

LTE Band 17(30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 706.5 MHz								
1413.00	H	38.21	-65.37	9.07	1.22	-57.52	-13.00	44.52
1413.00	V	38.44	-65.67	9.07	1.22	-57.82	-13.00	44.82
2119.50	H	41.53	-60.49	11.28	1.11	-50.32	-13.00	37.32
2119.50	V	41.15	-60.85	11.28	1.11	-50.68	-13.00	37.68
2826.00	H	37.48	-63.98	13.31	1.36	-52.03	-13.00	39.03
2826.00	V	37.57	-64.12	13.31	1.36	-52.17	-13.00	39.17
571.48	H	44.71	-58.57	0.00	0.36	-58.93	-13.00	45.93
598.18	V	46.59	-53.47	0.00	0.36	-53.83	-13.00	40.83
QPSK, Frequency:710 MHz								
1420.00	H	38.47	-65.21	9.10	1.23	-57.34	-13.00	44.34
1420.00	V	38.67	-65.51	9.10	1.23	-57.64	-13.00	44.64
2130.00	H	41.97	-60.03	11.22	1.11	-49.92	-13.00	36.92
2130.00	V	40.77	-61.20	11.22	1.11	-51.09	-13.00	38.09
2840.00	H	37.76	-63.56	13.42	1.36	-51.50	-13.00	38.50
2840.00	V	37.75	-63.81	13.42	1.36	-51.75	-13.00	38.75
546.74	H	42.81	-61.21	0.00	0.35	-61.56	-13.00	48.56
597.50	V	46.30	-53.78	0.00	0.36	-54.14	-13.00	41.14
QPSK, Frequency:713.5 MHz								
1427.00	H	39.24	-64.54	9.14	1.24	-56.64	-13.00	43.64
1427.00	V	37.87	-66.38	9.14	1.24	-58.48	-13.00	45.48
2140.50	H	42.38	-59.59	11.16	1.12	-49.55	-13.00	36.55
2140.50	V	40.78	-61.15	11.16	1.12	-51.11	-13.00	38.11
2854.00	H	37.14	-64.04	13.53	1.35	-51.86	-13.00	38.86
2854.00	V	38.74	-62.69	13.53	1.35	-50.51	-13.00	37.51
507.13	H	45.12	-60.08	0.00	0.35	-60.43	-13.00	47.43
573.62	V	46.27	-54.45	0.00	0.36	-54.81	-13.00	41.81

LTE Band 41(30MHz-26.5GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 2537.5 MHz								
5075.00	H	43.65	-51.39	13.93	1.34	-38.80	-25.00	13.80
5075.00	V	44.32	-50.53	13.93	1.34	-37.94	-25.00	12.94
7612.50	H	36.79	-52.11	13.23	1.40	-40.28	-25.00	15.28
7612.50	V	36.86	-52.43	13.23	1.40	-40.60	-25.00	15.60
431.15	H	43.64	-62.72	0.00	0.37	-63.09	-25.00	38.09
420.69	V	45.22	-34.11	0.00	0.37	-34.48	-25.00	9.48
QPSK, Frequency:2595 MHz								
5190.00	H	43.54	-51.15	13.99	1.51	-38.67	-25.00	13.67
5190.00	V	44.41	-50.33	13.99	1.51	-37.85	-25.00	12.85
7785.00	H	36.76	-52.56	13.32	1.53	-40.77	-25.00	15.77
7785.00	V	36.81	-52.76	13.32	1.53	-40.97	-25.00	15.97
602.13	H	43.81	-58.59	0.00	0.36	-58.95	-25.00	33.95
580.60	V	45.34	-31.04	0.00	0.36	-31.40	-25.00	6.40
QPSK, Frequency: 2562.5 MHz								
5305.00	H	43.36	-51.89	14.29	1.17	-38.77	-25.00	13.77
5305.00	V	44.27	-51.06	14.29	1.17	-37.94	-25.00	12.94
7957.50	H	36.65	-53.10	13.32	1.66	-41.44	-25.00	16.44
7957.50	V	36.77	-53.08	13.32	1.66	-41.42	-25.00	16.42
564.17	H	44.15	-59.35	0.00	0.36	-59.71	-25.00	34.71
583.40	V	45.23	-55.23	0.00	0.36	-55.59	-25.00	30.59

LTE Band 66(30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 1712.5 MHz								
3425.00	H	45.36	-54.03	14.03	1.63	-41.63	-13.00	28.63
3425.00	V	44.73	-54.73	14.03	1.63	-42.33	-13.00	29.33
5137.50	H	36.79	-57.89	13.94	1.39	-45.34	-13.00	32.34
5137.50	V	36.54	-58.06	13.94	1.39	-45.51	-13.00	32.51
6850.00	H	36.27	-54.67	13.65	1.79	-42.81	-13.00	29.81
6850.00	V	36.56	-54.28	13.65	1.79	-42.42	-13.00	29.42
473.15	H	43.64	-62.14	0.00	0.36	-62.50	-13.00	49.50
520.03	V	45.29	-31.95	0.00	0.35	-32.30	-13.00	19.30
QPSK, Frequency: 1745 MHz								
3490.00	H	45.62	-53.44	13.83	1.61	-41.22	-13.00	28.22
3490.00	V	44.28	-54.79	13.83	1.61	-42.57	-13.00	29.57
5235.00	H	36.74	-58.17	14.11	1.40	-45.46	-13.00	32.46
5235.00	V	36.35	-58.64	14.11	1.40	-45.93	-13.00	32.93
6980.00	H	36.80	-53.74	13.54	1.82	-42.02	-13.00	29.02
6980.00	V	36.70	-53.68	13.54	1.82	-41.96	-13.00	28.96
598.18	H	44.16	-58.32	0.00	0.36	-58.68	-13.00	45.68
598.00	V	45.09	-31.04	0.00	0.36	-31.40	-13.00	18.40
QPSK, Frequency: 1777.5 MHz								
3555.00	H	44.97	-54.05	13.97	1.55	-41.63	-13.00	28.63
3555.00	V	44.27	-54.75	13.97	1.55	-42.33	-13.00	29.33
5332.50	H	36.27	-58.62	14.24	1.25	-45.63	-13.00	32.63
5332.50	V	36.78	-58.15	14.24	1.25	-45.16	-13.00	32.16
7110.00	H	36.59	-53.48	13.17	1.72	-42.03	-13.00	29.03
7110.00	V	36.37	-53.68	13.17	1.72	-42.23	-13.00	29.23
545.15	H	42.21	-61.85	0.00	0.35	-62.20	-13.00	49.20
562.50	V	45.90	-30.73	0.00	0.36	-31.09	-13.00	18.09

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

FCC §22.917(a) & §24.238(a) & §27.53& §90.691 - BAND EDGES

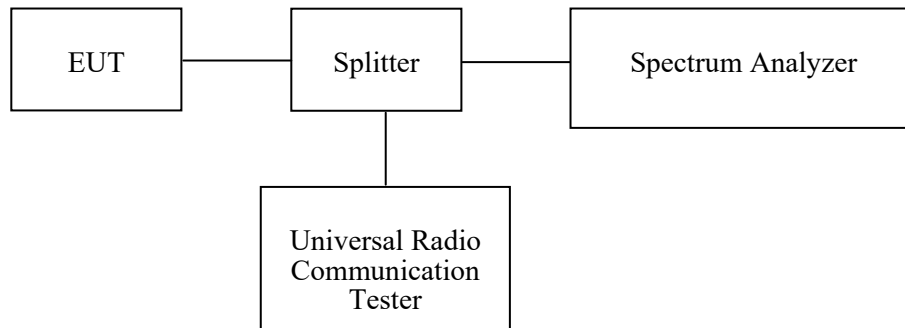
Applicable Standard

FCC § 2.1053, §22.917, § 24.238 and § 27.53, § 90.691;

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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A
E-Microwave	Blocking Control	EMDCB-00036	0E01201047	2021-05-06	2022-05-05

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

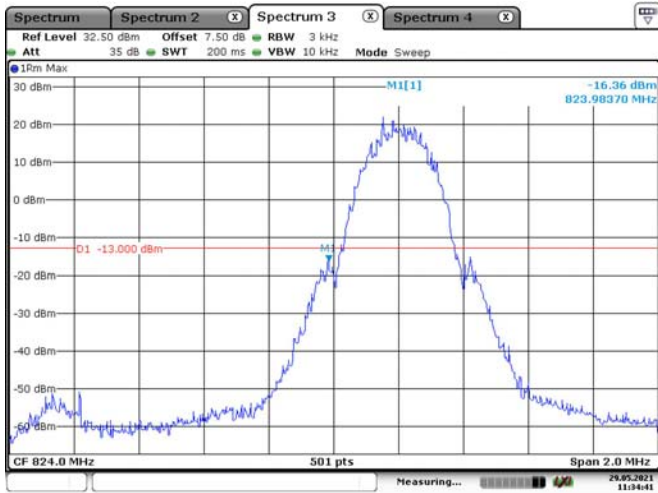
Environmental Conditions

Temperature:	26.9~27.5 °C
Relative Humidity:	64~70 %
ATM Pressure:	100.3~100.5kPa
Tester:	Lay Lei
Test Date:	2021.05.29~2021.06.06

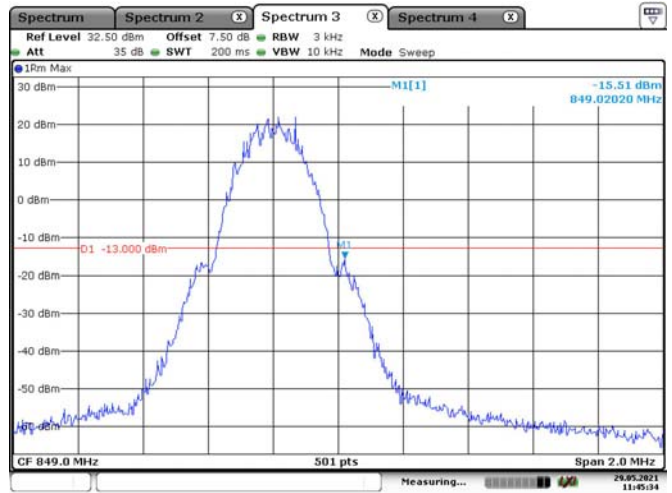
Test Mode: Transmitting

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

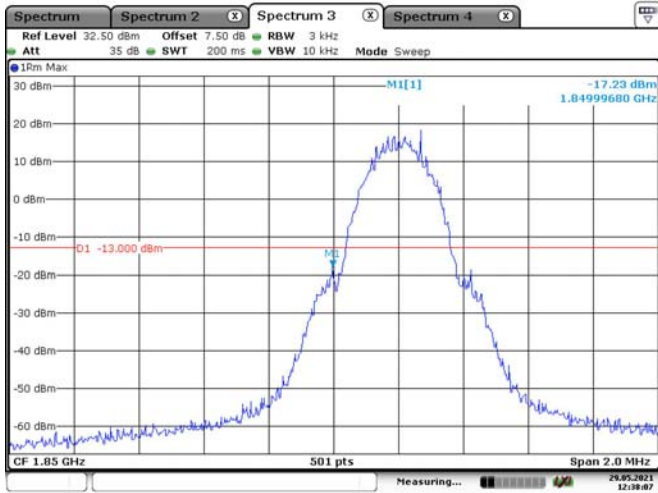
GSM 850, Left Band Edge



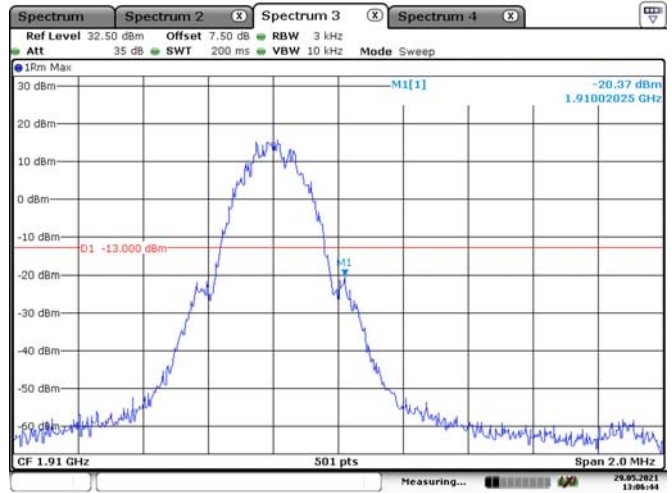
GSM 850, Right Band Edge



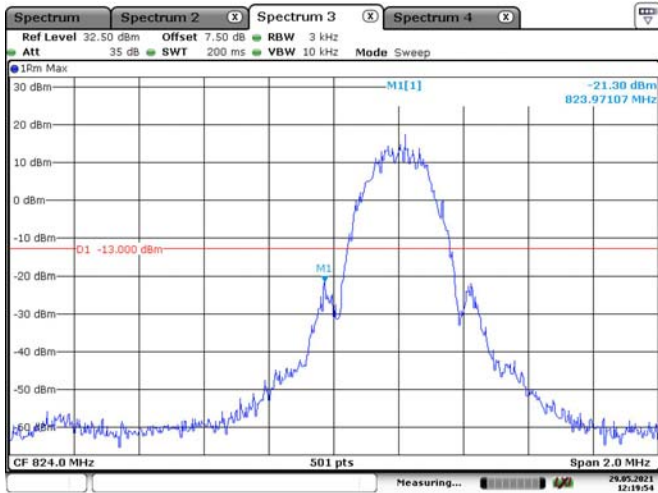
GSM 1900, Left Band Edge



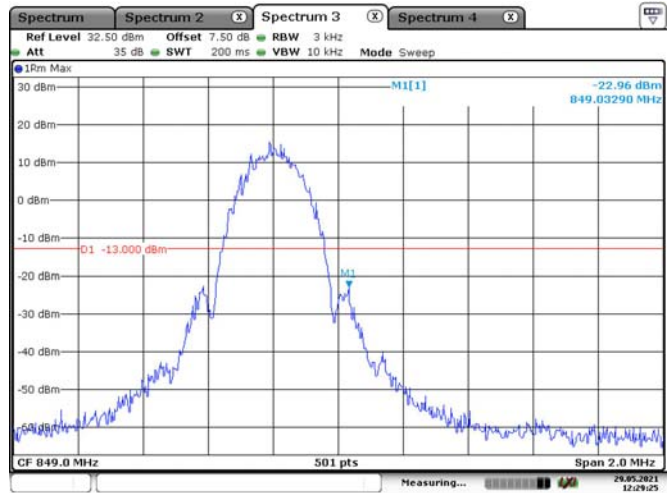
GSM 1900, Right Band Edge



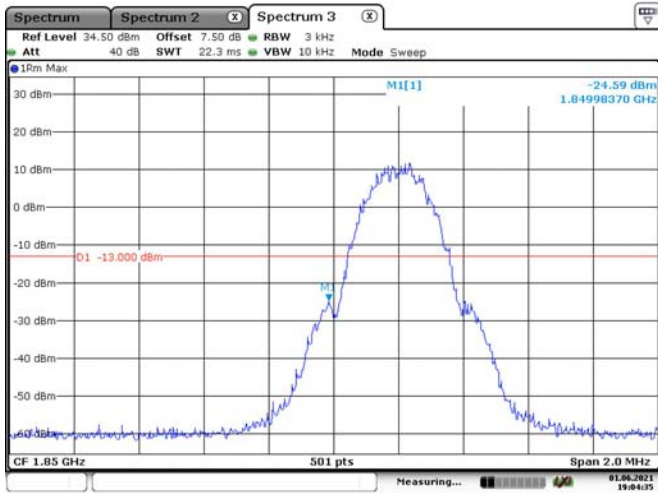
EGPRS 850, Left Band Edge



EGPRS 850, Right Band Edge

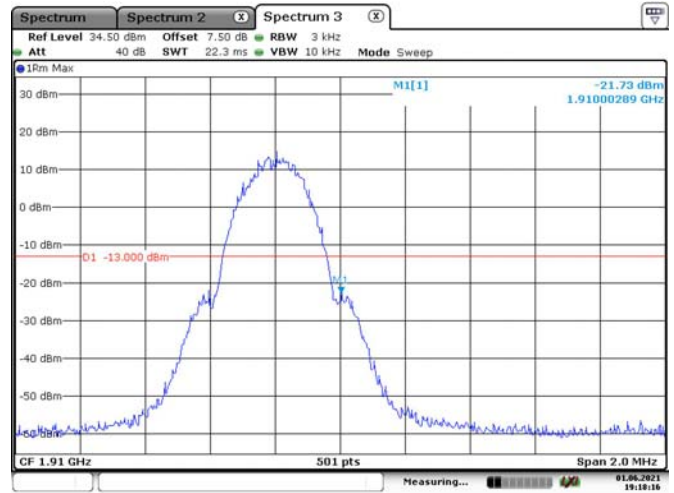


EGPRS 1900, Left Band Edge



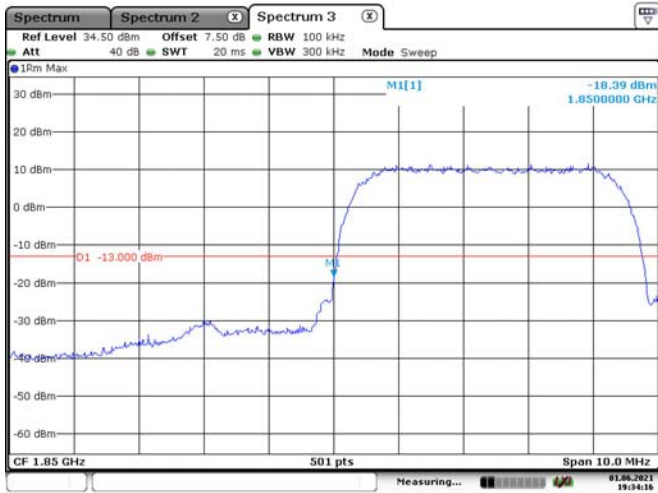
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EGPRS 1900, Right Band Edge



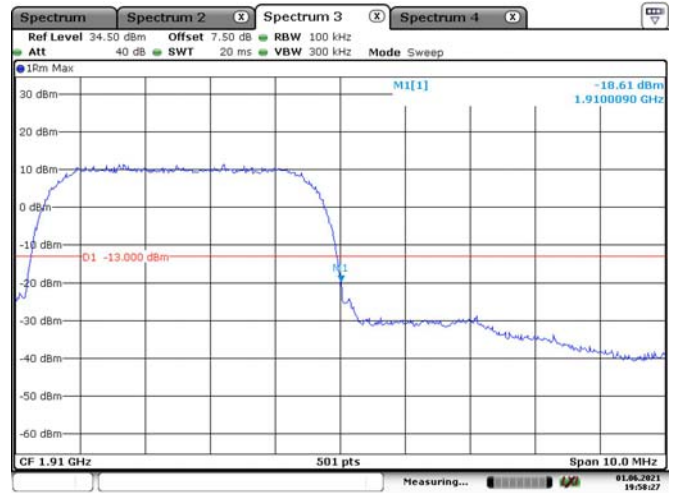
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WCDMA Band II,Rel99, Left Band Edge



Date: 1.JUN.2021 19:34:17

WCDMA Band II,Rel99, Right Band Edge



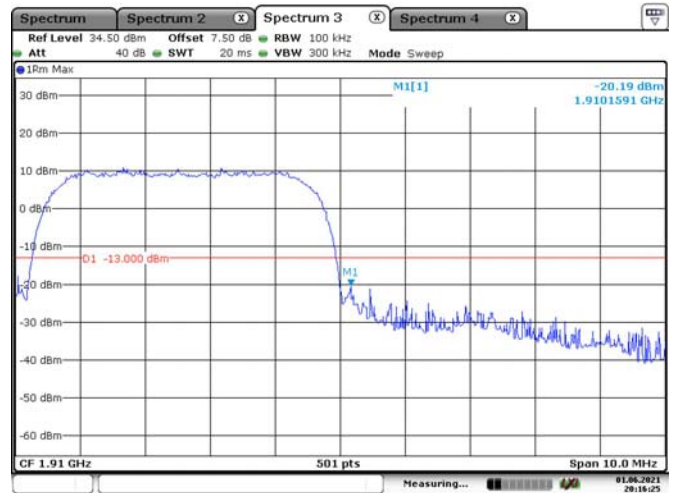
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WCDMA Band II,HSDPA, Left Band Edge



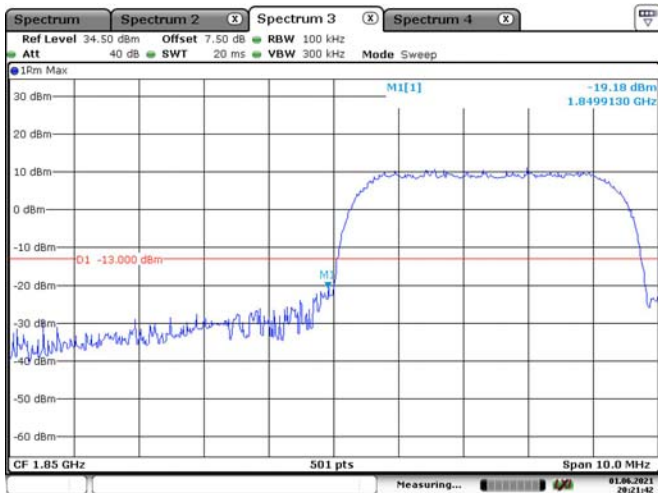
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WCDMA Band II,HSDPA,Right Band Edge



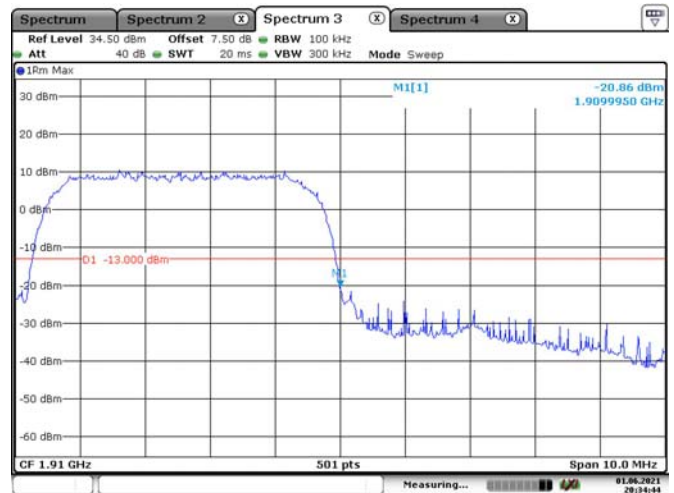
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WCDMA Band II,HSUPA, Left Band Edge



Date: 1.JUN.2021 20:21:42

WCDMA Band II,HSUPA, Right Band Edge



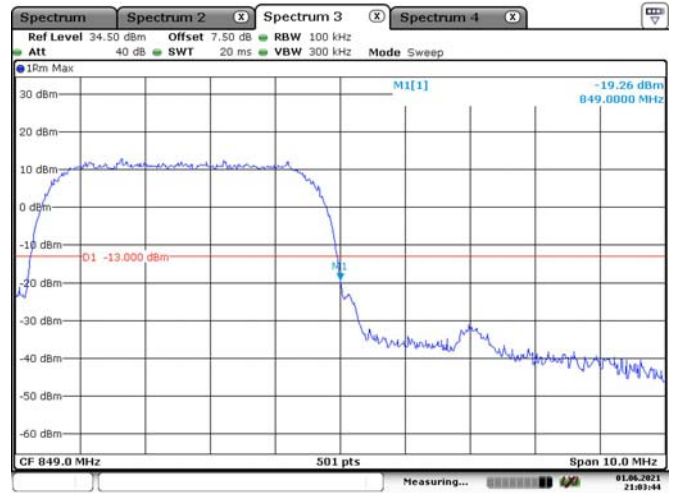
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WCDMA Band V,Rel99, Left Band Edge



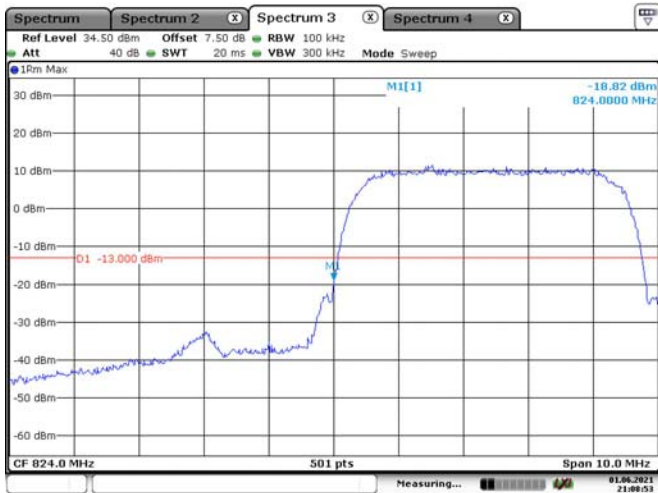
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WCDMA Band V,Rel99, Right Band Edge



