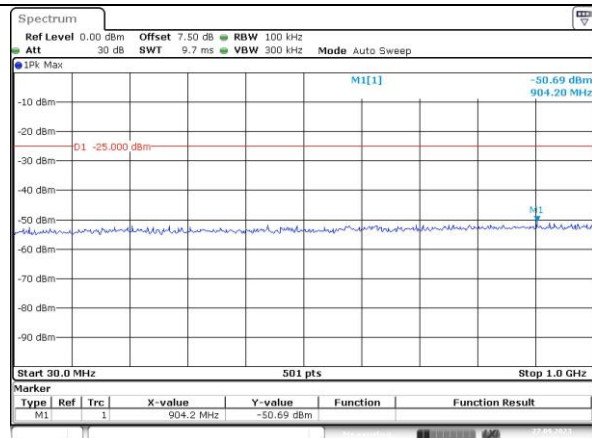


Spurious Emissions at Antenna Terminal

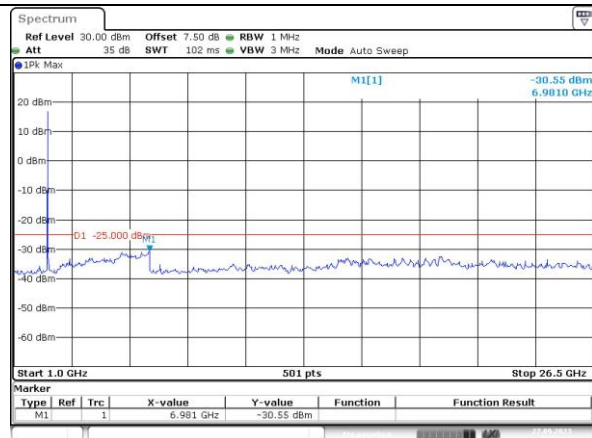
Channel

10MHz Bandwidth QPSK

Lowest

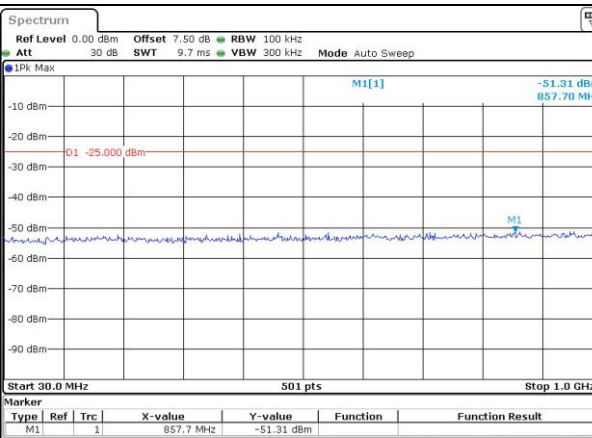


ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:06:07

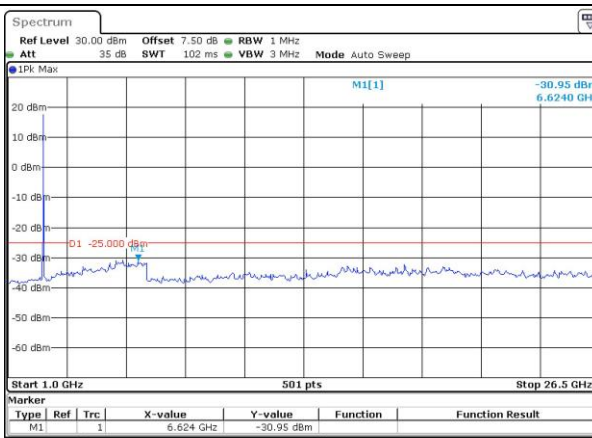


ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:06:29

Middle

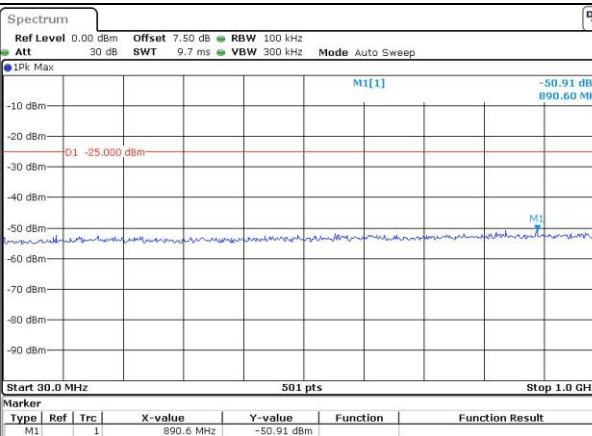


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Date: 27.SEP.2023 04:06:58

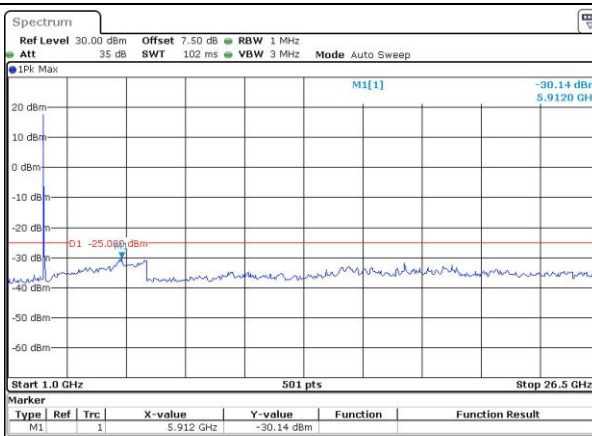


ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:07:20

Highest



ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:07:48



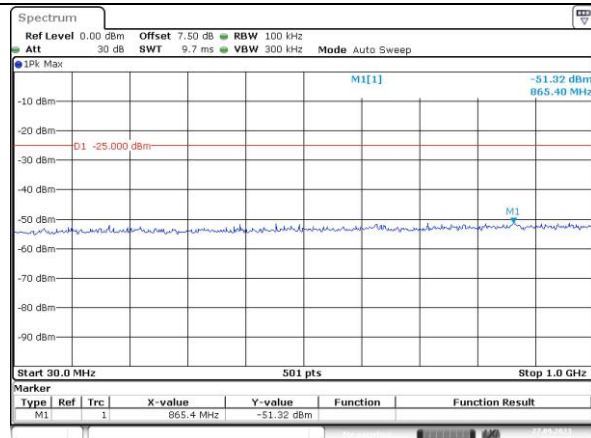
ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:08:17

Spurious Emissions at Antenna Terminal

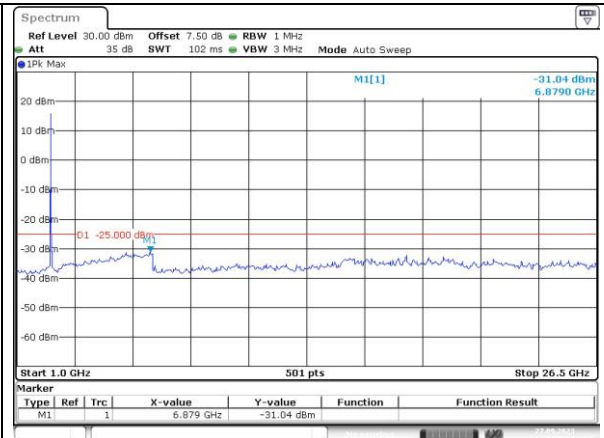
Channel

15MHz Bandwidth QPSK

Lowest

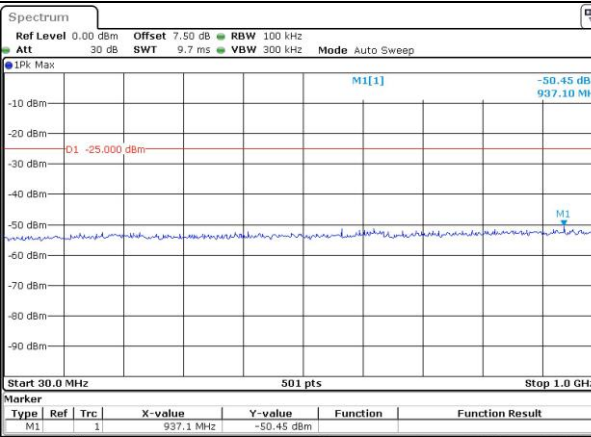


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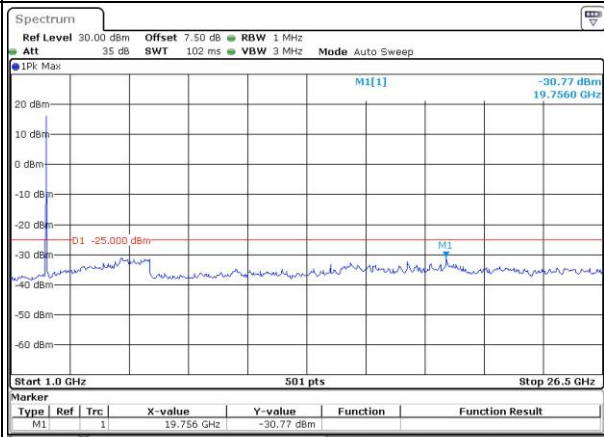


ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:09:14

Middle

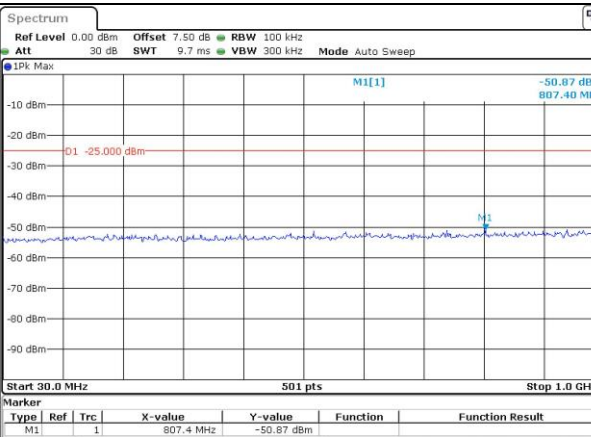


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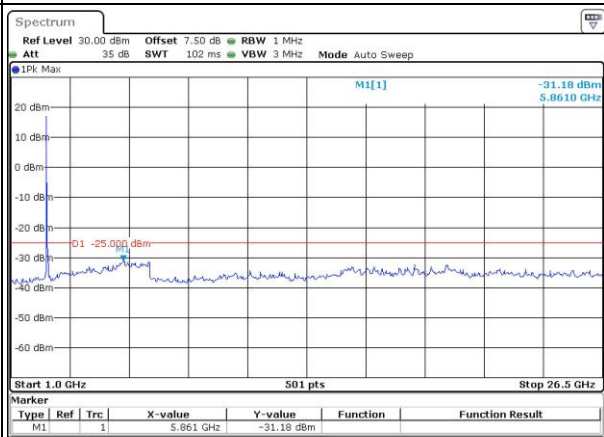


ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:10:02

Highest



ProjectNo.:CR230955707 Tester:One Luo
Date: 27.SEP.2023 04:10:41



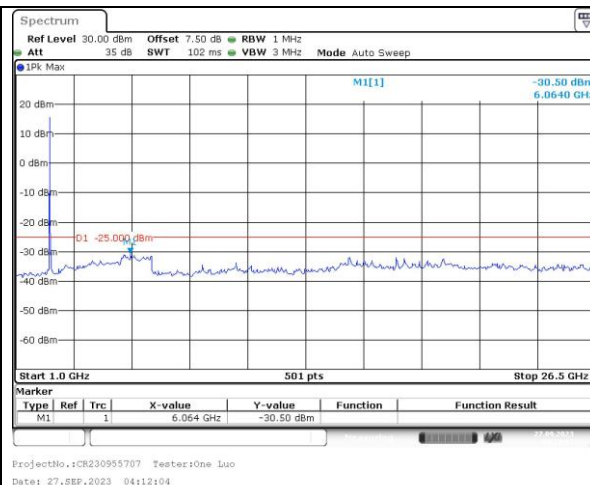
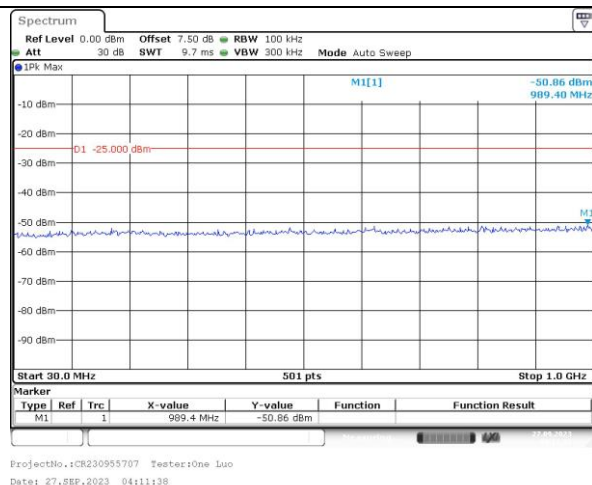
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Date: 27.SEP.2023 04:11:03

Spurious Emissions at Antenna Terminal

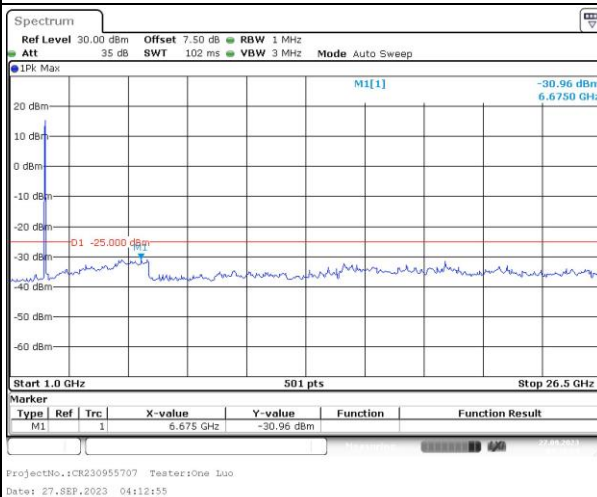
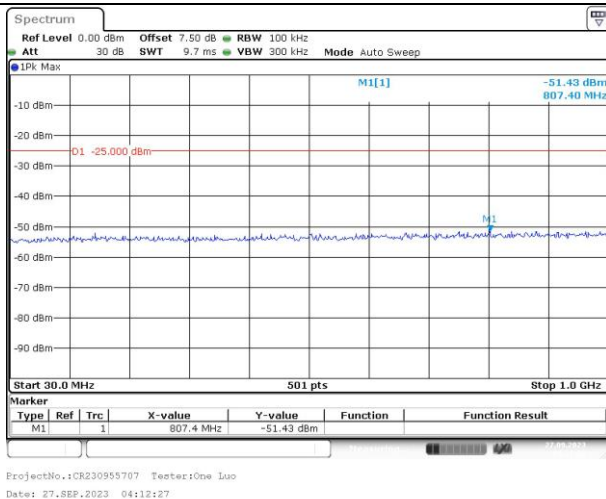
Channel

20MHz Bandwidth QPSK

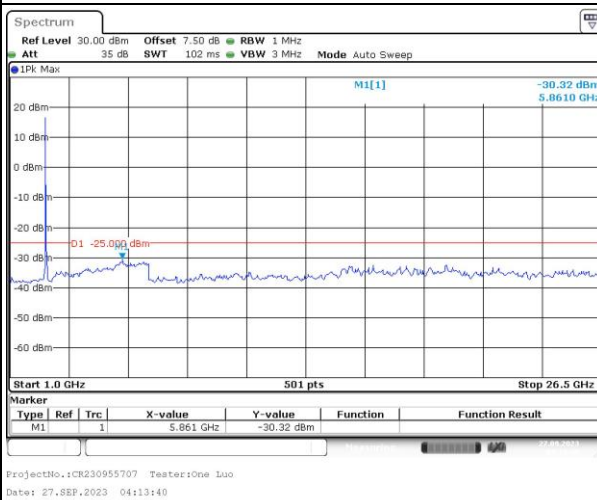
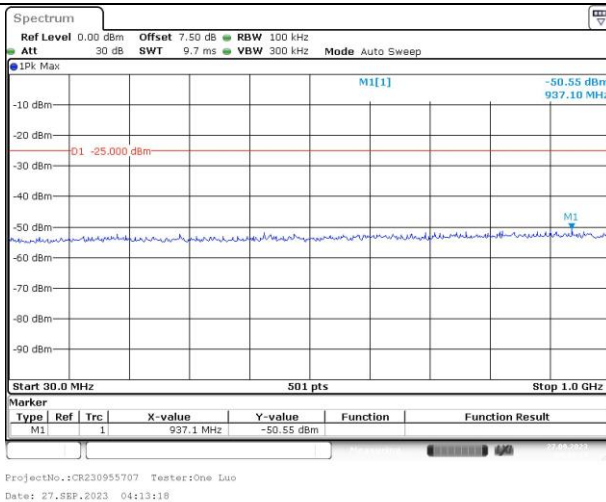
Lowest



