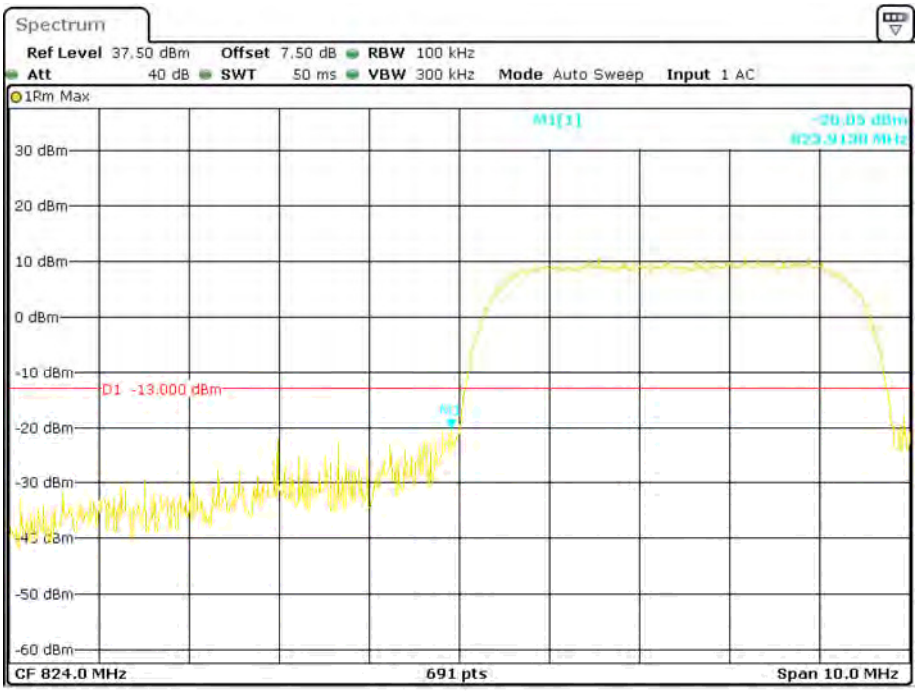
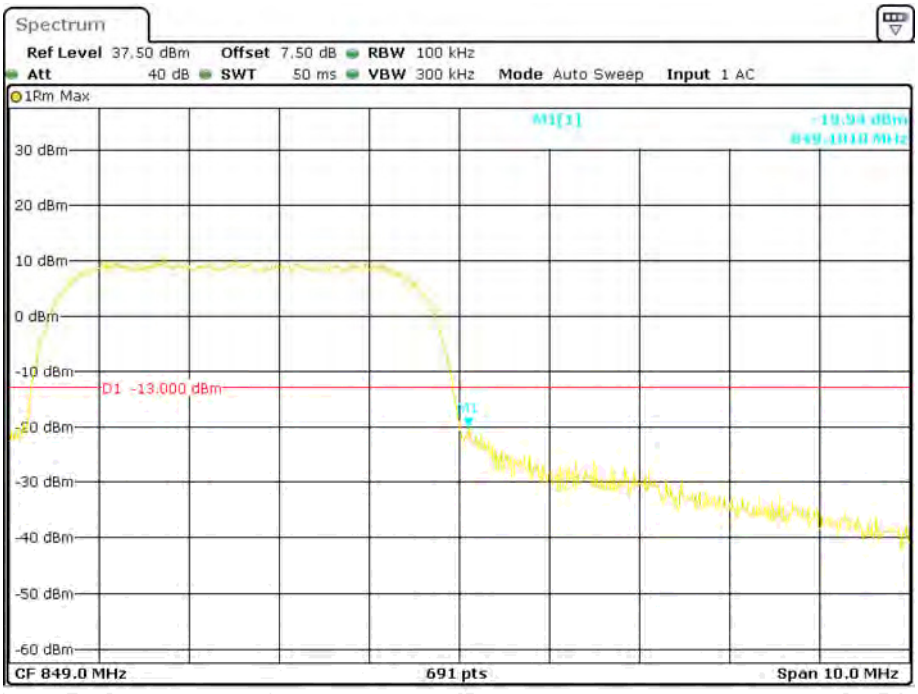
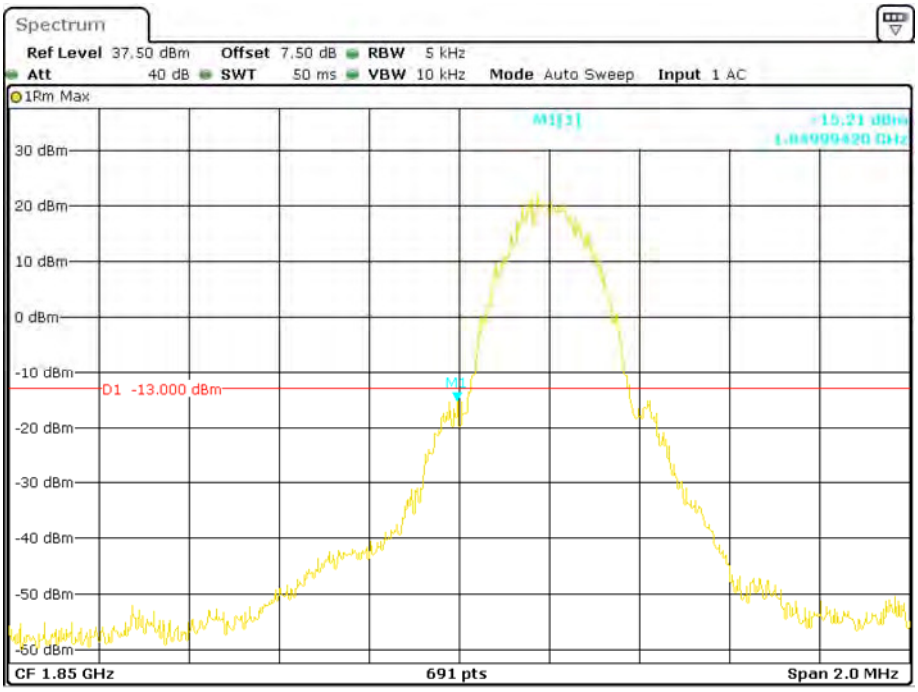
Cellular Band, Left Band Edge for HSUPA (BPSK) Mode



Cellular Band, Right Band Edge for HSUPA (BPSK) Mode

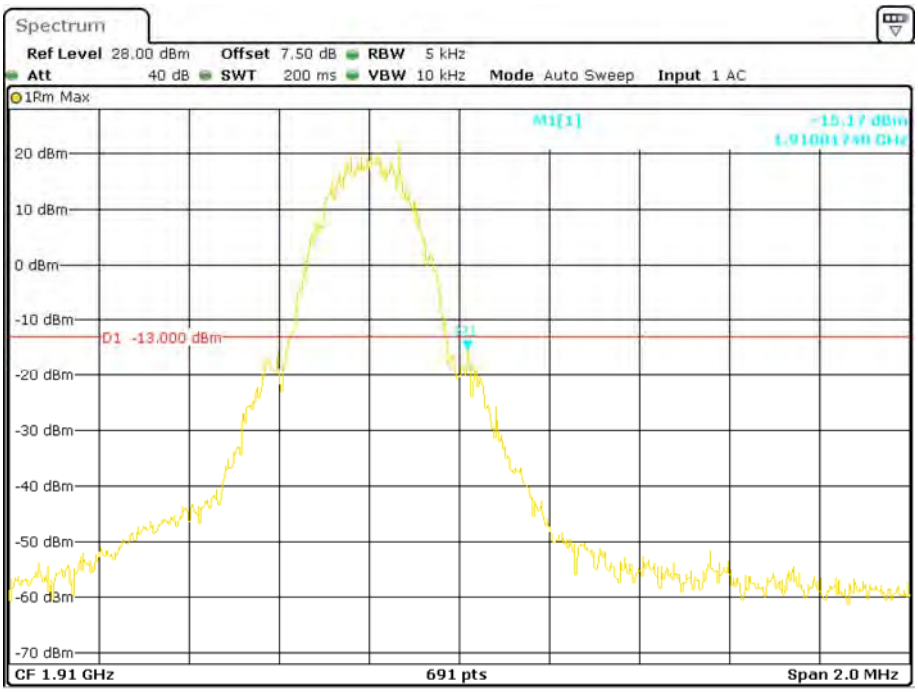


PCS Band, Left Band Edge for GSM (GMSK) Mode



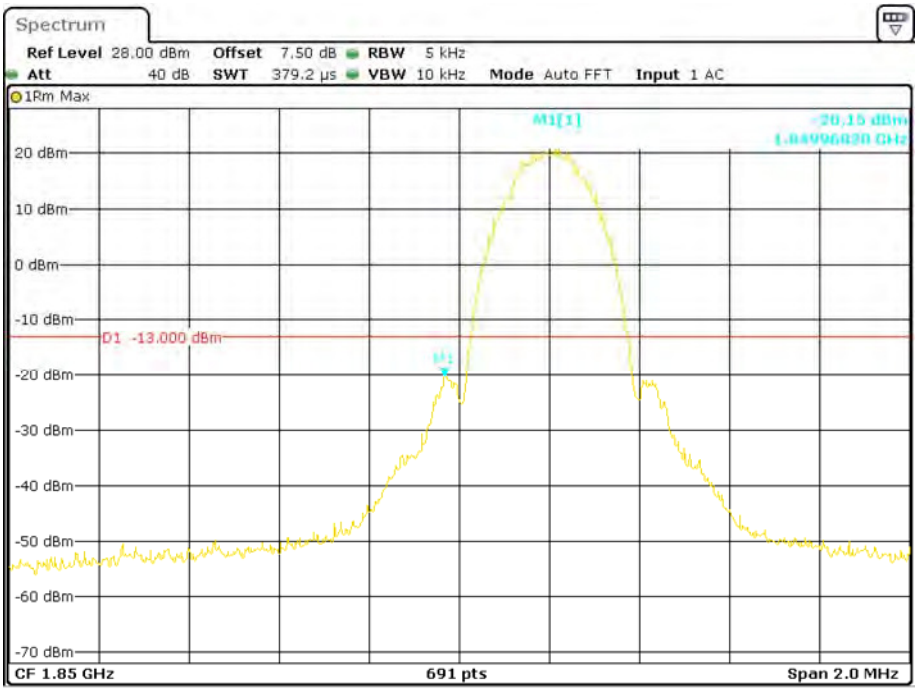
Date: 8.FEB.2018 13:54:19

PCS Band, Right Band Edge for GSM (GMSK) Mode



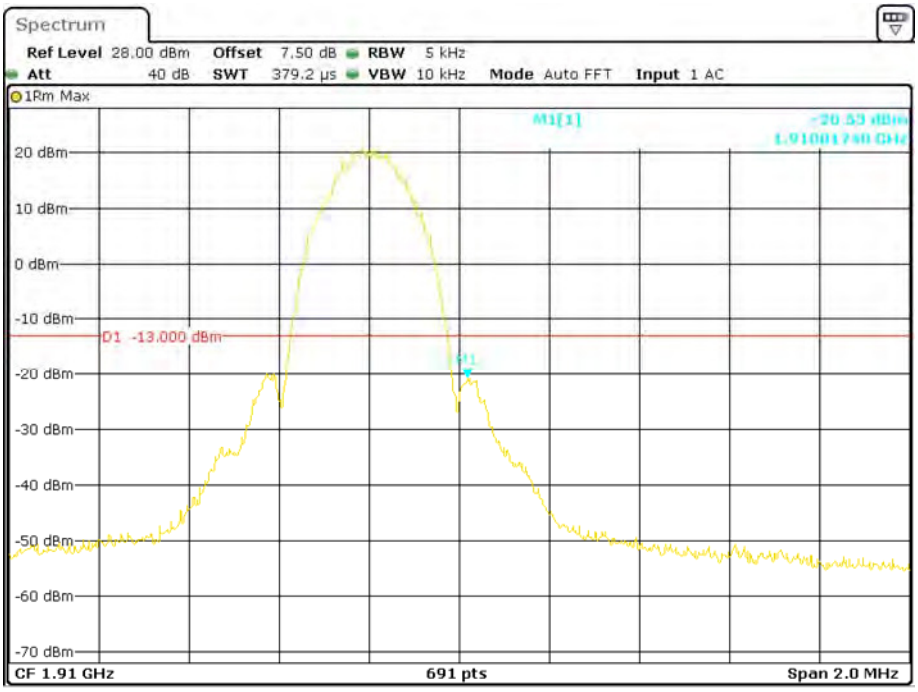
Date: 8.FEB.2018 13:56:29

PCS Band, Left Band Edge for EDGE Mode



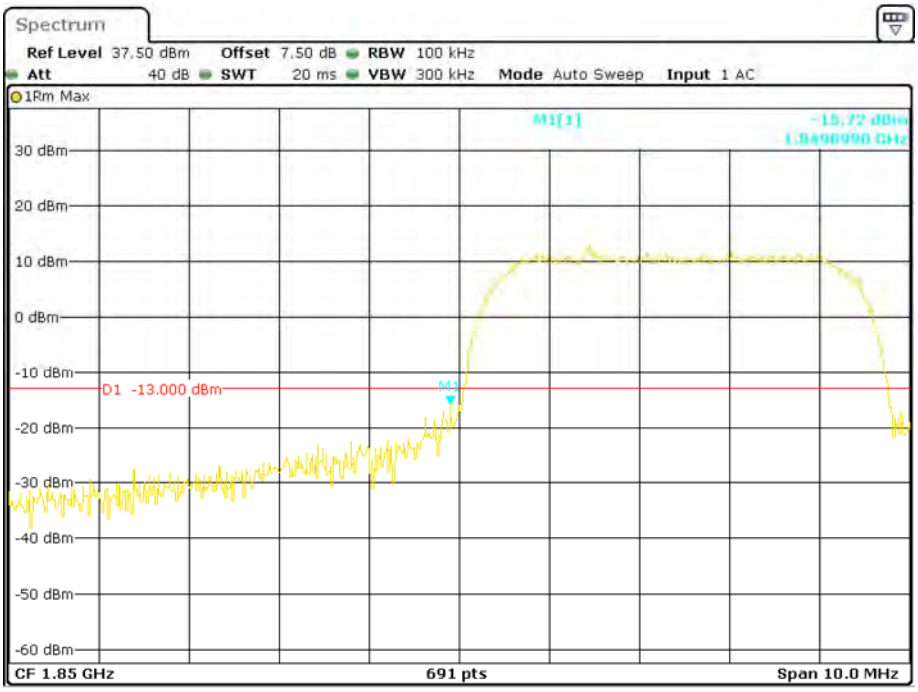
Date: 8.FEB.2018 13:58:52

PCS Band, Right Band Edge for EDGE Mode



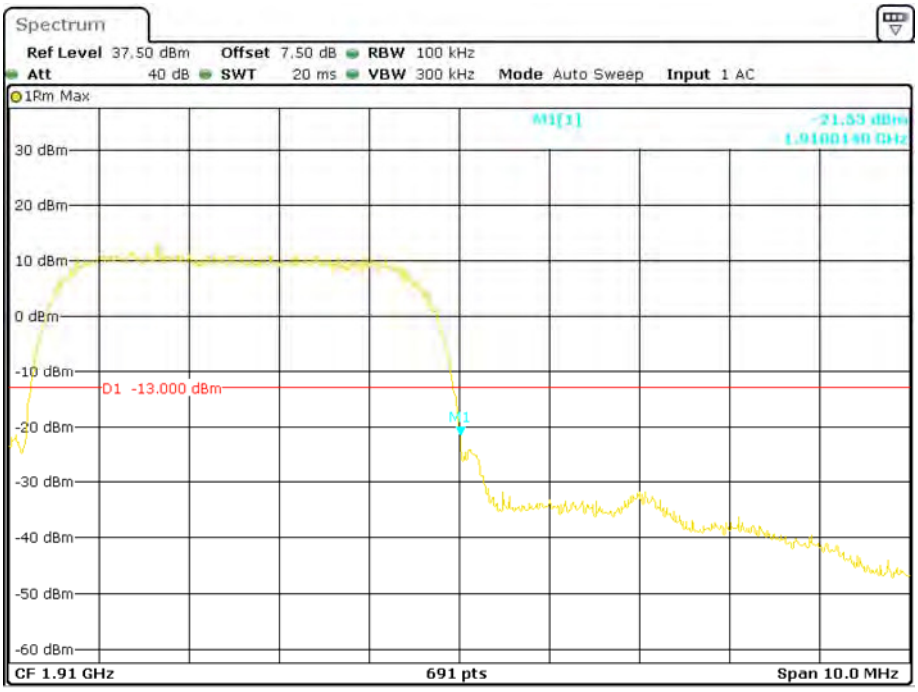
Date: 8.FEB.2018 13:58:06

PCS Band, Left Band Edge for WCDMA (BPSK) Mode



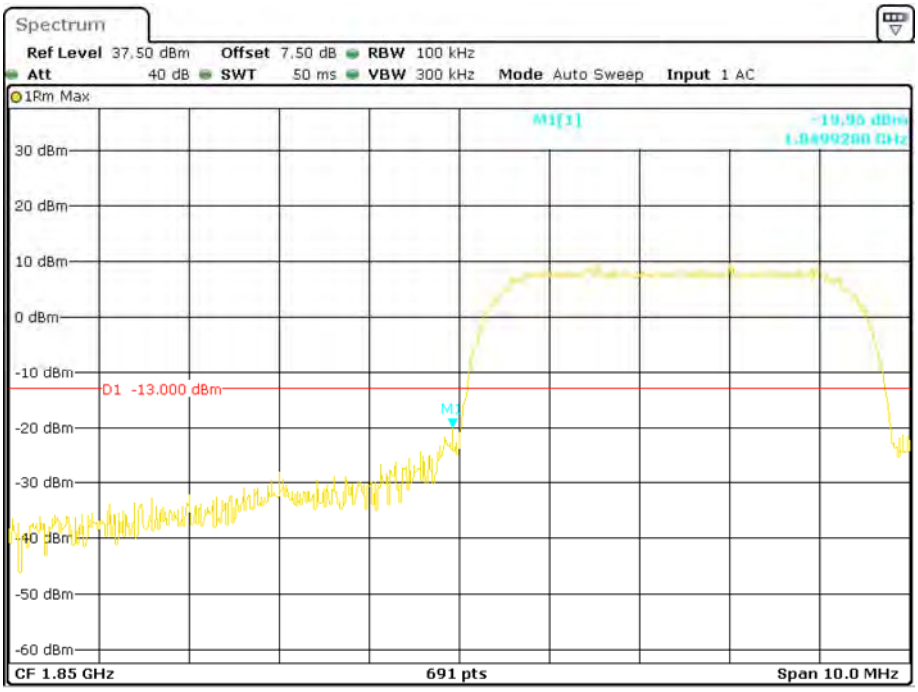
Date: 8.FEB.2018 11:02:27

PCS Band, Right Band Edge for WCDMA (BPSK) Mode



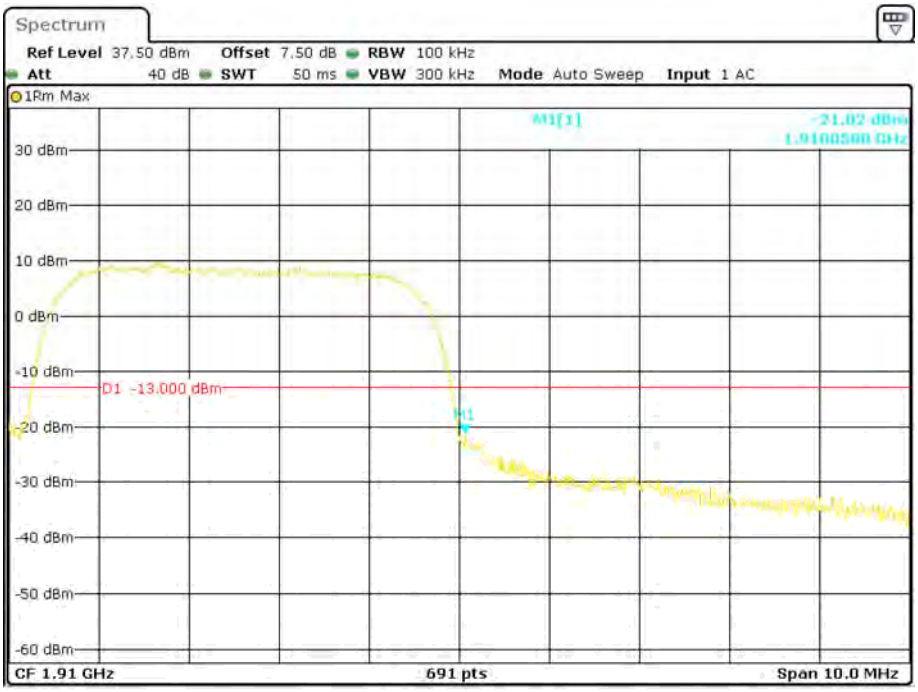
Date: 8.FEB.2018 11:03:07

PCS Band, Left Band Edge for HSDPA (16QAM) Mode



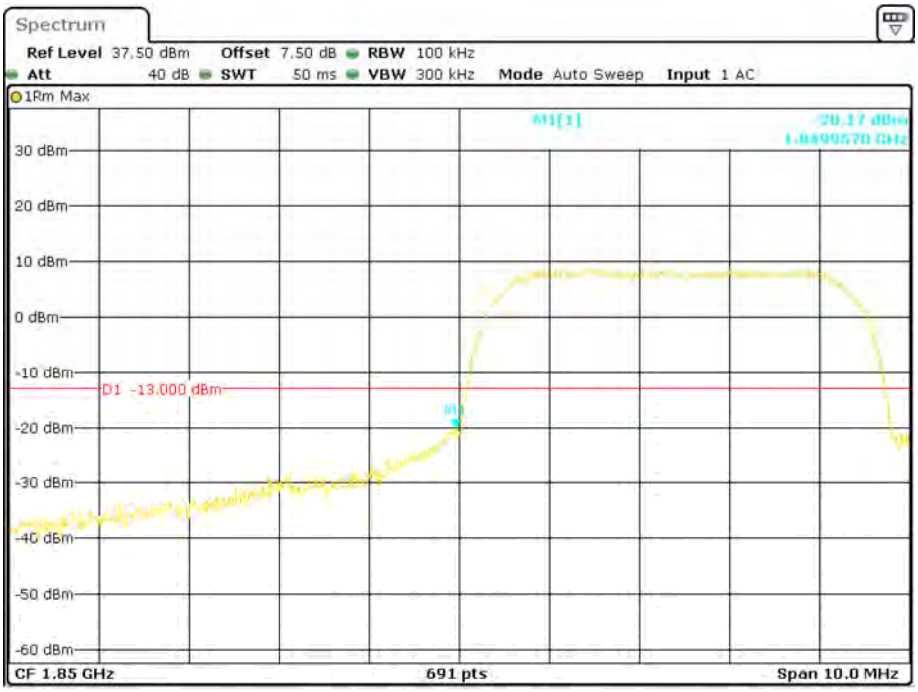
Date: 8.FEB.2018 11:28:13

PCS Band, Right Band Edge for HSDPA (16QAM) Mode

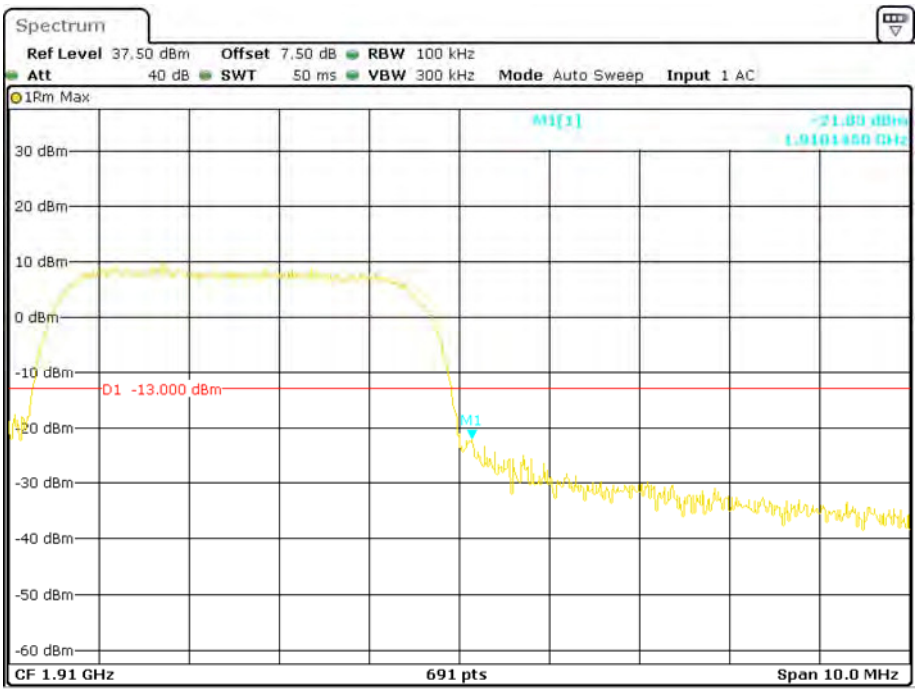


Date: 8.FEB.2018 11:27:17

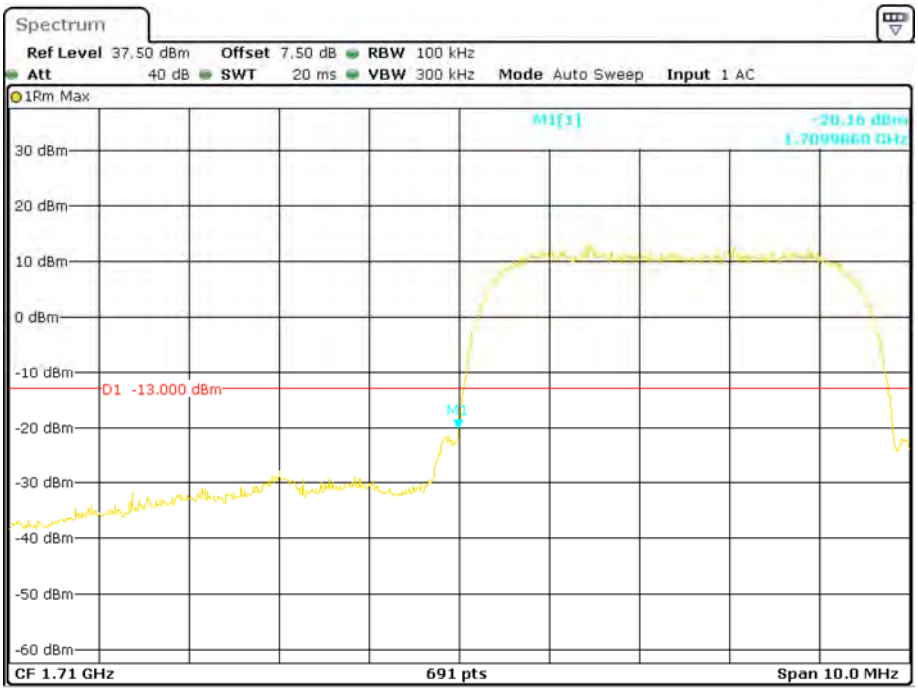
PCS Band, Left Band Edge for HSUPA (BPSK) Mode



