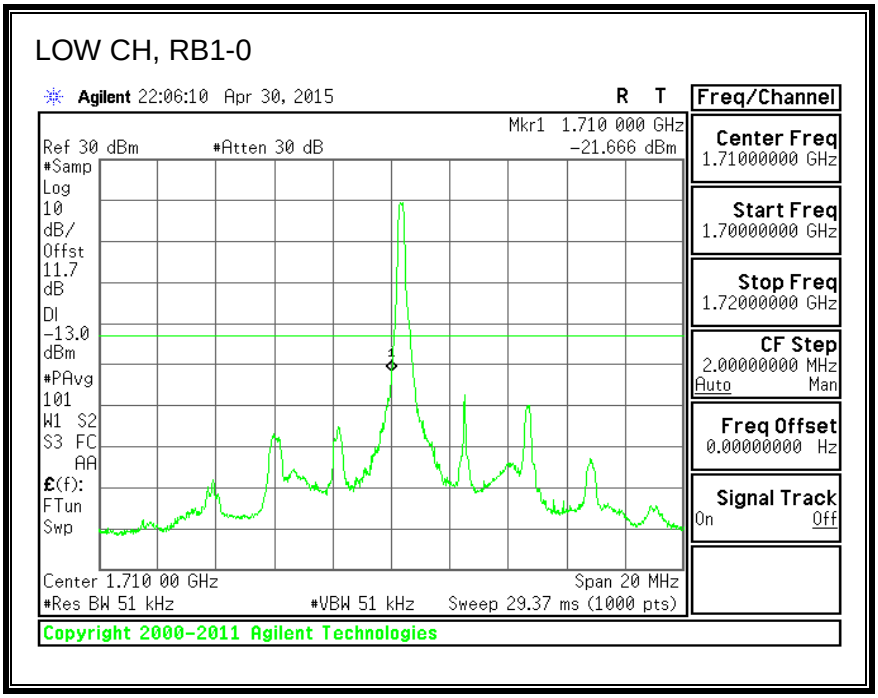


HIGH CH, RB15-0

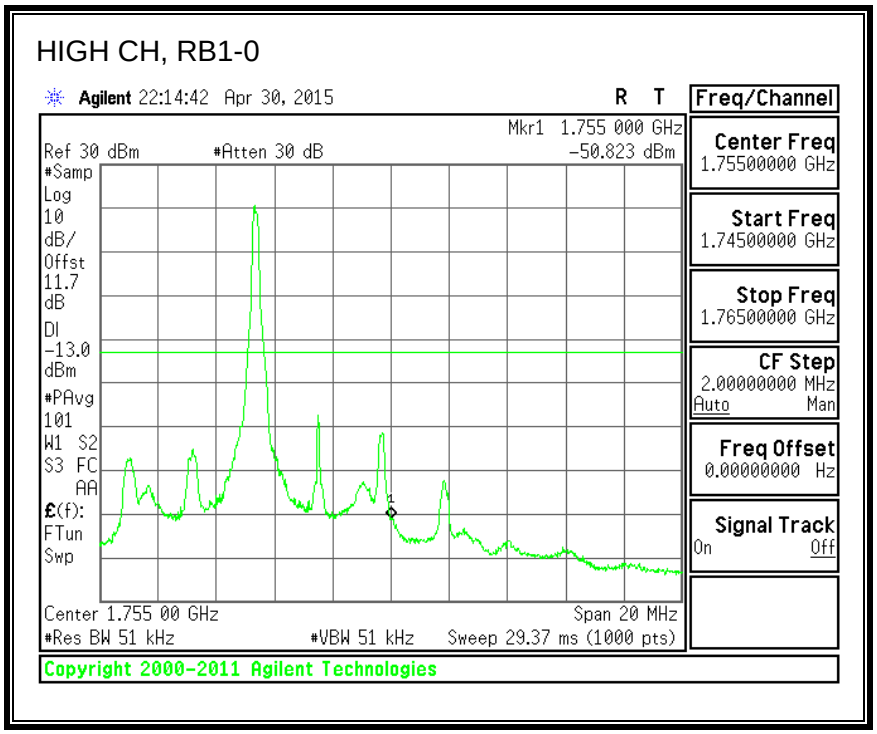


QPSK, (5.0 MHz BAND WIDTH)

