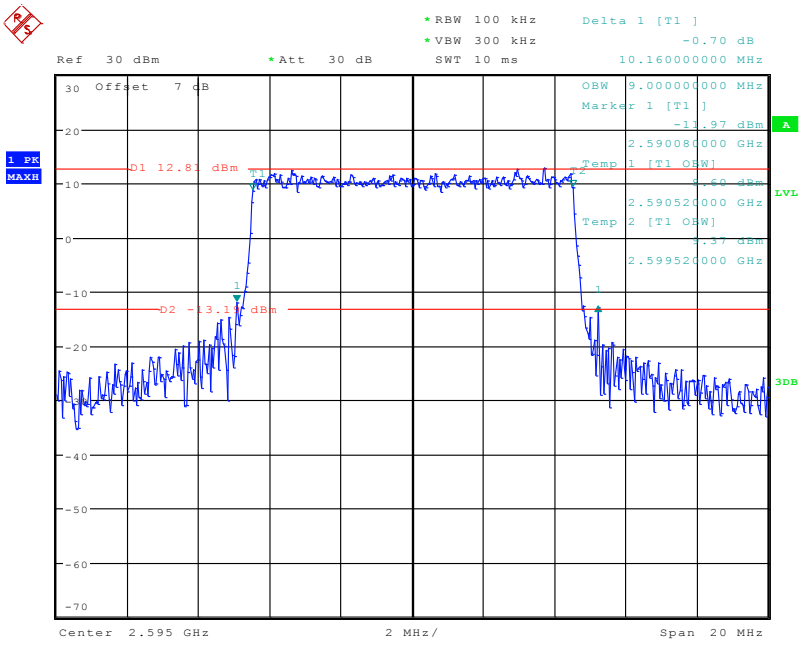
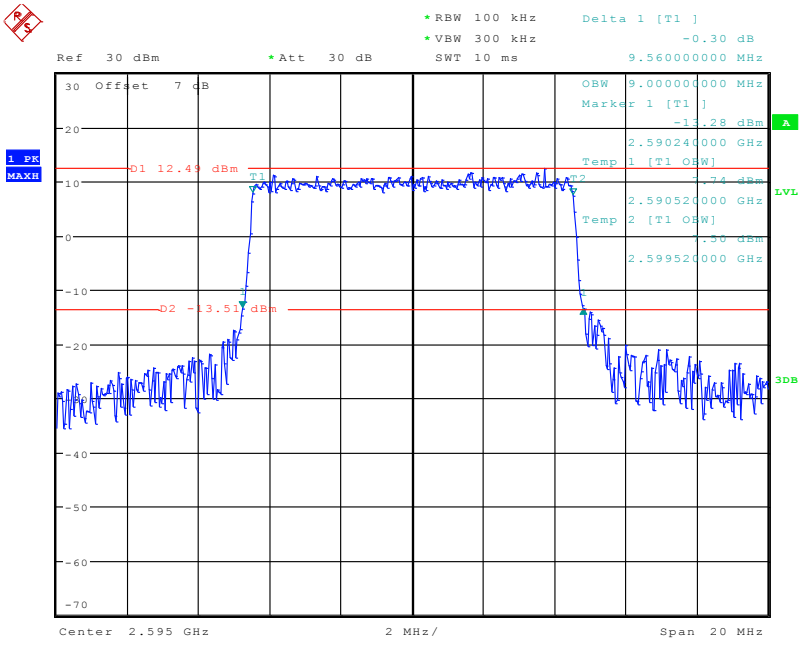
QPSK (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



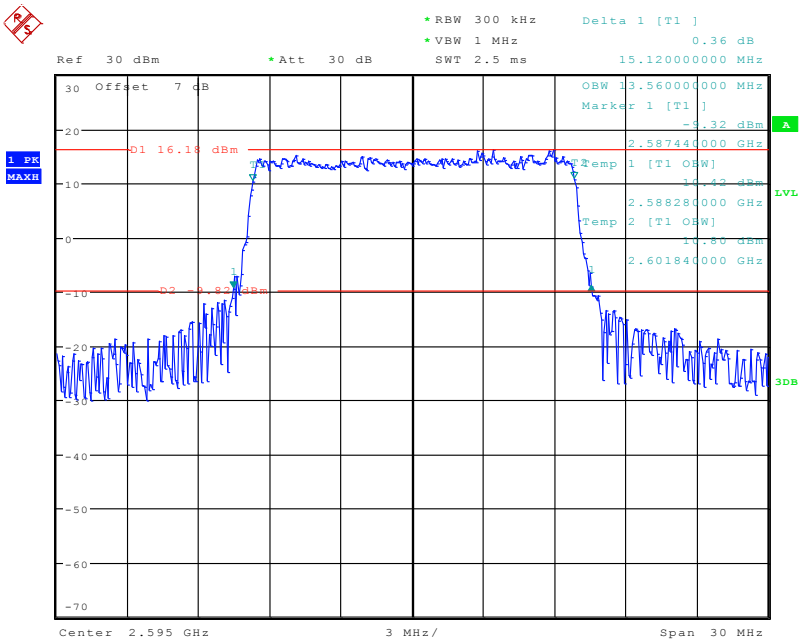
Date: 25.JUL.2020 00:15:55

16-QAM (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



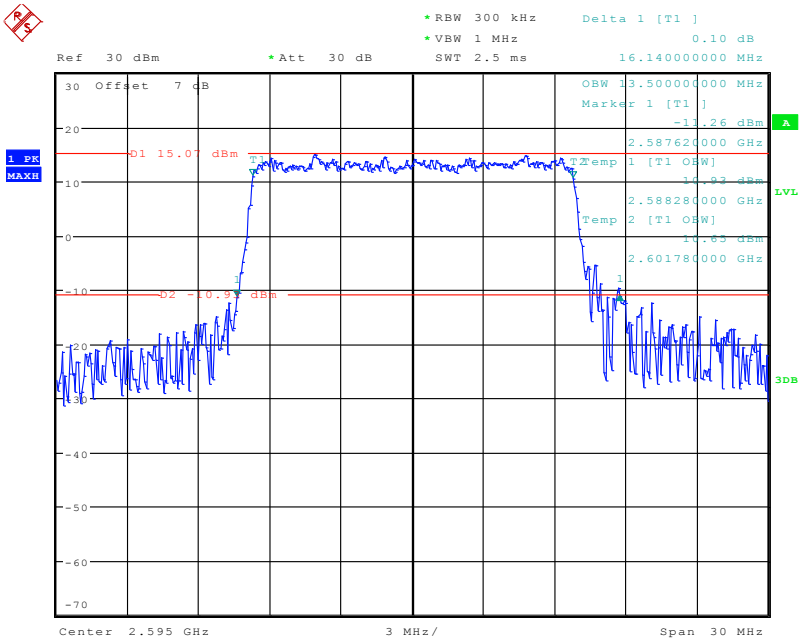
Date: 25.JUL.2020 00:16:26

QPSK (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



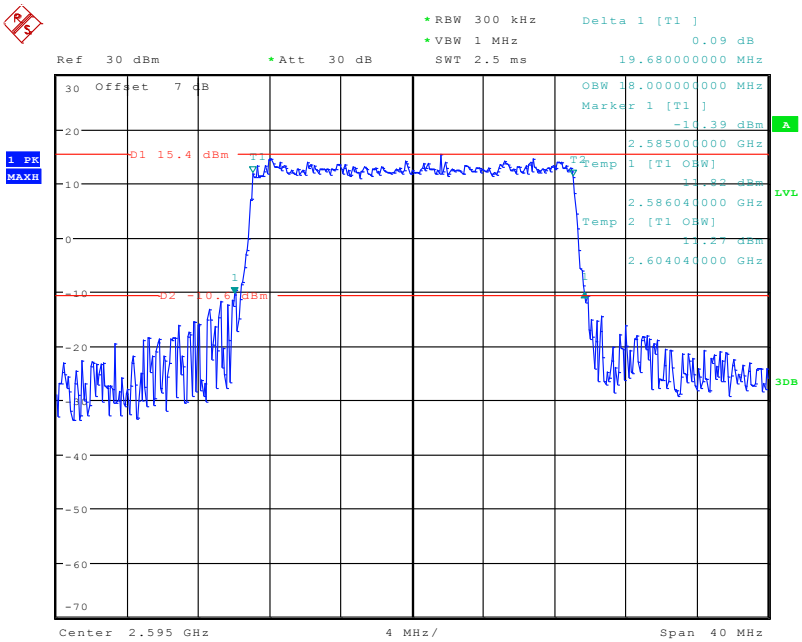
Date: 25.JUL.2020 00:17:05

16-QAM (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



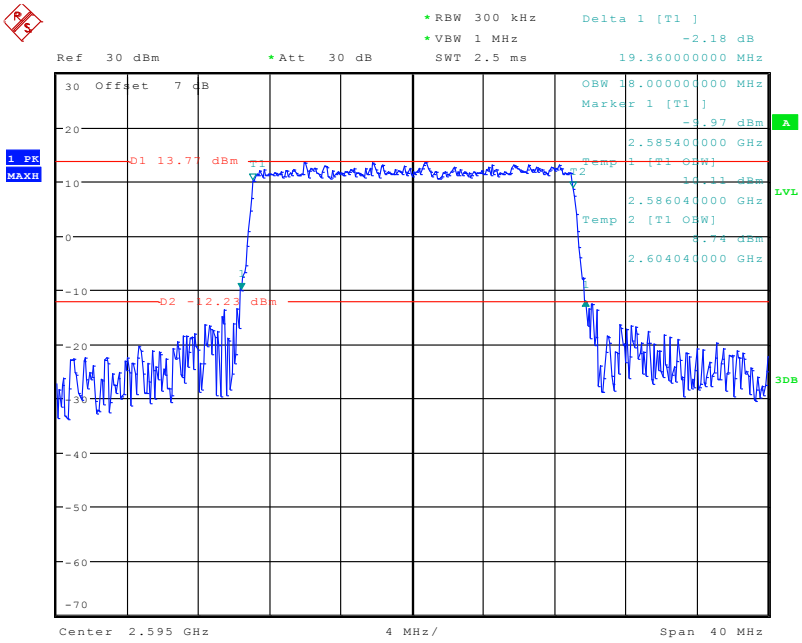
Date: 25.JUL.2020 00:17:41

QPSK (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



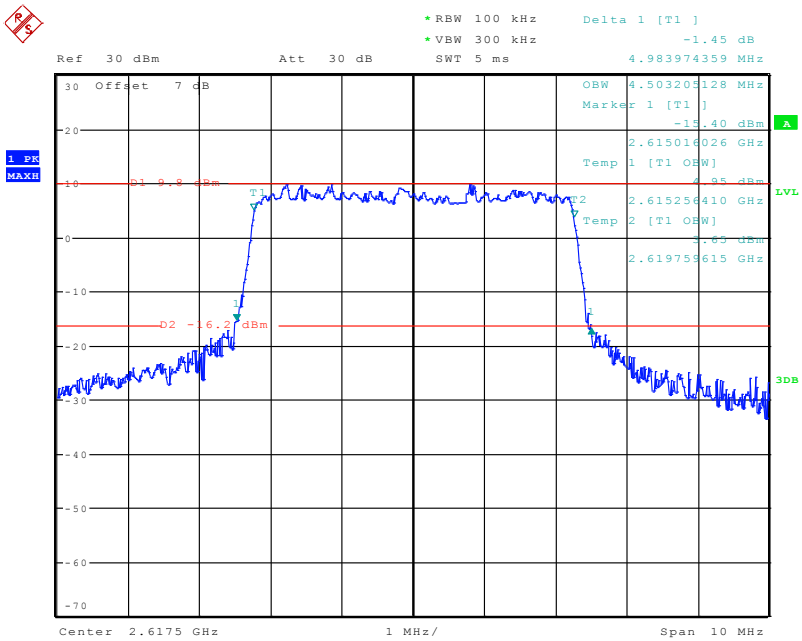
Date: 25.JUL.2020 00:18:14

16-QAM (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



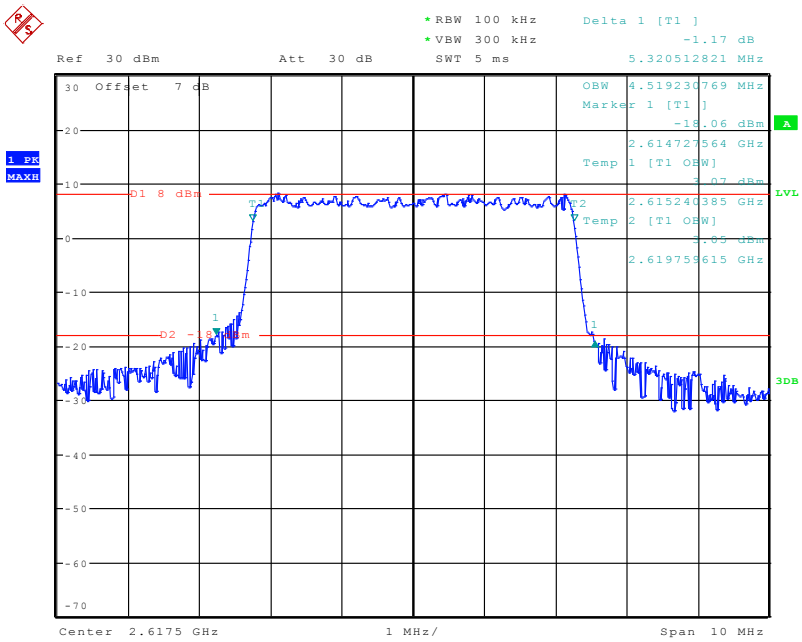
Date: 25.JUL.2020 00:18:50

QPSK (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



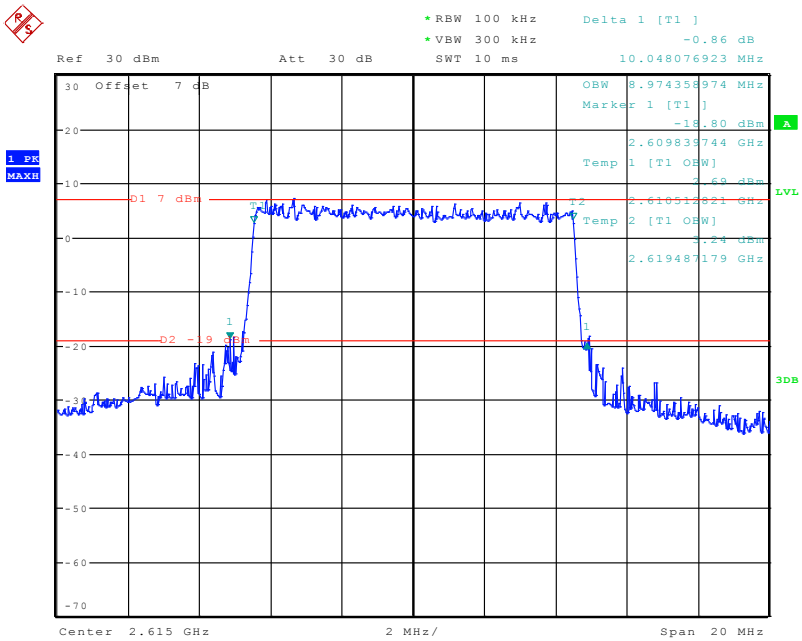
Date: 24.SEP.2020 16:34:16

16-QAM (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



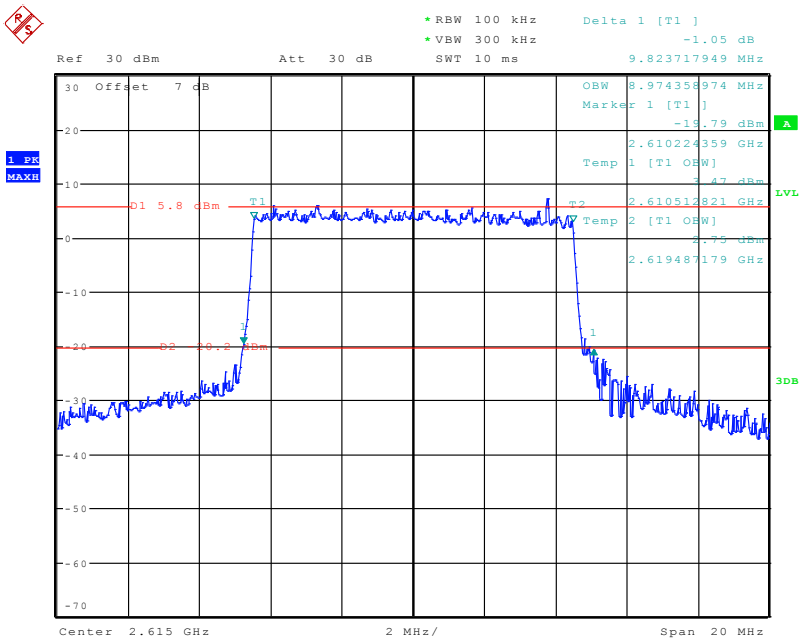
Date: 24.SEP.2020 16:35:55

QPSK (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



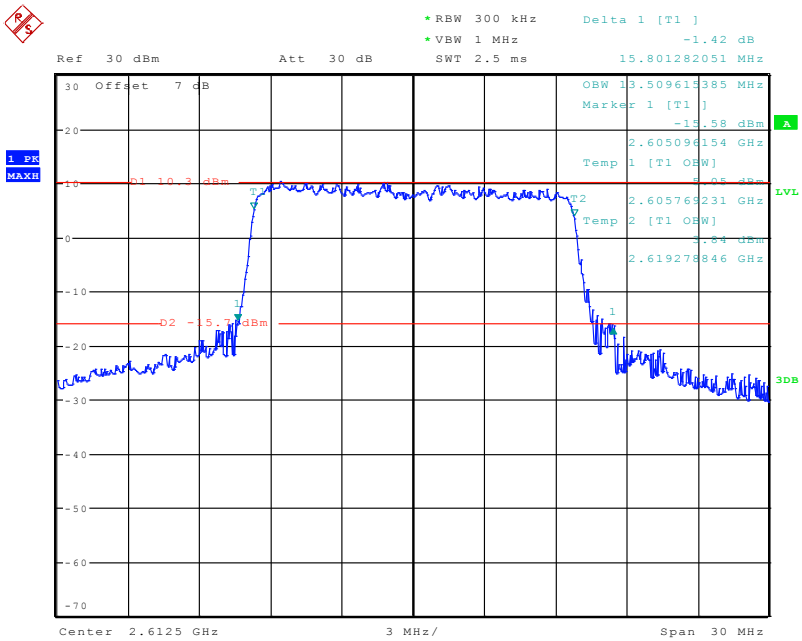
Date: 24.SEP.2020 16:38:46

16-QAM (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



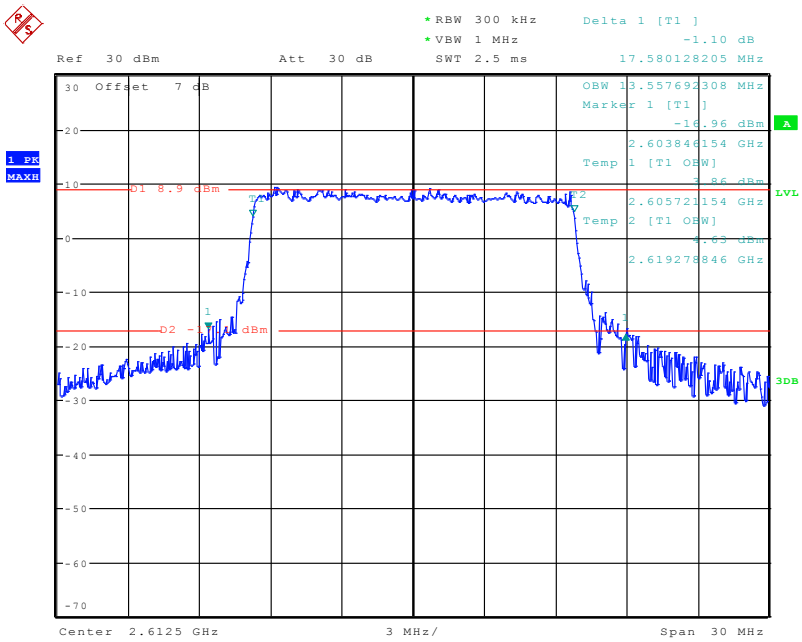
Date: 24.SEP.2020 16:37:56

QPSK (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



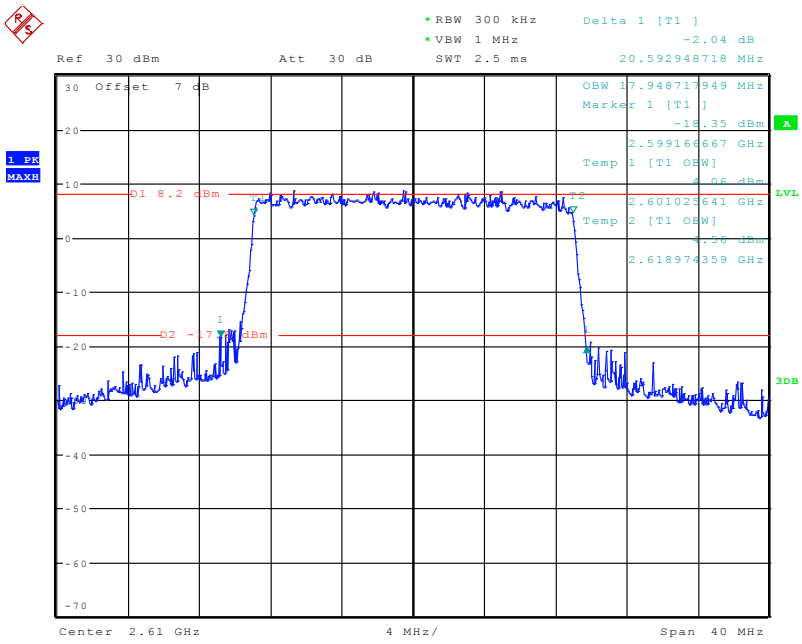
Date: 24.SEP.2020 16:42:29

16-QAM (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



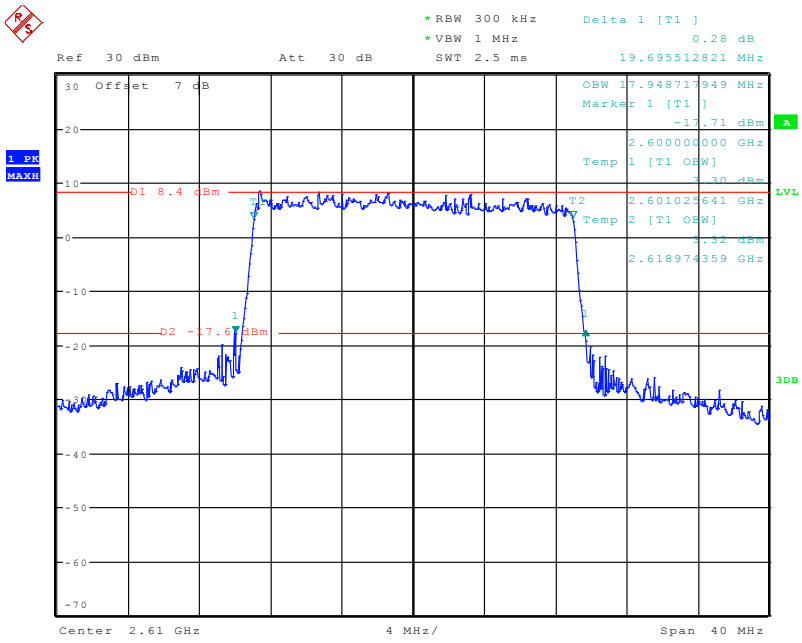
Date: 24.SEP.2020 16:44:05

QPSK (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



Date: 24.SEP.2020 16:46:22

16-QAM (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel

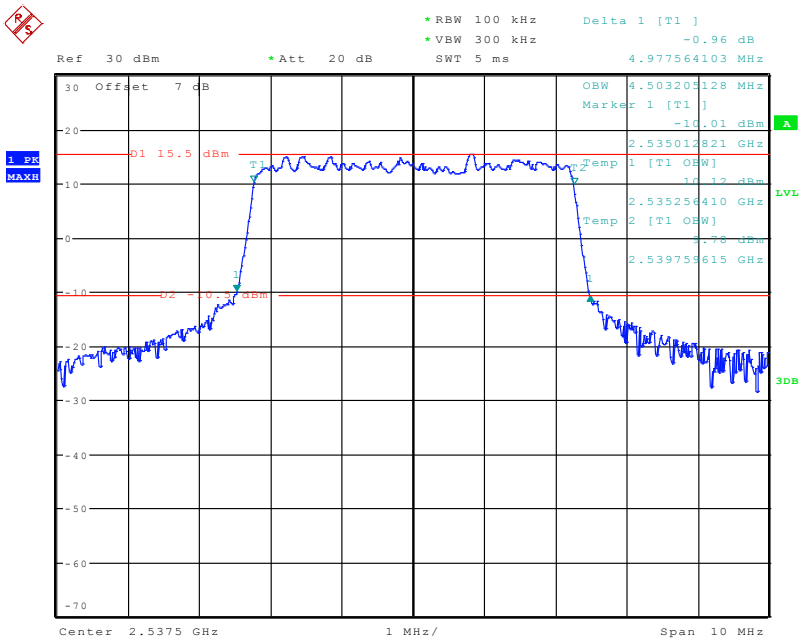


Date: 24.SEP.2020 16:45:33

Band 41:

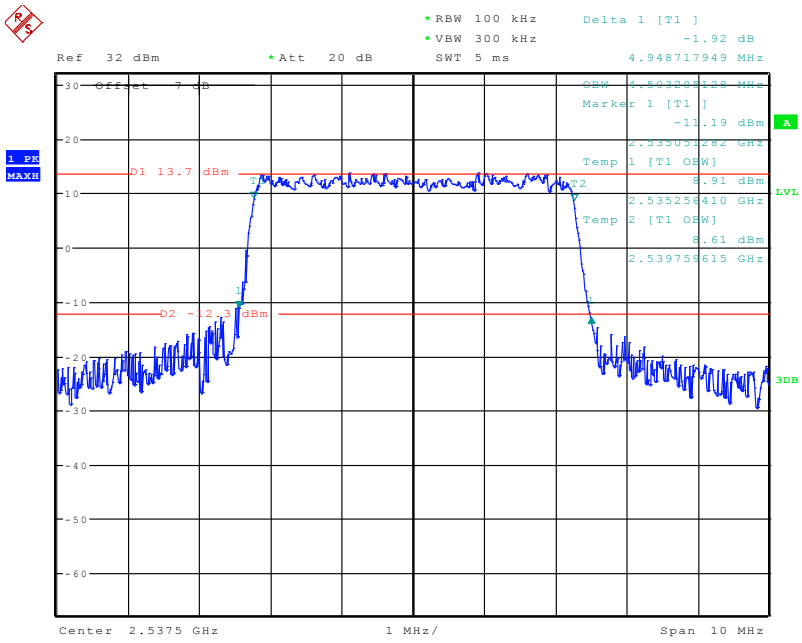
Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5	QPSK	Low	4.503	4.978
		Middle	4.520	4.960
		High	4.519	5.240
	16QAM	Low	4.503	4.949
		Middle	4.500	5.200
		High	4.503	5.269
10	QPSK	Low	8.974	9.849
		Middle	9.000	9.920
		High	8.974	9.833
	16QAM	Low	8.974	9.561
		Middle	8.960	9.520
		High	8.974	9.833
15	QPSK	Low	13.510	15.562
		Middle	13.560	15.000
		High	13.510	15.808
	16QAM	Low	13.606	17.058
		Middle	13.500	15.840
		High	13.606	17.202
20	QPSK	Low	17.949	20.064
		Middle	18.000	19.440
		High	18.013	20.015
	16QAM	Low	17.949	20.064
		Middle	17.920	19.760
		High	17.949	22.387

