

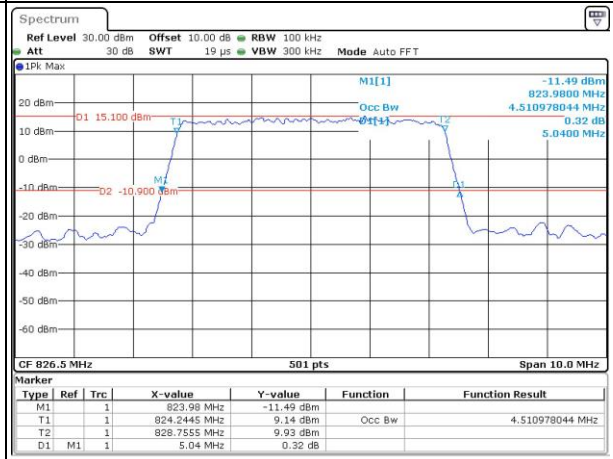
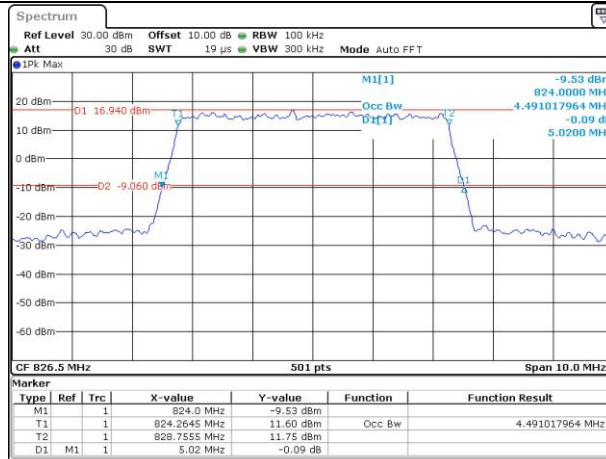
Occupied Bandwidth

Channel

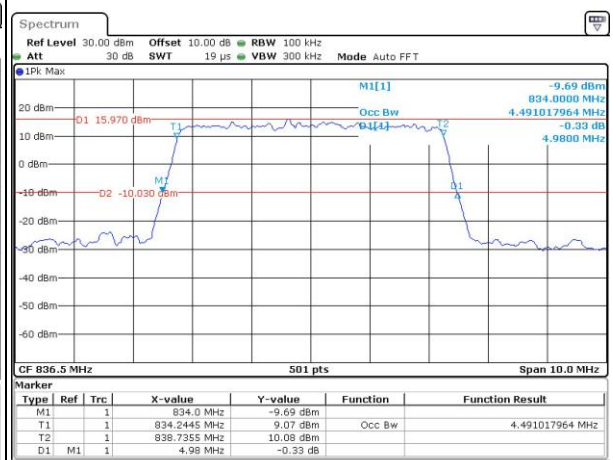
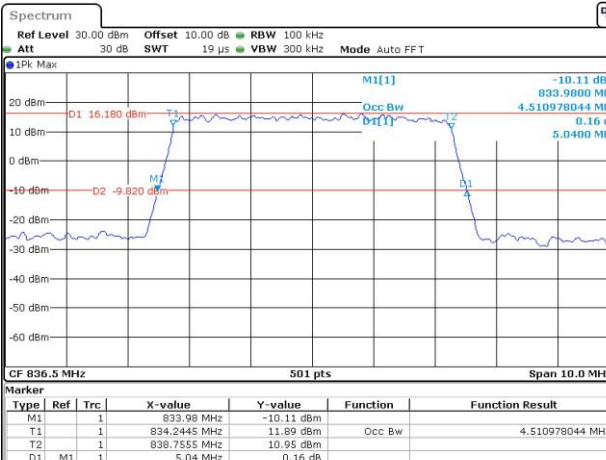
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

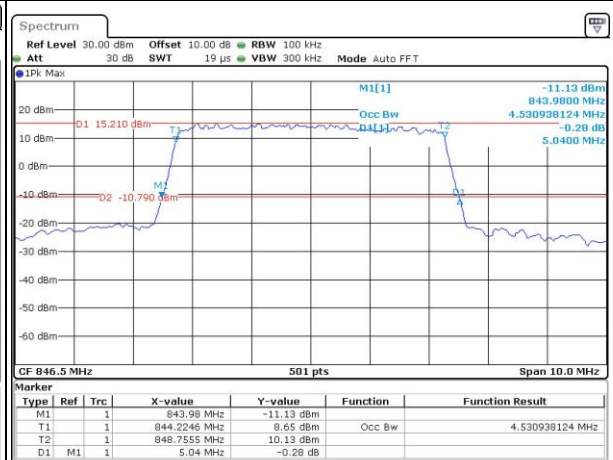
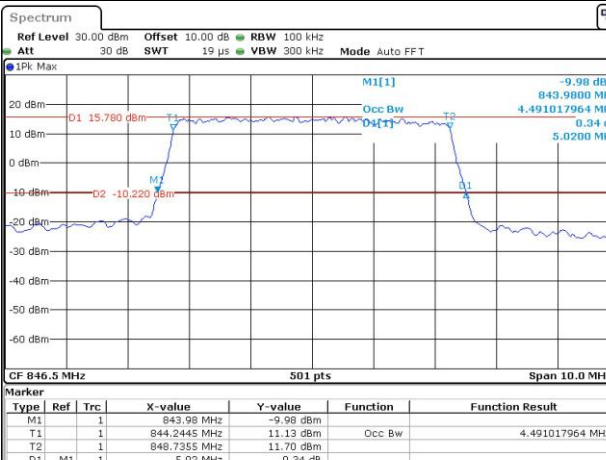
Lowest



Middle



Highest



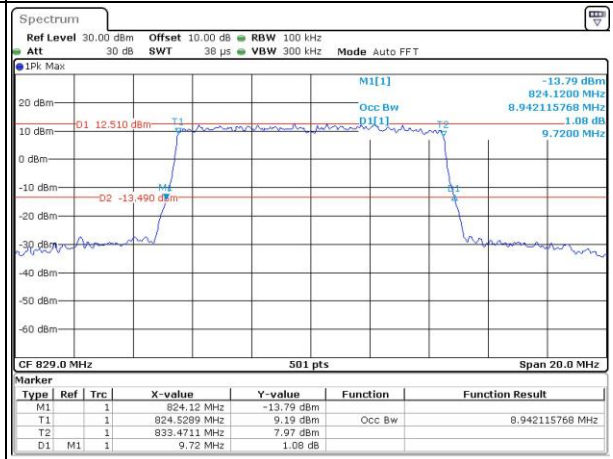
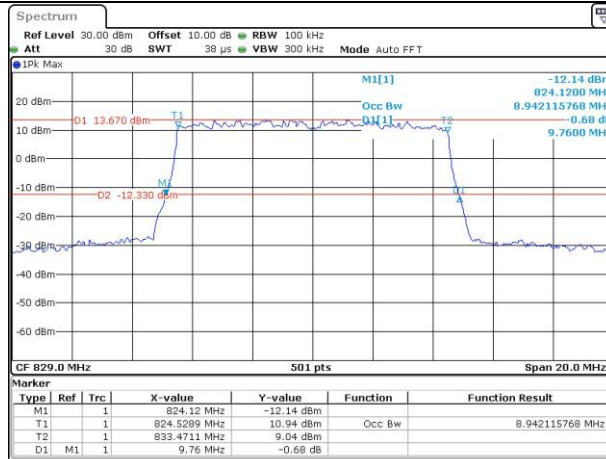
Occupied Bandwidth

Channel

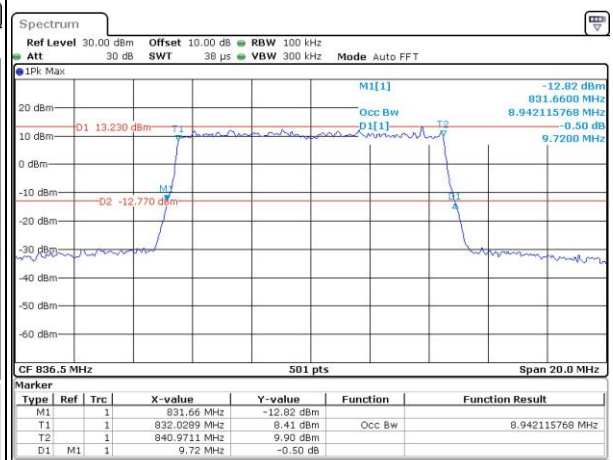
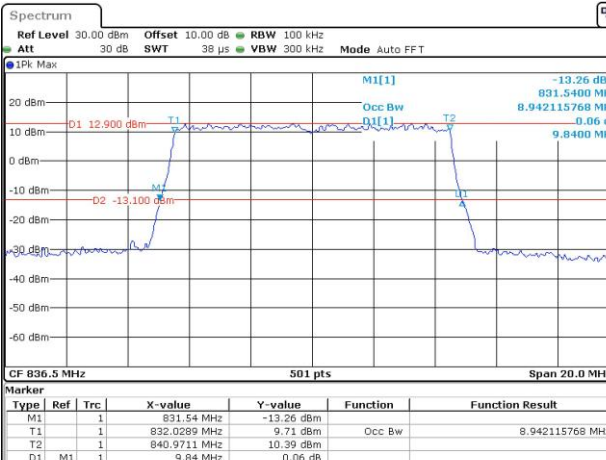
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

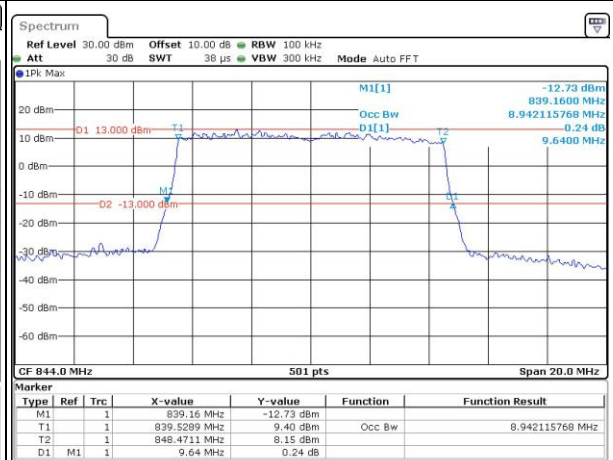
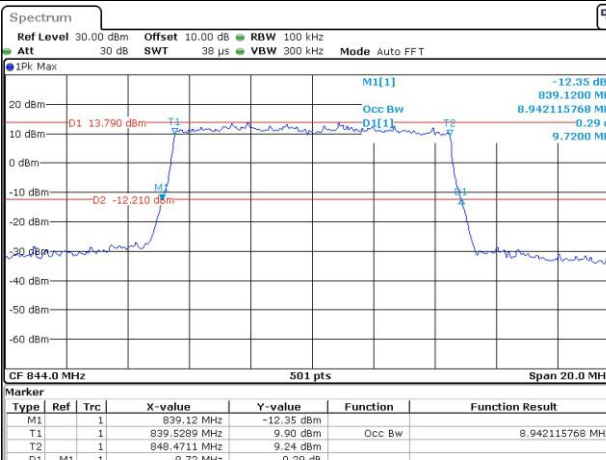
Lowest



