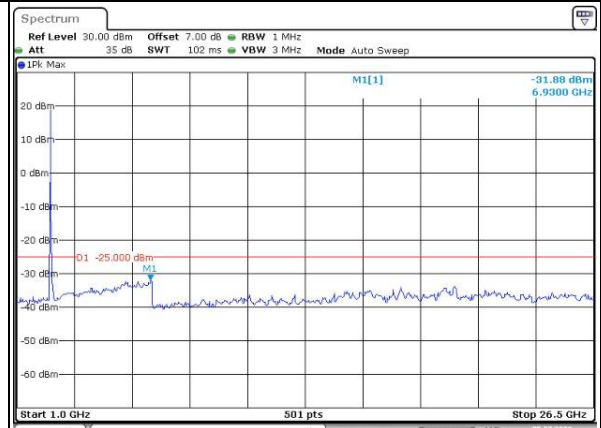
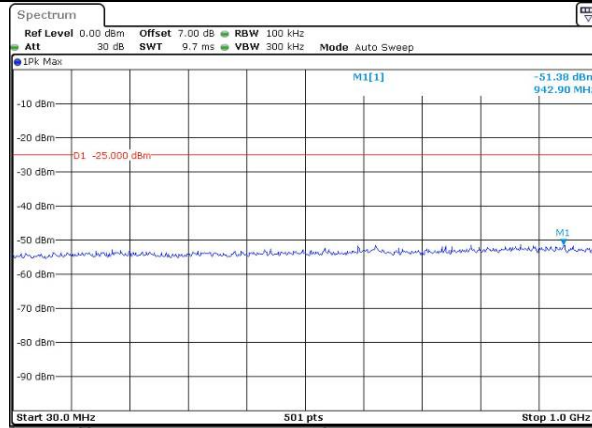


Spurious Emissions at Antenna Terminal

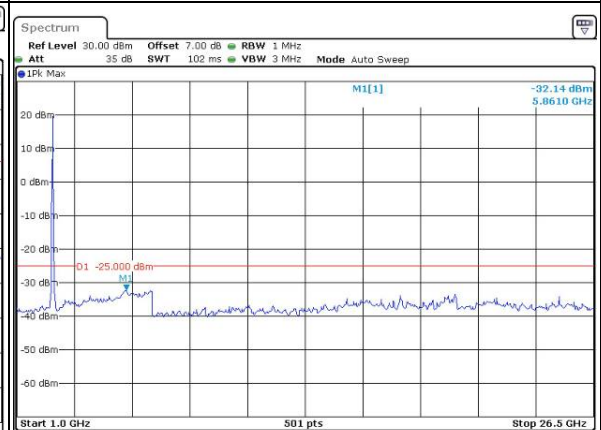
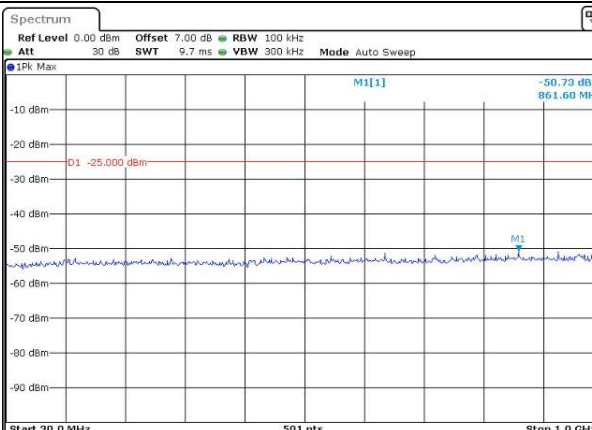
Channel

15MHz Bandwidth QPSK

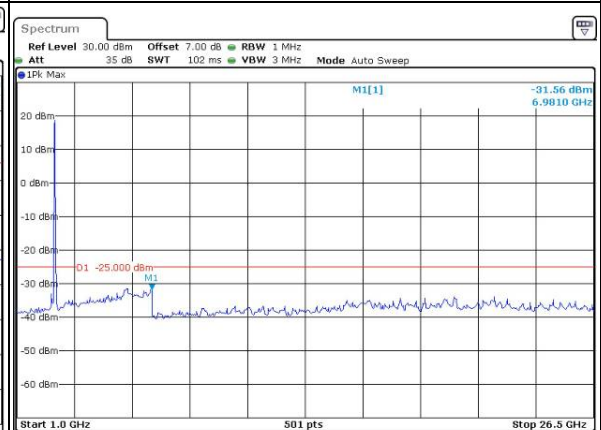
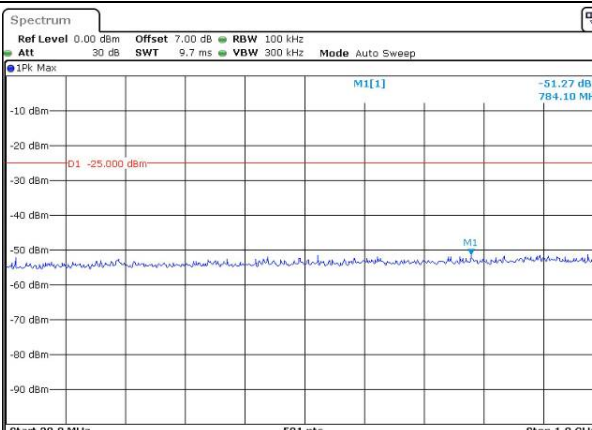
Lowest



Middle



Highest

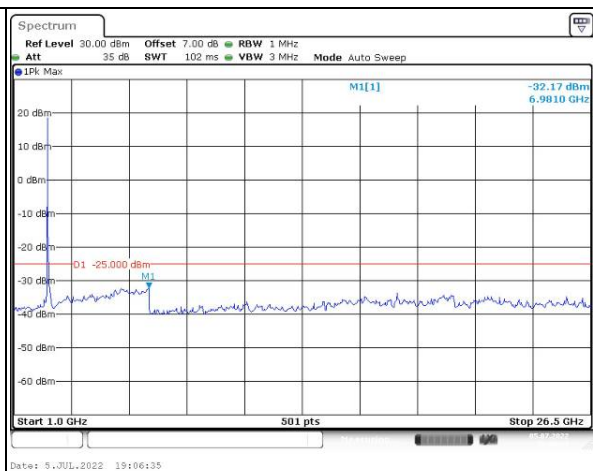
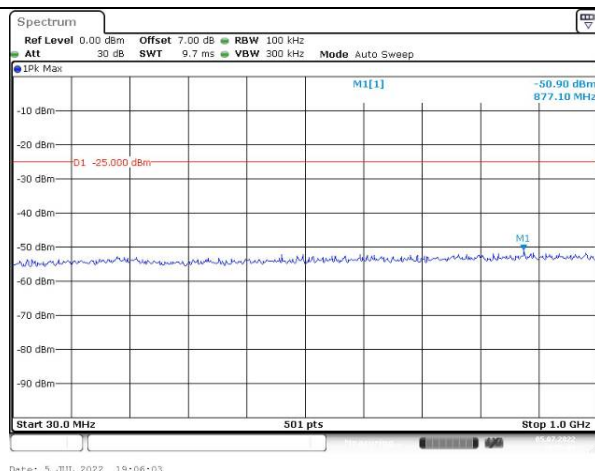


Spurious Emissions at Antenna Terminal

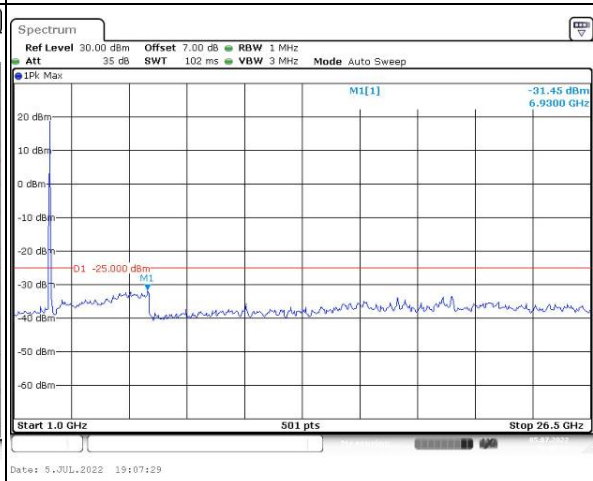
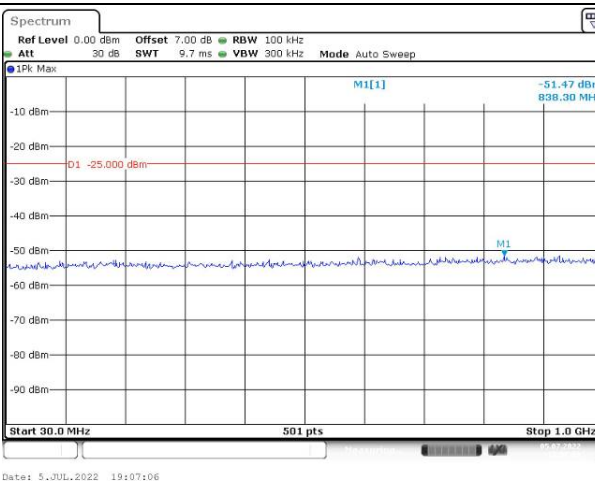
Channel

20MHz Bandwidth QPSK

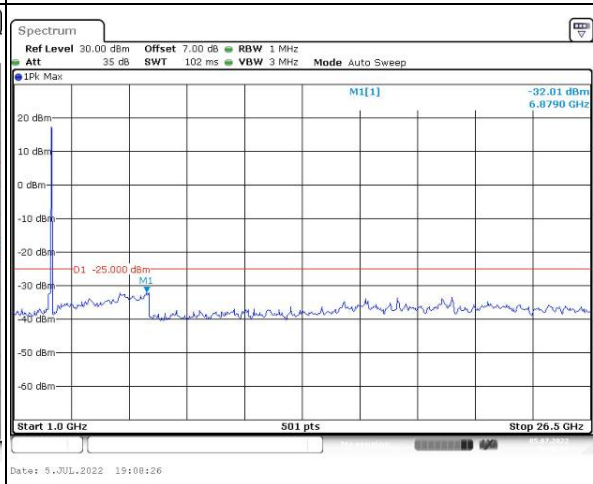
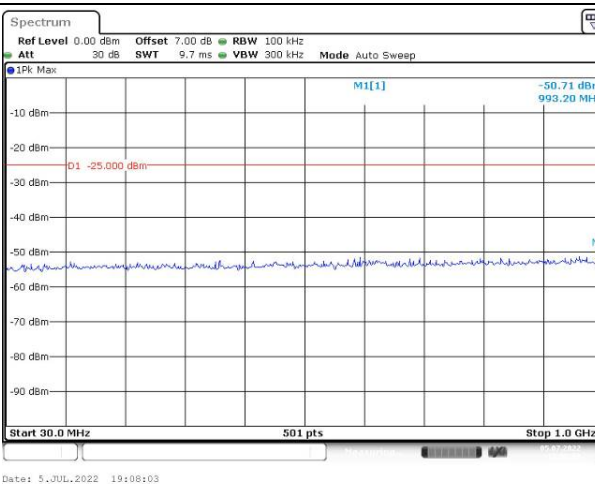
Lowest



