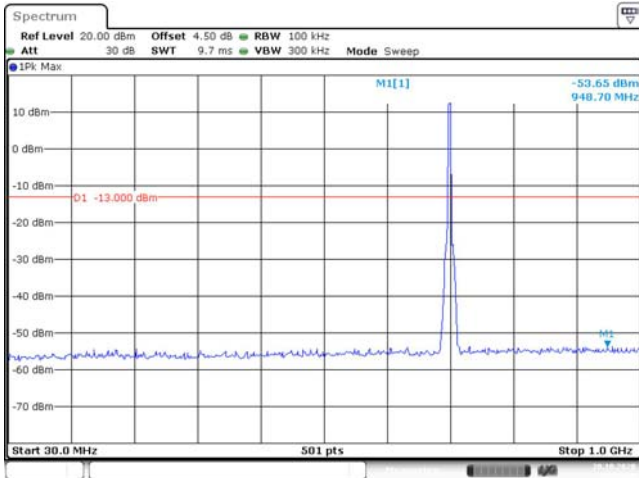
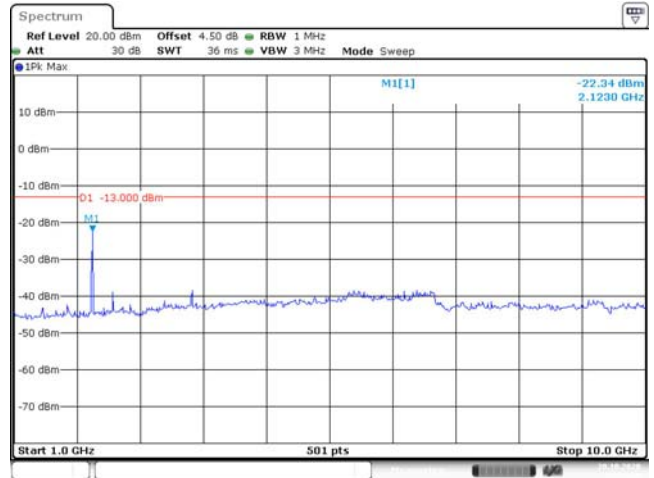


**LTE Band 17:**

**5M, QPSK, Low Channel**

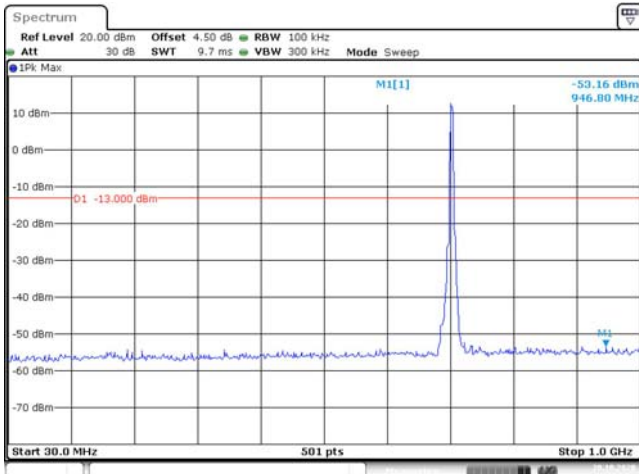


Date: 20.OCT.2020 11:19:28

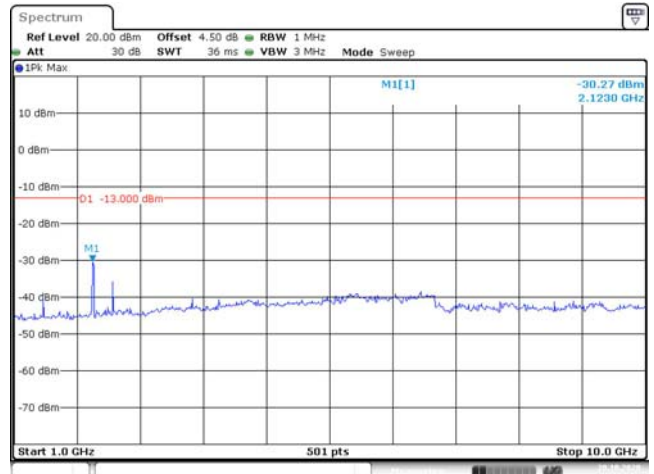


Date: 20.OCT.2020 11:19:50

**5M, QPSK, Middle Channel**

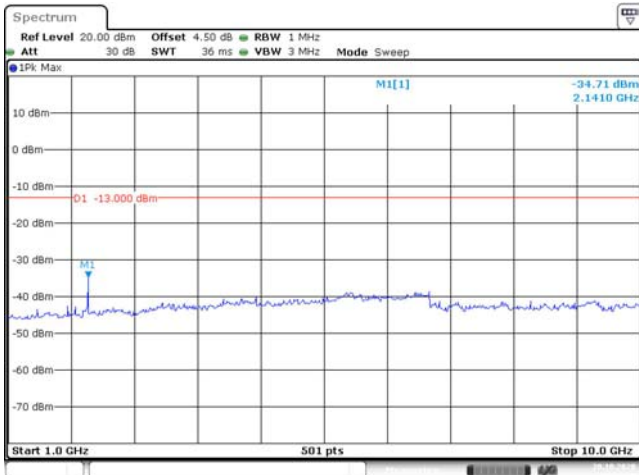


Date: 20.OCT.2020 11:16:32

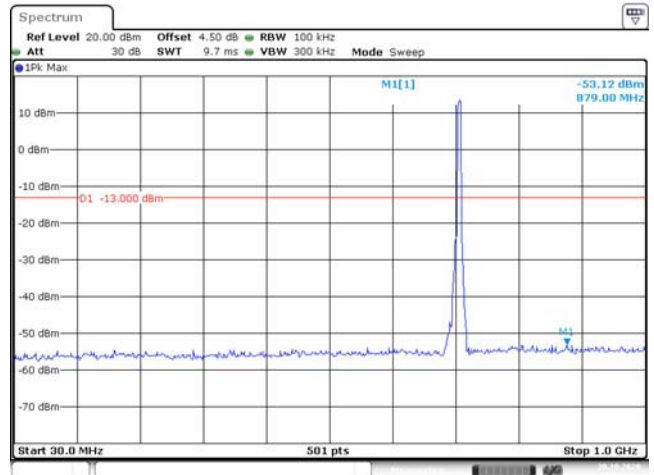


Date: 20.OCT.2020 11:16:54

**5M, QPSK, High Channel**

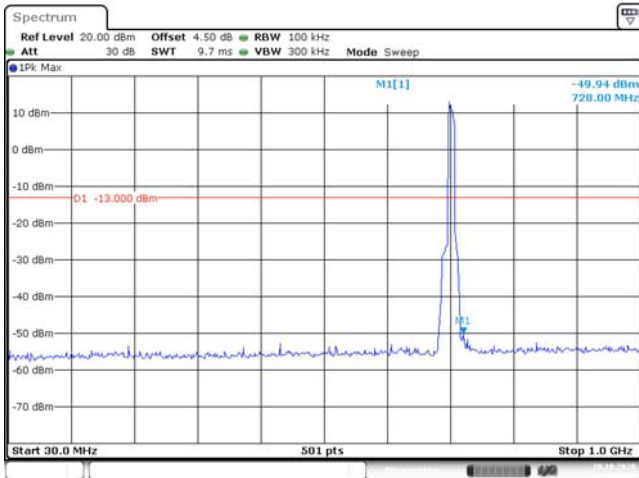


Date: 20.OCT.2020 11:23:26

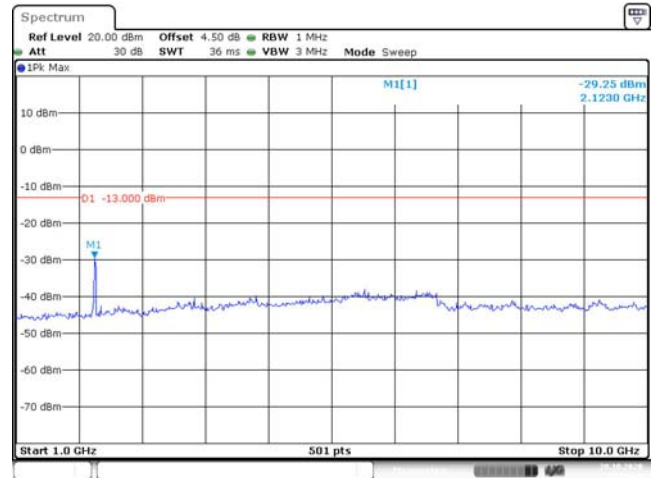


Date: 20.OCT.2020 11:23:01

10M, QPSK, Low Channel

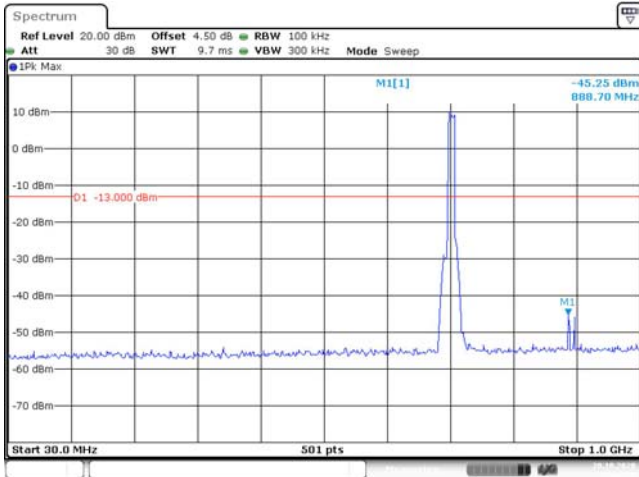


Date: 20.OCT.2020 11:20:48

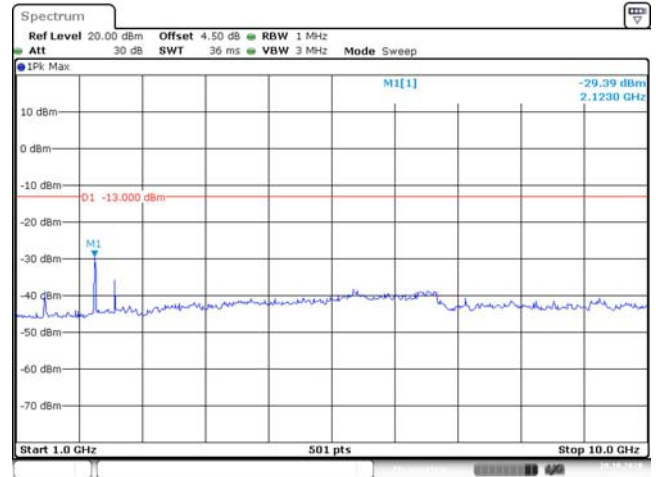


Date: 20.OCT.2020 11:21:10

10M, QPSK, Middle Channel

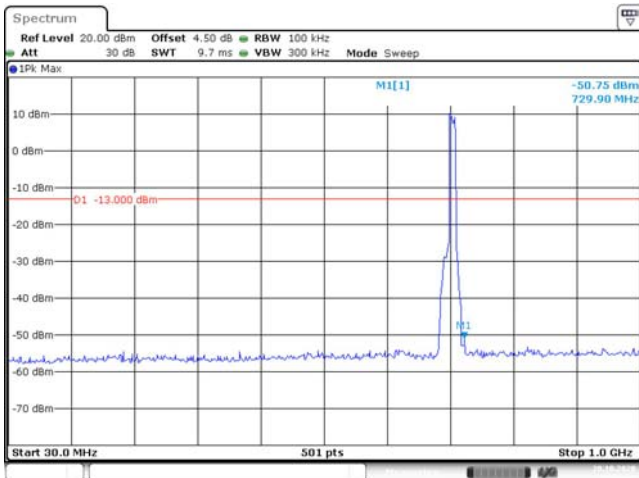


Date: 20.OCT.2020 11:17:29

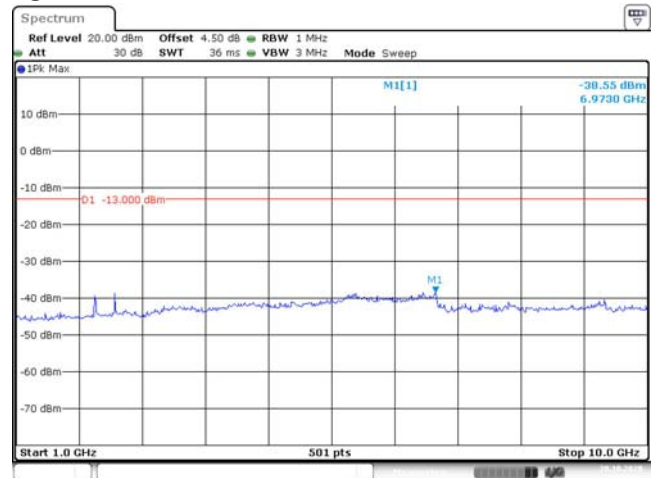


Date: 20.OCT.2020 11:17:52

10M, QPSK, High Channel



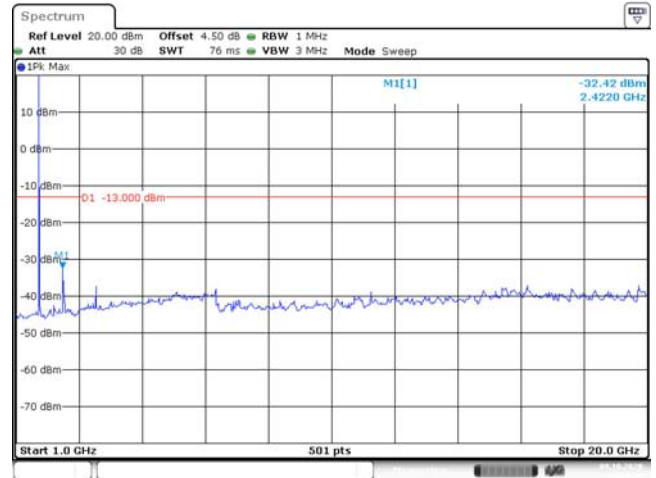
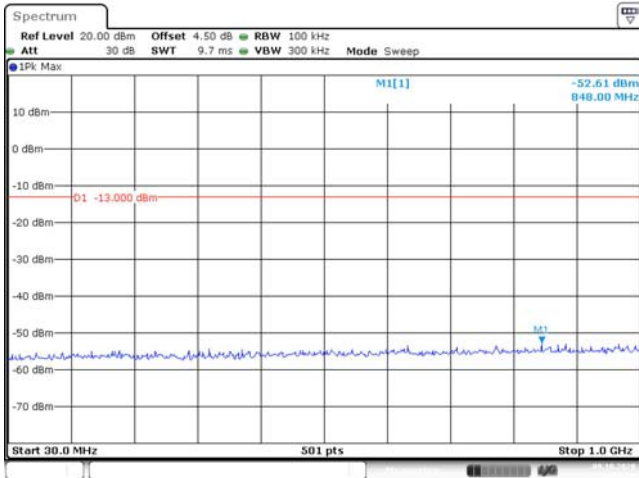
Date: 20.OCT.2020 11:26:22



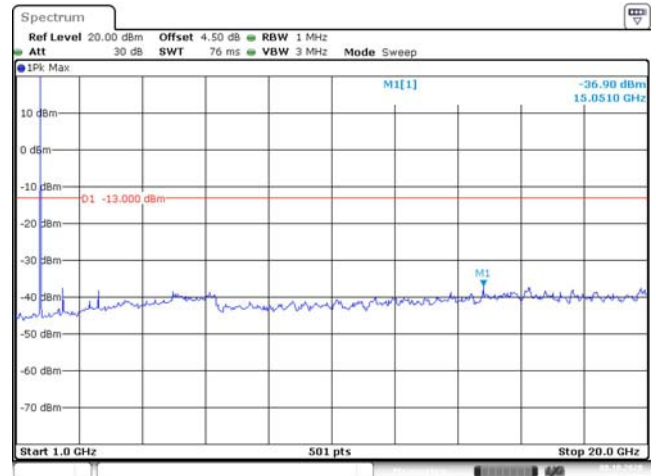
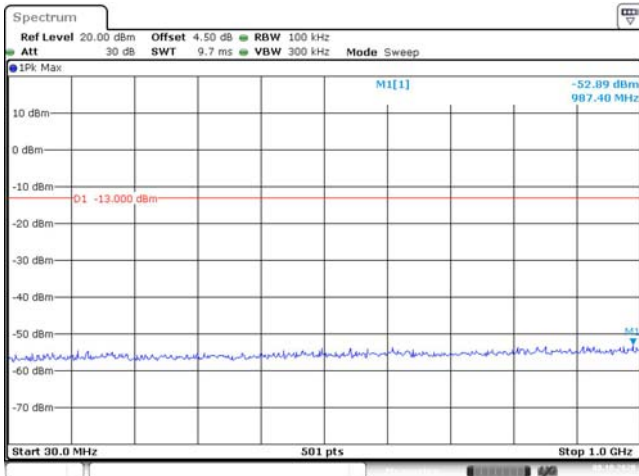
Date: 20.OCT.2020 11:25:05

**LTE Band 66:**

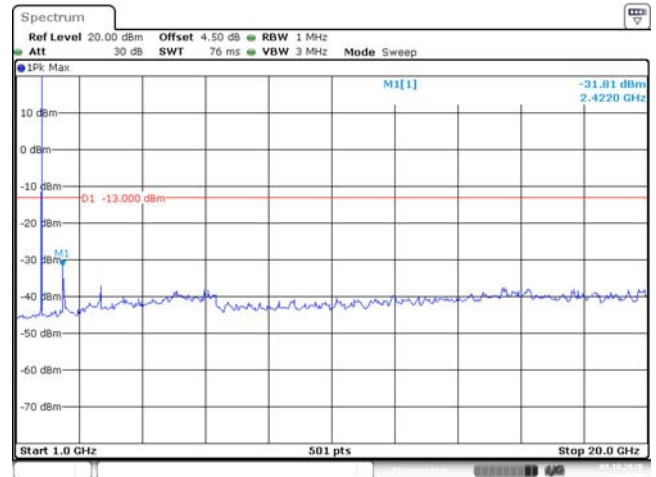
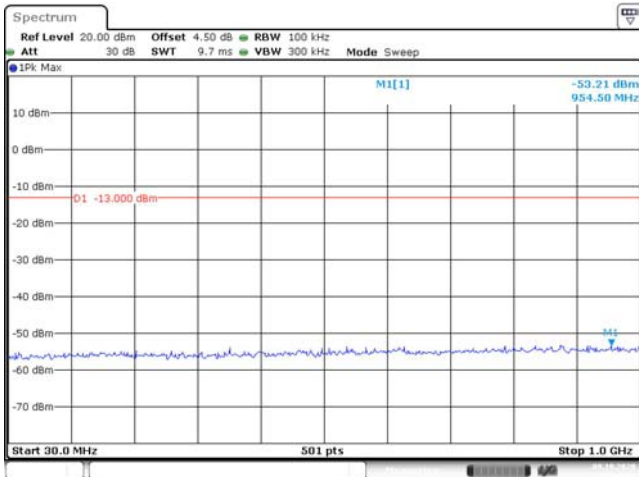
**1.4M, QPSK, Low Channel**



