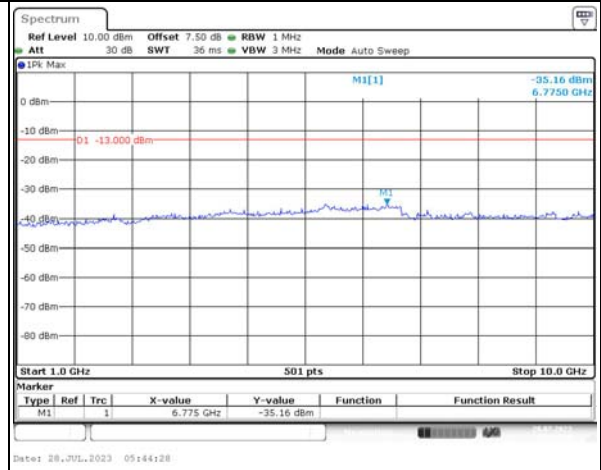
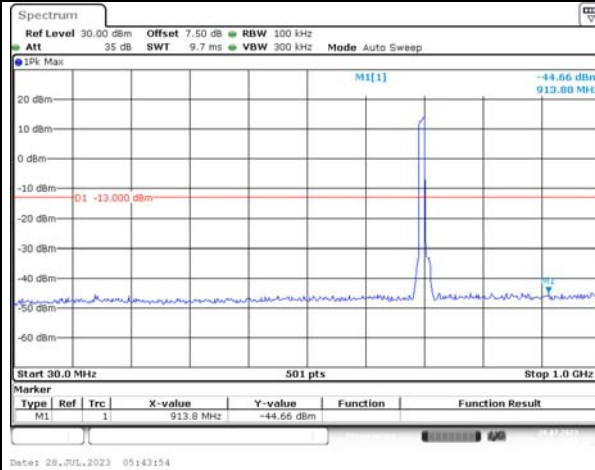


Spurious Emissions at Antenna Terminal

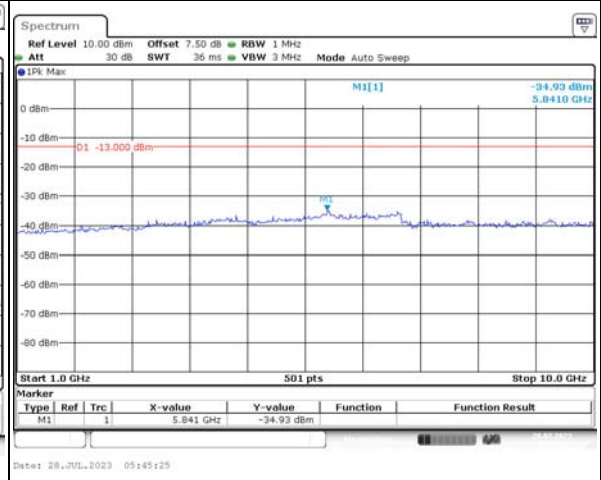
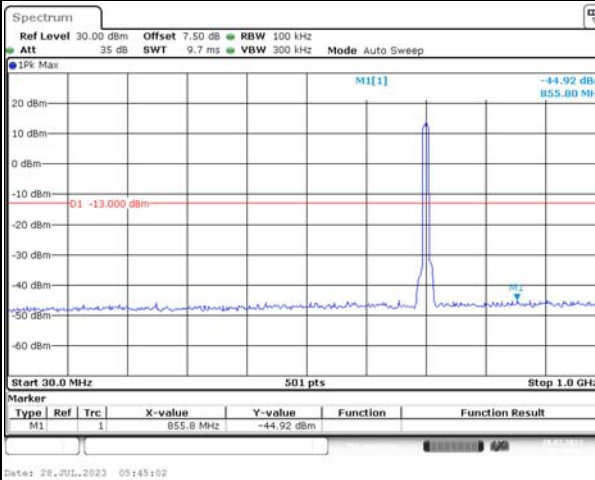
Channel