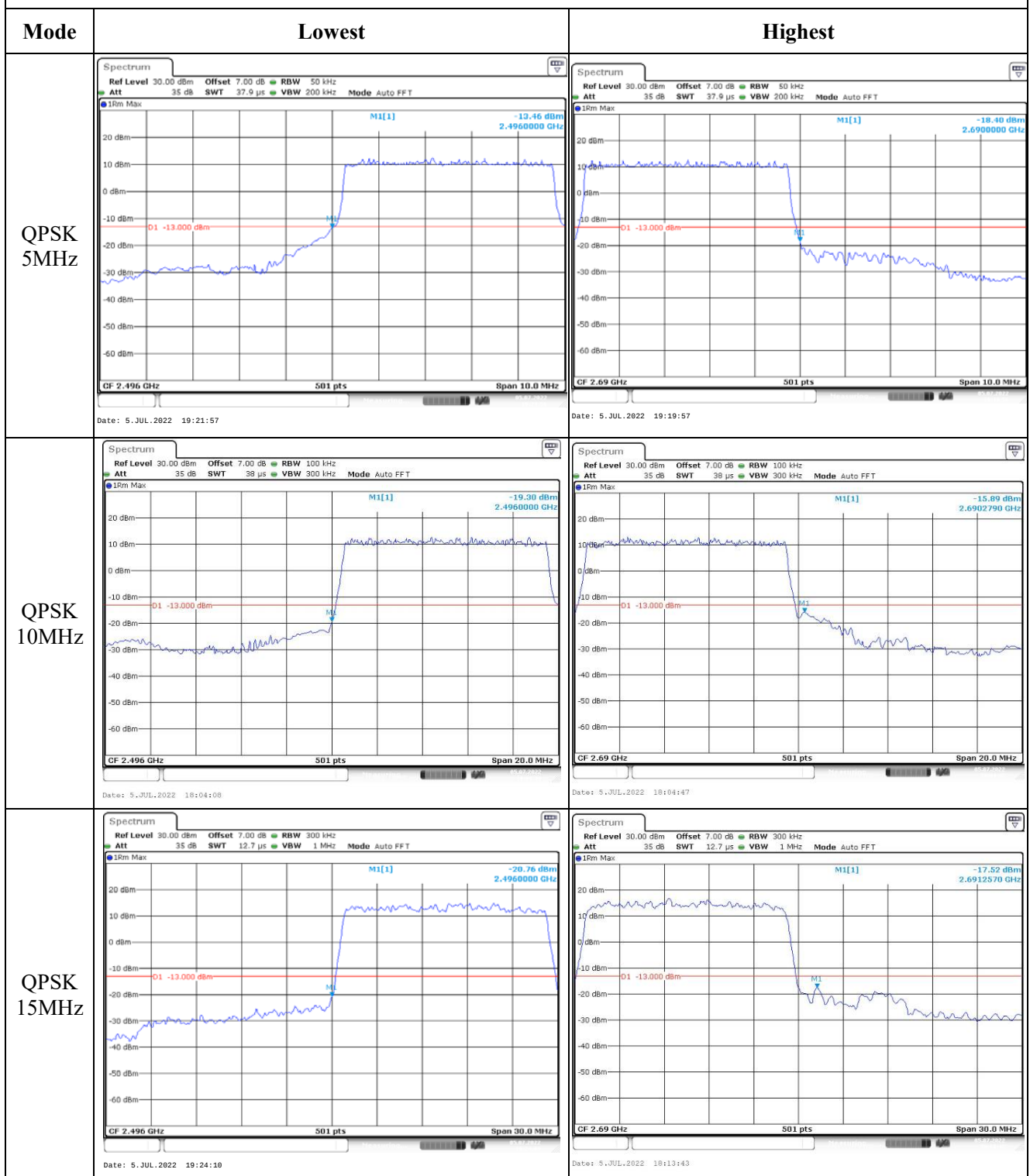
Middle



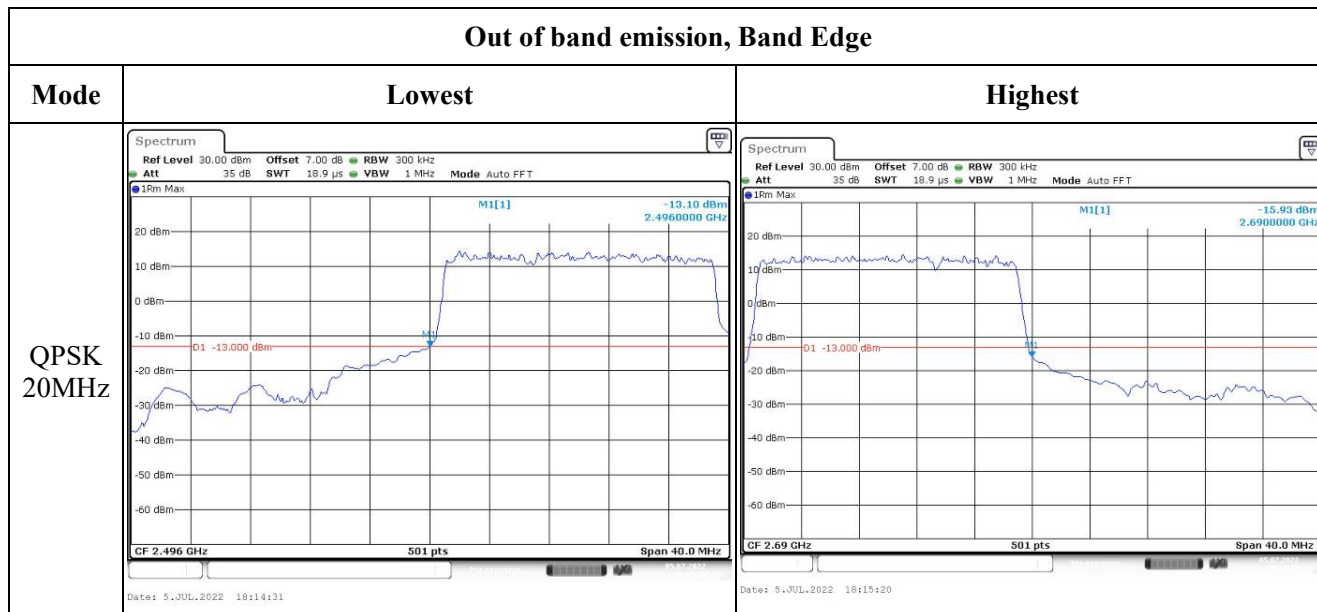
Highest



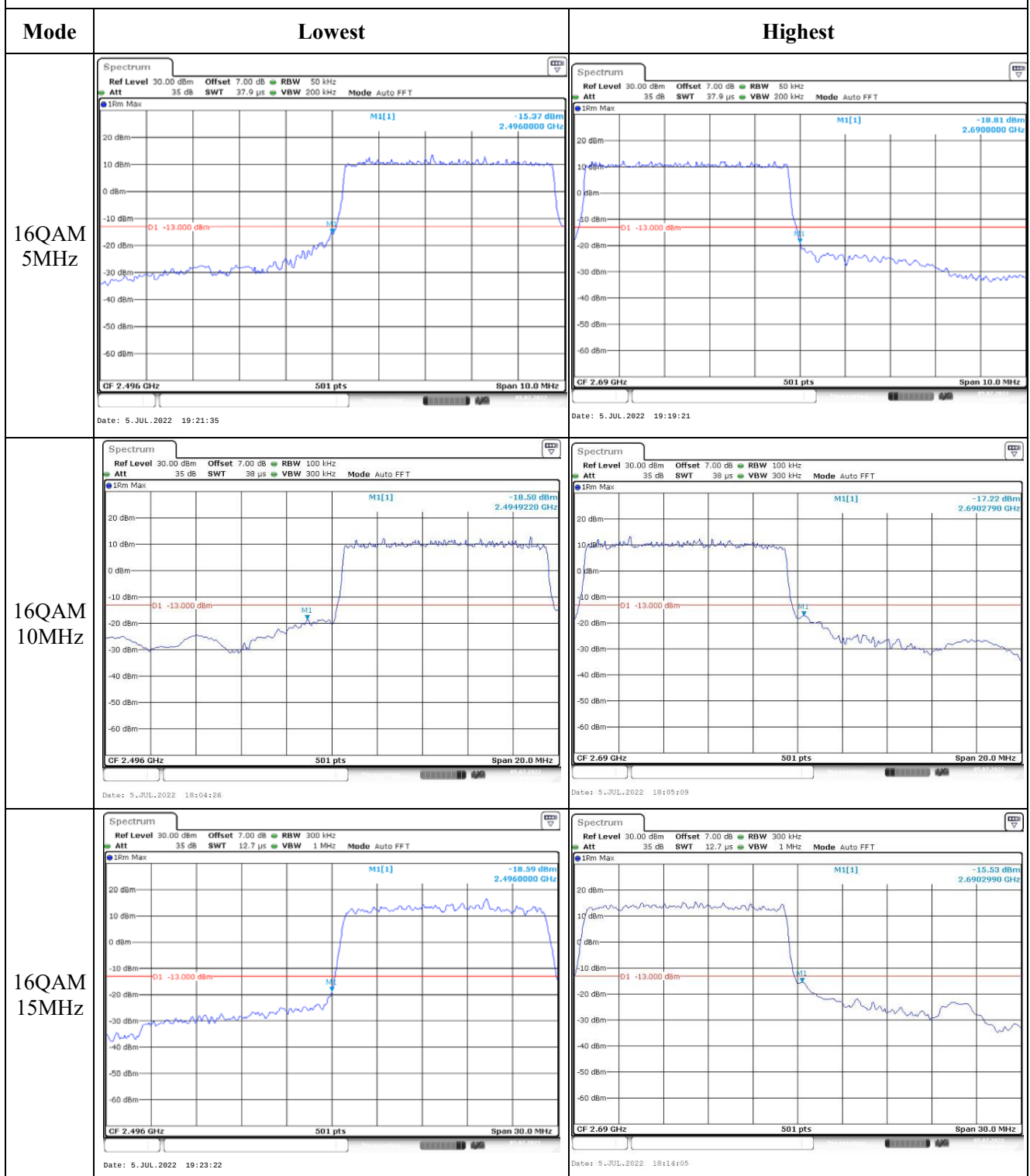
Out of band emission, Band Edge



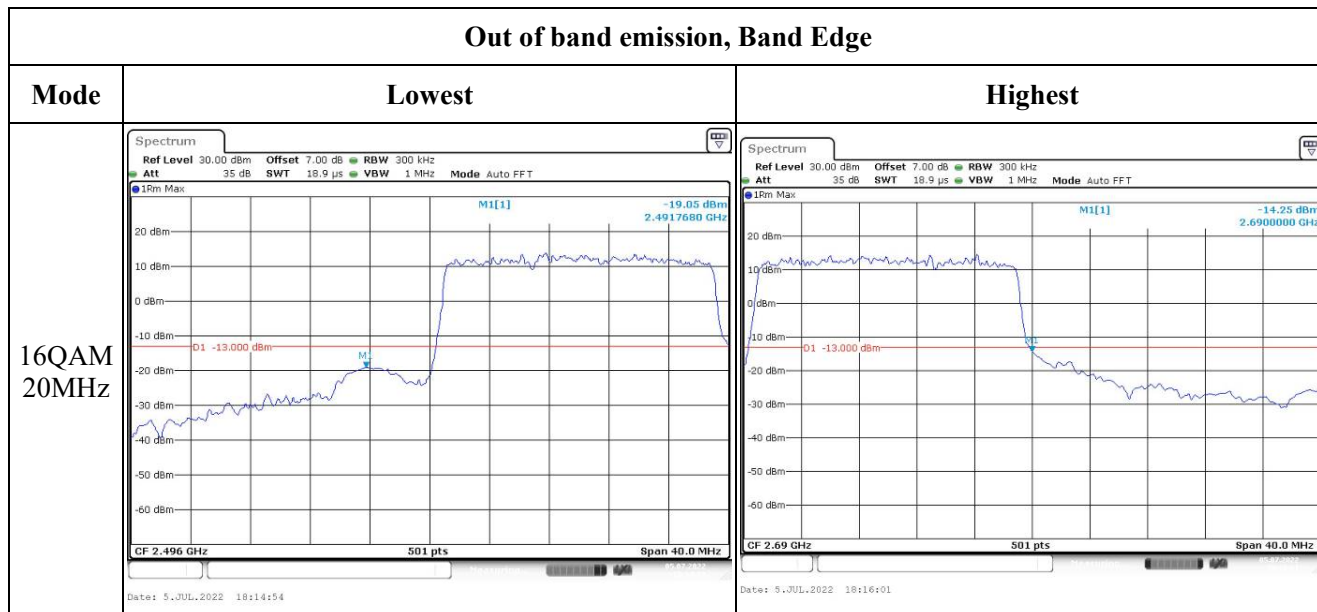
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.15 Antenna Port Test Data and Results for LTE Band 66

Serial Number:	CR22050078-RF-S1	Test Date:	2022/7/26~2022/8/13
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ted Min	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.5~26.2	Relative Humidity: (%)	49~52	ATM Pressure: (kPa)	100.0~100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each time	N/A
HuiXunDa	DC Block	SMA-JK 18G	DCB181108042	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100002	Each time	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

EUT Information@ LTE Band 66▲:

Antenna Gain (dBi):	-0.10	Path Loss L_c (dB):	0
Operation Voltage(V_{DC}):			
Lowest:	3.47	Normal:	3.85
		Highest:	4.24

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1745	1779.3
3MHz	1711.5	1745	1778.5
5MHz	1712.5	1745	1777.5
10MHz	1715	1745	1775
15MHz	1717.5	1745	1772.5
20MHz	1720	1745	1770