QPSK (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



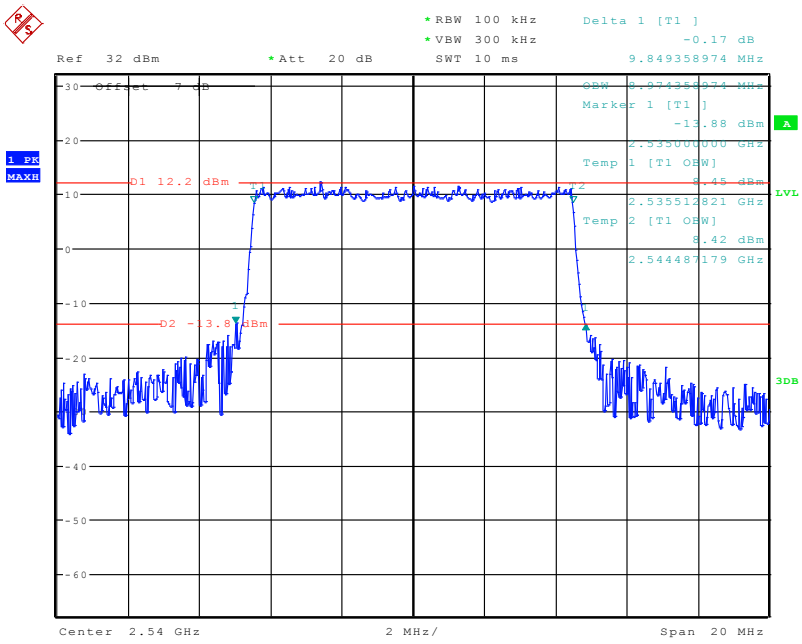
Date: 9.SEP.2020 09:11:02

16-QAM (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



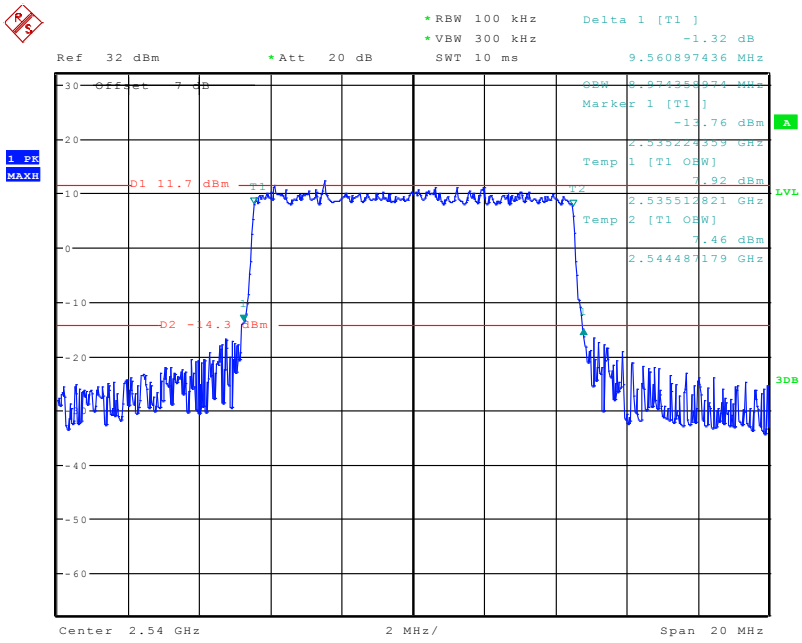
Date: 7.SEP.2020 14:22:21

QPSK (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



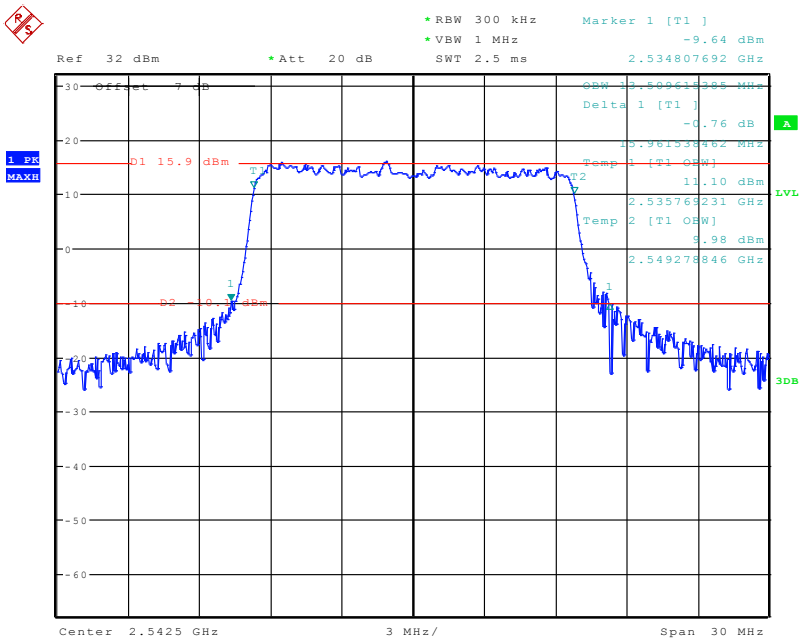
Date: 7.SEP.2020 14:25:29

16-QAM (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



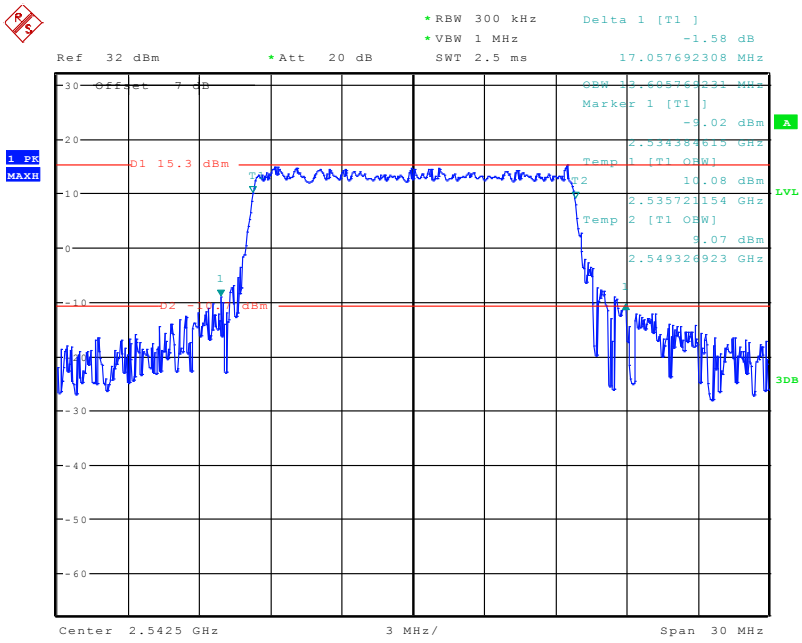
Date: 7.SEP.2020 14:26:36

QPSK (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



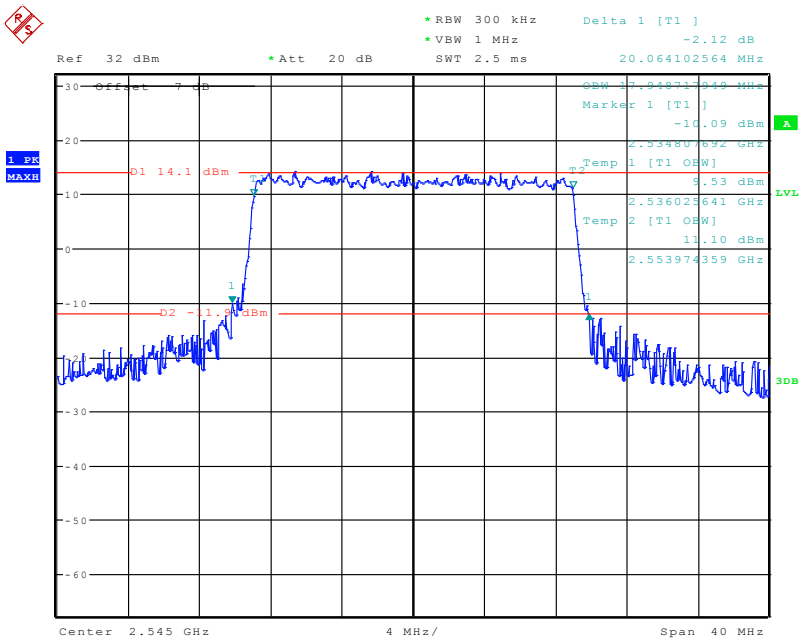
Date: 7.SEP.2020 14:03:07

16-QAM (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



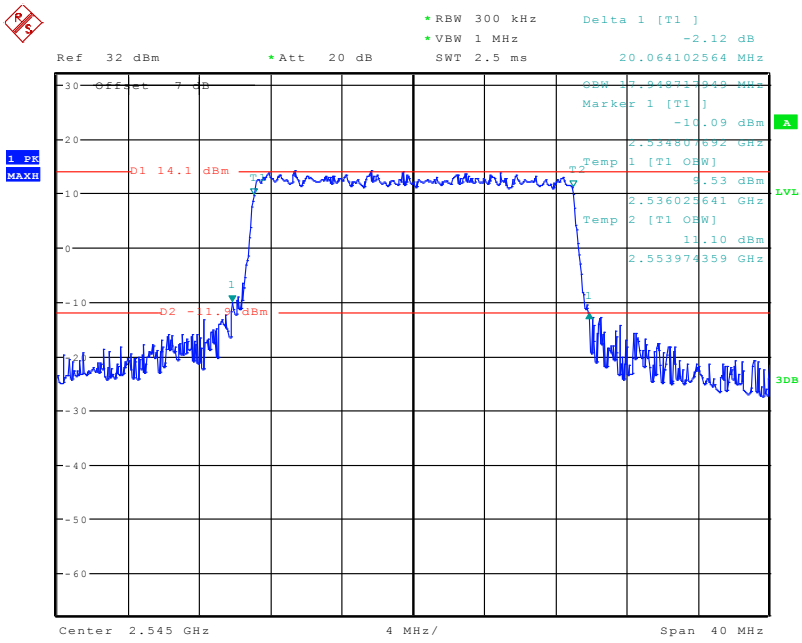
Date: 7.SEP.2020 14:04:15

QPSK (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



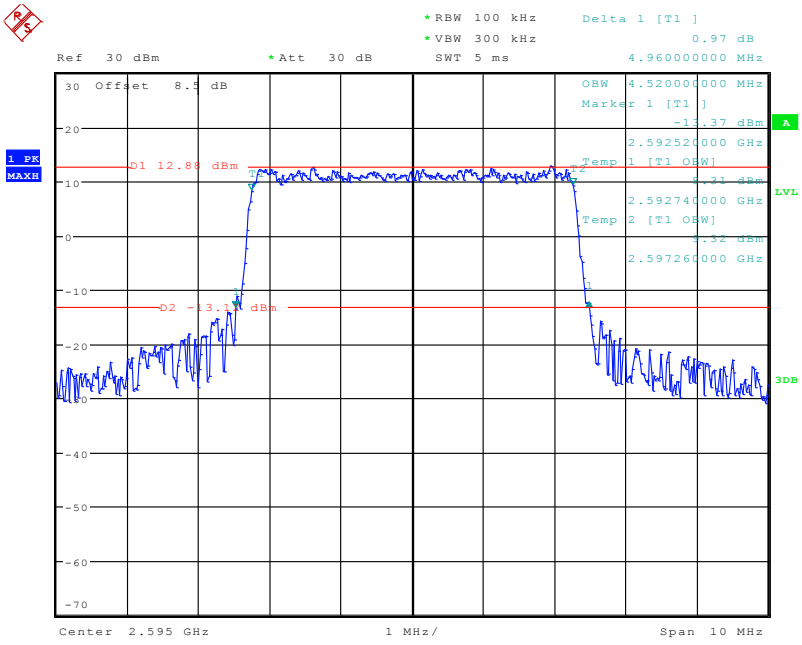
Date: 7.SEP.2020 13:50:54

16-QAM (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Low channel



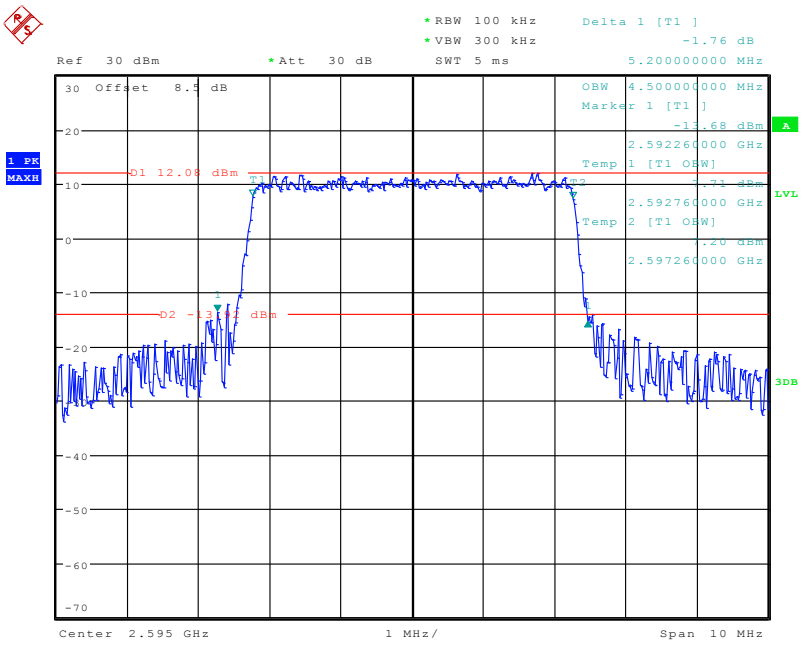
Date: 7.SEP.2020 13:50:54

QPSK (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



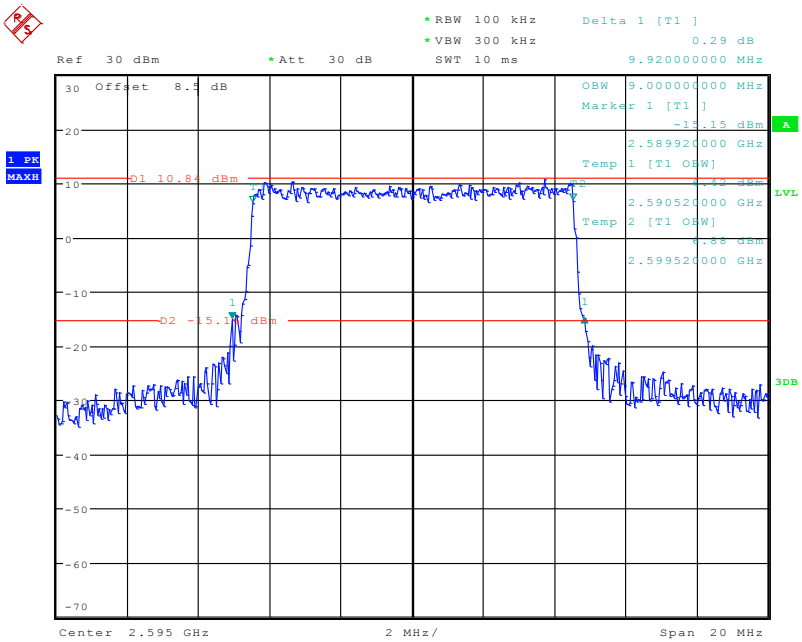
Date: 31.JUL.2020 19:06:00

16-QAM (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



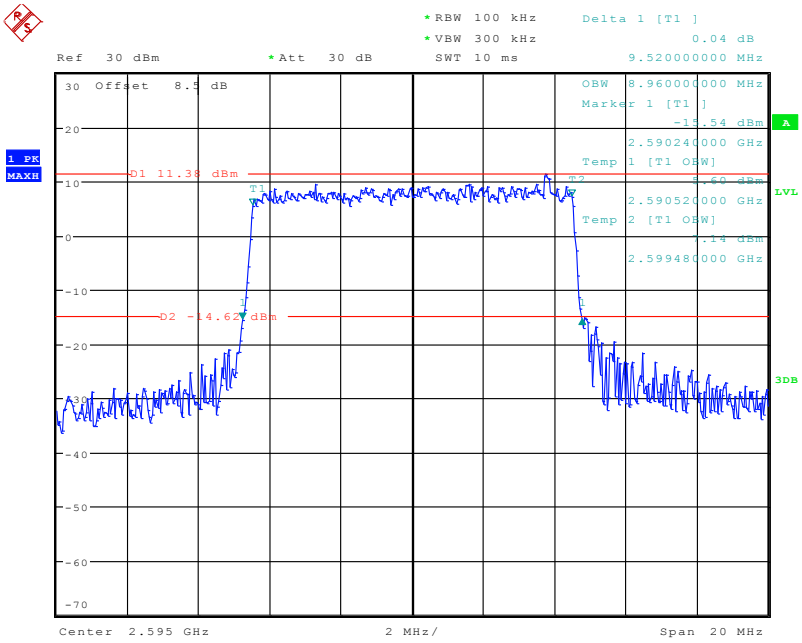
Date: 31.JUL.2020 19:06:25

QPSK (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



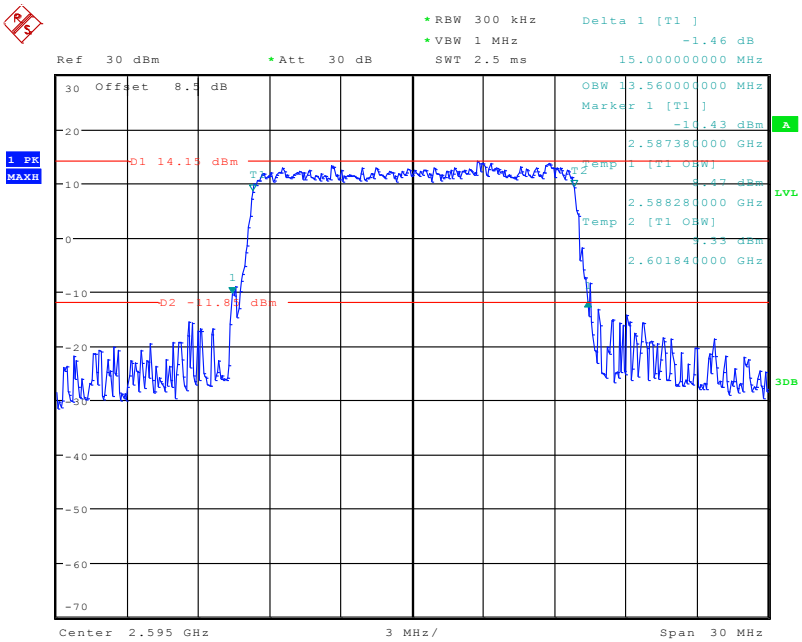
Date: 31.JUL.2020 19:06:56

16-QAM (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



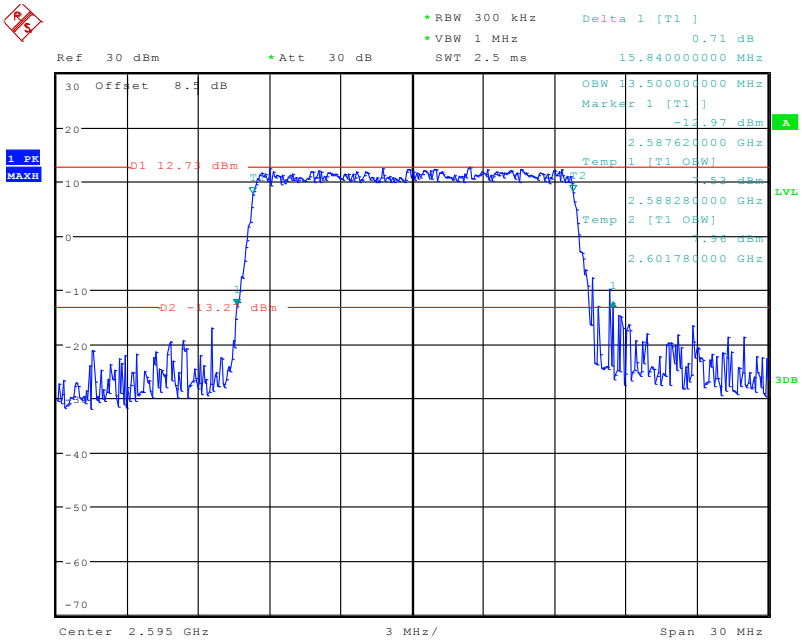
Date: 31.JUL.2020 19:07:23

QPSK (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



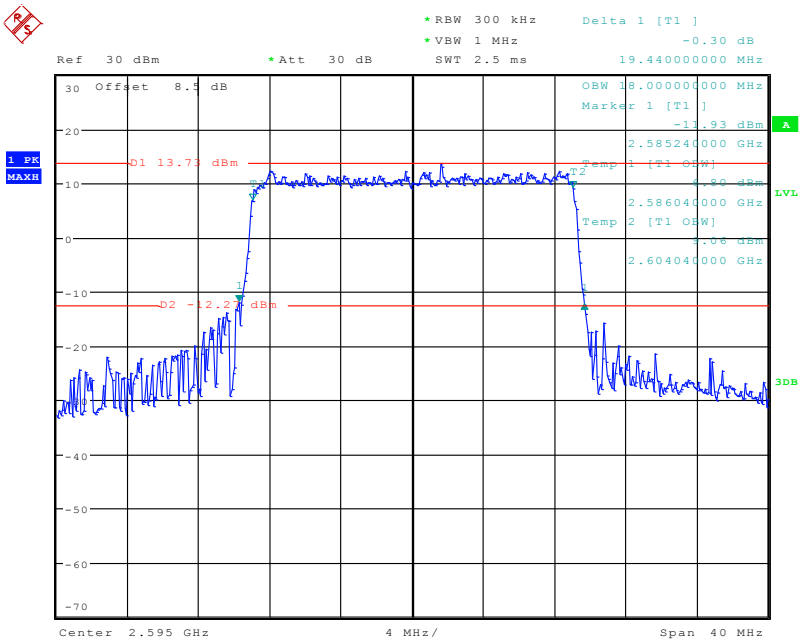
Date: 31.JUL.2020 19:07:54

16-QAM (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



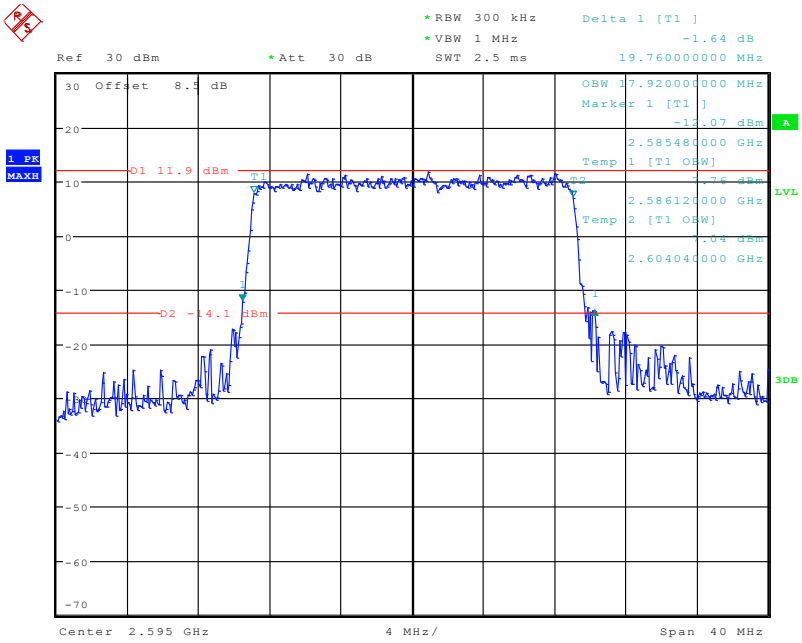
Date: 31.JUL.2020 19:08:25

QPSK (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



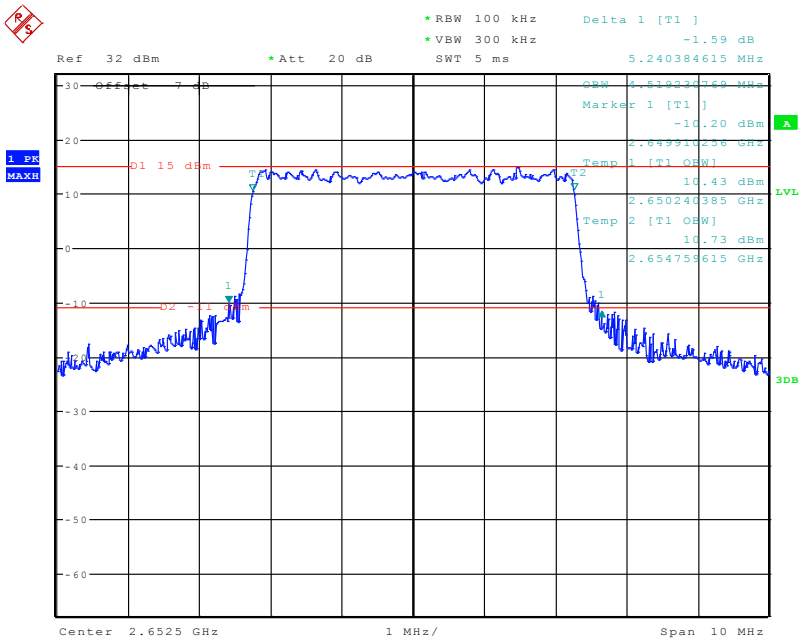
Date: 31.JUL.2020 19:08:59

16-QAM (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, Middle channel



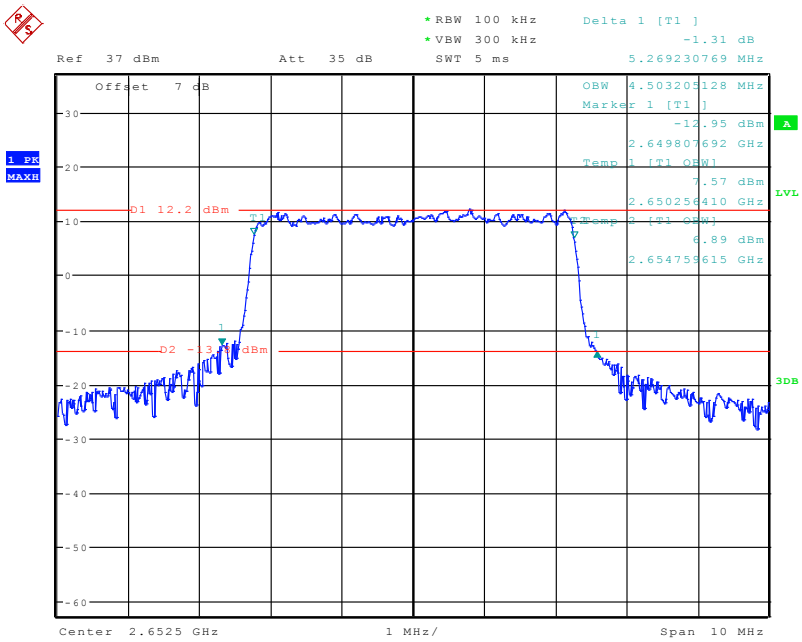
Date: 31.JUL.2020 19:09:30

QPSK (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



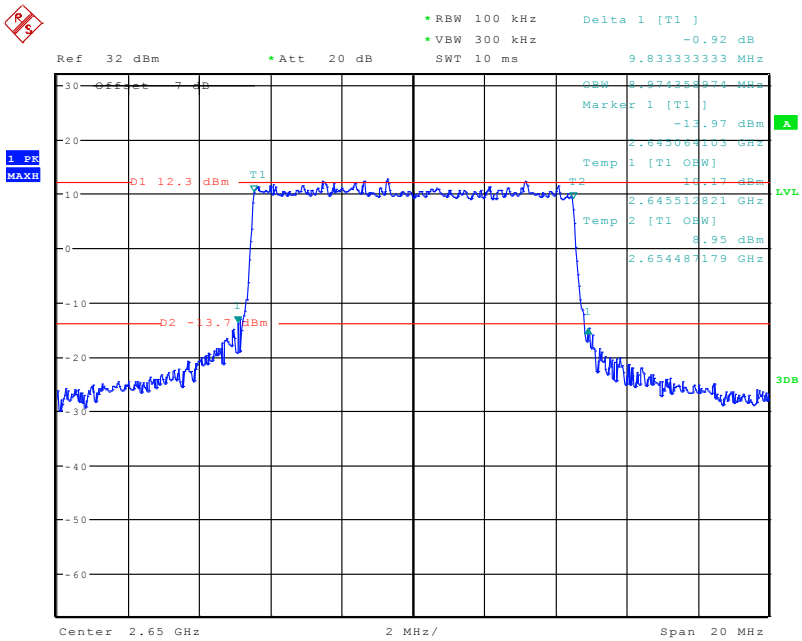
Date: 7.SEP.2020 14:19:08

16-QAM (5.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



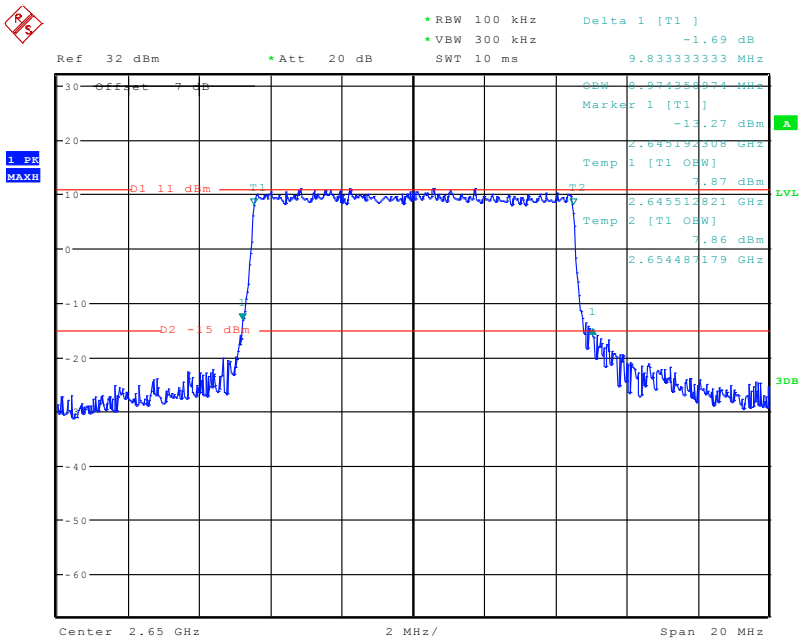
Date: 24.SEP.2020 20:02:44

QPSK (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



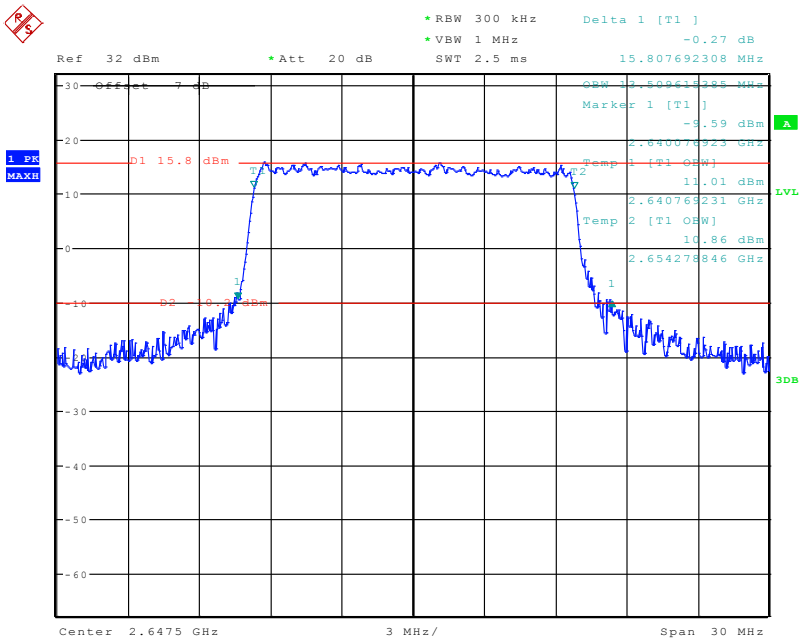
Date: 7.SEP.2020 14:28:47

16-QAM (10.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



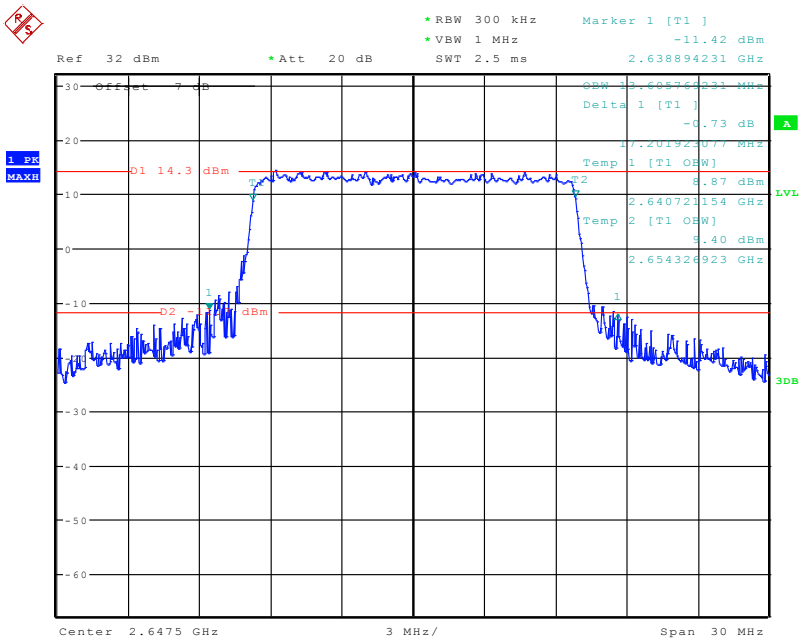
Date: 7.SEP.2020 14:27:56

QPSK (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



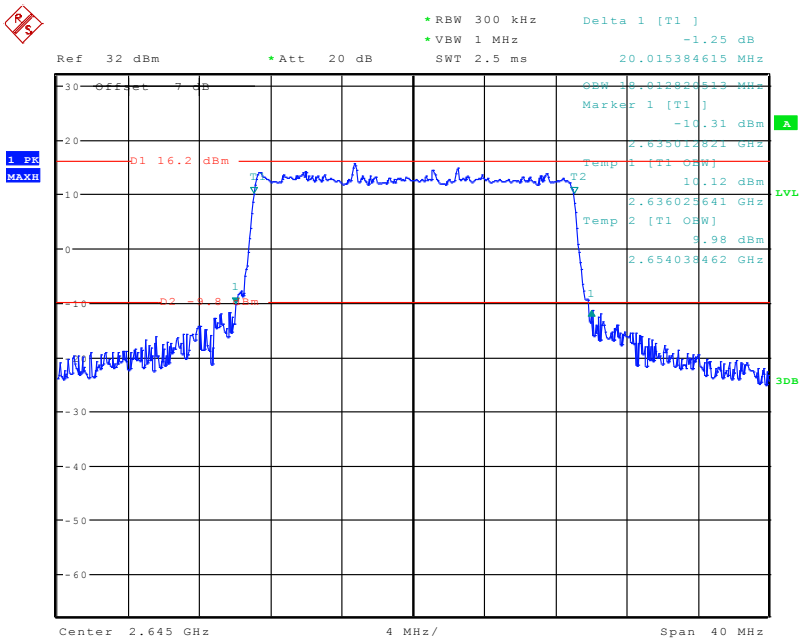
Date: 7.SEP.2020 14:53:47

16-QAM (15.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



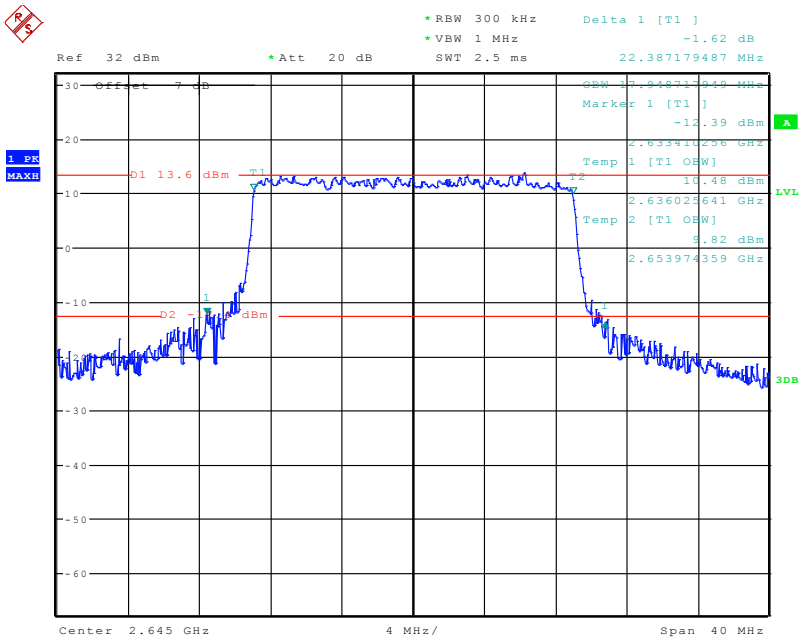
Date: 7.SEP.2020 13:58:11

QPSK (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



Date: 7.SEP.2020 13:46:29

16-QAM (20.0 MHz) - 26 dB Bandwidth & 99% Occupied Bandwidth, High channel



Date: 7.SEP.2020 13:48:04

FCC §2.1051, §22.917(a) & §24.238(a); §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

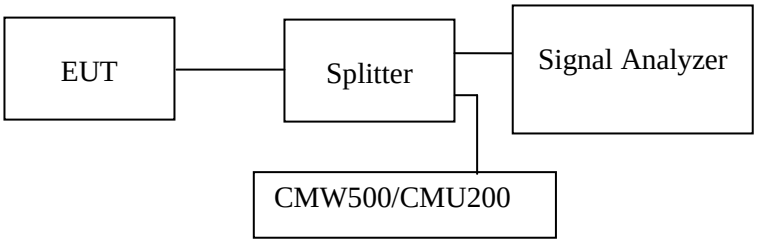
Applicable Standard

FCC §2.1051, §22.917(a) and §24.238(a) and §27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in §2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by George Zhong from 2020-07-26 to 2020-07-31.

EUT operation mode: Transmitting

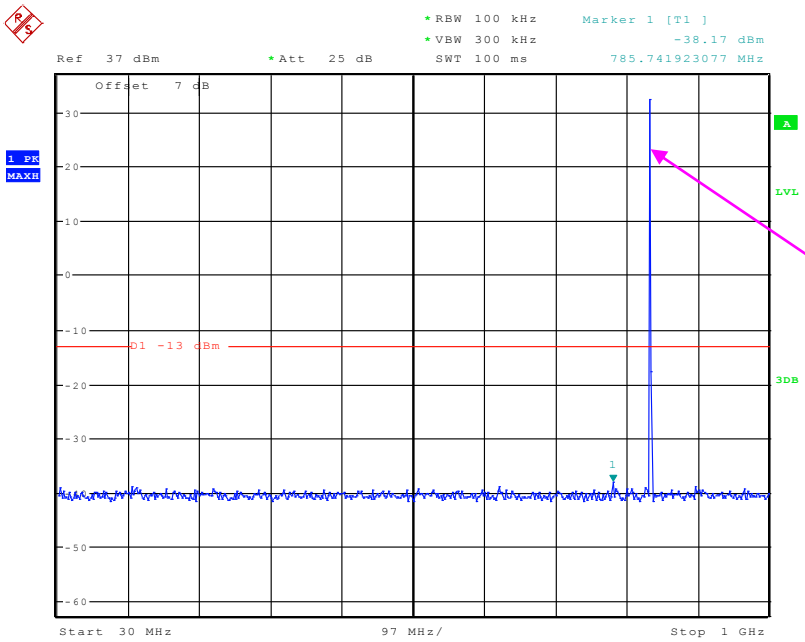
Test result: Pass

Pre-scan with Low, Middle and High channel, the worst case is middle channel as below:

Please refer to the following plots.

Cellular Band (Part 22H)

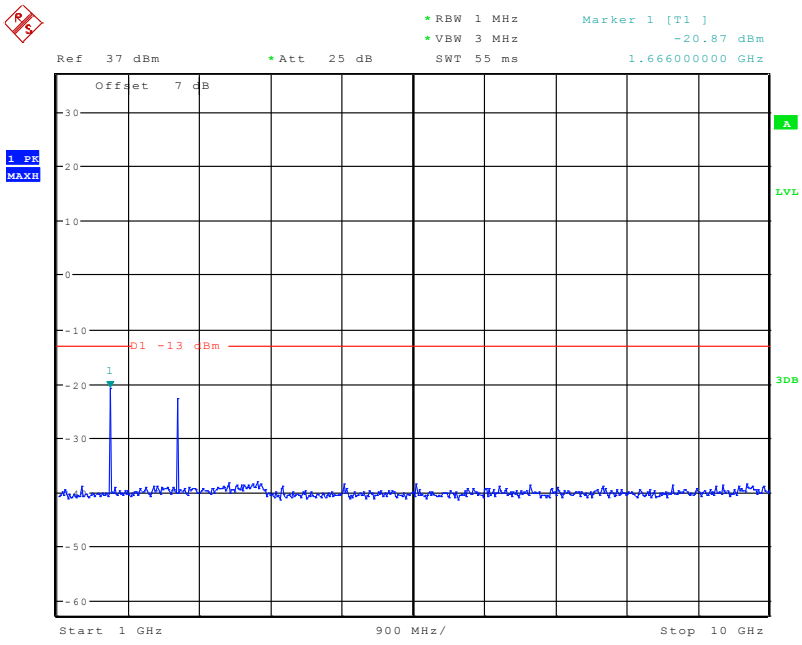
30 MHz – 1 GHz (GSM Mode)



Fundamental test

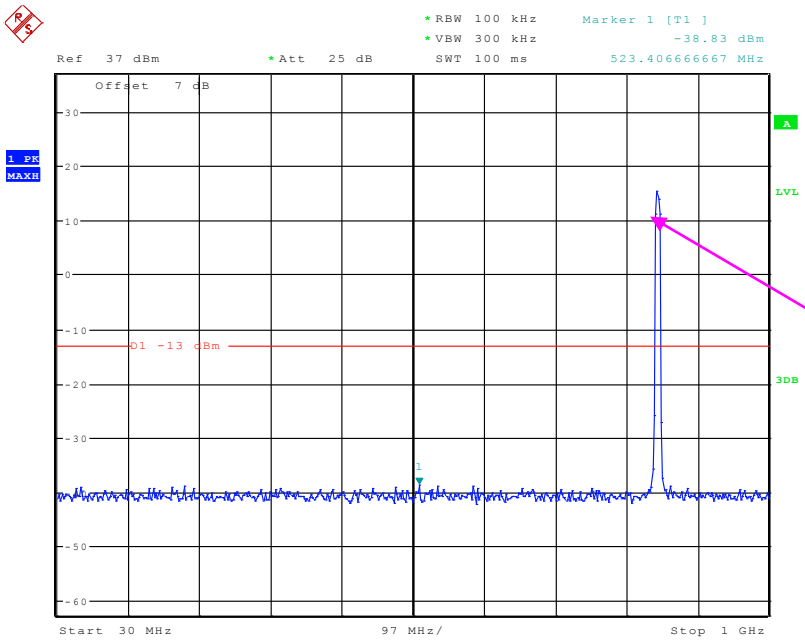
Date: 26.JUL.2020 18:48:16

1 GHz – 10 GHz (GSM Mode)



Date: 26.JUL.2020 18:47:32

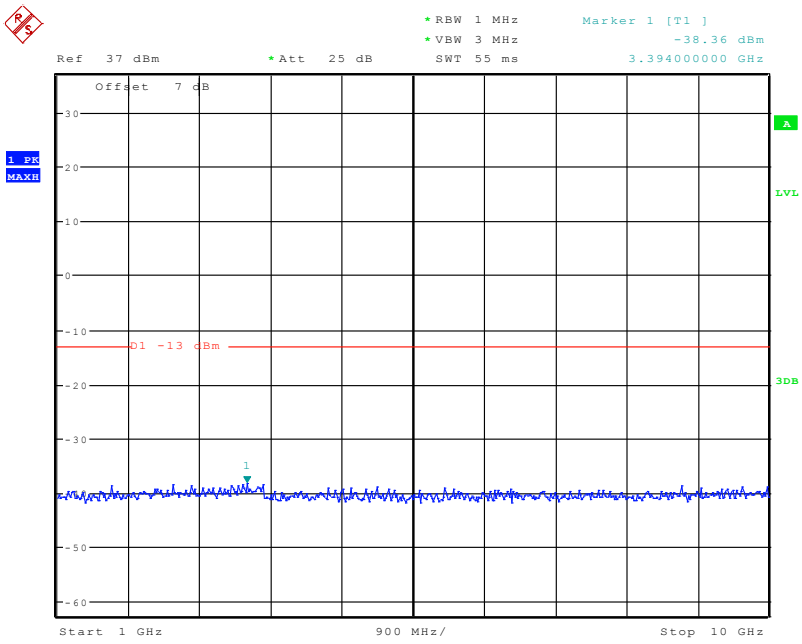
30 MHz – 1 GHz (WCDMA Mode)



Fundamental test

Date: 26.JUL.2020 17:37:18

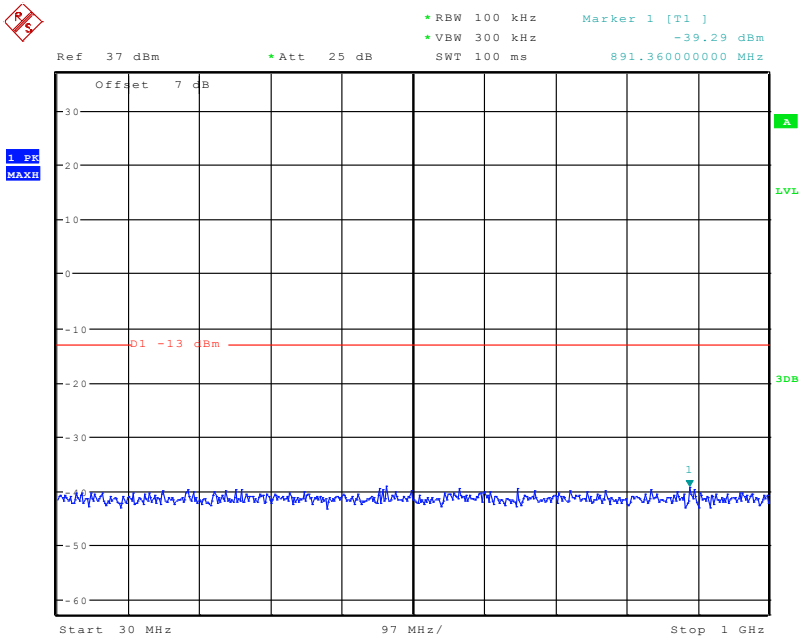
1 GHz – 10 GHz (WCDMA Mode)



Date: 26.JUL.2020 17:37:37

PCS Band (Part 24E)

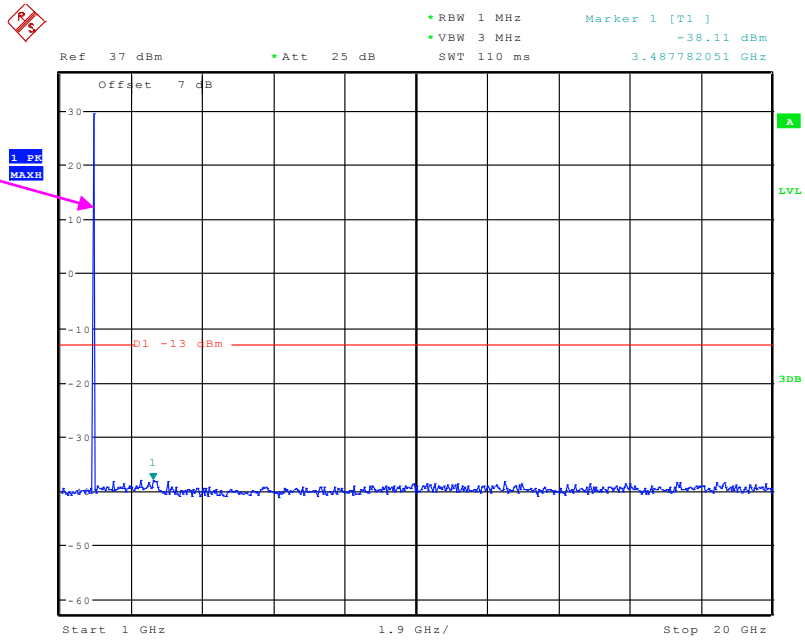
30 MHz – 1 GHz (GSM Mode)



Date: 26.JUL.2020 18:49:59

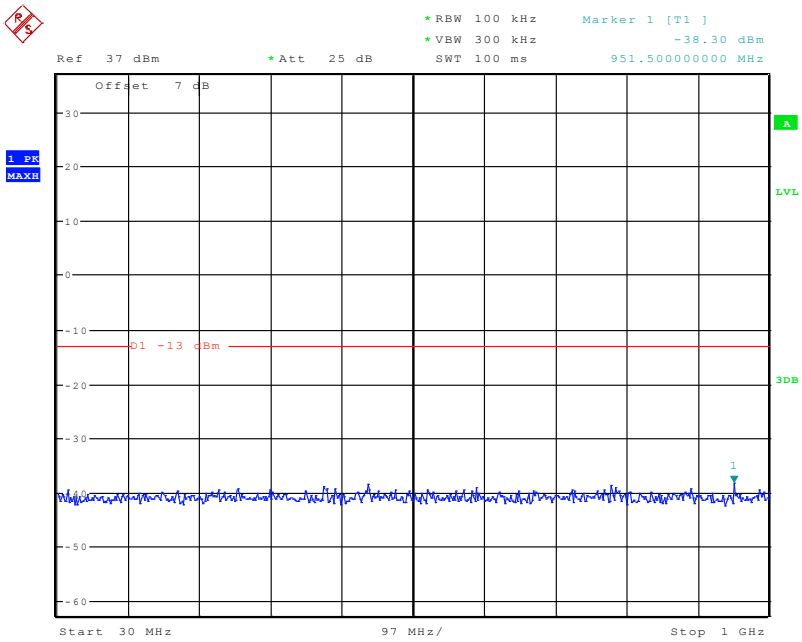
1 GHz – 20 GHz (GSM Mode)

Fundamental test



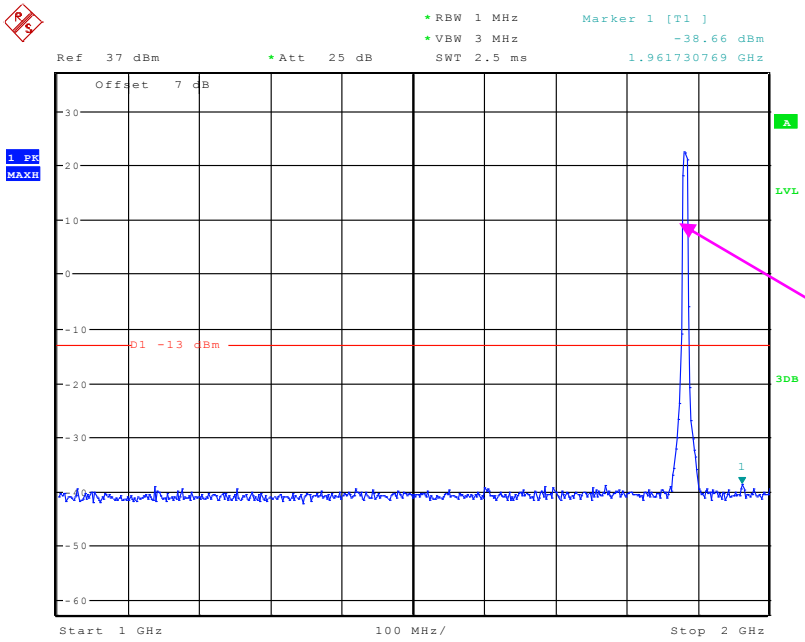
Date: 26.JUL.2020 18:50:18

30 MHz – 1 GHz (WCDMA Mode)



Date: 26.JUL.2020 17:34:48

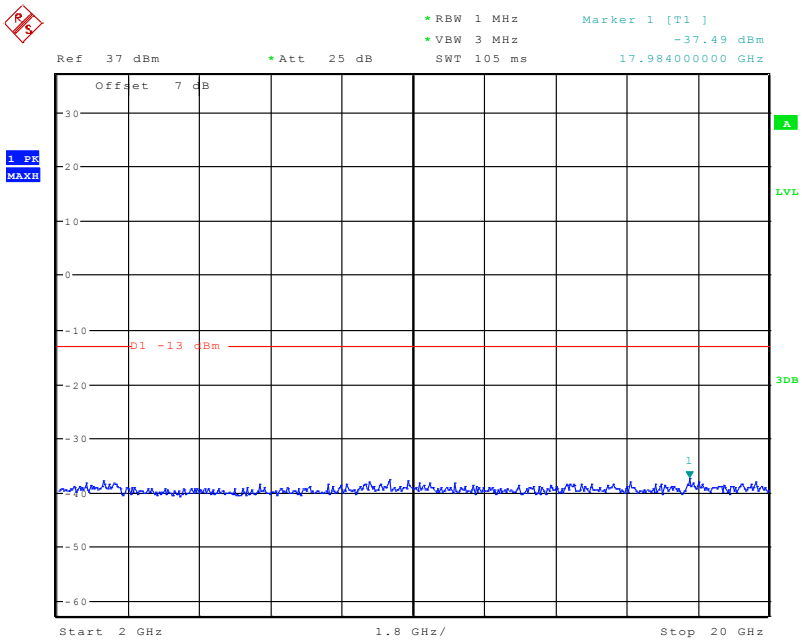
1 GHz – 2 GHz (WCDMA Mode)



Fundamental test

Date: 26.JUL.2020 17:35:17

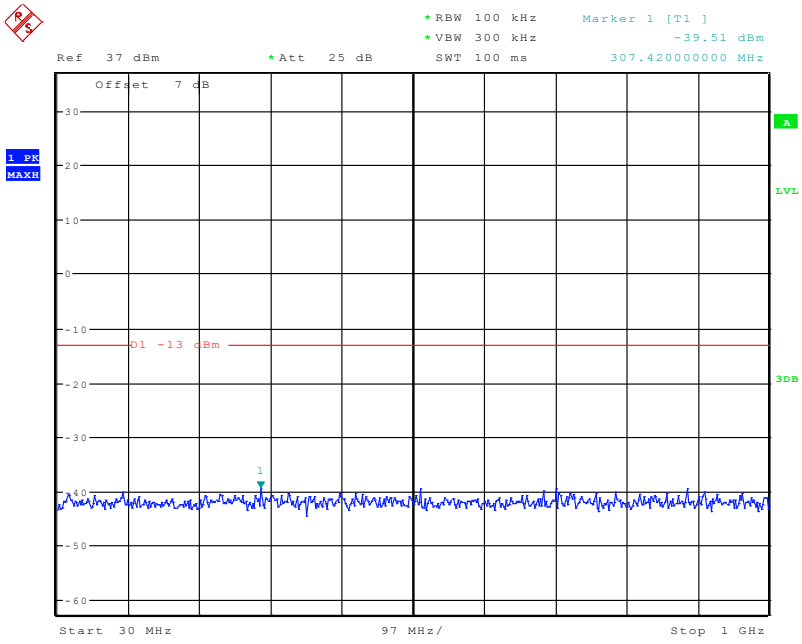
2 GHz – 20 GHz (WCDMA Mode)



Date: 26.JUL.2020 17:35:40

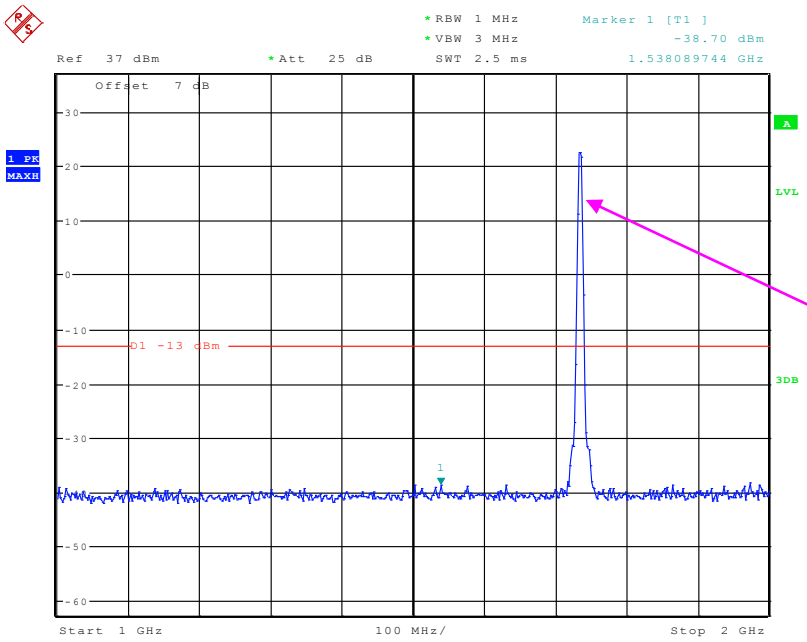
AWS Band (Part 27)

30 MHz – 1 GHz (WCDMA Mode)



Date: 26.JUL.2020 17:36:47

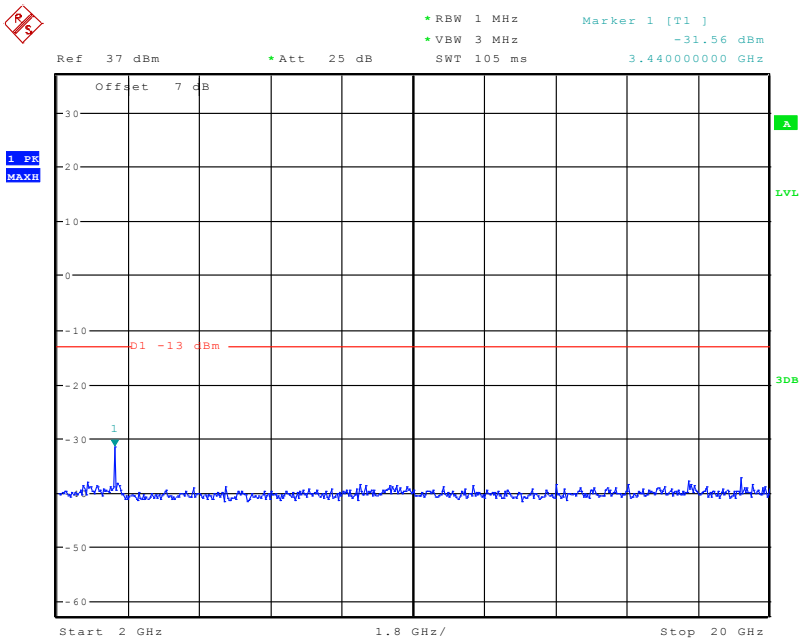
1 GHz – 2 GHz (WCDMA Mode)



Fundamental test

Date: 26.JUL.2020 17:36:31

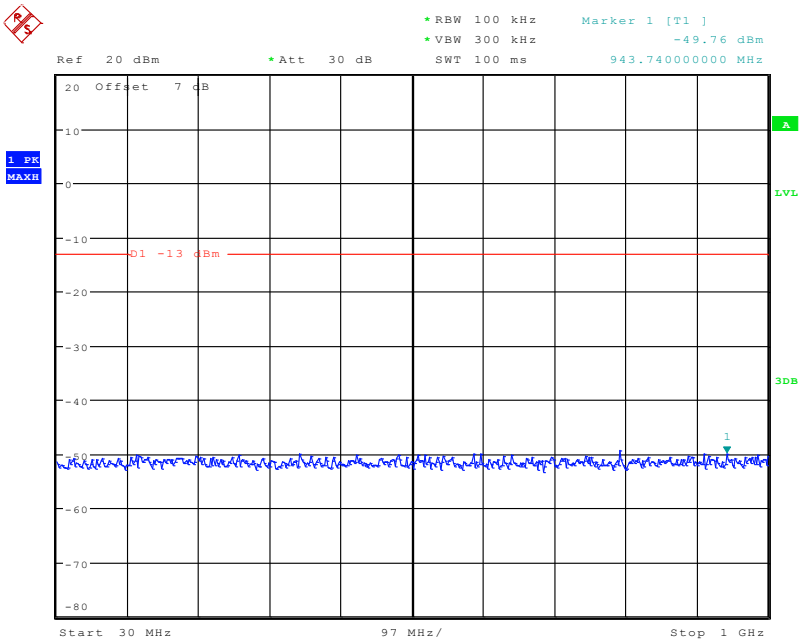
2 GHz – 20 GHz (WCDMA Mode)



Date: 26.JUL.2020 17:36:13

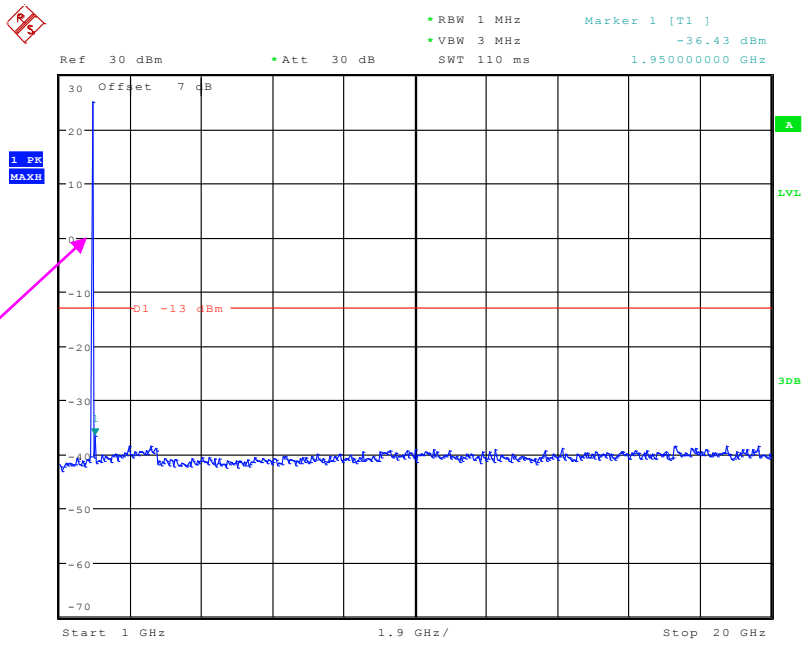
LTE Band 2:

30 MHz - 1 GHz (1.4 MHz, Middle channel)



Date: 26.JUL.2020 14:45:49

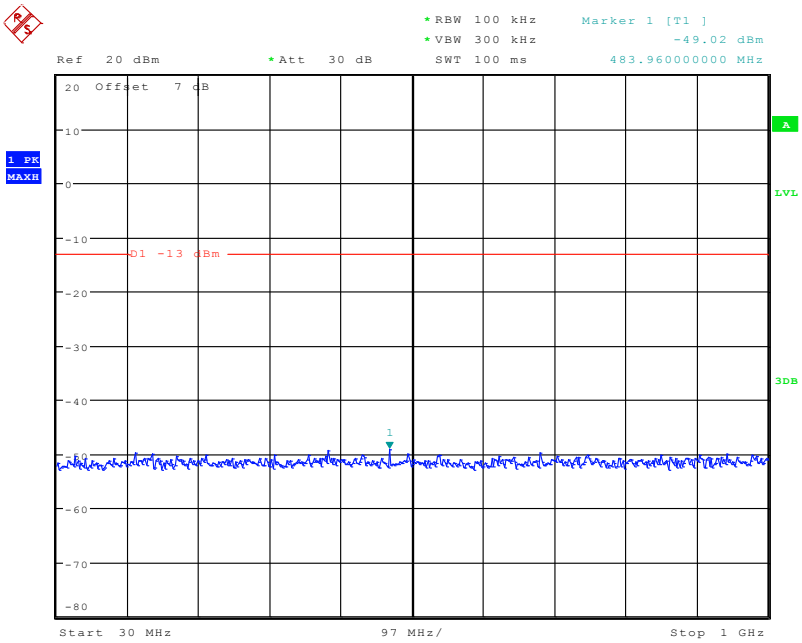
1 GHz – 20 GHz (1.4 MHz, Middle channel)



Fundamental test

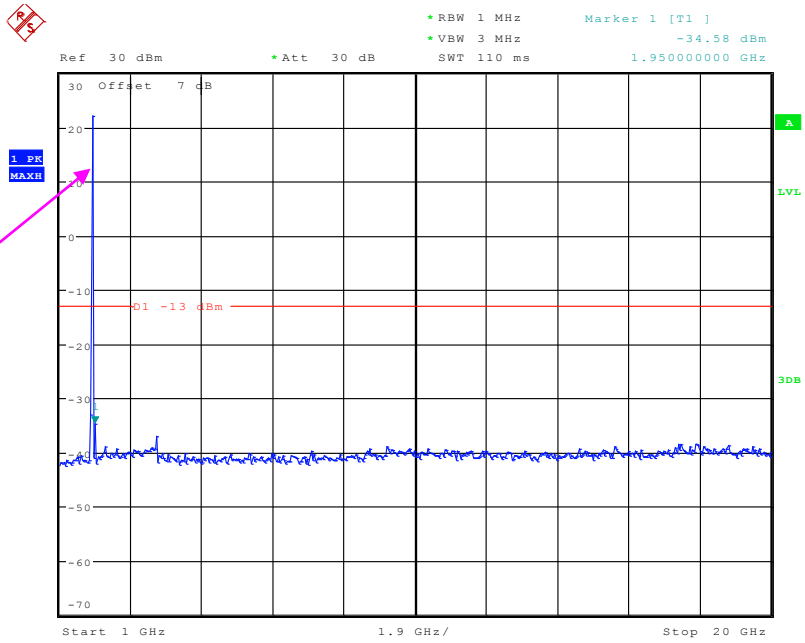
Date: 26.JUL.2020 14:46:00

30 MHz - 1 GHz (3.0 MHz, Middle channel)



Date: 26.JUL.2020 14:46:19

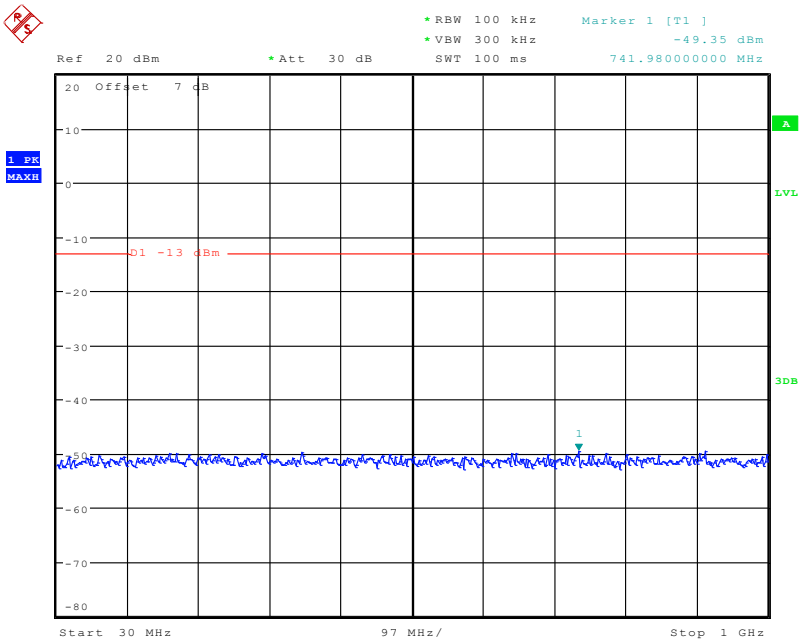
1 GHz – 20 GHz (3.0 MHz, Middle channel)



Fundamental test

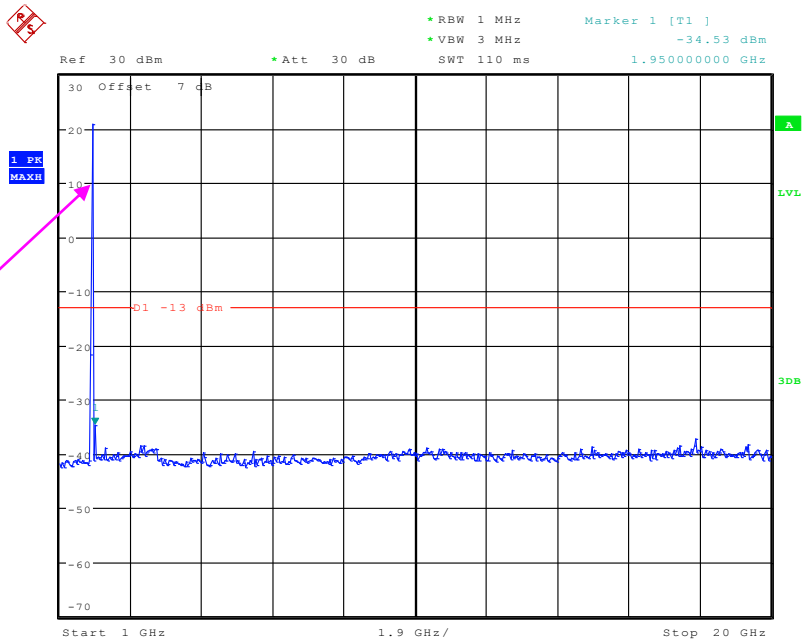
Date: 26.JUL.2020 14:46:31

30 MHz - 1 GHz (5.0 MHz, Middle channel)



Date: 26.JUL.2020 14:46:52

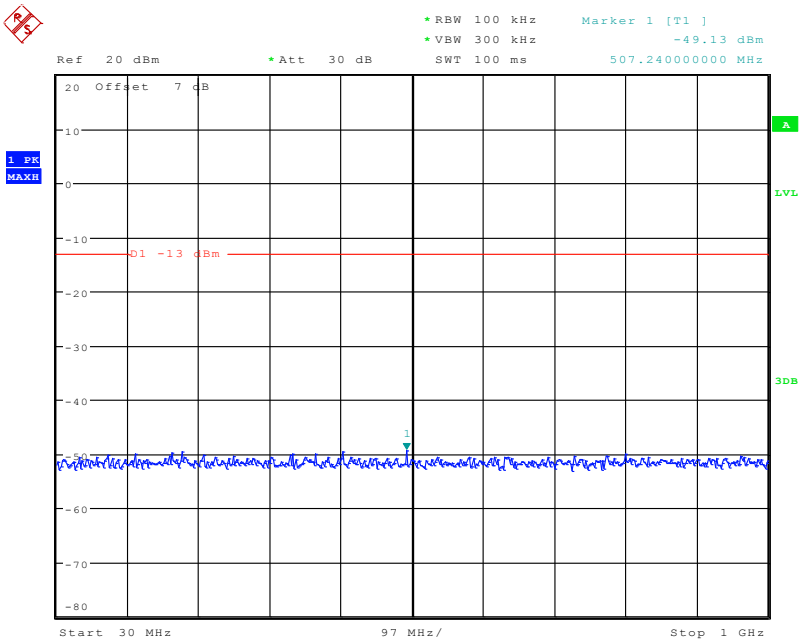
1 GHz – 20 GHz (5.0 MHz, Middle channel)



Fundamental test

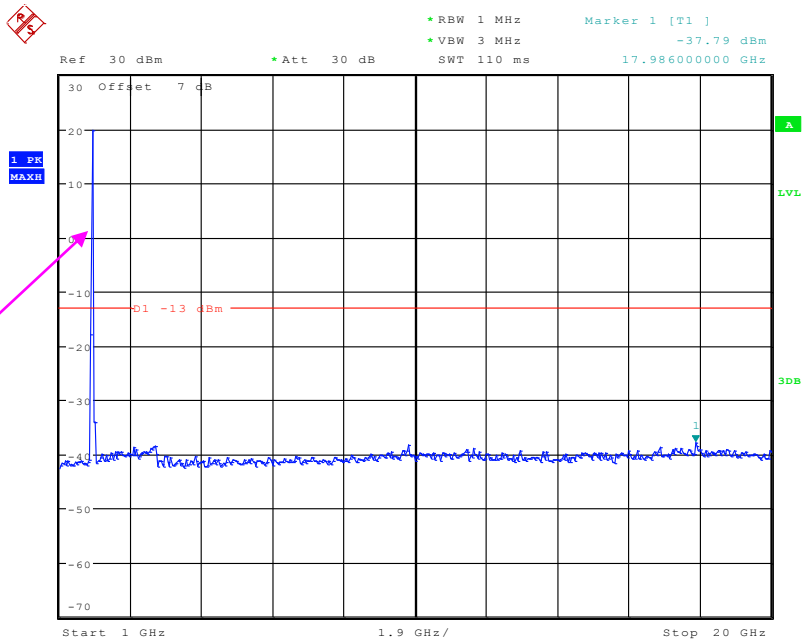
Date: 26.JUL.2020 14:47:04

30 MHz - 1 GHz (10.0 MHz, Middle channel)



Date: 26.JUL.2020 14:47:23

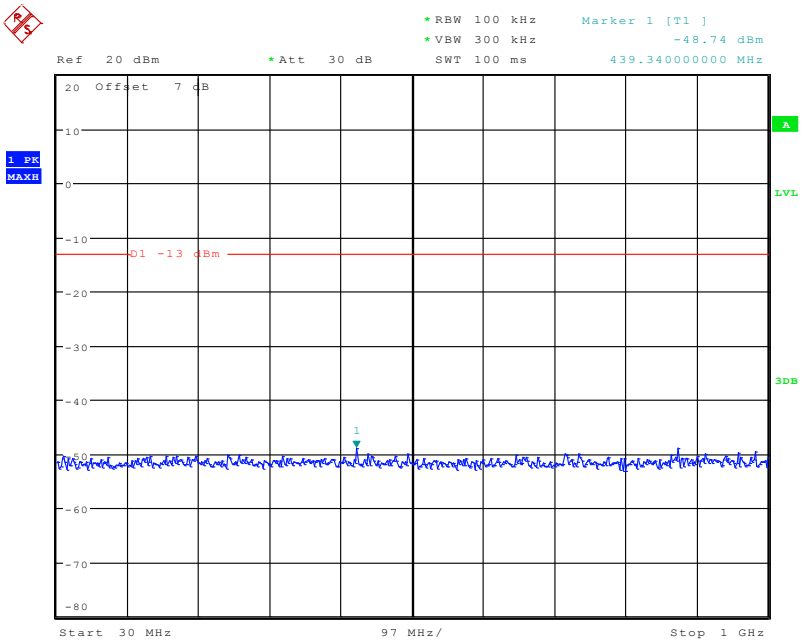
1 GHz – 20 GHz (10.0 MHz, Middle channel)



Fundamental test

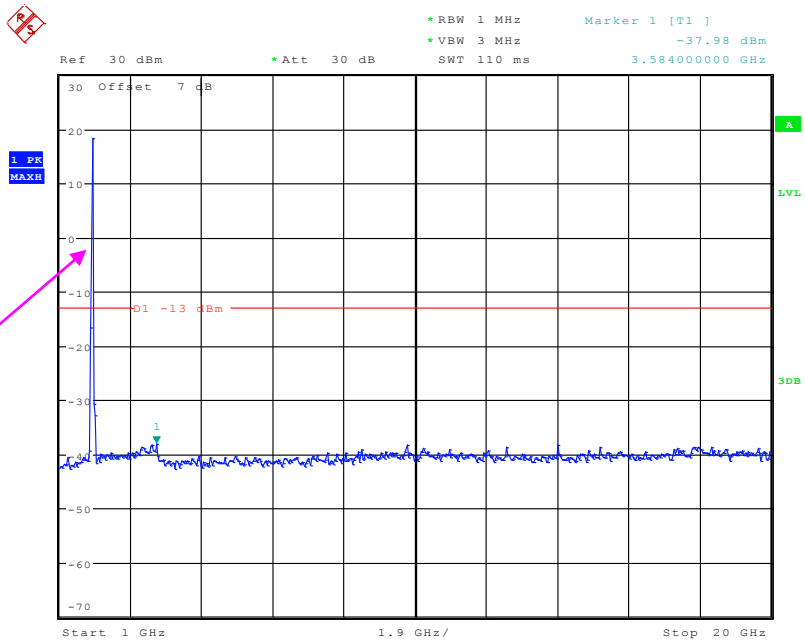
Date: 26.JUL.2020 14:47:35

30 MHz - 1 GHz (15.0 MHz, Middle channel)



Date: 26.JUL.2020 14:47:56

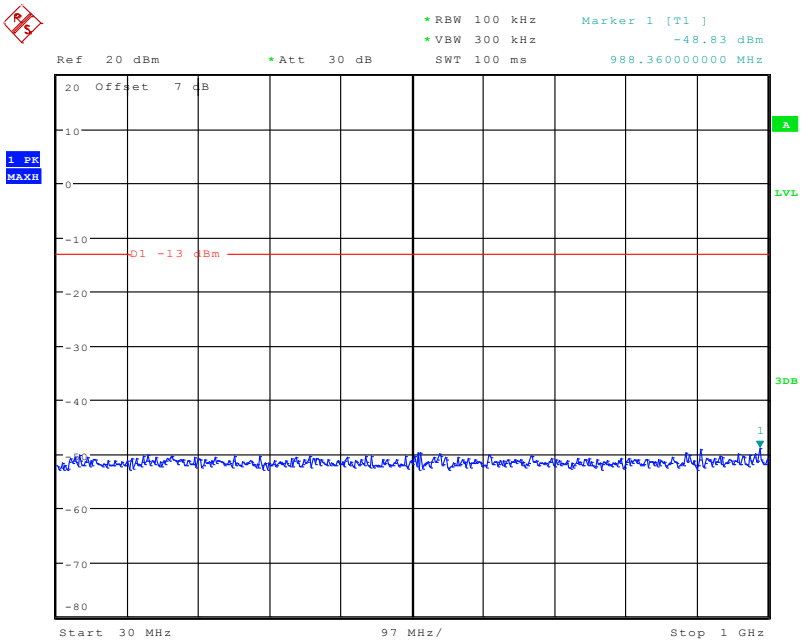
1 GHz – 20 GHz (15.0 MHz, Middle channel)



Fundamental test

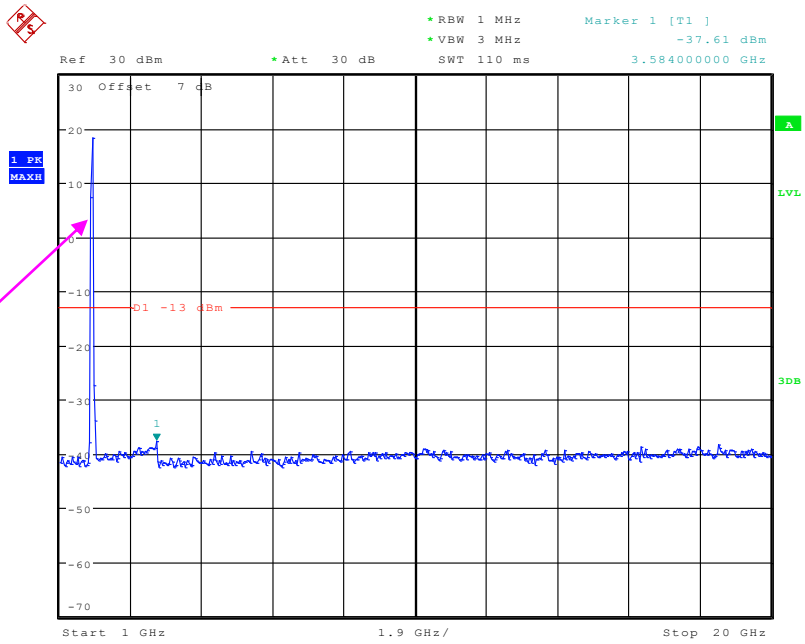
Date: 26.JUL.2020 14:48:08

30 MHz - 1 GHz (20.0 MHz, Middle channel)



Date: 26.JUL.2020 14:48:29

1 GHz – 2 GHz (20.0 MHz, Middle channel)

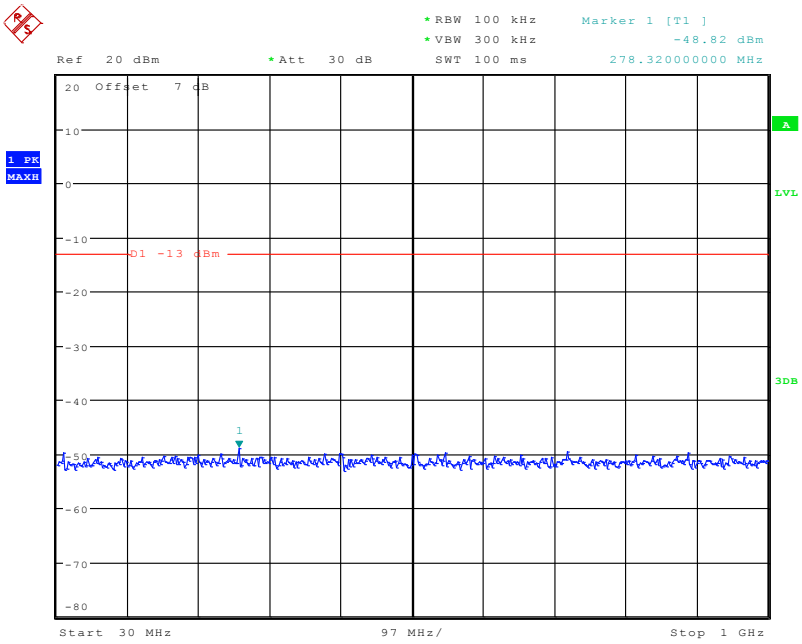


Fundamental test

Date: 26.JUL.2020 14:48:41

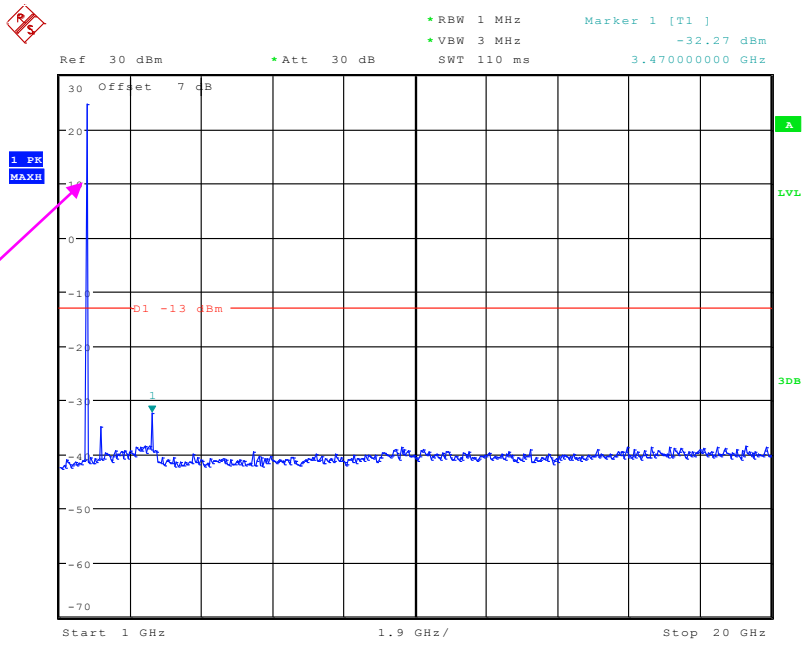
LTE Band 4:

30 MHz - 1 GHz (1.4 MHz, Middle channel)



Date: 26.JUL.2020 14:48:59

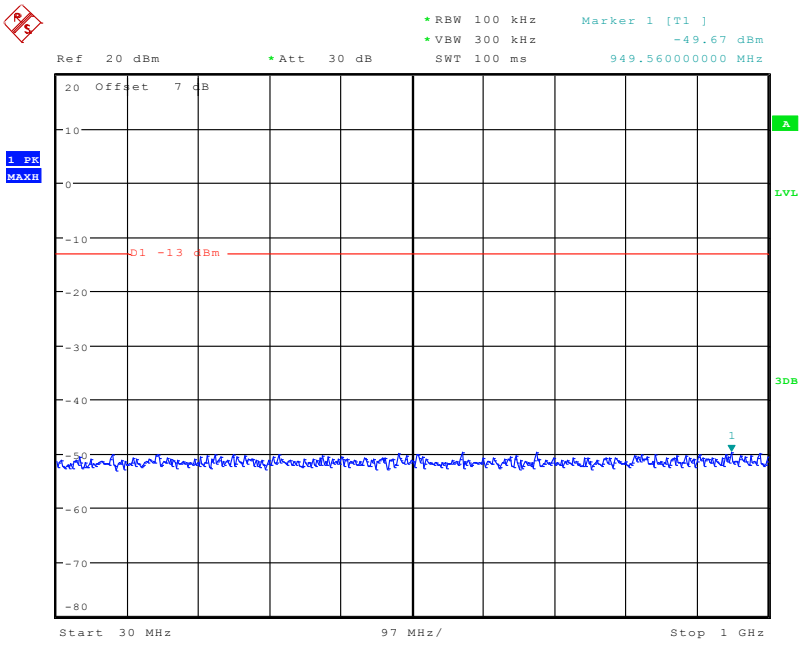
1 GHz – 20 GHz (1.4 MHz, Middle channel)