Middle



Highest

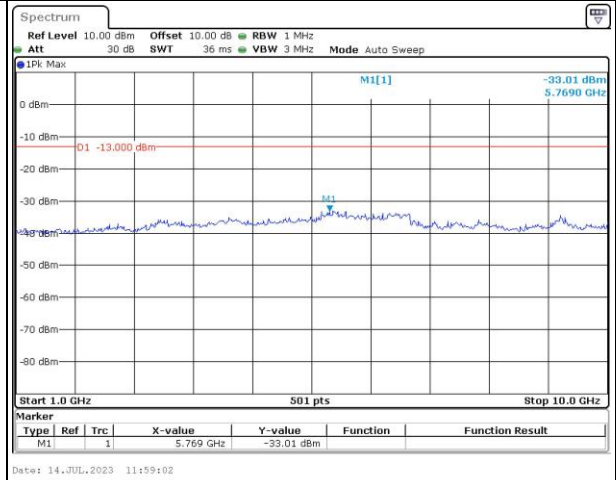
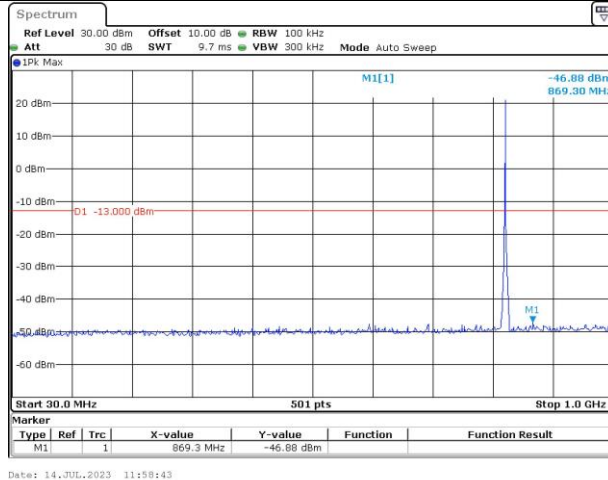


Spurious Emissions at Antenna Terminal

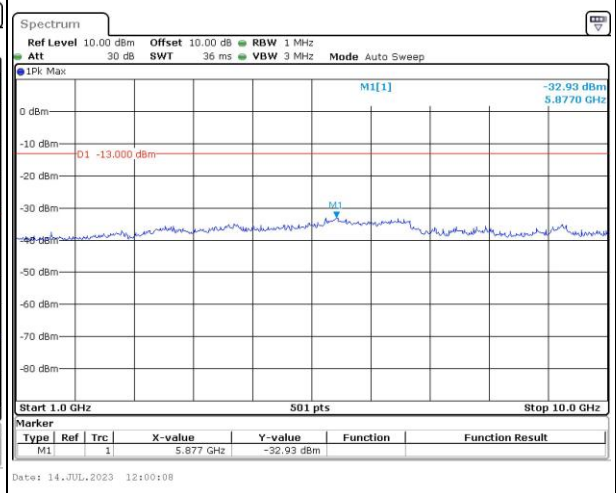
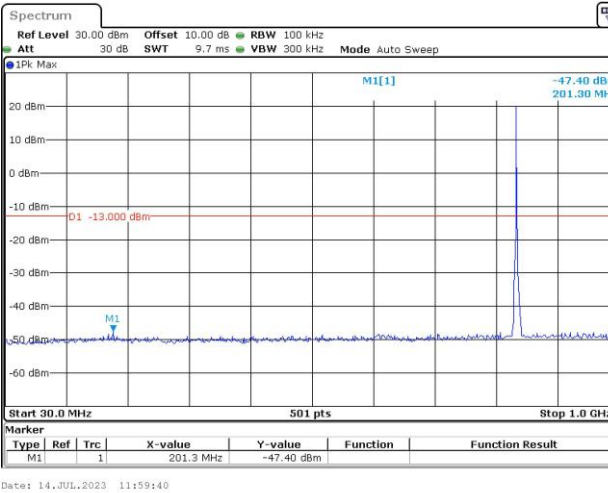
Channel

1.4MHz Bandwidth QPSK

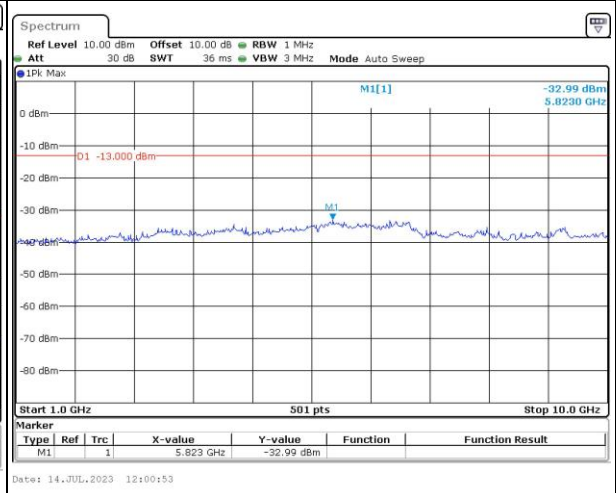
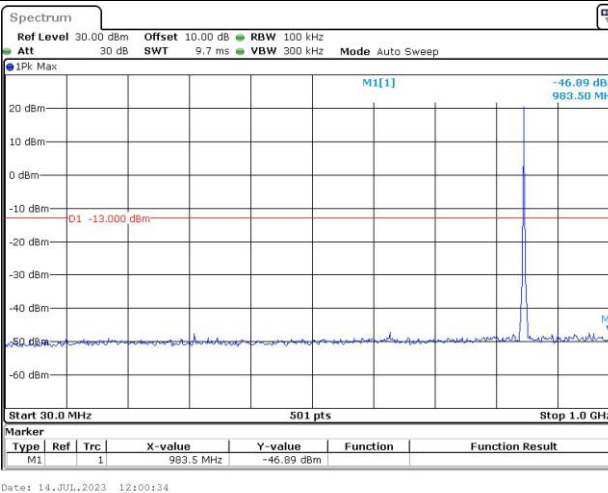
Lowest



Middle



Highest

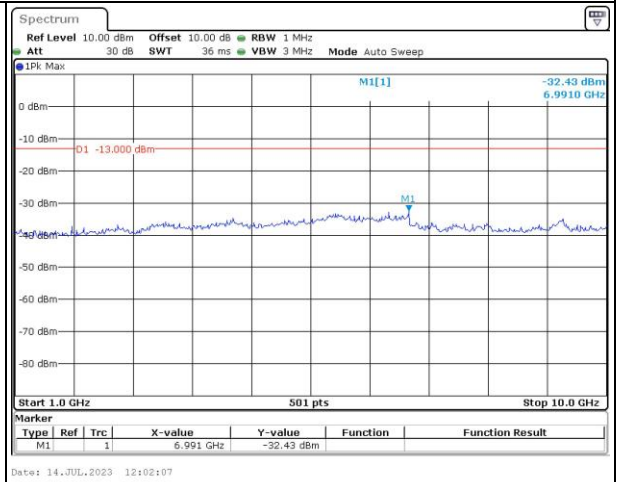
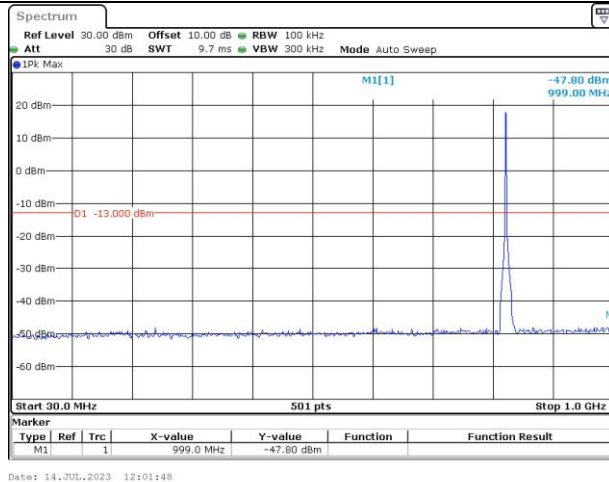


Spurious Emissions at Antenna Terminal

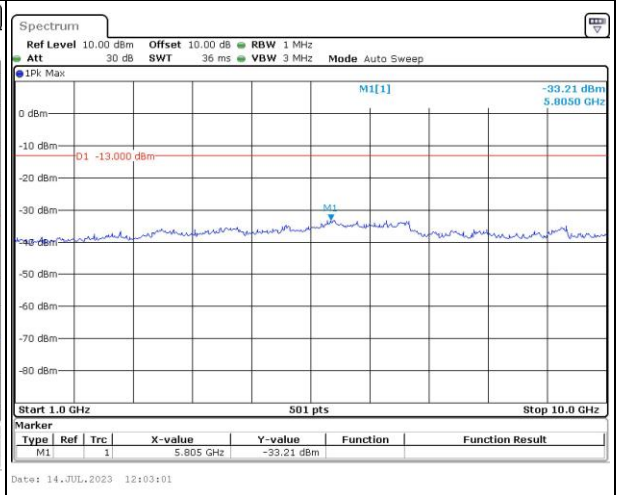
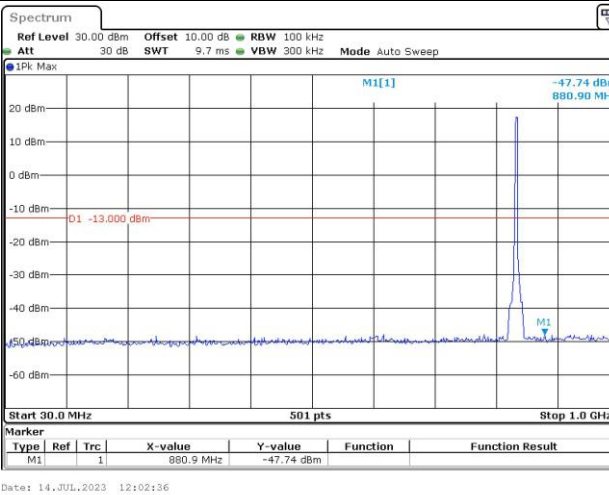
Channel

3MHz Bandwidth QPSK

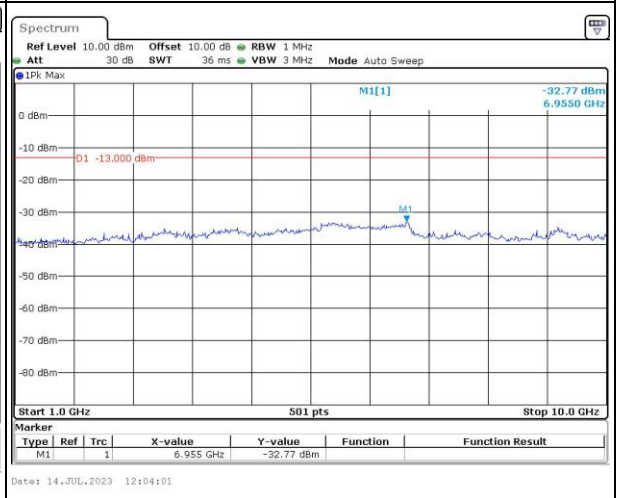
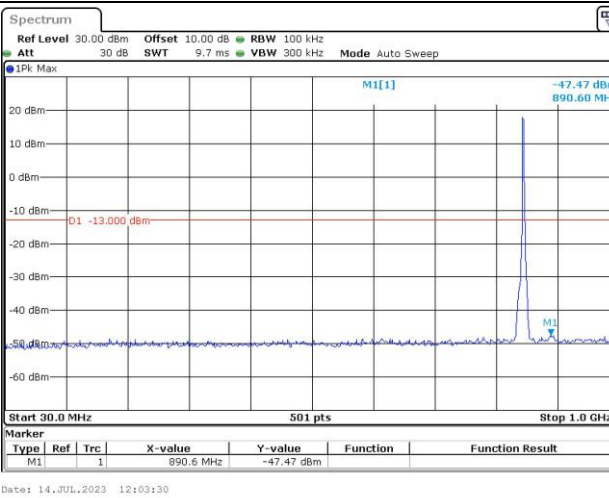
Lowest