Test Data:**FCC§2.1046, § 27.50(d)(4),****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.86	21.93	21.96	21.93	30
	RB1#3	21.96	22.03	22.02		
	RB1#5	21.91	22.01	22.03		
	RB3#0	21.68	21.67	21.84		
	RB3#3	21.7	21.73	21.81		
	RB6#0	21.35	21.42	21.43		
1.4MHz 16QAM	RB1#0	21.36	21.46	21.52	21.54	30
	RB1#3	21.36	21.41	21.6		
	RB1#5	21.54	21.53	21.64		
	RB3#0	21.61	21.49	21.6		
	RB3#3	21.34	21.54	21.53		
	RB6#0	21.02	21.11	21.21		
3MHz QPSK	RB1#0	21.88	21.96	22.03	22.07	30
	RB1#8	21.96	22	22.13		
	RB1#14	22.1	22.13	22.17		
	RB6#0	21.94	21.98	21.98		
	RB6#9	22.01	22.08	22.03		
	RB15#0	21.56	21.64	21.69		
3MHz 16QAM	RB1#0	21.72	21.76	21.68	21.79	30
	RB1#8	21.71	21.89	21.8		
	RB1#14	21.69	21.87	21.83		
	RB6#0	21.67	21.67	21.72		
	RB6#9	21.72	21.68	21.78		
	RB15#0	21.34	21.42	21.37		
5MHz QPSK	RB1#0	21.69	21.81	21.9	21.99	30
	RB1#13	21.8	21.87	22.01		
	RB1#24	21.89	21.98	22.09		
	RB15#0	21.83	21.86	21.91		
	RB15#10	21.81	21.85	21.89		
	RB25#0	21.63	21.67	21.66		
5MHz 16QAM	RB1#0	21.56	21.67	21.55	21.69	30
	RB1#13	21.56	21.64	21.66		
	RB1#24	21.63	21.71	21.79		
	RB15#0	21.58	21.67	21.71		
	RB15#10	21.61	21.73	21.75		
	RB25#0	21.39	21.43	21.41		
10MHz QPSK	RB1#0	21.73	21.87	21.86	21.87	30
	RB1#25	21.79	21.96	21.92		

	RB1#49	21.79	21.97	21.9		
	RB25#0	21.63	21.75	21.82		
	RB25#25	21.76	21.78	21.8		
	RB50#0	21.38	21.44	21.5		
10MHz 16QAM	RB1#0	21.45	21.46	21.51	21.63	30
	RB1#25	21.5	21.59	21.64		
	RB1#49	21.61	21.73	21.67		
	RB25#0	21.42	21.48	21.42		
	RB25#25	21.43	21.55	21.59		
	RB50#0	21.21	21.24	21.29		
15MHz QPSK	RB1#0	21.91	21.98	22.02	22.07	30
	RB1#38	21.98	21.97	22.06		
	RB1#74	21.99	22.1	22.17		
	RB36#0	21.88	22.06	22		
	RB36#39	21.94	22.09	21.96		
	RB75#0	21.64	21.69	21.67		
15MHz 16QAM	RB1#0	21.51	21.64	21.5	21.69	30
	RB1#38	21.49	21.47	21.57		
	RB1#74	21.64	21.79	21.78		
	RB36#0	21.63	21.68	21.75		
	RB36#39	21.7	21.72	21.68		
	RB75#0	21.32	21.43	21.38		
20MHz QPSK	RB1#0	21.93	21.97	22.05	22.07	30
	RB1#50	21.93	22.1	22.14		
	RB1#99	21.97	21.16	22.17		
	RB50#0	21.87	21.91	21.96		
	RB50#50	21.88	21.93	21.94		
	RB100#0	21.55	21.75	21.75		
20MHz 16QAM	RB1#0	21.67	21.74	21.7	21.76	30
	RB1#50	21.72	21.86	21.74		
	RB1#99	21.78	21.81	21.84		
	RB50#0	21.74	21.8	21.71		
	RB50#50	21.76	21.85	21.84		
	RB100#0	21.48	21.53	21.51		

Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBi)

Result:

Pass

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	3.06	3.16	3.08	13
	RB100#0	5.16	5.21	5.18	13
20MHz 16QAM	RB1#0	4.21	4.26	4.08	13
	RB100#0	6.311	6.34	6.12	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.108	1.096	1.108	1.302	1.302	1.32
1.4MHz 16QAM	1.102	1.102	1.096	1.308	1.326	1.296
3MHz QPSK	2.695	2.695	2.683	2.928	2.928	2.952
3MHz 16QAM	2.695	2.683	2.683	2.952	2.952	2.94
5MHz QPSK	4.511	4.511	4.491	5.04	5.02	5.02
5MHz 16QAM	4.491	4.511	4.531	4.98	5.02	5.04
10MHz QPSK	8.942	8.942	8.942	9.8	9.76	9.8
10MHz 16QAM	8.942	8.942	8.942	9.72	9.76	9.72
15MHz QPSK	13.473	13.413	13.473	14.64	14.7	14.88
15MHz 16QAM	13.473	13.473	13.533	14.7	14.76	14.82
20MHz QPSK	17.884	17.884	17.964	19.36	19.36	19.68
20MHz 16QAM	17.964	17.884	17.884	19.36	19.44	19.52
Note: The test plots please refer to the Plots of Occupied Bandwidth						

FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, § 27.53:Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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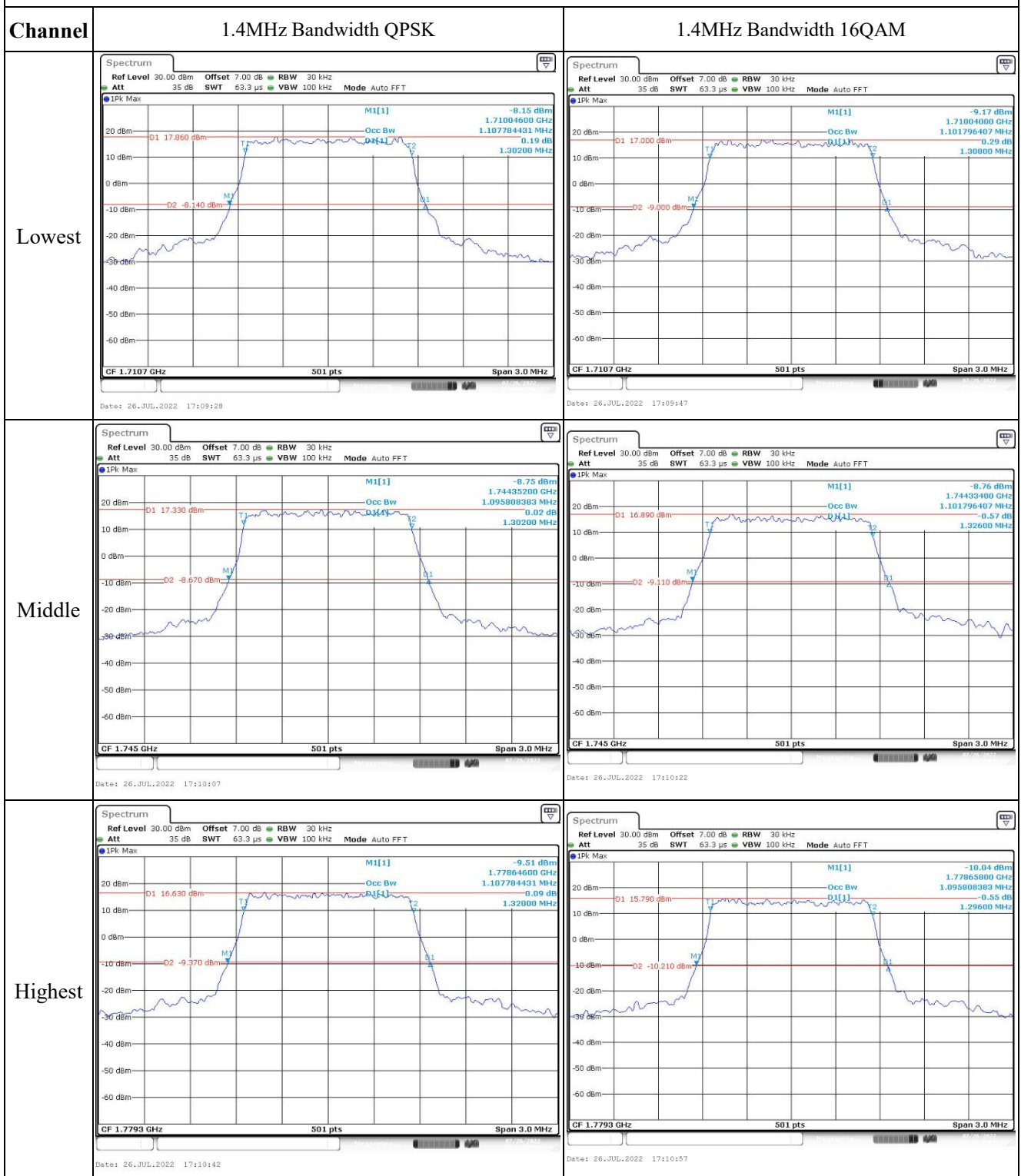
FCC §2.1055, §27.54: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	1710.294	1710.00	1779.760	1780
	-20	3.85	1710.260	1710.00	1779.741	1780
	-10	3.85	1710.358	1710.00	1779.896	1780
	0	3.85	1710.246	1710.00	1779.858	1780
	10	3.85	1710.294	1710.00	1779.766	1780
	20	3.85	1710.162	1710.00	1779.822	1780
	30	3.85	1710.200	1710.00	1779.831	1780
	40	3.85	1710.173	1710.00	1779.891	1780
	50	3.85	1710.189	1710.00	1779.881	1780
Frequency Stability vs. Voltage	20	3.47	1710.174	1710.00	1779.882	1780
	20	4.24	1710.349	1710.00	1779.843	1780
					Result:	Pass

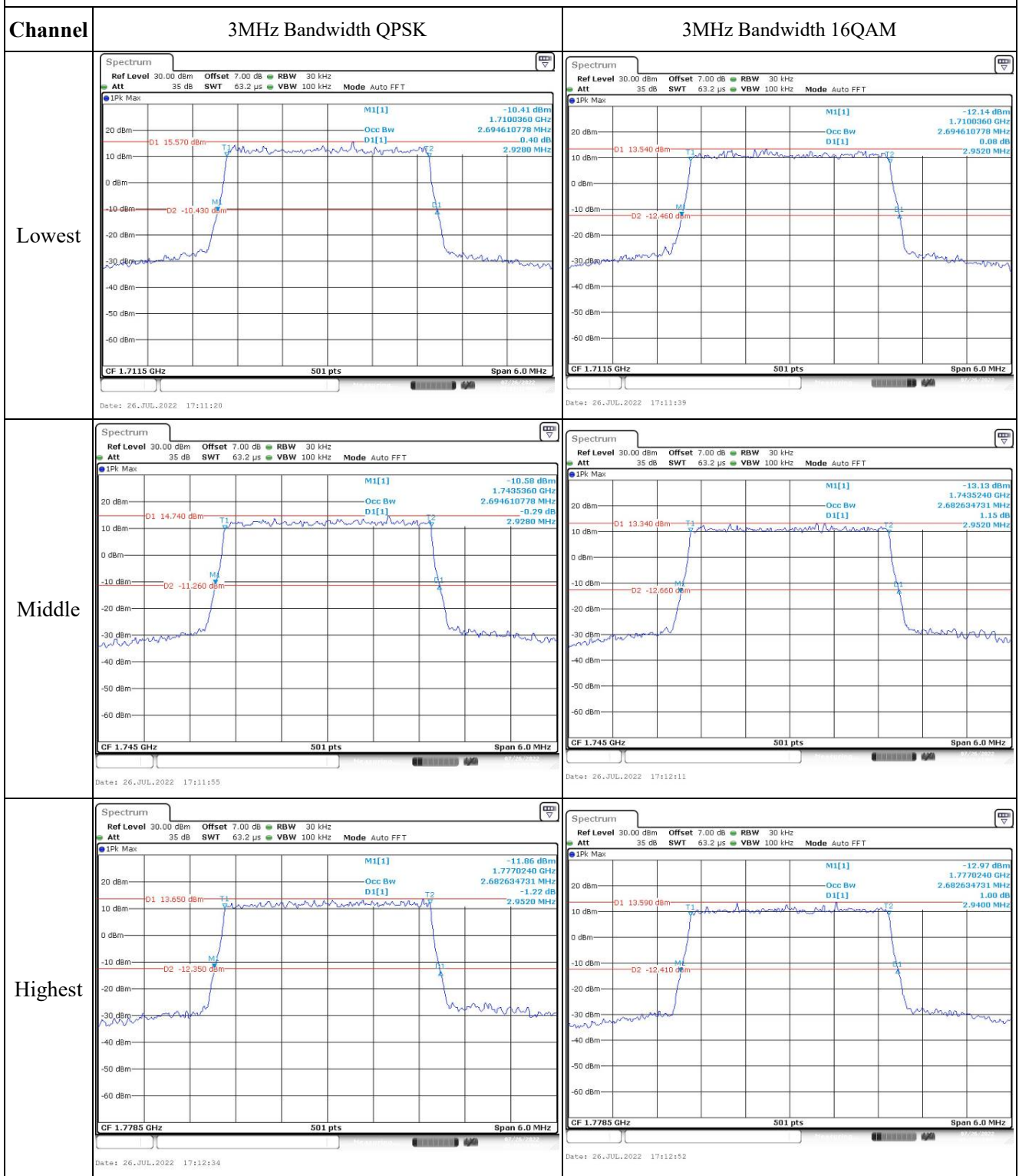
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	1710.290	1710.00	1779.743	1780
	-20	3.85	1710.181	1710.00	1779.757	1780
	-10	3.85	1710.180	1710.00	1779.746	1780
	0	3.85	1710.271	1710.00	1779.772	1780
	10	3.85	1710.280	1710.00	1779.757	1780
	20	3.85	1710.255	1710.00	1779.913	1780
	30	3.85	1710.187	1710.00	1779.741	1780
	40	3.85	1710.315	1710.00	1779.881	1780
	50	3.85	1710.235	1710.00	1779.918	1780
Frequency Stability vs. Voltage	20	3.47	1710.223	1710.00	1779.857	1780
	20	4.24	1710.222	1710.00	1779.895	1780
					Result:	Pass

