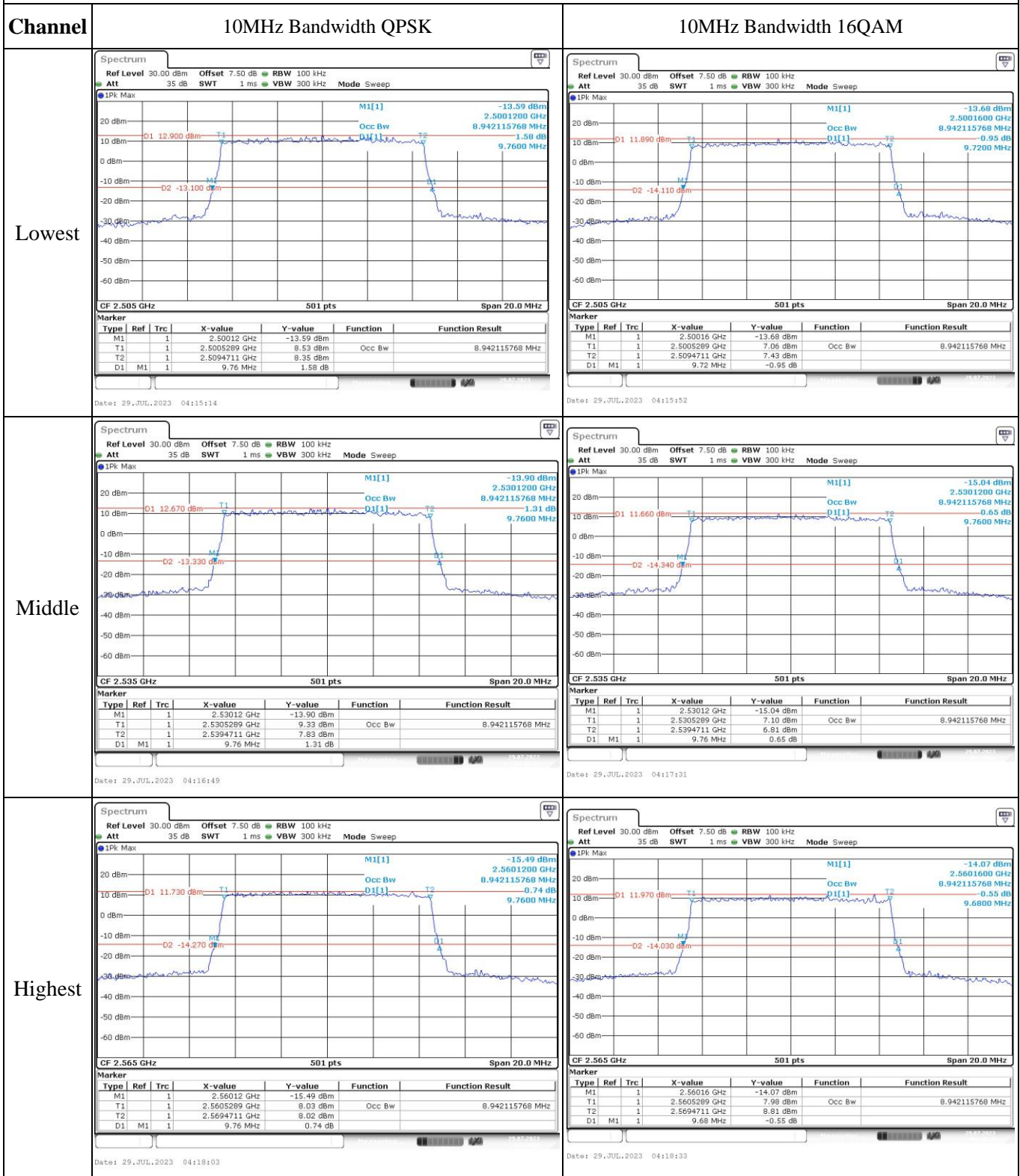


Occupied Bandwidth



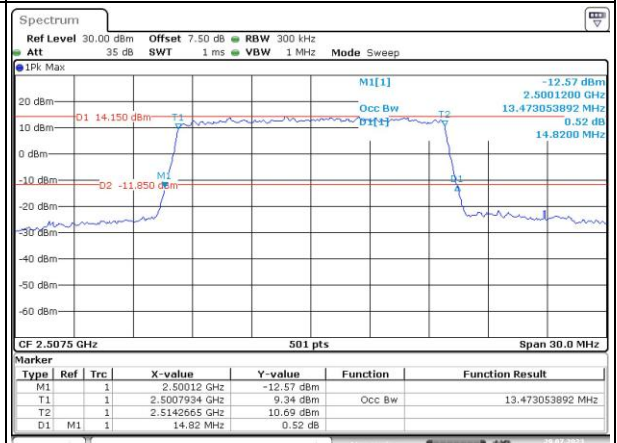
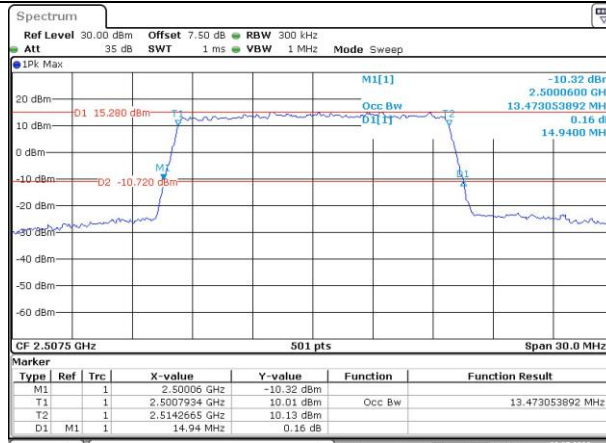
Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

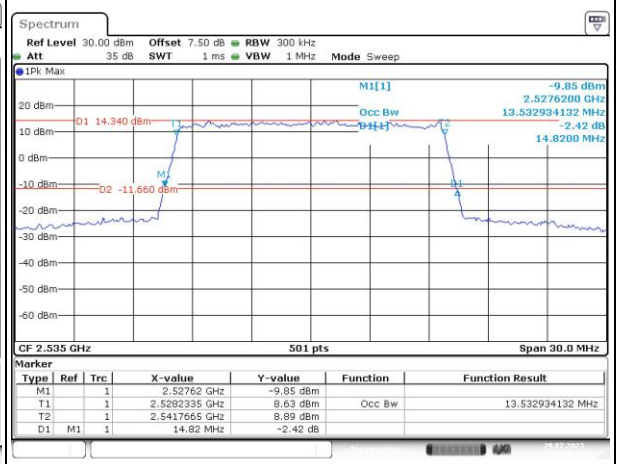
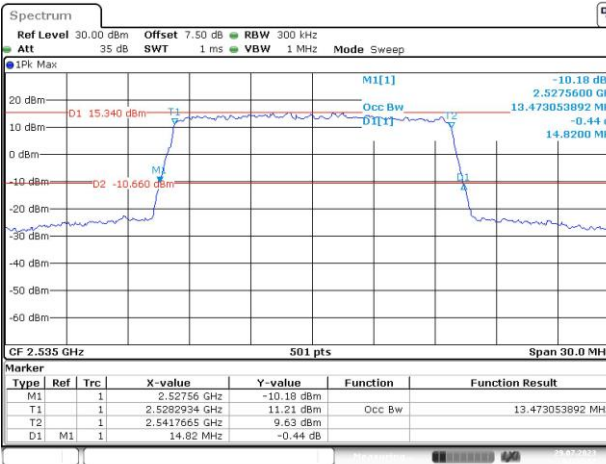
Lowest



Date: 29_JUL_2023 04:20:45

Date: 29_JUL_2023 04:21:17

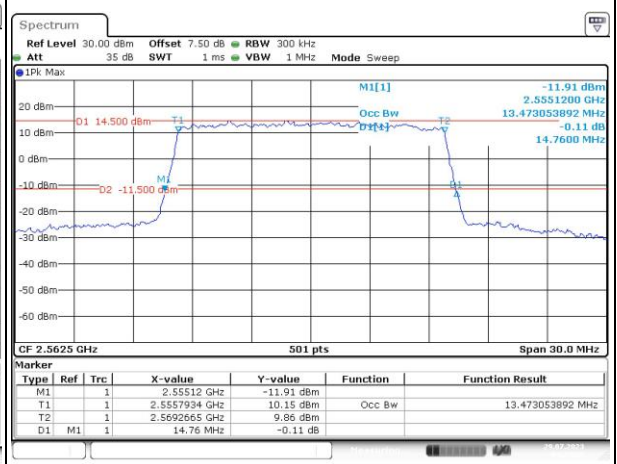
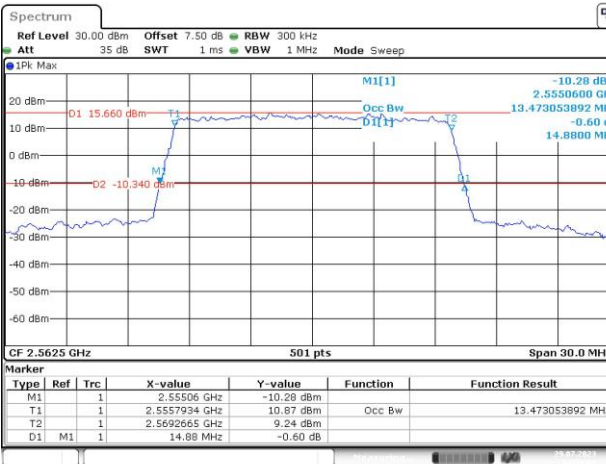
Middle



Date: 29_JUL_2023 04:22:12

Date: 29_JUL_2023 04:22:38

Highest



Date: 29_JUL_2023 04:23:07

Date: 29_JUL_2023 04:23:36

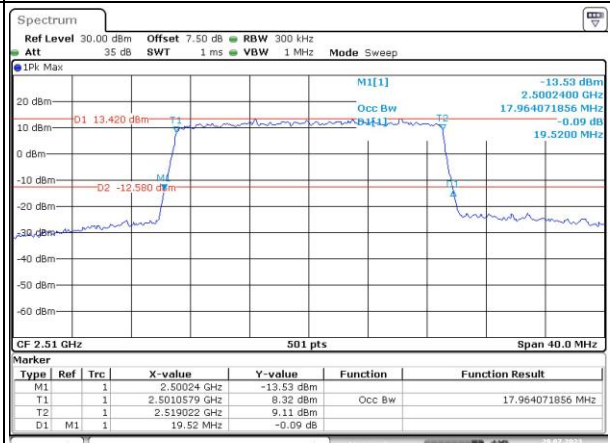
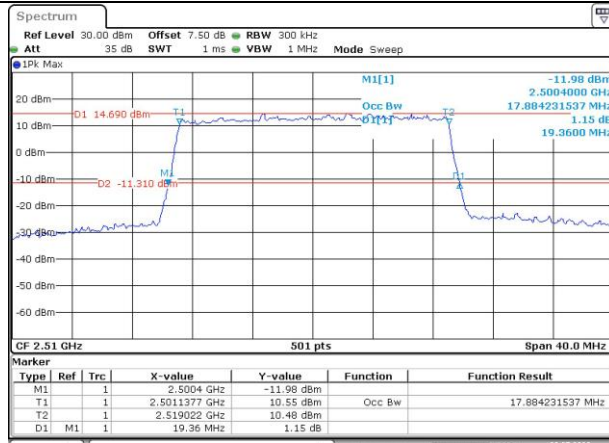
Occupied Bandwidth

