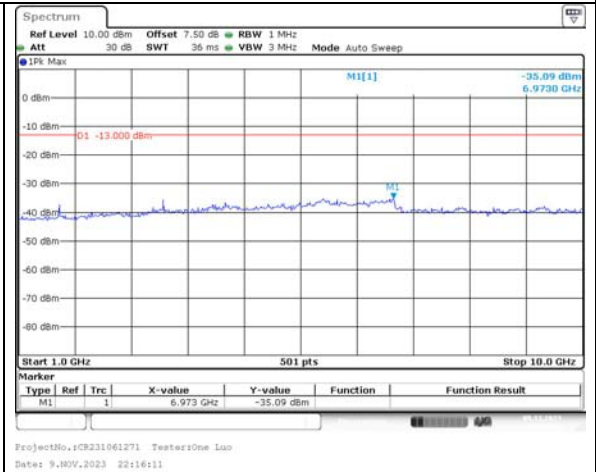
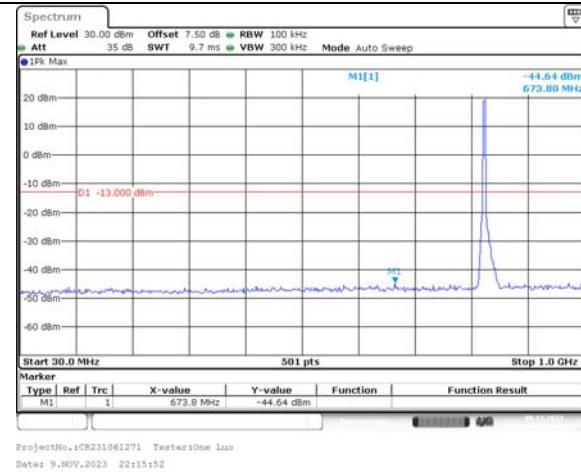


Spurious Emissions at Antenna Terminal

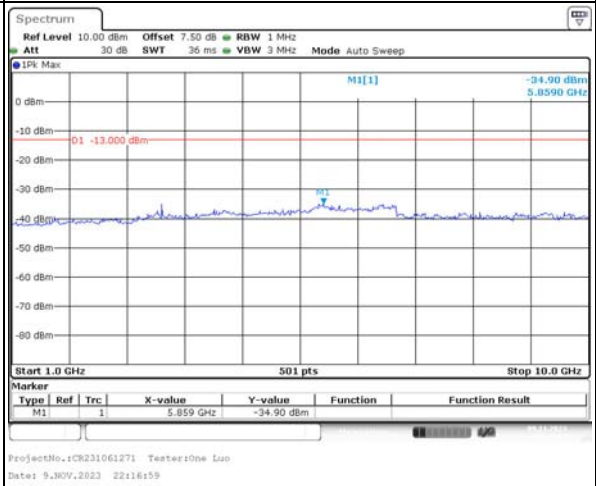
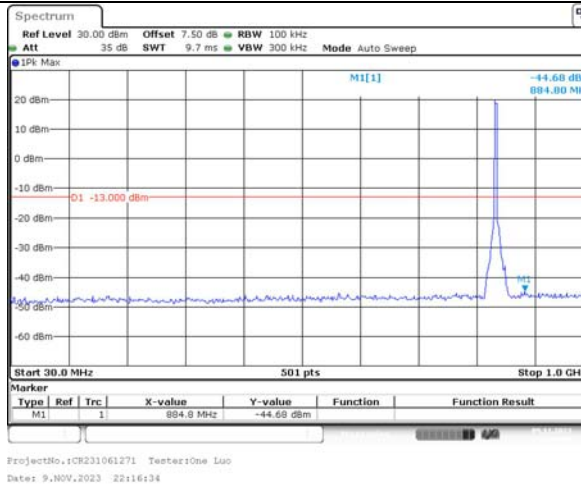
Channel

5MHz Bandwidth QPSK

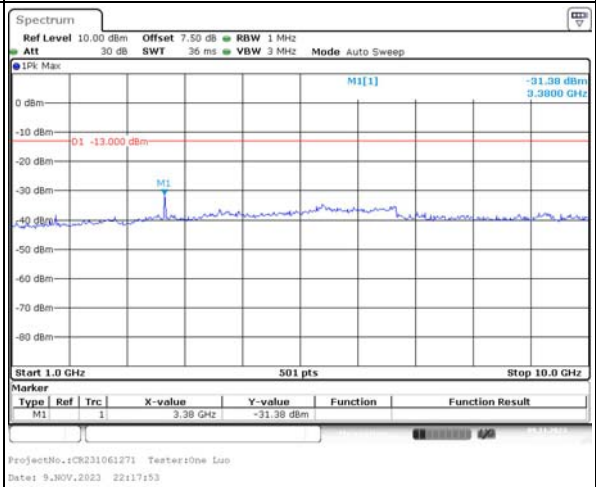
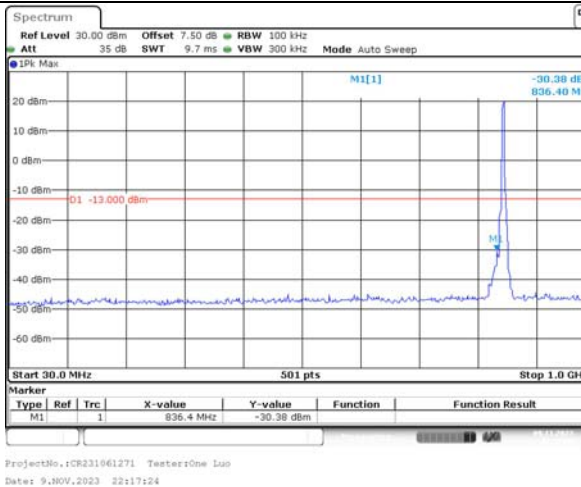
Lowest



Middle



Highest

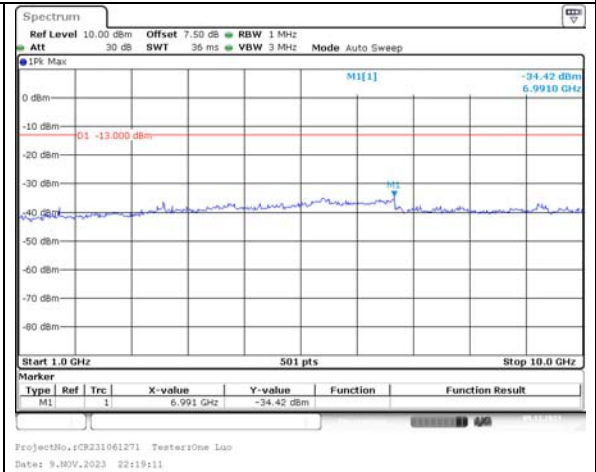
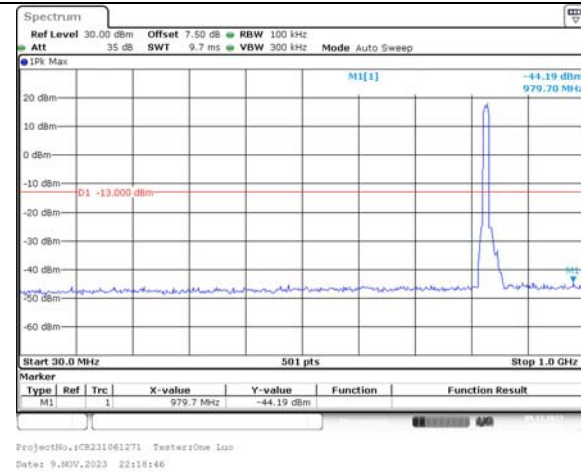


Spurious Emissions at Antenna Terminal

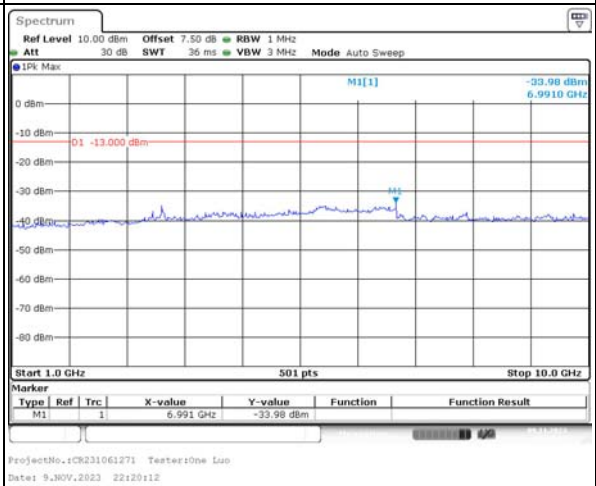
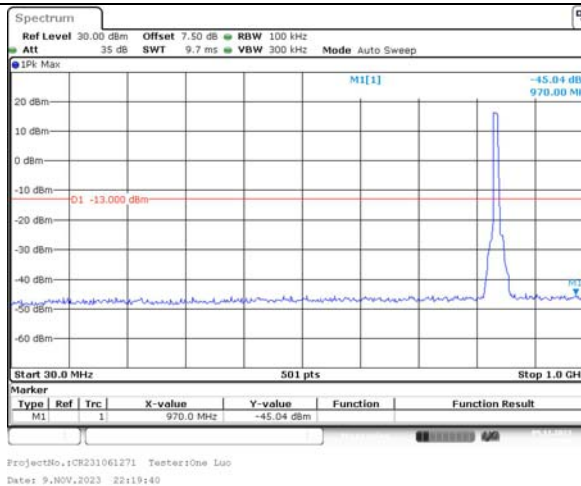
Channel

10MHz Bandwidth QPSK

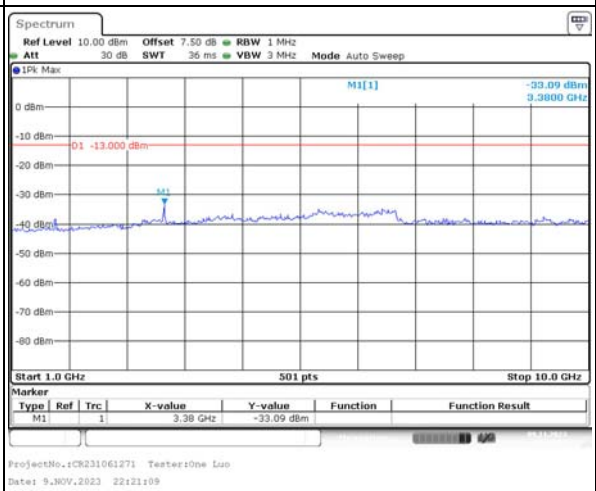
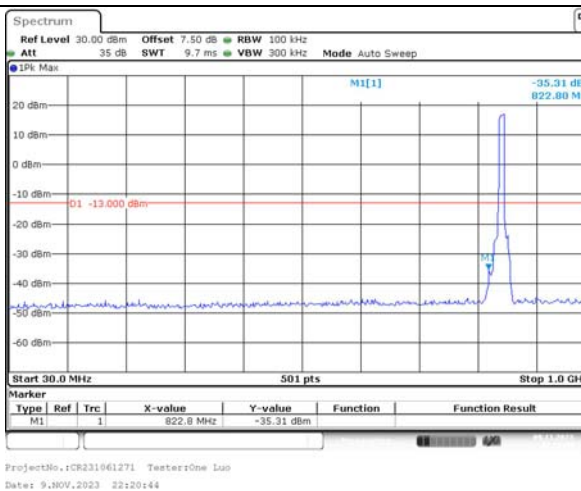
Lowest