10MHz Bandwidth QPSK

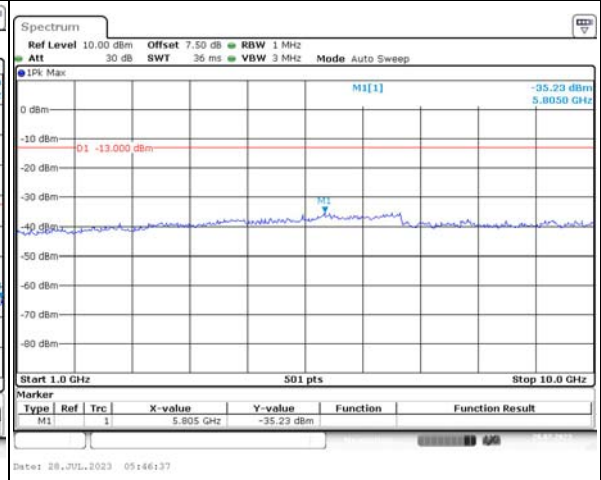
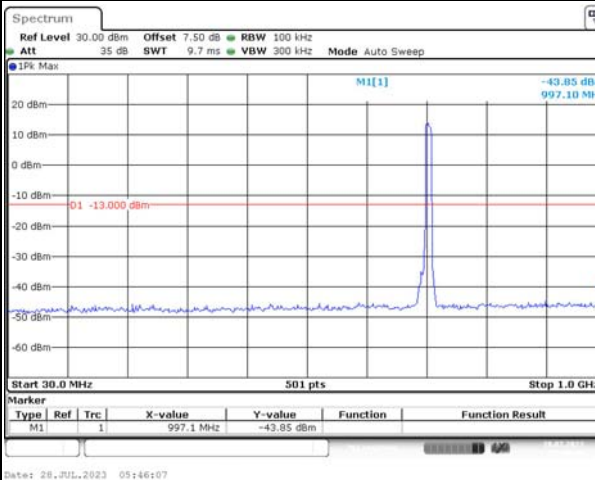
Lowest