Middle



Highest

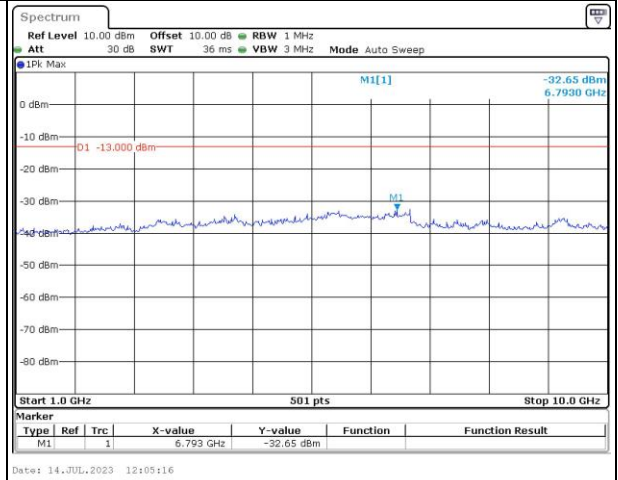
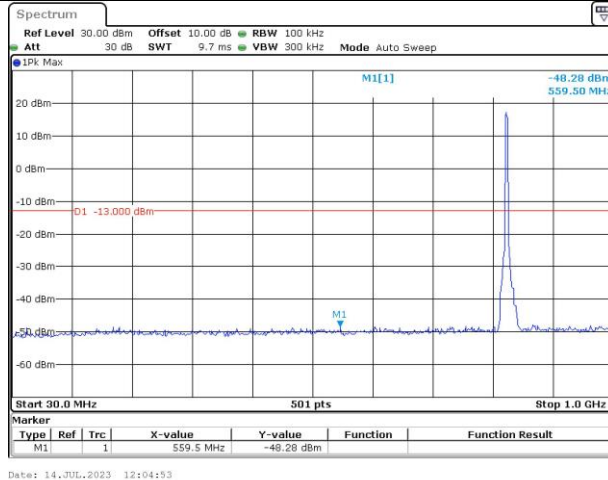


Spurious Emissions at Antenna Terminal

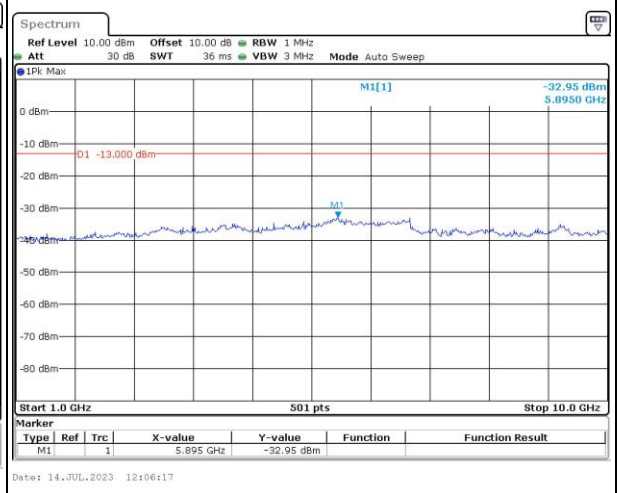
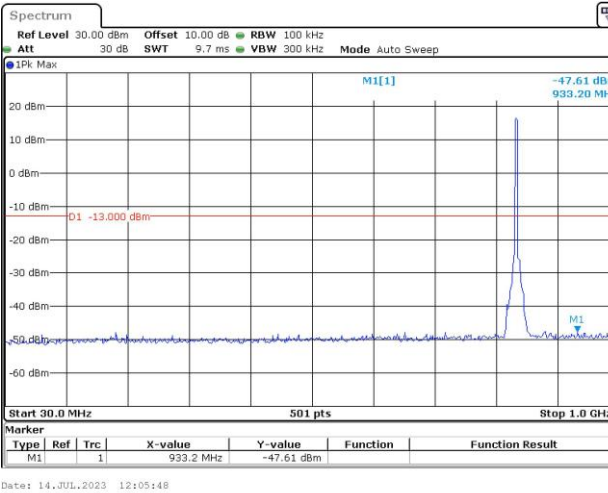
Channel

5MHz Bandwidth QPSK

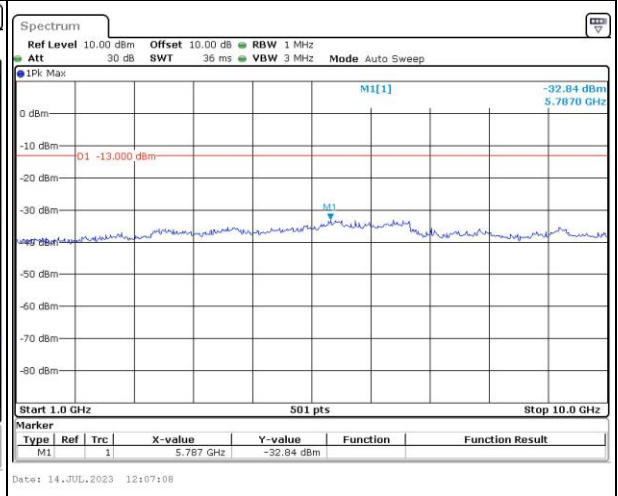
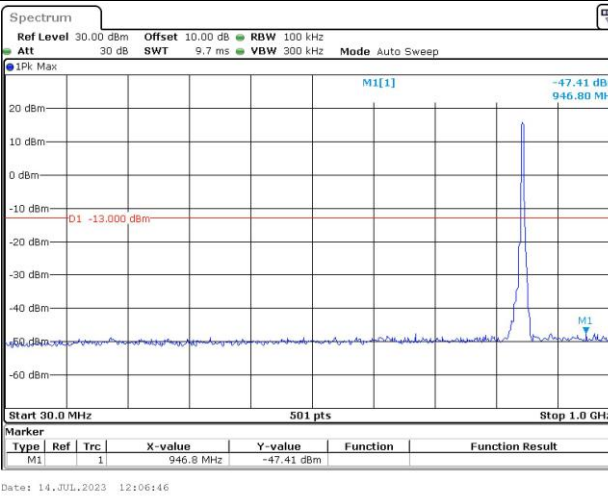
Lowest



Middle



Highest

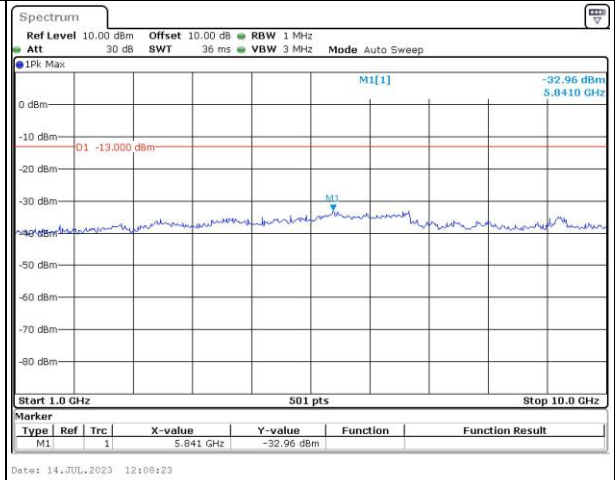
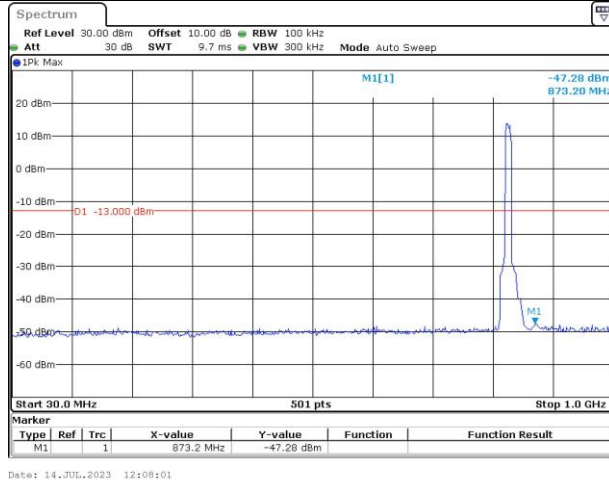


Spurious Emissions at Antenna Terminal

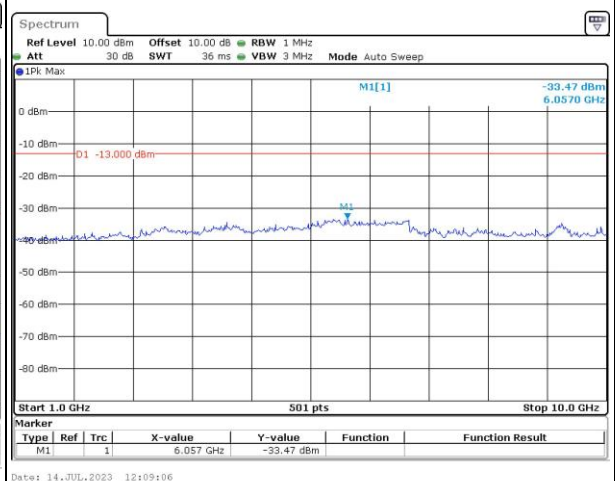
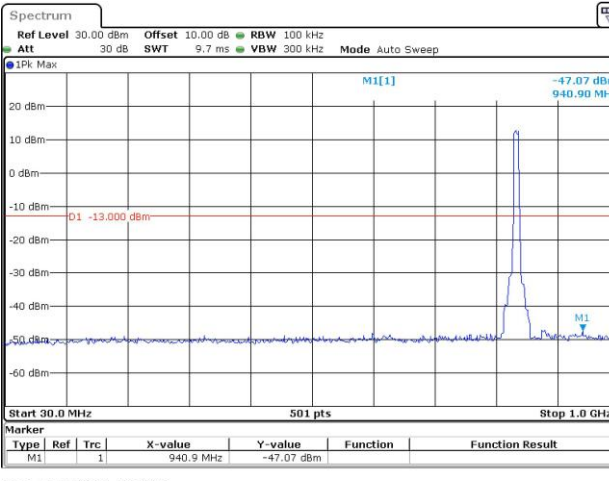
Channel