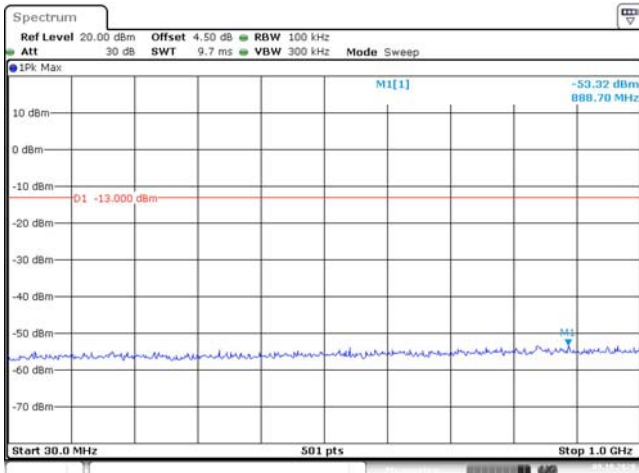
**1.4M, QPSK, Middle Channel**



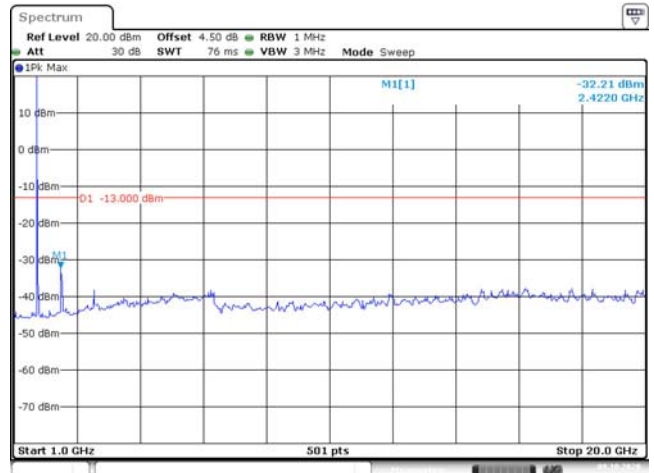
**1.4M, QPSK, High Channel**



### 3M, QPSK, Low Channel

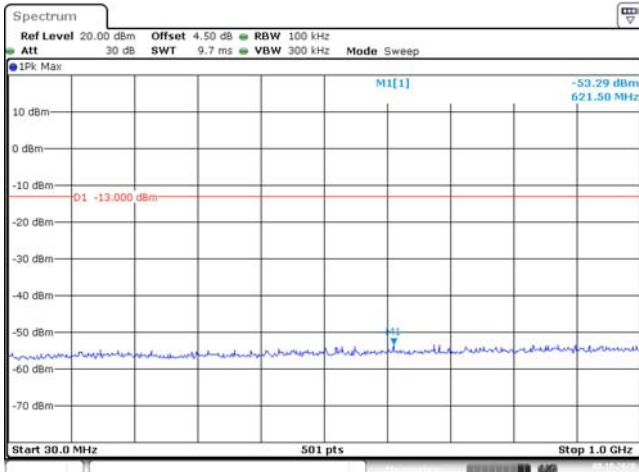


Date: 9.OCT.2020 14:30:59

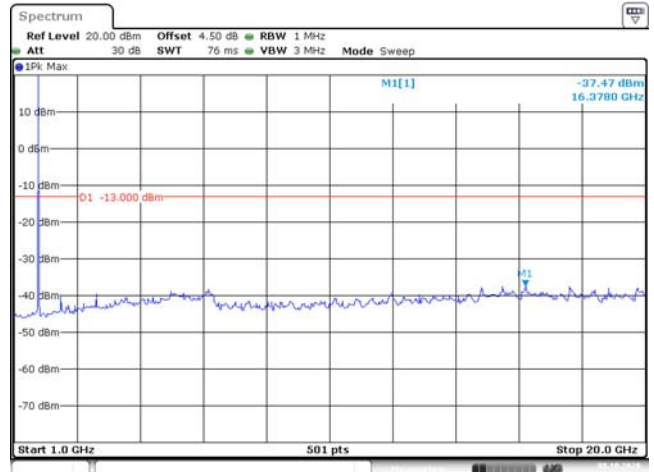


Date: 9.OCT.2020 14:31:19

### 3M, QPSK, Middle Channel

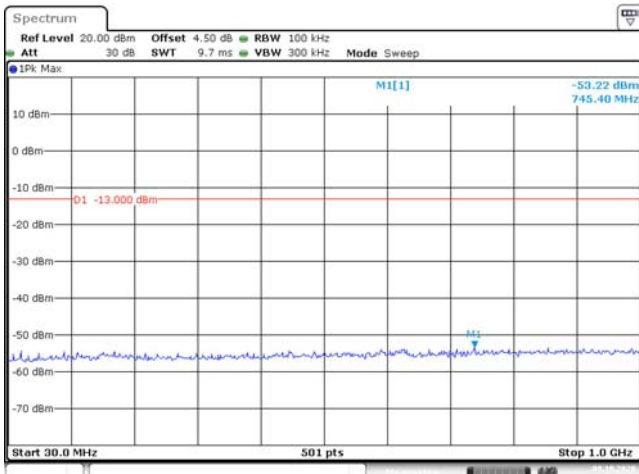


Date: 8.OCT.2020 17:53:26

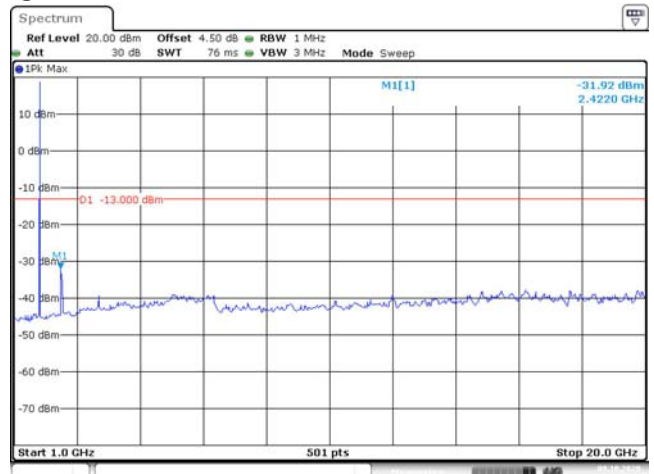


Date: 8.OCT.2020 17:53:49

### 3M, QPSK, High Channel

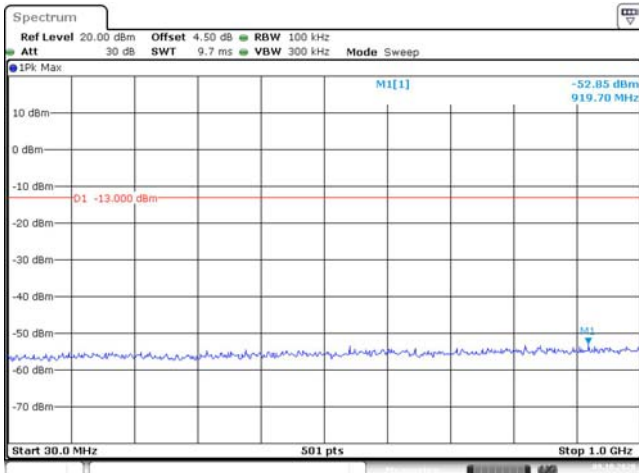


Date: 9.OCT.2020 15:18:12

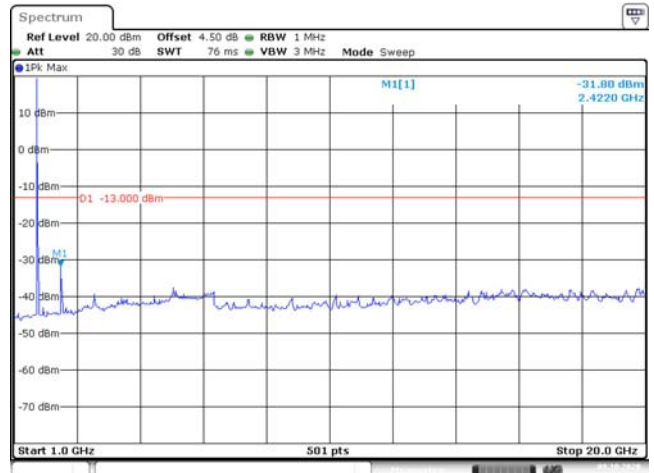


Date: 9.OCT.2020 15:18:34

### 5M, QPSK, Low Channel

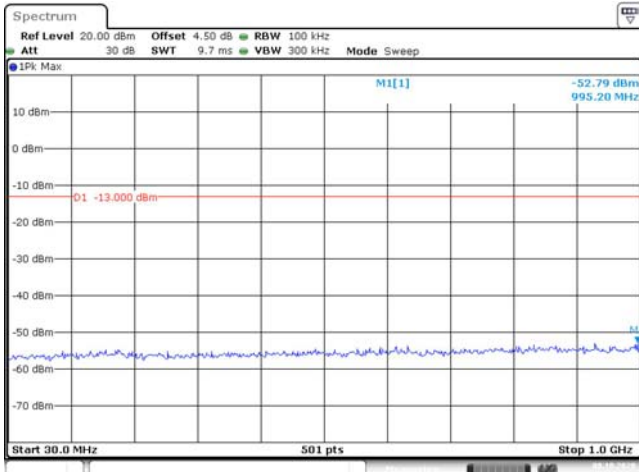


Date: 9.OCT.2020 14:31:54

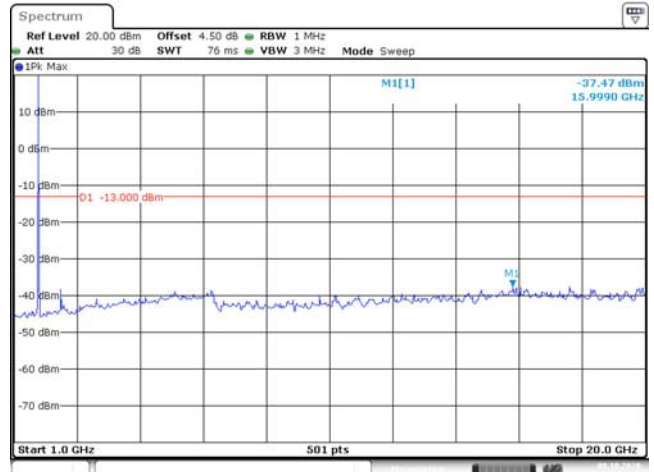


Date: 9.OCT.2020 14:32:19

### 5M, QPSK, Middle Channel

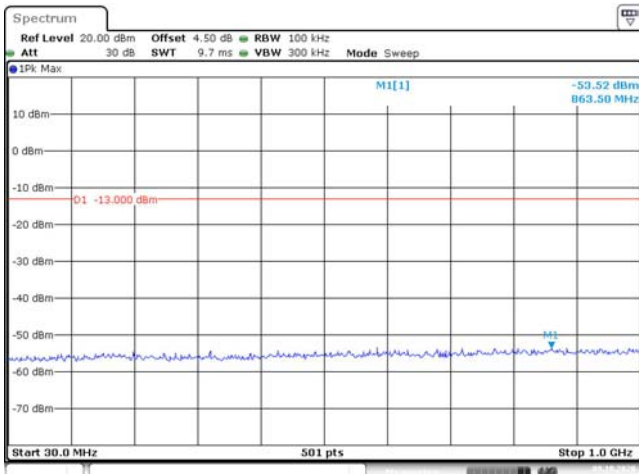


Date: 8.OCT.2020 17:54:22

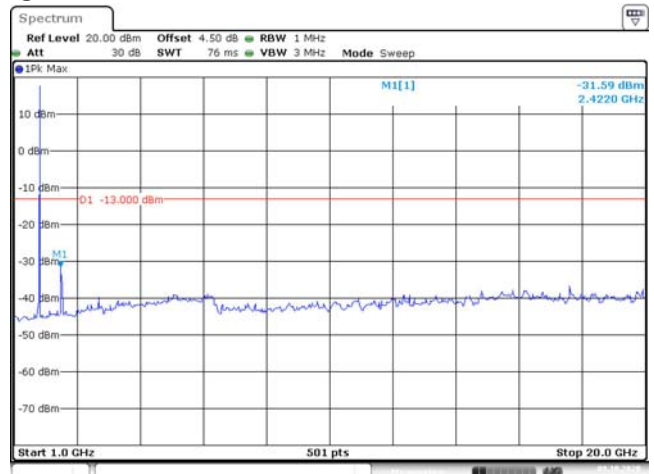


Date: 8.OCT.2020 17:54:44

### 5M, QPSK, High Channel

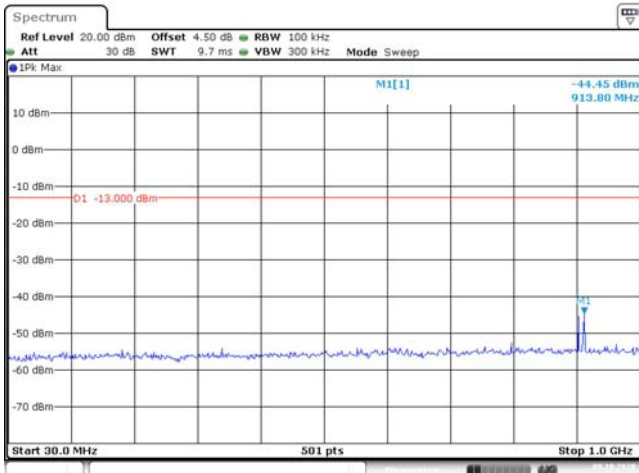


Date: 9.OCT.2020 15:19:17

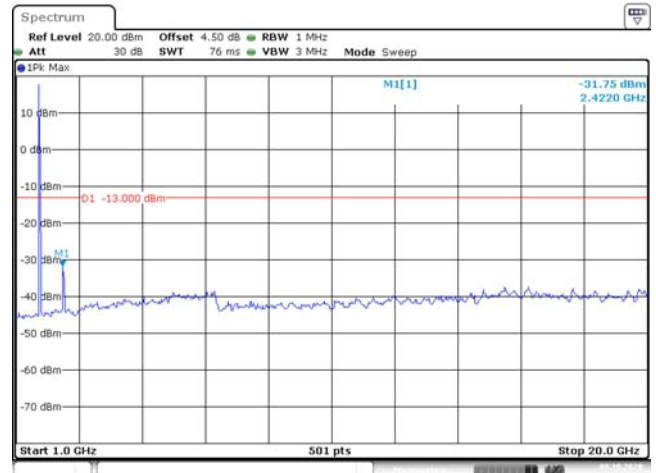


Date: 9.OCT.2020 15:19:43

10M, QPSK, Low Channel

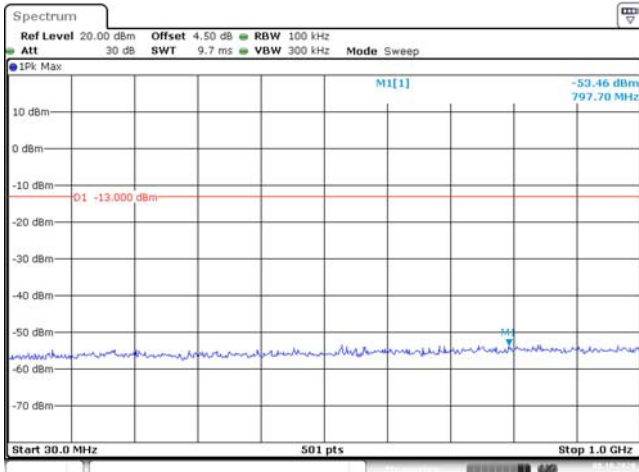


Date: 9.OCT.2020 14:32:52

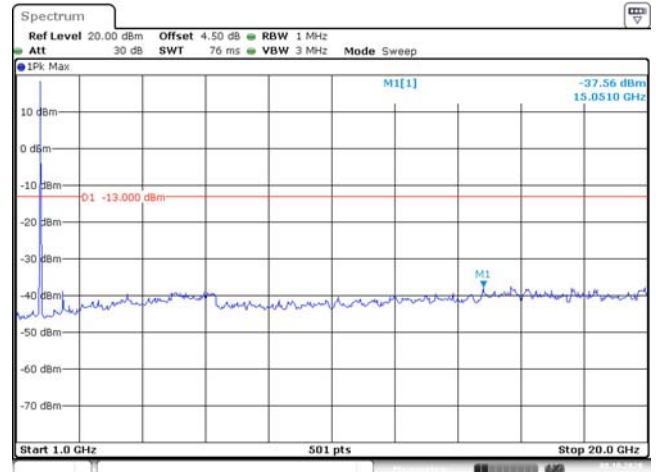


Date: 9.OCT.2020 14:33:23

10M, QPSK, Middle Channel

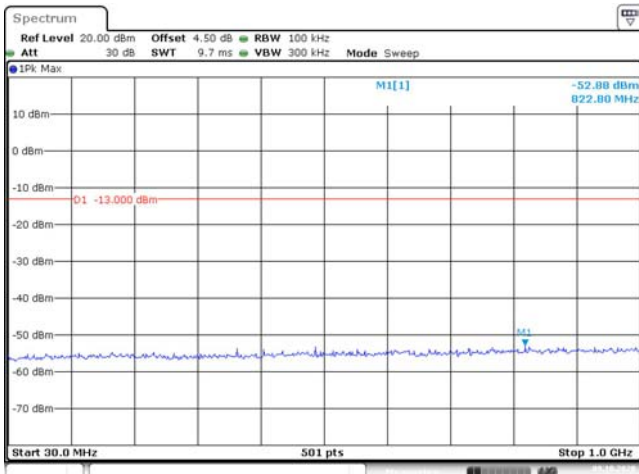


Date: 8.OCT.2020 17:55:18

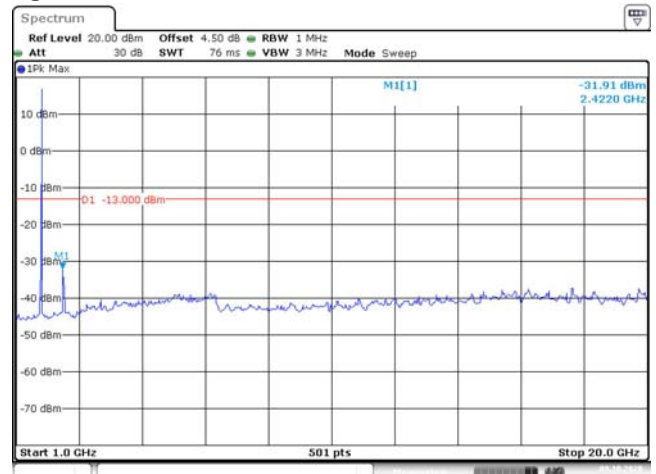


Date: 8.OCT.2020 17:55:40

10M, QPSK, High Channel

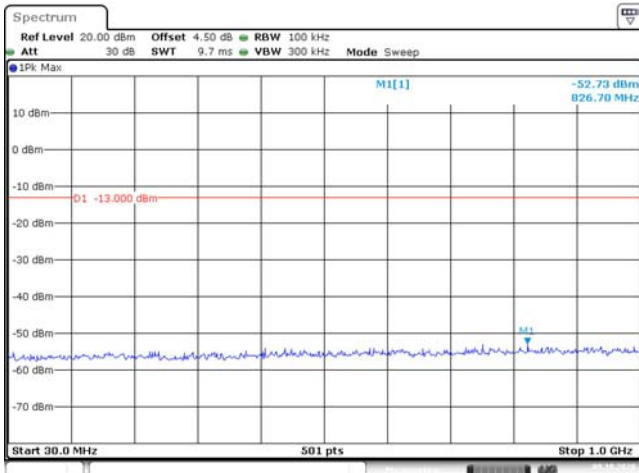


Date: 9.OCT.2020 15:20:58

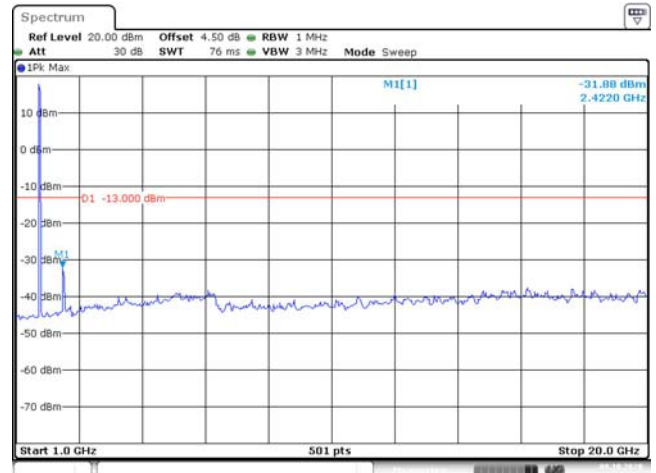


Date: 9.OCT.2020 15:21:30

15M, QPSK, Low Channel

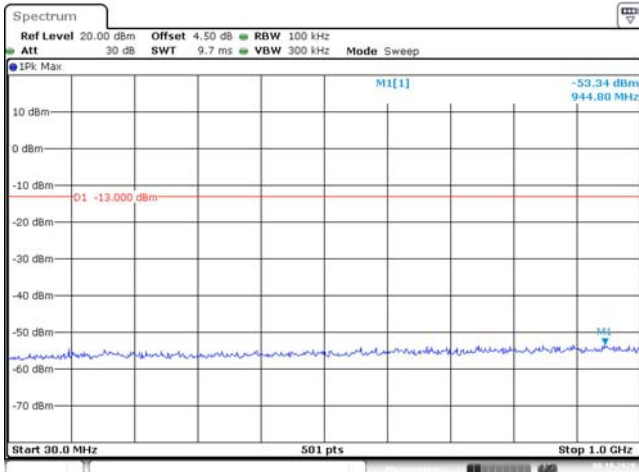


Date: 9.OCT.2020 14:33:57

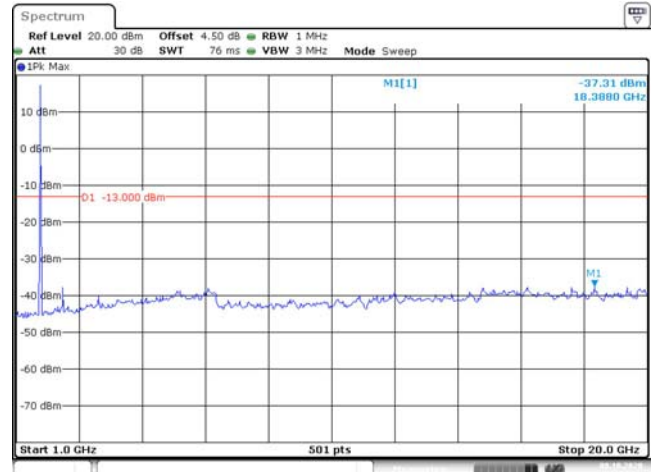


Date: 9.OCT.2020 14:34:19

15M, QPSK, Middle Channel

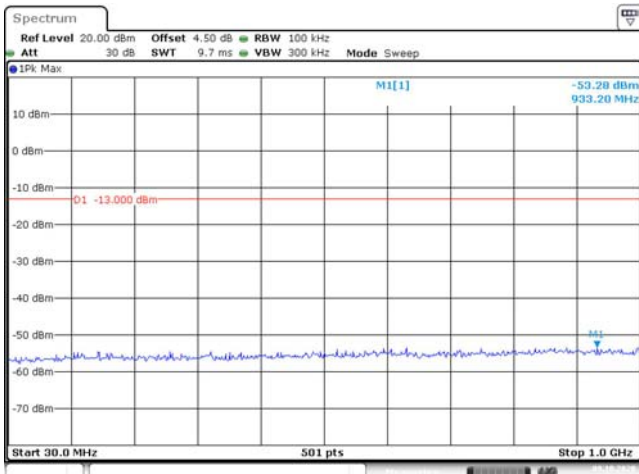


Date: 8.OCT.2020 17:56:14

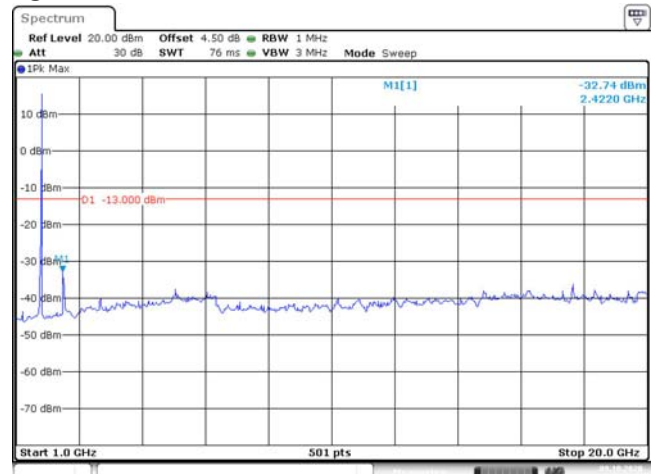


Date: 8.OCT.2020 17:56:46

15M, QPSK, High Channel

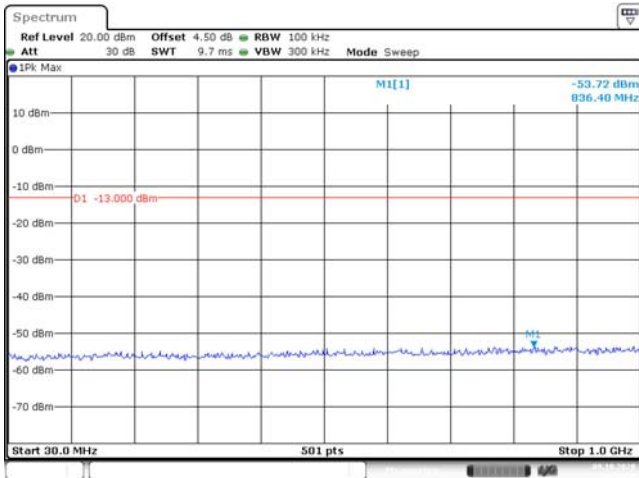


Date: 9.OCT.2020 15:22:12

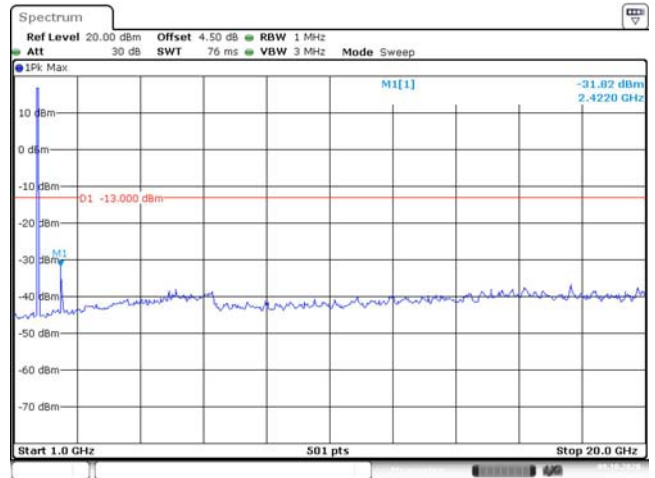


Date: 9.OCT.2020 15:22:37

### 20M, QPSK, Low Channel

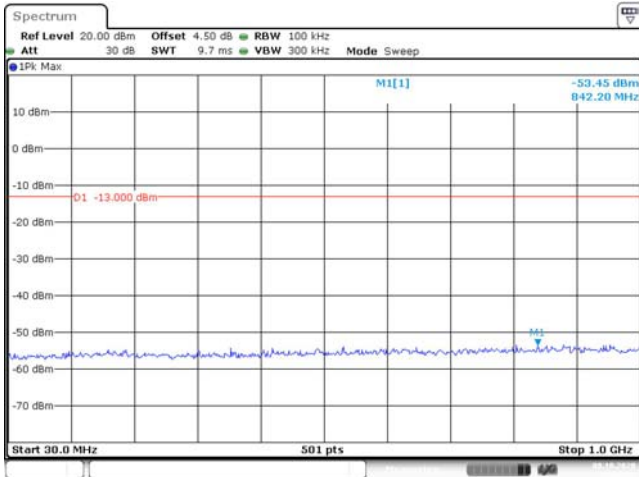


Date: 9.OCT.2020 14:34:59

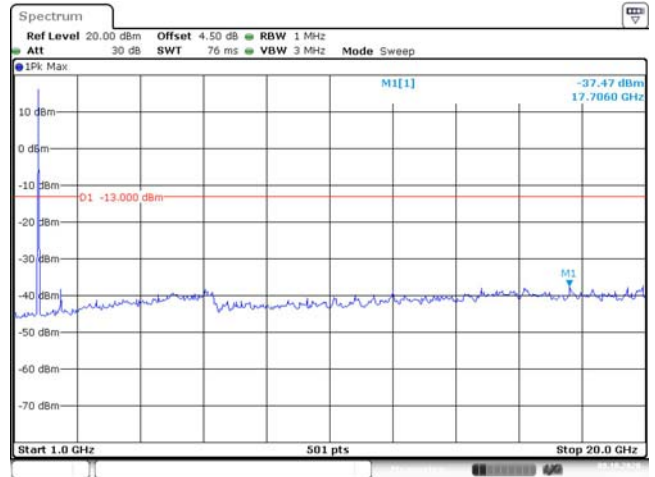


Date: 9.OCT.2020 14:35:27

### 20M, QPSK, Middle Channel

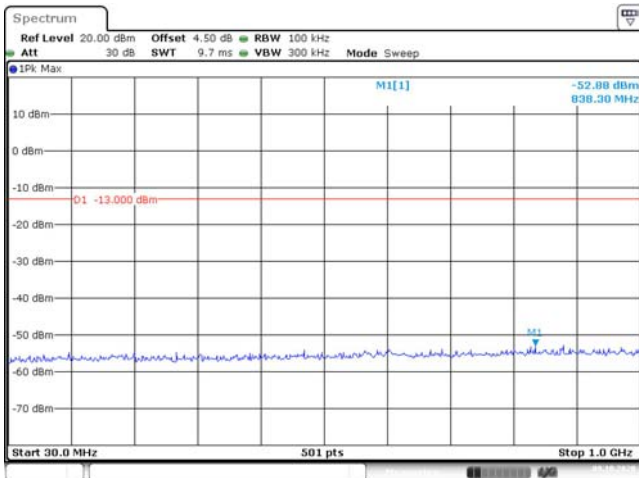


Date: 8.OCT.2020 17:57:25

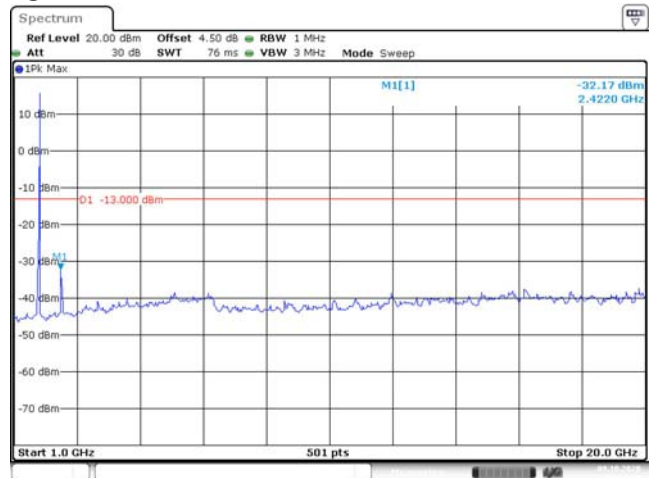


Date: 8.OCT.2020 17:57:47

### 20M, QPSK, High Channel



Date: 9.OCT.2020 15:23:11



Date: 9.OCT.2020 15:23:30



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## **FCC §2.1053, §22.917 & §24.238 & §27.53 - SPURIOUS RADIATED EMISSIONS**

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### **Applicable Standard**

FCC § 2.1053, §22.917, § 24.238 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 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.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB =  $10 \lg(\text{TXpwr in Watts}/0.001)$  – the absolute level

Spurious attenuation limit in dB =  $43 + 10 \text{Log}_{10}(\text{power out in Watts})$

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation Below 1G Test					
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
R&S	EMI Test Receiver	ESR3	102453	2020-09-12	2021-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2020-05-06	2021-05-06
HP	Amplifier	8447D	2727A05902	2020-09-05	2021-09-05
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2020-09-05	2021-09-05
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10
Radiation Above 1G Test					
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-05-09	2021-05-09
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2020-06-27	2021-06-27
Mini-Circuit	Amplifier	ZVA-213-S+	54201245	2020-09-05	2021-09-05
Micro-tronics	High Pass Filter	HPM50111	S/N-G217	2020-06-16	2021-06-16
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10
Sinoscite	Band-stop filter	BSF1710-1785MN-0383-003	0383003	2020-06-16	2021-06-16
Sinoscite	Band-stop filter	BSF1850-1910MS-0935V2	0935V2	2020-06-16	2021-06-16
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-12-06	2020-12-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2020-06-27	2021-06-27

\* **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**

Test Items:	Radiation Below 1GHz	Radiation Above 1GHz
Temperature:	26.1~27.8°C	26.0~30.0°C
Relative Humidity:	35~46%	36~46%
ATM Pressure:	100.6~101.2 kPa	100.6~101.2 kPa
Tester:	Jalon Liu, Hanson Li	Joker Chen, Hanson Li
Test Date:	2020-09-19~2020-10-20	2020-09-19~2020-10-20

Test Result: Compliance.