Test Plots:

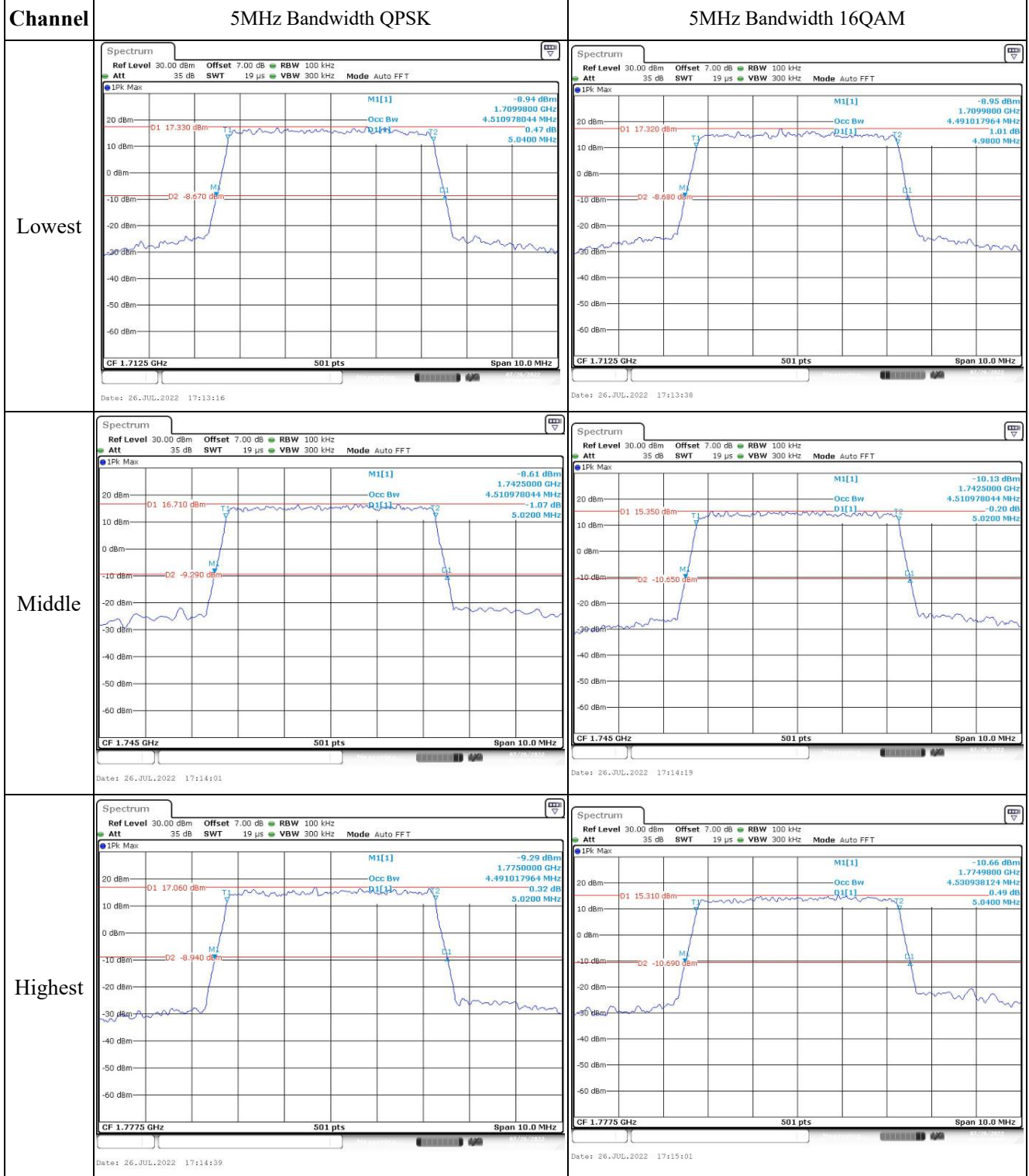
Occupied Bandwidth



Occupied Bandwidth



Occupied Bandwidth



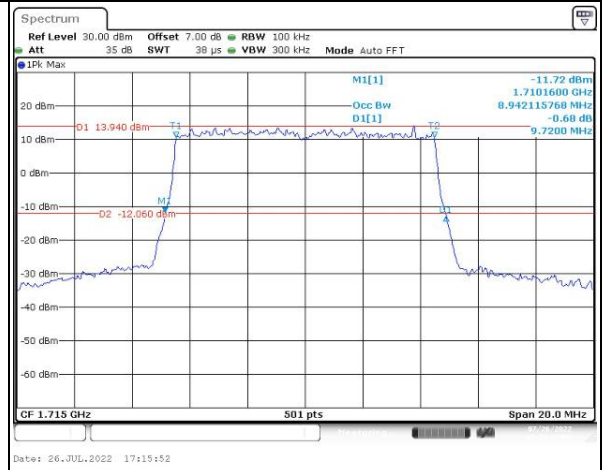
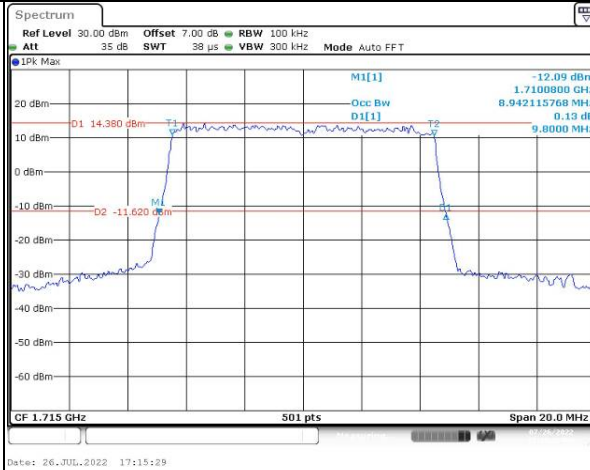
Occupied Bandwidth

Channel

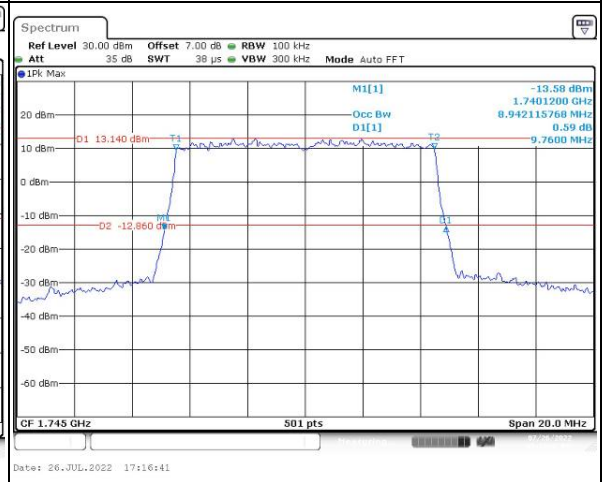
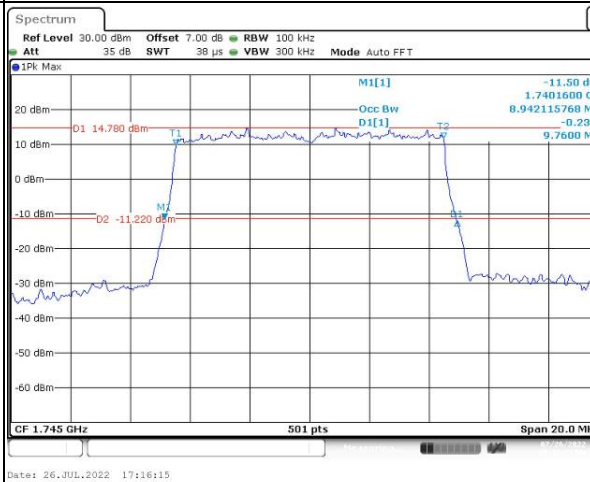
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

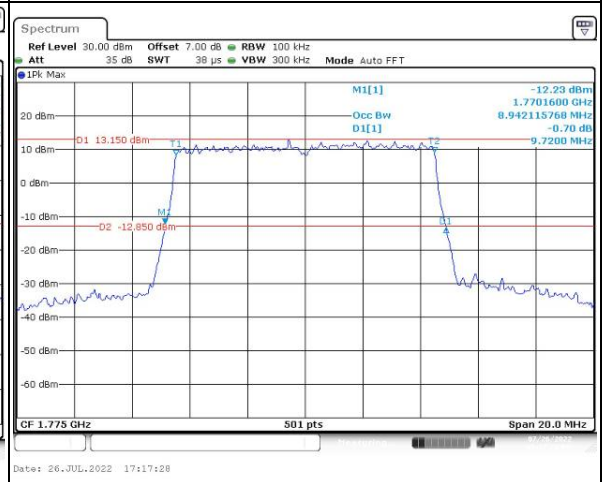
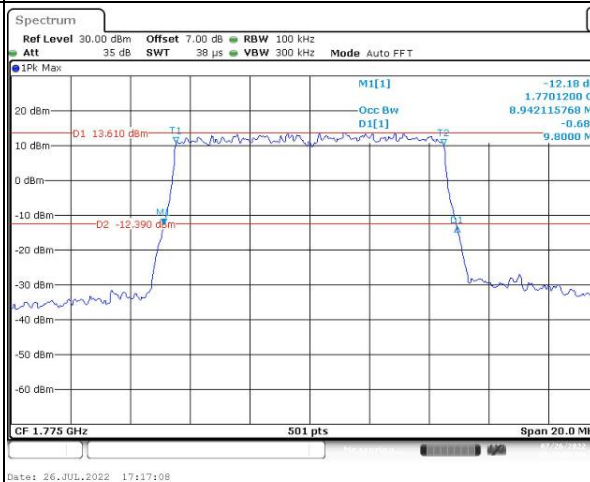
Lowest