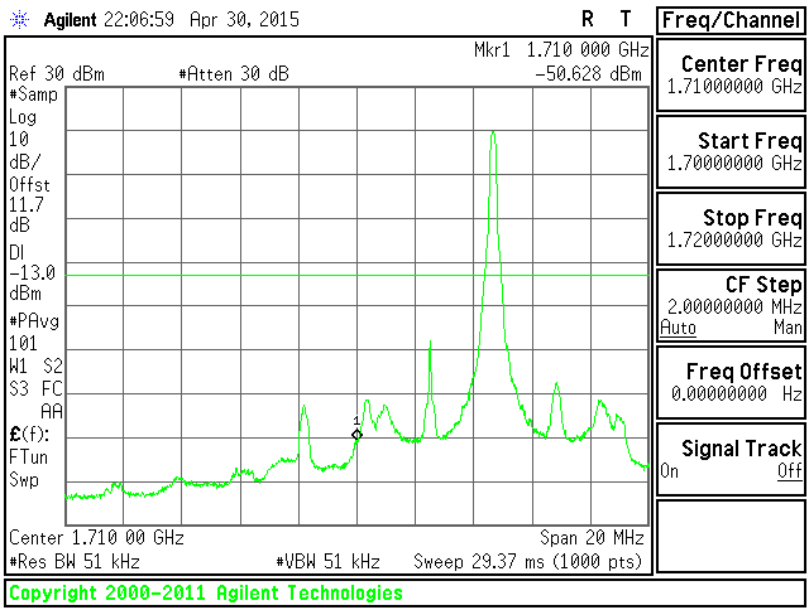
LOW CH, RB1-0



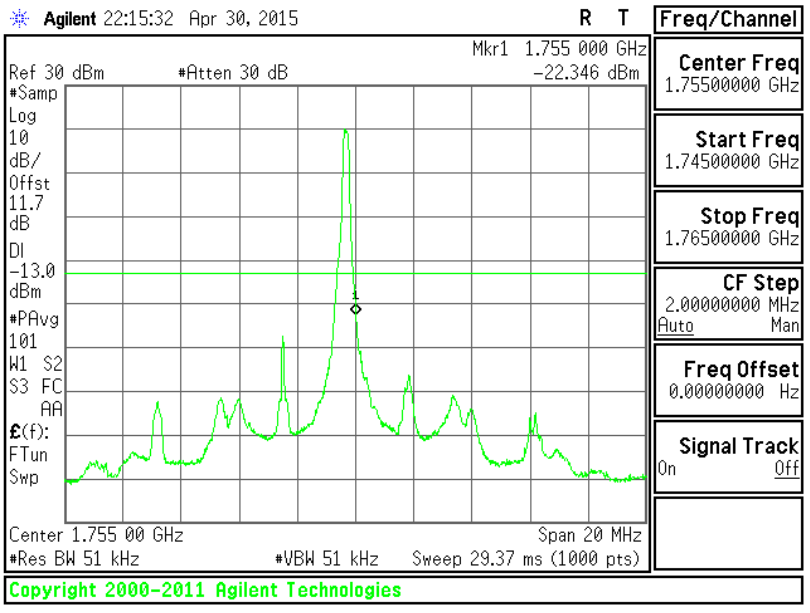
HIGH CH, RB1-0



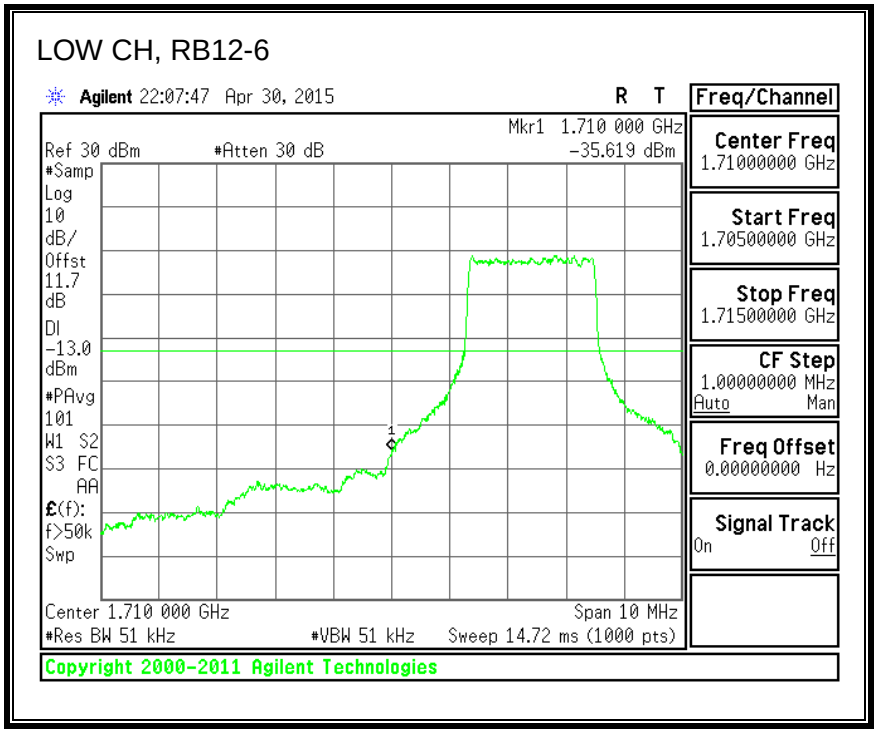
LOW CH, RB1-24