PCS Band, Right Band Edge for HSUPA (BPSK) Mode

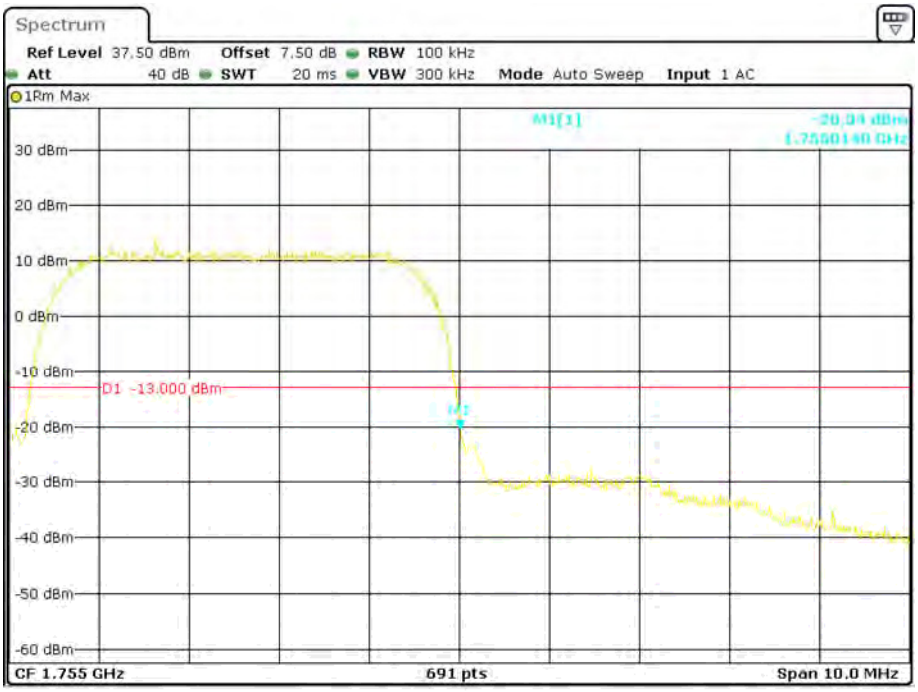


AWS Band, Left Band Edge for WCDMA (BPSK) Mode



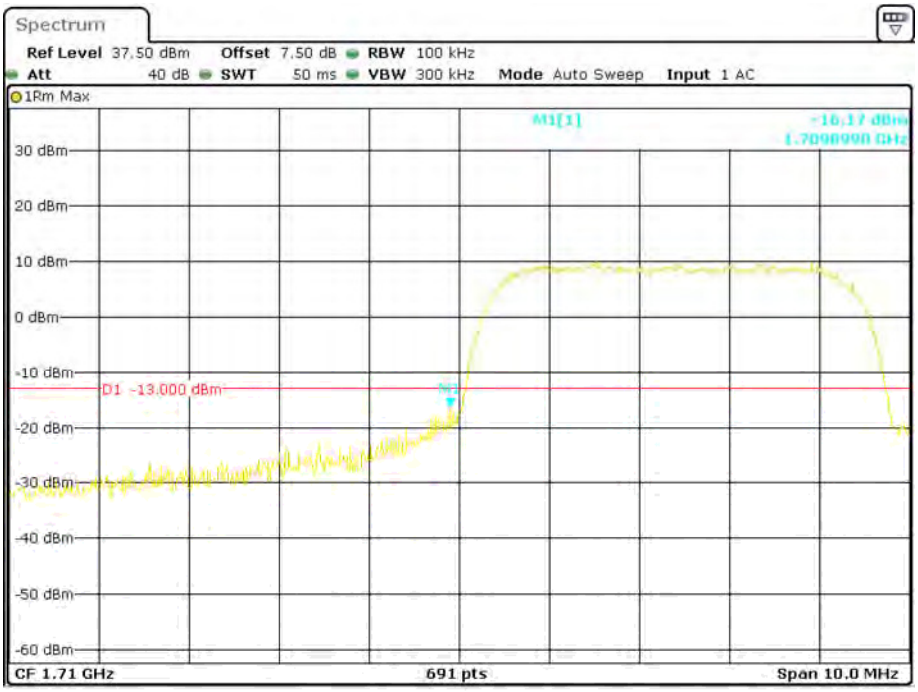
Date: 8.FEB.2018 11:10:10

AWS Band, Right Band Edge for WCDMA (BPSK) Mode



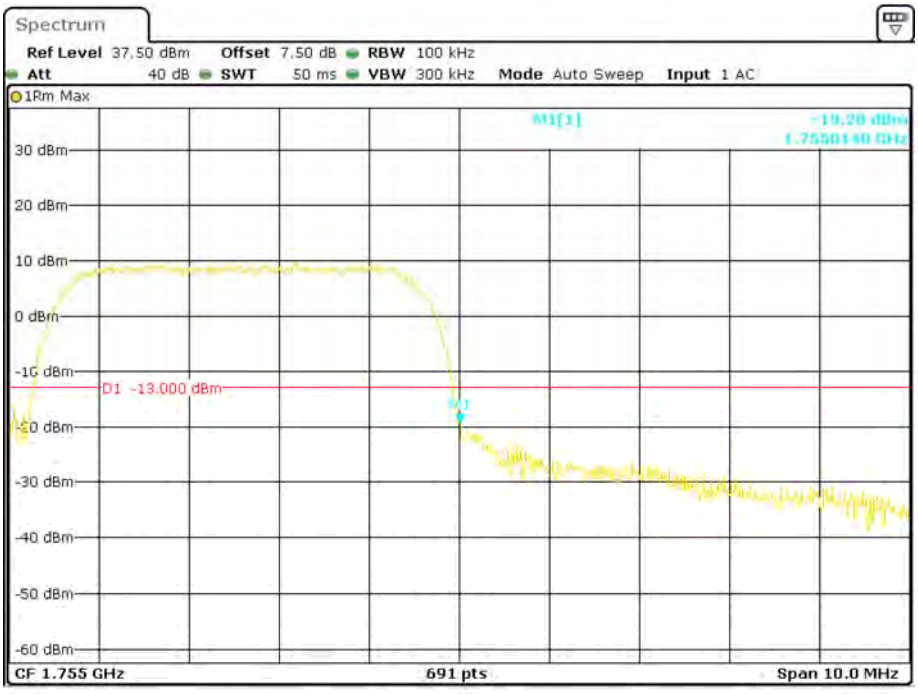
Date: 8.FEB.2018 11:08:31

AWS Band, Left Band Edge for HSDPA (16QAM) Mode



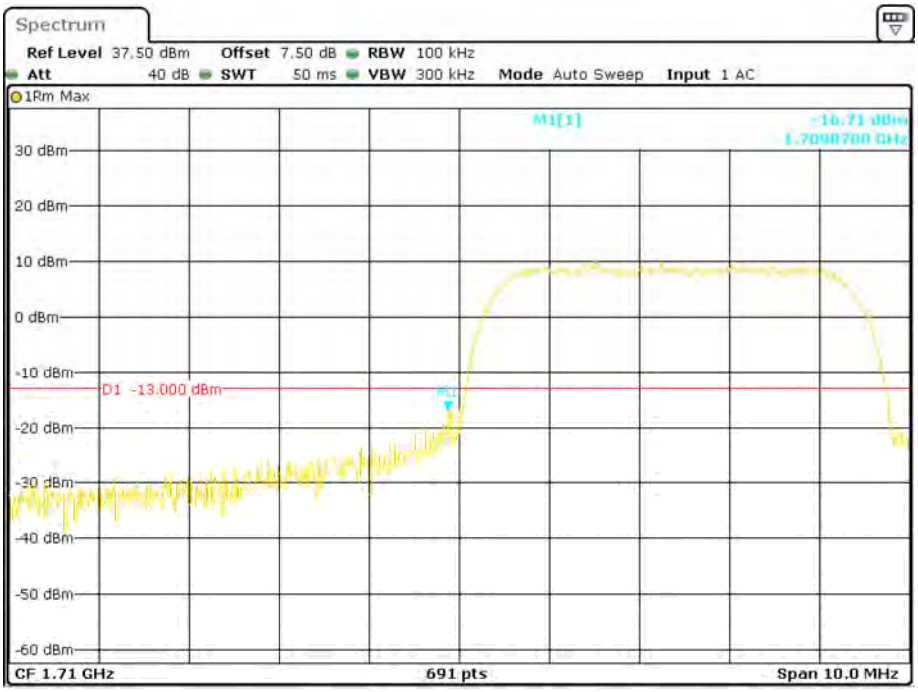
Date: 8.FEB.2018 11:25:27

AWS Band, Right Band Edge for HSDPA (16QAM) Mode

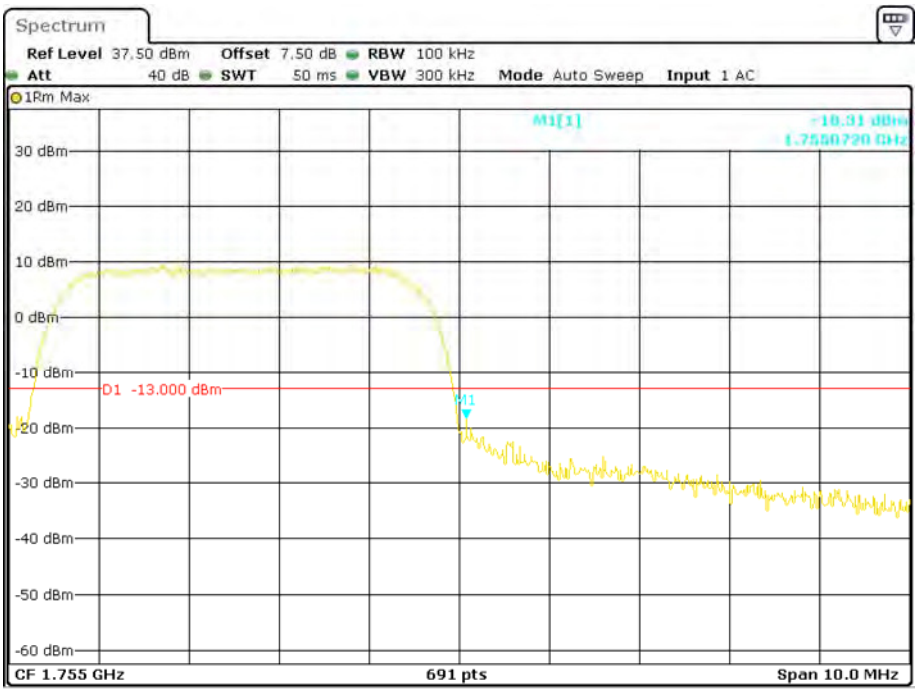


Date: 8.FEB.2018 11:26:10

AWS Band, Left Band Edge for HSUPA (BPSK) Mode

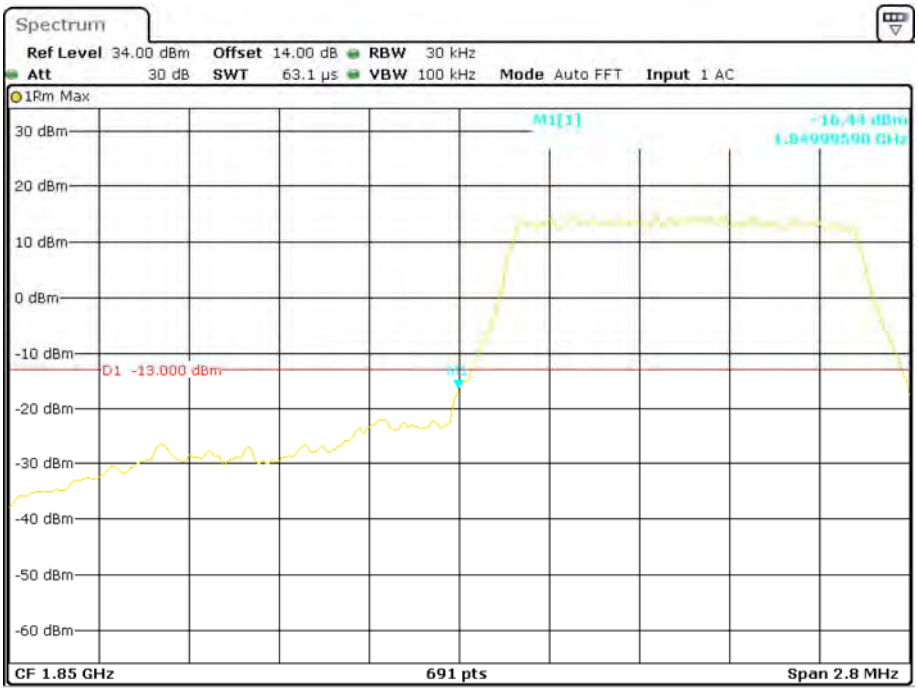


AWS Band, Right Band Edge for HSUPA (BPSK) Mode



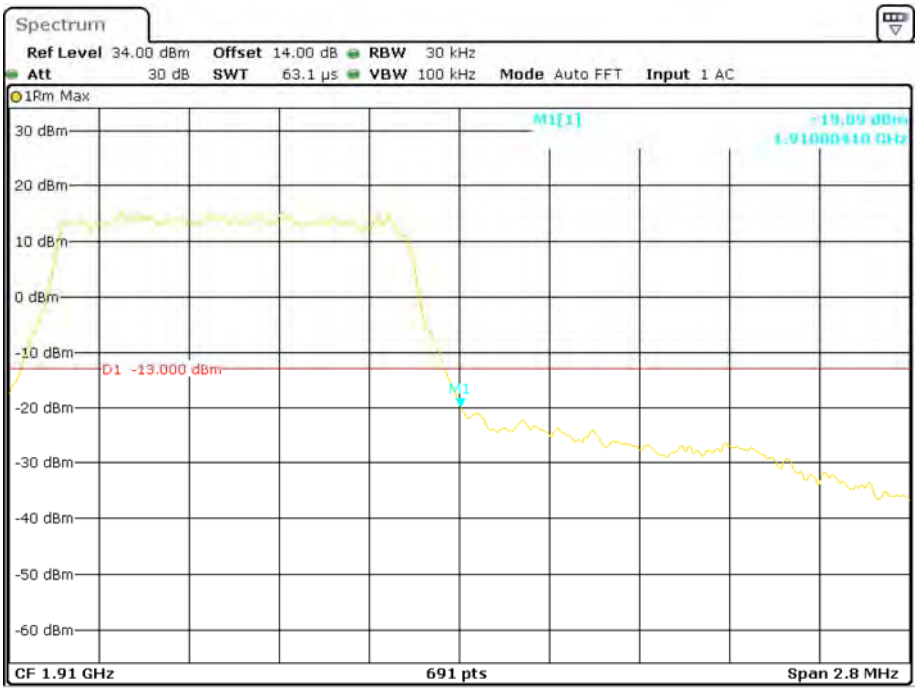
Band 2:

QPSK (1.4 MHz, FULL RB) - Left Band Edge



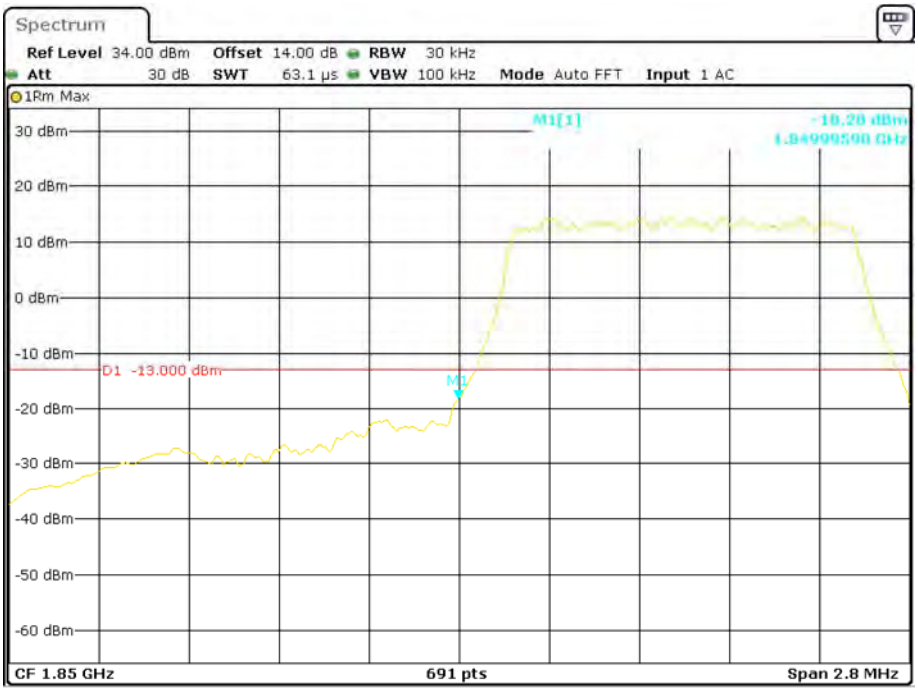
Date: 9.FEB.2018 10:28:45

QPSK (1.4 MHz, FULL RB) - Right Band Edge



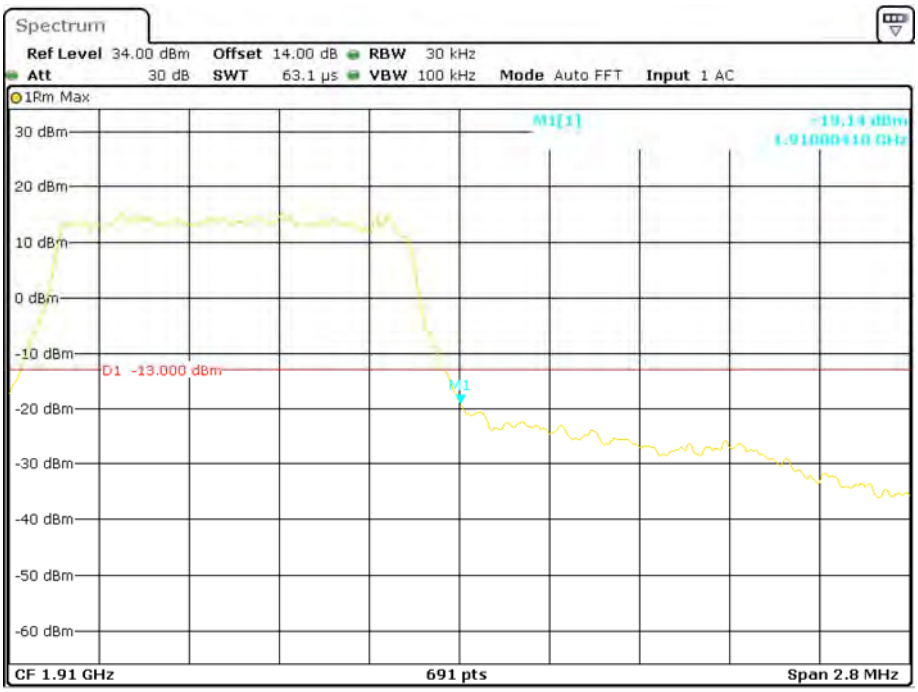
Date: 9.FEB.2018 10:30:19

16-QAM (1.4 MHz, FULL RB) - Left Band Edge



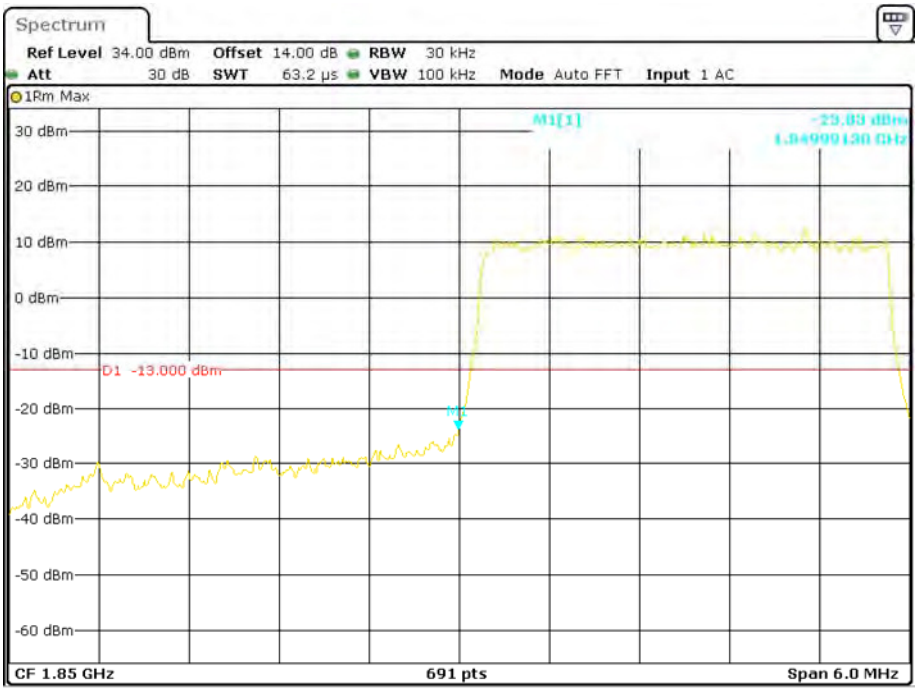
Date: 9.FEB.2018 10:31:28

16-QAM (1.4 MHz, FULL RB) - Right Band Edge



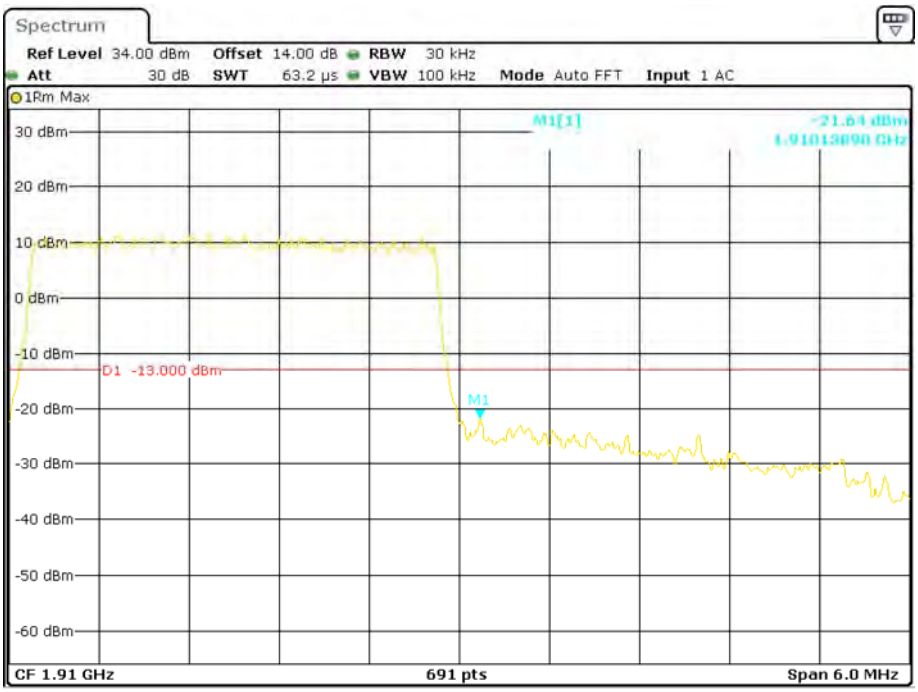
Date: 9.FEB.2018 10:30:45

QPSK (3.0 MHz, FULL RB) - Left Band Edge



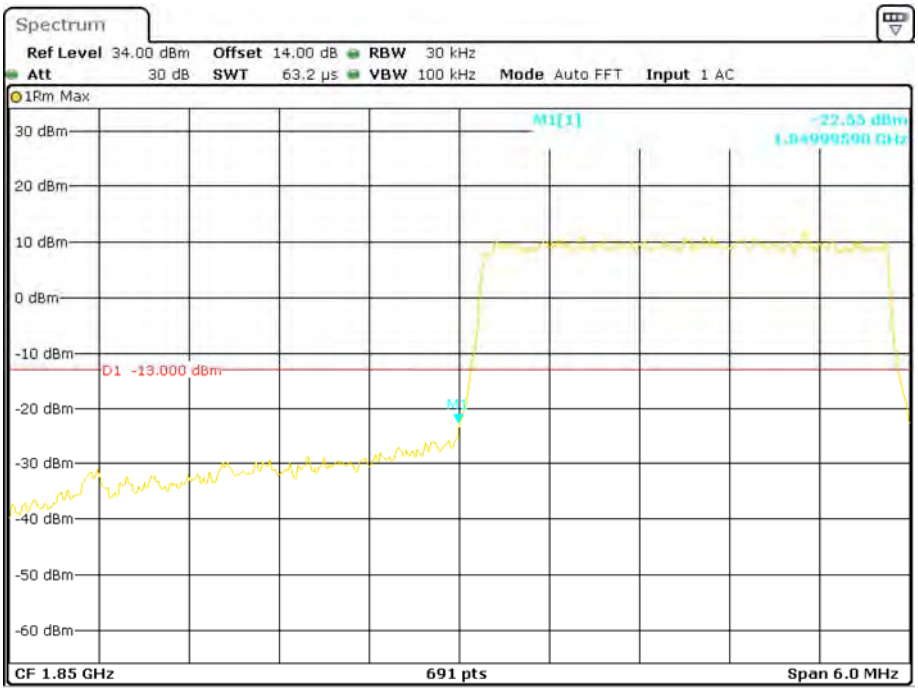
Date: 9.FEB.2018 10:40:29

QPSK (3.0 MHz, FULL RB) - Right Band Edge



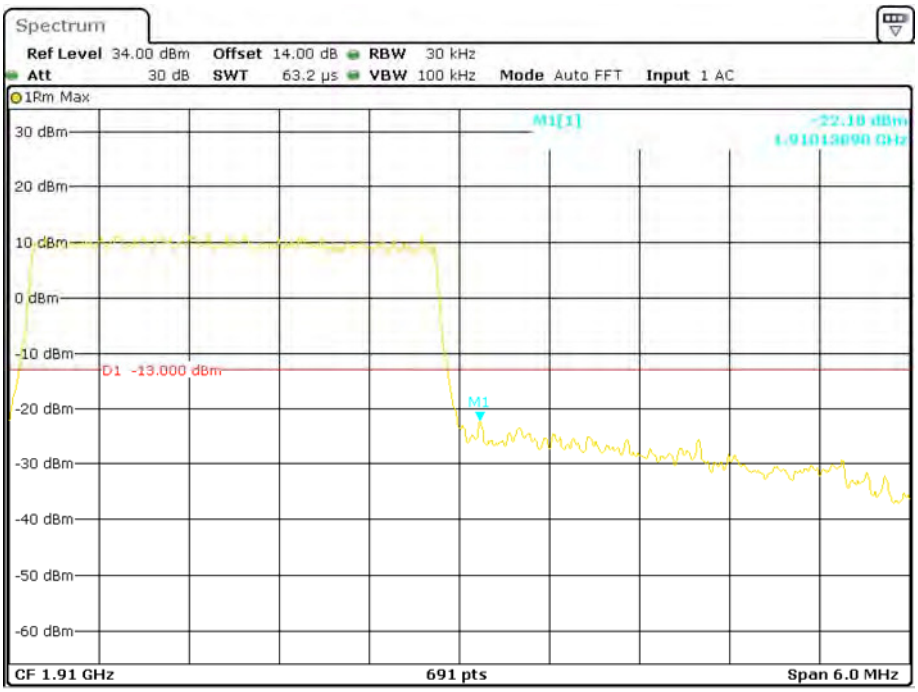
Date: 9.FEB.2018 10:36:37

16-QAM (3.0 MHz, FULL RB) - Left Band Edge



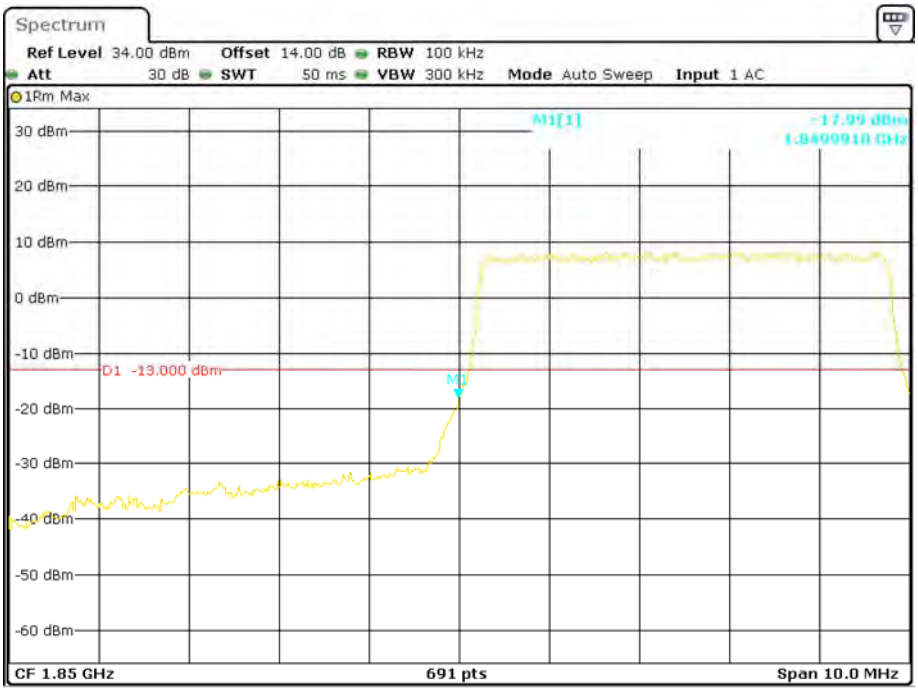
Date: 9.FEB.2018 10:34:31

16-QAM (3.0 MHz, FULL RB) - Right Band Edge



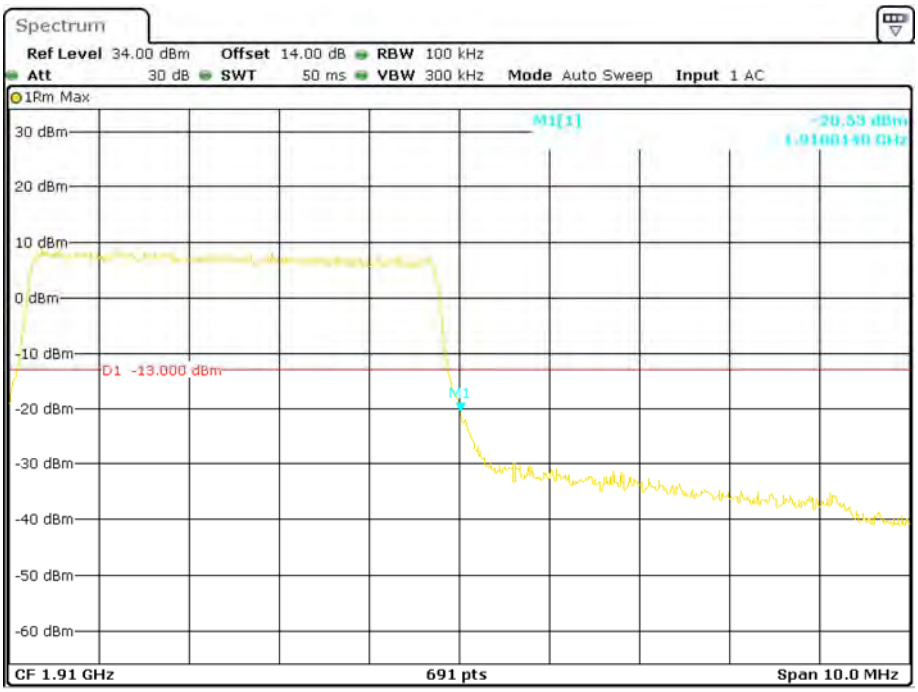
Date: 9.FEB.2018 10:35:59

QPSK (5.0 MHz, FULL RB) - Left Band Edge



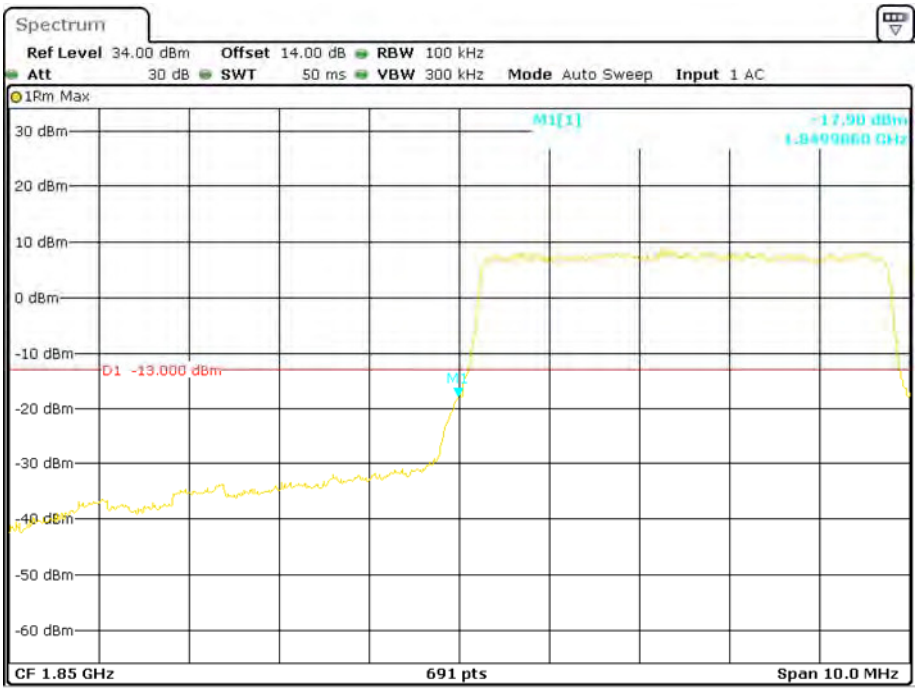
Date: 9.FEB.2018 11:01:00

QPSK (5.0 MHz, FULL RB) - Right Band Edge



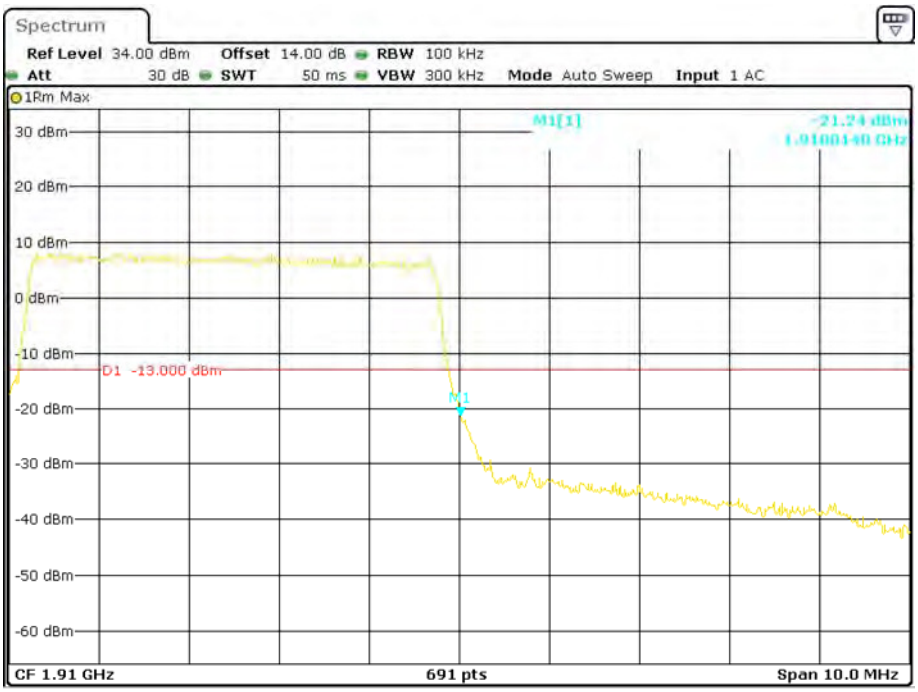
Date: 9.FEB.2018 11:01:47

16-QAM (5.0 MHz, FULL RB) - Left Band Edge



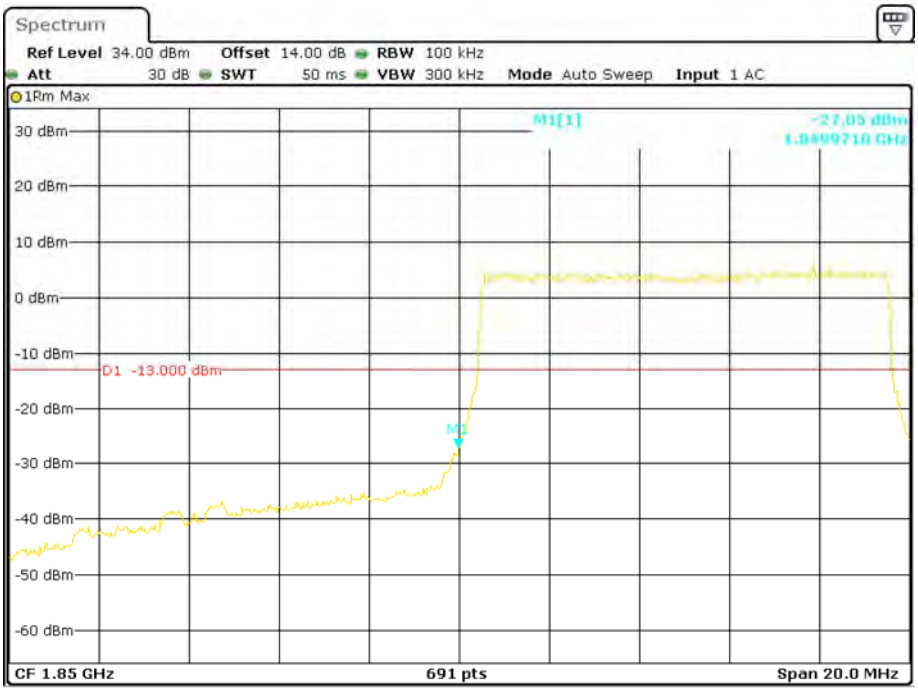
Date: 9.FEB.2018 11:04:23

16-QAM (5.0 MHz, FULL RB) - Right Band Edge



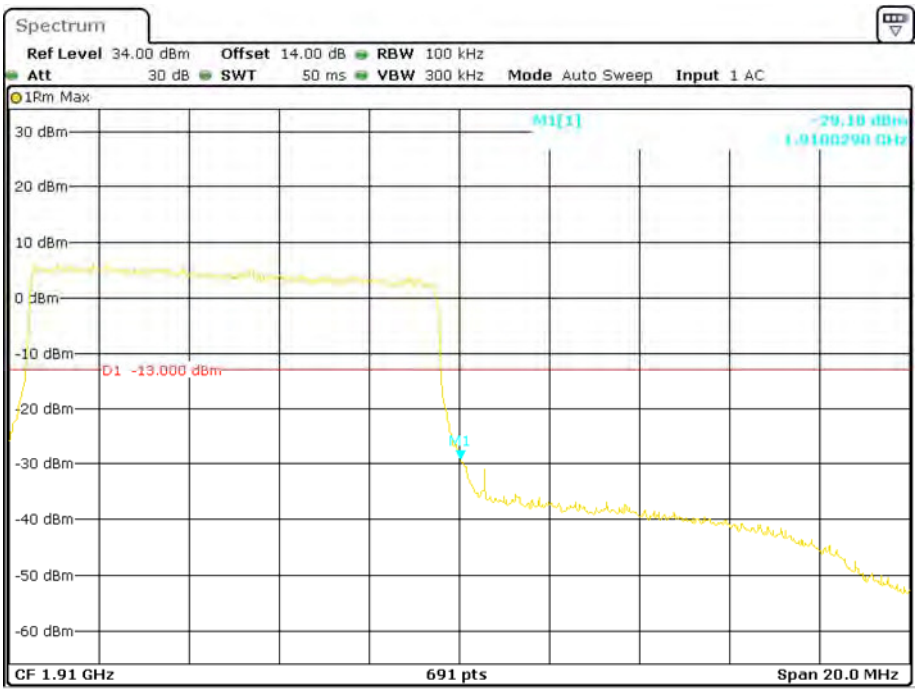
Date: 9.FEB.2018 11:02:14

QPSK (10.0 MHz, FULL RB) - Left Band Edge



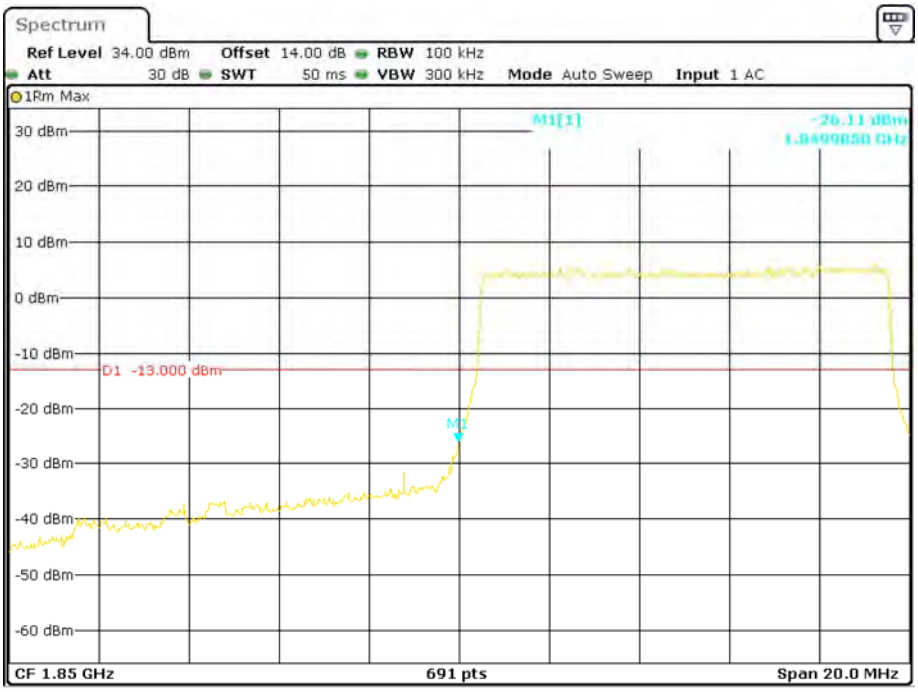
Date: 9.FEB.2018 11:10:52

QPSK (10.0 MHz, FULL RB) - Right Band Edge



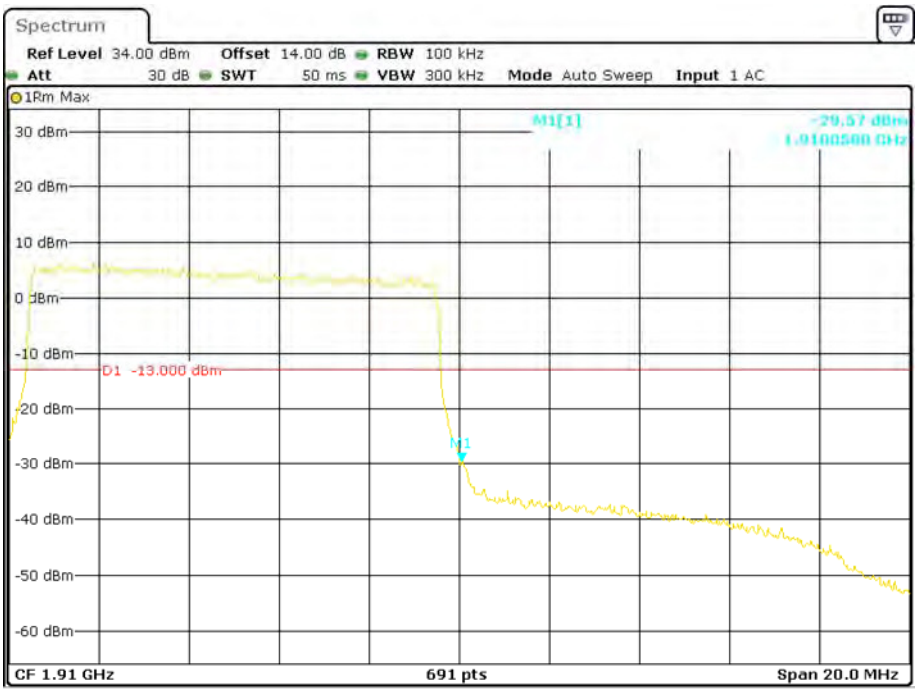
Date: 9.FEB.2018 11:09:38

16-QAM (10.0 MHz, FULL RB) - Left Band Edge



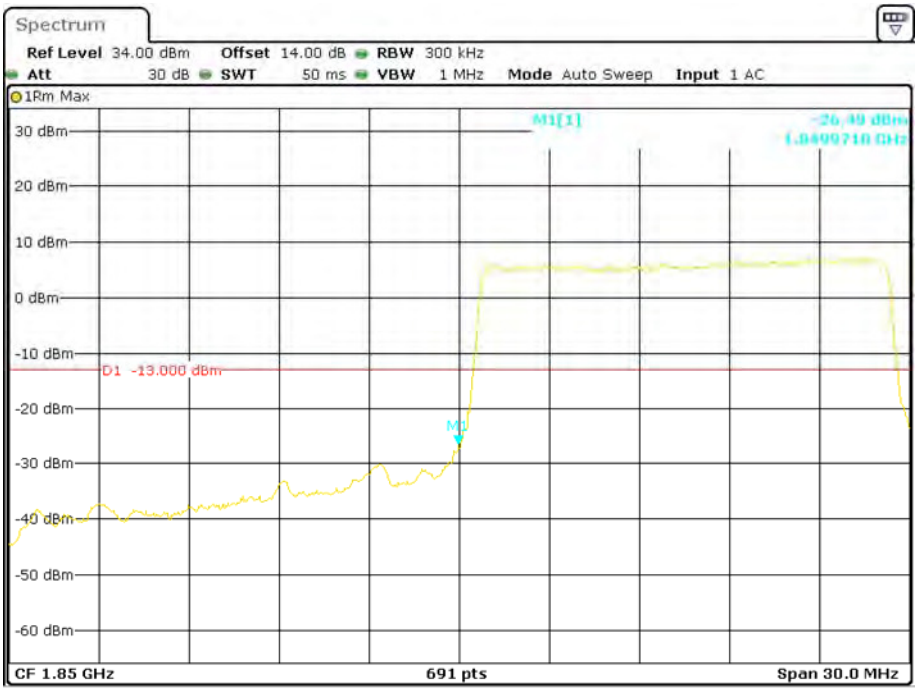
Date: 9.FEB.2018 11:07:24

16-QAM (10.0 MHz, FULL RB) - Right Band Edge



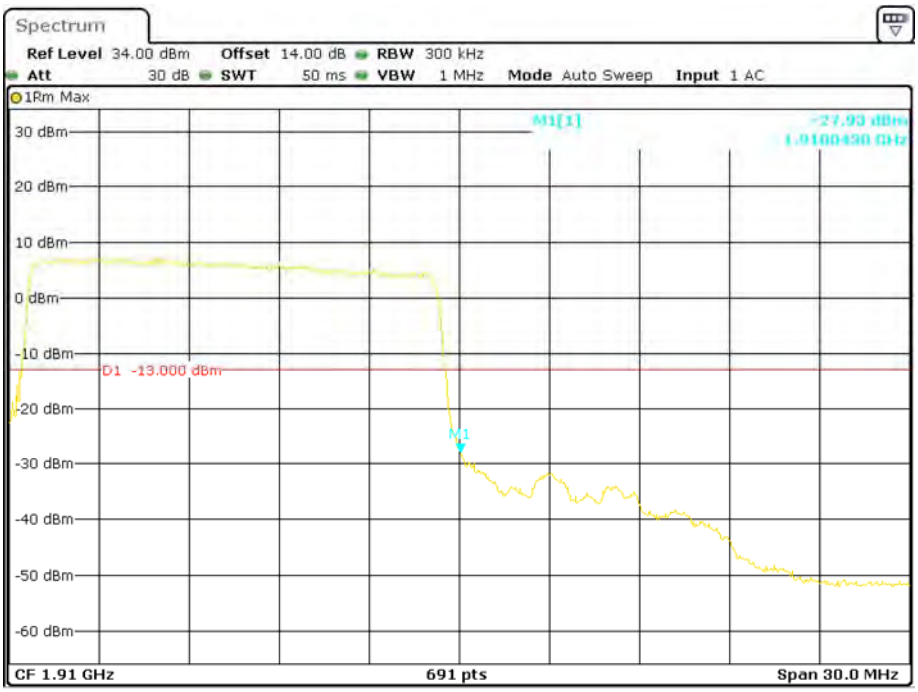
Date: 9.FEB.2018 11:08:54

QPSK (15.0 MHz, FULL RB) - Left Band Edge



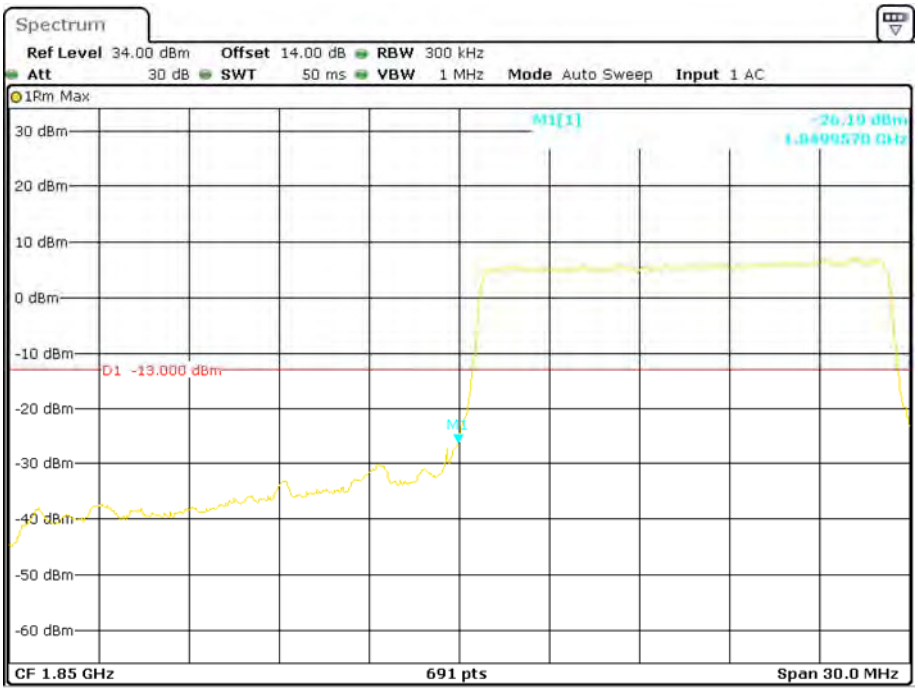
Date: 9.FEB.2018 11:12:14

QPSK (15.0 MHz, FULL RB) - Right Band Edge



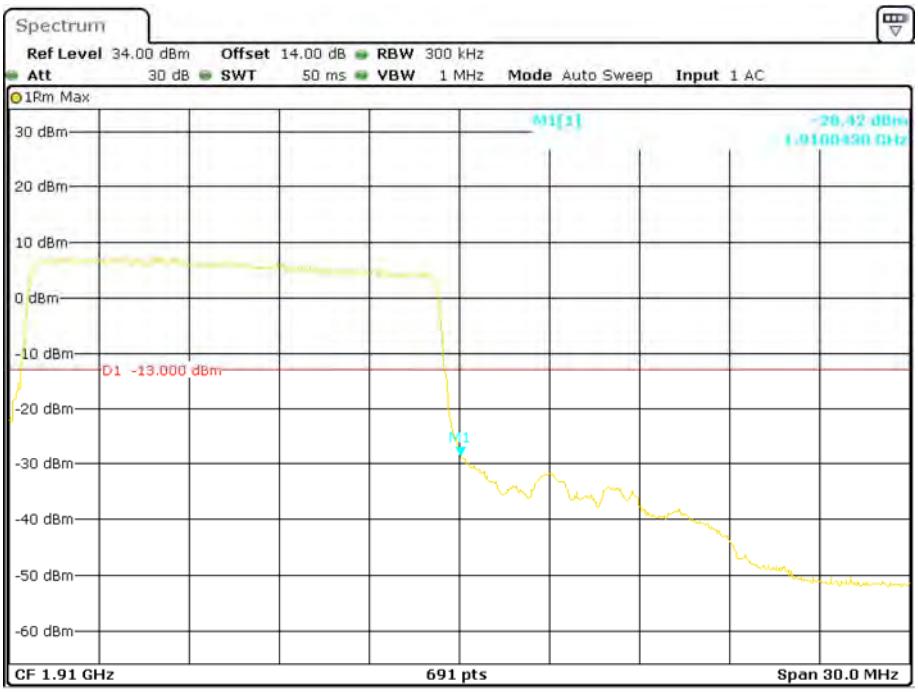
Date: 9.FEB.2018 11:13:01

16-QAM (15.0 MHz, FULL RB) - Left Band Edge



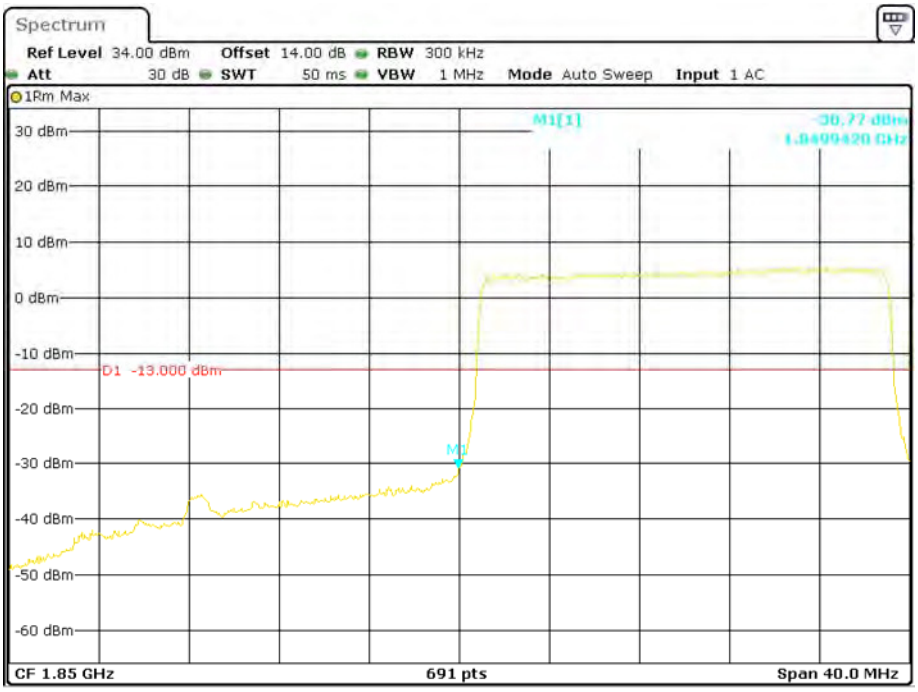
Date: 9.FEB.2018 11:14:23

16-QAM (15.0 MHz, FULL RB) - Right Band Edge



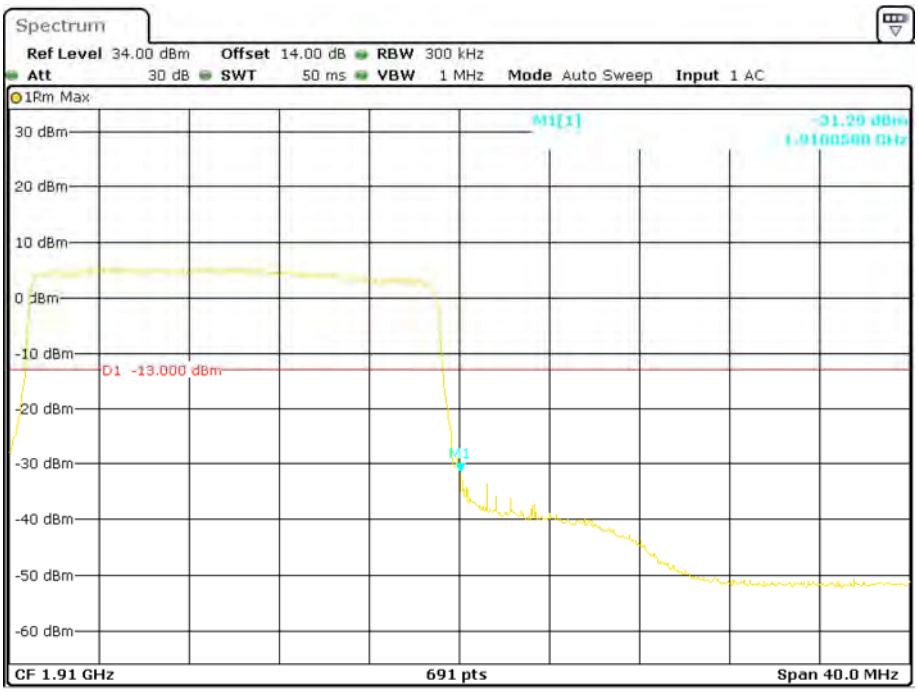
Date: 9.FEB.2018 11:13:30

QPSK (20.0 MHz, FULL RB) - Left Band Edge



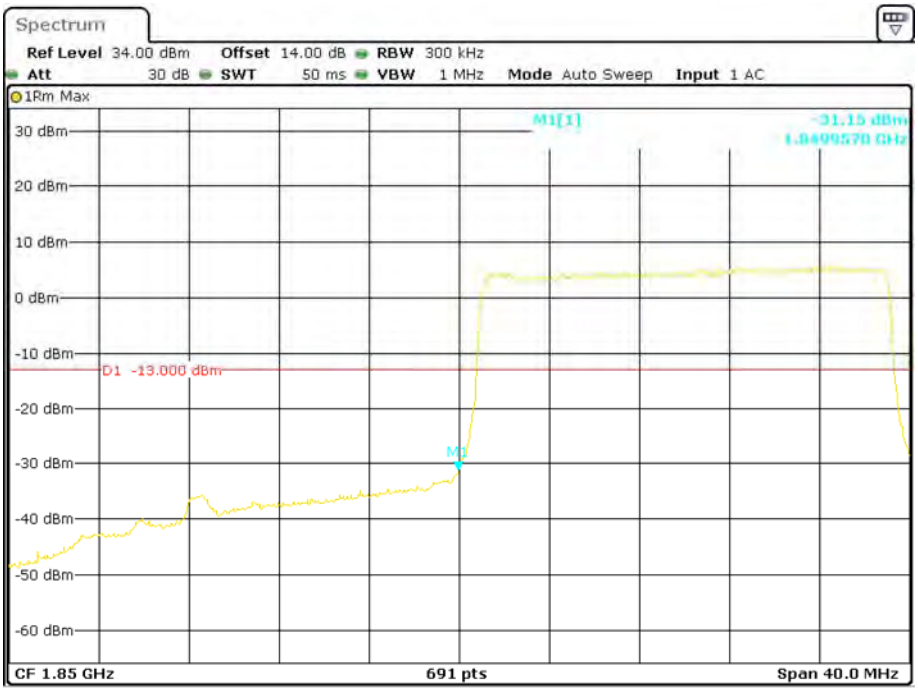
Date: 9.FEB.2018 11:17:43

QPSK (20.0 MHz, FULL RB) - Right Band Edge



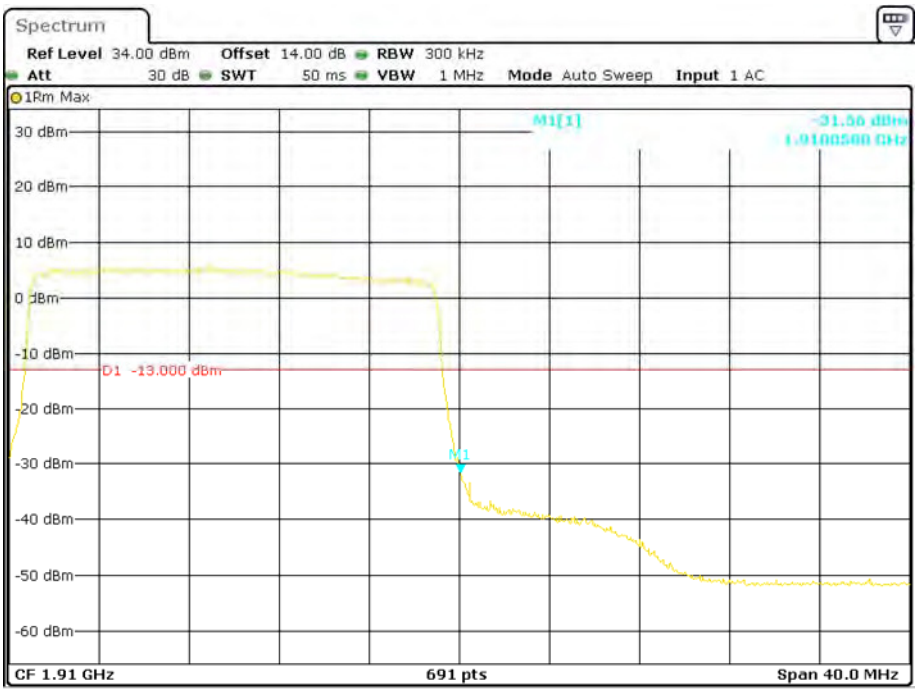
Date: 9.FEB.2018 11:16:56

16-QAM (20.0 MHz, FULL RB) - Left Band Edge



Date: 9.FEB.2018 11:15:27

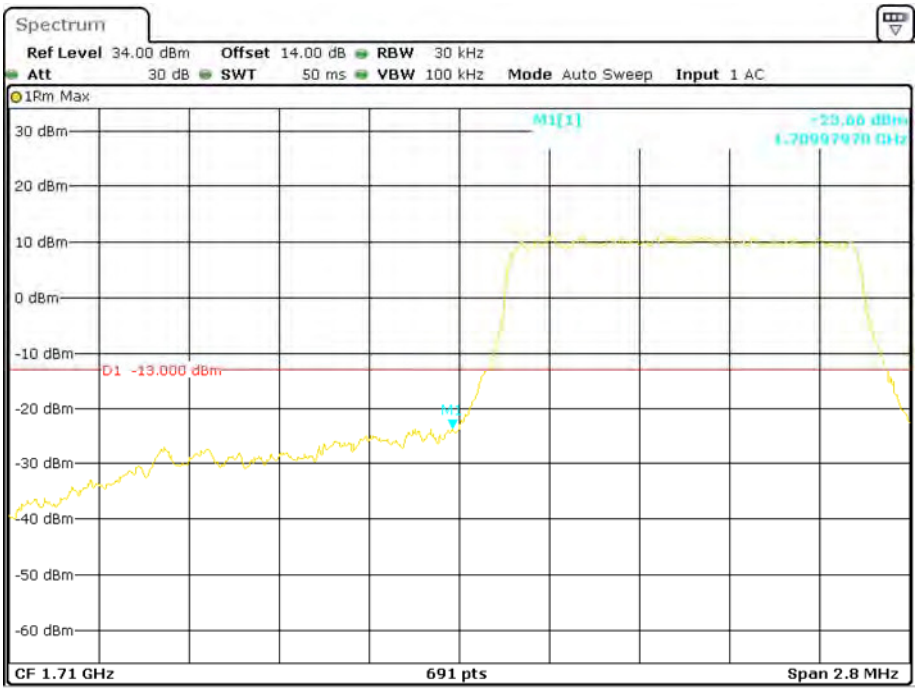
16-QAM (20.0 MHz, FULL RB) - Right Band Edge



Date: 9.FEB.2018 11:16:27

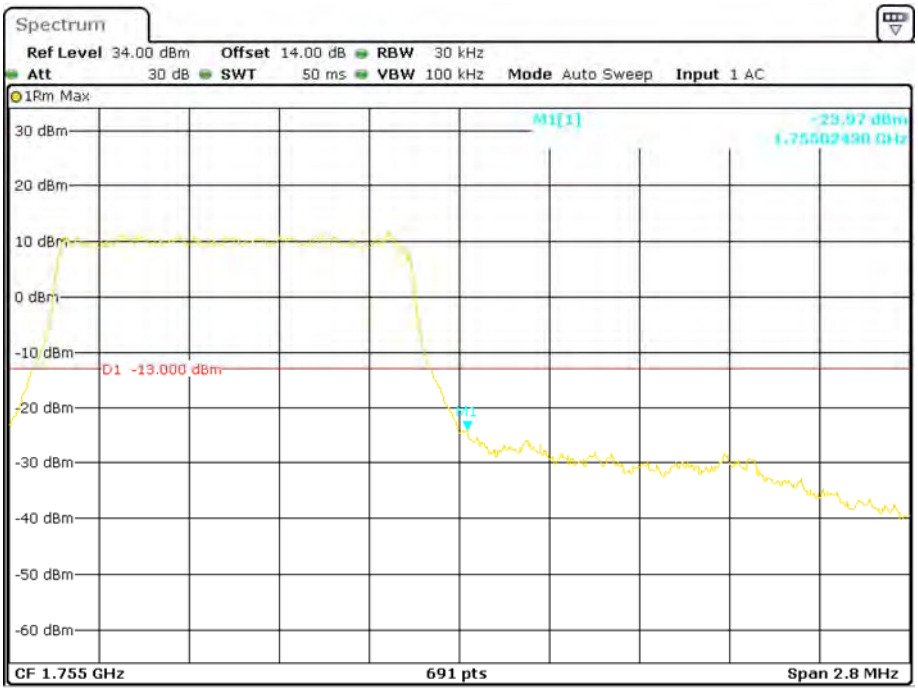
Band 4:

QPSK (1.4 MHz, FULL RB) - Left Band Edge



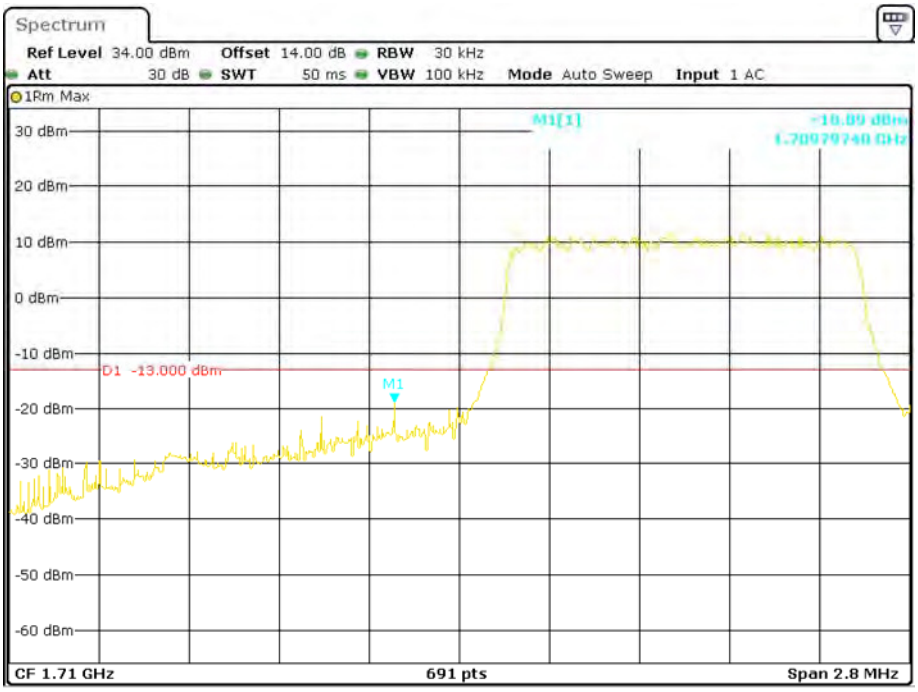
Date: 9.FEB.2018 11:29:00

QPSK (1.4 MHz, FULL RB) - Right Band Edge



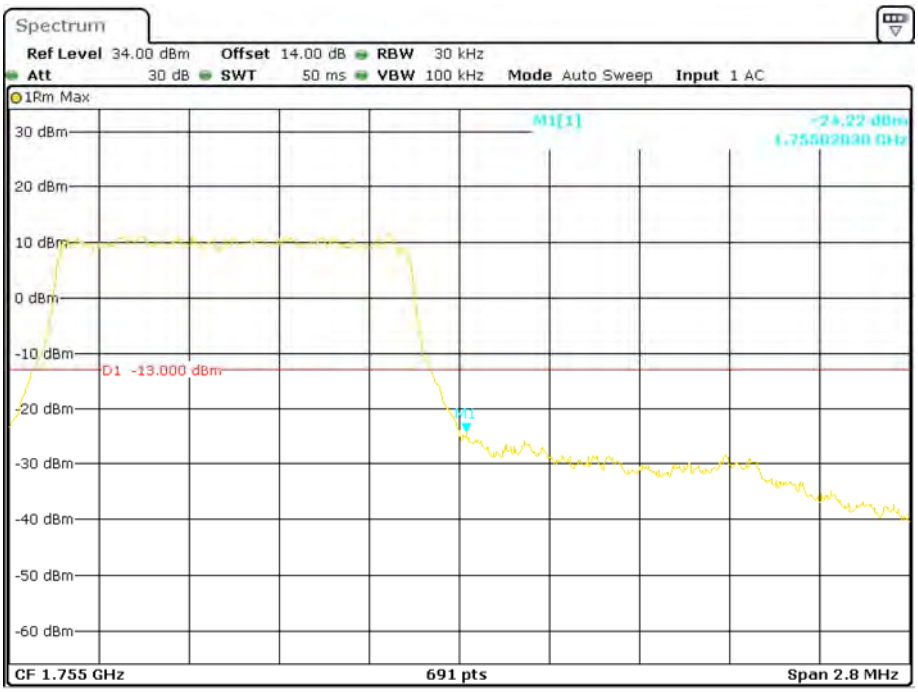
Date: 9.FEB.2018 11:38:00

16-QAM (1.4 MHz, FULL RB) - Left Band Edge



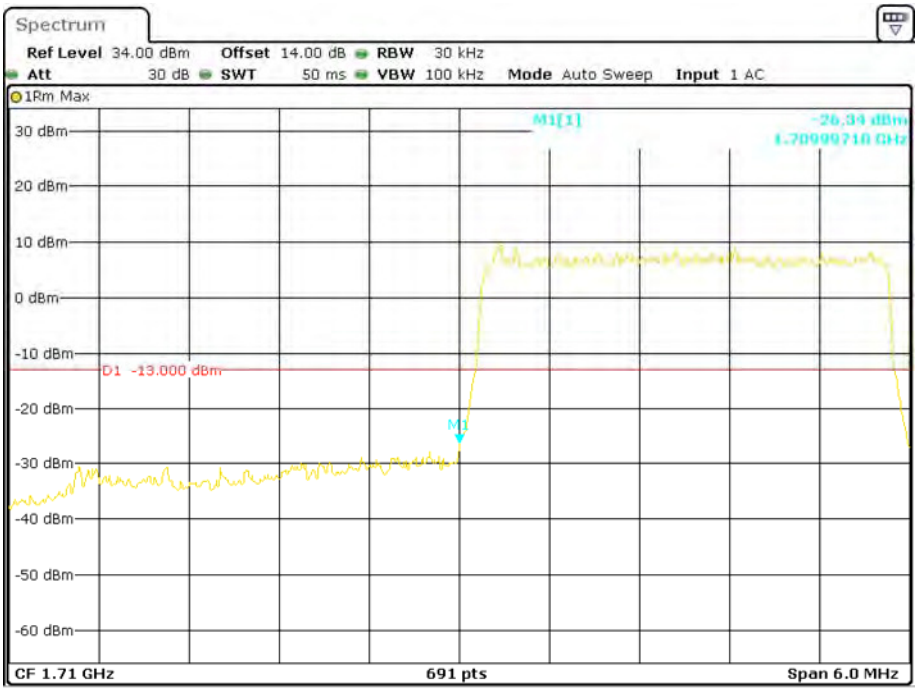
Date: 9.FEB.2018 11:40:26

16-QAM (1.4 MHz, FULL RB) - Right Band Edge



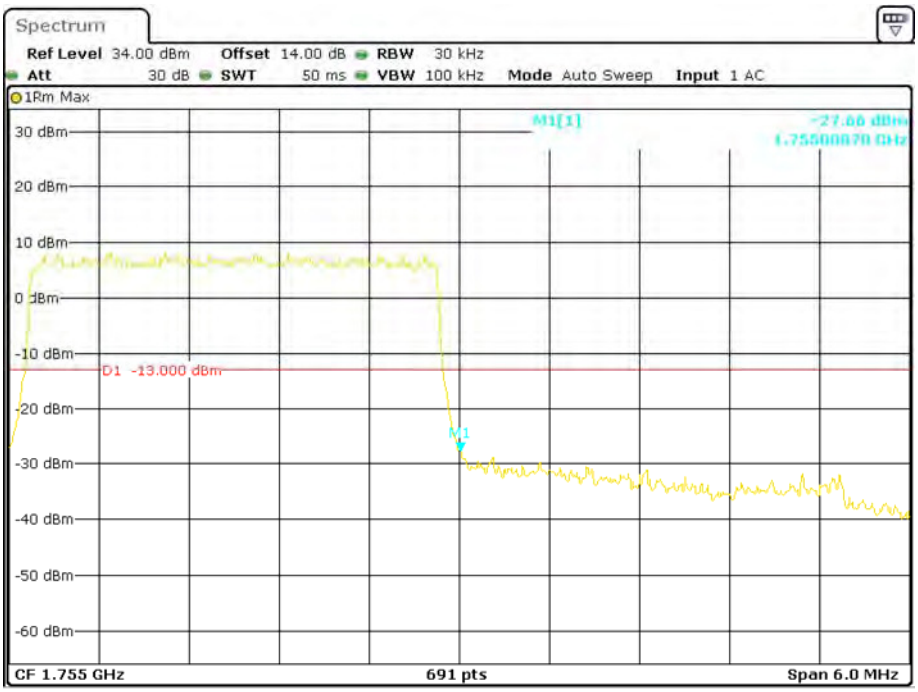
Date: 9.FEB.2018 11:39:25

QPSK (3.0 MHz, FULL RB) - Left Band Edge



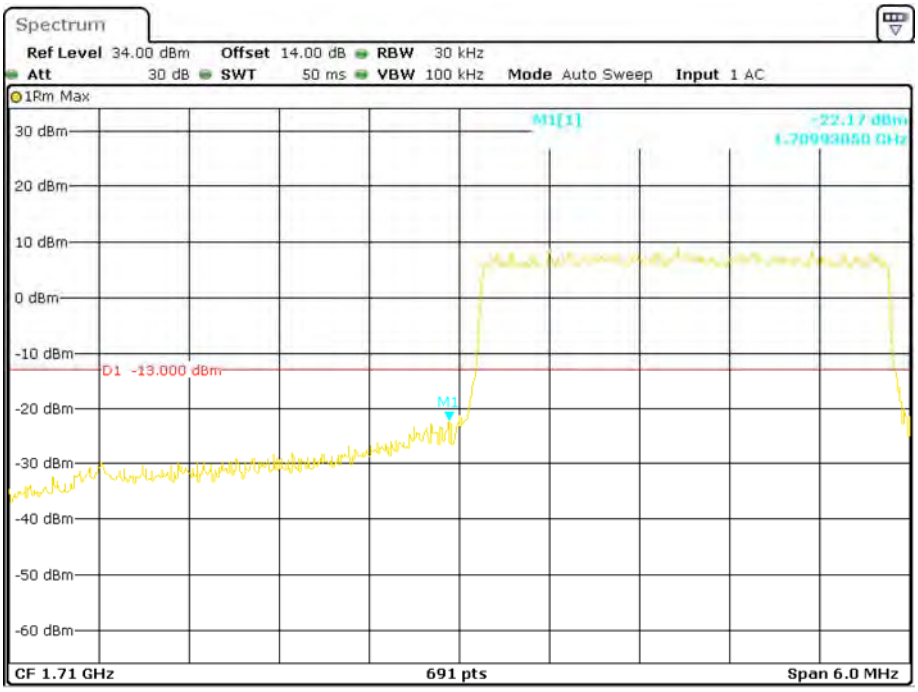
Date: 9.FEB.2018 13:09:36

QPSK (3.0 MHz, FULL RB) - Right Band Edge



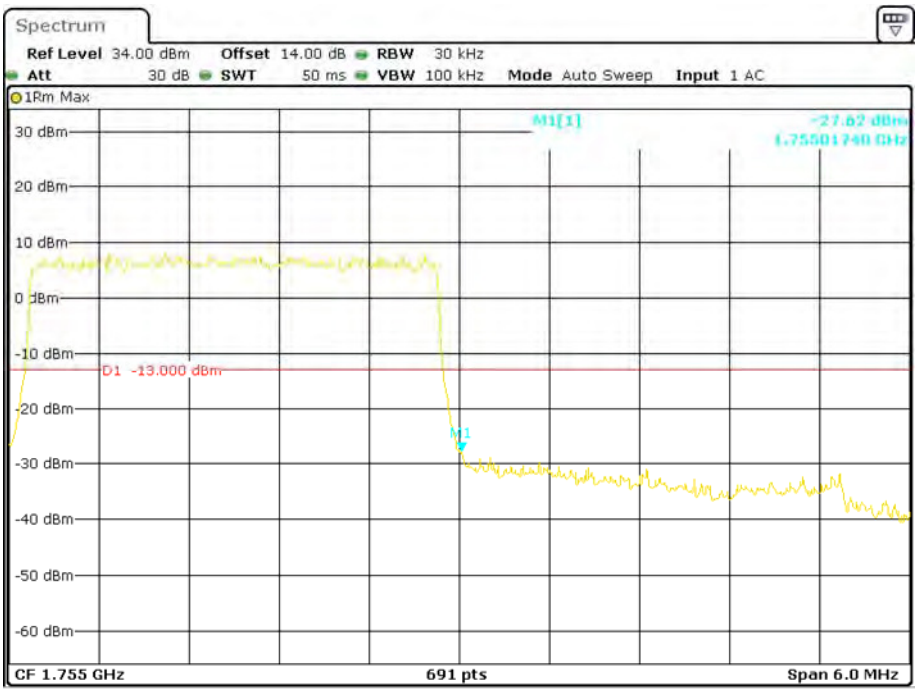
Date: 9.FEB.2018 13:14:52

16-QAM (3.0 MHz, FULL RB) - Left Band Edge



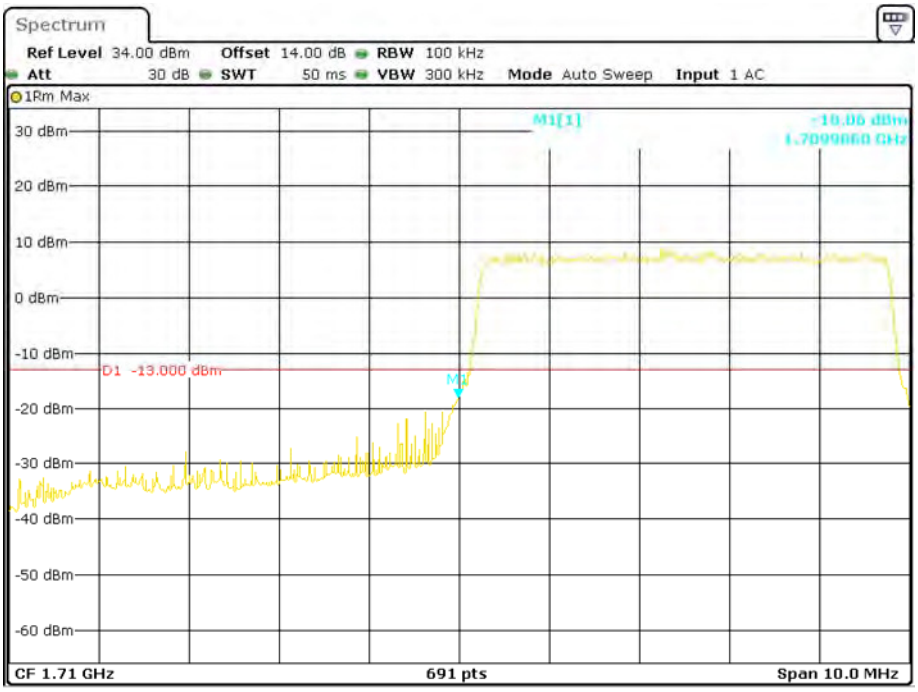
Date: 9.FEB.2018 13:17:34

16-QAM (3.0 MHz, FULL RB) - Right Band Edge



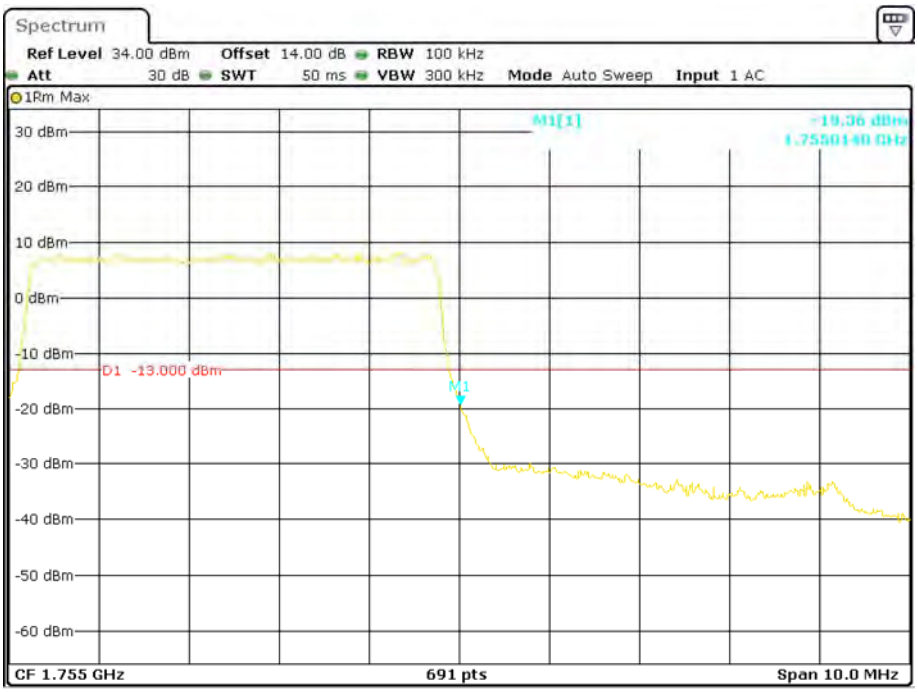
Date: 9.FEB.2018 13:15:32

QPSK (5.0 MHz, FULL RB) - Left Band Edge



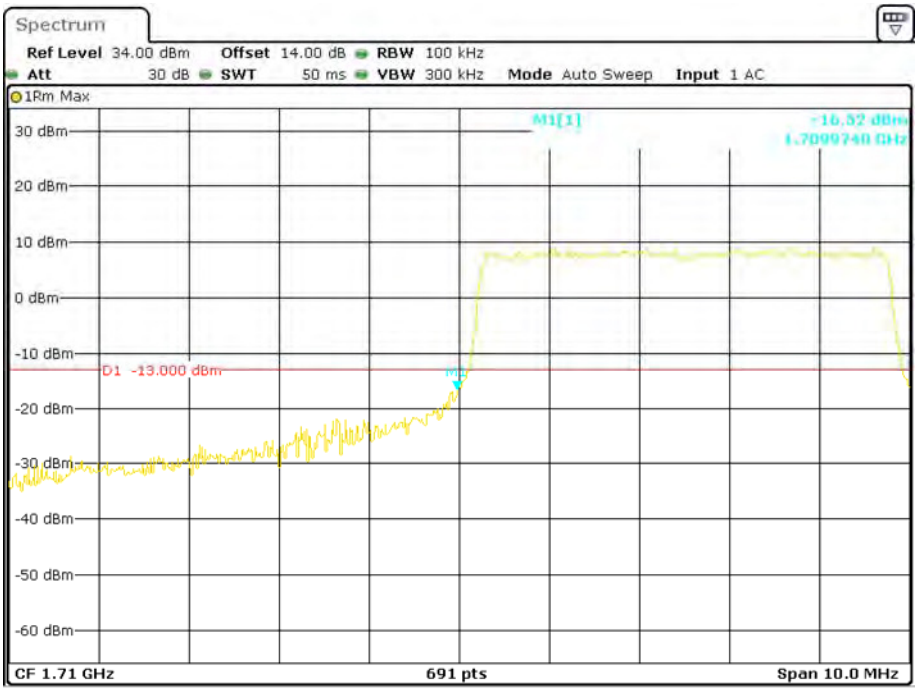
Date: 9.FEB.2018 13:22:06

QPSK (5.0 MHz, FULL RB) - Right Band Edge



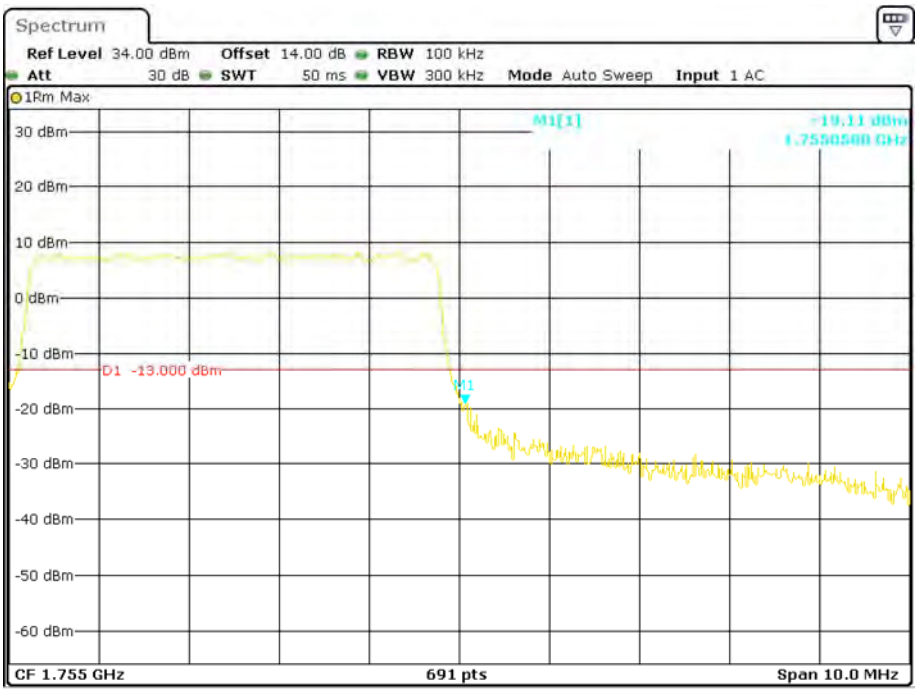
Date: 9.FEB.2018 13:21:18

16-QAM (5.0 MHz, FULL RB) - Left Band Edge



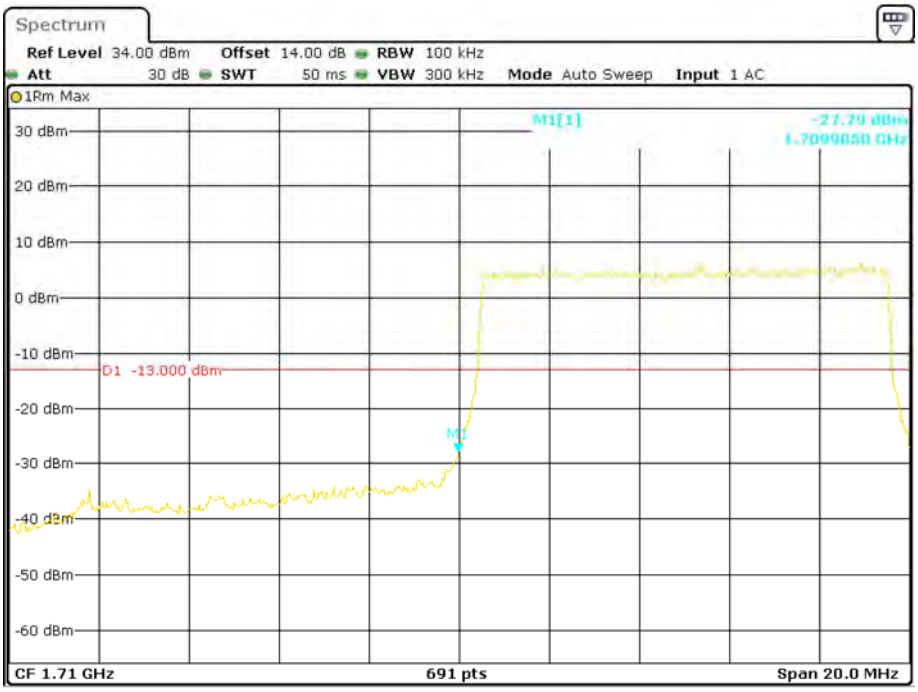
Date: 9.FEB.2018 13:18:49

16-QAM (5.0 MHz, FULL RB) - Right Band Edge



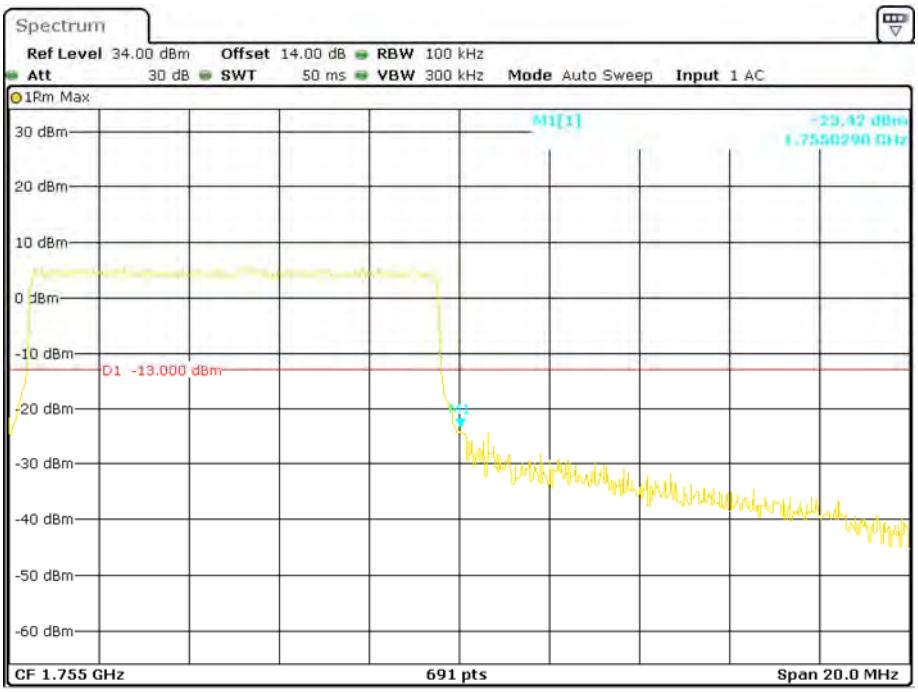
Date: 9.FEB.2018 13:20:43

QPSK (10.0 MHz, FULL RB) - Left Band Edge



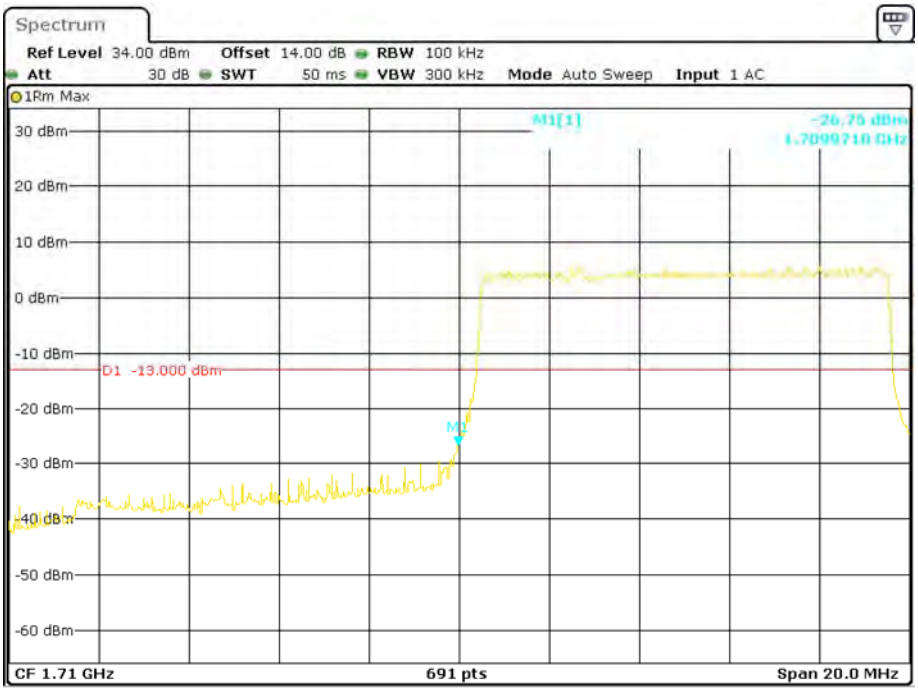
Date: 9.FEB.2018 13:24:44

QPSK (10.0 MHz, FULL RB) - Right Band Edge



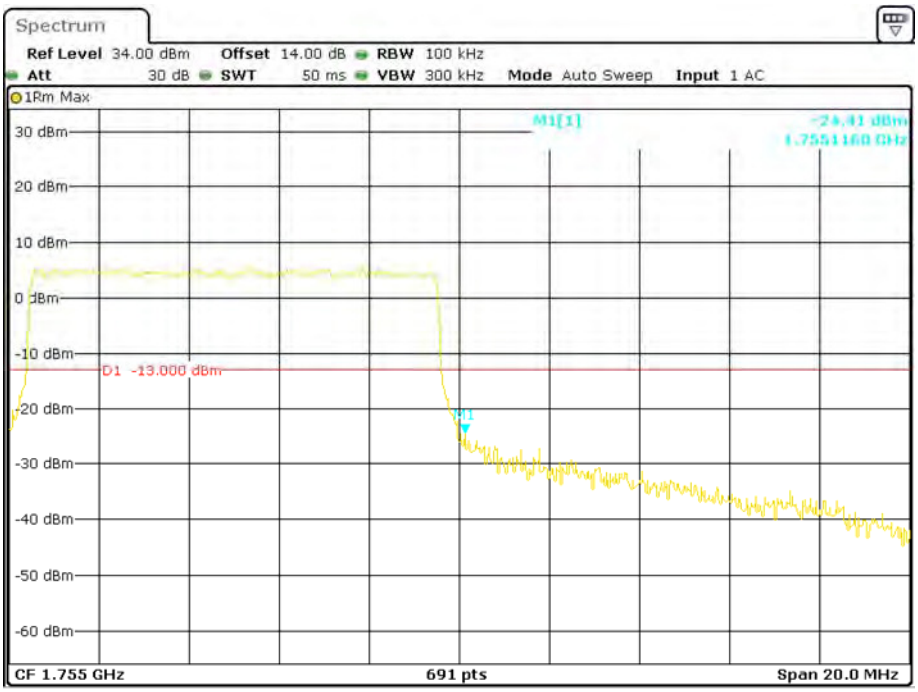
Date: 9.FEB.2018 13:26:01

16-QAM (10.0 MHz, FULL RB) - Left Band Edge



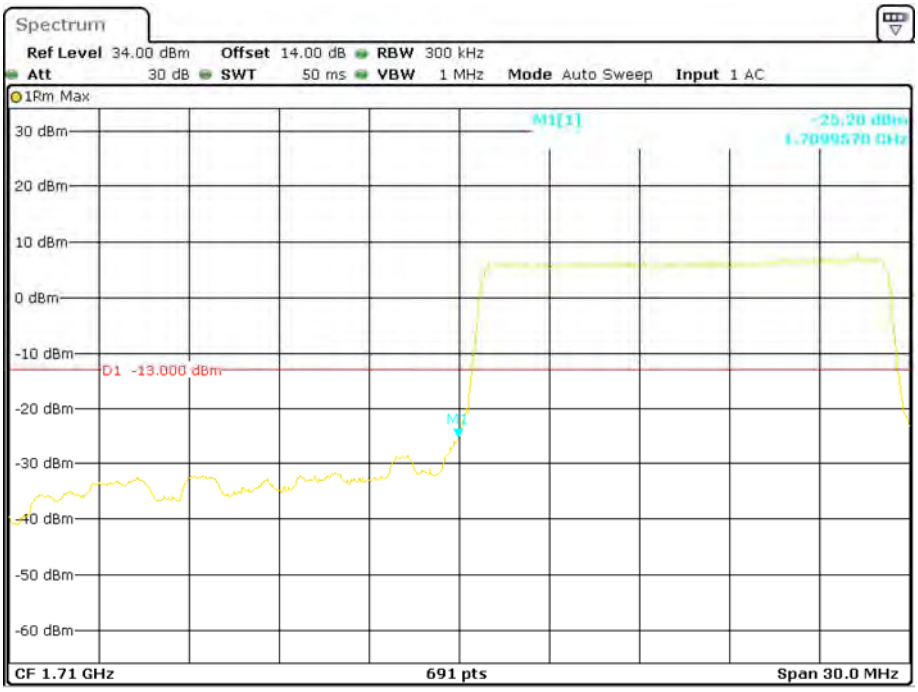
Date: 9.FEB.2018 13:28:11

16-QAM (10.0 MHz, FULL RB) - Right Band Edge



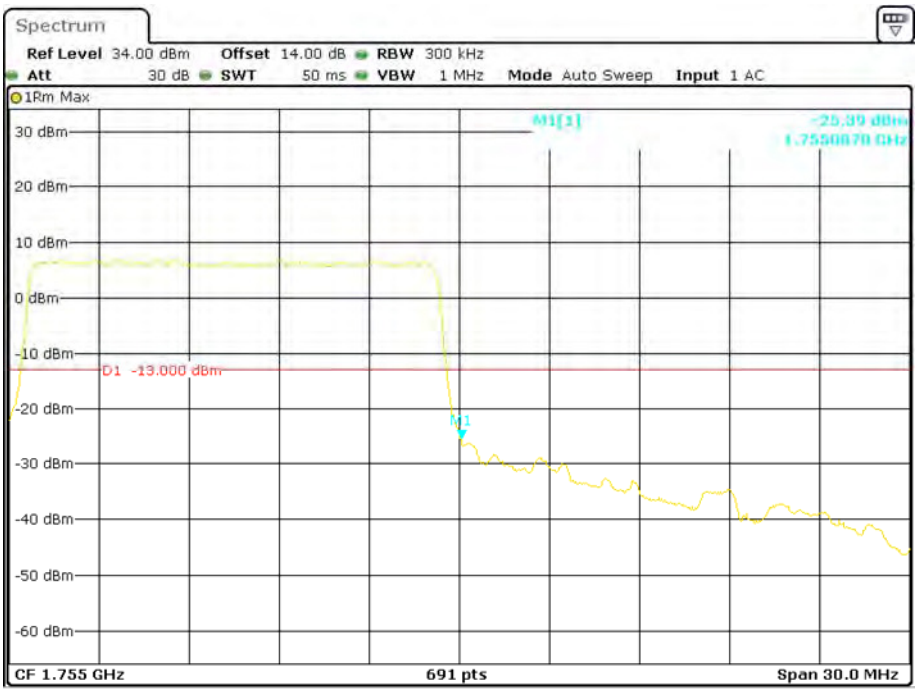
Date: 9.FEB.2018 13:27:18

QPSK (15.0 MHz, FULL RB) - Left Band Edge



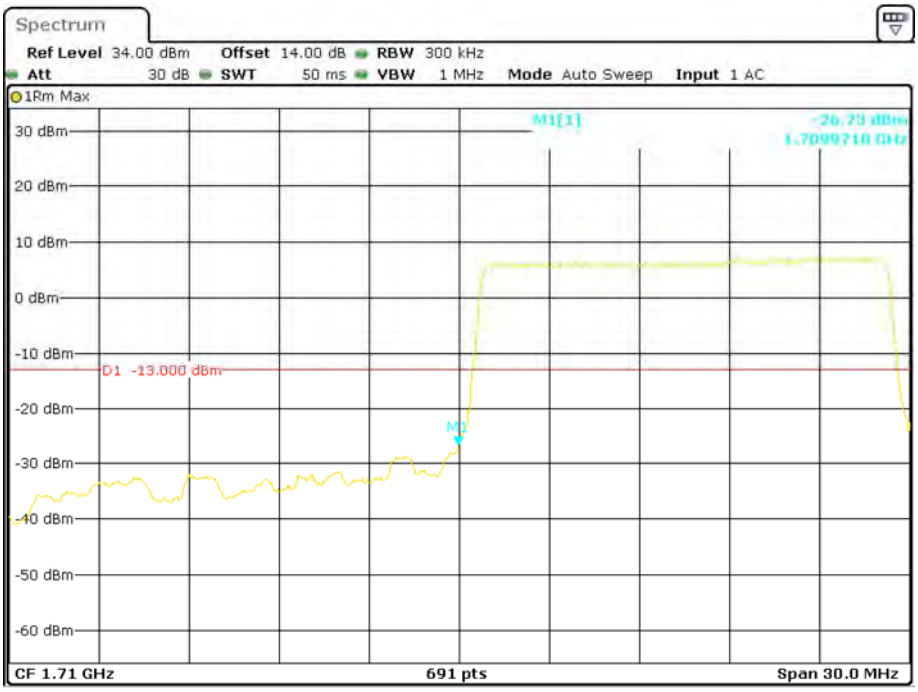
Date: 9.FEB.2018 13:33:57

QPSK (15.0 MHz, FULL RB) - Right Band Edge



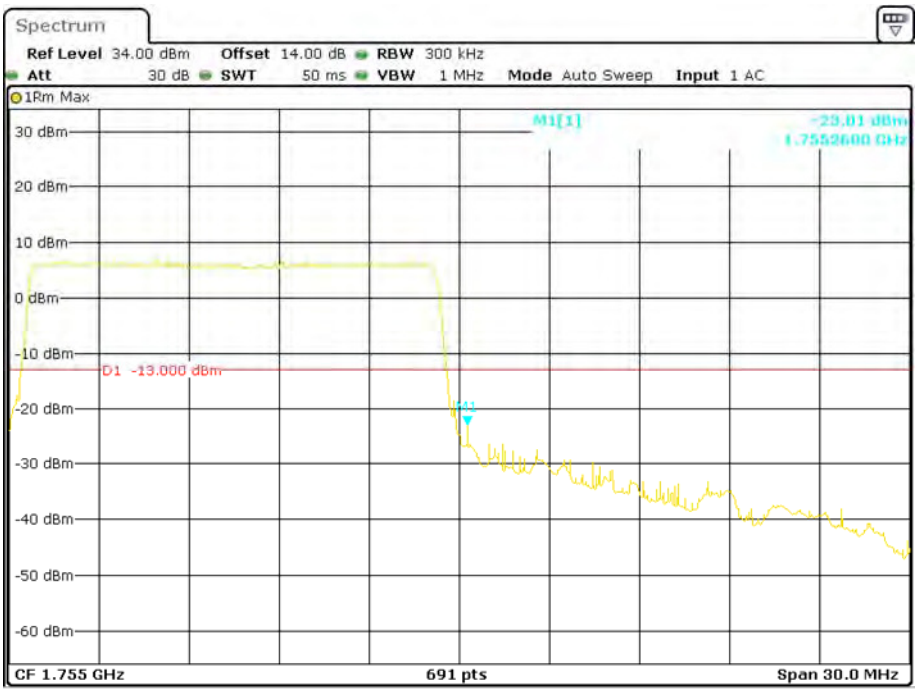
Date: 9.FEB.2018 13:33:05

16-QAM (15.0 MHz, FULL RB) - Left Band Edge



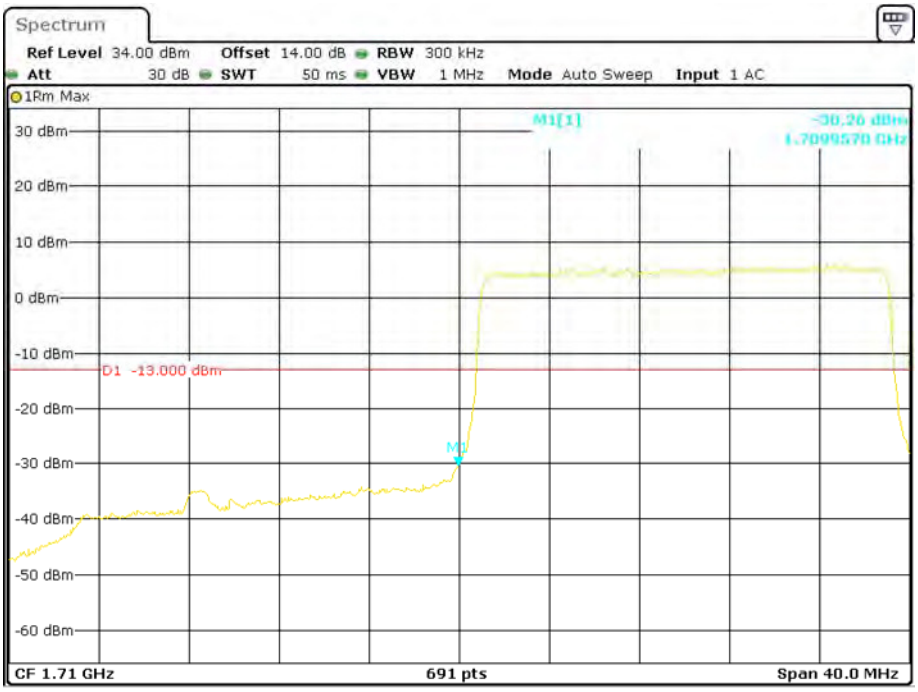
Date: 9.FEB.2018 13:29:35

16-QAM (15.0 MHz, FULL RB) - Right Band Edge



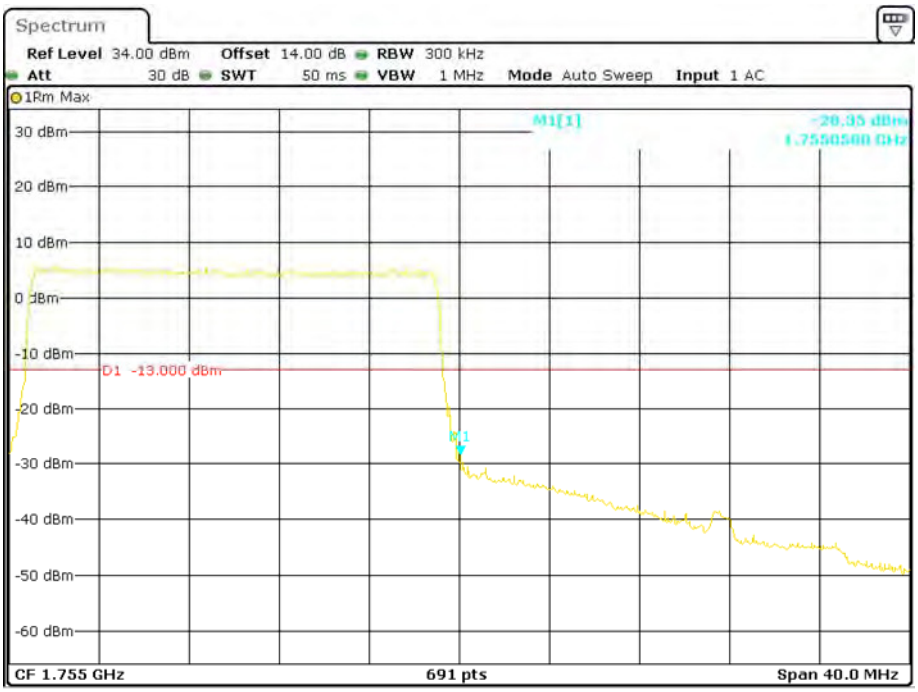
Date: 9.FEB.2018 13:31:19

QPSK (20.0 MHz, FULL RB) - Left Band Edge



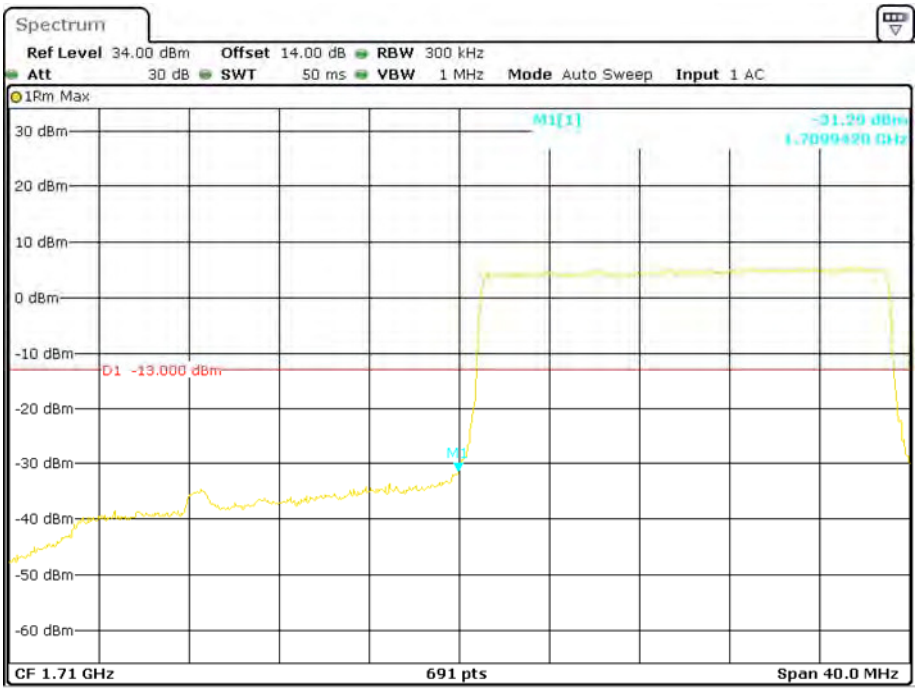
Date: 9.FEB.2018 13:34:47

QPSK (20.0 MHz, FULL RB) - Right Band Edge



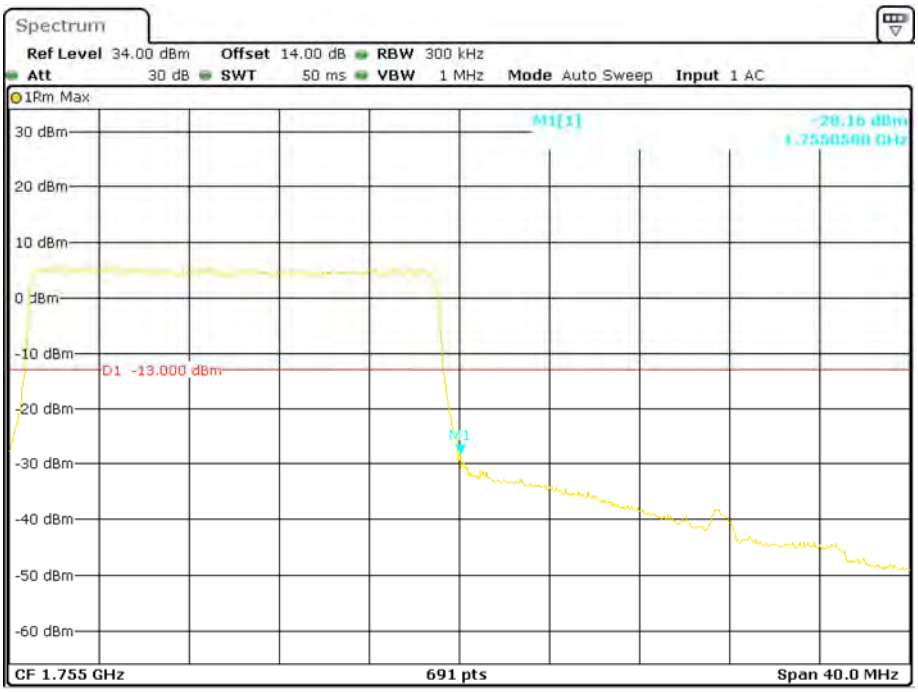
Date: 9.FEB.2018 13:35:32

16-QAM (20.0 MHz, FULL RB) - Left Band Edge



Date: 9.FEB.2018 13:36:48

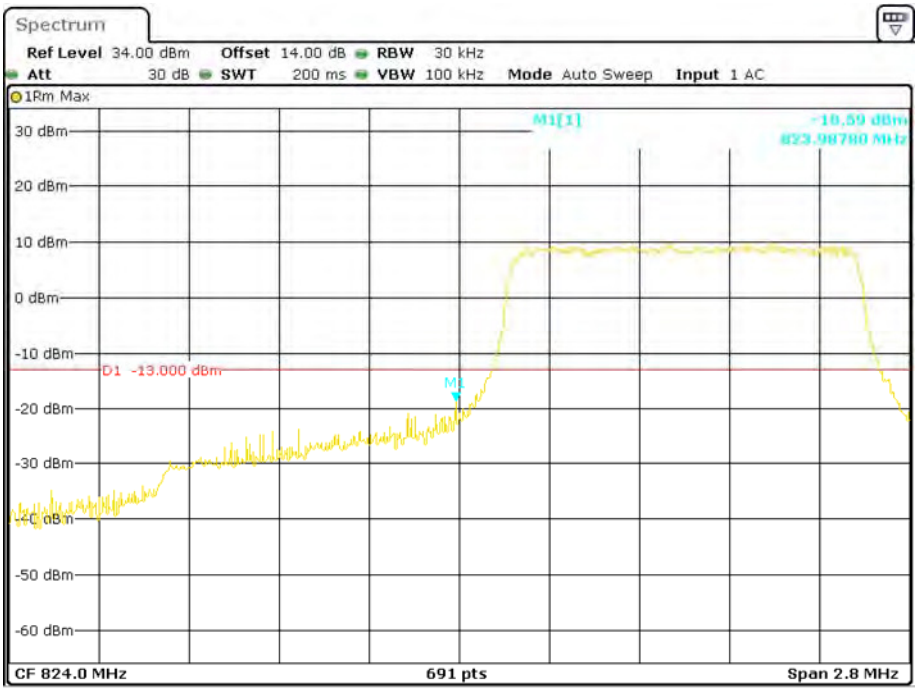
16-QAM (20.0 MHz, FULL RB) - Right Band Edge



Date: 9.FEB.2018 13:36:01

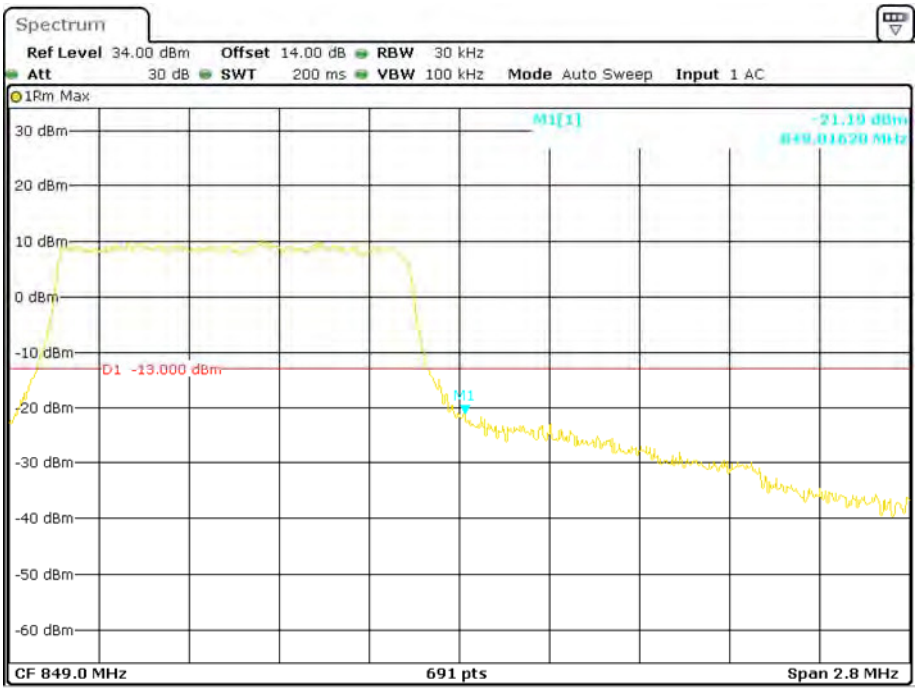
Band 5:

QPSK (1.4 MHz, FULL RB) - Left Band Edge



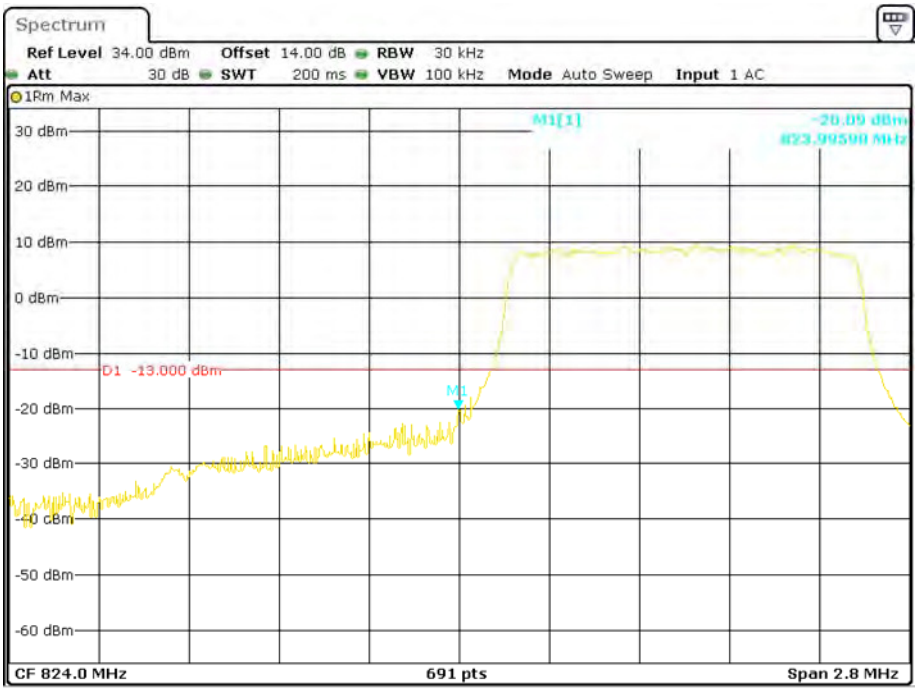
Date: 9.FEB.2018 13:49:11

QPSK (1.4 MHz, FULL RB) - Right Band Edge



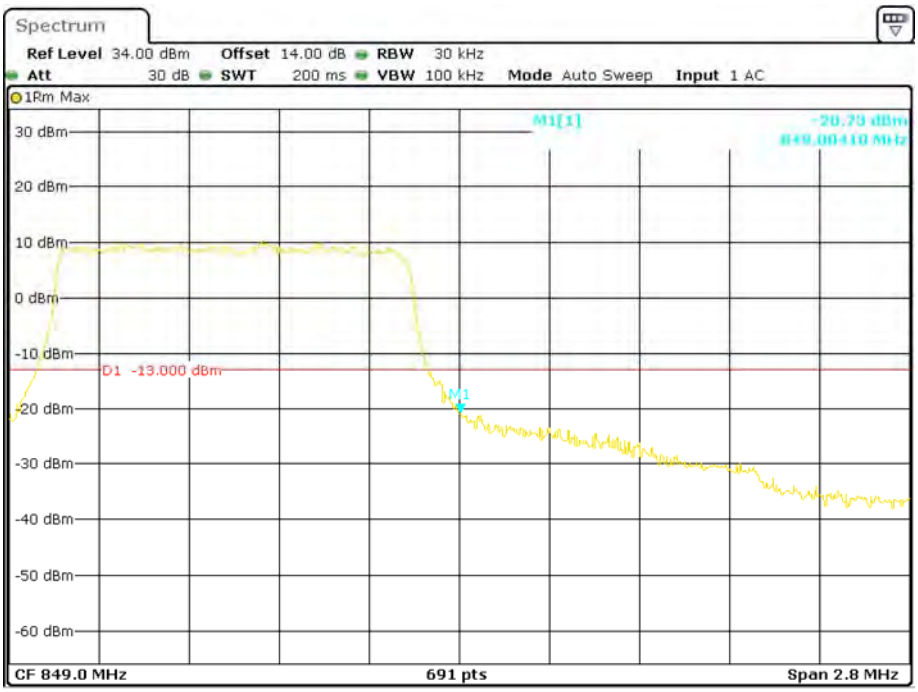
Date: 9.FEB.2018 13:48:16

16-QAM (1.4 MHz, FULL RB) - Left Band Edge



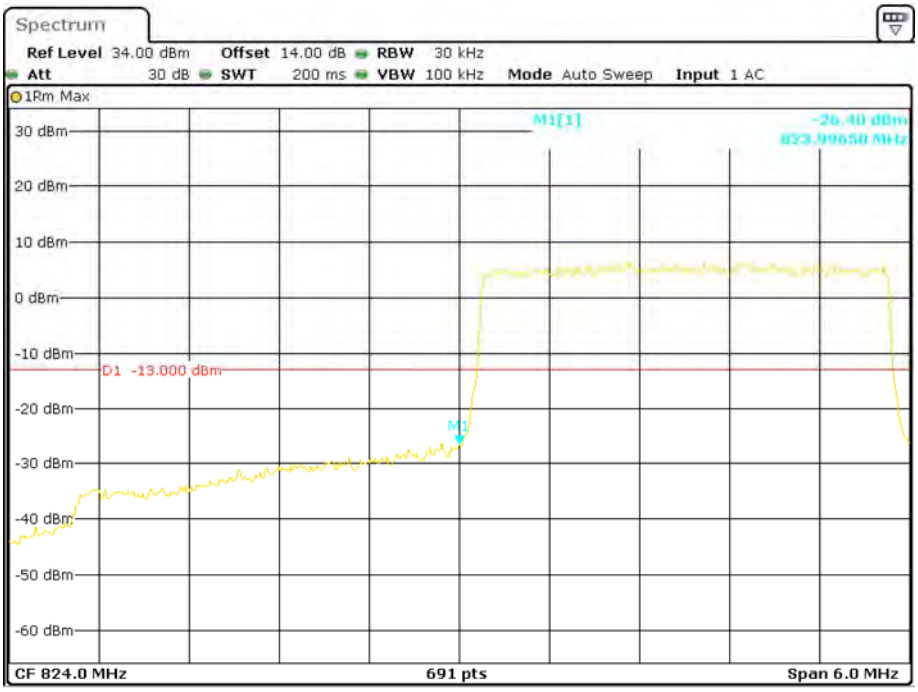
Date: 9.FEB.2018 13:45:40

16-QAM (1.4 MHz, FULL RB) - Right Band Edge



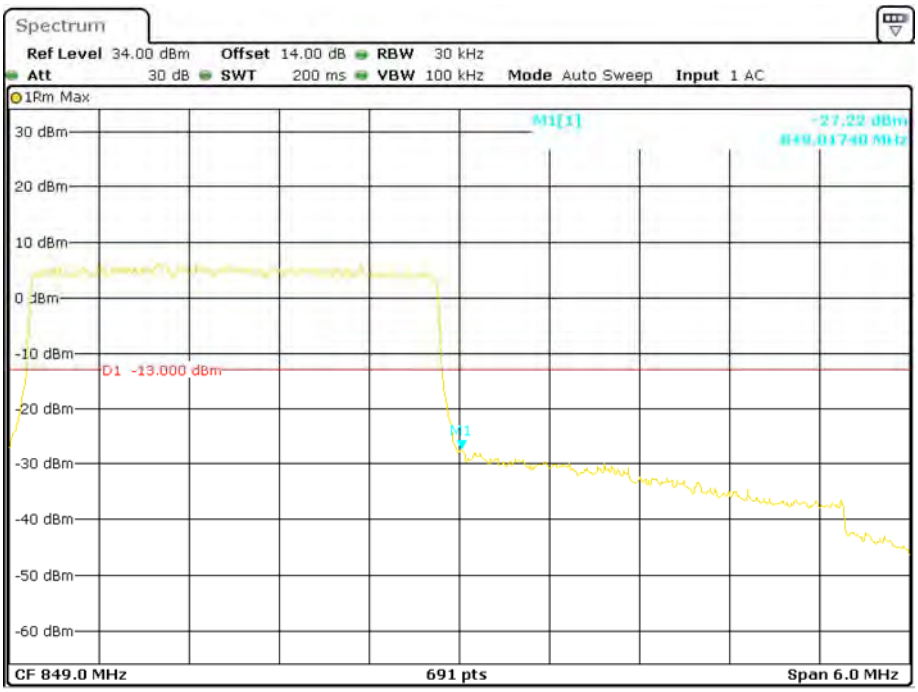
Date: 9.FEB.2018 13:47:22

QPSK (3.0 MHz, FULL RB) - Left Band Edge



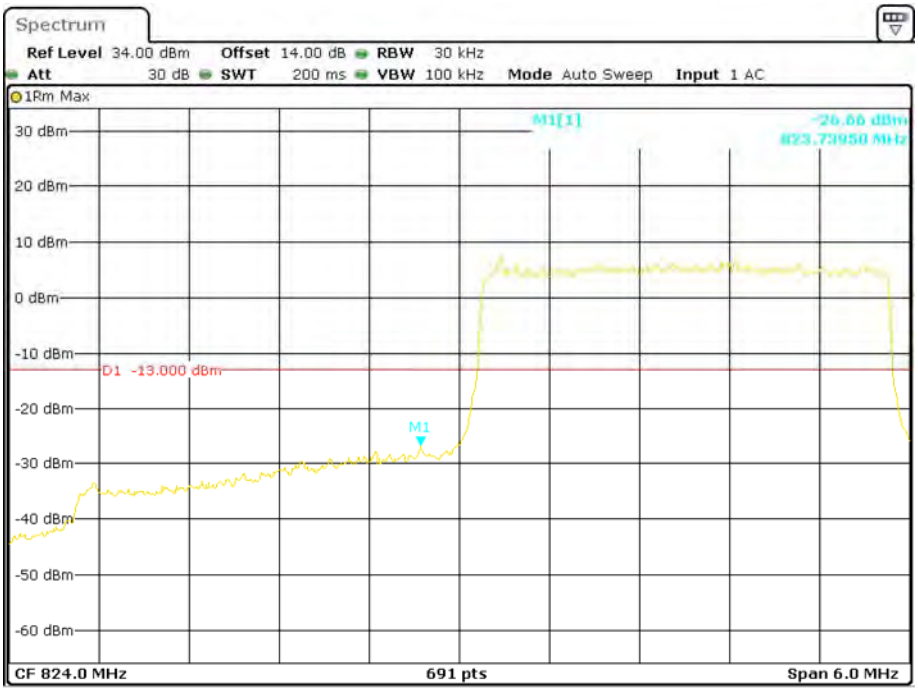
Date: 9.FEB.2018 13:56:45

QPSK (3.0 MHz, FULL RB) - Right Band Edge



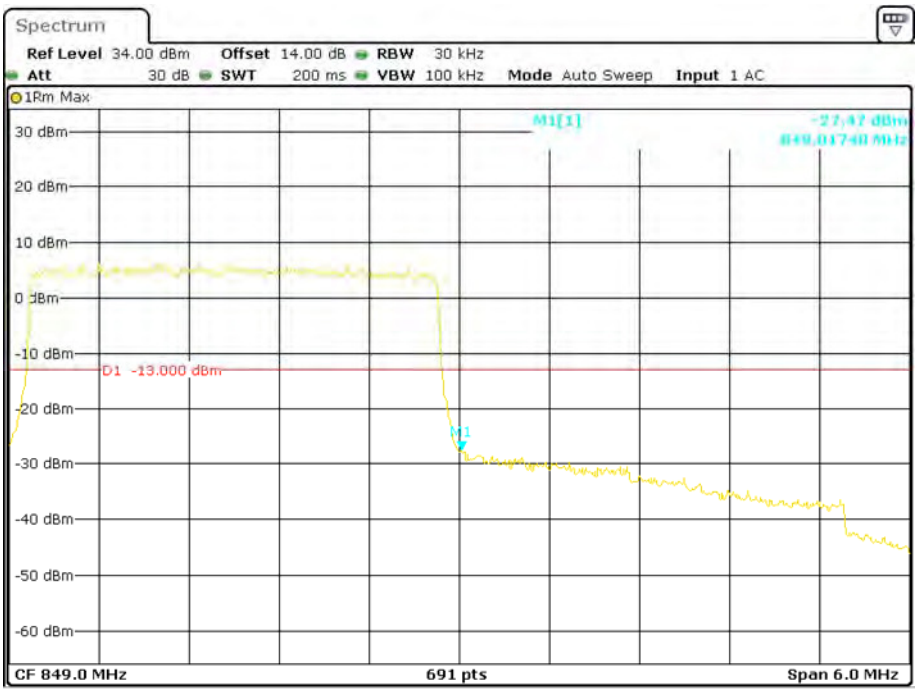
Date: 9.FEB.2018 13:58:00

16-QAM (3.0 MHz, FULL RB) - Left Band Edge



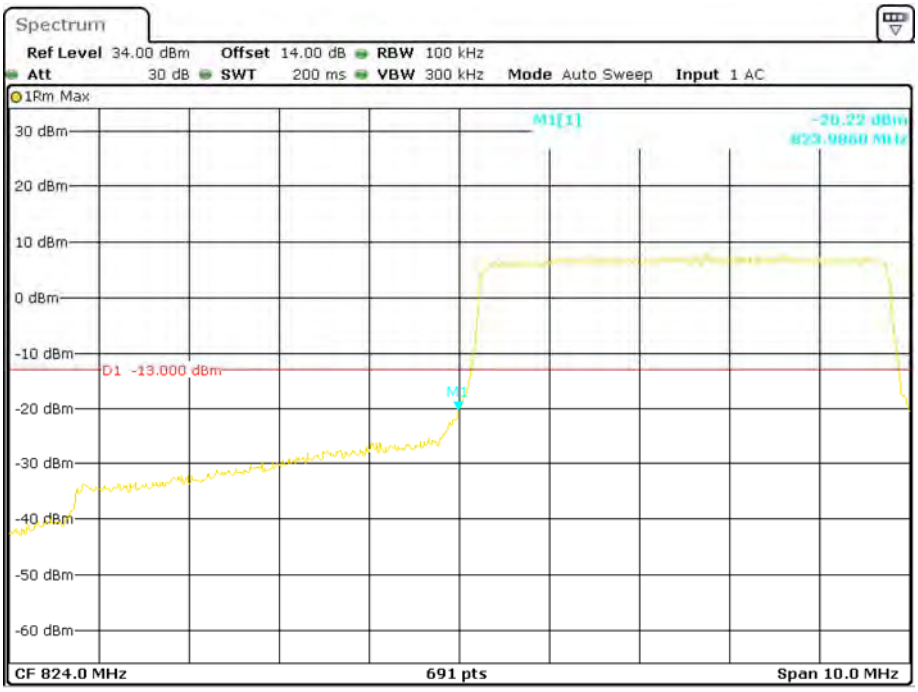
Date: 9.FEB.2018 14:00:05

16-QAM (3.0 MHz, FULL RB) - Right Band Edge



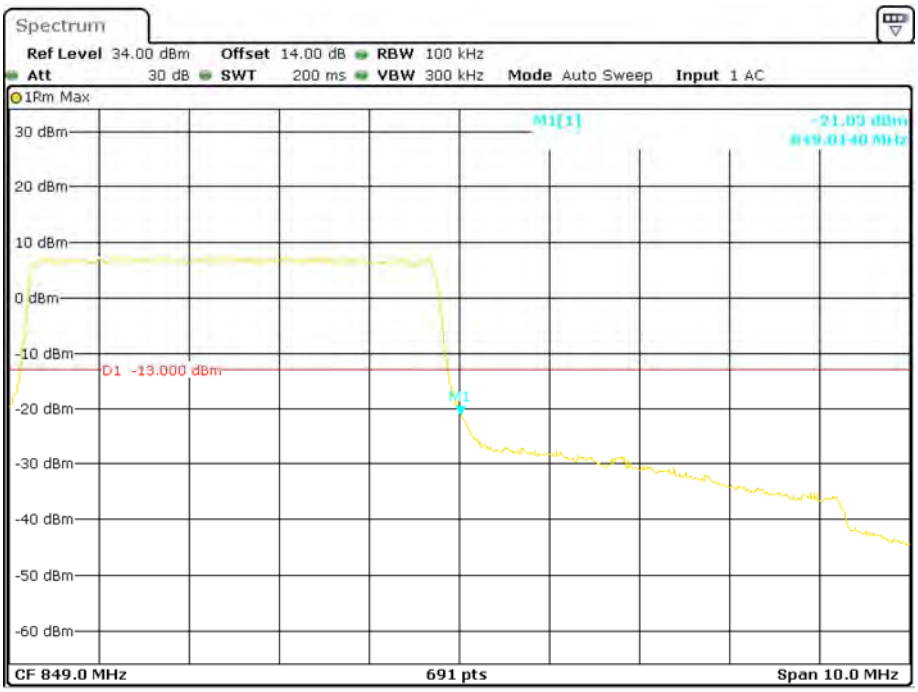
Date: 9.FEB.2018 13:58:43

QPSK (5.0 MHz, FULL RB) - Left Band Edge



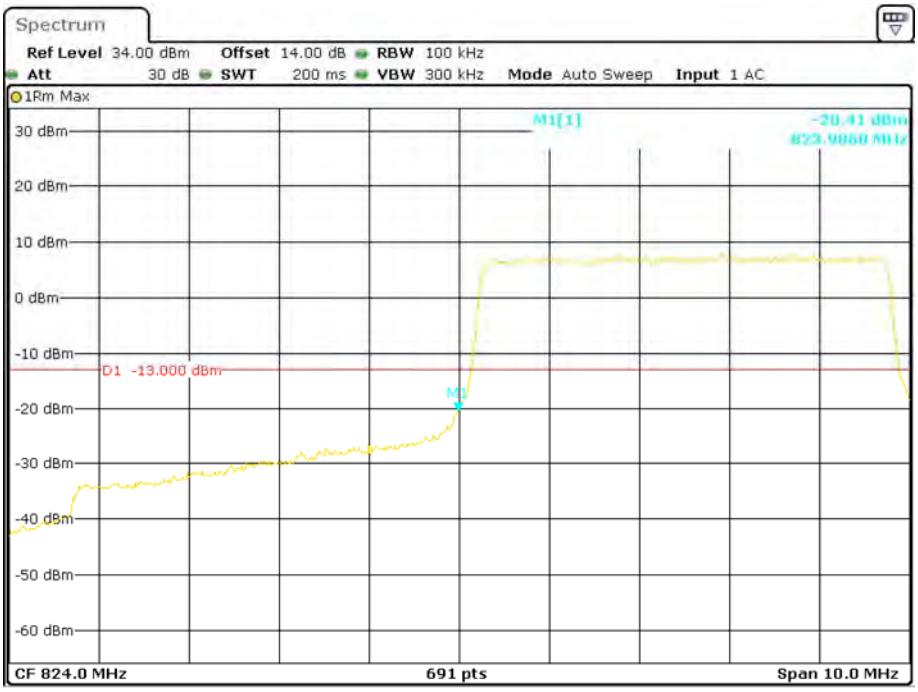
Date: 9.FEB.2018 14:09:29

QPSK (5.0 MHz, FULL RB) - Right Band Edge



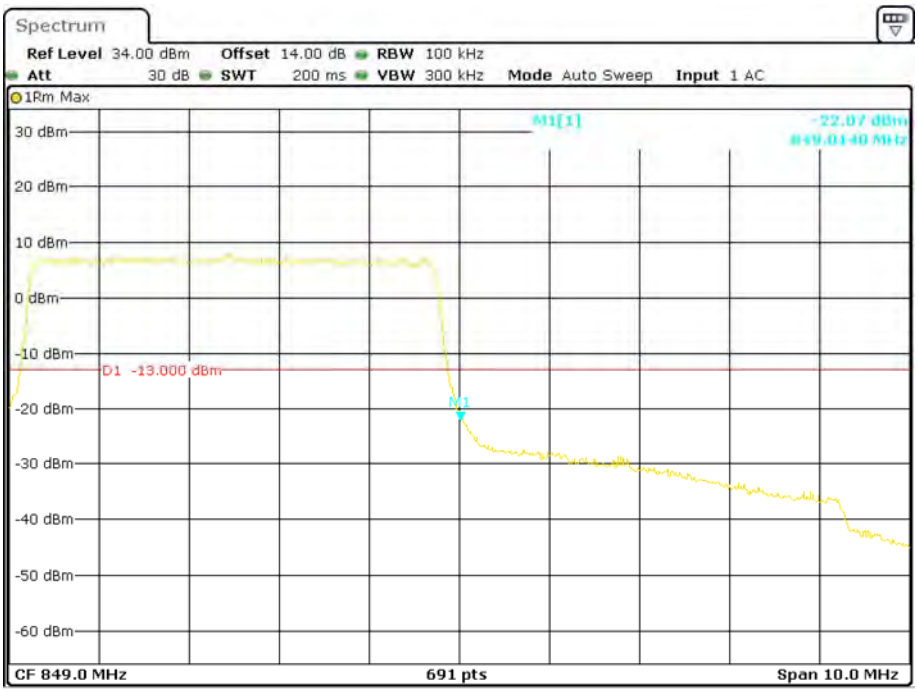
Date: 9.FEB.2018 14:08:41

16-QAM (5.0 MHz, FULL RB) - Left Band Edge



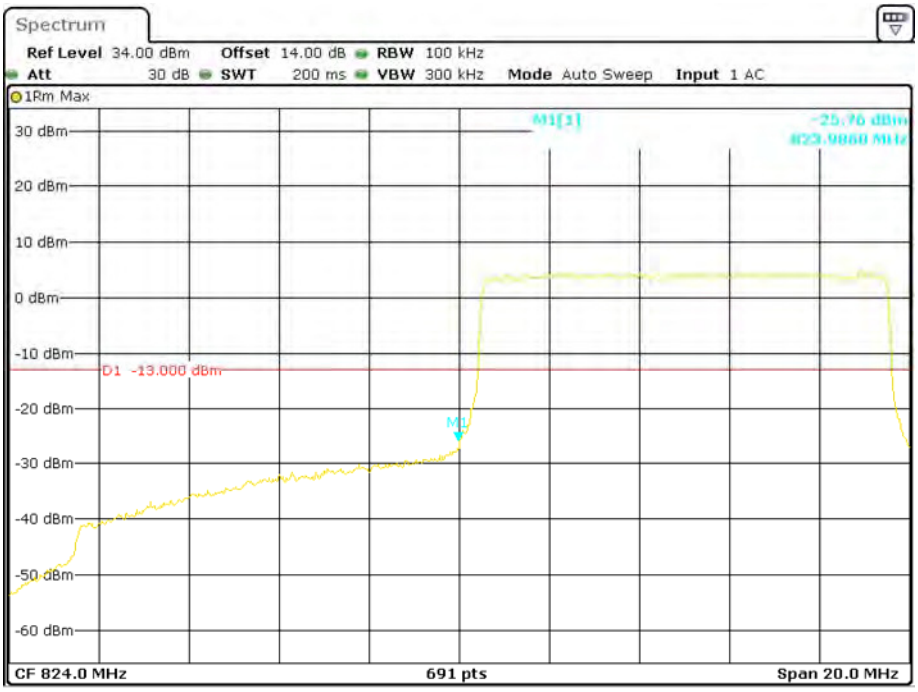
Date: 9.FEB.2018 14:01:43

16-QAM (5.0 MHz, FULL RB) - Right Band Edge



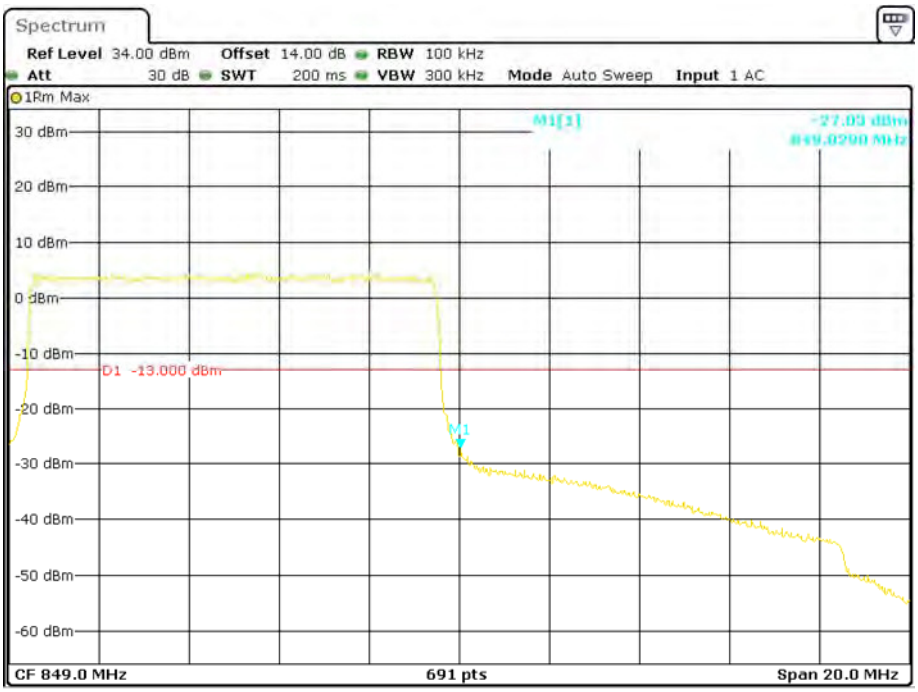
Date: 9.FEB.2018 14:07:47

QPSK (10.0 MHz, FULL RB) - Left Band Edge



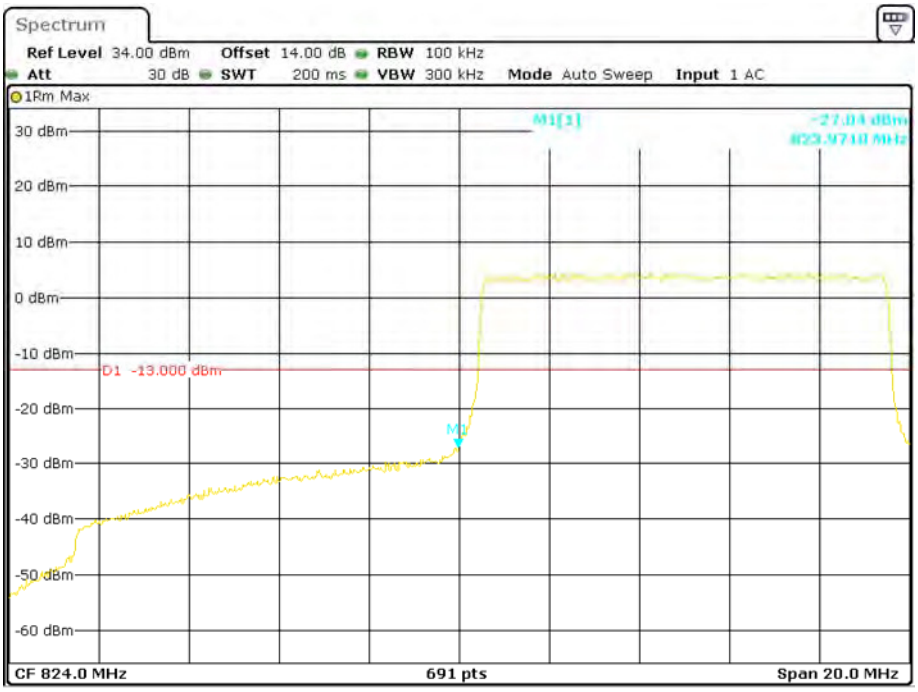
Date: 9.FEB.2018 14:10:57

QPSK (10.0 MHz, FULL RB) - Right Band Edge



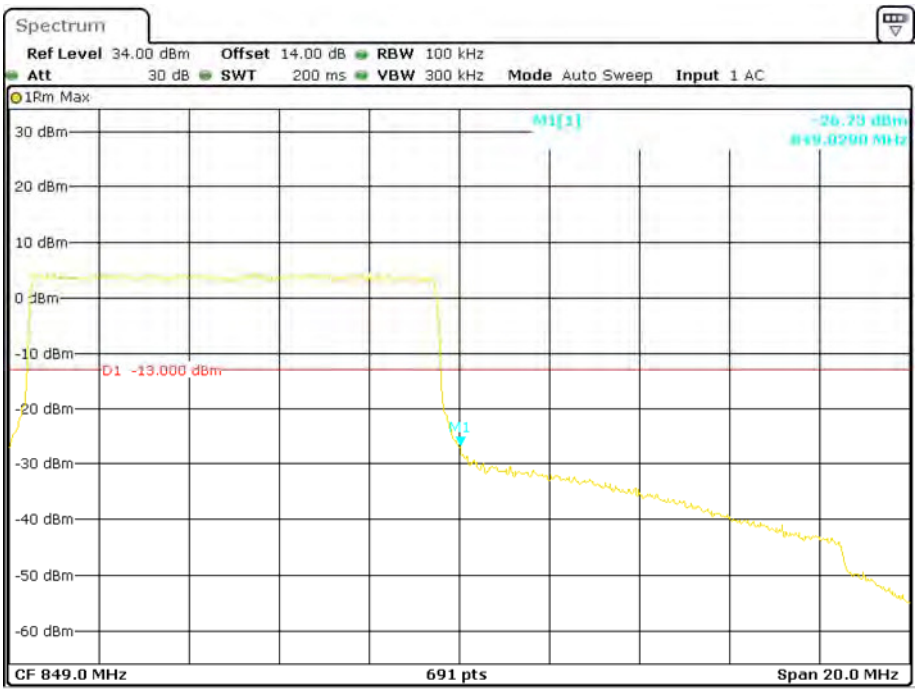
Date: 9.FEB.2018 14:11:43

16-QAM (10.0 MHz, FULL RB) - Left Band Edge



Date: 9.FEB.2018 14:13:07

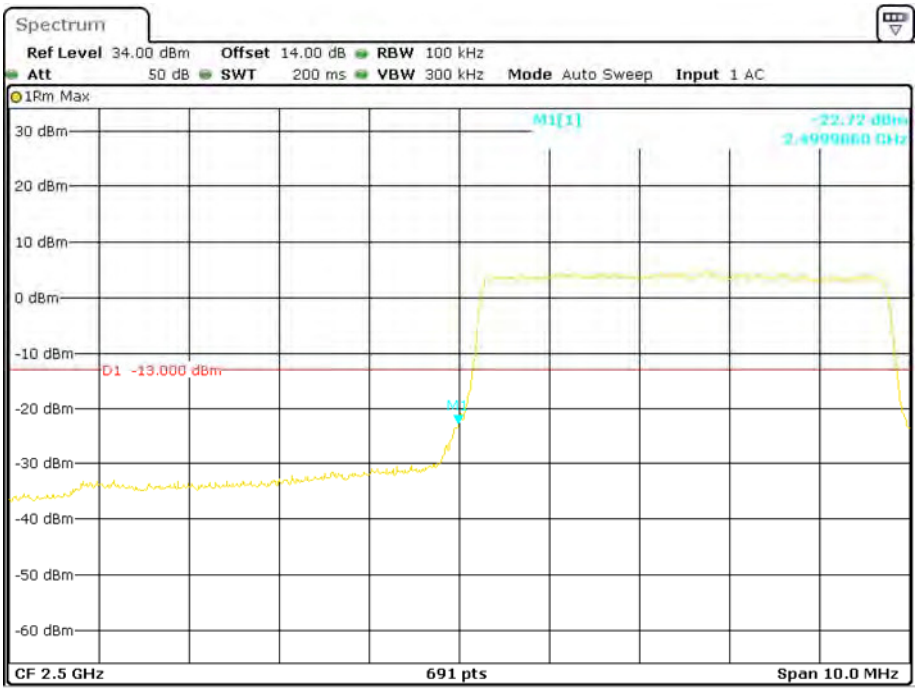
16-QAM (10.0 MHz, FULL RB) - Right Band Edge



Date: 9.FEB.2018 14:12:12

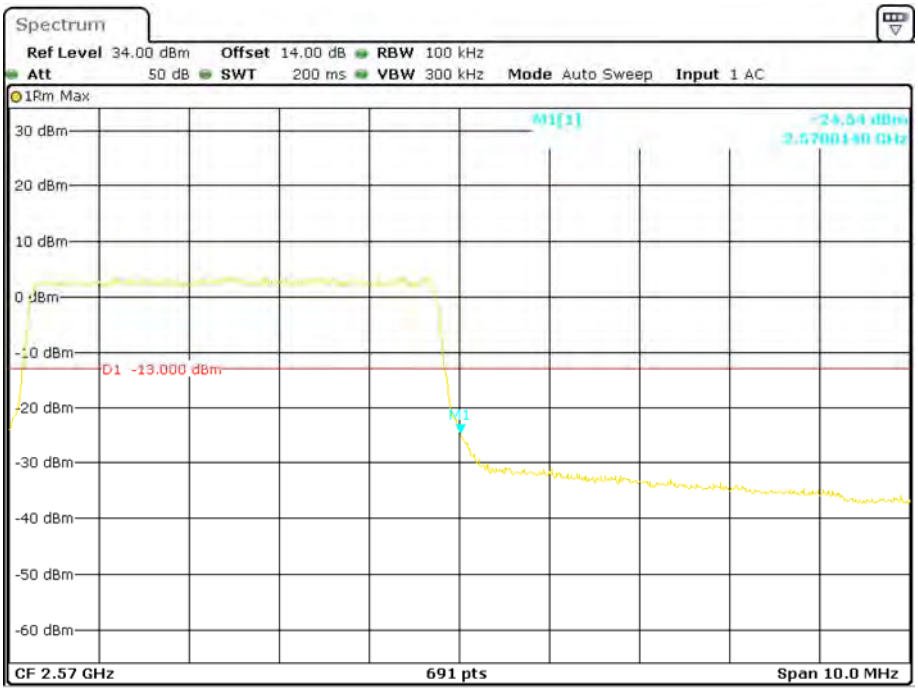
Band 7:

QPSK (5.0 MHz, FULL RB) - Left Band Edge



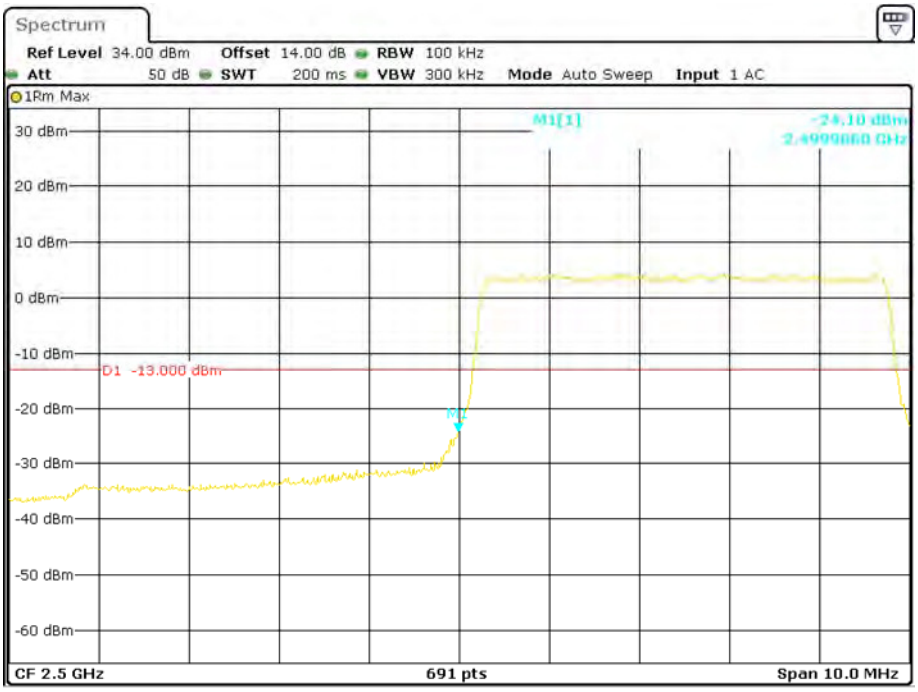
Date: 9.FEB.2018 14:21:06

QPSK (5.0 MHz, FULL RB) - Right Band Edge



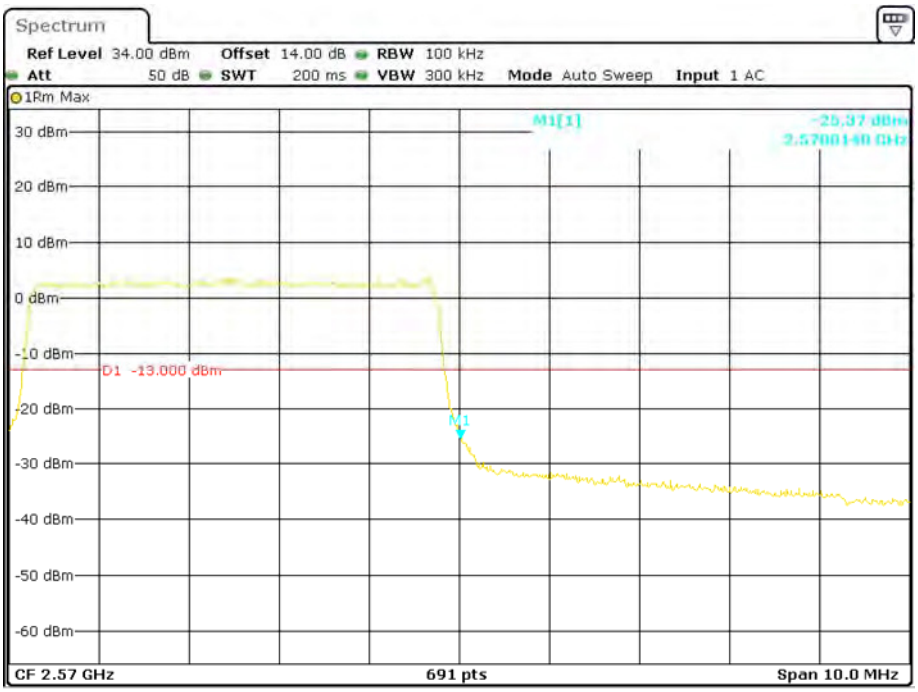
Date: 9.FEB.2018 14:20:01

16-QAM (5.0 MHz, FULL RB) - Left Band Edge



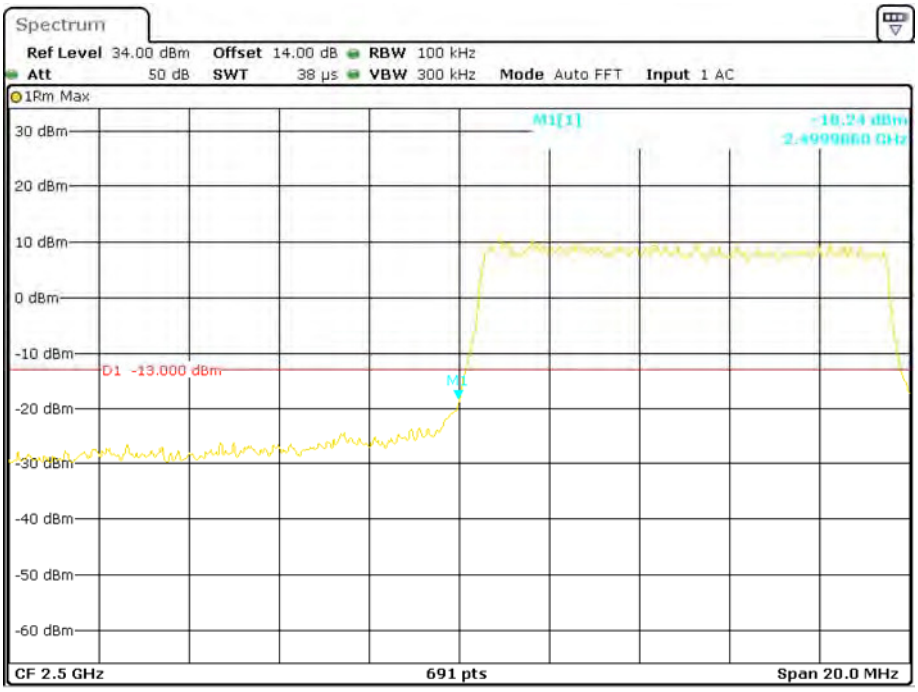
Date: 9.FEB.2018 14:17:15

16-QAM (5.0 MHz, FULL RB) - Right Band Edge



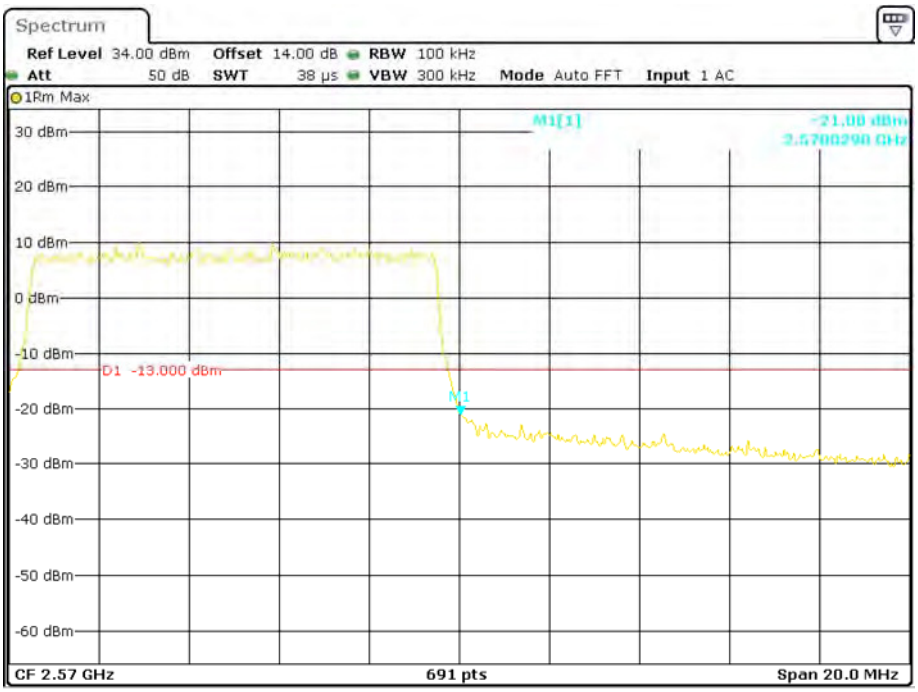
Date: 9.FEB.2018 14:18:17

QPSK (10.0 MHz, FULL RB) - Left Band Edge



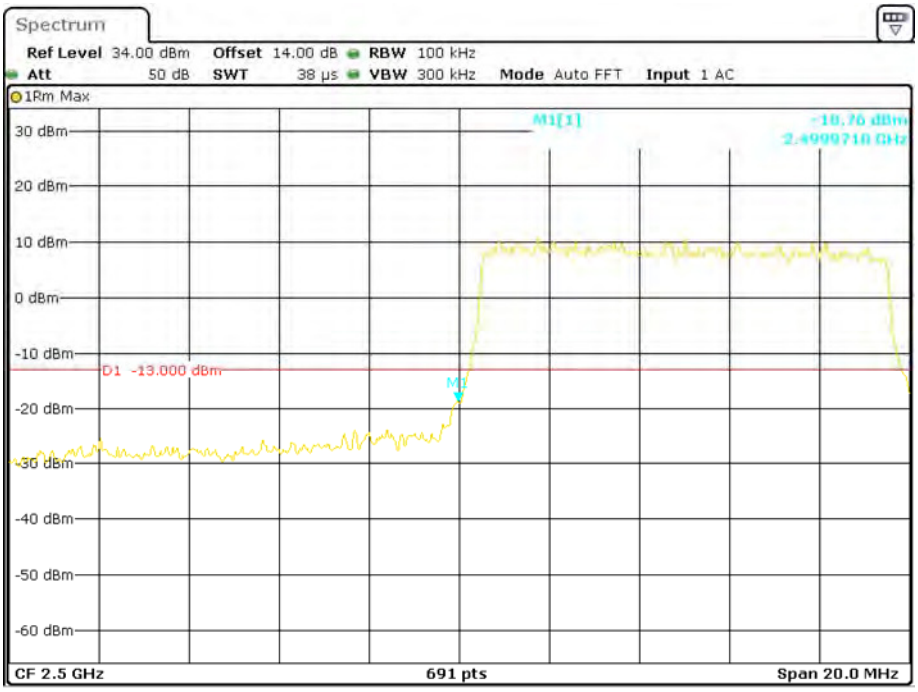
Date: 9.FEB.2018 14:31:29

QPSK (10.0 MHz, FULL RB) - Right Band Edge



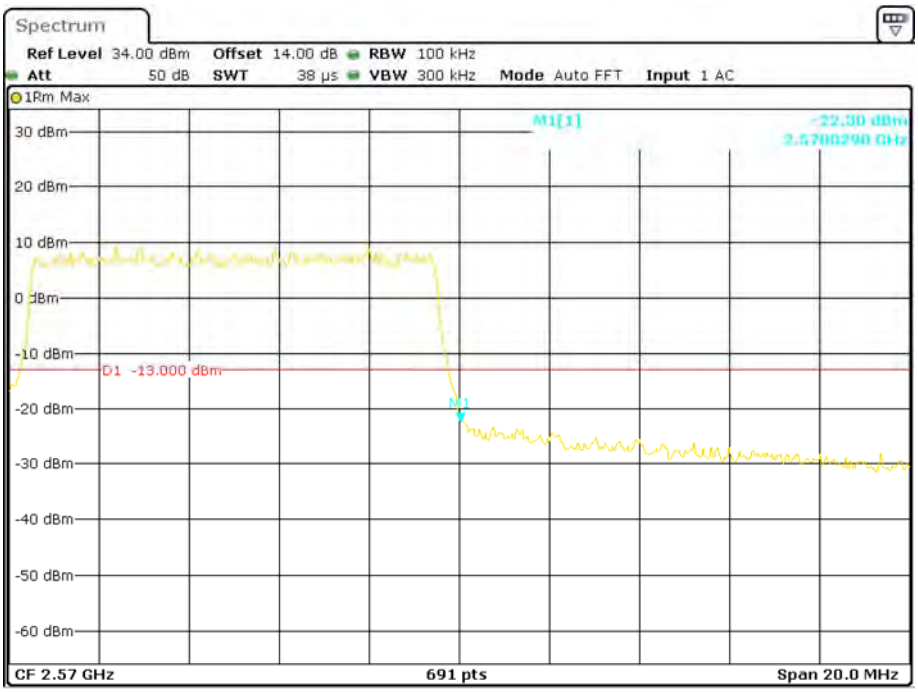
Date: 9.FEB.2018 14:32:48

16-QAM (10.0 MHz, FULL RB) - Left Band Edge



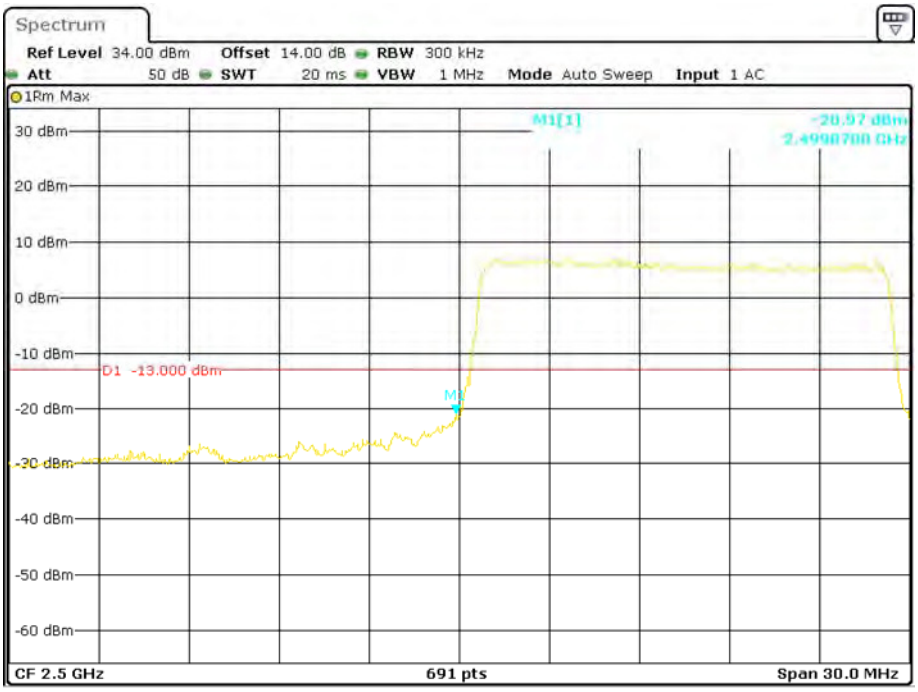
Date: 9.FEB.2018 14:33:56

16-QAM (10.0 MHz, FULL RB) - Right Band Edge



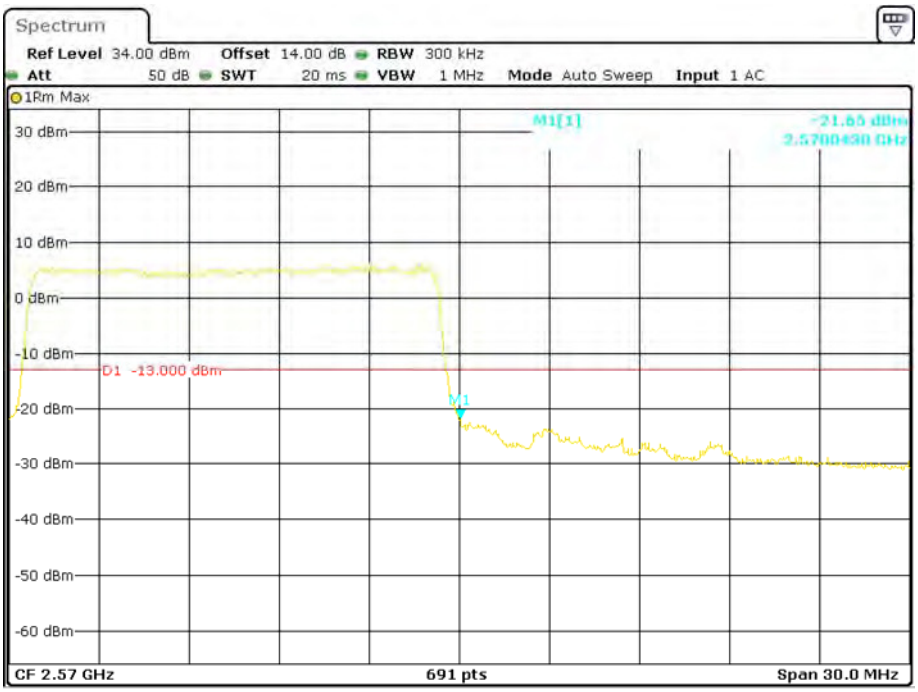
Date: 9.FEB.2018 14:33:11

QPSK (15 MHz, FULL RB) - Left Band Edge



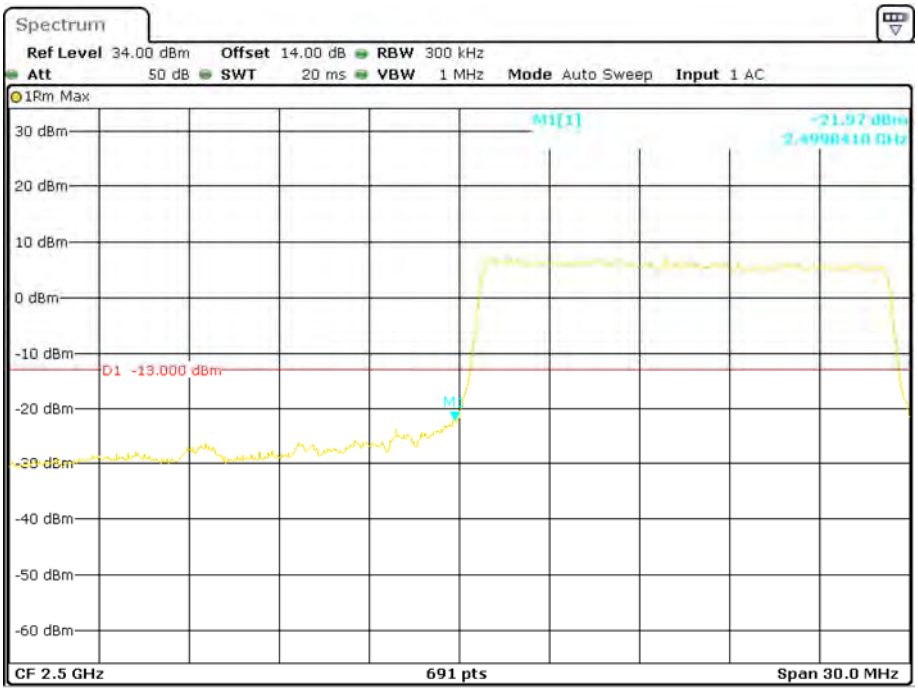
Date: 9.FEB.2018 14:38:56

QPSK (15 MHz, FULL RB) - Right Band Edge



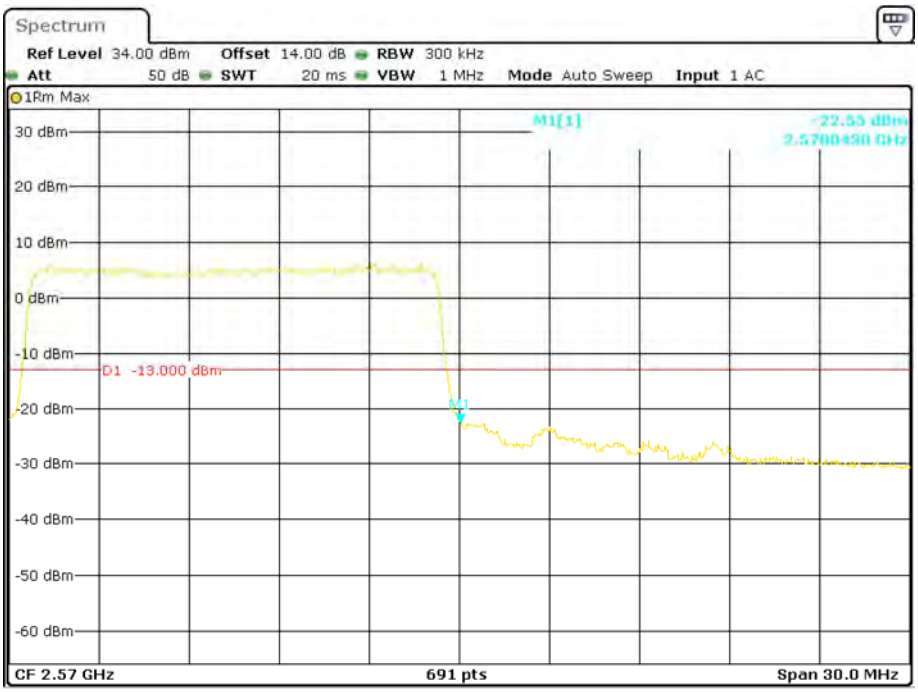
Date: 9.FEB.2018 14:38:03

16-QAM (15 MHz, FULL RB) - Left Band Edge



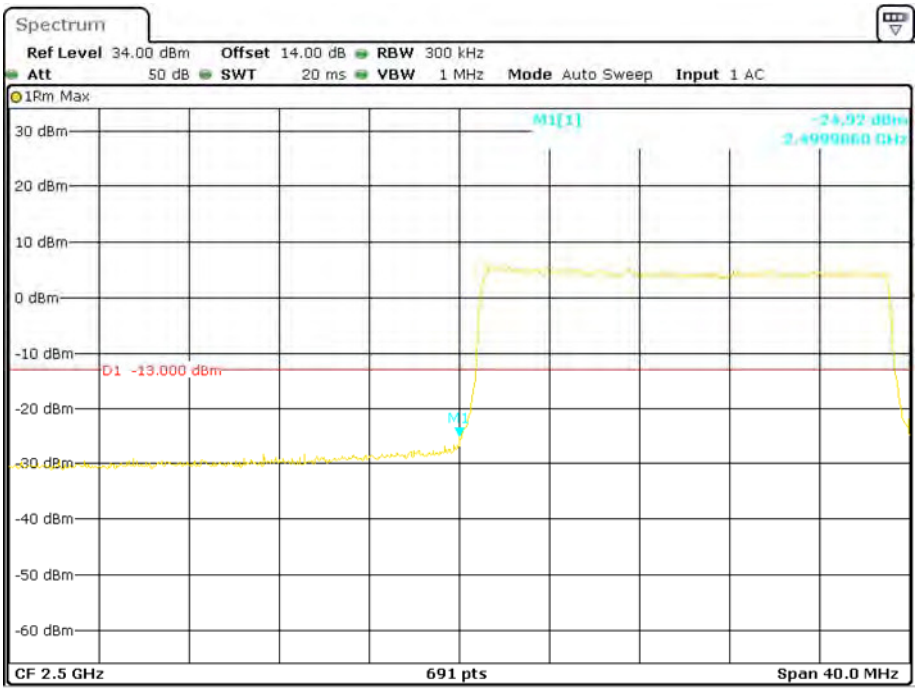
Date: 9.FEB.2018 14:36:14

16-QAM (15 MHz, FULL RB) - Right Band Edge



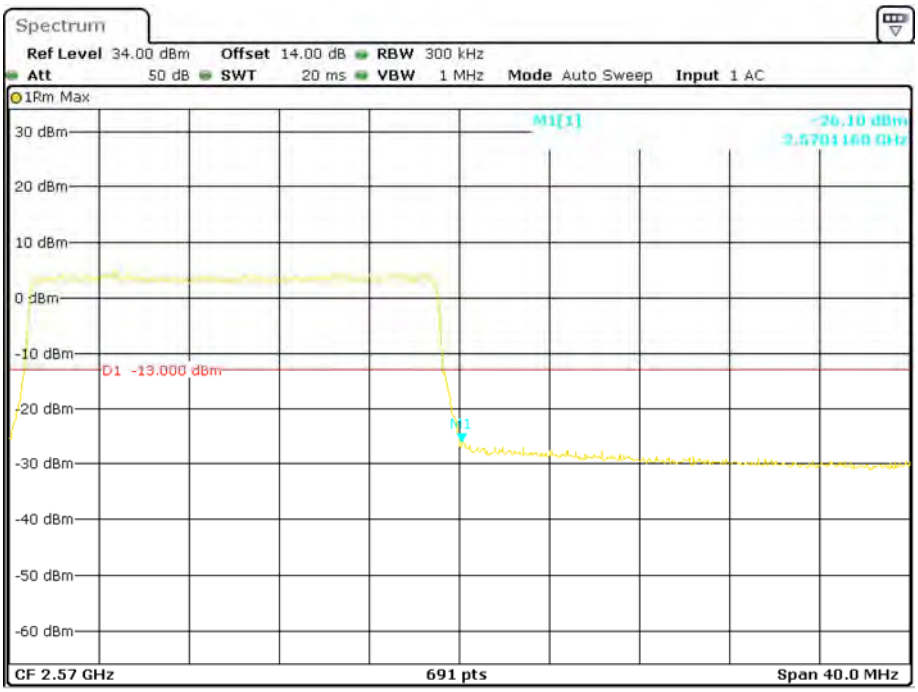
Date: 9.FEB.2018 14:37:22

QPSK (20 MHz, FULL RB) - Left Band Edge



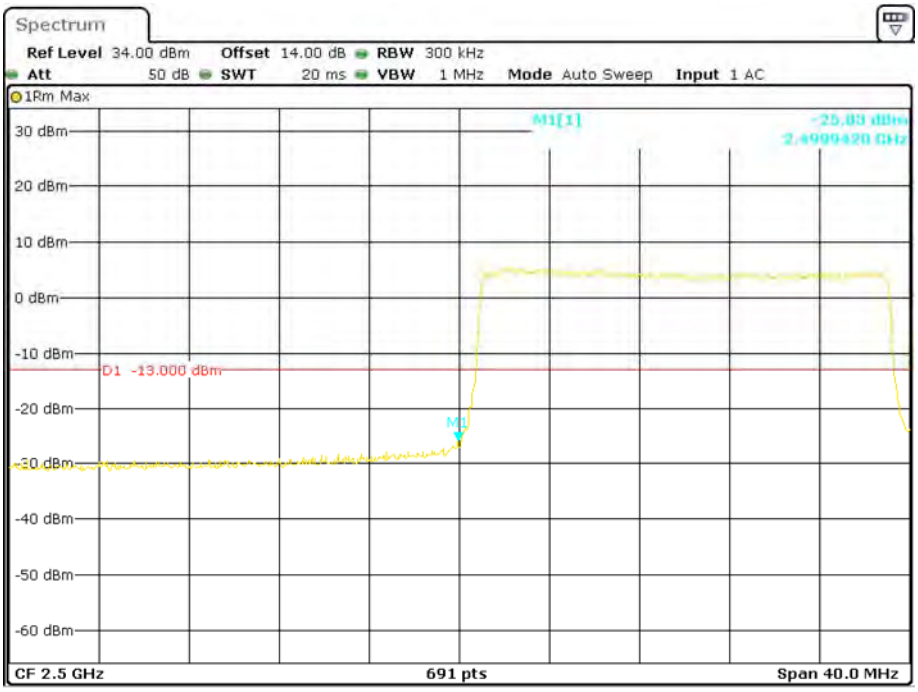
Date: 9.FEB.2018 14:40:10

QPSK (20 MHz, FULL RB) - Right Band Edge



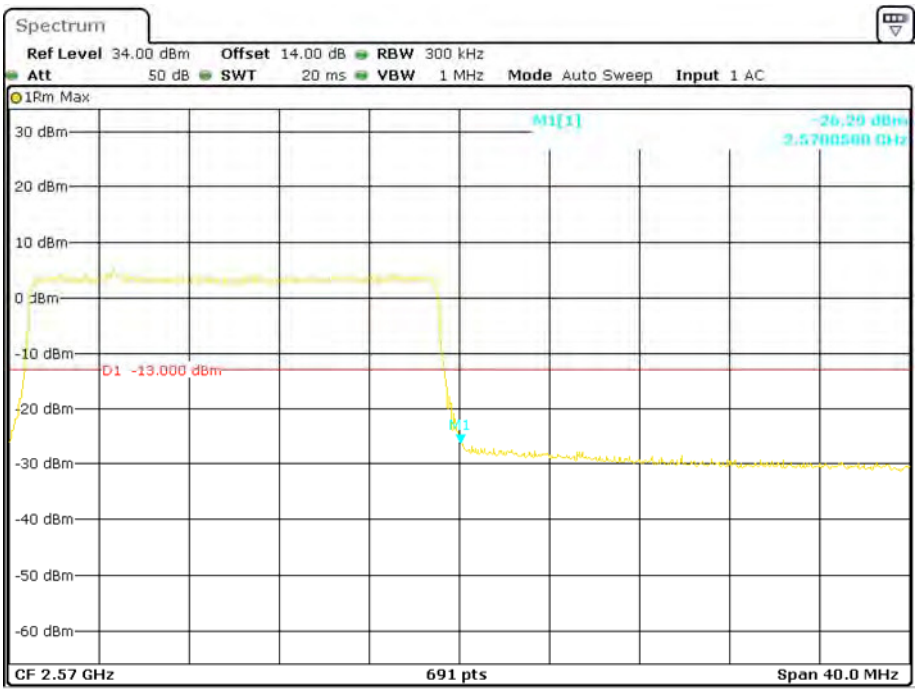
Date: 9.FEB.2018 14:41:11

16-QAM (20 MHz, FULL RB) - Left Band Edge



Date: 9.FEB.2018 14:42:37

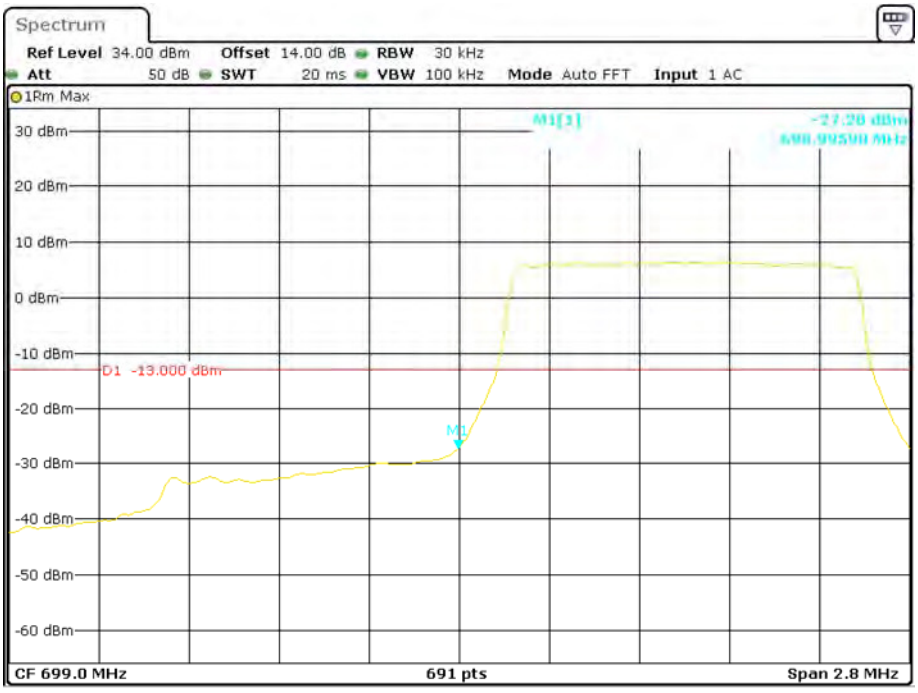
16-QAM (20 MHz, FULL RB) - Right Band Edge



Date: 9.FEB.2018 14:41:53

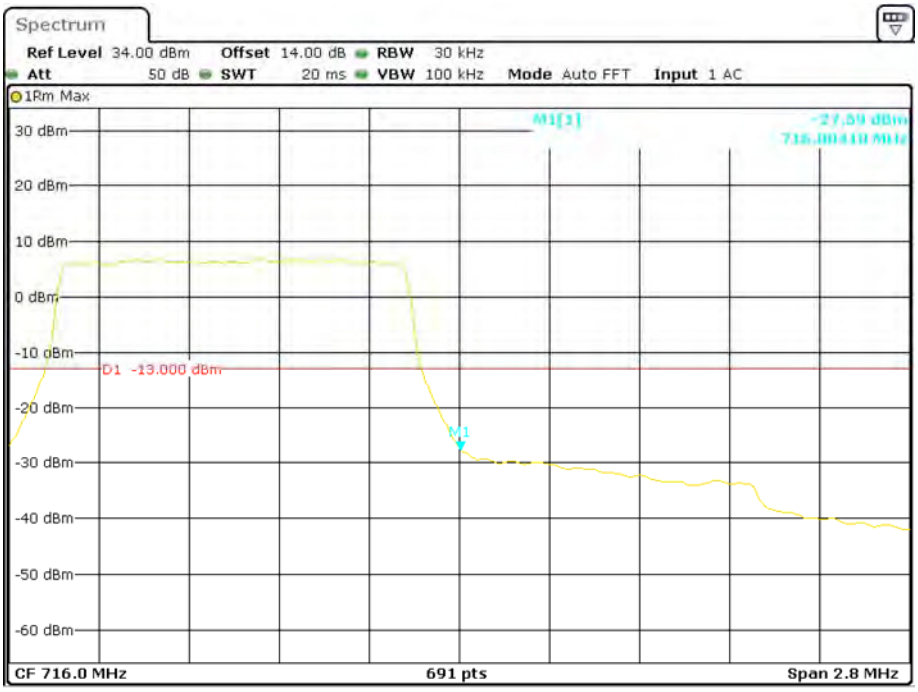
Band 12:

QPSK (1.4 MHz, FULL RB) - Left Band Edge



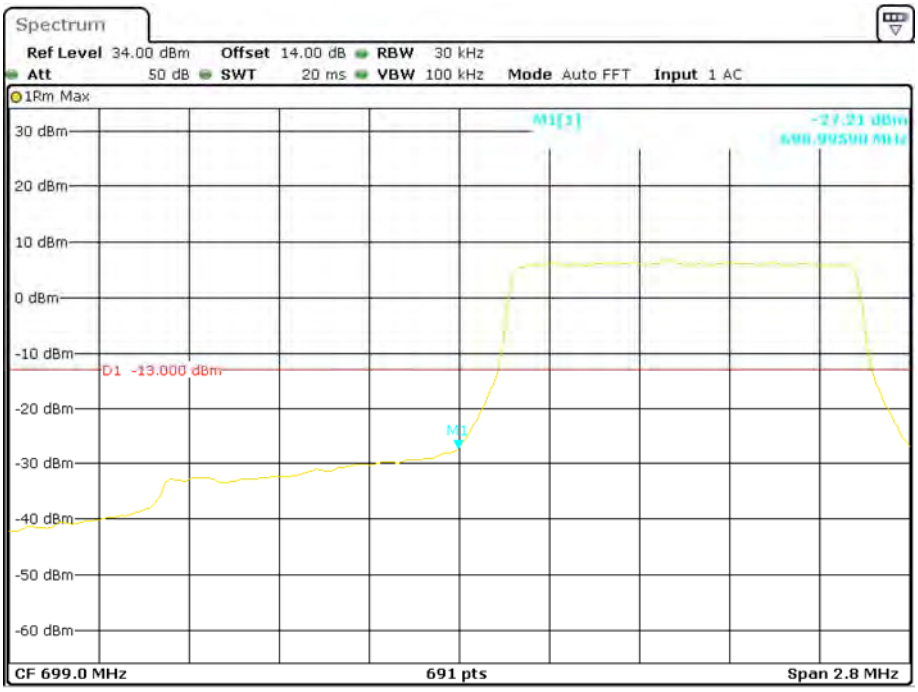
Date: 9.FEB.2018 14:51:08

QPSK (1.4 MHz, FULL RB) - Right Band Edge



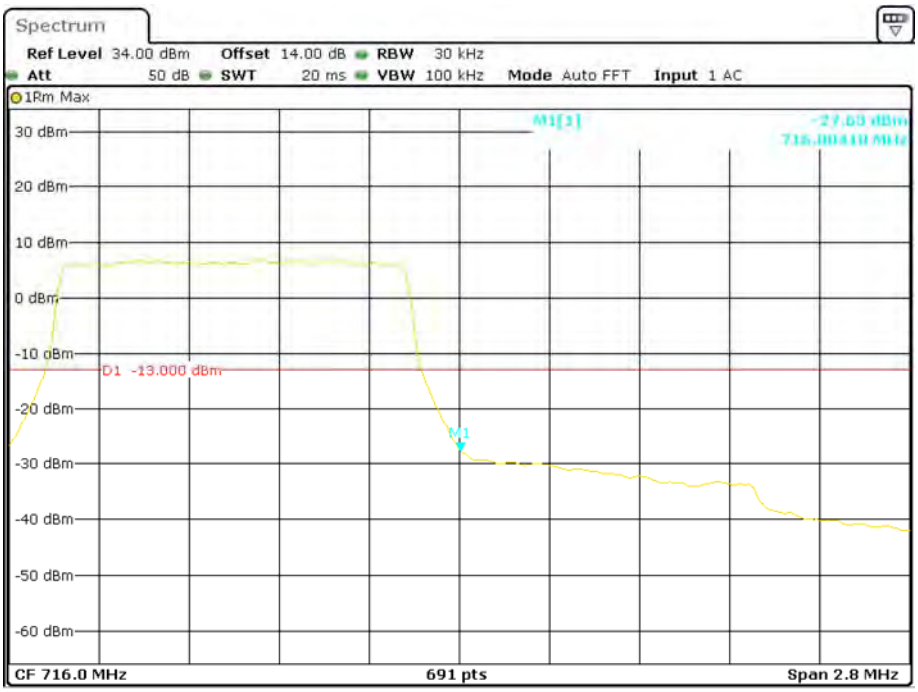
Date: 9.FEB.2018 14:51:56

16-QAM (1.4 MHz, FULL RB) - Left Band Edge



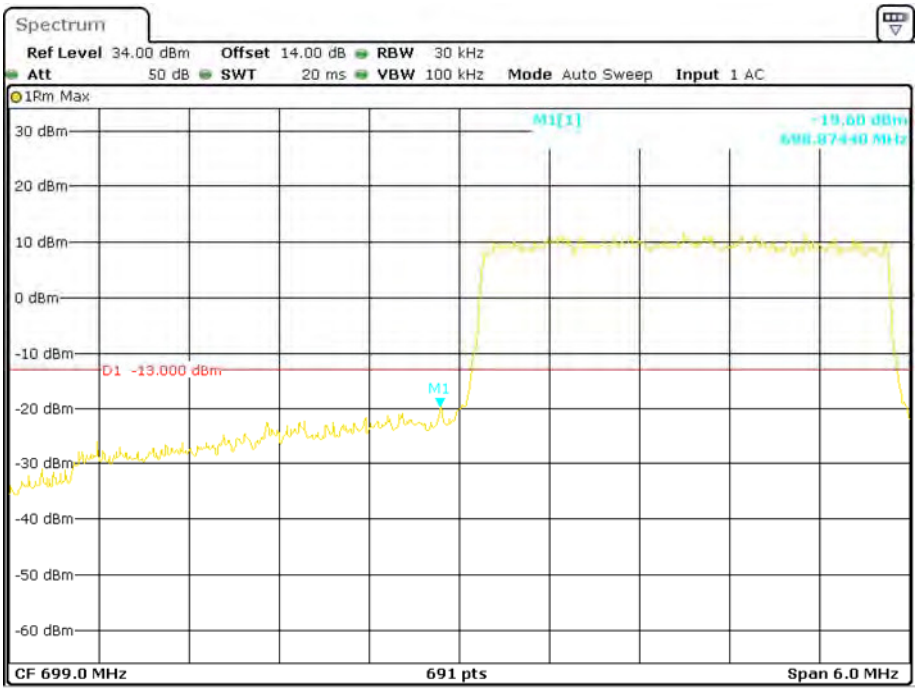
Date: 9.FEB.2018 14:53:08

16-QAM (1.4 MHz, FULL RB) - Right Band Edge



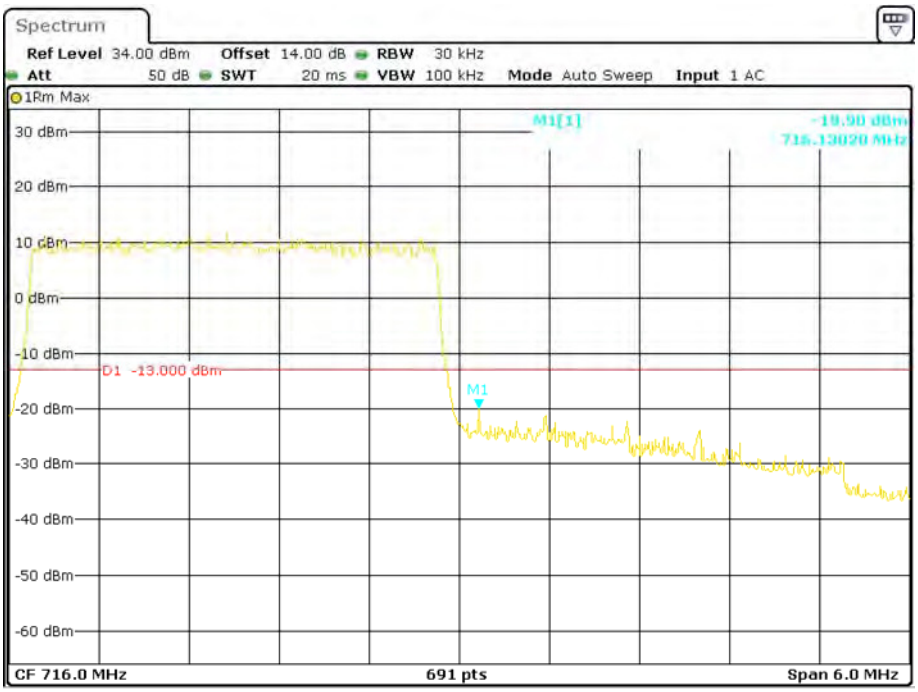
Date: 9.FEB.2018 14:52:23

QPSK (3.0 MHz, FULL RB) - Left Band Edge



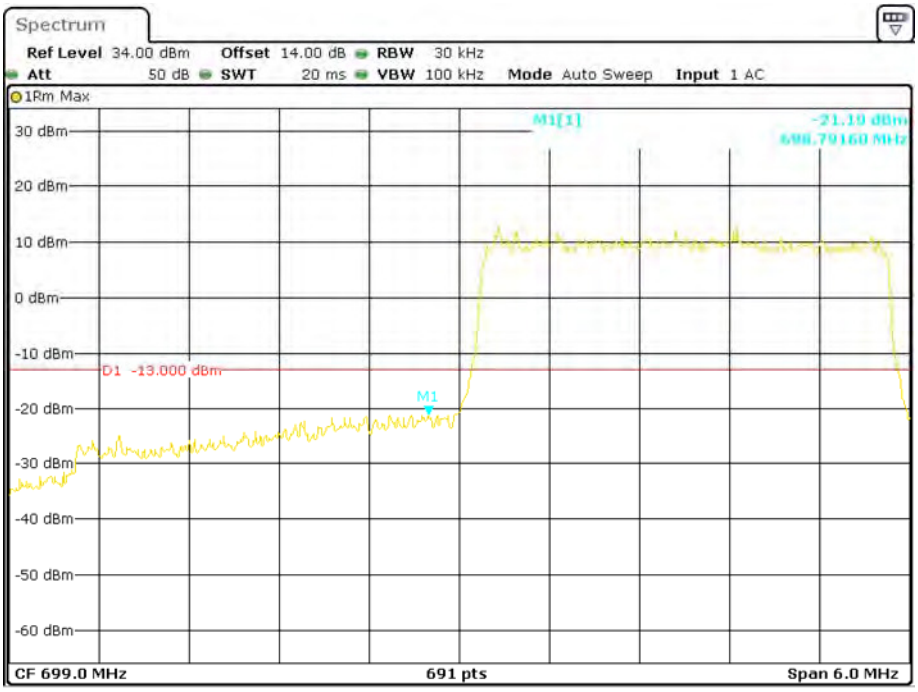
Date: 9.FEB.2018 14:54:39

QPSK (3.0 MHz, FULL RB) - Right Band Edge



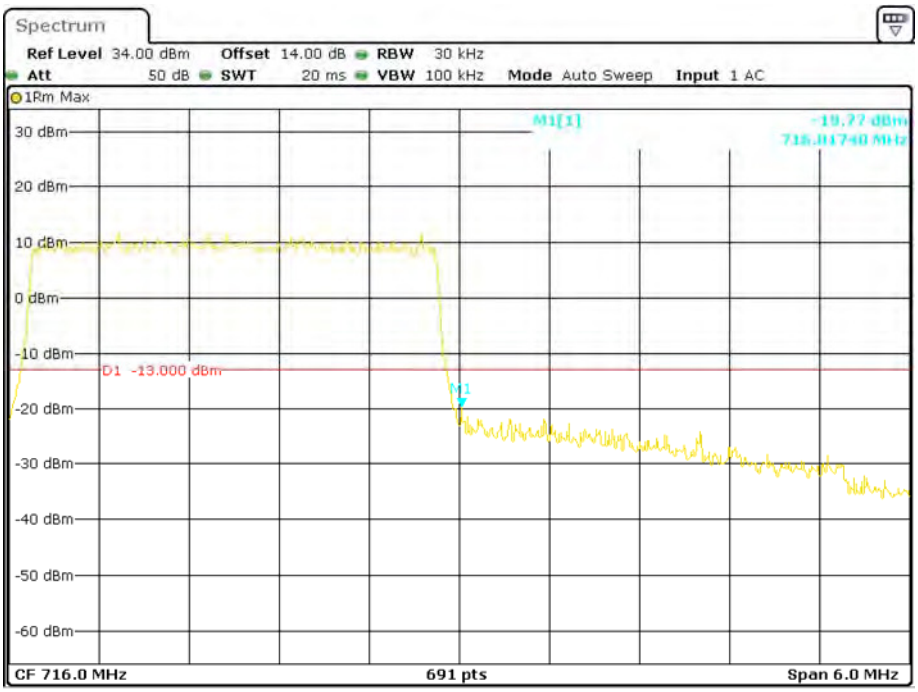
Date: 9.FEB.2018 14:55:50

16-QAM (3.0 MHz, FULL RB) - Left Band Edge



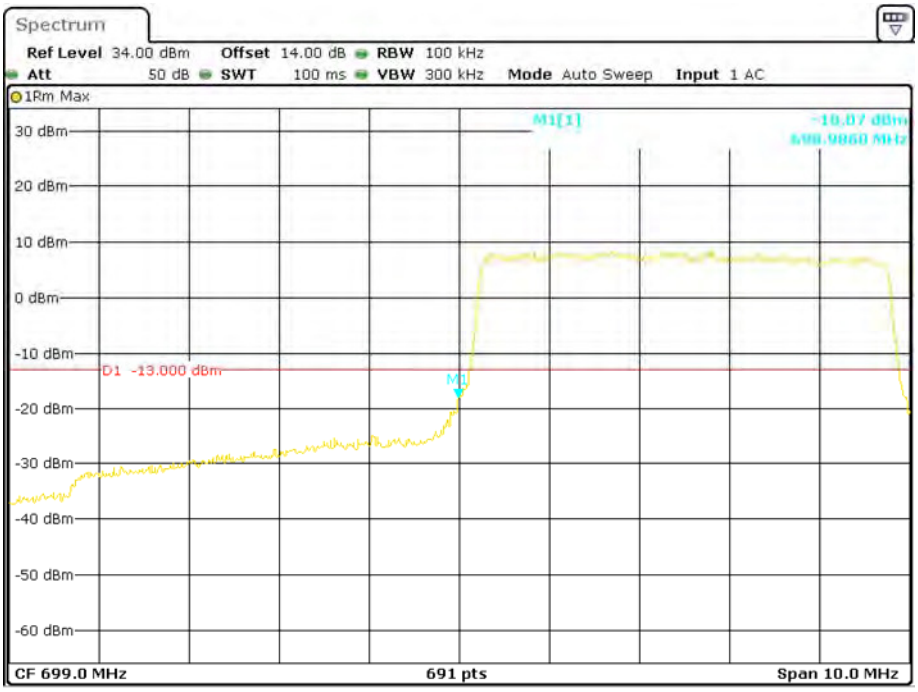
Date: 9.FEB.2018 14:58:25

16-QAM (3.0 MHz, FULL RB) - Right Band Edge



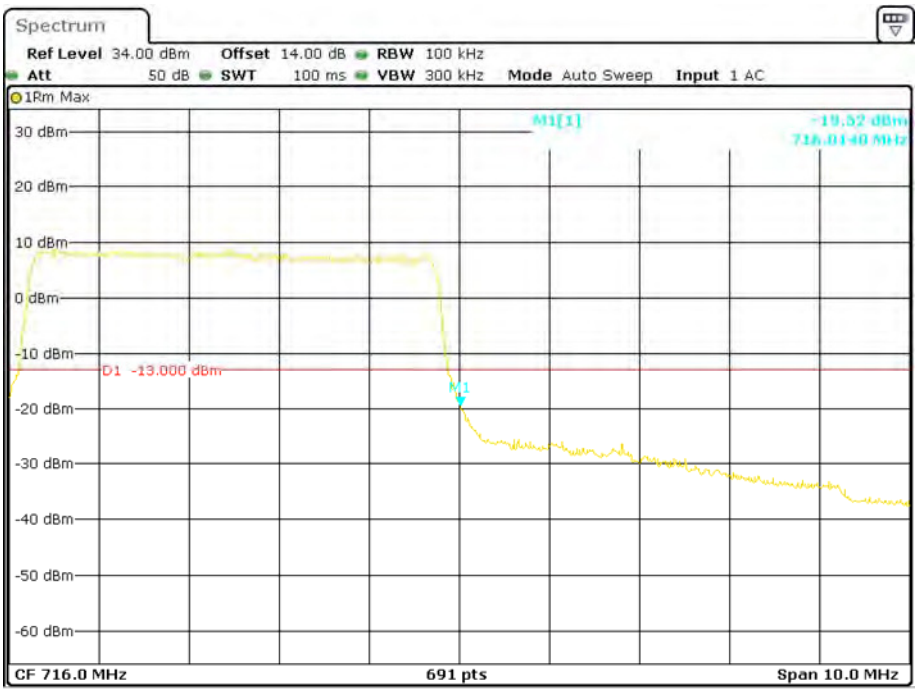
Date: 9.FEB.2018 14:56:59

QPSK (5.0 MHz, FULL RB) - Left Band Edge



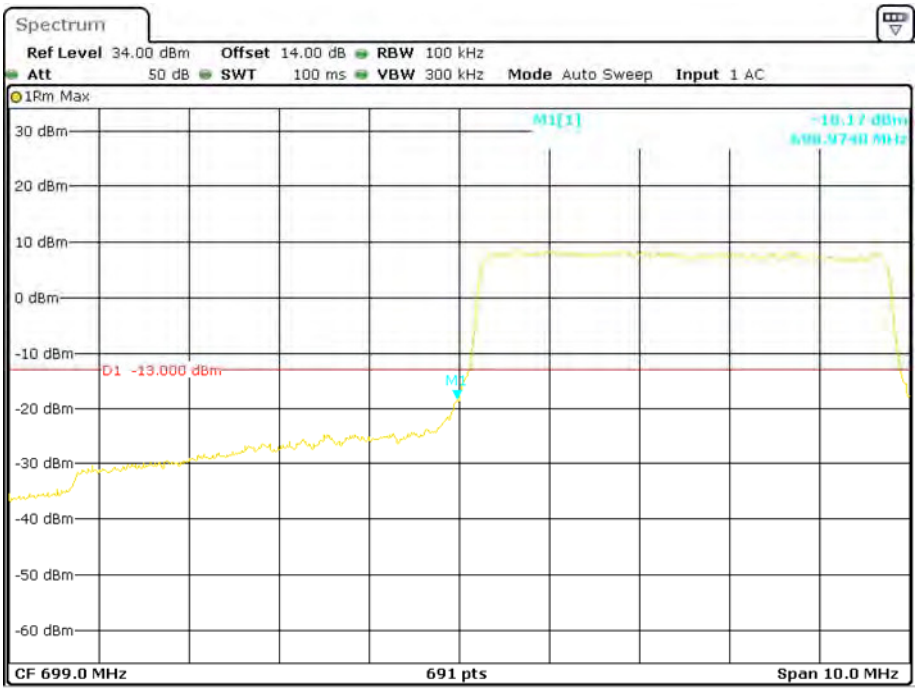
Date: 9.FEB.2018 15:06:31

QPSK (5.0 MHz, FULL RB) - Right Band Edge



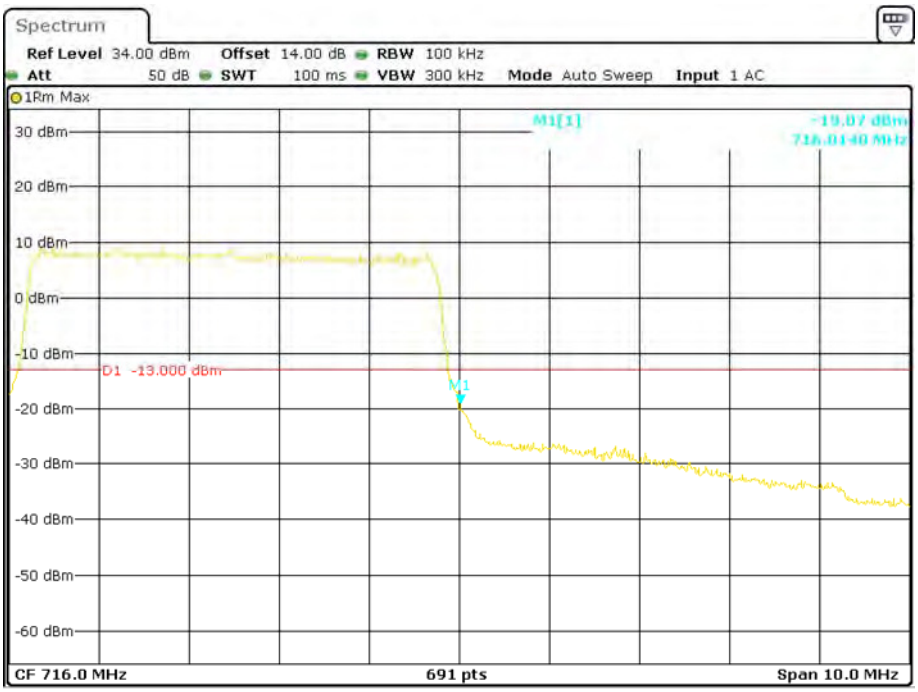
Date: 9.FEB.2018 15:03:16

16-QAM (5.0 MHz, FULL RB) - Left Band Edge



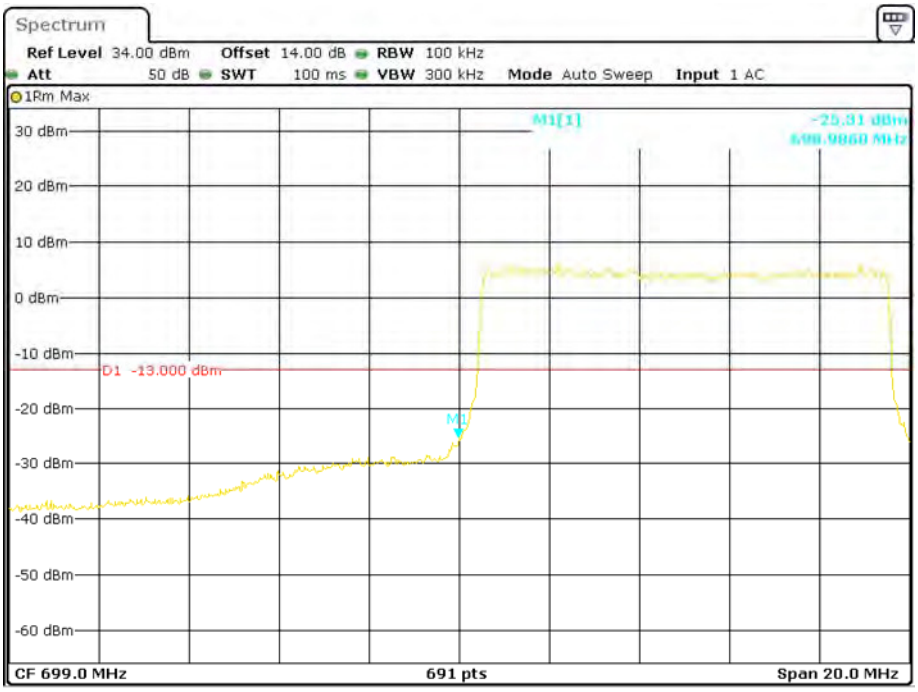
Date: 9.FEB.2018 15:01:41

16-QAM (5.0 MHz, FULL RB) - Right Band Edge



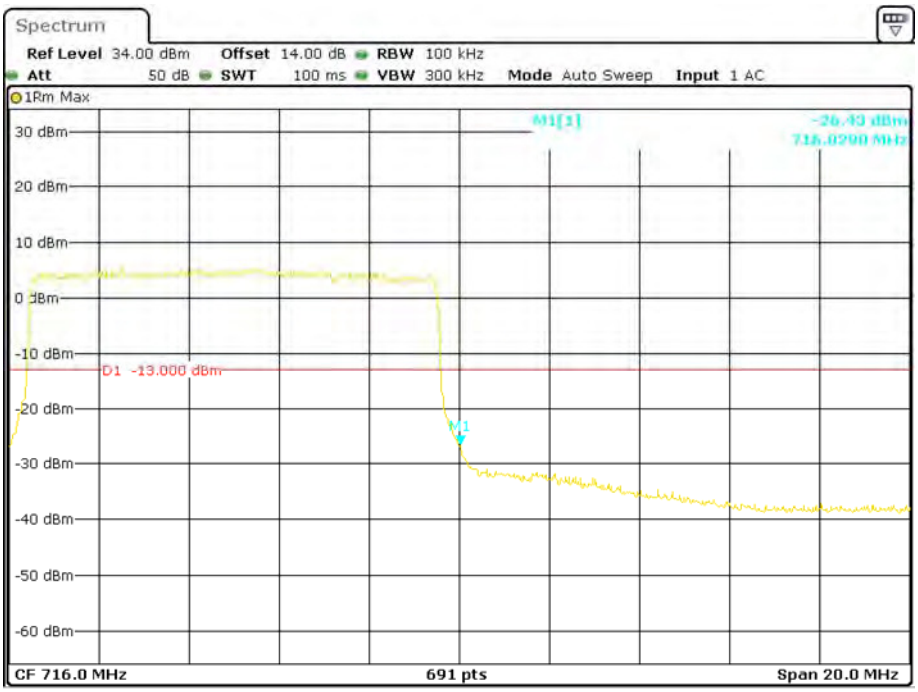
Date: 9.FEB.2018 15:02:40

QPSK (10.0 MHz, FULL RB) - Left Band Edge



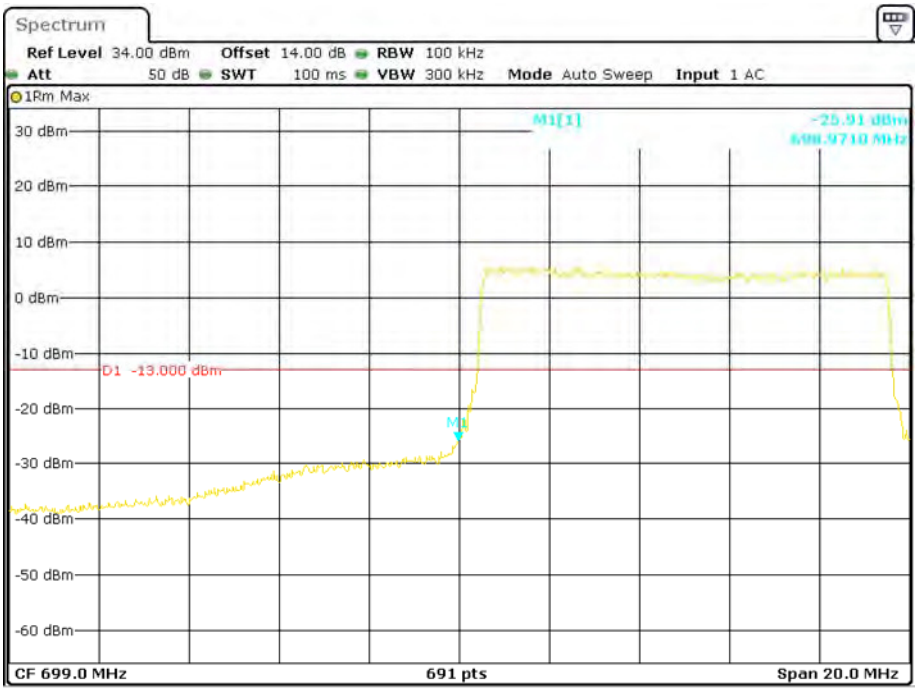
Date: 9.FEB.2018 15:07:27

QPSK (10.0 MHz, FULL RB) - Right Band Edge



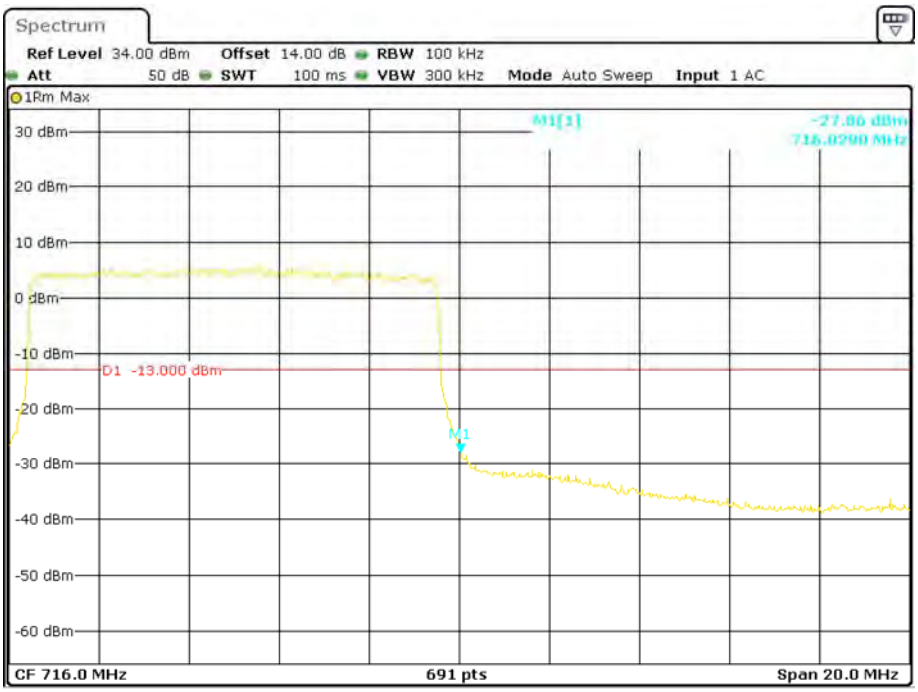
Date: 9.FEB.2018 15:08:17

16-QAM (10.0 MHz, FULL RB) - Left Band Edge



Date: 9.FEB.2018 15:09:31

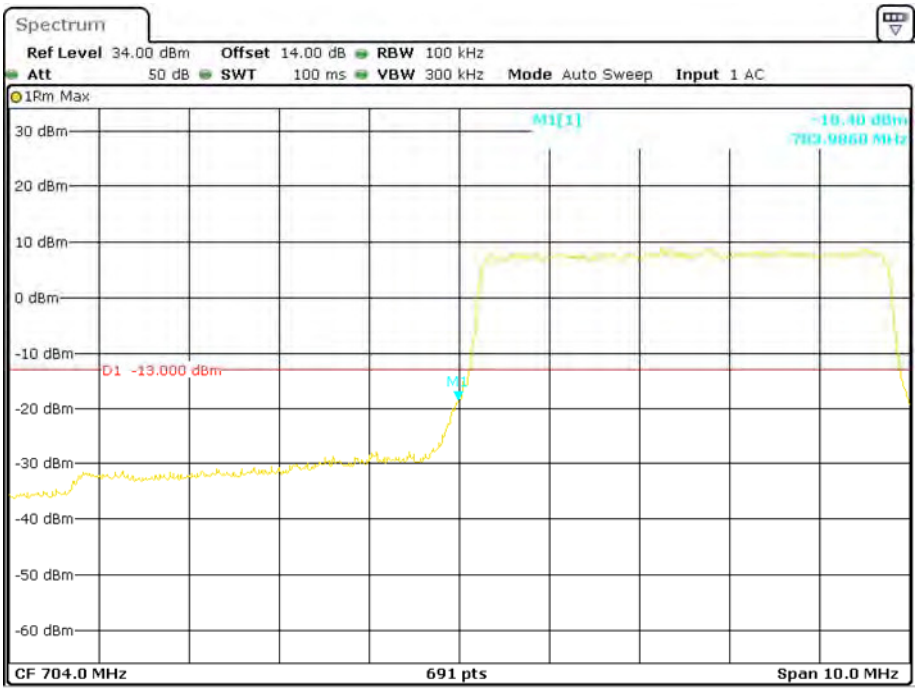
16-QAM (10.0 MHz, FULL RB) - Right Band Edge



Date: 9.FEB.2018 15:08:47

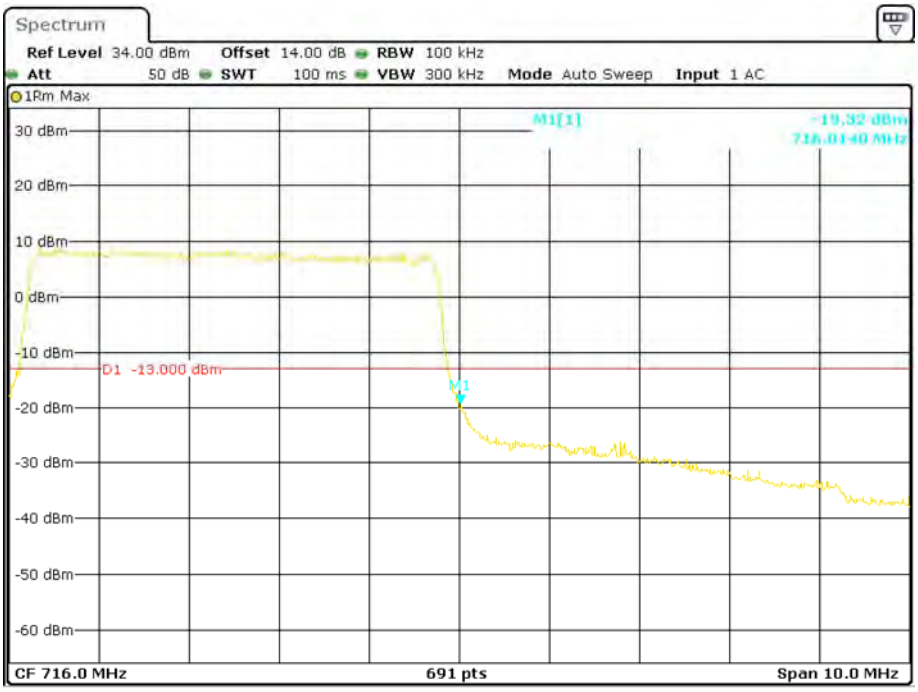
Band 17:

QPSK (5.0 MHz, FULL RB) - Left Band Edge



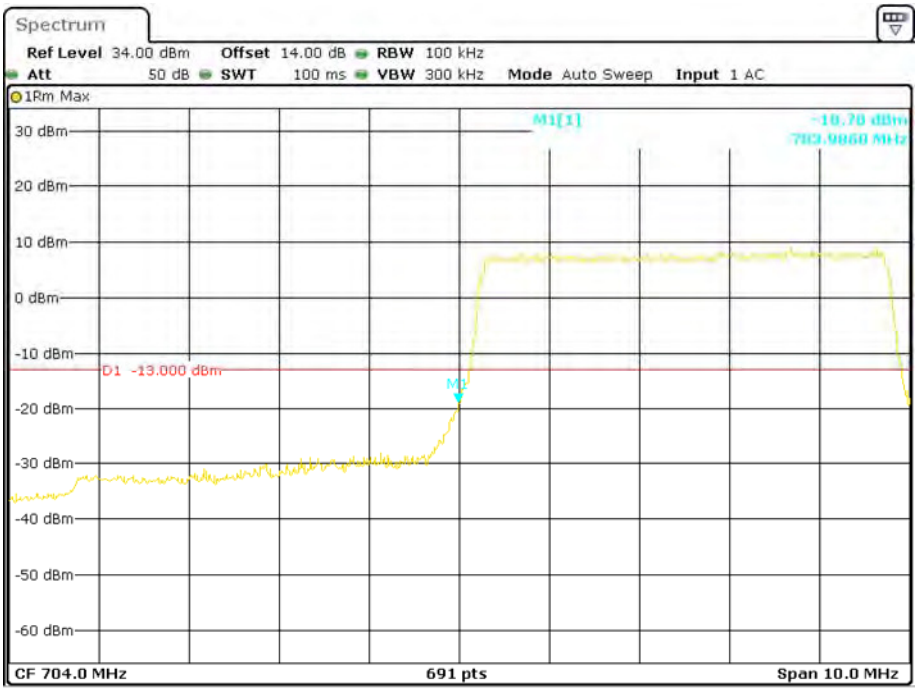
Date: 9.FEB.2018 15:13:53

QPSK (5.0 MHz, FULL RB) - Right Band Edge



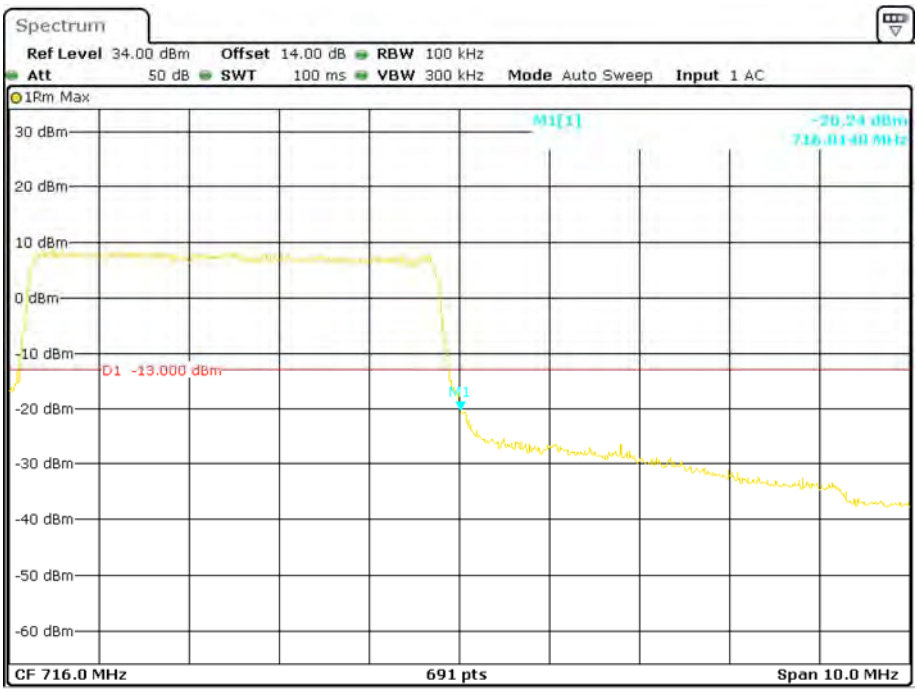
Date: 9.FEB.2018 15:12:51

16-QAM (5.0 MHz, FULL RB) - Left Band Edge



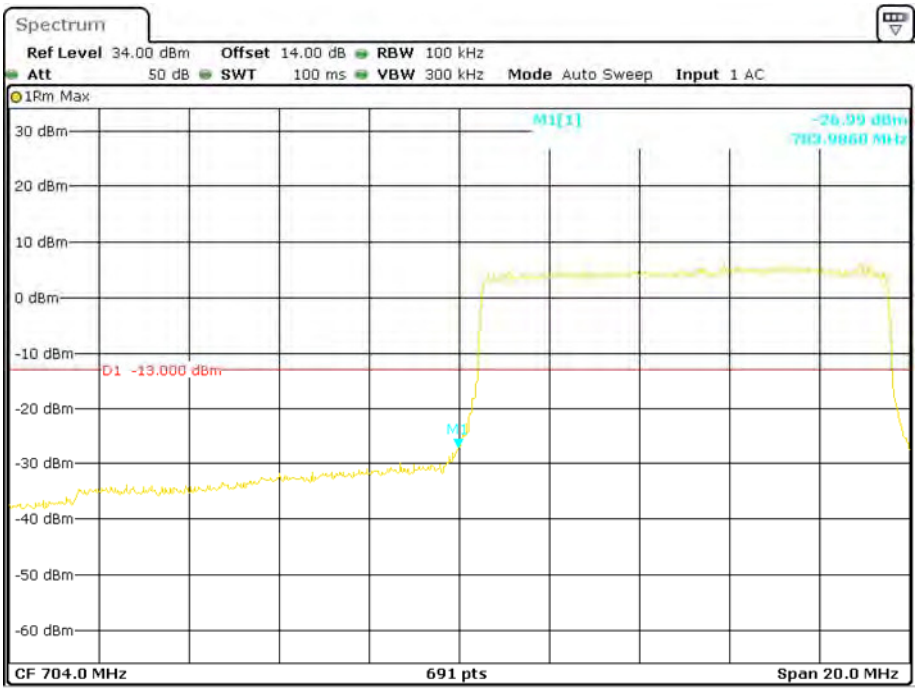
Date: 9.FEB.2018 15:11:23

16-QAM (5.0 MHz, FULL RB) - Right Band Edge



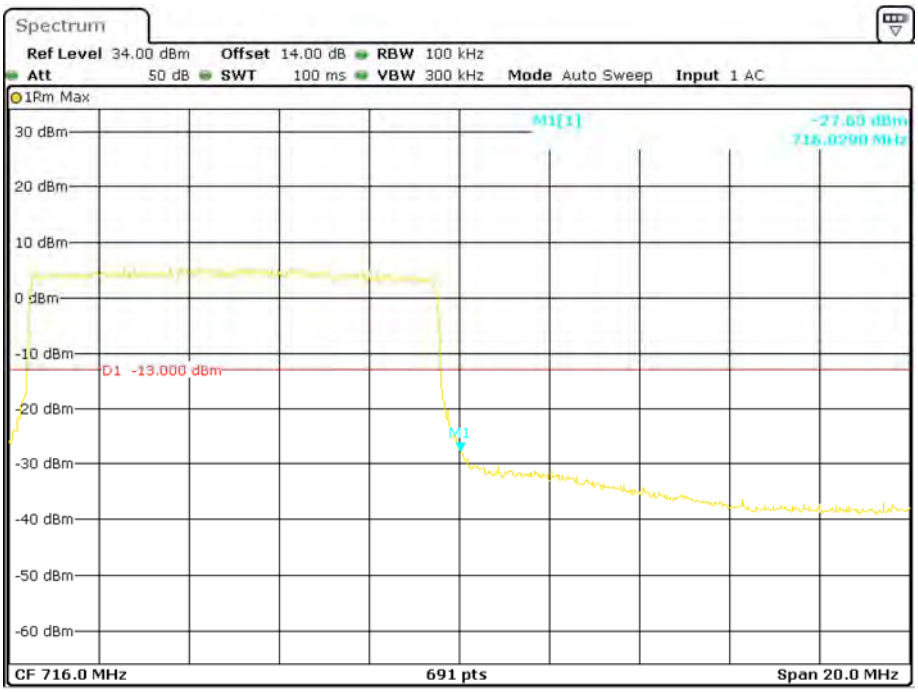
Date: 9.FEB.2018 15:12:24

QPSK (10.0 MHz, FULL RB) - Left Band Edge



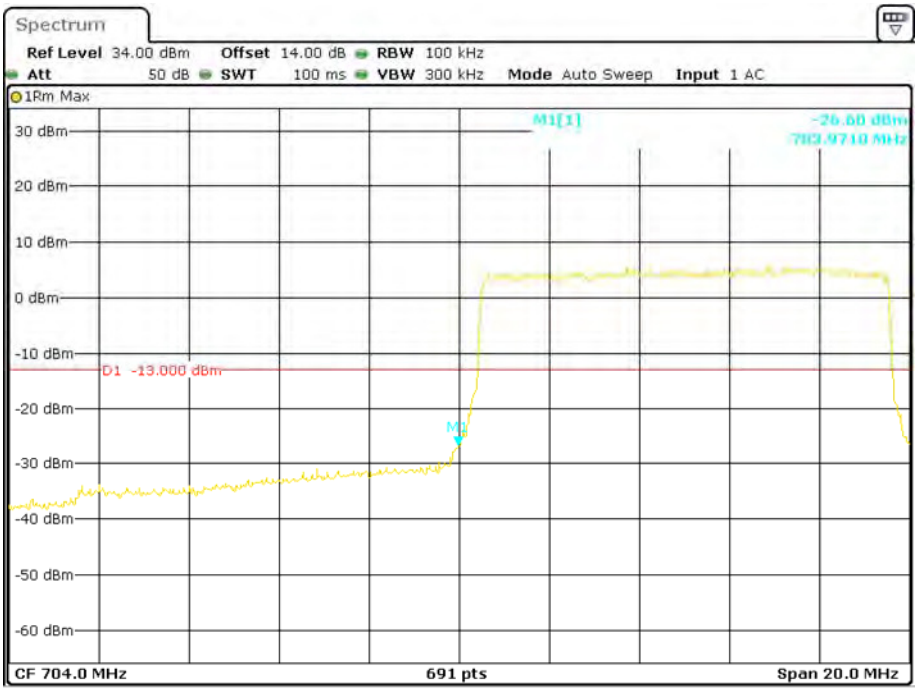
Date: 9.FEB.2018 15:15:10

QPSK (10.0 MHz, FULL RB) - Right Band Edge



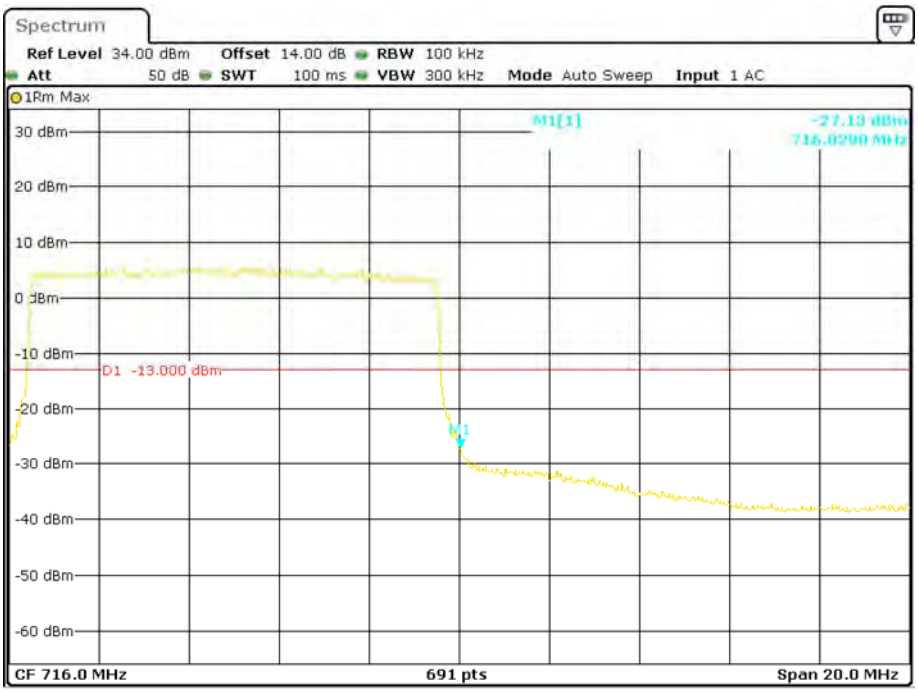
Date: 9.FEB.2018 15:15:56

16-QAM (10.0 MHz, FULL RB) - Left Band Edge



Date: 9.FEB.2018 15:17:01

16-QAM (10.0 MHz, FULL RB) - Right Band Edge



Date: 9.FEB.2018 15:16:24

FCC § 2.1055; § 22.355; § 24.235; §27.54; - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055, §22.355, §24.235 and & §27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile > 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

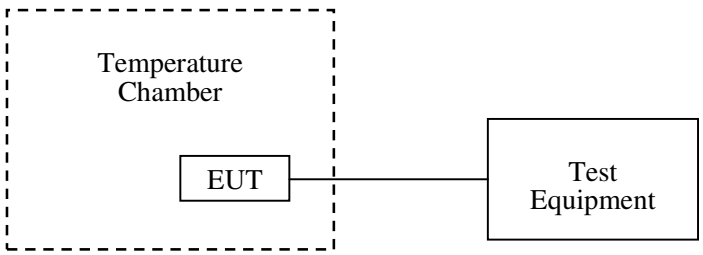
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Tracy Hu on 2018-02-08.

EUT operation mode: Transmitting

Test Result: Compliance. Please refer to the following tables.

Cellular Band (Part 22H)

GSM Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	29	0.03466	2.5
-20		29	0.03466	2.5
-10		28	0.03347	2.5
0		28	0.03347	2.5
10		28	0.03347	2.5
20		27	0.03227	2.5
30		30	0.03586	2.5
40		31	0.03705	2.5
50		32	0.03825	2.5
25	V min.= 3.6	33	0.03945	2.5
	V max.= 4.35	34	0.04064	2.5

EDGE Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	32	0.03825	2.5
-20		32	0.03825	2.5
-10		31	0.03705	2.5
0		31	0.03705	2.5
10		31	0.03705	2.5
20		30	0.03586	2.5
30		33	0.03945	2.5
40		35	0.04184	2.5
50		36	0.04303	2.5
25	V min.= 3.6	37	0.04423	2.5
	V max.= 4.35	38	0.04542	2.5

WCDMA Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	-14	-0.01673	2.5
-20		-14	-0.01673	2.5
-10		-13	-0.01554	2.5
0		-13	-0.01554	2.5
10		-13	-0.01554	2.5
20		-12	-0.01434	2.5
30		-13	-0.01554	2.5
40		-14	-0.01673	2.5
50		-14	-0.01673	2.5
25	V min.= 3.6	-15	-0.01793	2.5
	V max.= 4.35	-15	-0.01793	2.5

PCS Band (Part 24E)

GSM Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	64	0.03404	pass
-20		64	0.03404	pass
-10		62	0.03298	pass
0		62	0.03298	pass
10		62	0.03298	pass
20		60	0.03191	pass
30		66	0.03511	pass
40		68	0.03617	pass
50		71	0.03777	pass
25	V min.= 3.6	72	0.03880	pass
	V max.= 4.35	73	0.03883	pass

EDGE Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	66	0.03511	pass
-20		66	0.03511	pass
-10		64	0.03404	pass
0		64	0.03404	pass
10		64	0.03404	pass
20		63	0.03351	pass
30		66	0.03511	pass
40		71	0.03777	pass
50		72	0.03880	pass
25	V min.= 3.6	73	0.03883	pass
	V max.= 4.35	75	0.03989	pass

WCDMA Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-16	-0.00851	pass