Channel

20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

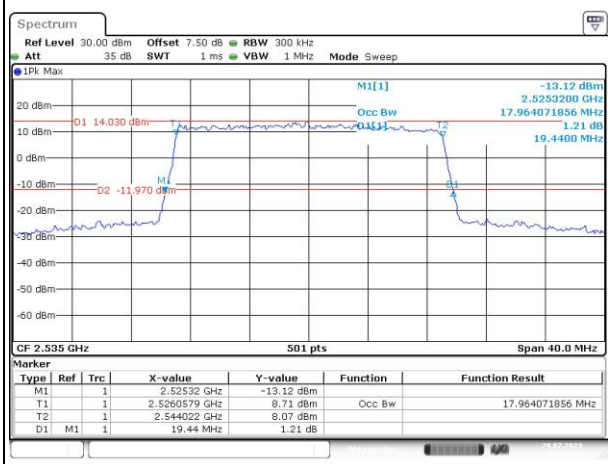
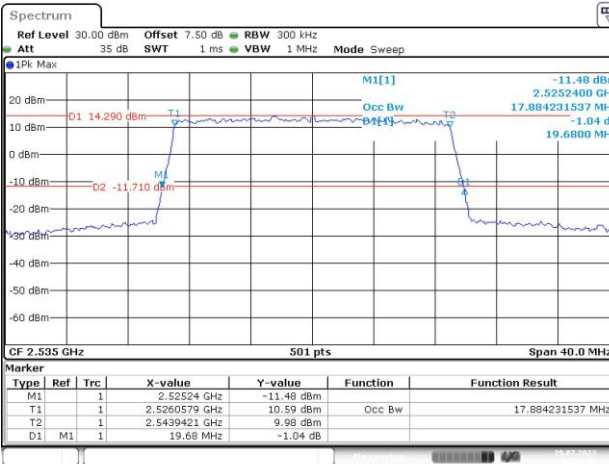
Lowest



Date: 29_JUL_2023 04:25:32

Date: 29_JUL_2023 04:26:00

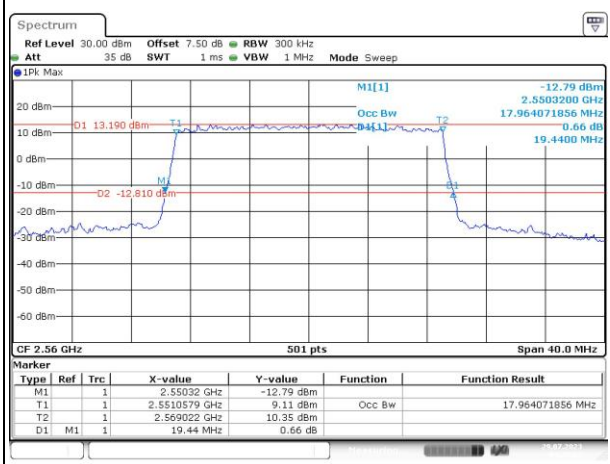
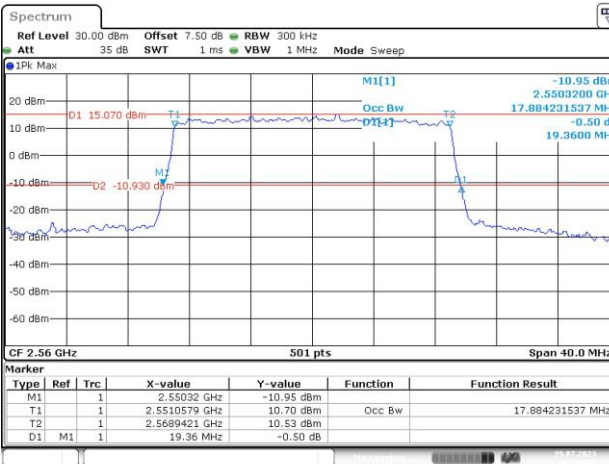
Middle



Date: 29_JUL_2023 04:126:37

Date: 29_JUL_2023 04:127:06

Highest



Date: 29_JUL_2023 04:127:43

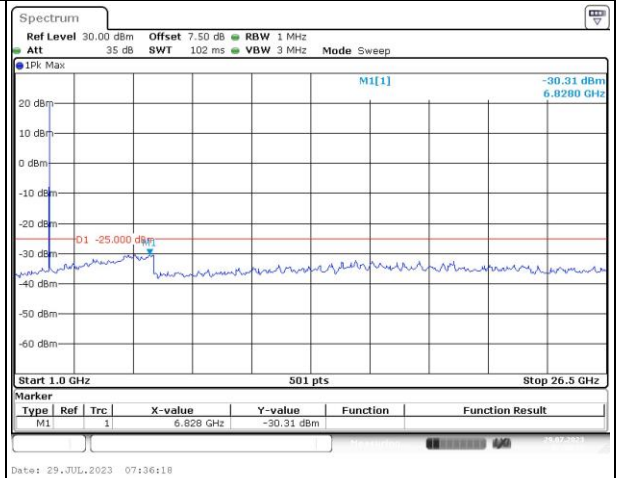
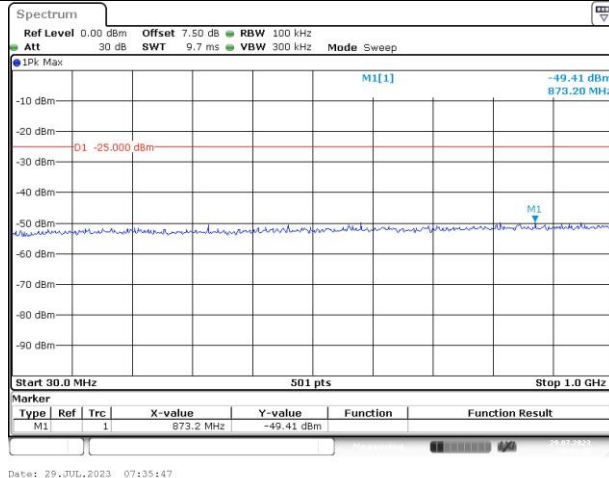
Date: 29_JUL_2023 04:128:08

Spurious Emissions at Antenna Terminal

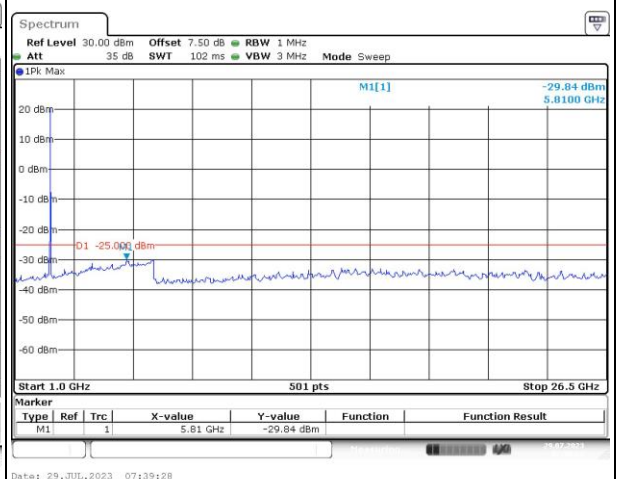
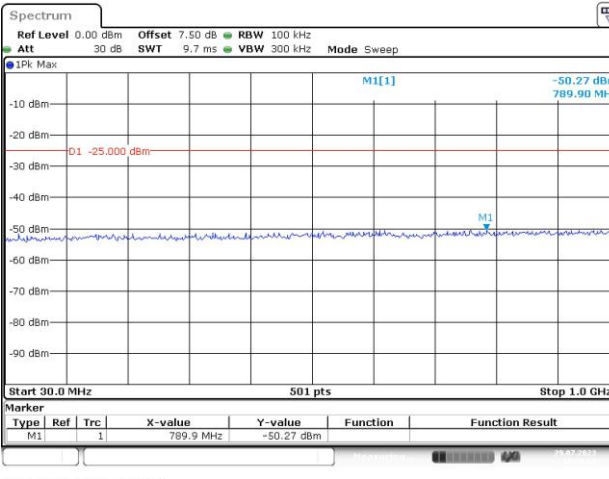
Channel

5MHz Bandwidth QPSK

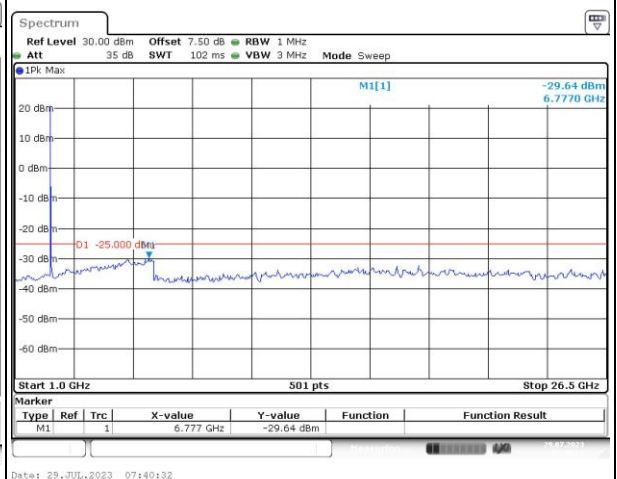
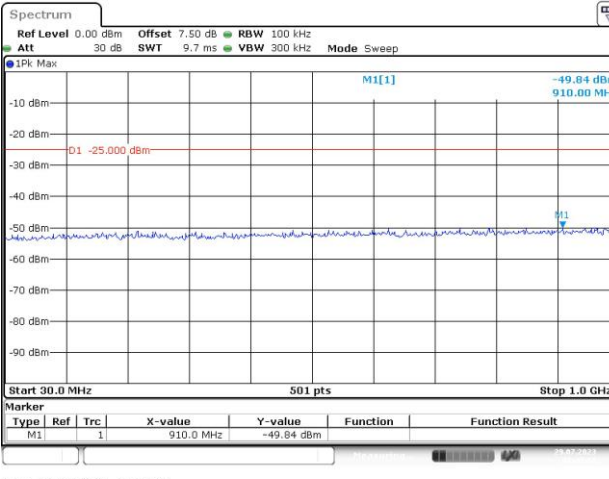
Lowest