EUT Operation Mode: Transmitting

**Cellular Band (PART 22H)****30 MHz-10 GHz:**

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)			
WCDMA Band 5 Frequency:826.4 MHz								
1652.80	H	40.32	-64.08	10.46	1.28	-54.90	-13.00	41.90
1652.80	V	40.10	-64.23	10.46	1.28	-55.05	-13.00	42.05
2479.20	H	40.61	-62.23	12.17	1.24	-51.30	-13.00	38.30
2479.20	V	40.22	-63.98	12.17	1.24	-53.05	-13.00	40.05
3305.60	H	39.84	-61.43	12.28	1.57	-50.72	-13.00	37.72
3305.60	V	38.45	-61.86	12.28	1.57	-51.15	-13.00	38.15
651.20	H	50.82	-50.95	0.00	0.85	-51.80	-13.00	38.80
748.00	V	50.30	-52.88	0.00	0.94	-53.82	-13.00	40.82
WCDMA Band 5 Frequency:836.6MHz								
1673.20	H	40.52	-63.86	10.52	1.27	-54.61	-13.00	41.61
1673.20	V	40.37	-63.94	10.52	1.27	-54.69	-13.00	41.69
2509.80	H	40.72	-62.05	12.20	1.25	-51.10	-13.00	38.10
2509.80	V	40.02	-64.14	12.20	1.25	-53.19	-13.00	40.19
3346.40	H	39.04	-62.15	12.26	1.58	-51.47	-13.00	38.47
3346.40	V	38.84	-61.28	12.26	1.58	-50.60	-13.00	37.60
624.50	H	50.75	-51.21	0.00	0.80	-52.01	-13.00	39.01
784.50	V	50.75	-51.89	0.00	0.93	-52.82	-13.00	39.82
WCDMA Band 5 Frequency:846.6MHz								
1693.20	H	40.88	-63.48	10.58	1.26	-54.16	-13.00	41.16
1693.20	V	40.72	-63.57	10.58	1.26	-54.25	-13.00	41.25
2539.80	H	41.25	-61.46	12.22	1.26	-50.50	-13.00	37.50
2539.80	V	41.08	-62.93	12.22	1.26	-51.97	-13.00	38.97
3386.40	H	39.83	-61.28	12.25	1.59	-50.62	-13.00	37.62
3386.40	V	38.76	-61.17	12.25	1.59	-50.51	-13.00	37.51
639.90	H	50.62	-51.23	0.00	0.83	-52.06	-13.00	39.06
729.80	V	50.60	-52.86	0.00	0.94	-53.80	-13.00	40.80

**PCS Band (PART 24E)****30 MHz-20 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band II, Frequency:1852.4 MHz								
3704.80	H	40.12	-60.24	12.24	1.54	-49.54	-13.00	36.54
3704.80	V	38.63	-61.17	12.24	1.54	-50.47	-13.00	37.47
5557.20	H	37.74	-57.71	12.88	1.26	-46.09	-13.00	33.09
5557.20	V	36.22	-59.62	12.88	1.26	-48.00	-13.00	35.00
689.90	H	58.65	-42.85	0.00	0.92	-43.77	-13.00	30.77
700.30	V	58.67	-45.23	0.00	0.94	-46.17	-13.00	33.17
WCDMA Band II, Frequency:1880 MHz								
3760.00	H	44.31	-55.90	12.25	1.53	-45.18	-13.00	32.18
3760.00	V	43.58	-56.33	12.25	1.53	-45.61	-13.00	32.61
5640.00	H	38.63	-56.67	13.00	1.28	-44.95	-13.00	31.95
5640.00	V	37.21	-58.40	13.00	1.28	-46.68	-13.00	33.68
707.30	H	59.93	-41.30	0.00	0.94	-42.24	-13.00	29.24
707.30	V	58.78	-45.01	0.00	0.94	-45.95	-13.00	32.95
WCDMA Band II, Frequency:1907.6MHz								
3815.20	H	43.51	-56.55	12.26	1.51	-45.80	-13.00	32.80
3815.20	V	42.76	-57.26	12.26	1.51	-46.51	-13.00	33.51
5722.80	H	37.44	-57.71	13.11	1.31	-45.91	-13.00	32.91
5722.80	V	36.43	-58.94	13.11	1.31	-47.14	-13.00	34.14
712.90	H	62.24	-38.83	0.00	0.94	-39.77	-13.00	26.77
712.90	V	60.44	-43.27	0.00	0.94	-44.21	-13.00	31.21

**AWS Band (PART 27)**

**30 MHz-20 GHz:**

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)			
WCDMA Band IV, Frequency:1712.4 MHz								
3424.80	H	39.66	-61.38	12.23	1.59	-50.74	-13.00	37.74
3424.80	V	38.21	-61.54	12.23	1.59	-50.90	-13.00	37.90
5137.20	H	36.14	-60.05	12.95	1.39	-48.49	-13.00	35.49
5137.20	V	37.95	-58.12	12.95	1.39	-46.56	-13.00	33.56
734.00	H	52.01	-48.47	0.00	0.94	-49.41	-13.00	36.41
734.00	V	55.65	-47.74	0.00	0.94	-48.68	-13.00	35.68
WCDMA Band IV, Frequency:1732.6MHz								
3465.20	H	40.35	-60.62	12.21	1.60	-50.01	-13.00	37.01
3465.20	V	38.68	-60.88	12.21	1.60	-50.27	-13.00	37.27
5197.80	H	36.82	-59.26	12.92	1.36	-47.70	-13.00	34.70
5197.80	V	38.23	-57.82	12.92	1.36	-46.26	-13.00	33.26
736.80	H	51.26	-49.15	0.00	0.94	-50.09	-13.00	37.09
238.50	V	59.12	-53.04	0.00	0.50	-53.54	-13.00	40.54
WCDMA Band IV, Frequency:1752.6MHz								
3505.20	H	40.63	-60.26	12.20	1.61	-49.67	-13.00	36.67
3505.20	V	39.24	-60.17	12.20	1.61	-49.58	-13.00	36.58
5257.80	H	37.06	-58.92	12.90	1.34	-47.36	-13.00	34.36
5257.80	V	38.49	-57.55	12.90	1.34	-45.99	-13.00	32.99
753.60	H	50.67	-49.27	0.00	0.93	-50.20	-13.00	37.20
37.70	V	62.24	-21.85	-25.30	0.22	-47.37	-13.00	34.37

**LTE Band 2 (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: 1850.7 MHz								
3701.40	H	39.12	-61.24	12.24	1.55	-50.55	-13.00	37.55
3701.40	V	39.36	-60.43	12.24	1.55	-49.74	-13.00	36.74
5552.10	H	35.45	-60.01	12.87	1.26	-48.40	-13.00	35.40
5552.10	V	35.51	-60.34	12.87	1.26	-48.73	-13.00	35.73
582.40	H	35.81	-66.69	0.00	0.75	-67.44	-13.00	54.44
61.60	V	37.96	-70.44	-9.45	0.23	-80.12	-13.00	67.12
QPSK, Frequency: 1880 MHz								
3760.00	H	39.19	-61.02	12.25	1.53	-50.30	-13.00	37.30
3760.00	V	39.56	-60.35	12.25	1.53	-49.63	-13.00	36.63
5640.00	H	35.95	-59.35	13.00	1.28	-47.63	-13.00	34.63
5640.00	V	35.99	-59.62	13.00	1.28	-47.90	-13.00	34.90
708.70	H	35.91	-65.28	0.00	0.94	-66.22	-13.00	53.22
51.80	V	38.02	-64.45	-14.07	0.21	-78.73	-13.00	65.73
QPSK, Frequency: 1909.3 MHz								
3818.60	H	39.58	-60.47	12.26	1.51	-49.72	-13.00	36.72
3818.60	V	39.87	-60.15	12.26	1.51	-49.40	-13.00	36.40
5727.90	H	35.98	-59.16	13.12	1.31	-47.35	-13.00	34.35
5727.90	V	36.03	-59.33	13.12	1.31	-47.52	-13.00	34.52
728.40	H	36.54	-64.10	0.00	0.94	-65.04	-13.00	52.04
102.30	V	38.25	-74.45	0.00	0.27	-74.72	-13.00	61.72

**LTE Band 4 (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: 1710.7 MHz								
3421.40	H	37.08	-63.97	12.23	1.59	-53.33	-13.00	40.33
3421.40	V	37.17	-62.60	12.23	1.59	-51.96	-13.00	38.96
5132.10	H	36.01	-60.19	12.95	1.39	-48.63	-13.00	35.63
5132.10	V	36.23	-59.84	12.95	1.39	-48.28	-13.00	35.28
708.70	H	35.21	-65.98	0.00	0.94	-66.92	-13.00	53.92
40.50	V	36.87	-50.80	-25.74	0.21	-76.75	-13.00	63.75
QPSK, Frequency: 1732.5 MHz								
3465.00	H	37.13	-63.84	12.21	1.60	-53.23	-13.00	40.23
3465.00	V	37.22	-62.34	12.21	1.60	-51.73	-13.00	38.73
5197.50	H	36.04	-60.04	12.92	1.36	-48.48	-13.00	35.48
5197.50	V	36.44	-59.61	12.92	1.36	-48.05	-13.00	35.05
595.00	H	35.60	-66.64	0.00	0.76	-67.40	-13.00	54.40
49.00	V	37.04	-62.71	-15.88	0.21	-78.80	-13.00	65.80
QPSK, Frequency: 1754.3 MHz								
3508.60	H	37.45	-63.43	12.20	1.61	-52.84	-13.00	39.84
3508.60	V	37.62	-61.80	12.20	1.61	-51.21	-13.00	38.21
5262.90	H	36.29	-59.68	12.89	1.33	-48.12	-13.00	35.12
5262.90	V	36.71	-59.33	12.89	1.33	-47.77	-13.00	34.77
630.10	H	35.36	-66.56	0.00	0.81	-67.37	-13.00	54.37
50.40	V	36.95	-64.68	-14.72	0.21	-79.61	-13.00	66.61

**LTE Band 5(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: 824.7 MHz								
1649.40	H	41.45	-62.95	10.45	1.28	-53.78	-13.00	40.78
1649.40	V	40.39	-63.95	10.45	1.28	-54.78	-13.00	41.78
2474.10	H	40.22	-62.63	12.16	1.23	-51.70	-13.00	38.70
2474.10	V	41.02	-63.18	12.16	1.23	-52.25	-13.00	39.25
3298.80	H	39.14	-62.14	12.28	1.57	-51.43	-13.00	38.43
3298.80	V	39.09	-61.25	12.28	1.57	-50.54	-13.00	37.54
694.70	H	35.81	-65.66	0.00	0.93	-66.59	-13.00	53.59
51.80	V	37.44	-65.03	-14.07	0.21	-79.31	-13.00	66.31
QPSK, Frequency: 836.5 MHz								
1673.00	H	41.50	-62.88	10.52	1.27	-53.63	-13.00	40.63
1673.00	V	40.41	-63.90	10.52	1.27	-54.65	-13.00	41.65
2509.50	H	40.37	-62.40	12.20	1.24	-51.44	-13.00	38.44
2509.50	V	41.08	-63.08	12.20	1.24	-52.12	-13.00	39.12
3346.00	H	39.21	-61.98	12.26	1.58	-51.30	-13.00	38.30
3346.00	V	39.21	-60.91	12.26	1.58	-50.23	-13.00	37.23
705.90	H	35.58	-65.69	0.00	0.94	-66.63	-13.00	53.63
60.20	V	37.91	-69.61	-10.19	0.23	-80.03	-13.00	67.03
QPSK, Frequency: 848.3 MHz								
1696.60	H	41.56	-62.80	10.59	1.26	-53.47	-13.00	40.47
1696.60	V	40.70	-63.59	10.59	1.26	-54.26	-13.00	41.26
2544.90	H	40.48	-62.22	12.22	1.26	-51.26	-13.00	38.26
2544.90	V	41.29	-62.70	12.22	1.26	-51.74	-13.00	38.74
3393.20	H	39.60	-61.50	12.24	1.59	-50.85	-13.00	37.85
3393.20	V	36.44	-63.46	12.24	1.59	-52.81	-13.00	39.81
728.40	H	35.56	-65.08	0.00	0.94	-66.02	-13.00	53.02
61.60	V	39.11	-69.29	-9.45	0.23	-78.97	-13.00	65.97



**LTE Band 12 (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: 699.7 MHz								
1399.40	H	36.98	-66.79	9.58	1.23	-58.44	-13.00	45.44
1399.40	V	37.04	-66.82	9.58	1.23	-58.47	-13.00	45.47
2099.10	H	37.00	-66.79	11.64	1.15	-56.30	-13.00	43.30
2099.10	V	37.62	-66.41	11.64	1.15	-55.92	-13.00	42.92
2798.80	H	35.74	-66.48	12.32	1.40	-55.56	-13.00	42.56
2798.80	V	35.22	-67.51	12.32	1.40	-56.59	-13.00	43.59
647.00	H	31.55	-46.83	0.00	0.84	-47.67	-13.00	34.67
366.20	V	31.00	-50.30	0.00	0.58	-50.88	-13.00	37.88
QPSK, Frequency: 707.5 MHz								
1415.00	H	37.12	-66.77	9.64	1.25	-58.38	-13.00	45.38
1415.00	V	37.14	-66.81	9.64	1.25	-58.42	-13.00	45.42
2122.50	H	37.22	-66.51	11.67	1.16	-56.00	-13.00	43.00
2122.50	V	37.88	-66.16	11.67	1.16	-55.65	-13.00	42.65
2830.00	H	35.89	-66.27	12.33	1.41	-55.35	-13.00	42.35
2830.00	V	35.24	-67.33	12.33	1.41	-56.41	-13.00	43.41
725.60	H	35.66	-65.06	0.00	0.94	-66.00	-13.00	53.00
689.10	V	35.28	-68.78	0.00	0.92	-69.70	-13.00	56.70
QPSK, Frequency: 715.3 MHz								
1430.60	H	37.54	-66.47	9.71	1.27	-58.03	-13.00	45.03
1430.60	V	37.66	-66.39	9.71	1.27	-57.95	-13.00	44.95
2145.90	H	37.42	-66.26	11.70	1.16	-55.72	-13.00	42.72
2145.90	V	37.92	-66.13	11.70	1.16	-55.59	-13.00	42.59
2861.20	H	35.97	-66.13	12.34	1.43	-55.22	-13.00	42.22
2861.20	V	35.64	-66.78	12.34	1.43	-55.87	-13.00	42.87
536.10	H	35.52	-67.95	0.00	0.73	-68.68	-13.00	55.68
442.00	V	35.57	-72.22	0.00	0.65	-72.87	-13.00	59.87

**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	37.12	-66.75	9.63	1.24	-58.36	-13.00	45.36
1413.00	V	37.10	-66.84	9.63	1.24	-58.45	-13.00	45.45
2119.50	H	37.25	-66.49	11.67	1.16	-55.98	-13.00	42.98
2119.50	V	37.74	-66.29	11.67	1.16	-55.78	-13.00	42.78
2826.00	H	35.69	-66.48	12.33	1.41	-55.56	-13.00	42.56
2826.00	V	35.14	-67.45	12.33	1.41	-56.53	-13.00	43.53
532.60	H	35.29	-68.26	0.00	0.73	-68.99	-13.00	55.99
476.32	V	35.42	-72.06	0.00	0.69	-72.75	-13.00	59.75
QPSK, Frequency: 710 MHz								
1420.00	H	37.05	-66.88	9.66	1.25	-58.47	-13.00	45.47
1420.00	V	37.11	-66.88	9.66	1.25	-58.47	-13.00	45.47
2130.00	H	37.26	-66.46	11.68	1.16	-55.94	-13.00	42.94
2130.00	V	37.68	-66.36	11.68	1.16	-55.84	-13.00	42.84
2840.00	H	35.62	-66.52	12.34	1.42	-55.60	-13.00	42.60
2840.00	V	35.28	-67.24	12.34	1.42	-56.32	-13.00	43.32
646.80	H	35.87	-65.93	0.00	0.84	-66.77	-13.00	53.77
836.40	V	35.84	-65.38	0.00	0.97	-66.35	-13.00	53.35
QPSK, Frequency: 713.5 MHz								
1427.00	H	37.02	-66.96	9.69	1.26	-58.53	-13.00	45.53
1427.00	V	37.09	-66.94	9.69	1.26	-58.51	-13.00	45.51
2140.50	H	37.23	-66.46	11.70	1.16	-55.92	-13.00	42.92
2140.50	V	37.71	-66.33	11.70	1.16	-55.79	-13.00	42.79
2854.00	H	35.59	-66.53	12.34	1.42	-55.61	-13.00	42.61
2854.00	V	35.31	-67.14	12.34	1.42	-56.22	-13.00	43.22
789.60	H	35.67	-63.27	0.00	0.93	-64.20	-13.00	51.20
68.40	V	37.14	-75.55	-5.85	0.24	-81.64	-13.00	68.64

**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: 1710.7 MHz								
3421.40	H	37.46	-63.59	12.23	1.59	-52.95	-13.00	39.95
3421.40	V	37.14	-62.63	12.23	1.59	-51.99	-13.00	38.99
5132.10	H	36.20	-60.00	12.95	1.39	-48.44	-13.00	35.44
5132.10	V	36.26	-59.81	12.95	1.39	-48.25	-13.00	35.25
6842.80	H	36.83	-55.39	13.62	1.79	-43.56	-13.00	30.56
6842.80	V	36.85	-55.50	13.62	1.79	-43.67	-13.00	30.67
595.00	H	36.43	-65.81	0.00	0.76	-66.57	-13.00	53.57
61.60	V	39.20	-69.20	-9.45	0.23	-78.88	-13.00	65.88
QPSK, Frequency: 1745 MHz								
3490.00	H	37.54	-63.38	12.20	1.61	-52.79	-13.00	39.79
3490.00	V	37.22	-62.23	12.20	1.61	-51.64	-13.00	38.64
5235.00	H	36.27	-59.75	12.91	1.35	-48.19	-13.00	35.19
5235.00	V	36.41	-59.64	12.91	1.35	-48.08	-13.00	35.08
6980.00	H	36.71	-55.12	13.43	1.82	-43.51	-13.00	30.51
6980.00	V	36.70	-55.32	13.43	1.82	-43.71	-13.00	30.71
477.10	H	36.11	-68.25	0.00	0.69	-68.94	-13.00	55.94
51.80	V	37.45	-65.02	-14.07	0.21	-79.30	-13.00	66.30
QPSK, Frequency: 1779.3 MHz								
3558.60	H	37.69	-63.05	12.21	1.59	-52.43	-13.00	39.43
3558.60	V	37.56	-61.95	12.21	1.59	-51.33	-13.00	38.33
5337.90	H	36.40	-59.44	12.86	1.30	-47.88	-13.00	34.88
5337.90	V	36.71	-59.32	12.86	1.30	-47.76	-13.00	34.76
7117.20	H	36.85	-54.87	13.26	1.71	-43.32	-13.00	30.32
7117.20	V	36.93	-55.11	13.26	1.71	-43.56	-13.00	30.56
602.00	H	36.39	-65.73	0.00	0.76	-66.49	-13.00	53.49
49.00	V	37.61	-62.14	-15.88	0.21	-78.23	-13.00	65.23

## 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 - BAND EDGES

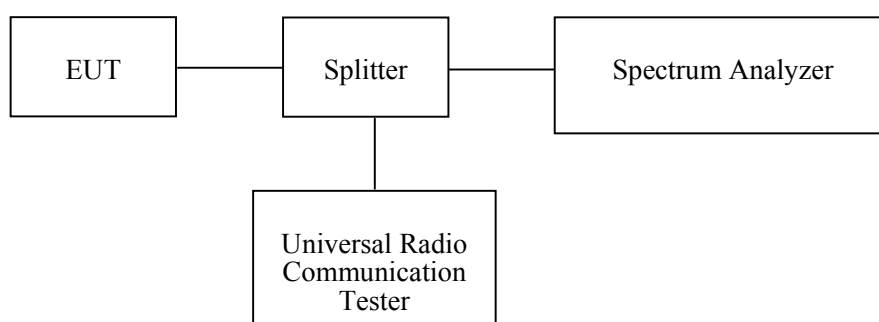
### Applicable Standard

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

### 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	FSU 26	200256	2020-05-09	2021-05-09
R&S	Spectrum Analyzer	FSV40	101474	2020-07-07	2021-07-07
yzjingcheng	Coaxial Cable	KTRFBU-141-50	41005011	Each time	/
yzjingcheng	Coaxial Cable	KTRFBU-141-50	41002201	Each Time	/
E-Microwave	Two-way Splitter	ODP-1-6-2S	OE0120142	Each Time	/

\* **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

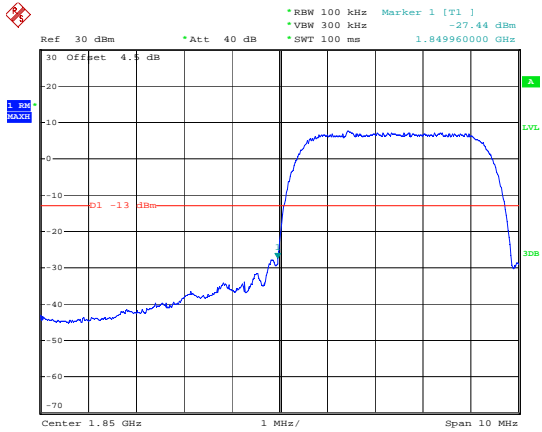
#### Environmental Conditions

<b>Temperature:</b>	25.3~28.0°C
<b>Relative Humidity:</b>	49~55%
<b>ATM Pressure:</b>	100.9~101.0 kPa
<b>Tester:</b>	Chris Mo, Billy Li
<b>Test Date:</b>	2020-09-22~2020-10-20

*Test Mode: Transmitting*

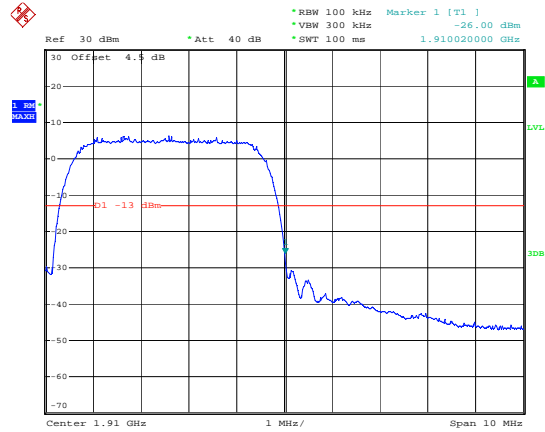
*Test Result: Compliance. Please refer to the following plots.*