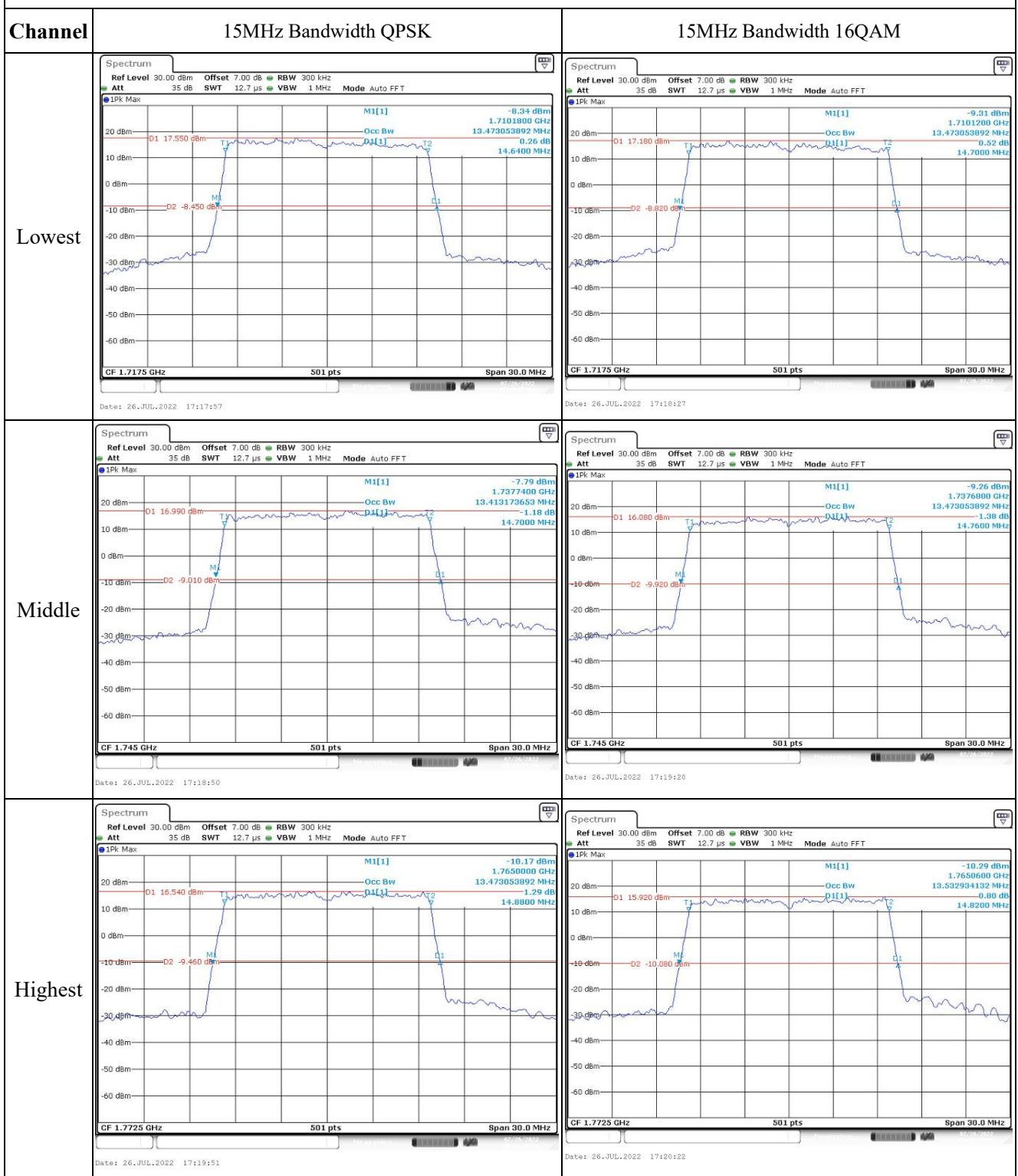
Middle



Highest



Occupied Bandwidth



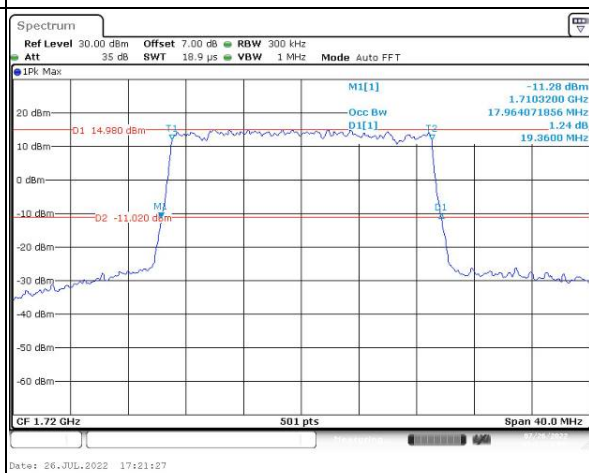
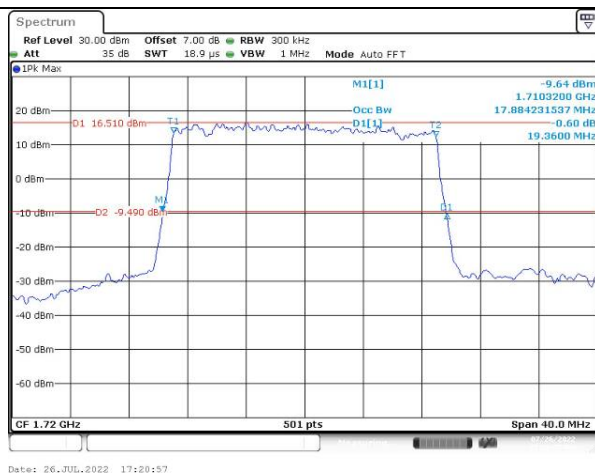
Occupied Bandwidth

Channel

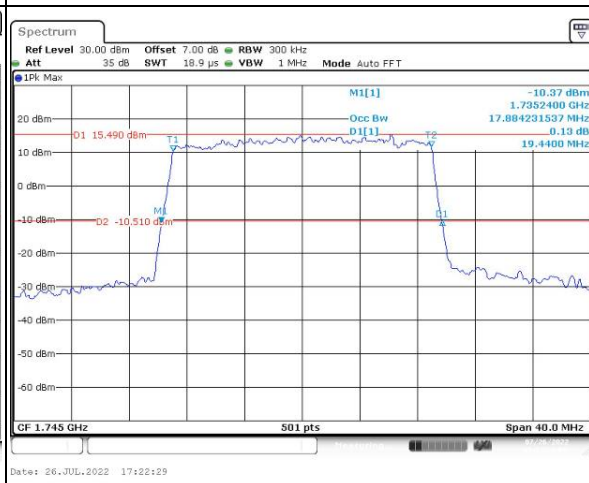
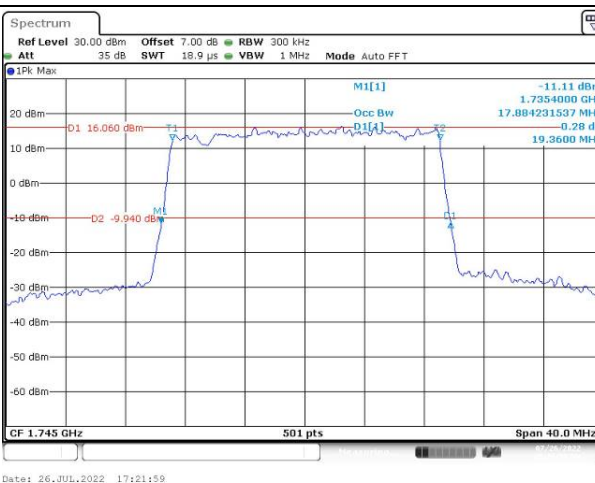
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

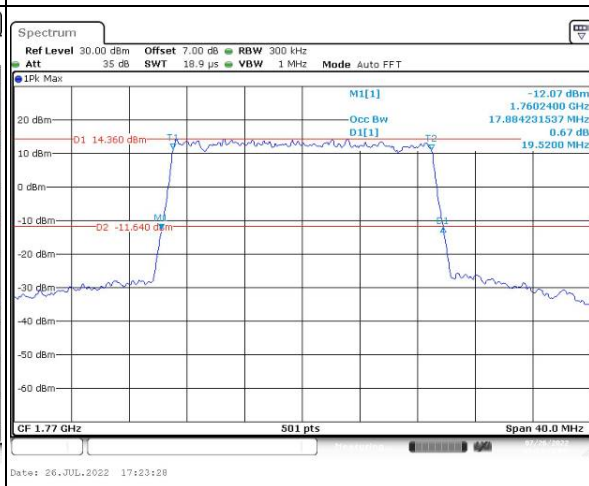
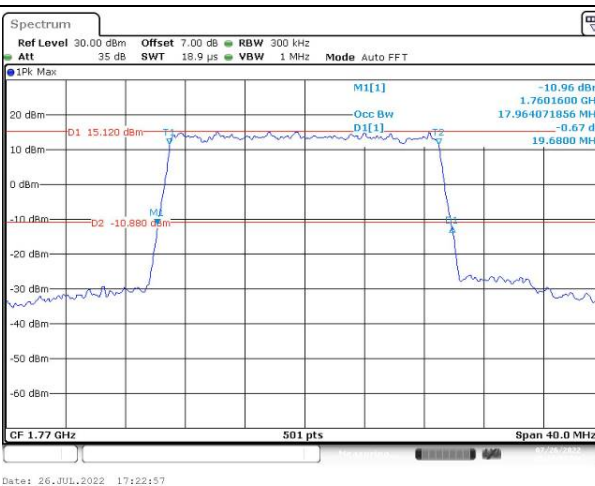
Lowest



Middle



Highest

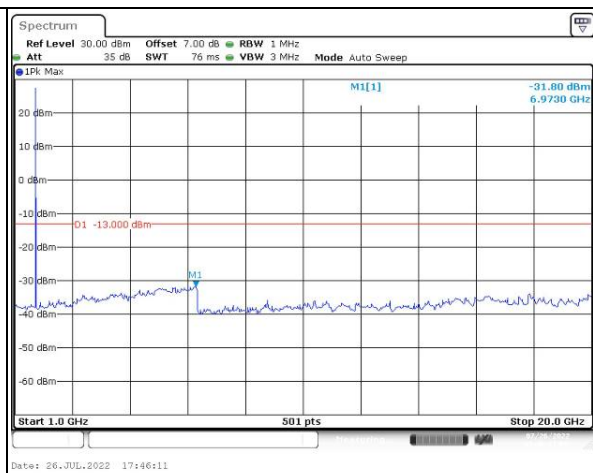
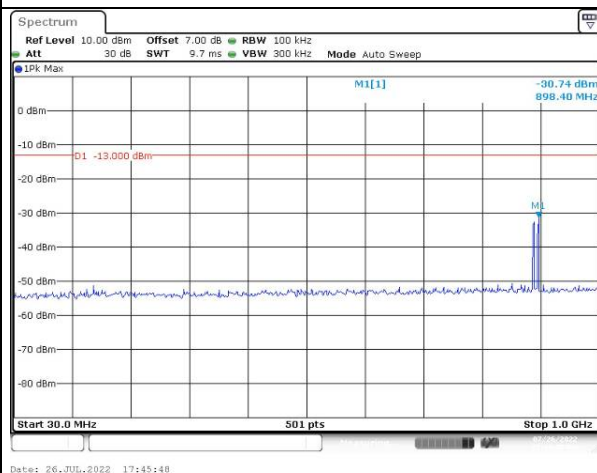


Spurious Emissions at Antenna Terminal

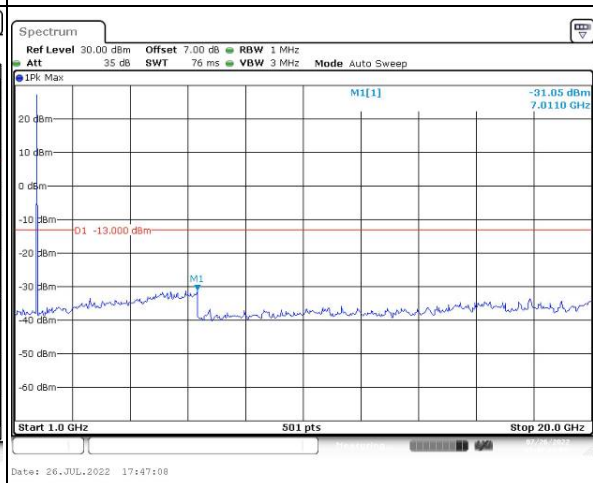
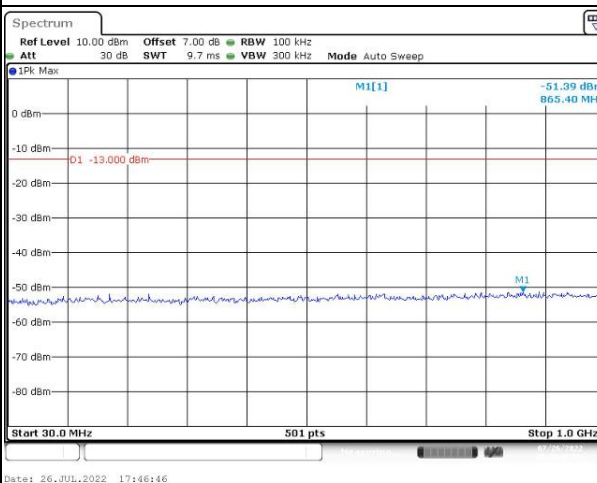
Channel