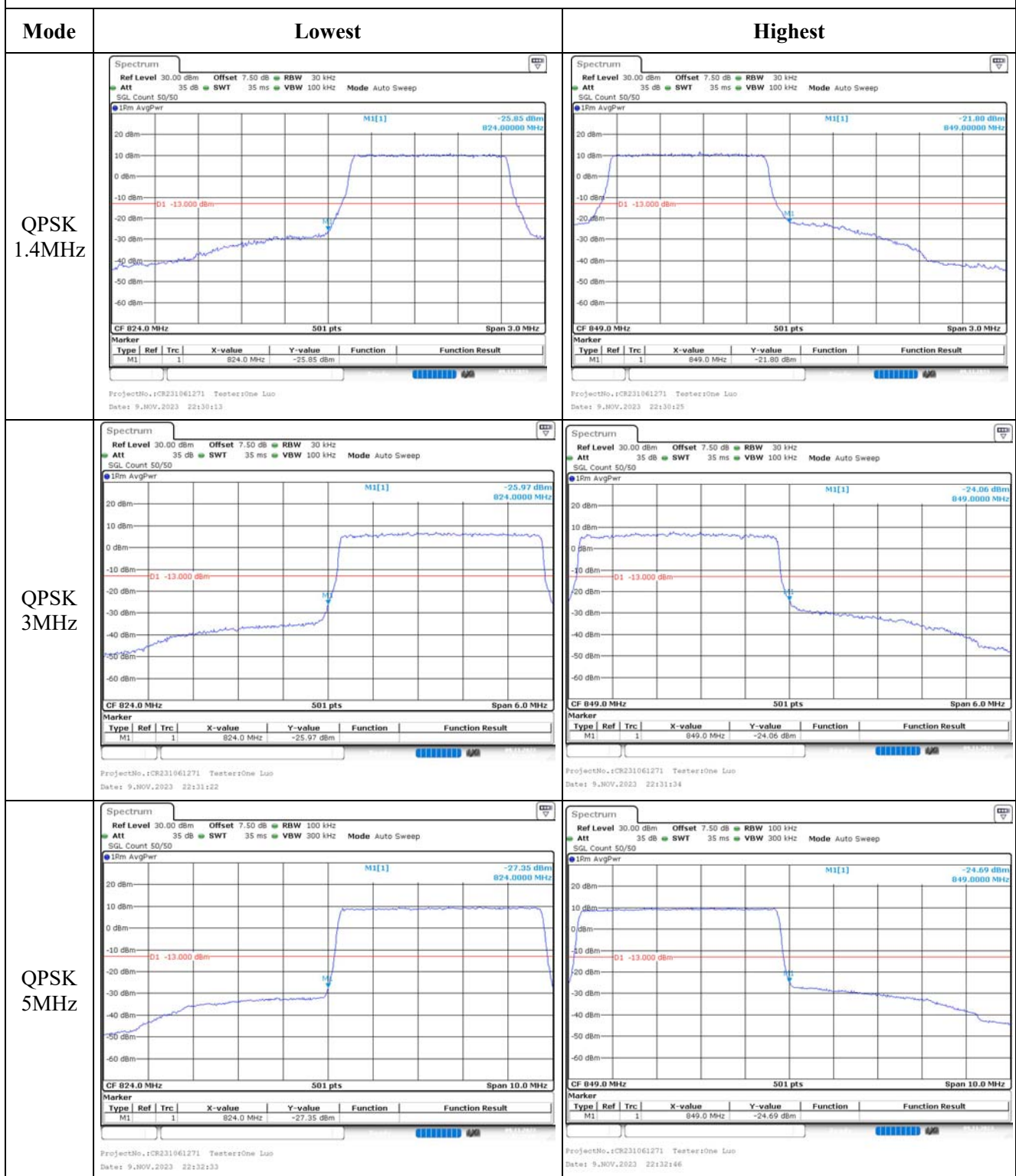
Middle



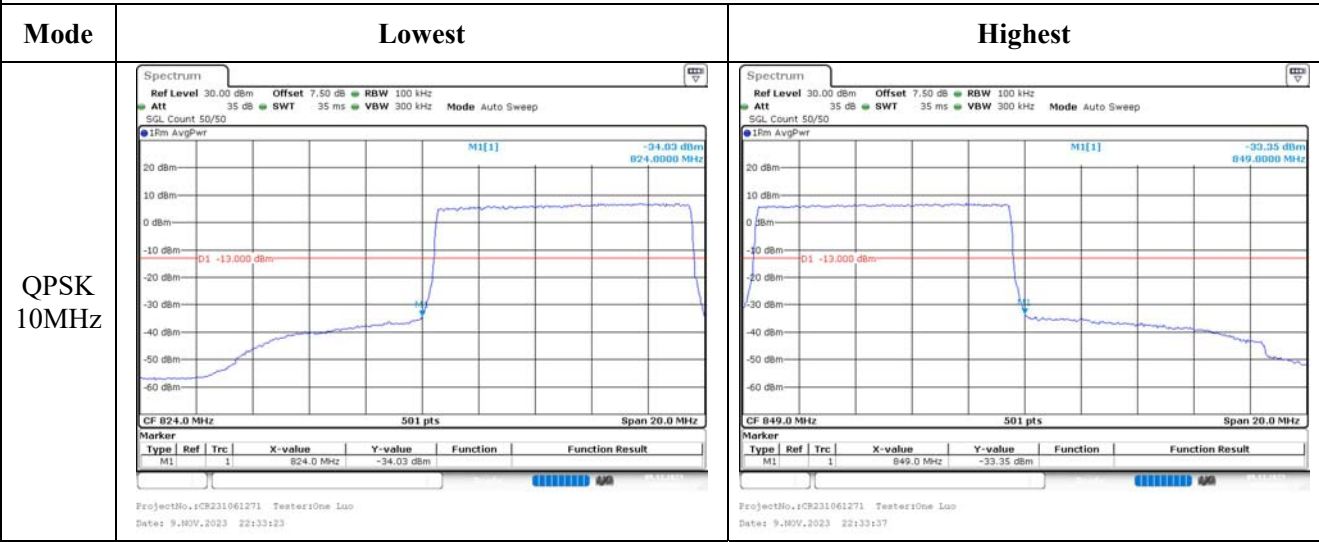
Highest



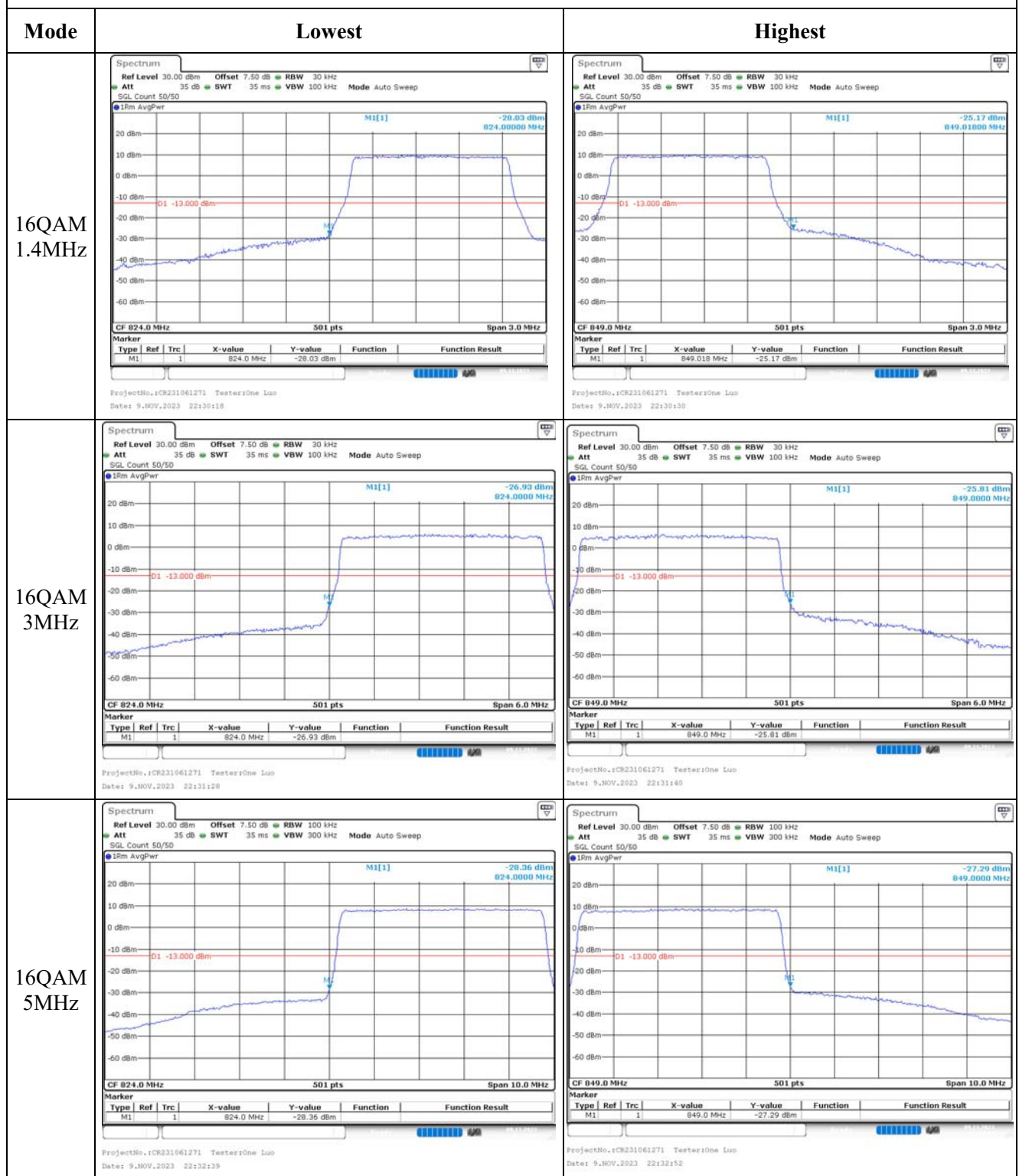
Out of band emission, Band Edge



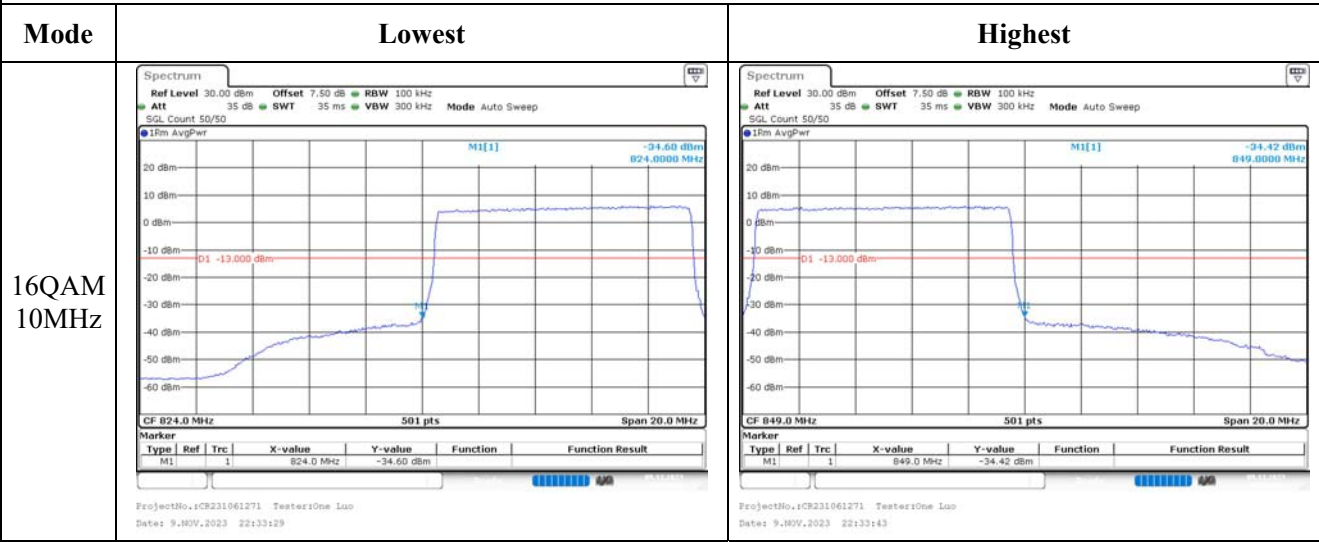
Out of band emission, Band Edge



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:	2CGI-2	Test Date:	2023/11/7~2023/11/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.3	Relative Humidity: (%)	42~49	ATM Pressure: (kPa)	101~101.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/29	2024/9/28
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:**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	17.97	18.09	18.44	17.56	33
	RB1#13	17.97	17.95	18.11		
	RB1#24	17.82	17.9	18.11		
	RB15#0	17.75	17.89	18.06		
	RB15#10	17.68	17.76	18.25		
	RB25#0	17.58	17.83	18.1		
5MHz 16QAM	RB1#0	17.4	17.56	17.54	17.63	33
	RB1#13	17.32	17.86	17.42		
	RB1#24	17.3	17.55	17.31		
	RB15#0	17.14	17.61	17.18		
	RB15#10	17.97	18.08	18.51		
	RB25#0	17.78	18.28	18.14		
10MHz QPSK	RB1#0	17.78	18.24	17.95	17.36	33
	RB1#25	17.75	18.18	17.88		
	RB1#49	17.65	17.94	18.14		
	RB25#0	17.55	17.72	17.59		
	RB25#25	17.43	17.4	17.98		
	RB50#0	17.31	17.86	17.55		
10MHz 16QAM	RB1#0	17.2	17.15	17.47	17.64	33
	RB1#25	17.07	17.27	17.33		
	RB1#49	17.97	18.02	18.52		
	RB25#0	17.89	18.4	18		
	RB25#25	17.83	18.27	18.14		
	RB50#0	17.82	18.1	18.36		
15MHz QPSK	RB1#0	17.63	17.73	18.12	17.24	33
	RB1#38	17.53	17.61	17.63		
	RB1#74	17.38	17.54	17.48		
	RB36#0	17.23	17.69	17.45		
	RB36#39	17.17	17.3	17.28		
	RB75#0	17.08	17.59	17.22		
15MHz 16QAM	RB1#0	17.97	18.16	18.04	17.39	33
	RB1#38	17.87	18.15	18.27		
	RB1#74	17.79	17.97	18.05		
	RB36#0	17.79	18.18	17.94		
	RB36#39	17.64	17.99	17.67		
	RB75#0	17.49	17.82	17.52		
20MHz QPSK	RB1#0	17.32	17.63	17.65	17.56	33
	RB1#50	17.97	18.44	18.39		

	RB1#99	17.97	18.16	18.13		
	RB50#0	17.96	18.13	18.05		
	RB50#50	17.93	17.94	18.07		
	RB100#0	17.85	18.07	18.35		
20MHz 16QAM	RB1#0	17.67	17.8	18.03	17.15	33
	RB1#50	17.59	17.87	17.94		
	RB1#99	17.41	17.37	17.93		
	RB50#0	17.27	17.24	17.64		
	RB50#50	17.19	17.4	17.39		
	RB100#0	17.02	17.37	17.22		

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	5.74	6	6.03	13
	RB100#0	4.17	4.29	4.29	13
20MHz 16QAM	RB1#0	6.17	6.49	7.19	13
	RB100#0	5.91	5.91	5.94	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
5MHz QPSK	4.491	4.491	4.511	4.92	4.92	4.92
5MHz 16QAM	4.491	4.511	4.491	4.94	4.94	4.98
10MHz QPSK	8.942	8.981	8.942	9.64	9.68	9.64
10MHz 16QAM	8.942	8.942	8.942	9.6	9.52	9.68
15MHz QPSK	13.473	13.473	13.413	14.58	14.64	14.58
15MHz 16QAM	13.473	13.473	13.533	14.46	14.58	14.64
20MHz QPSK	17.964	17.964	17.884	19.68	19.12	19.36
20MHz 16QAM	17.884	17.964	17.964	19.28	19.12	19.28

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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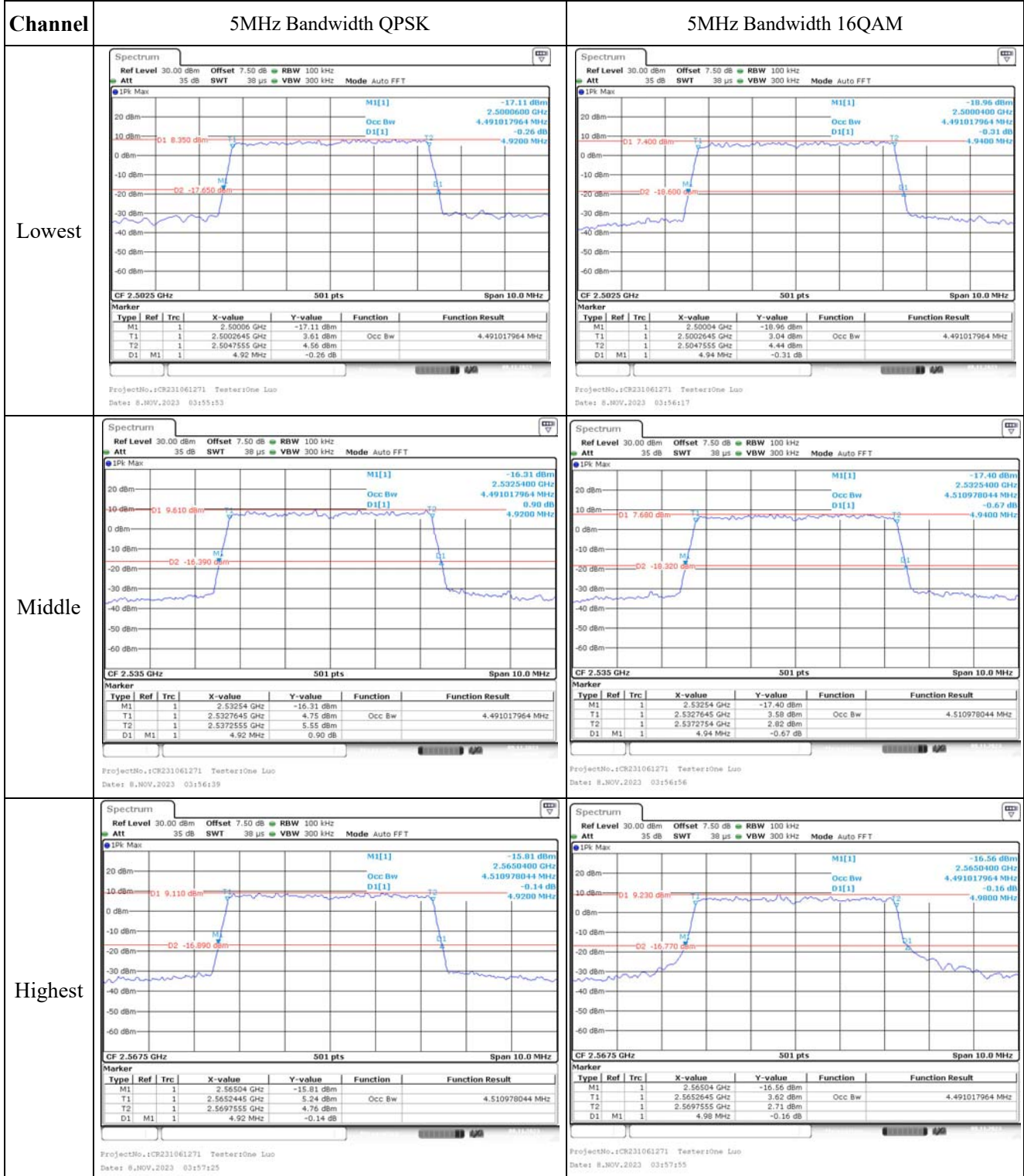
Frequency Stability

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	3.91	2501.044	2500.00	2568.911	2570
	-20	3.91	2501.039	2500.00	2568.951	2570
	-10	3.91	2501.072	2500.00	2568.908	2570
	0	3.91	2501.023	2500.00	2568.960	2570
	10	3.91	2501.006	2500.00	2568.962	2570
	20	3.91	2501.058	2500.00	2568.942	2570
	30	3.91	2501.051	2500.00	2568.922	2570
	40	3.91	2501.033	2500.00	2568.992	2570
	50	3.91	2501.002	2500.00	2568.945	2570
Frequency Stability vs. Voltage	20	3.45	2501.009	2500.00	2568.980	2570
	20	4.5	2501.071	2500.00	2568.924	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	3.91	2501.065	2500.00	2568.993	2570
	-20	3.91	2501.029	2500.00	2568.979	2570
	-10	3.91	2501.094	2500.00	2568.995	2570
	0	3.91	2501.031	2500.00	2568.994	2570
	10	3.91	2501.070	2500.00	2568.928	2570
	20	3.91	2501.058	2500.00	2568.942	2570
	30	3.91	2501.058	2500.00	2568.948	2570
	40	3.91	2501.033	2500.00	2568.946	2570
	50	3.91	2501.033	2500.00	2568.960	2570
Frequency Stability vs. Voltage	20	3.45	2501.097	2500.00	2568.991	2570
	20	4.5	2501.095	2500.00	2568.979	2570
					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



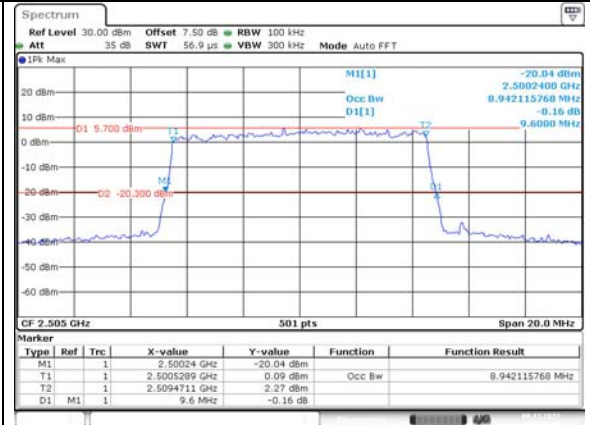
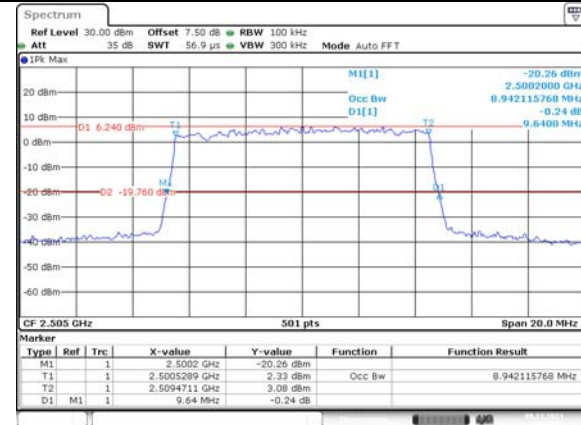
Occupied Bandwidth

Channel

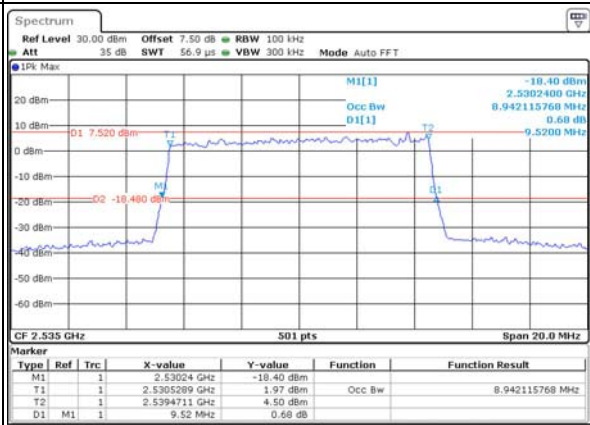
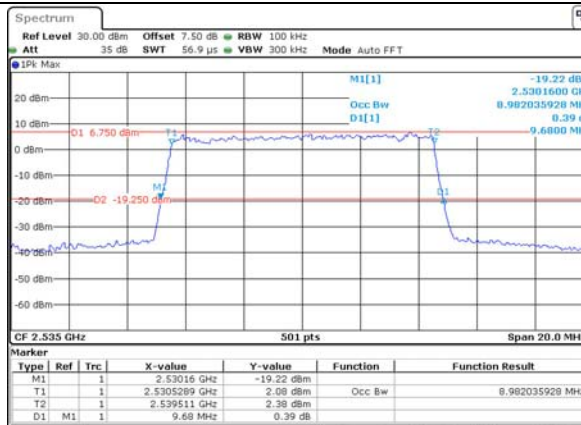
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

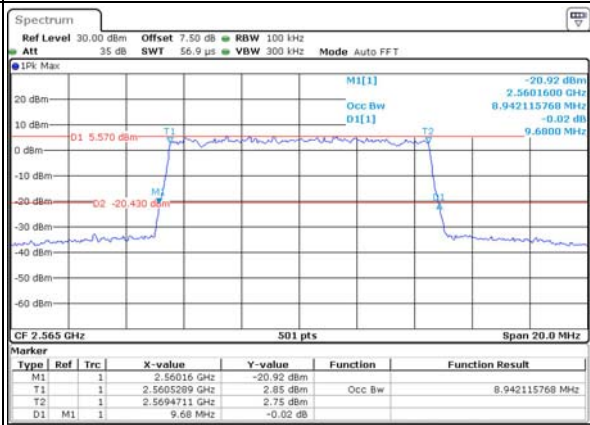
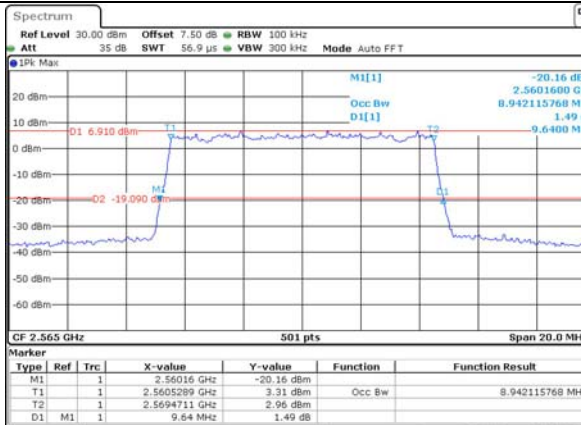
Lowest



Middle



Highest



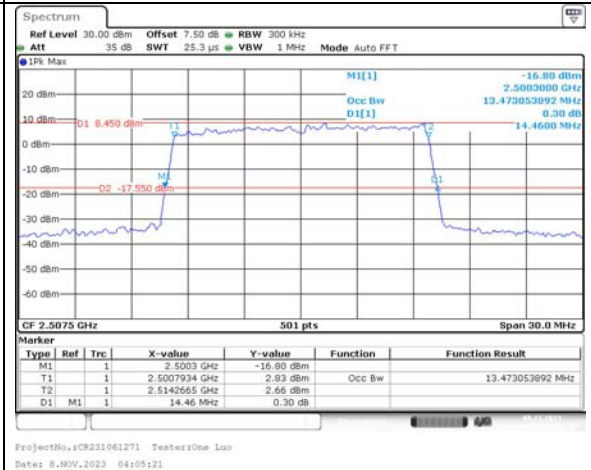
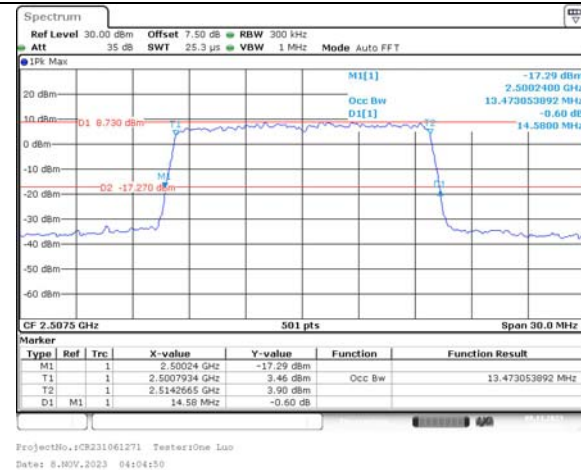
Occupied Bandwidth

Channel

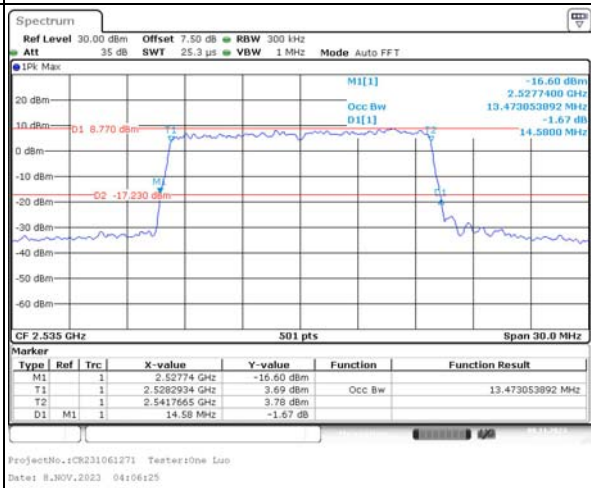
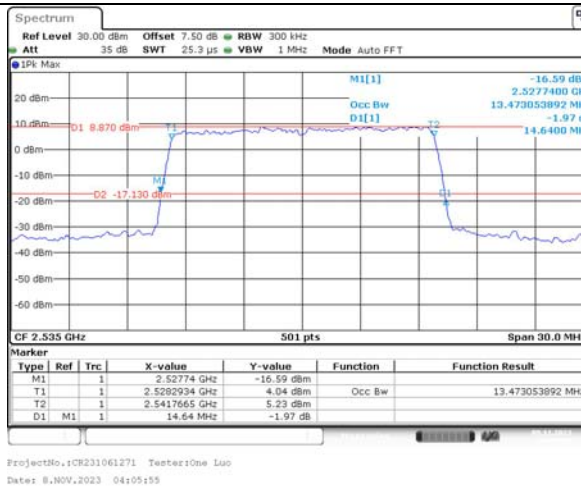
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