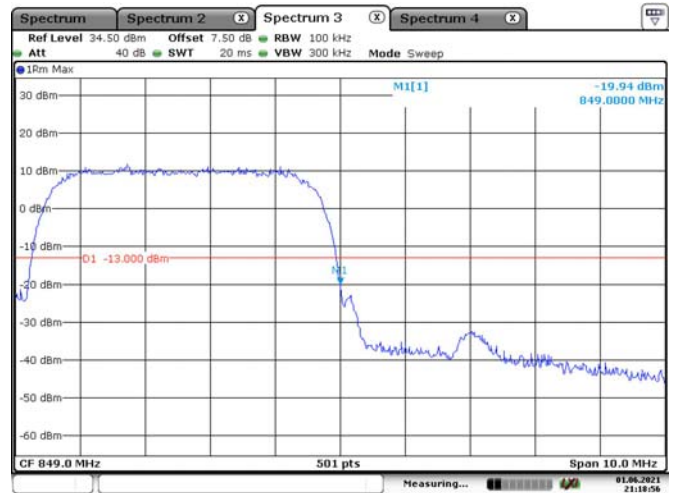
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WCDMA Band V,HSDPA, Left Band Edge



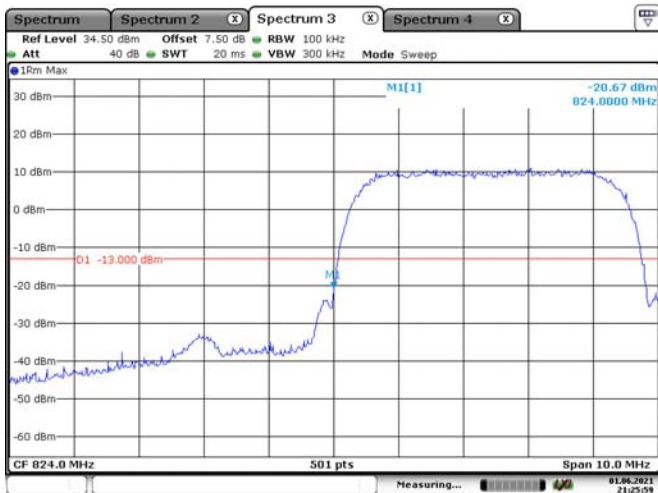
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WCDMA Band V,HSDPA,Right Band Edge



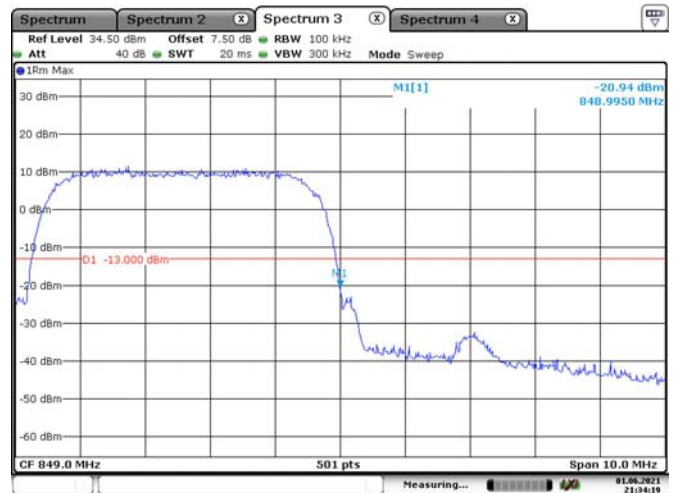
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WCDMA Band V,HSUPA, Left Band Edge



Date: 1.JUN.2021 21:26:00

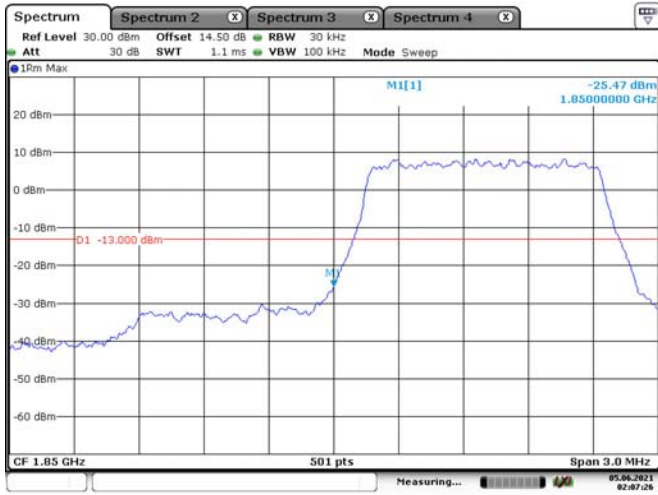
WCDMA Band V,HSUPA, Right Band Edge



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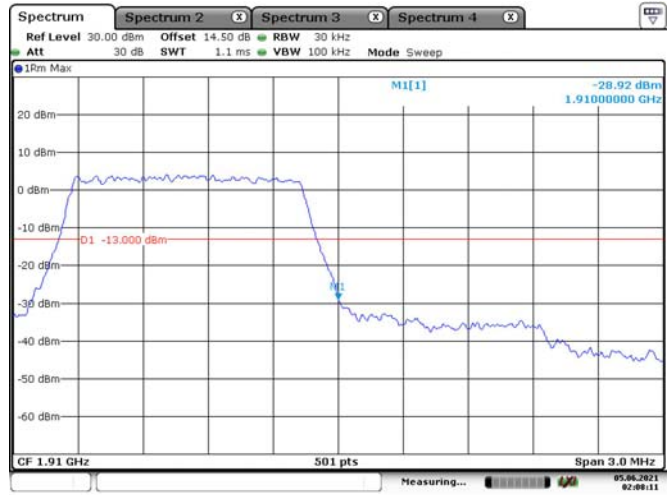
LTE Band 2:

1.4M, QPSK, Left Band Edge



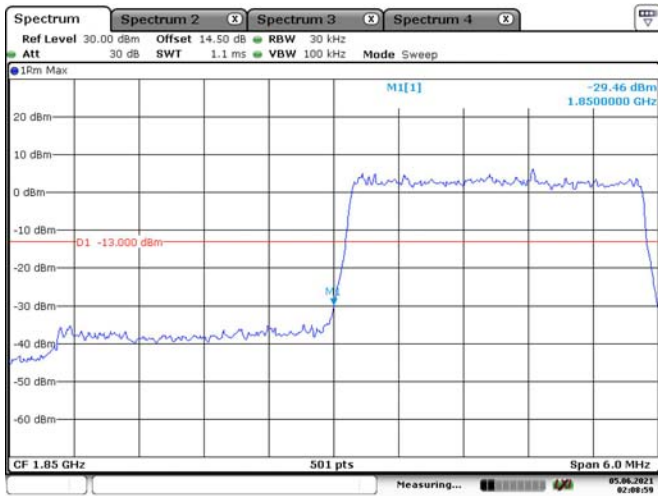
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1.4M, QPSK, Right Band Edge



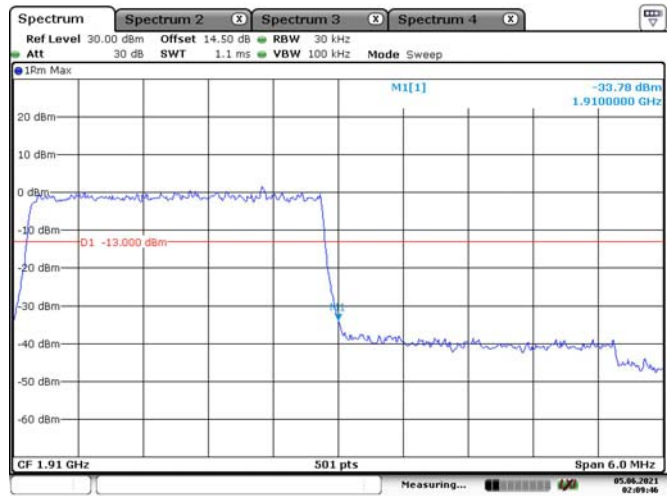
Date: 5 JUN 2021 02:10:11

3M, QPSK, Left Band Edge



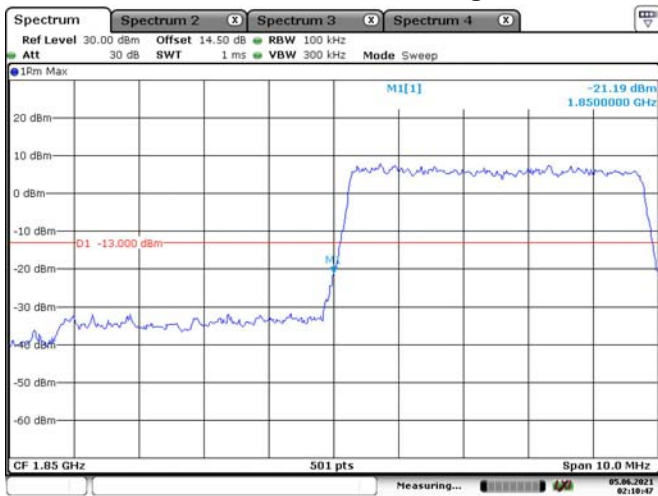
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3M, QPSK, Right Band Edge



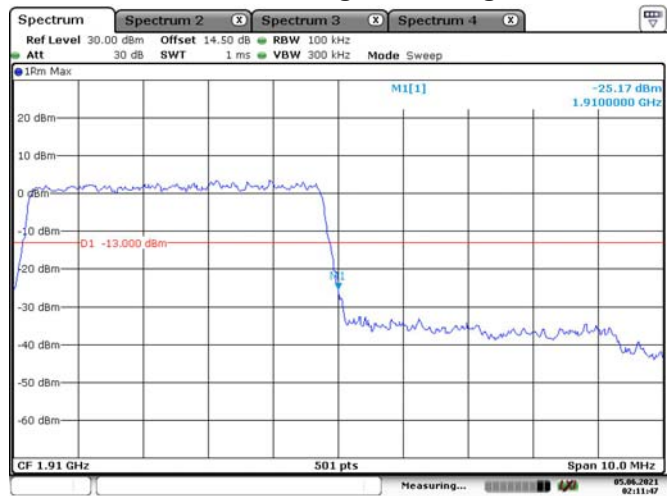
Date: 5 JUN 2021 02:10:47

5M, QPSK, Left Band Edge



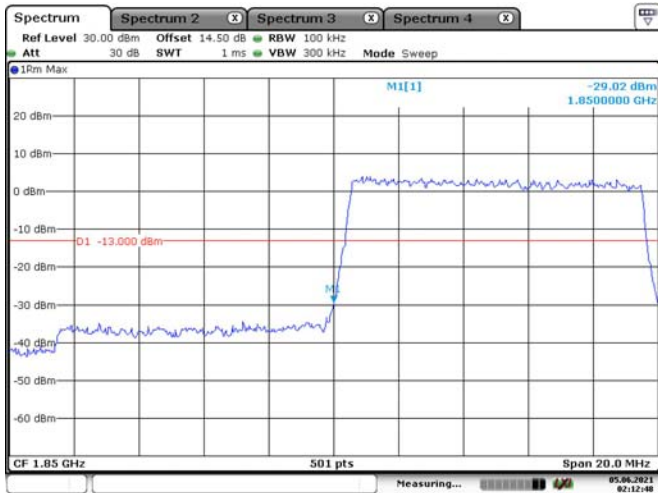
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5M, QPSK, Right Band Edge



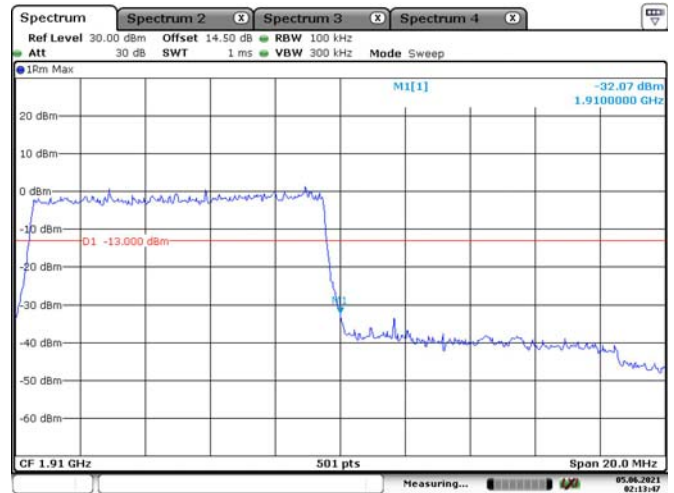
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10M, QPSK, Left Band Edge



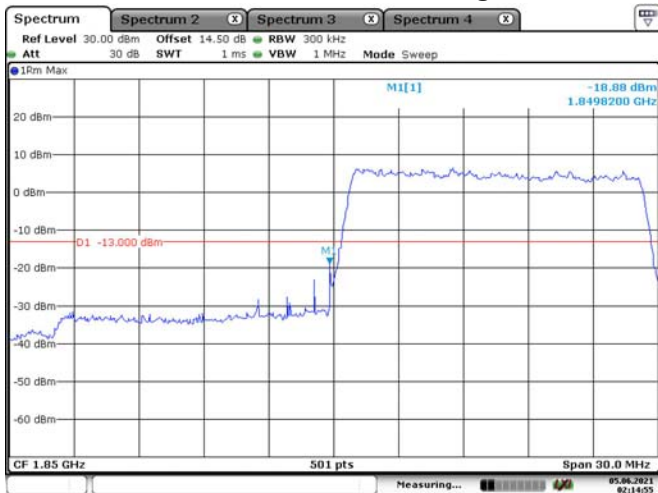
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10M, QPSK, Right Band Edge



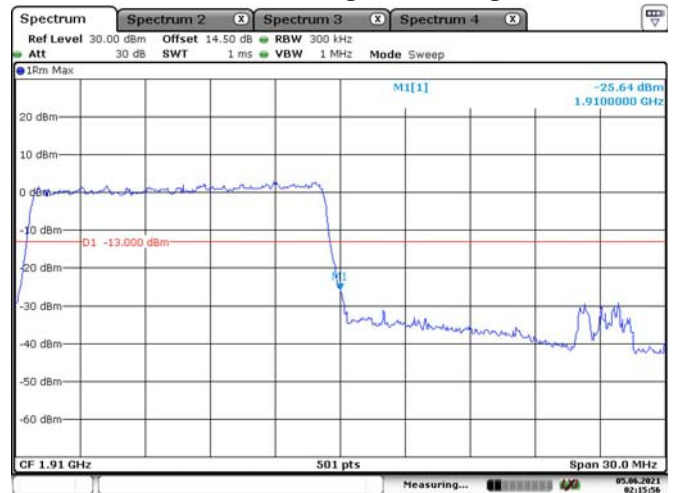
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15M, QPSK, Left Band Edge



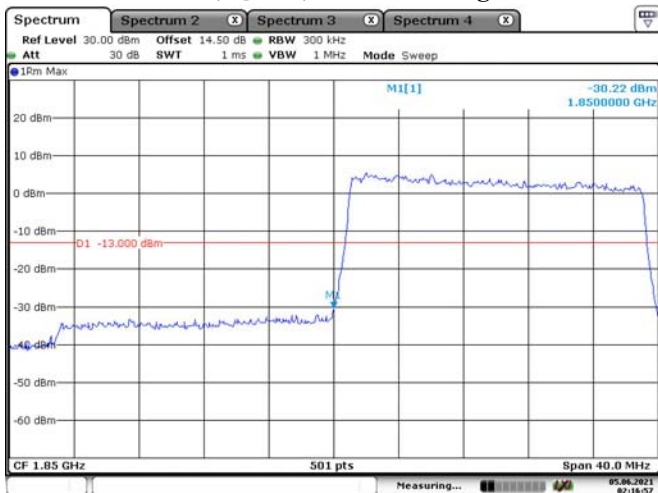
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15M, QPSK, Right Band Edge



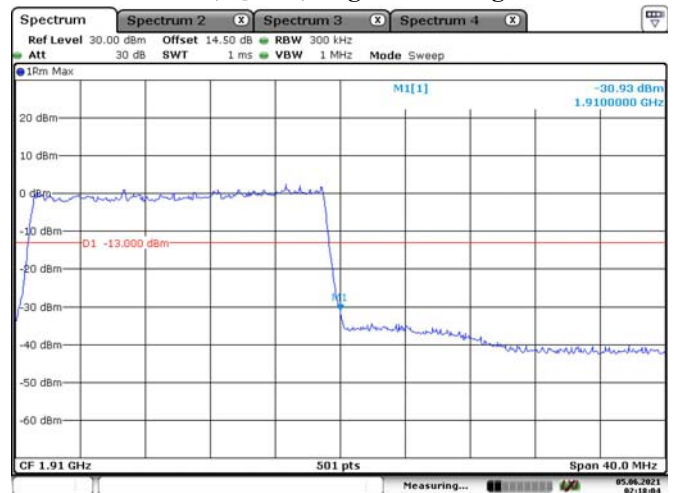
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20M, QPSK, Left Band Edge



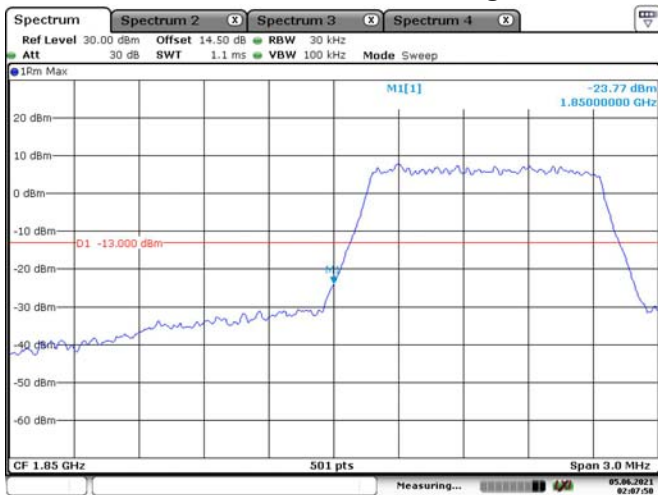
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20M, QPSK, Right Band Edge

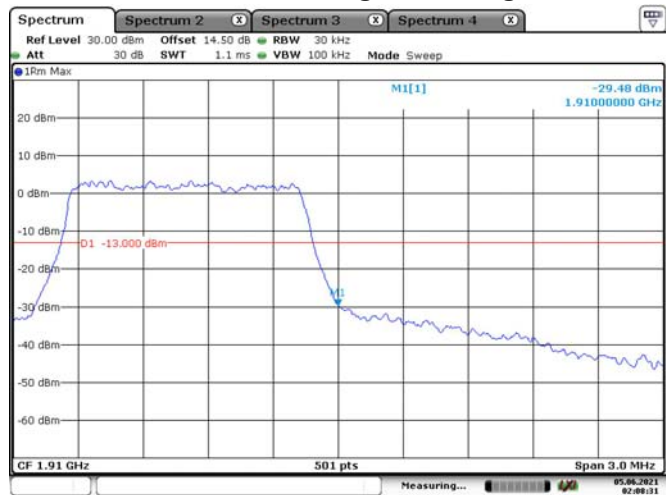


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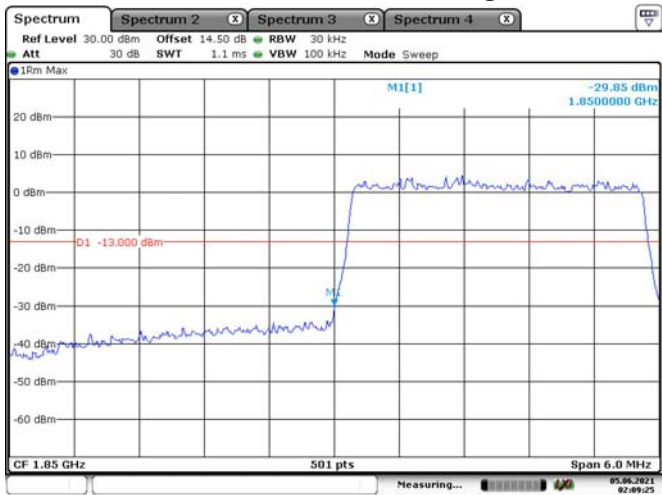
1.4M, 16QAM, Left Band Edge



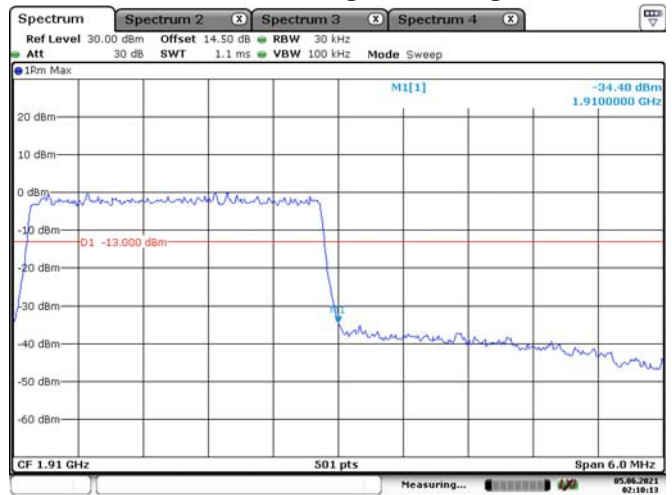
1.4M, 16QAM, Right Band Edge



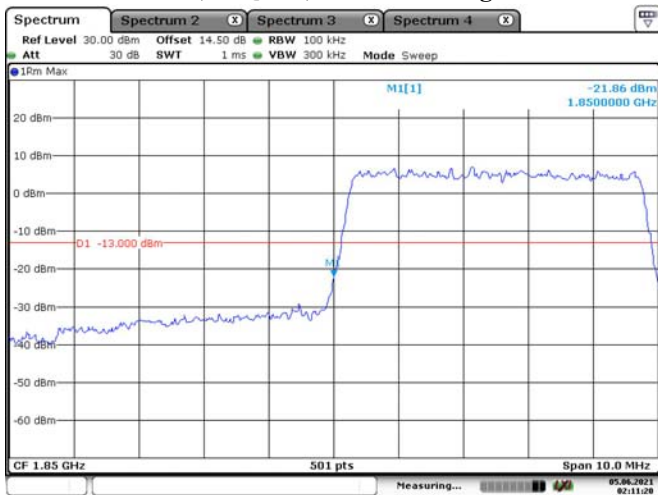
3M, 16QAM, Left Band Edge



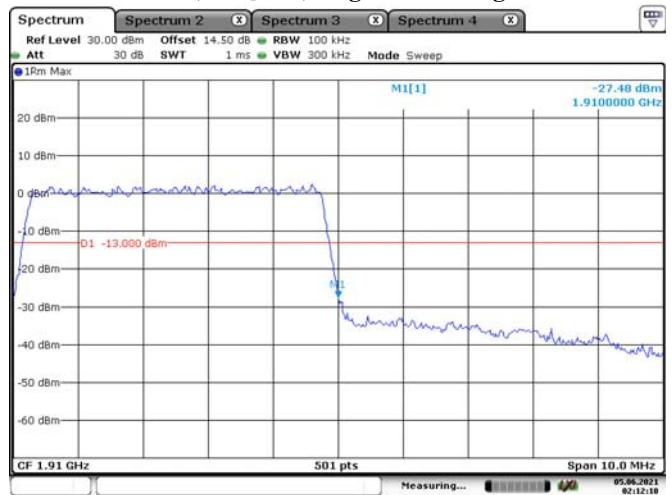
3M, 16QAM, Right Band Edge



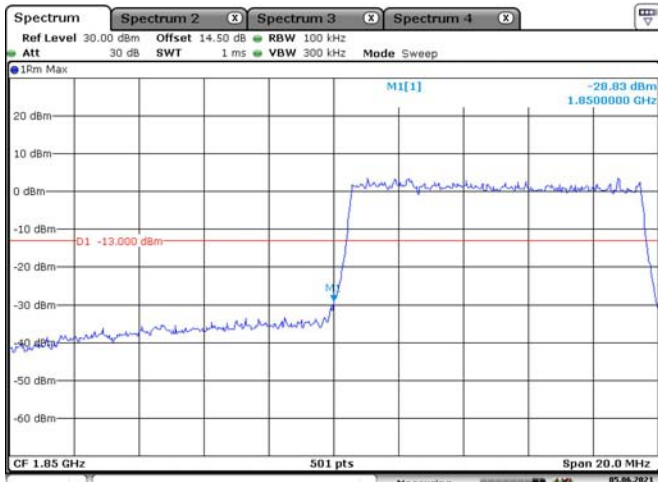
5M, 16QAM, Left Band Edge



5M, 16QAM, Right Band Edge

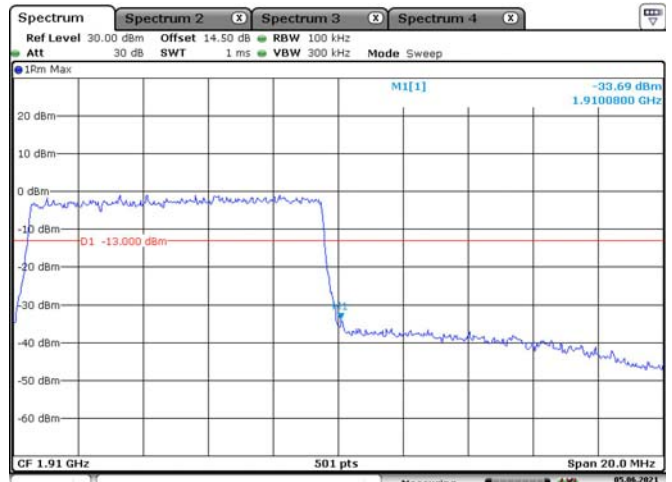


10M, 16QAM, Left Band Edge



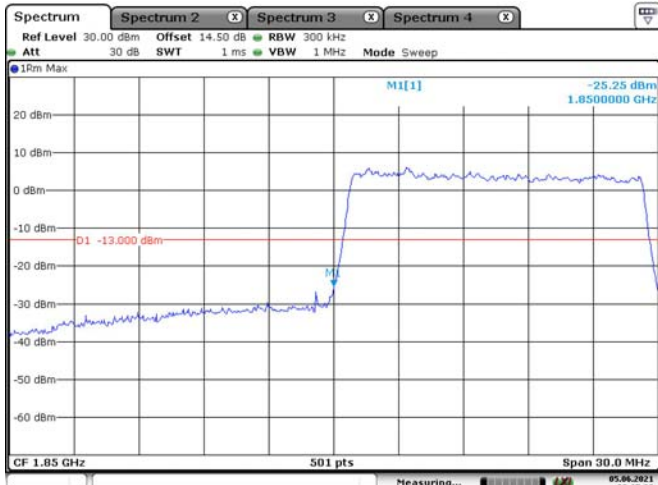
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10M, 16QAM, Right Band Edge