10MHz Bandwidth QPSK

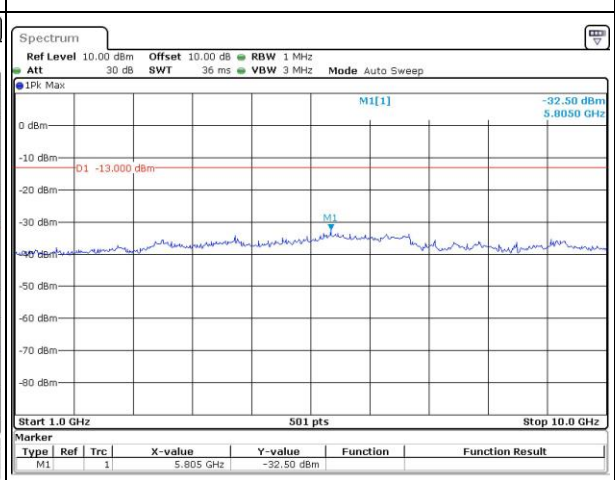
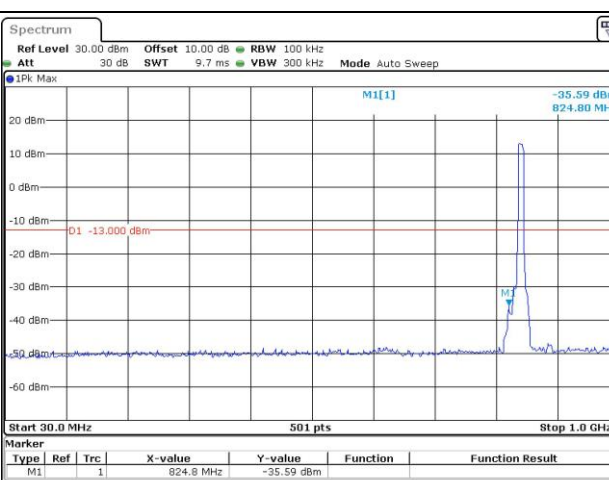
Lowest