Fundamental test

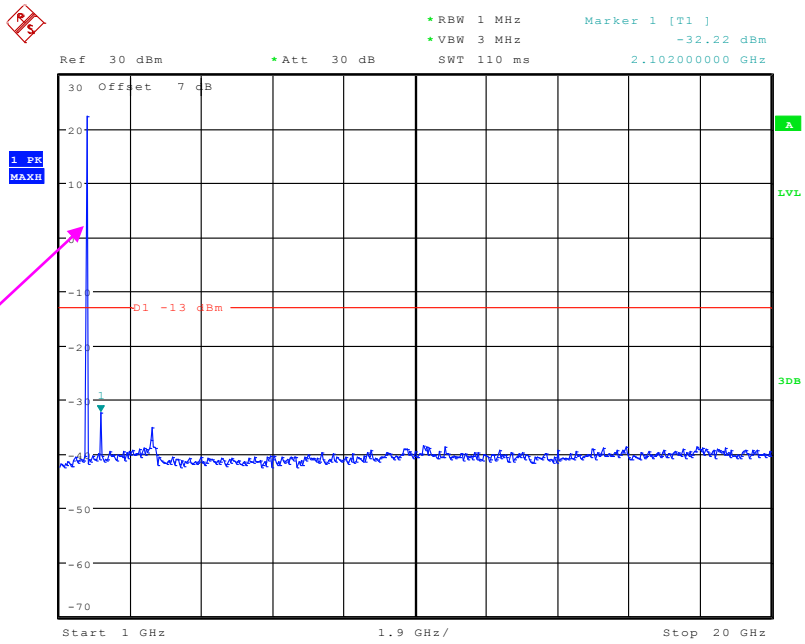
Date: 26.JUL.2020 14:49:11

30 MHz - 1 GHz (3.0 MHz, Middle channel)



Date: 26.JUL.2020 14:49:29

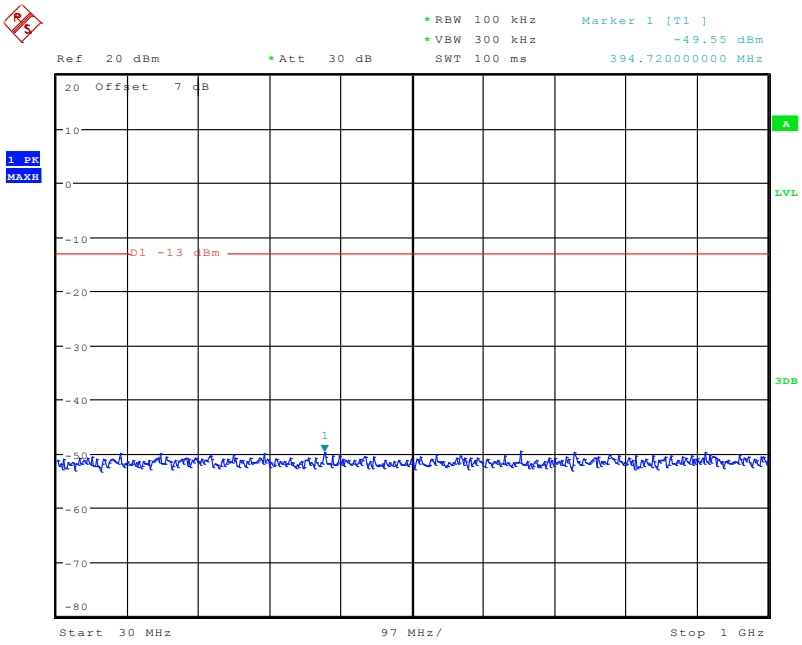
1 GHz – 20 GHz (3.0 MHz, Middle channel)



Fundamental test

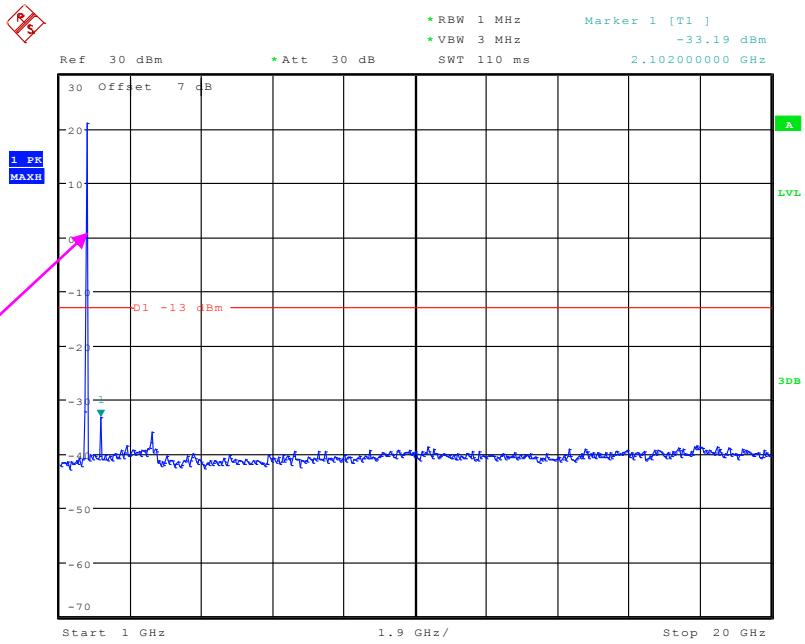
Date: 26.JUL.2020 14:49:41

30 MHz - 1 GHz (5.0 MHz, Middle channel)



Date: 26.JUL.2020 14:49:59

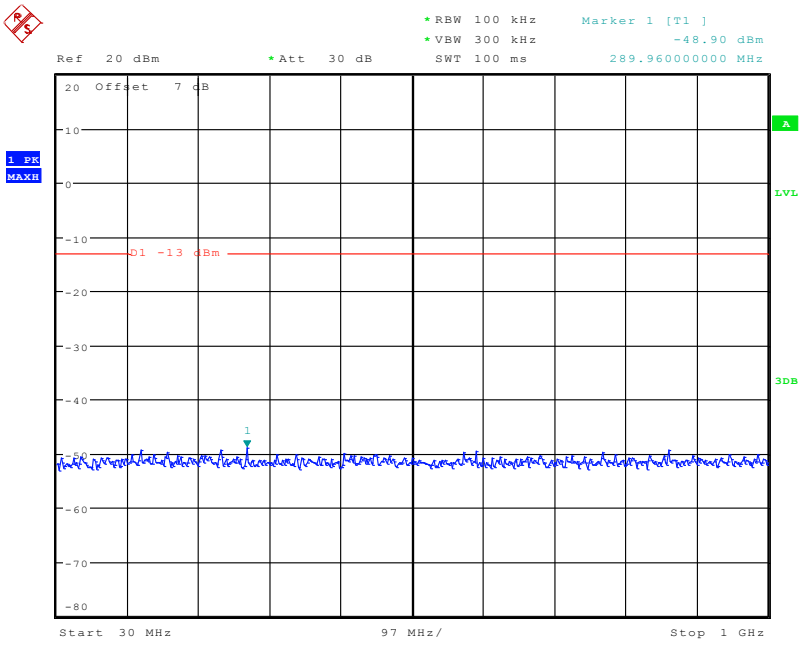
1 GHz – 20 GHz (5.0 MHz, Middle channel)



Fundamental test

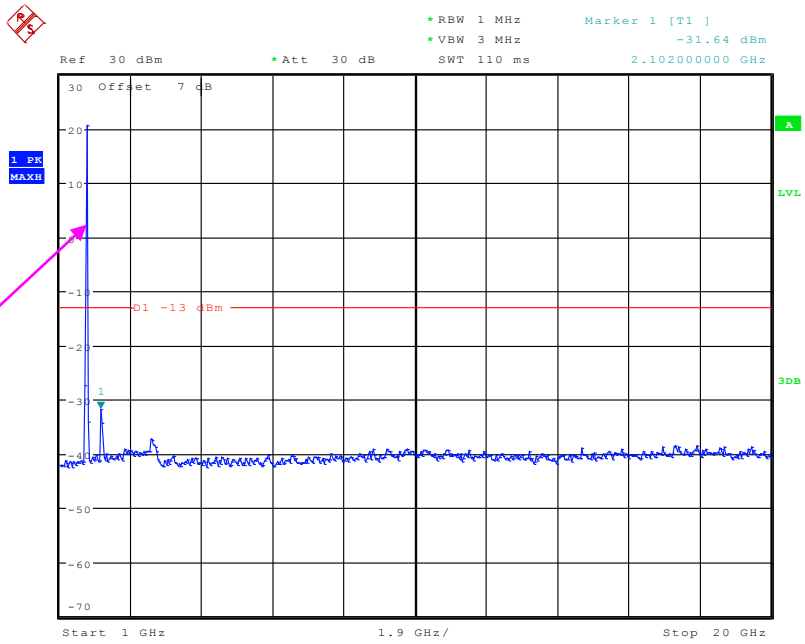
Date: 26.JUL.2020 14:50:11

30 MHz - 1 GHz (10.0 MHz, Middle channel)



Date: 26.JUL.2020 14:50:30

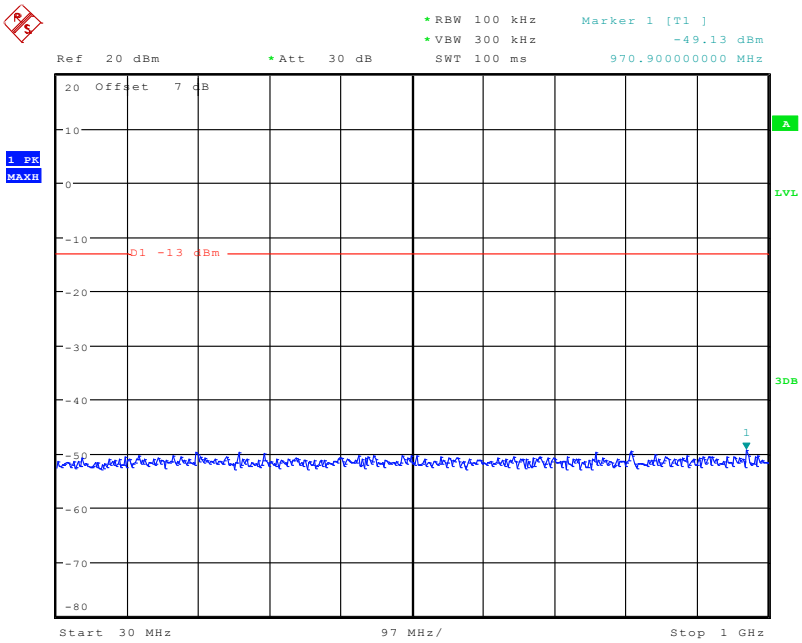
1 GHz – 20 GHz (10.0 MHz, Middle channel)



Fundamental test

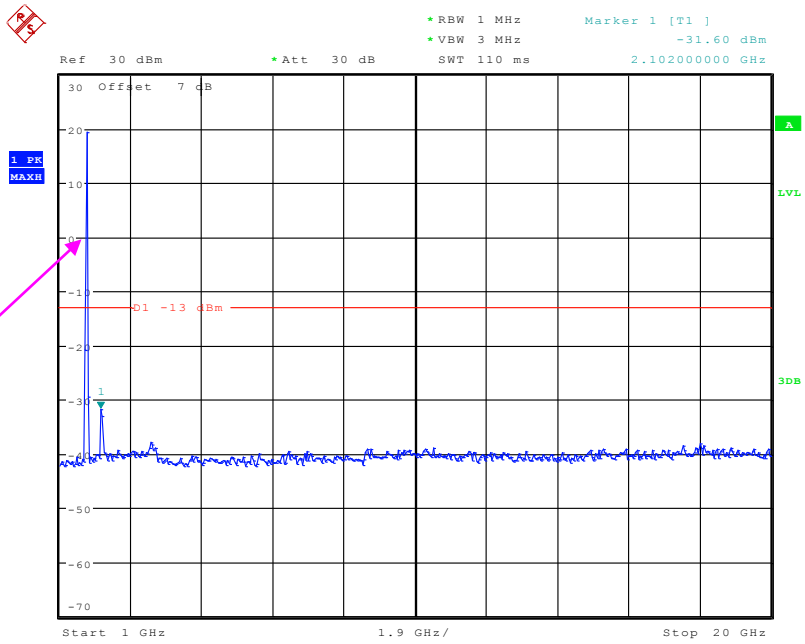
Date: 26.JUL.2020 14:50:41

30 MHz - 1 GHz (15.0 MHz, Middle channel)



Date: 26.JUL.2020 14:51:03

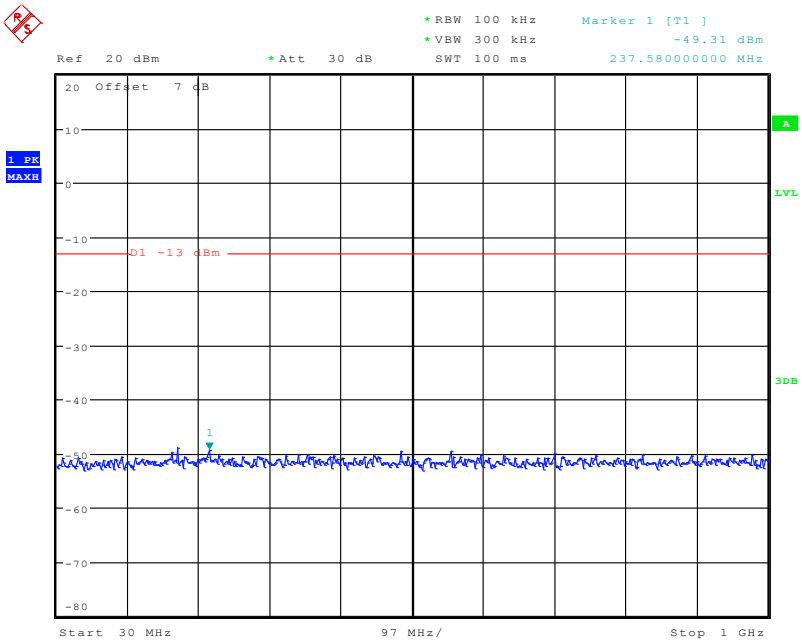
1 GHz – 20 GHz (15.0 MHz, Middle channel)



Fundamental test

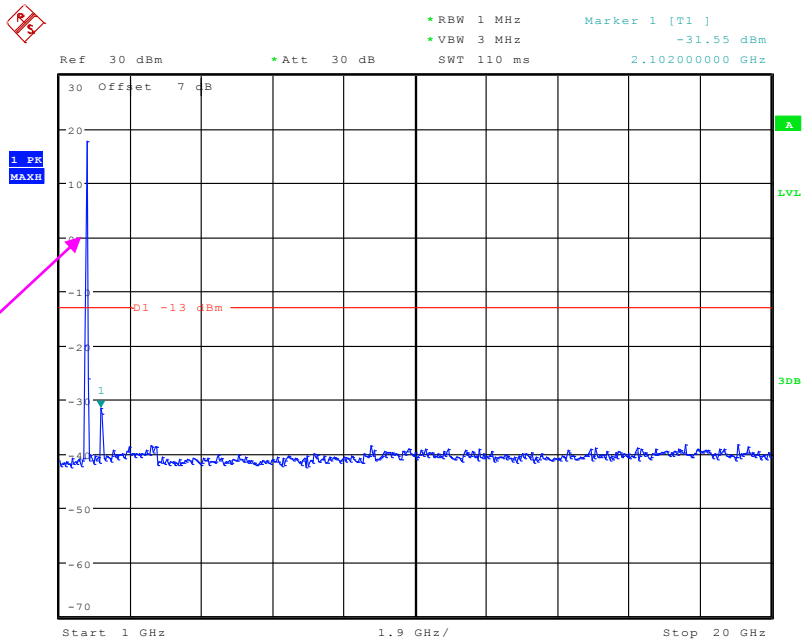
Date: 26.JUL.2020 14:51:14

30 MHz - 1 GHz (20.0 MHz, Middle channel)



Date: 26.JUL.2020 14:51:36

1 GHz – 20 GHz (20.0 MHz, Middle channel)

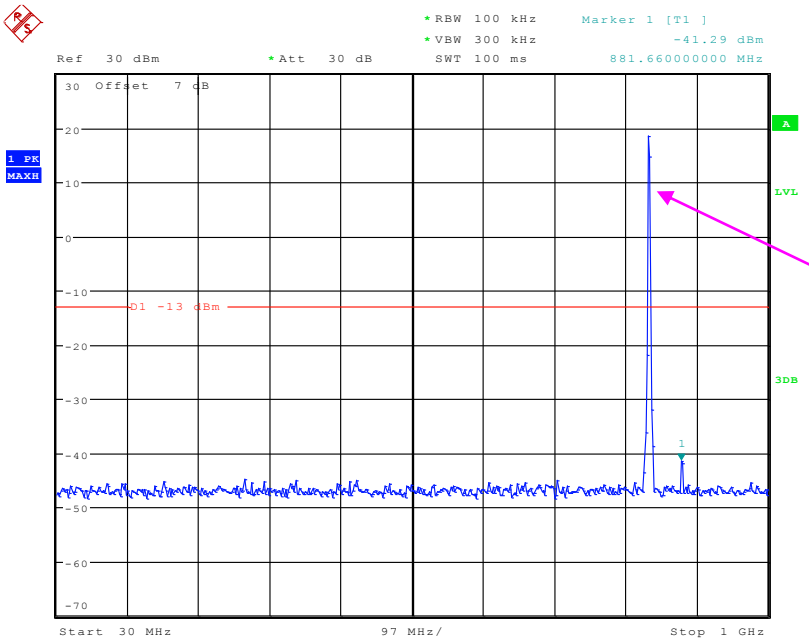


Fundamental test

Date: 26.JUL.2020 14:51:48

LTE Band 5:

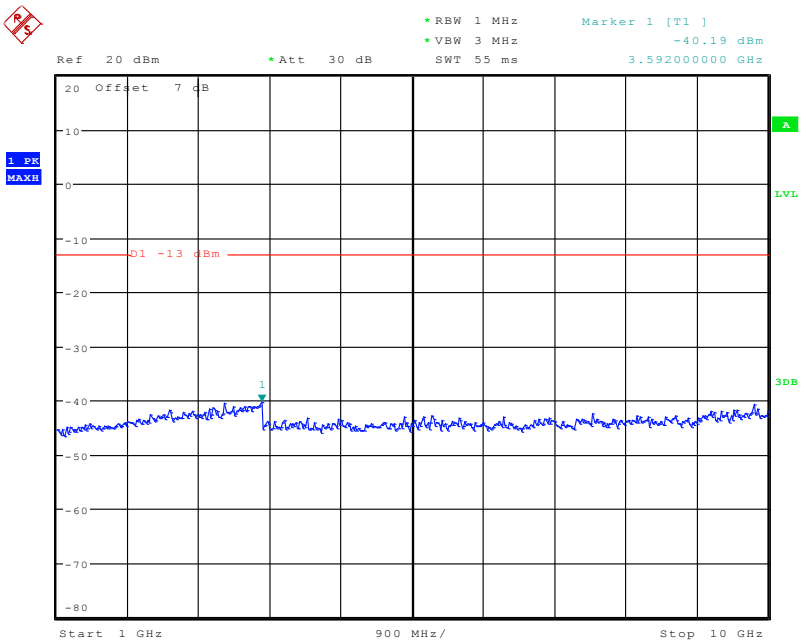
30 MHz - 1 GHz (1.4 MHz, Middle channel)



Fundamental test

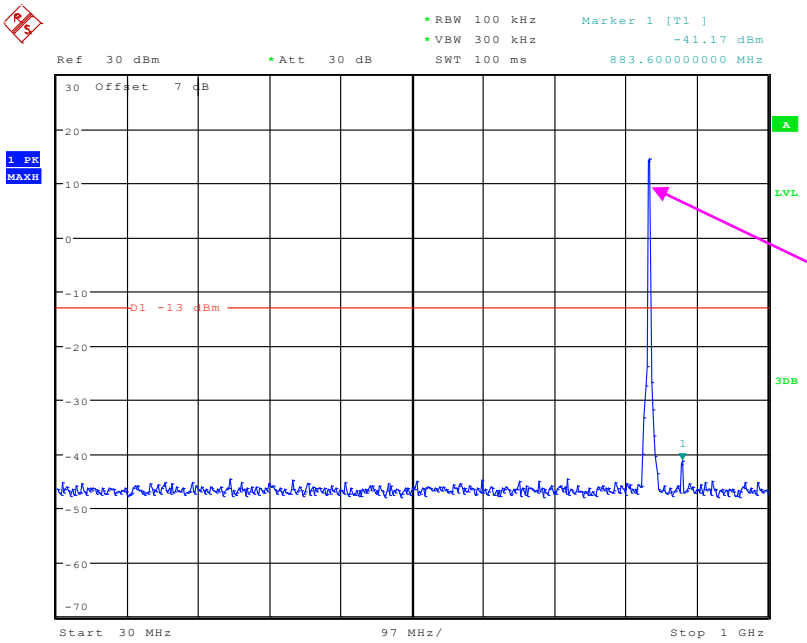
Date: 26.JUL.2020 14:52:06

1 GHz – 10 GHz (1.4 MHz, Middle channel)



Date: 26.JUL.2020 14:52:18

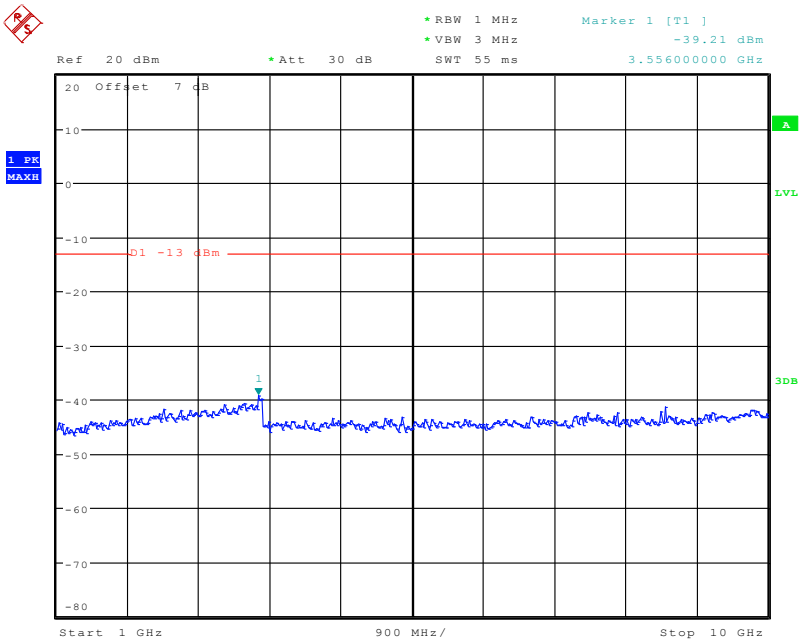
30 MHz - 1 GHz (3.0 MHz, Middle channel)



Fundamental test

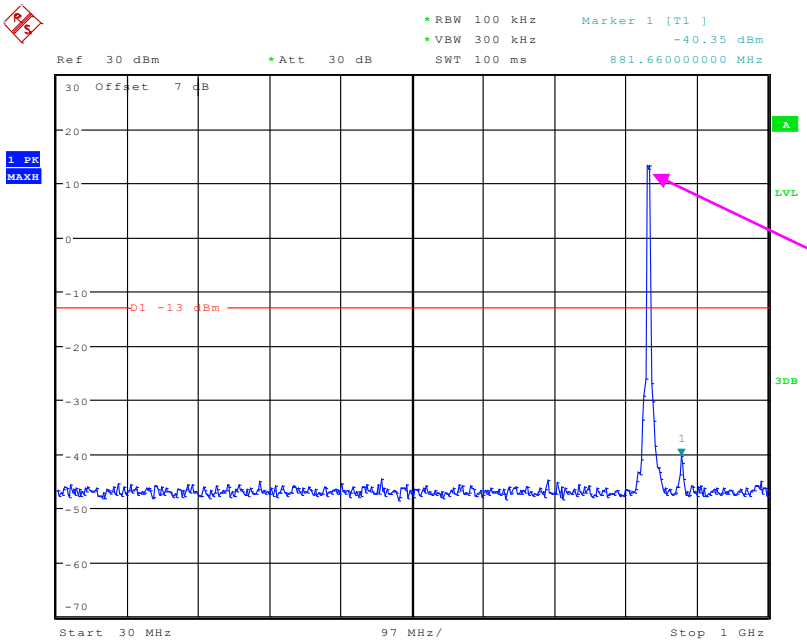
Date: 26.JUL.2020 14:52:39

1 GHz – 10 GHz (3.0 MHz, Middle channel)



Date: 26.JUL.2020 14:52:51

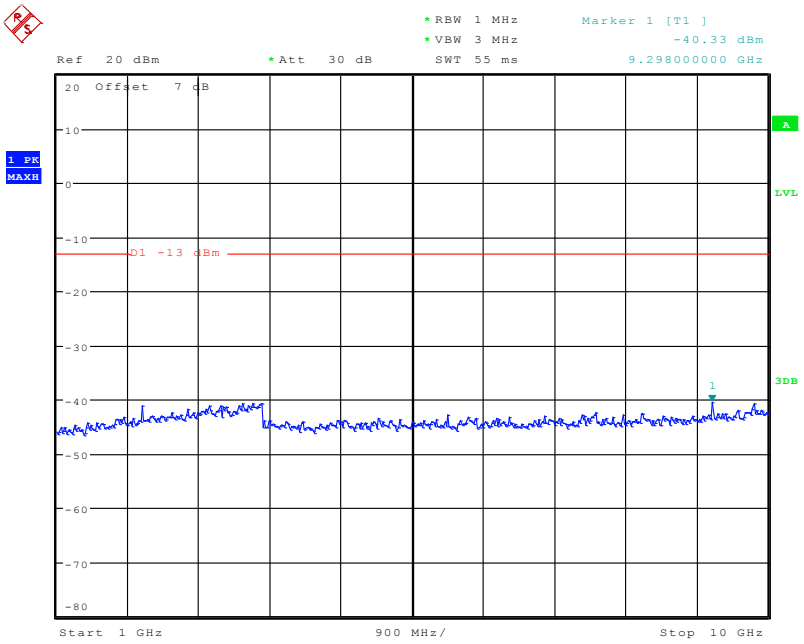
30 MHz - 1 GHz (5.0 MHz, Middle channel)



Fundamental test

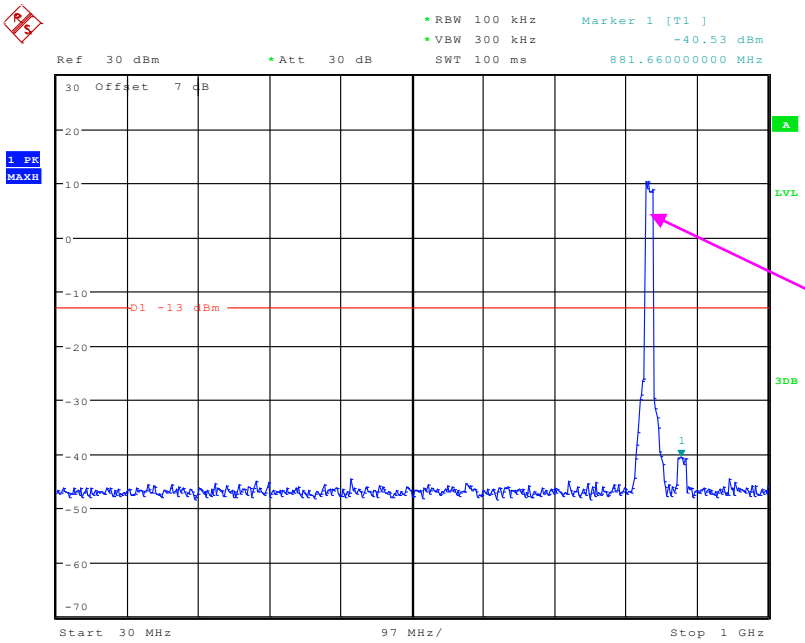
Date: 26.JUL.2020 14:53:09

1 GHz – 10 GHz (5.0 MHz, Middle channel)



Date: 26.JUL.2020 14:53:21

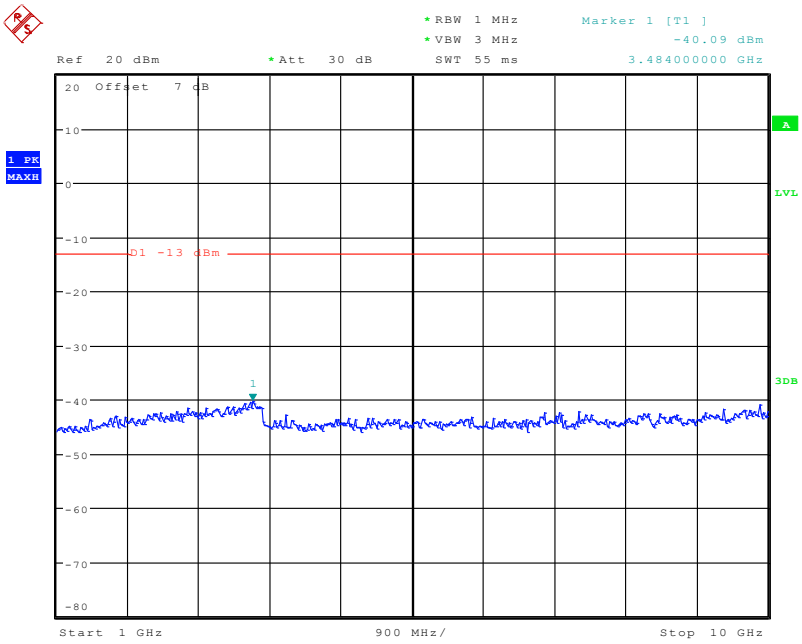
30 MHz - 1 GHz (10.0 MHz, Middle channel)



Fundamental test

Date: 26.JUL.2020 14:53:40

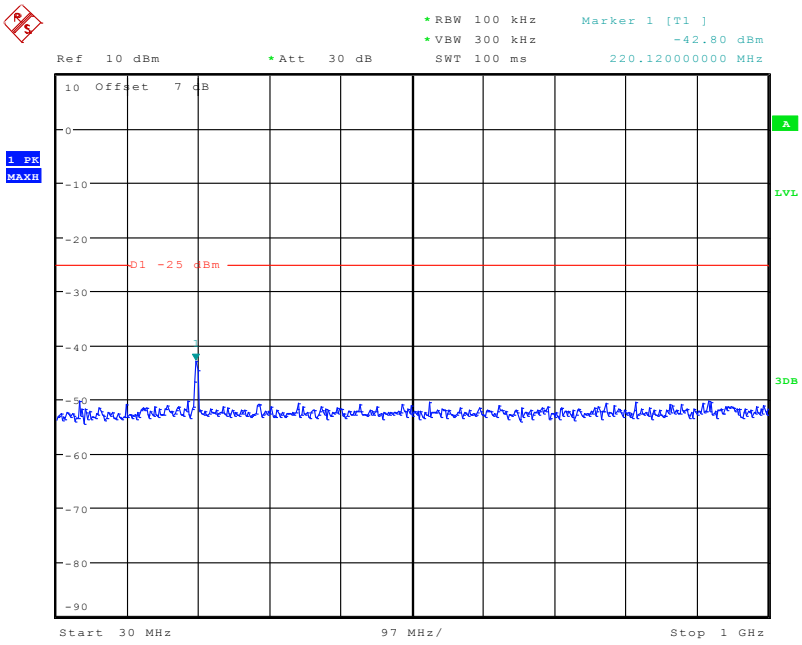
1 GHz – 10 GHz (10.0 MHz, Middle channel)



Date: 26.JUL.2020 14:53:51

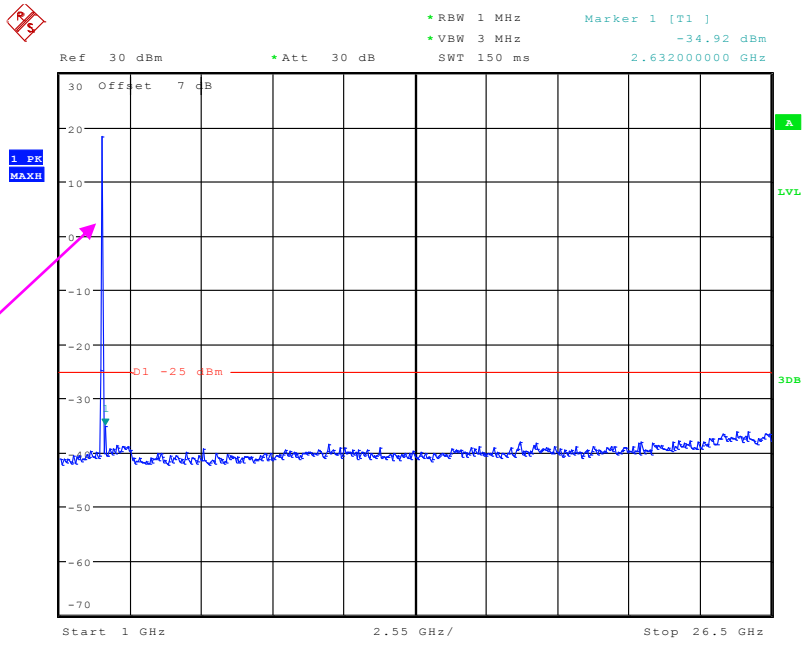
LTE Band 7:

30 MHz - 1 GHz (5.0 MHz, Middle channel)



Date: 26.JUL.2020 14:54:10

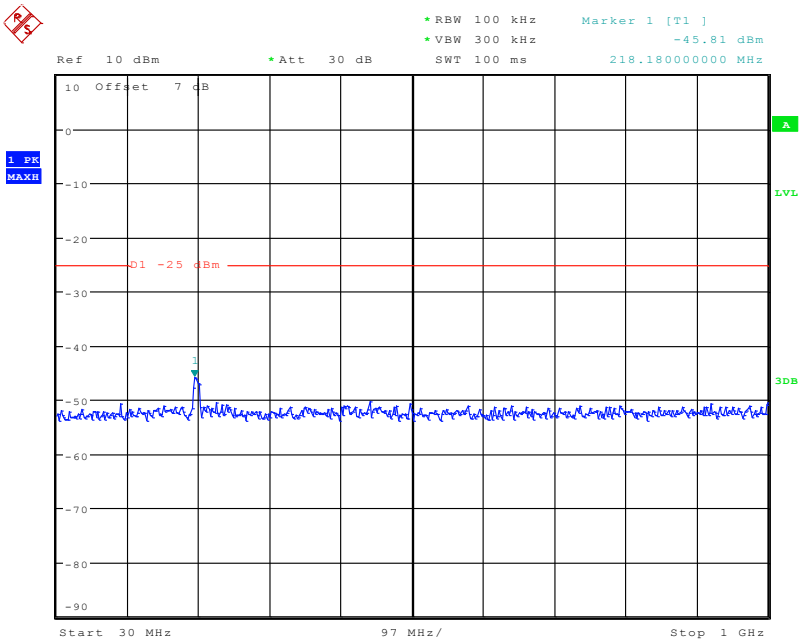
1 GHz – 26.5 GHz (5.0 MHz, Middle channel)



Fundamental test

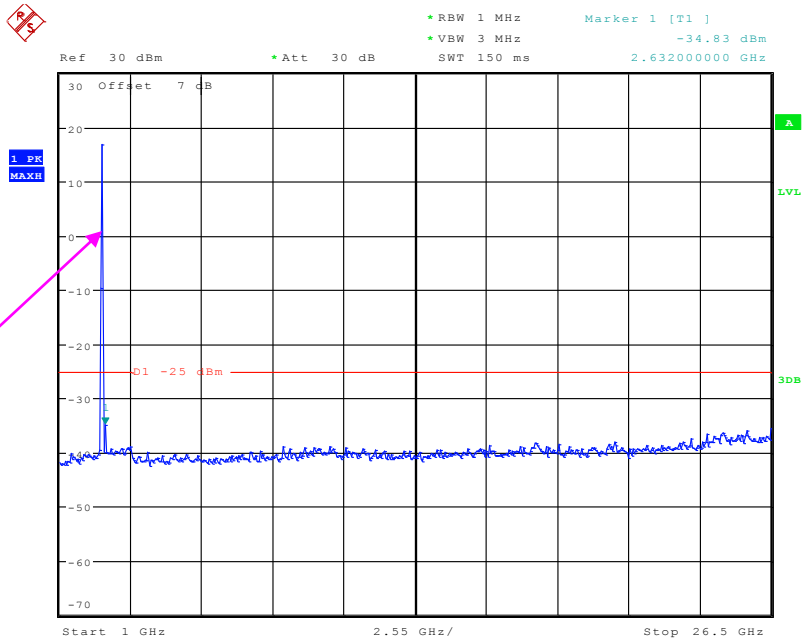
Date: 26.JUL.2020 14:54:21

30 MHz - 1 GHz (10.0 MHz, Middle channel)



Date: 26.JUL.2020 14:54:41

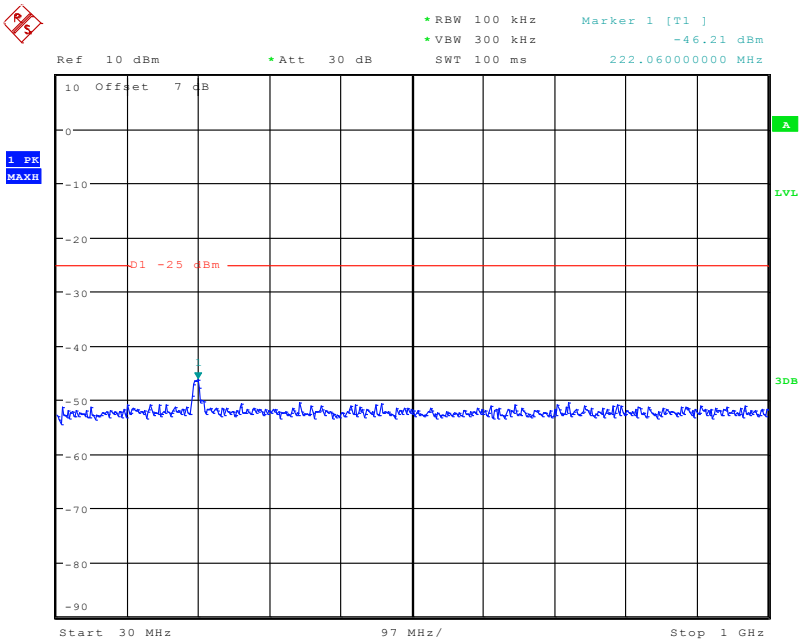
1 GHz – 26.5 GHz (10.0 MHz, Middle channel)



Fundamental test

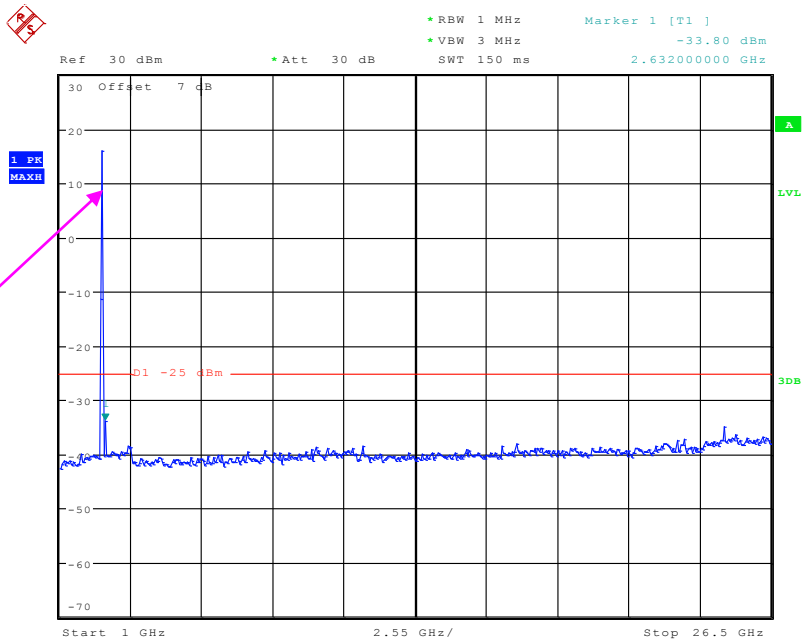
Date: 26.JUL.2020 14:54:53

30 MHz - 1 GHz (15.0 MHz, Middle channel)



Date: 26.JUL.2020 14:55:18

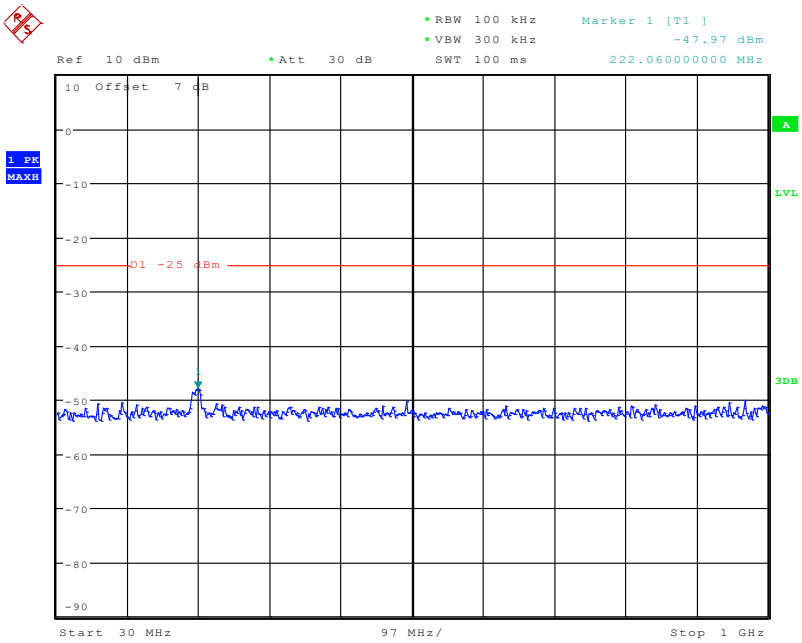
1 GHz – 26.5 GHz (15.0 MHz, Middle channel)



Fundamental test

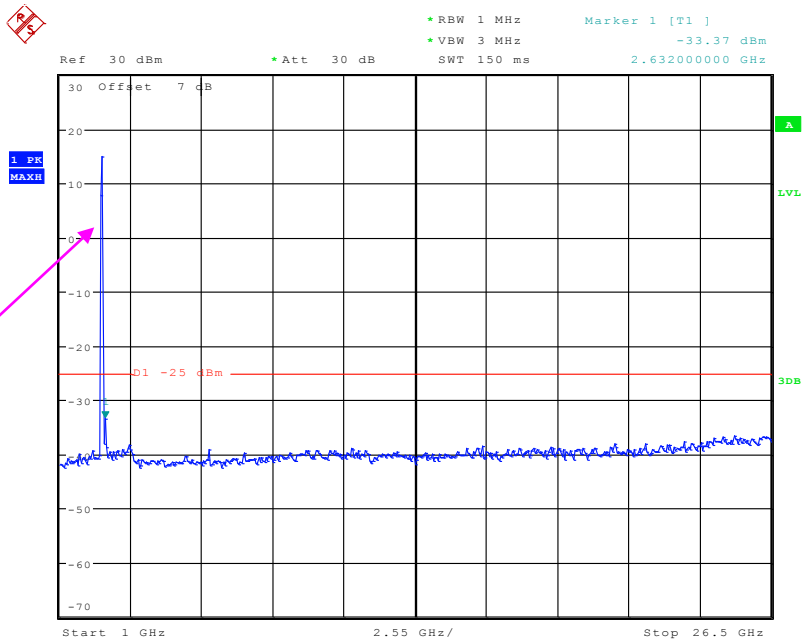
Date: 26.JUL.2020 14:55:29

30 MHz - 1 GHz (20.0 MHz, Middle channel)



Date: 26.JUL.2020 14:55:51

1 GHz – 26.5 GHz (20.0 MHz, Middle channel)

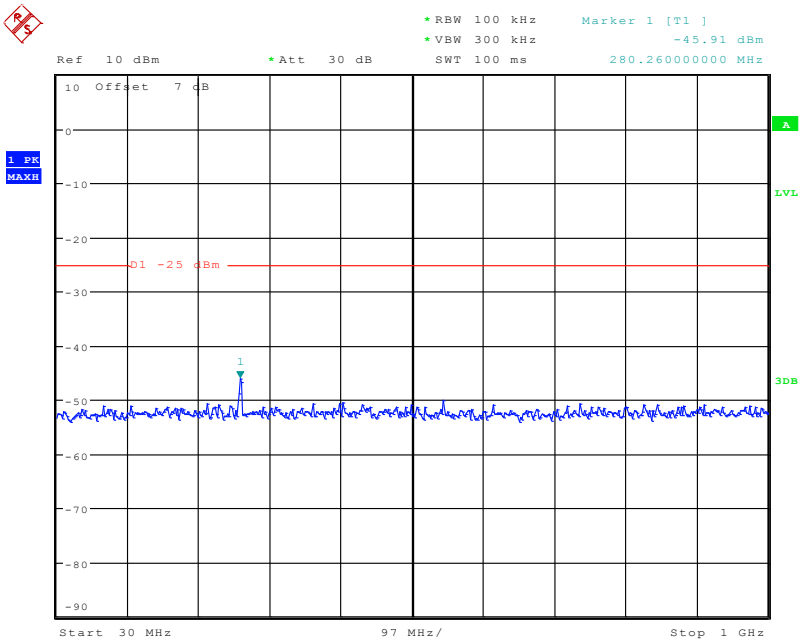


Fundamental test

Date: 26.JUL.2020 14:56:03

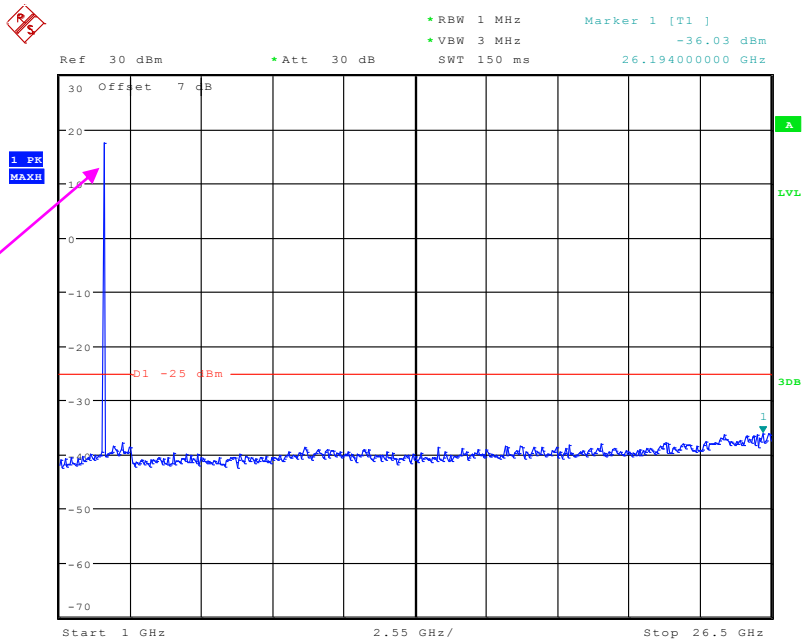
LTE Band 38:

30 MHz - 1 GHz (5.0 MHz, Middle channel)



Date: 26.JUL.2020 14:56:32

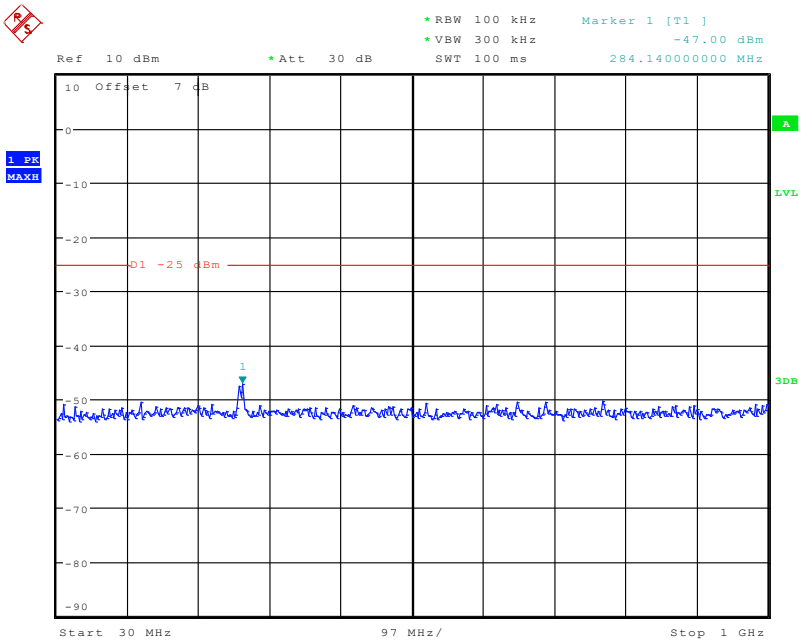
1 GHz – 10 GHz (5.0 MHz, Middle channel)



Fundamental test

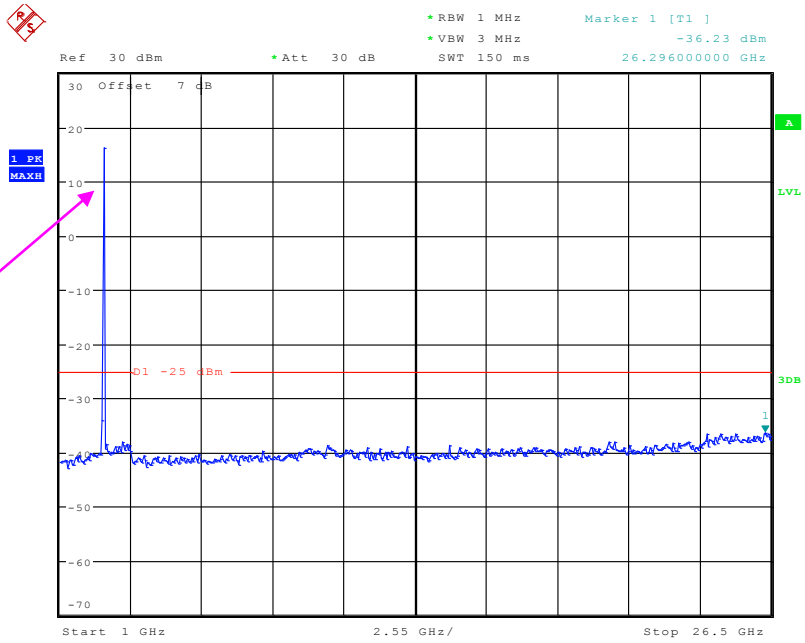
Date: 26.JUL.2020 14:56:44

30 MHz - 1 GHz (10.0 MHz, Middle channel)



Date: 26.JUL.2020 14:57:03

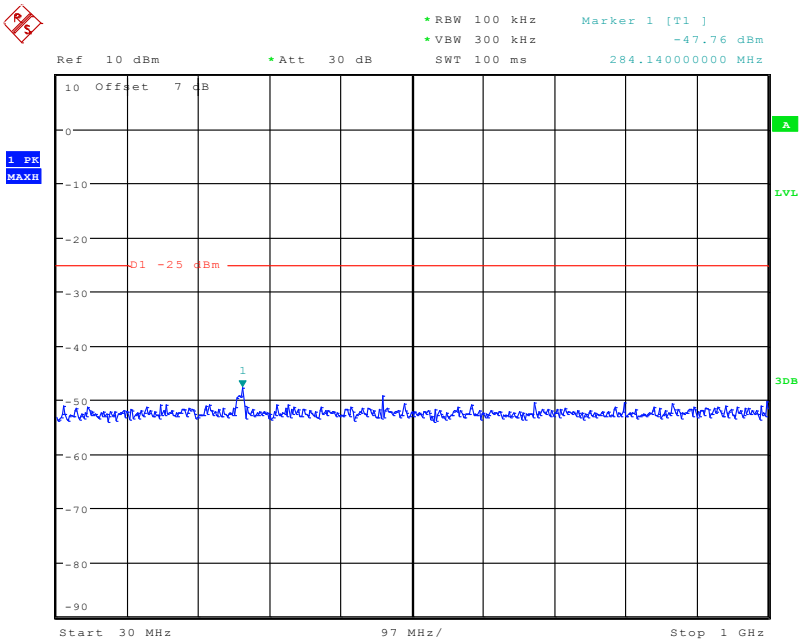
1 GHz – 10 GHz (10.0 MHz, Middle channel)



Fundamental test

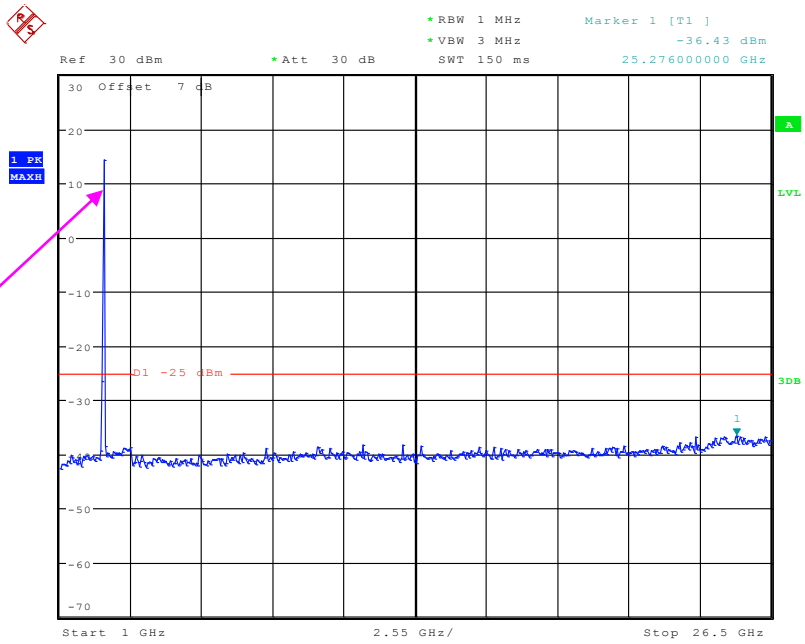
Date: 26.JUL.2020 14:57:15

30 MHz - 1 GHz (15.0 MHz, Middle channel)



Date: 26.JUL.2020 14:57:36

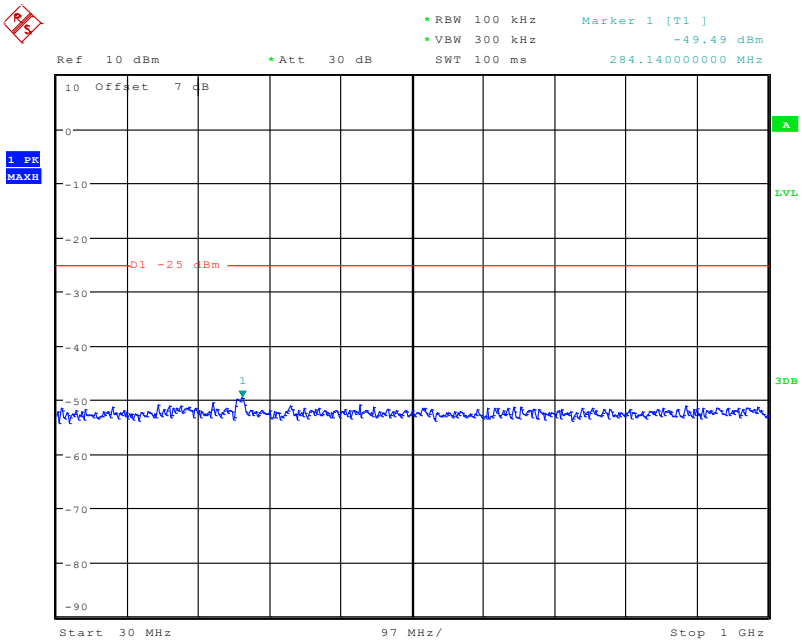
1 GHz – 26.5 GHz (15.0 MHz, Middle channel)