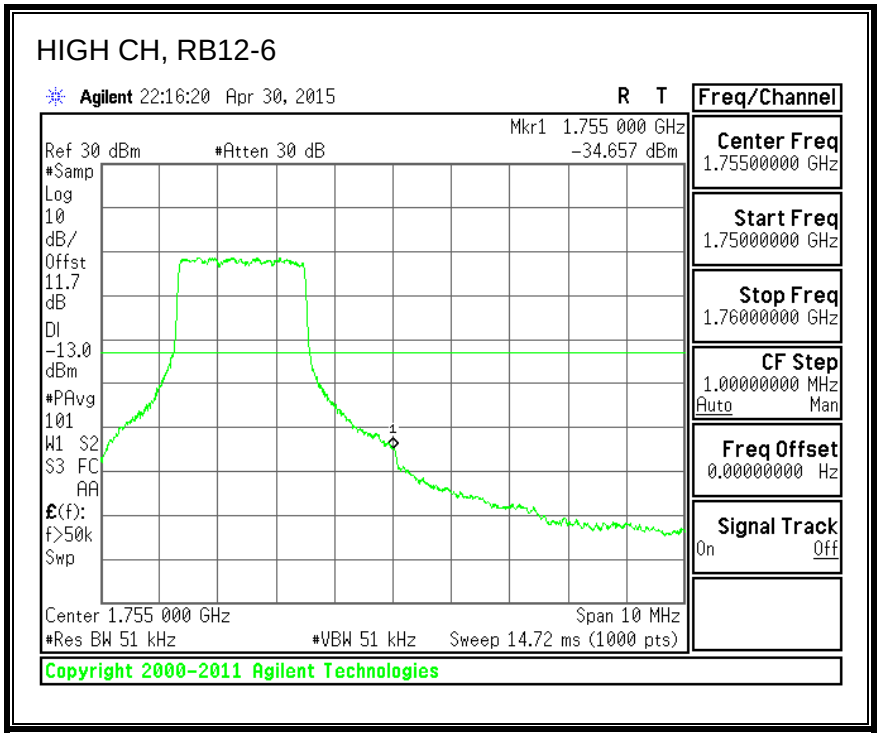
HIGH CH, RB1-24



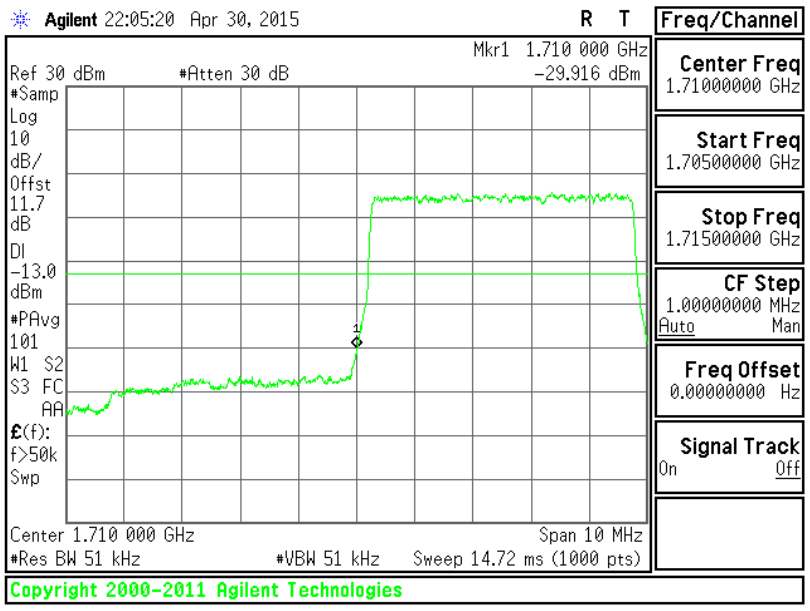
LOW CH, RB12-6



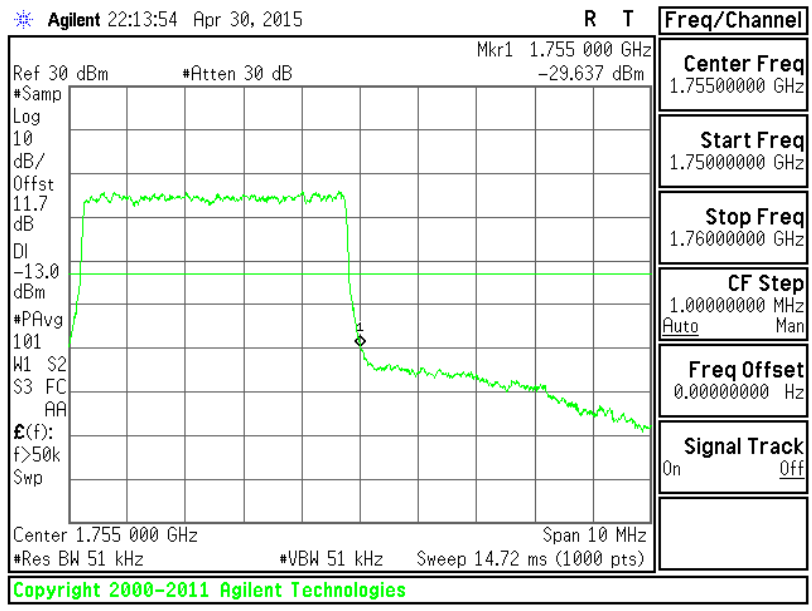