1.4MHz Bandwidth QPSK

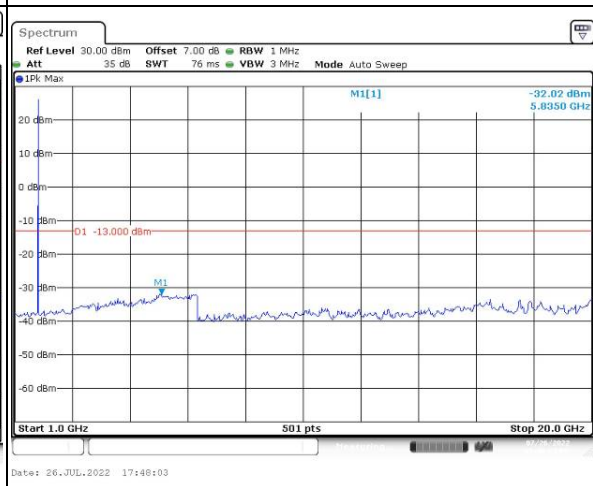
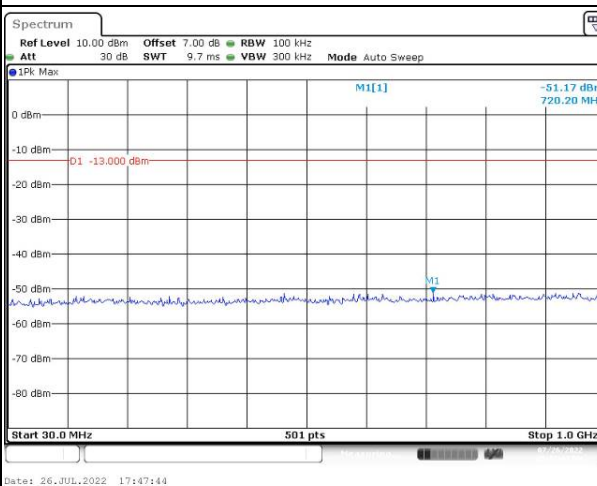
Lowest



Middle



Highest

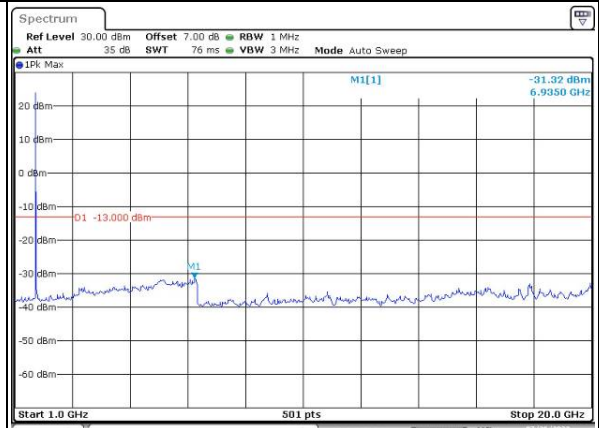
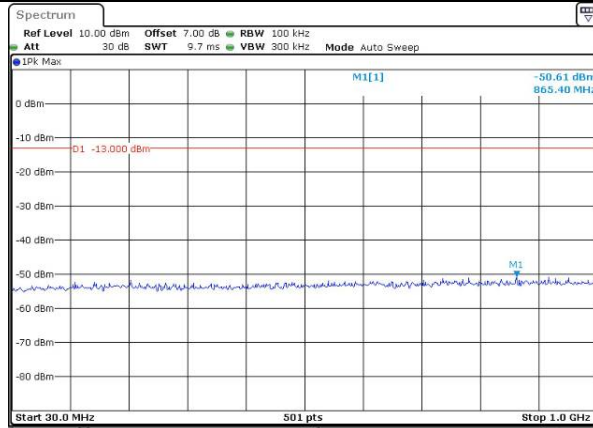


Spurious Emissions at Antenna Terminal

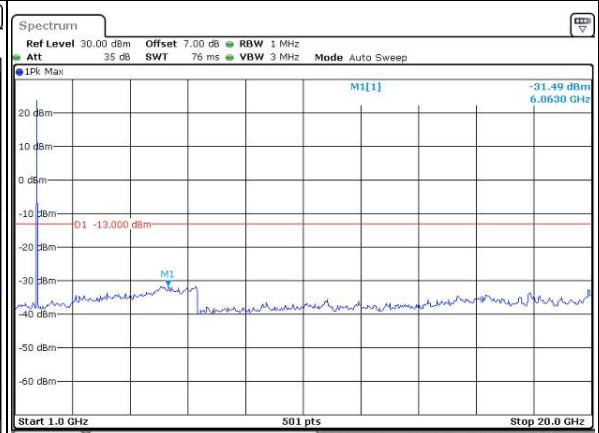
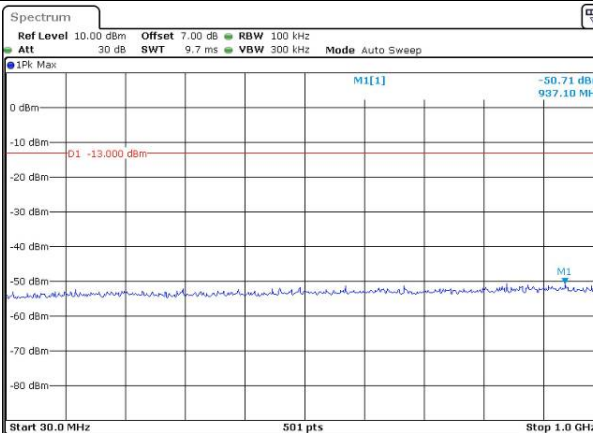
Channel

3MHz Bandwidth QPSK

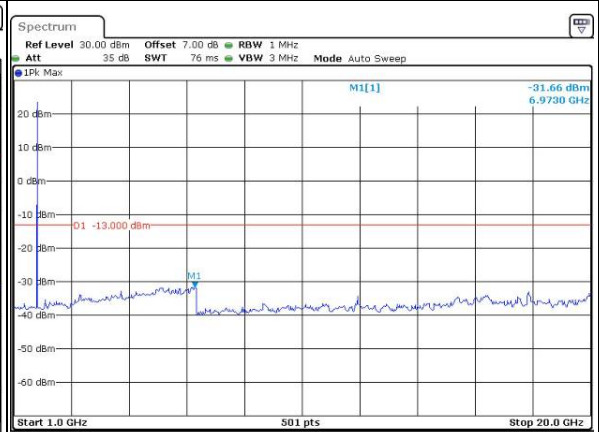
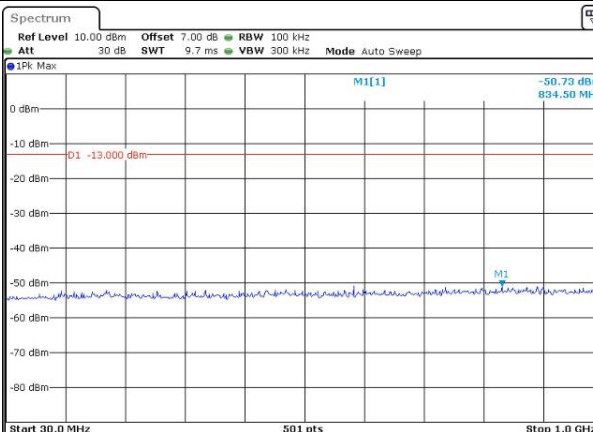
Lowest



Middle



Highest

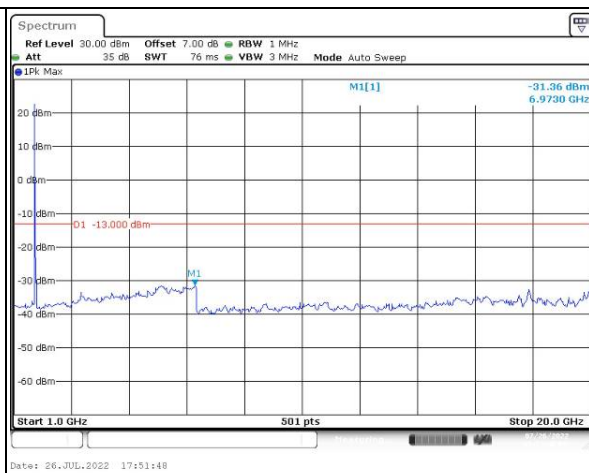
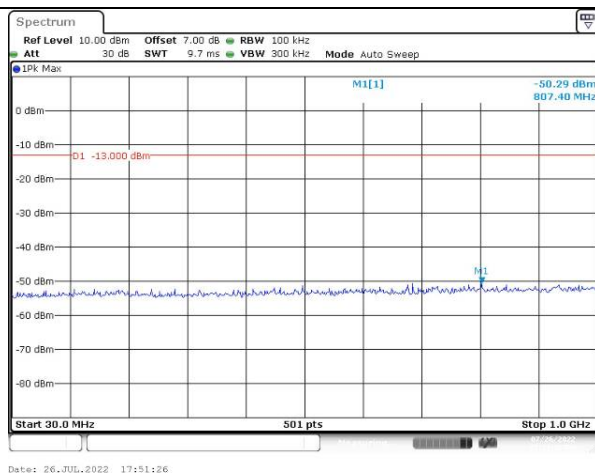


Spurious Emissions at Antenna Terminal

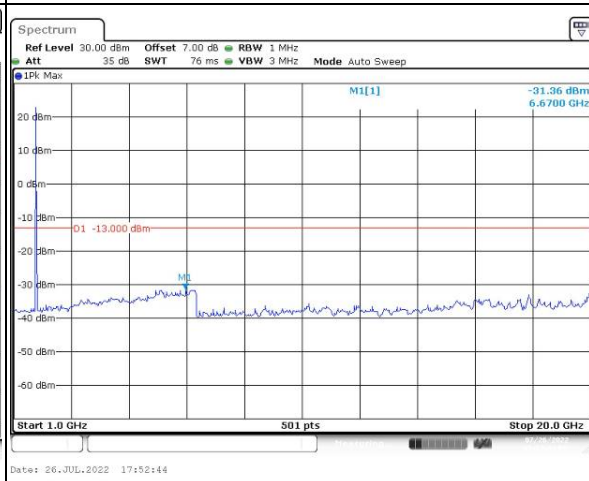
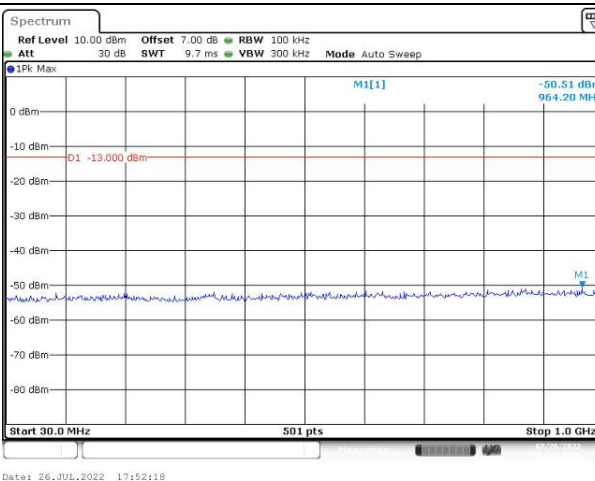
Channel

5MHz Bandwidth QPSK

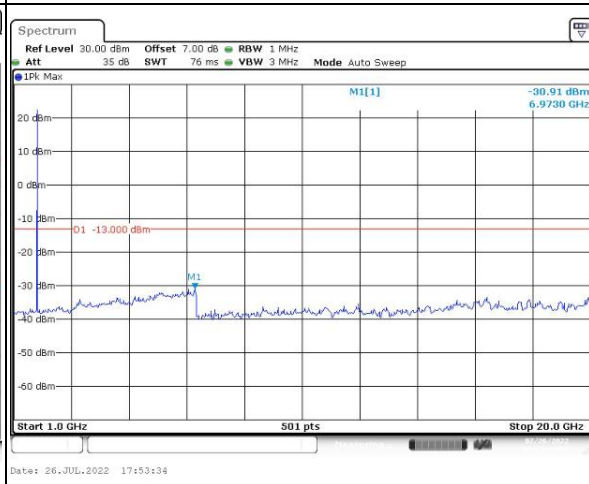
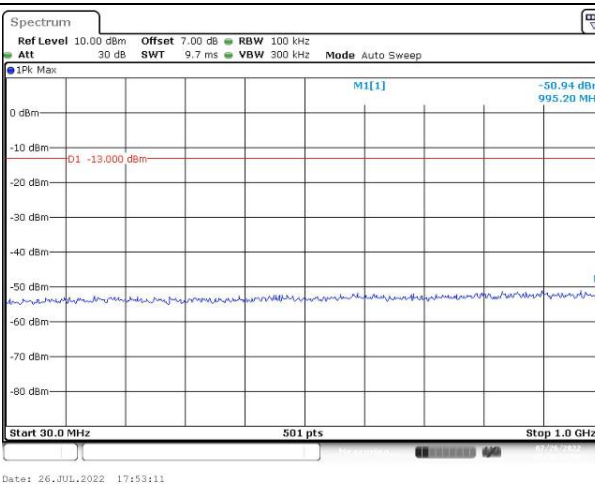
Lowest