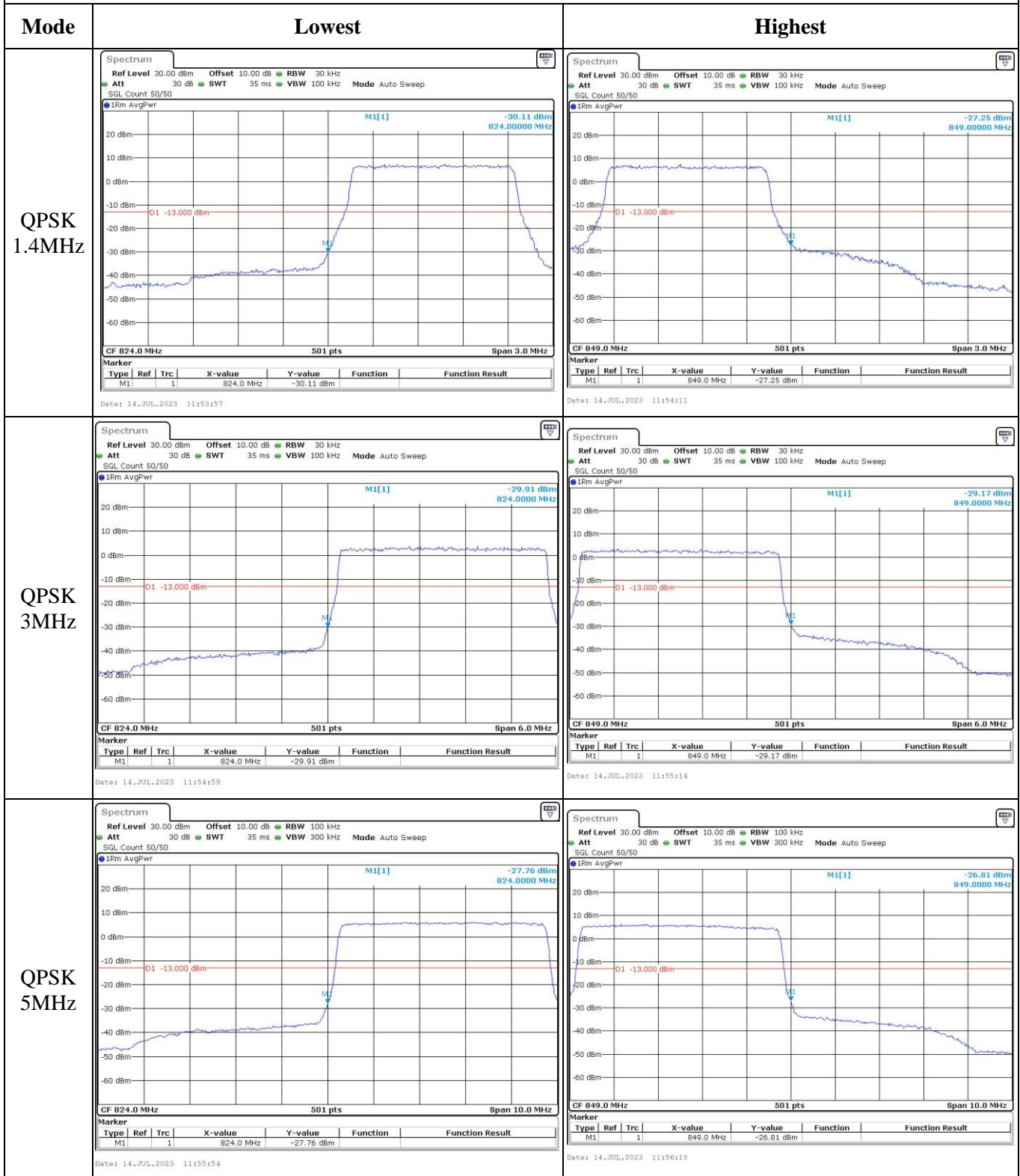
Middle



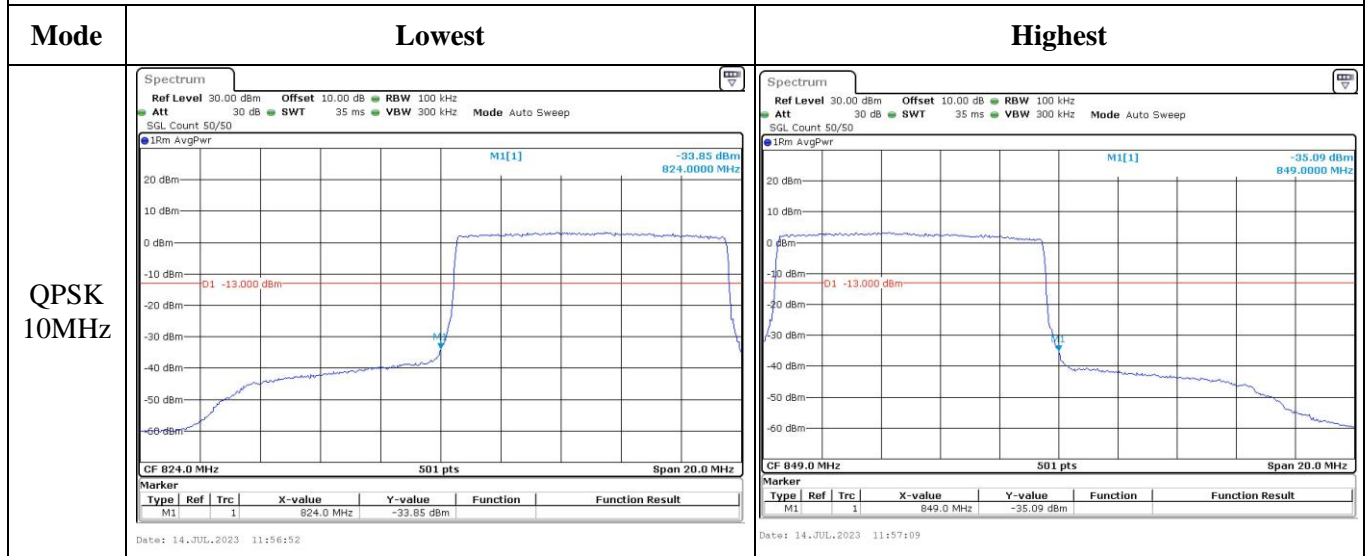
Highest



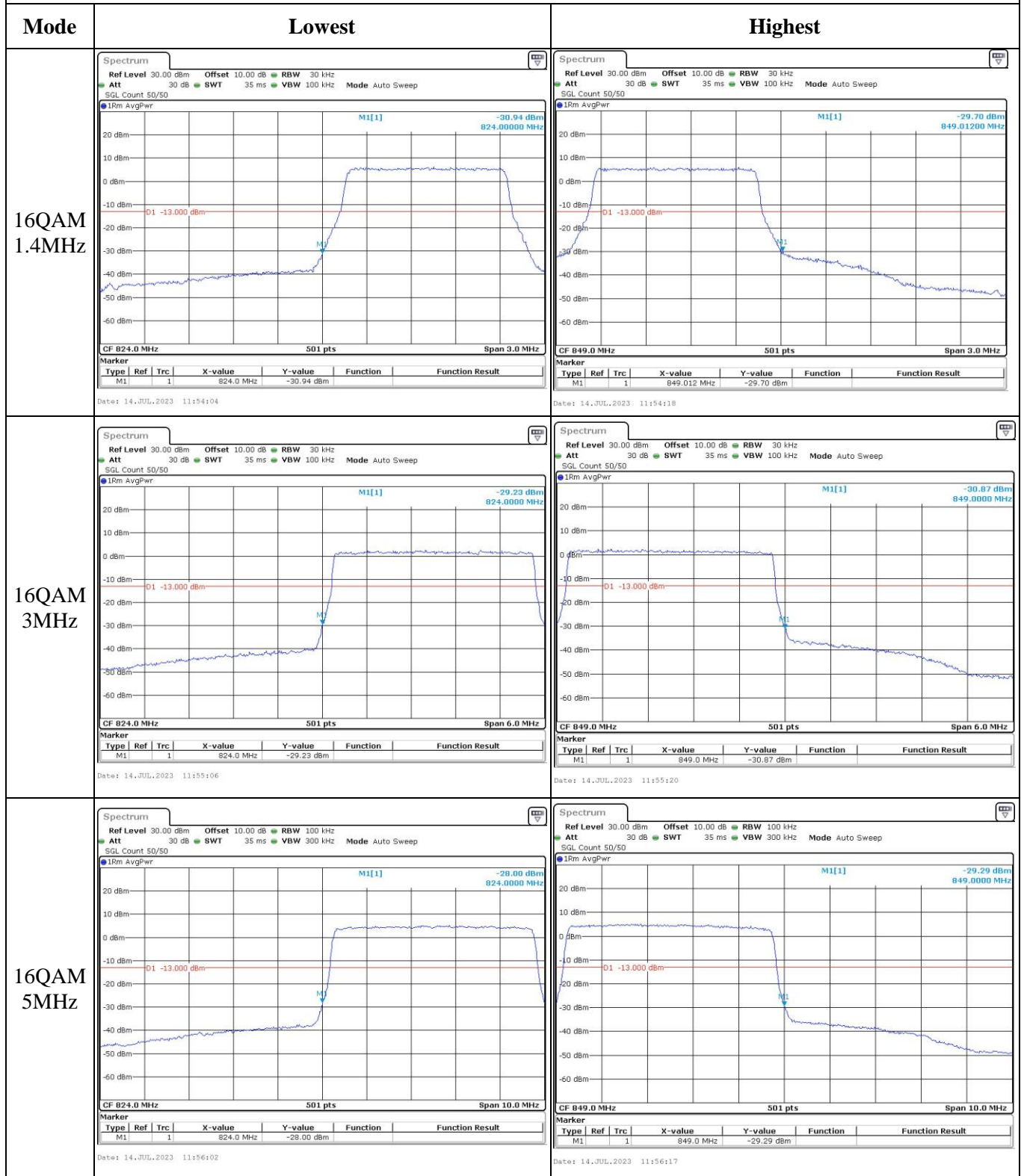
Out of band emission, Band Edge



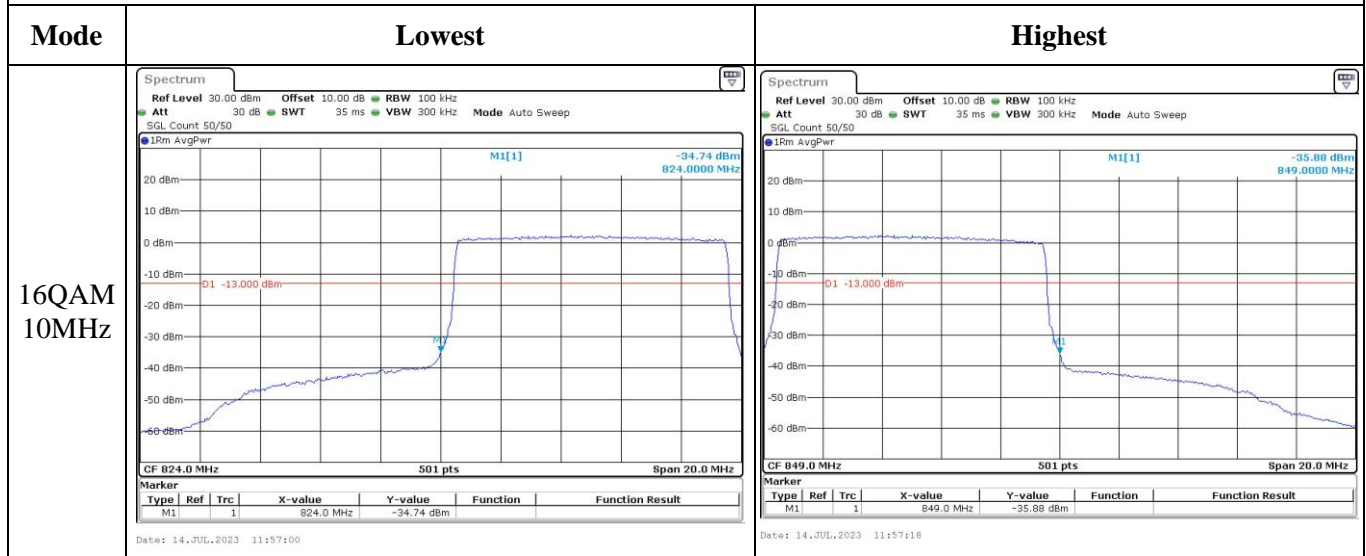
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.9 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	27YJ-1	Test Date:	2023/7/13~2023/7/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Arthur Su	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.8~26.5	Relative Humidity: (%)	48~53	ATM Pressure: (kPa)	100.2~101
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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	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Power Splitter	1515	RA914	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	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).

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2502.5	2535	2567.5
10MHz	2505	2535	2565
15MHz	2507.5	2535	2562.5
20MHz	2510	2535	2560

Test Data:**FCC §2.1046; § 27.50(h)(2)****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		
5MHz QPSK	RB1#0	22.02	22	22.2	25.15	33
	RB1#13	22.01	22.25	22.22		
	RB1#24	21.75	21.98	22.22		
	RB15#0	21.15	21.3	21.44		
	RB15#10	21.03	21.31	21.41		
	RB25#0	21.02	21.22	21.38		
5MHz 16QAM	RB1#0	21.32	20.97	21.04	24.61	33
	RB1#13	21.71	21.01	21.04		
	RB1#24	21.29	21.03	20.55		
	RB15#0	20.05	20.19	20.42		
	RB15#10	20.04	20.19	20.31		
	RB25#0	19.96	20.21	20.4		
10MHz QPSK	RB1#0	21.99	22.22	22.23	25.4	33
	RB1#25	22.02	22.35	22.5		
	RB1#49	22.09	22.33	22.4		
	RB25#0	21.06	21.27	21.39		
	RB25#25	21.28	21.26	21.48		
	RB50#0	21.12	21.27	21.41		
10MHz 16QAM	RB1#0	21.67	22.01	21.5	25.27	33
	RB1#25	22.25	22.37	21.62		
	RB1#49	21.77	21.93	21.26		
	RB25#0	20.16	20.47	20.61		
	RB25#25	20.3	20.45	20.56		
	RB50#0	20.21	20.29	20.44		
15MHz QPSK	RB1#0	22.04	22.21	22.32	25.32	33
	RB1#38	21.92	22.42	22.22		
	RB1#74	22.42	22.11	22.25		
	RB36#0	21.02	21.35	21.32		
	RB36#39	21.32	21.31	21.48		
	RB75#0	21.26	21.3	21.34		
15MHz 16QAM	RB1#0	21.47	21.85	21.39	25.25	33
	RB1#38	22.35	21.86	21.56		
	RB1#74	21.73	21.97	21.62		
	RB36#0	20.1	20.37	20.36		
	RB36#39	20.29	20.33	20.32		
	RB75#0	20.34	20.34	20.34		
20MHz QPSK	RB1#0	21.92	22.16	21.9	25.49	33
	RB1#50	22.3	22.48	22.59		
	RB1#99	22.05	22.3	20.99		

	RB50#0	21.16	21.36	21.36		
	RB50#50	21.26	21.22	21.4		
	RB100#0	21.27	21.33	21.43		
20MHz 16QAM	RB1#0	21.44	21.42	21.13	25.59	33
	RB1#50	22.69	22.14	21.51		
	RB1#99	22.02	21.79	20.35		
	RB50#0	20.22	20.36	20.44		
	RB50#50	20.32	20.35	20.42		
	RB100#0	20.27	20.4	20.38		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + G_T(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	5.86	5.65	5.65	13
	RB100#0	5.01	5.13	5.13	13
20MHz 16QAM	RB1#0	6.14	6.78	7.42	13
	RB100#0	5.94	6.03	5.91	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
5MHz QPSK	4.511	4.491	4.511	5.02	5	5.04
5MHz 16QAM	4.531	4.511	4.491	5.06	5.04	5.02
10MHz QPSK	8.942	8.942	8.942	9.76	9.84	9.72
10MHz 16QAM	8.942	8.942	8.942	9.68	9.68	9.68
15MHz QPSK	13.473	13.473	13.413	14.82	14.88	14.64
15MHz 16QAM	13.473	13.533	13.473	14.82	14.76	14.76
20MHz QPSK	17.964	17.964	17.884	19.28	19.36	19.28
20MHz 16QAM	17.884	17.884	17.884	19.44	19.52	19.28

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.

FCC §2.1051, §27.53:Out of band emission, Band Edge

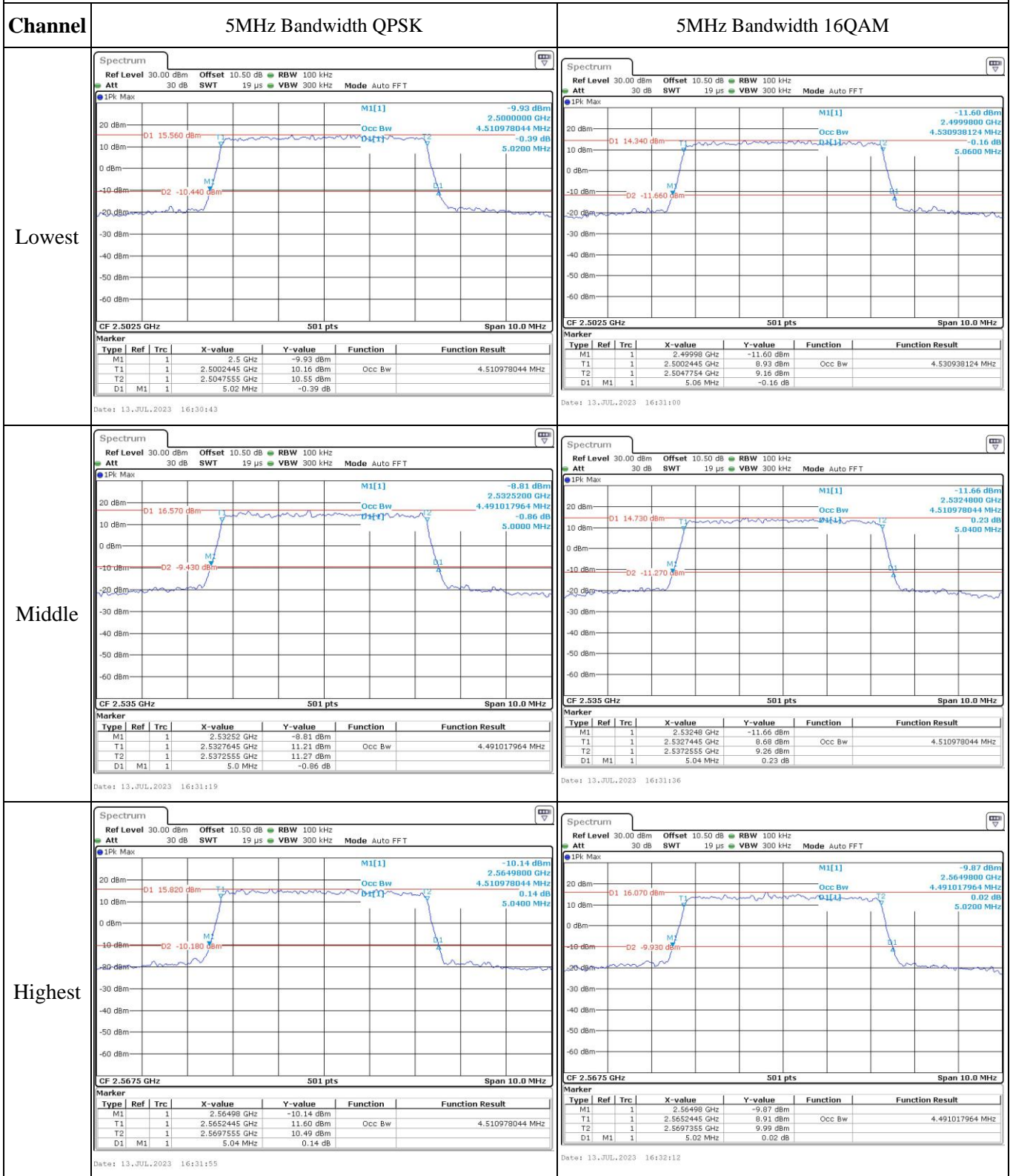
Result: Pass, Please refer to the test plots of Out of band emission, Band Edge.