Middle



Highest

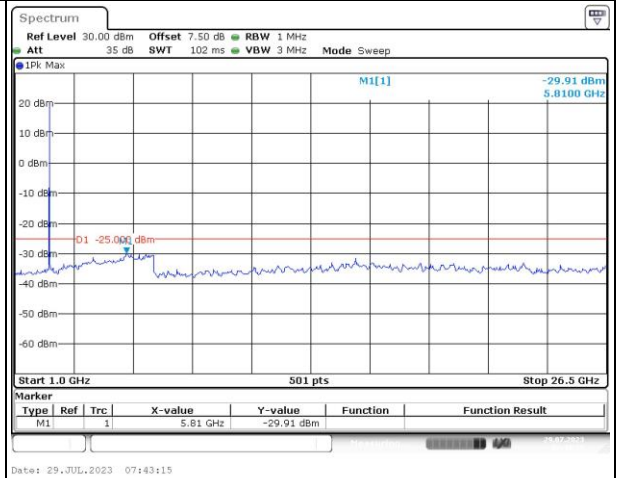
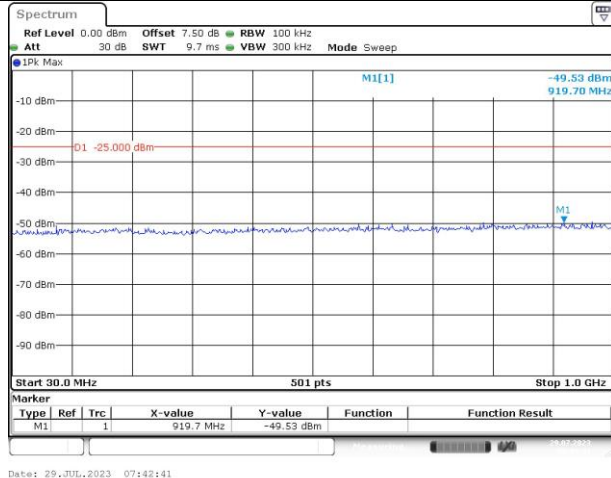


Spurious Emissions at Antenna Terminal

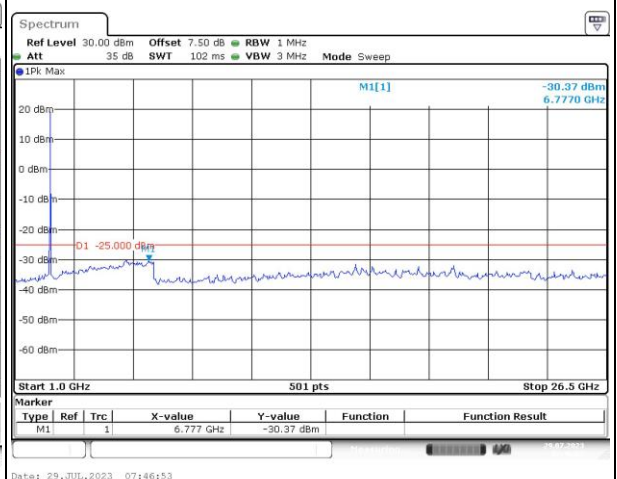
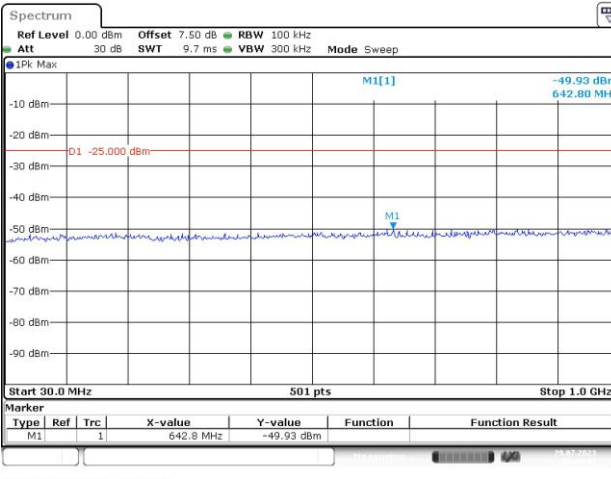
Channel

10MHz Bandwidth QPSK

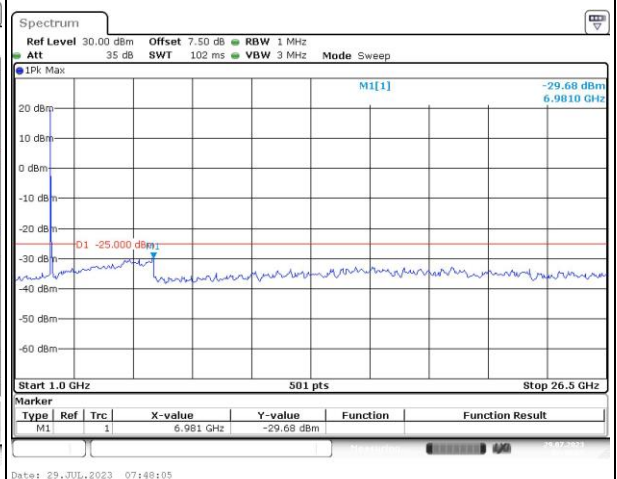
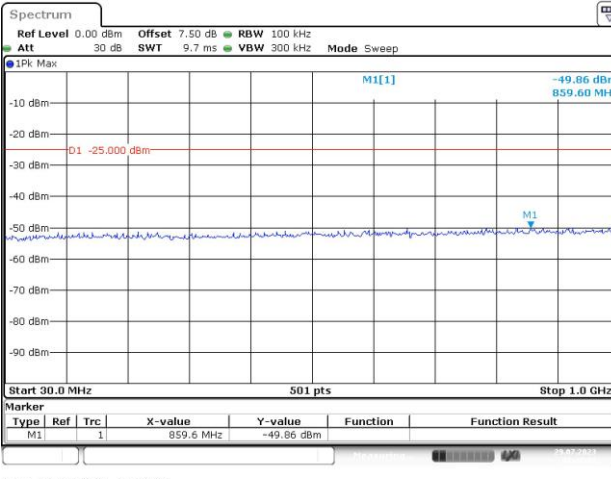
Lowest