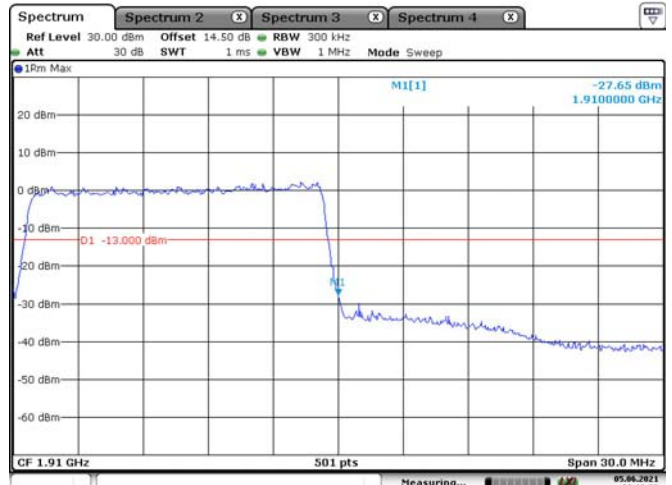
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15M, 16QAM, Left Band Edge



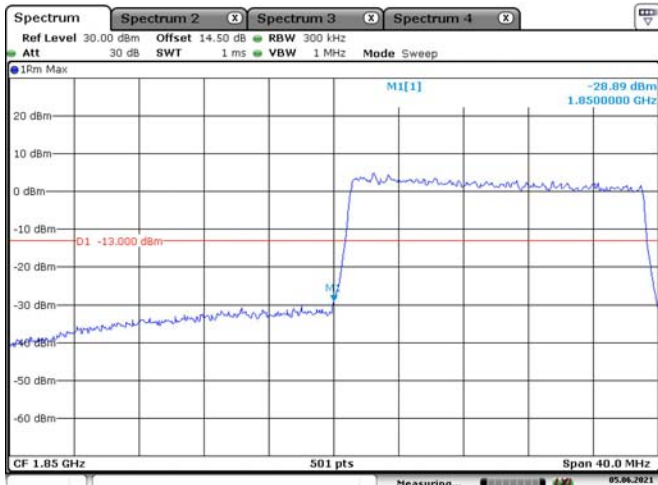
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15M, 16QAM, Right Band Edge



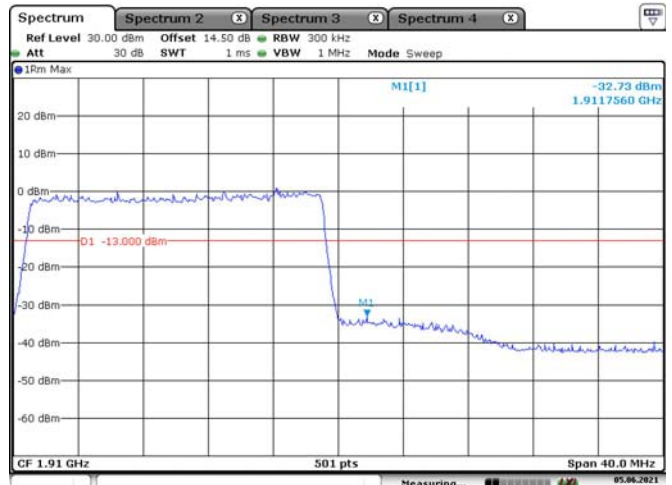
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20M, 16QAM, Left Band Edge



Date: 5 JUN 2021 02:17:30

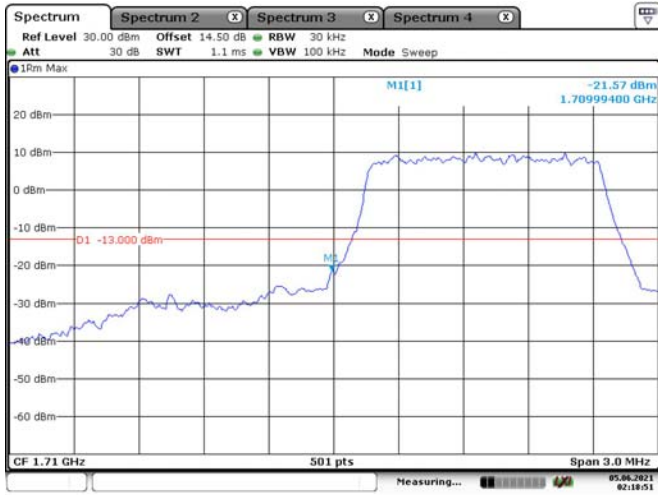
20M, 16QAM, Right Band Edge



Date: 5 JUN 2021 02:18:28

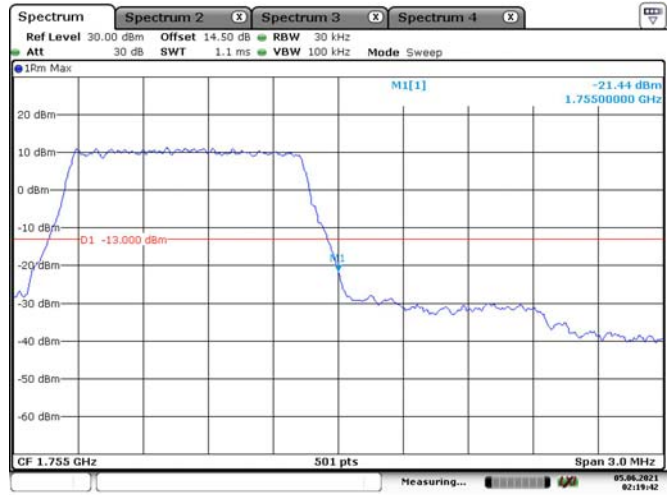
LTE Band 4:

1.4M, QPSK, Left Band Edge



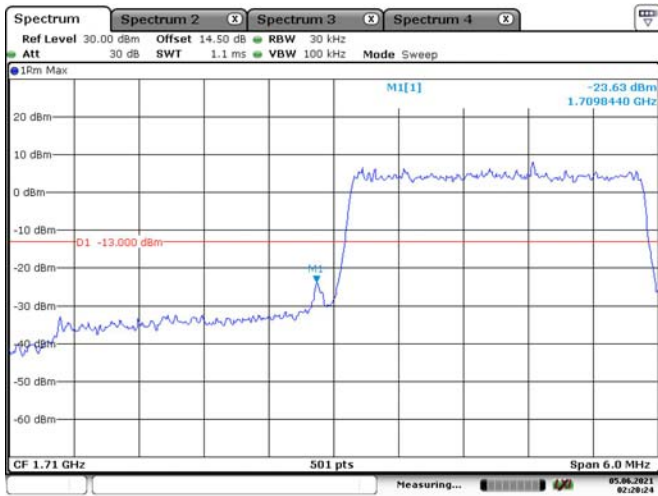
Date: 5 JUN 2021 02:18:51

1.4M, QPSK, Right Band Edge



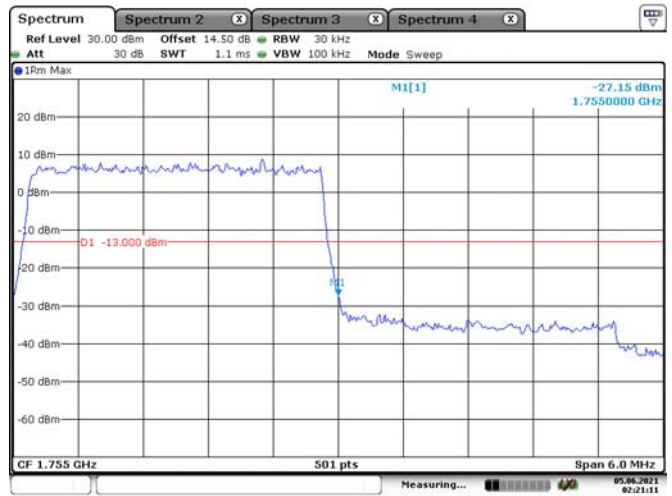
Date: 5 JUN 2021 02:19:42

3M, QPSK, Left Band Edge



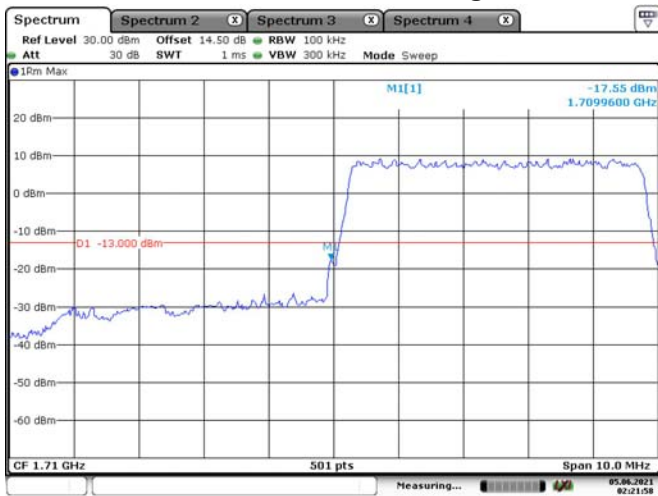
Date: 5 JUN 2021 02:20:24

3M, QPSK, Right Band Edge



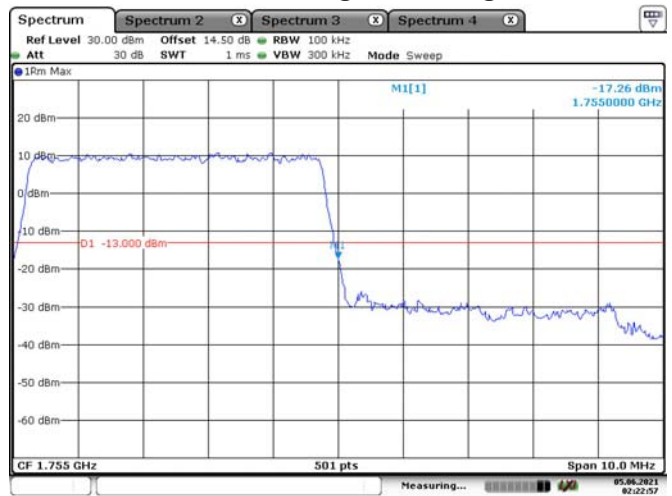
Date: 5 JUN 2021 02:21:11

5M, QPSK, Left Band Edge



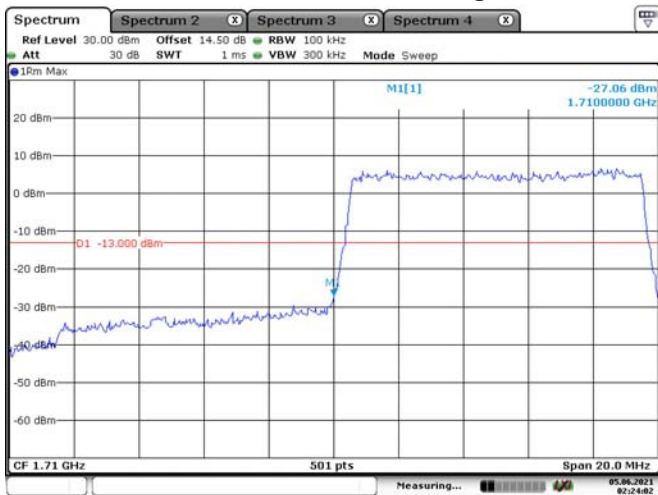
Date: 5 JUN 2021 02:21:58

5M, QPSK, Right Band Edge



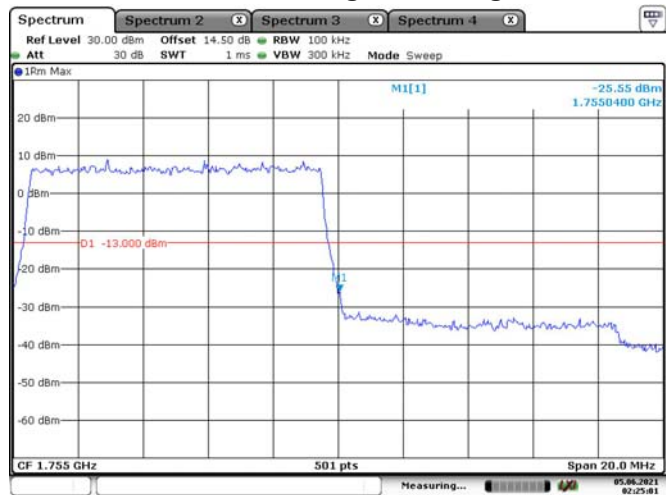
Date: 5 JUN 2021 02:22:58

10M, QPSK, Left Band Edge



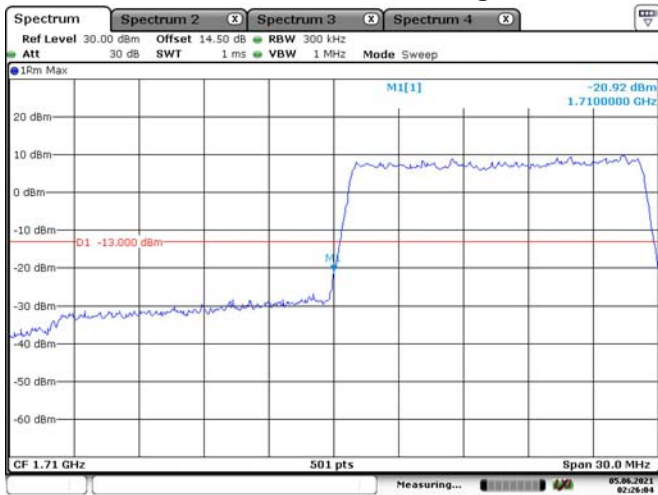
Date: 5 JUN 2021 02:24:02

10M, QPSK, Right Band Edge



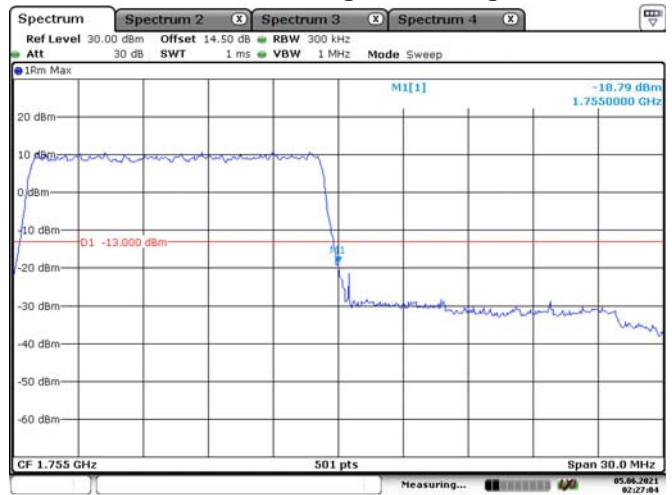
Date: 5 JUN 2021 02:25:02

15M, QPSK, Left Band Edge



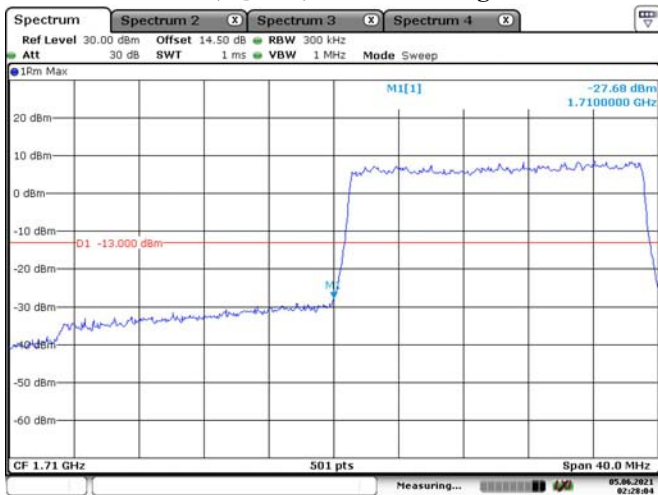
Date: 5 JUN 2021 02:26:04

15M, QPSK, Right Band Edge



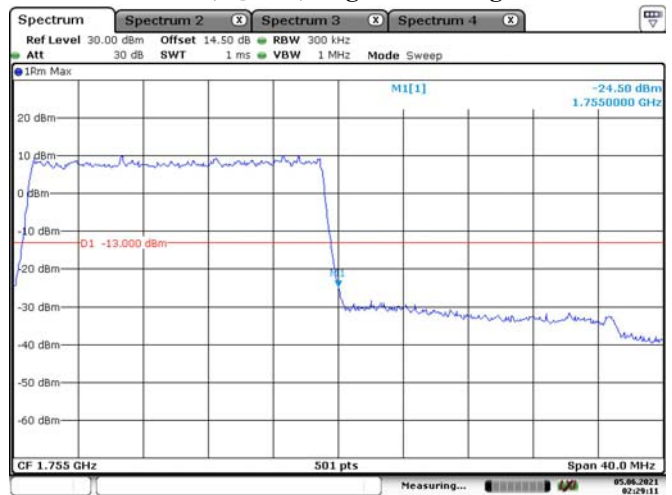
Date: 5 JUN 2021 02:27:04

20M, QPSK, Left Band Edge



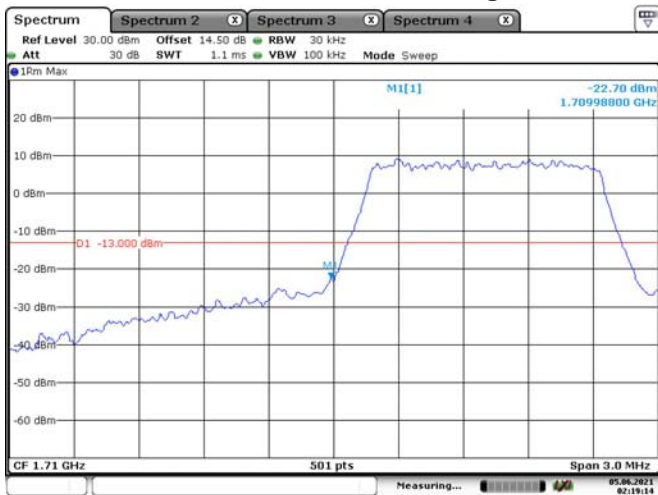
Date: 5 JUN 2021 02:28:04

20M, QPSK, Right Band Edge



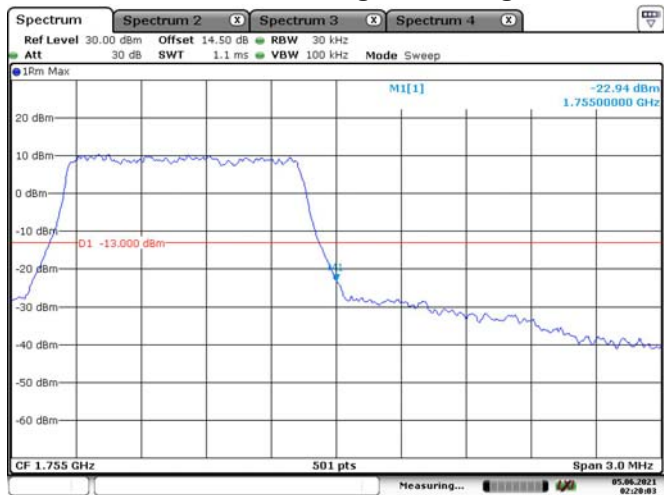
Date: 5 JUN 2021 02:29:11

1.4M, 16QAM, Left Band Edge



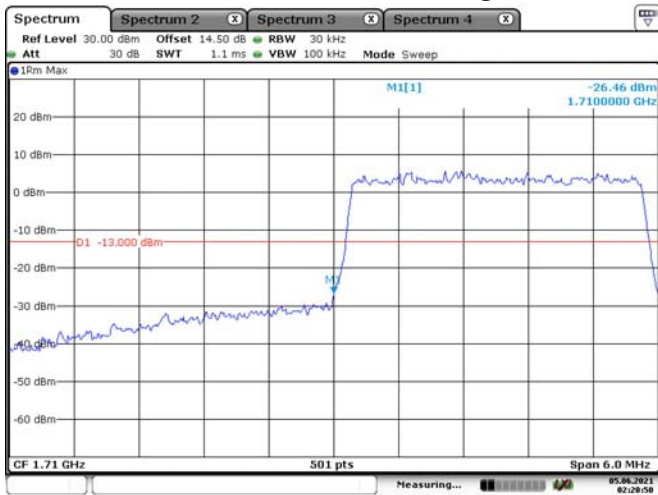
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1.4M, 16QAM, Right Band Edge