-20		-16	-0.00851	pass
-10		-15	-0.00798	pass
0		-15	-0.00798	pass
10		-15	-0.00798	pass
20		-14	-0.00745	pass
30		-15	-0.00798	pass
40		-16	-0.00851	pass
50		-18	-0.00957	pass
25	V min.= 3.6	-20	-0.01064	pass
	V max.= 4.35	-23	-0.01223	pass

AWS Band (Part 27)

WCDMA Mode

Middle Channel, f_o =1732.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-14	-0.00808	pass
-20		-14	-0.00808	pass
-10		-10	-0.00577	pass
0		-10	-0.00577	pass
10		-10	-0.00577	pass
20		-8	-0.00462	pass
30		-14	-0.00808	pass
40		-16	-0.00923	pass
50		-18	-0.01039	pass
25	V min.= 3.6	-20	-0.01154	pass
	V max.= 4.35	-32	-0.01847	pass

LTE:
QPSK:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-10	-0.00532	pass
-20		-10	-0.00532	pass
-10		-9	-0.00479	pass
0		-9	-0.00479	pass
10		-9	-0.00479	pass
20		-9	-0.00479	pass
30		-9	-0.00479	pass
40		-10	-0.00532	pass
50		-14	-0.00745	pass
20	V min.= 3.6	-18	-0.00957	pass
	V max.= 4.35	-19	-0.01011	pass

Band 4:

10.0 MHz Middle Channel, f_o =1732.5 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-9	-0.00519	pass
-20		-9	-0.00519	pass
-10		-9	-0.00519	pass
0		-8	-0.00462	pass
10		-8	-0.00462	pass
20		-7	-0.00404	pass
30		-8	-0.00462	pass
40		-8	-0.00462	pass
50		-9	-0.00519	pass
20	V min.= 3.6	-10	-0.00577	pass
	V max.= 4.35	-10	-0.00577	pass

Band 5:

10.0 MHz Middle Channel, f_o =836.5 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	-6	-0.00717	2.5
-20		-6	-0.00717	2.5
-10		-5	-0.00598	2.5
0		-5	-0.00598	2.5
10		-5	-0.00598	2.5
20		-4	-0.00478	2.5
30		-5	-0.00598	2.5
40		-6	-0.00717	2.5
50		-7	-0.00837	2.5
20	V min.= 3.6	-9	-0.01076	2.5
	V max.= 4.35	-10	-0.01195	2.5

Band 7:

10.0 MHz Middle Channel, f_o =2535 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	-9	-0.01076	pass
-20		-9	-0.01076	pass
-10		-8	-0.00956	pass
0		-8	-0.00956	pass
10		-8	-0.00956	pass
20		-6	-0.00717	pass
30		-8	-0.00956	pass
40		-9	-0.01076	pass
50		-10	-0.01195	pass
20	V min.= 3.6	-14	-0.01674	pass
	V max.= 4.35	-16	-0.01913	pass

Band 12:

10.0 MHz Middle Channel, f_o =707.5 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-7	-0.00989	pass
-20		-7	-0.00989	pass
-10		-6	-0.00848	pass
0		-6	-0.00848	pass
10		-6	-0.00848	pass
20		-5	-0.00707	pass
30		-6	-0.00848	pass
40		-7	-0.00989	pass
50		-8	-0.01131	pass
20	V min.= 3.6	-10	-0.01413	pass
	V max.= 4.35	-12	-0.01696	pass

Band 17:

10.0 MHz Middle Channel, f_o =710 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-8	-0.01127	pass
-20		-8	-0.01127	pass
-10		-7	-0.00986	pass
0		-7	-0.00986	pass
10		-7	-0.00986	pass
20		-6	-0.00845	pass
30		-7	-0.00986	pass
40		-8	-0.01127	pass
50		-9	-0.01268	pass
25	V min.= 3.6	-13	-0.01831	pass
	V max.= 4.35	-14	-0.01972	pass

16QAM:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	6	0.00319	pass
-20		2	0.00106	pass
-10		-3	-0.00160	pass
0		14	0.00745	pass
10		4	0.00213	pass
20		1	0.00053	pass
30		-4	-0.00213	pass
40		7	0.00372	pass
50		-8	-0.00426	pass
20	V min.= 3.6	1	0.00053	pass
	V max.= 4.35	-6	-0.00319	pass

Band 4:

10.0 MHz Middle Channel, f_o =1732.5 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-5	-0.00289	pass
-20		5	0.00289	pass
-10		2	0.00115	pass
0		-2	-0.00115	pass
10		2	0.00115	pass
20		9	0.00519	pass
30		9	0.00519	pass
40		1	0.00058	pass
50		8	0.00462	pass
20	V min.= 3.6	7	0.00404	pass
	V max.= 4.35	10	0.00577	pass

Band 5:

10.0 MHz Middle Channel, f_o =836.5 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	1	0.00120	2.5
-20		14	0.01673	2.5
-10		5	0.00598	2.5
0		8	0.00956	2.5
10		7	0.00837	2.5
20		9	0.01076	2.5
30		6	0.00717	2.5
40		4	0.00478	2.5
50		-3	-0.00359	2.5
20	V min.= 3.6	9	0.01076	2.5
	V max.= 4.35	10	0.01195	2.5

Band 7:

10.0 MHz Middle Channel, f_o =2535 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	10	0.00394	pass
-20		-2	-0.00079	pass
-10		5	0.00197	pass
0		9	0.00355	pass
10		4	0.00158	pass
20		10	0.00394	pass
30		11	0.00434	pass
40		1	0.00039	pass
50		3	0.00118	pass
20	V min.= 3.6	-2	-0.00079	pass
	V max.= 4.35	3	0.00118	pass

Band 12:

10.0 MHz Middle Channel, f_o =707.5 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	3	0.00424	pass
-20		6	0.00848	pass
-10		7	0.00989	pass
0		5	0.00707	pass
10		3	0.00424	pass
20		-5	-0.00707	pass
30		8	0.01131	pass
40		4	0.00565	pass
50		10	0.01413	pass
20	V min.= 3.6	-5	-0.00707	pass
	V max.= 4.35	-7	-0.00989	pass

Band 17:

10.0 MHz Middle Channel, f_o =710 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-3	-0.00423	pass
-20		7	0.00986	pass
-10		-3	-0.00423	pass
0		11	0.01549	pass
10		4	0.00563	pass
20		8	0.01127	pass
30		7	0.00986	pass
40		8	0.01127	pass
50		3	0.00423	pass
25	V min.= 3.6	2	0.00282	pass
25	V max.= 4.35	9	0.01268	pass

******* END OF REPORT *******