HIGH CH, RB12-6



LOW CH, RB25-0

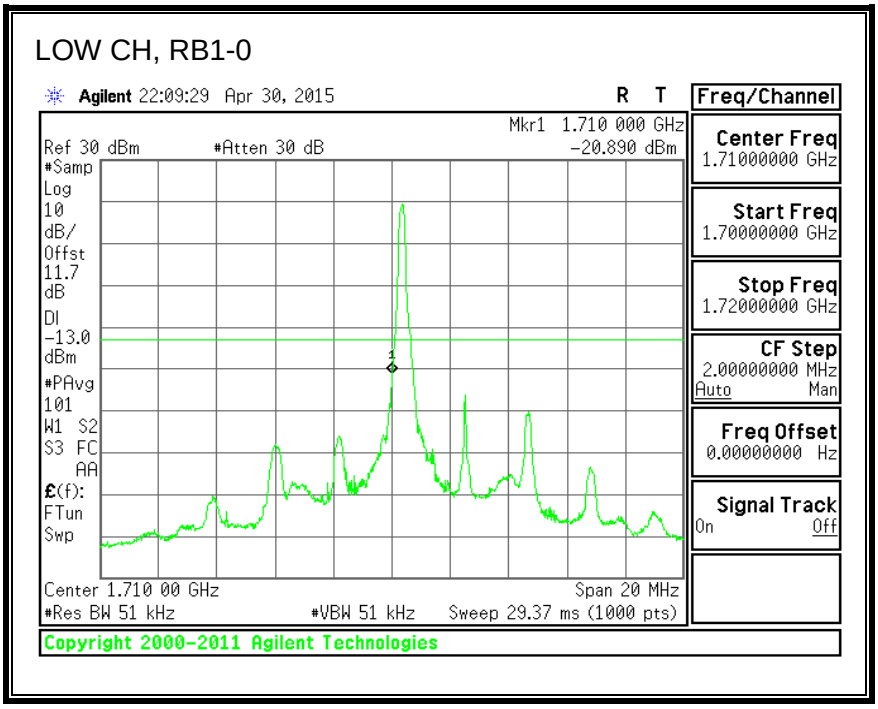


HIGH CH, RB25-0

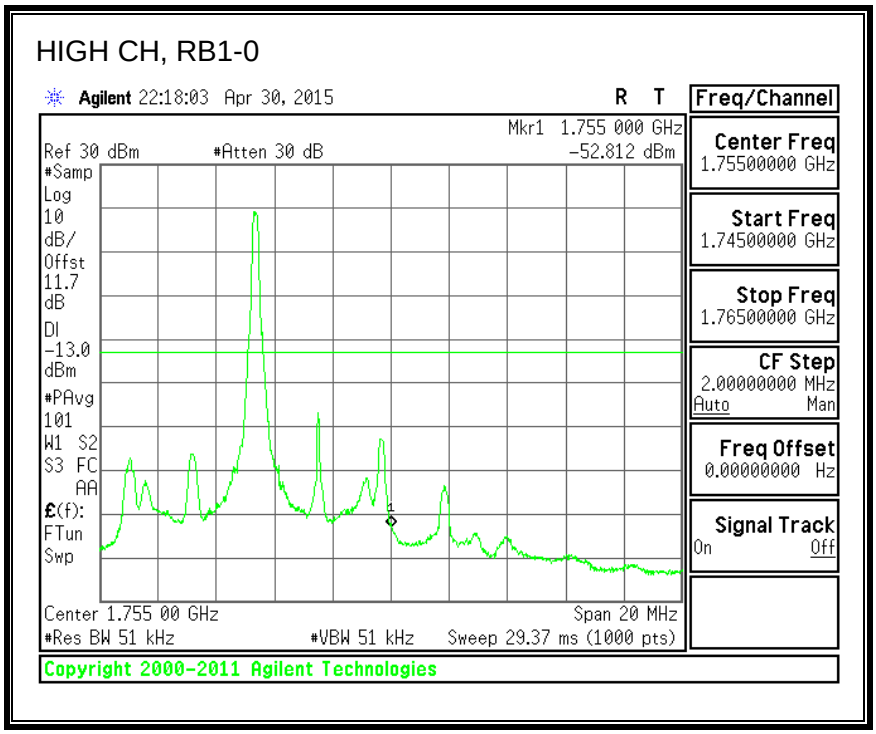


16QAM, (5.0 MHz BAND WIDTH)