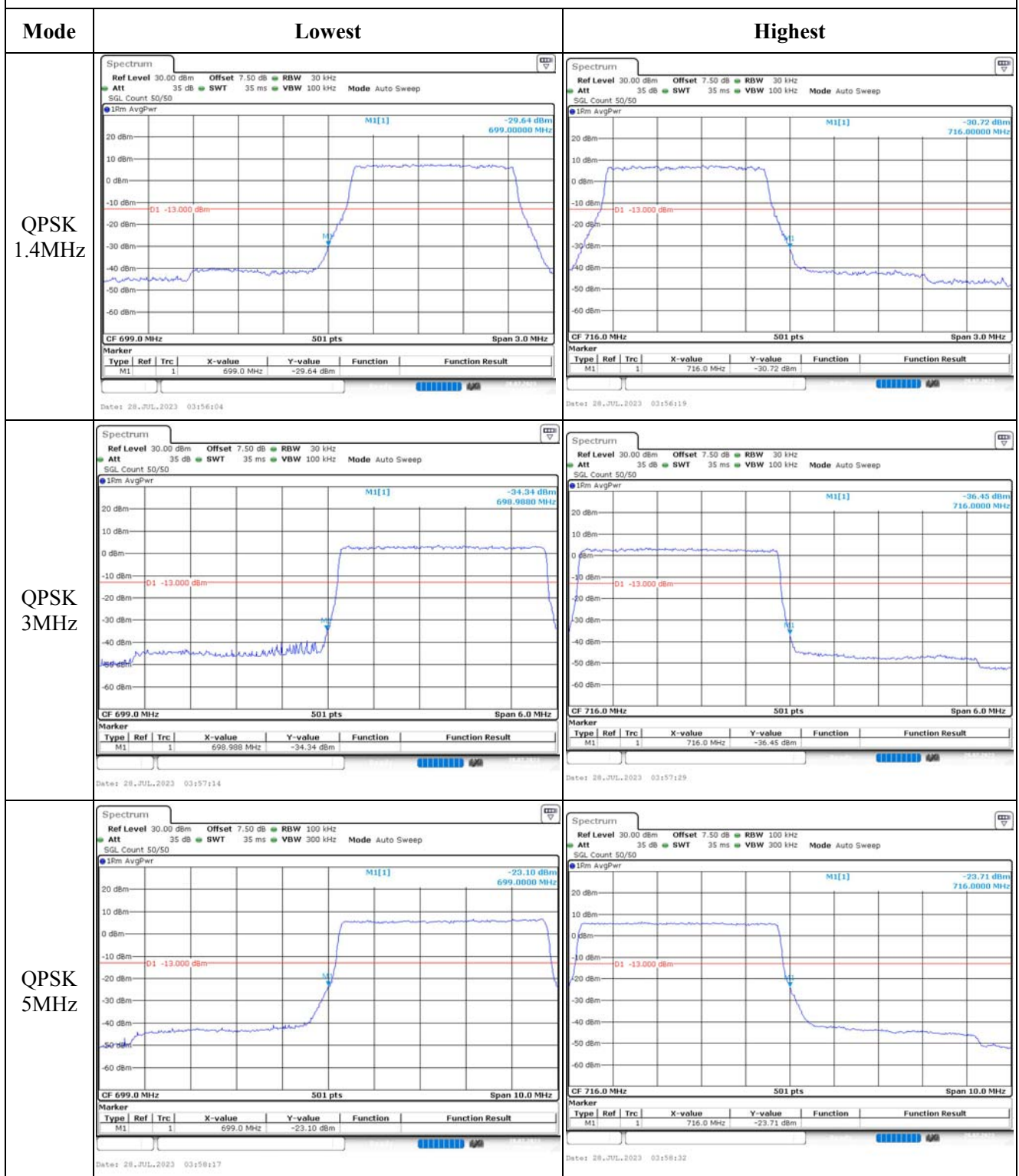
Middle



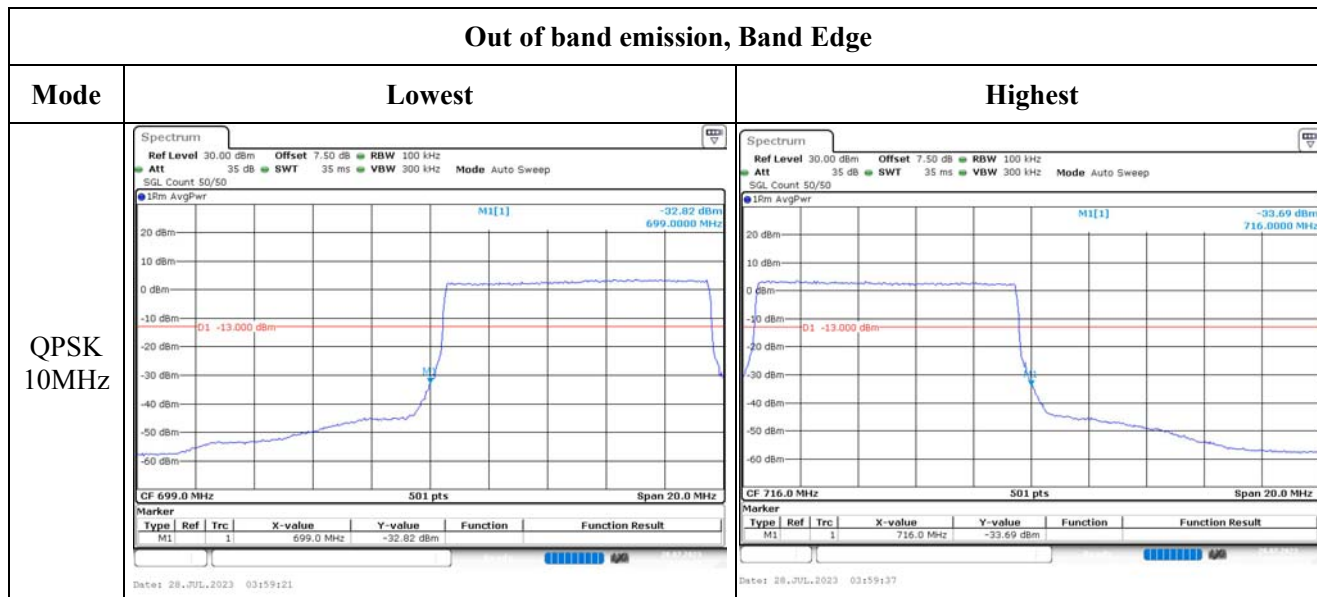
Highest



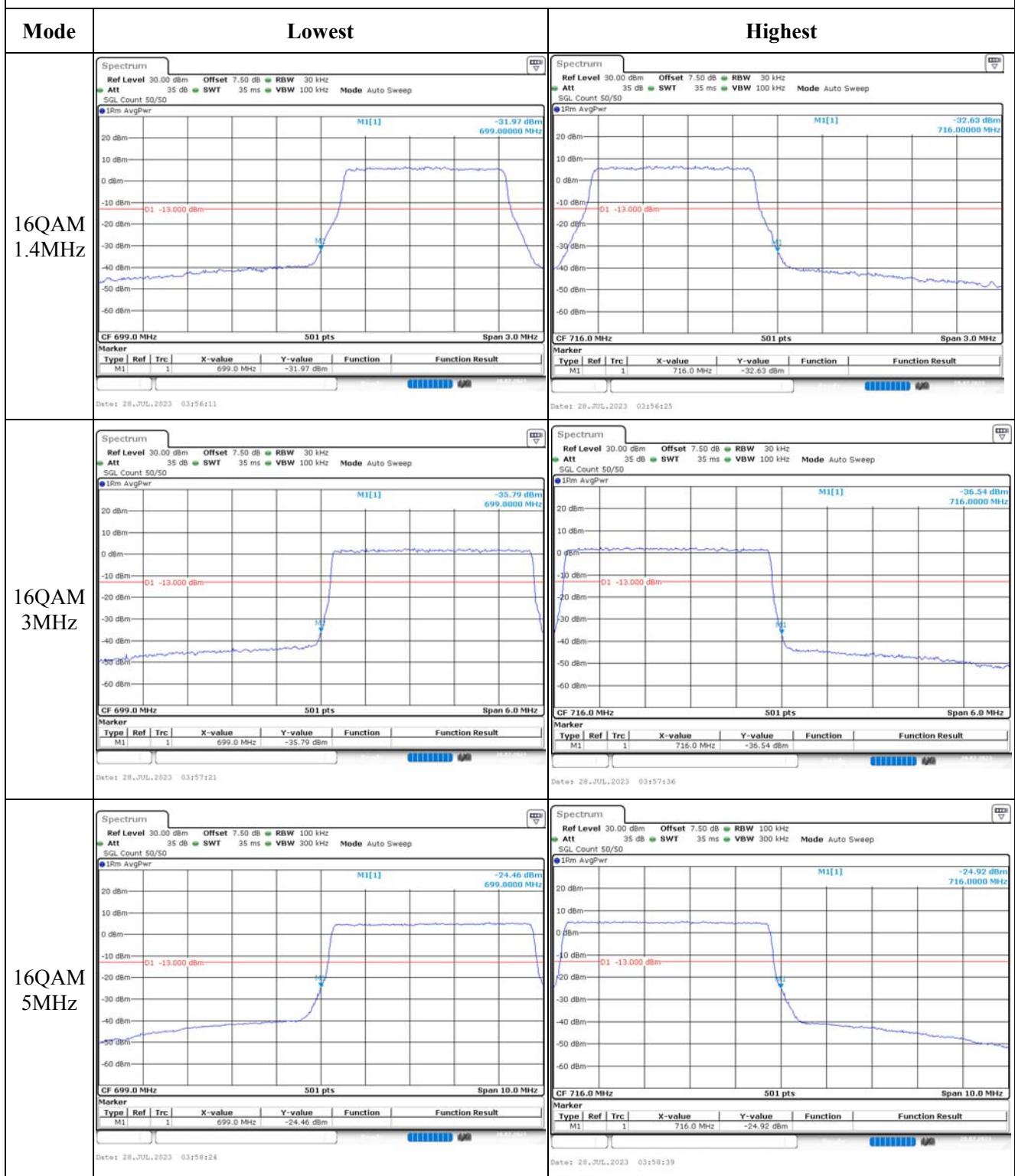
Out of band emission, Band Edge



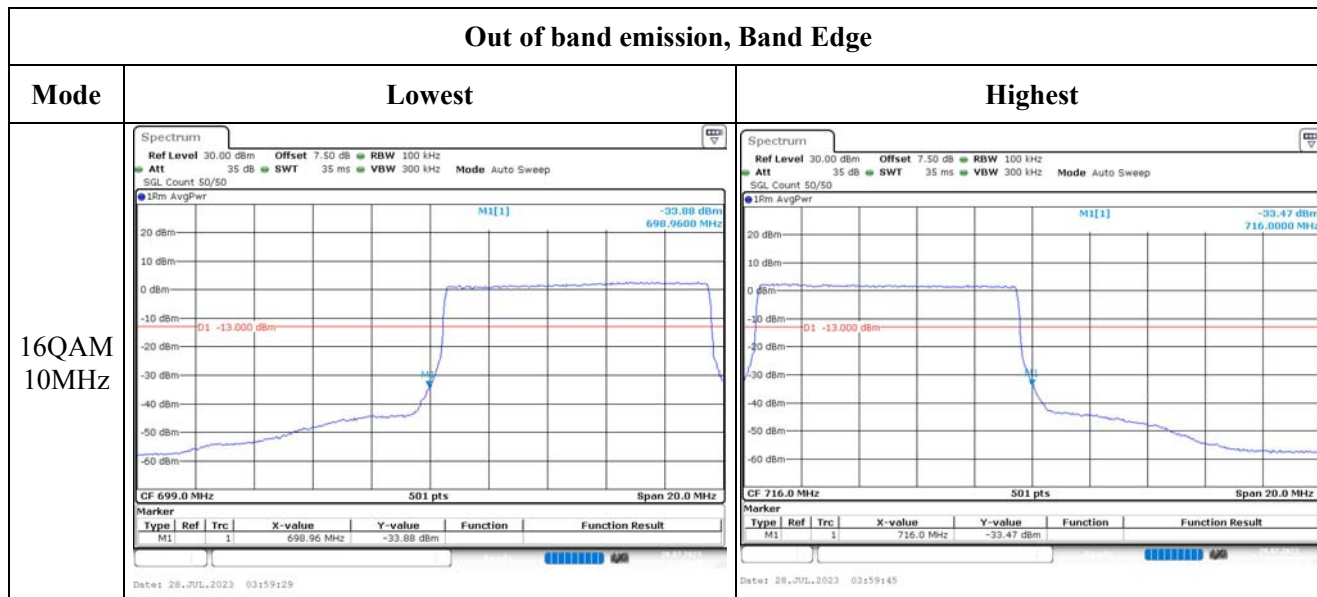
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.10 Antenna Port Test Data and Results for LTE Band 17

Serial Number:	28LK-1	Test Date:	2023/7/28~2023/8/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.8	Relative Humidity: (%)	42~55	ATM Pressure: (kPa)	99.7~100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	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	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	706.5	710	713.5