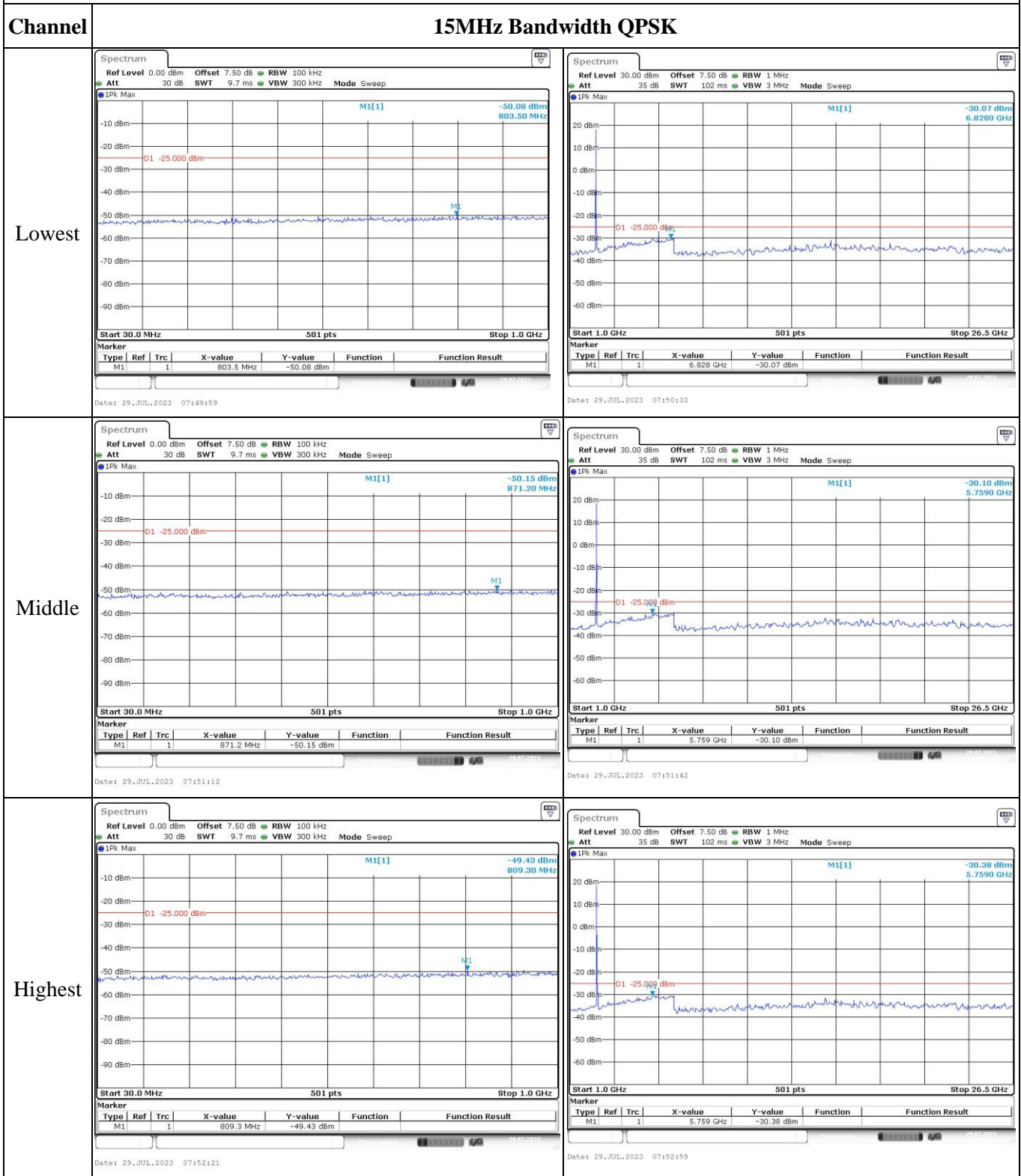
Middle



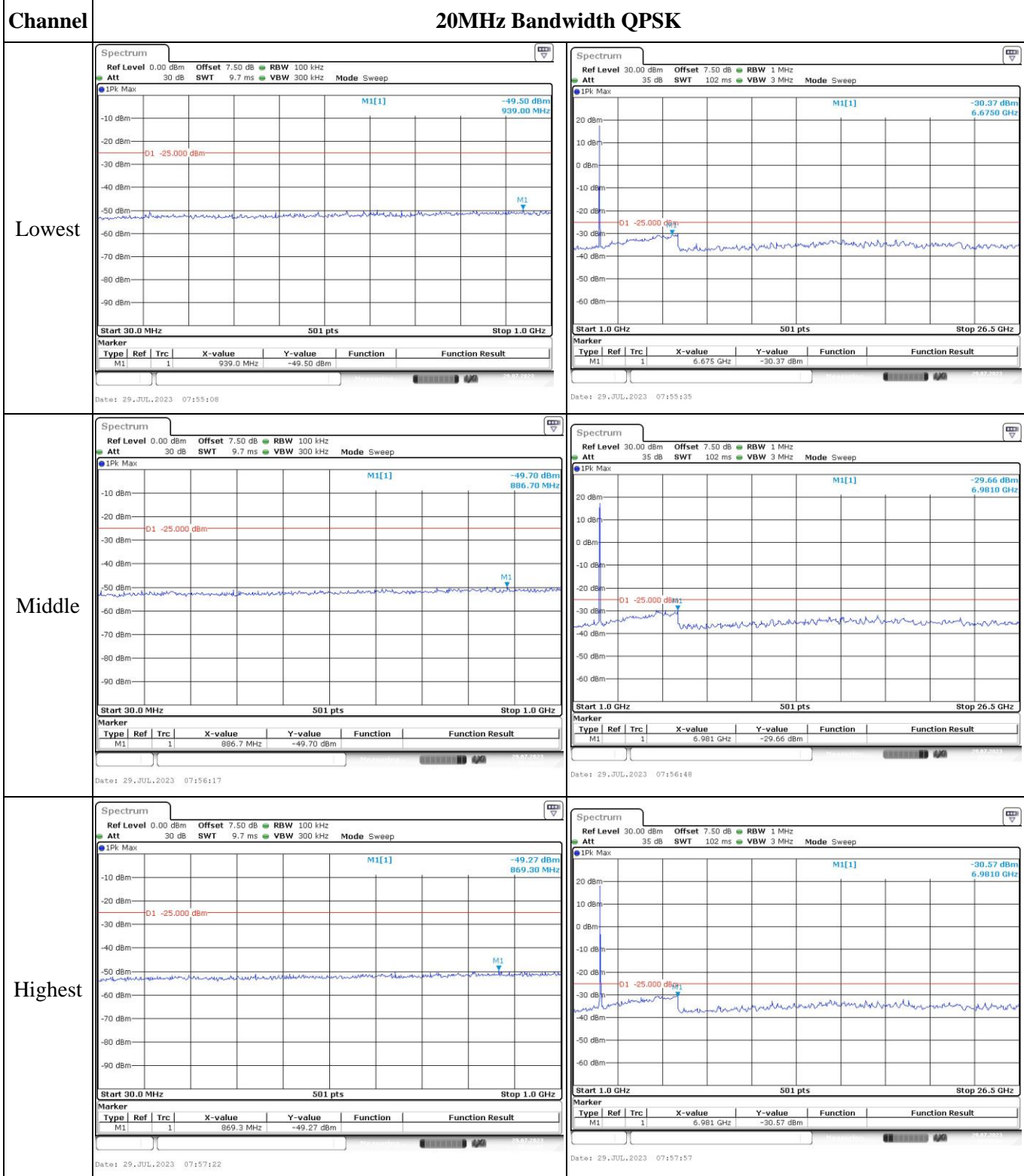
Highest



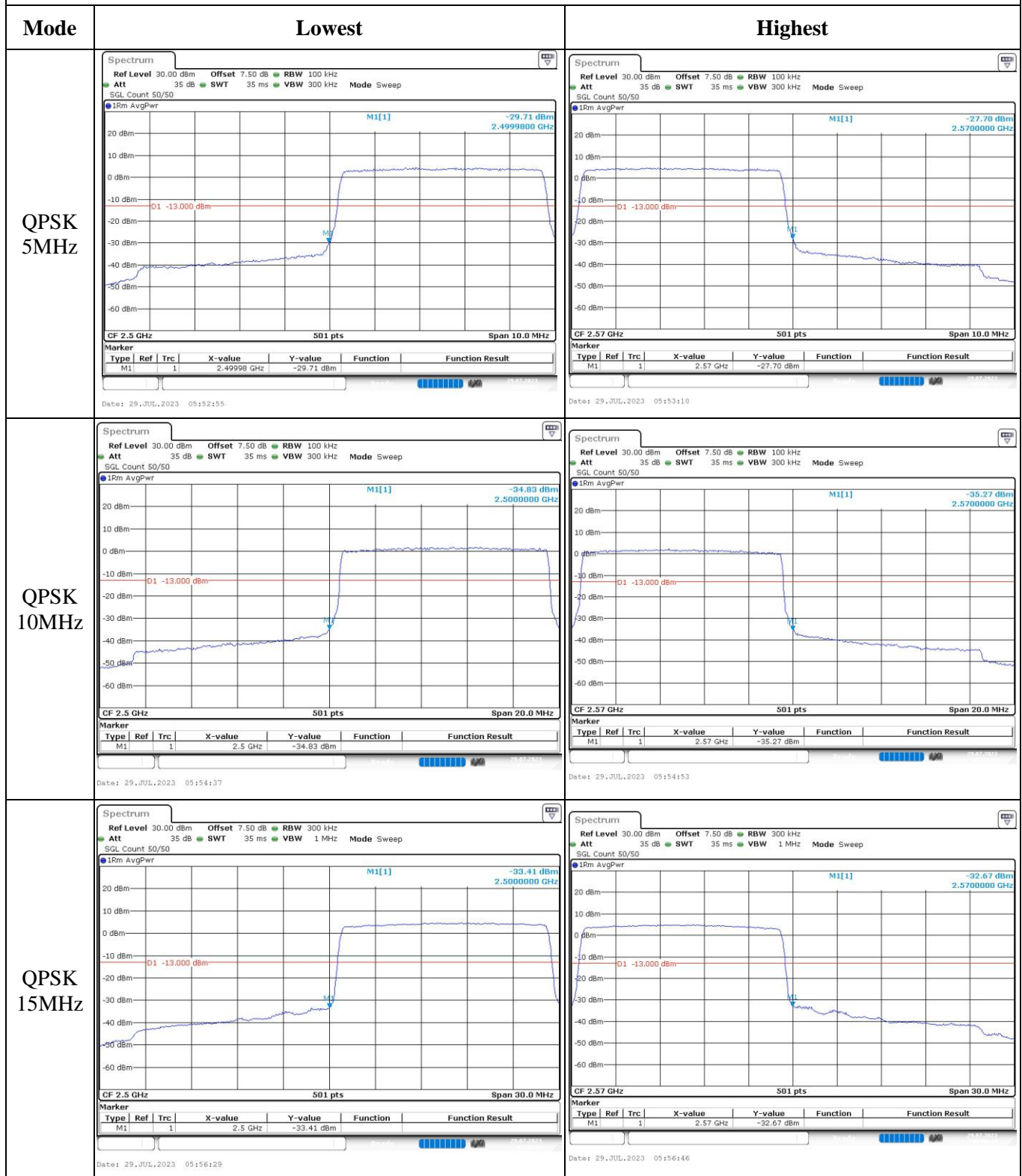
Spurious Emissions at Antenna Terminal



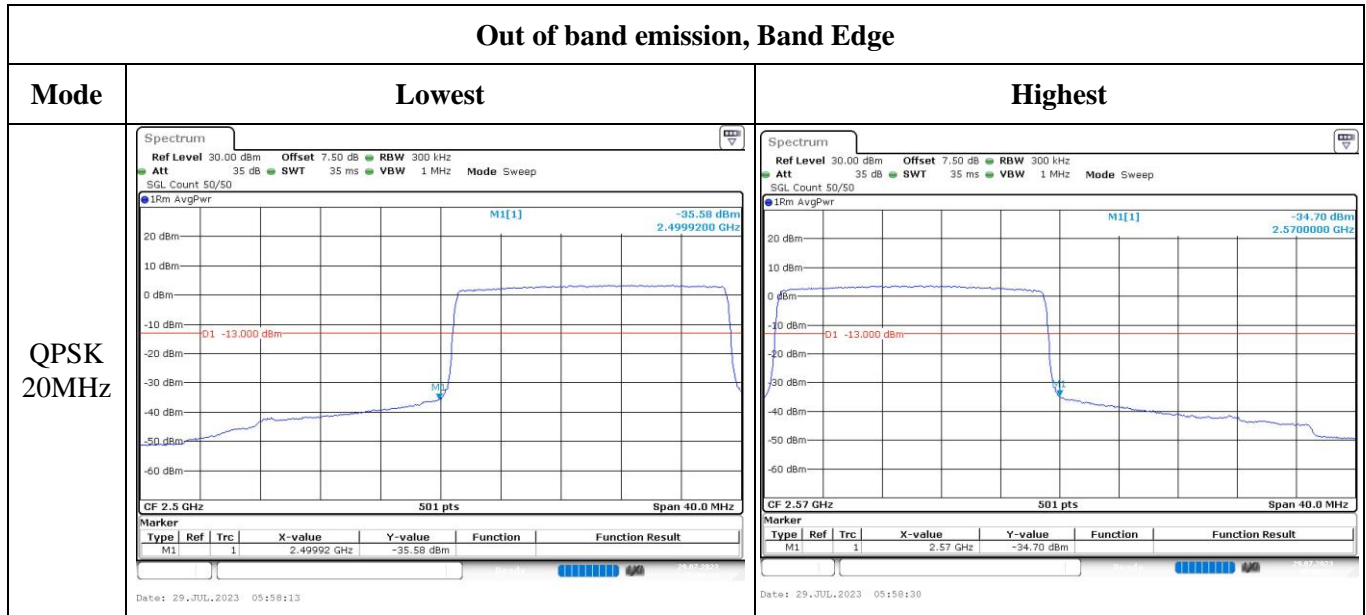
Spurious Emissions at Antenna Terminal



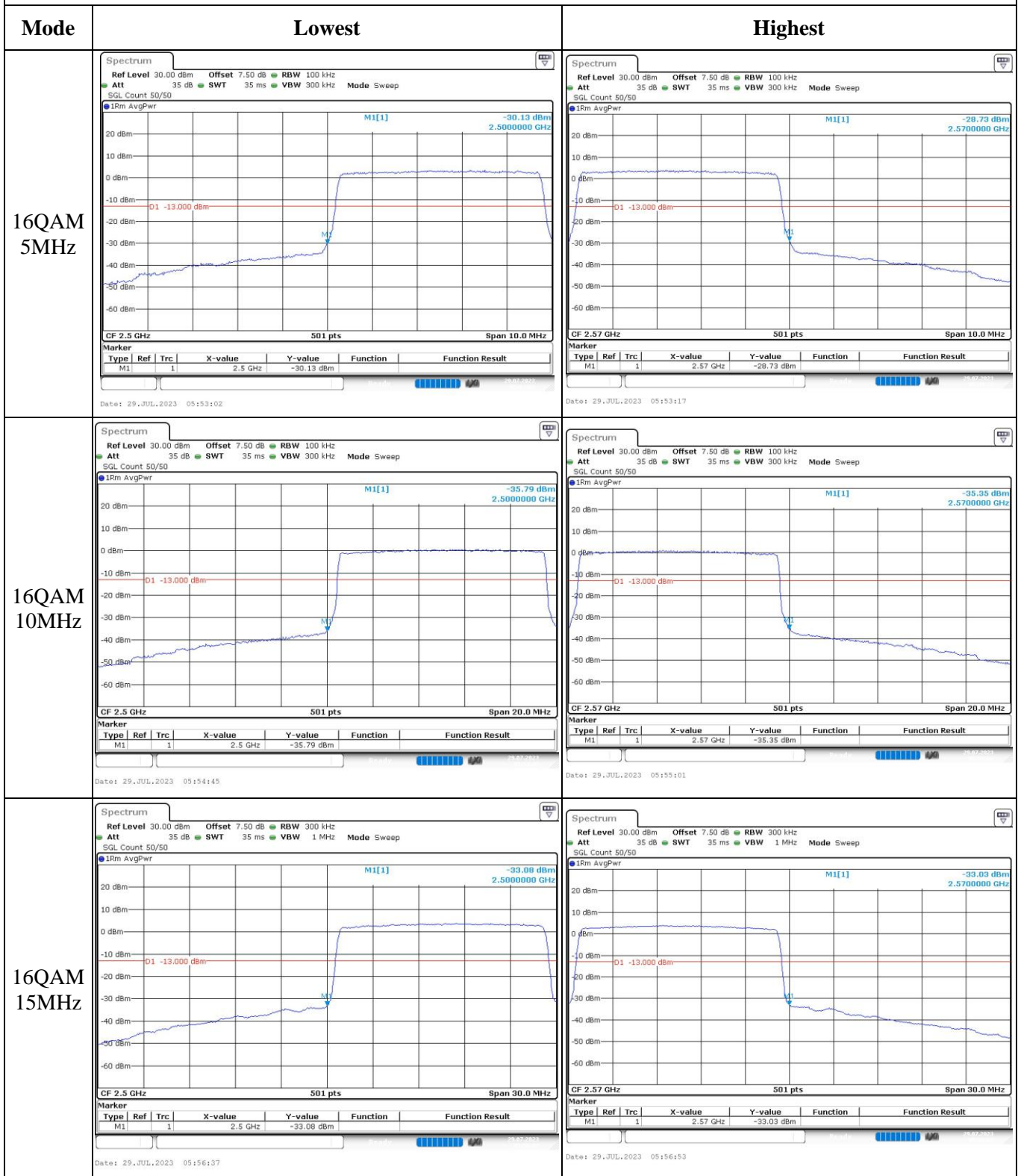
Out of band emission, Band Edge



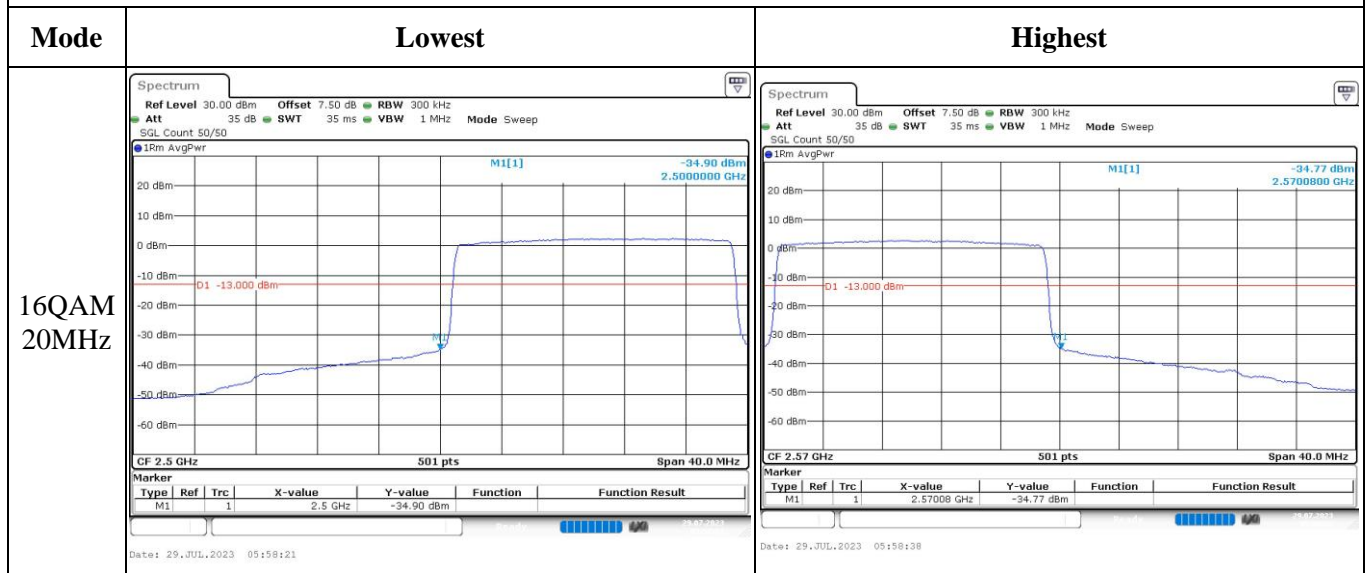
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.10 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	27Z1-3	Test Date:	2023/7/29~2023/8/1
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.4	Relative Humidity: (%)	48~52	ATM Pressure: (kPa)	99.9~100
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/7/15	2024/7/14
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2023/7/15	2024/7/14
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
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	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).

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

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	21.73	21.28	21.63	22.54	33
	RB1#13	21.82	21.37	21.74		
	RB1#24	21.84	21.35	21.75		
	RB15#0	20.94	20.59	21.11		
	RB15#10	20.98	20.55	21.09		
	RB25#0	20.95	20.48	21.01		
5MHz 16QAM	RB1#0	20.97	20.16	21.25	22.2	33
	RB1#13	21.38	20.28	21.48		
	RB1#24	21.14	19.94	21.5		
	RB15#0	19.94	19.36	19.93		
	RB15#10	19.92	19.34	19.97		
	RB25#0	19.8	19.41	20.12		
10MHz QPSK	RB1#0	21.95	21.65	21.57	22.78	33
	RB1#25	21.91	21.57	21.82		
	RB1#49	21.93	21.61	22.08		
	RB25#0	21	20.59	20.86		
	RB25#25	20.84	20.55	21.09		
	RB50#0	20.92	20.56	20.88		