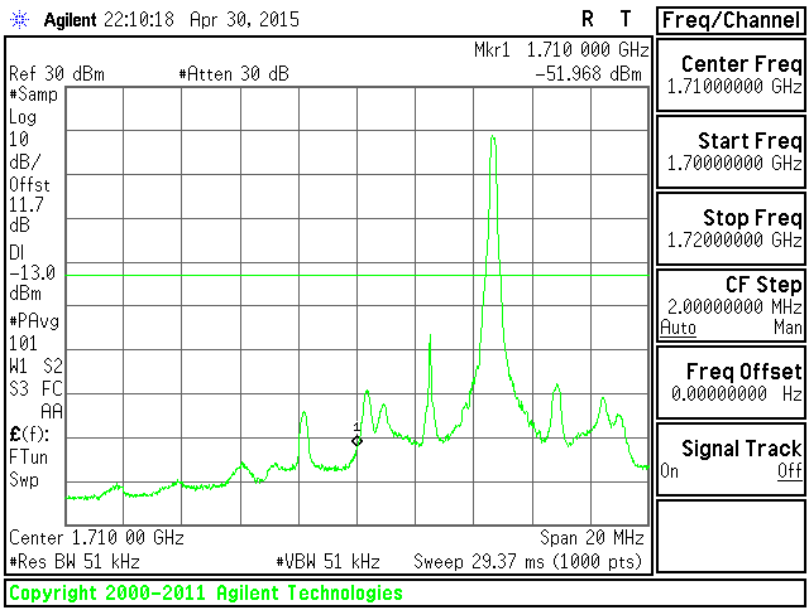
LOW CH, RB1-0



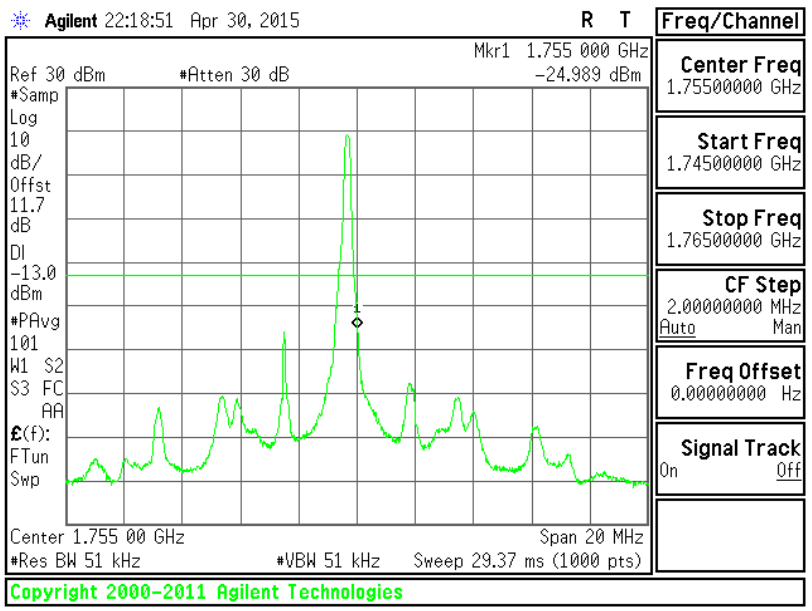
HIGH CH, RB1-0



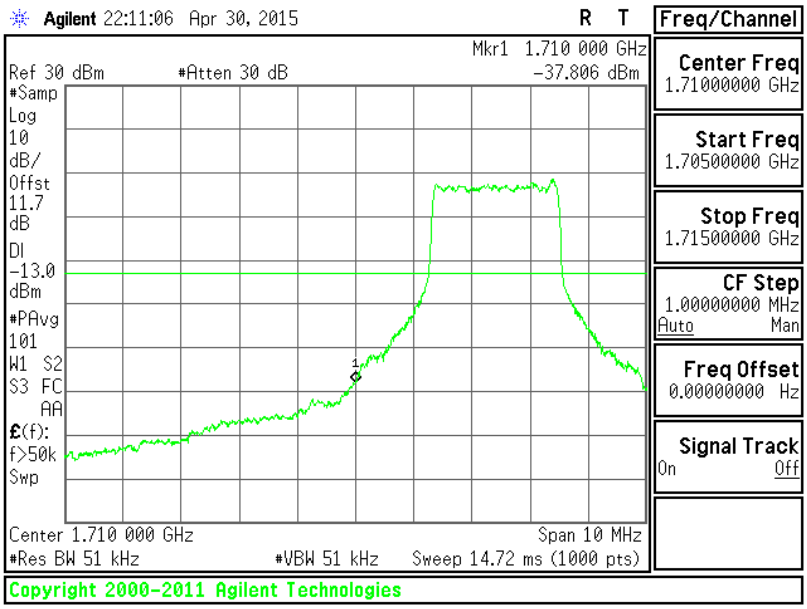
LOW CH, RB1-24



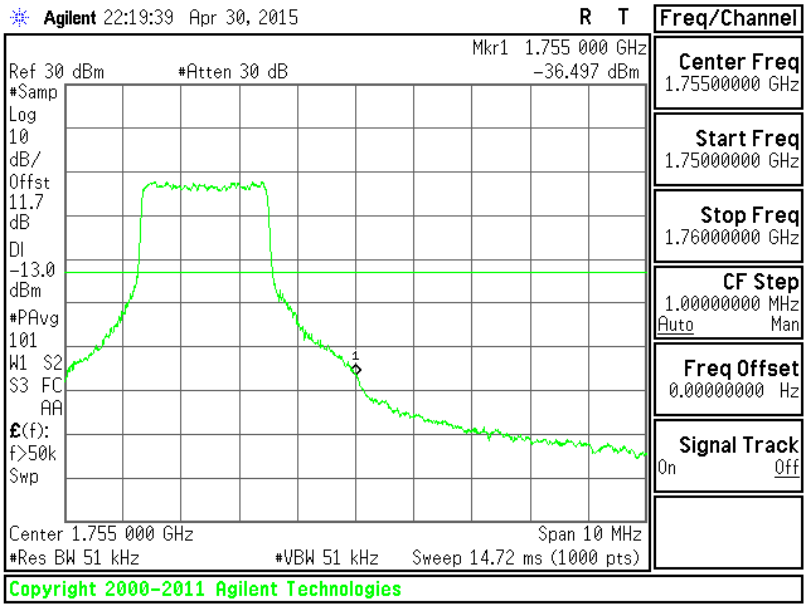
HIGH CH, RB1-24