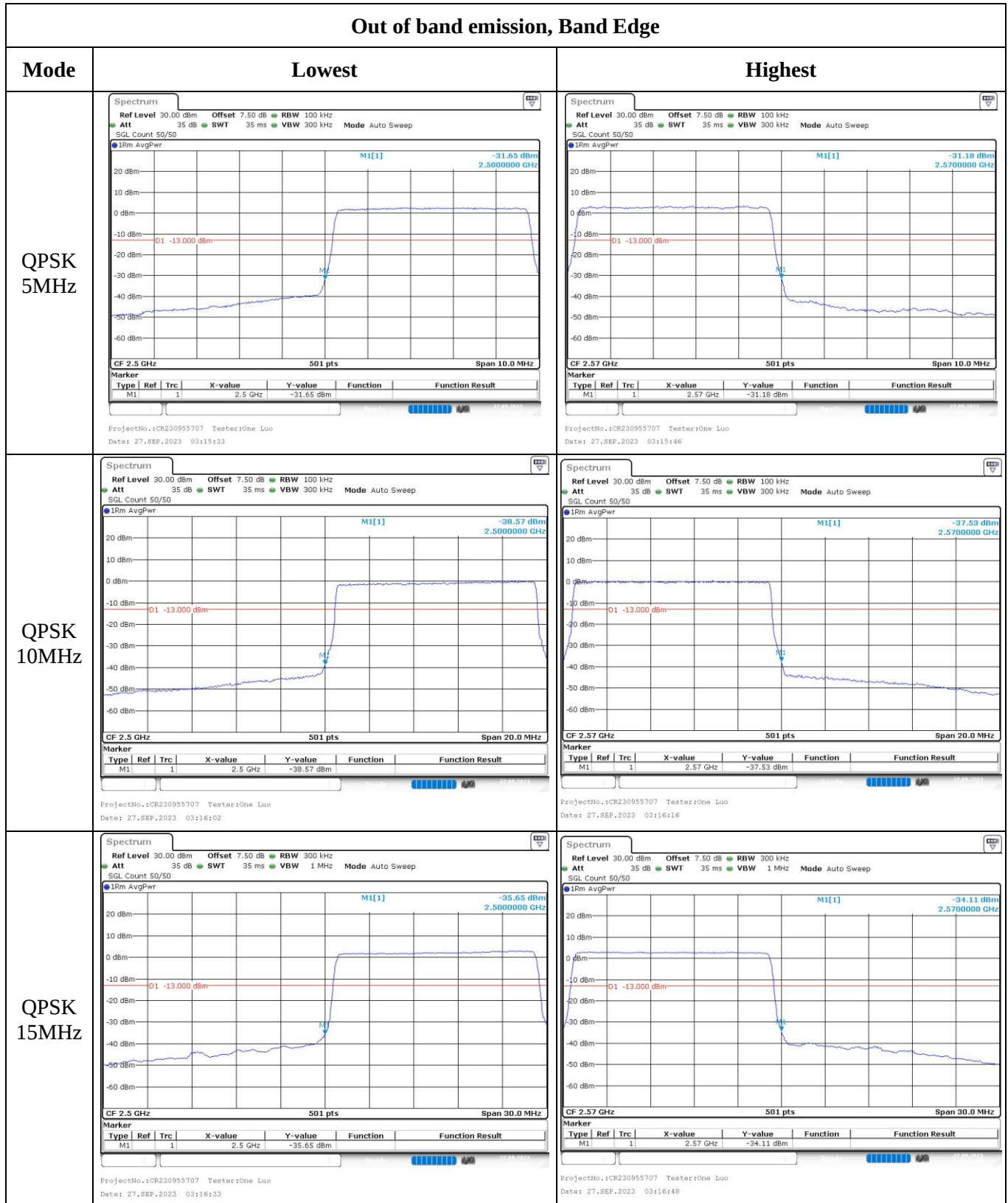
Middle



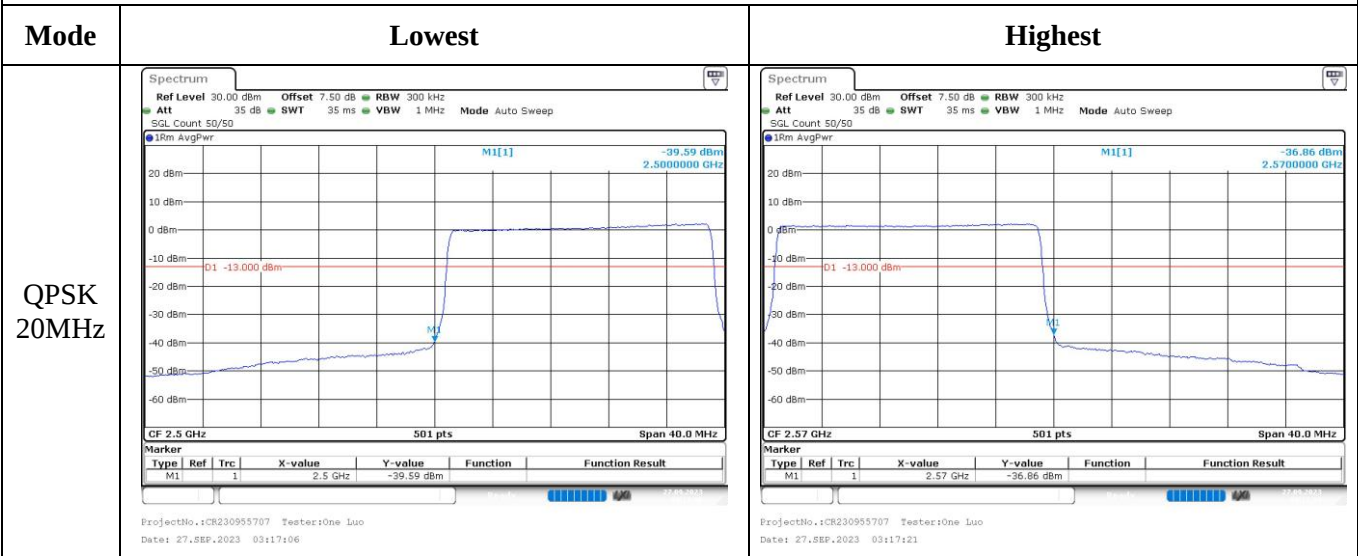
Highest



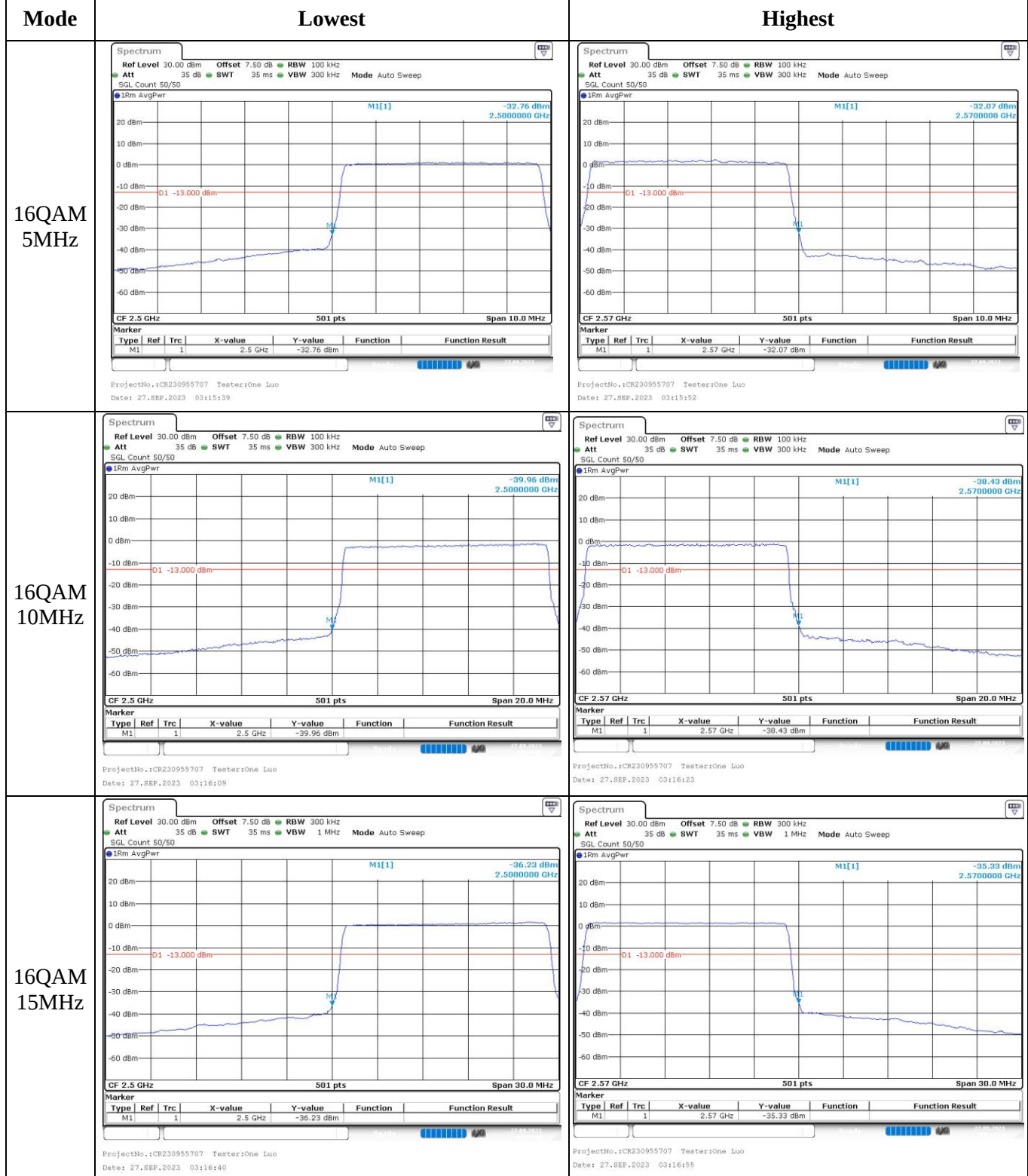
Out of band emission, Band Edge



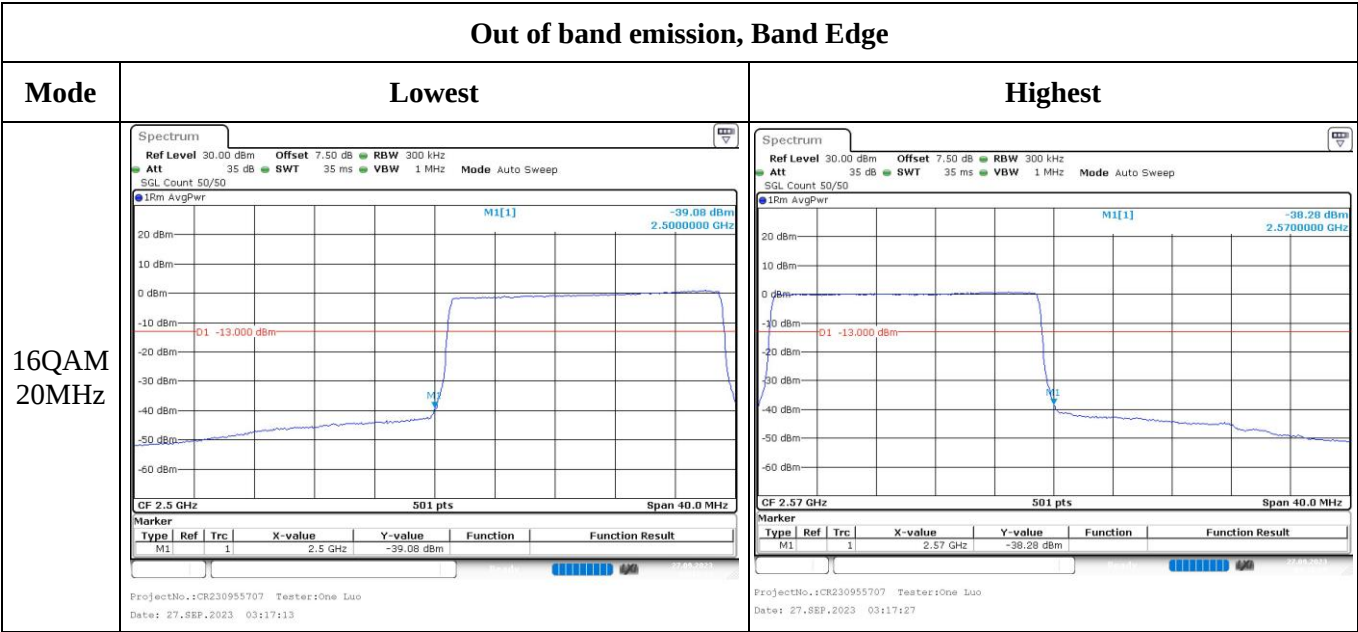
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.10 Antenna Port Test Data and Results for LTE Band 66

Serial Number:	2BKJ-2	Test Date:	2023/9/29~2023/10/7
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.2~27.2	Relative Humidity: (%)	43~52	ATM Pressure: (kPa)	100.2~100.7
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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
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
Weinschel	Power Splitter	1515	RA914	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)
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:**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	21.53	21.74	22.14	21.16	30
	RB1#3	21.56	21.74	22.17		
	RB1#5	21.63	21.68	22.21		
	RB3#0	21.89	21.66	22.18		
	RB3#3	21.87	21.69	22.18		
	RB6#0	21.33	21.17	21.8		
1.4MHz 16QAM	RB1#0	20.49	21.37	21.91	20.87	30
	RB1#3	20.51	21.26	21.92		
	RB1#5	20.53	21.39	21.92		
	RB3#0	20.96	20.34	21.04		
	RB3#3	20.94	20.34	21.11		
	RB6#0	20.13	19.75	20.59		
3MHz QPSK	RB1#0	21.83	21.84	22.05	21.06	30
	RB1#8	21.82	21.87	22.11		
	RB1#14	21.89	21.8	22.07		
	RB6#0	21.35	21.12	21.62		
	RB6#9	21.34	21.16	21.63		
	RB15#0	21.37	21.14	21.63		
3MHz 16QAM	RB1#0	21.56	20.58	21.32	20.54	30
	RB1#8	21.57	20.56	21.31		
	RB1#14	21.59	20.76	21.35		
	RB6#0	20.03	20	20.6		
	RB6#9	20.25	20.03	20.61		
	RB15#0	19.84	19.78	20.52		
5MHz QPSK	RB1#0	21.84	21.58	22.11	21.12	30
	RB1#13	21.86	21.57	22.17		
	RB1#24	21.85	21.56	22.15		
	RB15#0	21.31	21.11	21.69		
	RB15#10	21.37	21.22	21.64		
	RB25#0	21.35	21.05	21.61		
5MHz 16QAM	RB1#0	20.9	20.32	20.24	19.92	30
	RB1#13	20.93	20.3	20.24		
	RB1#24	20.97	20.59	20.28		
	RB15#0	19.78	19.72	20.56		
	RB15#10	20.12	19.72	20.59		
	RB25#0	20.12	19.54	20.59		
10MHz QPSK	RB1#0	21.95	21.76	21.94	21.02	30
	RB1#25	21.94	21.8	22.02		
	RB1#49	21.94	21.92	22.07		