Middle



Highest

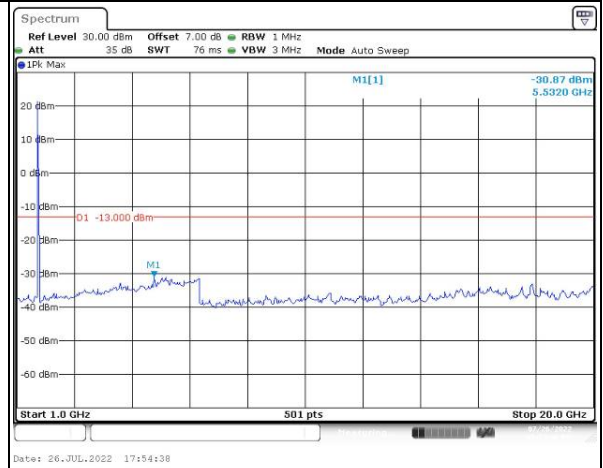
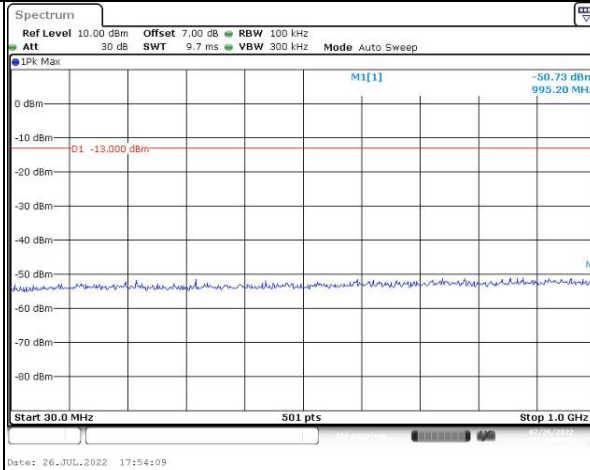


Spurious Emissions at Antenna Terminal

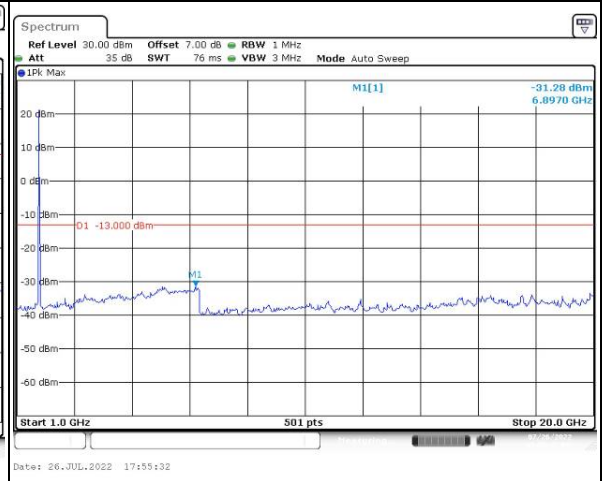
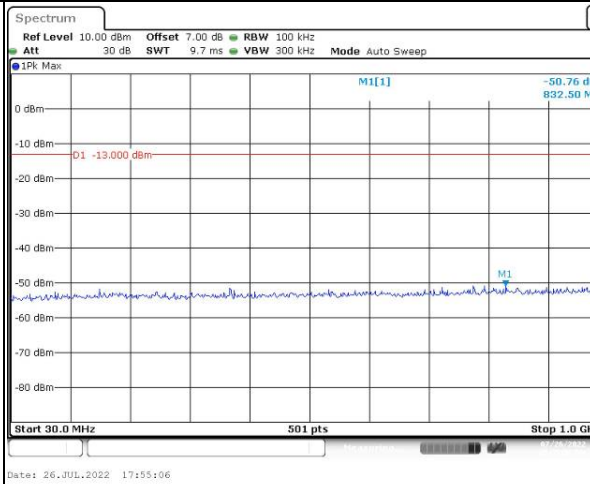
Channel

10MHz Bandwidth QPSK

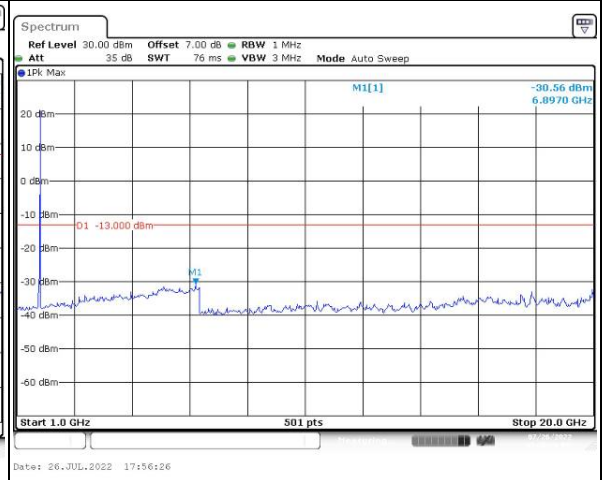
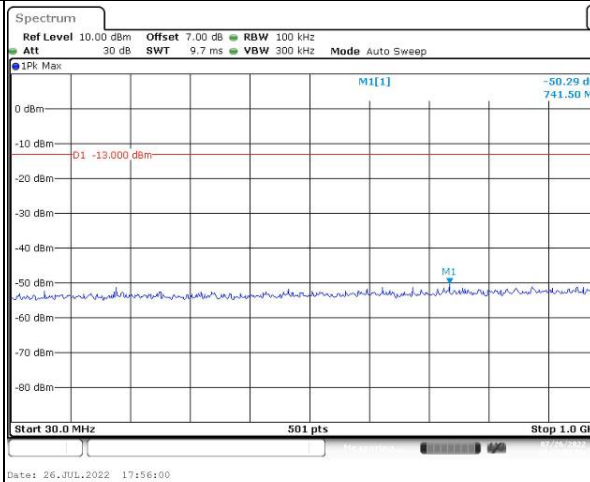
Lowest



Middle



Highest

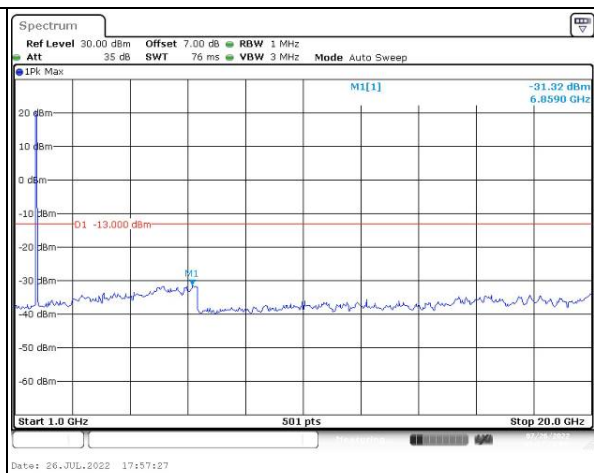
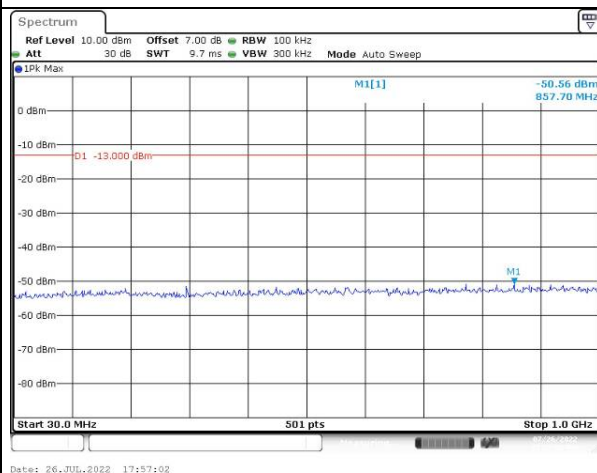


Spurious Emissions at Antenna Terminal

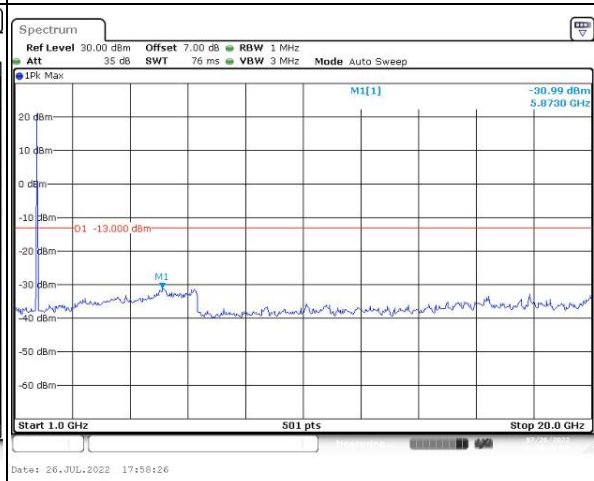
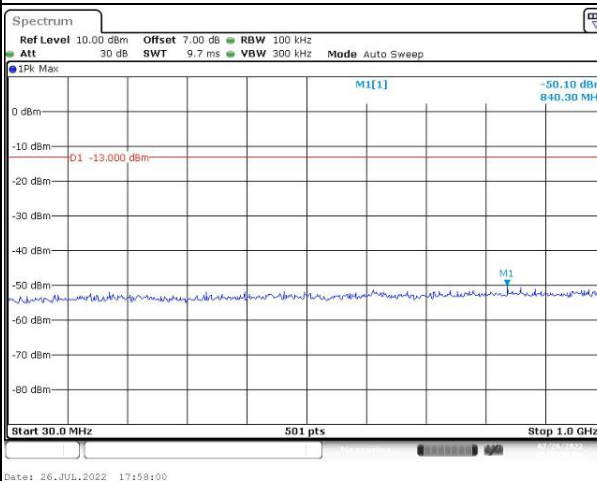
Channel

15MHz Bandwidth QPSK

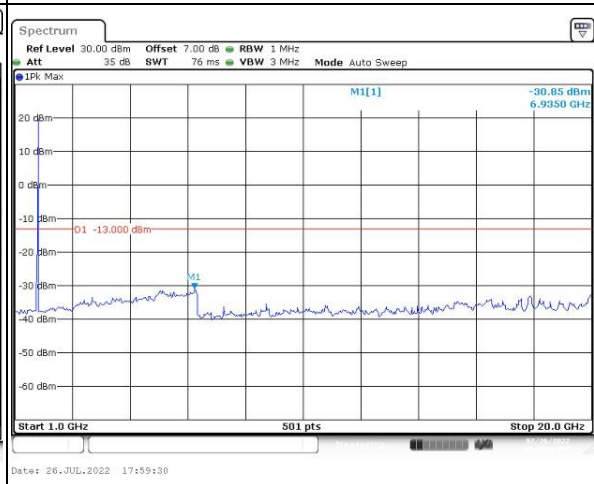
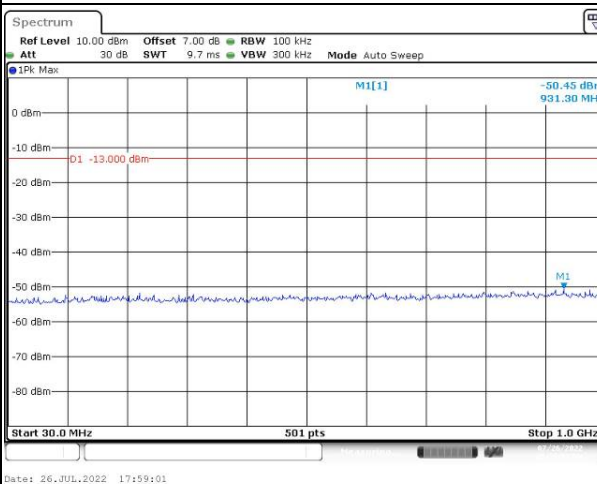
Lowest