Fundamental test

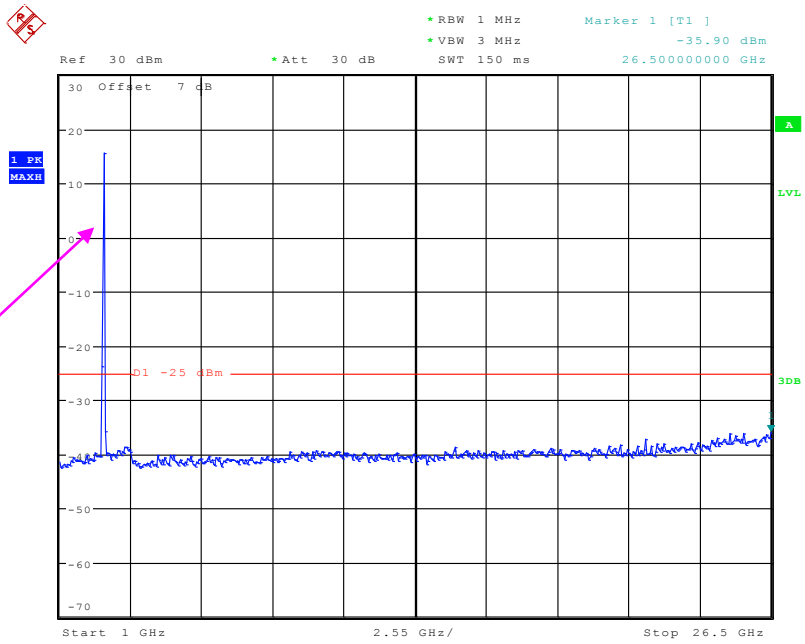
Date: 26.JUL.2020 14:57:48

30 MHz - 1 GHz (20.0 MHz, Middle channel)



Date: 26.JUL.2020 14:58:09

1 GHz – 26.5 GHz (20.0 MHz, Middle channel)

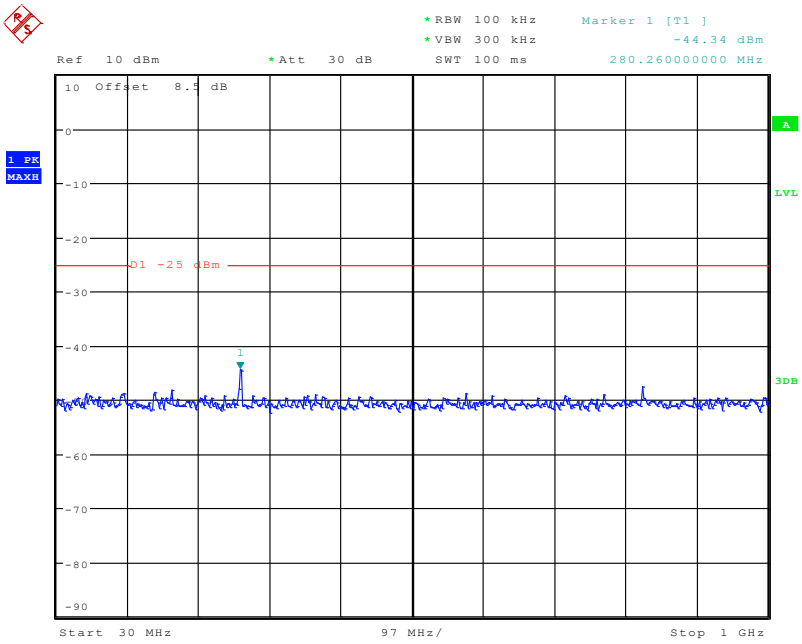


Fundamental test

Date: 26.JUL.2020 14:58:21

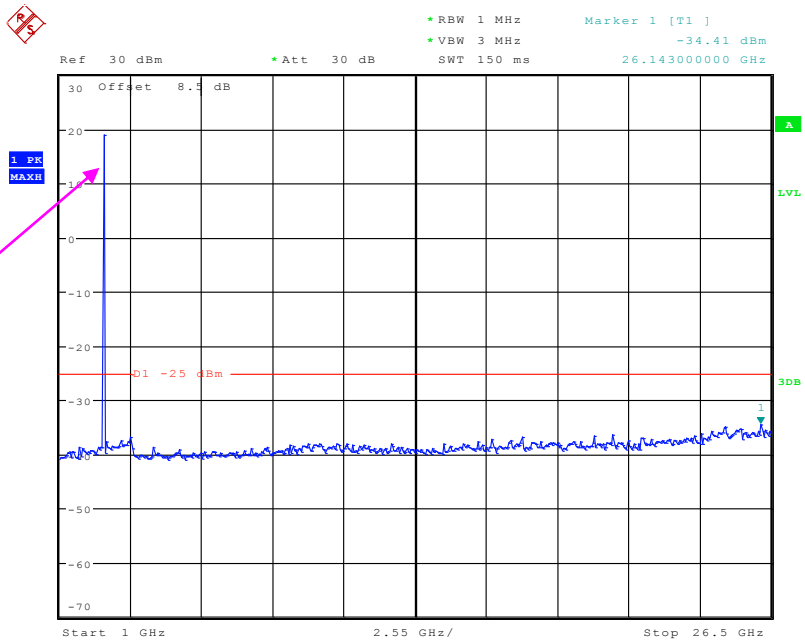
LTE Band 41:

30 MHz - 1 GHz (5.0 MHz, Middle channel)



Date: 31.JUL.2020 19:23:23

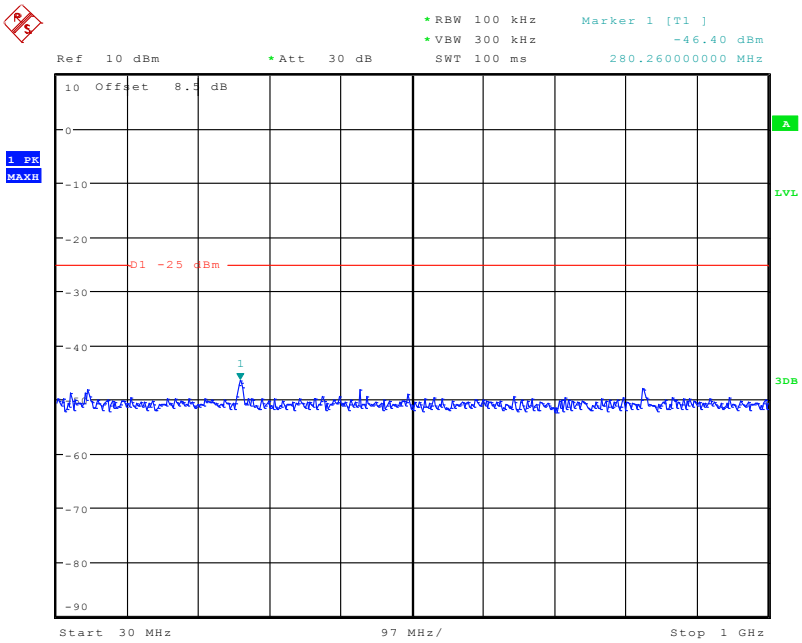
1 GHz – 10 GHz (5.0 MHz, Middle channel)



Fundamental test

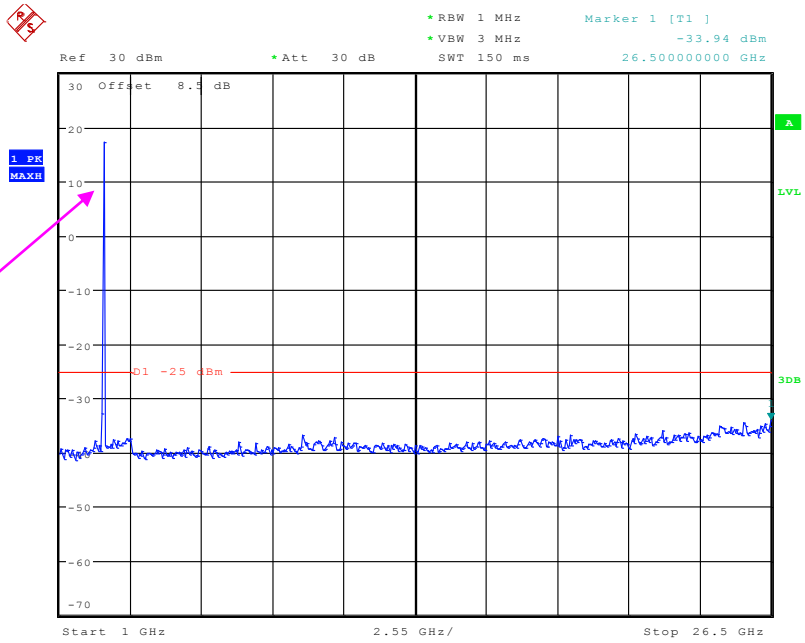
Date: 31.JUL.2020 19:23:34

30 MHz - 1 GHz (10.0 MHz, Middle channel)



Date: 31.JUL.2020 19:23:56

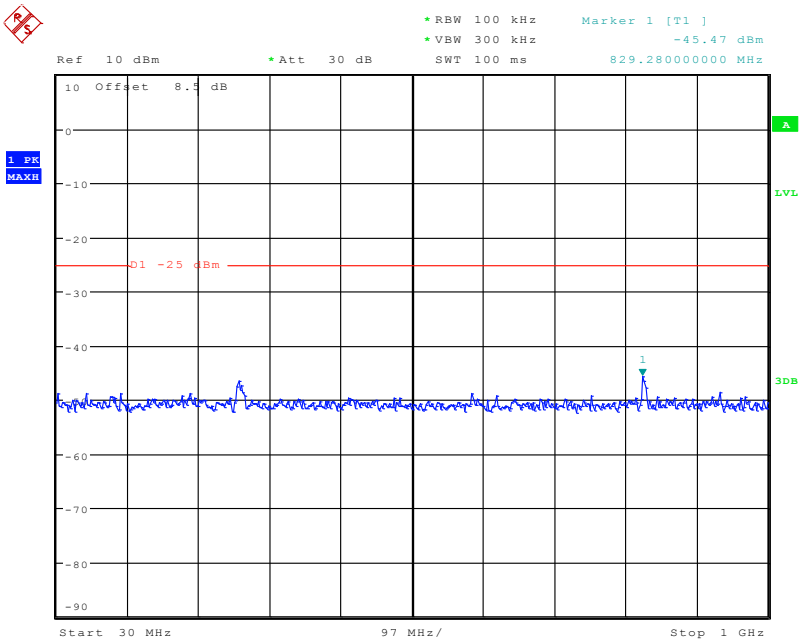
1 GHz – 10 GHz (10.0 MHz, Middle channel)



Fundamental test

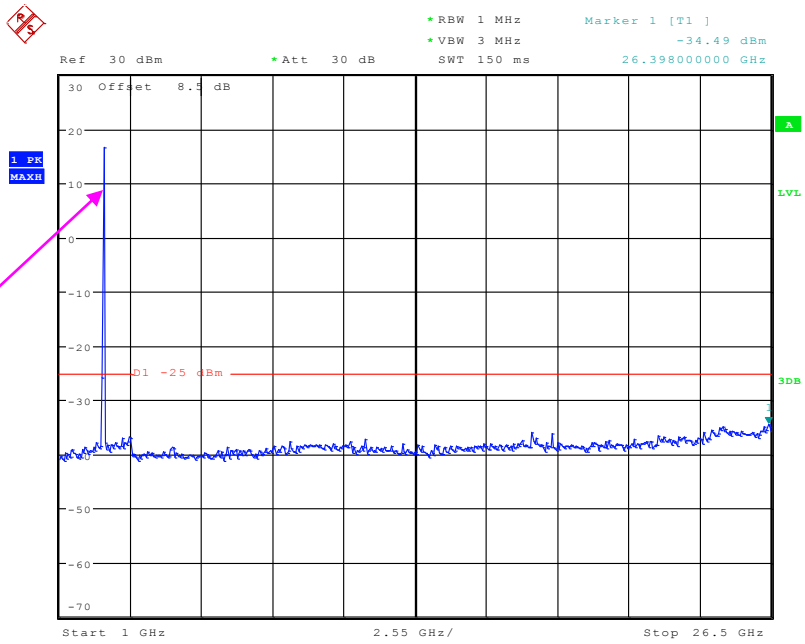
Date: 31.JUL.2020 19:24:07

30 MHz - 1 GHz (15.0 MHz, Middle channel)



Date: 31.JUL.2020 19:24:30

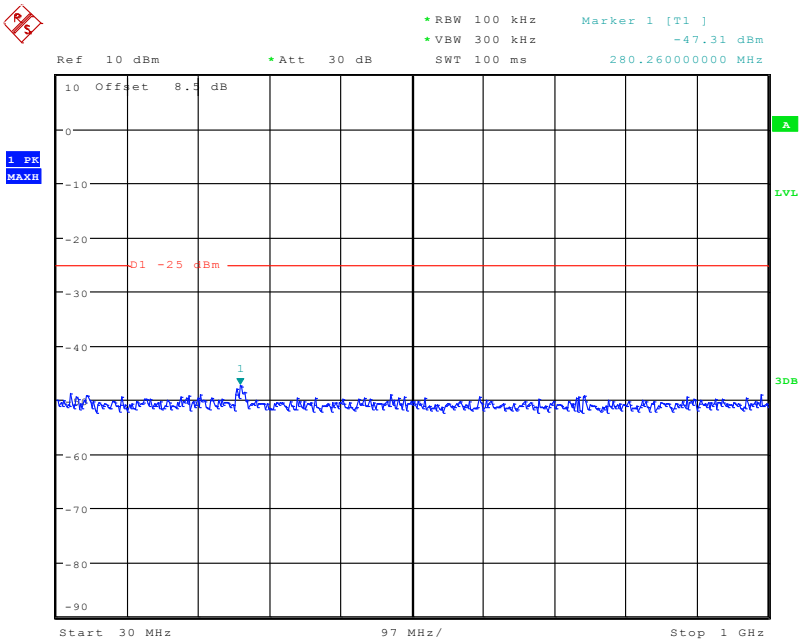
1 GHz – 26.5 GHz (15.0 MHz, Middle channel)



Fundamental test

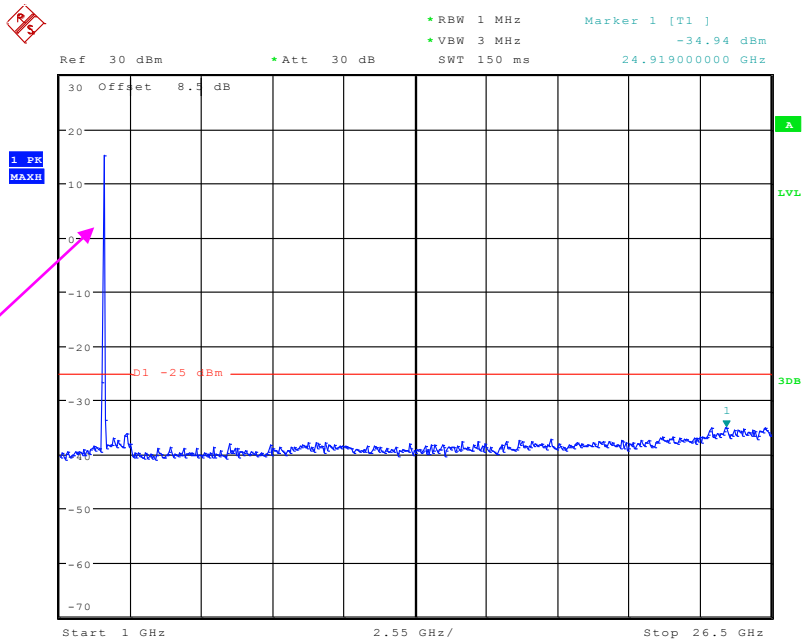
Date: 31.JUL.2020 19:24:41

30 MHz - 1 GHz (20.0 MHz, Middle channel)



Date: 31.JUL.2020 19:25:04

1 GHz – 26.5 GHz (20.0 MHz, Middle channel)



Fundamental test

Date: 31.JUL.2020 19:25:16

FCC §2.1053; §22.917 (a); §24.238 (a); §27.53 SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC §2.1053, §22.917(a) and §24.238(a) and §27.53

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Test Data

Environmental Conditions

Temperature:	24 ℃
Relative Humidity:	54 %
ATM Pressure:	101.0 kPa

The testing was performed by Harris He on 2020-08-22 for below 1GHz and Leven Gan from 2020-08-21 to 2020-08-25 for above 1GHz.

EUT operation mode: Transmitting

30 MHz ~ 10 GHz:

Cellular Band (Part 22H)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
GSM Mode										
Low channel										
959.7	37.23	233	1.9	H	-63.4	1.37	0.0	-64.77	-13	51.77
959.7	38.41	50	1.5	V	-60.9	1.37	0.0	-62.27	-13	49.27
1648.40	56.21	326	1.2	H	-51.9	1.40	8.70	-44.60	-13	31.60
1648.40	53.27	55	1.5	V	-54.6	1.40	8.70	-47.30	-13	34.30
2472.60	47.32	134	1.9	H	-56.0	2.60	10.20	-48.40	-13	35.40
2472.60	45.79	40	1.7	V	-57.0	2.60	10.20	-49.40	-13	36.40
3296.80	44.11	181	2.3	H	-56.8	1.50	11.70	-46.60	-13	33.60
3296.80	43.87	281	1.3	V	-57.1	1.50	11.70	-46.90	-13	33.90
Middle channel										
966.5	37.36	331	1.3	H	-63.2	1.37	0.0	-64.57	-13	51.57
966.5	38.21	38	1.0	V	-61.1	1.37	0.0	-62.47	-13	49.47
1673.20	55.06	295	2.4	H	-51.3	1.30	8.90	-43.70	-13	30.70
1673.20	52.97	0	1.0	V	-52.8	1.30	8.90	-45.20	-13	32.20
2509.80	46.52	353	1.7	H	-56.8	2.60	10.20	-49.20	-13	36.20
2509.80	45.39	206	2.0	V	-57.4	2.60	10.20	-49.80	-13	36.80
3346.40	44.21	155	1.7	H	-56.7	1.50	11.70	-46.50	-13	33.50
3346.40	43.89	176	1.7	V	-57.0	1.50	11.70	-46.80	-13	33.80
High channel										
962.1	37.56	225	2.1	H	-63.0	1.37	0.0	-64.37	-13	51.37
962.1	38.19	265	1.7	V	-61.2	1.37	0.0	-62.57	-13	49.57
1697.60	55.12	345	1.3	H	-51.2	1.30	8.90	-43.60	-13	30.60
1697.60	52.84	173	2.3	V	-52.9	1.30	8.90	-45.30	-13	32.30
2546.40	46.12	25	1.8	H	-57.2	2.60	10.20	-49.60	-13	36.60
2546.40	45.81	260	1.6	V	-56.9	2.60	10.20	-49.30	-13	36.30
3395.20	43.93	294	1.6	H	-57.3	1.40	11.80	-46.90	-13	33.90
3395.20	43.92	349	2.3	V	-57.1	1.40	11.80	-46.70	-13	33.70

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
WCDMA Mode										
Low channel										
956.3	37.38	313	2.5	H	-63.2	1.37	0.0	-64.57	-13	51.57
956.3	38.52	71	2.4	V	-60.8	1.37	0.0	-62.17	-13	49.17
1652.80	44.19	127	1.2	H	-62.1	1.30	8.90	-54.50	-13	41.50
1652.80	43.92	291	1.5	V	-61.8	1.30	8.90	-54.20	-13	41.20
Middle channel										
951.2	37.19	41	2.3	H	-63.4	1.37	0.0	-64.77	-13	51.77
951.2	38.22	167	2.4	V	-61.1	1.37	0.0	-62.47	-13	49.47
1673.20	44.29	294	2.4	H	-62.0	1.30	8.90	-54.40	-13	41.40
1673.20	43.89	175	2.0	V	-61.8	1.30	8.90	-54.20	-13	41.20
High channel										
949.7	37.51	296	2.3	H	-63.1	1.37	0.0	-64.47	-13	51.47
949.7	38.66	332	2.3	V	-60.7	1.37	0.0	-62.07	-13	49.07
1693.20	44.12	23	2.4	H	-62.2	1.30	8.90	-54.60	-13	41.60
1693.20	43.87	180	1.9	V	-61.9	1.30	8.90	-54.30	-13	41.30

30 MHz ~ 20 GHz:

PCS Band (Part 24E)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 24E	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
GSM Mode										
Low channel										
958.2	37.22	196	2.1	H	-63.4	1.37	0.0	-64.77	-13	51.77
958.2	38.16	323	1.0	V	-61.2	1.37	0.0	-62.57	-13	49.57
3700.4	44.12	152	1.4	H	-57.7	1.60	11.90	-47.40	-13	34.40
3700.4	43.95	311	1.2	V	-57.3	1.60	11.90	-47.00	-13	34.00
Middle channel										
949.8	37.48	235	1.5	H	-63.1	1.37	0.0	-64.47	-13	52.87
949.8	38.63	144	1.8	V	-60.7	1.37	0.0	-62.07	-13	50.57
3760.00	43.85	185	1.4	H	-58.2	1.50	11.80	-47.90	-13	34.90
3760.00	43.81	42	1.8	V	-57.8	1.50	11.80	-47.50	-13	34.50
High channel										
954.7	37.39	344	1.3	H	-63.2	1.37	0.0	-64.57	-13	51.57
954.7	38.57	284	2.5	V	-60.8	1.37	0.0	-62.17	-13	49.17
3819.6	43.89	318	1.9	H	-58.2	1.50	11.80	-47.90	-13	34.90
3819.6	43.87	33	1.7	V	-57.7	1.50	11.80	-47.40	-13	34.40

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 24E	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
WCDMA Mode										
Low channel										
963.5	37.23	39	1.4	H	-63.4	1.37	0.0	-64.77	-13	51.77
963.5	38.19	25	1.4	V	-61.2	1.37	0.0	-62.57	-13	49.57
3704.80	44.26	165	1.6	H	-57.5	1.60	11.90	-47.20	-13	34.20
3704.80	43.99	189	1.1	V	-57.2	1.60	11.90	-46.90	-13	33.90
Middle channel										
962.8	37.43	231	2.5	H	-63.2	1.37	0.0	-64.57	-13	51.57
962.8	38.22	338	1.0	V	-61.1	1.37	0.0	-62.47	-13	49.47
3760.00	44.06	103	2.5	H	-58.0	1.50	11.80	-47.70	-13	34.70
3760.00	43.95	83	1.8	V	-57.6	1.50	11.80	-47.30	-13	34.30
High channel										
947.4	37.52	98	1.8	H	-63.1	1.37	0.0	-64.47	-13	51.47
947.4	38.36	138	1.8	V	-61.0	1.37	0.0	-62.37	-13	49.37
3815.20	44.13	353	2.4	H	-57.9	1.50	11.80	-47.60	-13	34.60
3815.20	43.97	118	1.9	V	-57.6	1.50	11.80	-47.30	-13	34.30

30 MHz ~ 20 GHz:

AWS Band

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 27	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
WCDMA Mode										
Low channel										
954.2	37.73	154	1.9	H	-62.9	1.37	0.0	-64.27	-13	51.27
954.2	38.62	104	1.0	V	-60.7	1.37	0.0	-62.07	-13	49.07
3424.80	45.85	135	2.2	H	-54.9	1.40	11.80	-44.50	-13	31.50
3424.80	43.92	286	1.9	V	-56.7	1.40	11.80	-46.30	-13	33.30
Middle channel										
958.6	37.49	31	2.3	H	-63.1	1.37	0.0	-64.47	-13	51.47
958.6	38.55	269	1.9	V	-60.8	1.37	0.0	-62.17	-13	49.17
3465.00	45.55	252	2.1	H	-55.2	1.50	12.00	-44.70	-13	31.70
3465.00	44.03	255	1.9	V	-57.5	1.50	12.00	-47.00	-13	34.00
High channel										
961.4	37.76	307	1.4	H	-62.8	1.37	0.0	-64.17	-13	51.17
961.4	38.65	74	1.4	V	-60.7	1.37	0.0	-62.07	-13	49.07
3505.20	45.38	25	2.1	H	-55.4	1.50	12.00	-44.90	-13	31.90
3505.20	43.94	105	2.1	V	-57.6	1.50	12.00	-47.10	-13	34.10

LTE Band: *(Pre-scan with all the bandwidth, and worse case as below)*

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBµV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 2										
Test frequency range:30 MHz ~ 20 GHz										
1.4 MHz, Low channel										
949.4	37.78	262	2.1	H	-62.8	1.37	0.0	-64.17	-13	51.17
949.4	38.82	80	1.9	V	-60.5	1.37	0.0	-61.87	-13	48.87
3701.40	44.51	20	2.0	H	-58.2	1.60	11.90	-47.90	-13	34.90
3701.40	44.13	172	1.6	V	-58.0	1.60	11.90	-47.70	-13	34.70
1.4 MHz, Middle channel										
968.6	37.35	116	1.0	H	-63.2	1.37	0.0	-64.57	-13	51.57
968.6	38.26	86	1.4	V	-61.1	1.37	0.0	-62.47	-13	49.47
3760.00	44.88	38	2.3	H	-58.2	1.50	11.80	-47.90	-13	34.90
3760.00	44.09	301	2.0	V	-58.6	1.50	11.80	-48.30	-13	35.30
1.4 MHz, High channel										
944.7	37.55	216	1.1	H	-63.0	1.37	0.0	-64.37	-13	51.37
944.7	38.41	37	1.8	V	-60.9	1.37	0.0	-62.27	-13	49.27
3818.60	44.71	112	1.4	H	-58.4	1.50	11.80	-48.10	-13	35.10
3818.60	43.99	318	2.4	V	-58.7	1.50	11.80	-48.40	-13	35.40
Band 4										
Test frequency range:30 MHz ~ 20 GHz										
1.4 MHz, Low channel										
961.3	37.48	201	2.0	H	-63.1	1.37	0.0	-64.47	-13	51.47
961.3	38.15	223	1.5	V	-61.2	1.37	0.0	-62.57	-13	49.57
3421.40	43.98	88	1.1	H	-57.5	1.40	11.80	-47.10	-13	34.10
3421.40	43.46	244	1.8	V	-57.8	1.40	11.80	-47.40	-13	34.40
1.4 MHz, Middle channel										
968.6	37.35	116	1.0	H	-63.2	1.37	0.0	-64.57	-13	51.57
968.6	38.26	86	1.4	V	-61.1	1.37	0.0	-62.47	-13	49.47
3465.00	44.07	18	1.1	H	-57.4	1.50	12.00	-46.90	-13	33.90
3465.00	43.43	83	1.6	V	-58.8	1.50	12.00	-48.30	-13	35.30
1.4 MHz, High channel										
944.7	37.55	216	1.1	H	-63.0	1.37	0.0	-64.37	-13	51.37
944.7	38.41	37	1.8	V	-60.9	1.37	0.0	-62.27	-13	49.27
3508.60	43.94	93	1.5	H	-57.5	1.50	12.00	-47.00	-13	34.00
3508.60	43.27	22	2.0	V	-59.0	1.50	12.00	-48.50	-13	35.50

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBµV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 5										
Test frequency range: 30 MHz ~ 10 GHz										
1.4 MHz, Low channel										
967.2	37.18	318	1.4	H	-63.4	1.37	0.0	-64.77	-13	51.77
967.2	38.29	291	1.8	V	-61.1	1.37	0.0	-62.47	-13	49.47
1649.40	43.94	319	1.6	H	-64.1	1.40	8.70	-56.80	-13	43.80
1649.40	43.27	48	1.4	V	-64.6	1.40	8.70	-57.30	-13	44.30
1.4 MHz, Middle channel										
951.9	37.23	251	1.4	H	-63.4	1.37	0.0	-64.77	-13	51.77
951.9	38.12	207	1.1	V	-61.2	1.37	0.0	-62.57	-13	49.57
1673.00	44.61	274	1.2	H	-61.7	1.30	8.90	-54.10	-13	41.10
1673.00	44.32	199	2.4	V	-61.4	1.30	8.90	-53.80	-13	40.80
1.4 MHz, High channel										
949.7	37.37	35	1.4	H	-63.2	1.37	0.0	-64.57	-13	51.57
949.7	38.58	318	1.4	V	-60.8	1.37	0.0	-62.17	-13	49.17
1696.60	43.84	40	2.1	H	-62.5	1.30	8.90	-54.90	-13	41.90
1696.60	43.64	45	2.4	V	-62.1	1.30	8.90	-54.50	-13	41.50
Band 7										
Test frequency range: 30 MHz ~ 26.5 GHz										
5 MHz, Low channel										
955.3	37.68	354	2.3	H	-62.9	1.37	0.0	-64.27	-25	39.27
955.3	38.57	71	2.2	V	-60.8	1.37	0.0	-62.17	-25	37.17
5005.00	44.10	22	1.7	H	-56.5	1.70	12.00	-46.20	-25	21.20
5005.00	43.41	107	1.6	V	-56.6	1.70	12.00	-46.30	-25	21.30
5 MHz, Middle channel										
960.6	37.16	284	1.7	H	-63.4	1.37	0.0	-64.77	-25	39.77
960.6	38.09	315	2.5	V	-61.3	1.37	0.0	-62.67	-25	37.67
5070.00	43.74	34	2.2	H	-56.3	1.60	12.10	-45.80	-25	20.80
5070.00	43.52	56	1.2	V	-56.5	1.60	12.10	-46.00	-25	21.00
5 MHz, High channel										
965.5	37.51	96	1.7	H	-63.1	1.37	0.0	-64.47	-25	39.47
965.5	38.33	215	1.8	V	-61.0	1.37	0.0	-62.37	-25	37.37
5135.00	43.91	324	1.4	H	-56.1	1.60	12.10	-45.60	-25	20.60
5135.00	43.46	82	2.0	V	-56.6	1.60	12.10	-46.10	-25	21.10

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBµV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 38										
Test frequency range: 30 MHz ~ 26.5 GHz										
5 MHz, Low channel										
949.4	37.58	301	1.2	H	-63.0	1.37	0.0	-64.37	-25	39.37
949.4	38.45	335	1.5	V	-60.9	1.37	0.0	-62.27	-25	37.27
5145.00	44.36	327	2.5	H	-55.6	1.60	12.10	-45.10	-25	20.10
5145.00	43.67	112	2.3	V	-56.3	1.60	12.10	-45.80	-25	20.80
5 MHz, Middle channel										
968.6	37.36	253	1.8	H	-63.2	1.37	0.0	-64.57	-25	39.57
968.6	38.29	335	2.4	V	-61.1	1.37	0.0	-62.47	-25	37.47
5190.00	44.74	85	1.5	H	-55.4	1.60	12.10	-44.90	-25	19.90
5190.00	43.81	229	2.3	V	-55.8	1.60	12.10	-45.30	-25	20.30
5 MHz, High channel										
944.7	37.82	251	1.8	H	-62.8	1.37	0.0	-64.17	-25	39.17
944.7	38.67	124	2.5	V	-60.7	1.37	0.0	-62.07	-25	37.07
5035.00	44.42	228	1.2	H	-56.2	1.70	12.00	-45.90	-25	20.90
5035.00	43.34	220	2.4	V	-56.7	1.70	12.00	-46.40	-25	21.40
Band 41										
Test frequency range: 30 MHz ~ 26.5 GHz										
5 MHz, Low channel										
959.3	37.73	154	1.9	H	-62.9	1.37	0.0	-64.27	-25	39.27
959.3	38.64	217	1.3	V	-60.7	1.37	0.0	-62.07	-25	37.07
5075.00	44.52	227	1.3	H	-55.5	1.60	12.10	-45.00	-25	20.00
5075.00	44.02	247	1.7	V	-56.0	1.60	12.10	-45.50	-25	20.50
5 MHz, Middle channel										
952.1	37.69	79	1.7	H	-62.9	1.37	0.0	-64.27	-25	39.27
952.1	38.82	156	1.0	V	-60.5	1.37	0.0	-61.87	-25	36.87
5186.00	43.95	304	2.0	H	-56.1	1.60	12.10	-45.60	-25	20.60
5186.00	44.82	113	1.8	V	-54.8	1.60	12.10	-44.30	-25	19.30
5 MHz, High channel										
967.0	37.61	108	2.2	H	-63.0	1.37	0.0	-64.37	-25	39.37
967.0	38.59	142	2.4	V	-60.8	1.37	0.0	-62.17	-25	37.17
5125.00	44.14	39	1.8	H	-55.9	1.60	12.10	-45.40	-25	20.40
5125.00	43.27	86	1.8	V	-56.7	1.60	12.10	-46.20	-25	21.20

Note:
Absolute Level = Substituted Level - Cable loss + Antenna Gain
Margin = Limit- Absolute Level
dBd is for the ERP, dBi is for EIRP.

FCC §22.917 (a); §24.238 (a); §27.53 (h)(m) - BAND EDGES

Applicable Standard

According to §22.917(a), the power of any emissions 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.

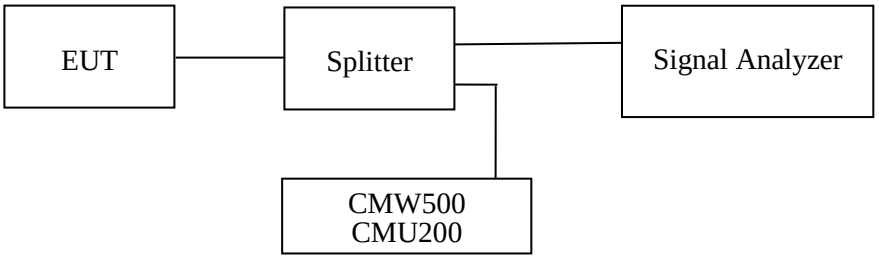
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to FCC §27.53 (h)(m), 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.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency



Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

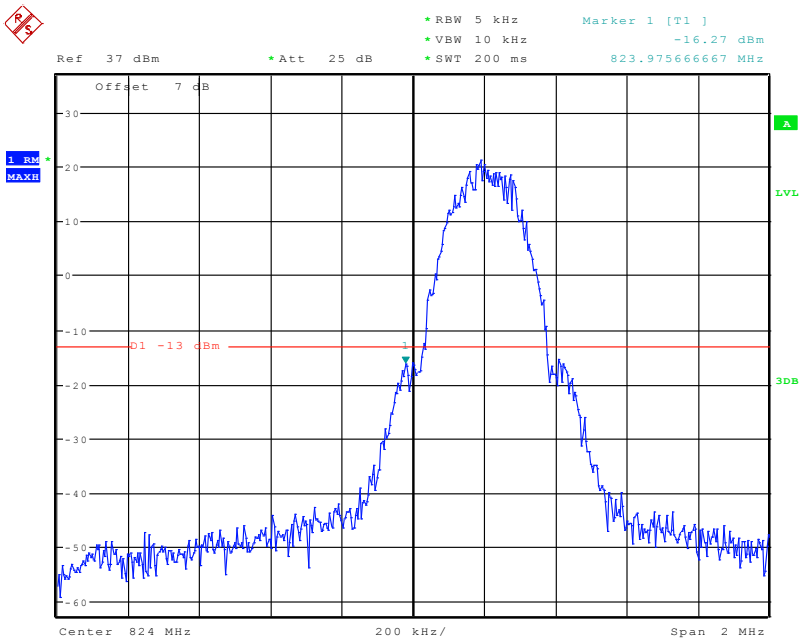
The testing was performed by George Zhong from 2020-07-26 to 2020-07-31.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

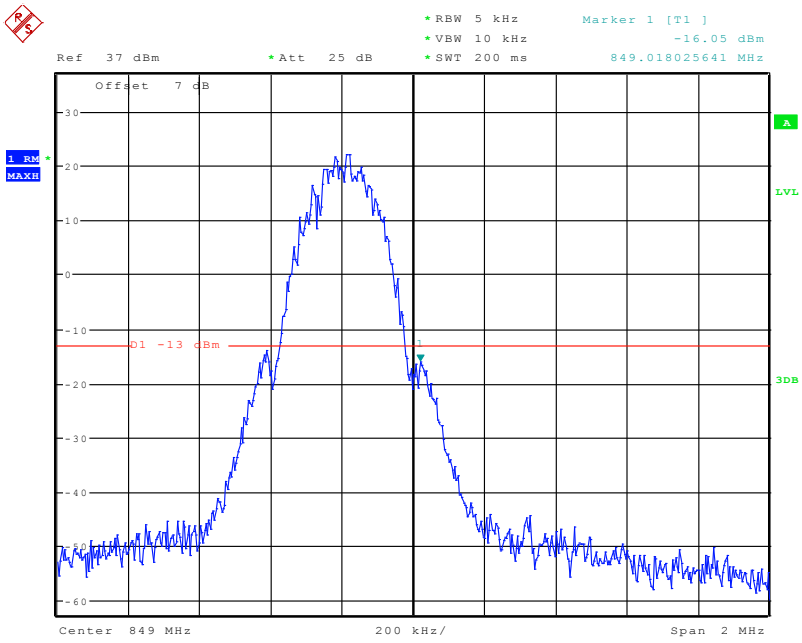
Please refer to the following plots.