	RB25#0	21.4	21.12	21.65		
	RB25#25	21.26	21.25	21.66		
	RB50#0	21.37	21.2	21.6		
10MHz 16QAM	RB1#0	20.95	20.29	21.24	20.55	30
	RB1#25	20.96	20.28	21.32		
	RB1#49	21.6	20.37	21.36		
	RB25#0	20.18	19.85	20.2		
	RB25#25	19.96	20.12	20.47		
	RB50#0	20.22	19.81	20.24		
15MHz QPSK	RB1#0	21.92	21.71	21.62	20.87	30
	RB1#38	21.89	21.79	21.37		
	RB1#74	21.92	21.68	21.52		
	RB36#0	21.25	21.16	21.03		
	RB36#39	21.35	21.22	21.07		
	RB75#0	21.33	21.06	21.14		
15MHz 16QAM	RB1#0	20.99	20.88	20.81	19.96	30
	RB1#38	21.01	20.9	20.9		
	RB1#74	21.01	20.9	21		
	RB36#0	20.28	19.92	19.47		
	RB36#39	20.26	19.95	19.81		
	RB75#0	19.96	19.56	19.43		
20MHz QPSK	RB1#0	21.34	21.29	21.3	20.69	30
	RB1#50	21.2	21.32	21.55		
	RB1#99	21.2	21.43	21.74		
	RB50#0	20.72	20.78	20.94		
	RB50#50	20.77	20.87	21.18		
	RB100#0	20.66	20.76	21.01		
20MHz 16QAM	RB1#0	20.6	21.02	20.33	20.08	30
	RB1#50	20.91	21.13	20.65		
	RB1#99	20.79	21.02	20.79		
	RB50#0	19.95	19.46	19.51		
	RB50#50	19.58	19.64	19.69		
	RB100#0	19.77	19.37	19.57		

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	5.51	5.62	5.04	13
	RB100#0	5.48	5.19	5.16	13
20MHz 16QAM	RB1#0	6.12	6.41	6.09	13
	RB100#0	6.43	6.23	6.26	13
				Result:	Pass

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	1.102	1.096	1.102	1.254	1.254	1.266
1.4MHz 16QAM	1.102	1.102	1.09	1.254	1.254	1.236
3MHz QPSK	2.695	2.695	2.695	3.012	3.012	3
3MHz 16QAM	2.683	2.683	2.695	3	3.012	3.024
5MHz QPSK	4.511	4.471	4.511	5	4.86	5
5MHz 16QAM	4.531	4.511	4.511	5.04	4.88	4.98
10MHz QPSK	8.942	8.942	8.942	9.76	9.8	9.8
10MHz 16QAM	8.942	8.942	8.942	9.8	9.88	9.76
15MHz QPSK	13.473	13.533	13.473	15	15.12	14.52
15MHz 16QAM	13.533	13.533	13.533	15.12	15	15.06
20MHz QPSK	17.964	17.964	17.964	19.68	19.76	19.52
20MHz 16QAM	18.044	17.964	17.964	19.76	19.68	19.68

Note: The test plots please refer to the Plots of Occupied Bandwidth

Spurious Emissions at Antenna Terminal

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

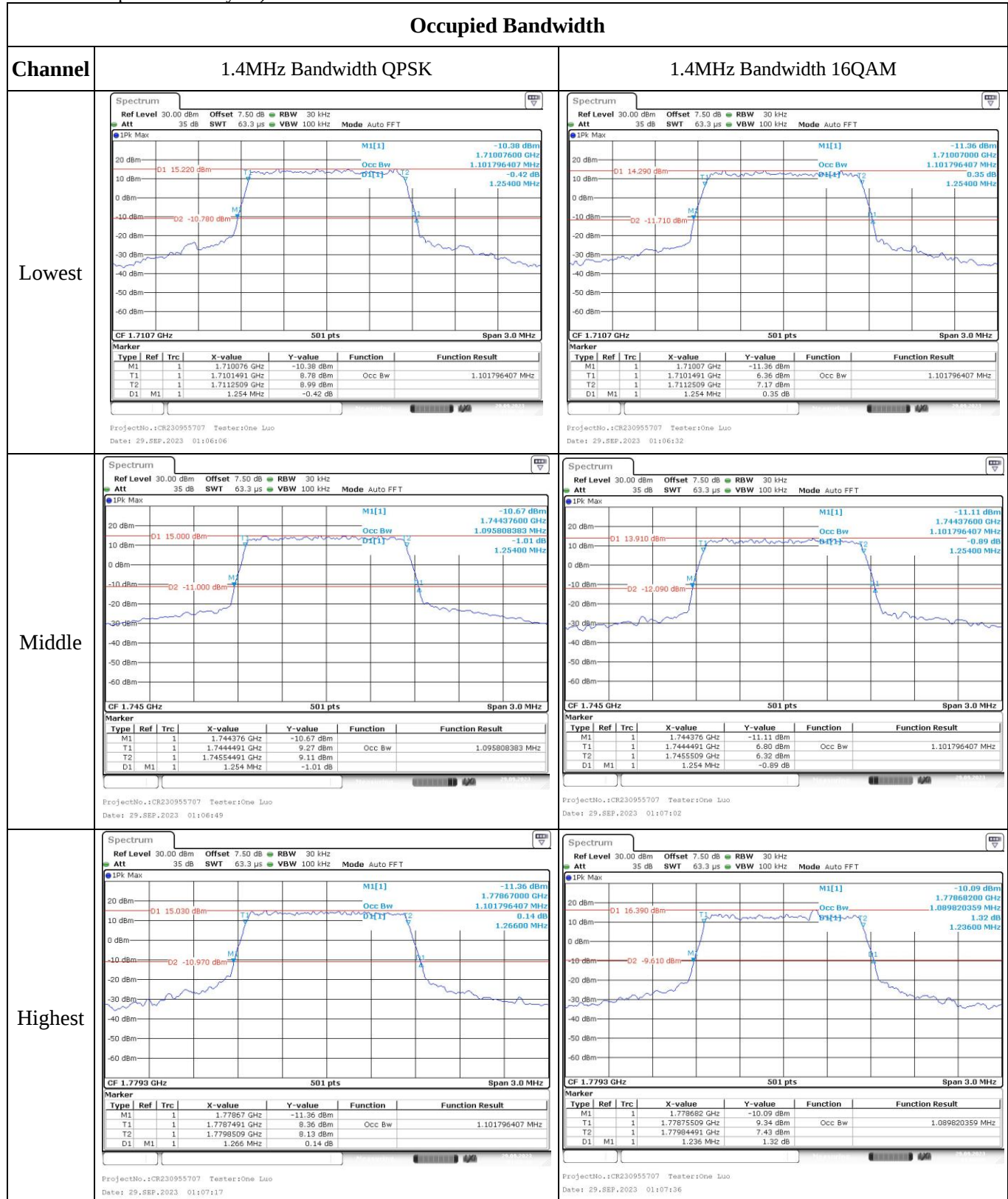
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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Frequency Stability

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	1711.072	1710.00	1779.013	1780
	-20	3.85	1711.049	1710.00	1779.010	1780
	-10	3.85	1711.018	1710.00	1779.031	1780
	0	3.85	1711.036	1710.00	1779.042	1780
	10	3.85	1711.040	1710.00	1779.041	1780
	20	3.85	1711.058	1710.00	1779.022	1780
	30	3.85	1711.008	1710.00	1779.011	1780
	40	3.85	1711.070	1710.00	1779.044	1780
	50	3.85	1711.089	1710.00	1779.009	1780
Frequency Stability vs. Voltage	20	3.6	1711.045	1710.00	1779.090	1780
	20	4.4	1711.035	1710.00	1779.098	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	1710.976	1710.00	1779.062	1780
	-20	3.85	1710.923	1710.00	1779.082	1780
	-10	3.85	1710.974	1710.00	1779.072	1780
	0	3.85	1710.941	1710.00	1779.067	1780
	10	3.85	1710.954	1710.00	1779.024	1780
	20	3.85	1710.978	1710.00	1779.022	1780
	30	3.85	1710.973	1710.00	1779.016	1780
	40	3.85	1710.910	1710.00	1779.004	1780
	50	3.85	1710.997	1710.00	1779.073	1780
Frequency Stability vs. Voltage	20	3.6	1710.964	1710.00	1779.059	1780
	20	4.4	1710.952	1710.00	1779.064	1780
					Result:	Pass

Test Plots(Note: The 7.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):



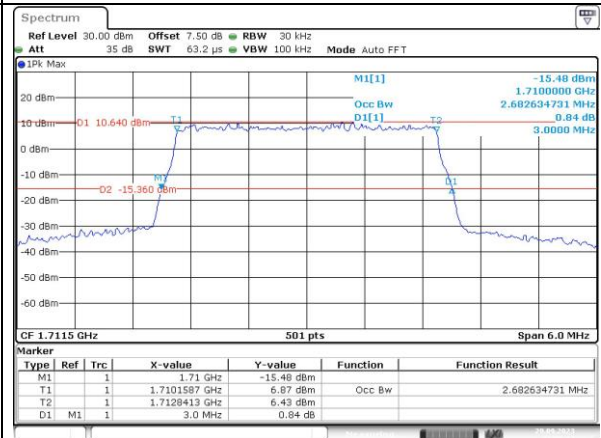
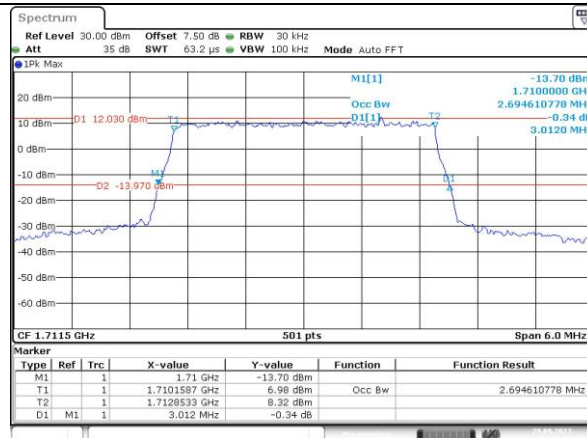
Occupied Bandwidth

Channel

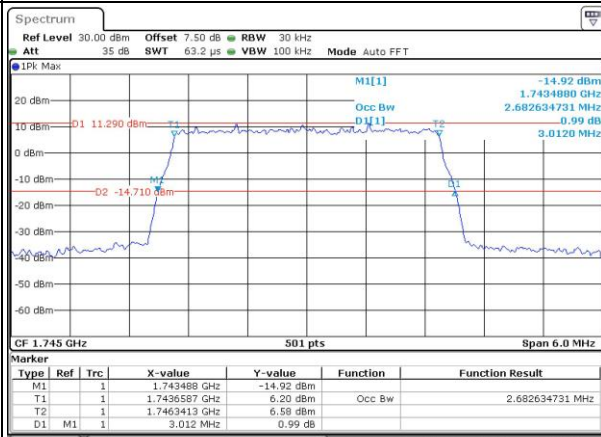
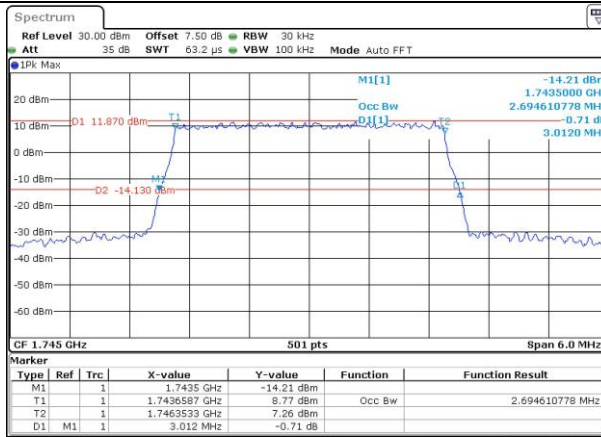
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