### WCDMA Band II, Rel99, Left Band Edge



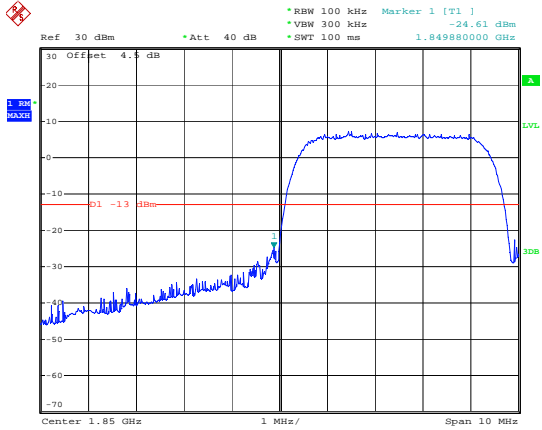
Date: 22.SEP.2020 10:09:31

### WCDMA Band II, Rel99, Right Band Edge



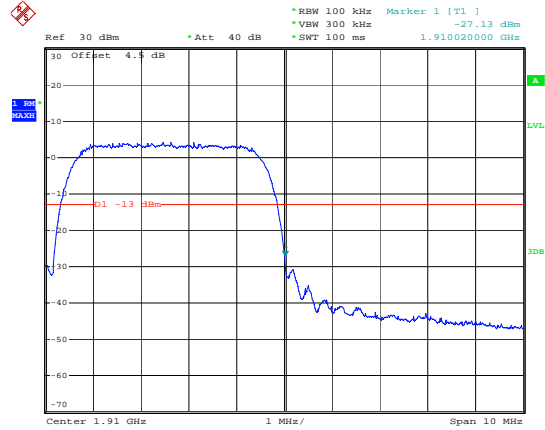
Date: 22.SEP.2020 10:10:15

### WCDMA Band II, HSDPA, Left Band Edge



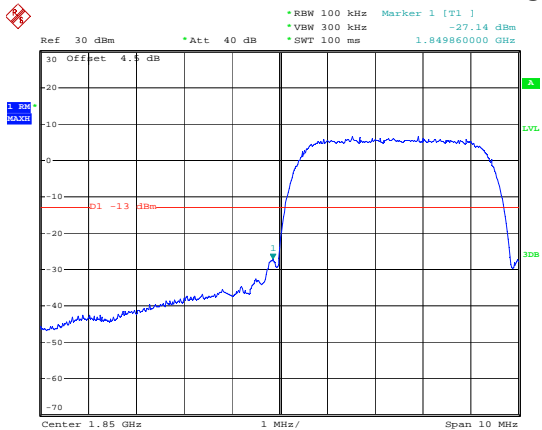
Date: 22.SEP.2020 09:57:30

### WCDMA Band II, HSDPA, Right Band Edge



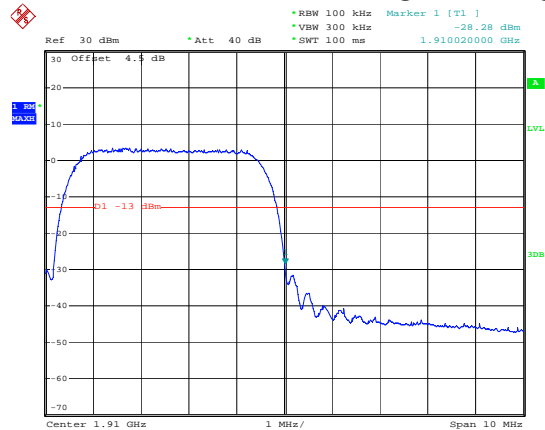
Date: 22.SEP.2020 09:58:22

### WCDMA Band II, HSUPA, Left Band Edge



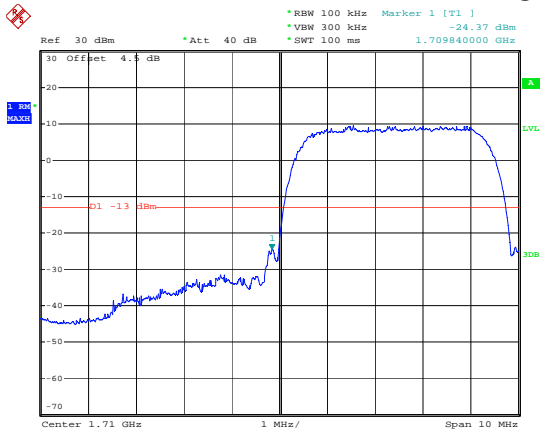
Date: 22.SEP.2020 11:07:15

### WCDMA Band II, HSUPA, Right Band Edge



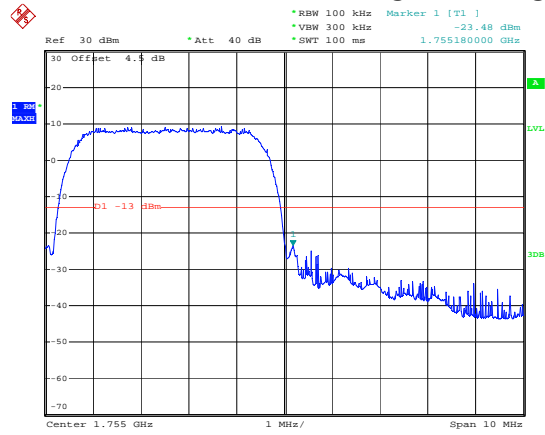
Date: 22.SEP.2020 11:06:24

**WCDMA Band IV,Rel99, Left Band Edge**



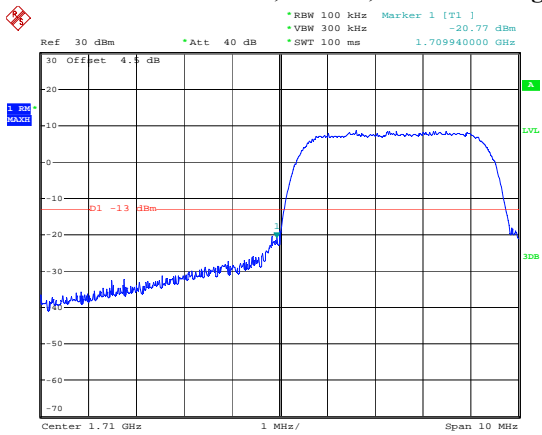
Date: 22.SEP.2020 10:11:24

**WCDMA Band IV,Rel99, Right Band Edge**



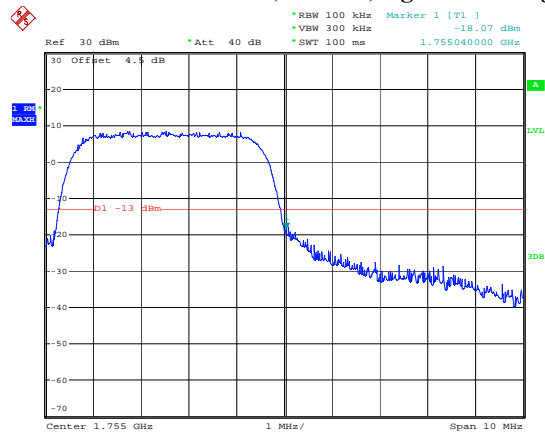
Date: 22.SEP.2020 10:12:06

**WCDMA Band IV,HSDPA, Left Band Edge**



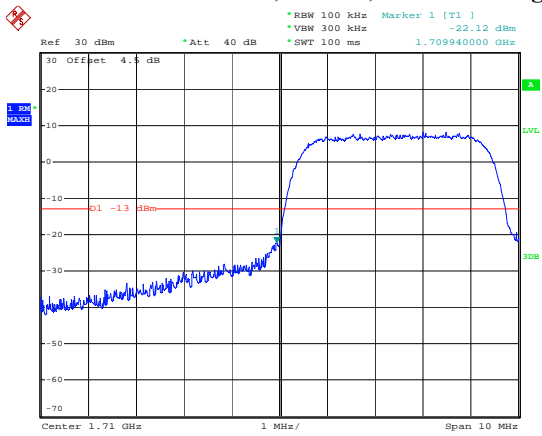
Date: 22.SEP.2020 09:55:33

**WCDMA Band IV,HSDPA,Right Band Edge**



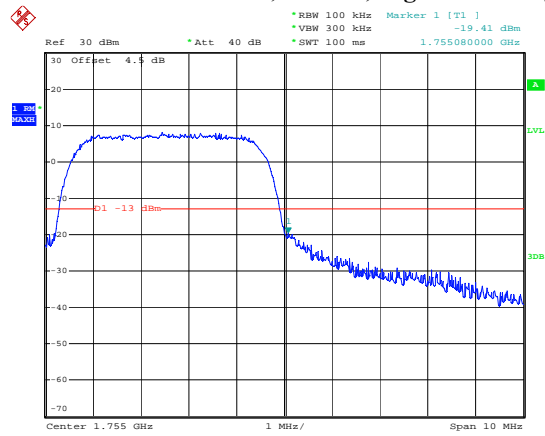
Date: 22.SEP.2020 09:56:20

**WCDMA Band IV,HSUPA, Left Band Edge**



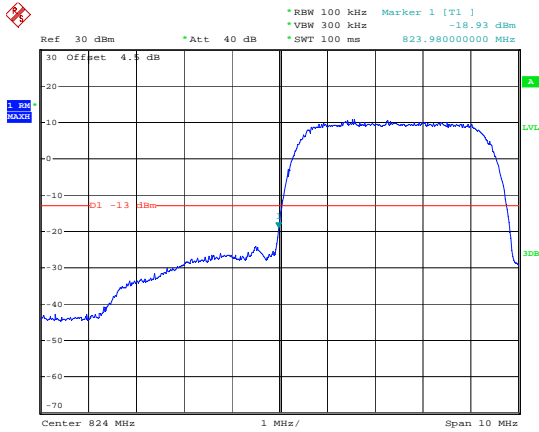
Date: 22.SEP.2020 11:08:15

**WCDMA Band IV,HSUPA, Right Band Edge**



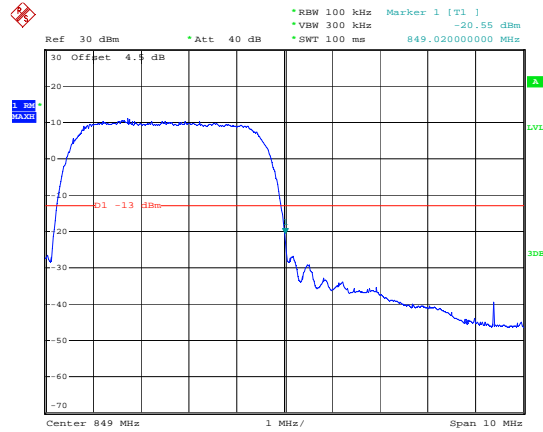
Date: 22.SEP.2020 11:09:06

**WCDMA Band V, Rel99, Left Band Edge**



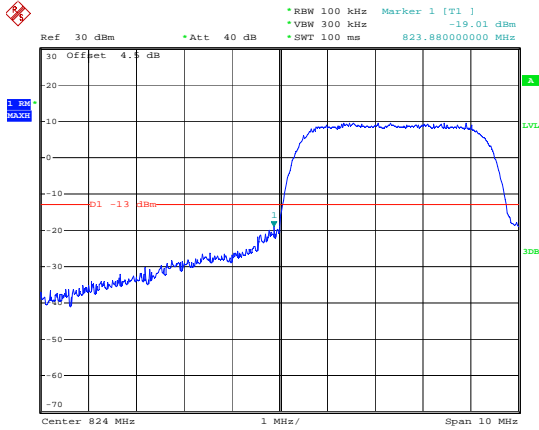
Date: 22.SEP.2020 10:12:59

**WCDMA Band V, Rel99, Right Band Edge**



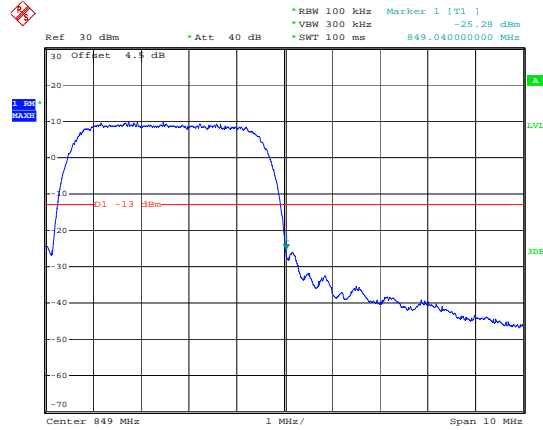
Date: 22.SEP.2020 10:13:46

**WCDMA Band V, HSDPA, Left Band Edge**



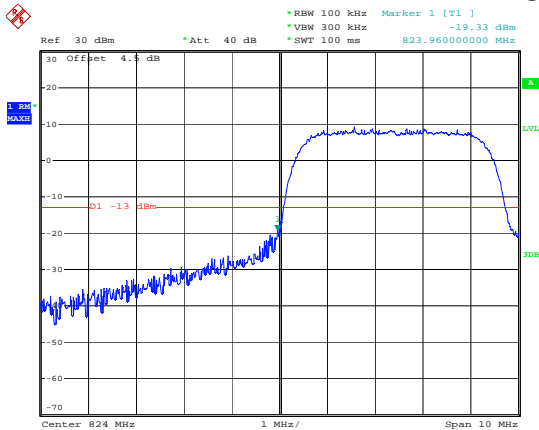
Date: 22.SEP.2020 09:52:32

**WCDMA Band V, HSDPA, Right Band Edge**



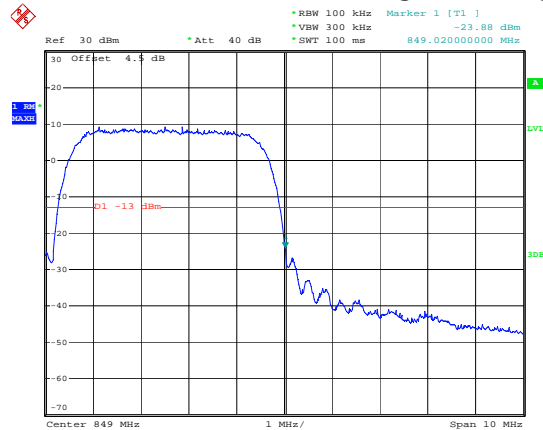
Date: 22.SEP.2020 09:53:42

**WCDMA Band V, HSUPA, Left Band Edge**



Date: 22.SEP.2020 11:10:01

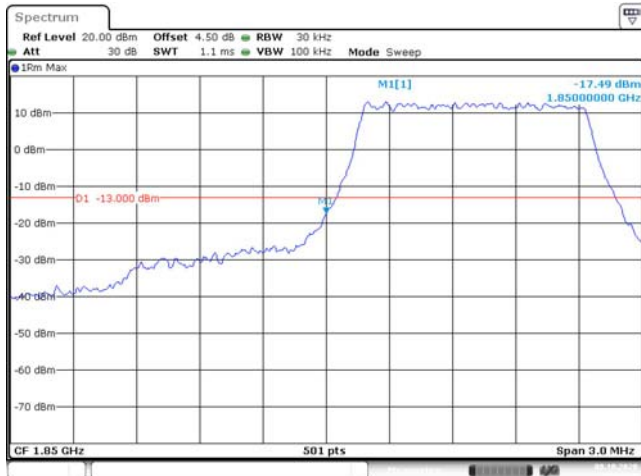
**WCDMA Band V, HSUPA, Right Band Edge**



Date: 22.SEP.2020 11:10:41

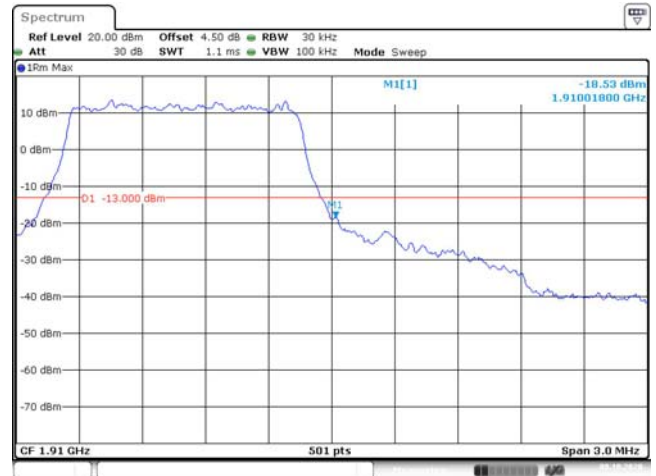
**LTE Band 2:**

**1.4M, QPSK, Left Band Edge**



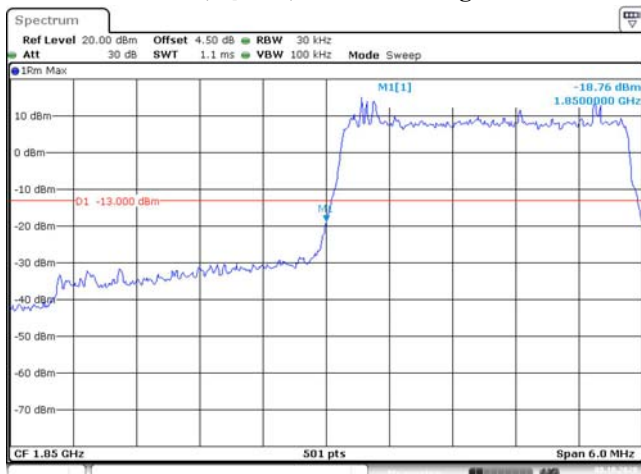
Date: 8.OCT.2020 15:46:49

**1.4M, QPSK, Right Band Edge**



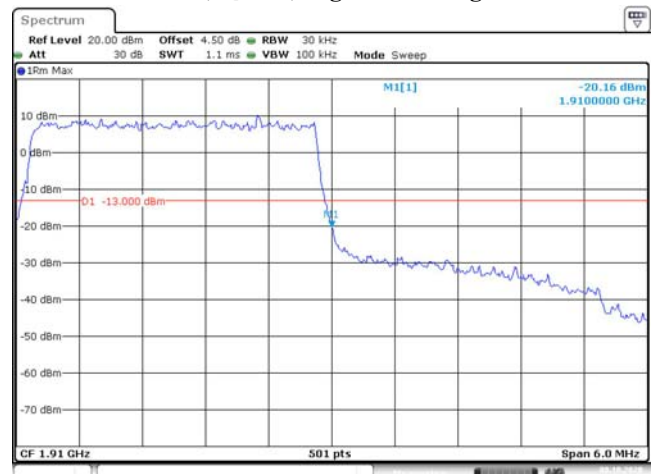
Date: 8.OCT.2020 15:47:27

**3M, QPSK, Left Band Edge**



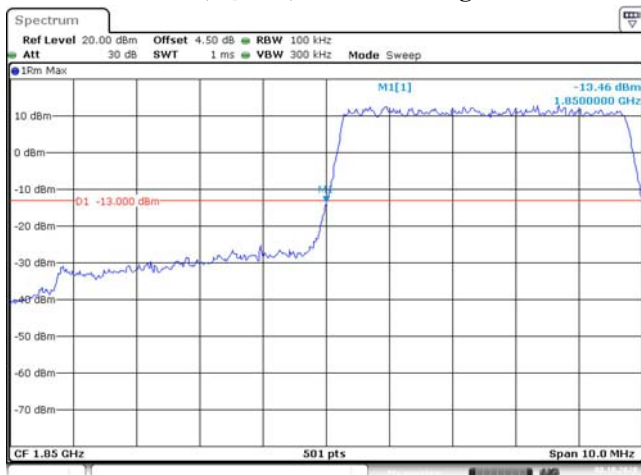
Date: 8.OCT.2020 15:48:21

**3M, QPSK, Right Band Edge**



Date: 8.OCT.2020 15:48:59

**5M, QPSK, Left Band Edge**



Date: 8.OCT.2020 15:49:56

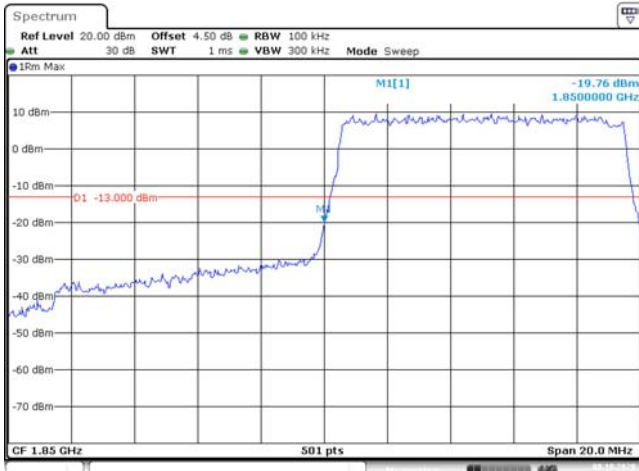
**5M, QPSK, Right Band Edge**



Date: 8.OCT.2020 15:51:20

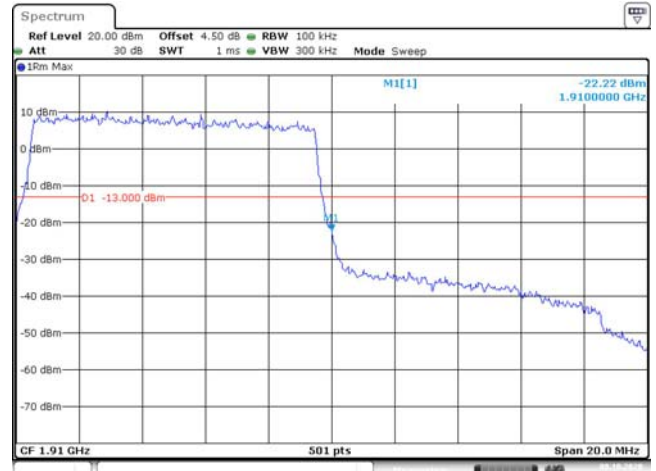


10M, QPSK, Left Band Edge



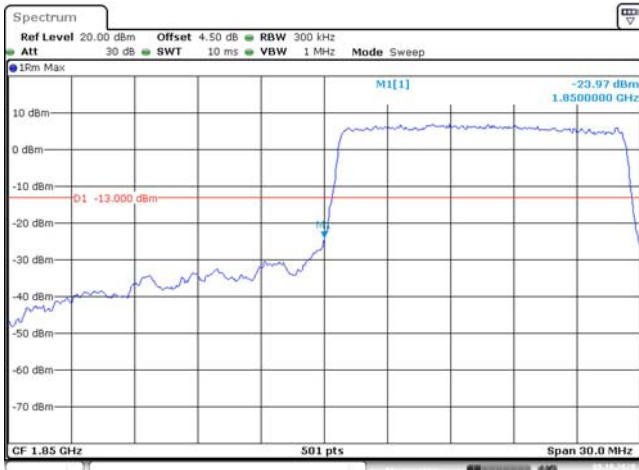
Date: 8.OCT.2020 15:54:40

10M, QPSK, Right Band Edge



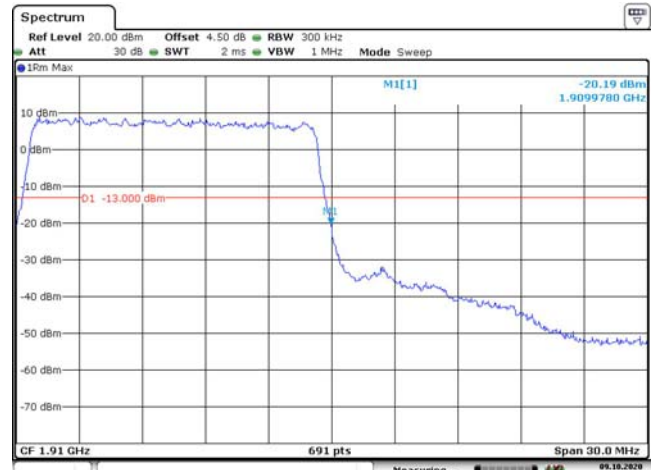
Date: 8.OCT.2020 15:55:39

15M, QPSK, Left Band Edge



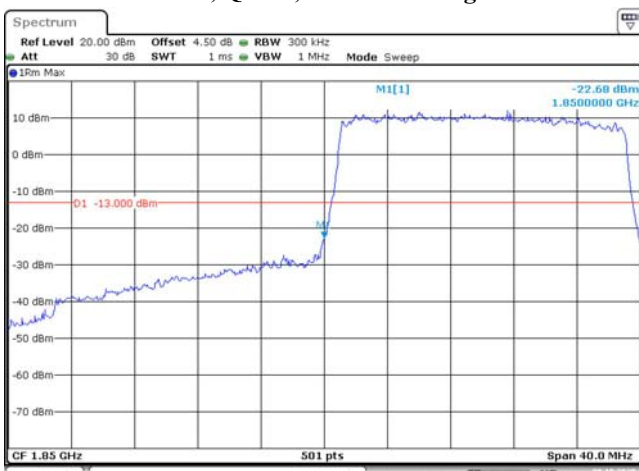
Date: 8.OCT.2020 15:59:26

15M, QPSK, Right Band Edge



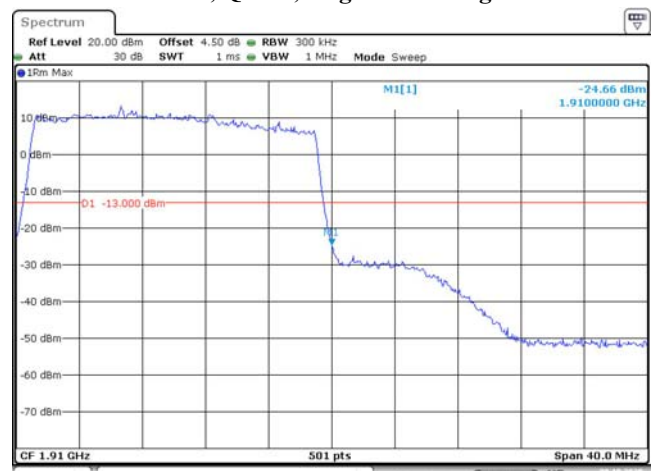
Date: 9.OCT.2020 09:50:47

20M, QPSK, Left Band Edge



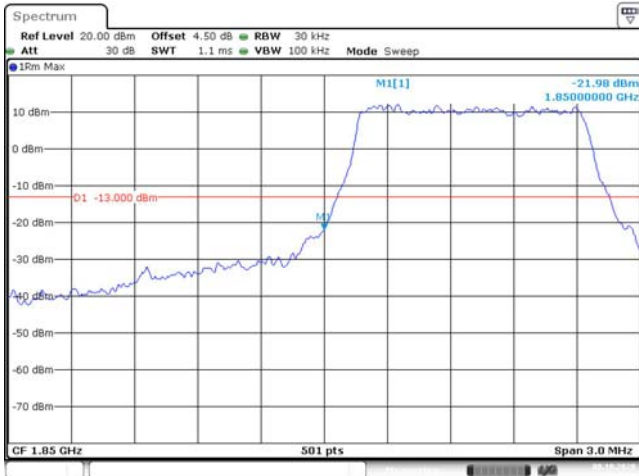
Date: 8.OCT.2020 16:02:27

20M, QPSK, Right Band Edge



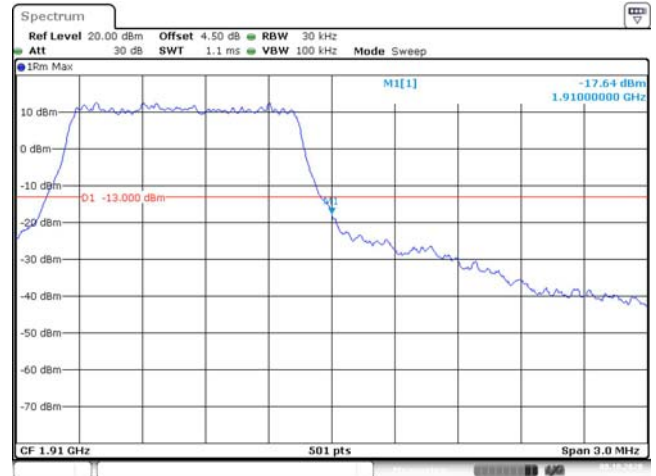
Date: 8.OCT.2020 16:03:50

1.4M, 16QAM, Left Band Edge



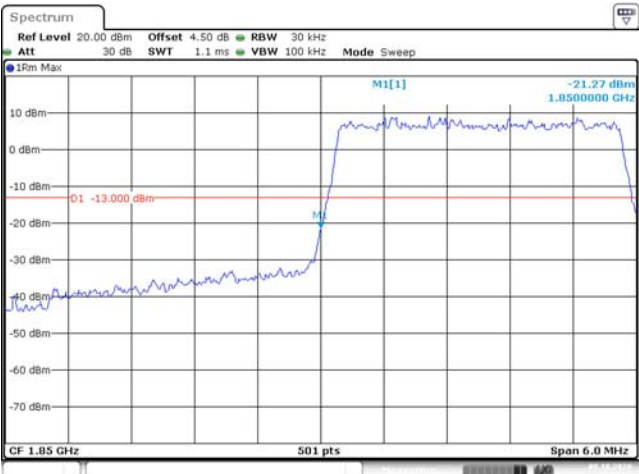
Date: 8.OCT.2020 15:47:08

1.4M, 16QAM, Right Band Edge



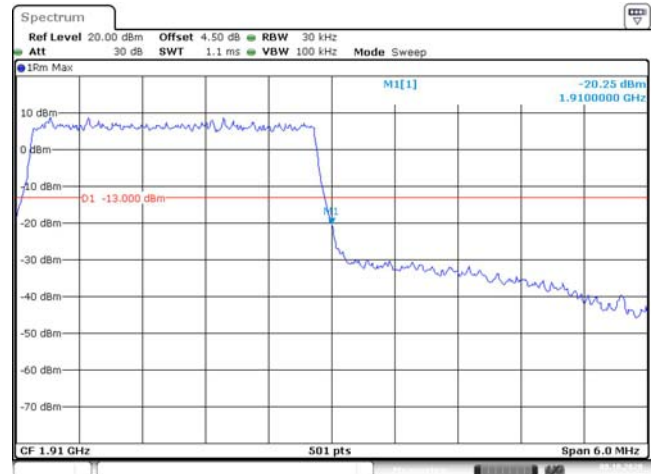
Date: 8.OCT.2020 15:47:52

3M, 16QAM, Left Band Edge



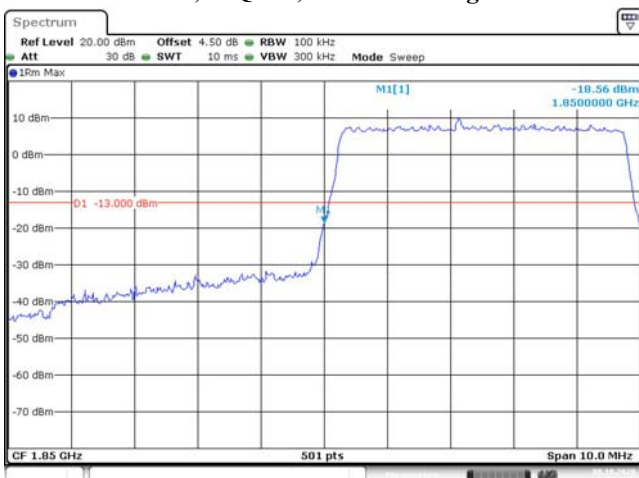
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3M, 16QAM, Right Band Edge



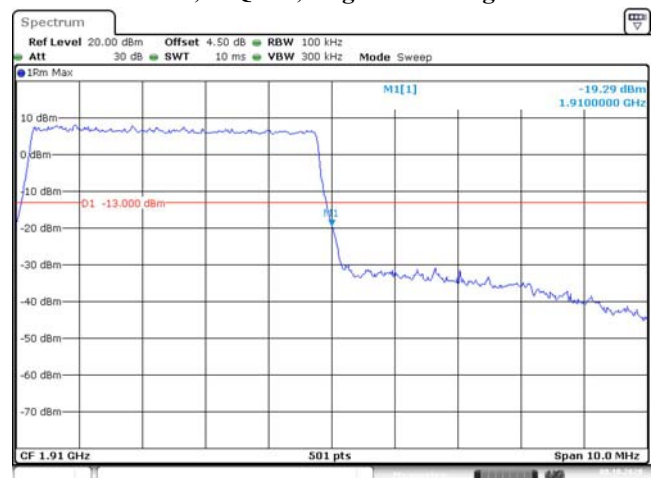
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5M, 16QAM, Left Band Edge