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



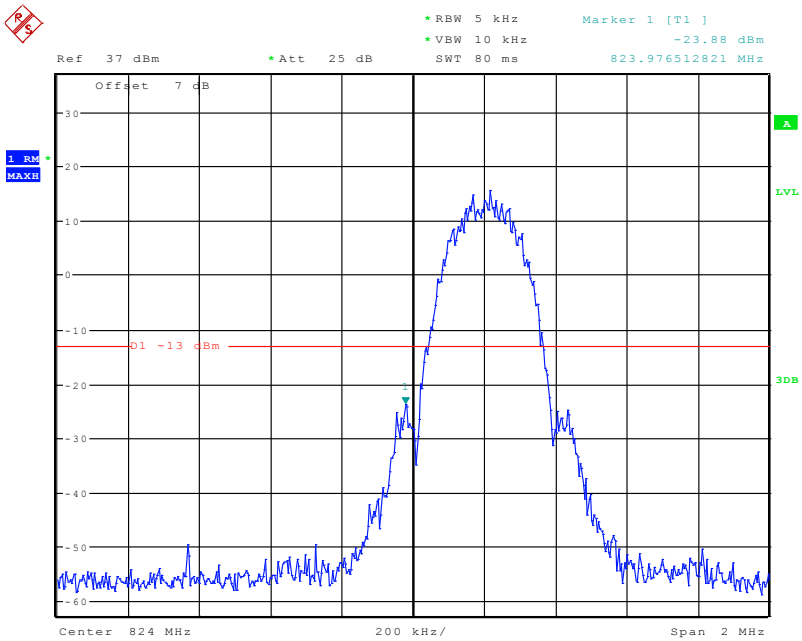
Date: 26.JUL.2020 19:03:08

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



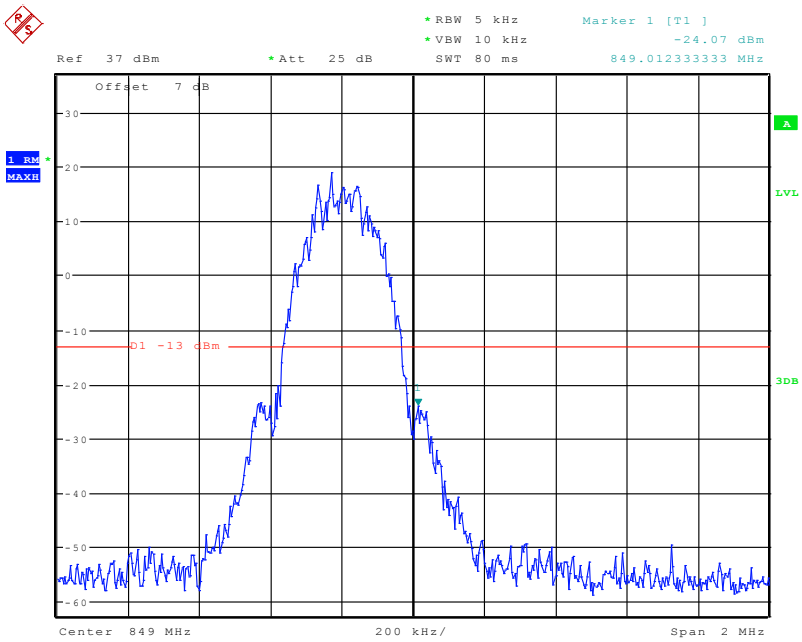
Date: 26.JUL.2020 19:03:32

Cellular Band, Left Band Edge for EGPRS (GMSK) Mode



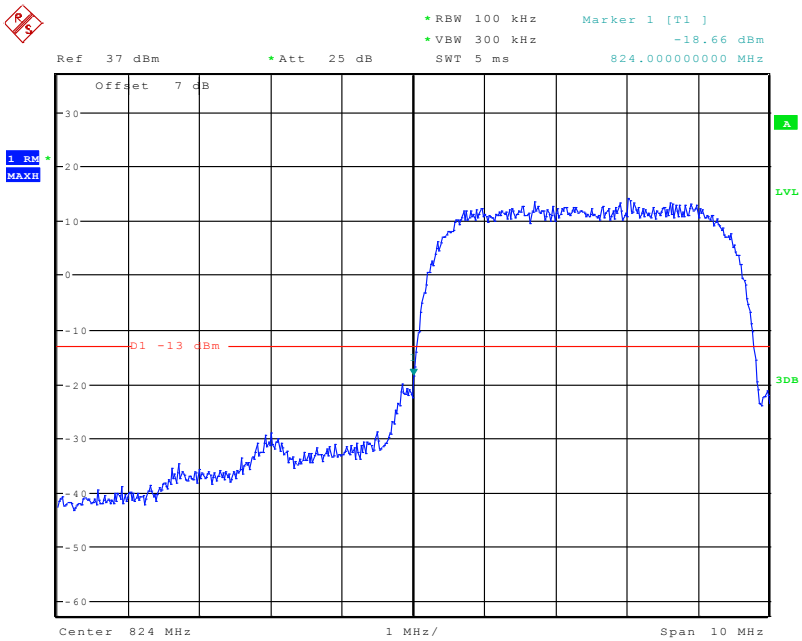
Date: 26.JUL.2020 19:05:31

Cellular Band, Right Band Edge for EGPRS (GMSK) Mode



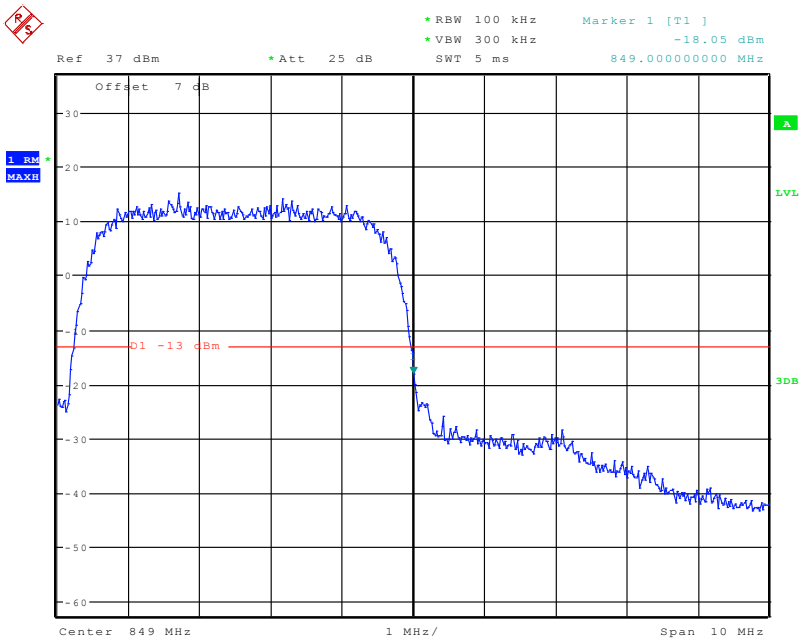
Date: 26.JUL.2020 19:05:09

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



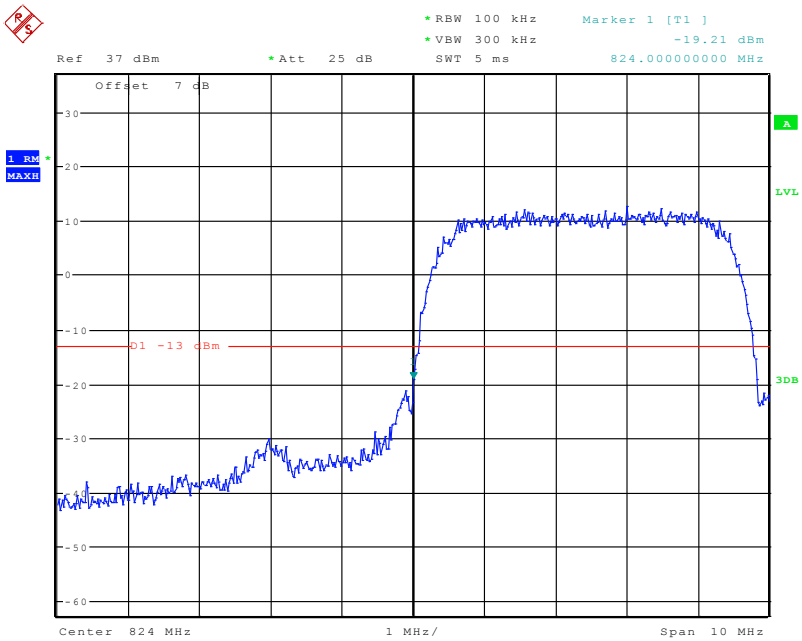
Date: 26.JUL.2020 17:27:22

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



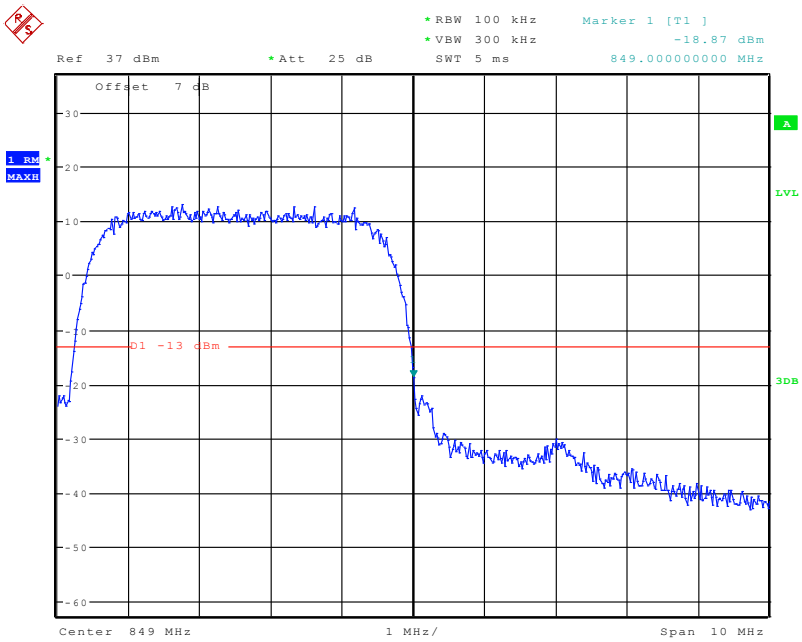
Date: 26.JUL.2020 17:27:39

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



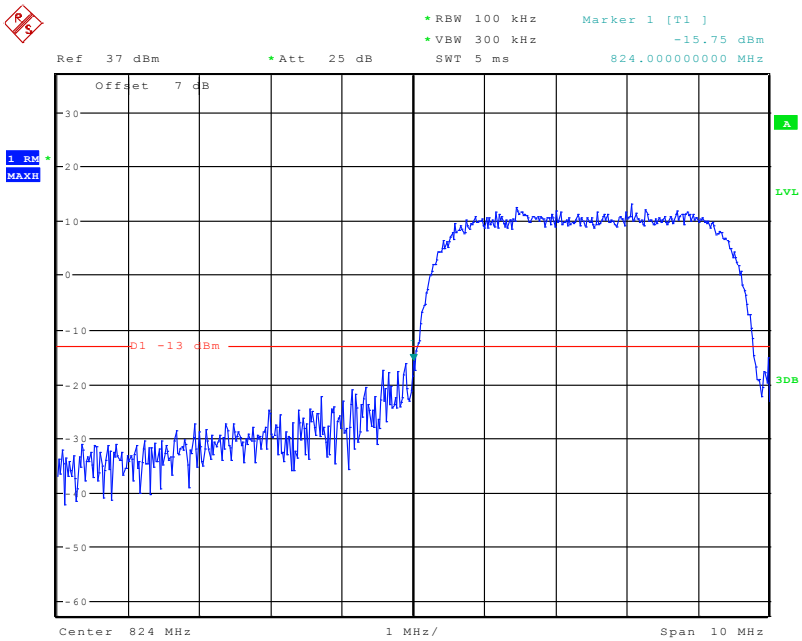
Date: 26.JUL.2020 17:26:46

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



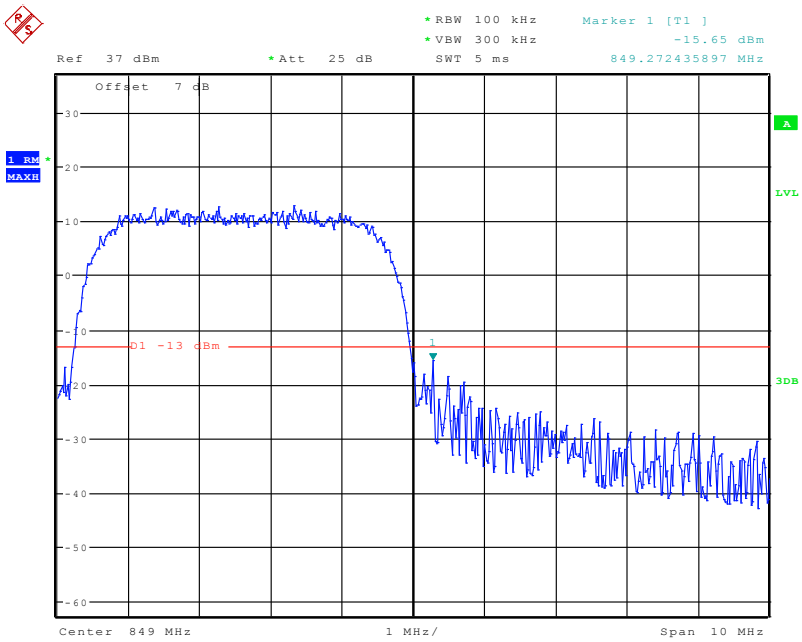
Date: 26.JUL.2020 17:26:19

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



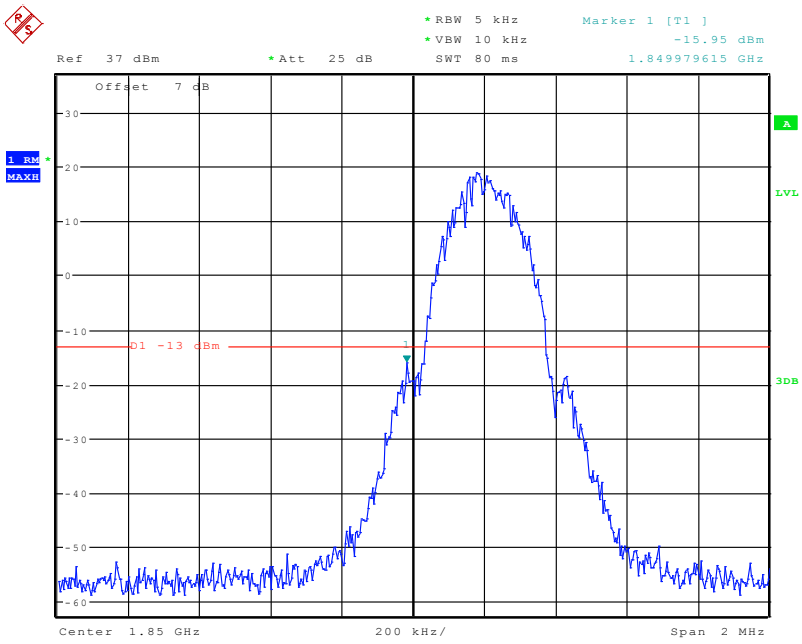
Date: 26.JUL.2020 17:22:32

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



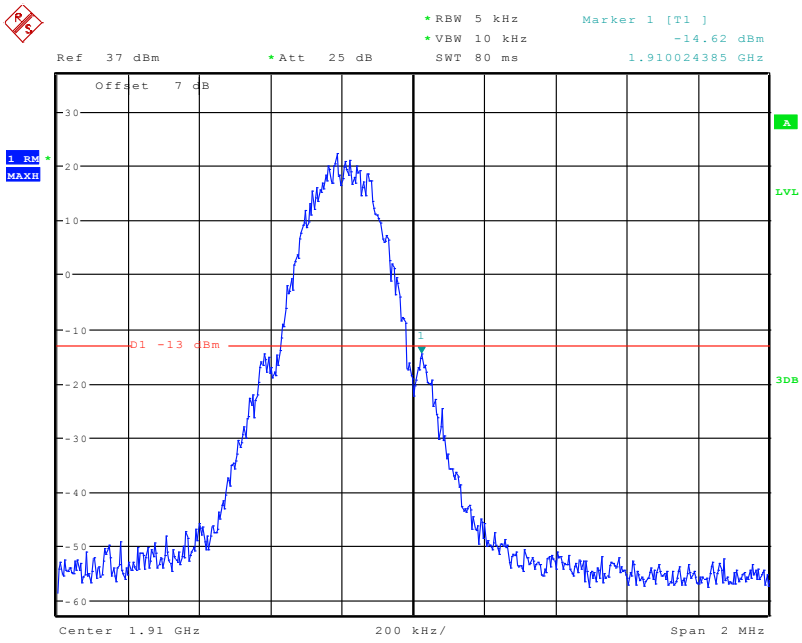
Date: 26.JUL.2020 17:23:09

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



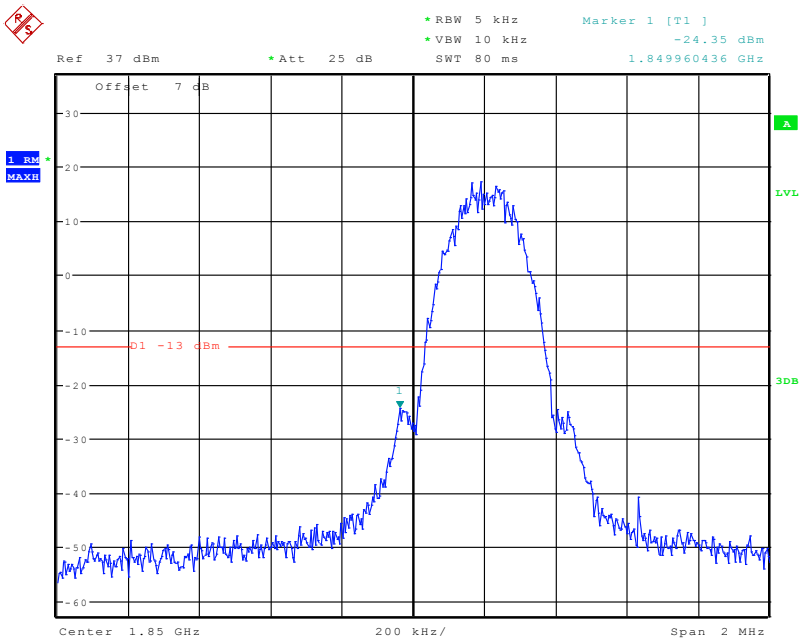
Date: 26.JUL.2020 19:01:09

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



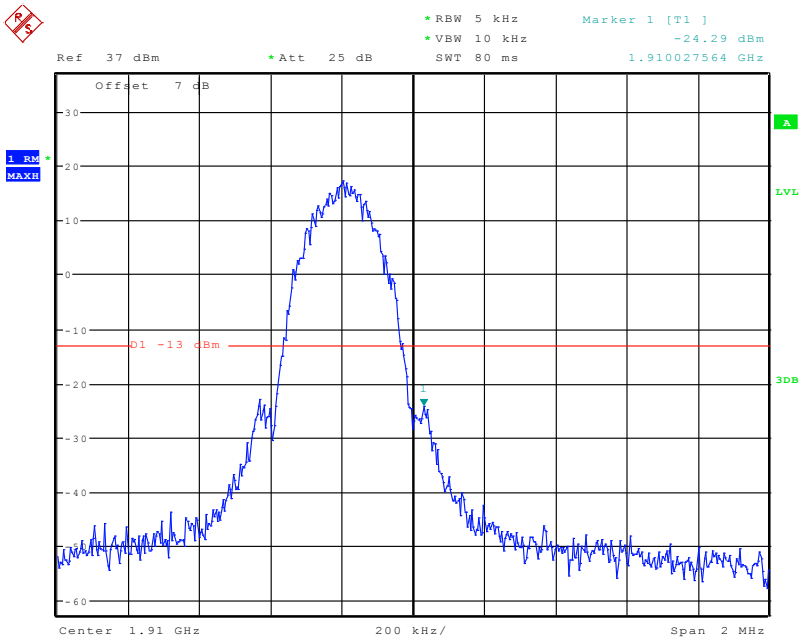
Date: 26.JUL.2020 19:00:51

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



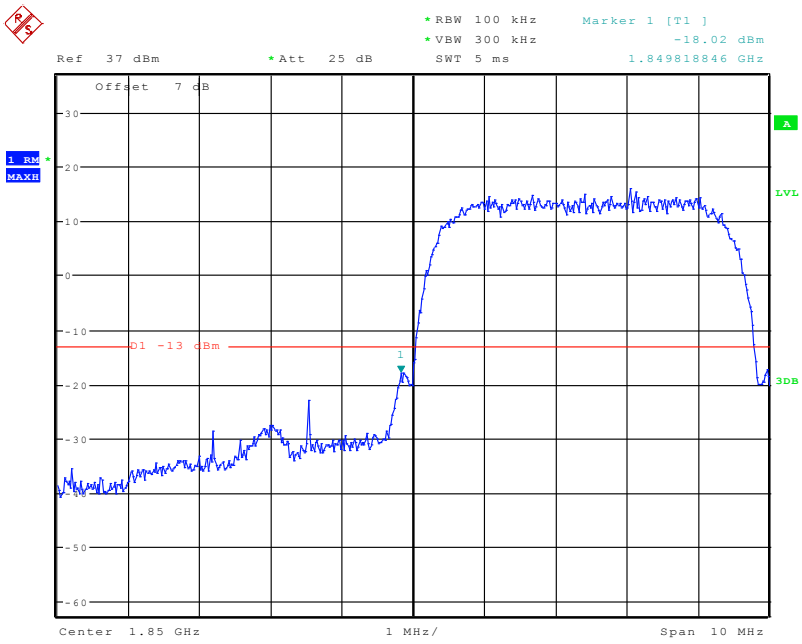
Date: 26.JUL.2020 18:58:58

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



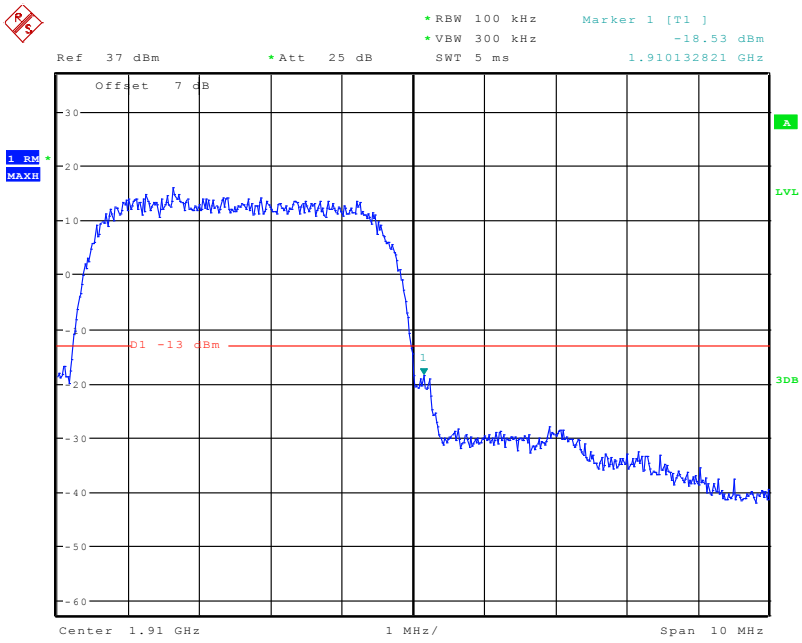
Date: 26.JUL.2020 18:59:28

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



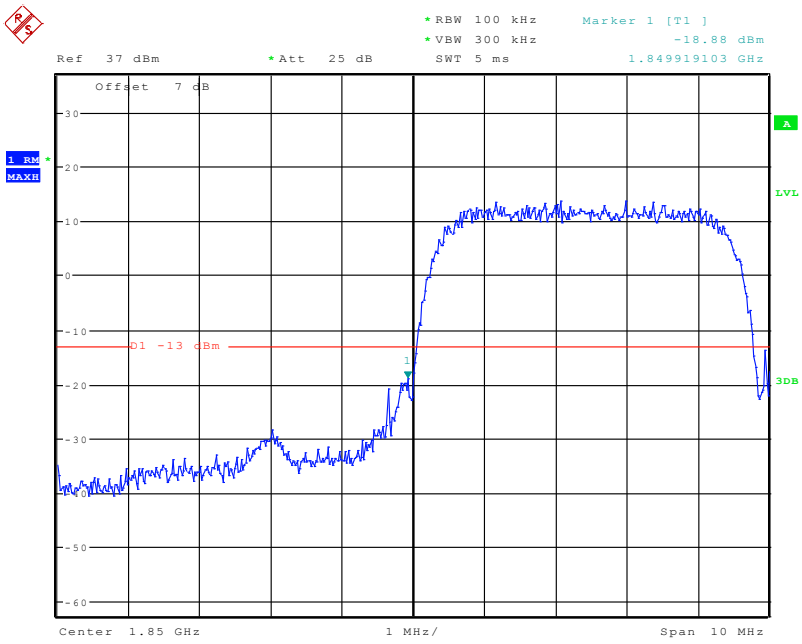
Date: 26.JUL.2020 17:33:38

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



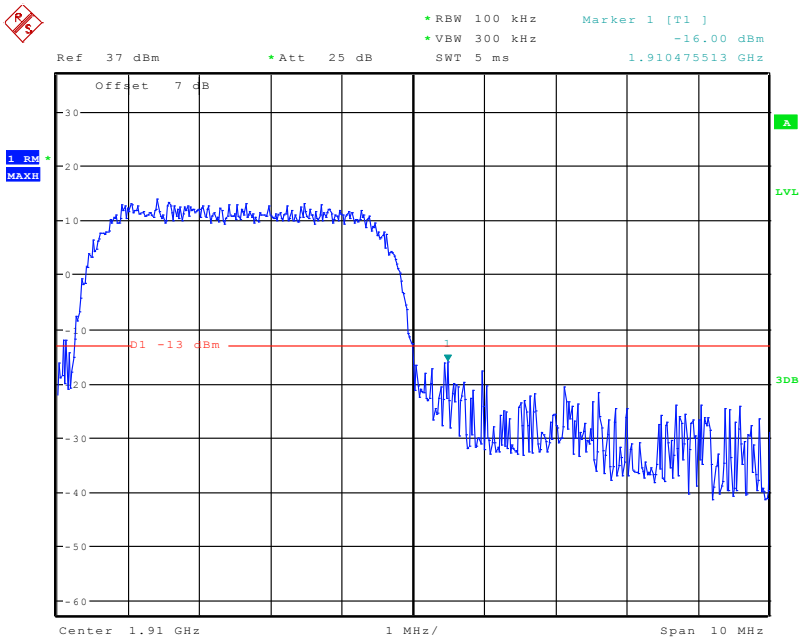
Date: 26.JUL.2020 17:34:00

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



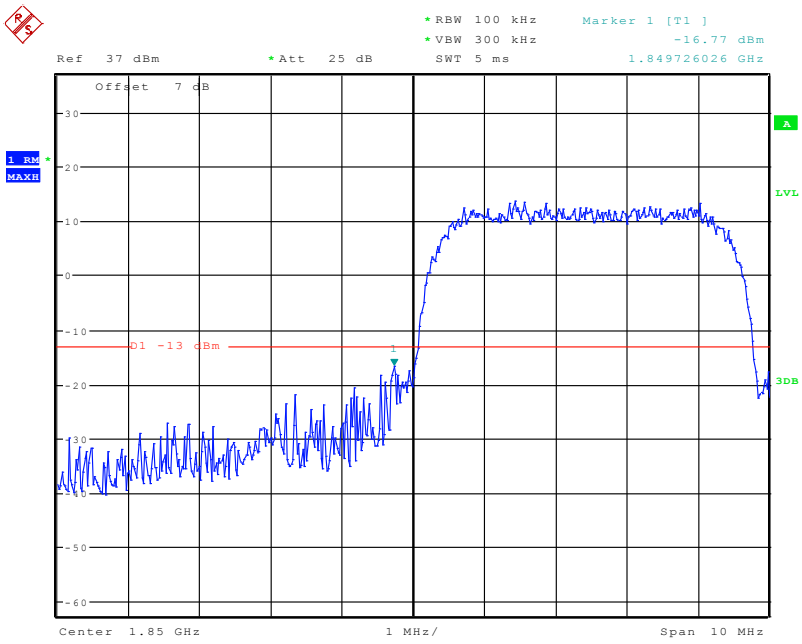
Date: 26.JUL.2020 17:33:05

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



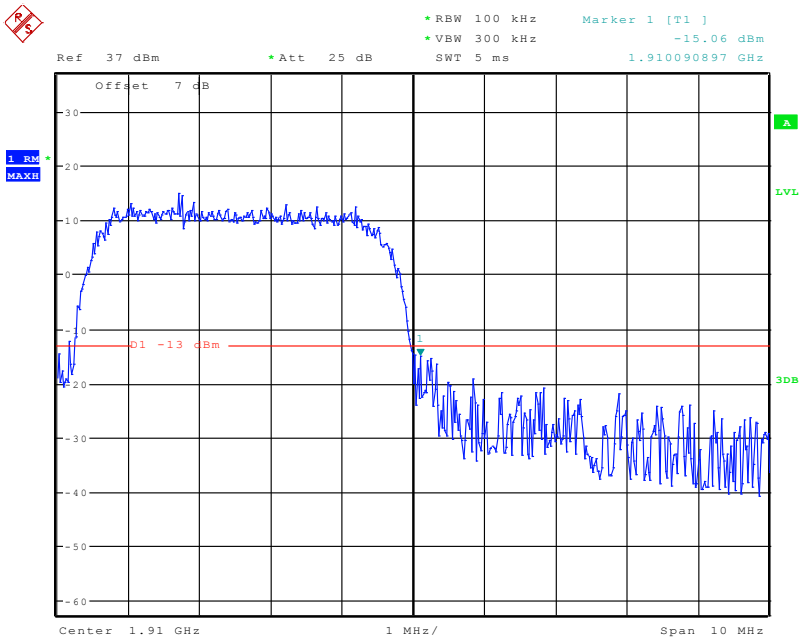
Date: 26.JUL.2020 17:32:48

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



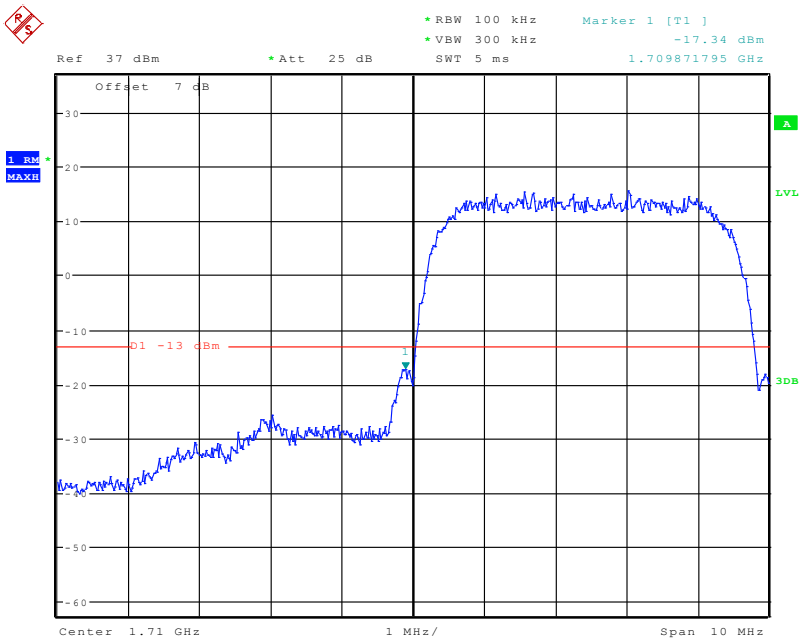
Date: 26.JUL.2020 17:31:59

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



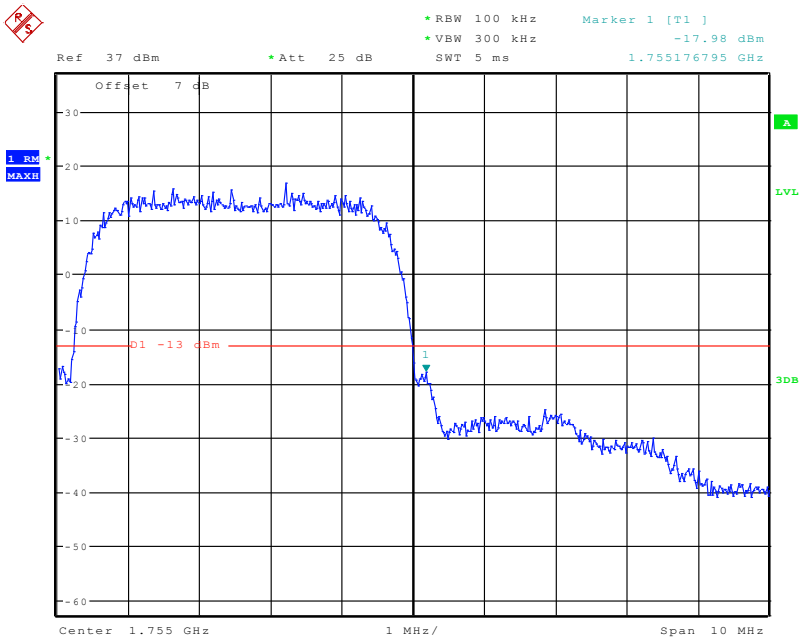
Date: 26.JUL.2020 17:32:20

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



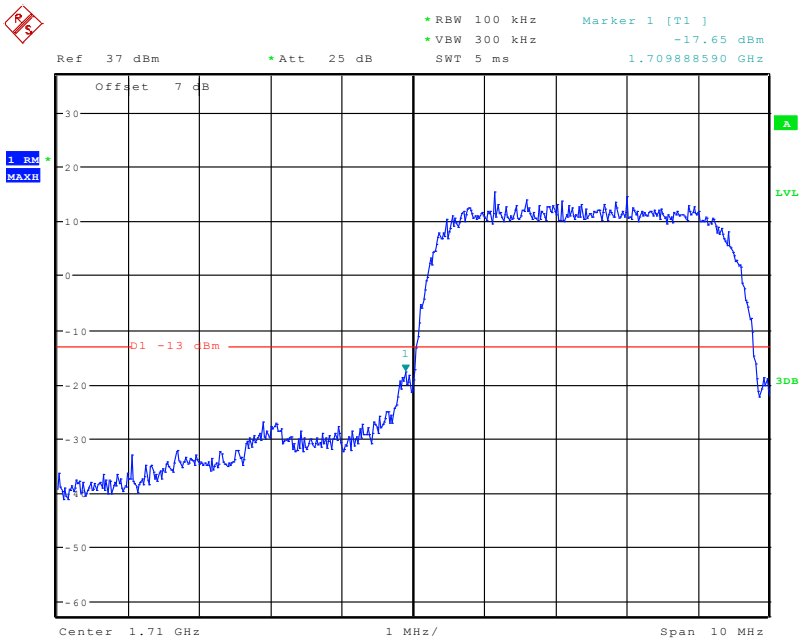
Date: 26.JUL.2020 17:29:03

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



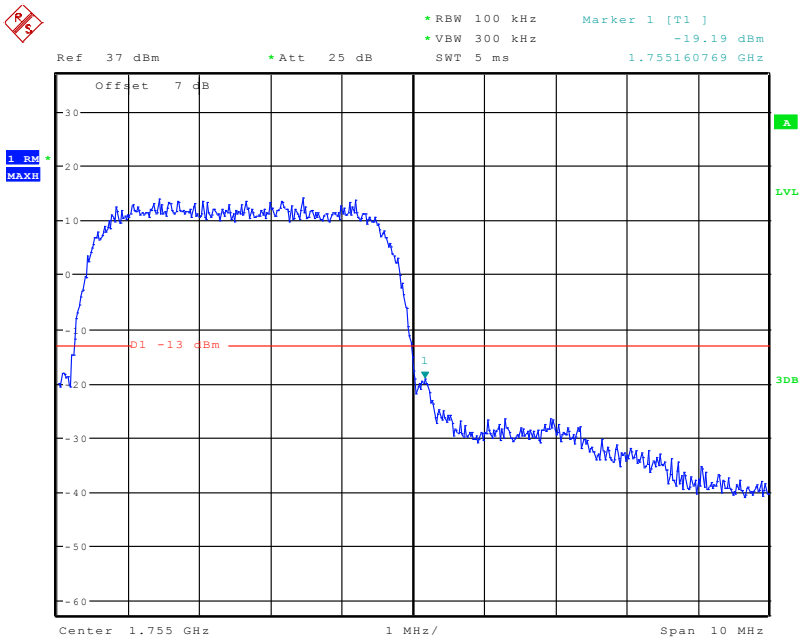
Date: 26.JUL.2020 17:29:30

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



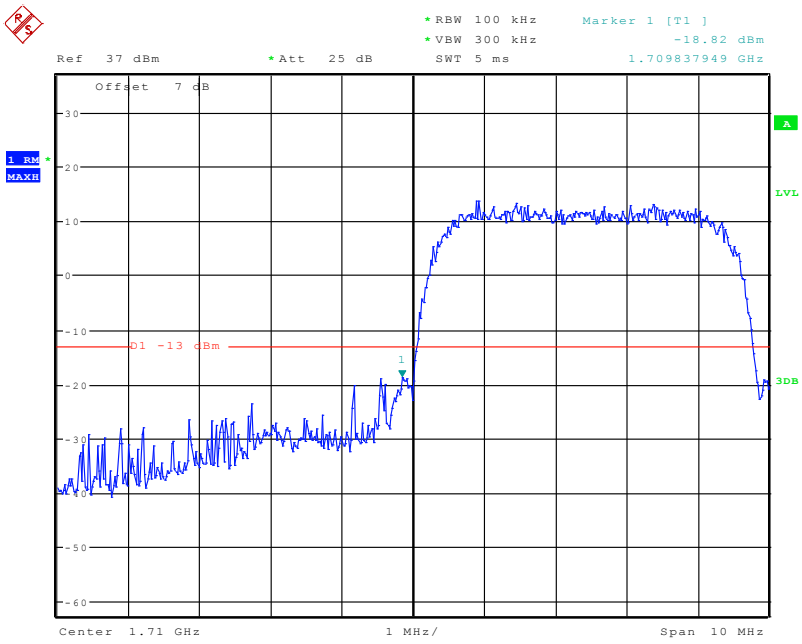
Date: 26.JUL.2020 17:30:13

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



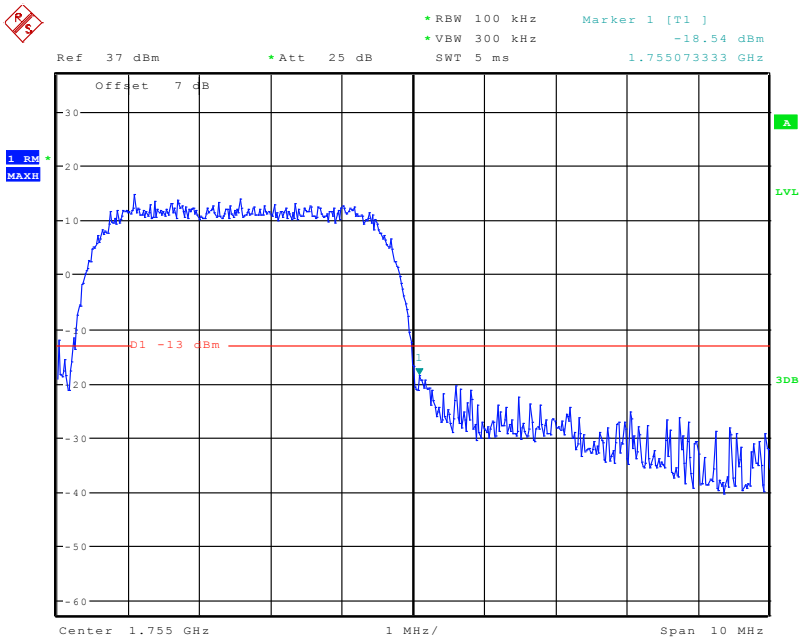
Date: 26.JUL.2020 17:29:53

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



Date: 26.JUL.2020 17:30:45

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

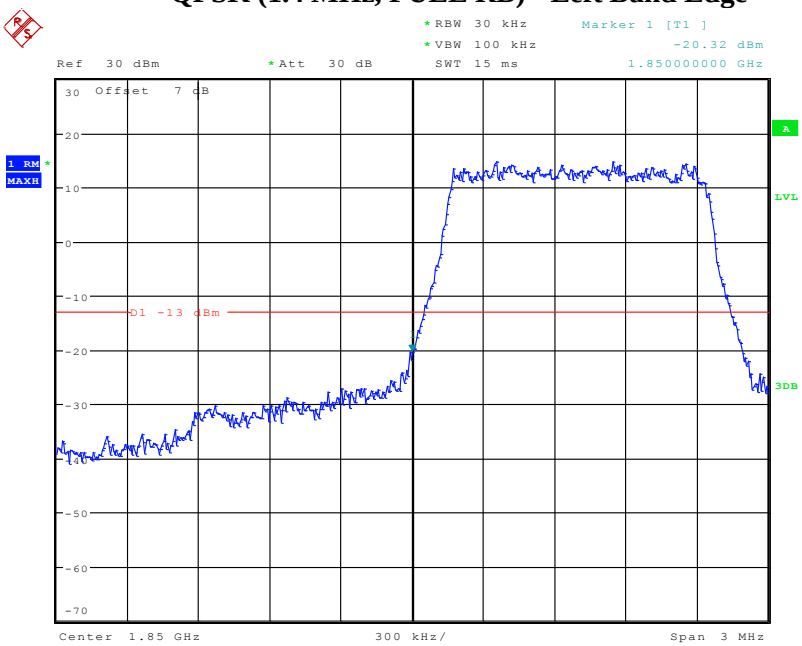


Date: 26.JUL.2020 17:31:11

Band 2:

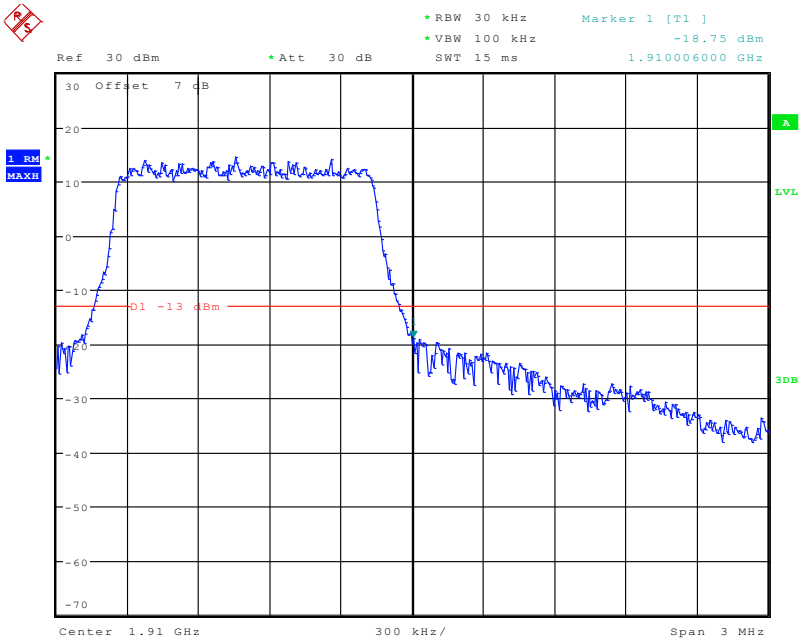
Low channel

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



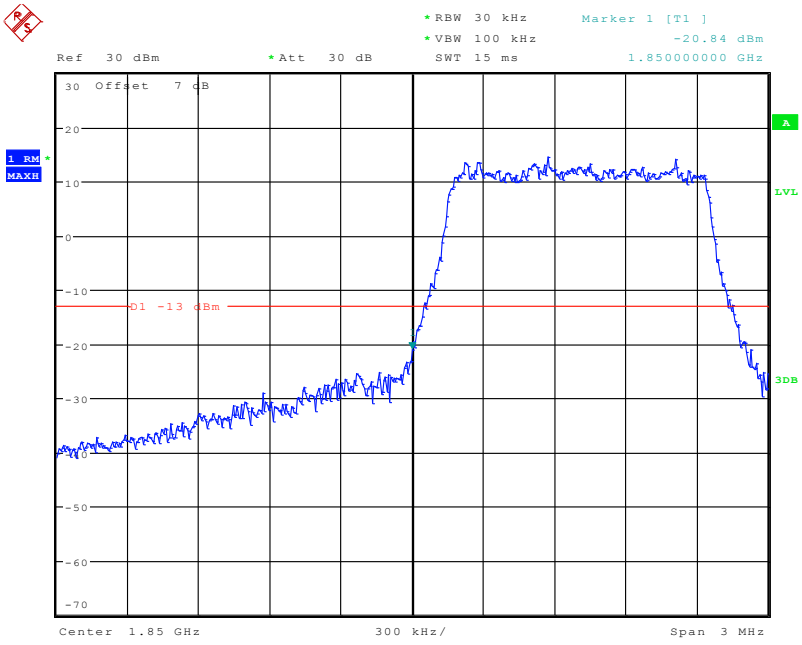
Date: 26.JUL.2020 14:03:40

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



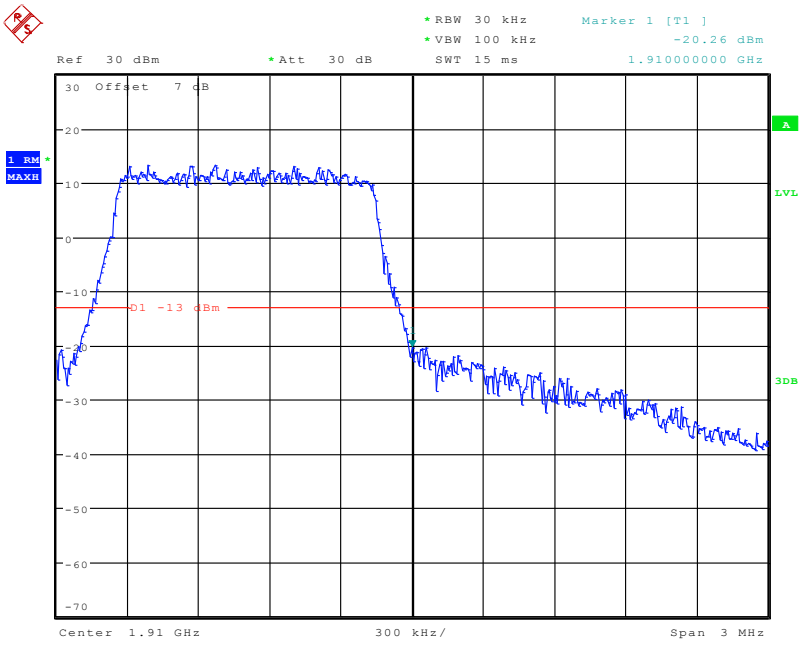
Date: 26.JUL.2020 14:04:20

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



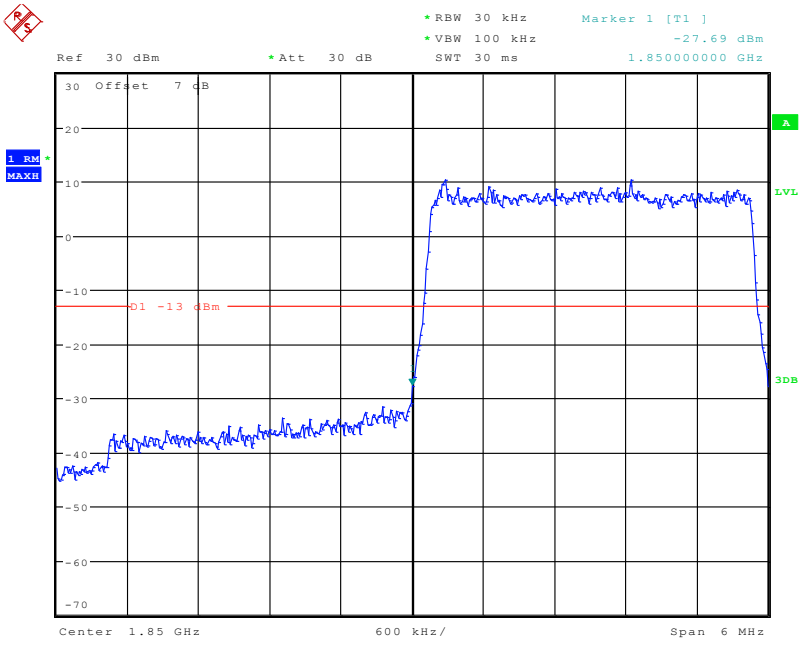
Date: 26.JUL.2020 14:03:59

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



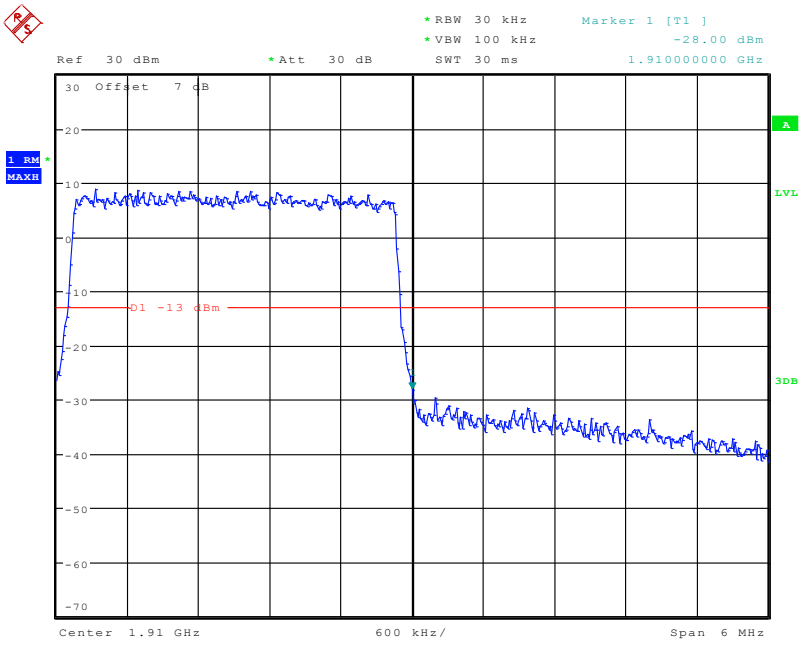
Date: 26.JUL.2020 14:04:39

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



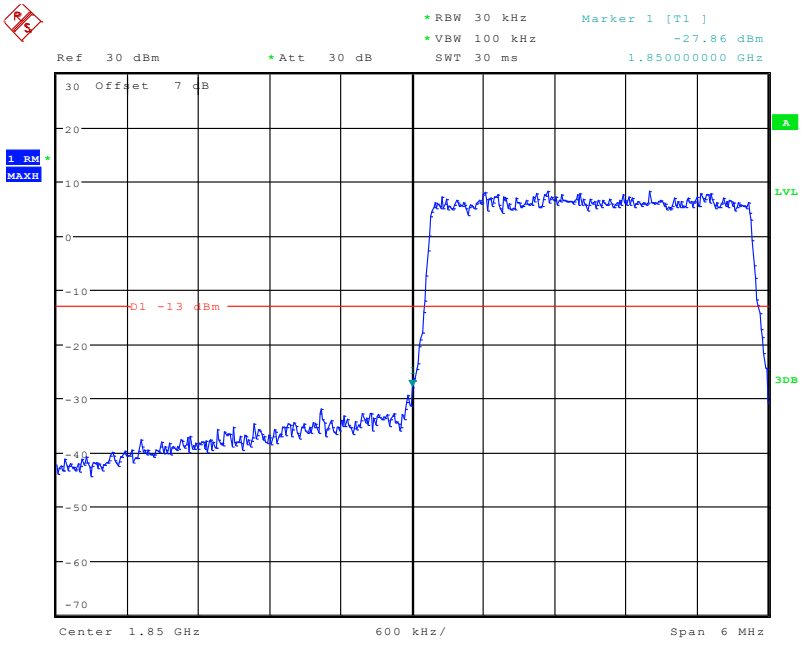
Date: 26.JUL.2020 14:04:59

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



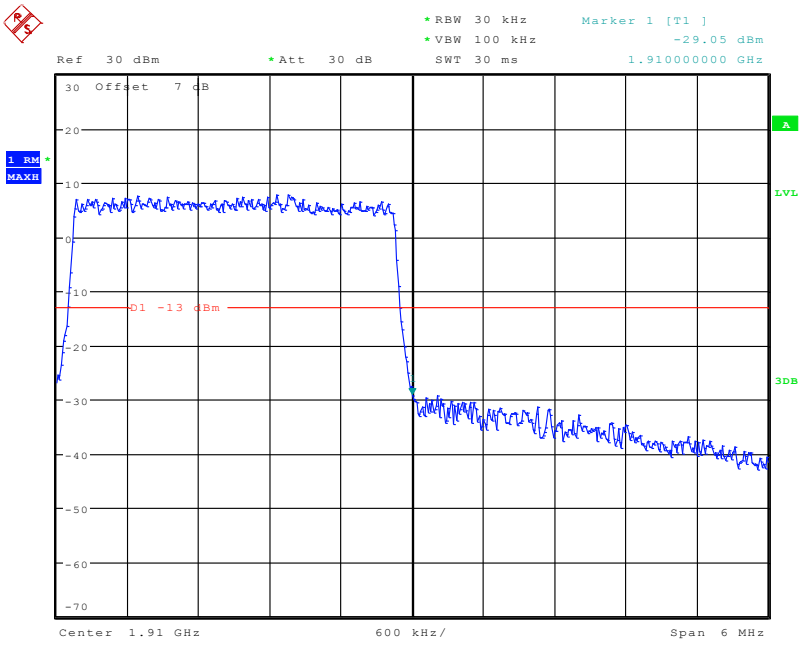
Date: 26.JUL.2020 14:05:39

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



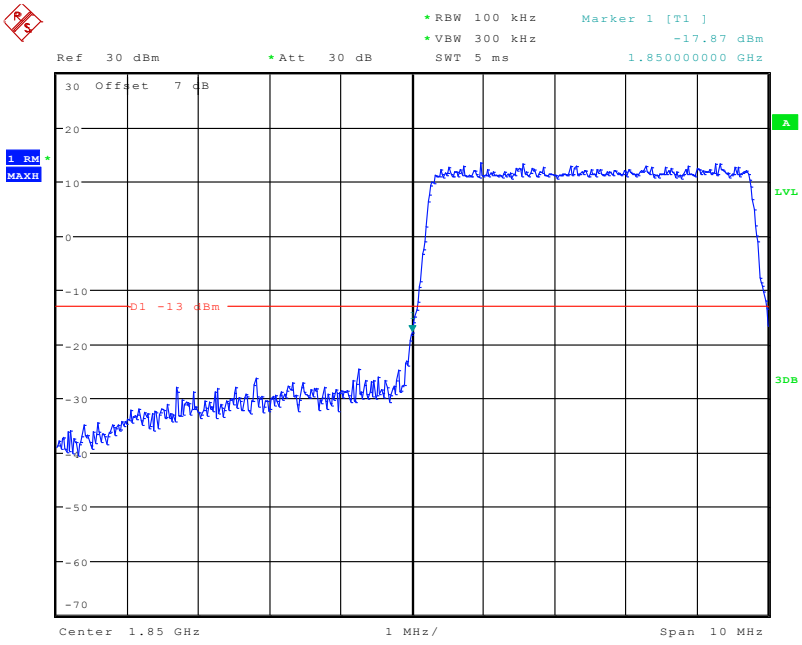
Date: 26.JUL.2020 14:05:19

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



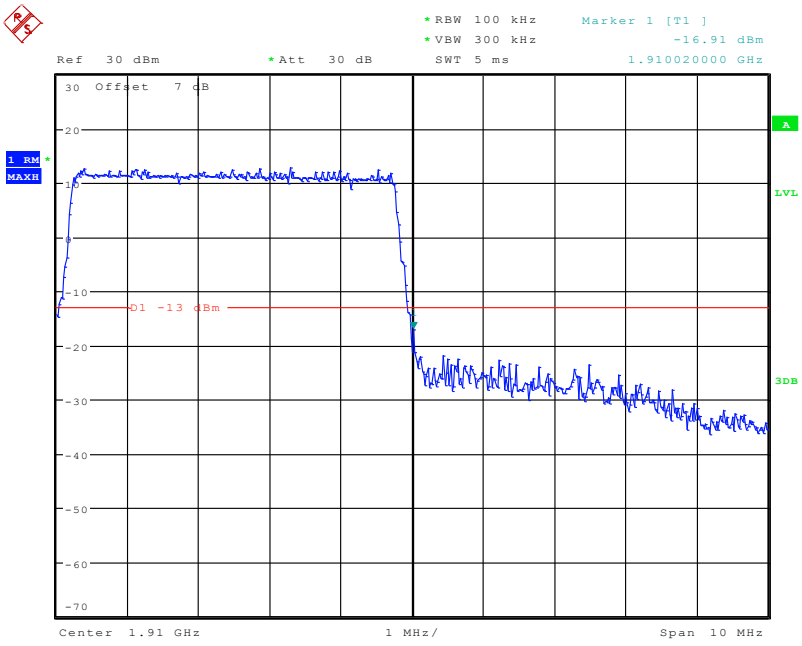
Date: 26.JUL.2020 14:05:59

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



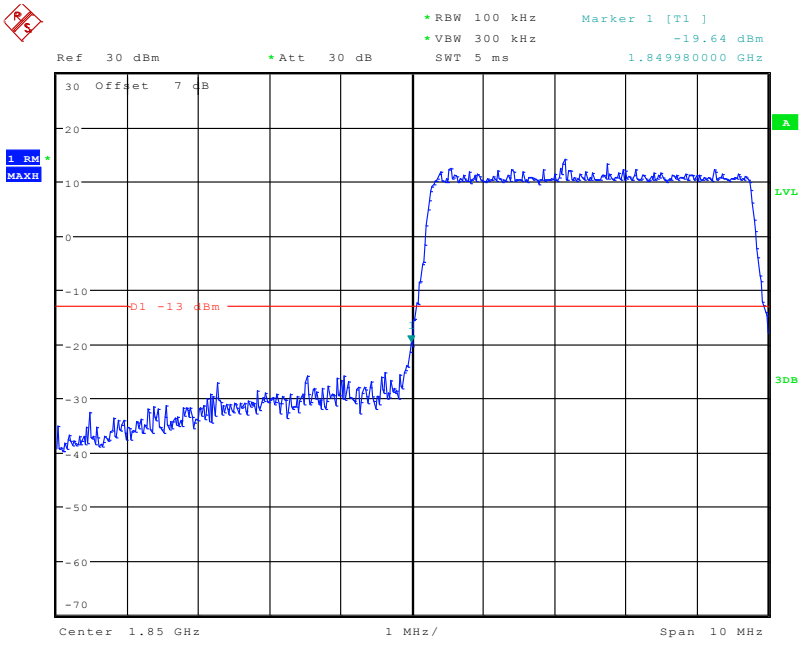
Date: 26.JUL.2020 14:06:19

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



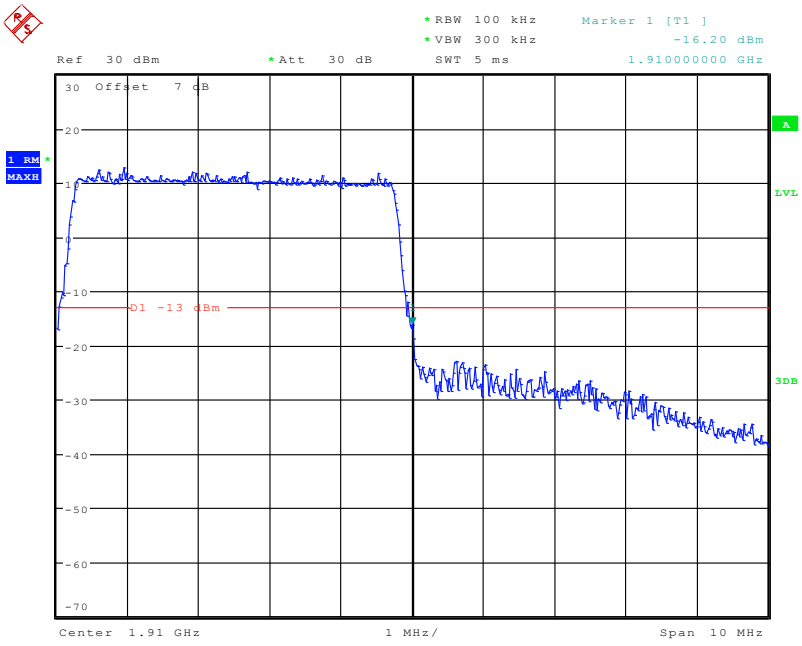
Date: 26.JUL.2020 14:06:59

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



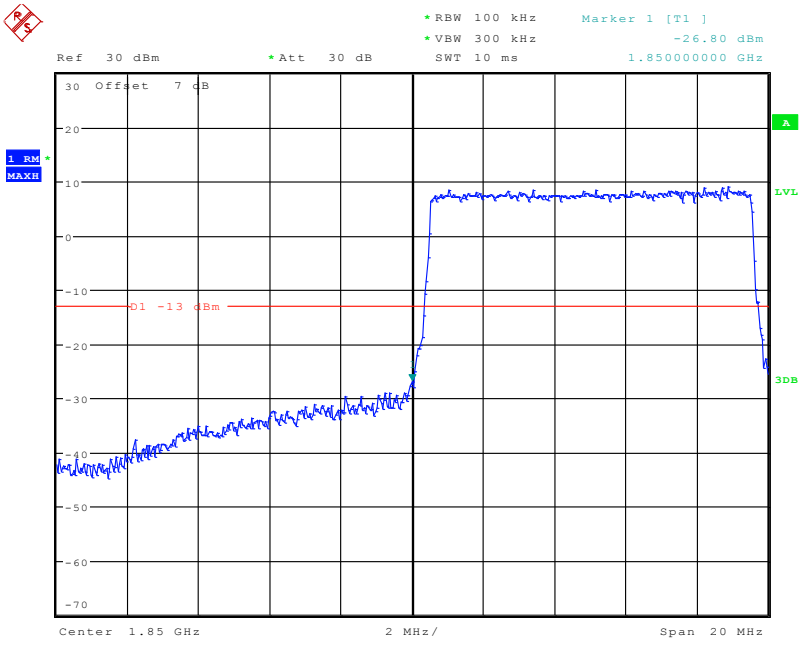
Date: 26.JUL.2020 14:06:38

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



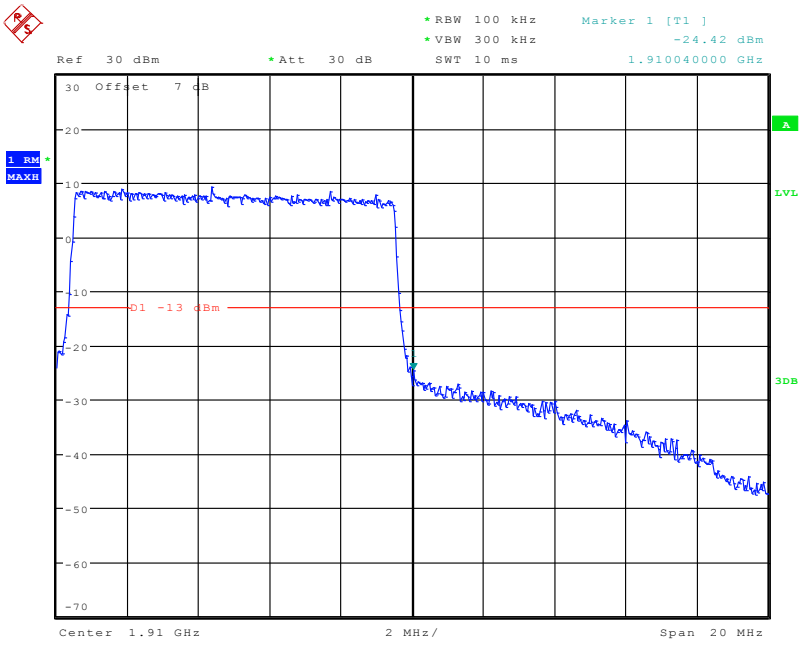
Date: 26.JUL.2020 14:07:21

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



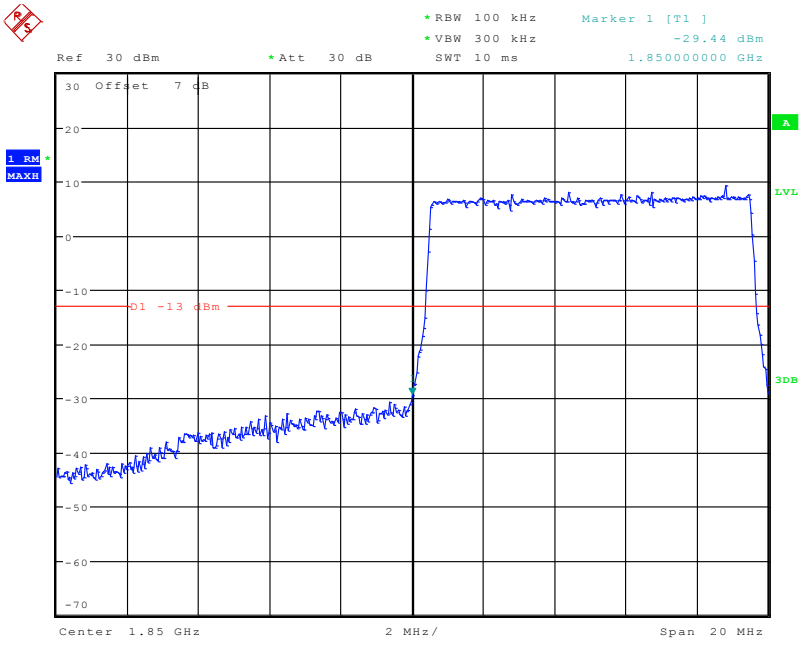
Date: 26.JUL.2020 14:07:42

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



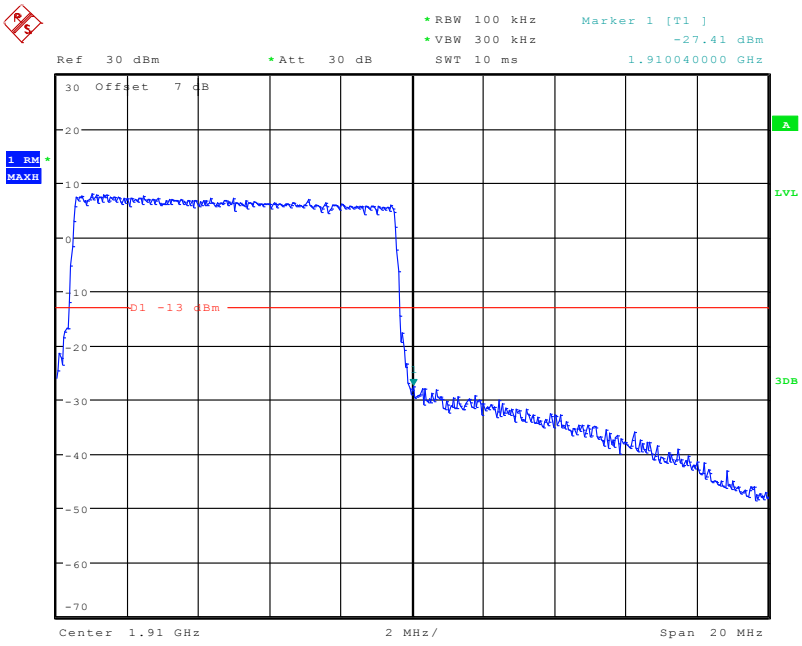
Date: 26.JUL.2020 14:08:18

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



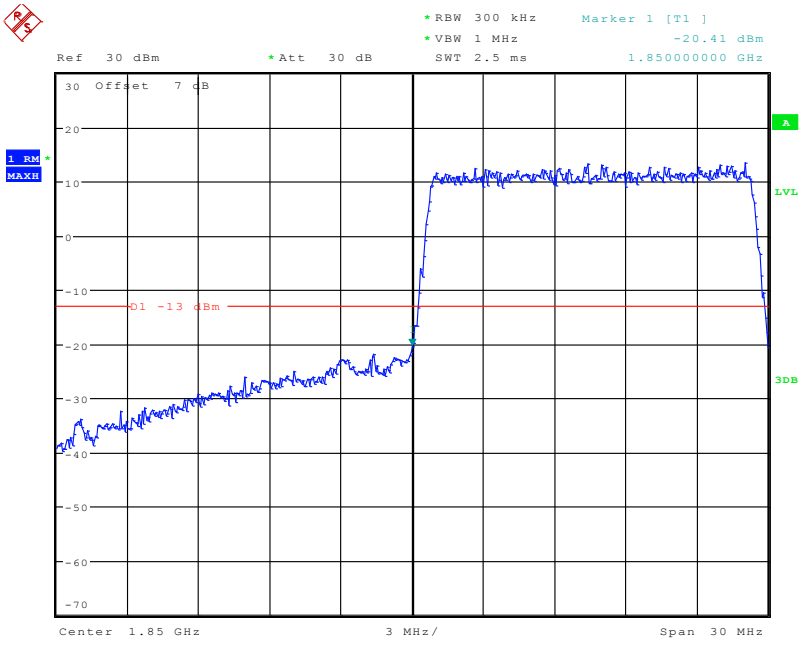
Date: 26.JUL.2020 14:07:59

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



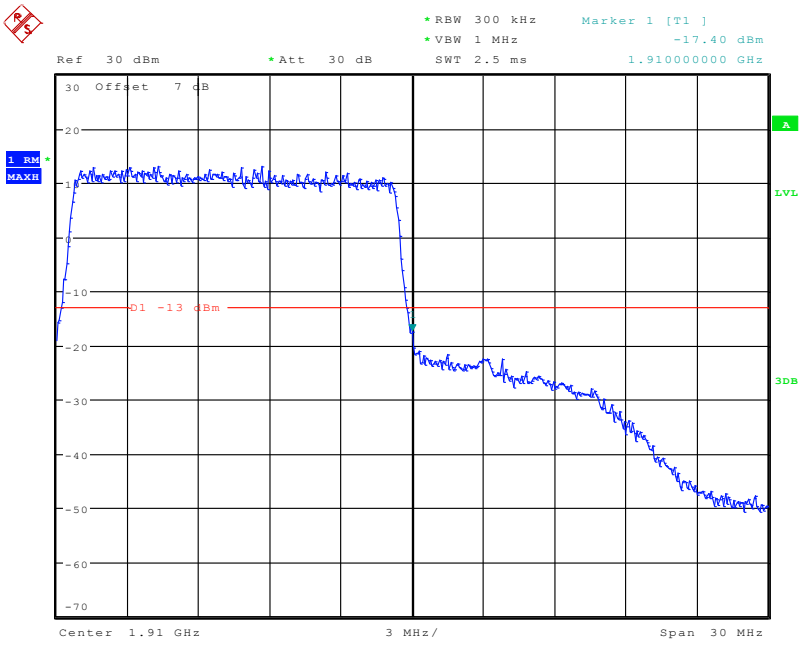
Date: 26.JUL.2020 14:08:35

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



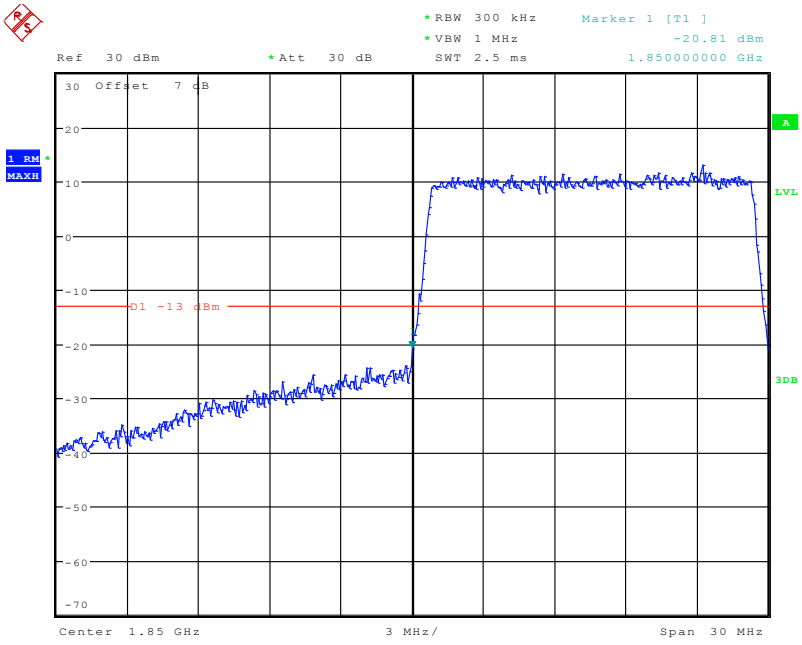
Date: 26.JUL.2020 14:08:58

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



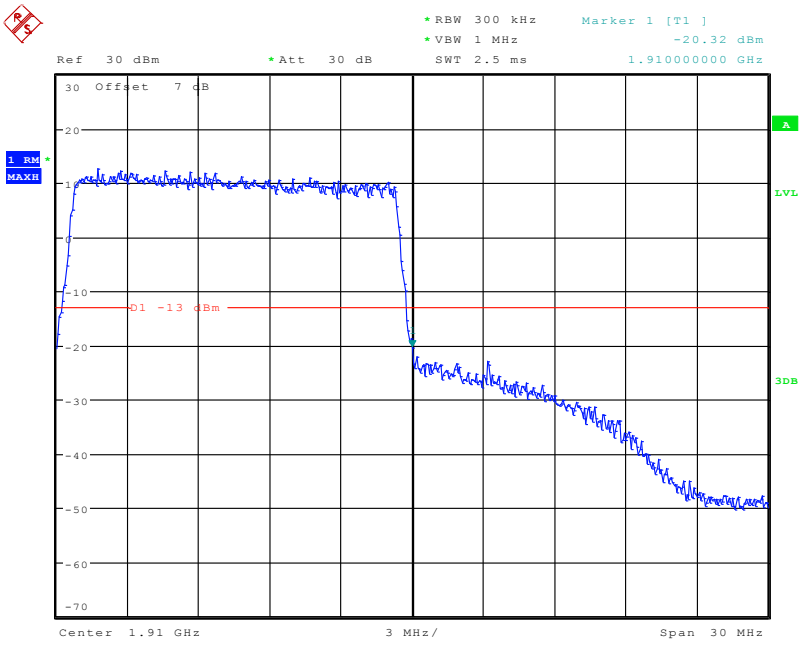
Date: 26.JUL.2020 14:09:38

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



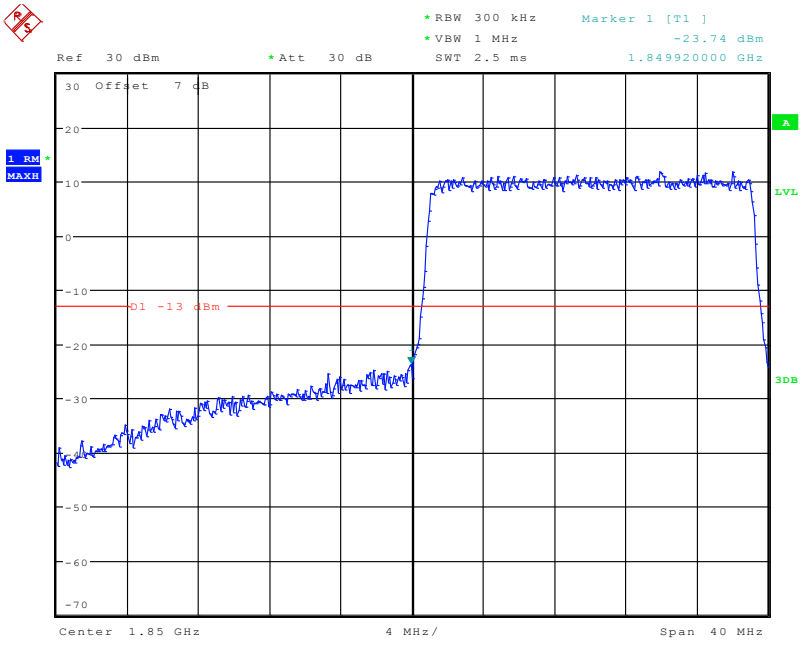
Date: 26.JUL.2020 14:09:18

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



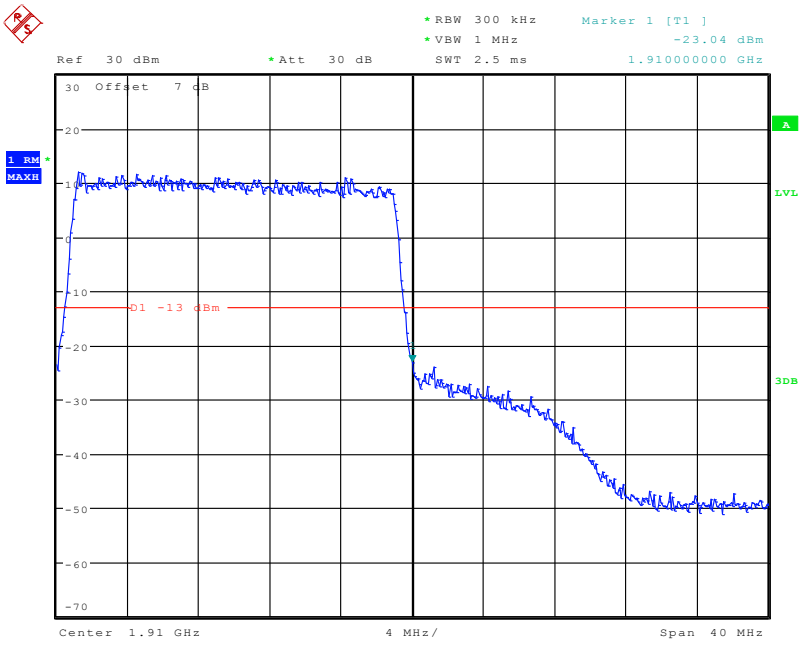
Date: 26.JUL.2020 14:10:01

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



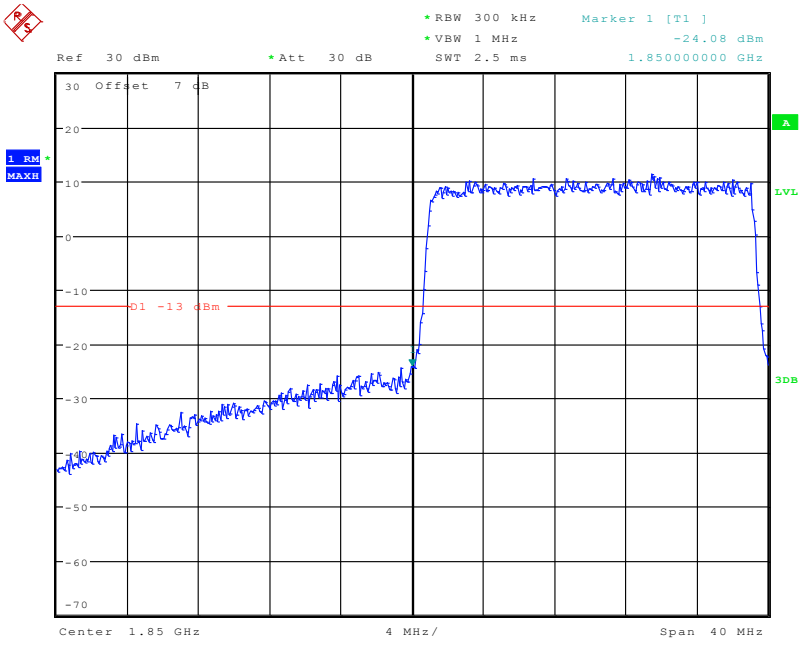
Date: 26.JUL.2020 14:10:27

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



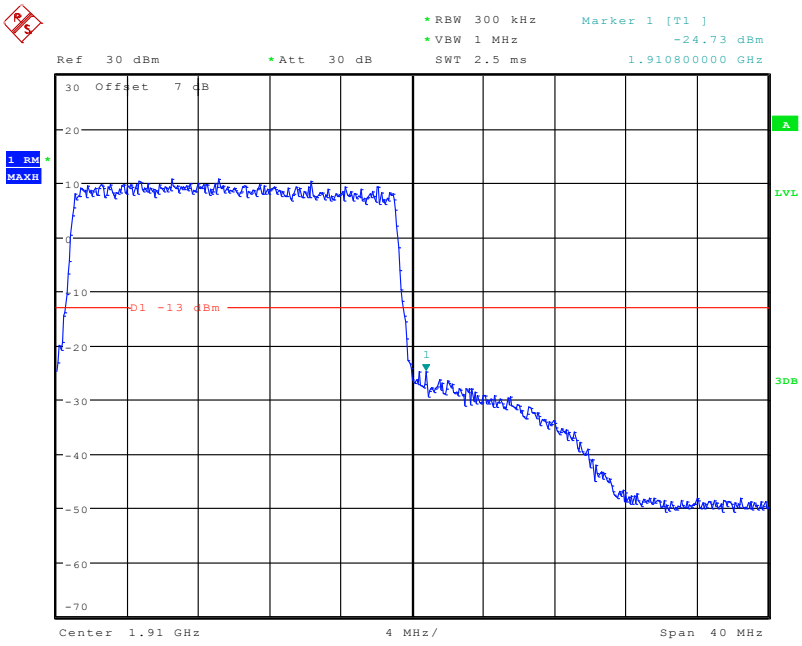
Date: 26.JUL.2020 14:11:11

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



Date: 26.JUL.2020 14:10:50

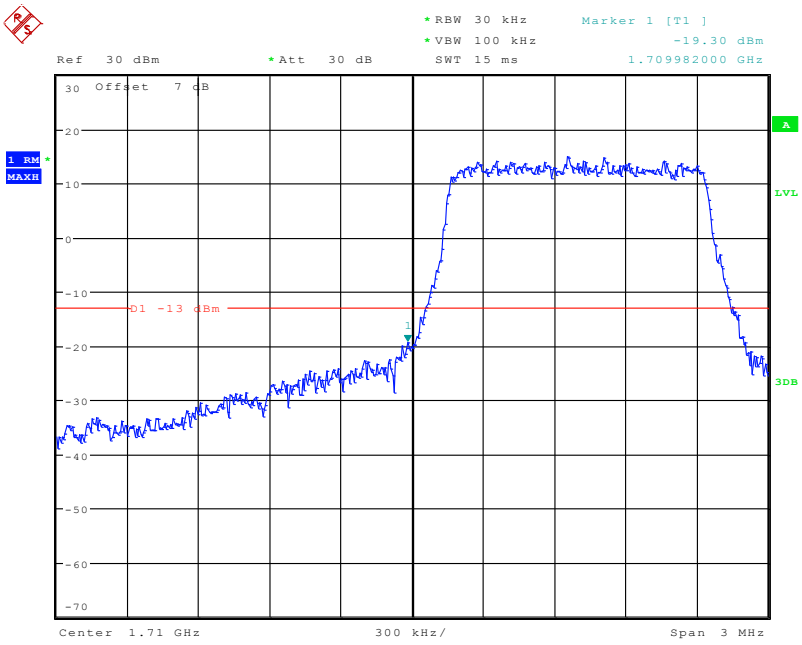
16-QAM (20.0 MHz, FULL RB) - Right Band Edge