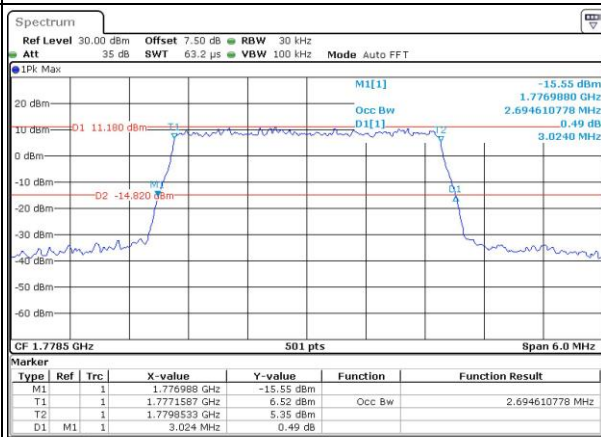
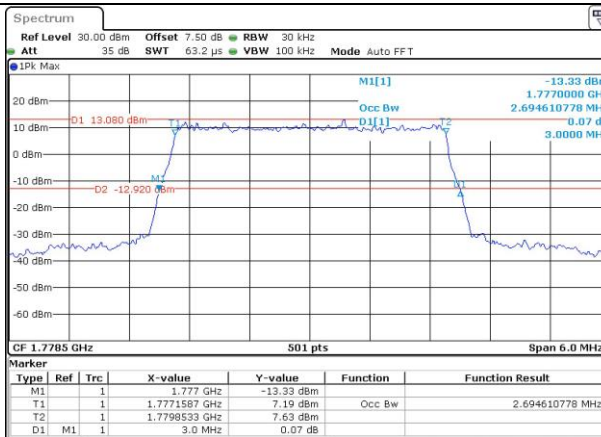
Lowest



Middle



Highest



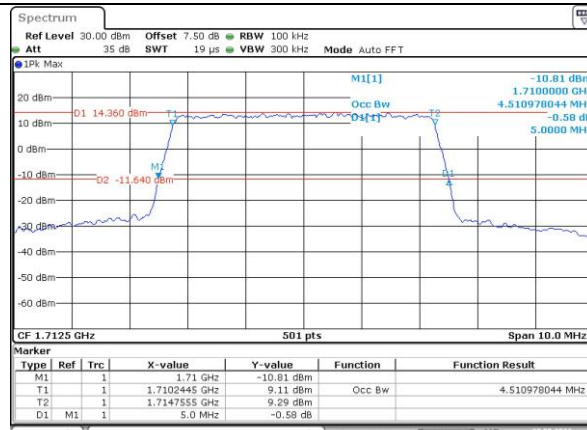
Occupied Bandwidth

Channel

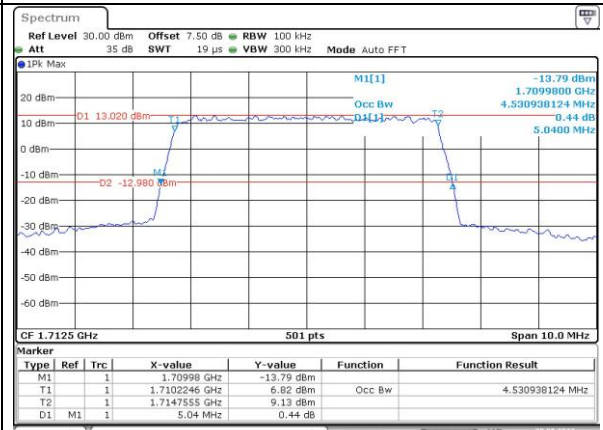
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