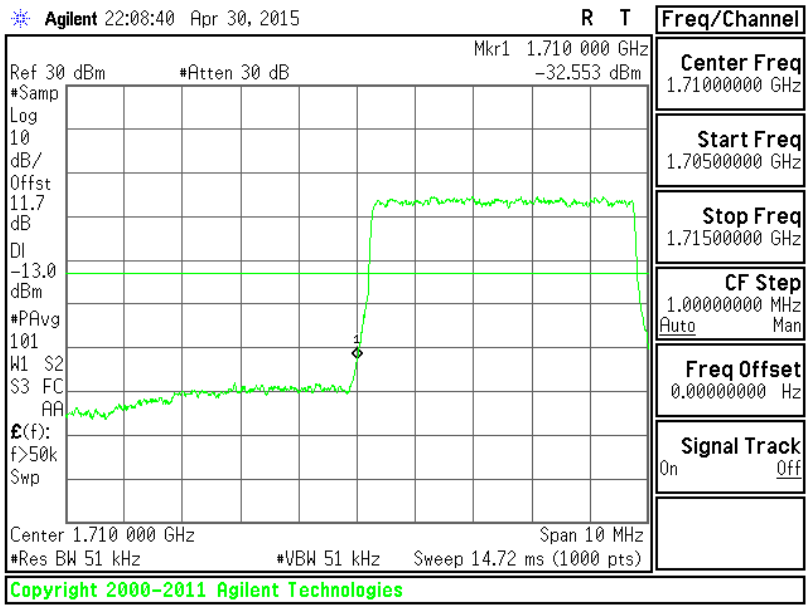
LOW CH, RB12-6



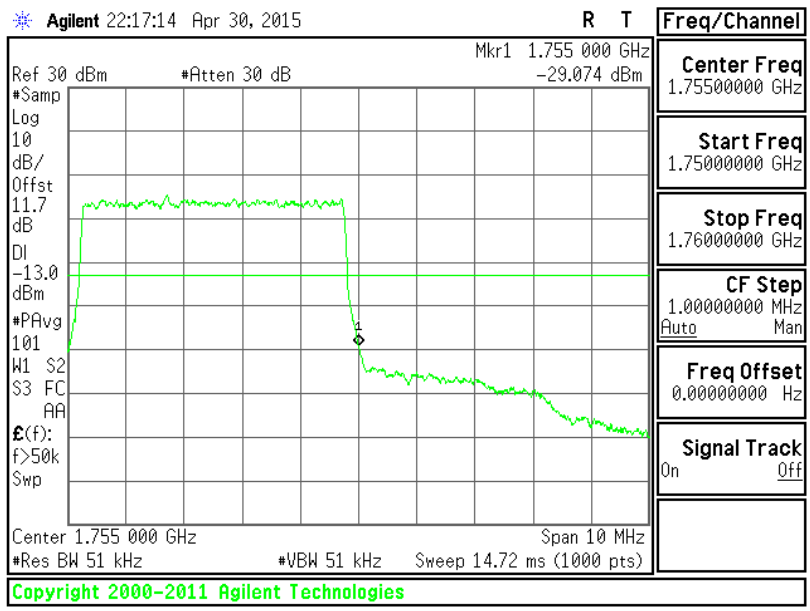
HIGH CH, RB12-6



LOW CH, RB25-0

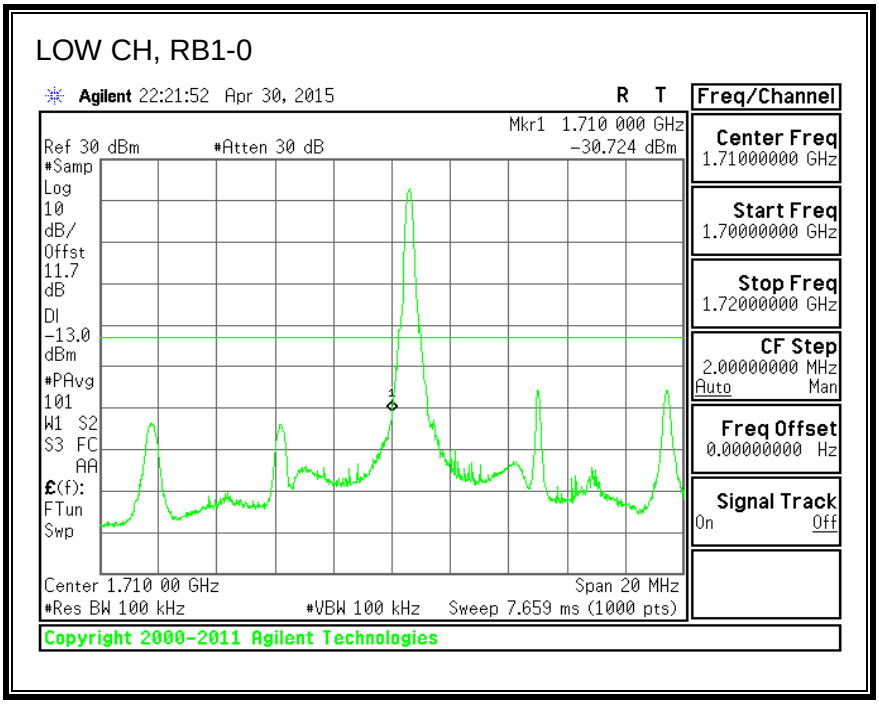


HIGH CH, RB25-0

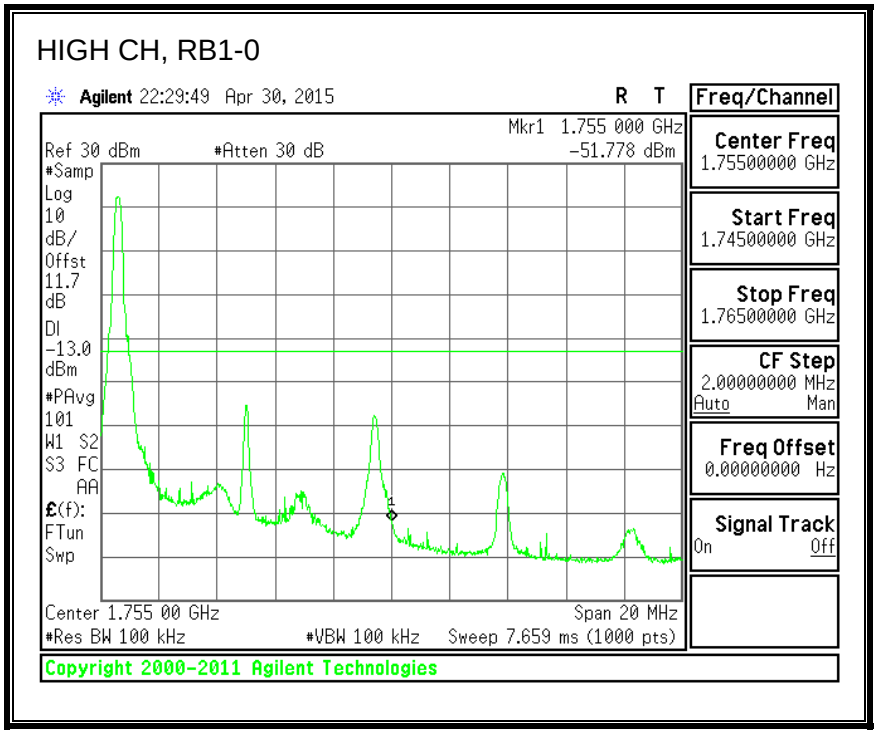


QPSK, (10.0 MHz BAND WIDTH)