10MHz	709	710	711

Test Data:**FCC§2.1046;§ 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.4	22.31	22.35	21.98	34.77
	RB1#13	22.5	22.43	22.43		
	RB1#24	22.39	22.34	22.38		
	RB15#0	21.42	21.47	21.44		
	RB15#10	21.44	21.44	21.43		
	RB25#0	21.45	21.41	21.42		
5MHz 16QAM	RB1#0	21.66	21.43	21.22	21.28	34.77
	RB1#13	21.8	21.53	21.37		
	RB1#24	21.67	21.43	21.27		
	RB15#0	20.43	20.51	20.5		
	RB15#10	20.42	20.48	20.48		
	RB25#0	20.44	20.48	20.48		
10MHz QPSK	RB1#0	22.38	22.46	22.38	22.13	34.77
	RB1#25	22.65	22.59	22.57		
	RB1#49	22.51	22.45	22.42		
	RB25#0	21.56	21.53	21.54		
	RB25#25	21.5	21.5	21.5		
	RB50#0	21.49	21.53	21.54		
10MHz 16QAM	RB1#0	21.53	21.41	21.98	21.7	34.77
	RB1#25	21.7	21.54	22.22		
	RB1#49	21.6	21.47	22.04		
	RB25#0	20.56	20.63	20.65		
	RB25#25	20.51	20.57	20.56		
	RB50#0	20.55	20.58	20.58		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)

Gr(dBd)=Gr(dBi)-2.15

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	
10MHz QPSK	RB1#0	5.42	5.22	5.39	13
	RB50#0	5.36	5.36	5.39	13
10MHz 16QAM	RB1#0	6.41	5.83	6.26	13
	RB50#0	6.26	6.26	6.23	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	4.511	4.551	5.24	5.18	5.22
5MHz 16QAM	4.551	4.551	4.511	5.2	5.26	5.16
10MHz QPSK	8.982	8.982	8.942	9.96	9.96	9.84
10MHz 16QAM	8.982	8.942	8.942	9.92	9.84	9.92