10MHz 16QAM	RB1#0	20.81	21.02	20.58	22.29	33
	RB1#25	20.84	21.23	21.31		
	RB1#49	20.87	21.07	21.59		
	RB25#0	19.82	19.4	19.92		
	RB25#25	19.72	19.43	20.19		
	RB50#0	19.79	19.53	19.75		
15MHz QPSK	RB1#0	22.02	21.84	21.58	22.77	33
	RB1#38	21.96	21.55	21.73		
	RB1#74	21.66	21.78	22.07		
	RB36#0	20.98	20.56	20.66		
	RB36#39	20.77	20.52	21		
	RB75#0	20.85	20.61	20.79		
15MHz 16QAM	RB1#0	20.52	21.05	20.64	21.95	33
	RB1#38	20.54	20.92	20.69		
	RB1#74	19.96	20.94	21.25		
	RB36#0	19.86	19.44	19.49		
	RB36#39	19.55	19.41	20.09		
	RB75#0	19.89	19.42	19.76		
20MHz QPSK	RB1#0	22.08	21.37	21.48	22.87	33
	RB1#50	22.16	21.32	22.11		

	RB1#99	21.72	21.26	22.17		
	RB50#0	20.89	20.5	20.58		
	RB50#50	20.67	20.48	20.91		
	RB100#0	20.82	20.52	20.76		
20MHz 16QAM	RB1#0	21.62	20.95	20.22	22.35	33
	RB1#50	21.65	21.25	20.53		
	RB1#99	21.28	20.86	20.83		
	RB50#0	19.79	19.54	19.55		
	RB50#50	19.54	19.52	19.88		
	RB100#0	19.73	19.47	19.52		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(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	8.72	9.25	9.16	13
	RB100#0	8.17	8.26	8.23	13
20MHz 16QAM	RB1#0	9.45	9.62	9.77	13
	RB100#0	9.77	9.86	9.88	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	4.491	4.511	4.491	5	4.94	4.94
5MHz 16QAM	4.491	4.491	4.491	5	5	4.98
10MHz QPSK	8.942	8.942	8.942	9.88	9.68	9.8
10MHz 16QAM	8.942	8.942	8.942	9.64	9.76	9.64
15MHz QPSK	13.413	13.473	13.473	14.88	15.18	15
15MHz 16QAM	13.533	13.473	13.473	15.18	15.06	15.54
20MHz QPSK	17.964	17.964	17.804	19.68	19.76	19.28
20MHz 16QAM	17.884	17.884	17.884	19.84	19.68	19.36

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.