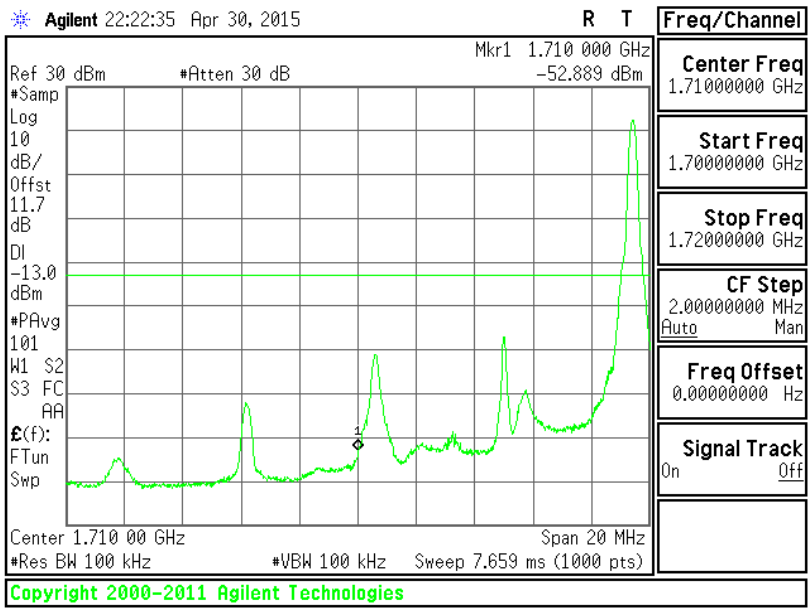
LOW CH, RB1-0



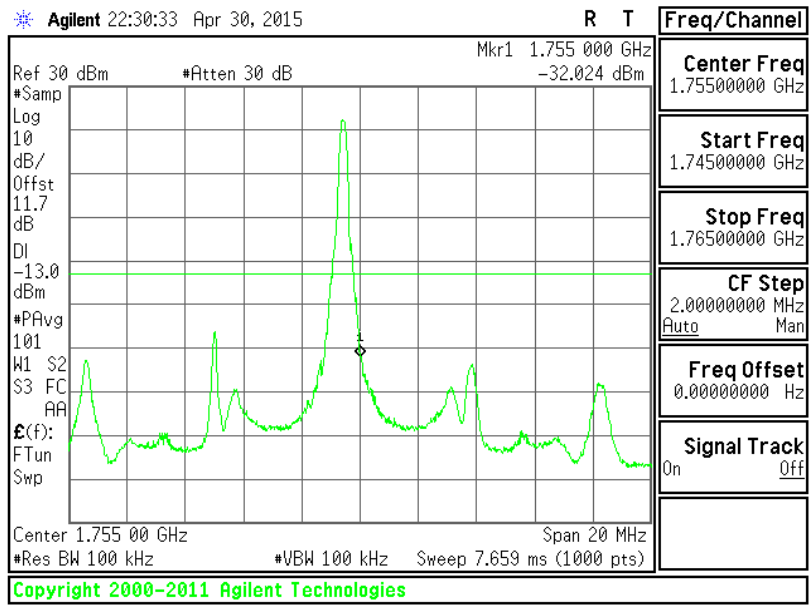
HIGH CH, RB1-0



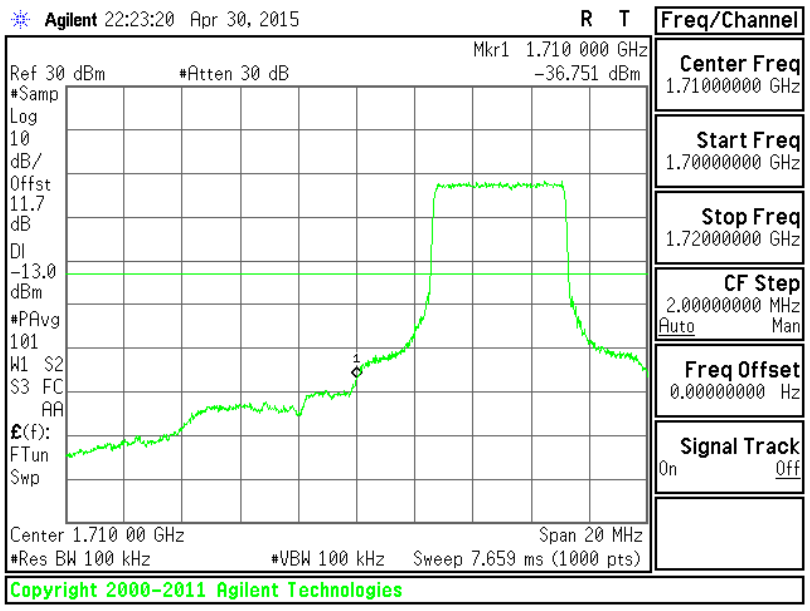
LOW CH, RB1-49



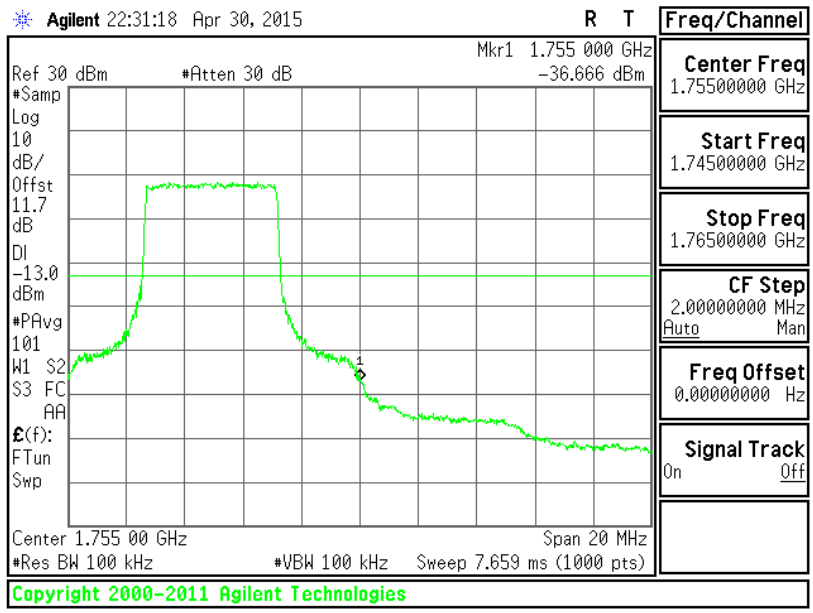
HIGH CH, RB1-49