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

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

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

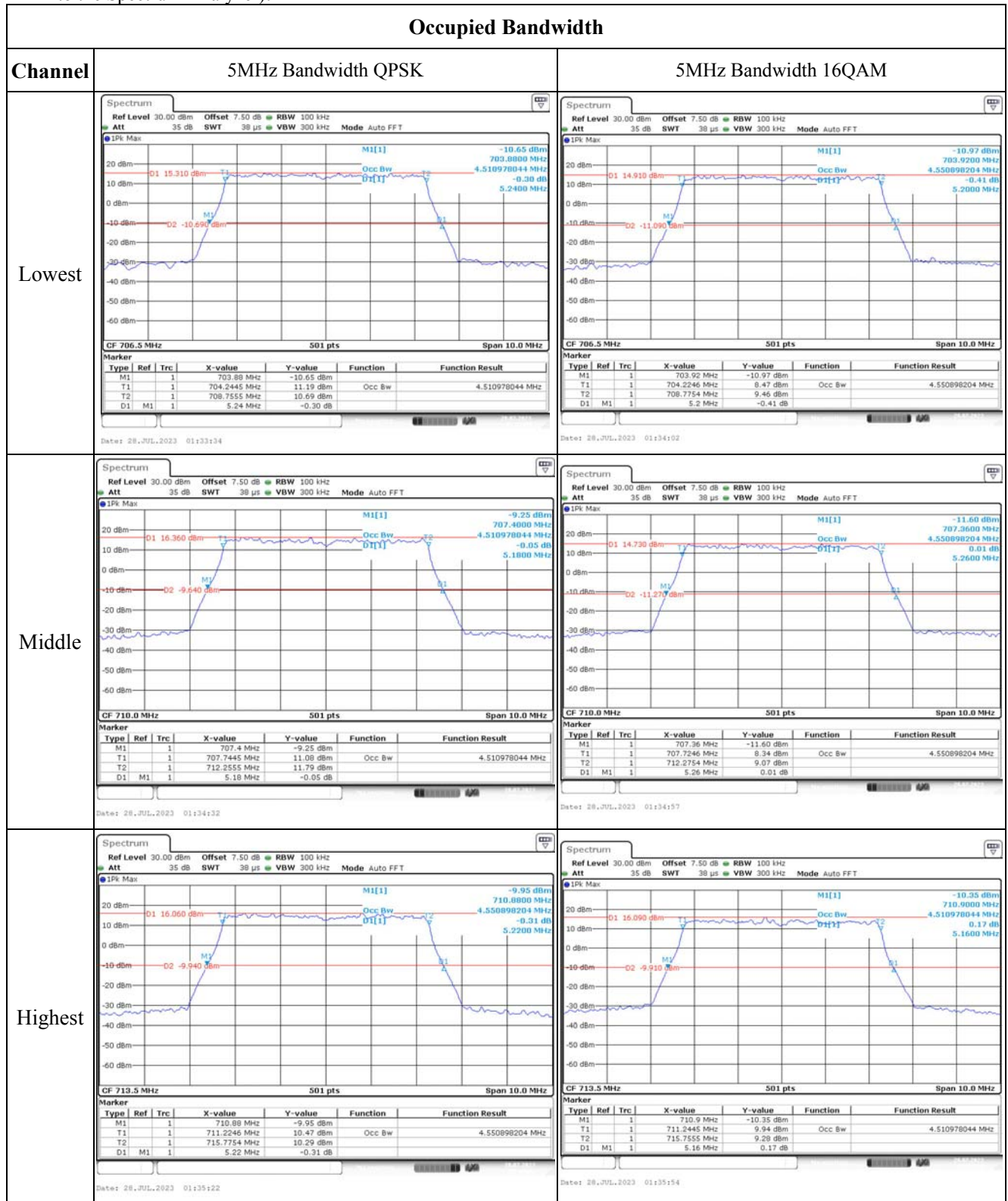
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §27.54: Frequency Stability