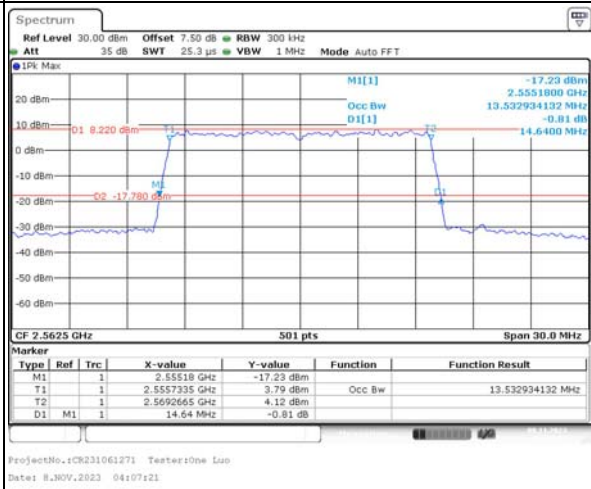
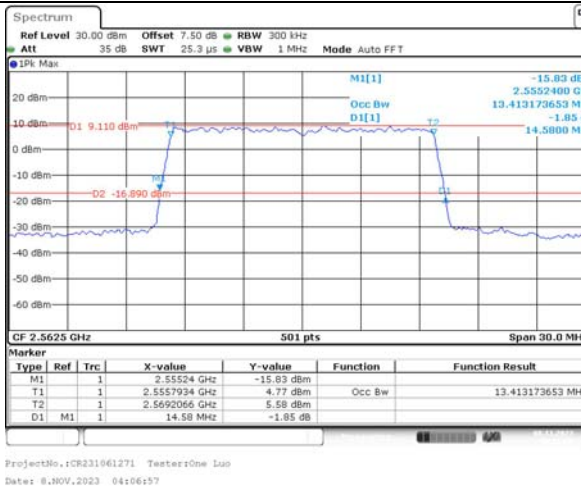
Lowest



Middle



Highest



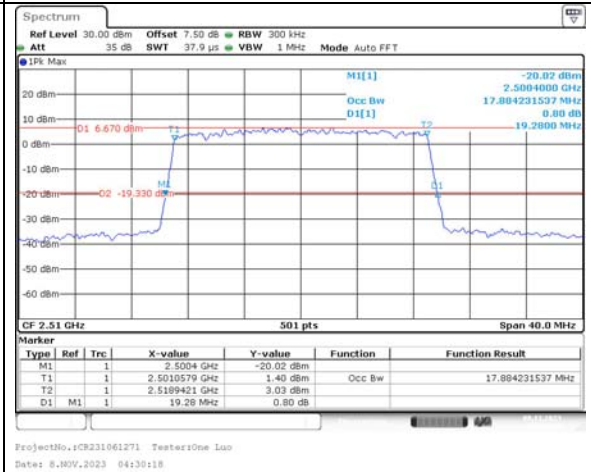
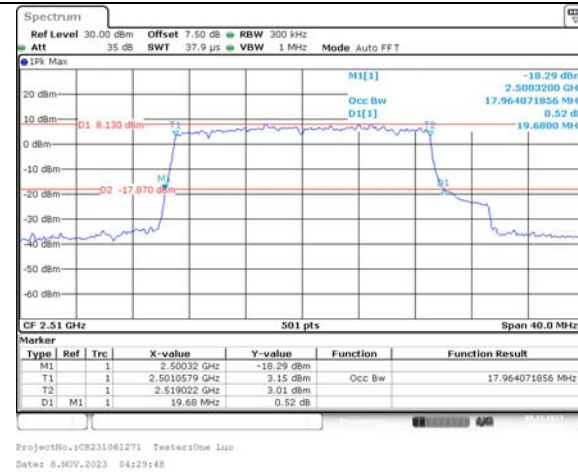
Occupied Bandwidth

Channel

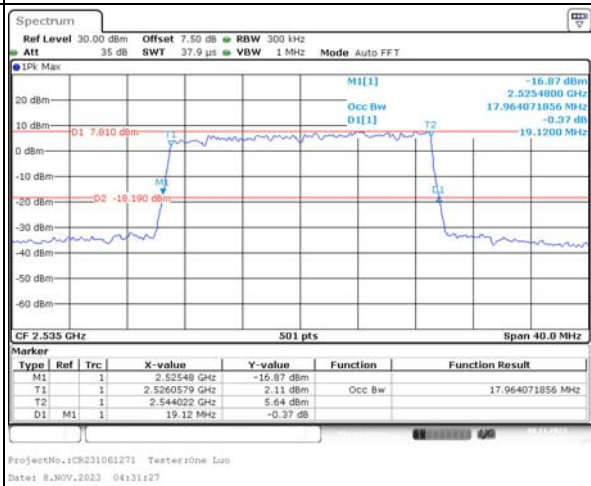
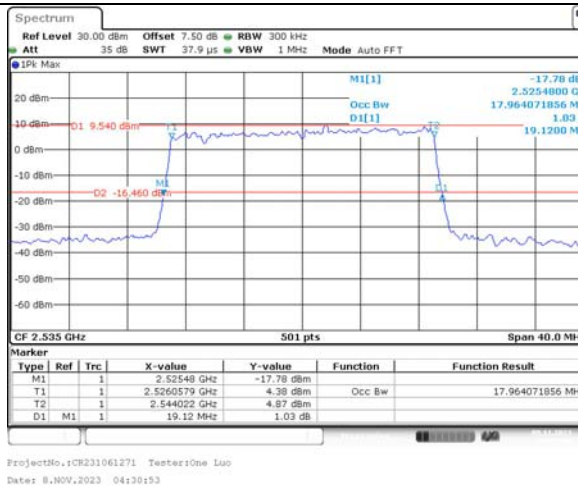
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

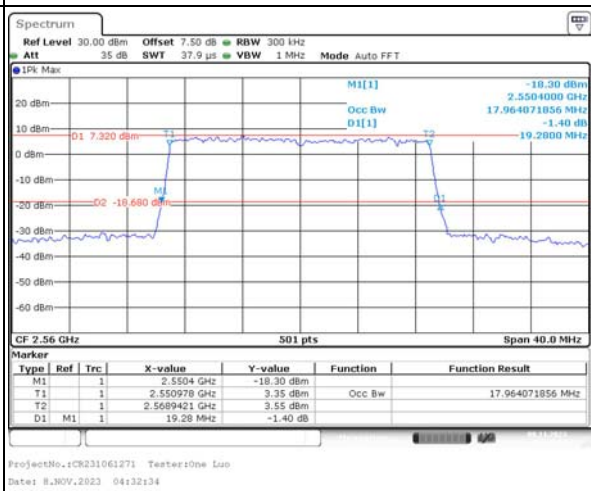
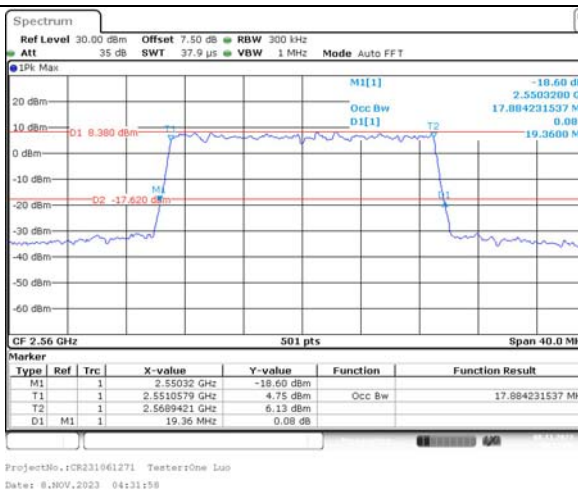
Lowest



Middle



Highest

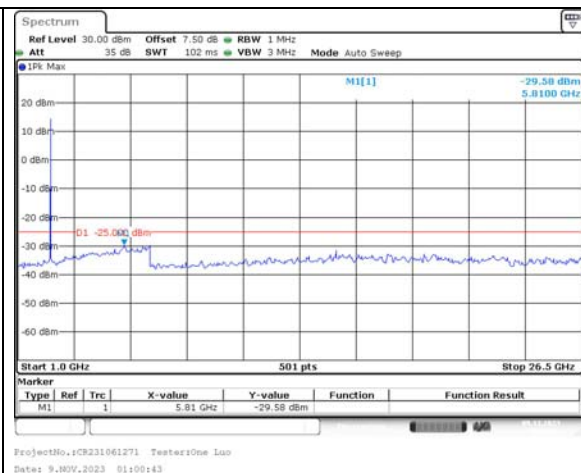
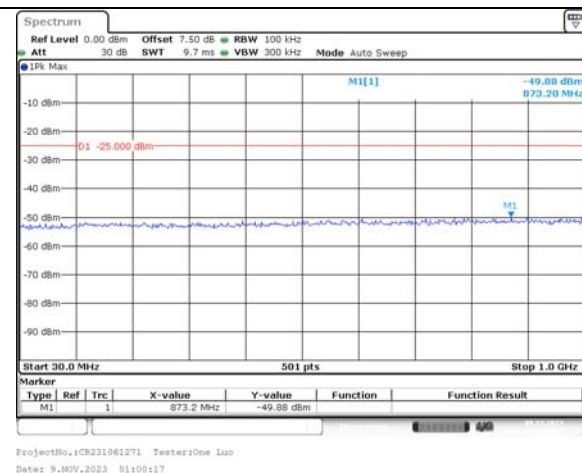


Spurious Emissions at Antenna Terminal

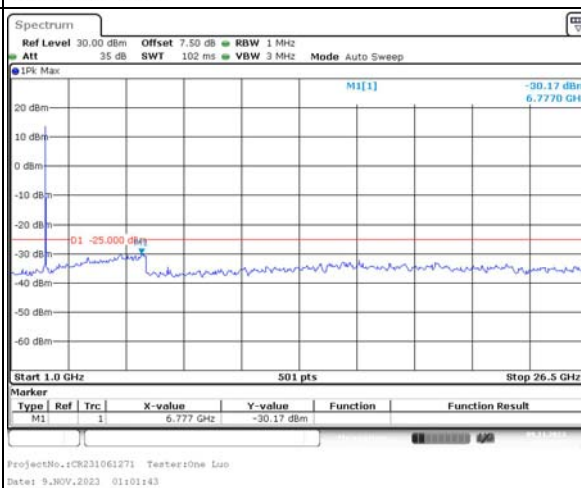
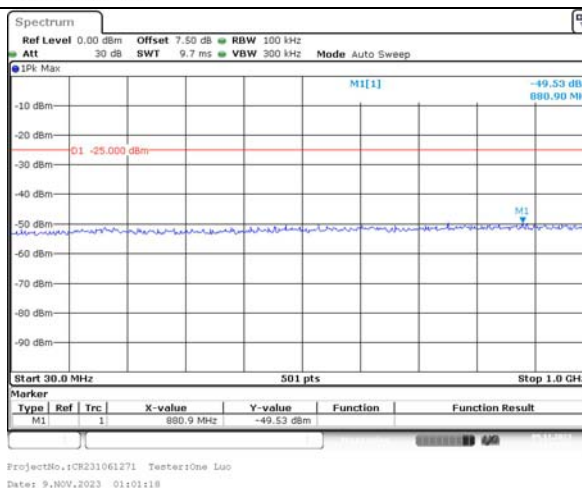
Channel

5MHz Bandwidth QPSK

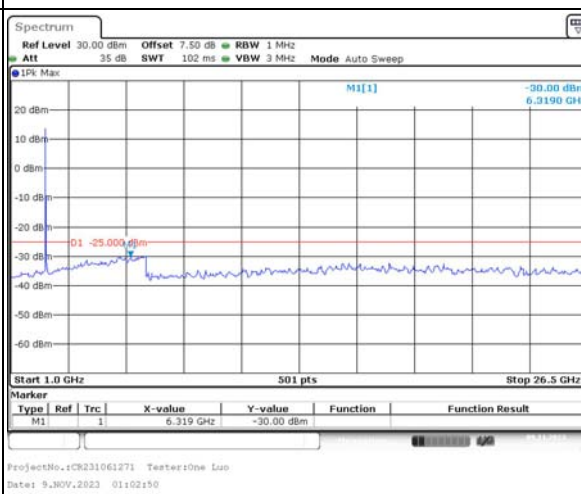
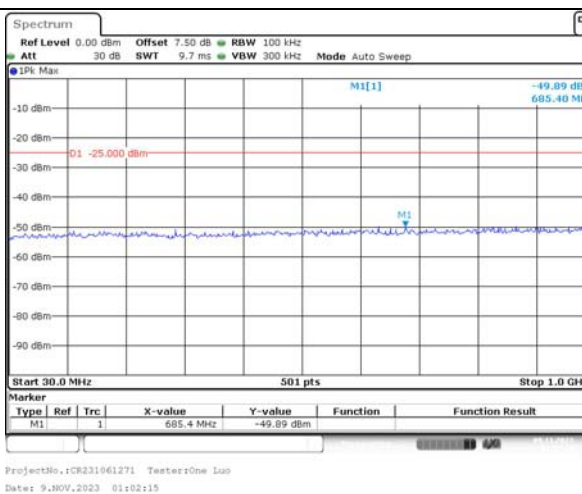
Lowest



Middle



Highest

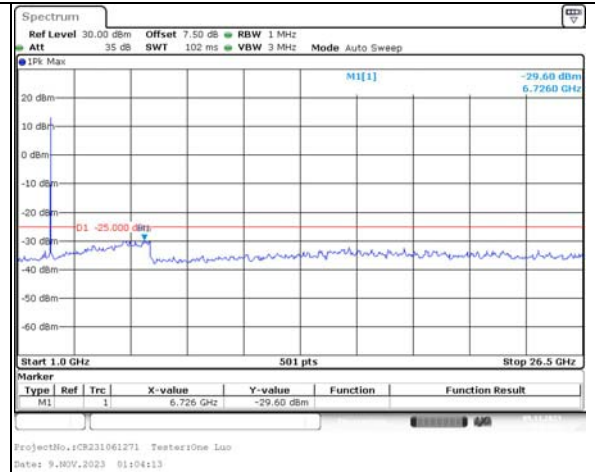
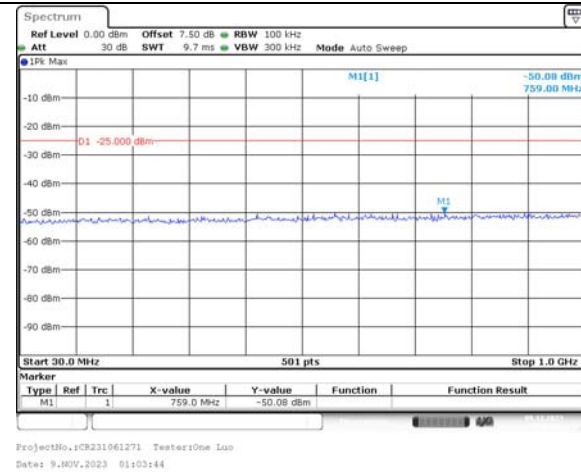


Spurious Emissions at Antenna Terminal

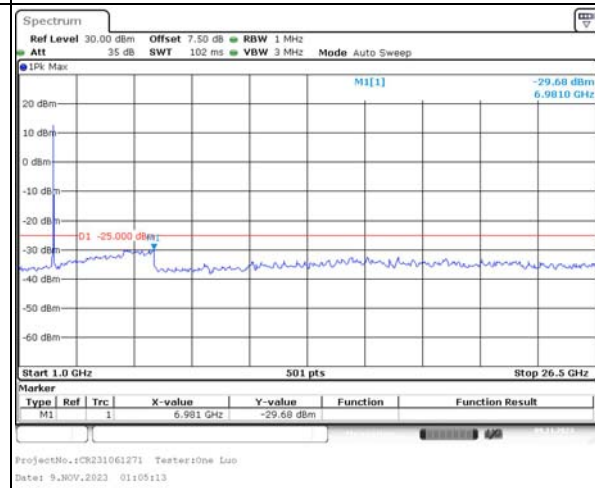
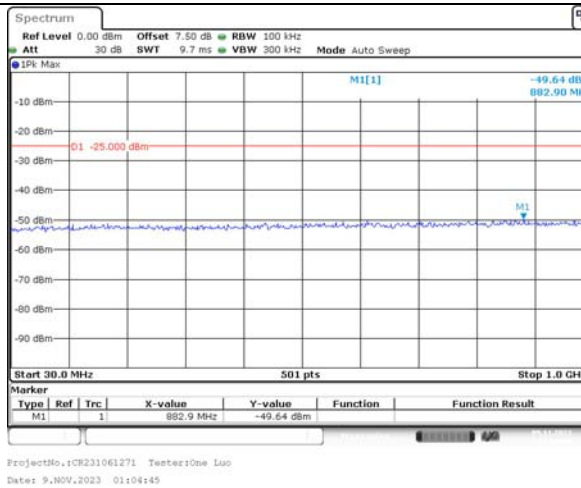
Channel

10MHz Bandwidth QPSK

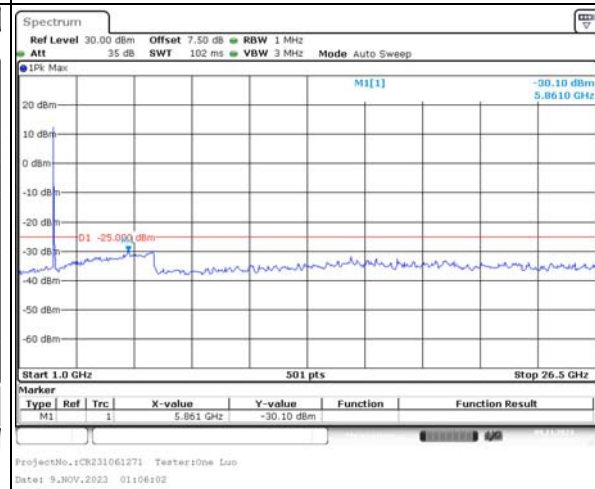
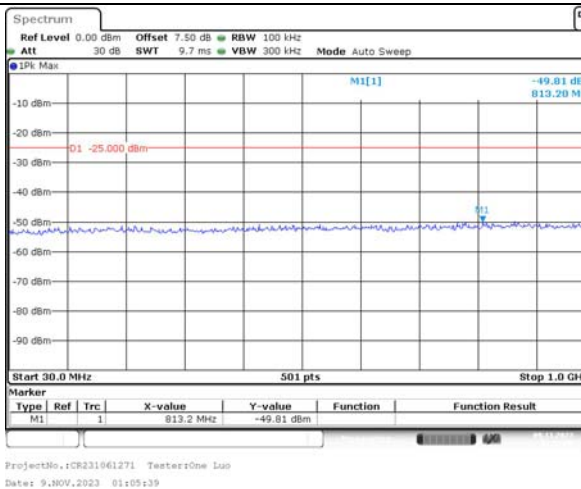
Lowest