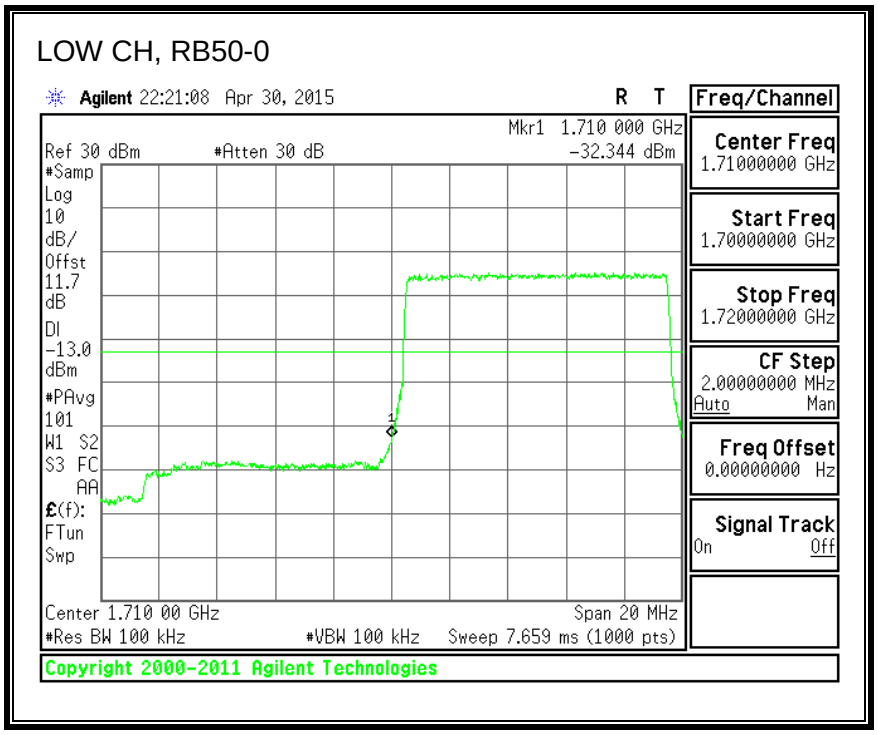
LOW CH, RB25-12



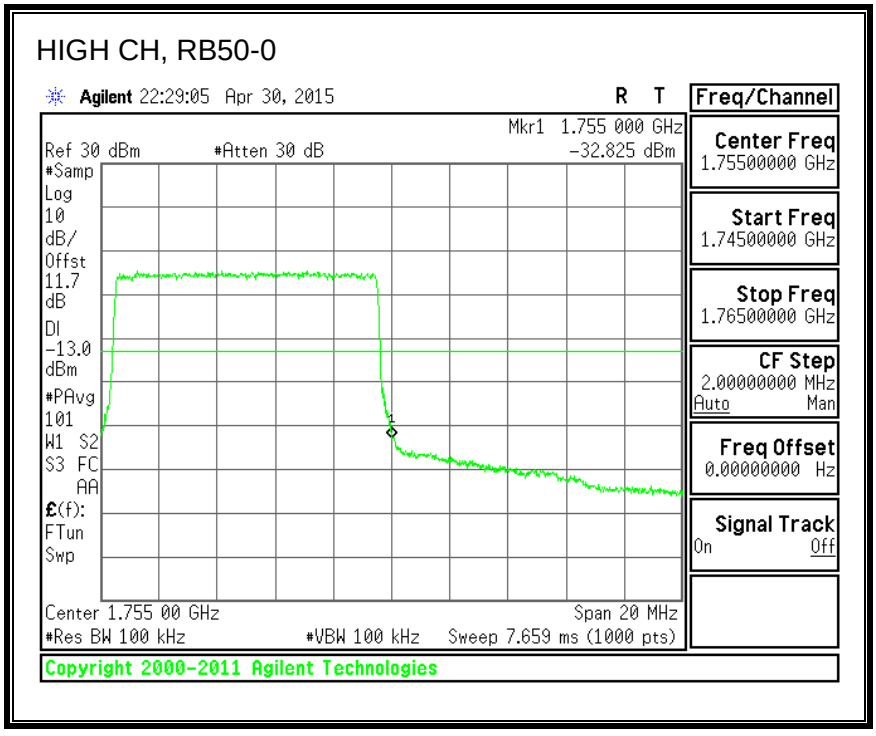
HIGH CH, RB25-12



LOW CH, RB50-0

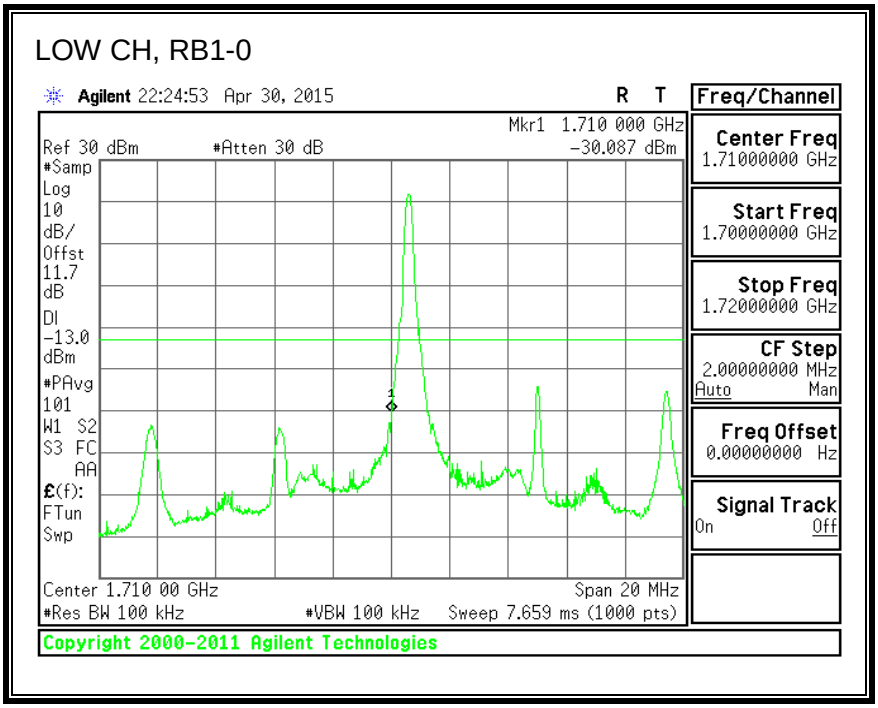


HIGH CH, RB50-0



16QAM, (10.0 MHz BAND WIDTH)

LOW CH, RB1-0



HIGH CH, RB1-0