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	3.8	2500.017	2500.00	2569.982	2570
	-20	3.8	2500.020	2500.00	2569.979	2570
	-10	3.8	2500.016	2500.00	2569.986	2570
	0	3.8	2500.014	2500.00	2569.981	2570
	10	3.8	2500.015	2500.00	2569.989	2570
	20	3.8	2500.018	2500.00	2569.989	2570
	30	3.8	2500.014	2500.00	2569.984	2570
	40	3.8	2500.018	2500.00	2569.984	2570
Frequency Stability vs. Voltage	20	3.5	2500.014	2500.00	2569.978	2570
	20	4.4	2500.022	2500.00	2569.987	2570
					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	3.8	2500.014	2500.00	2569.987	2570
	-20	3.8	2500.013	2500.00	2569.989	2570
	-10	3.8	2500.011	2500.00	2569.988	2570
	0	3.8	2500.019	2500.00	2569.989	2570
	10	3.8	2500.013	2500.00	2569.981	2570
	20	3.8	2500.011	2500.00	2569.987	2570
	30	3.8	2500.020	2500.00	2569.988	2570
	40	3.8	2500.021	2500.00	2569.981	2570
Frequency Stability vs. Voltage	20	3.5	2500.014	2500.00	2569.987	2570
	20	4.4	2500.016	2500.00	2569.987	2570
					Result:	Pass

Test Plots(Note: The 10.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

Occupied Bandwidth



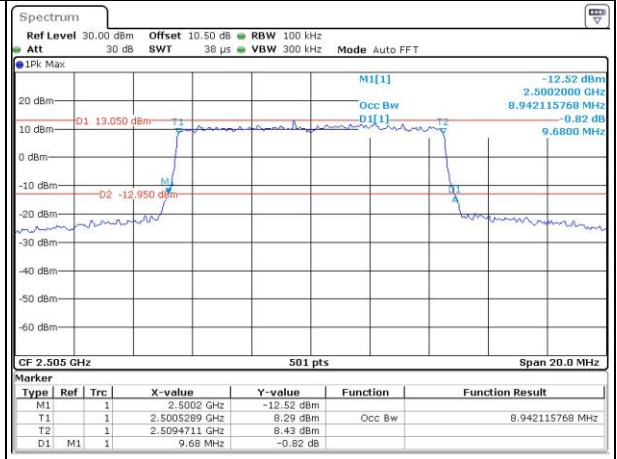
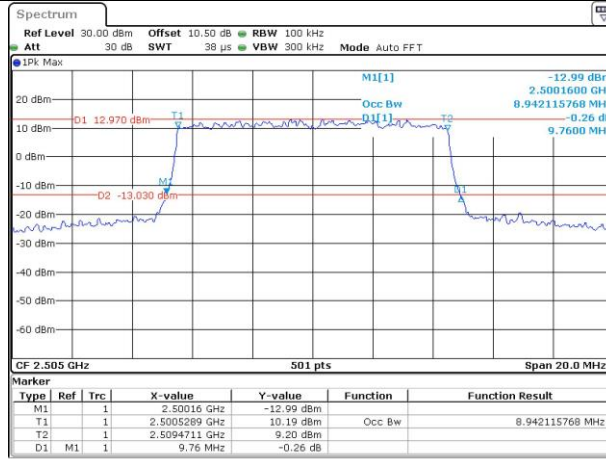
Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

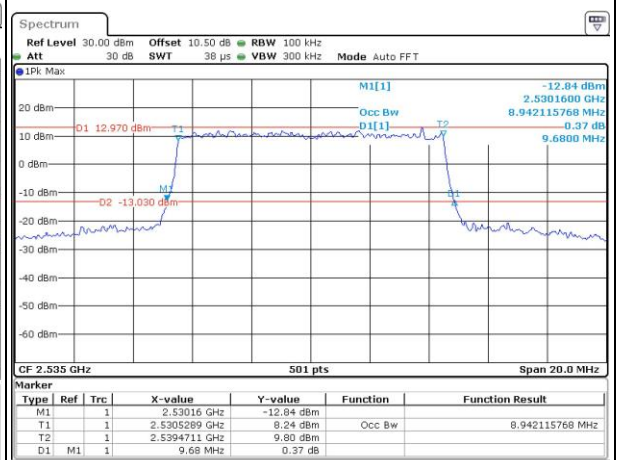
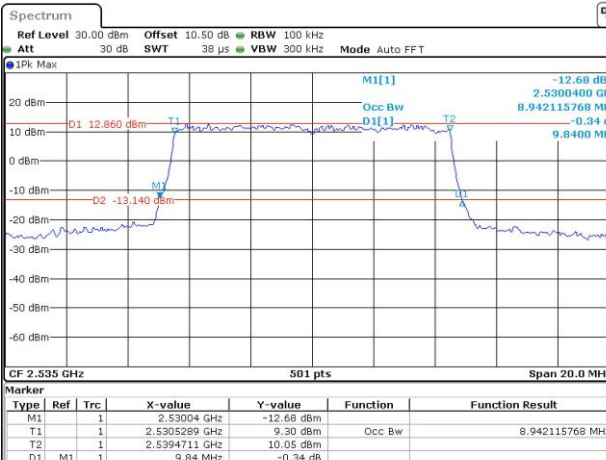
Lowest



Date: 13.JUL.2023 16:33:25

Date: 13.JUL.2023 16:33:50

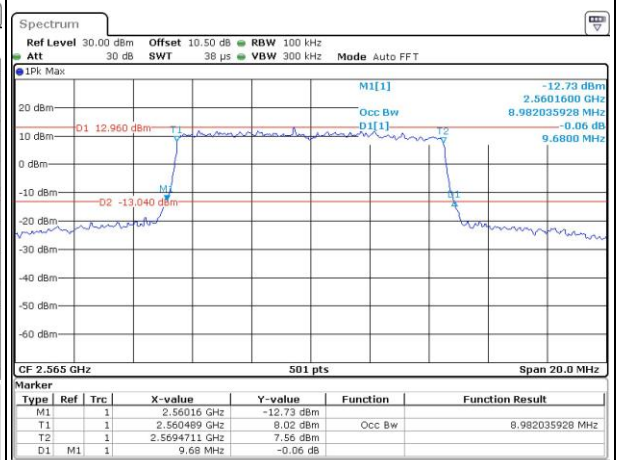
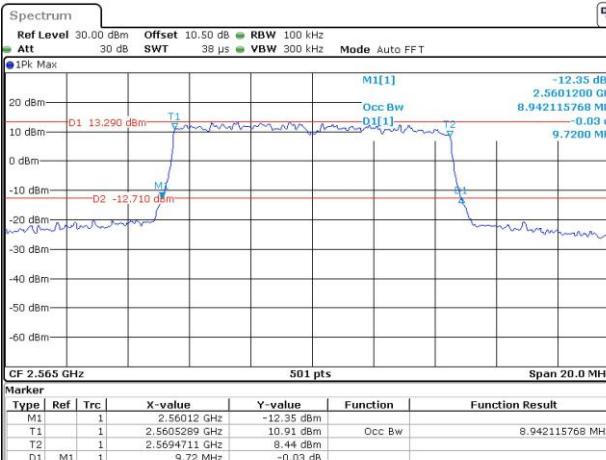
Middle



Date: 13.JUL.2023 16:34:12

Date: 13.JUL.2023 16:34:36

Highest



Date: 13.JUL.2023 16:42:03

Date: 13.JUL.2023 16:42:27

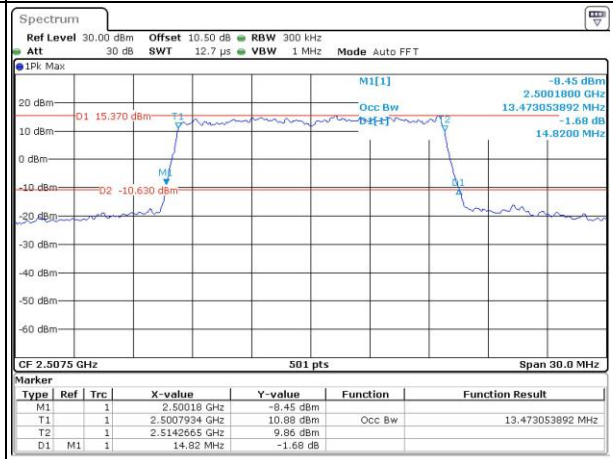
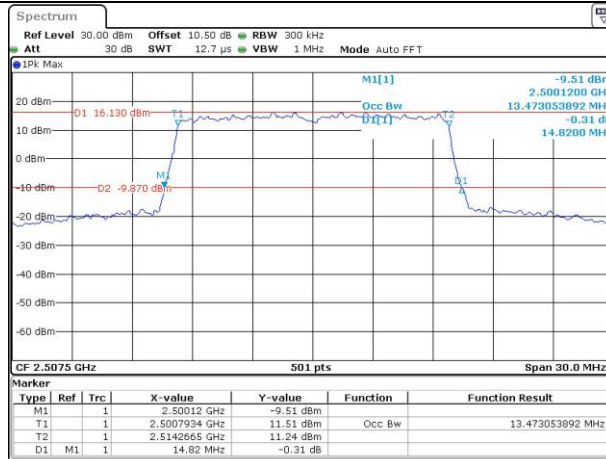
Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

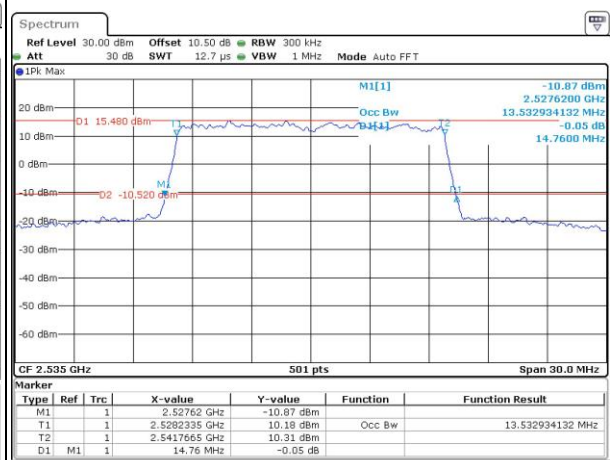
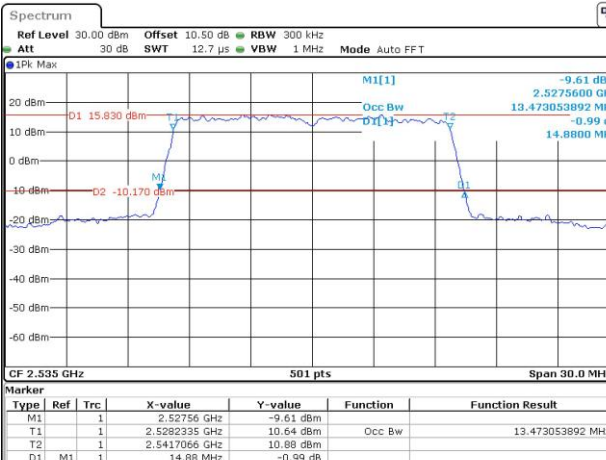
Lowest



Date: 13.JUL.2023 16:44:29

Date: 13.JUL.2023 16:45:03

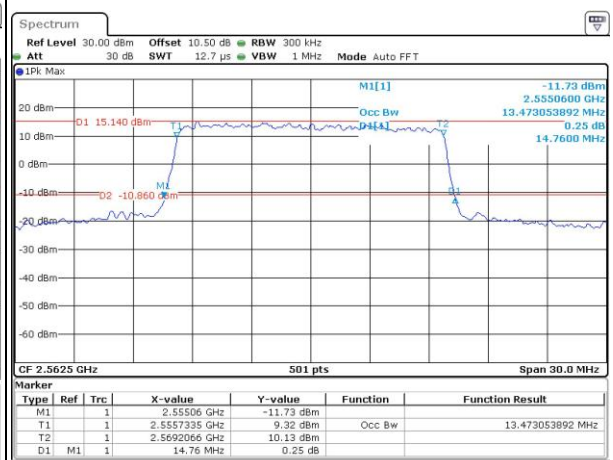
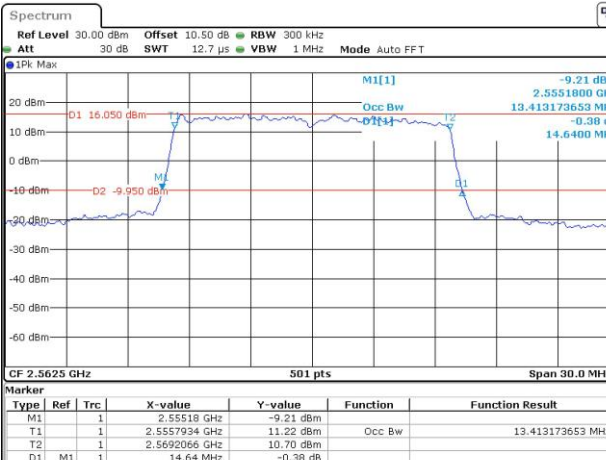
Middle