Middle



Highest

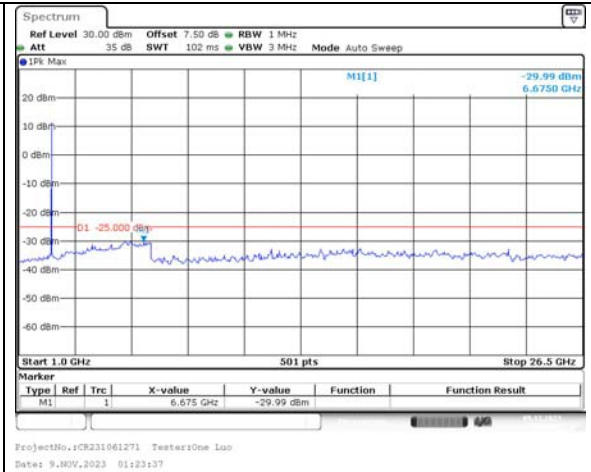
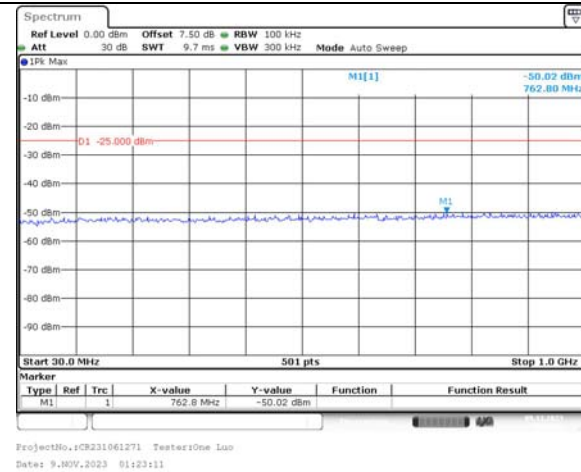


Spurious Emissions at Antenna Terminal

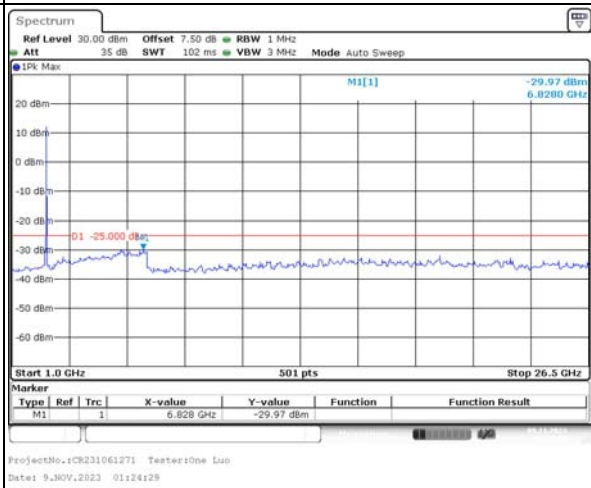
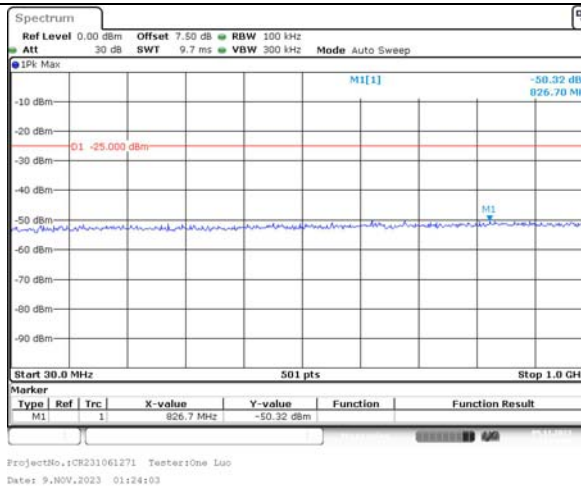
Channel

15MHz Bandwidth QPSK

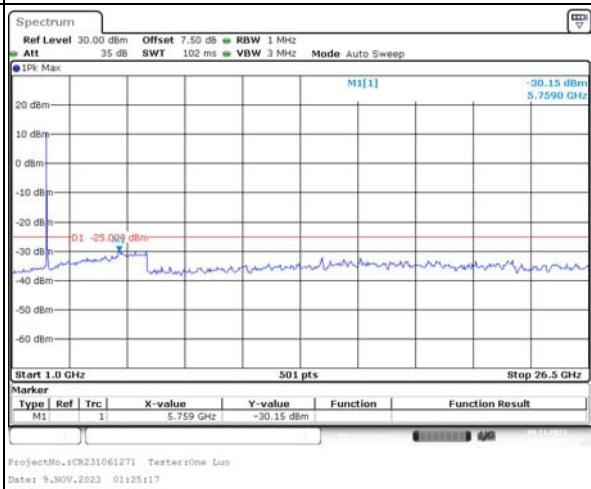
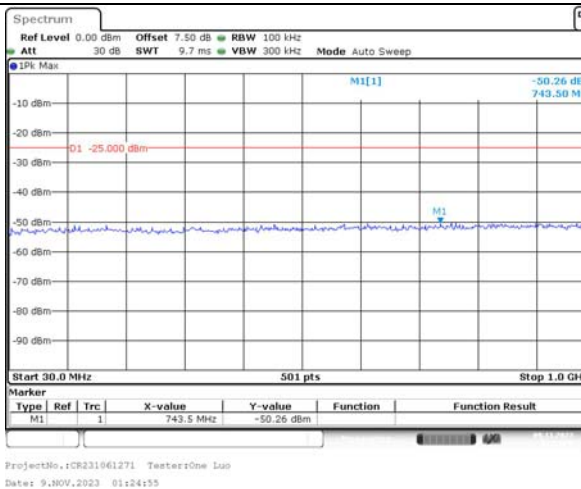
Lowest



Middle



Highest

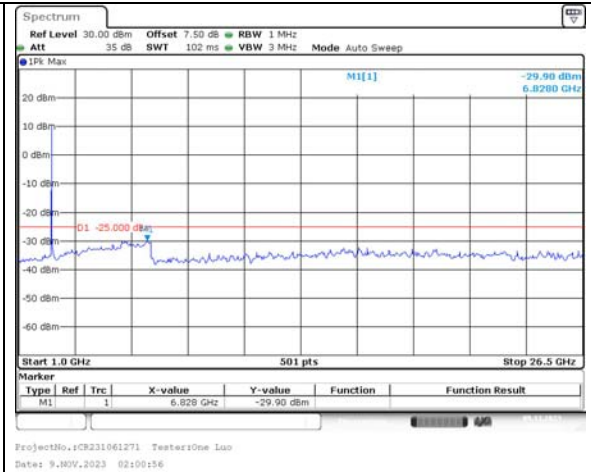
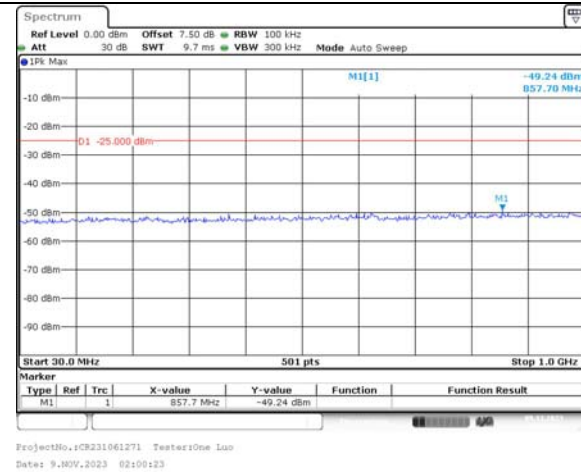


Spurious Emissions at Antenna Terminal

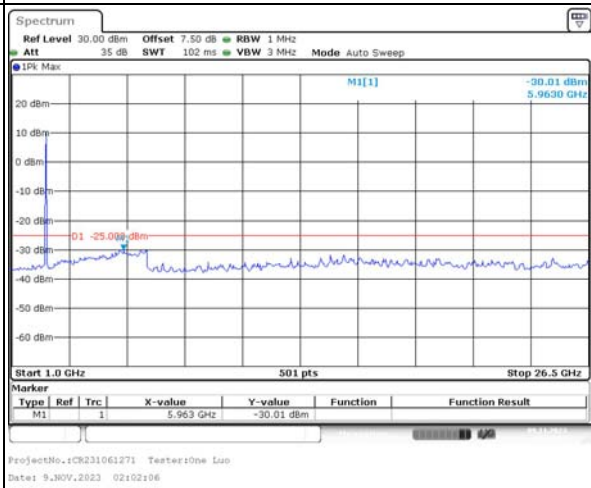
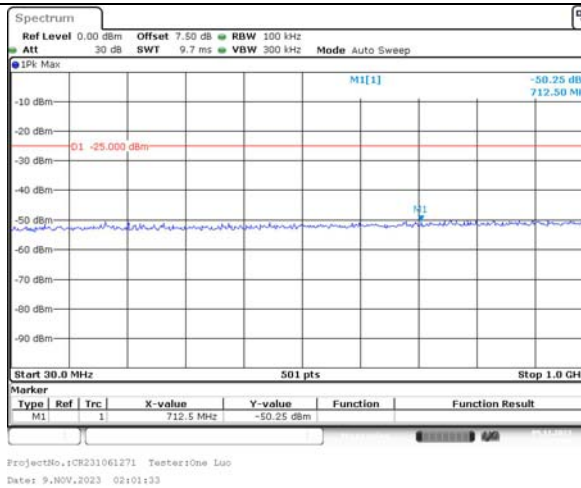
Channel

20MHz Bandwidth QPSK

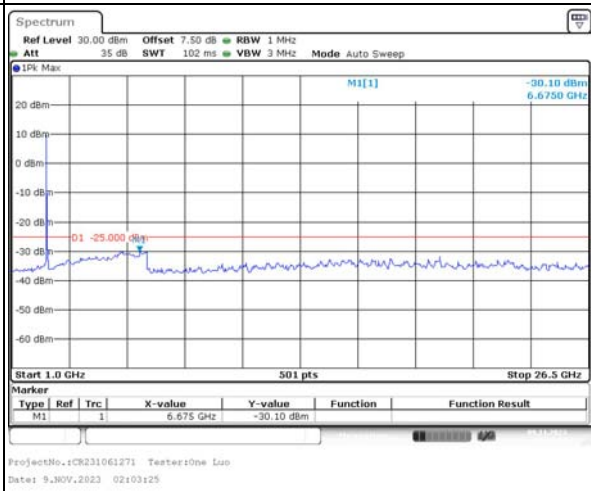
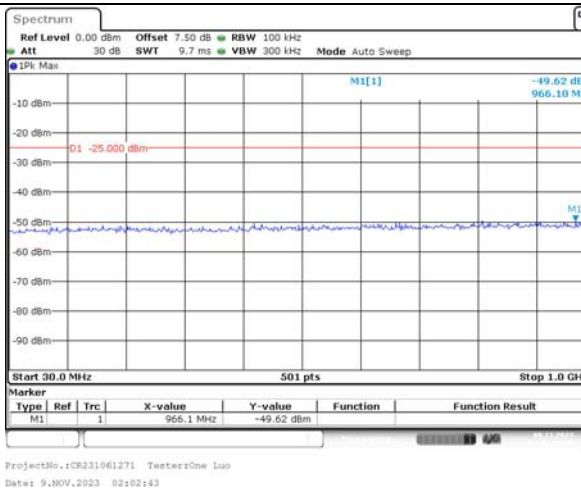
Lowest