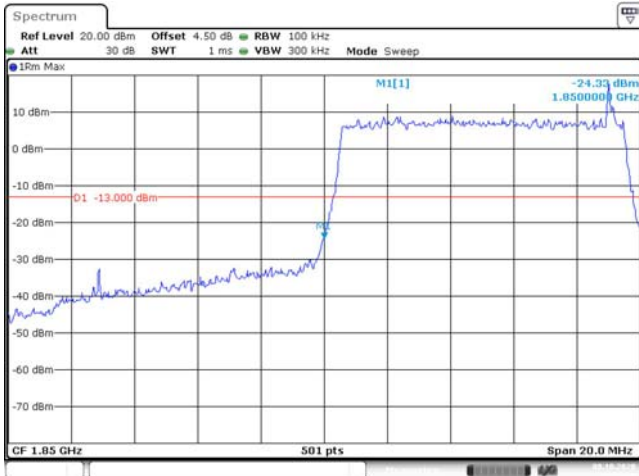
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5M, 16QAM, Right Band Edge



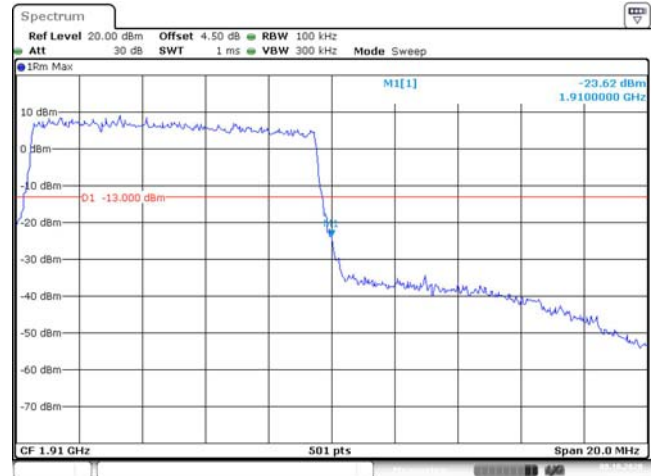
Date: 8.OCT.2020 15:52:04

**10M, 16QAM, Left Band Edge**



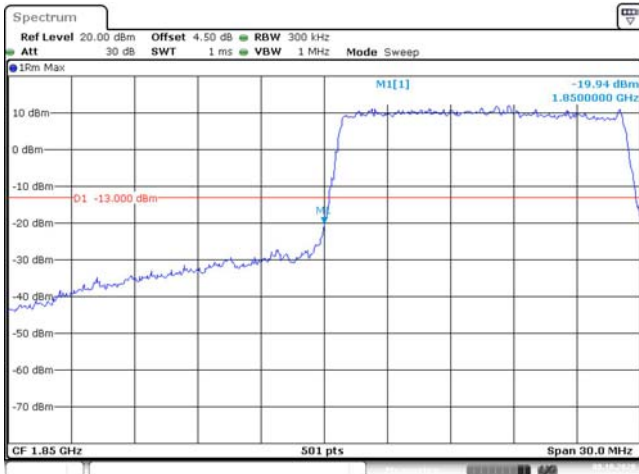
Date: 8.OCT.2020 15:55:09

**10M, 16QAM, Right Band Edge**



Date: 8.OCT.2020 15:56:05

**15M, 16QAM, Left Band Edge**



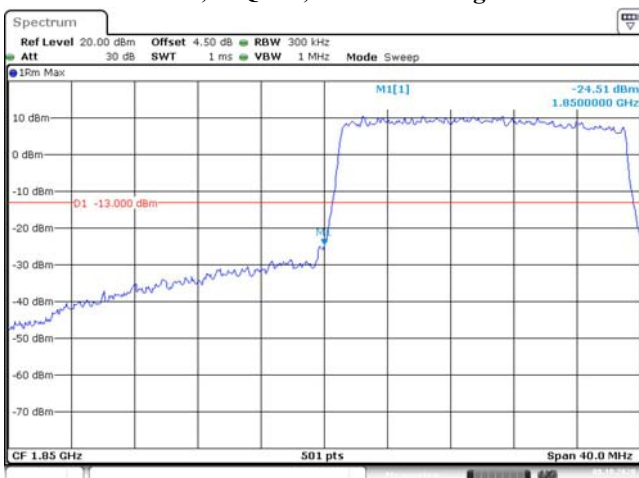
Date: 8.OCT.2020 15:59:51

**15M, 16QAM, Right Band Edge**



Date: 8.OCT.2020 16:01:58

**20M, 16QAM, Left Band Edge**



Date: 8.OCT.2020 16:03:11

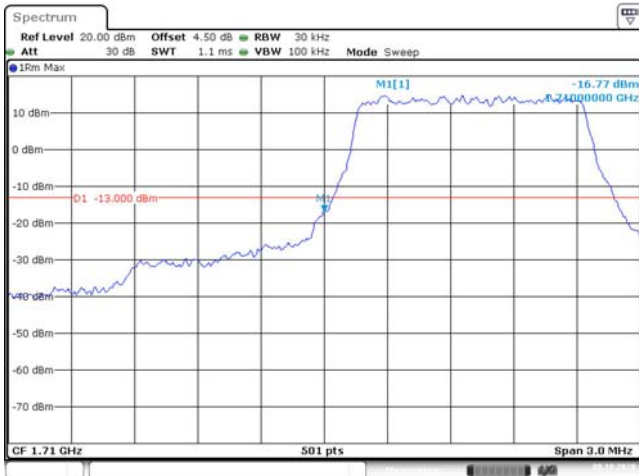
**20M, 16QAM, Right Band Edge**



Date: 8.OCT.2020 16:04:15

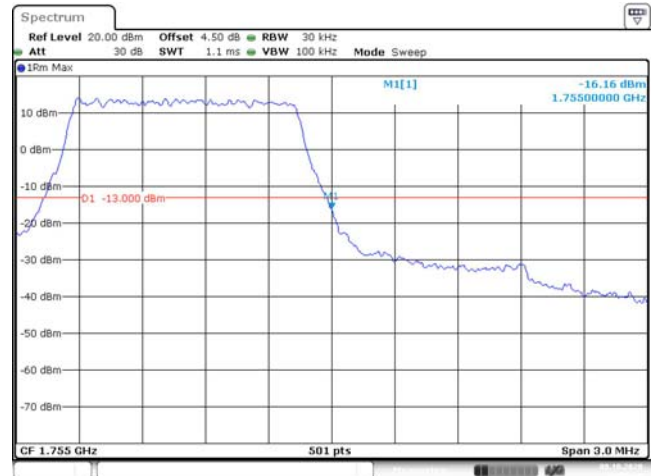
**LTE Band 4:**

**1.4M, QPSK, Left Band Edge**



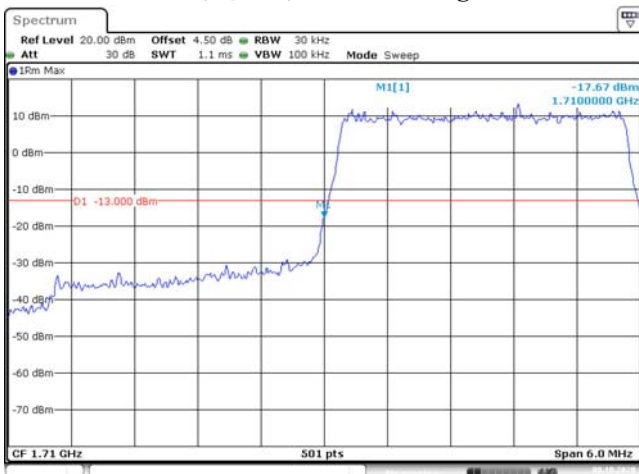
Date: 8.OCT.2020 16:04:39

**1.4M, QPSK, Right Band Edge**



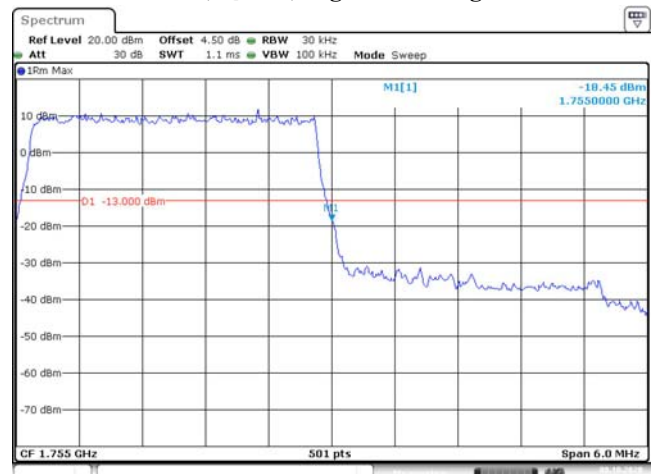
Date: 8.OCT.2020 16:05:24

**3M, QPSK, Left Band Edge**



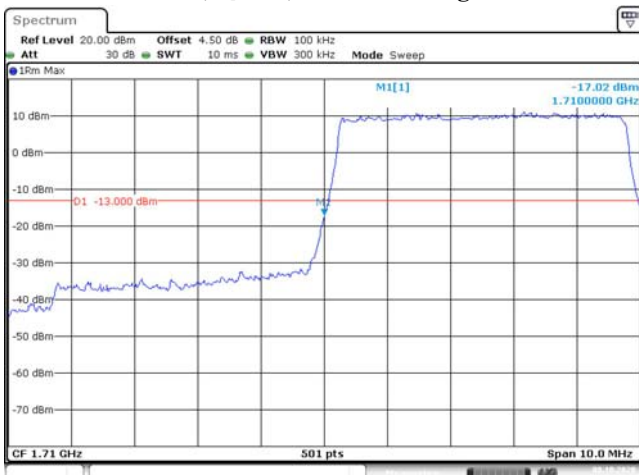
Date: 8.OCT.2020 16:06:11

**3M, QPSK, Right Band Edge**



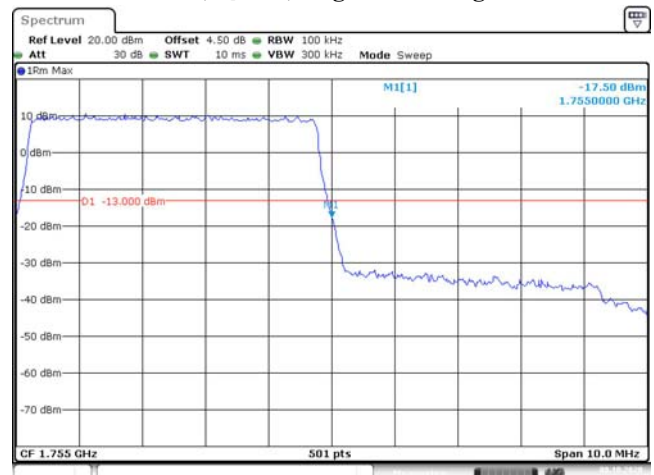
Date: 8.OCT.2020 16:07:08

**5M, QPSK, Left Band Edge**



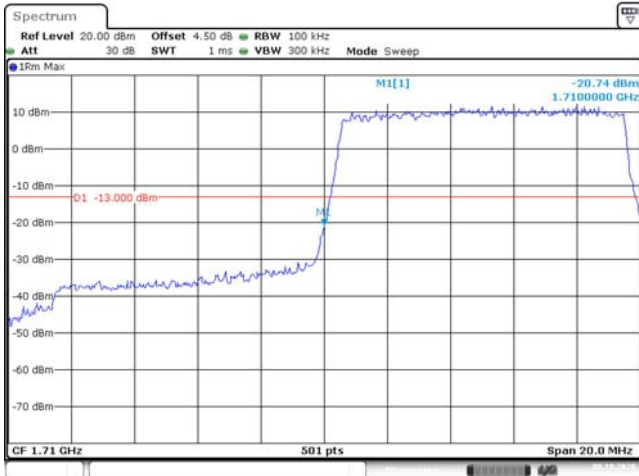
Date: 8.OCT.2020 16:08:18

**5M, QPSK, Right Band Edge**



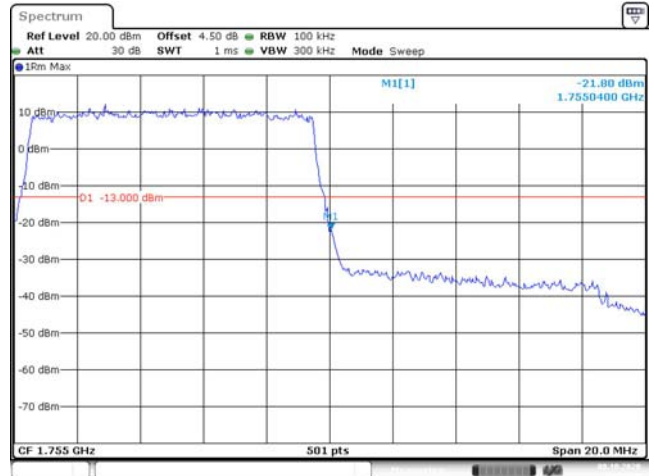
Date: 8.OCT.2020 16:09:34

10M, QPSK, Left Band Edge



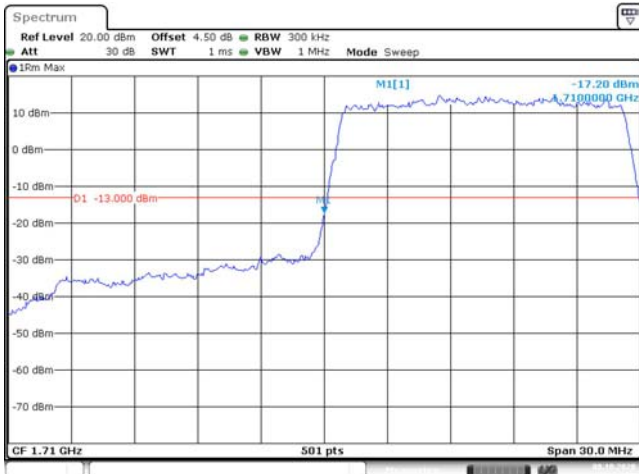
Date: 8.OCT.2020 16:10:47

10M, QPSK, Right Band Edge



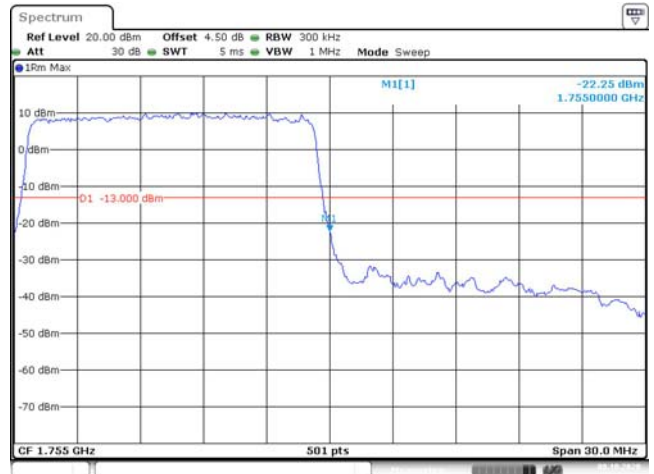
Date: 8.OCT.2020 16:11:49

15M, QPSK, Left Band Edge



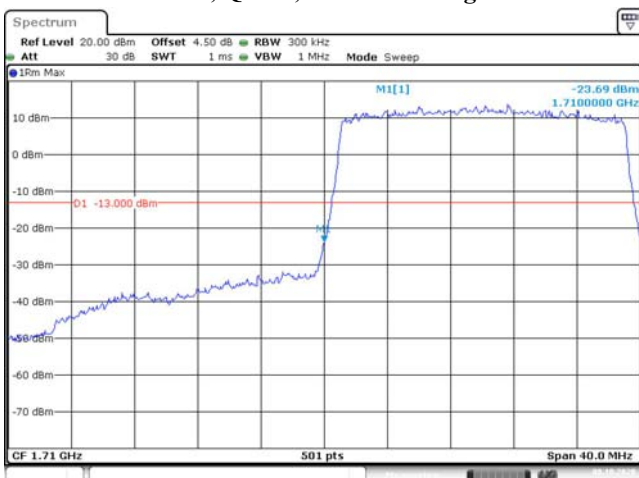
Date: 8.OCT.2020 16:12:50

15M, QPSK, Right Band Edge



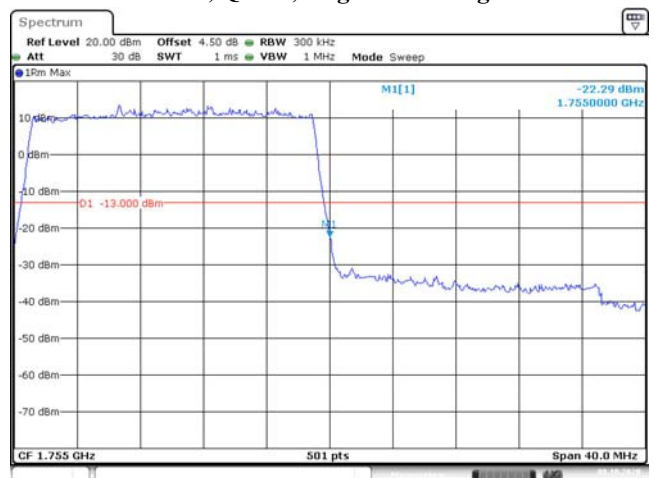
Date: 8.OCT.2020 16:14:12

20M, QPSK, Left Band Edge



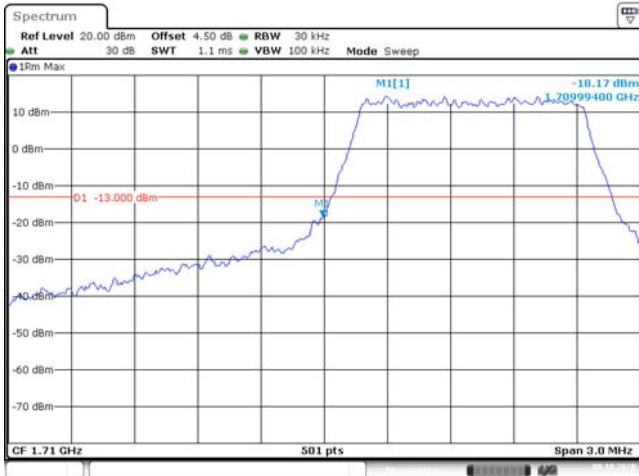
Date: 8.OCT.2020 16:20:42

20M, QPSK, Right Band Edge



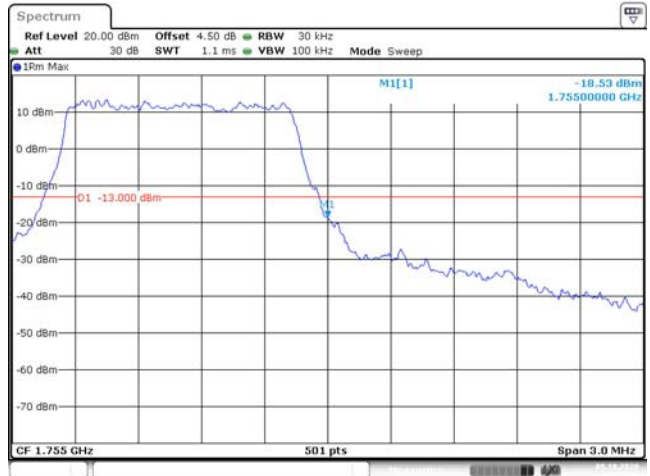
Date: 8.OCT.2020 16:21:45

**1.4M, 16QAM, Left Band Edge**



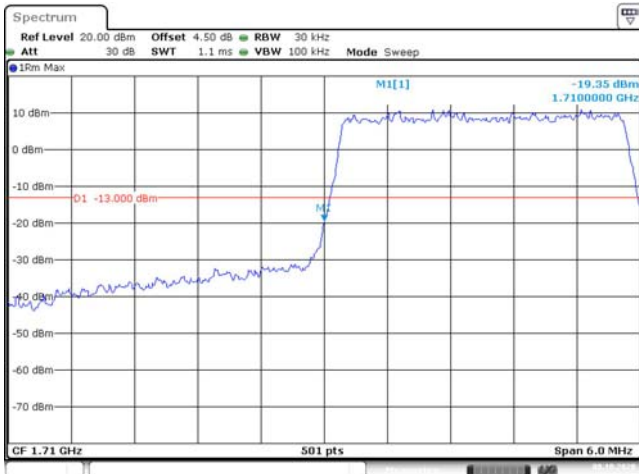
Date: 8.OCT.2020 16:04:58

**1.4M, 16QAM, Right Band Edge**



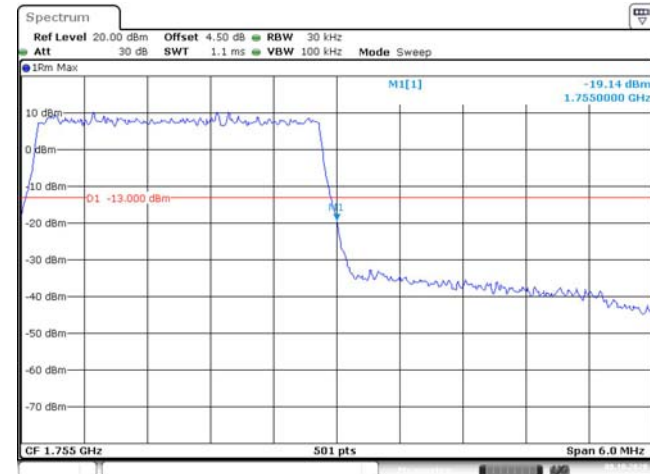
Date: 8.OCT.2020 16:05:42

**3M, 16QAM, Left Band Edge**



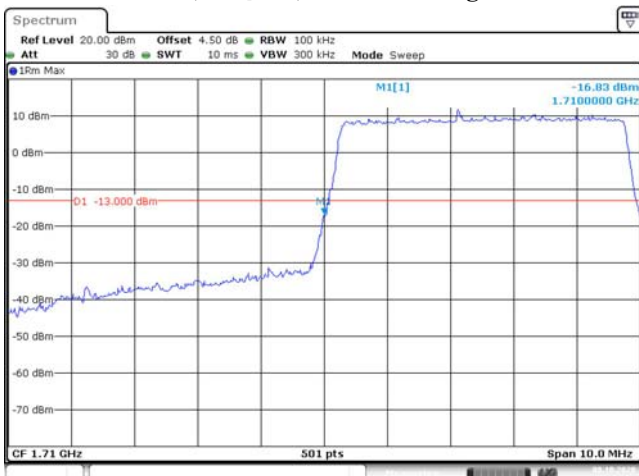
Date: 8.OCT.2020 16:06:39

**3M, 16QAM, Right Band Edge**



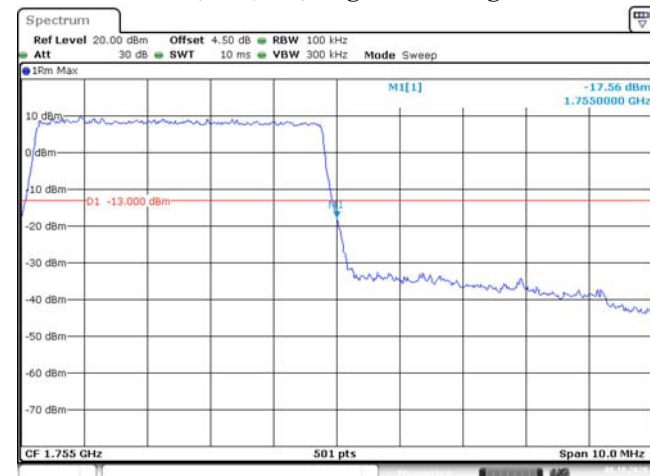