Middle



Highest

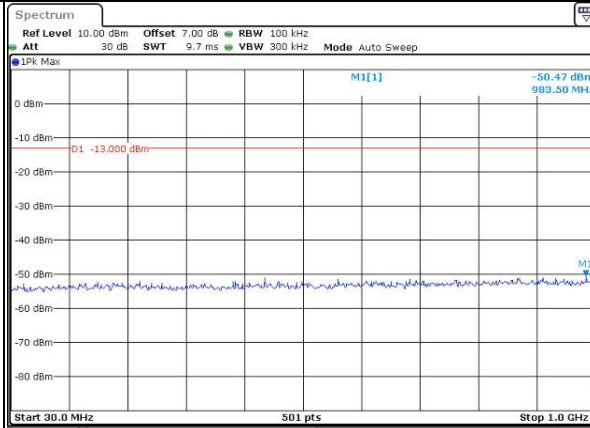


Spurious Emissions at Antenna Terminal

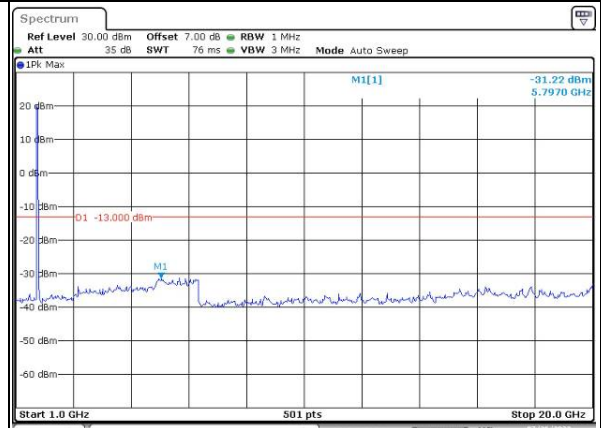
Channel

20MHz Bandwidth QPSK

Lowest

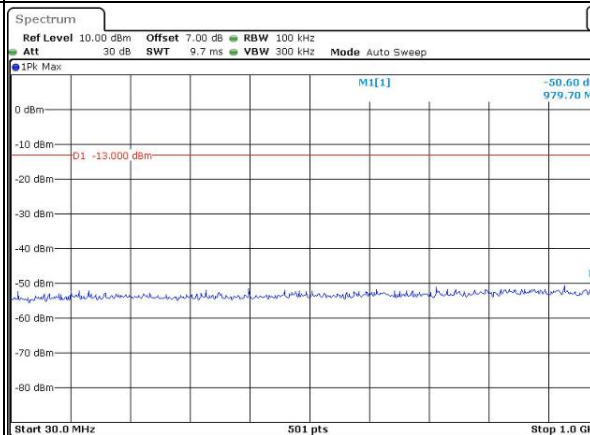


Date: 26.JUL.2022 18:00:03

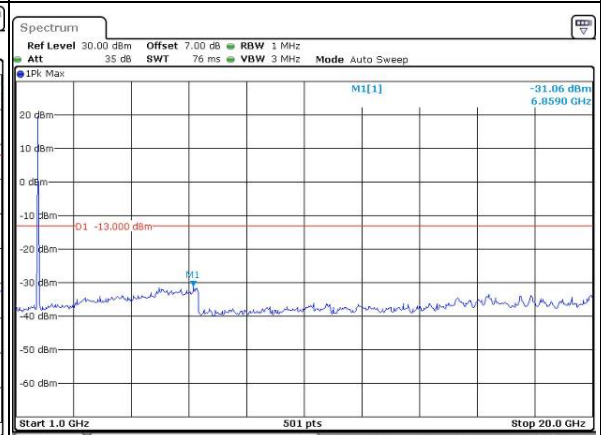


Date: 26.JUL.2022 18:00:25

Middle

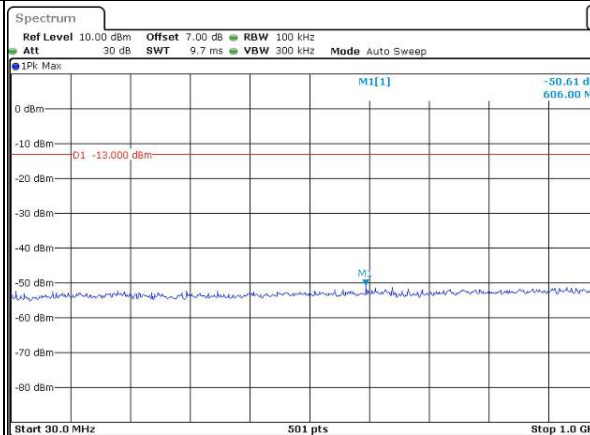


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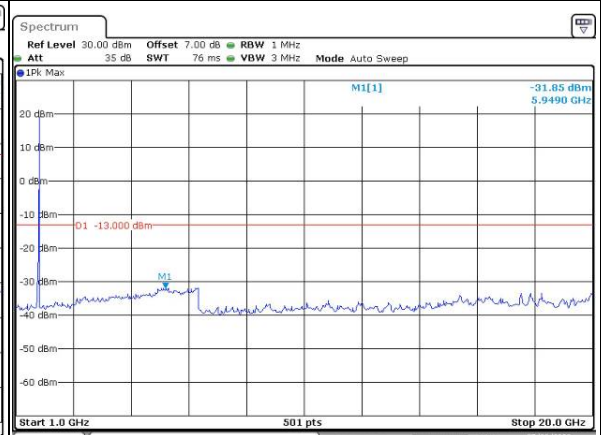


Date: 26.JUL.2022 18:01:14

Highest

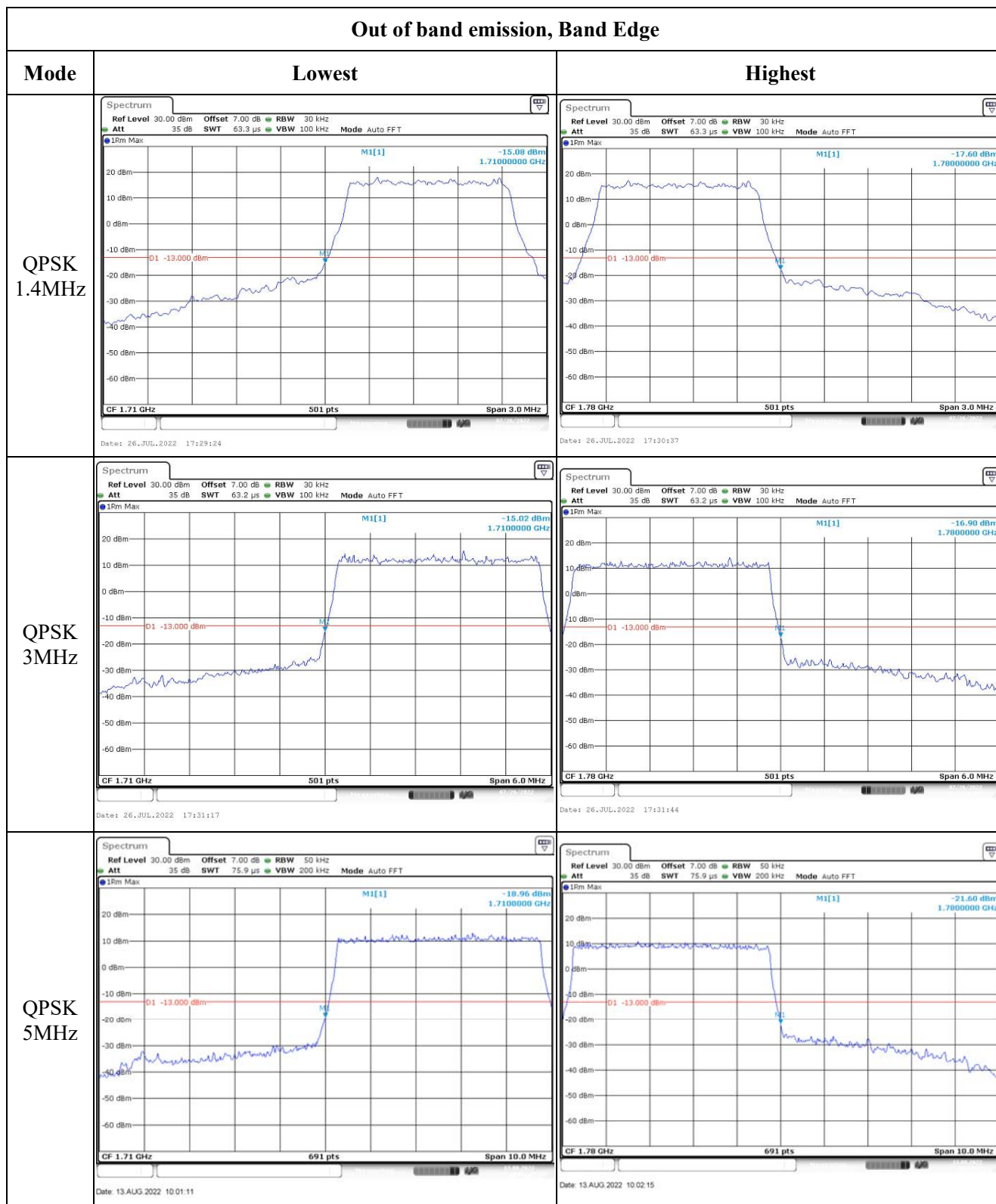


Date: 26.JUL.2022 18:01:50

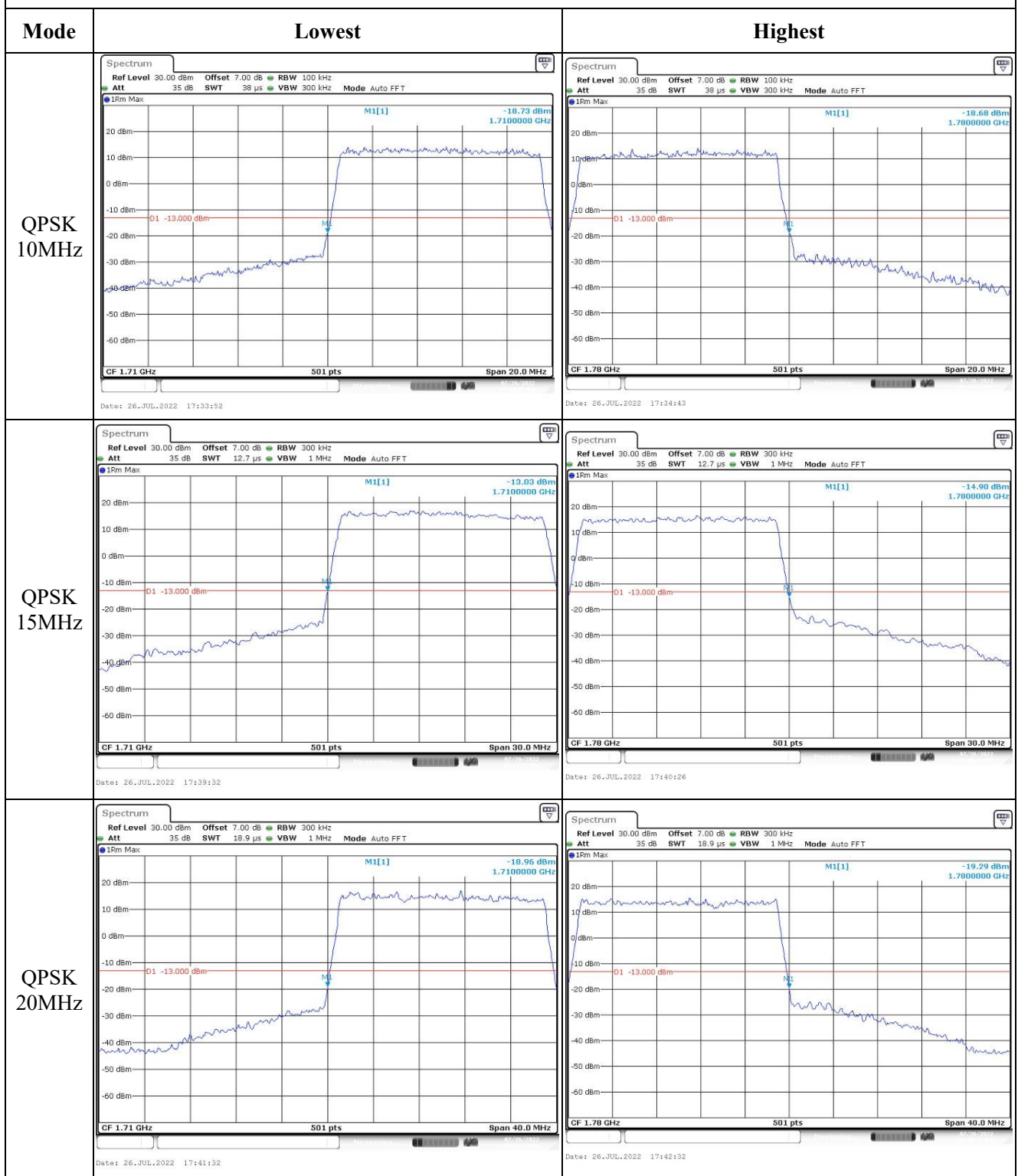


Date: 26.JUL.2022 18:02:15

Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge