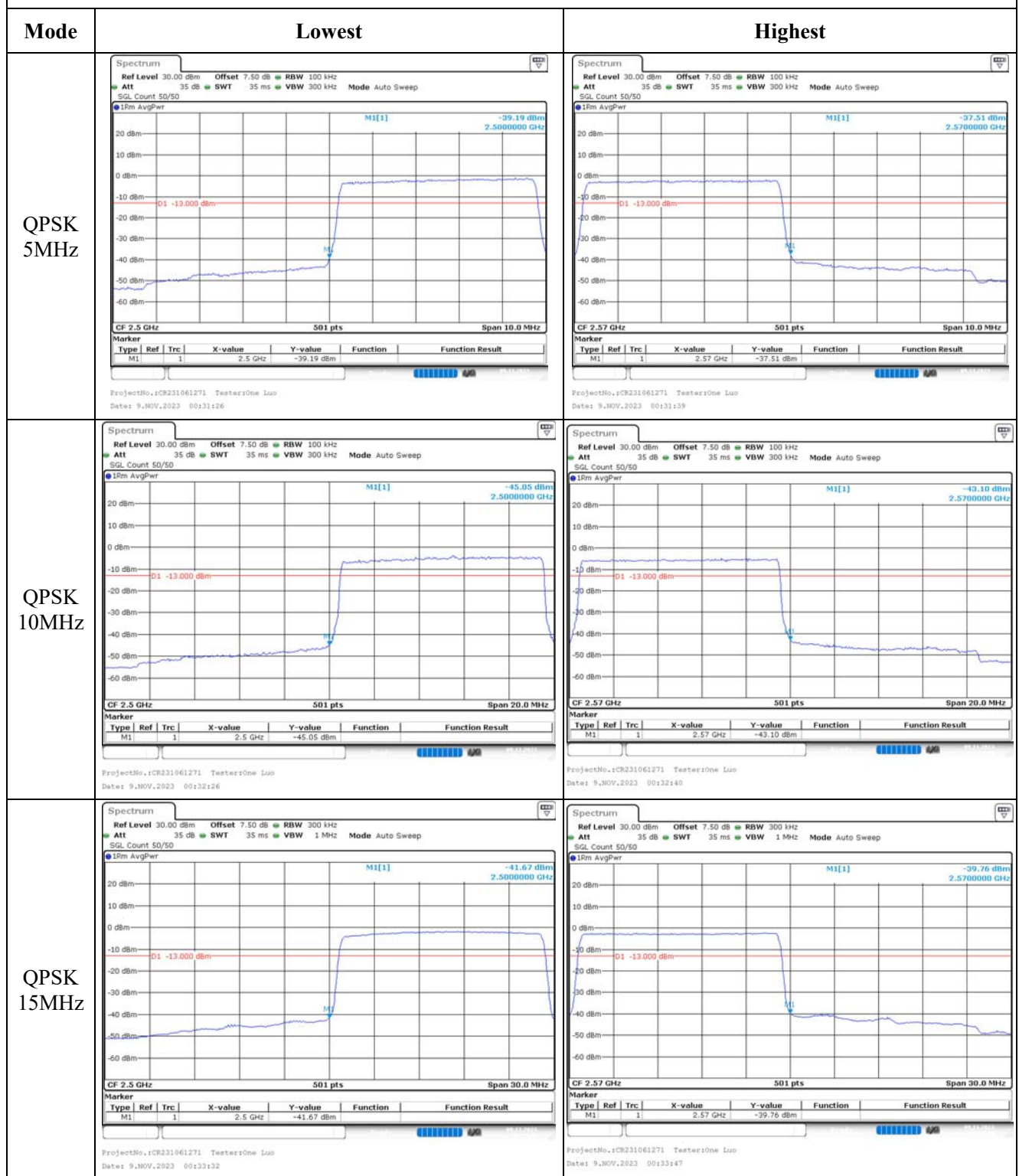
Middle



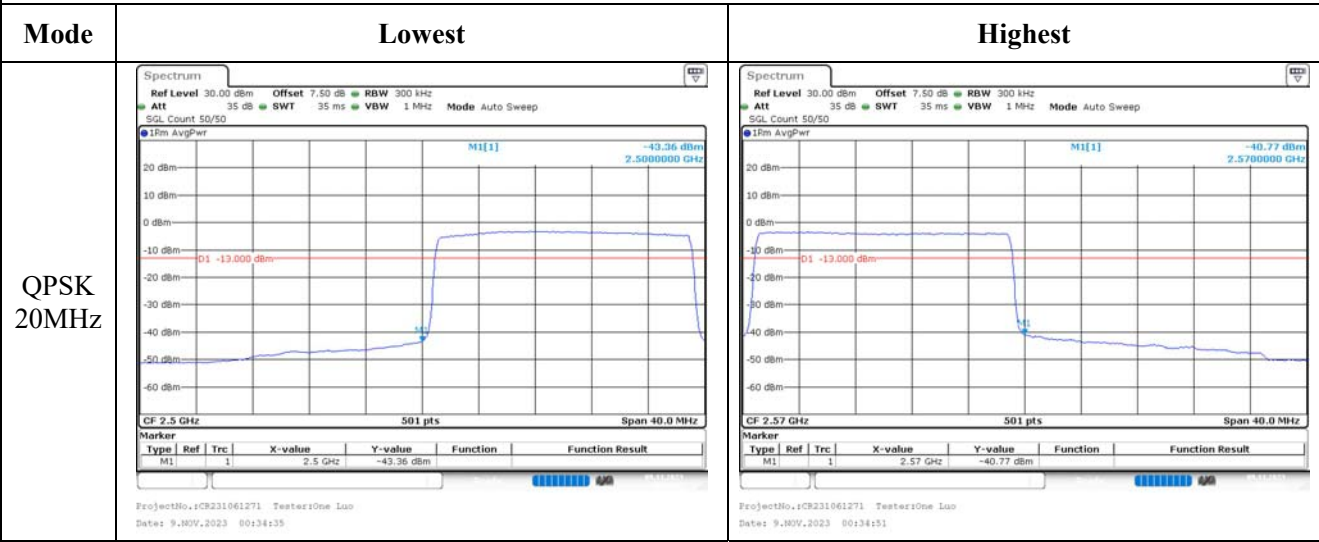
Highest



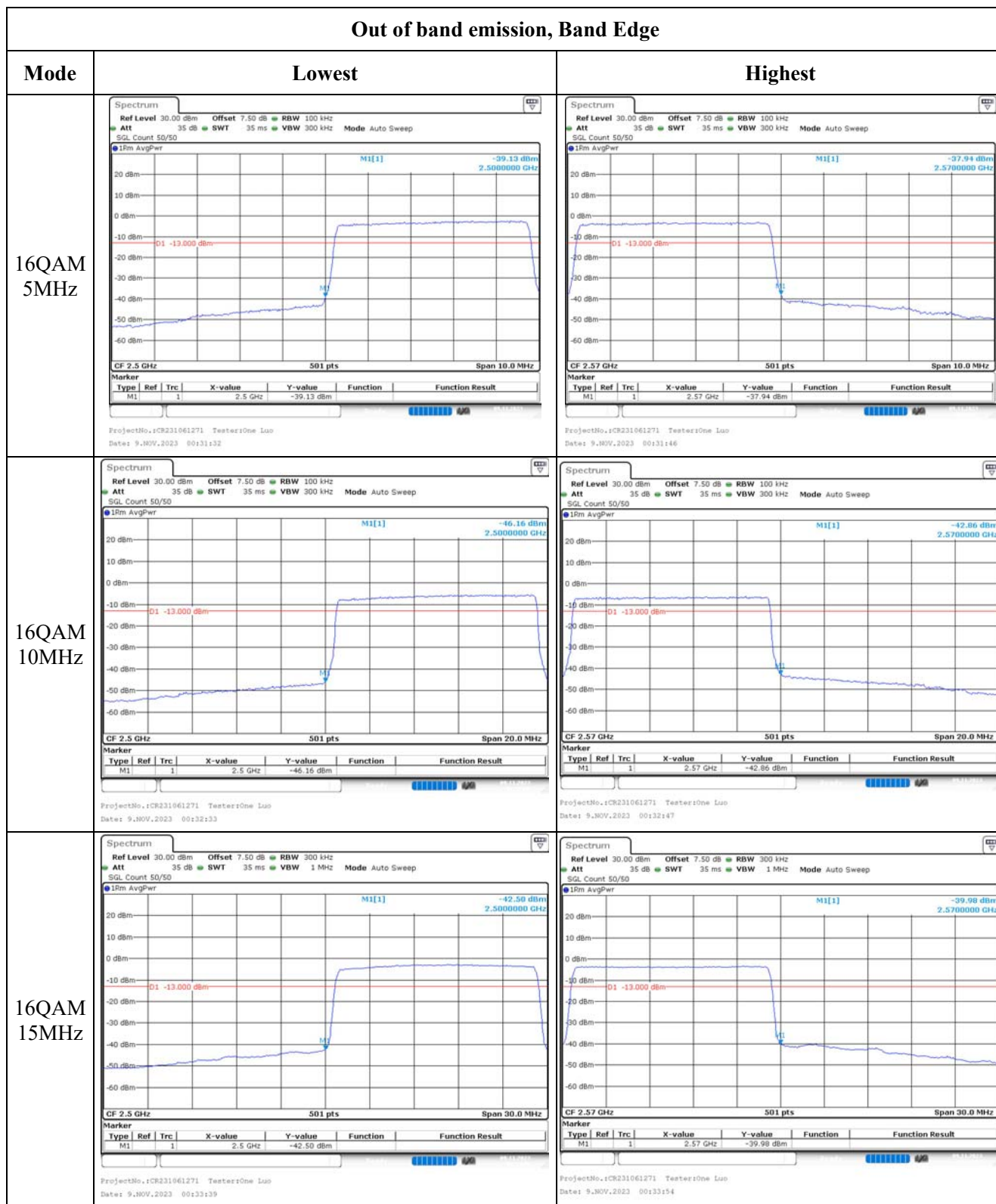
Out of band emission, Band Edge



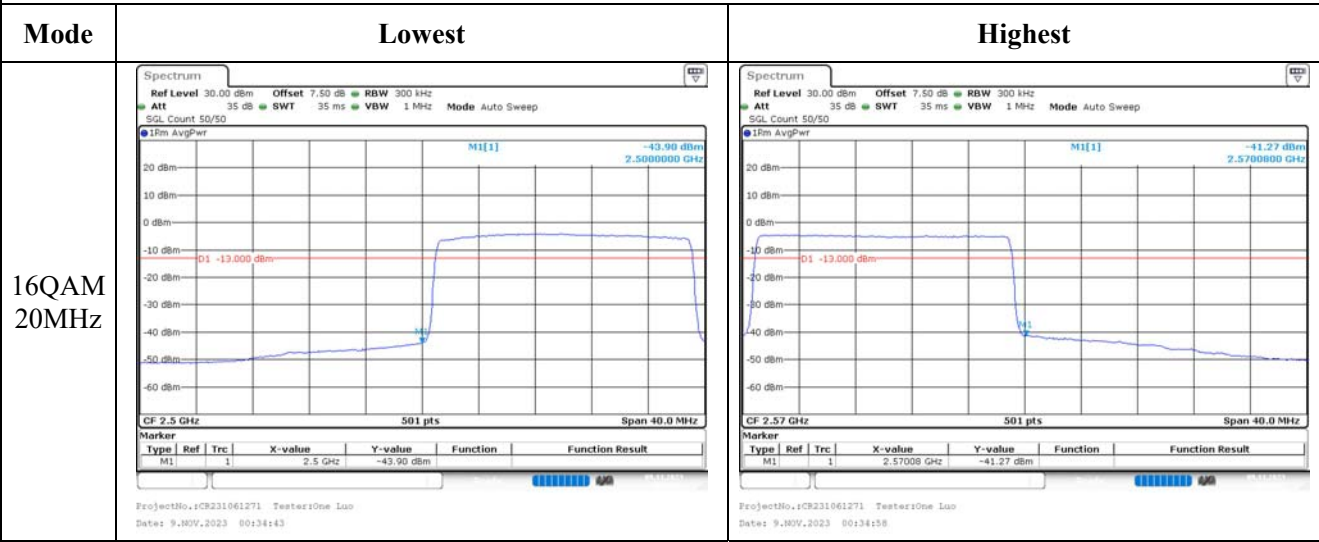
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.10 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2CGI-2	Test Date:	2023/11/7~2023/11/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.3	Relative Humidity: (%)	42~49	ATM Pressure: (kPa)	101~101.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/29	2024/9/28
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	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

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		
5MHz QPSK	RB1#0	17.46	17.85	17.63	17.03	33
	RB1#13	17.34	17.77	17.91		
	RB1#24	17.32	17.45	17.32		
	RB15#0	17.13	17.14	17.52		
	RB15#10	17.01	17.23	17.31		
	RB25#0	16.99	17.12	17.41		
5MHz 16QAM	RB1#0	16.88	17.35	16.92	16.96	33
	RB1#13	16.78	16.79	17		
	RB1#24	16.7	17.19	17.15		
	RB15#0	16.57	16.74	16.63		
	RB15#10	17.46	17.55	17.84		
	RB25#0	17.38	17.79	17.77		
10MHz QPSK	RB1#0	17.31	17.52	17.71	17.01	33
	RB1#25	17.29	17.78	17.89		
	RB1#49	17.28	17.75	17.86		
	RB25#0	17.1	17.24	17.31		
	RB25#25	16.9	16.85	17.12		
	RB50#0	16.86	17.15	17.32		
10MHz 16QAM	RB1#0	16.66	17.16	16.85	16.98	33
	RB1#25	16.55	17.08	16.83		
	RB1#49	17.46	17.84	17.59		
	RB25#0	17.39	17.37	17.86		
	RB25#25	17.37	17.32	17.44		
	RB50#0	17.33	17.84	17.86		
15MHz QPSK	RB1#0	17.2	17.38	17.54	16.66	33
	RB1#38	17.08	17.42	17.2		
	RB1#74	16.97	17.11	17.03		
	RB36#0	16.94	17.25	17.07		
	RB36#39	16.89	17.27	16.98		
	RB75#0	16.8	17.28	17.02		
15MHz 16QAM	RB1#0	17.46	17.42	17.95	17.07	33
	RB1#38	17.37	17.78	17.74		
	RB1#74	17.33	17.34	17.4		
	RB36#0	17.28	17.69	17.46		
	RB36#39	17.26	17.49	17.72		
	RB75#0	17.09	17.42	17.52		
20MHz QPSK	RB1#0	17.46	18.01	17.53	17.13	33
	RB1#50	17.37	17.63	17.54		

	RB1#99	17.46	17.73	17.76		
	RB50#0	17.34	17.47	17.82		
	RB50#50	17.33	17.74	17.76		
	RB100#0	17.31	17.68	17.52		
20MHz 16QAM	RB1#0	17.24	17.28	17.55	16.74	33
	RB1#50	17.18	17.24	17.22		
	RB1#99	17.15	17.33	17.22		
	RB50#0	17.14	17.43	17.44		
	RB50#50	17.09	17.52	17.52		
	RB100#0	17.08	17.31	17.62		

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	11.45	10.58	11.07	13
	RB100#0	9.16	9.01	8.99	13
20MHz 16QAM	RB1#0	11.3	10.93	11.07	13
	RB100#0	10.49	10.43	11.3	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
5MHz QPSK	4.511	4.491	4.511	5.02	4.92	4.98
5MHz 16QAM	4.511	4.511	4.511	4.94	4.96	5.04
10MHz QPSK	8.942	8.942	8.942	9.64	9.64	9.64
10MHz 16QAM	8.942	8.942	8.942	9.52	9.56	9.72
15MHz QPSK	13.413	13.473	13.413	14.7	14.52	14.52
15MHz 16QAM	13.533	13.473	13.473	14.58	14.64	14.58
20MHz QPSK	17.884	17.964	17.884	19.12	19.2	19.28
20MHz 16QAM	17.884	17.884	17.884	19.12	19.2	19.28

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

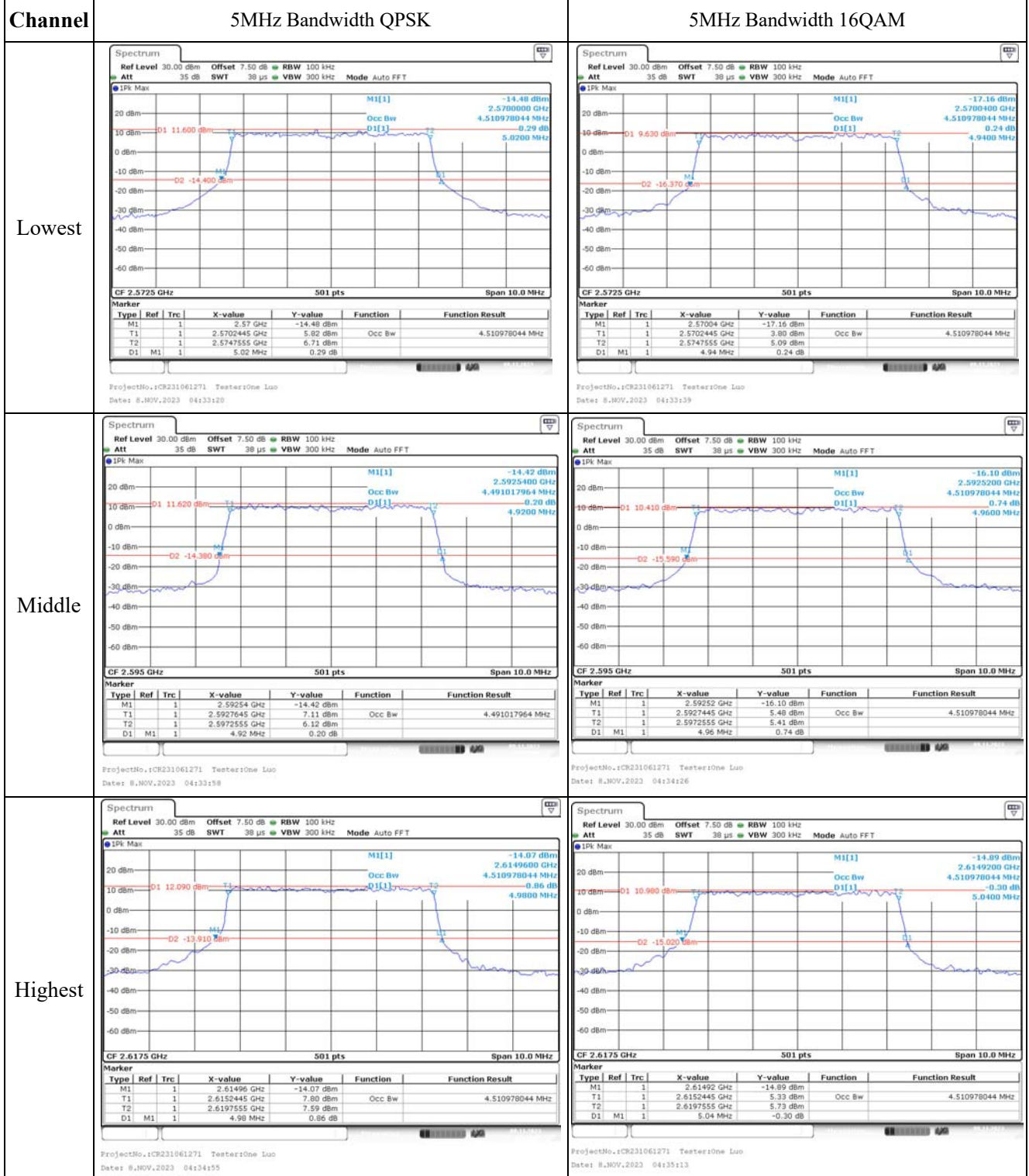
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2571.038	2570.00	2618.922	2620
	-20	3.91	2571.067	2570.00	2618.920	2620
	-10	3.91	2571.019	2570.00	2618.944	2620
	0	3.91	2571.037	2570.00	2618.952	2620
	10	3.91	2571.085	2570.00	2618.922	2620
	20	3.91	2571.058	2570.00	2618.942	2620
	30	3.91	2571.052	2570.00	2618.995	2620
	40	3.91	2571.003	2570.00	2618.995	2620
	50	3.91	2571.007	2570.00	2618.975	2620
Frequency Stability vs. Voltage	20	3.45	2571.069	2570.00	2618.944	2620
	20	4.5	2571.026	2570.00	2618.906	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	3.91	2571.044	2570.00	2618.966	2620
	-20	3.91	2571.051	2570.00	2618.963	2620
	-10	3.91	2571.046	2570.00	2618.967	2620
	0	3.91	2571.009	2570.00	2618.906	2620
	10	3.91	2571.042	2570.00	2618.969	2620
	20	3.91	2571.058	2570.00	2618.942	2620
	30	3.91	2571.049	2570.00	2618.919	2620
	40	3.91	2571.072	2570.00	2618.997	2620
	50	3.91	2571.014	2570.00	2618.955	2620
Frequency Stability vs. Voltage	20	3.45	2571.094	2570.00	2618.947	2620
	20	4.5	2571.067	2570.00	2618.900	2620
					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



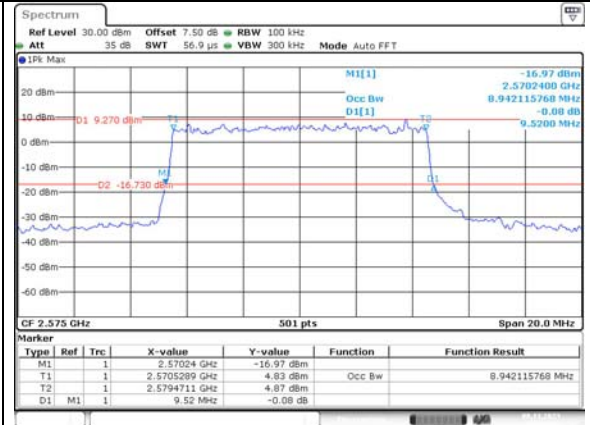
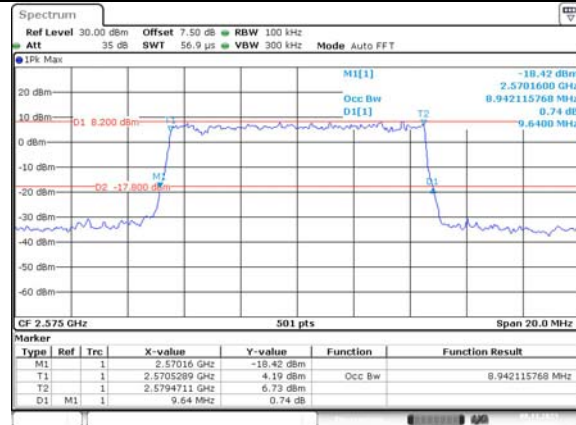
Occupied Bandwidth

Channel

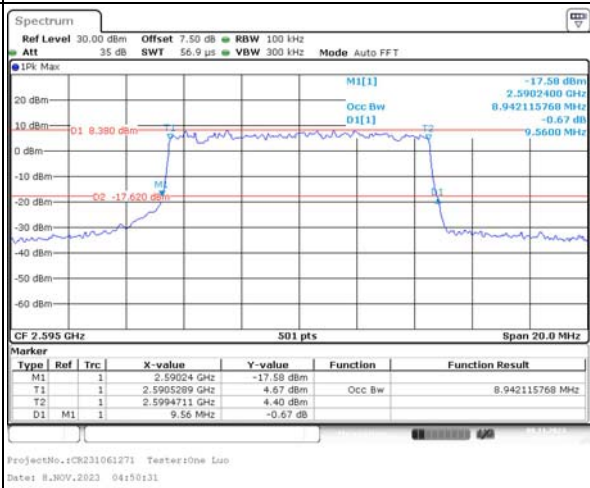
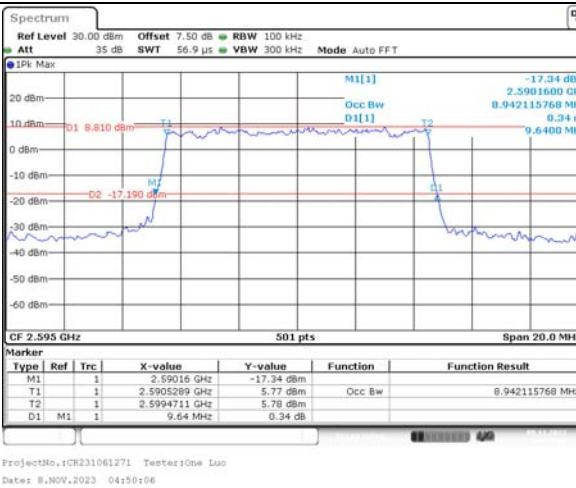
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

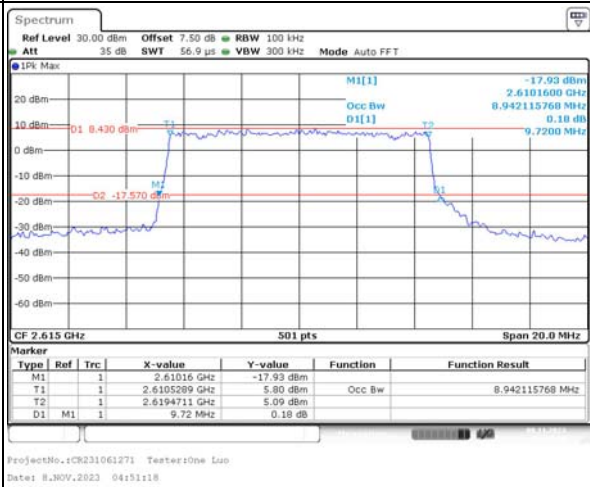
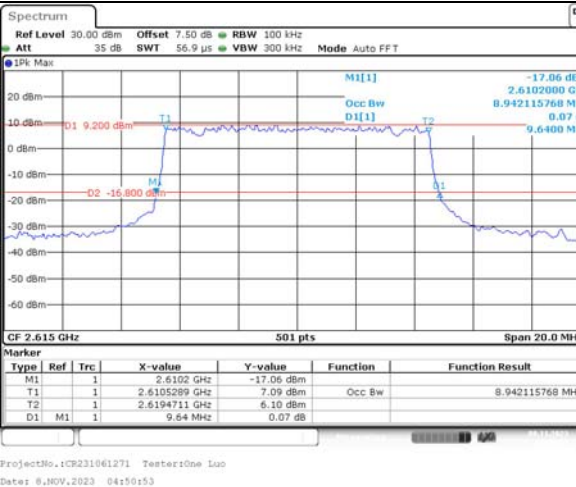
Lowest



Middle



Highest



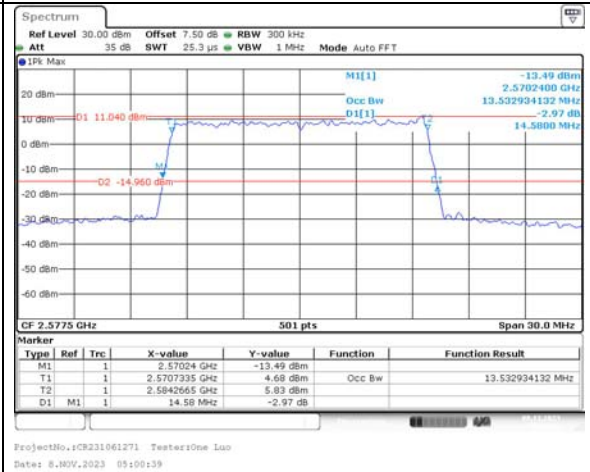
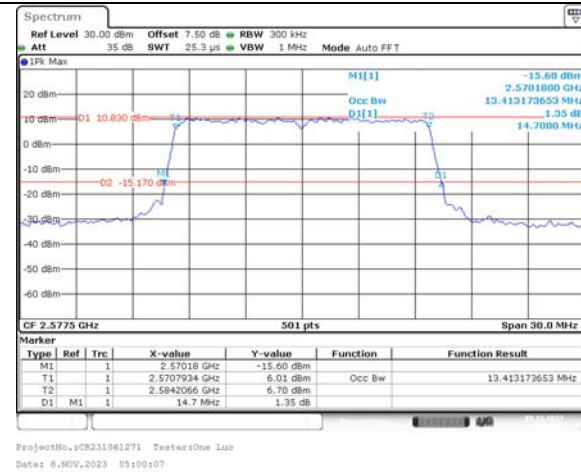
Occupied Bandwidth

Channel

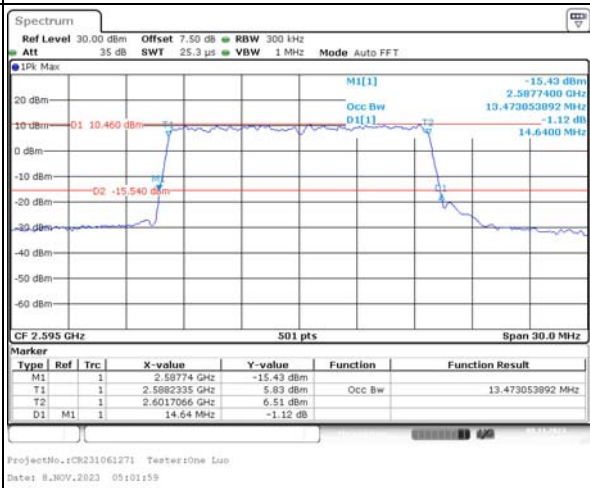
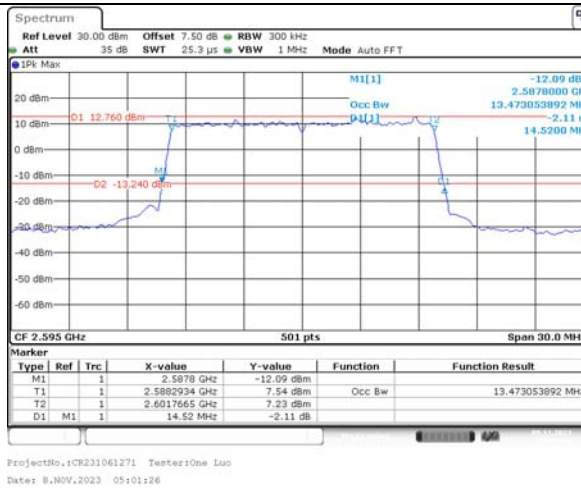
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