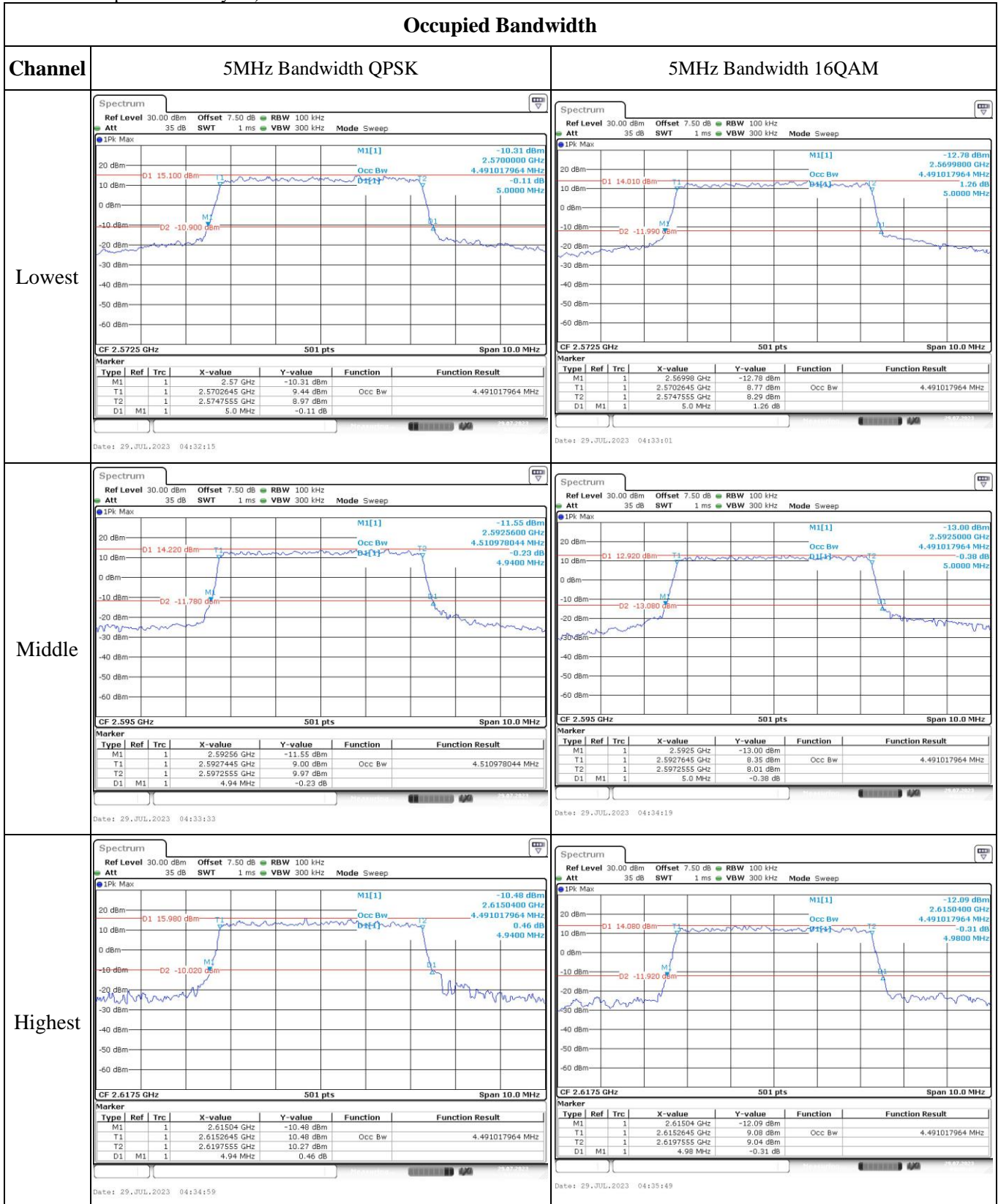
FCC §2.1051, §27.53:Out of band emission, Band Edge

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	7.6	2570.044	2570.00	2618.965	2620
	-20	7.6	2570.014	2570.00	2618.936	2620
	-10	7.6	2570.018	2570.00	2618.925	2620
	0	7.6	2570.061	2570.00	2618.901	2620
	10	7.6	2570.098	2570.00	2618.995	2620
	20	7.6	2570.058	2570.00	2618.942	2620
	30	7.6	2570.083	2570.00	2618.926	2620
	40	7.6	2570.089	2570.00	2618.902	2620
Frequency Stability vs. Voltage	20	6.5	2570.020	2570.00	2618.906	2620
	20	8.7	2570.084	2570.00	2618.980	2620
					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	7.6	2571.172	2570.00	2618.942	2620
	-20	7.6	2571.141	2570.00	2618.958	2620
	-10	7.6	2571.151	2570.00	2618.943	2620
	0	7.6	2571.167	2570.00	2618.924	2620
	10	7.6	2571.178	2570.00	2618.984	2620
	20	7.6	2571.138	2570.00	2618.942	2620
	30	7.6	2571.112	2570.00	2618.993	2620
	40	7.6	2571.104	2570.00	2618.931	2620
Frequency Stability vs. Voltage	20	6.5	2571.118	2570.00	2618.985	2620
	20	8.7	2571.127	2570.00	2618.934	2620
					Result:	Pass

Test Plots(Note: The 5.8dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):



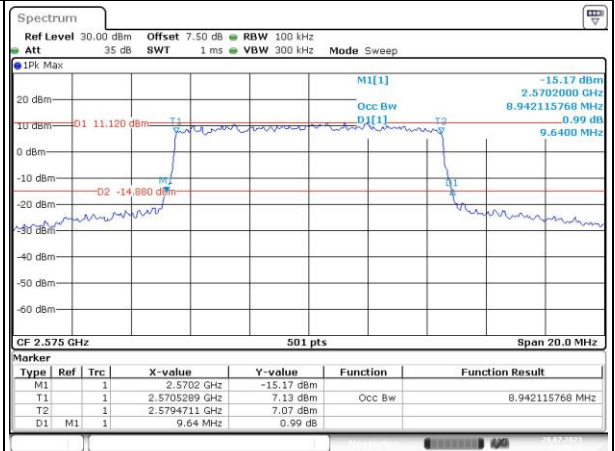
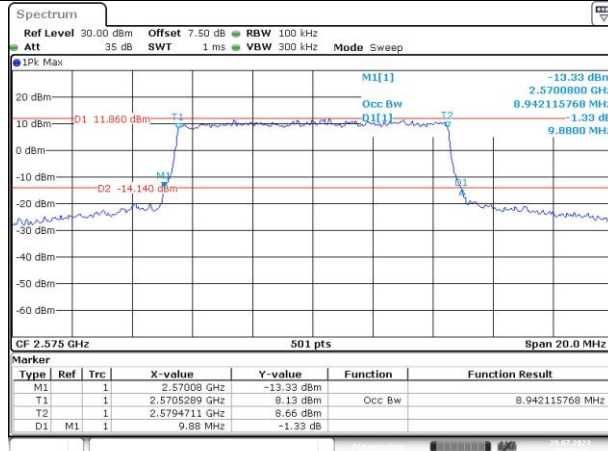
Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

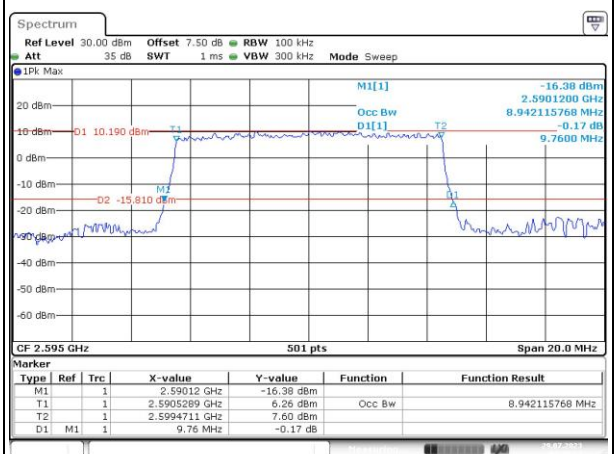
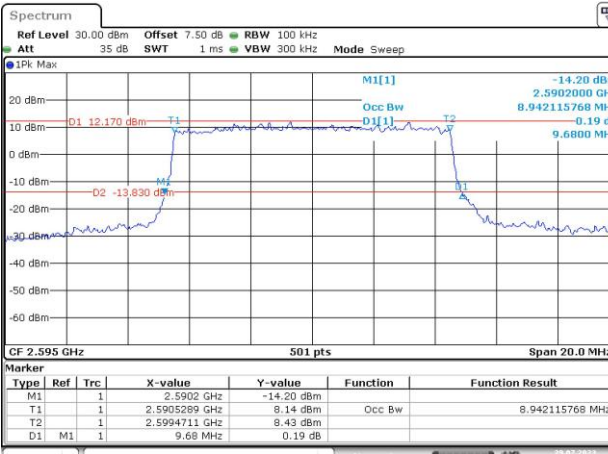
Lowest



Date: 29_JUL_2023 04:37:43

Date: 29_JUL_2023 04:38:17

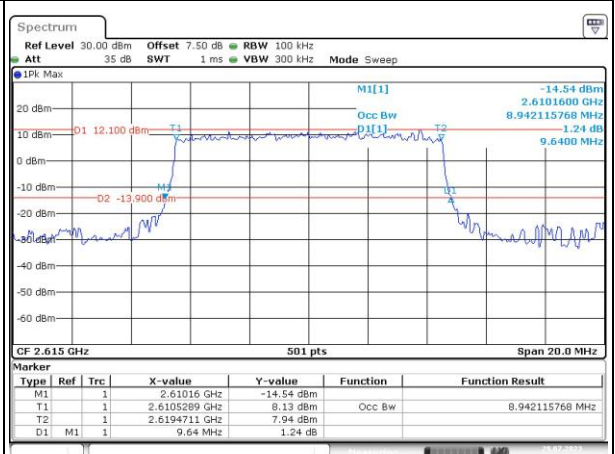
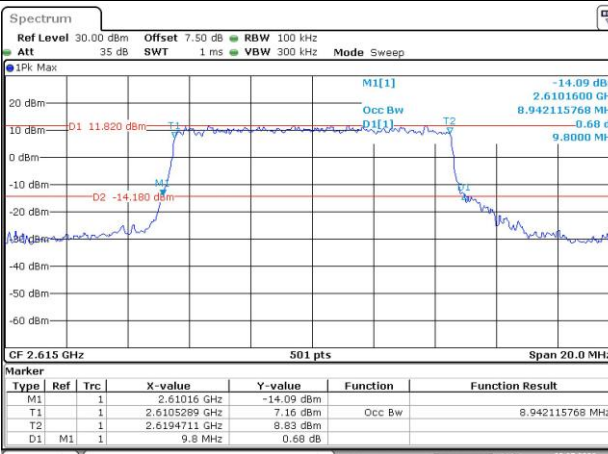
Middle



Date: 29_JUL_2023 04:38:53

Date: 29_JUL_2023 04:39:31

Highest



Date: 29_JUL_2023 04:40:14

Date: 29_JUL_2023 04:40:55

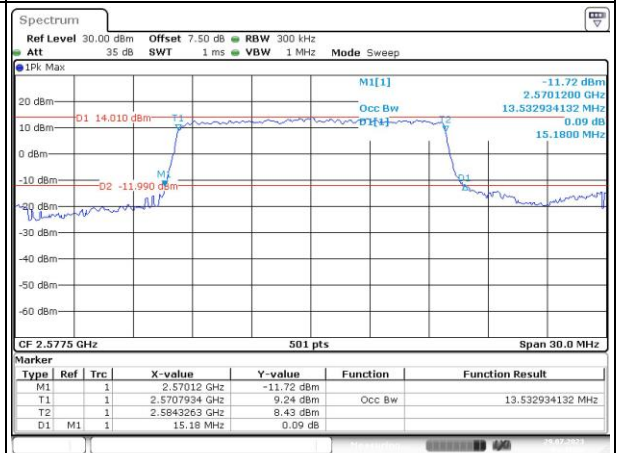
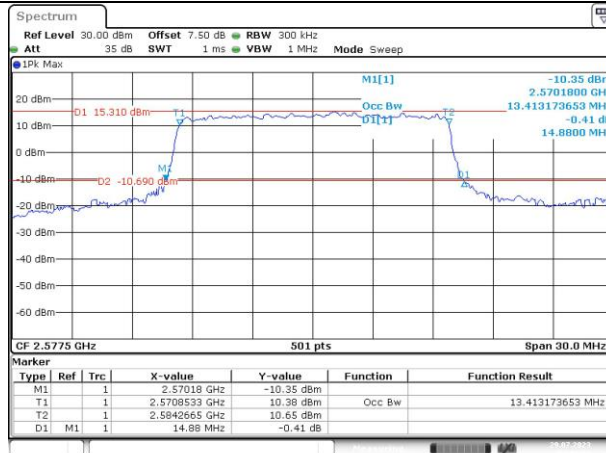
Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

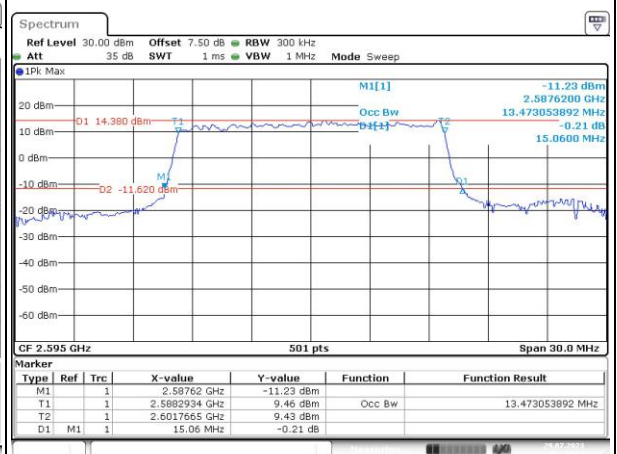
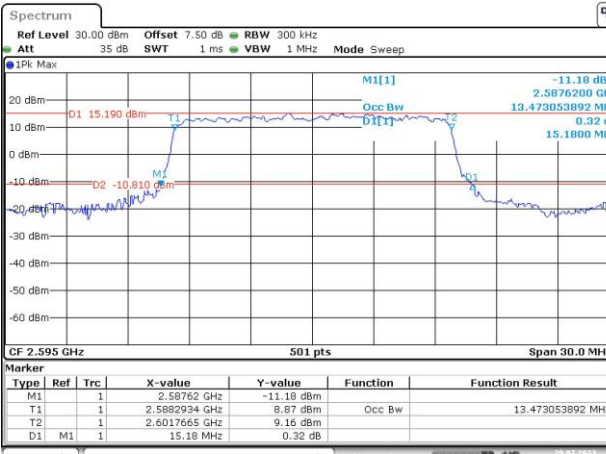
Lowest



Date: 29_JUL_2023 04:42:52

Date: 29_JUL_2023 04:43:35

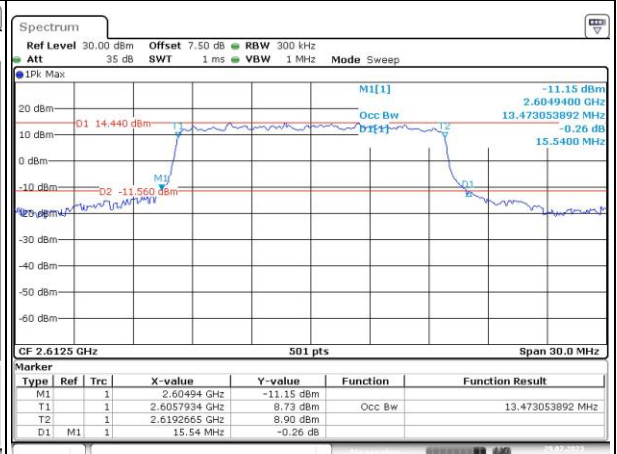
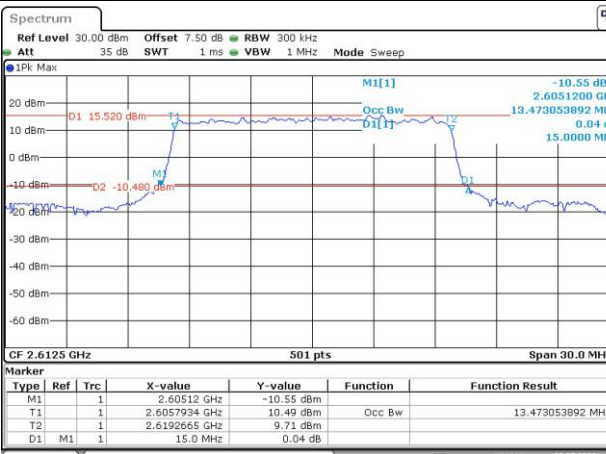
Middle



Date: 29_JUL_2023 04:44:20

Date: 29_JUL_2023 04:44:56

Highest



Date: 29_JUL_2023 04:45:40

Date: 29_JUL_2023 04:46:16

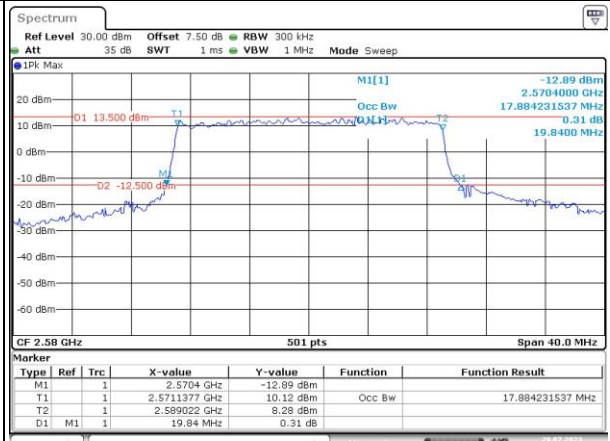
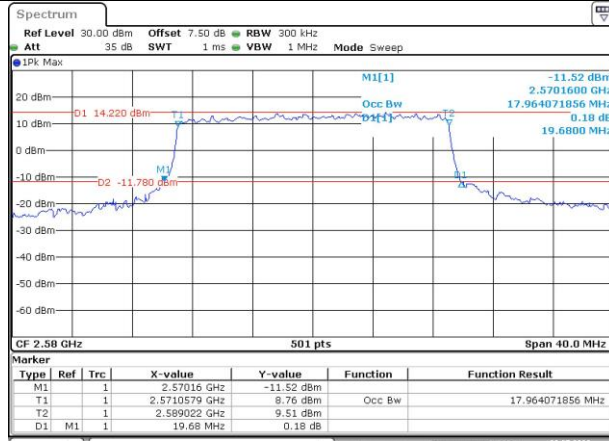
Occupied Bandwidth

Channel

20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

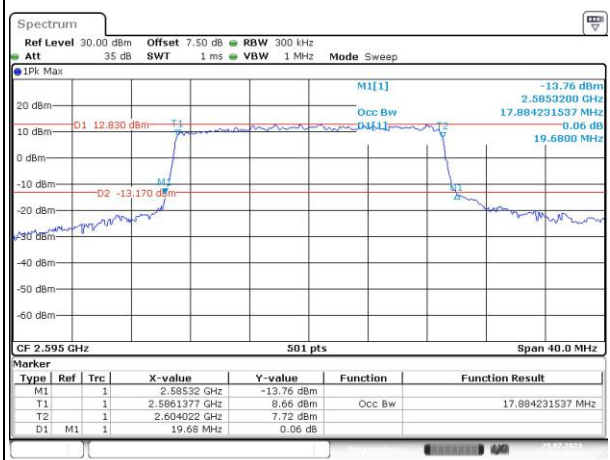
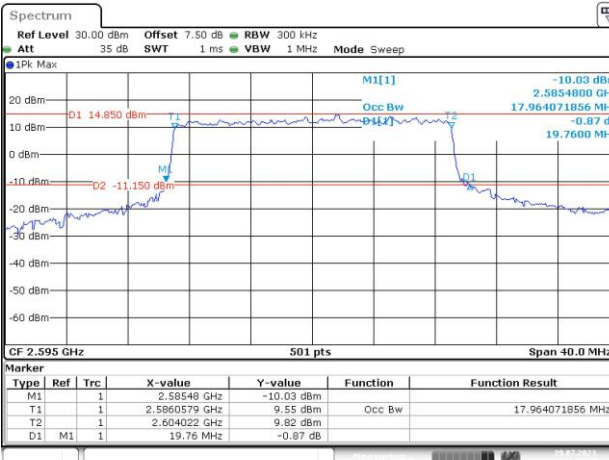
Lowest



Date: 29_JUL_2023 04:48:04

Date: 29_JUL_2023 04:48:40

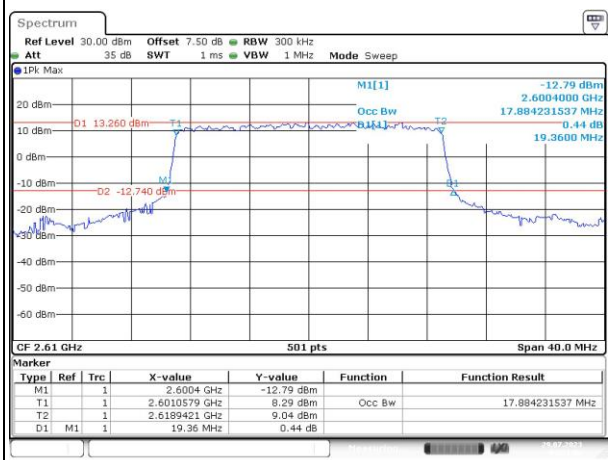
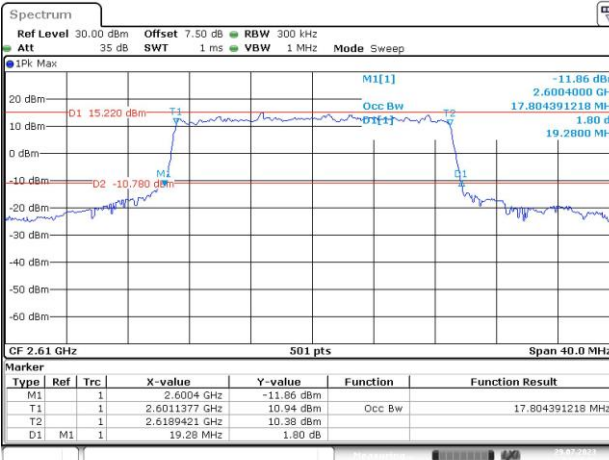
Middle



Date: 29_JUL_2023 04:49:17

Date: 29_JUL_2023 04:49:49

Highest



Date: 29_JUL_2023 04:50:30

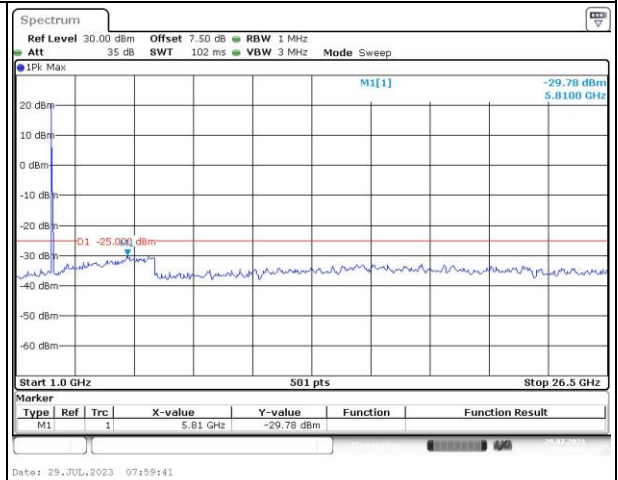
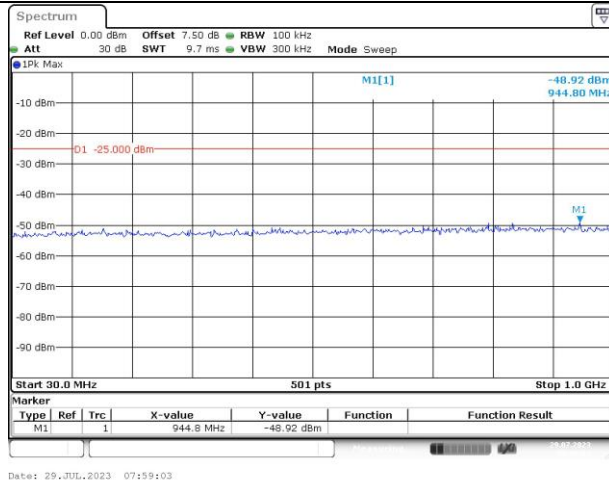
Date: 29_JUL_2023 04:51:06

Spurious Emissions at Antenna Terminal

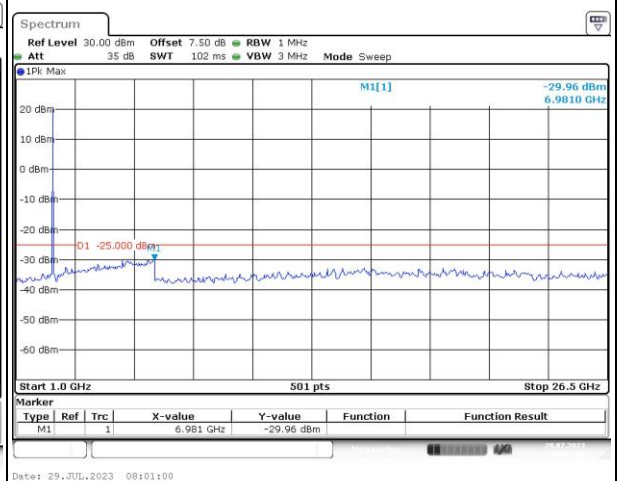
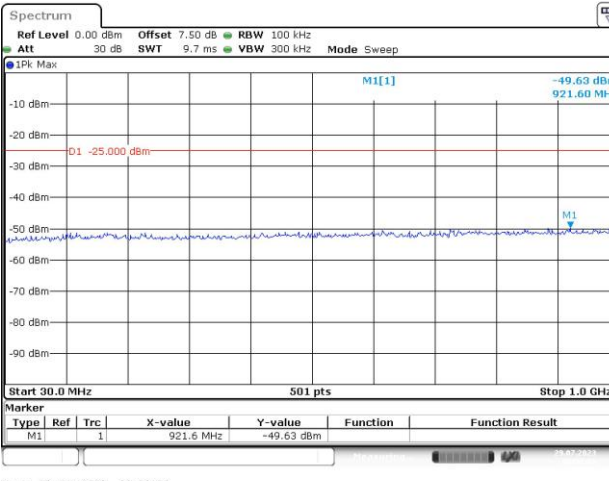
Channel

5MHz Bandwidth QPSK

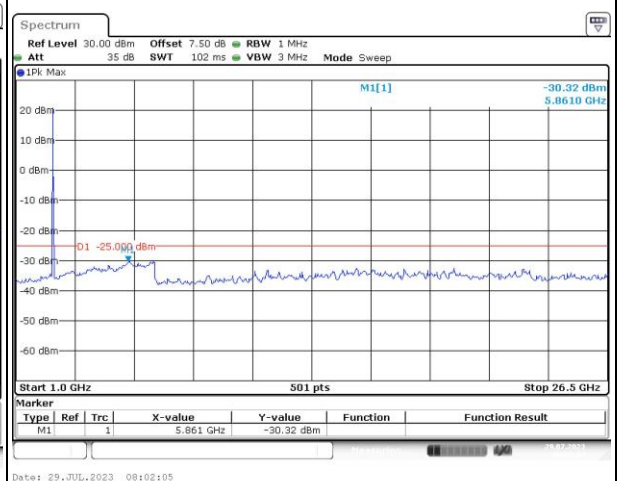
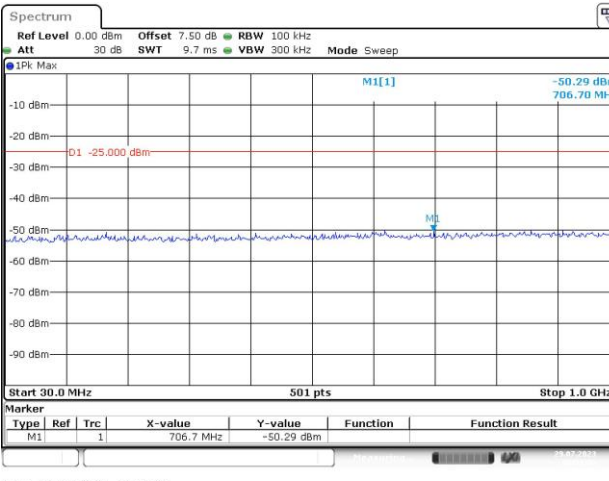
Lowest



Middle



Highest

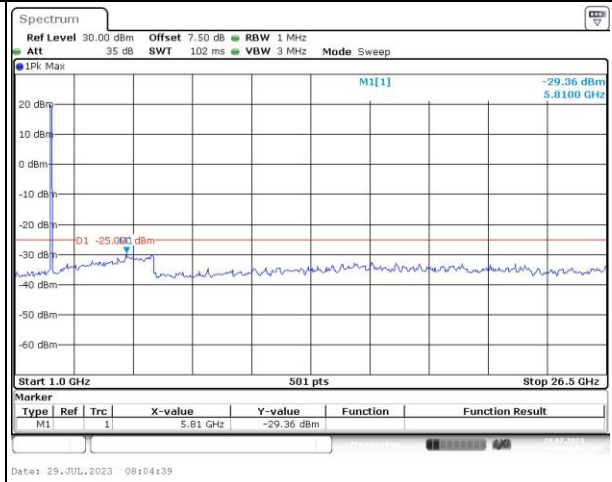
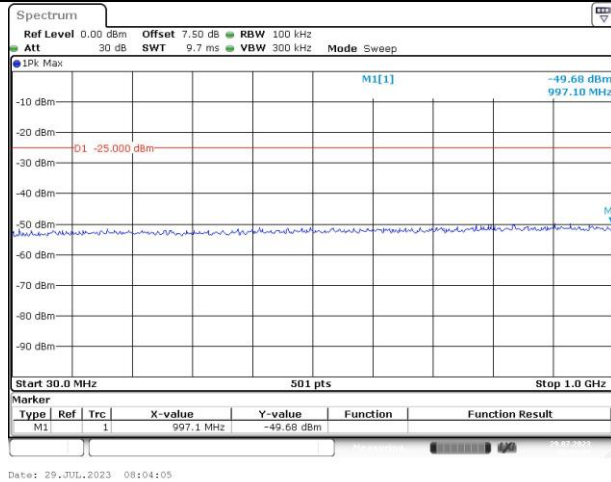


Spurious Emissions at Antenna Terminal

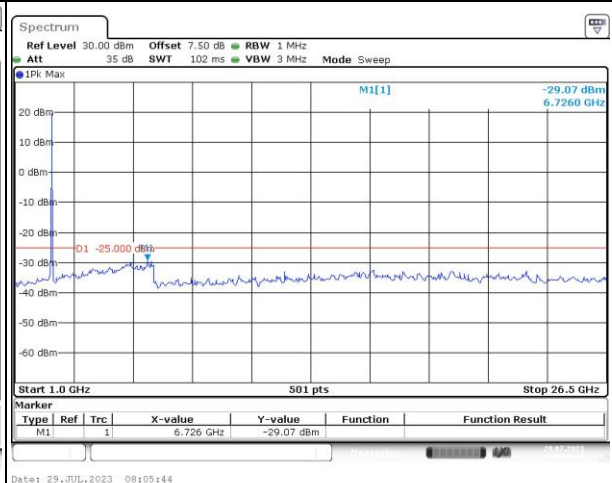
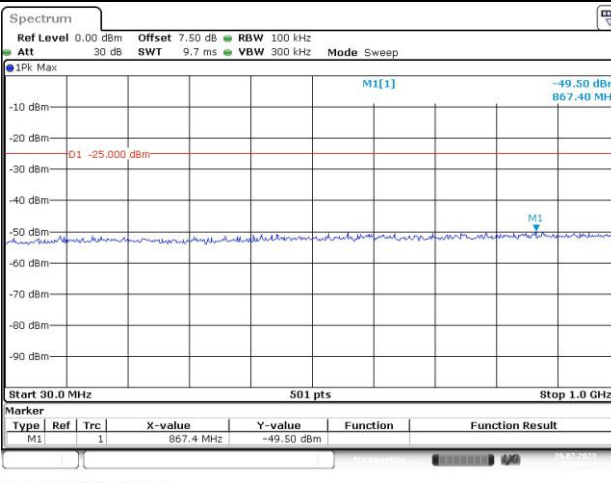
Channel

10MHz Bandwidth QPSK

Lowest



Middle



Highest