Date: 26.JUL.2020 14:11:34

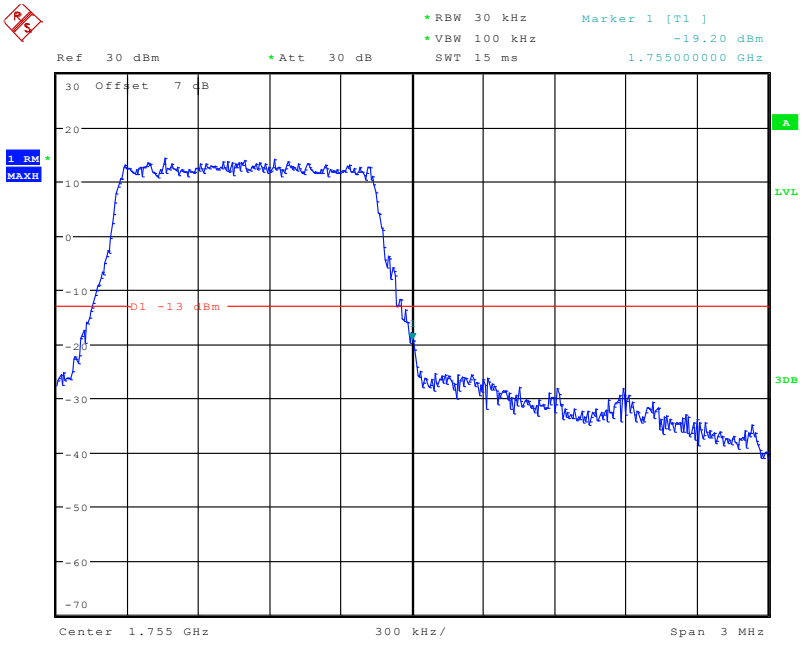
Band 4:

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



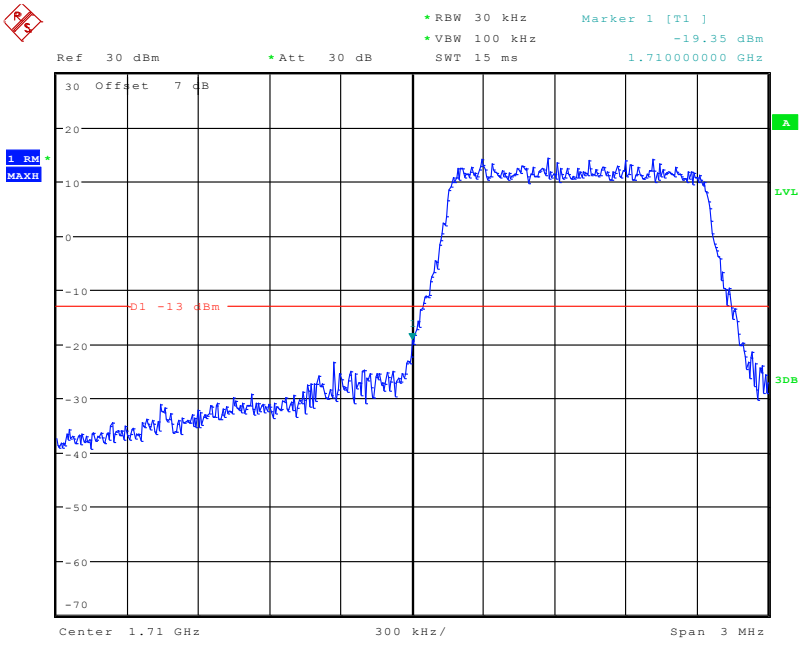
Date: 26.JUL.2020 14:11:59

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



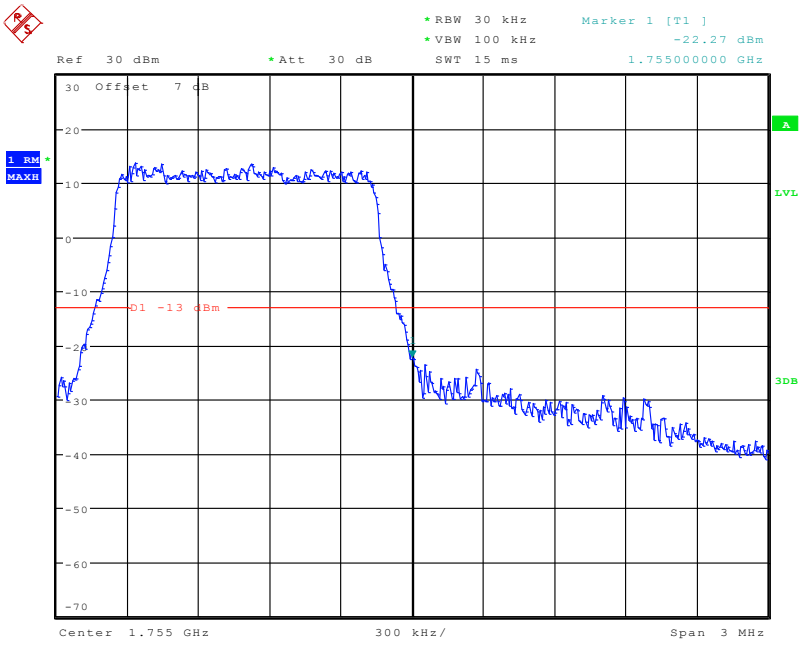
Date: 26.JUL.2020 14:12:39

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



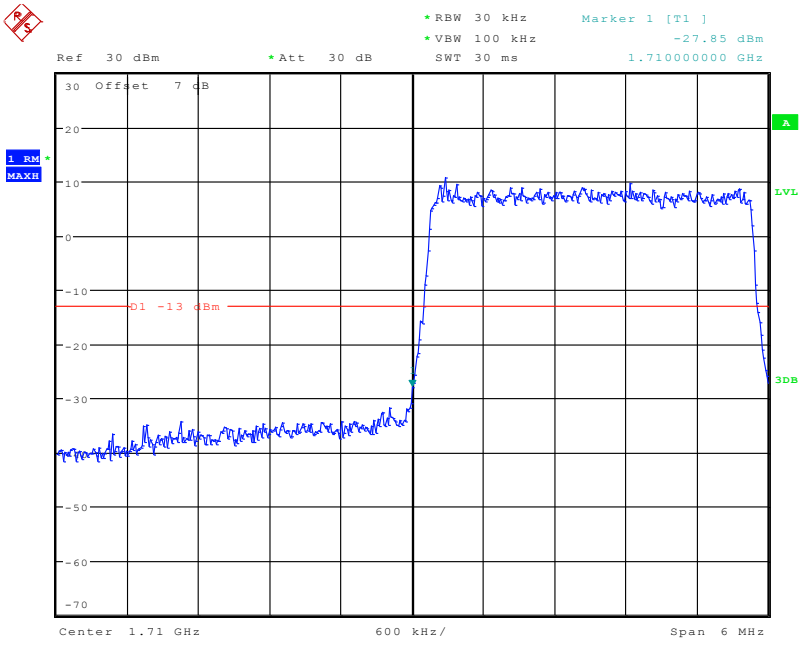
Date: 26.JUL.2020 14:12:19

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



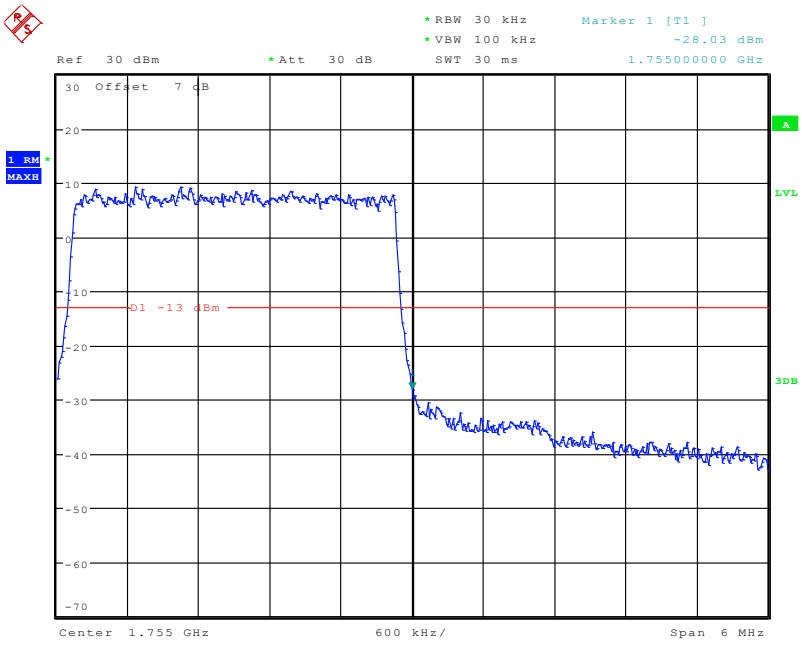
Date: 26.JUL.2020 14:12:59

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



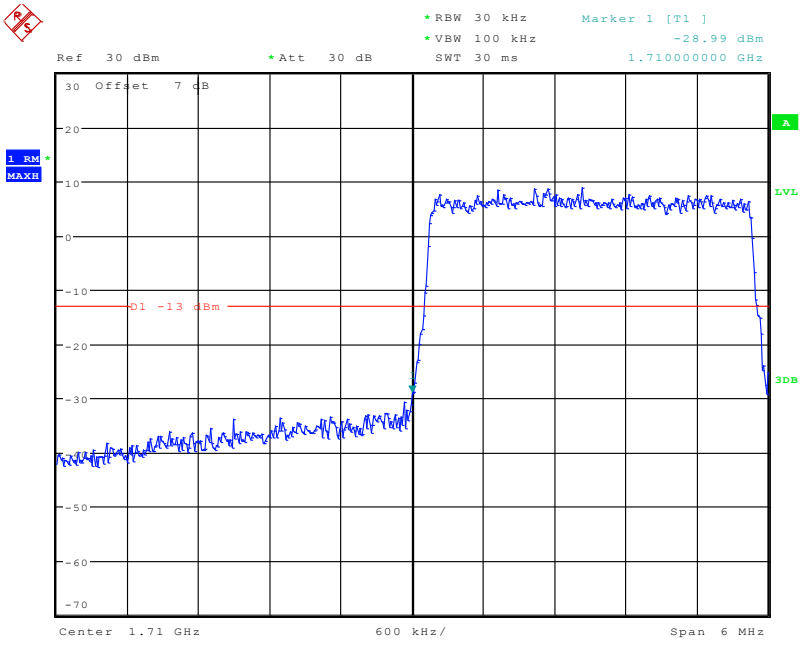
Date: 26.JUL.2020 14:13:18

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



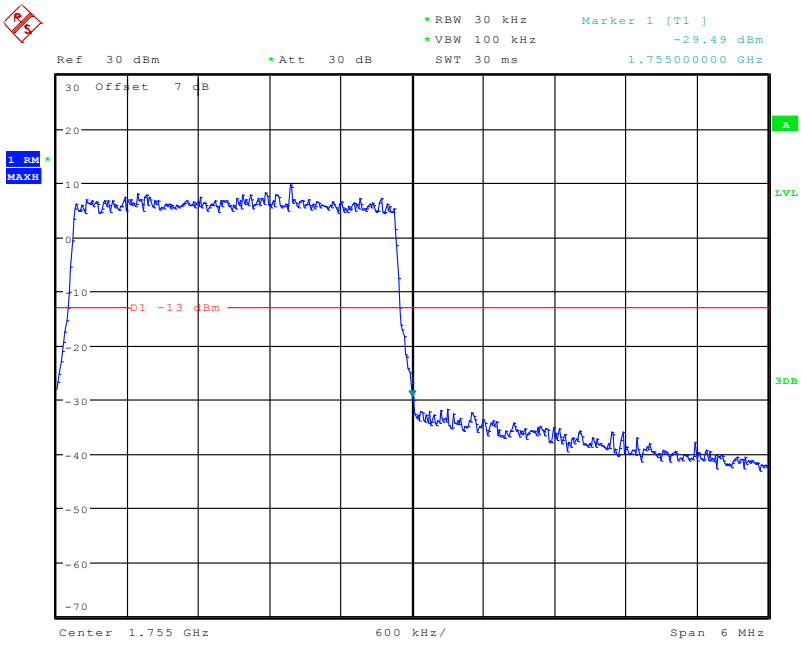
Date: 26.JUL.2020 14:13:52

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



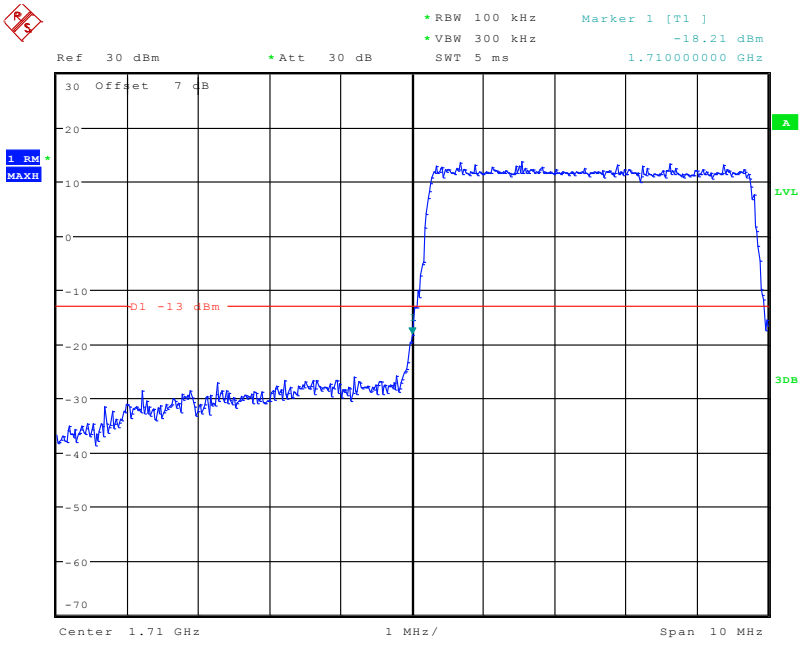
Date: 26.JUL.2020 14:13:34

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



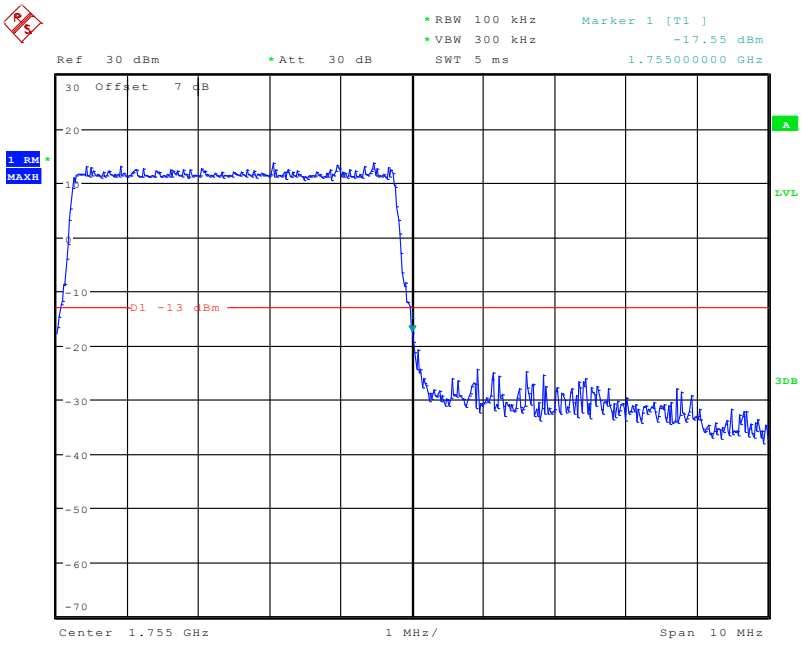
Date: 26.JUL.2020 14:14:08

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



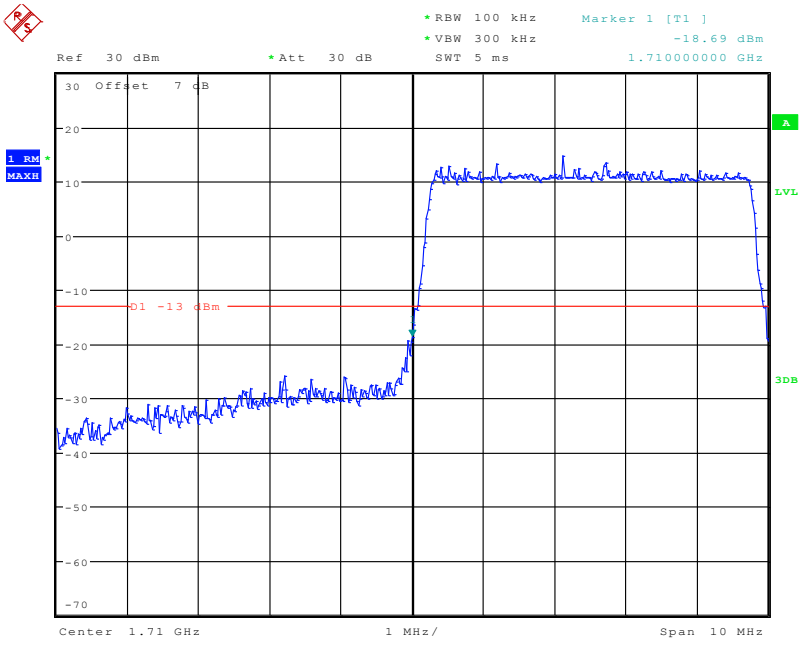
Date: 26.JUL.2020 14:14:28

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



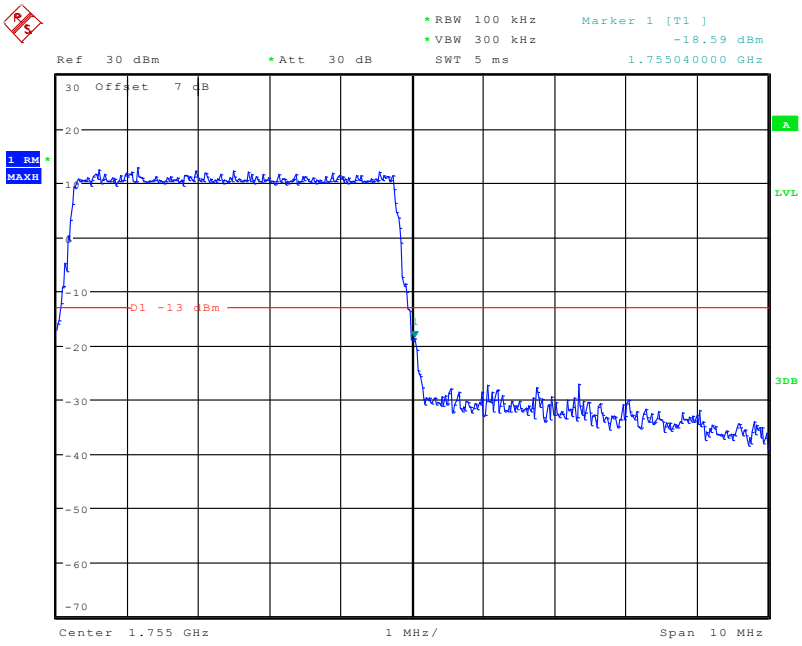
Date: 26.JUL.2020 14:15:07

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



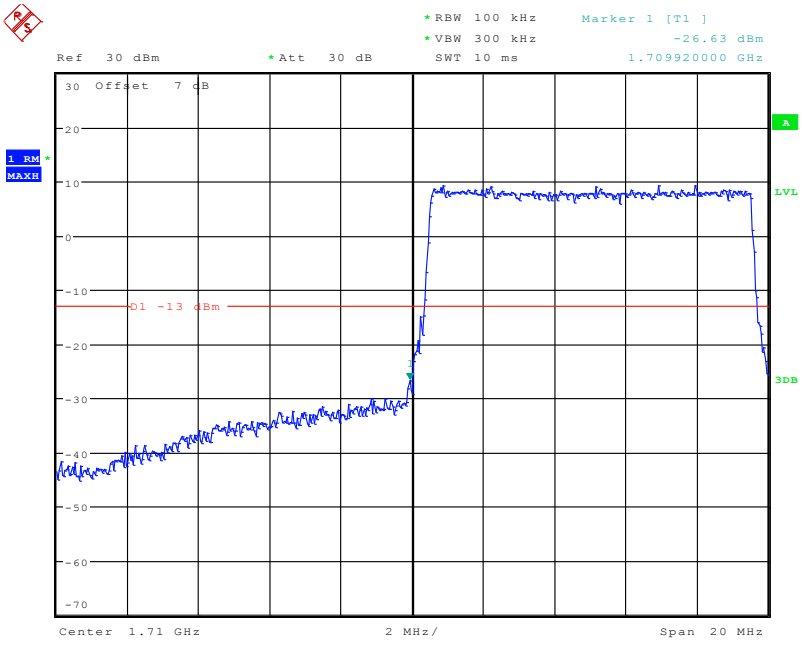
Date: 26.JUL.2020 14:14:47

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



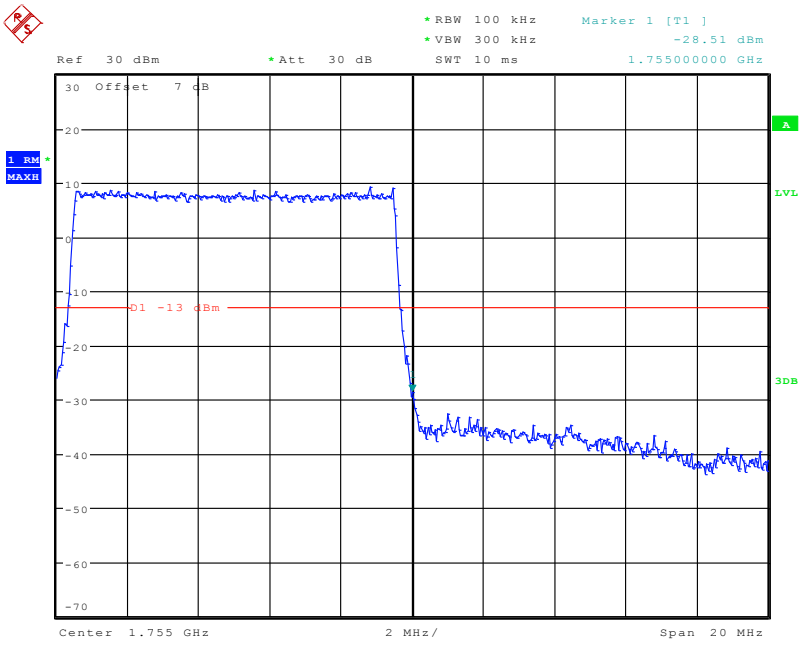
Date: 26.JUL.2020 14:15:27

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



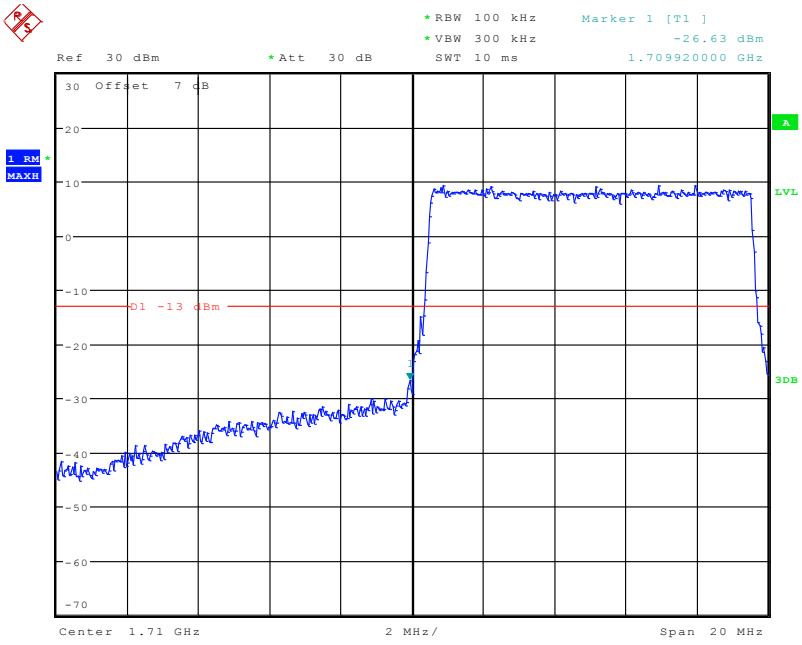
Date: 26.JUL.2020 14:15:47

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



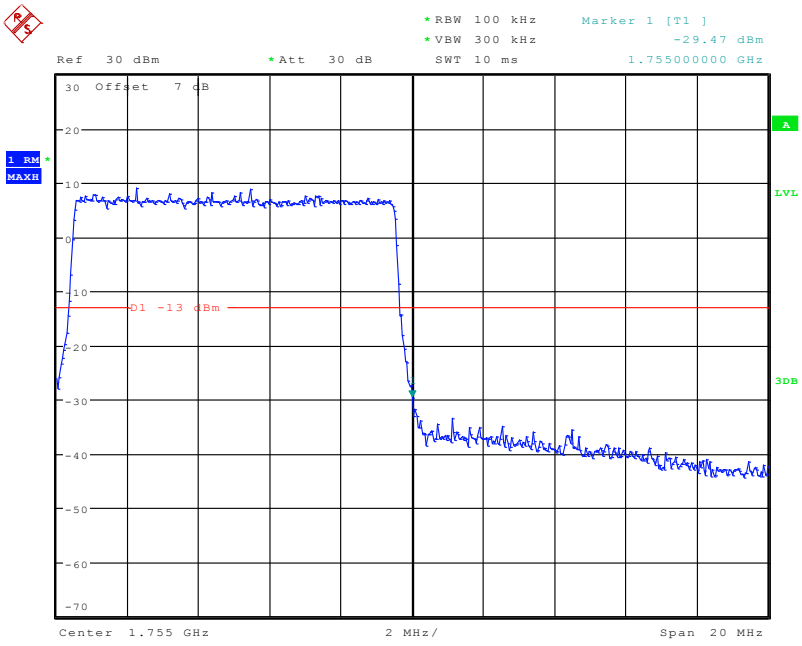
Date: 26.JUL.2020 14:16:23

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



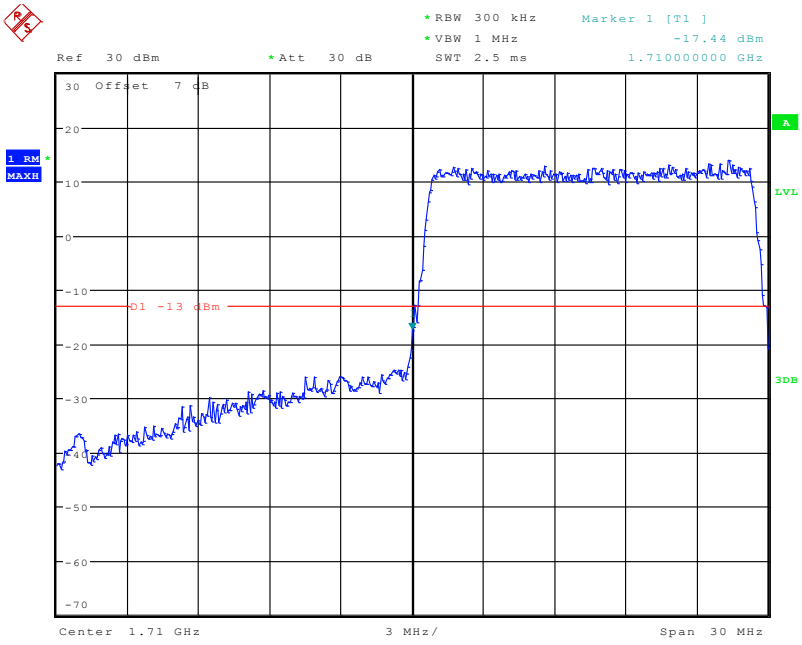
Date: 26.JUL.2020 14:15:47

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



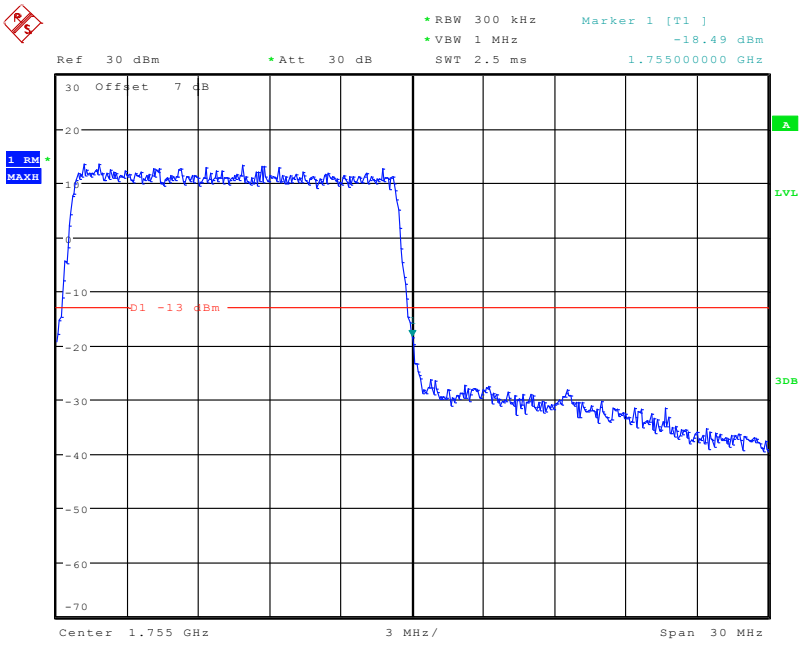
Date: 26.JUL.2020 14:16:41

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



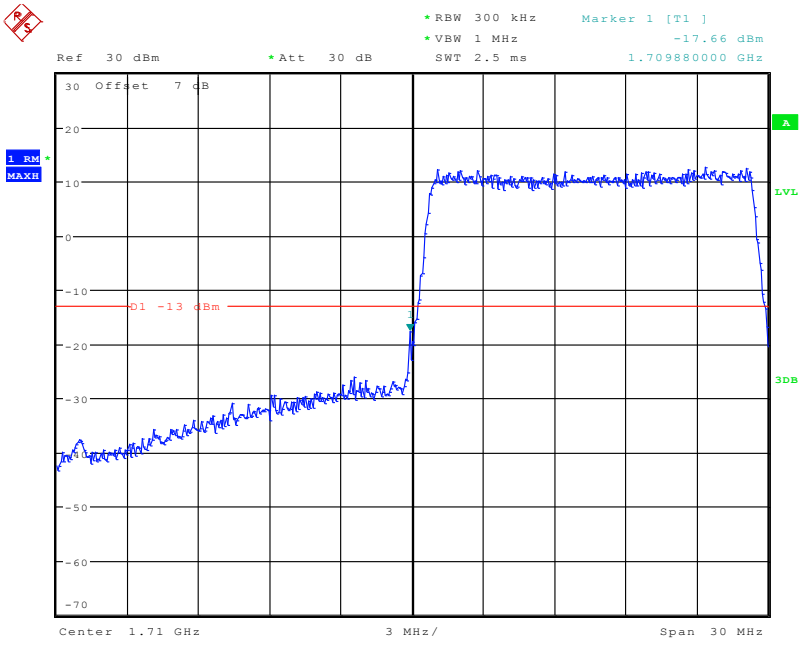
Date: 26.JUL.2020 14:17:04

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



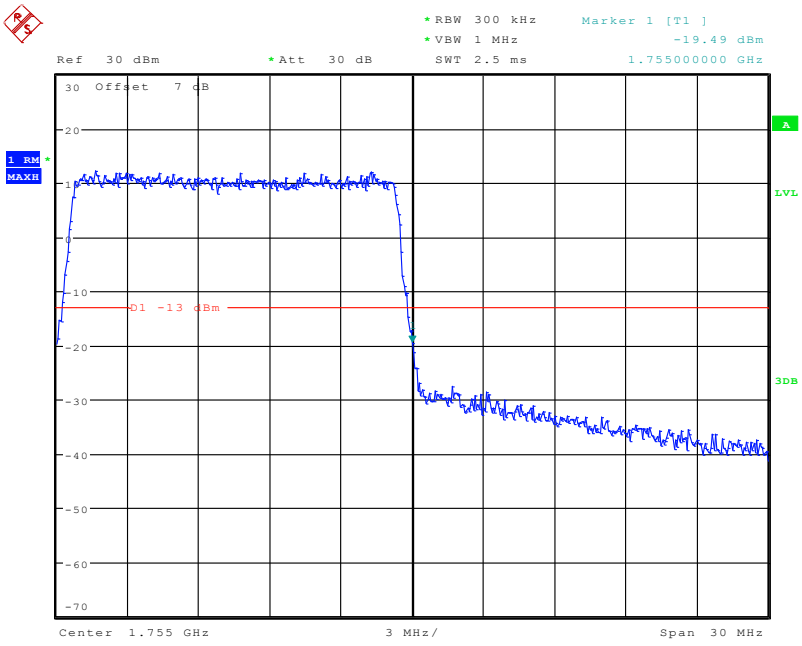
Date: 26.JUL.2020 14:17:47

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



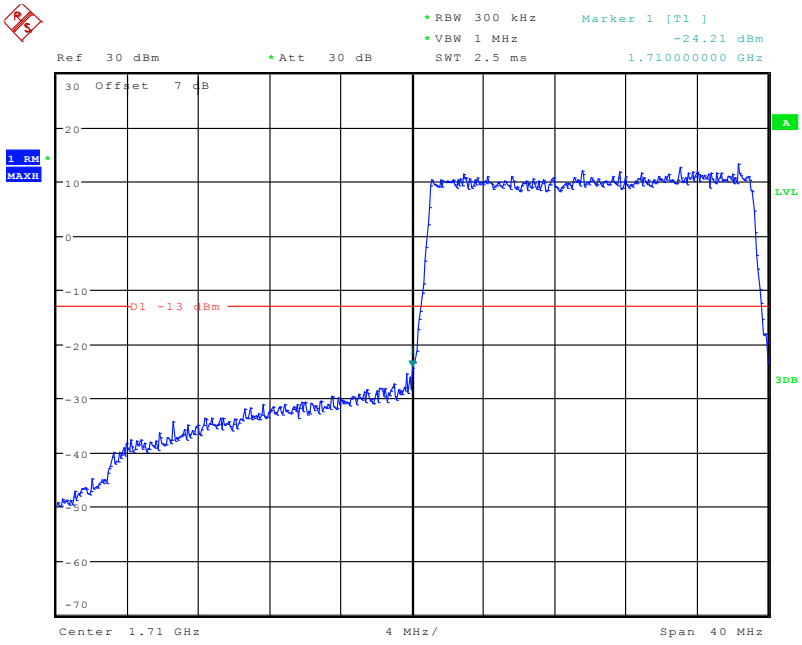
Date: 26.JUL.2020 14:17:27

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



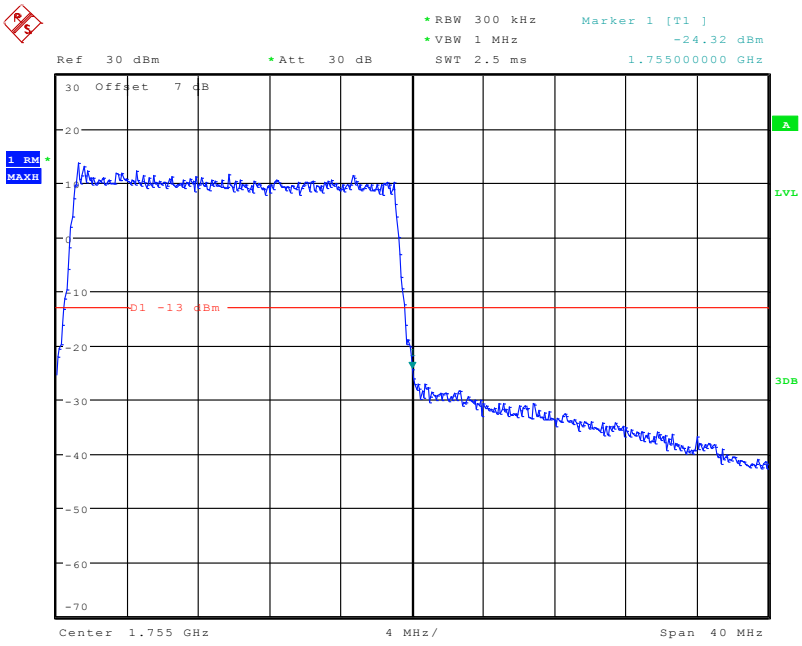
Date: 26.JUL.2020 14:18:10

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



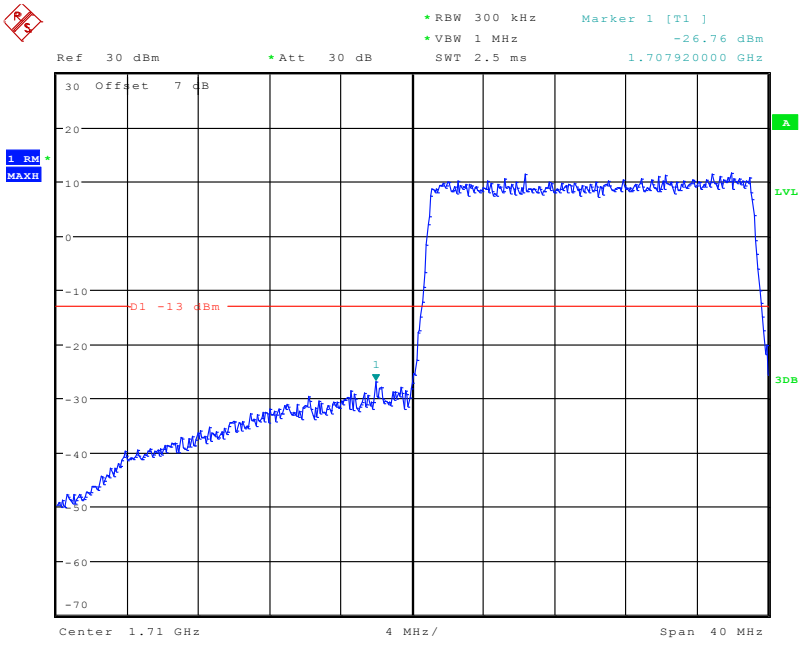
Date: 26.JUL.2020 14:18:32

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



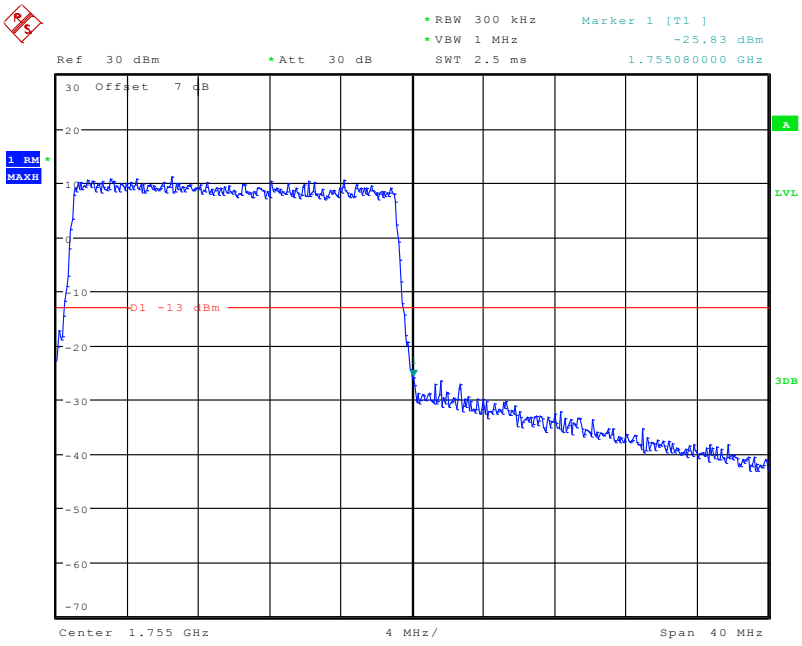
Date: 26.JUL.2020 14:19:13

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



Date: 26.JUL.2020 14:18:52

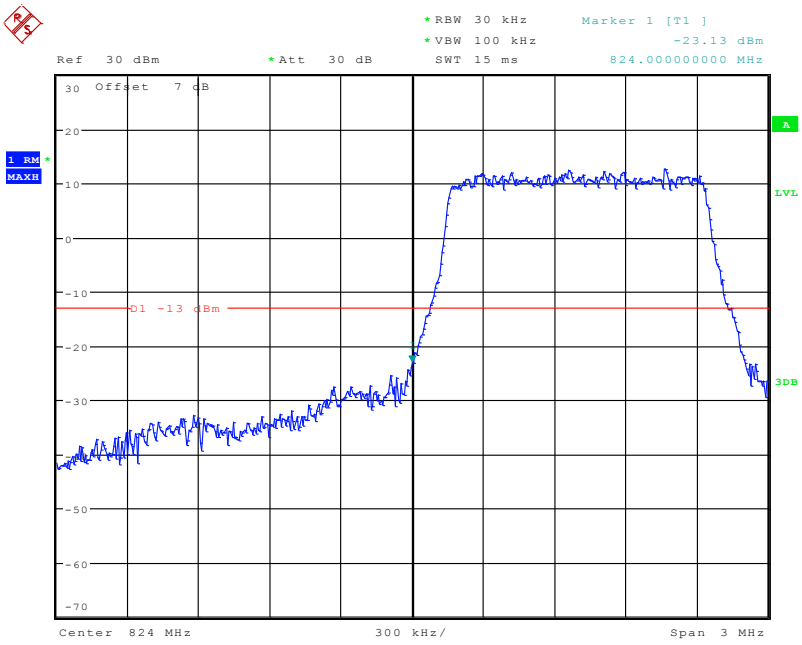
16-QAM (20.0 MHz, FULL RB) - Right Band Edge



Date: 26.JUL.2020 14:19:33

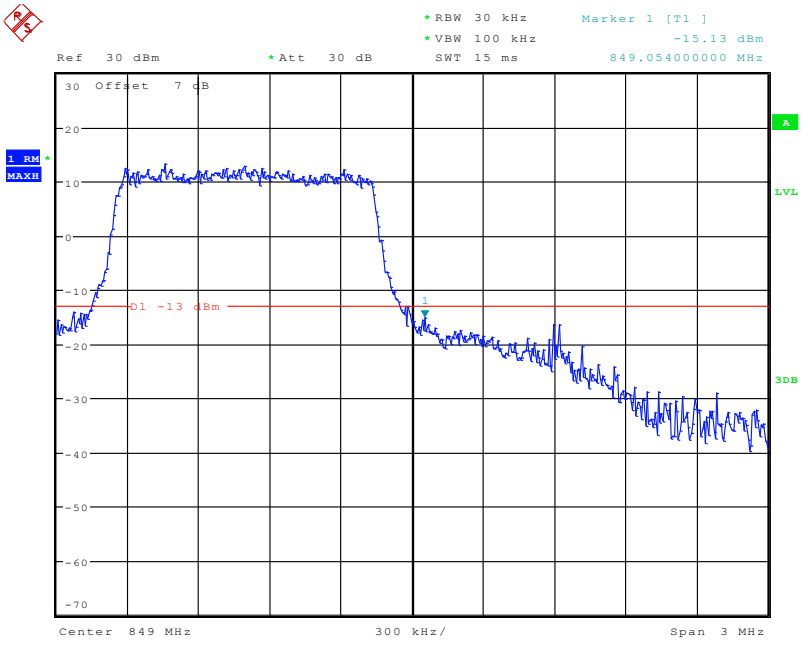
Band 5:

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



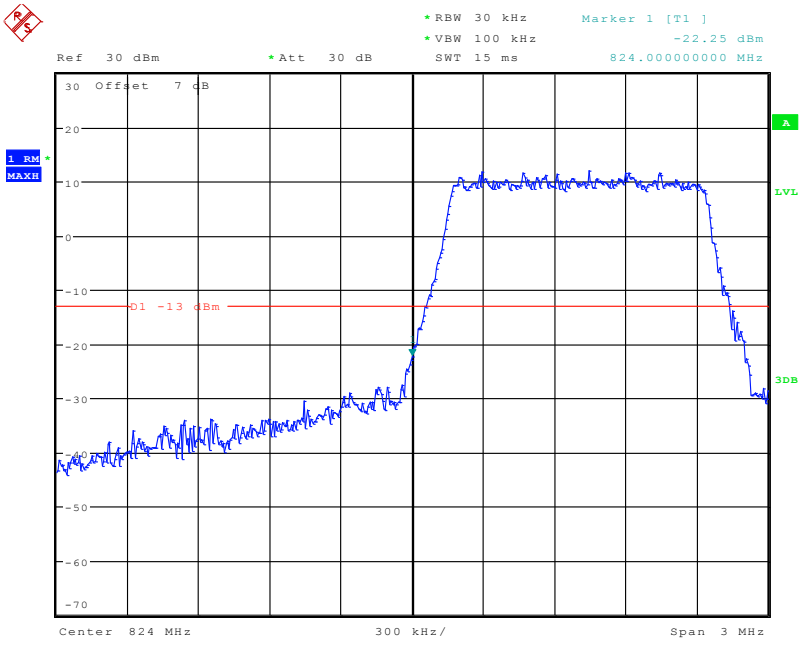
Date: 26.JUL.2020 14:19:55

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



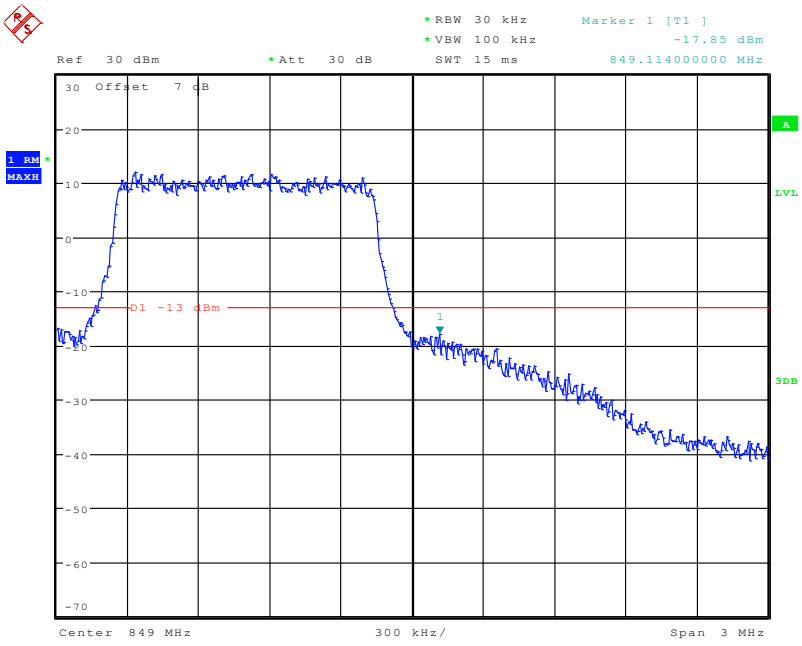
Date: 26.JUL.2020 14:20:35

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



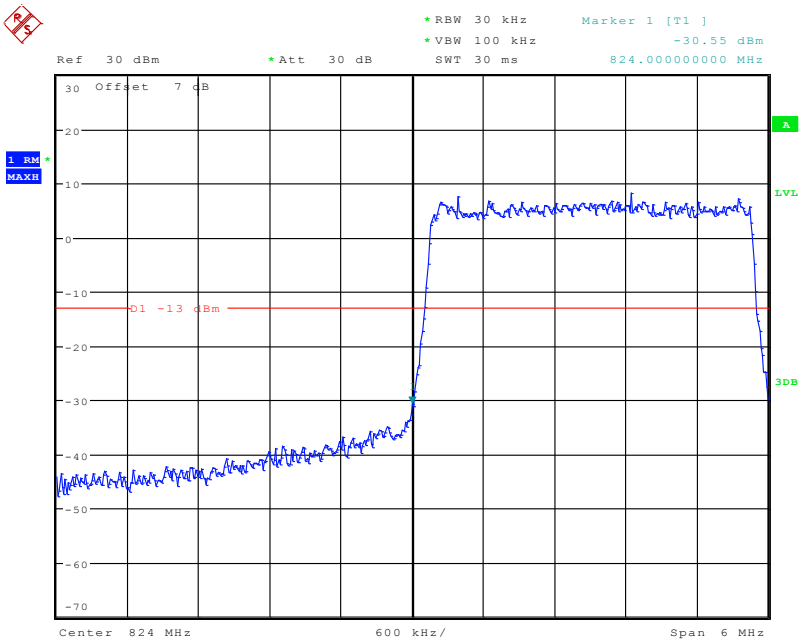
Date: 26.JUL.2020 14:20:14

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



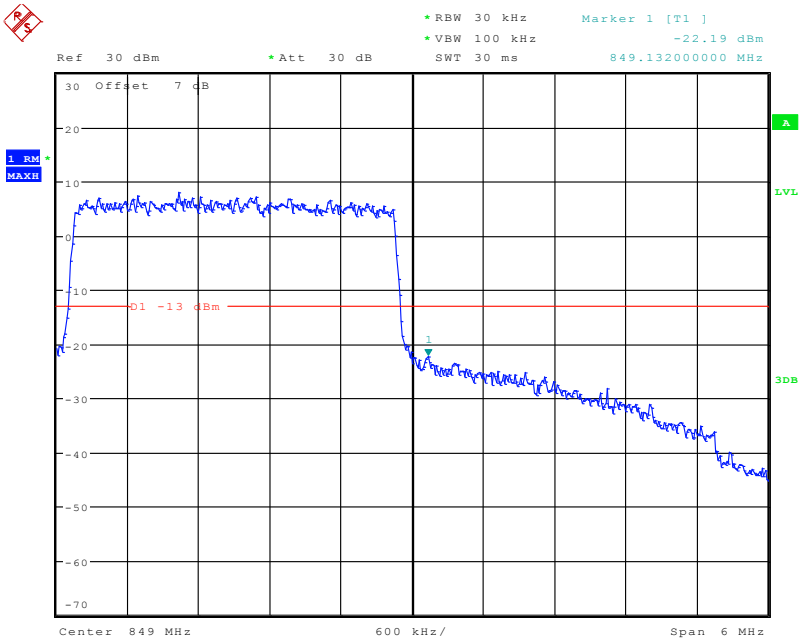
Date: 26.JUL.2020 14:20:51

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



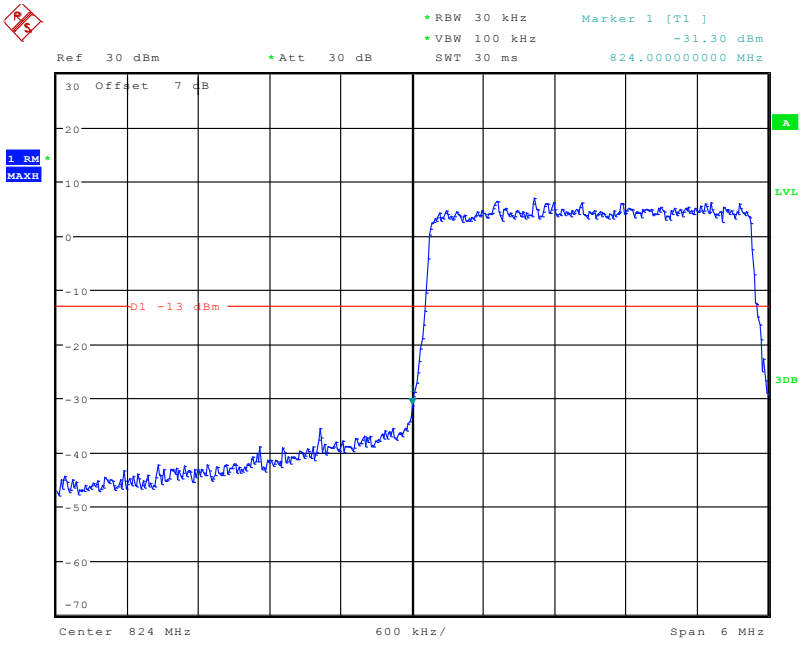
Date: 26.JUL.2020 14:21:11

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



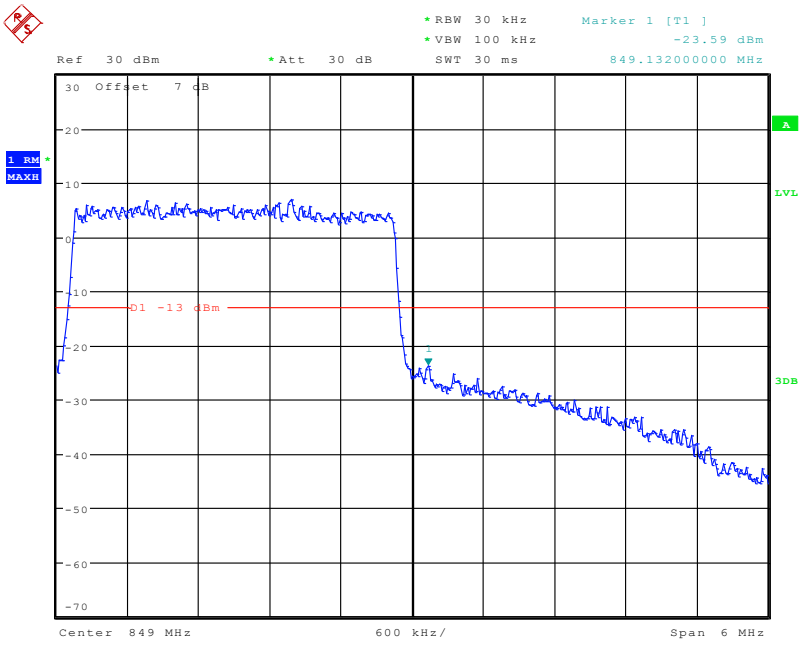
Date: 26.JUL.2020 14:21:47

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



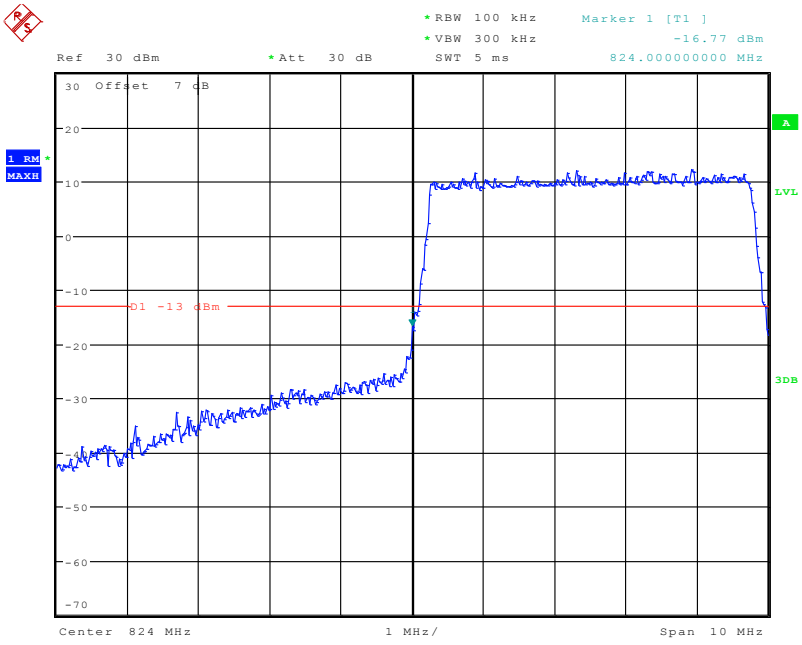
Date: 26.JUL.2020 14:21:30

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



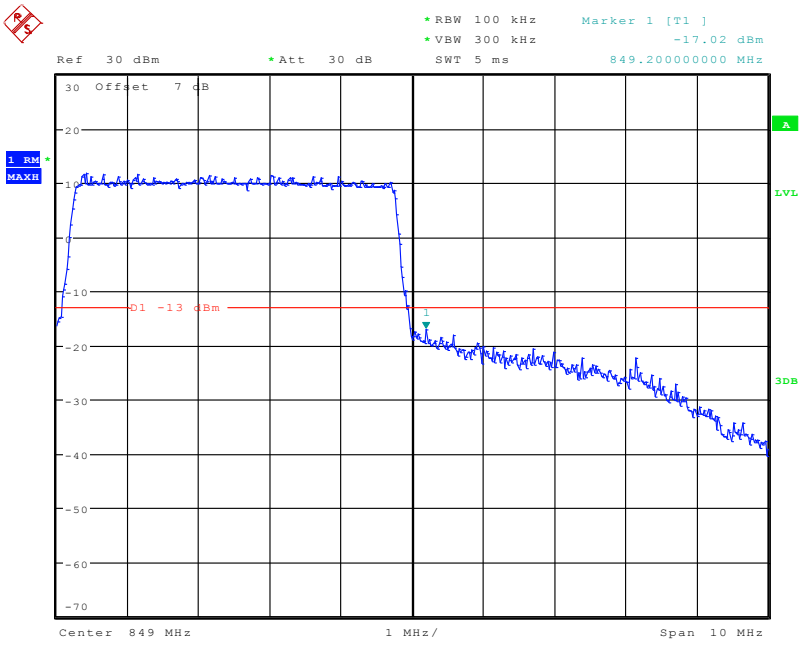
Date: 26.JUL.2020 14:22:07

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



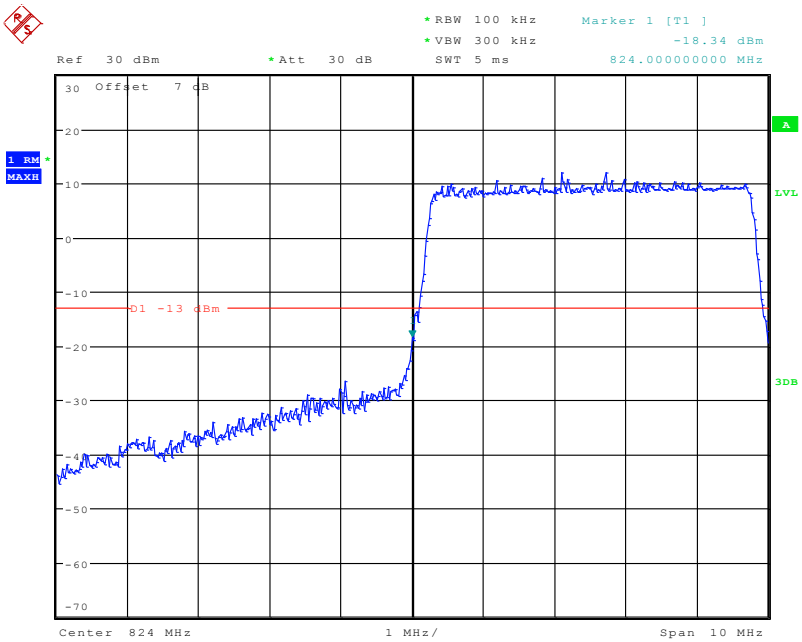
Date: 26.JUL.2020 14:22:29

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



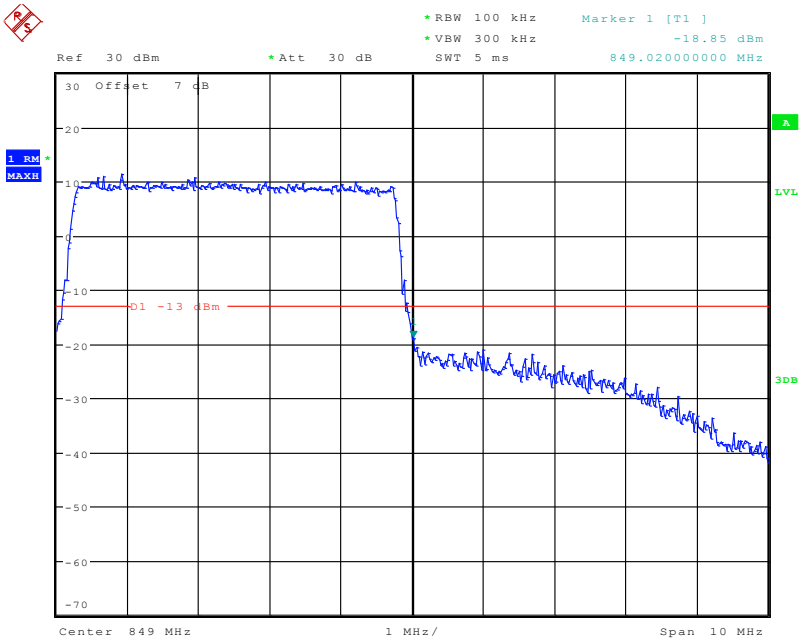
Date: 26.JUL.2020 14:23:09

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



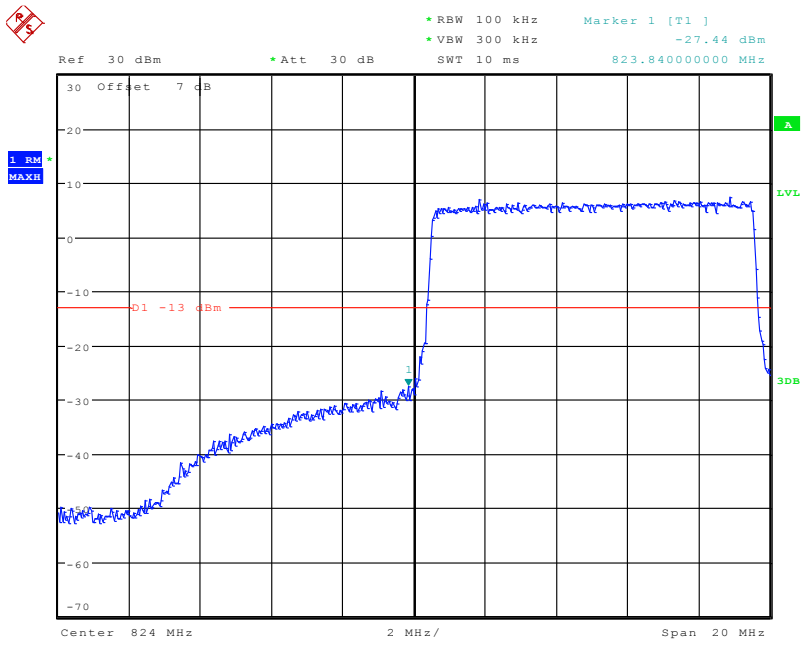
Date: 26.JUL.2020 14:22:49

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



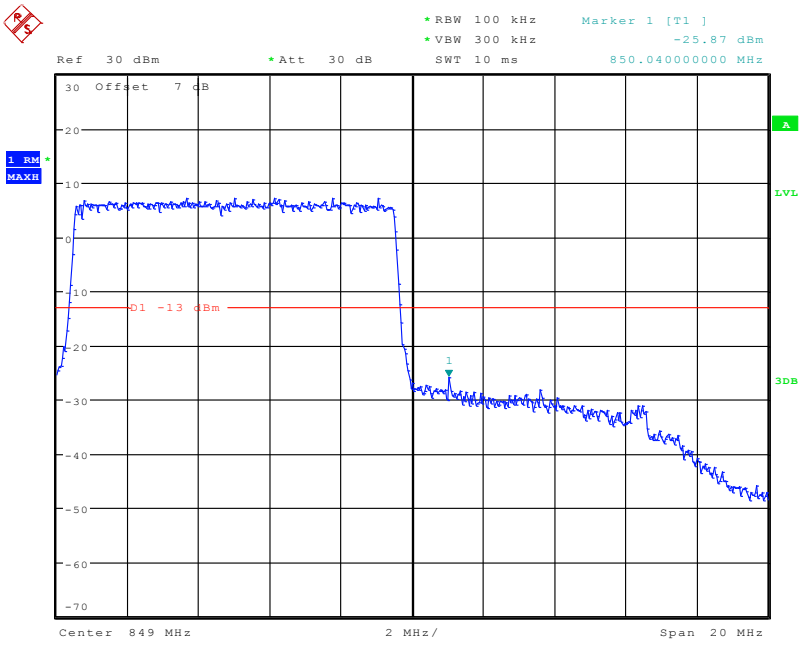
Date: 26.JUL.2020 14:23:25

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



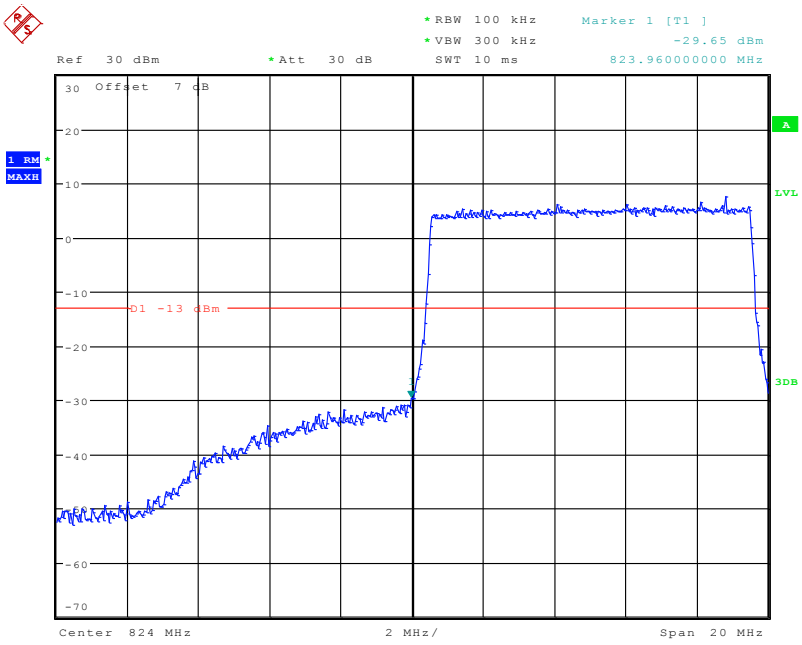
Date: 26.JUL.2020 14:23:46

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



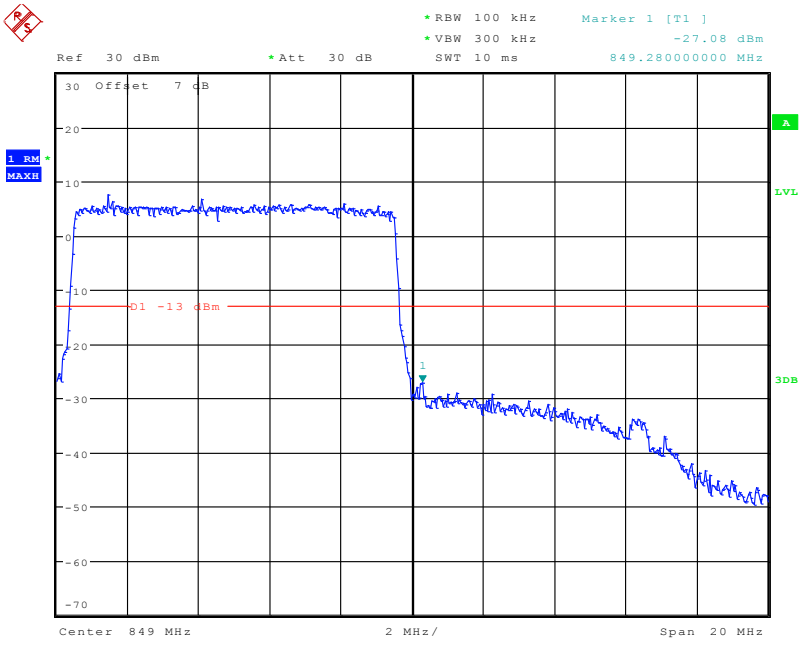
Date: 26.JUL.2020 14:24:22

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



Date: 26.JUL.2020 14:24:03

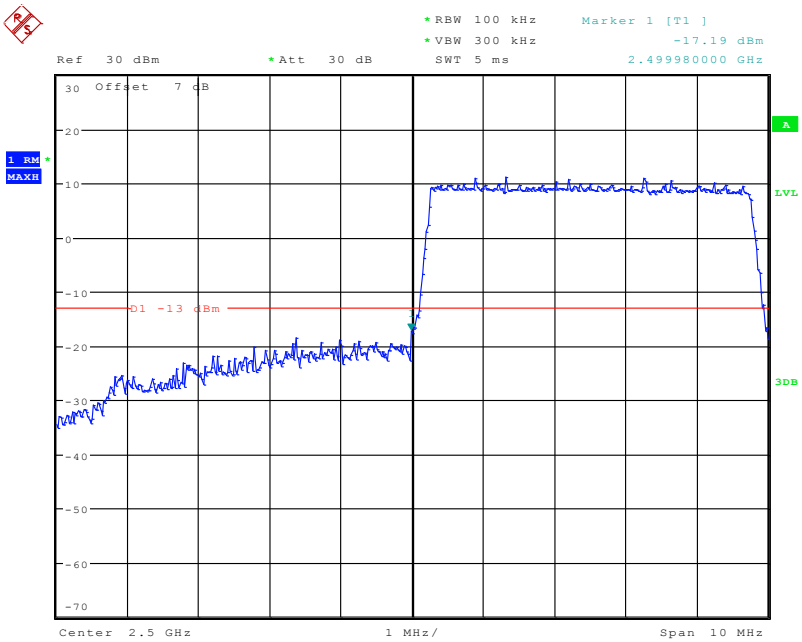
16-QAM (10.0 MHz, FULL RB) - Right Band Edge



Date: 26.JUL.2020 14:24:39

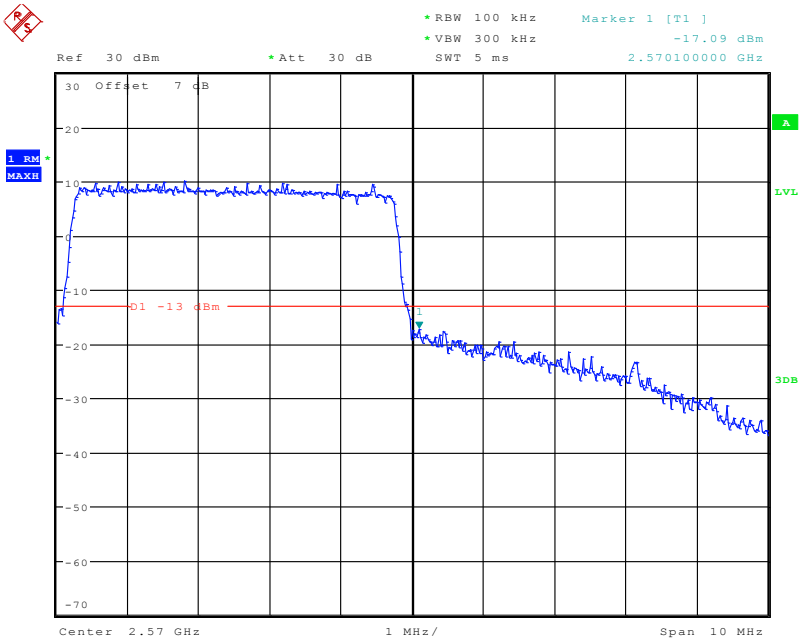
Band 7:

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



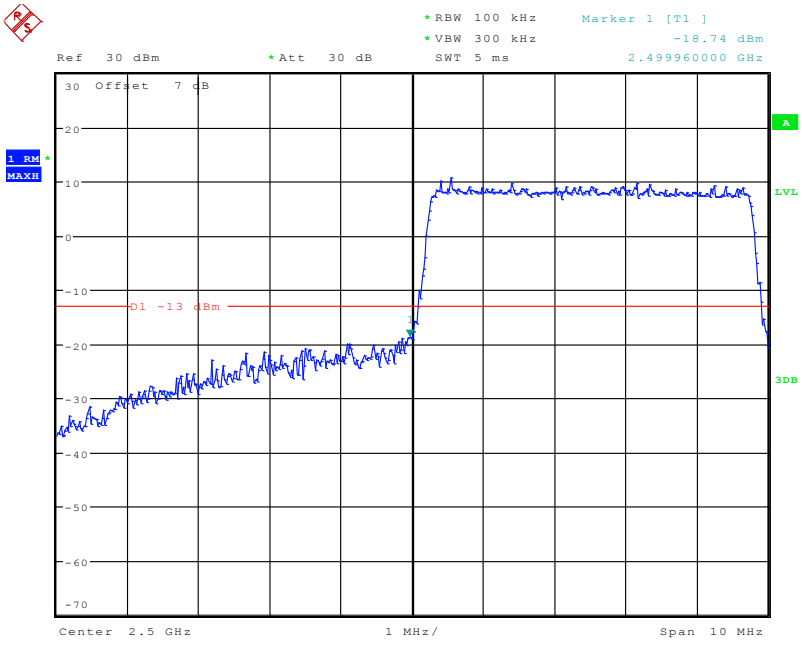
Date: 26.JUL.2020 14:25:02

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



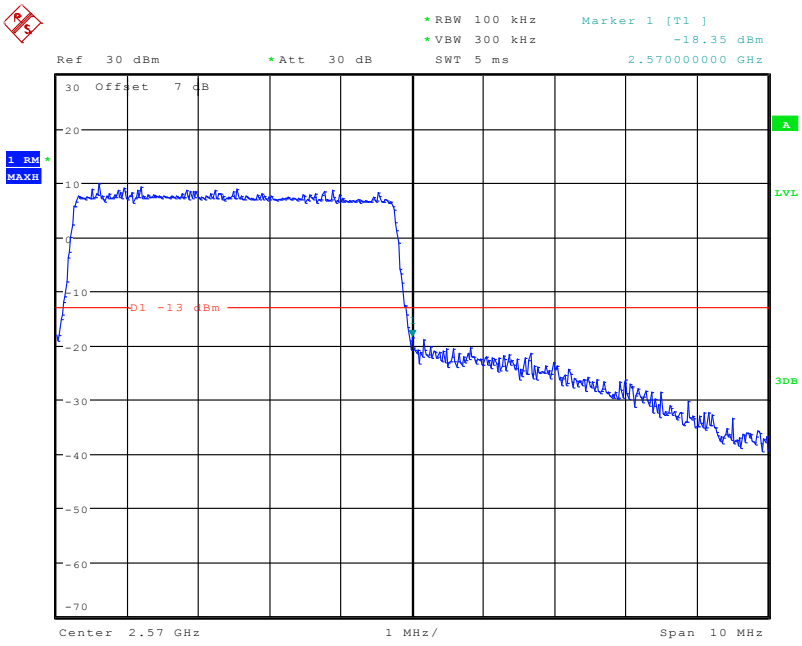
Date: 26.JUL.2020 14:25:38

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



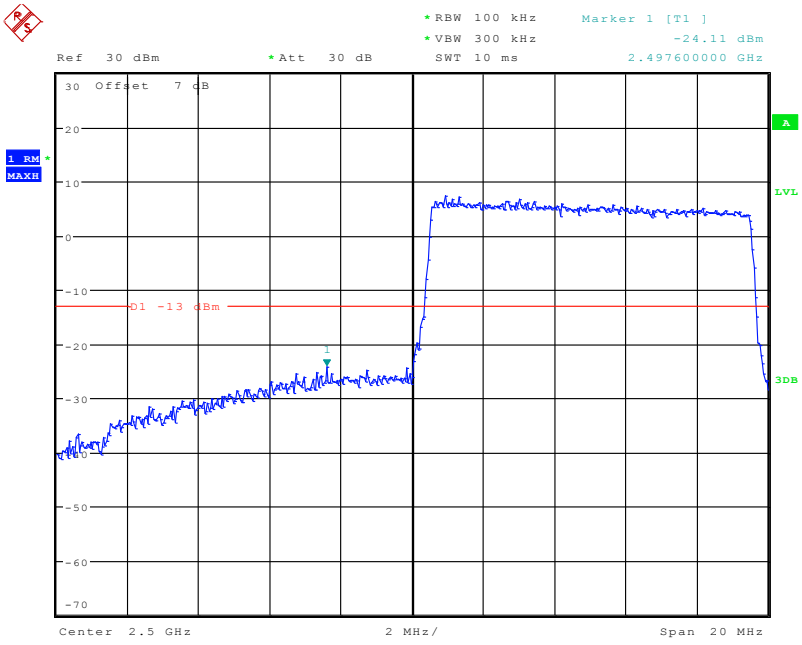
Date: 26.JUL.2020 14:25:21

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



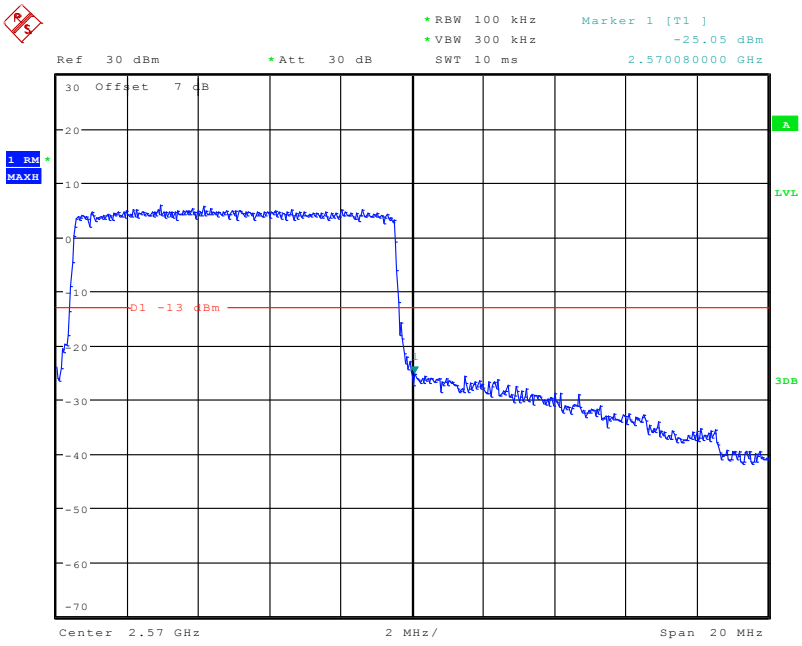
Date: 26.JUL.2020 14:25:58

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



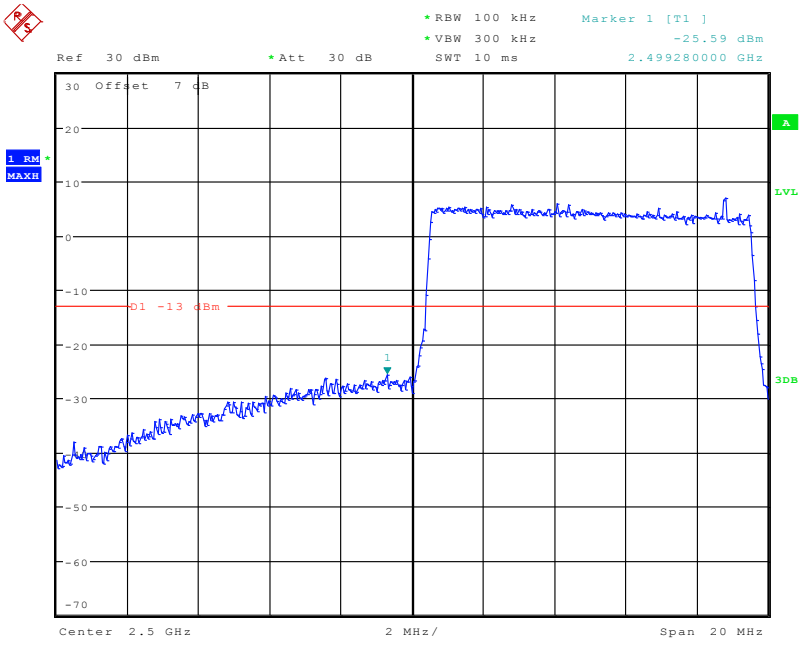
Date: 26.JUL.2020 14:26:19

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



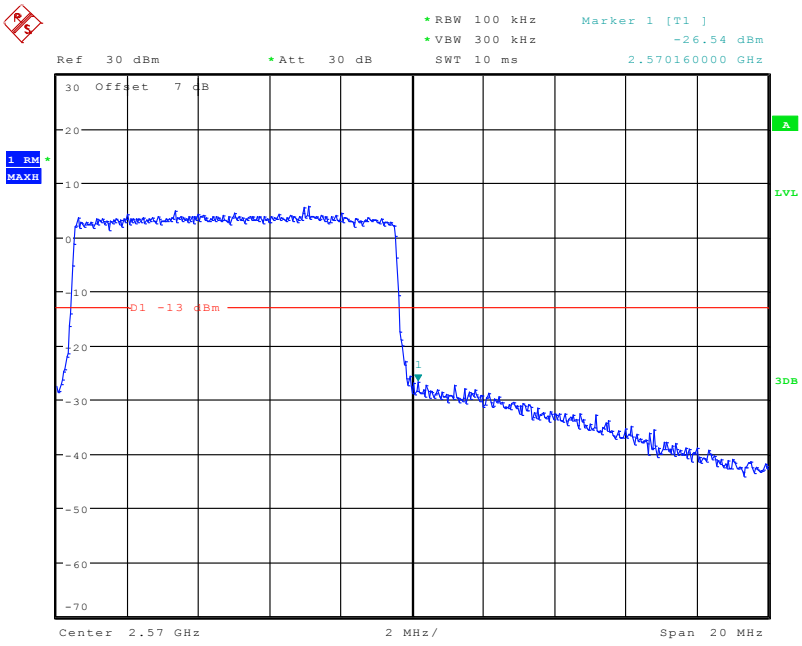
Date: 26.JUL.2020 14:26:55

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



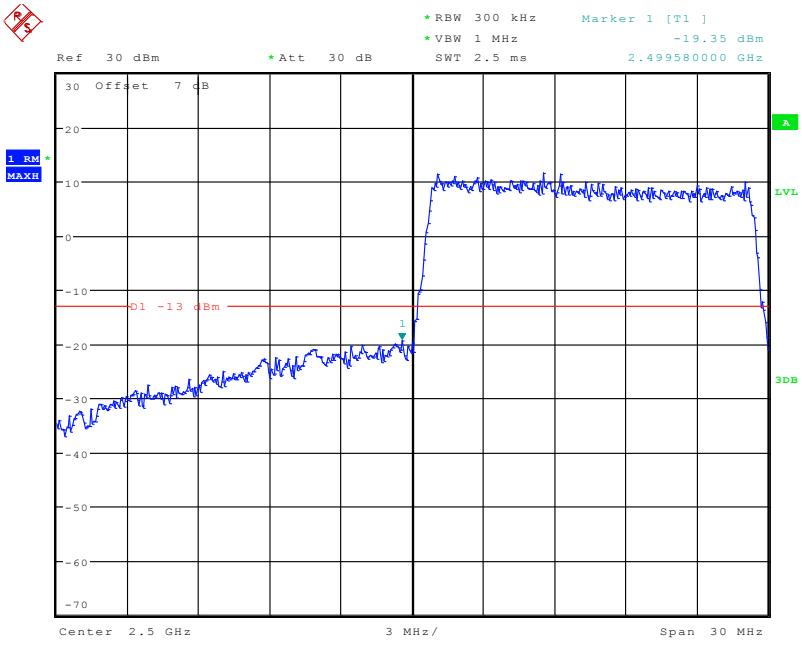
Date: 26.JUL.2020 14:26:36

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



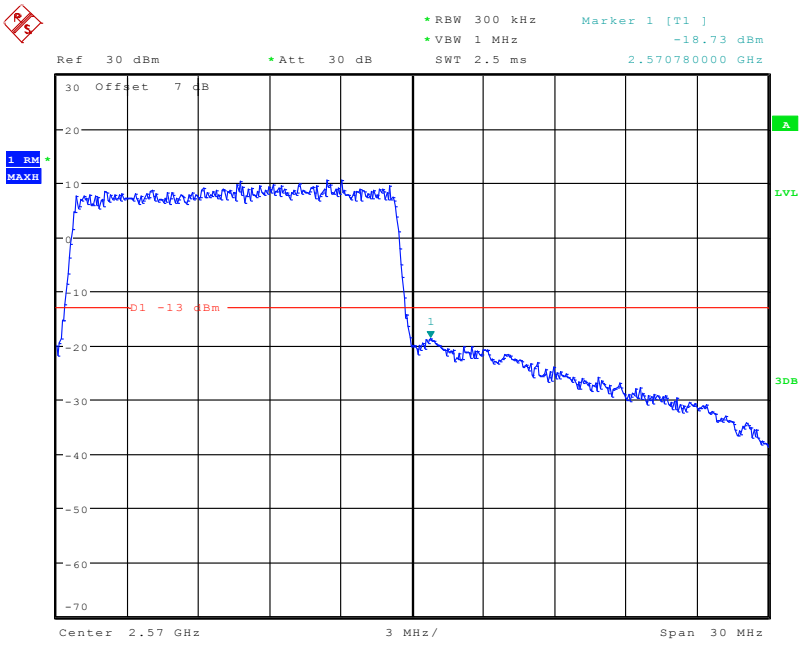
Date: 26.JUL.2020 14:27:12

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



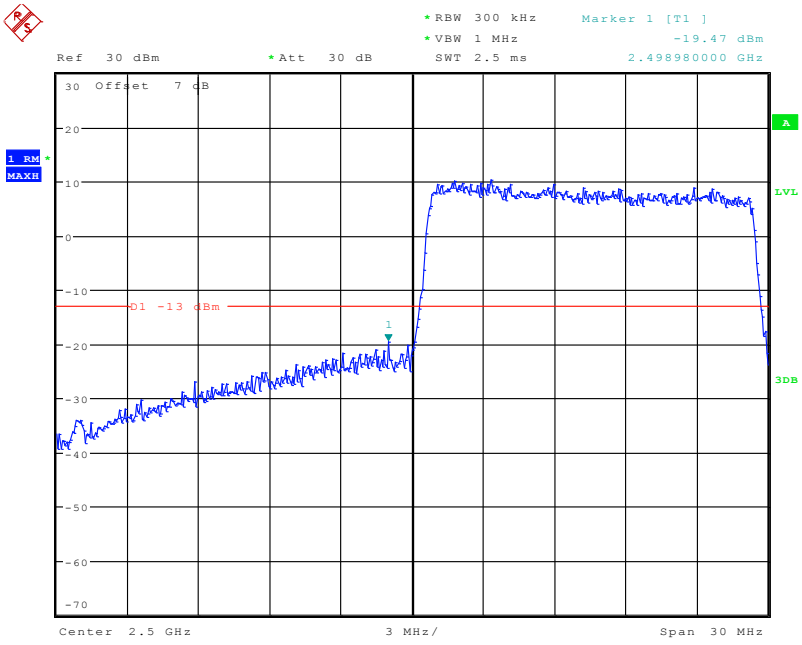
Date: 26.JUL.2020 14:27:35

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



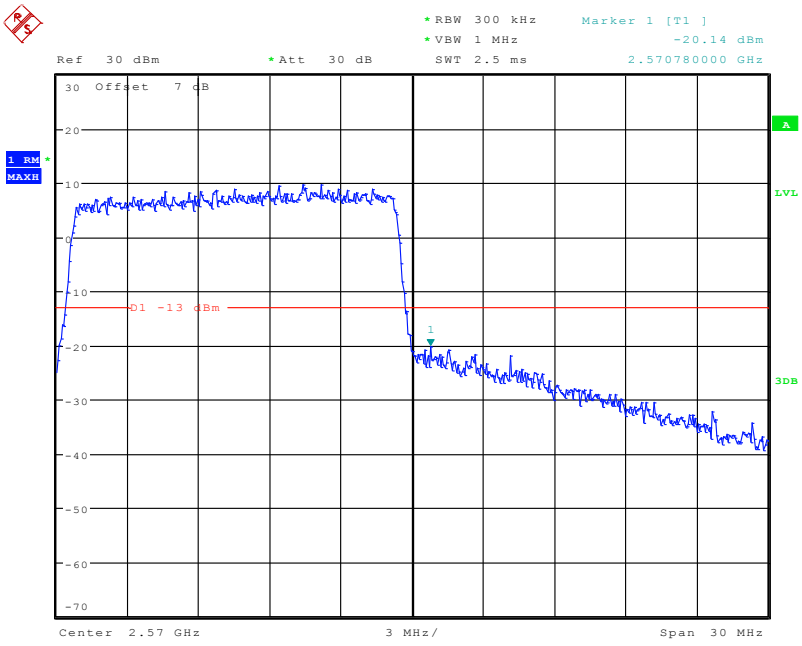
Date: 26.JUL.2020 14:28:15

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



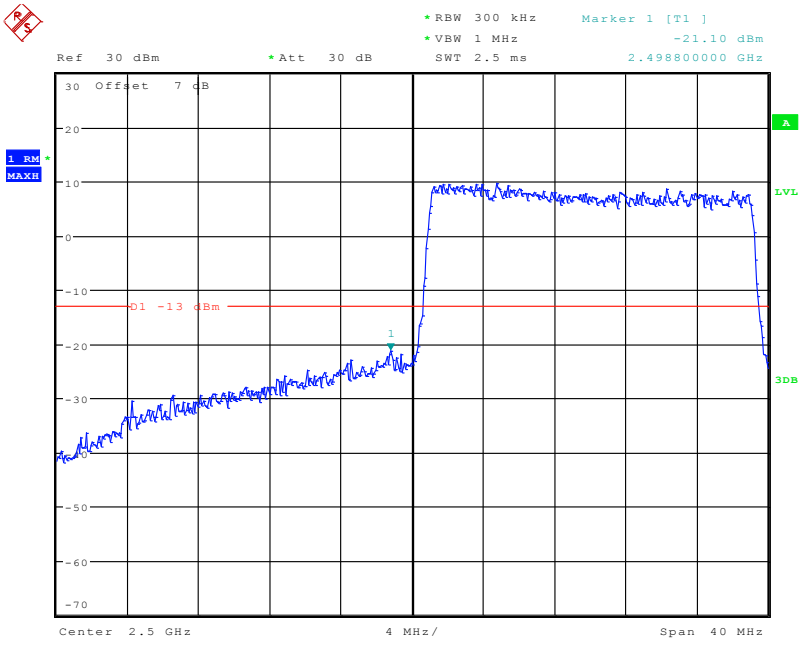
Date: 26.JUL.2020 14:27:55

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



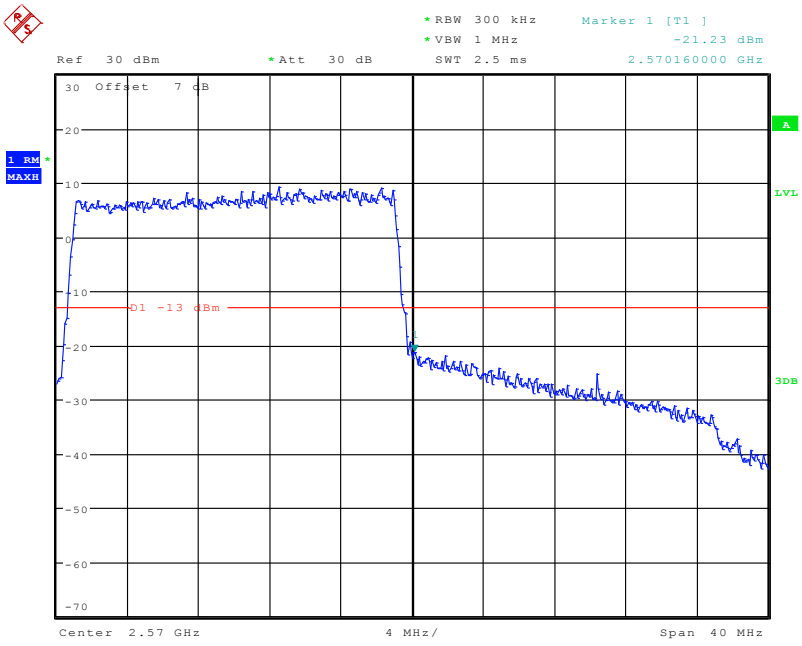
Date: 26.JUL.2020 14:28:35

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



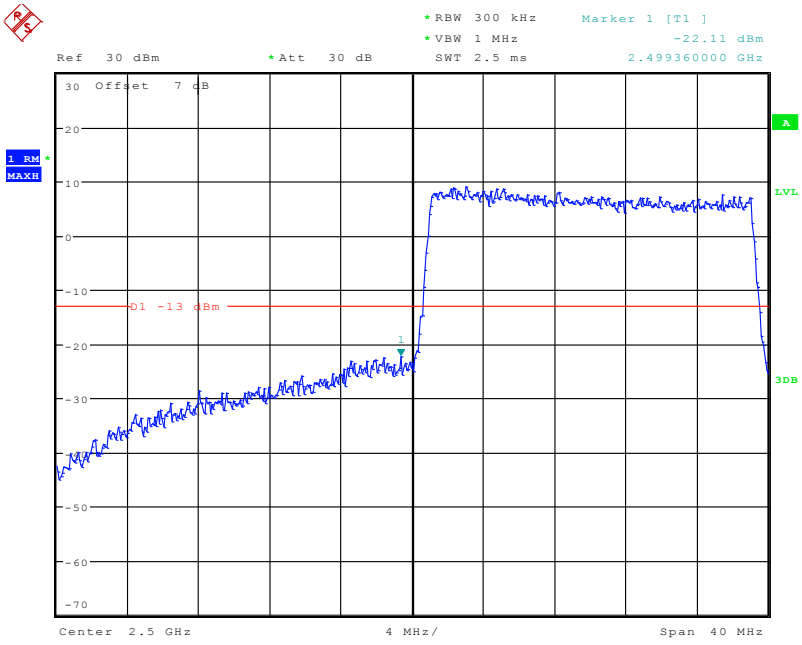
Date: 26.JUL.2020 14:28:58

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



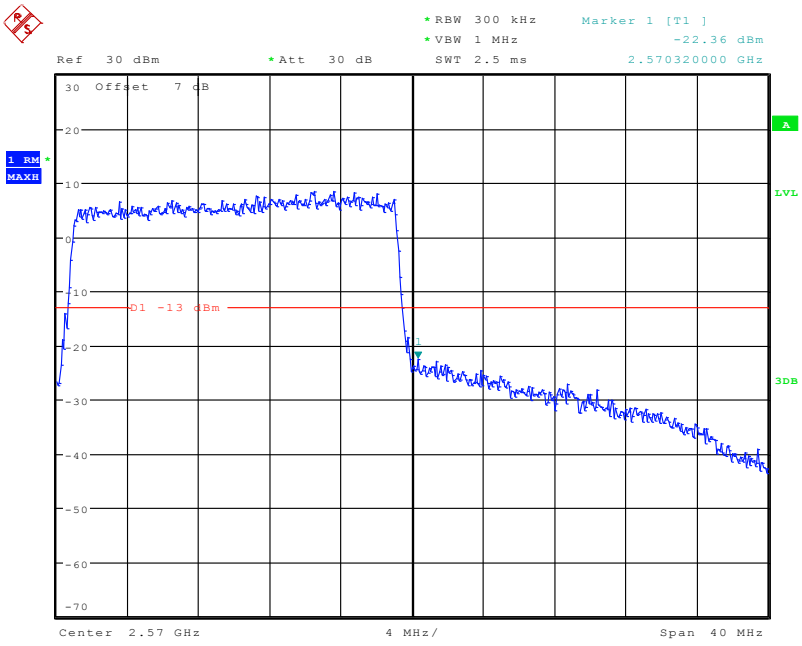
Date: 26.JUL.2020 14:29:45

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



Date: 26.JUL.2020 14:29:21

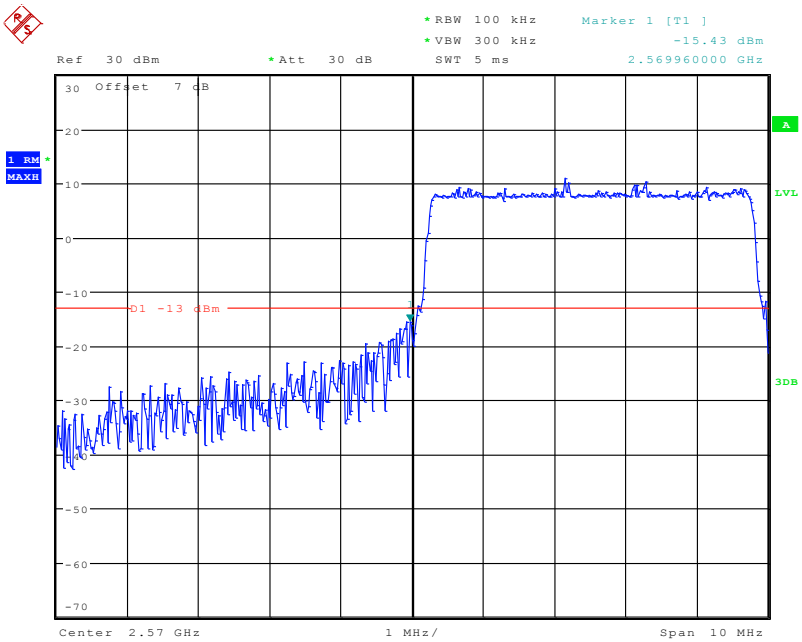
16-QAM (20.0 MHz, FULL RB) - Right Band Edge



Date: 26.JUL.2020 14:30:05

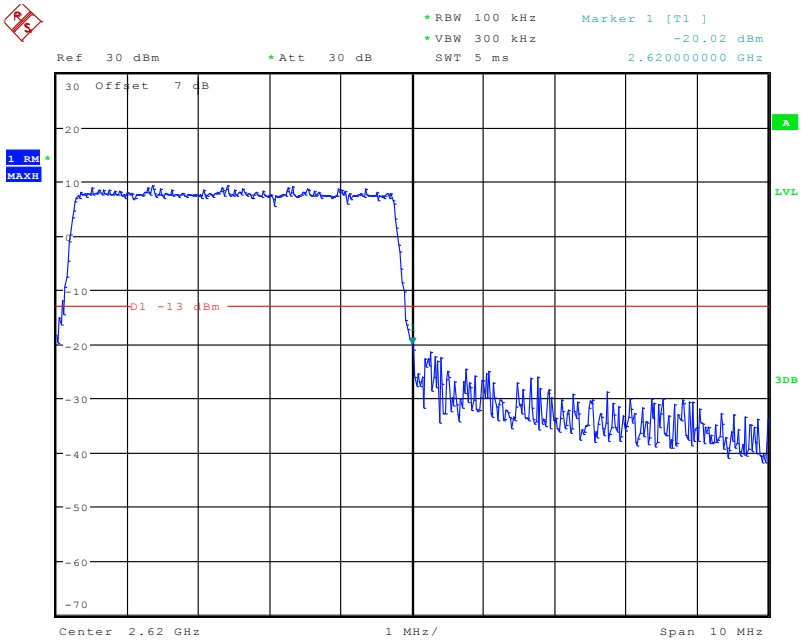
Band 38:

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



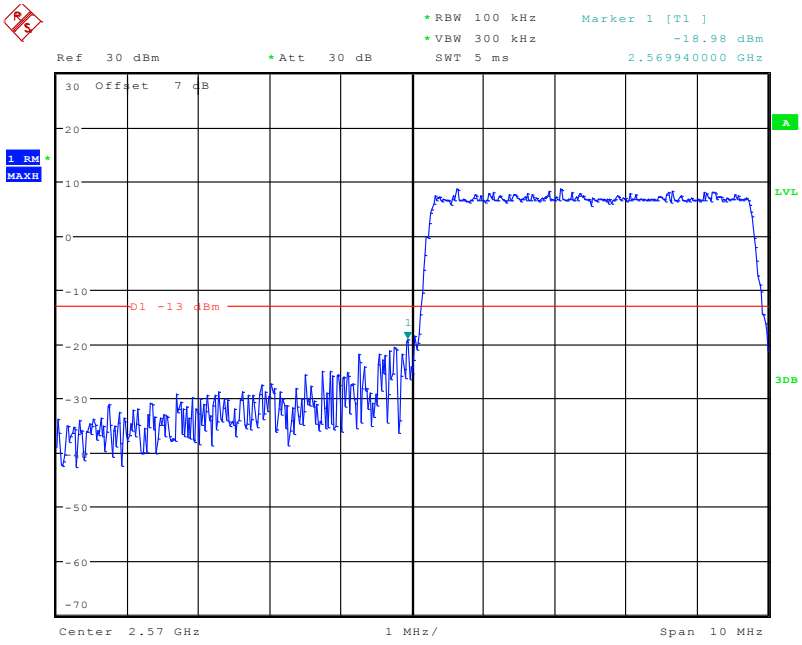
Date: 26.JUL.2020 14:31:01

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



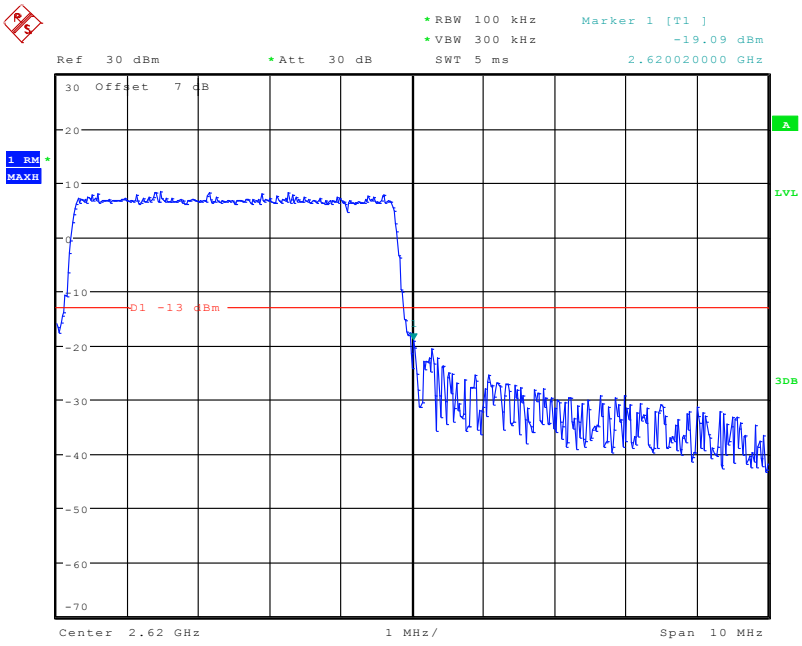
Date: 26.JUL.2020 14:32:00

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



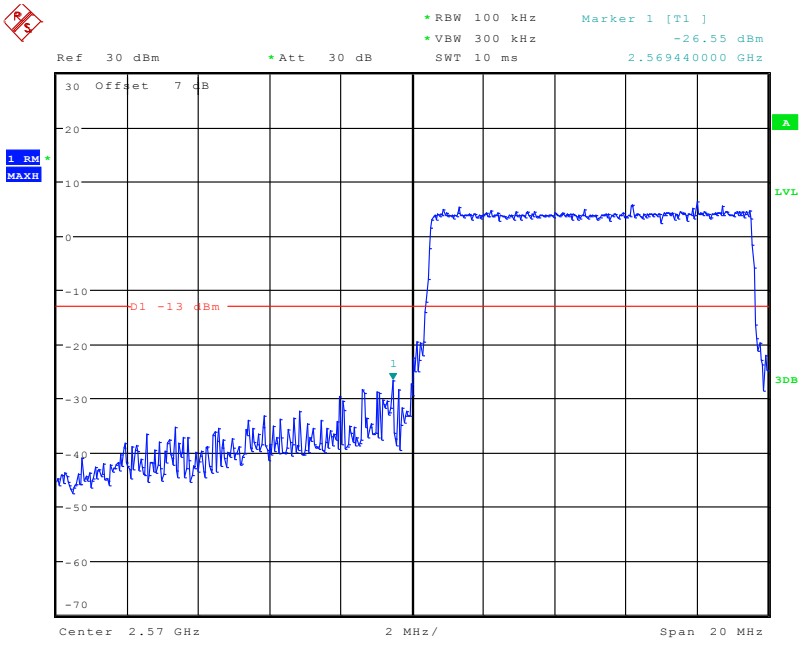
Date: 26.JUL.2020 14:31:33

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



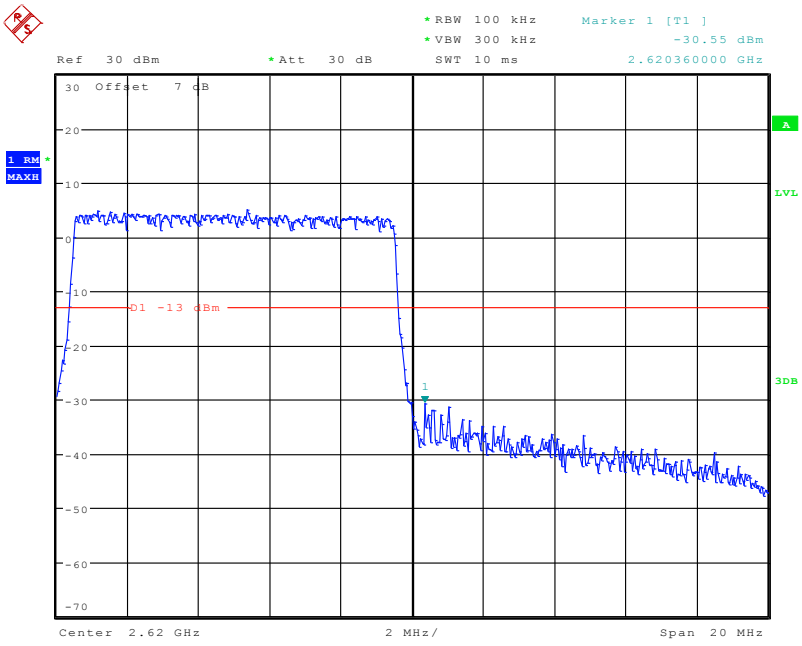
Date: 26.JUL.2020 14:32:29

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



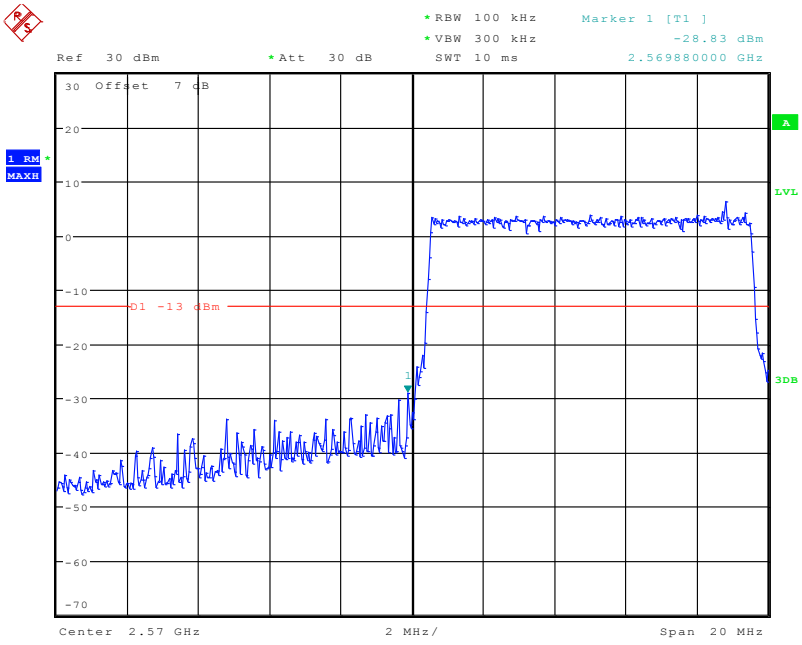
Date: 26.JUL.2020 14:32:59

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



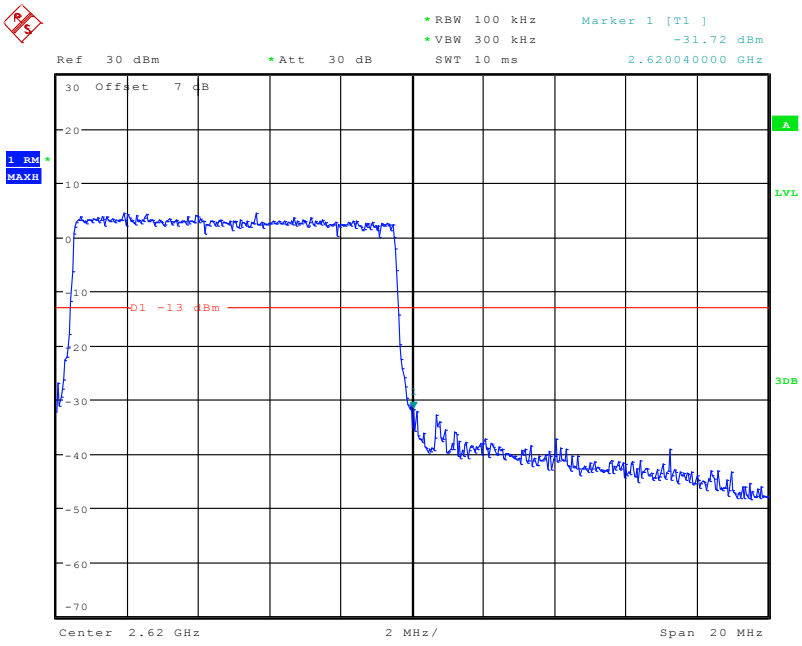
Date: 26.JUL.2020 14:33:38

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



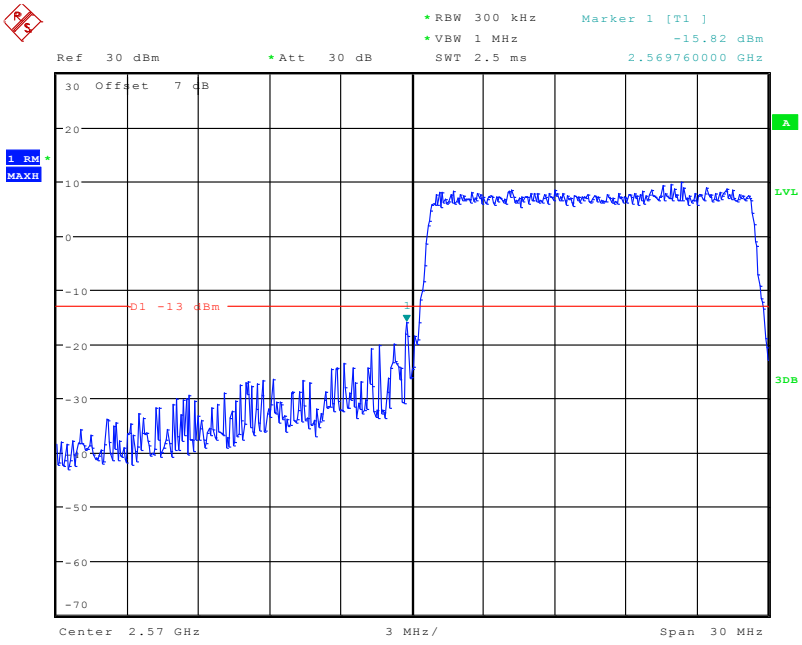
Date: 26.JUL.2020 14:33:19

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



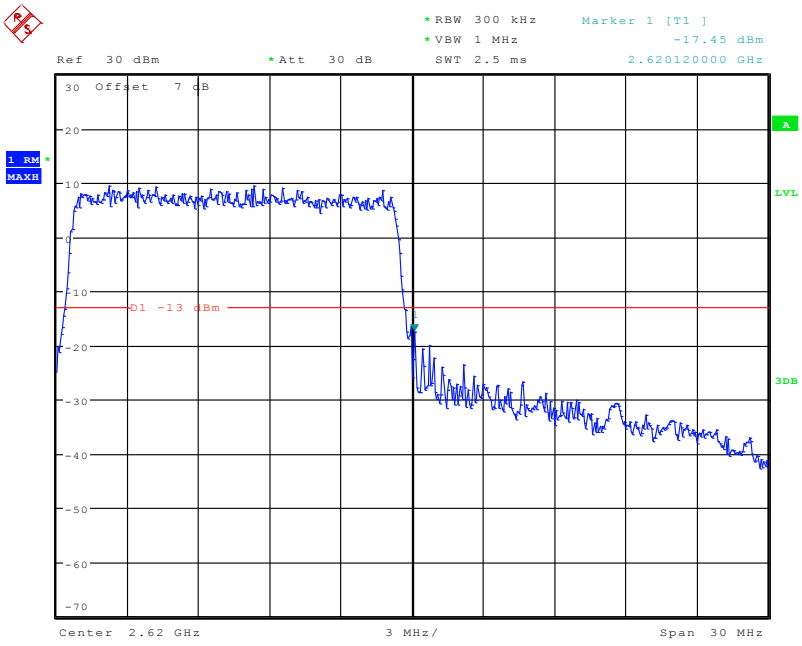
Date: 26.JUL.2020 14:34:01

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



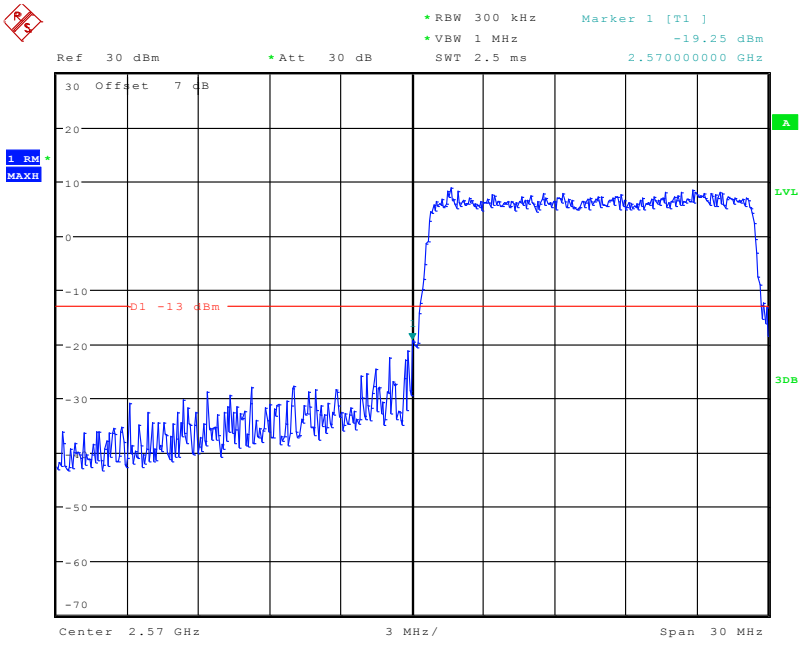
Date: 26.JUL.2020 14:34:30

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



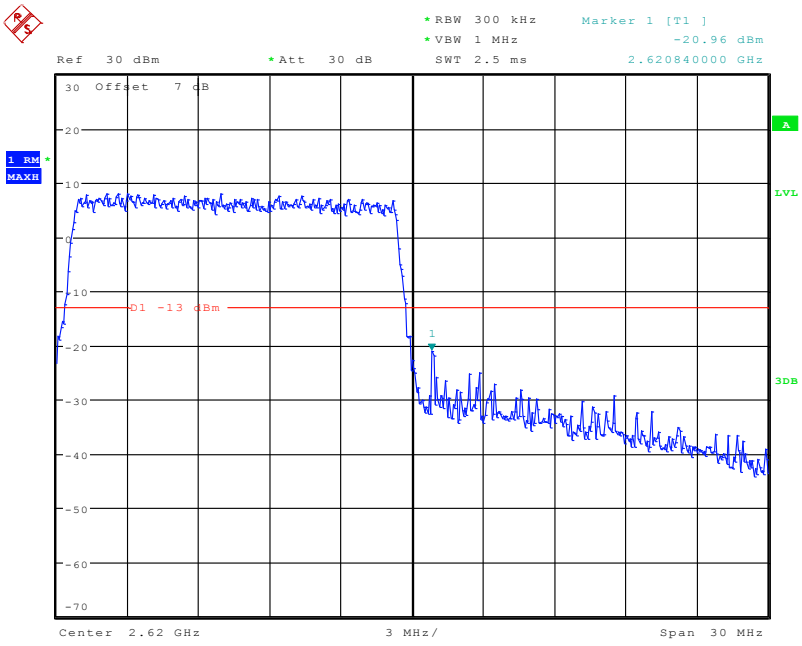
Date: 26.JUL.2020 14:35:26

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



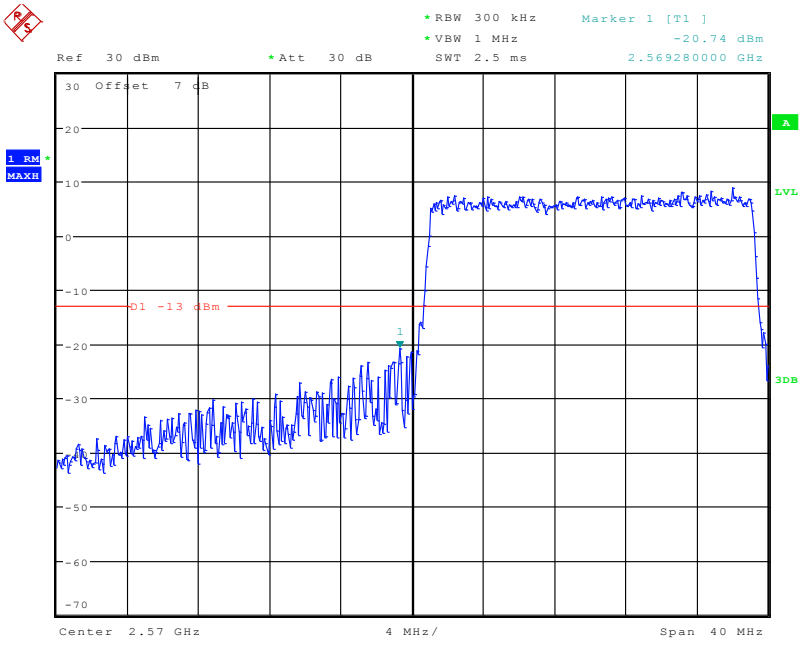
Date: 26.JUL.2020 14:35:03

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



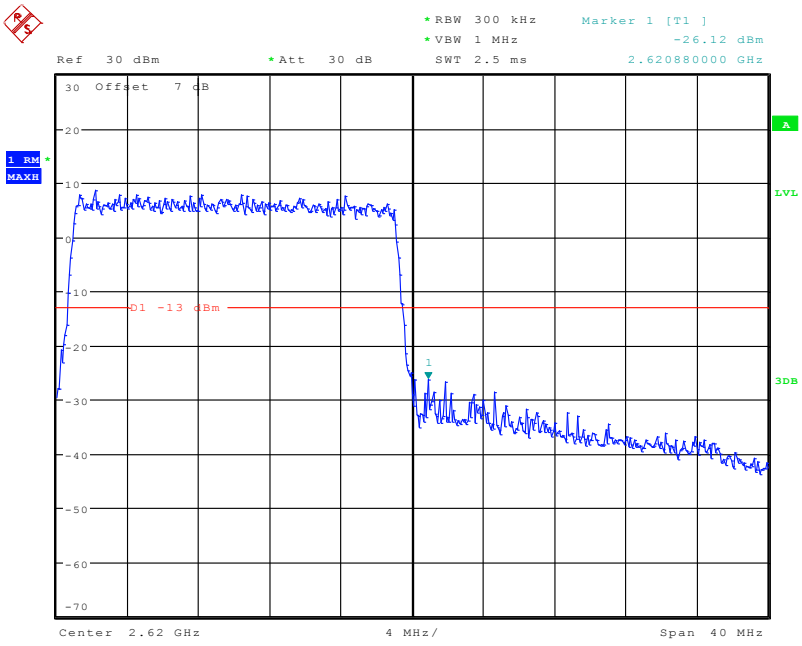
Date: 26.JUL.2020 14:35:53

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



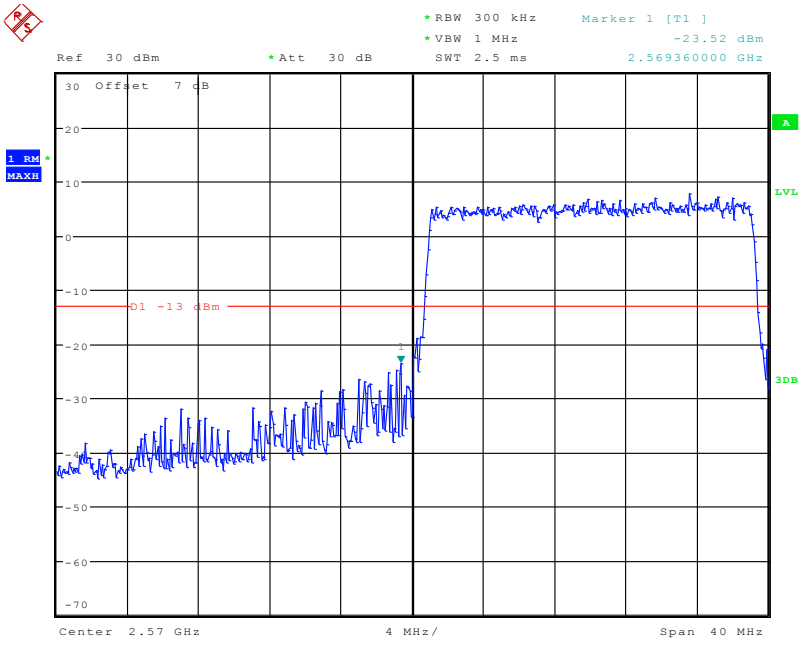
Date: 26.JUL.2020 14:36:31

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



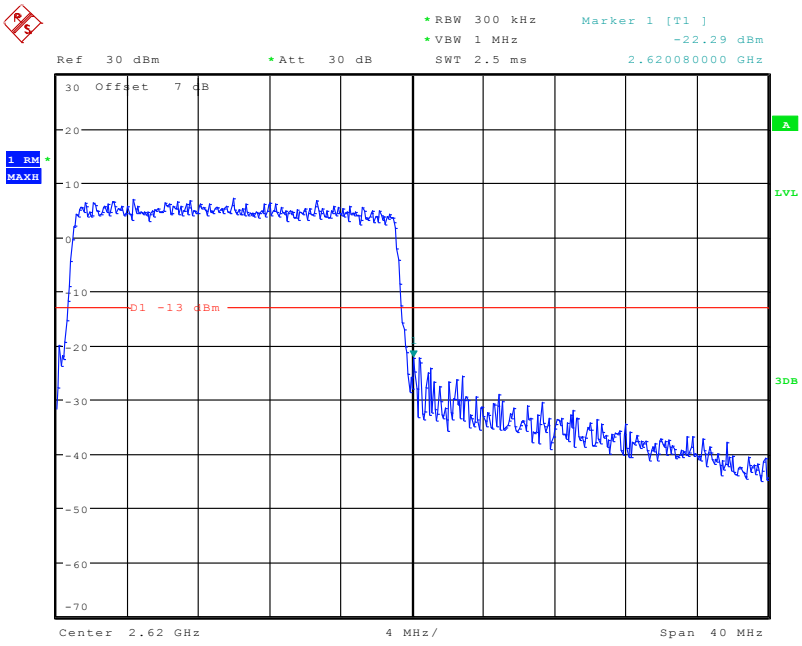
Date: 26.JUL.2020 14:37:17

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



Date: 26.JUL.2020 14:36:54

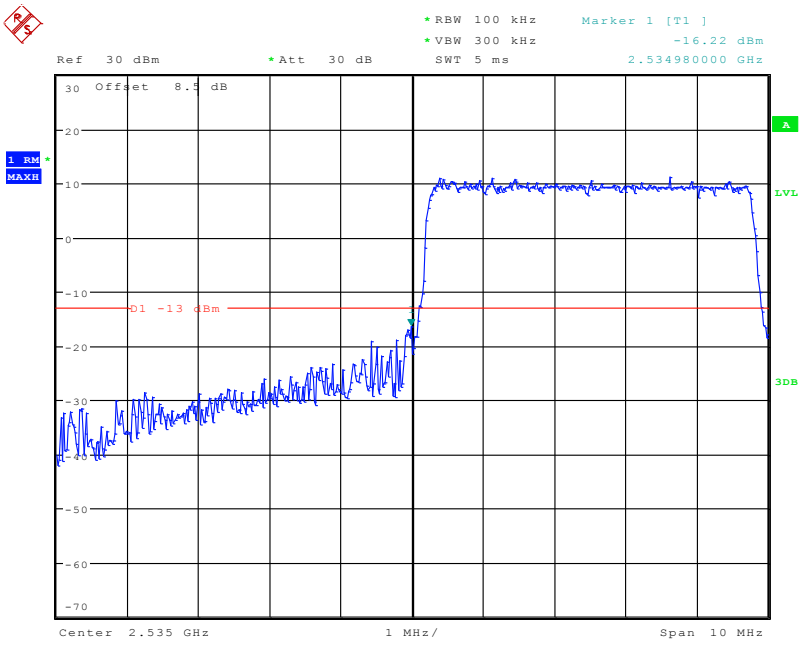
16-QAM (20.0 MHz, FULL RB) - Right Band Edge



Date: 26.JUL.2020 14:37:43

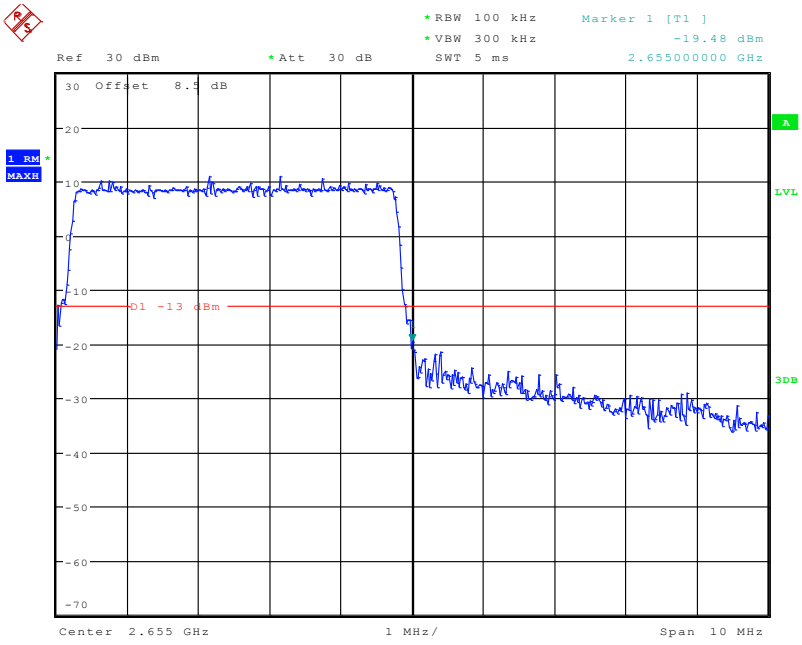
Band 41:

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



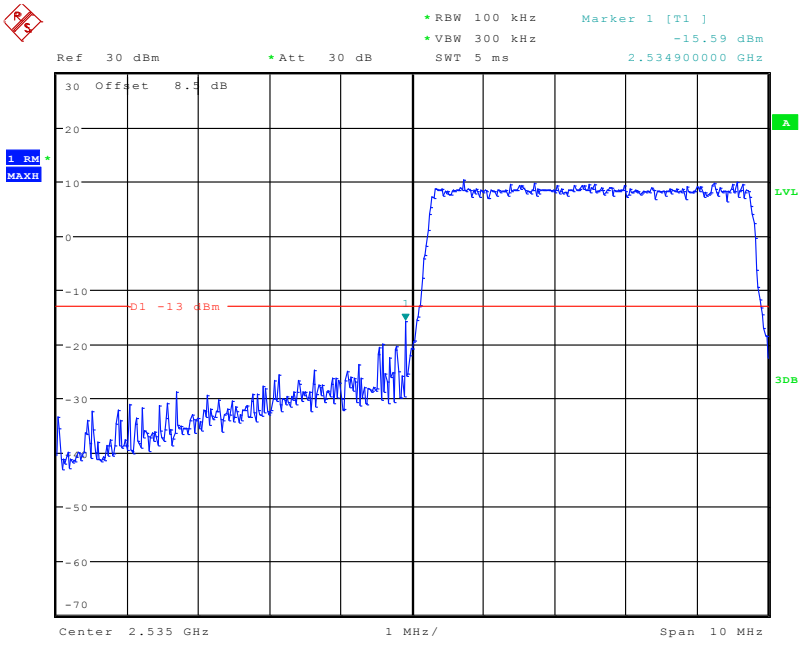
Date: 31.JUL.2020 19:16:45

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



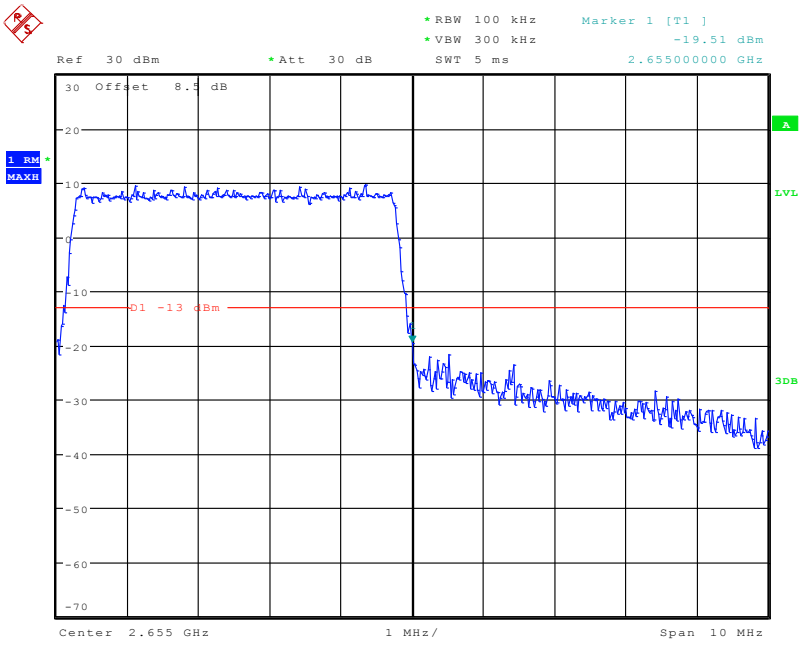
Date: 31.JUL.2020 19:17:27

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



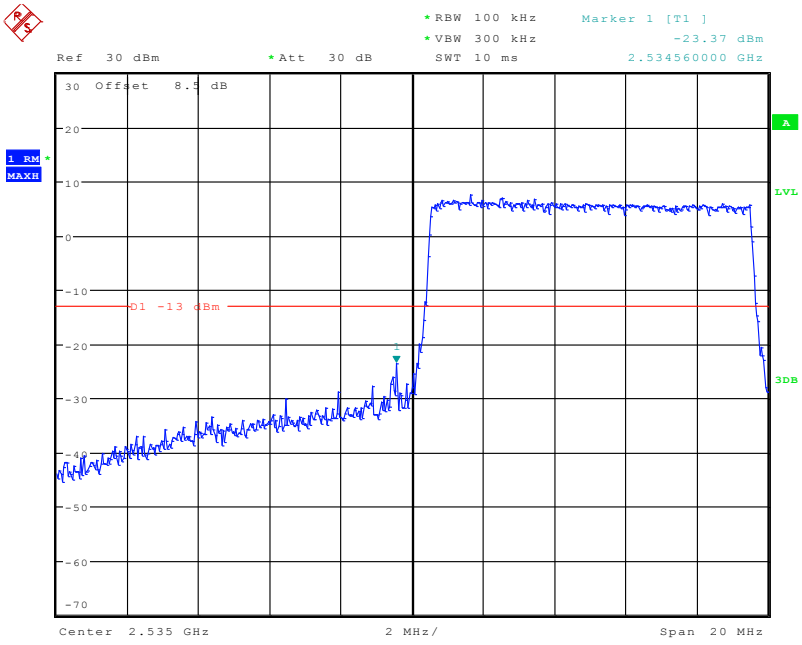
Date: 31.JUL.2020 19:17:09

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



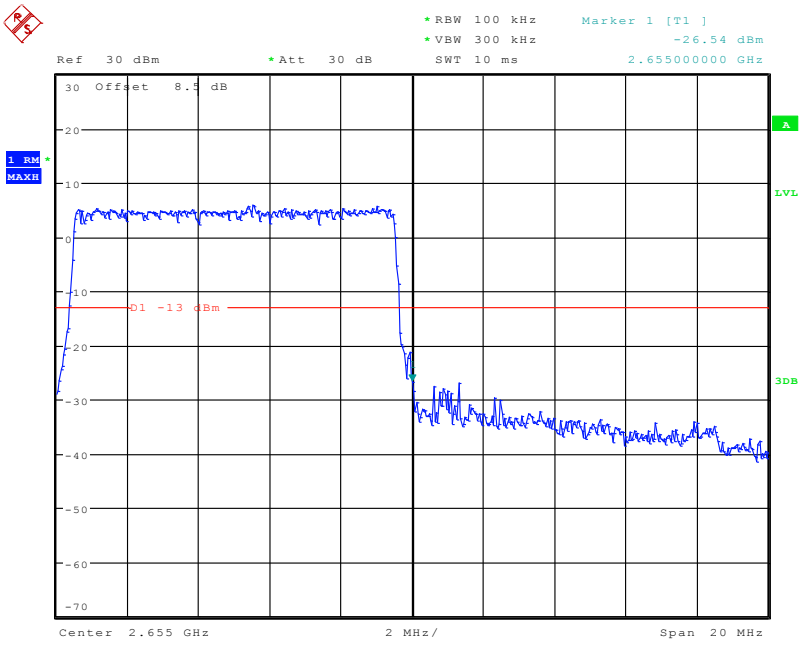
Date: 31.JUL.2020 19:17:48

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



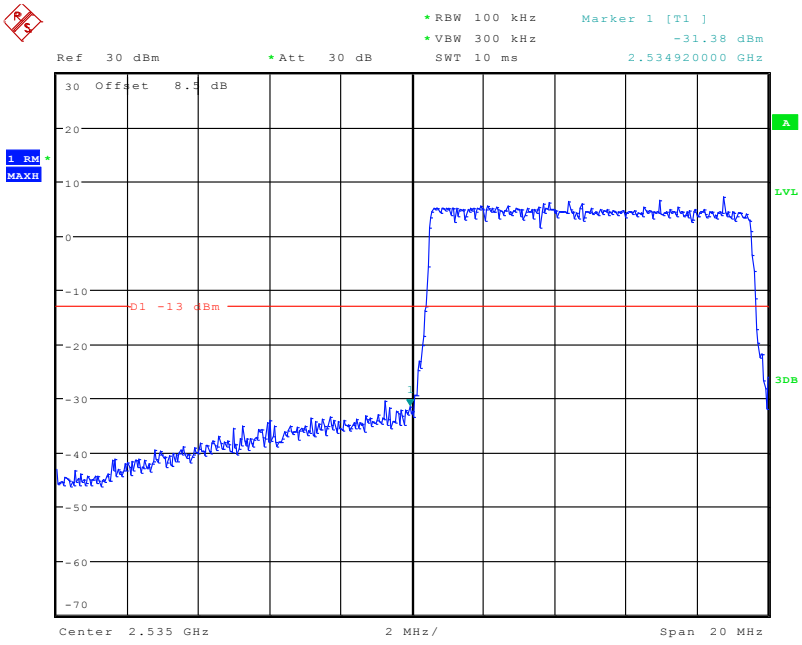
Date: 31.JUL.2020 19:18:15

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



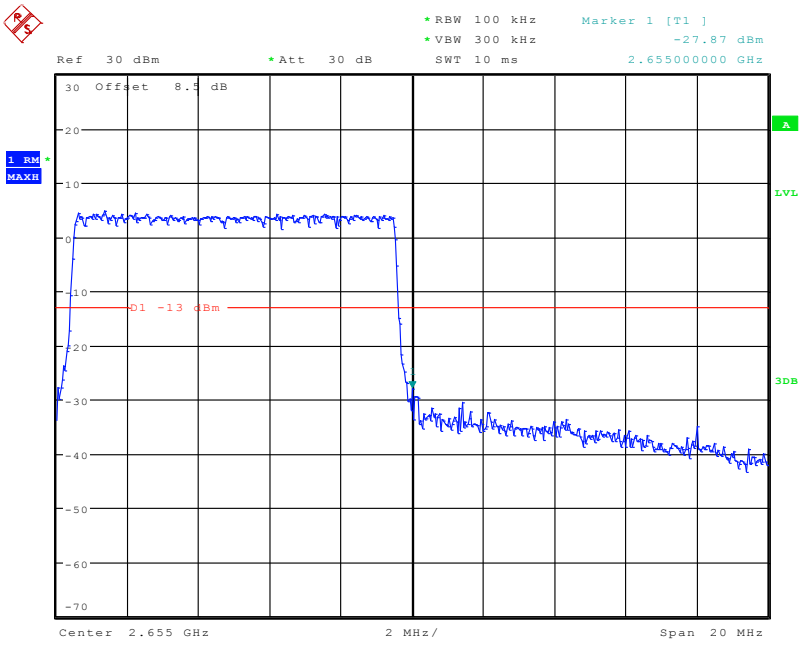
Date: 31.JUL.2020 19:18:57

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



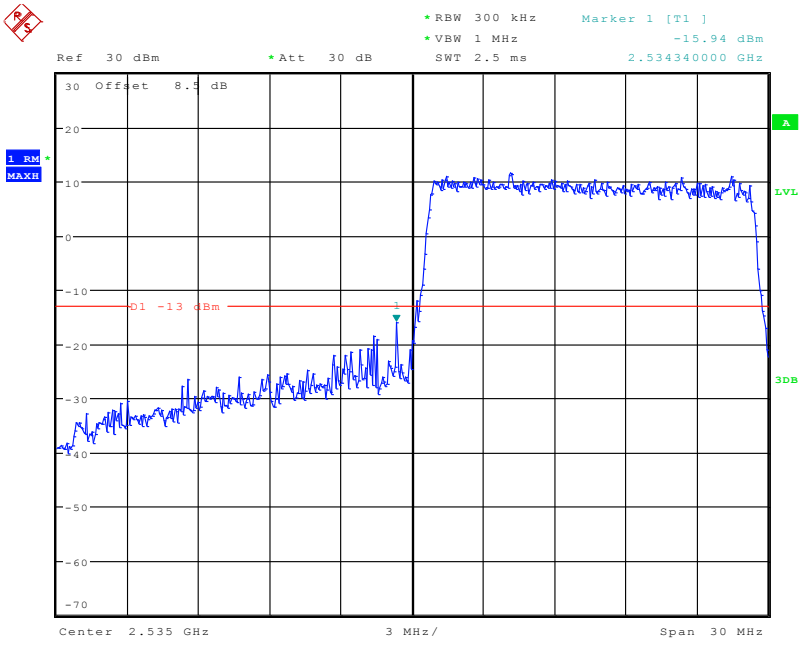
Date: 31.JUL.2020 19:18:36

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



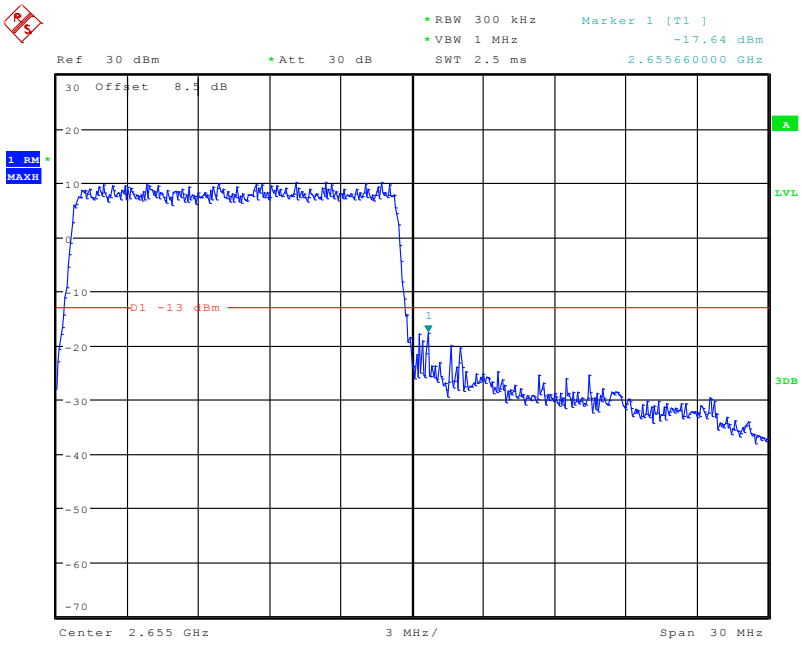
Date: 31.JUL.2020 19:19:18

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



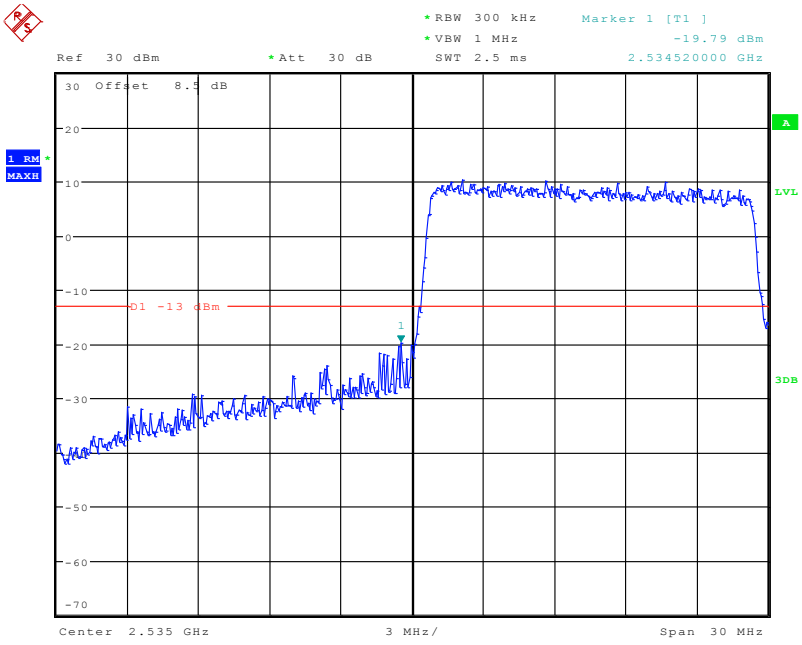
Date: 31.JUL.2020 19:19:49

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



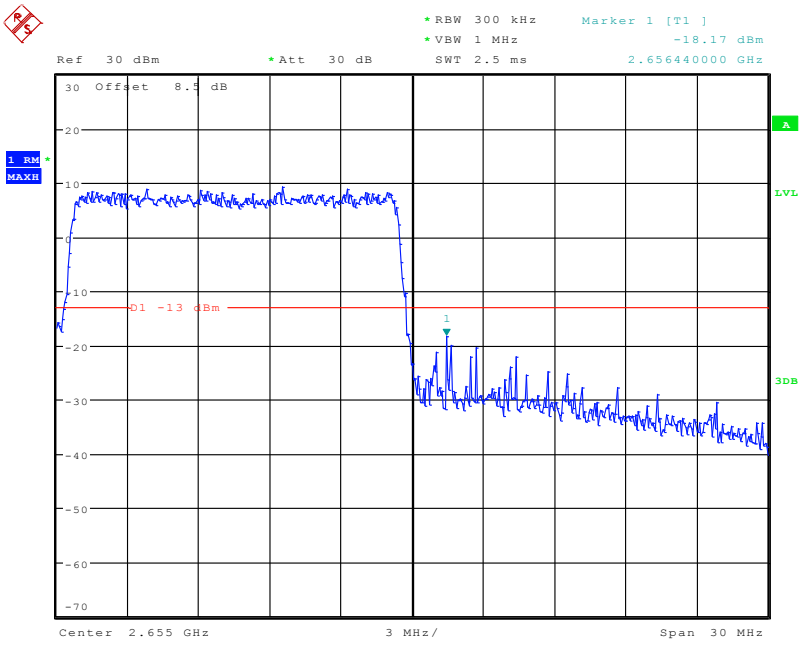
Date: 31.JUL.2020 19:20:41

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



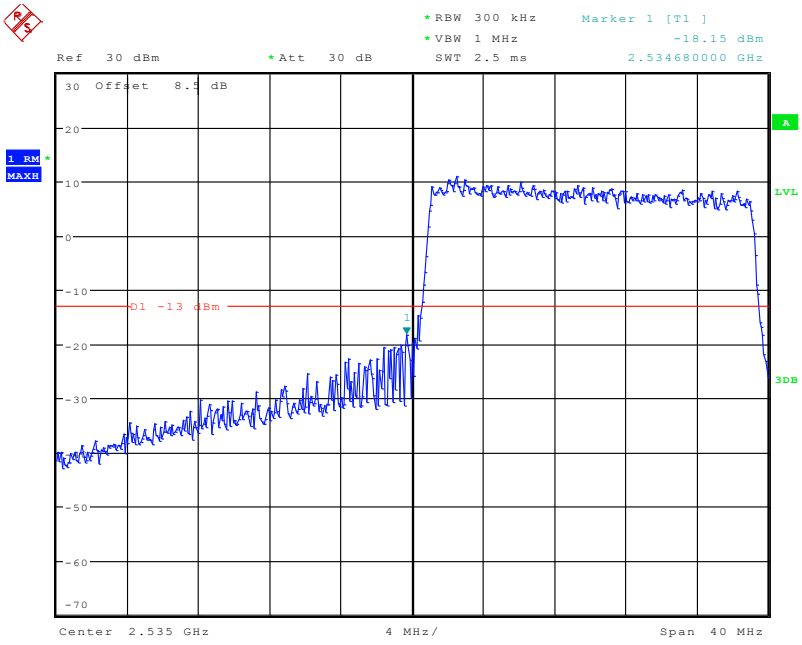
Date: 31.JUL.2020 19:20:16

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



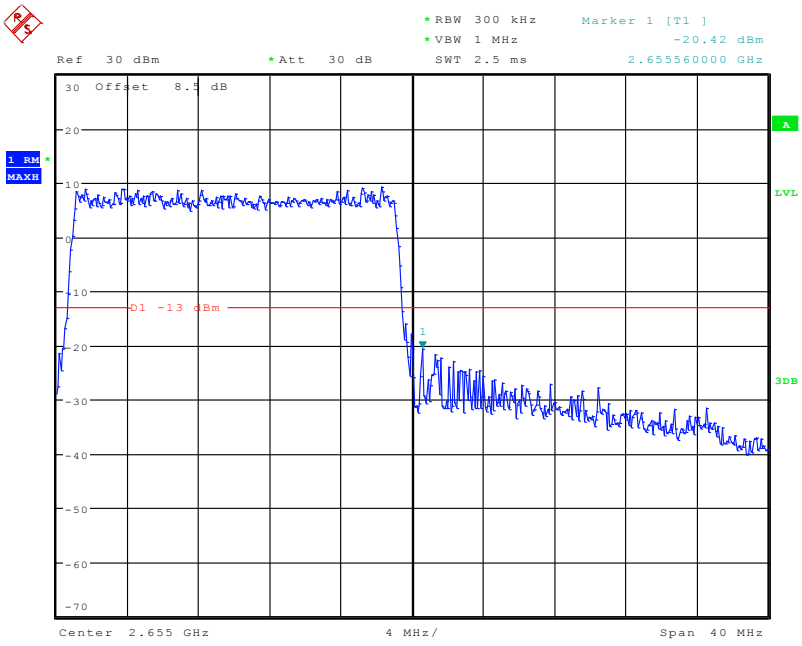
Date: 31.JUL.2020 19:21:08

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



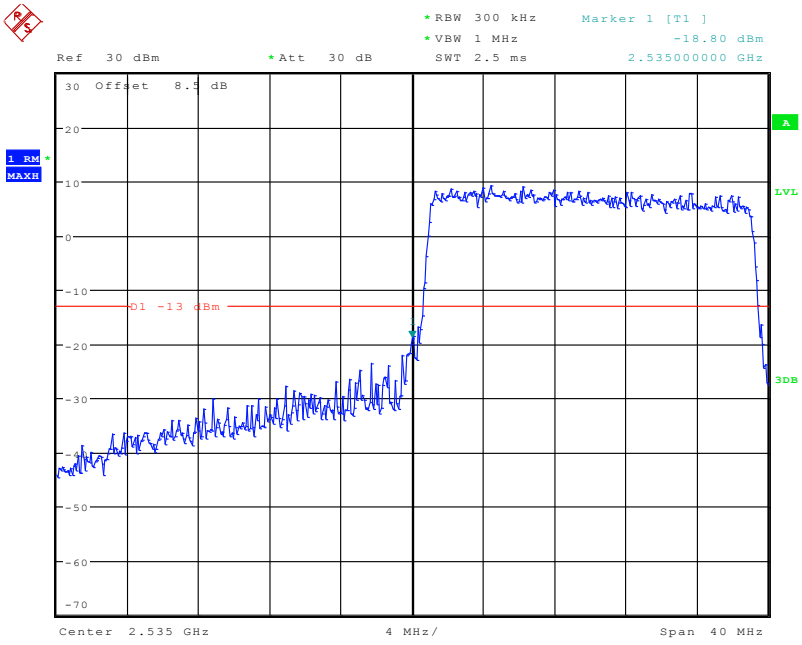
Date: 31.JUL.2020 19:21:38

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



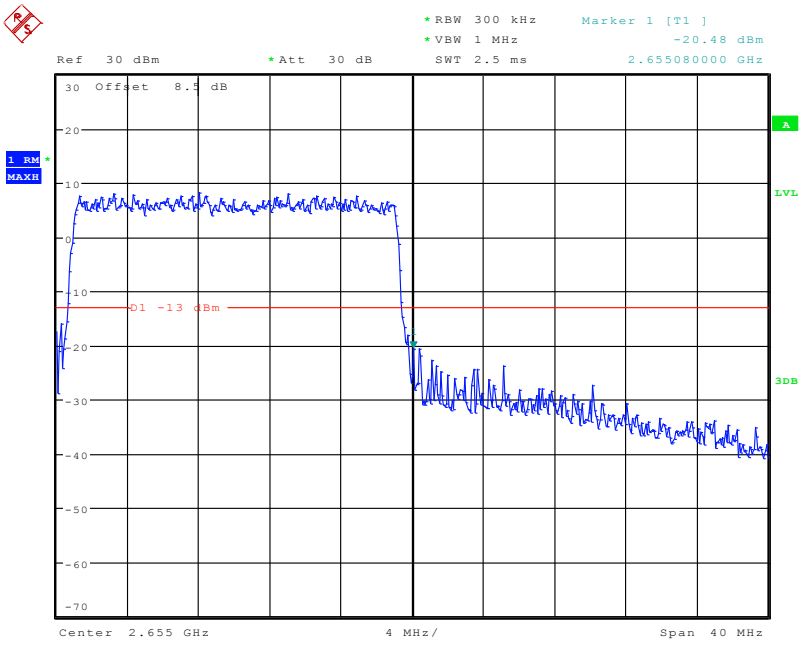
Date: 31.JUL.2020 19:22:30

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



Date: 31.JUL.2020 19:22:05

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



Date: 31.JUL.2020 19:22:57

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

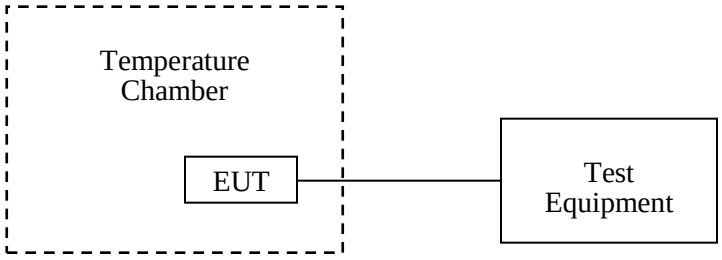
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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:	20 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by George Zhong on 2020-08-27.

EUT operation mode: Transmitting

Test Result: Pass

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	3.85	-9	-0.0108	2.5
-20		13	0.0155	2.5
-10		11	0.0131	2.5
0		8	0.0096	2.5
10		-5	-0.0060	2.5
20		-4	-0.0048	2.5
30		4	0.0048	2.5
40		8	0.0096	2.5
50		-8	-0.0096	2.5
20	V min.= 3.45	-5	-0.0060	2.5
	V max.= 4.4	-8	-0.0096	2.5

EDGE Mode

Middle channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	18	0.0215	2.5
-20		8	0.0096	2.5
-10		6	0.0072	2.5
0		-9	-0.0108	2.5
10		-17	-0.0203	2.5
20		-15	-0.0179	2.5
30		-12	-0.0143	2.5
40		8	0.0096	2.5
50		-5	-0.0060	2.5
20	V min.= 3.45	7	0.0084	2.5
	V max.= 4.4	11	0.0131	2.5

WCDMA Mode

Middle channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-14	-0.017	2.5
-20		19	0.023	2.5
-10		18	0.022	2.5
0		-15	-0.018	2.5
10		-13	-0.016	2.5
20		-12	-0.014	2.5
30		14	0.017	2.5
40		-15	-0.018	2.5
50		-18	-0.022	2.5
20	V min.= 3.45	15	0.018	2.5
	V max.= 4.4	-16	-0.019	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	3.85	18	0.0096	Pass
-20		16	0.0085	Pass
-10		-17	-0.0090	Pass
0		16	0.0085	Pass
10		19	0.0101	Pass
20		-15	-0.0080	Pass
30		18	0.0096	Pass
40		22	0.0117	Pass
50		-16	-0.0085	Pass
20	V min.= 3.45	25	0.0117	Pass
	V max.= 4.4	17	0.0090	Pass

EDGE Mode

Middle channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-24	-0.0128	Pass
-20		-19	-0.0101	Pass
-10		7	0.0037	Pass
0		11	0.0059	Pass
10		-8	-0.0043	Pass
20		-13	-0.0069	Pass
30		-17	-0.0090	Pass
40		-15	-0.0080	Pass
50		8	0.0043	Pass
20	V min.= 3.45	10	0.0053	Pass
	V max.= 4.4	12	0.0064	pass

WCDMA Mode

Middle channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-11	-0.006	Pass
-20		19	0.010	Pass
-10		18	0.010	Pass
0		-15	-0.008	Pass
10		-13	-0.007	Pass
20		-14	-0.007	Pass
30		14	0.007	Pass
40		-17	-0.009	Pass
50		-12	-0.006	Pass
20	V min.= 3.45	15	0.008	Pass
	V max.= 4.4	-12	-0.006	Pass

AWS Band (Part 27)

Temperature (℃)	**Voltage Supplied**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	1710.156	1754.842	1710	1755
-20		1710.159	1754.845	1710	1755
-10		1710.165	1754.841	1710	1755
0		1710.167	1754.847	1710	1755
10		1710.158	1754.845	1710	1755
20		1710.145	1754.842	1710	1755
30		1710.155	1754.844	1710	1755
40		1710.164	1754.841	1710	1755
50		1710.162	1754.846	1710	1755
20	V min.= 3.45	1710.161	1754.843	1710	1755
	V max.= 4.4	1710.157	1754.843	1710	1755

LTE:
QPSK:

Band 2:

10.0 MHz Middle channel, f_o =1880MHz				
Temperature (℃)	**Voltage (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	16.19	0.0086	Pass
-20		-9.97	-0.0053	Pass
-10		-6.13	-0.0033	Pass
0		6.17	0.0033	Pass
10		7.92	0.0042	Pass
20		-21.87	-0.0116	Pass
30		-6.52	-0.0035	Pass
40		7.18	0.0038	Pass
50		-9.69	-0.0052	Pass
20	V min.= 3.45	-8.17	-0.0043	Pass
	V max.= 4.4	-7.05	-0.0038	Pass

Band 4:

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	1710.158	1754.843	1710	1755
-20		1710.164	1754.844	1710	1755
-10		1710.161	1754.843	1710	1755
0		1710.160	1754.844	1710	1755
10		1710.162	1754.845	1710	1755
20		1710.087	1754.843	1710	1755
30		1710.160	1754.844	1710	1755
40		1710.159	1754.844	1710	1755
50		1710.161	1754.844	1710	1755
20	V min.= 3.45	1710.159	1754.845	1710	1755
	V max.= 4.4	1710.158	1754.844	1710	1755

Band 5:

10.0 MHz Middle channel, f_o =836.6MHz				
Temperature (℃)	**Voltage (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	9.67	0.0116	2.5
-20		-6.97	-0.0083	2.5
-10		-5.50	-0.0066	2.5
0		6.06	0.0072	2.5
10		9.80	0.0117	2.5
20		-7.37	0.0088	2.5
30		-6.62	-0.0079	2.5
40		-8.73	-0.0104	2.5
50		-7.05	-0.0084	2.5
20	V min.= 3.45	8.99	0.0107	2.5
	V max.= 4.4	-7.17	-0.0086	2.5

Band 7:

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2500.699	2569.743	2500	2570
-20		2500.710	2569.744	2500	2570
-10		2500.698	2569.743	2500	2570
0		2500.699	2569.744	2500	2570
10		2500.698	2569.743	2500	2570
20		2500.700	2569.743	2500	2570
30		2500.697	2569.743	2500	2570
40		2500.697	2569.744	2500	2570
50		2500.697	2569.745	2500	2570
20	V min.= 3.45	2500.699	2569.745	2500	2570
	V max.= 4.4	2500.700	2569.743	2500	2570

Band 38：

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2570.054	2619.987	2570	2620
-20		2570.055	2619.988	2570	2620
-10		2570.057	2619.987	2570	2620
0		2570.054	2619.986	2570	2620
10		2570.055	2619.989	2570	2620
20		2570.054	2619.987	2570	2620
30		2570.053	2619.985	2570	2620
40		2570.056	2619.987	2570	2620
50		2570.53	2619.984	2570	2620
20	V min.= 3.45	2570.055	2619.985	2570	2620
	V max.= 4.4	2570.057	2619.984	2570	2620

Band 41：

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2535.156	2654.956	2535	2655
-20		2535.155	2654.953	2535	2655
-10		2535.157	2654.955	2535	2655
0		2535.153	2654.954	2535	2655
10		2535.157	2654.956	2535	2655
20		2535.156	2654.955	2535	2655
30		2535.155	2654.957	2535	2655
40		2535.157	2654.956	2535	2655
50		2535.153	2654.958	2535	2655
20	V min.= 3.45	2535.157	2654.954	2535	2655
	V max.= 4.4	2535.156	2654.958	2535	2655

16QAM:

Band 2:

10.0 MHz Middle channel, f_o =1880MHz				
Temperature (℃)	**Voltage (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	13.65	0.0073	Pass
-20		-6.68	-0.0036	Pass
-10		9.77	0.0052	Pass
0		-7.62	-0.0041	Pass
10		-9.91	-0.0053	Pass
20		-2.82	-0.0015	Pass
30		-6.68	-0.0036	Pass
40		-8.85	-0.0047	Pass
50		5.67	0.003	Pass
20	V min.= 3.45	6.05	0.0032	Pass
	V max.= 4.4	7.52	0.004	Pass

Band 4:

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	1710.131	1754.874	1710	1755
-20		1710.132	1754.874	1710	1755
-10		1710.132	1754.874	1710	1755
0		1710.132	1754.875	1710	1755
10		1710.131	1754.875	1710	1755
20		1710.133	1754.873	1710	1755
30		1710.131	1754.873	1710	1755
40		1710.132	1754.874	1710	1755
50		1710.132	1754.875	1710	1755
20	V min.= 3.45	1710.131	1754.874	1710	1755
	V max.= 4.4	1710.131	1754.874	1710	1755

Band 5:

10.0 MHz Middle channel, f_o =836.6MHz				
Temperature (℃)	**Voltage (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	9.06	0.0108	2.5
-20		8.10	0.0097	2.5
-10		-8.59	-0.0103	2.5
0		9.33	0.0112	2.5
10		-6.94	-0.0083	2.5
20		-15.23	0.0182	2.5
30		6.43	0.0077	2.5
40		-6.17	-0.0074	2.5
50		-6.44	-0.0077	2.5
20	V min.= 3.45	6.34	0.0076	2.5
	V max.= 4.4	-6.89	-0.0082	2.5

Band 7:

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2500.873	2569.792	2500	2570
-20		2500.875	2569.792	2500	2570
-10		2500.873	2569.794	2500	2570
0		2500.874	2569.794	2500	2570
10		2500.873	2569.793	2500	2570
20		2500.875	2569.795	2500	2570
30		2500.874	2569.794	2500	2570
40		2500.875	2569.795	2500	2570
50		2500.874	2569.795	2500	2570
20	V min.= 3.45	2500.875	2569.794	2500	2570
	V max.= 4.4	2500.876	2569.794	2500	2570

Band 38:

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2570.123	2619.899	2570	2620
-20		2570.125	2619.897	2570	2620
-10		2570.125	2619.898	2570	2620
0		2570.124	2619.896	2570	2620
10		2570.123	2619.895	2570	2620
20		2570.122	2619.898	2570	2620
30		2570.126	2619.898	2570	2620
40		2570.123	2619.899	2570	2620
50		2570.125	2619.898	2570	2620
20	V min.= 3.45	2570.123	2619.898	2570	2620
	V max.= 4.4	2570.124	2619.899	2570	2620

Band 41:

10 MHz Bandwidth					
Temperature (℃)	**Voltage (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2535.158	2654.986	2535	2655
-20		2535.153	2654.985	2535	2655
-10		2535.155	2654.987	2535	2655
0		2535.157	2654.987	2535	2655
10		2535.155	2654.987	2535	2655
20		2535.156	2654.986	2535	2655
30		2535.155	2654.985	2535	2655
40		2535.153	2654.985	2535	2655
50		2535.158	2654.987	2535	2655
20	V min.= 3.45	2535.154	2654.988	2535	2655
	V max.= 4.4	2535.159	2654.986	2535	2655

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