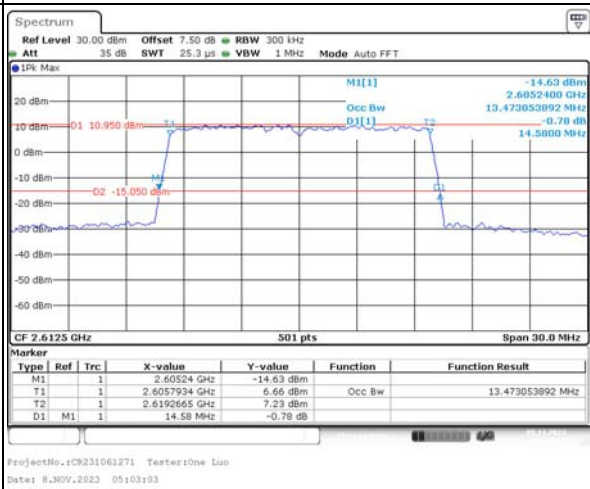
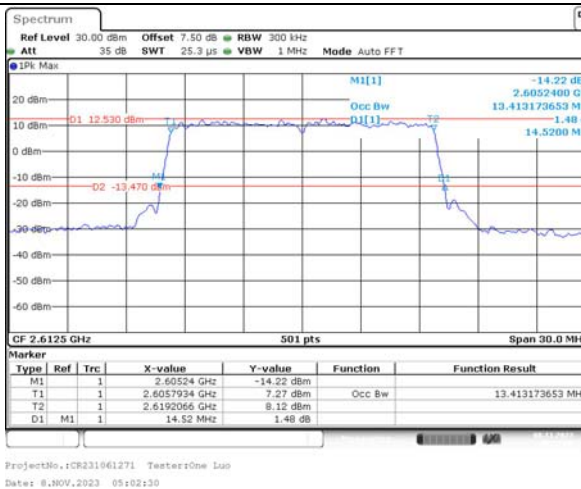
Lowest



Middle



Highest



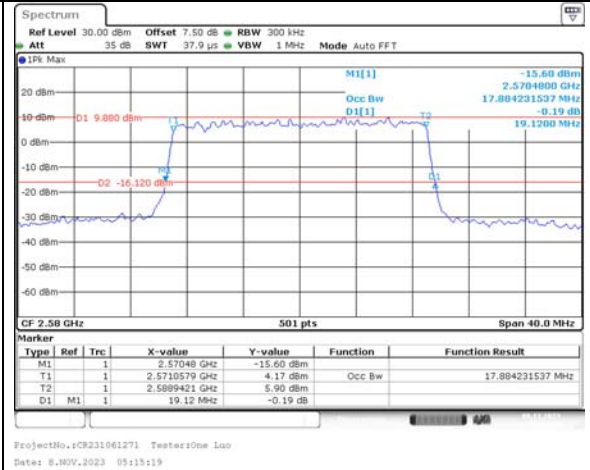
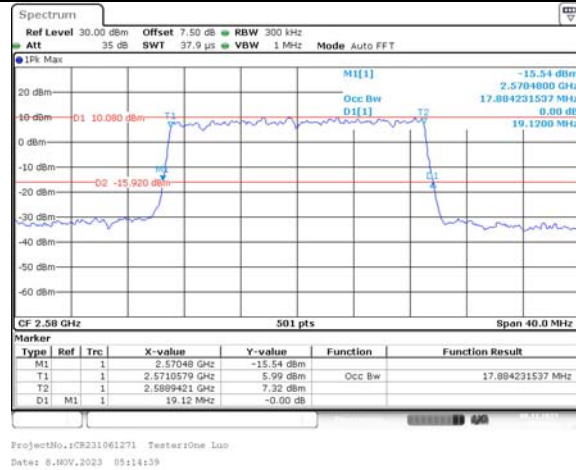
Occupied Bandwidth

Channel

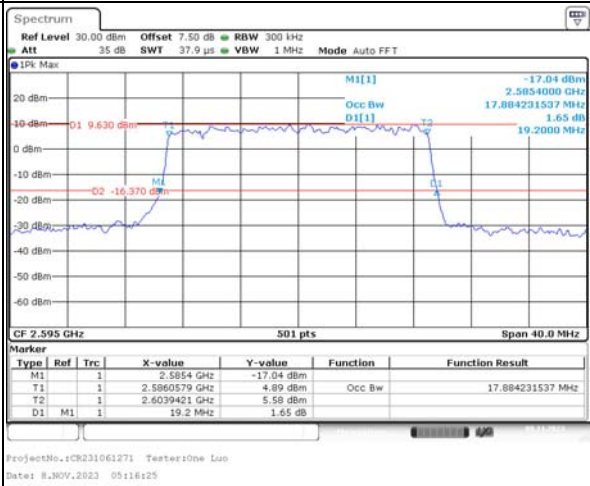
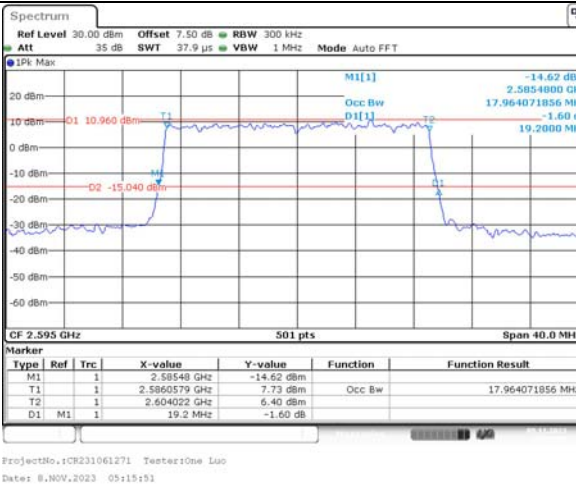
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

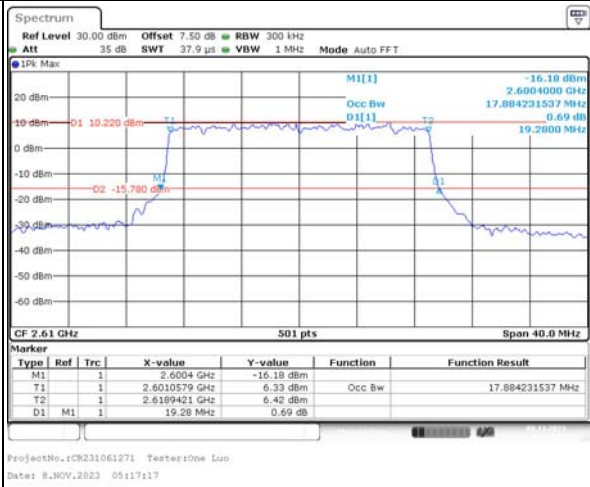
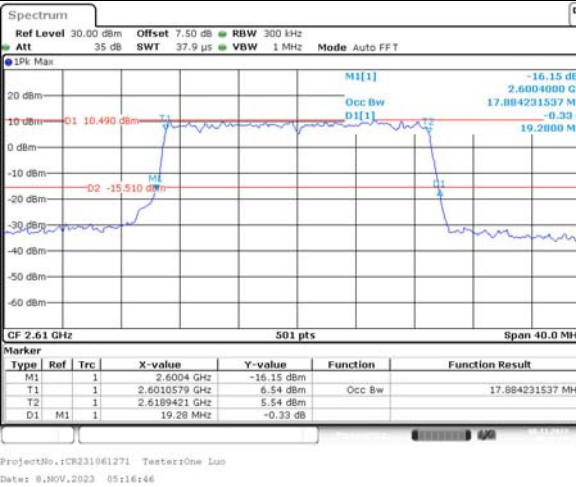
Lowest



Middle



Highest

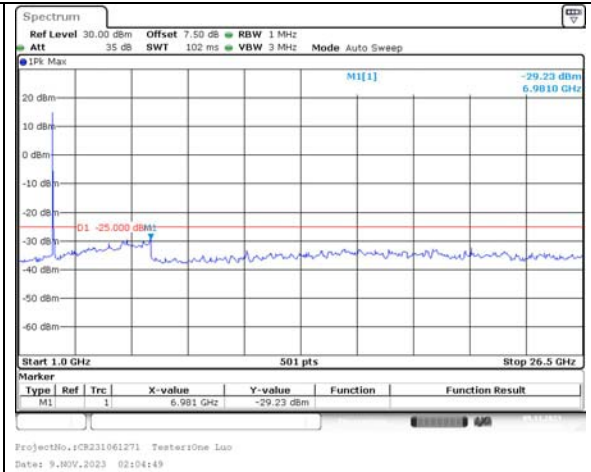
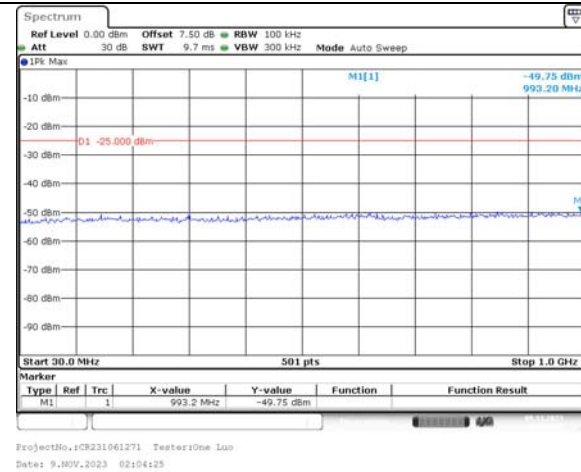


Spurious Emissions at Antenna Terminal

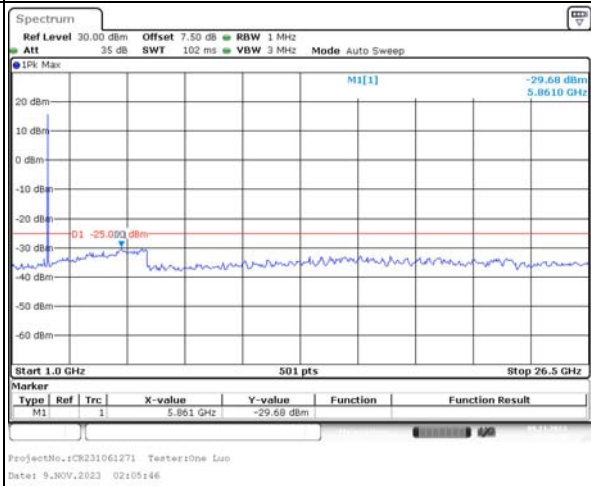
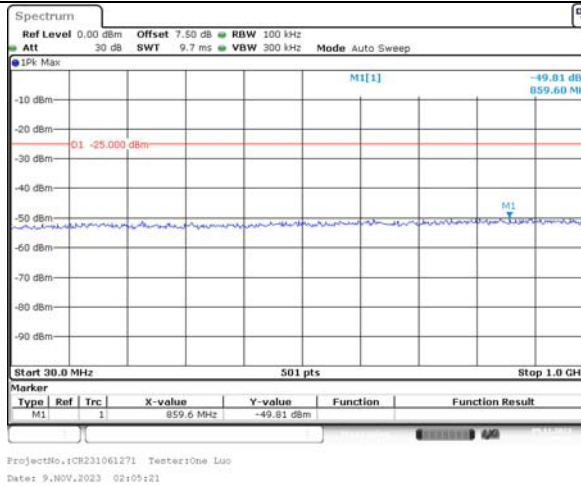
Channel

5MHz Bandwidth QPSK

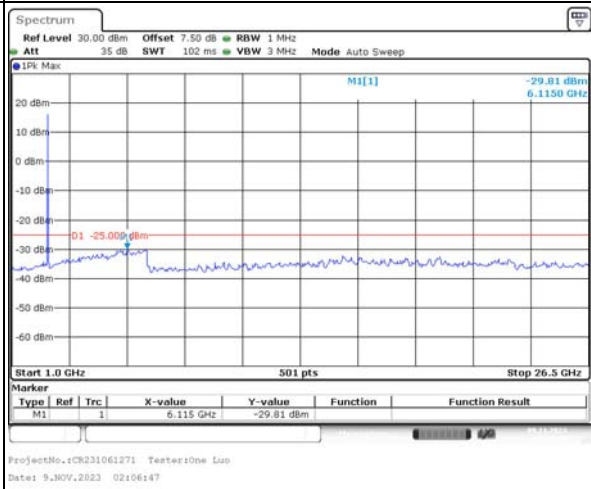
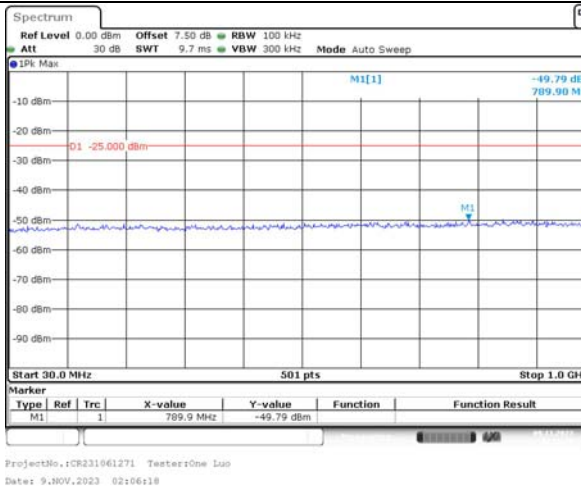
Lowest



Middle



Highest

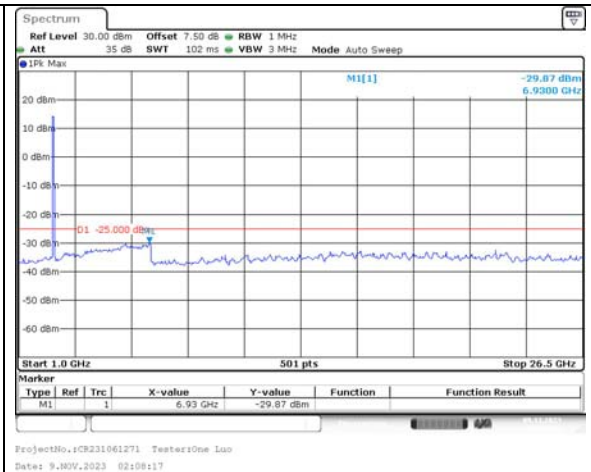
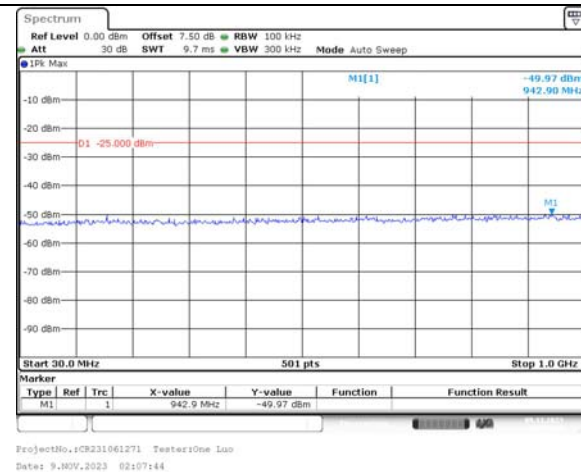


Spurious Emissions at Antenna Terminal

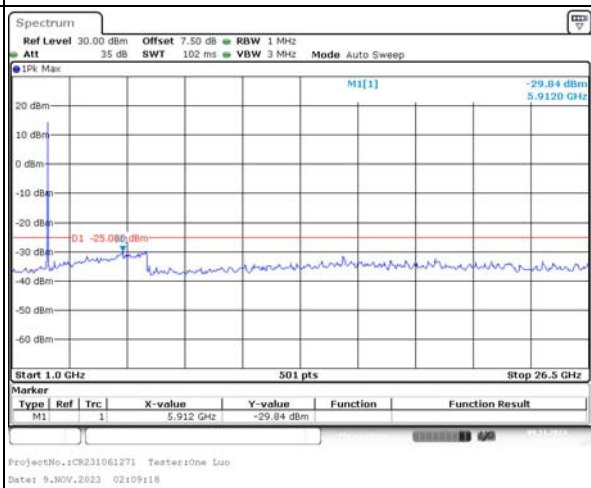
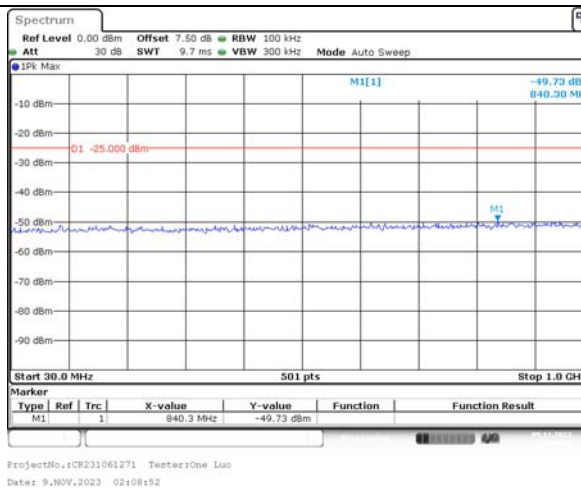
Channel

10MHz Bandwidth QPSK

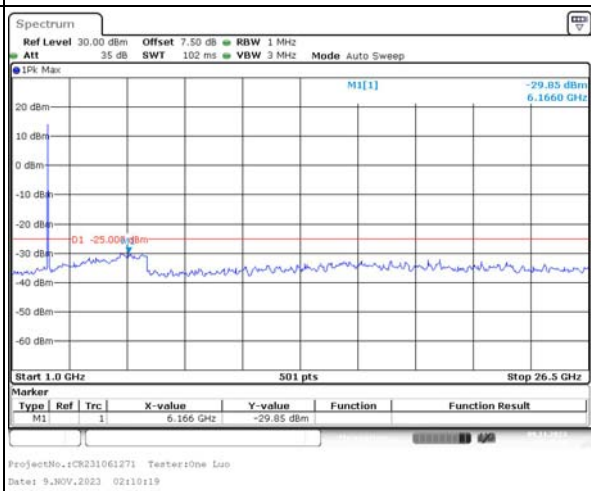
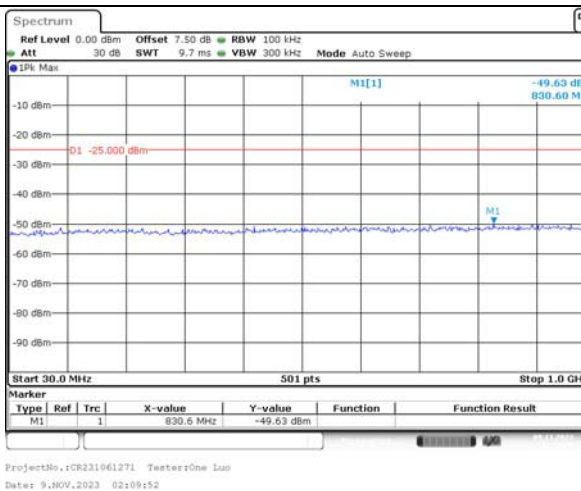
Lowest



Middle



Highest

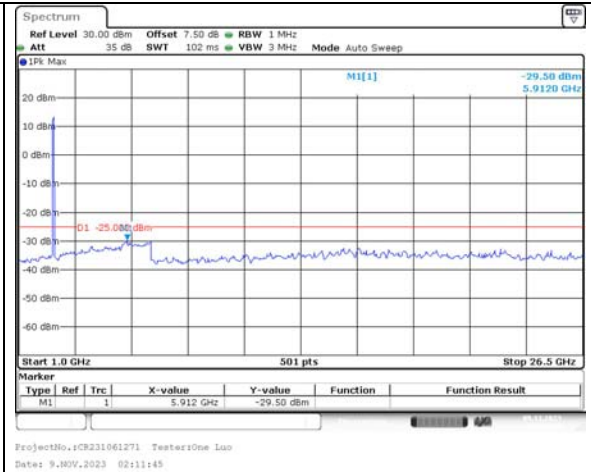
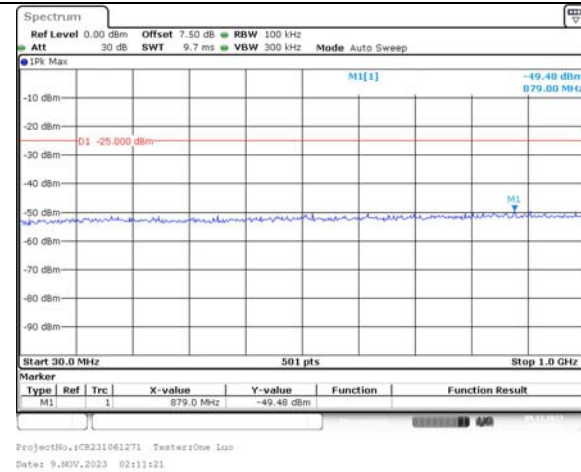


Spurious Emissions at Antenna Terminal

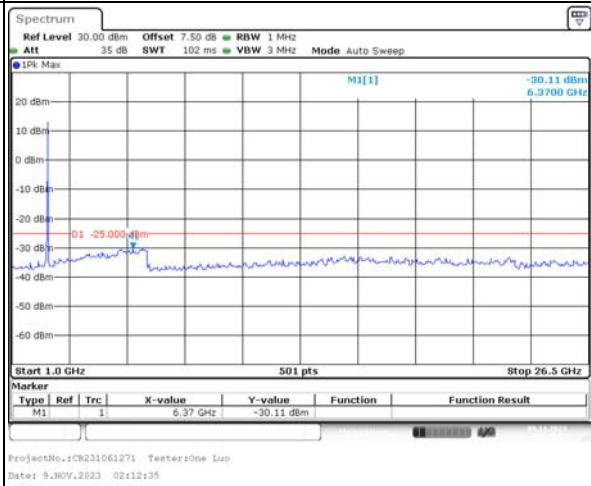
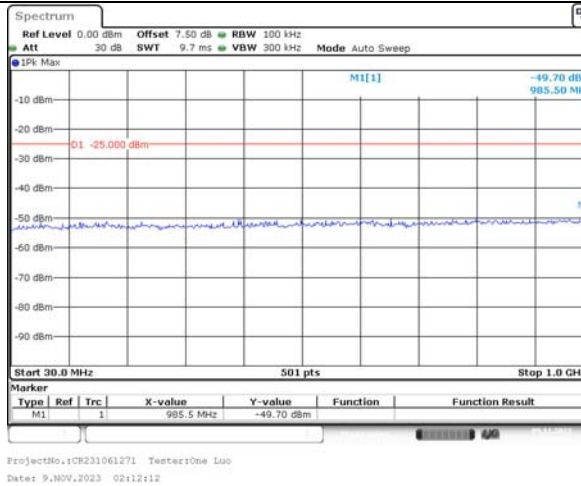
Channel

15MHz Bandwidth QPSK

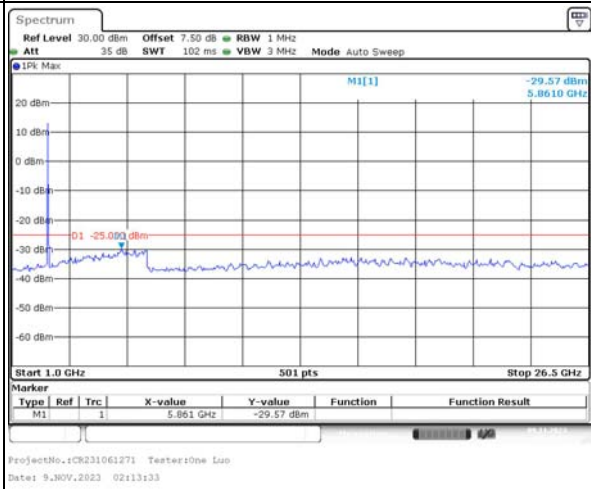
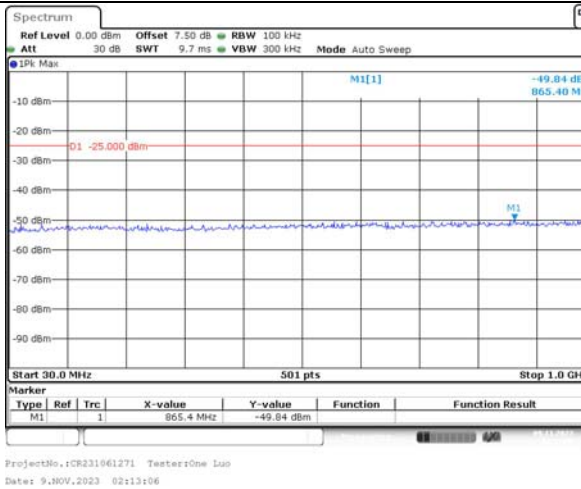
Lowest



Middle



Highest

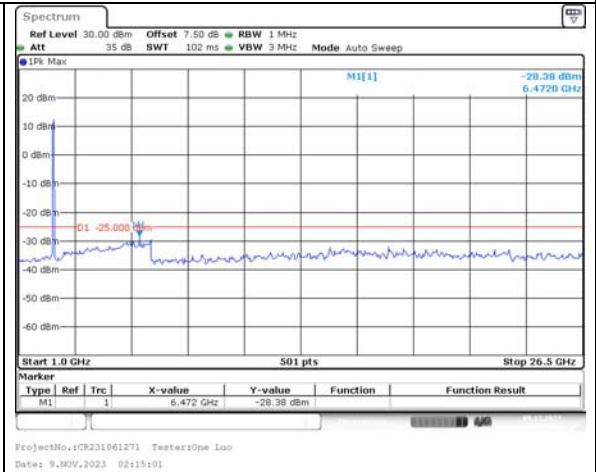
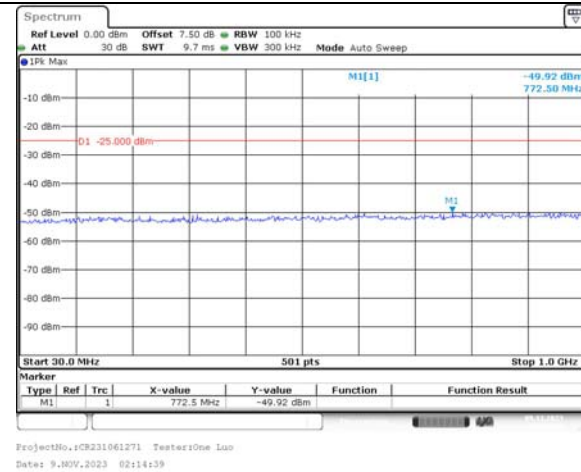


Spurious Emissions at Antenna Terminal

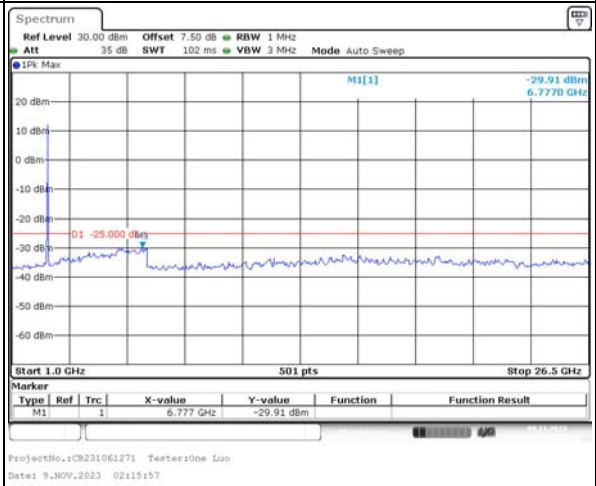
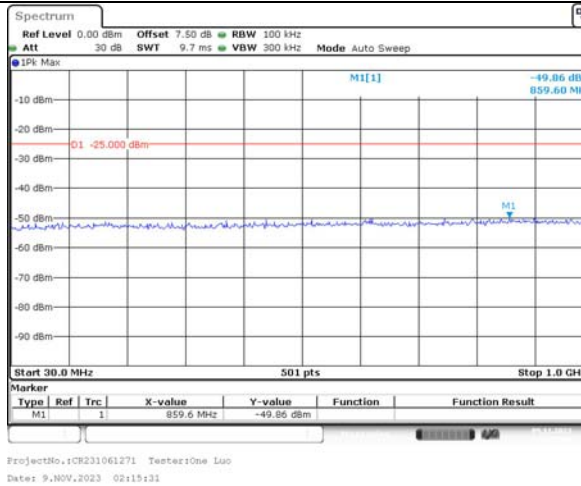
Channel

20MHz Bandwidth QPSK

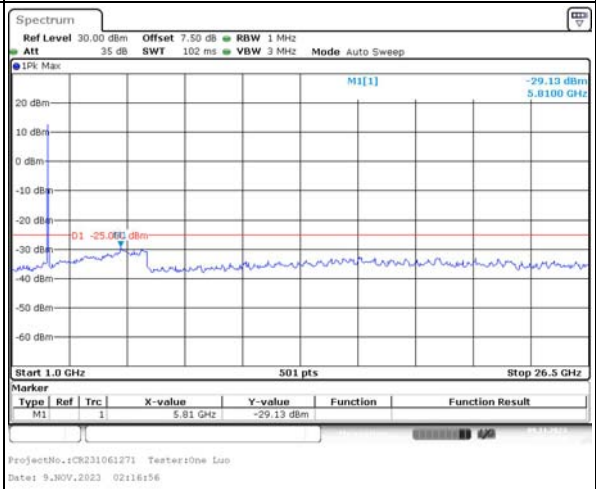
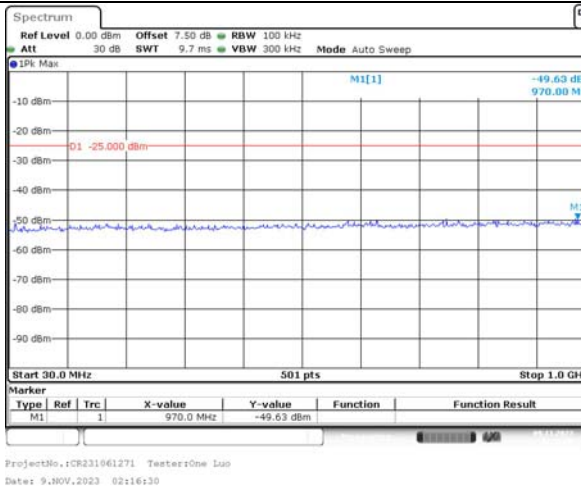
Lowest



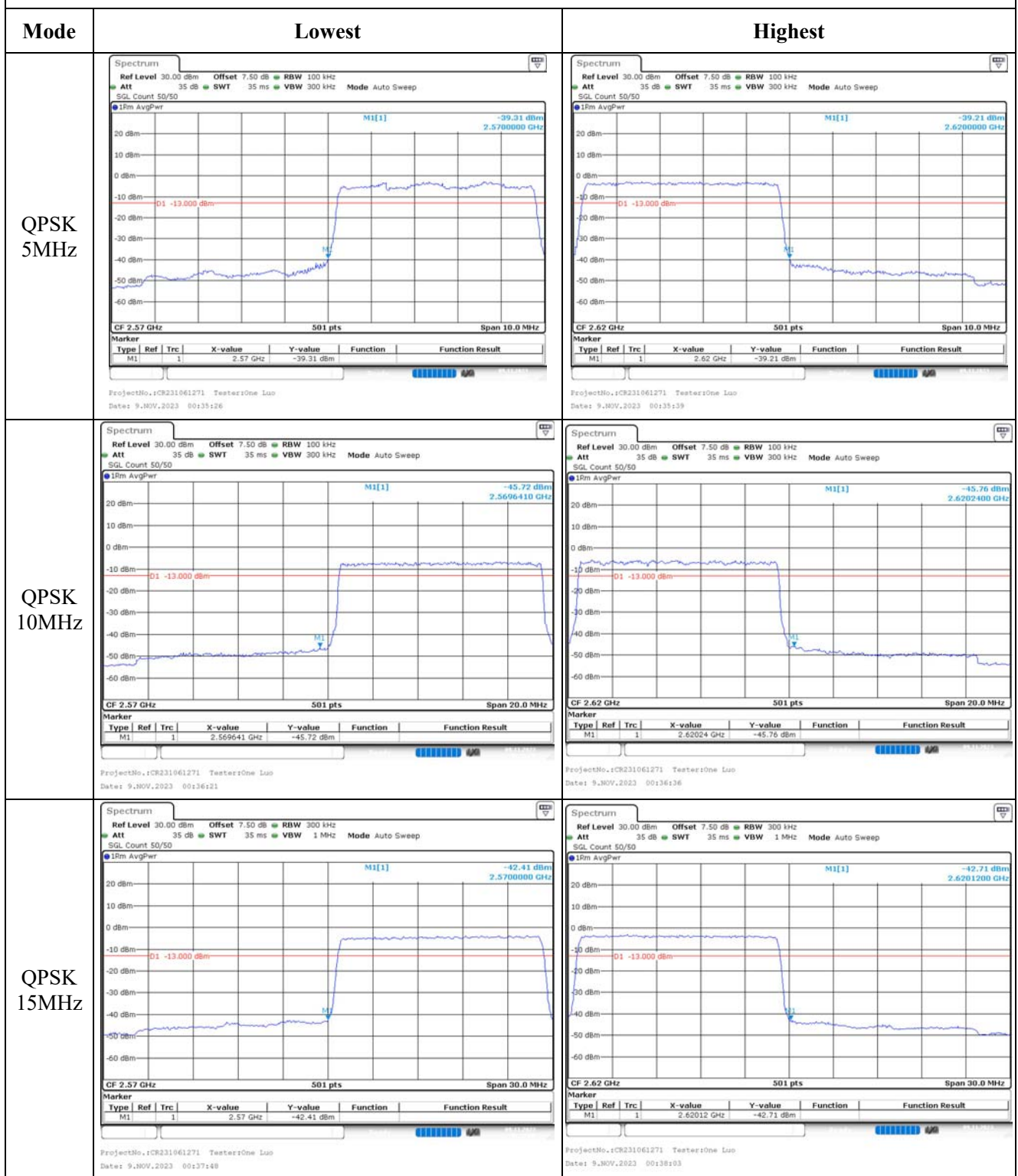
Middle



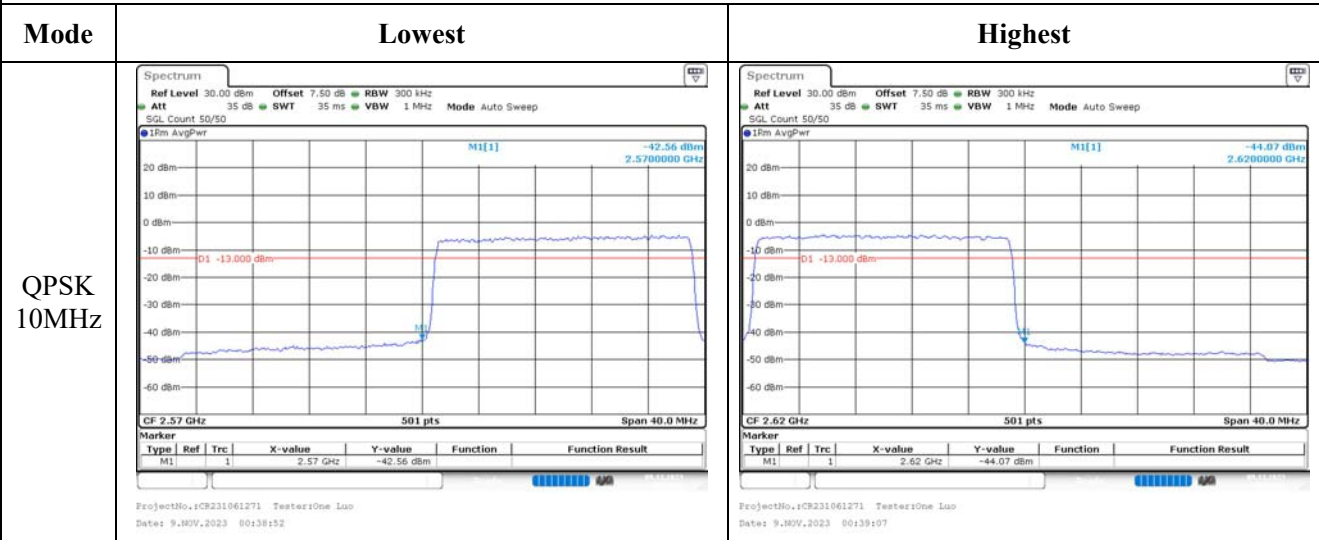
Highest



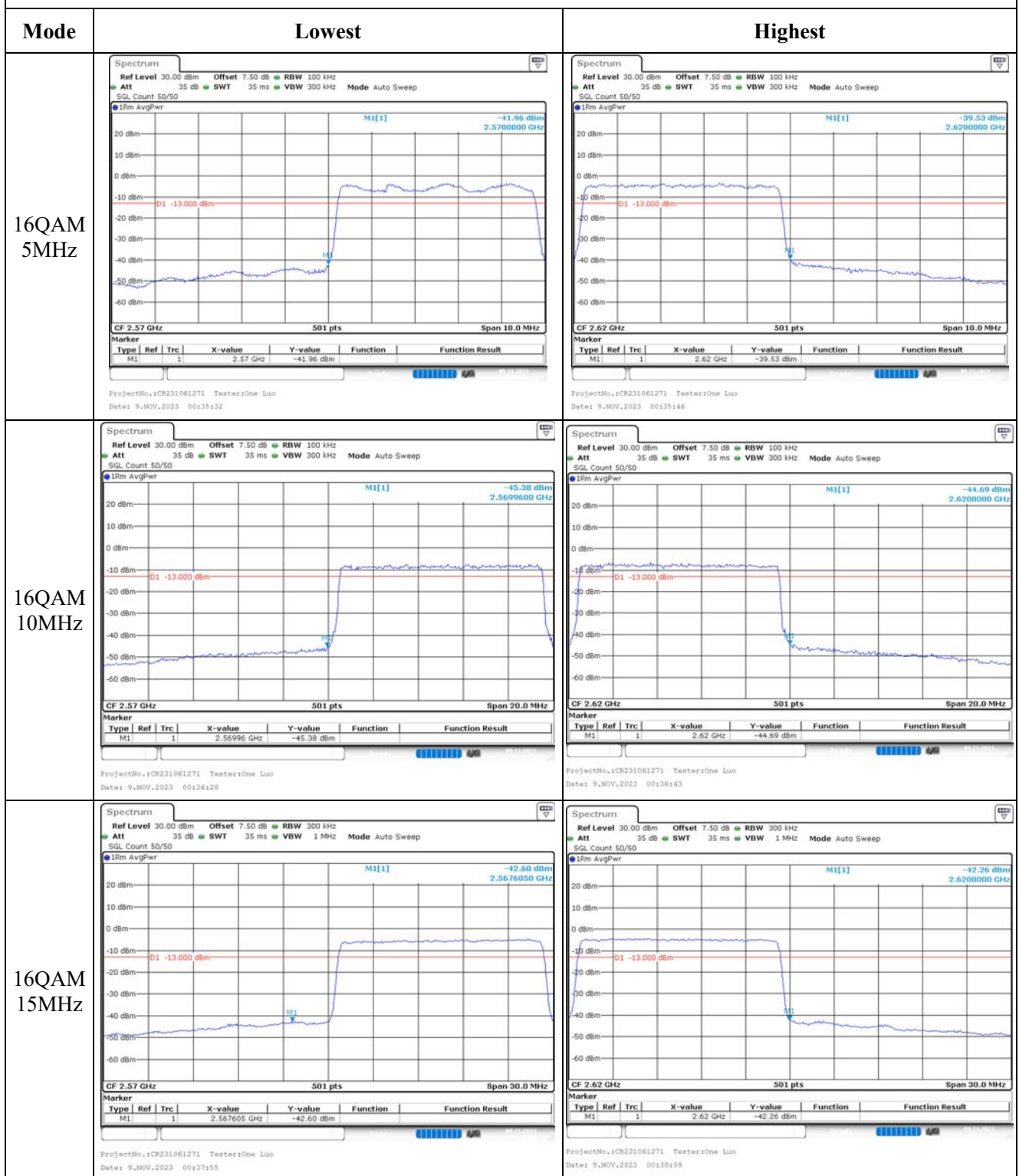
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.11 Antenna Port Test Data and Results for LTE Band 40