Date: 13.JUL.2023 16:45:37

Date: 13.JUL.2023 16:46:13

Highest



Date: 13.JUL.2023 16:46:38

Date: 13.JUL.2023 16:47:05

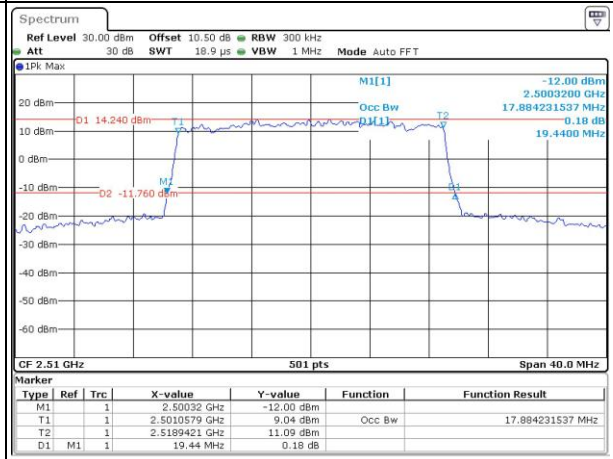
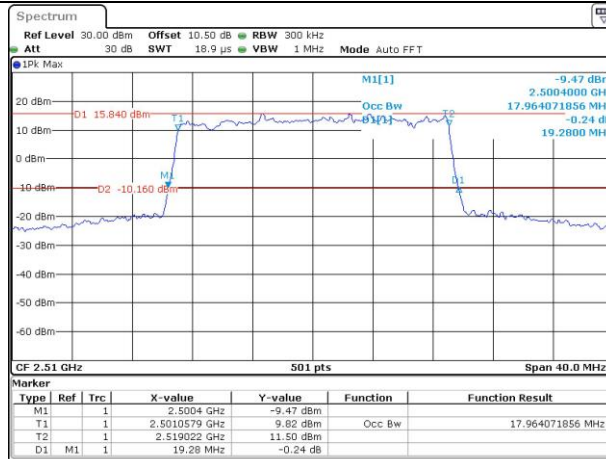
Occupied Bandwidth

Channel

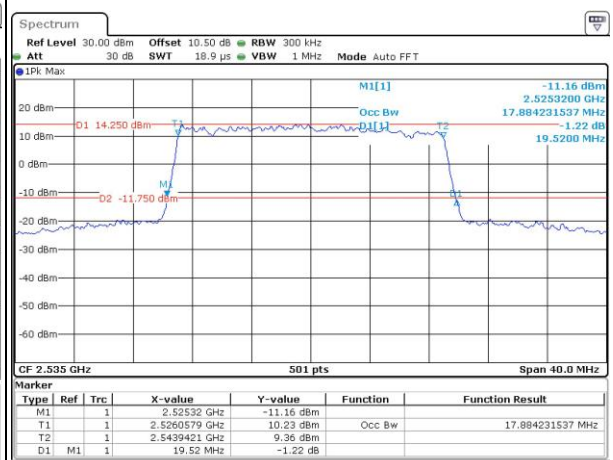
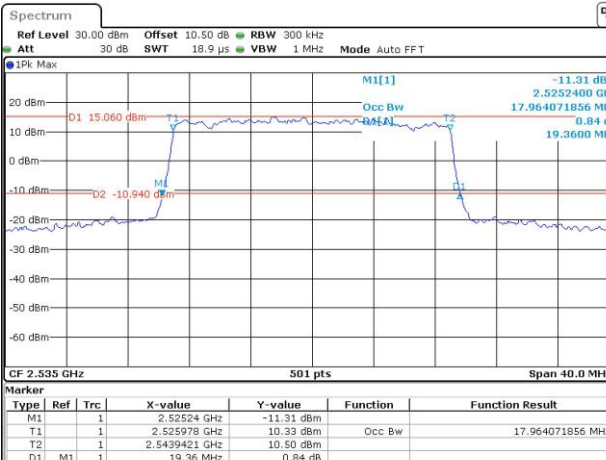
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

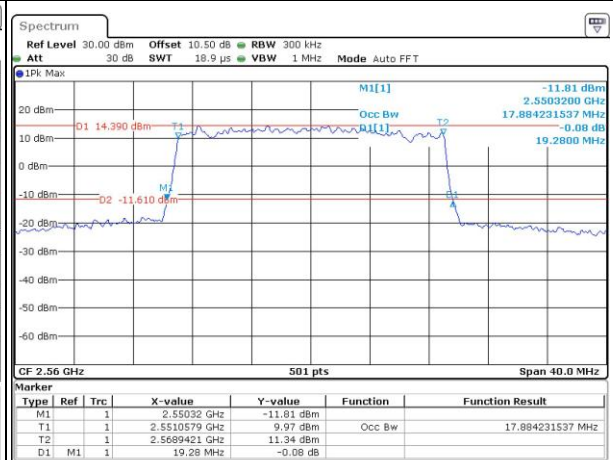
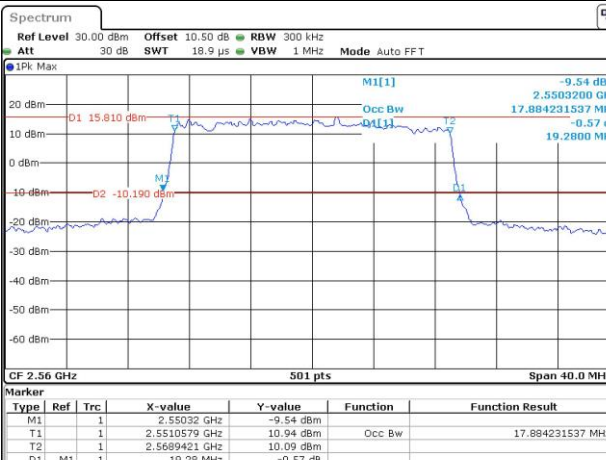
Lowest



Middle



Highest

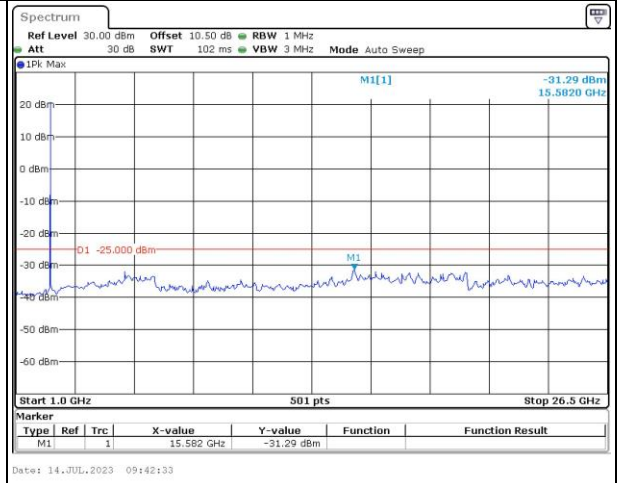
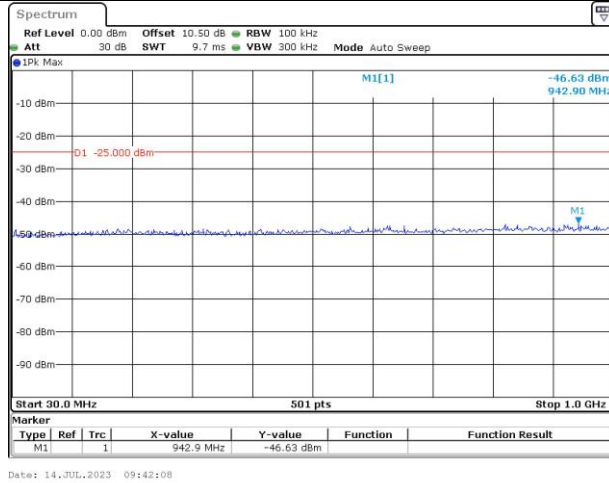


Spurious Emissions at Antenna Terminal

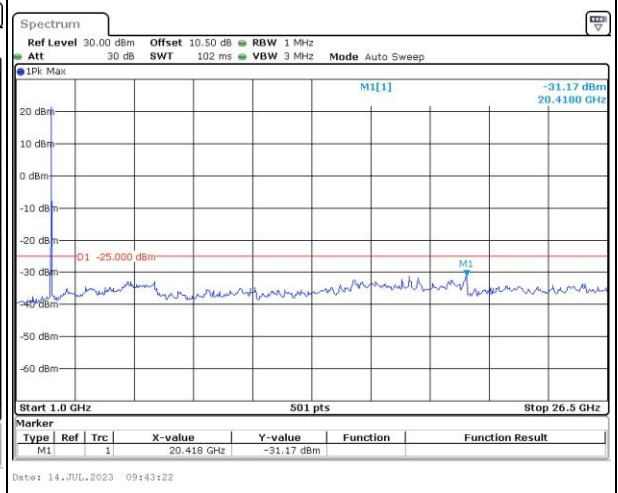
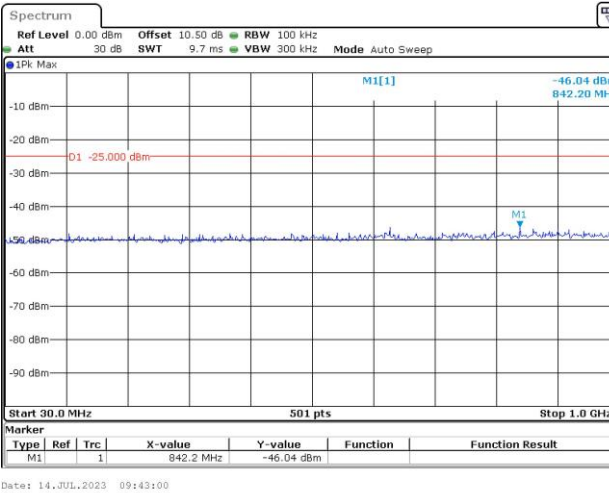
Channel