Lowest

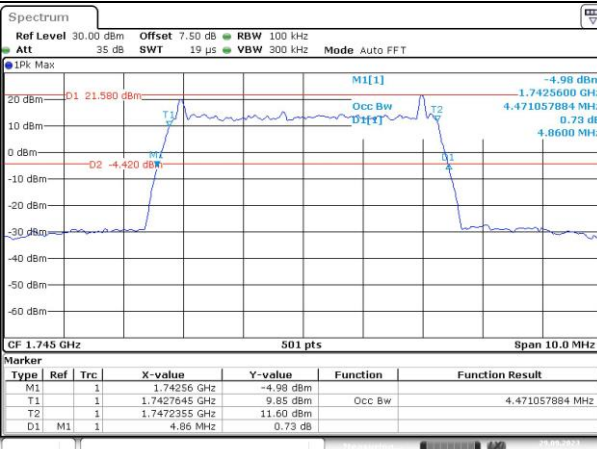


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:09:44

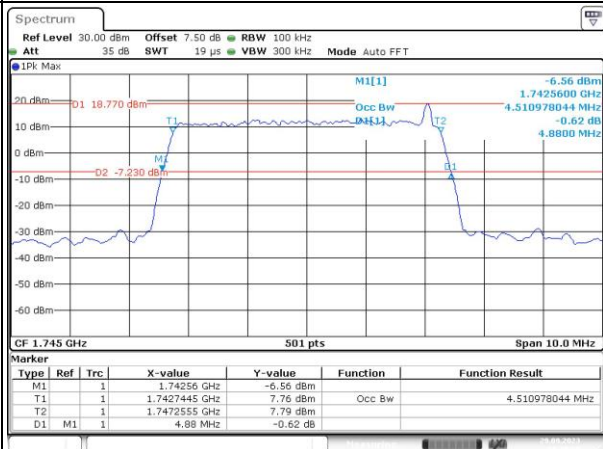


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:10:00

Middle

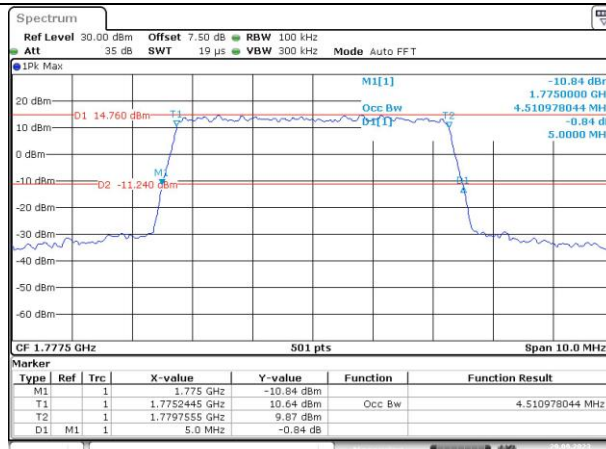


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:10:21

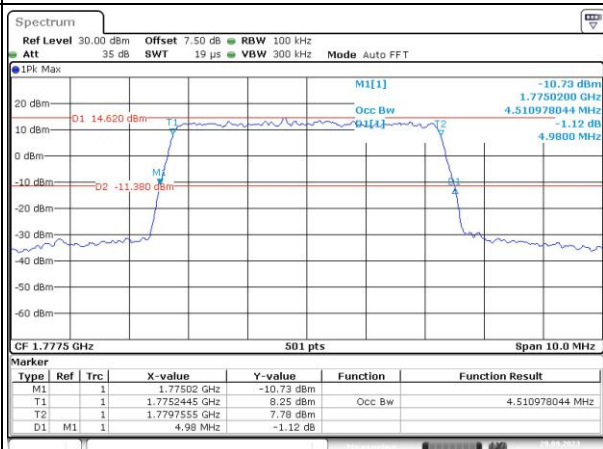


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:10:38

Highest

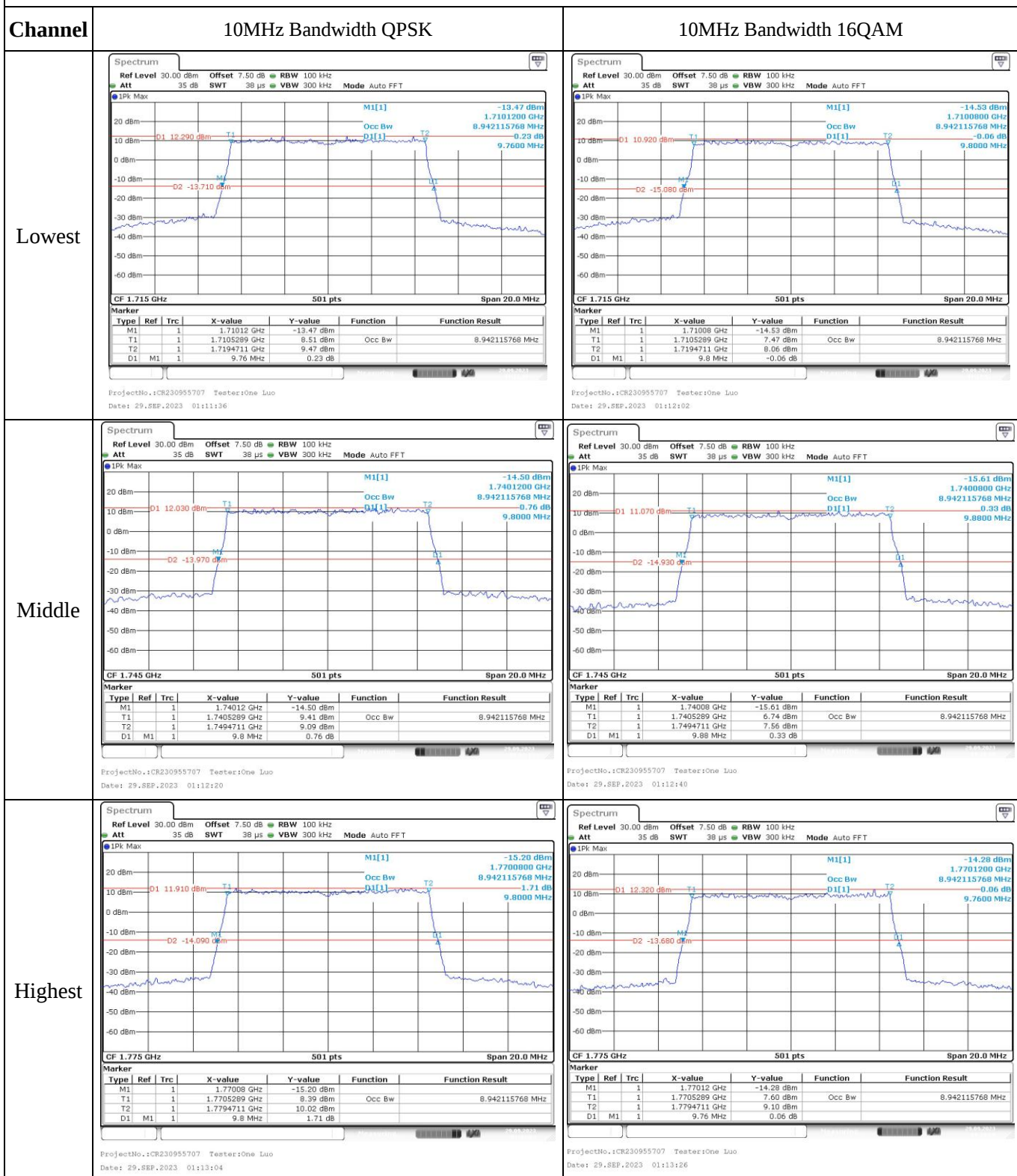


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:10:55



ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:11:12

Occupied Bandwidth



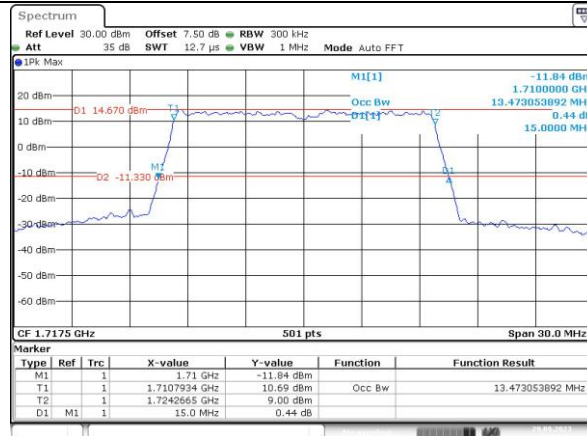
Occupied Bandwidth

Channel

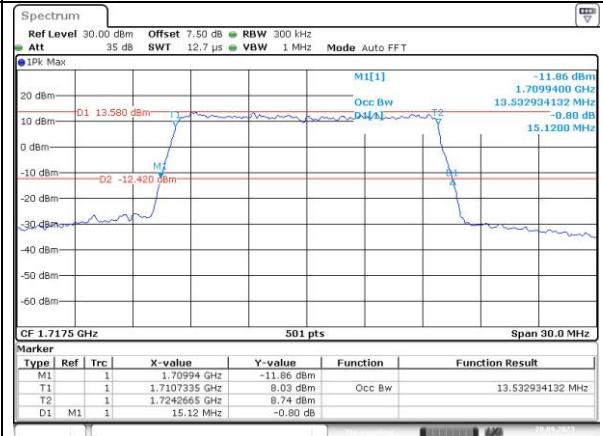
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

Lowest

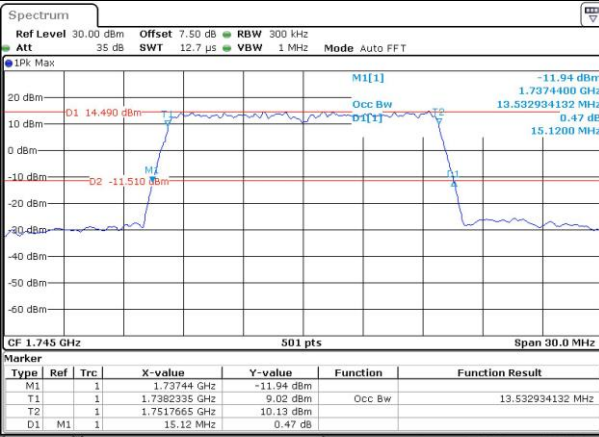


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Date: 29.SEP.2023 01:13:59

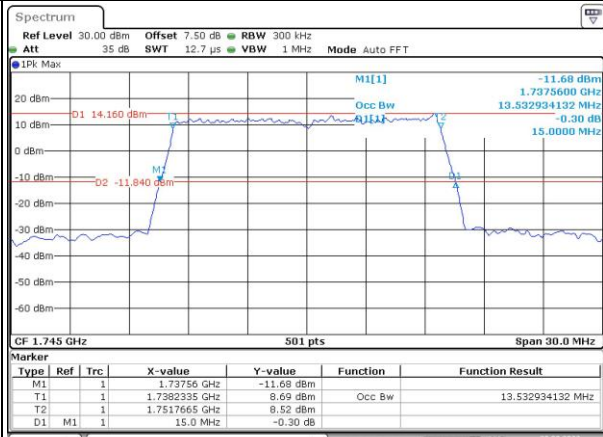


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:14:29

Middle

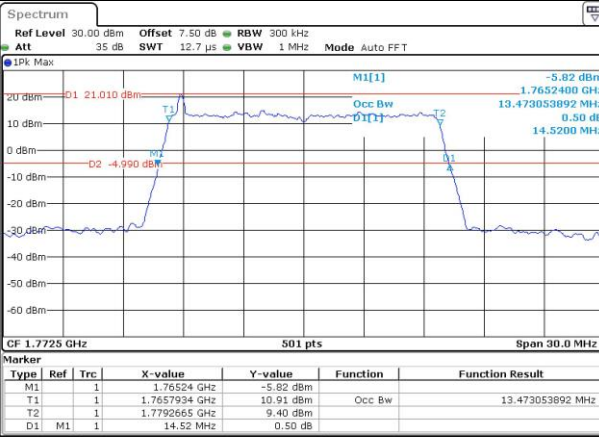


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:14:54

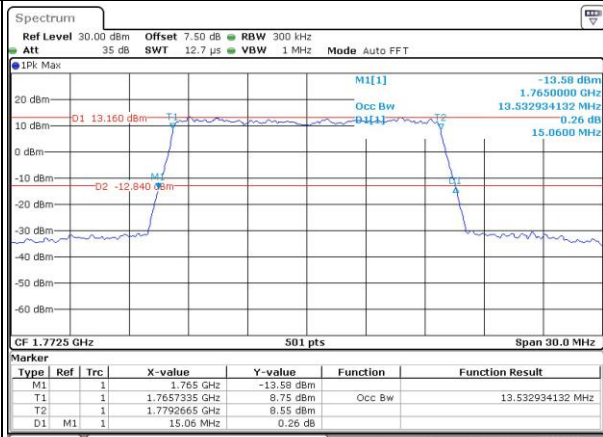


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:15:14

Highest



ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:15:46



ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:16:09

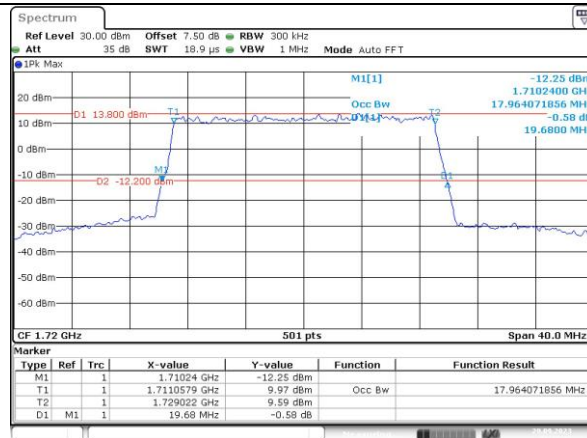
Occupied Bandwidth

Channel

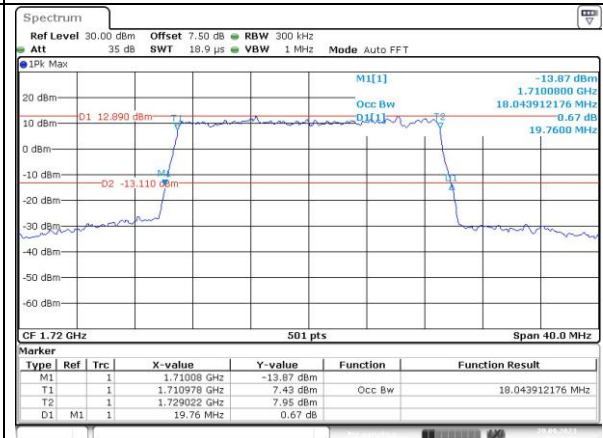
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

Lowest

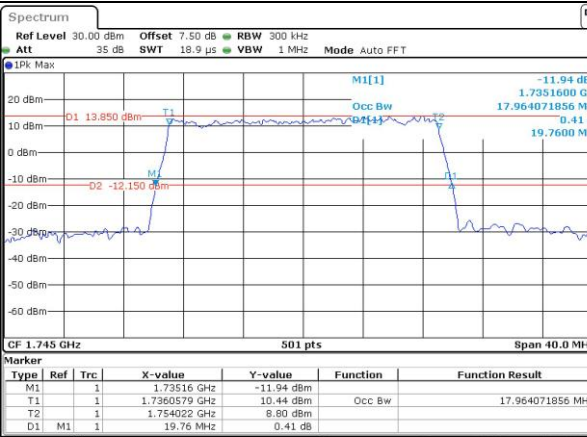


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:16:36

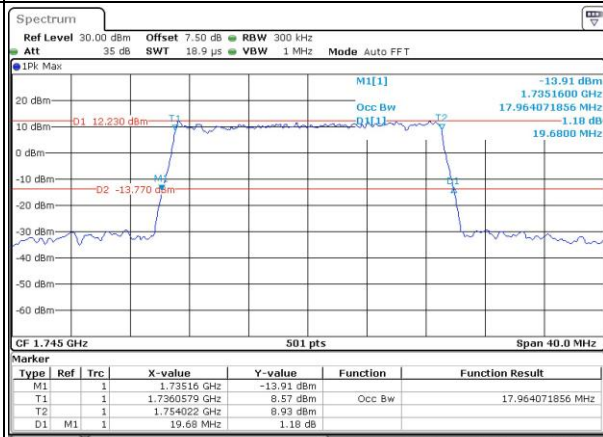


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:16:56

Middle

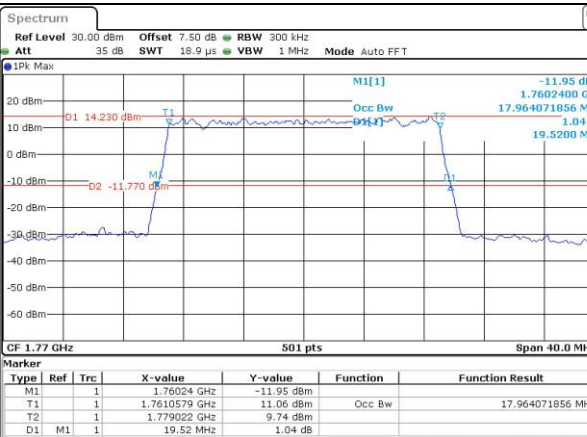


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:17:10

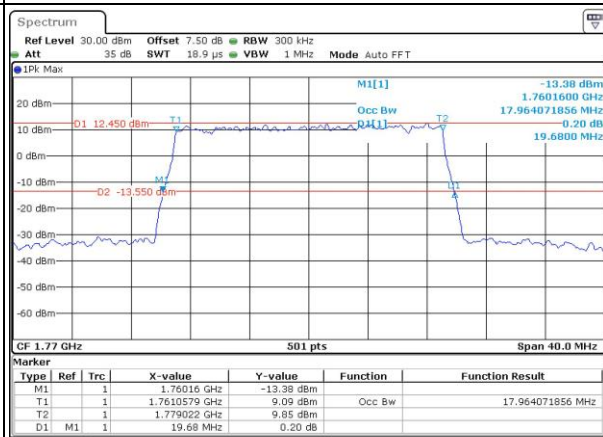


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:17:36

Highest



ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:18:13



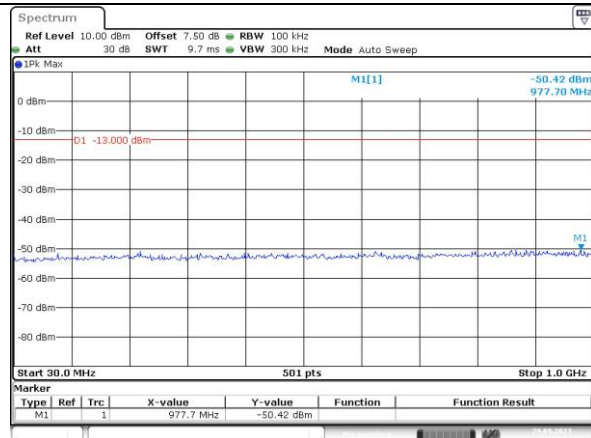
ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:18:37

Spurious Emissions at Antenna Terminal

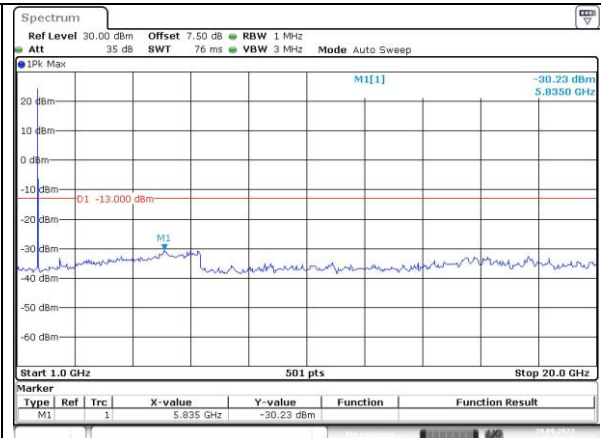
Channel

1.4MHz Bandwidth QPSK

Lowest

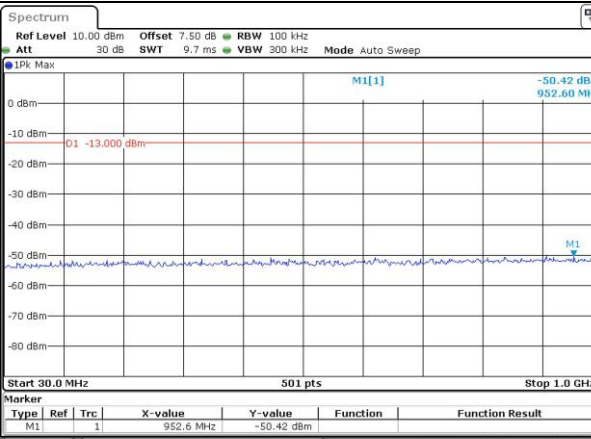


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:24:14

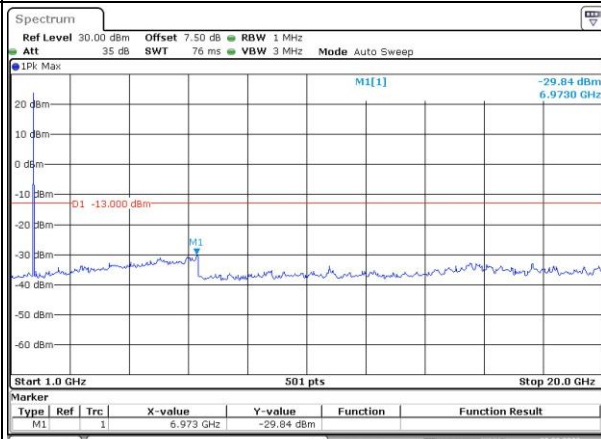


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:24:43

Middle

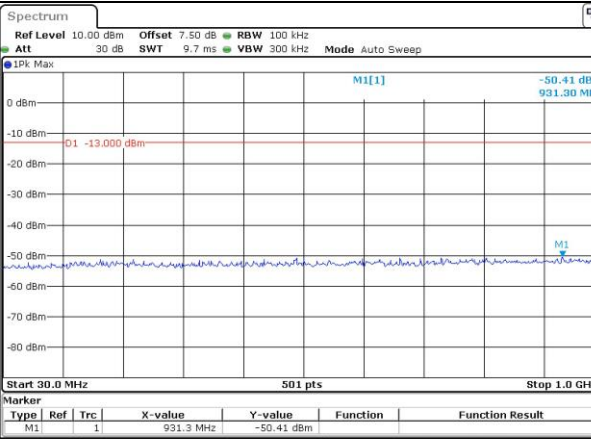


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:25:14

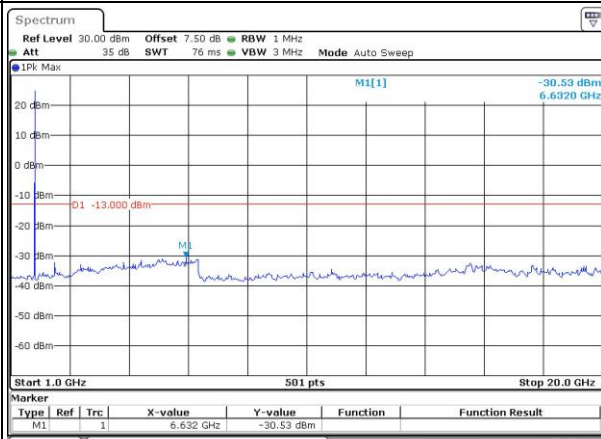


ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:25:39

Highest



ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:26:07



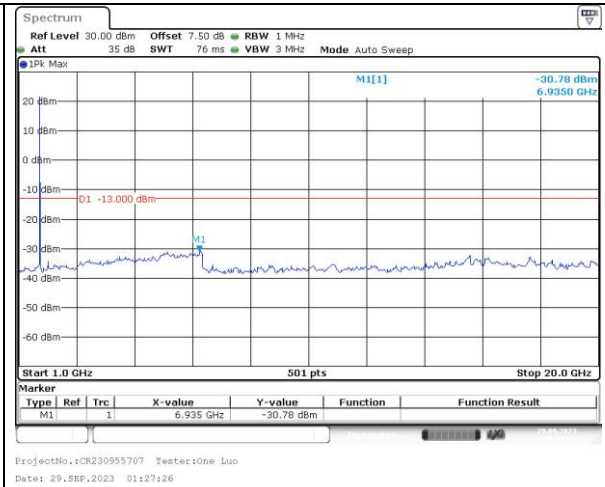
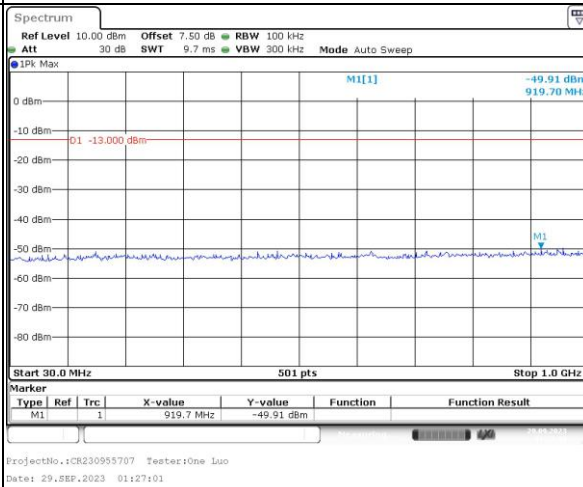
ProjectNo.:CR230955707 Tester:One Luo
Date: 29.SEP.2023 01:26:29

Spurious Emissions at Antenna Terminal

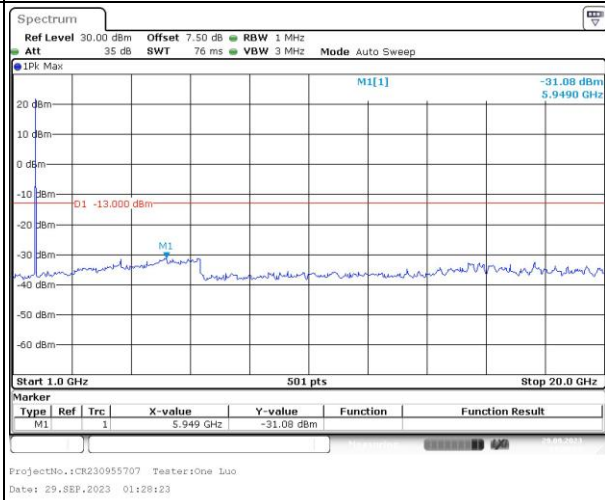
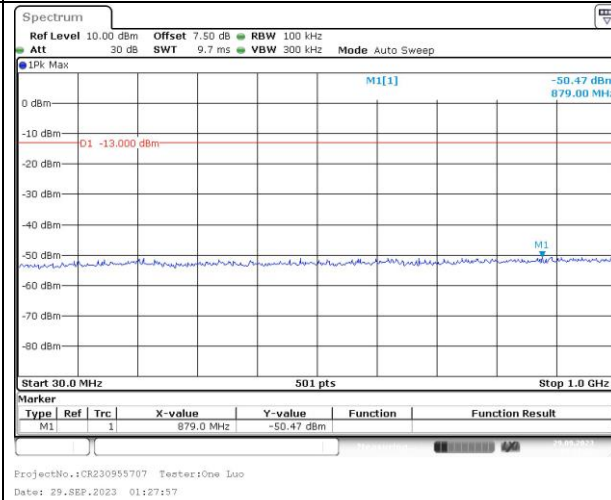
Channel

3MHz Bandwidth QPSK

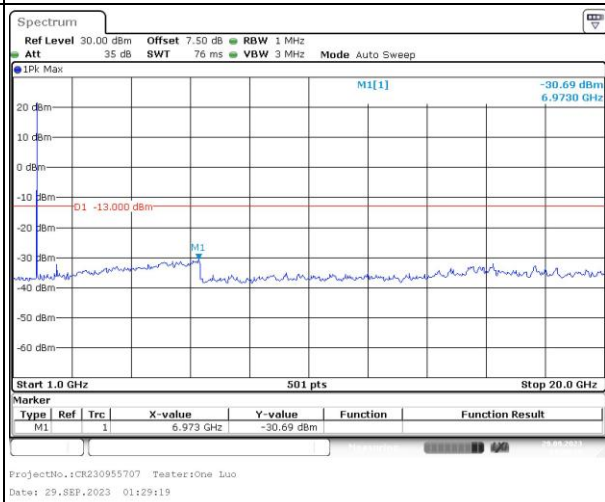
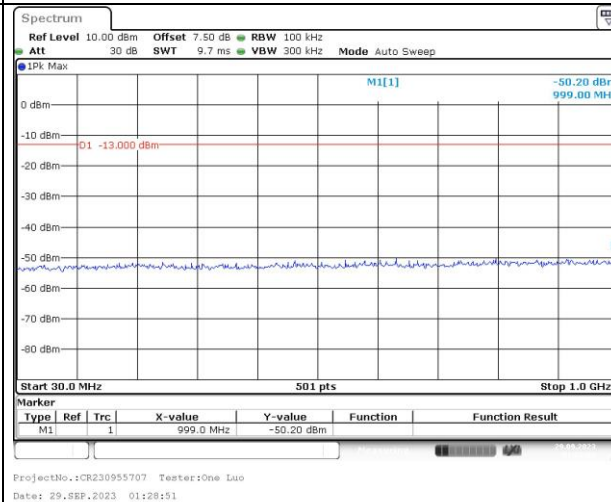
Lowest



Middle



Highest

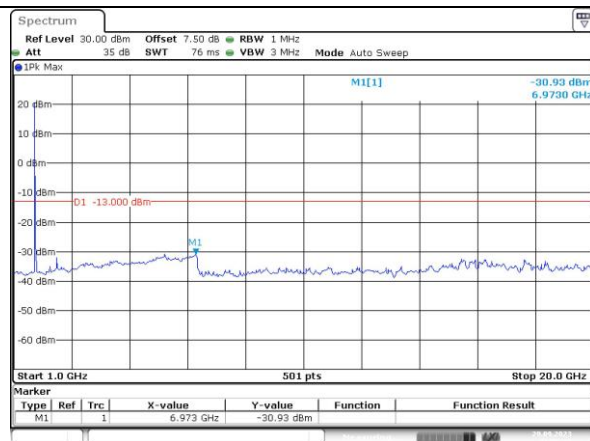
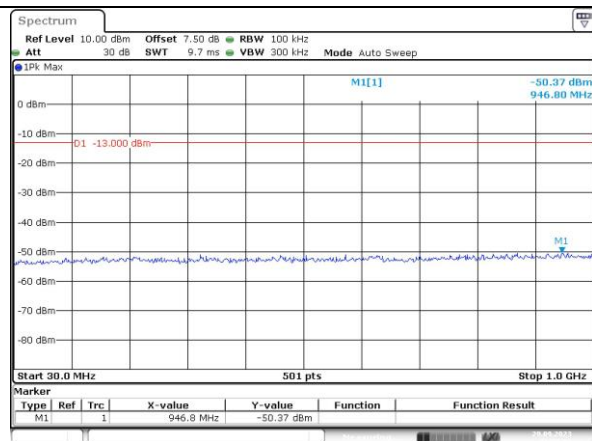


Spurious Emissions at Antenna Terminal

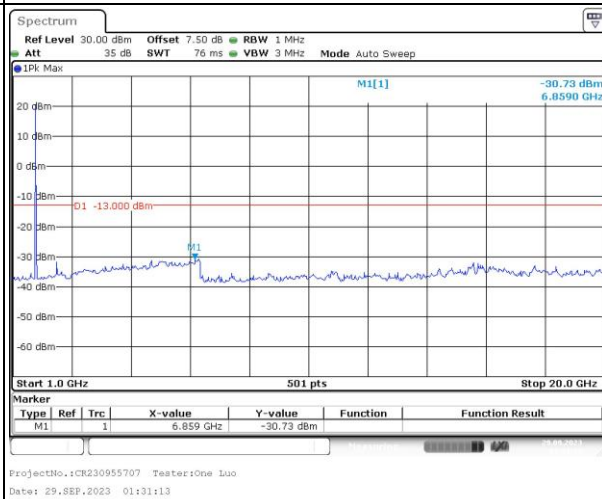
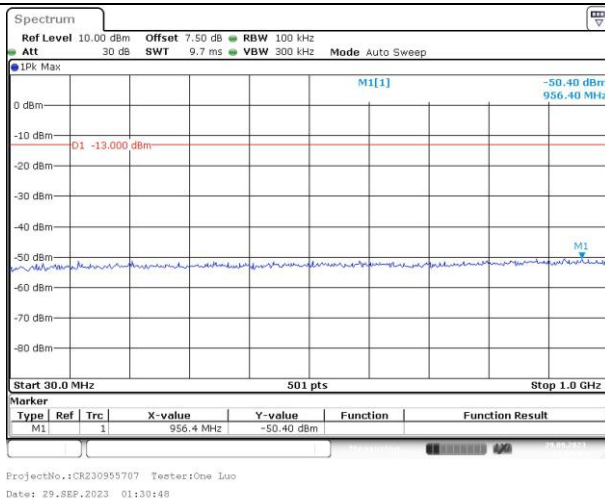
Channel

5MHz Bandwidth QPSK

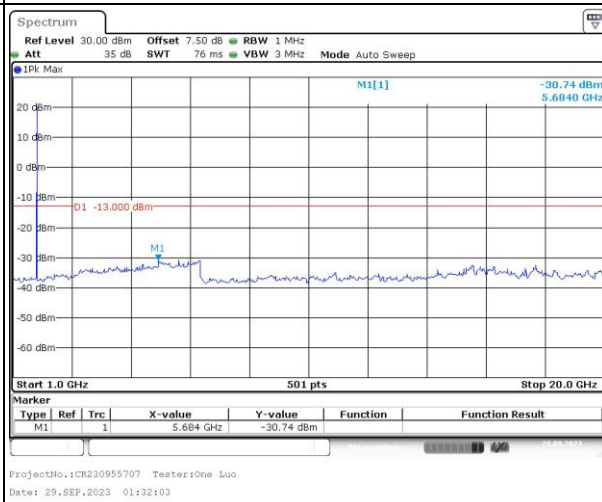
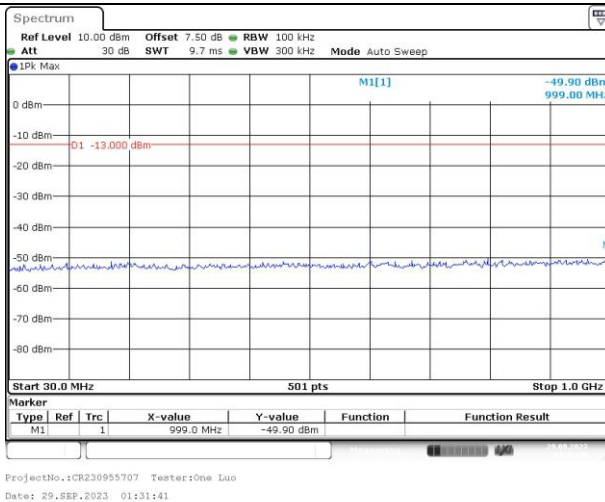
Lowest



Middle



Highest

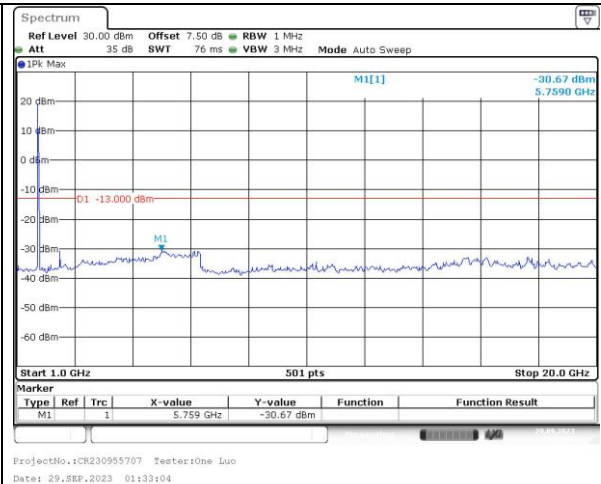
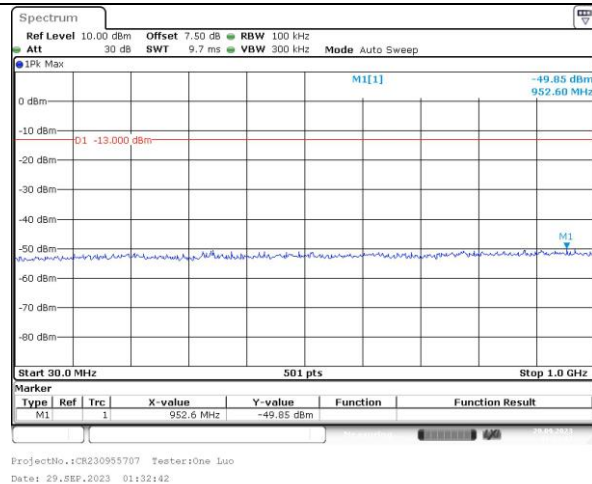


Spurious Emissions at Antenna Terminal

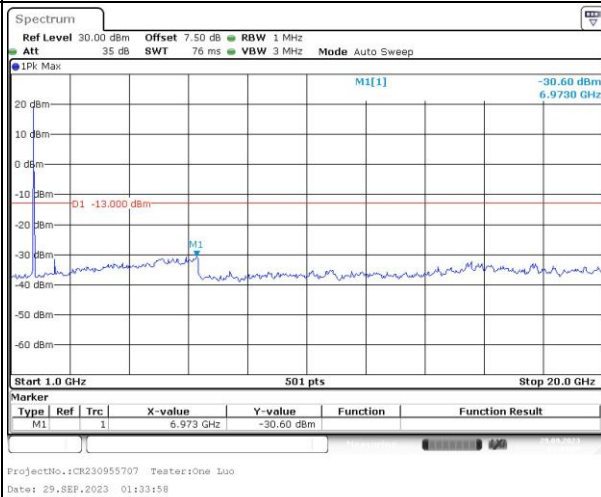
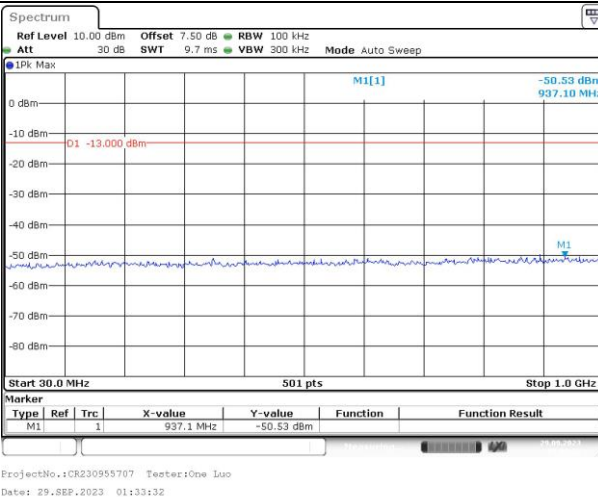
Channel

10MHz Bandwidth QPSK

Lowest



Middle



Highest