Serial Number:	2CGI-2	Test Date:	2023/11/7~2024/1/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.3	Relative Humidity: (%)	42~49	ATM Pressure: (kPa)	101~101.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/29	2024/9/28
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 Band	Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
LTE Band 40 Lower 2305-2315MHz	5MHz	2307.5	/	2312.5
	10MHz	/	2310	/
LTE Band 40 Upper 2350-2360MHz	5MHz	2352.5	/	2357.5
	10MHz	/	2355	/

Test Data:

(Note:Uplink Downlink configuration 3 was tested)

RF Output Power**LTE Band 40 Lower:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	17.67	/	17.58	16.33	24
	RB1#13	17.5	/	17.4		
	RB1#24	17.3	/	17.27		
	RB15#0	17.21	/	17.21		
	RB15#10	17.16	/	17.2		
	RB25#0	17.03	/	17.05		
5MHz 16QAM	RB1#0	17.48	/	17.65	16.31	24
	RB1#13	17.44	/	17.47		
	RB1#24	17.39	/	17.37		
	RB15#0	17.25	/	17.29		
	RB15#10	17.16	/	17.11		
	RB25#0	16.97	/	17.06		
10MHz QPSK	RB1#0	/	17.63	/	16.29	24
	RB1#25	/	17.5	/		
	RB1#49	/	17.48	/		
	RB25#0	/	17.46	/		
	RB25#25	/	17.3	/		
	RB50#0	/	17.26	/		
10MHz 16QAM	RB1#0	/	17.48	/	16.14	24
	RB1#25	/	17.46	/		
	RB1#49	/	17.33	/		
	RB25#0	/	17.19	/		
	RB25#25	/	17	/		
	RB50#0	/	16.87	/		

LTE Band 40 Upper:

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	17.71	/	17.65	16.37	24
	RB1#13	17.62	/	17.5		
	RB1#24	17.48	/	17.32		
	RB15#0	17.33	/	17.24		
	RB15#10	17.23	/	17.12		
	RB25#0	17.11	/	16.98		
5MHz 16QAM	RB1#0	17.73	/	17.69	16.39	24
	RB1#13	17.57	/	17.53		
	RB1#24	17.39	/	17.34		
	RB15#0	17.35	/	17.27		
	RB15#10	17.2	/	17.19		
	RB25#0	17.14	/	17.04		
10MHz QPSK	RB1#0	/	17.62	/	16.28	24
	RB1#25	/	17.57	/		
	RB1#49	/	17.47	/		
	RB25#0	/	17.36	/		
	RB25#25	/	17.36	/		
	RB50#0	/	17.25	/		
10MHz 16QAM	RB1#0	/	17.74	/	16.4	24
	RB1#25	/	17.68	/		
	RB1#49	/	17.55	/		
	RB25#0	/	17.45	/		
	RB25#25	/	17.43	/		
	RB50#0	/	17.36	/		
Note: the channel power(EIRP) is less than the limit for PSD in 5MHz, therefore, the PSD in 5MHz meet the requirement. EIRP=Conducted Power(dBm) - LC(dB) + GT(dBi)						
					Result:	Pass

Duty Cycle

Operation Band	Modulation	Bandwidth	Ton (ms)	Ton+off (ms)	Duty Cycle (%)	Limit (%)
LTE Band 40 Lower	QPSK	5M	3.09	9.99	30.93	38
		10M	3.09	9.99	30.93	38
	16QAM	5M	3.09	9.99	30.93	38
		10M	3.09	9.99	30.93	38
LTE Band 40 Upper	QPSK	5M	3.14	10.04	31.27	38
		10M	3.09	9.99	30.93	38
	16QAM	5M	3.09	10.04	30.78	38
		10M	3.09	9.99	30.93	38
					Result:	Pass

Occupied Bandwidth**LTE Band 40 Lower:**

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	/	4.511	4.9	/	4.96
5MHz 16QAM	4.511	/	4.511	5.04	/	4.98
10MHz QPSK	/	8.942	/	/	9.68	/
10MHz 16QAM	/	8.942	/	/	9.56	/

LTE Band 40 Upper:

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	/	4.511	4.94	/	5.1
5MHz 16QAM	4.511	/	4.511	4.96	/	4.94
10MHz QPSK	/	8.942	/	/	9.64	/
10MHz 16QAM	/	8.942	/	/	9.56	/

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**LTE Band 40 Lower:**

Test Mode:	10M 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	3.91	2305.291	2305.000	2314.788	2315.000
	-20	3.91	2305.300	2305.000	2314.798	2315.000
	-10	3.91	2305.272	2305.000	2314.779	2315.000
	0	3.91	2305.257	2305.000	2314.715	2315.000
	10	3.91	2305.275	2305.000	2314.775	2315.000
	20	3.91	2305.245	2305.000	2314.756	2315.000
	30	3.91	2305.289	2305.000	2314.750	2315.000
	40	3.91	2305.247	2305.000	2314.732	2315.000
	50	3.91	2305.269	2305.000	2314.799	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.223	2305.000	2314.796	2315.000
	20	4.5	2305.292	2305.000	2314.780	2315.000
					Result:	Pass

Test Mode:	10M 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	3.91	2305.242	2305.000	2314.787	2315.000
	-20	3.91	2305.226	2305.000	2314.764	2315.000
	-10	3.91	2305.200	2305.000	2314.710	2315.000
	0	3.91	2305.242	2305.000	2314.765	2315.000
	10	3.91	2305.242	2305.000	2314.742	2315.000
	20	3.91	2305.245	2305.000	2314.756	2315.000
	30	3.91	2305.272	2305.000	2314.711	2315.000
	40	3.91	2305.229	2305.000	2314.787	2315.000
	50	3.91	2305.223	2305.000	2314.775	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.243	2305.000	2314.778	2315.000
	20	4.5	2305.244	2305.000	2314.787	2315.000
					Result:	Pass

LTE Band 40 Upper:						
Test Mode:	10M 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	3.91	2350.234	2350.000	2359.719	2360.000
	-20	3.91	2350.293	2350.000	2359.736	2360.000
	-10	3.91	2350.251	2350.000	2359.785	2360.000
	0	3.91	2350.213	2350.000	2359.759	2360.000
	10	3.91	2350.273	2350.000	2359.736	2360.000
	20	3.91	2350.245	2350.000	2359.756	2360.000
	30	3.91	2350.246	2350.000	2359.760	2360.000
	40	3.91	2350.232	2350.000	2359.718	2360.000
	50	3.91	2350.288	2350.000	2359.782	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.234	2350.000	2359.736	2360.000
	20	4.5	2350.221	2350.000	2359.795	2360.000
					Result:	Pass

Test Mode:	10M 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	3.91	2350.283	2350.000	2359.795	2360.000
	-20	3.91	2350.291	2350.000	2359.744	2360.000
	-10	3.91	2350.218	2350.000	2359.725	2360.000
	0	3.91	2350.217	2350.000	2359.704	2360.000
	10	3.91	2350.247	2350.000	2359.750	2360.000
	20	3.91	2350.245	2350.000	2359.756	2360.000
	30	3.91	2350.273	2350.000	2359.774	2360.000
	40	3.91	2350.250	2350.000	2359.758	2360.000
	50	3.91	2350.278	2350.000	2359.791	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.230	2350.000	2359.762	2360.000
	20	4.5	2350.250	2350.000	2359.767	2360.000
					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):

1) Band 40 Lower:

Occupied Bandwidth

5MHz Bandwidth QPSK

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.30506 GHz	-17.55 dBm		
T1	1		2.3052445 GHz	4.15 dBm	Occ Bw	4.510978044 MHz
T2	1		2.3097555 GHz	4.13 dBm		
D1	M1	1	4.9 MHz	-0.85 dB		

5MHz Bandwidth 16QAM

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.30492 GHz	-18.66 dBm		
T1	1		2.3052445 GHz	1.52 dBm	Occ Bw	4.510978044 MHz
T2	1		2.3097555 GHz	2.34 dBm		
D1	M1	1	5.04 MHz	-1.12 dB		

5MHz Bandwidth QPSK

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.31002 GHz	-17.58 dBm		
T1	1		2.3102445 GHz	3.37 dBm	Occ Bw	4.510978044 MHz
T2	1		2.3147555 GHz	3.53 dBm		
D1	M1	1	4.96 MHz	0.52 dB		

5MHz Bandwidth 16QAM

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.30998 GHz	-18.11 dBm		
T1	1		2.3102445 GHz	2.92 dBm	Occ Bw	4.510978044 MHz
T2	1		2.3147555 GHz	2.88 dBm		
D1	M1	1	4.96 MHz	-0.79 dB		

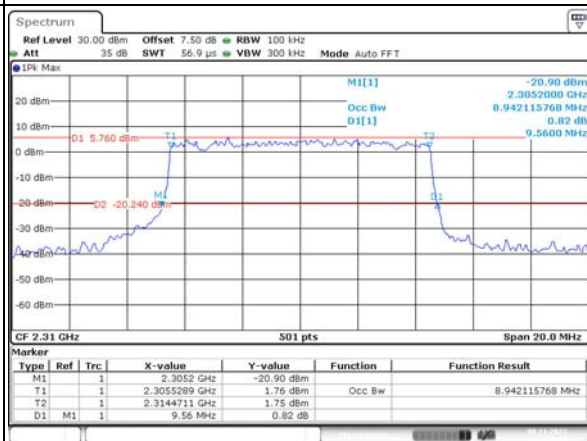
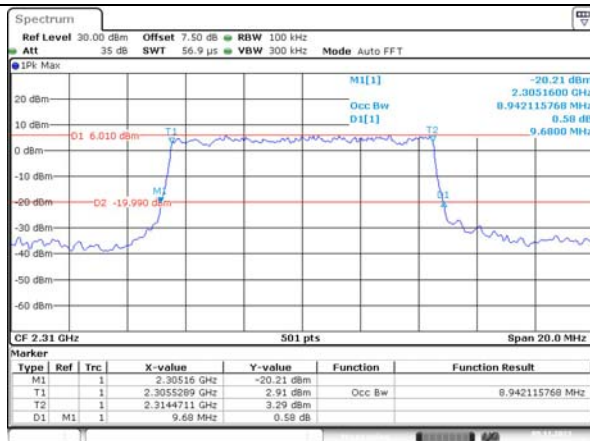
Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Middle

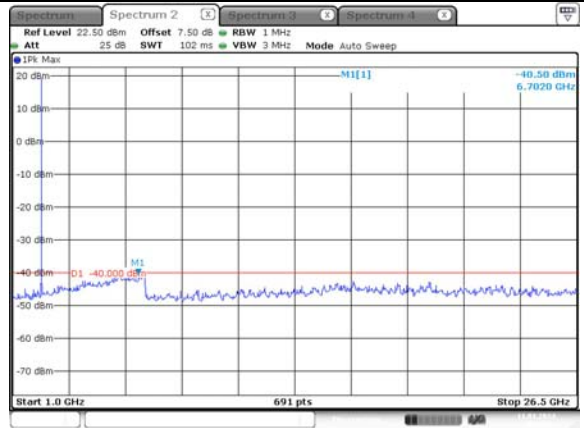
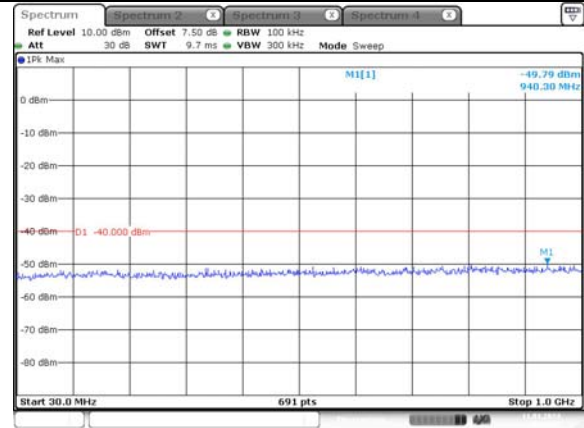


Spurious Emissions at Antenna Terminal

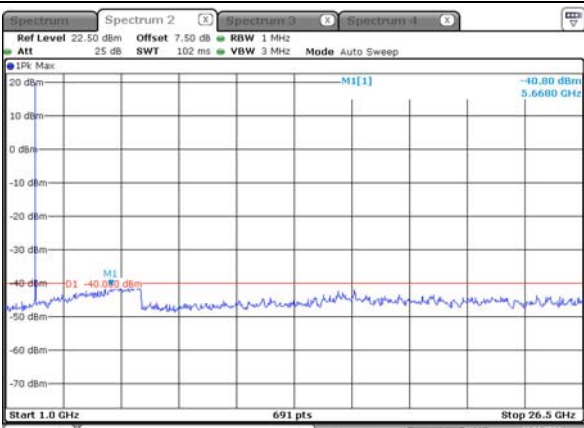
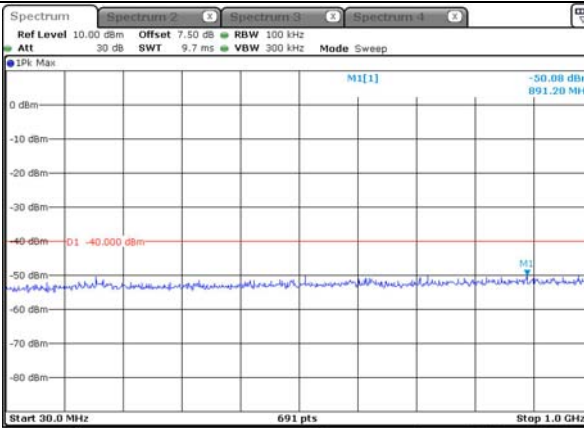
Channel

5MHz Bandwidth QPSK

Lowest



Highest

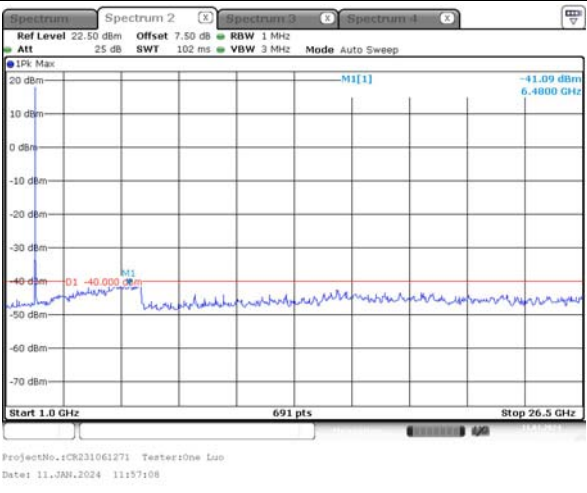
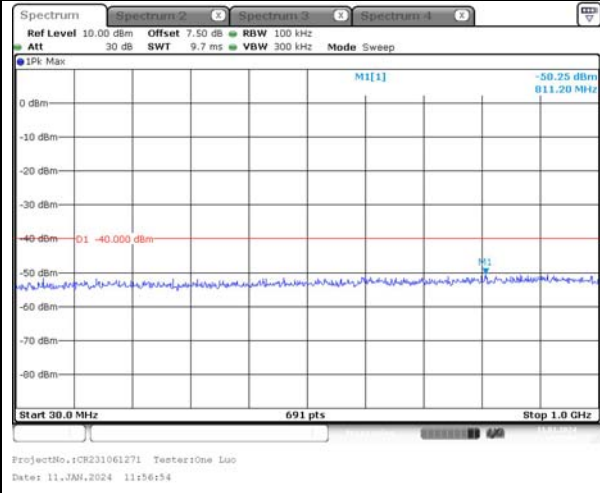


Spurious Emissions at Antenna Terminal

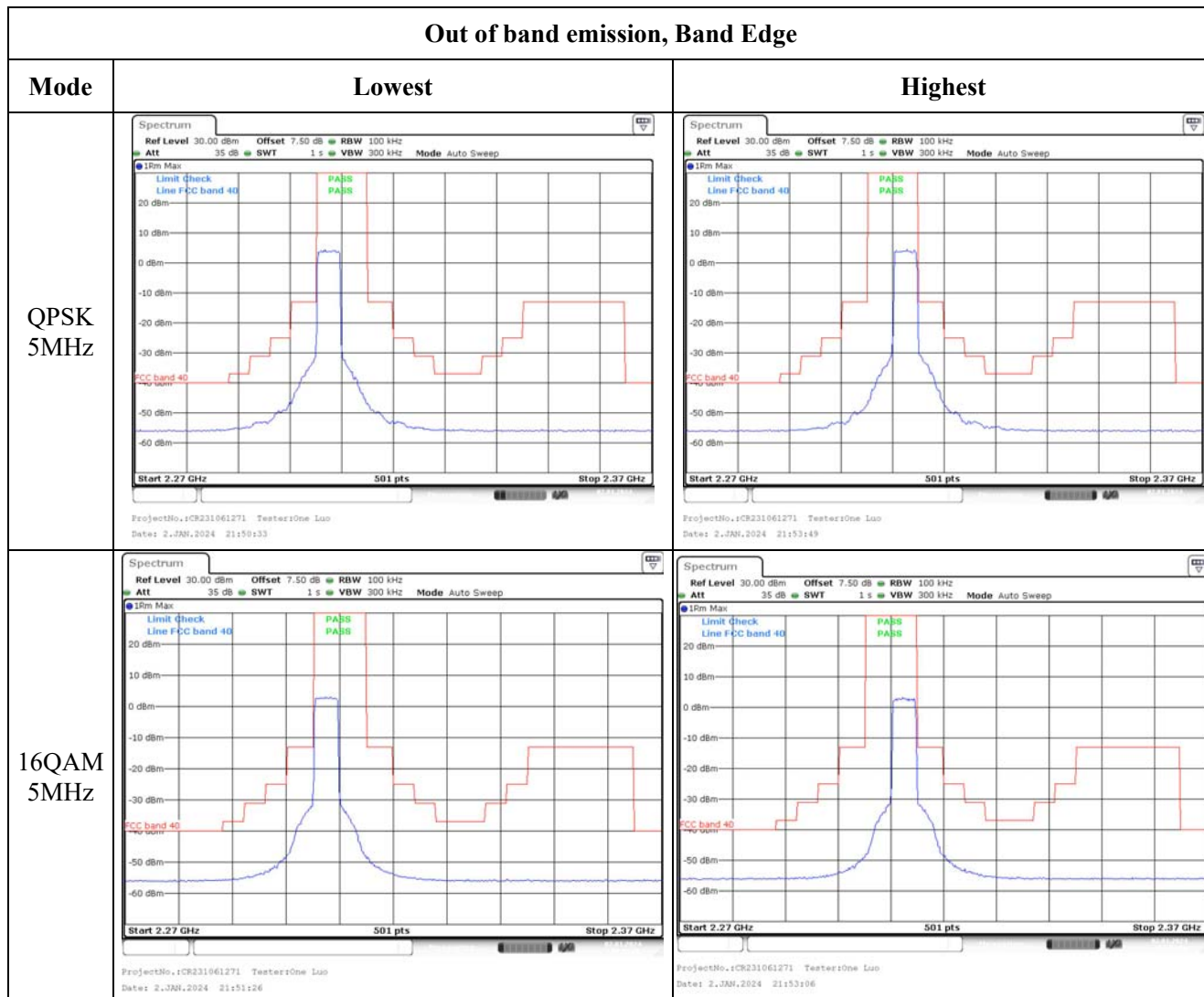
Channel

10MHz Bandwidth QPSK

Middle



Out of band emission, Band Edge



Out of band emission, Band Edge