Date: 8.OCT.2020 16:07:33

**5M, 16QAM, Left Band Edge**



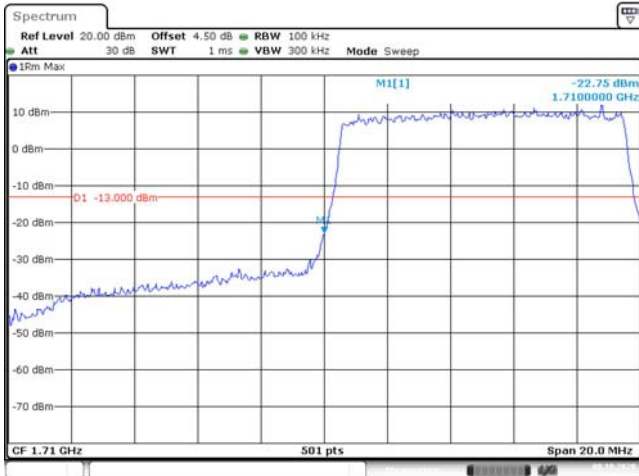
Date: 8.OCT.2020 16:08:51

**5M, 16QAM, Right Band Edge**



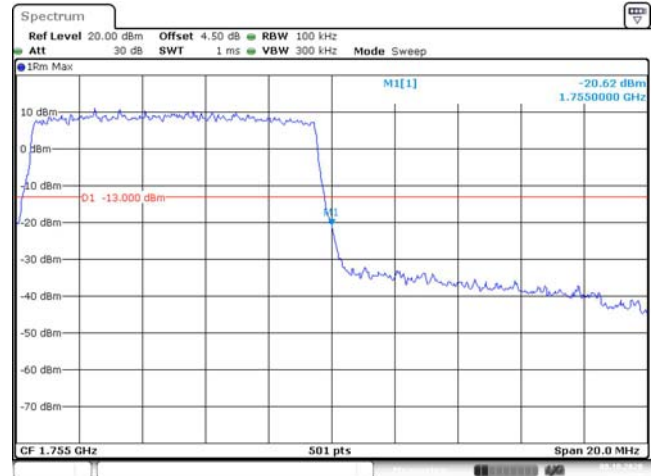
Date: 8.OCT.2020 16:10:14

10M, 16QAM, Left Band Edge



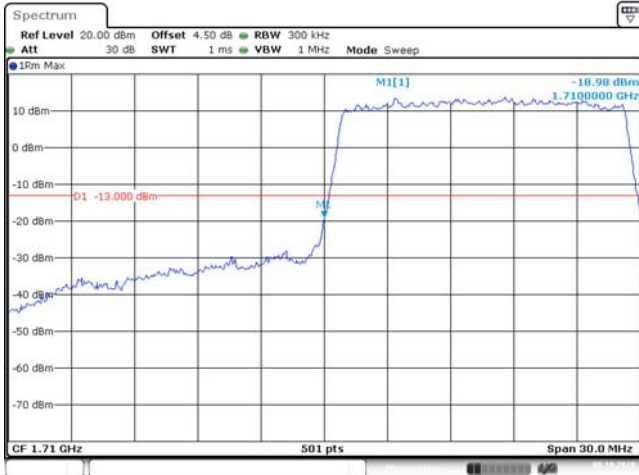
Date: 8.OCT.2020 16:11:19

10M, 16QAM, Right Band Edge



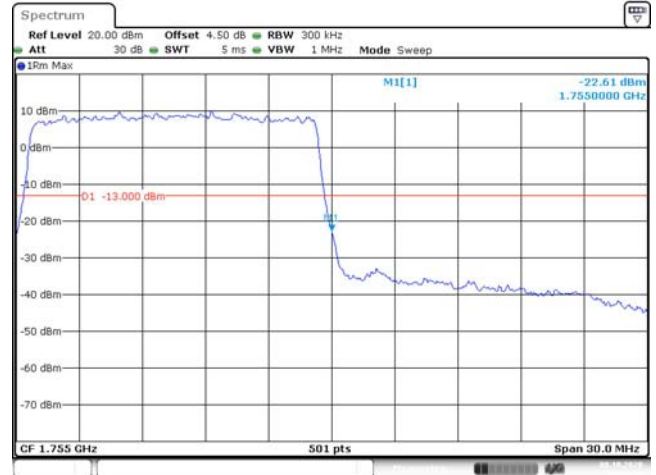
Date: 8.OCT.2020 16:12:18

15M, 16QAM, Left Band Edge



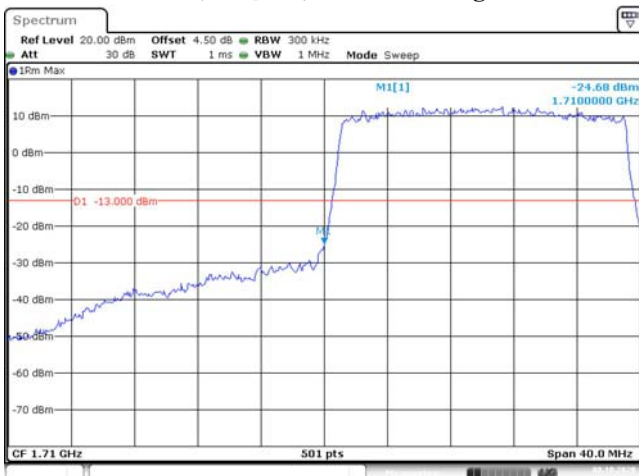
Date: 8.OCT.2020 16:13:31

15M, 16QAM, Right Band Edge



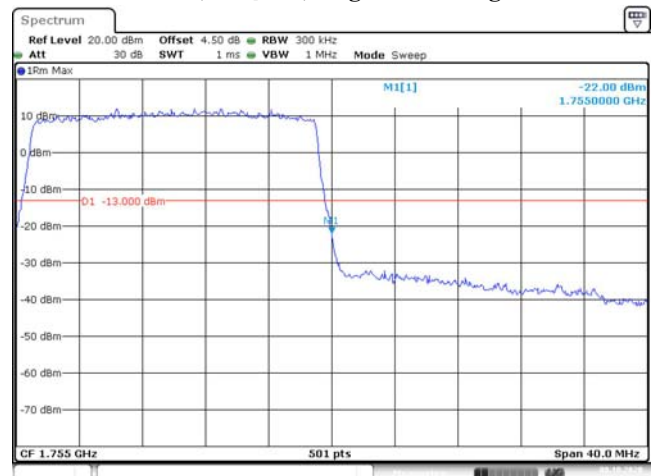
Date: 8.OCT.2020 16:16:28

20M, 16QAM, Left Band Edge



Date: 8.OCT.2020 16:21:16

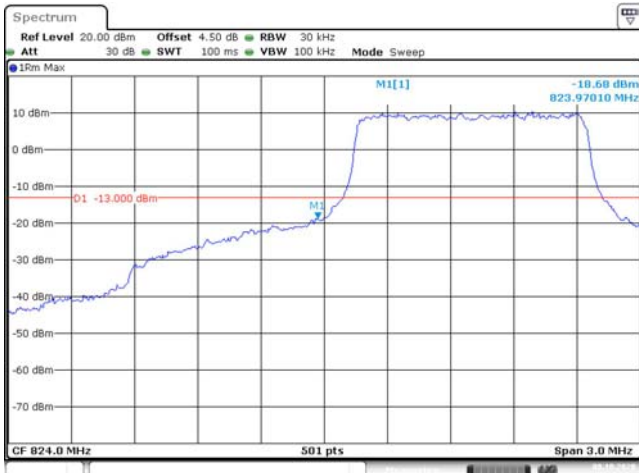
20M, 16QAM, Right Band Edge



Date: 8.OCT.2020 16:22:16

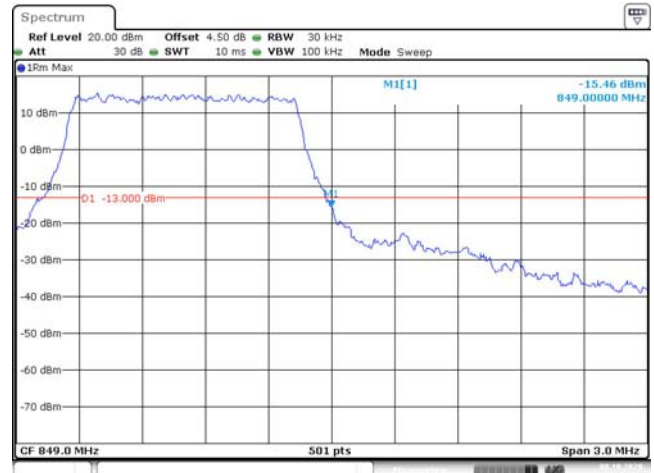
**LTE Band 5:**

**1.4M, QPSK, Left Band Edge**



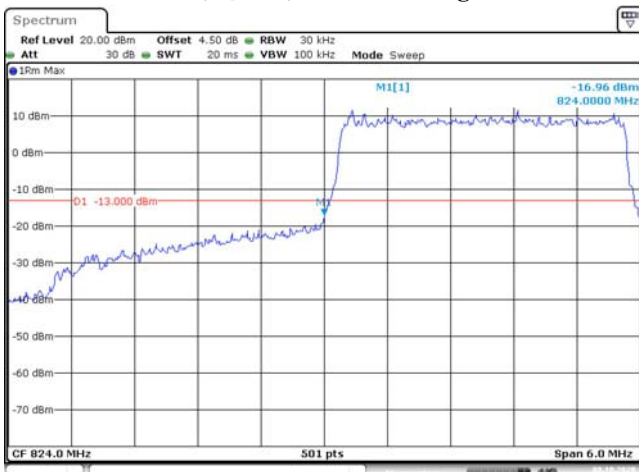
Date: 8.OCT.2020 16:23:00

**1.4M, QPSK, Right Band Edge**



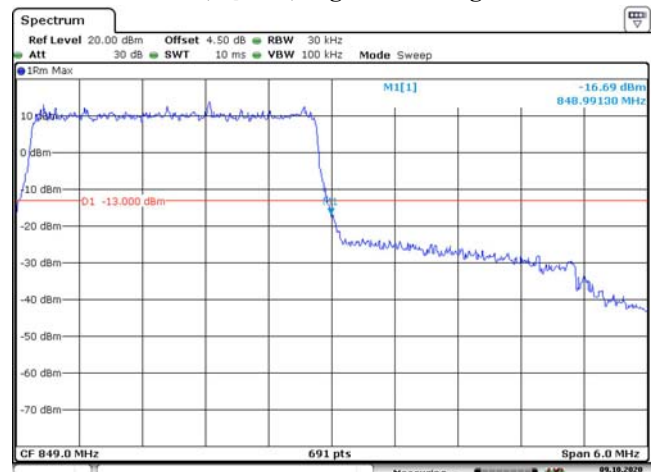
Date: 8.OCT.2020 16:24:14

**3M, QPSK, Left Band Edge**



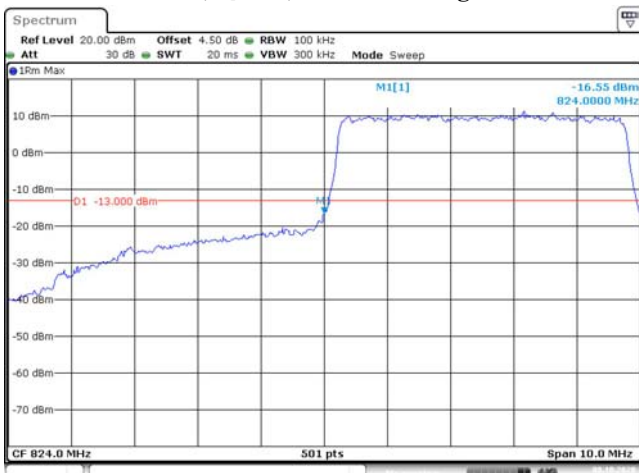
Date: 8.OCT.2020 16:41:52

**3M, QPSK, Right Band Edge**



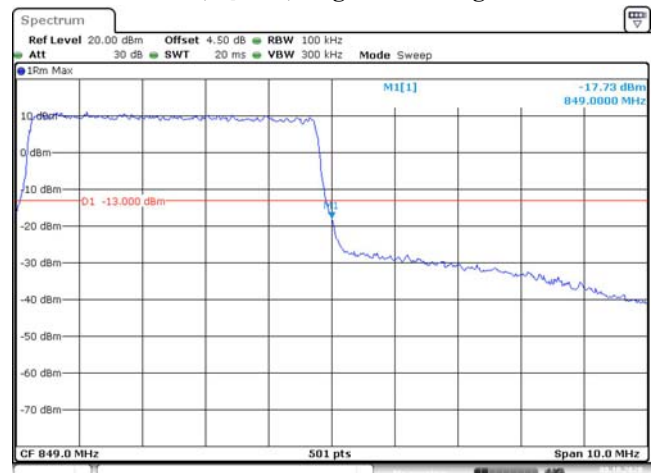
Date: 9.OCT.2020 09:53:52

**5M, QPSK, Left Band Edge**



Date: 8.OCT.2020 16:44:28

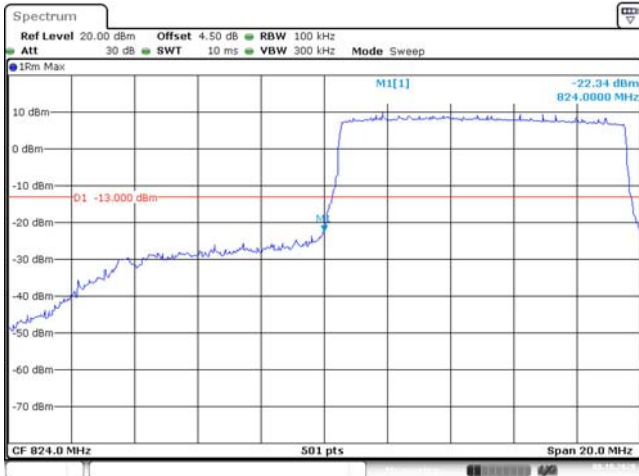
**5M, QPSK, Right Band Edge**



Date: 8.OCT.2020 16:45:39

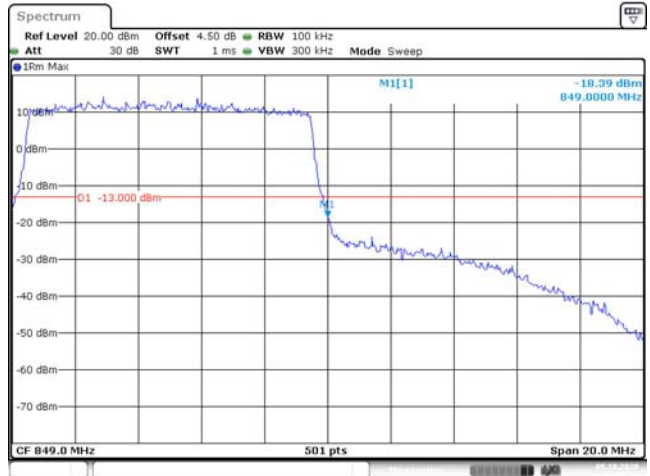


**10M, QPSK, Left Band Edge**



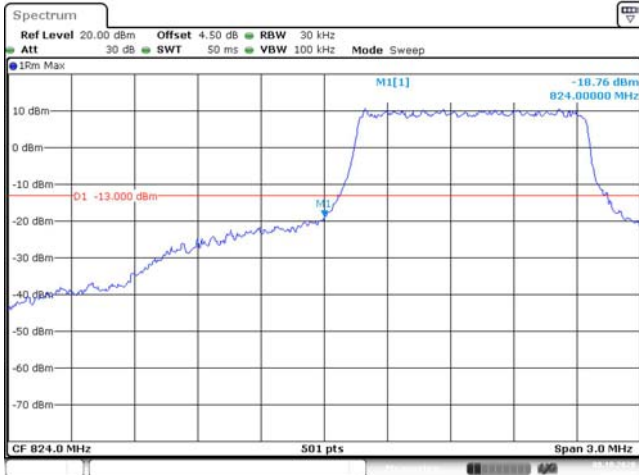
Date: 8.OCT.2020 16:47:05

**10M, QPSK, Right Band Edge**



Date: 8.OCT.2020 16:48:13

**1.4M, 16QAM, Left Band Edge**



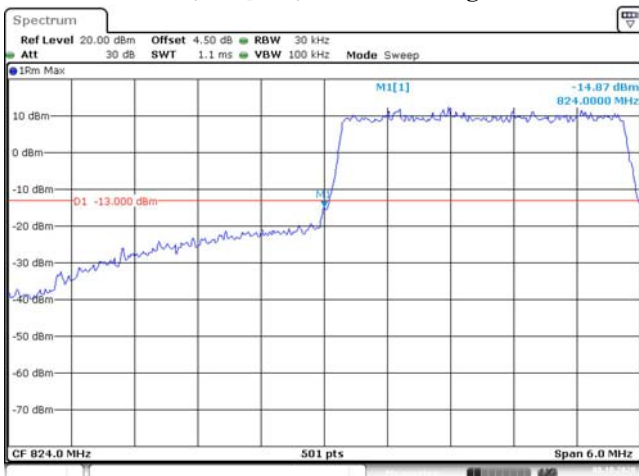
Date: 8.OCT.2020 16:23:30

**1.4M, 16QAM, Right Band Edge**



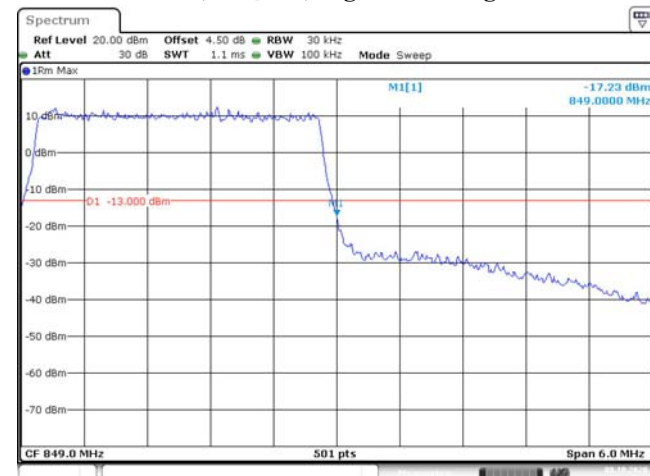
Date: 8.OCT.2020 16:24:30

**3M, 16QAM, Left Band Edge**



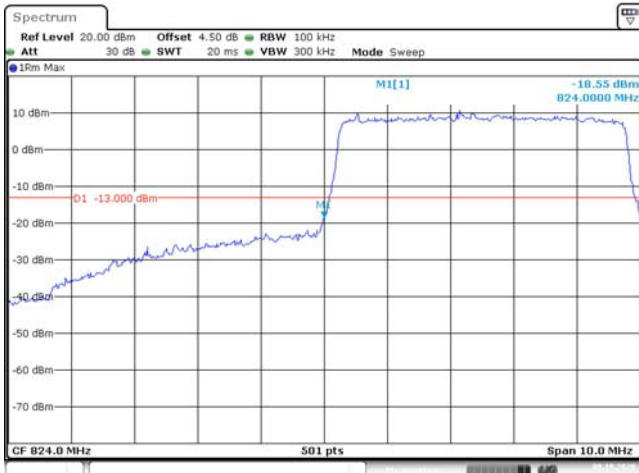
Date: 8.OCT.2020 16:42:14

**3M, 16QAM, Right Band Edge**

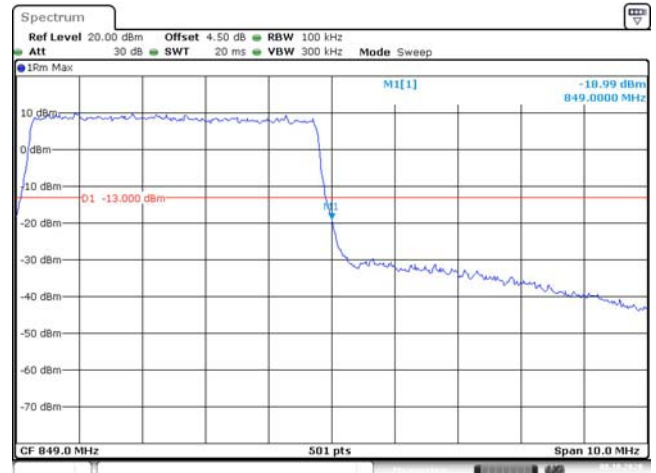


Date: 8.OCT.2020 16:43:47

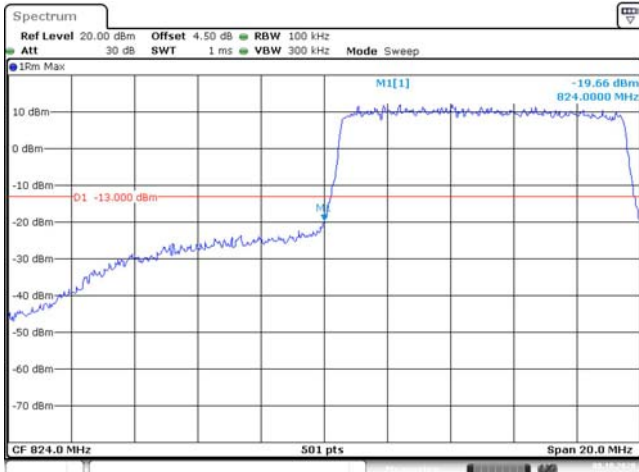
5M, 16QAM, Left Band Edge



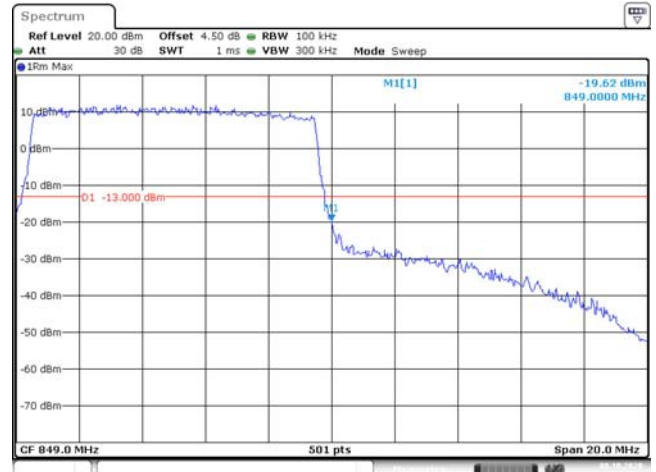
5M, 16QAM, Right Band Edge



10M, 16QAM, Left Band Edge

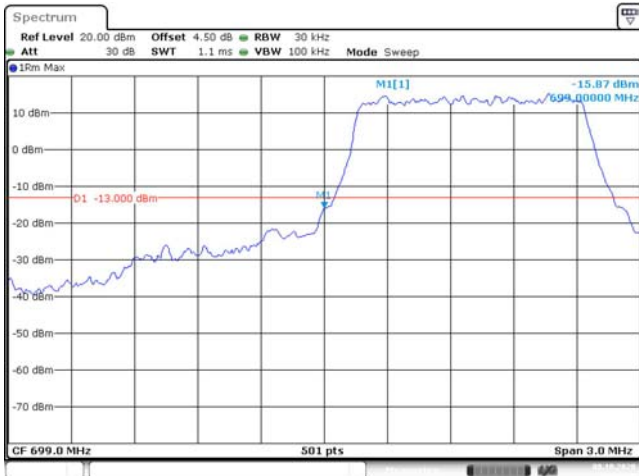


10M, 16QAM, Right Band Edge

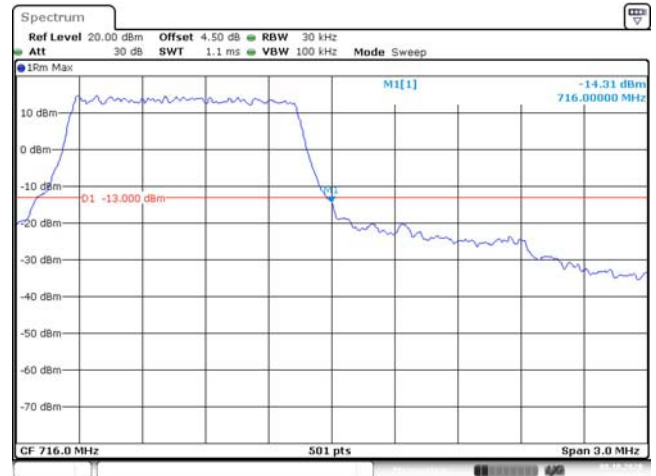


LTE Band 12:

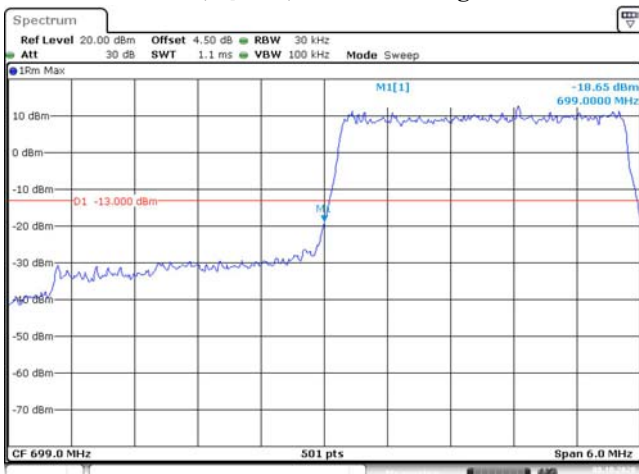
1.4M, QPSK, Left Band Edge



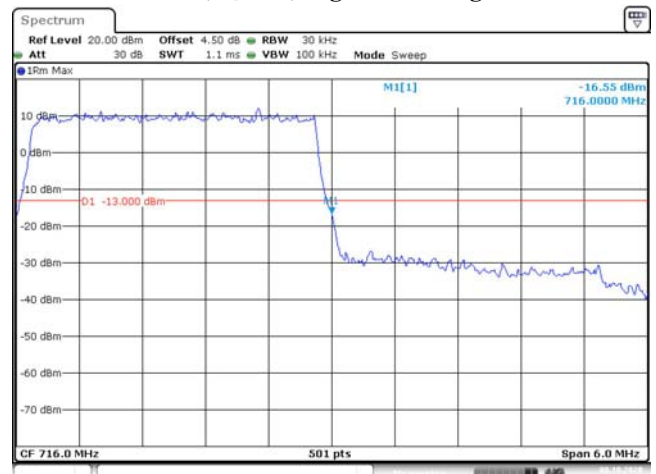
1.4M, QPSK, Right Band Edge



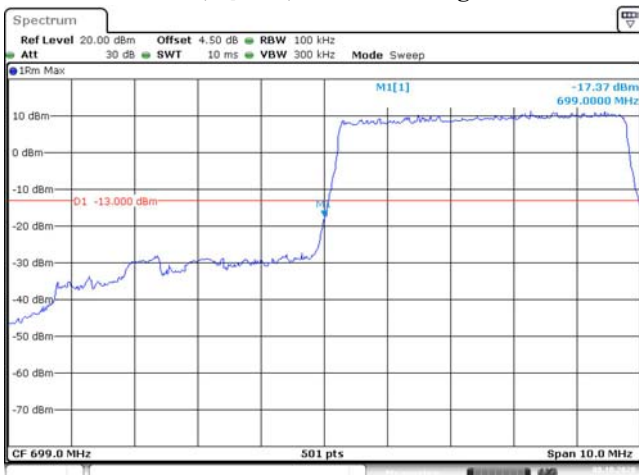
3M, QPSK, Left Band Edge



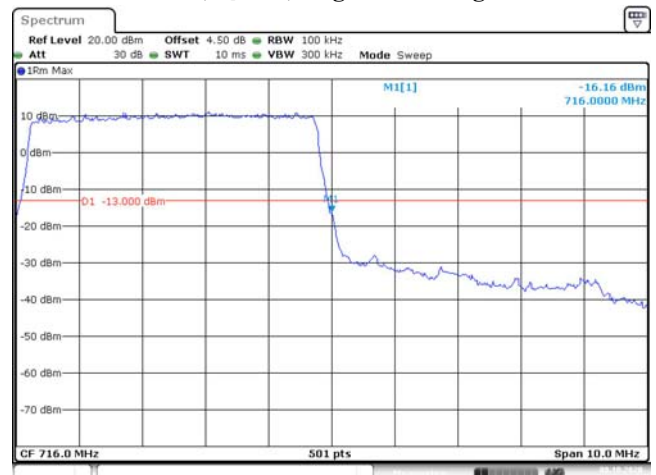
3M, QPSK, Right Band Edge



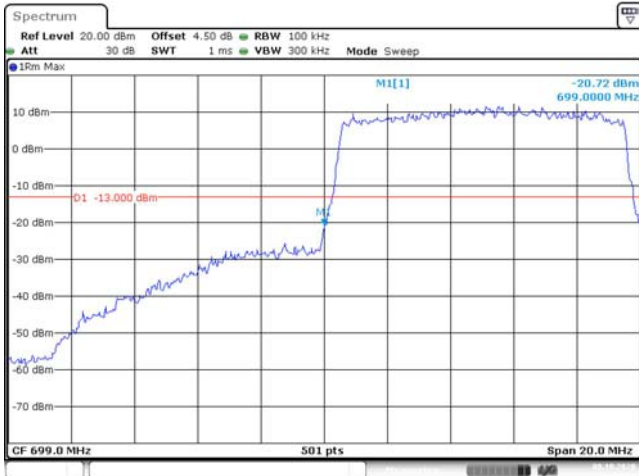
5M, QPSK, Left Band Edge



5M, QPSK, Right Band Edge

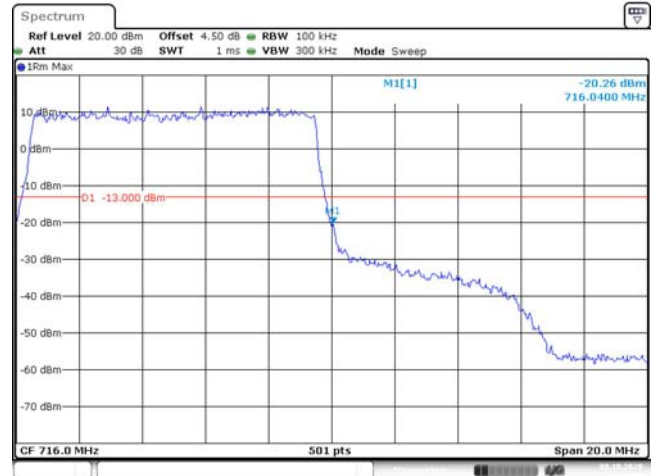


**10M, QPSK, Left Band Edge**



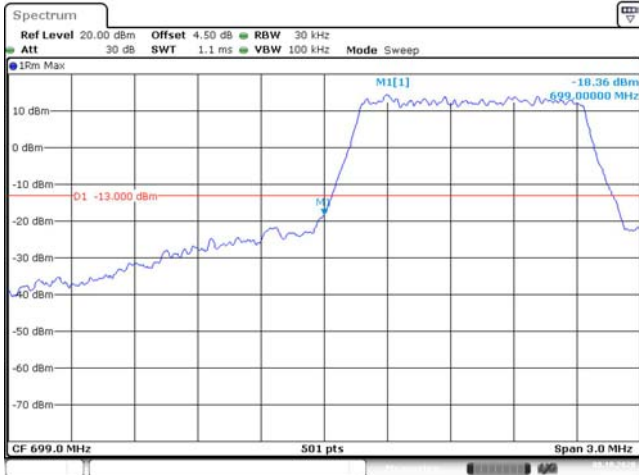
Date: 8.OCT.2020 16:54:32

**10M, QPSK, Right Band Edge**



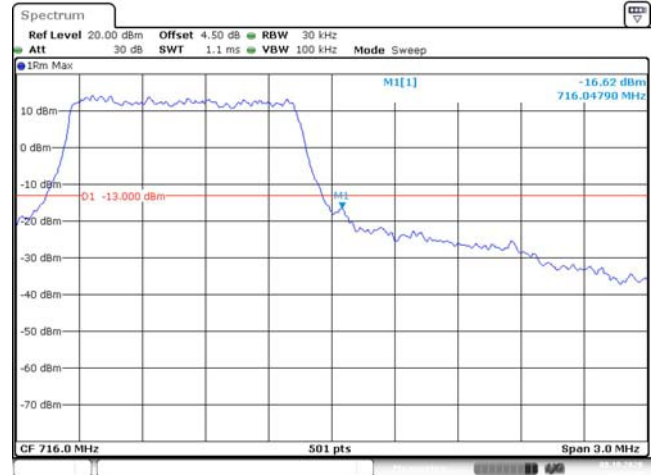
Date: 8.OCT.2020 16:55:34

**1.4M, 16QAM, Left Band Edge**



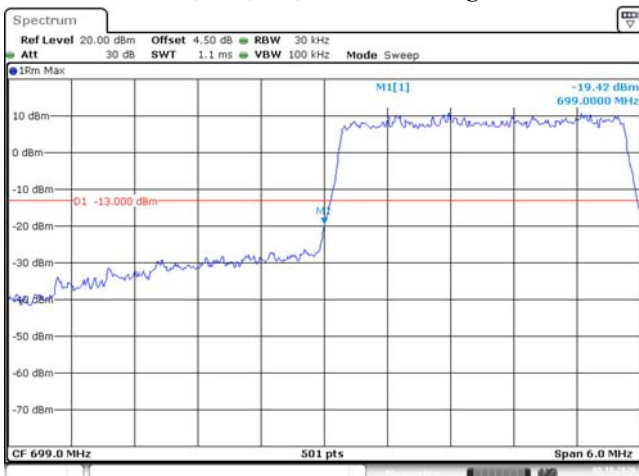
Date: 8.OCT.2020 16:49:35

**1.4M, 16QAM, Right Band Edge**



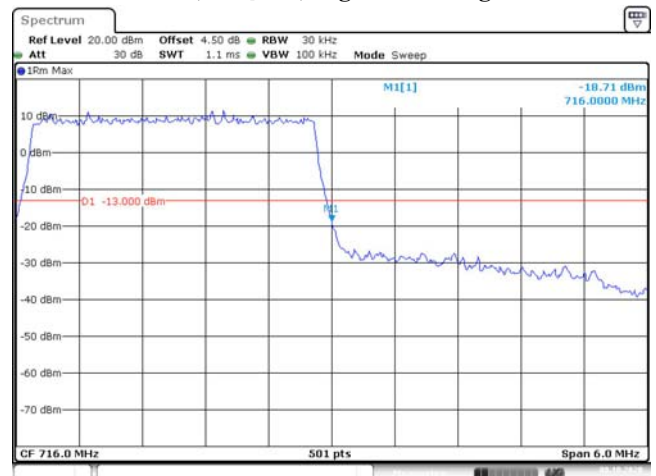
Date: 8.OCT.2020 16:50:19

**3M, 16QAM, Left Band Edge**



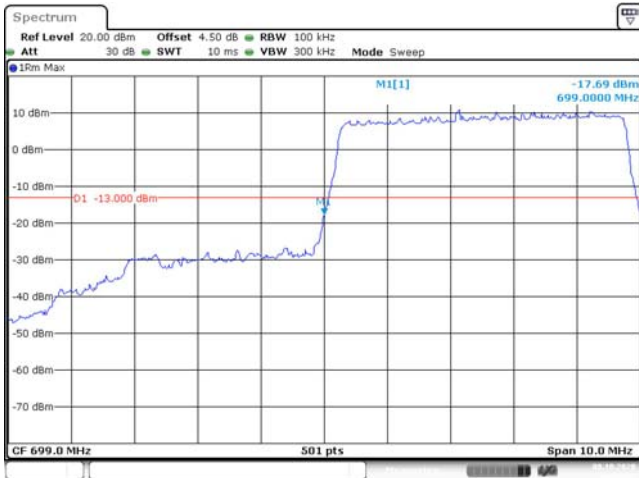
Date: 8.OCT.2020 16:51:07

**3M, 16QAM, Right Band Edge**

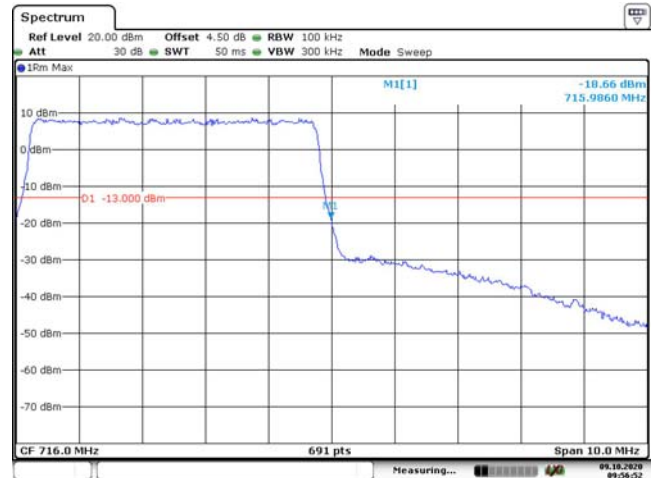


Date: 8.OCT.2020 16:51:48

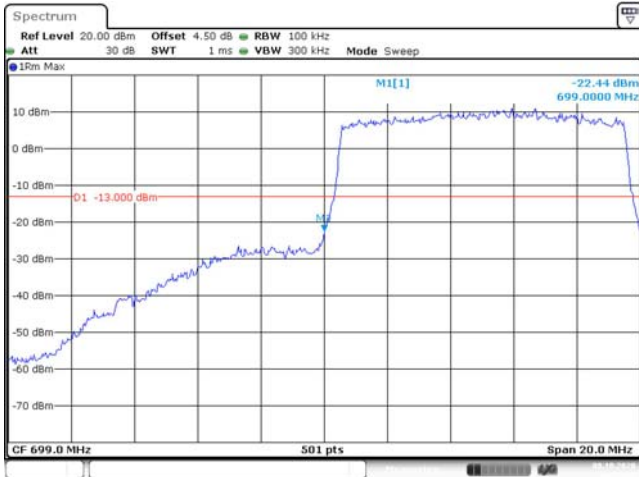
### 5M, 16QAM, Left Band Edge



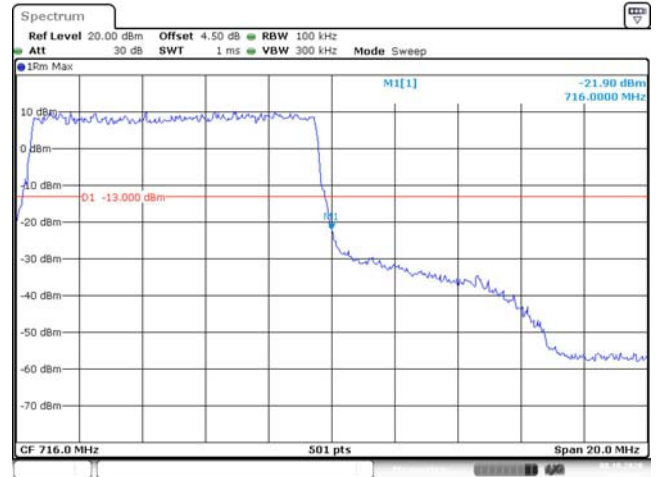
### 5M, 16QAM, Right Band Edge



### 10M, 16QAM, Left Band Edge

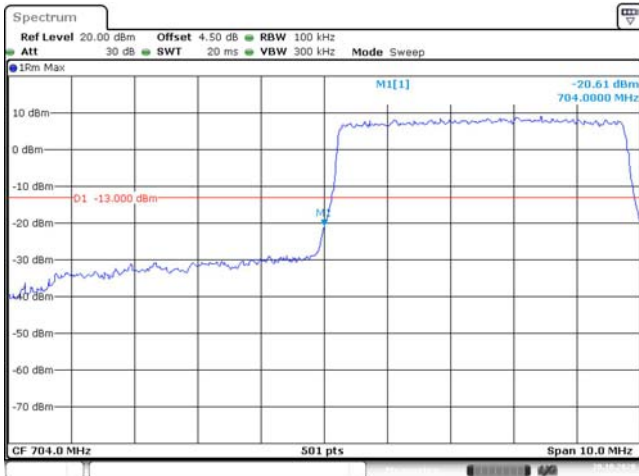


### 10M, 16QAM, Right Band Edge

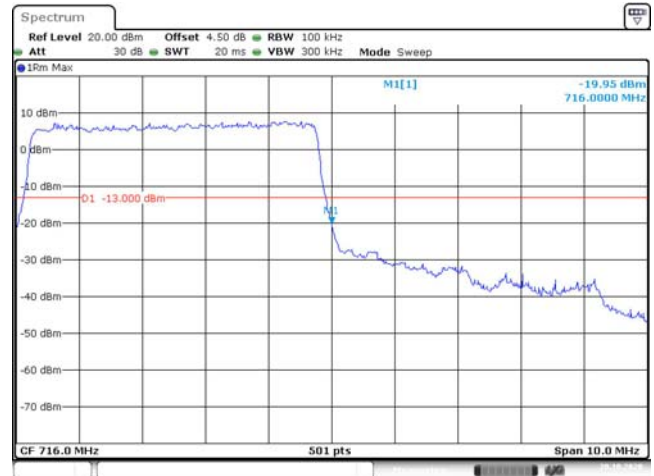


LTE Band 17:

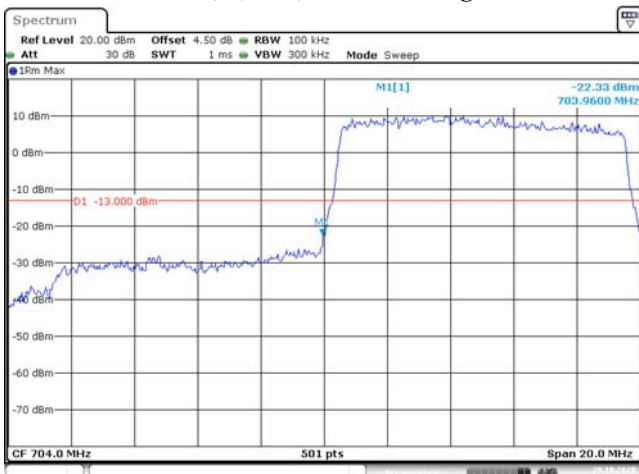
5M, QPSK, Left Band Edge



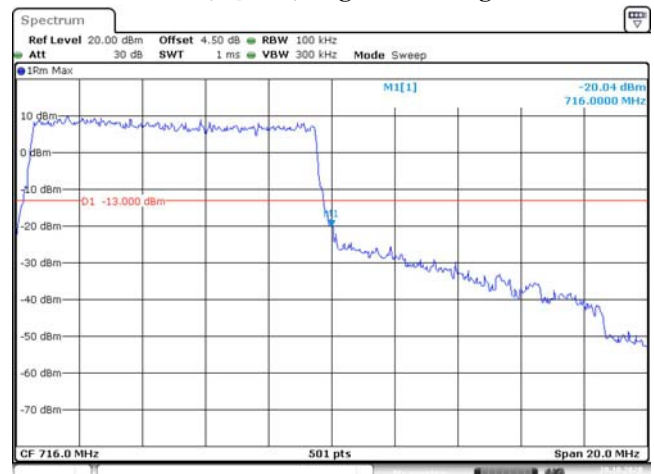
5M, QPSK, Right Band Edge



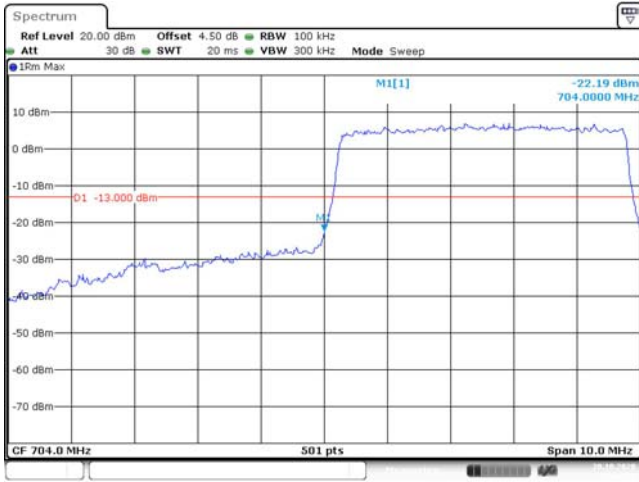
10M, QPSK, Left Band Edge



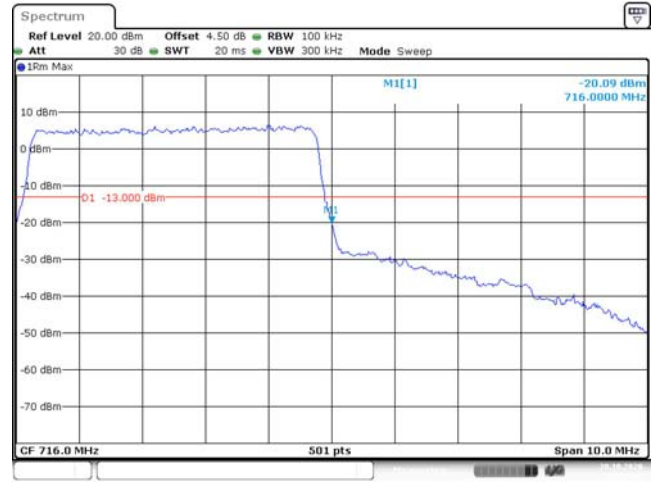
10M, QPSK, Right Band Edge



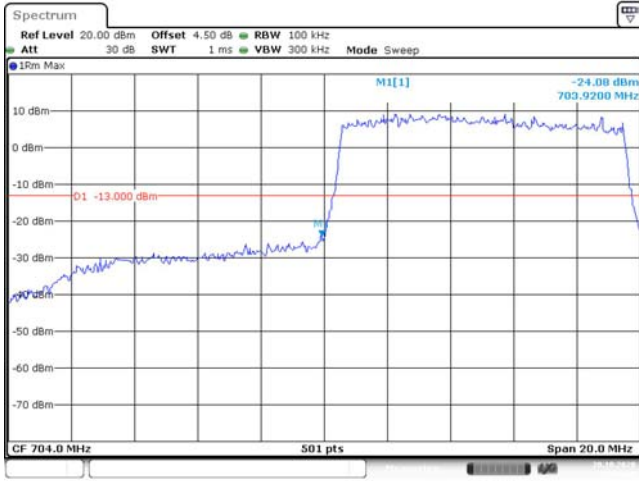
5M, 16QAM, Left Band Edge



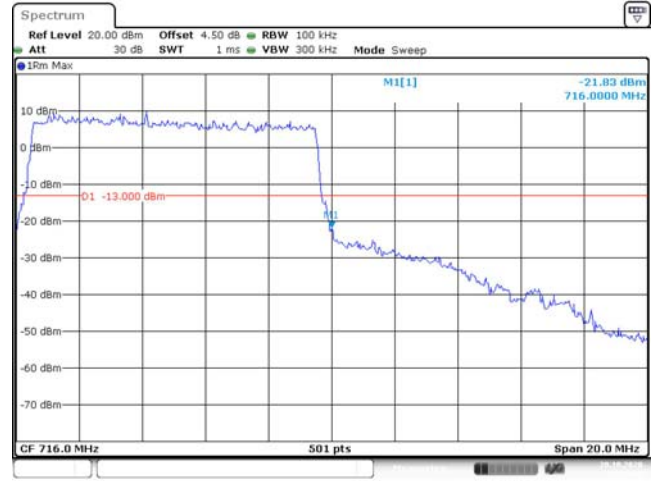
5M, 16QAM, Right Band Edge



10M, 16QAM, Left Band Edge

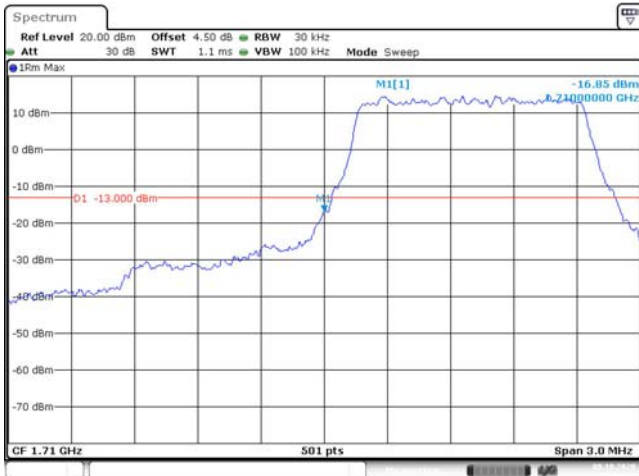


10M, 16QAM, Right Band Edge



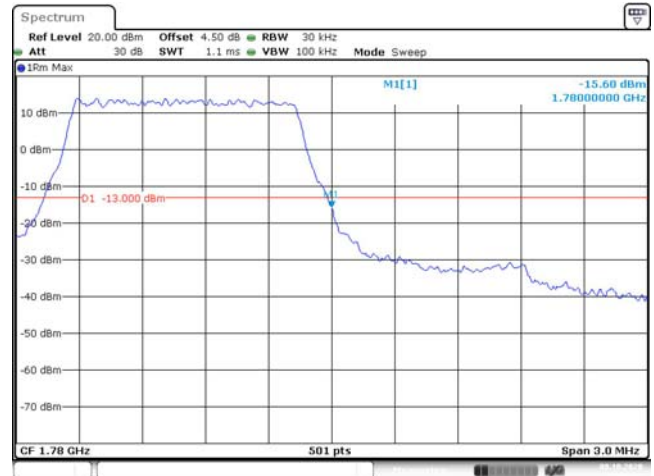
**LTE Band 66:**

**1.4M, QPSK, Left Band Edge**



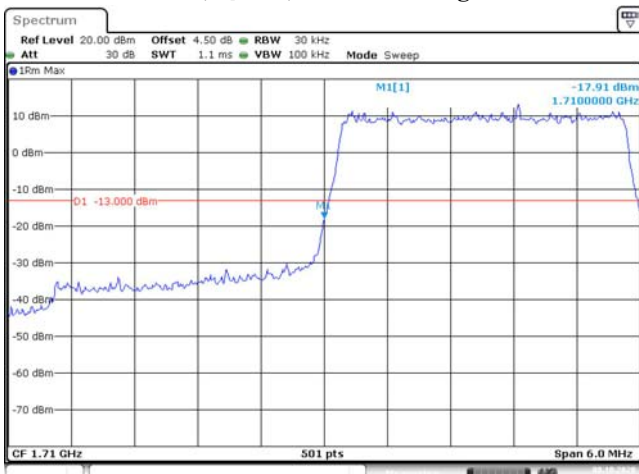
Date: 8.OCT.2020 17:08:11

**1.4M, QPSK, Right Band Edge**



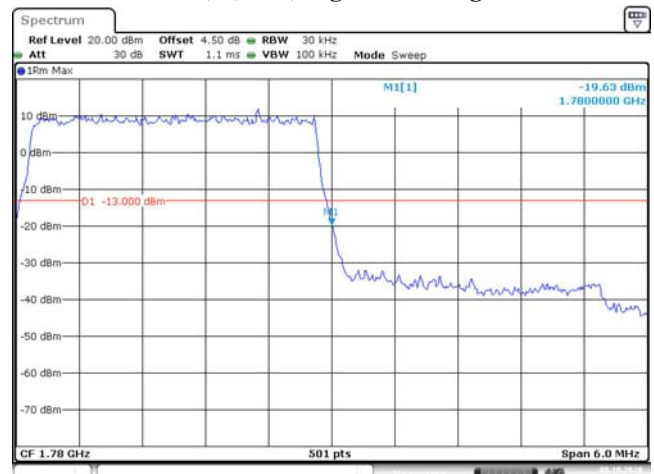
Date: 8.OCT.2020 17:09:02

**3M, QPSK, Left Band Edge**



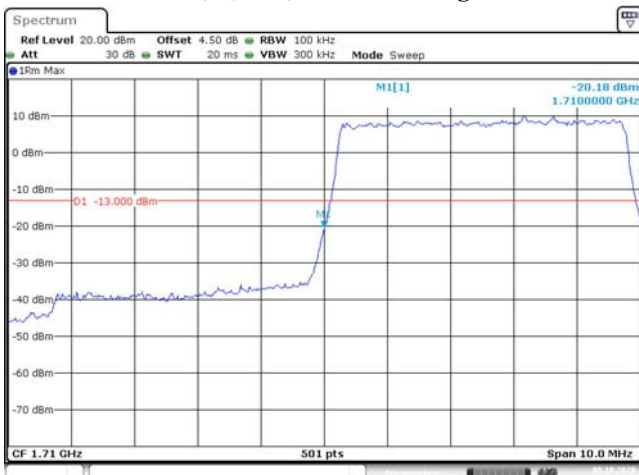
Date: 8.OCT.2020 17:09:46

**3M, QPSK, Right Band Edge**



Date: 8.OCT.2020 17:10:33

**5M, QPSK, Left Band Edge**



Date: 8.OCT.2020 17:11:38

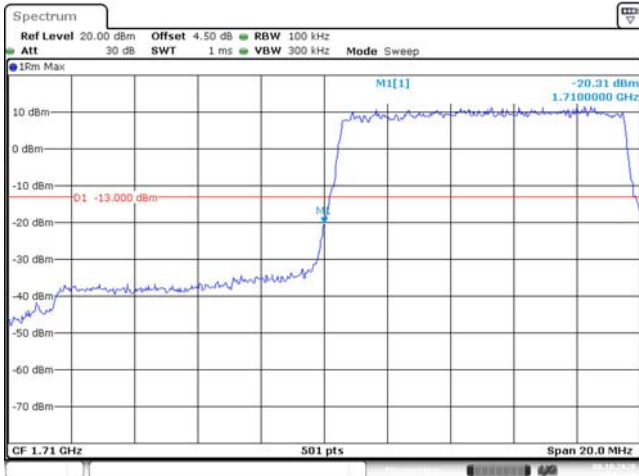
**5M, QPSK, Right Band Edge**



Date: 8.OCT.2020 17:13:03

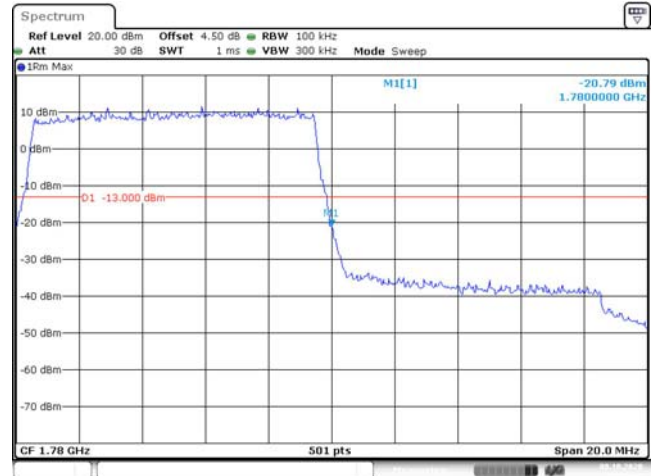


10M, QPSK, Left Band Edge



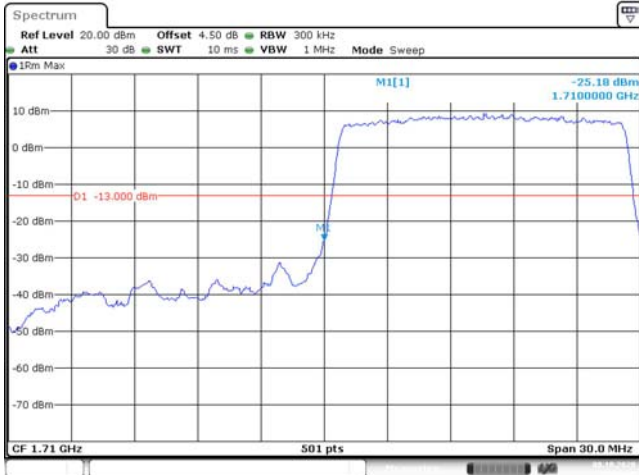
Date: 8.OCT.2020 17:14:17

10M, QPSK, Right Band Edge



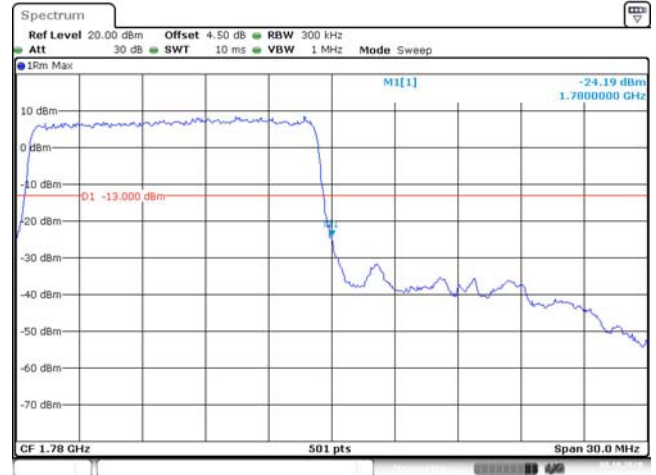
Date: 8.OCT.2020 17:15:12

15M, QPSK, Left Band Edge



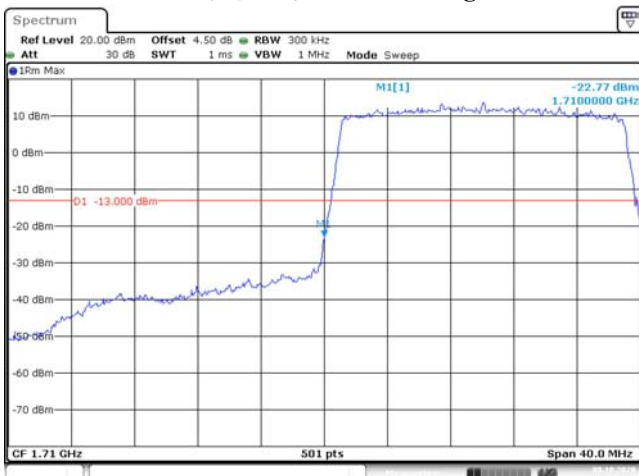
Date: 8.OCT.2020 17:16:24

15M, QPSK, Right Band Edge



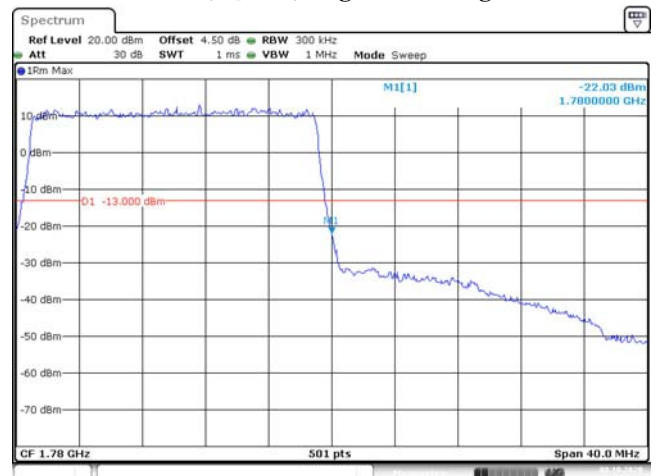
Date: 8.OCT.2020 17:17:35

20M, QPSK, Left Band Edge



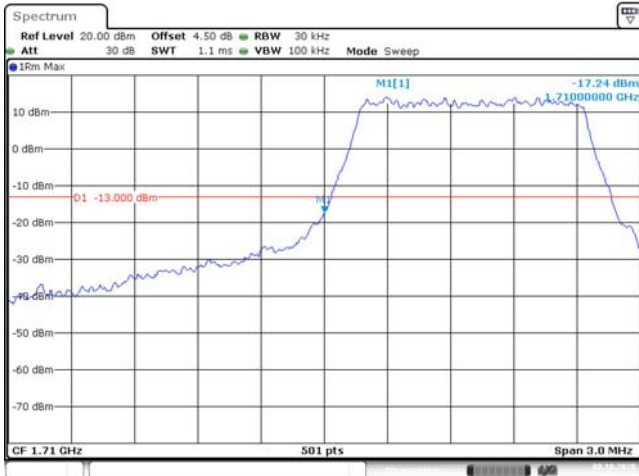
Date: 8.OCT.2020 17:24:58

20M, QPSK, Right Band Edge



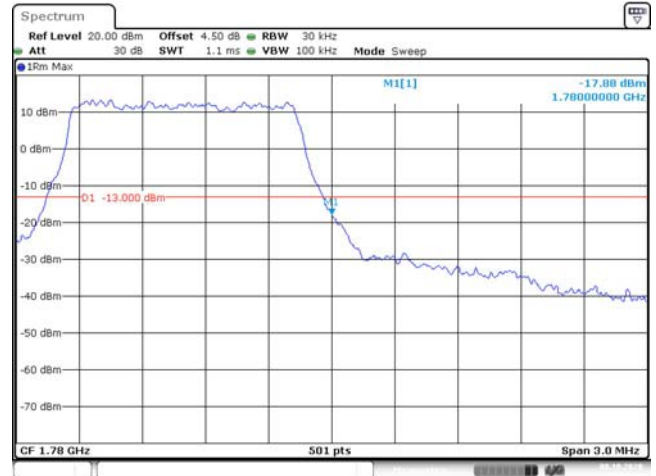
Date: 8.OCT.2020 17:25:58

**1.4M, 16QAM, Left Band Edge**



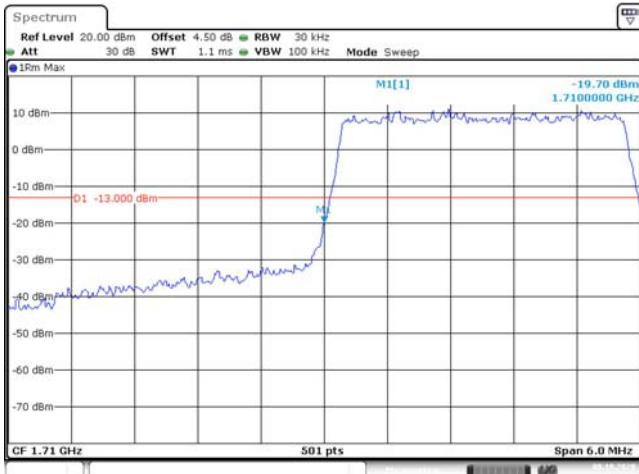
Date: 8.OCT.2020 17:08:36

**1.4M, 16QAM, Right Band Edge**



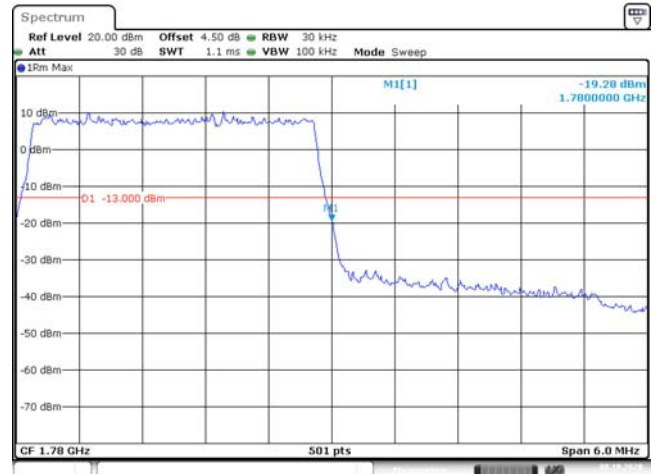
Date: 8.OCT.2020 17:09:23

**3M, 16QAM, Left Band Edge**



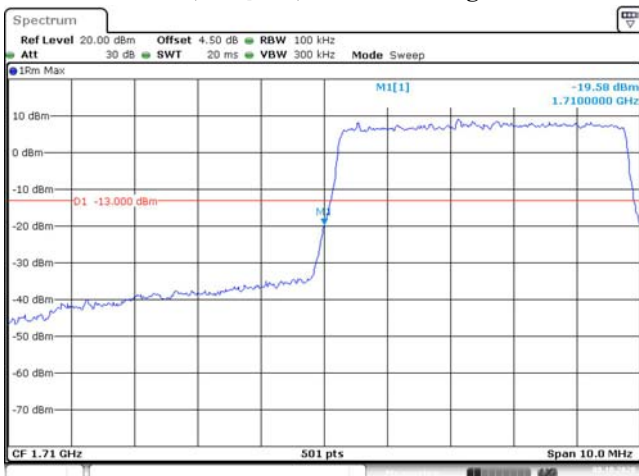
Date: 8.OCT.2020 17:10:08

**3M, 16QAM, Right Band Edge**



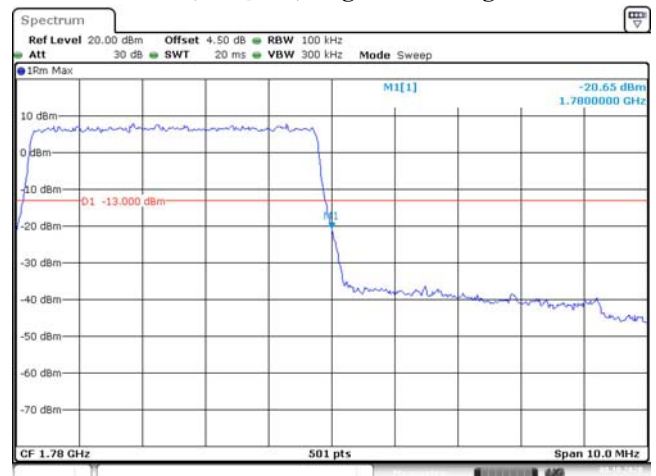
Date: 8.OCT.2020 17:10:58

**5M, 16QAM, Left Band Edge**



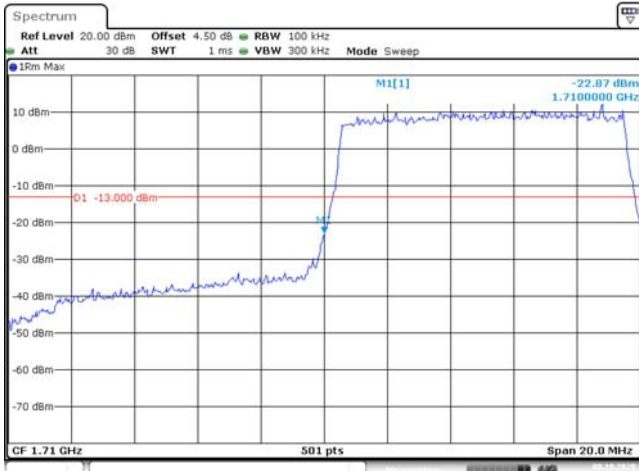
Date: 8.OCT.2020 17:12:18

**5M, 16QAM, Right Band Edge**



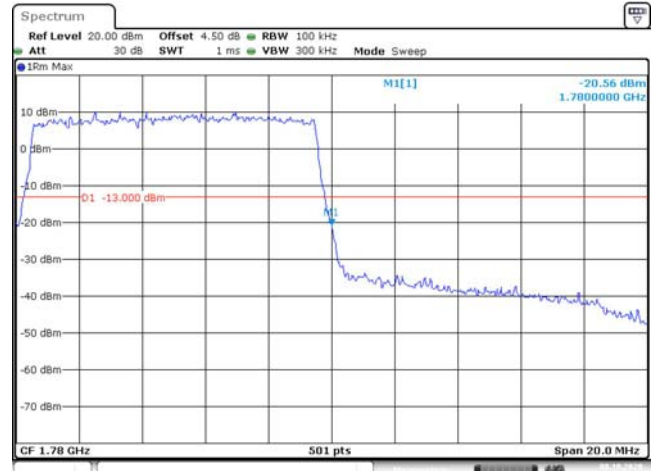
Date: 8.OCT.2020 17:13:40

**10M, 16QAM, Left Band Edge**



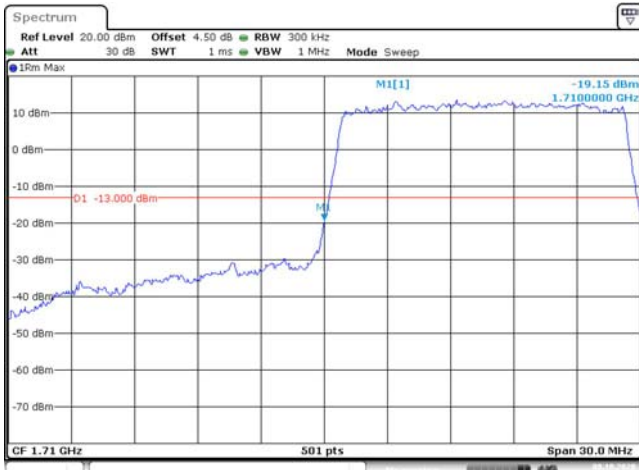
Date: 8.OCT.2020 17:14:42

**10M, 16QAM, Right Band Edge**



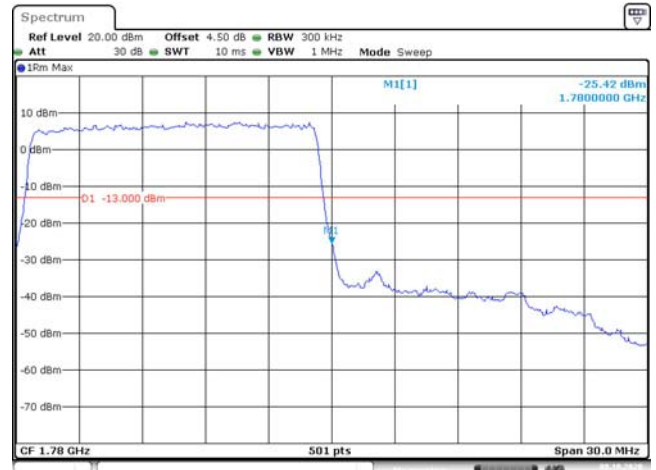
Date: 8.OCT.2020 17:15:44

**15M, 16QAM, Left Band Edge**



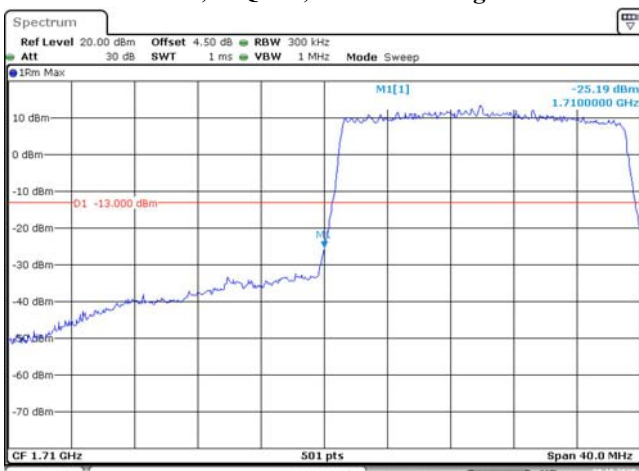
Date: 8.OCT.2020 17:16:59

**15M, 16QAM, Right Band Edge**



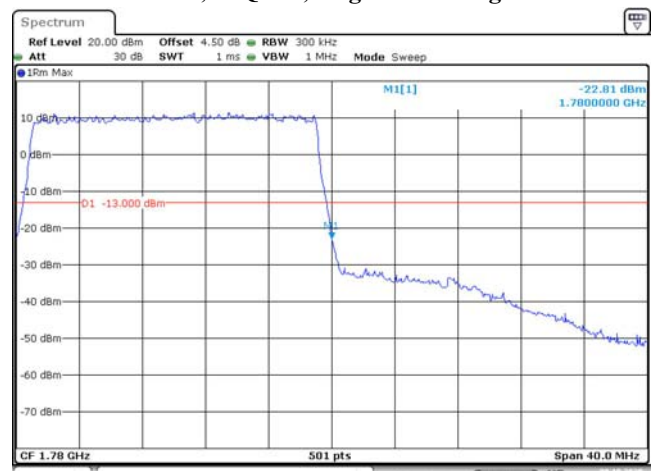
Date: 8.OCT.2020 17:18:13

**20M, 16QAM, Left Band Edge**



Date: 8.OCT.2020 17:25:29

**20M, 16QAM, Right Band Edge**



Date: 8.OCT.2020 17:26:29

**FCC §2.1055, §22.355 & §24.235 & §27.54 - FREQUENCY STABILITY****Applicable Standard**

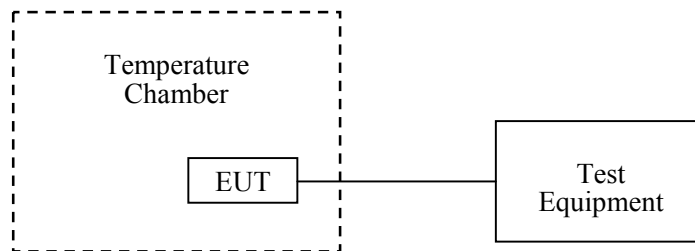
FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235, §27.54

**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	FSU 26	200256	2020-05-09	2021-05-09
R&S	Spectrum Analyzer	FSV40	101474	2020-07-07	2021-07-07
yzjingcheng	Coaxial Cable	KTRFBU-141-50	41005011	Each time	/
yzjingcheng	Coaxial Cable	KTRFBU-141-50	41002201	Each Time	/
E-Microwave	Blocking Control	EMDCB-00036	0E01201048	Each time	/
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	0E01203239	Each time	/
E-Microwave	Two-way Splitter	ODP-1-6-2S	0E0120142	Each Time	/
ESPEC	Constant temperature and humidity Tester	ESX-4CA	018 463	2020-03-10	2021-03-09
UNI-T	Multimeter	UT39A	M130199938	2020-07-24	2021-07-24
Pro instrument	DC Power Supply	pps3300	3300012	N/A	N/A
R&S	Wideband Radio Communication Tester	CMW500	147473	2020-09-12	2021-09-12

\* **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**

<b>Temperature:</b>	25.3~27.5°C
<b>Relative Humidity:</b>	49~58%
<b>ATM Pressure:</b>	100.8~101.0 kPa
<b>Tester:</b>	Chris Mo, Billy Li
<b>Test Date:</b>	2020-09-22~2020-10-20

*Test Result: Compliance.*

**WCDMA Band II: R99**

Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V <sub>DC</sub>	Hz	ppm	
-30	3.8	-1	-0.00053	Pass
-20		-1	-0.00053	
-10		-3	-0.00160	
0		-4	-0.00213	
10		-5	-0.00266	
20		-6	-0.00319	
30		-3	-0.00160	
40		-5	-0.00266	
50		-6	-0.00319	
20		4.35	-4	
20	3.6	-7	-0.00372	

**WCDMA Band IV: R99**

QPSK, Channel Bandwidth:10MHz					
Power Supplied	Temperature	F <sub>L</sub>	Limit	F <sub>H</sub>	Limit
Vdc	°C	MHz	MHz	MHz	MHz
3.8	-30	1.710319	1710	1.754664	1755
	-20	1.710321		1.754667	
	-10	1.710314		1.754669	
	0	1.710316		1.754665	
	10	1.710321		1.754666	
	20	1.710340		1.754660	
	30	1.710318		1.754664	
	40	1.710316		1.754669	
	50	1.710317		1.754671	
4.35	20	1.710319		1.754668	
3.6	20	1.710323		1.754669	

**WCDMA Band V: R99**

Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limits (ppm)
°C	V <sub>DC</sub>	Hz	ppm	
-30	3.8	-2	-0.00239	2.5
-20		-1	-0.00120	
-10		-3	-0.00359	
0		-4	-0.00478	
10		-6	-0.00717	
20		-10	-0.01195	
30		-8	-0.00956	
40		-9	-0.01076	
50		-7	-0.00837	
20		4.35	-5	
20	3.6	-10	-0.01195	

**LTE Band 2:**

<b>QPSK, Channel Bandwidth:10MHz Middle Channel, <math>f_c = 1880</math> MHz</b>				
<b>Temperature</b>	<b>Voltage</b>	<b>Frequency Error</b>	<b>Frequency Error</b>	<b>Result</b>
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>Hz</b>	<b>ppm</b>	
-30	3.8	-2.78	-0.0015	Pass
-20		-0.84	-0.0004	
-10		10.34	0.0055	
0		6.96	0.0037	
10		8.86	0.0047	
20		-6.54	-0.0035	
30		4.64	0.0025	
40		4.22	0.0022	
50		-0.21	-0.0001	
20		4.35	8.23	
20	3.6	2.36	0.0013	

<b>16QAM, Channel Bandwidth:10MHz Middle Channel, <math>f_c = 1880</math> MHz</b>				
<b>Temperature</b>	<b>Voltage</b>	<b>Frequency Error</b>	<b>Frequency Error</b>	<b>Result</b>
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>Hz</b>	<b>ppm</b>	
-30	3.8	-2.37	-0.0013	Pass
-20		-12.45	-0.0066	
-10		6.75	0.0036	
0		6.33	0.0034	
10		8.65	0.0046	
20		5.91	0.0031	
30		-2.32	-0.0012	
40		-7.60	-0.004	
50		2.95	0.0016	
20		4.35	6.54	
20	3.6	3.25	0.0017	

**LTE Band 4**

<b>QPSK, Channel Bandwidth:20MHz</b>					
<b>Power Supplied</b>	<b>Temperature</b>	<b>F<sub>L</sub></b>	<b>Limit</b>	<b>F<sub>H</sub></b>	<b>Limit</b>
<b>Vdc</b>	<b>°C</b>	<b>MHz</b>	<b>MHz</b>	<b>MHz</b>	<b>MHz</b>
3.8	-30	1710.545	1710	1754.454	1755
	-20	1710.539		1754.449	
	-10	1710.535		1754.453	
	0	1710.532		1754.451	
	10	1710.530		1754.449	
	20	1710.543		1754.457	
	30	1710.548		1754.460	
	40	1710.542		1754.461	
	50	1710.544		1754.467	
4.35	20	1710.538		1754.465	
3.6	20	1710.542		1754.461	

<b>16QAM, Channel Bandwidth:20MHz</b>					
<b>Power Supplied</b>	<b>Temperature</b>	<b>F<sub>L</sub></b>	<b>Limit</b>	<b>F<sub>H</sub></b>	<b>Limit</b>
<b>Vdc</b>	<b>°C</b>	<b>MHz</b>	<b>MHz</b>	<b>MHz</b>	<b>MHz</b>
3.8	-30	1710.547	1710	1754.459	1755
	-20	1710.544		1754.456	
	-10	1710.543		1754.455	
	0	1710.540		1754.453	
	10	1710.540		1754.455	
	20	1710.543		1754.457	
	30	1710.541		1754.460	
	40	1710.543		1754.460	
	50	1710.548		1754.464	
4.35	20	1710.553		1754.461	
3.6	20	1710.551		1754.463	



**LTE Band 5**

<b>QPSK, Channel Bandwidth:10MHz</b>					
<b>Middle Channel, <math>f_c = 836.5</math> MHz</b>					
<b>Temperature</b>	<b>Voltage</b>	<b>Frequency Error</b>	<b>Frequency Error</b>	<b>Limit</b>	
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>Hz</b>	<b>ppm</b>	<b>ppm</b>	
-30	3.8	-0.5900	-0.0007	2.5	
-20		3.1950	0.0038		
-10		-1.7040	-0.0020		
0		-3.6210	-0.0043		
10		-1.7040	-0.0020		
20		-9.1590	-0.0109		
30		1.9170	0.0023		
40		3.6210	0.0043		
50		-3.6210	-0.0043		
20		4.35	4.0470		0.0048
20		3.6	5.7510		0.0069

<b>16QAM, Channel Bandwidth:10MHz</b>					
<b>Middle Channel, <math>f_c = 836.5</math> MHz</b>					
<b>Temperature</b>	<b>Voltage</b>	<b>Frequency Error</b>	<b>Frequency Error</b>	<b>Limit</b>	
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>Hz</b>	<b>ppm</b>	<b>ppm</b>	
-30	3.8	-0.5100	-0.0006	2.5	
-20		-1.7040	-0.0020		
-10		4.6860	0.0056		
0		-8.7330	-0.0104		
10		-3.8340	-0.0046		
20		-5.3250	-0.0064		
30		-3.4080	-0.0041		
40		-6.1770	-0.0074		
50		1.4910	0.0018		
20		4.35	-3.8340		-0.0046
20		3.6	5.7510		0.0069

**LTE Band 12:**

<b>QPSK, Channel Bandwidth:10MHz</b>					
<b>Temperature</b>	<b>Voltage</b>	<b>Test Result (MHz)</b>		<b>Limit (MHz)</b>	
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>
-30	3.8	699.515	715.454	699	716
-20		699.515	715.457	699	716
-10		699.517	715.458	699	716
0		699.515	715.455	699	716
10		699.515	715.452	699	716
20		699.514	715.457	699	716
30		699.514	715.456	699	716
40		699.512	715.459	699	716
50		699.515	715.463	699	716
20		4.35	699.512	715.466	699
20	3.6	699.514	715.467	699	716

<b>16QAM, Channel Bandwidth:10MHz</b>					
<b>Temperature</b>	<b>Voltage</b>	<b>Test Result (MHz)</b>		<b>Limit (MHz)</b>	
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>
-30	3.8	699.509	715.460	699	716
-20		699.504	715.464	699	716
-10		699.506	715.466	699	716
0		699.508	715.465	699	716
10		699.503	715.467	699	716
20		699.514	715.457	699	716
30		699.510	715.462	699	716
40		699.514	715.465	699	716
50		699.518	715.463	699	716
20		4.35	699.516	715.466	699
20	3.6	699.519	715.468	699	716

**LTE Band 17**

<b>QPSK, Channel Bandwidth:10MHz</b>					
<b>Temperature</b>	<b>Voltage</b>	<b>Test Result (MHz)</b>		<b>Limit (MHz)</b>	
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>
-30	3.8	704.523	715.476	704	716
-20		704.521	715.479	704	716
-10		704.518	715.468	704	716
0		704.524	715.465	704	716
10		704.523	715.467	704	716
20		704.529	715.471	704	716
30		704.519	715.479	704	716
40		704.522	715.473	704	716
50		704.526	715.472	704	716
20		4.35	704.518	715.466	704
20	3.6	704.525	715.469	704	716

<b>16QAM, Channel Bandwidth:10MHz</b>					
<b>Temperature</b>	<b>Voltage</b>	<b>Test Result (MHz)</b>		<b>Limit (MHz)</b>	
<b>°C</b>	<b>V<sub>DC</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>	<b>F<sub>L</sub></b>	<b>F<sub>H</sub></b>
-30	3.8	704.526	715.473	704	716
-20		704.524	715.478	704	716
-10		704.518	715.464	704	716
0		704.519	715.468	704	716
10		704.521	715.462	704	716
20		704.529	715.471	704	716
30		704.524	715.469	704	716
40		704.517	715.478	704	716
50		704.513	715.464	704	716
20		4.35	704.518	715.465	704
20	3.6	704.526	715.473	704	716

**LTE Band 66:**

QPSK, Channel Bandwidth:20MHz					
Temperature	Voltage	Test Result (MHz)		Limit (MHz)	
°C	V <sub>DC</sub>	F <sub>L</sub>	F <sub>H</sub>	F <sub>L</sub>	F <sub>H</sub>
-30	3.8	1710.542	1779.454	1710	1780
-20		1710.541	1779.458	1710	1780
-10		1710.542	1779.461	1710	1780
0		1710.545	1779.456	1710	1780
10		1710.540	1779.461	1710	1780
20		1710.543	1779.457	1710	1780
30		1710.548	1779.452	1710	1780
40		1710.546	1779.453	1710	1780
50		1710.550	1779.457	1710	1780
20		4.35	1710.546	1779.452	1710
20	3.6	1710.544	1779.451	1710	1780

16QAM, Channel Bandwidth:20MHz					
Temperature	Voltage	Test Result (MHz)		Limit (MHz)	
°C	V <sub>DC</sub>	F <sub>L</sub>	F <sub>H</sub>	F <sub>L</sub>	F <sub>H</sub>
-30	3.8	1710.544	1779.459	1710	1780
-20		1710.548	1779.464	1710	1780
-10		1710.550	1779.462	1710	1780
0		1710.547	1779.466	1710	1780
10		1710.543	1779.471	1710	1780
20		1710.543	1779.457	1710	1780
30		1710.538	1779.456	1710	1780
40		1710.543	1779.453	1710	1780
50		1710.547	1779.456	1710	1780
20		4.35	1710.552	1779.457	1710
20	3.6	1710.554	1779.460	1710	1780

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 \*\*\*\*\***