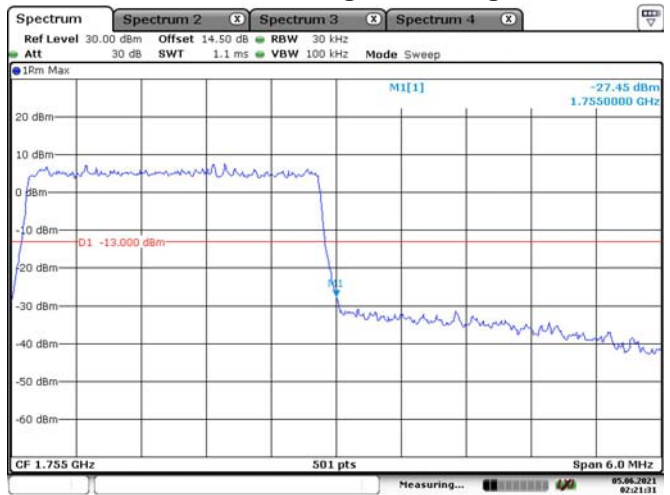
Date: 5 JUN. 2021 02:20:04

3M, 16QAM, Left Band Edge



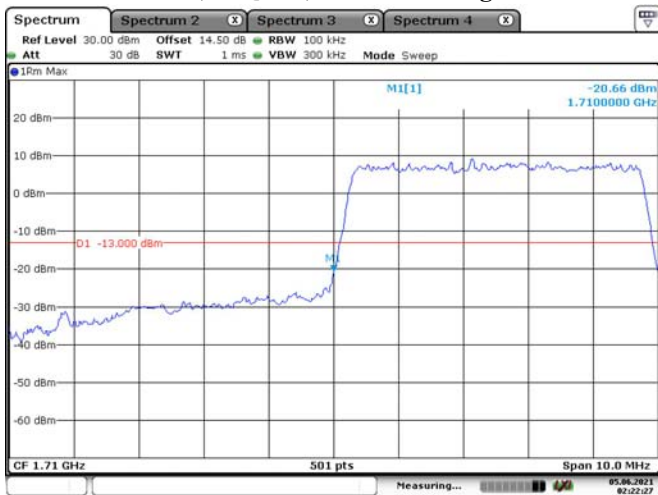
Date: 5 JUN. 2021 02:20:50

3M, 16QAM, Right Band Edge



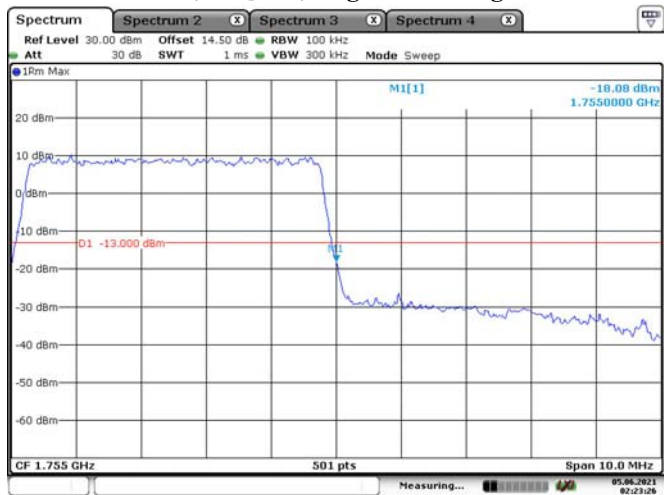
Date: 5 JUN. 2021 02:21:32

5M, 16QAM, Left Band Edge



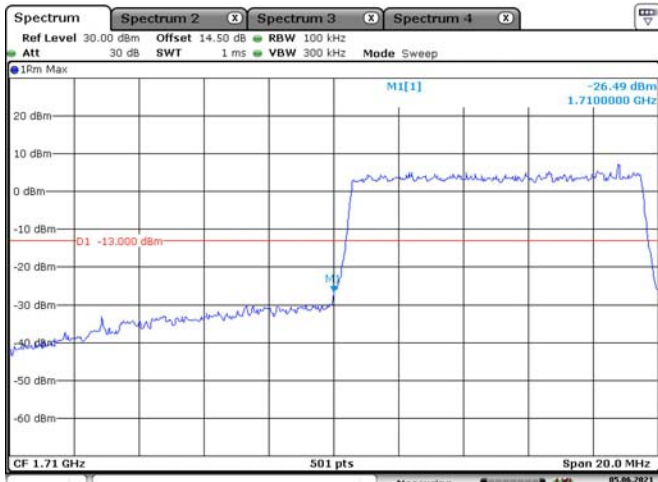
Date: 5 JUN. 2021 02:22:27

5M, 16QAM, Right Band Edge



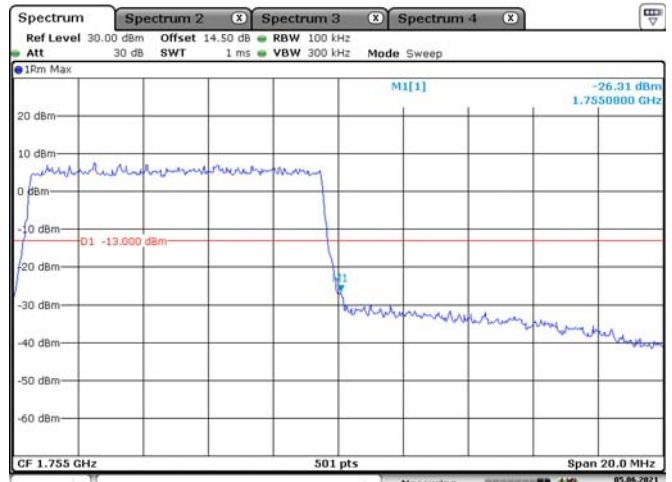
Date: 5 JUN. 2021 02:23:26

10M, 16QAM, Left Band Edge



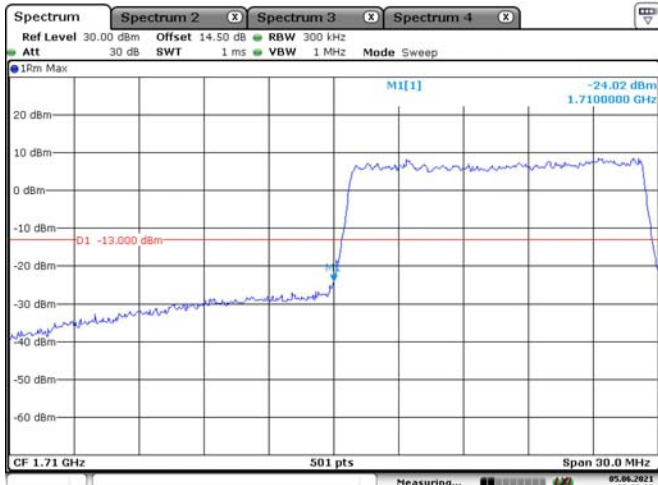
Date: 5 JUN. 2021 02:24:30

10M, 16QAM, Right Band Edge



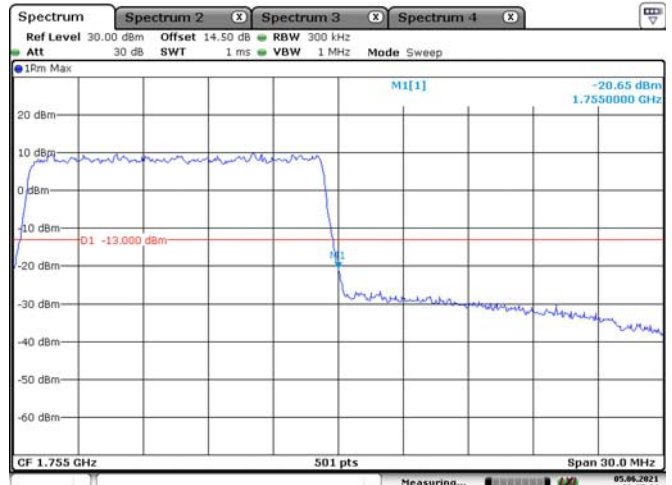
Date: 5 JUN. 2021 02:25:28

15M, 16QAM, Left Band Edge



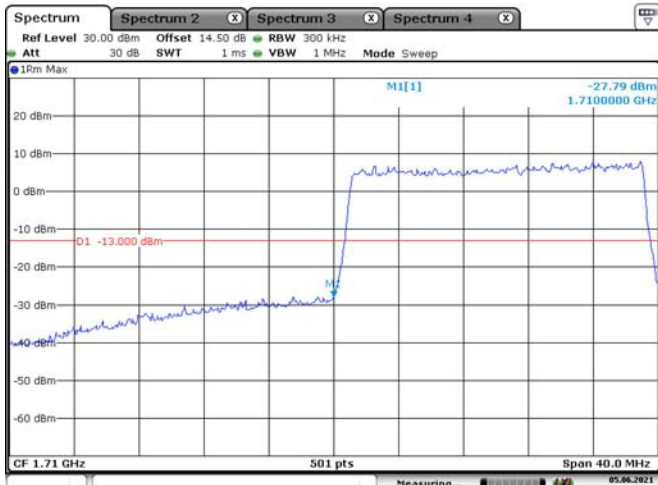
Date: 5 JUN. 2021 02:26:14

15M, 16QAM, Right Band Edge



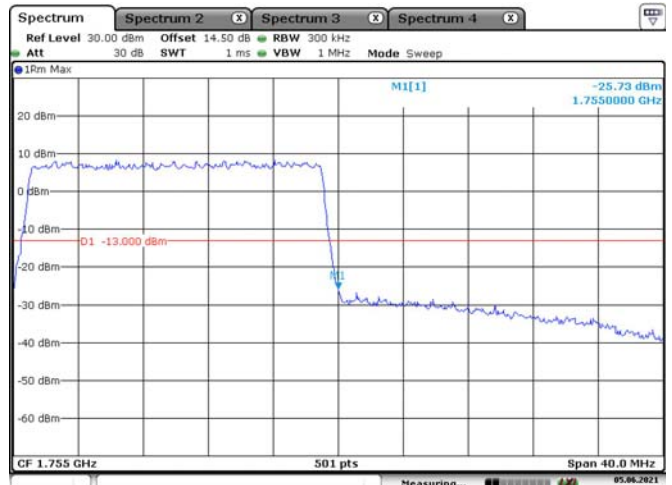
Date: 5 JUN. 2021 02:27:34

20M, 16QAM, Left Band Edge



Date: 5 JUN. 2021 02:28:17

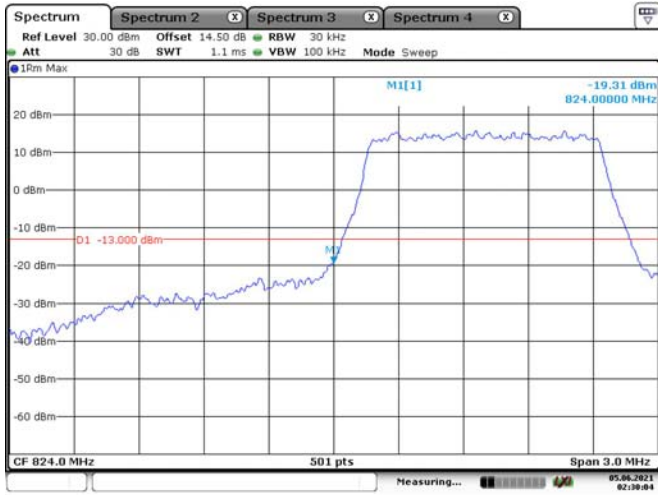
20M, 16QAM, Right Band Edge



Date: 5 JUN. 2021 02:29:41

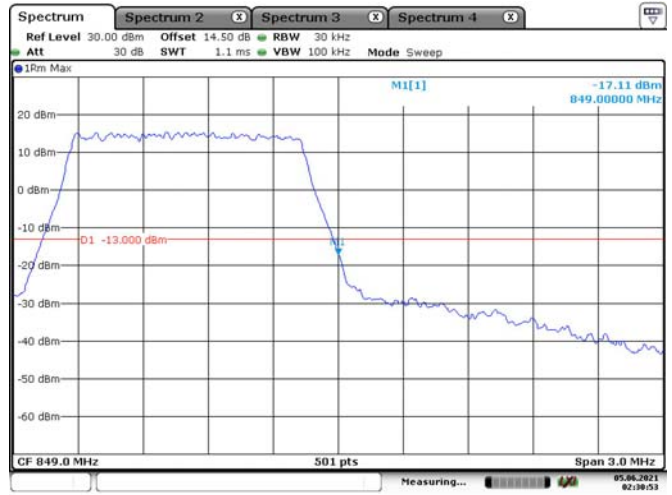
LTE Band 5:

1.4M, QPSK, Left Band Edge



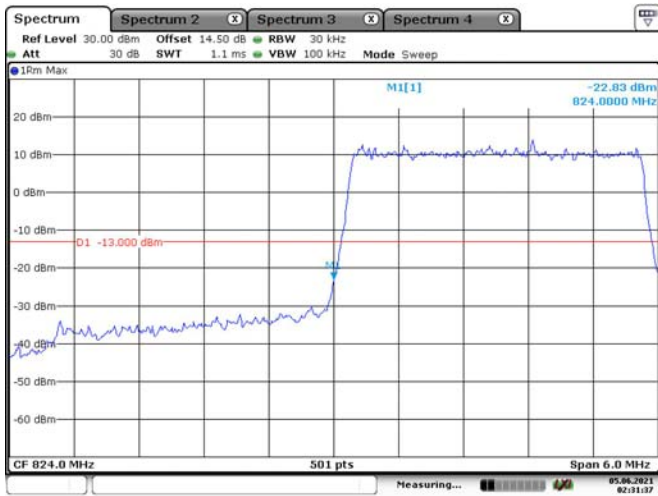
Date: 5 JUN 2021 02:30:04

1.4M, QPSK, Right Band Edge



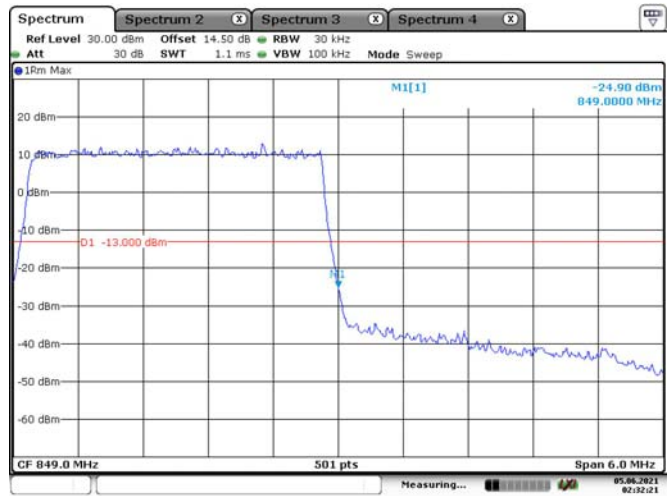
Date: 5 JUN 2021 02:30:53

3M, QPSK, Left Band Edge



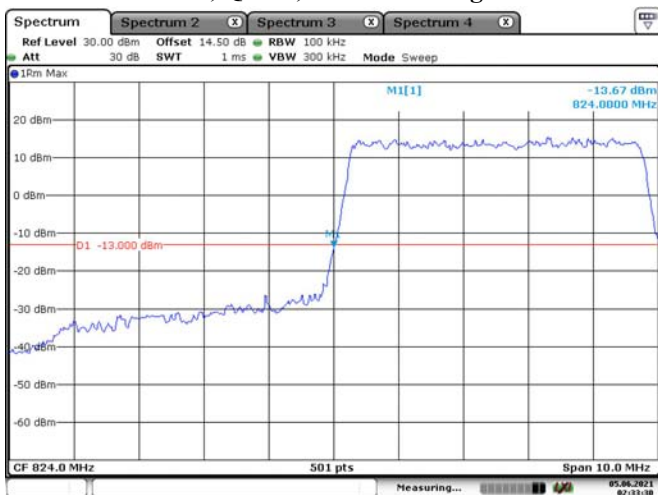
Date: 5 JUN 2021 02:31:37

3M, QPSK, Right Band Edge



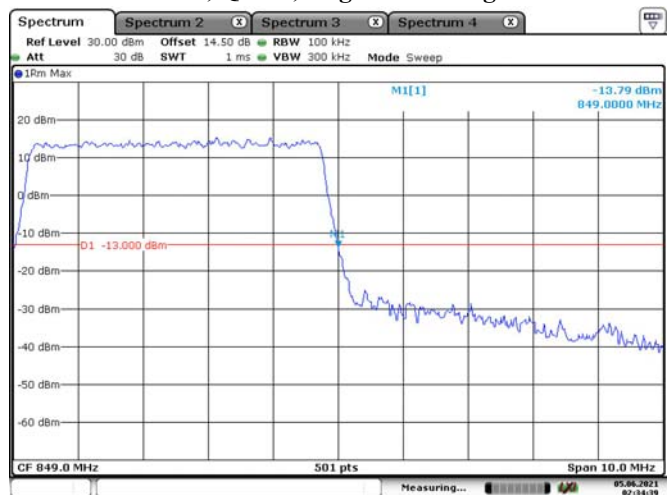
Date: 5 JUN 2021 02:32:21

5M, QPSK, Left Band Edge



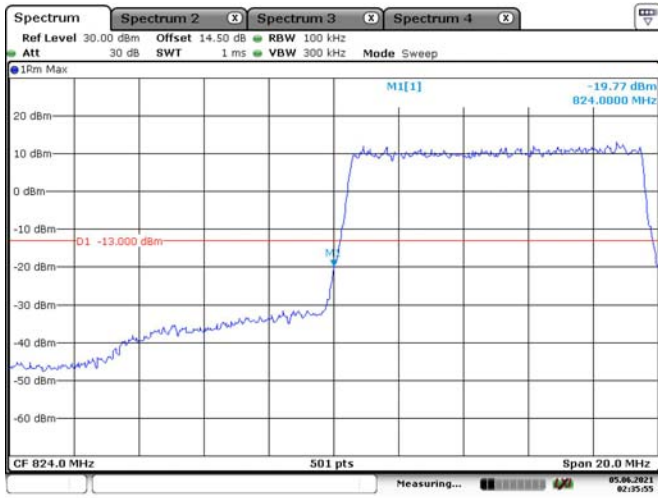
Date: 5 JUN 2021 02:33:30

5M, QPSK, Right Band Edge



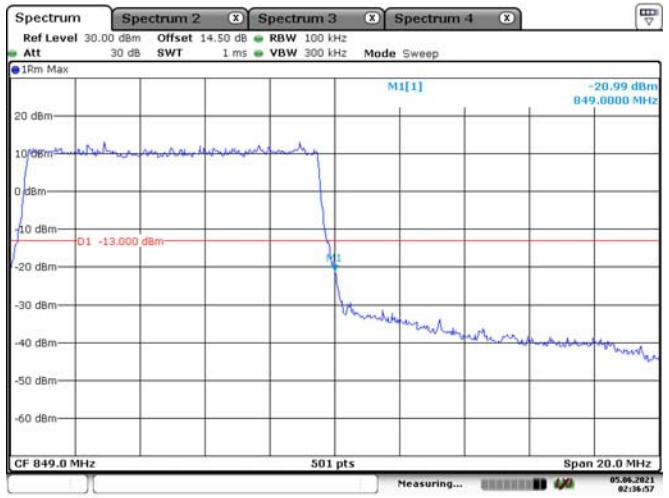
Date: 5 JUN 2021 02:34:39

10M, QPSK, Left Band Edge



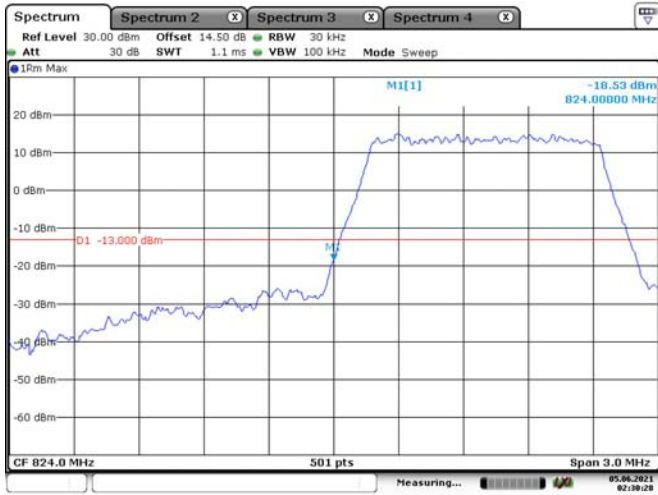
Date: 5 JUN. 2021 02:35:55

10M, QPSK, Right Band Edge



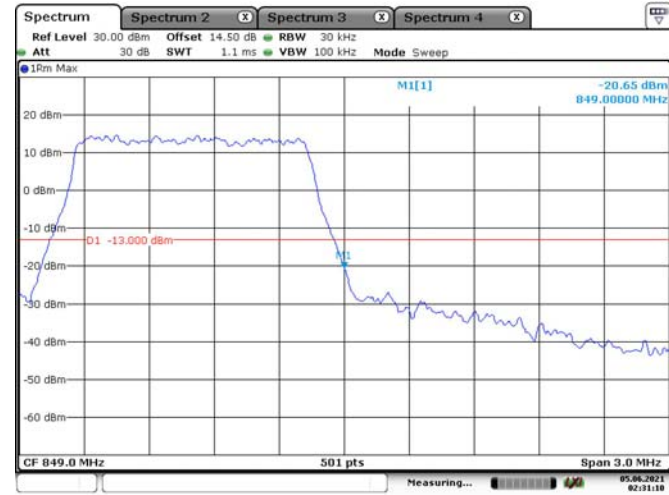
Date: 5 JUN. 2021 02:36:58

1.4M, 16QAM, Left Band Edge



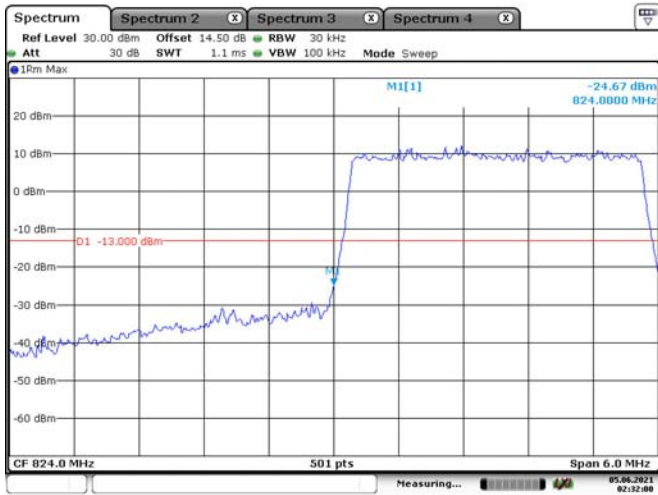
Date: 5 JUN. 2021 02:30:28

1.4M, 16QAM, Right Band Edge



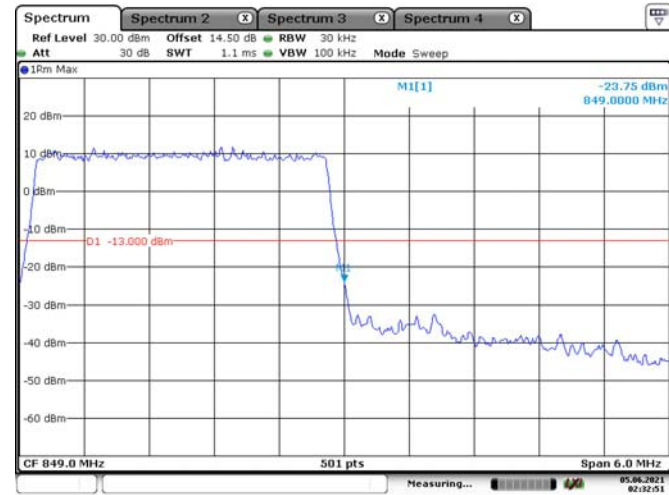
Date: 5 JUN. 2021 02:31:10

3M, 16QAM, Left Band Edge



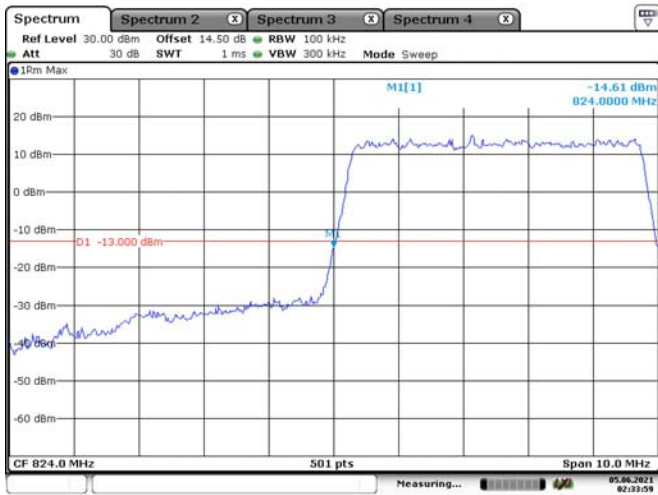
Date: 5 JUN. 2021 02:32:00

3M, 16QAM, Right Band Edge

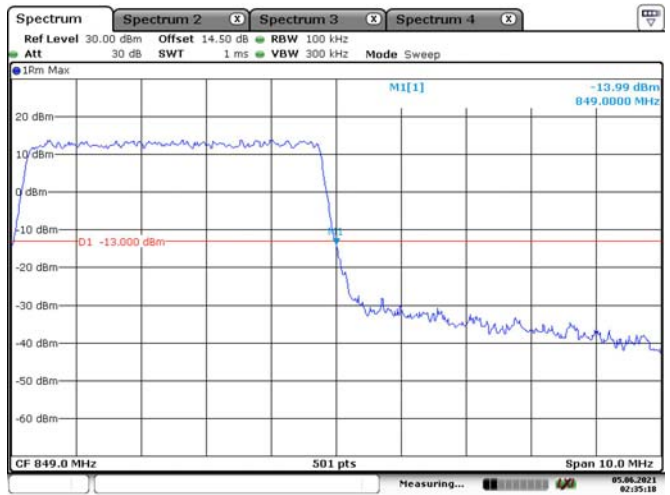


Date: 5 JUN. 2021 02:32:51

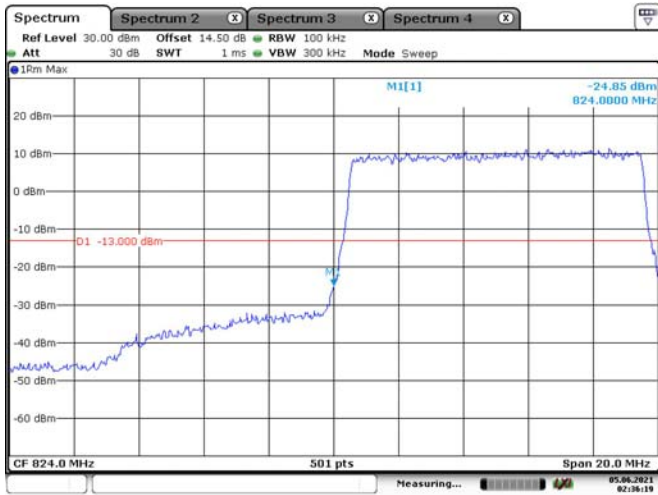
5M, 16QAM, Left Band Edge



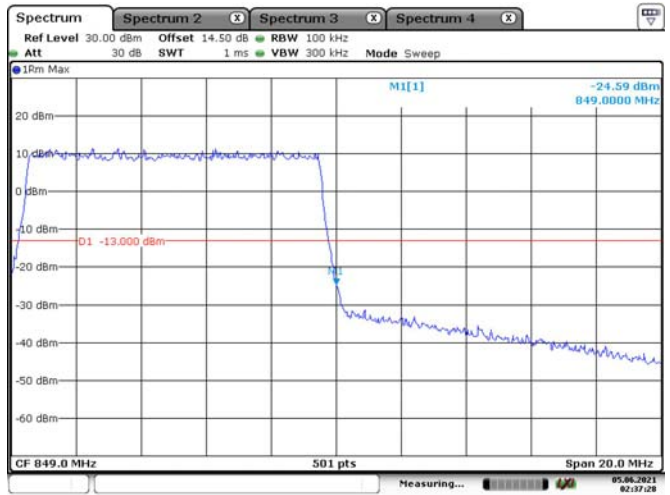
5M, 16QAM, Right Band Edge



10M, 16QAM, Left Band Edge

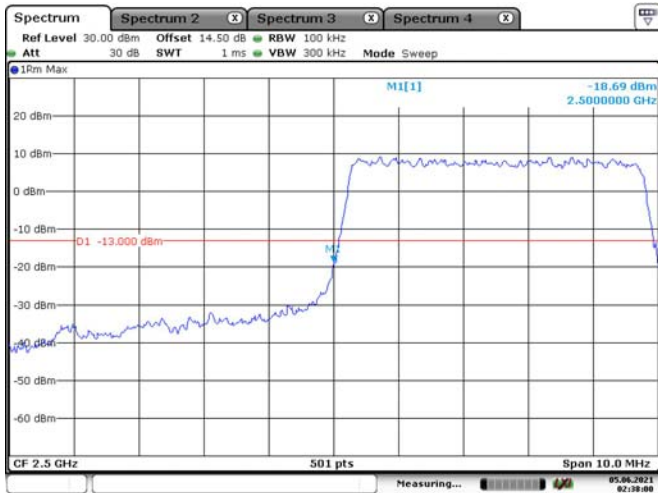


10M, 16QAM, Right Band Edge



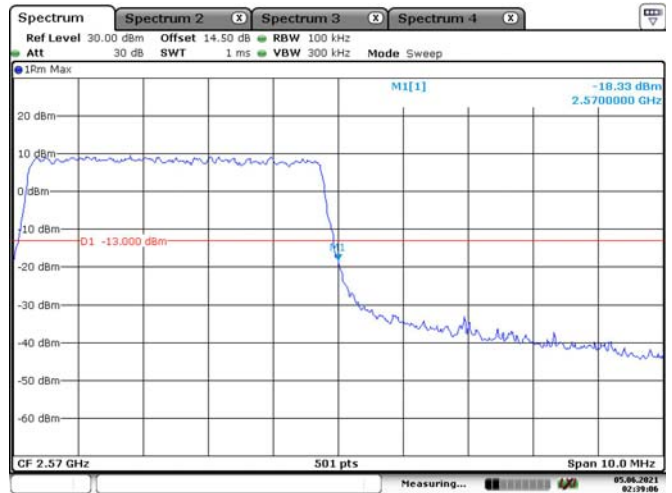
LTE Band 7:

5M, QPSK, Left Band Edge



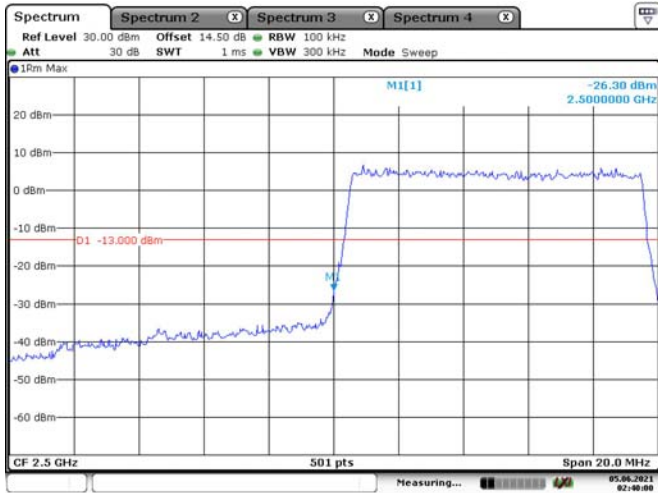
Date: 5 JUN. 2021 02:38:01

5M, QPSK, Right Band Edge



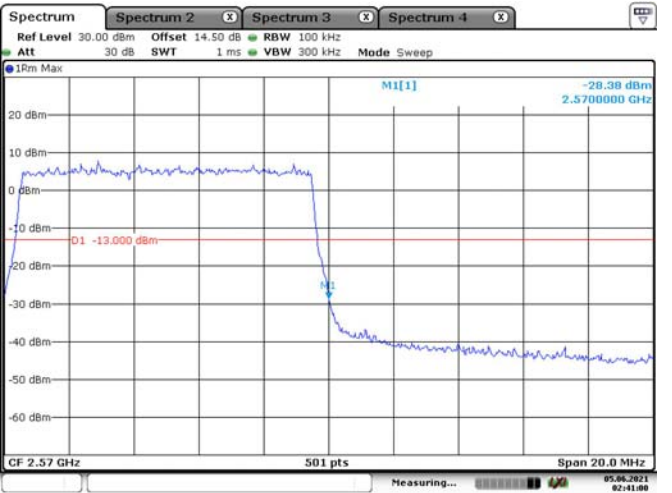
Date: 5 JUN. 2021 02:39:07

10M, QPSK, Left Band Edge



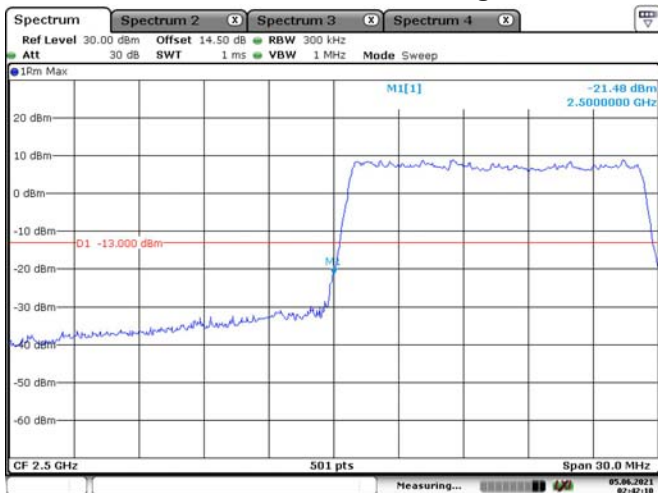
Date: 5 JUN. 2021 02:40:01

10M, QPSK, Right Band Edge



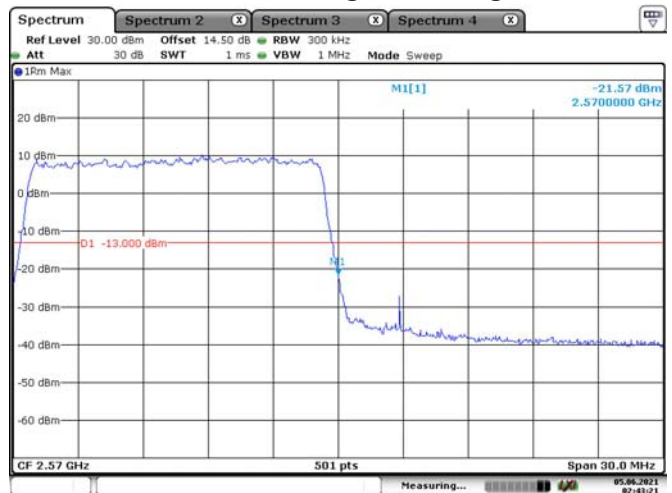
Date: 5 JUN. 2021 02:41:00

15M, QPSK, Left Band Edge



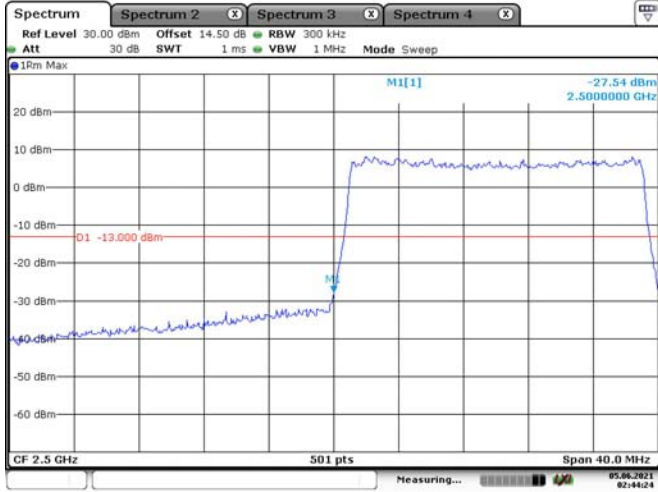
Date: 5 JUN. 2021 02:42:10

15M, QPSK, Right Band Edge



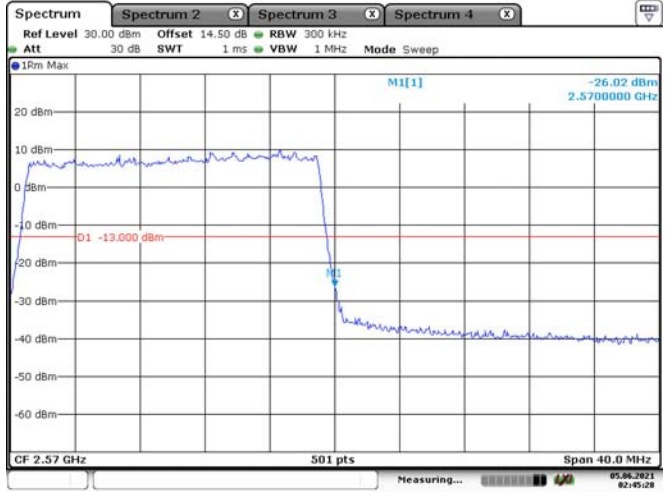
Date: 5 JUN. 2021 02:43:21

20M, QPSK, Left Band Edge



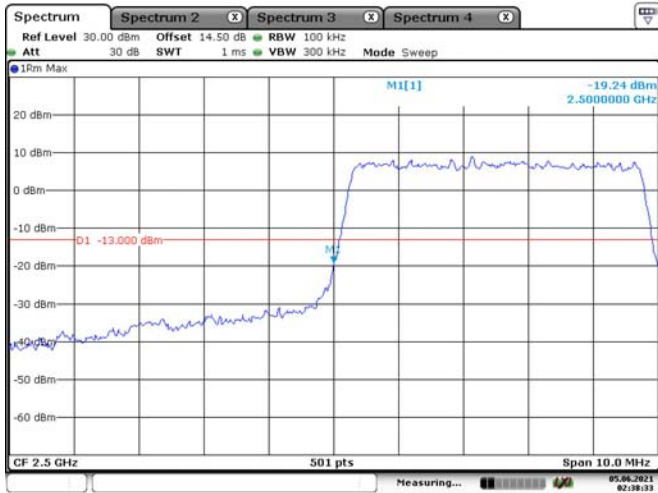
Date: 5 JUN. 2021 02:44:24

20M, QPSK, Right Band Edge



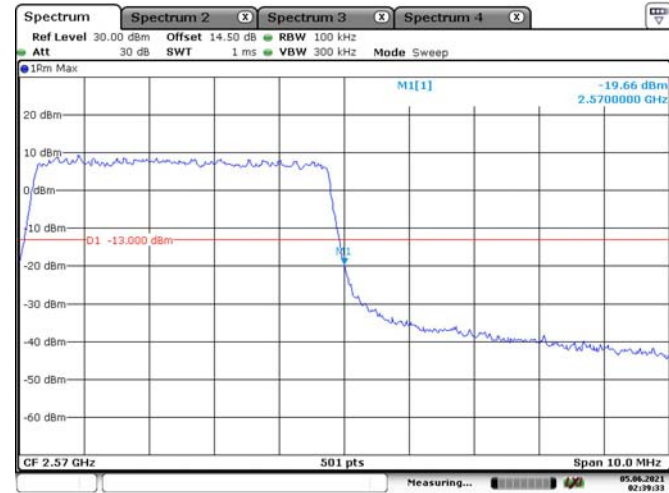
Date: 5 JUN. 2021 02:45:28

5M, 16QAM, Left Band Edge



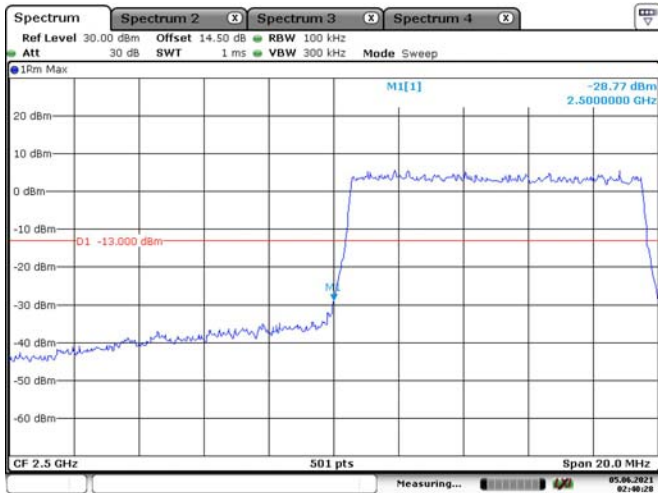
Date: 5 JUN. 2021 02:38:33

5M, 16QAM, Right Band Edge



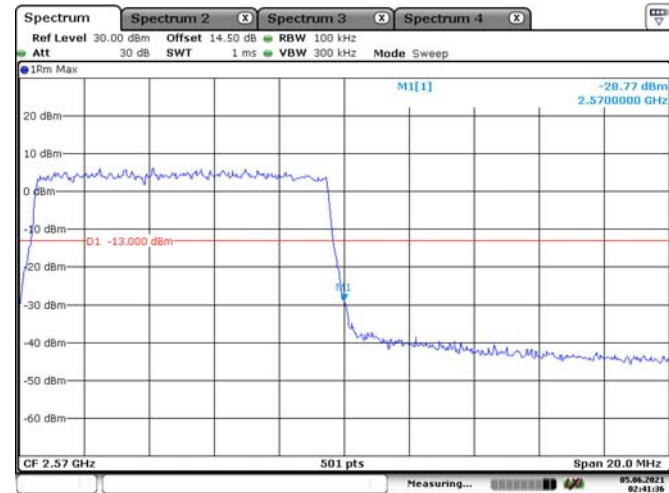
Date: 5 JUN. 2021 02:39:33

10M, 16QAM, Left Band Edge



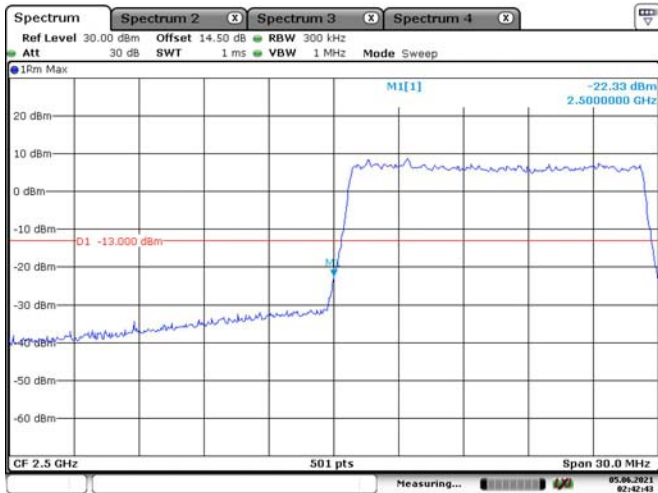
Date: 5 JUN. 2021 02:40:28

10M, 16QAM, Right Band Edge

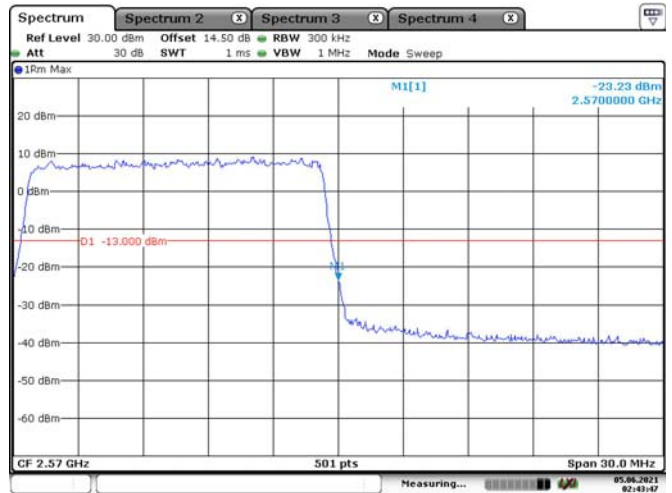


Date: 5 JUN. 2021 02:41:37

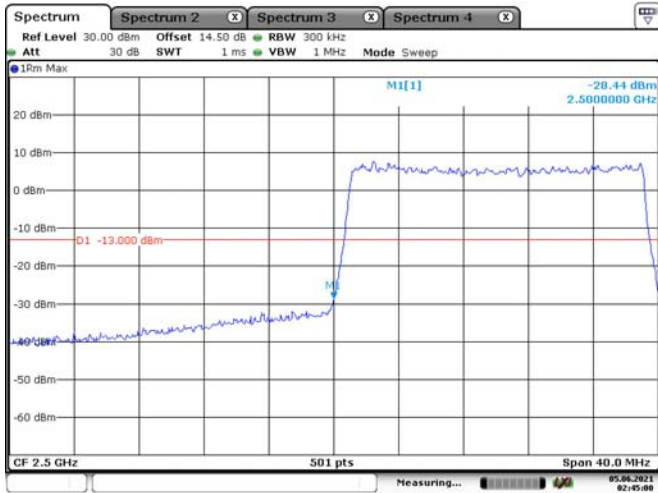
15M, 16QAM, Left Band Edge



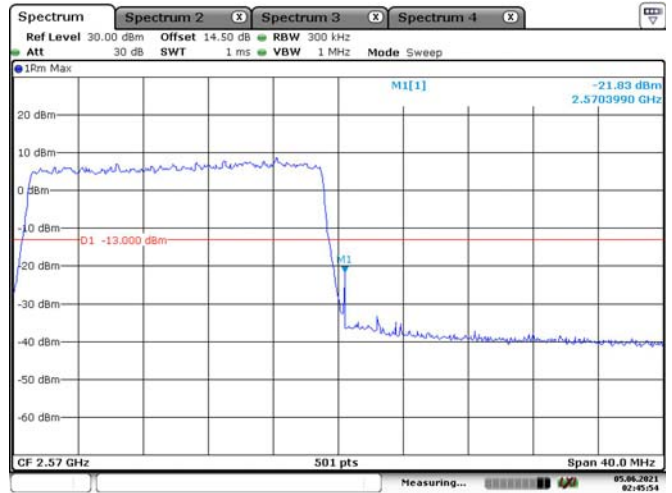
15M, 16QAM, Right Band Edge



20M, 16QAM, Left Band Edge



20M, 16QAM, Right Band Edge

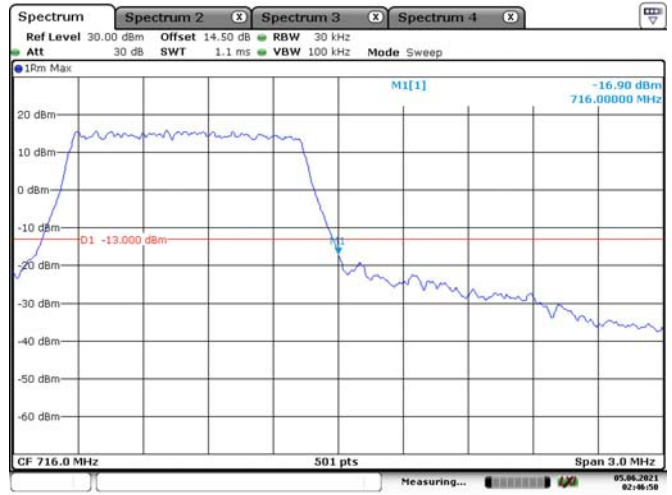


LTE Band 12:

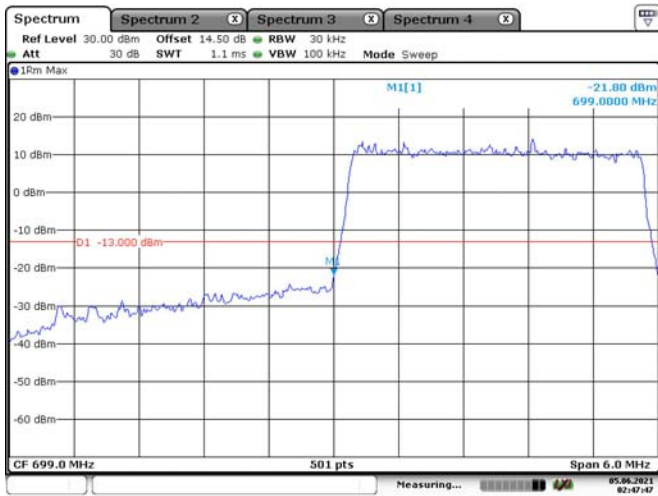
1.4M, QPSK, Left Band Edge



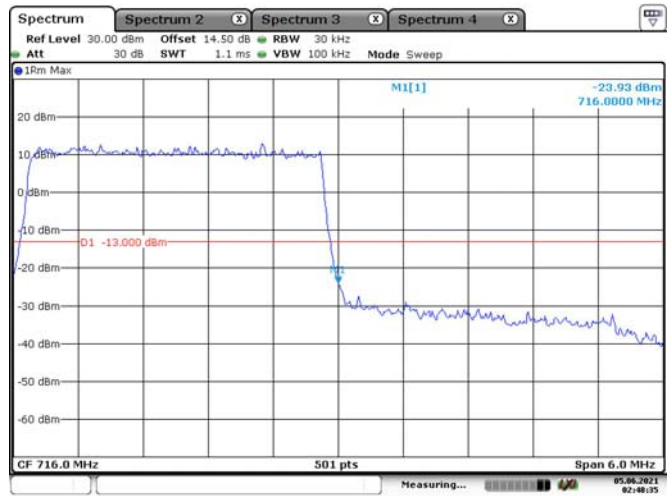
1.4M, QPSK, Right Band Edge



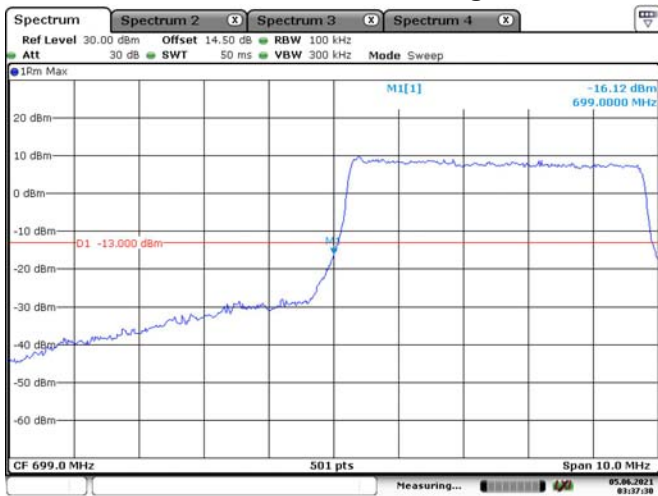
3M, QPSK, Left Band Edge



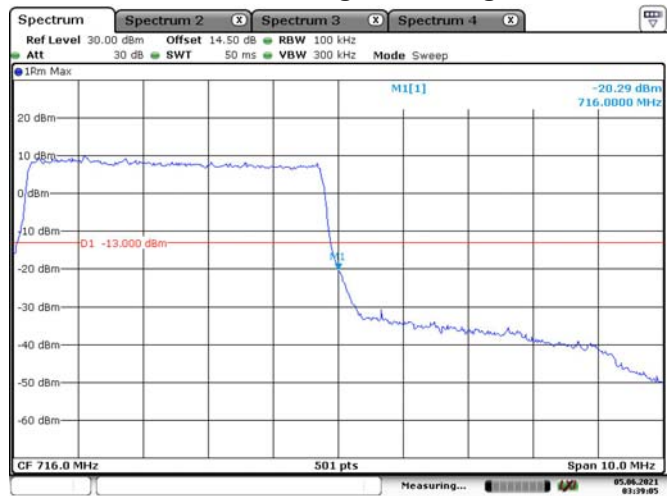
3M, QPSK, Right Band Edge



5M, QPSK, Left Band Edge



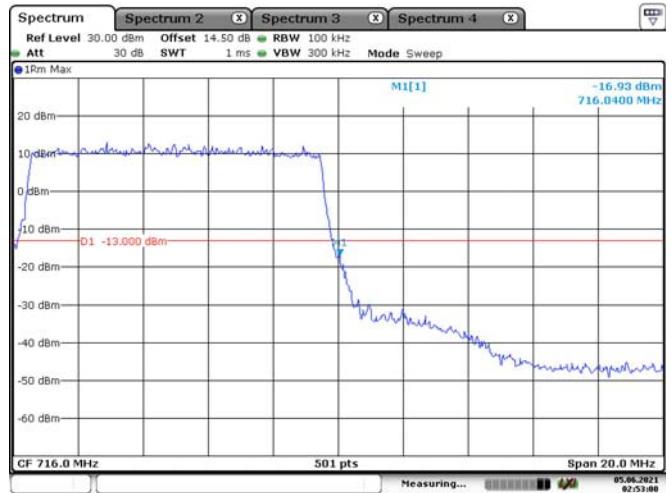
5M, QPSK, Right Band Edge



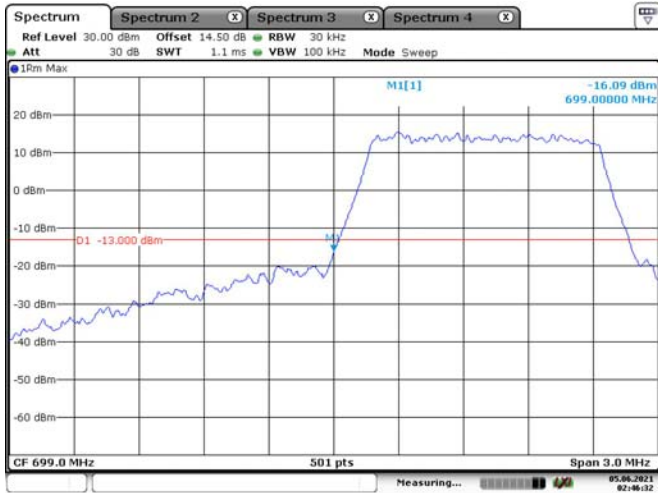
10M, QPSK, Left Band Edge



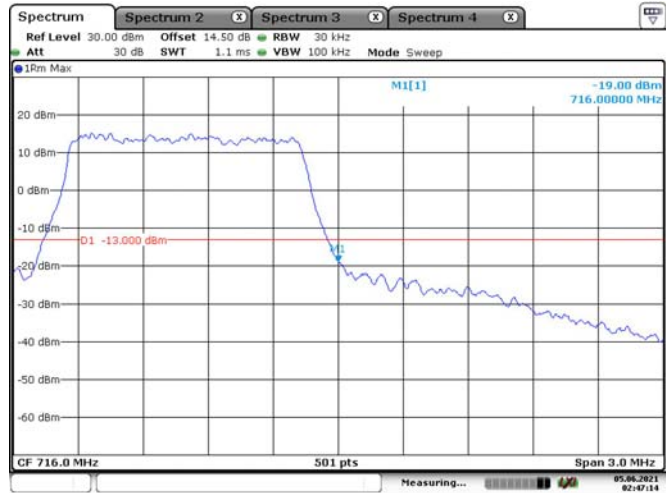
10M, QPSK, Right Band Edge



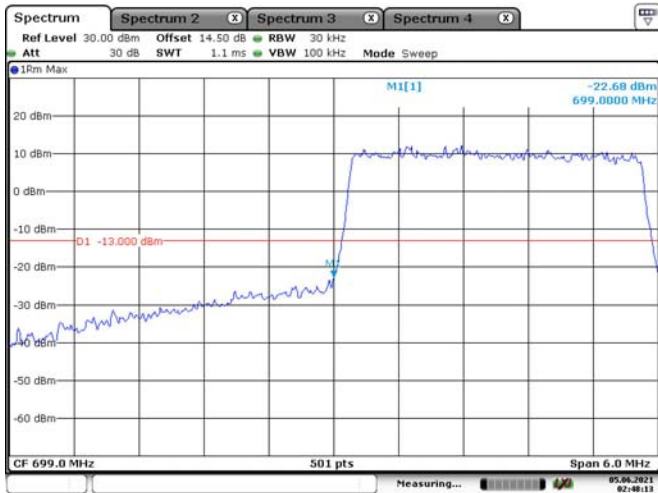
1.4M, 16QAM, Left Band Edge



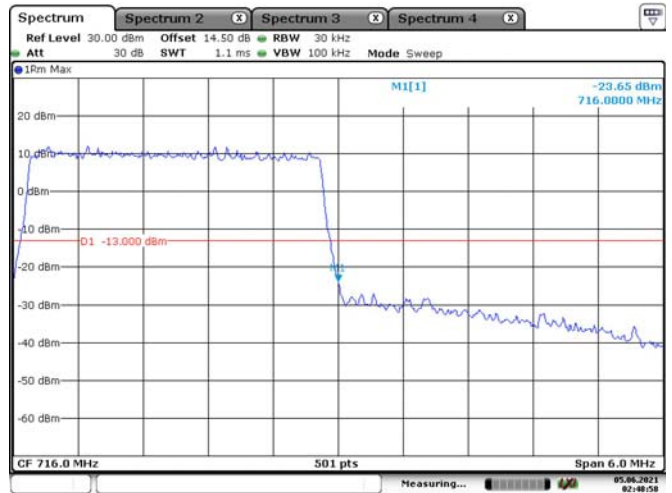
1.4M, 16QAM, Right Band Edge



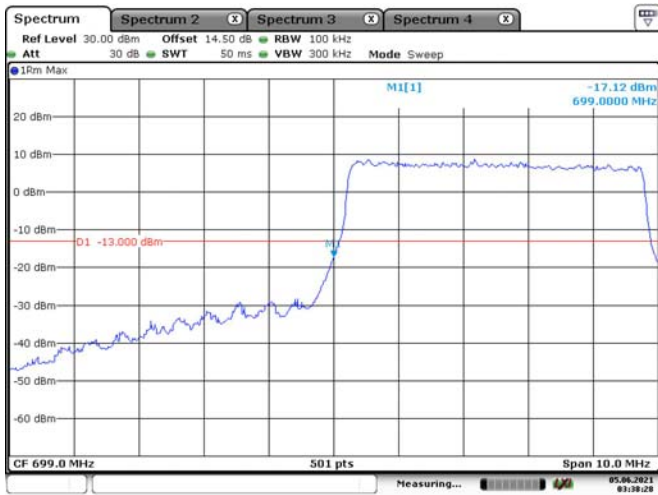
3M, 16QAM, Left Band Edge



3M, 16QAM, Right Band Edge

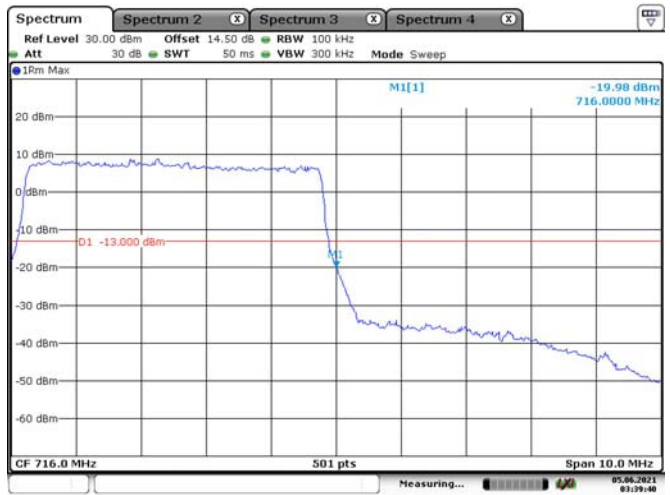


5M, 16QAM, Left Band Edge



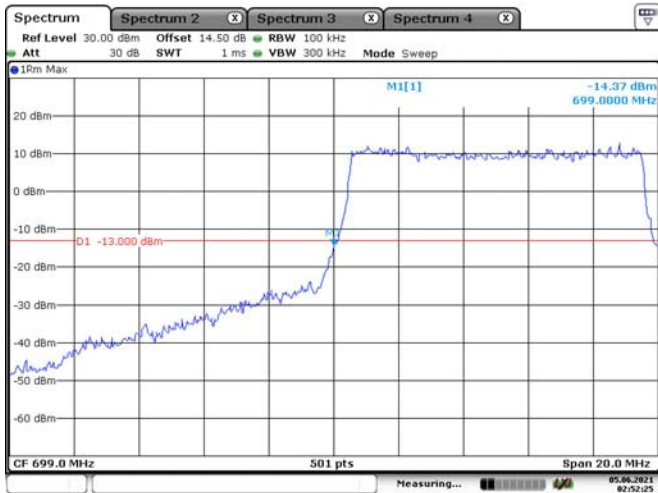
Date: 5 JUN. 2021 03:38:28

5M, 16QAM, Right Band Edge



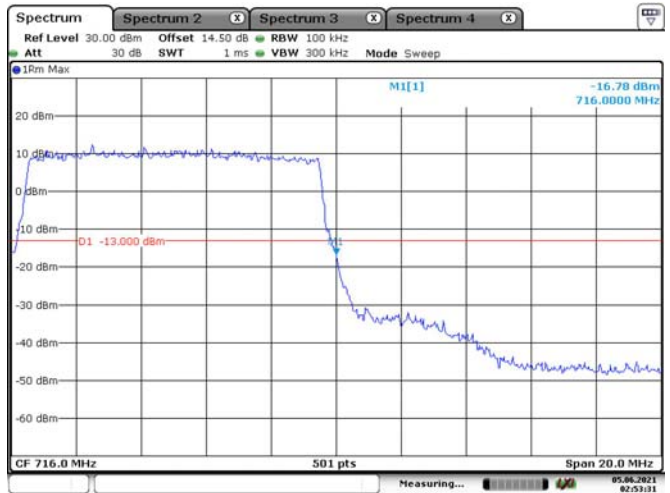
Date: 5 JUN. 2021 03:39:40

10M, 16QAM, Left Band Edge



Date: 5 JUN. 2021 02:52:25

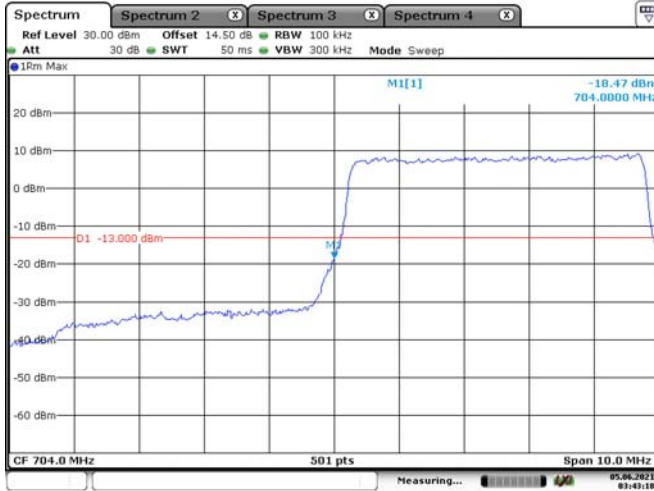
10M, 16QAM, Right Band Edge



Date: 5 JUN. 2021 02:53:31

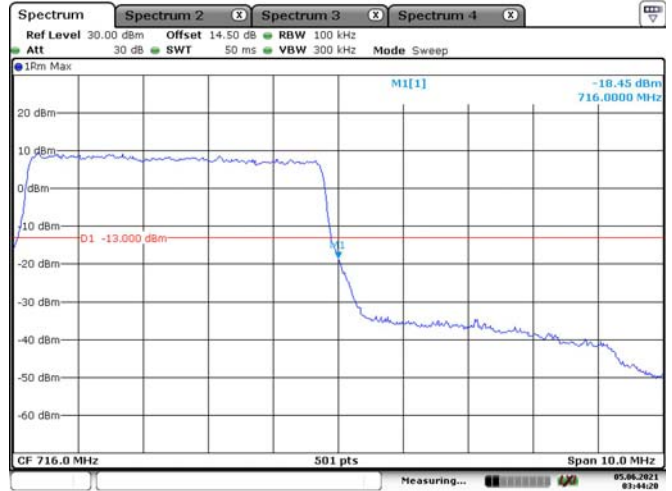
LTE Band 17:

5M, QPSK, Left Band Edge



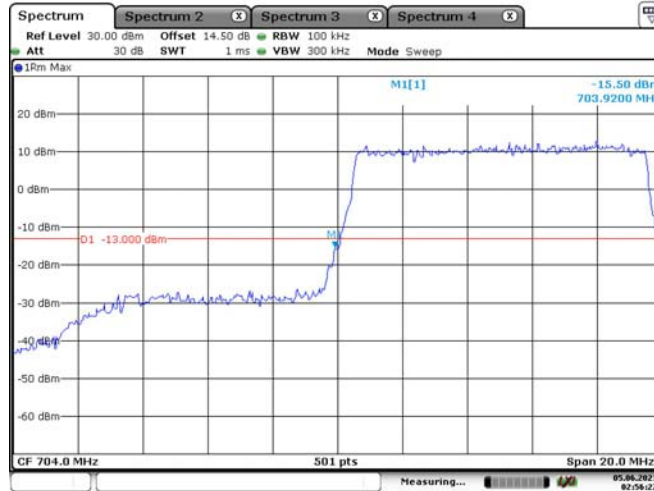
Date: 5.JUN.2021 03:43:19

5M, QPSK, Right Band Edge



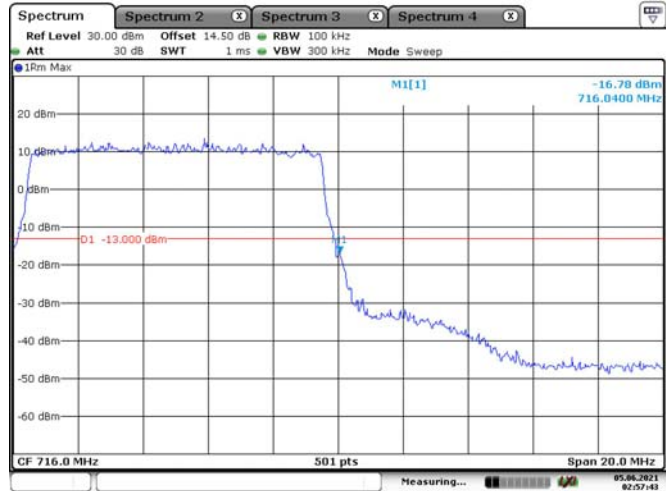
Date: 5.JUN.2021 03:44:20

10M, QPSK, Left Band Edge



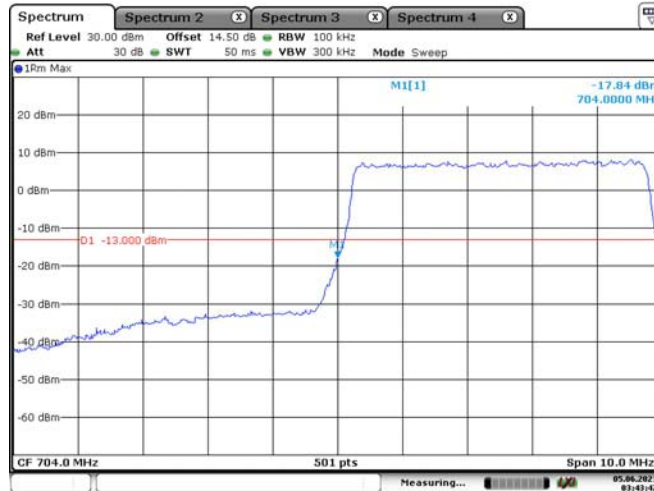
Date: 5.JUN.2021 02:56:27

10M, QPSK, Right Band Edge



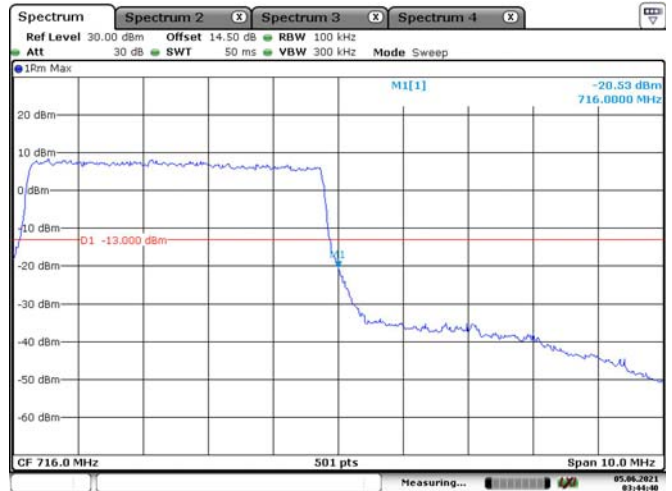
Date: 5.JUN.2021 02:57:43

5M, 16QAM, Left Band Edge



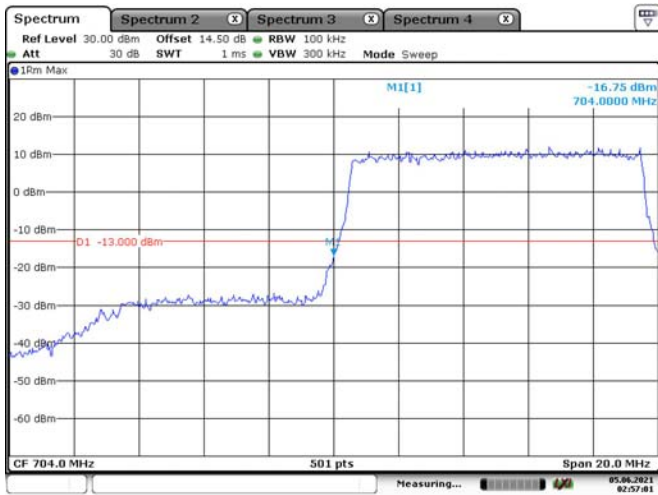
Date: 5.JUN.2021 03:43:47

5M, 16QAM, Right Band Edge



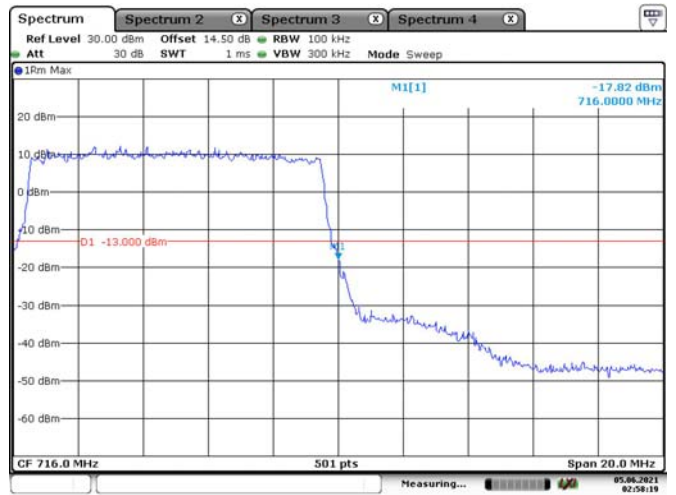
Date: 5.JUN.2021 03:44:40

10M, 16QAM, Left Band Edge



Date: 5 JUN 2021 02:57:01

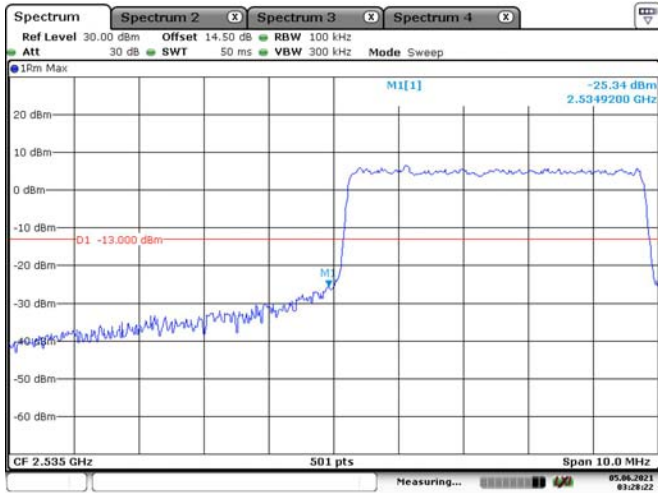
10M, 16QAM, Right Band Edge



Date: 5 JUN 2021 02:58:20

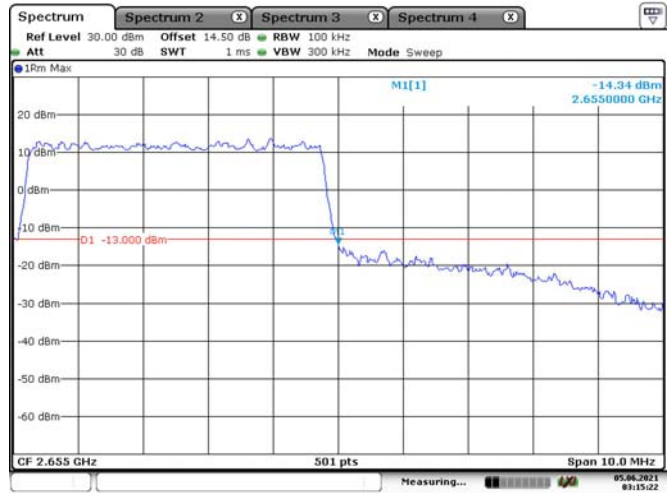
LTE Band 41:

5M, QPSK, Left Band Edge



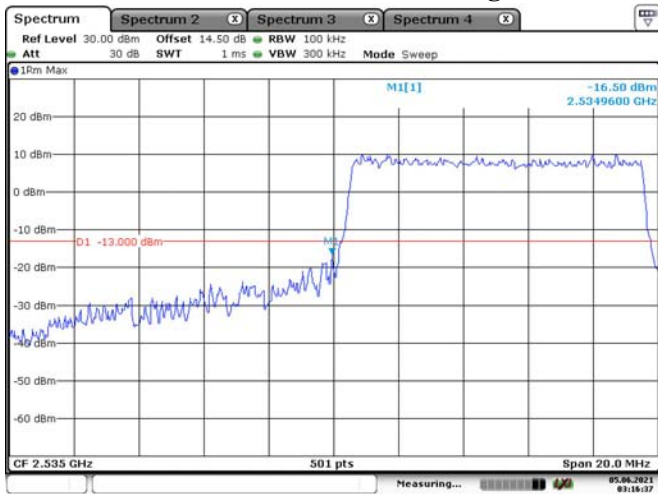
Date: 5 JUN 2021 03:28:23

5M, QPSK, Right Band Edge



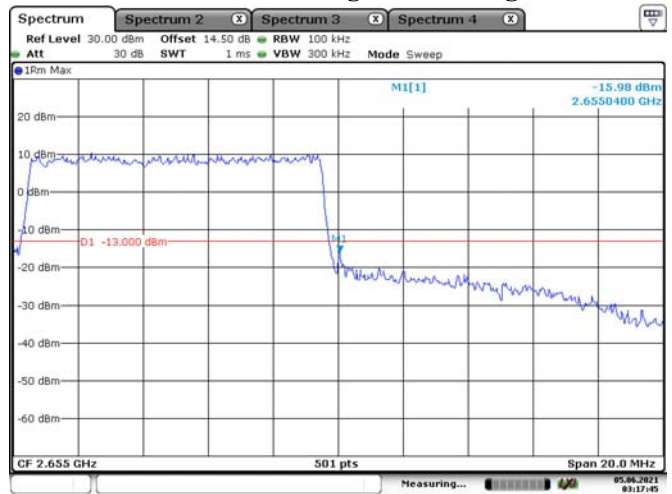
Date: 5 JUN 2021 03:15:22

10M, QPSK, Left Band Edge



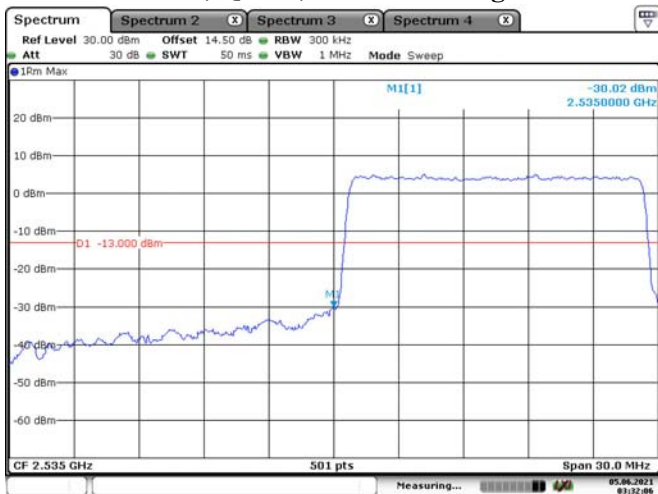
Date: 5 JUN 2021 03:16:38

10M, QPSK, Right Band Edge



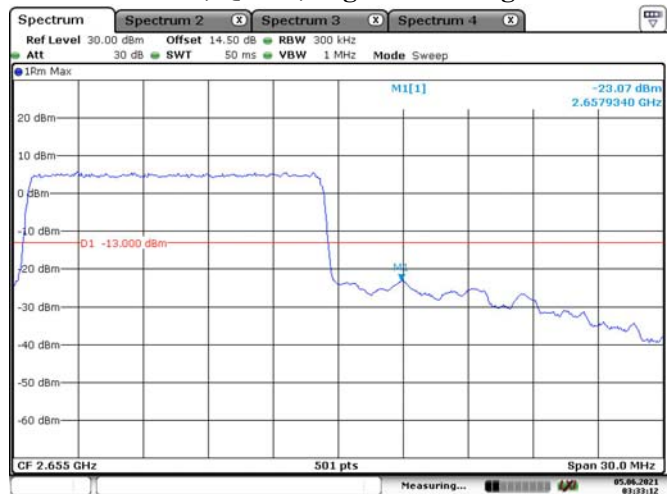
Date: 5 JUN 2021 03:17:46

15M, QPSK, Left Band Edge



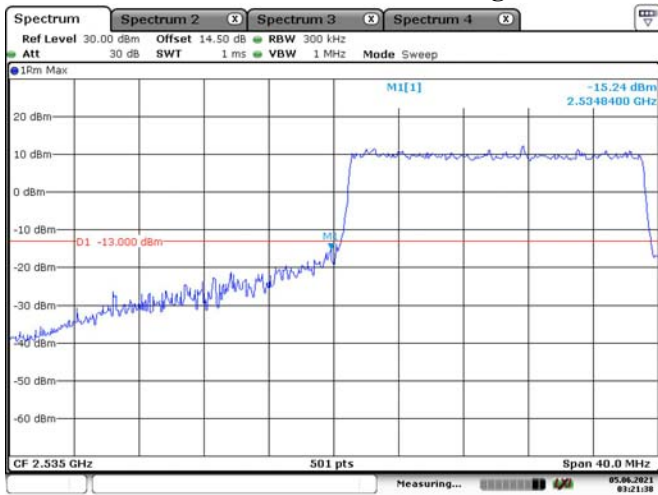
Date: 5 JUN 2021 03:32:06

15M, QPSK, Right Band Edge



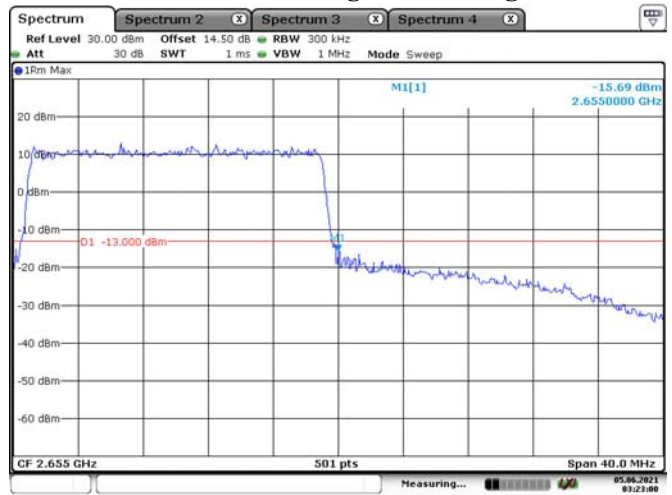
Date: 5 JUN 2021 03:33:12

20M, QPSK, Left Band Edge



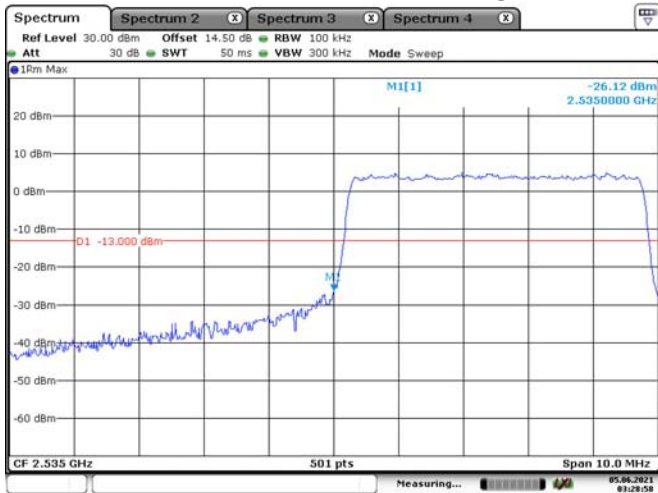
Date: 5 JUN 2021 03:21:39

20M, QPSK, Right Band Edge



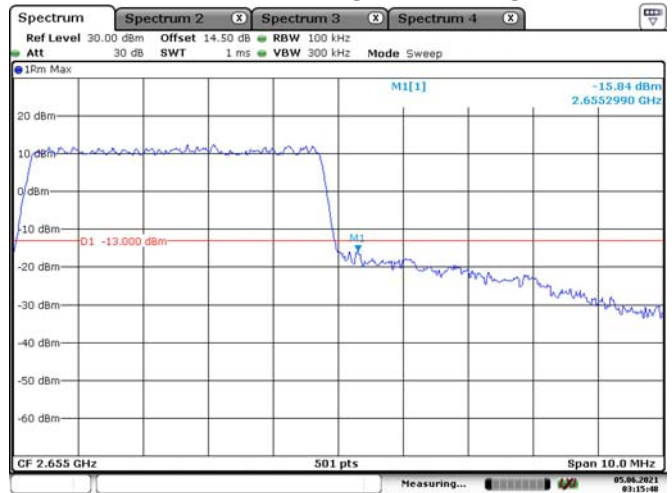
Date: 5 JUN 2021 03:23:00

5M, 16QAM, Left Band Edge



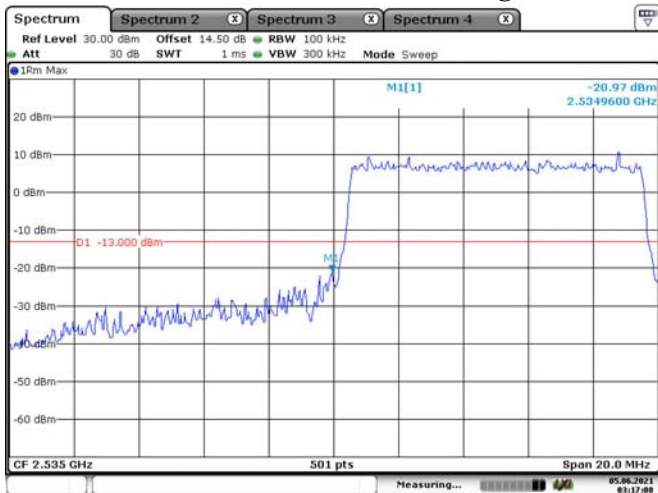
Date: 5 JUN 2021 03:28:59

5M, 16QAM, Right Band Edge



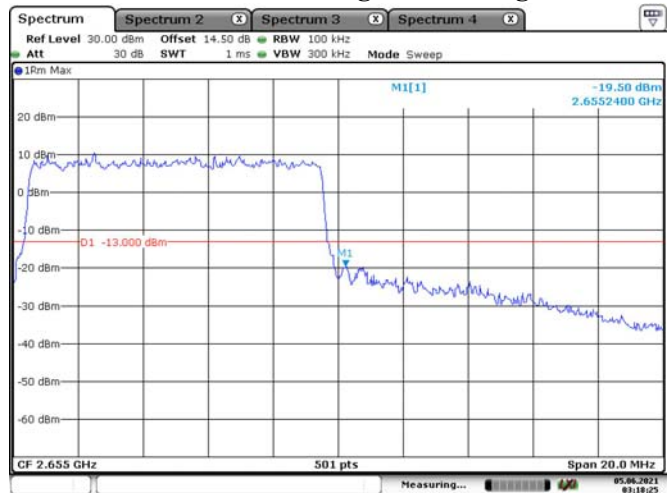
Date: 5 JUN 2021 03:15:48

10M, 16QAM, Left Band Edge



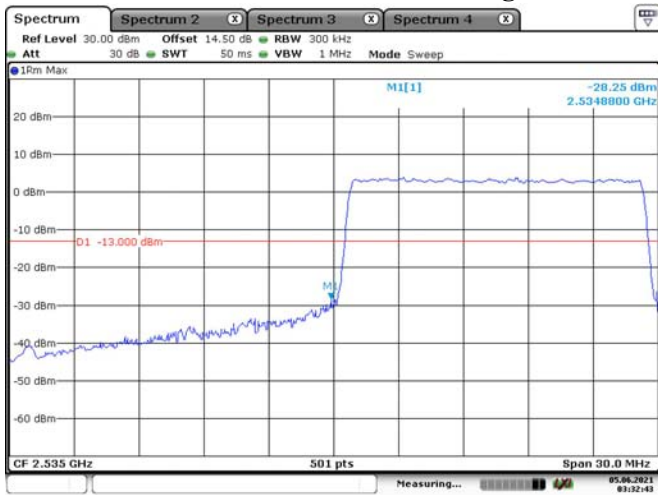
Date: 5 JUN 2021 03:17:08

10M, 16QAM, Right Band Edge

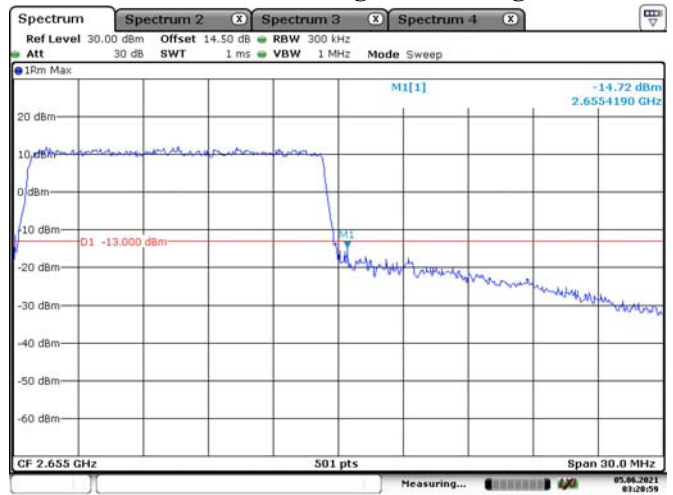


Date: 5 JUN 2021 03:18:26

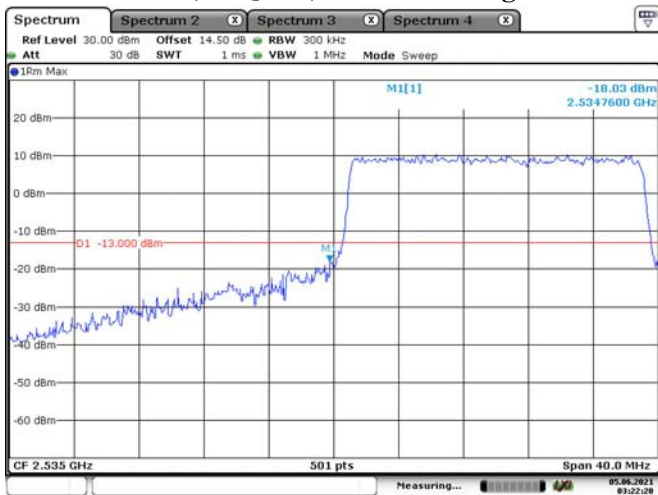
15M, 16QAM, Left Band Edge



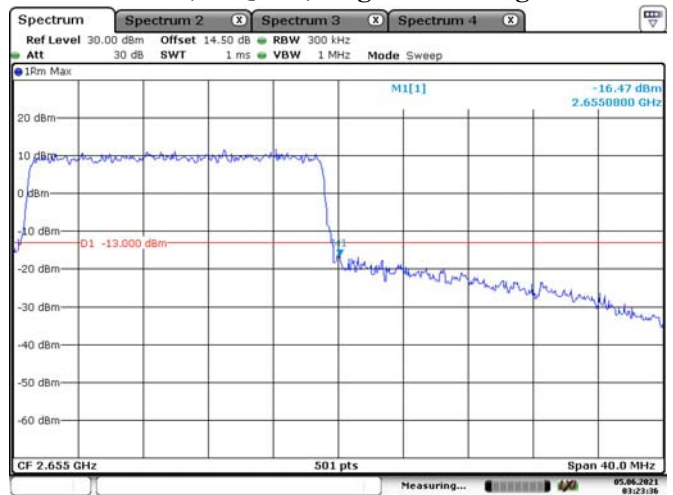
15M, 16QAM, Right Band Edge



20M, 16QAM, Left Band Edge

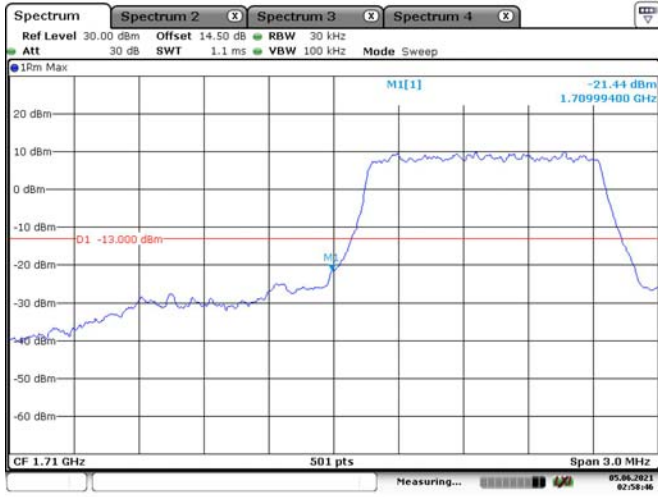


20M, 16QAM, Right Band Edge



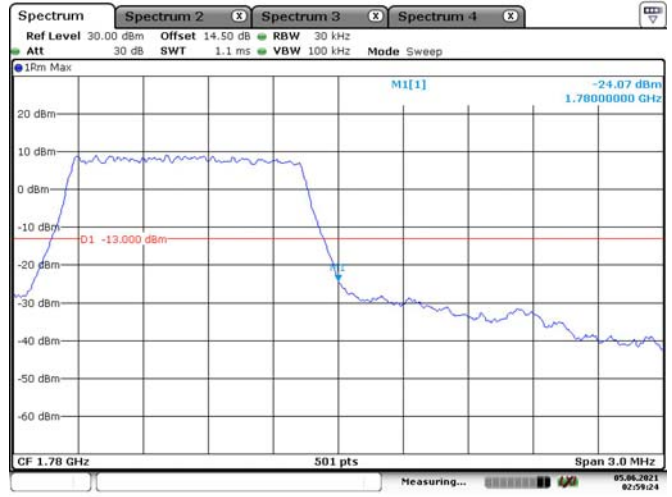
LTE Band 66:

1.4M, QPSK, Left Band Edge



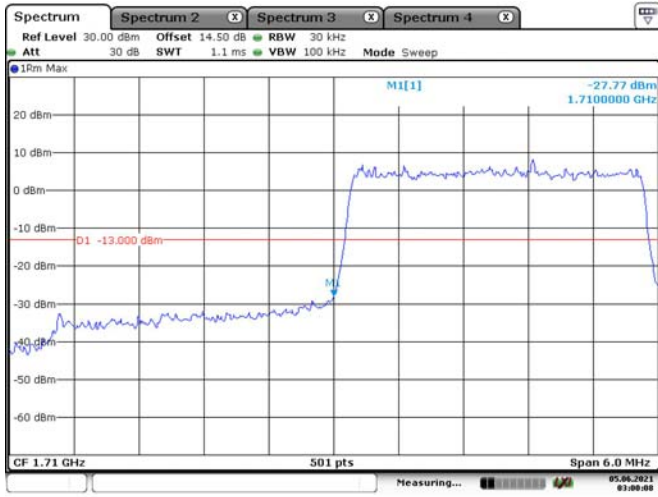
Date: 5 JUN 2021 02:58:46

1.4M, QPSK, Right Band Edge



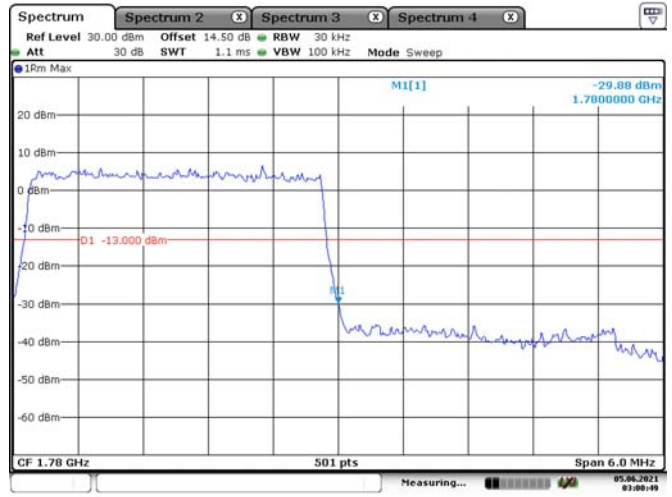
Date: 5 JUN 2021 02:59:24

3M, QPSK, Left Band Edge



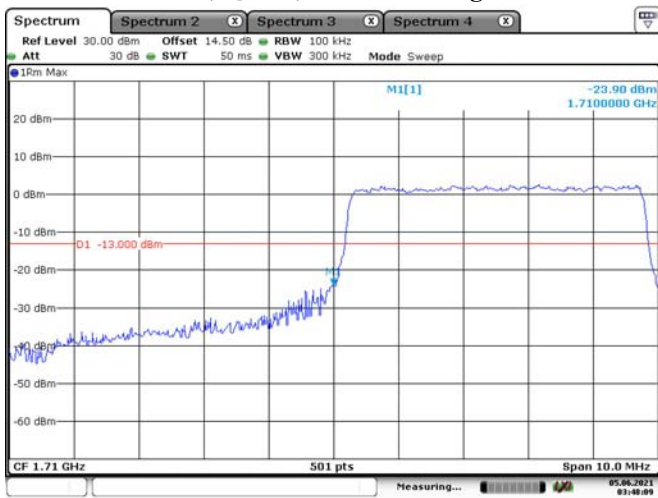
Date: 5 JUN 2021 03:00:08

3M, QPSK, Right Band Edge



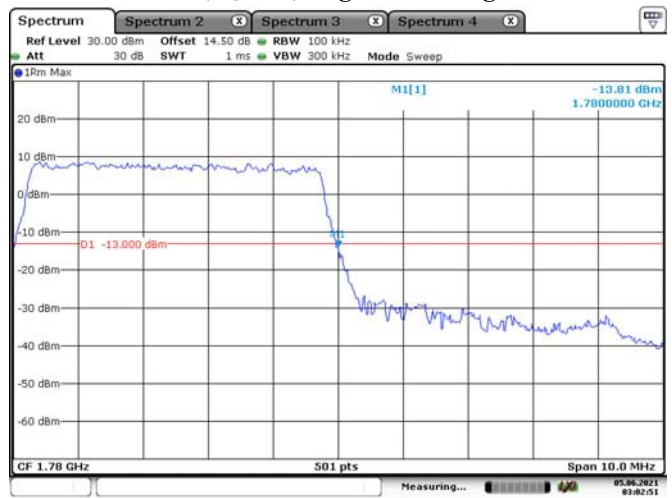
Date: 5 JUN 2021 03:00:49

5M, QPSK, Left Band Edge



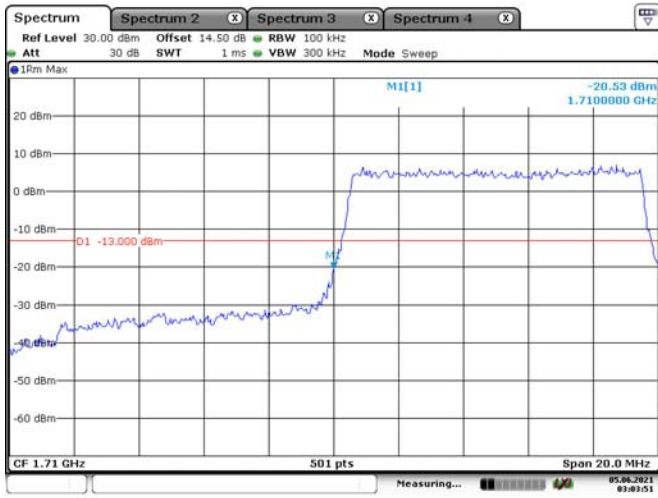
Date: 5 JUN 2021 03:48:10

5M, QPSK, Right Band Edge

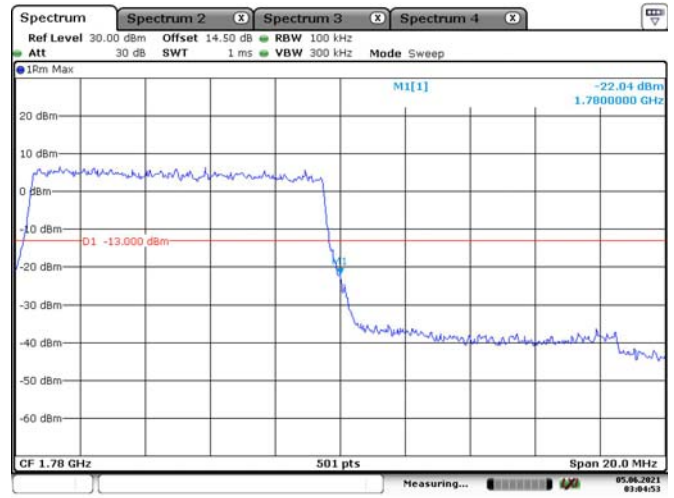


Date: 5 JUN 2021 03:02:51

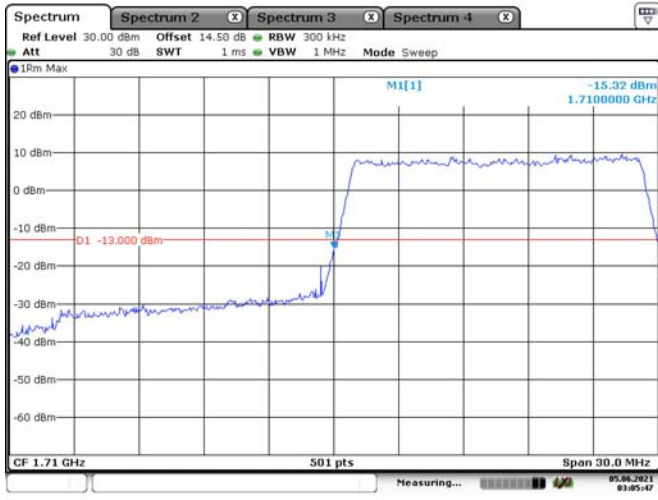
10M, QPSK, Left Band Edge



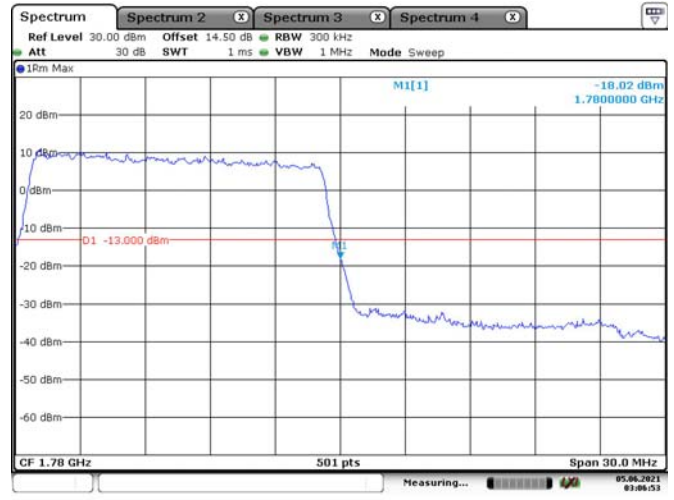
10M, QPSK, Right Band Edge



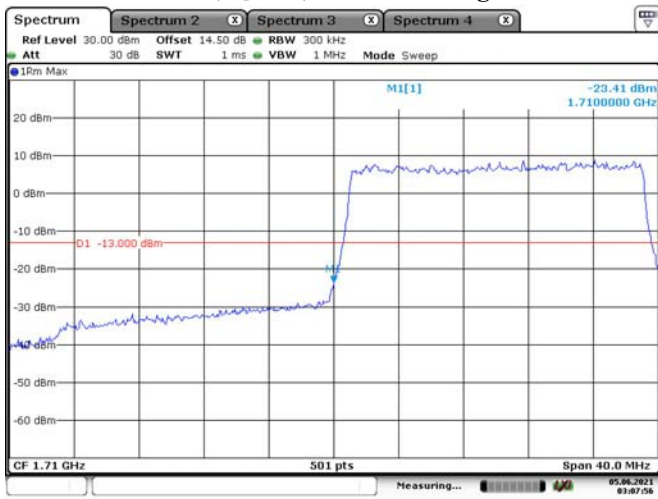
15M, QPSK, Left Band Edge



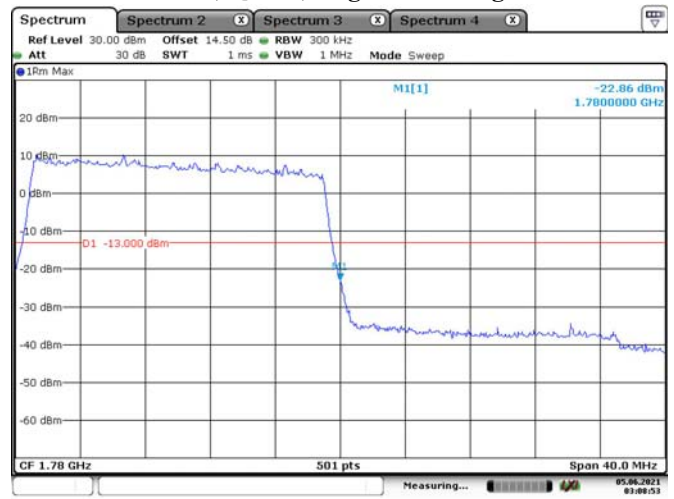
15M, QPSK, Right Band Edge



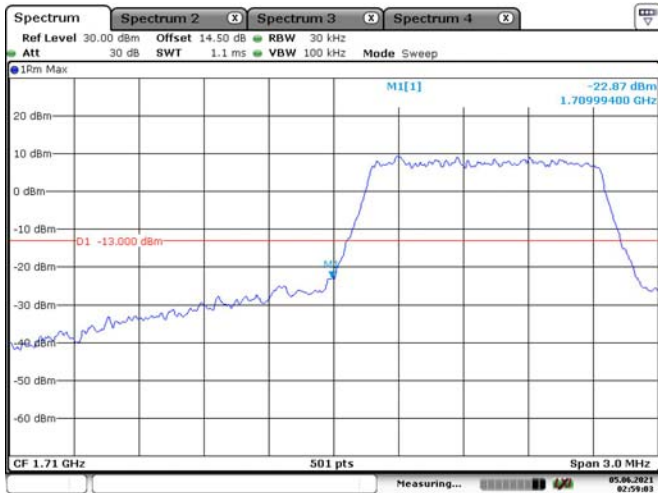
20M, QPSK, Left Band Edge



20M, QPSK, Right Band Edge

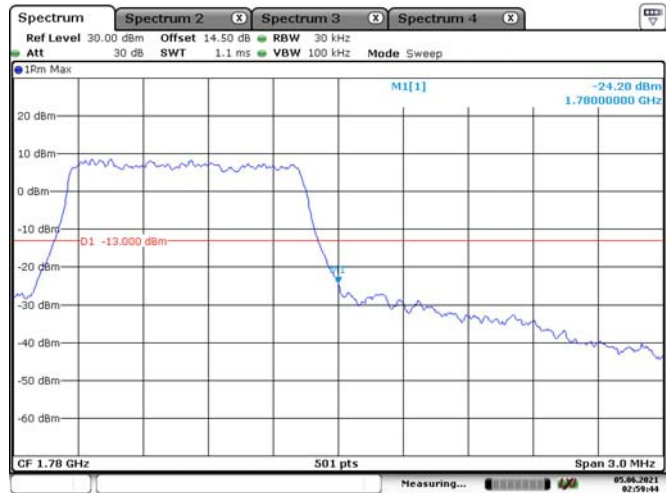


1.4M, 16QAM, Left Band Edge



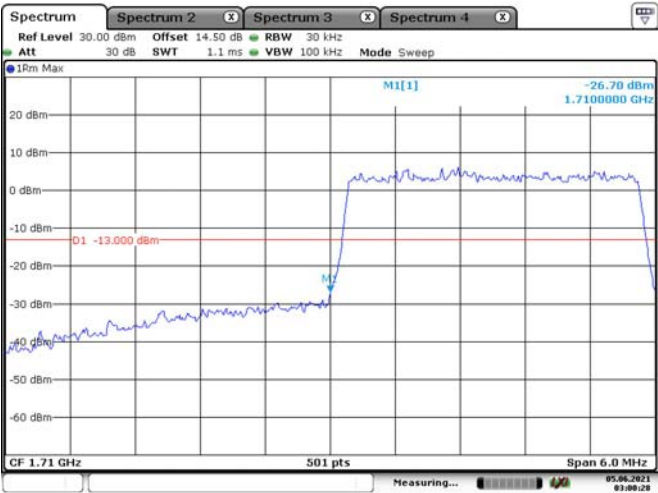
Date: 5 JUN. 2021 02:59:03

1.4M, 16QAM, Right Band Edge



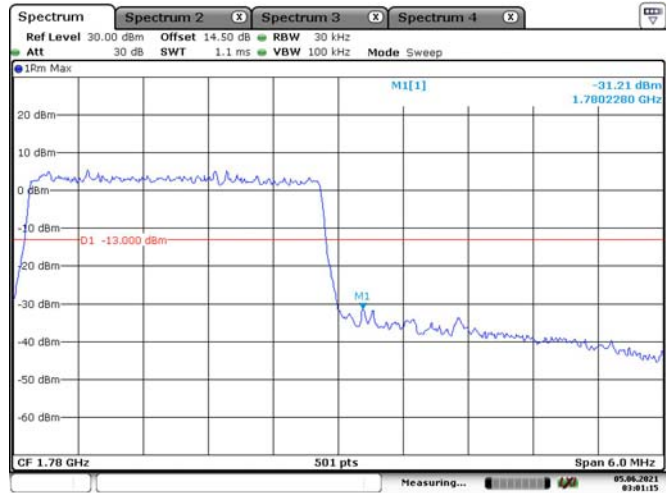
Date: 5 JUN. 2021 02:59:45

3M, 16QAM, Left Band Edge



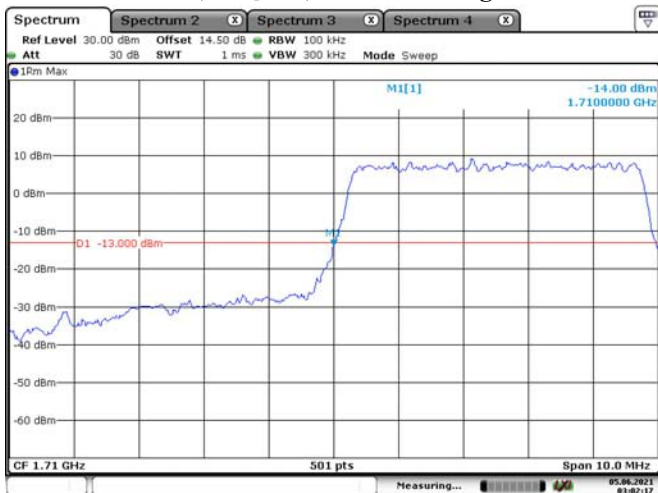
Date: 5 JUN. 2021 03:00:28

3M, 16QAM, Right Band Edge



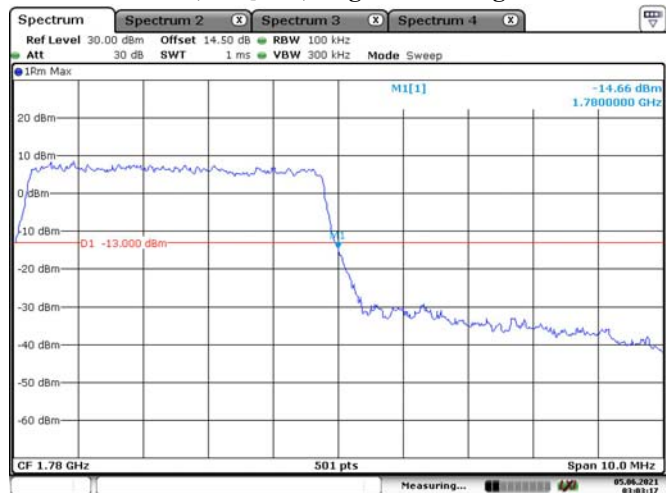
Date: 5 JUN. 2021 03:01:16

5M, 16QAM, Left Band Edge



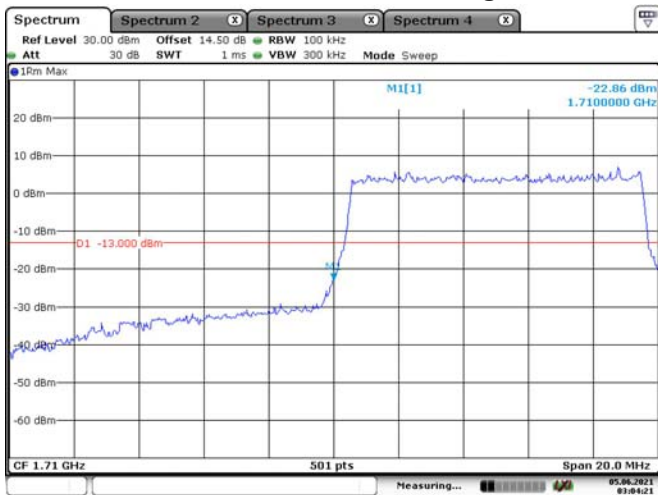
Date: 5 JUN. 2021 03:02:18

5M, 16QAM, Right Band Edge

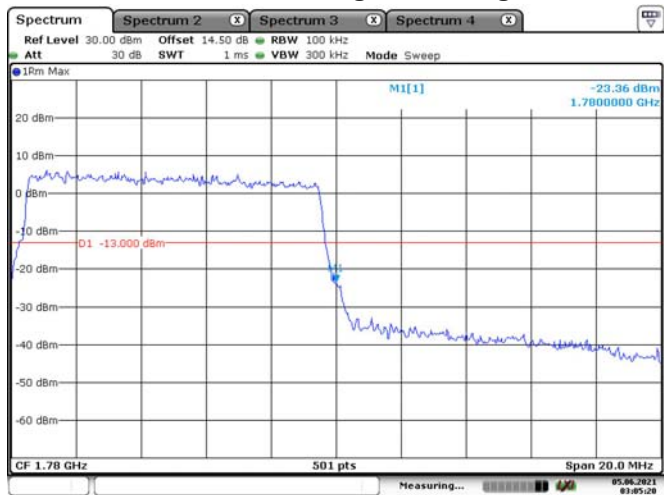


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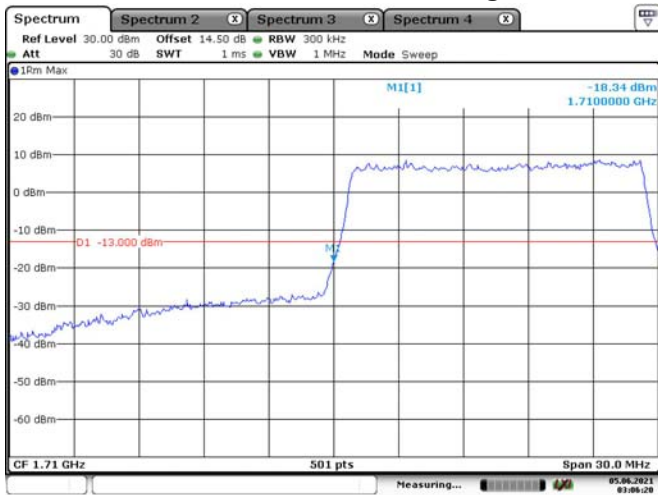
10M, 16QAM, Left Band Edge



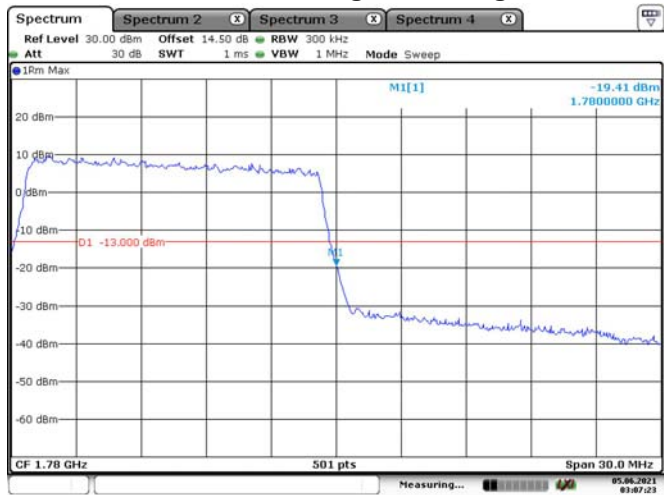
10M, 16QAM, Right Band Edge



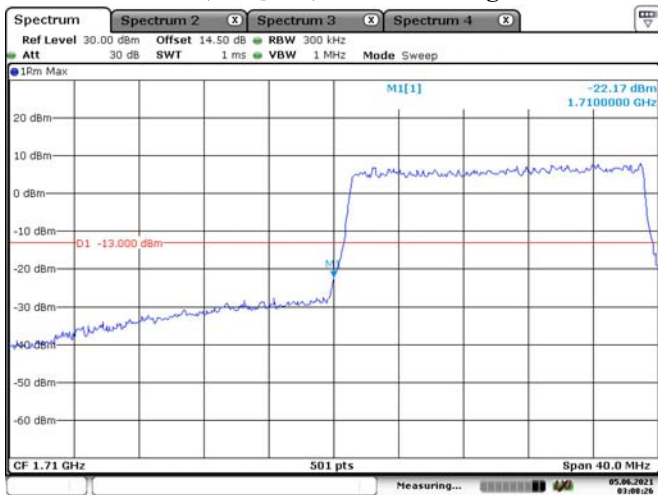
15M, 16QAM, Left Band Edge



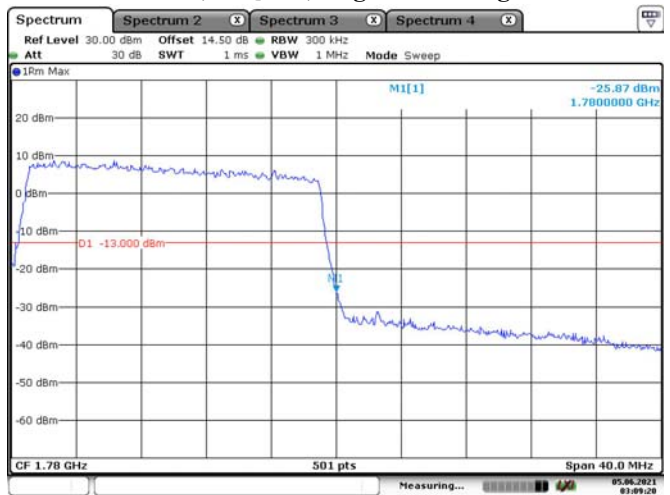
15M, 16QAM, Right Band Edge



20M, 16QAM, Left Band Edge



20M, 16QAM, Right Band Edge



FCC §2.1055, §22.355 & §24.235 & §27.54 - FREQUENCY STABILITY

Applicable Standard

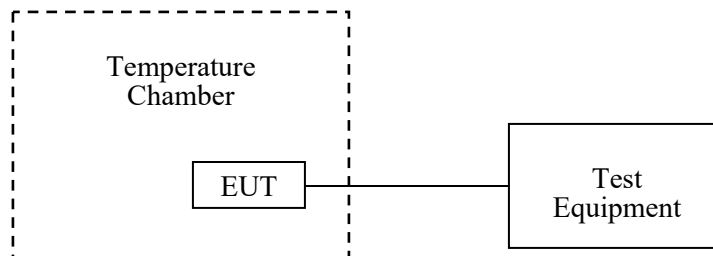
FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235, §27.54

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 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: An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set from 85% to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the battery end point. The output frequency was recorded for each battery voltage.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	147473	2020-09-23	2021-09-22
R&S	Universal Radio Communication Tester	CMU200	106 891	2020-09-12	2021-09-12
ESPEC	Constant temperature and humidity Tester	ESX-4CA	018 463	2021-03-10	2022-03-09
UNI-T	Multimeter	UT39A	M130199938	2020-07-24	2021-07-24
Pro instrument	DC Power Supply	pps3300	3300012	N/A	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	23.6~26.2 °C
Relative Humidity:	54~67 %
ATM Pressure:	100.8~101.9kPa
Tester:	Theshy Xie
Test Date:	2021-05-29~2021-06-06

Test Result: Compliance.

GMSK, Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.85	8	0.00956	2.5
-20		-2	-0.00239	
-10		3	0.00359	
0		7	0.00837	
10		-4	-0.00478	
20		10	0.01195	
30		7	0.00837	
40		2	0.00239	
50		-5	-0.00598	
20		3.47	3	
20	4.24	8	0.00956	

GMSK, Middle Channel, $f_c = 1880$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.85	14	0.00745	Pass
-20		16	0.00851	
-10		8	0.00426	
0		12	0.00638	
10		6	0.00319	
20		14	0.00745	
30		16	0.00851	
40		12	0.00638	
50		-6	-0.00319	
20		3.47	-8	
20	4.24	6	0.00319	

8PSK, Middle Channel, $f_c = 836.6\text{MHz}$				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
$^{\circ}\text{C}$	V_{DC}	Hz	ppm	ppm
-30	3.85	7	0.00837	2.5
-20		6	0.00717	
-10		-6	-0.00717	
0		-4	-0.00478	
10		8	0.00956	
20		12	0.01434	
30		6	0.00717	
40		2	0.00239	
50		-8	-0.00956	
20		3.47	12	
20	4.24	11	0.01315	

8PSK, Middle Channel, $f_c = 1880\text{ MHz}$				
Temperature	Voltage	Frequency Error	Frequency Error	Result
$^{\circ}\text{C}$	V_{DC}	Hz	ppm	
-30	3.85	14	0.00745	Pass
-20		12	0.00638	
-10		8	0.00426	
0		16	0.00851	
10		17	0.00904	
20		24	0.01277	
30		22	0.01170	
40		18	0.00957	
50		14	0.00745	
20		3.47	15	
20	4.24	18	0.00957	

WCDMA Band II: R99

Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.85	-16	-0.00851	Pass
-20		-20	-0.01064	
-10		-14	-0.00745	
0		23	0.01223	
10		-22	-0.01170	
20		-28	-0.01489	
30		-22	-0.01170	
40		-24	-0.01277	
50		-16	-0.00851	
20		3.47	-12	
20	4.24	-14	-0.00745	

WCDMA Band V: R99

Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.85	-14	-0.01673	2.5
-20		-16	-0.01913	
-10		-12	-0.01434	
0		-15	-0.01793	
10		-17	-0.02032	
20		-16	-0.01913	
30		-10	-0.01195	
40		-12	-0.01434	
50		-8	-0.00956	
20		3.47	-10	
20	4.24	-14	-0.01673	

LTE Band 2:

QPSK, Channel Bandwidth:20MHz Middle Channel, $f_c = 1880$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V_{DC}	Hz	ppm	
-30	3.85	-5.12	-0.0027	Pass
-20		-7.11	-0.0038	
-10		8.44	0.0045	
0		-5.56	-0.003	
10		9.94	0.0053	
20		-8.52	-0.0045	
30		5.82	0.0031	
40		-5.12	-0.0027	
50		9.97	0.0053	
20		3.47	9.61	
20	4.24	-8.72	-0.0046	

16QAM, Channel Bandwidth:20MHz Middle Channel, $f_c = 1880$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V_{DC}	Hz	ppm	
-30	3.85	-7.31	-0.0039	Pass
-20		9.25	0.0049	
-10		-9.13	-0.0049	
0		-7.79	-0.0041	
10		-6.63	-0.0035	
20		-8.88	-0.0047	
30		-9.94	-0.0053	
40		-6.15	-0.0033	
50		5.47	0.0029	
20		3.47	5.83	
20	4.24	-8.21	-0.0044	

LTE Band 4

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	1710.520400	1710	1754.471800	1755
	-20.00	1710.520100		1754.472100	
	-10.00	1710.529800		1754.470900	
	0.00	1710.529800		1754.471900	
	10.00	1710.529800		1754.472500	
	20.00	1710.528900		1754.471100	
	30.00	1710.529500		1754.473900	
	40.00	1710.526100		1754.474200	
50.00	1710.527000	1754.473900			
3.47	20.00	1710.525500		1754.473600	
4.24	20.00	1710.523100		1754.473600	

16-QAM, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30	1710.524900	1710	1754.475100	1755
	-20	1710.525500		1754.476000	
	-10	1710.524700		1754.477200	
	0	1710.526200		1754.477200	
	10	1710.526200		1754.477800	
	20	1710.528900		1754.471100	
	30	1710.526700		1754.477800	
	40	1710.526400		1754.478700	
50	1710.526100	1754.479100			
3.47	20	1710.526900		1754.478100	
4.24	20	1710.528100		1754.476900	

LTE Band 5:

Middle Channel, $f_c = 836.5$ MHz, Channel Bandwidth:10MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V_{DC}	Hz	ppm	ppm
-30	3.85	-0.44	-0.0005	2.5
-20		-6.80	-0.0081	
-10		9.28	0.0111	
0		7.39	0.0088	
10		6.65	0.0079	
20		5.38	0.0064	
30		7.45	0.0089	
40		-7.77	-0.0093	
50		-9.36	-0.0112	
20		3.47	7.99	
20	4.24	6.71	0.008	

Middle Channel, $f_c = 836.5$ MHz, Channel Bandwidth:10MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V_{DC}	Hz	ppm	ppm
-30	3.85	-6.37	-0.0076	2.5
-20		8.23	0.0098	
-10		-9.24	-0.011	
0		-7.25	-0.0087	
10		7.36	0.0088	
20		-5.91	-0.0071	
30		8.97	0.0107	
40		5.84	0.007	
50		8.14	0.0097	
20		3.47	7.47	
20	4.24	-5.07	-0.0061	

LTE Band 7

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	2500.521900	2500	2569.476400	2570
	-20.00	2500.522800		2569.477000	
	-10.00	2500.522000		2569.475800	
	0.00	2500.521500		2569.476800	
	10.00	2500.521500		2569.478000	
	20.00	2500.528900		2569.471100	
	30.00	2500.529800		2569.479700	
	40.00	2500.529800		2569.478800	
50.00	2500.521000	2569.478400			
3.47	20.00	2500.520500		2569.479900	
4.24	20.00	2500.521700		2569.471100	

16-QAM, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30	2500.523700	2500	2569.473000	2570
	-20	2500.523700		2569.472400	
	-10	2500.524900		2569.471200	
	0	2500.523400		2569.470700	
	10	2500.522800		2569.470100	
	20	2500.528900		2569.471100	
	30	2500.523700		2569.477800	
	40	2500.523100		2569.477500	
50	2500.521900	2569.477100			
3.47	20	2500.520400		2569.476100	
4.24	20	2500.521000		2569.477300	

LTE Band 12

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	699.481900	699	715.471800	716
	-20.00	699.481300		715.471200	
	-10.00	699.482500		715.471600	
	0.00	699.483500		715.473100	
	10.00	699.484100		715.474900	
	20.00	699.489000		715.471100	
	30.00	699.482200		715.475100	
	40.00	699.481900		715.474800	
50.00	699.483100	715.475200			
3.47	20.00	699.482600		715.474700	
4.24	20.00	699.483200		715.474100	

16-QAM, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30	699.515500	699	715.470500	716
	-20	699.514600		715.470500	
	-10	699.515800		715.470900	
	0	699.516800		715.479900	
	10	699.518600		715.478700	
	20	699.489000		715.471100	
	30	699.510400		715.474200	
	40	699.510700		715.475100	
50	699.510300	715.475500			
3.47	20	699.509800		715.476000	
4.24	20	699.509200		715.474200	

LTE Band 17

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	704.521900	704	715.471800	716
	-20.00	704.521300		715.471200	
	-10.00	704.522500		715.471600	
	0.00	704.523500		715.473100	
	10.00	704.524100		715.474900	
	20.00	704.528900		715.471100	
	30.00	704.522200		715.475100	
	40.00	704.521900		715.474800	
50.00	704.523100	715.475200			
3.47	20.00	704.522600		715.474700	
4.24	20.00	704.523200		715.474100	

16-QAM, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30	704.525500	704	715.470500	716
	-20	704.524600		715.470500	
	-10	704.525800		715.470900	
	0	704.526800		715.479900	
	10	704.526600		715.478700	
	20	704.528900		715.471100	
	30	704.520400		715.474200	
	40	704.520700		715.475100	
50	704.520300	715.475500			
3.47	20	704.529800		715.476000	
4.24	20	704.529200		715.474200	

LTE Band 41:

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	2535.525300	2535	2654.471400	2655
	-20.00	2535.522000		2654.478500	
	-10.00	2535.527500		2689.473000	
	0.00	2535.524500		2654.471000	
	10.00	2535.525200		2654.485200	
	20.00	2535.528900		2654.471100	
	30.00	2535.523000		2654.476000	
	40.00	2535.528000		2654.482500	
50.00	2535.528400	2654.472300			
3.47	20.00	2535.527600		2654.471300	
4.24	20.00	2535.525400		2654.482000	

16-QAM, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	2535.521000	2535	2654.517800	2655
	-20.00	2535.521300		2654.515900	
	-10.00	2535.524500		2654.515500	
	0.00	2535.527600		2654.513500	
	10.00	2535.526200		2654.512800	
	20.00	2535.528900		2654.511000	
	30.00	2535.523100		2654.516800	
	40.00	2535.524700		2654.513500	
50.00	2535.527100	2654.514200			
3.47	20.00	2535.528200		2654.512500	
4.24	20.00	2535.525600		2654.516700	

LTE Band 66:

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	1710.563300	1710	1779.416500	1780
	-20.00	1710.546300		1779.437500	
	-10.00	1710.546600		1779.435500	
	0.00	1710.581500		1779.421700	
	10.00	1710.547600		1779.550000	
	20.00	1710.528900		1779.471100	
	30.00	1710.561500		1779.426500	
	40.00	1710.554500		1779.421600	
	50.00	1710.564300	1779.427500		
3.47	20.00	1710.562300		1779.427000	
4.24	20.00	1710.561500		1779.612500	

16-QAM, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F_L	Limit	F_H	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.85	-30.00	1710.523300	1710	1779.476500	1780
	-20.00	1710.526300		1779.477500	
	-10.00	1710.526600		1779.475500	
	0.00	1710.521500		1779.471700	
	10.00	1710.527600		1779.470000	
	20.00	1710.528900		1779.471100	
	30.00	1710.521500		1779.476500	
	40.00	1710.524500		1779.471600	
	50.00	1710.524300	1779.477500		
3.47	20.00	1710.522300		1779.477000	
4.24	20.00	1710.521500		1779.472500	

Note: The fundamental emissions stay within the authorized bands of operation based on the frequency deviation measured is small, the extreme voltage was declared by applicant.

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