5MHz Bandwidth QPSK

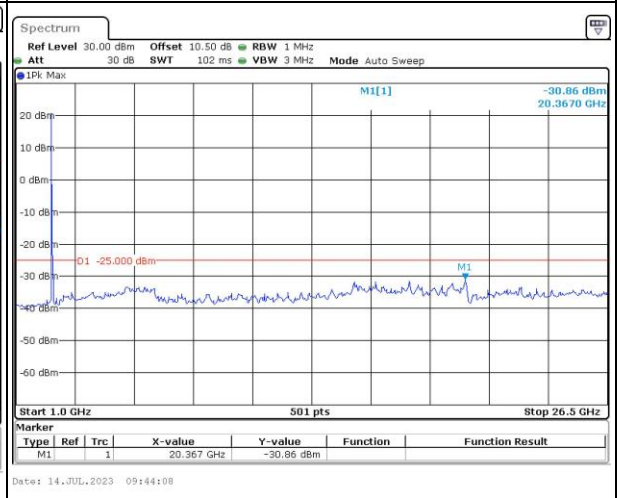
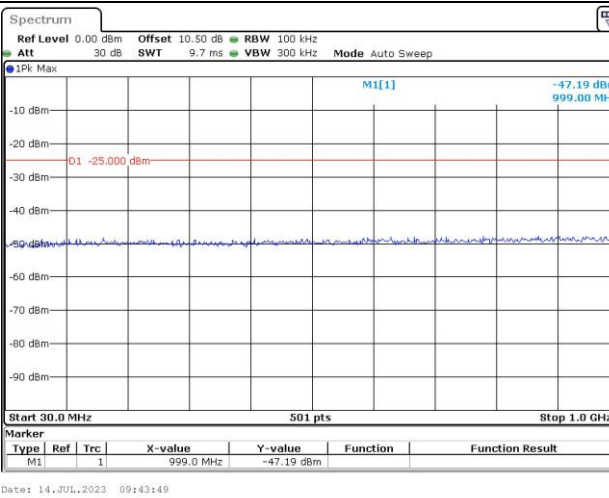
Lowest



Middle



Highest

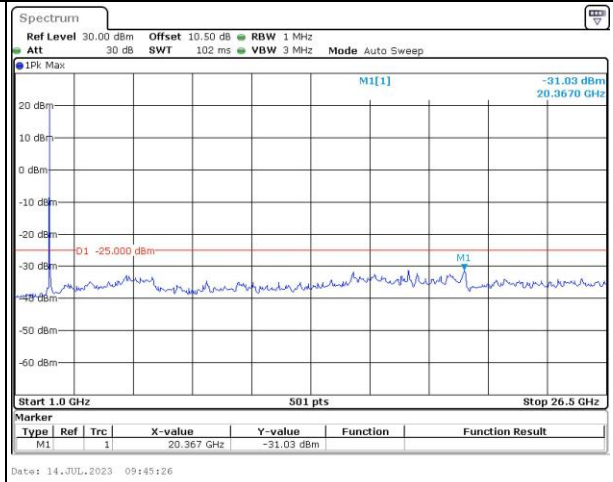
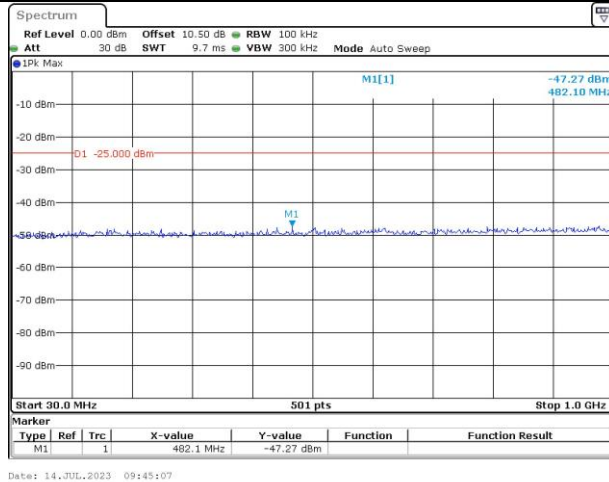


Spurious Emissions at Antenna Terminal

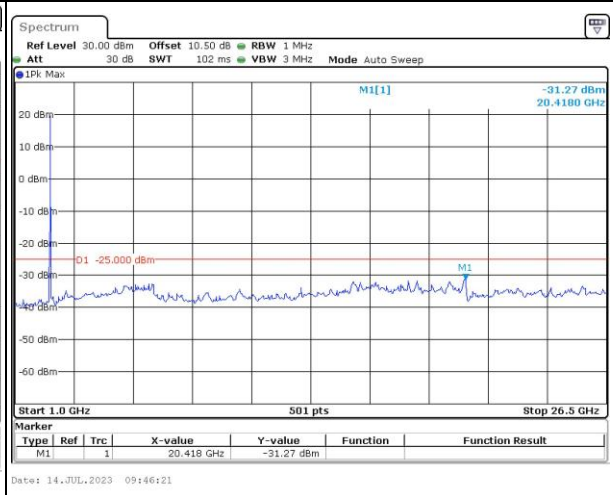
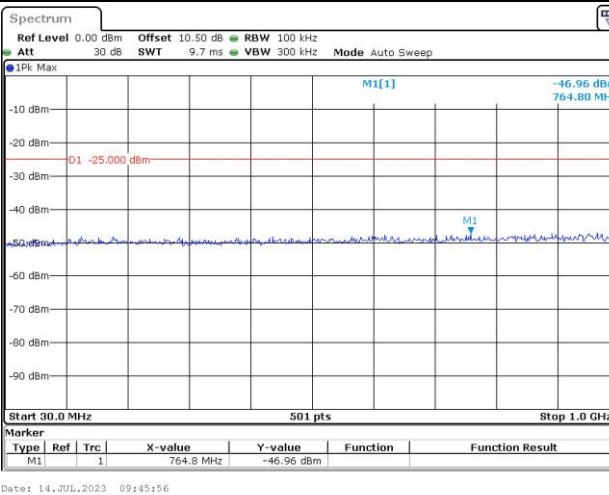
Channel

10MHz Bandwidth QPSK

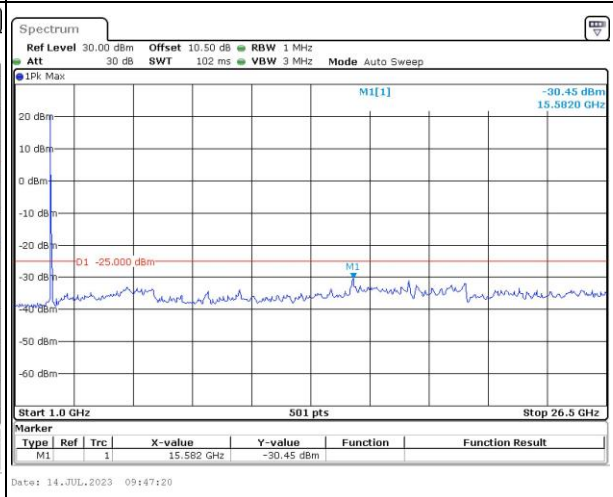
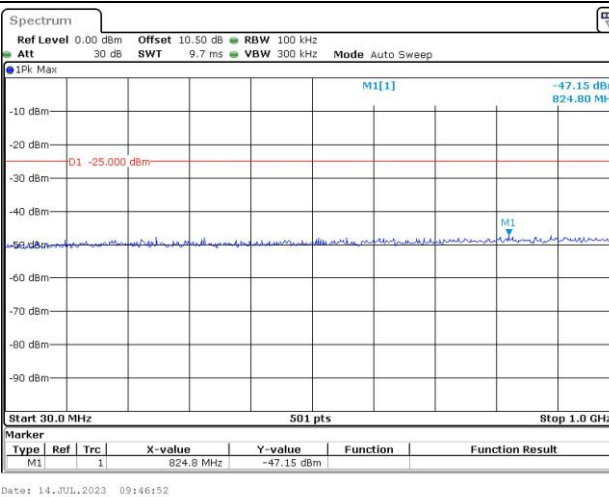
Lowest



Middle



Highest

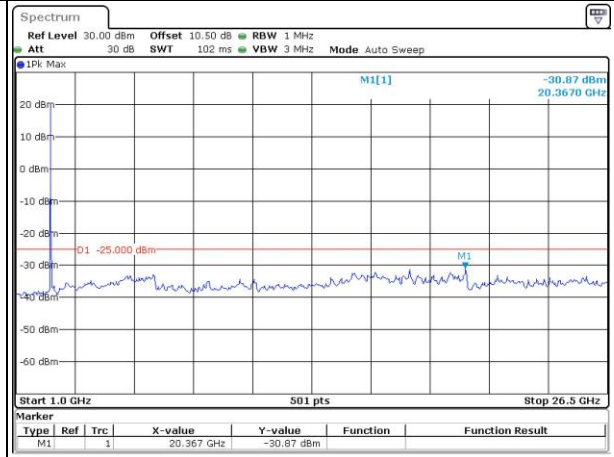
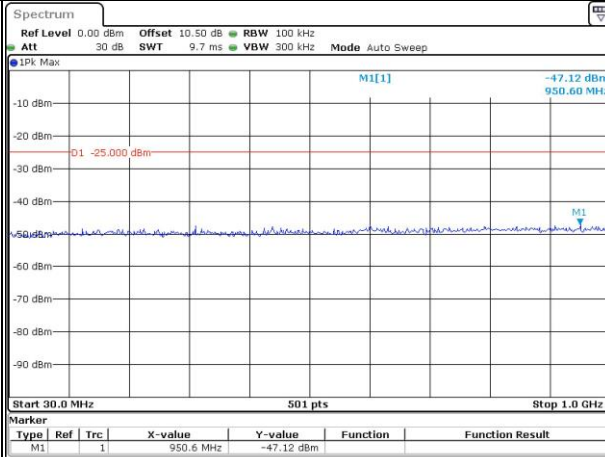


Spurious Emissions at Antenna Terminal

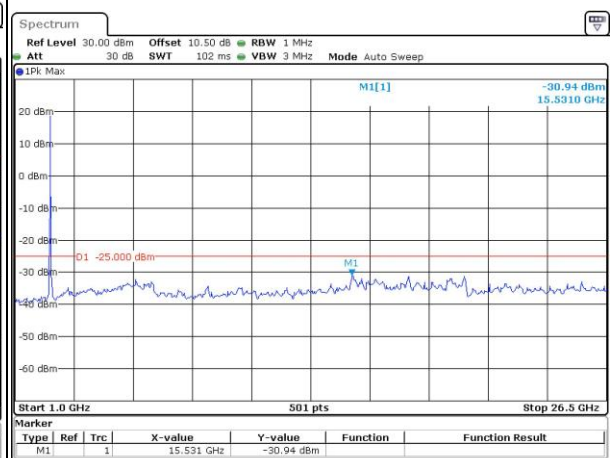
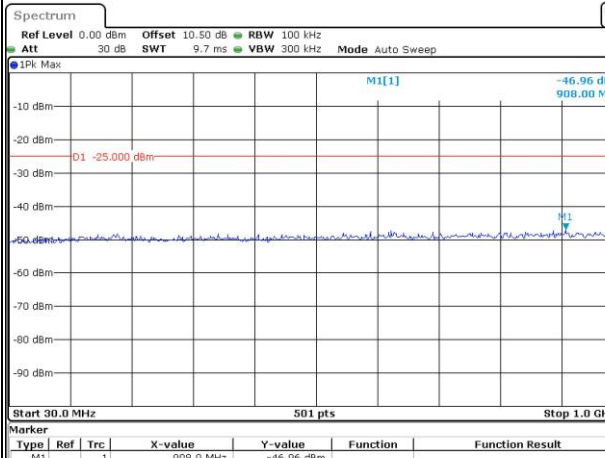
Channel

15MHz Bandwidth QPSK

Lowest



Middle



Highest