Test Mode:	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	3.8	704.401	704.00	715.492	716.00
	-20	3.8	704.494	704.00	715.460	716.00
	-10	3.8	704.441	704.00	715.493	716.00
	0	3.8	704.403	704.00	715.480	716.00
	10	3.8	704.476	704.00	715.446	716.00
	20	3.8	704.489	704.00	715.471	716.00
	30	3.8	704.463	704.00	715.454	716.00
	40	3.8	704.490	704.00	715.454	716.00
	50	3.8	704.416	704.00	715.429	716.00
Frequency Stability vs. Voltage	20	3.65	704.435	704.00	715.495	716.00
	20	4.35	704.407	704.00	715.490	716.00
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	3.8	704.492	704.00	715.492	716.00
	-20	3.8	704.498	704.00	715.454	716.00
	-10	3.8	704.447	704.00	715.464	716.00
	0	3.8	704.415	704.00	715.482	716.00
	10	3.8	704.442	704.00	715.420	716.00
	20	3.8	704.489	704.00	715.471	716.00
	30	3.8	704.409	704.00	715.471	716.00
	40	3.8	704.472	704.00	715.490	716.00
	50	3.8	704.447	704.00	715.422	716.00
Frequency Stability vs. Voltage	20	3.65	704.472	704.00	715.470	716.00
	20	4.35	704.432	704.00	715.420	716.00
					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):



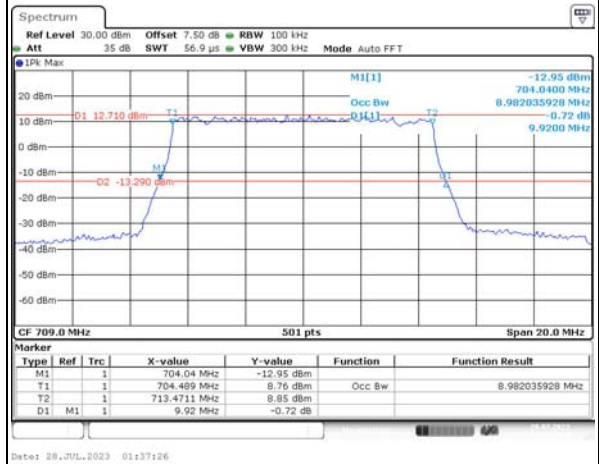
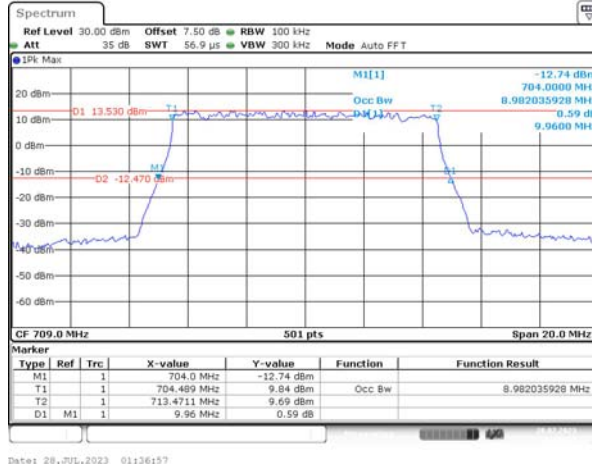
Occupied Bandwidth

Channel

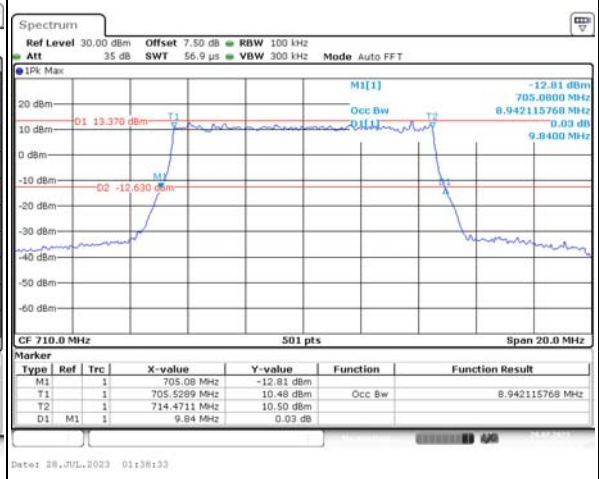
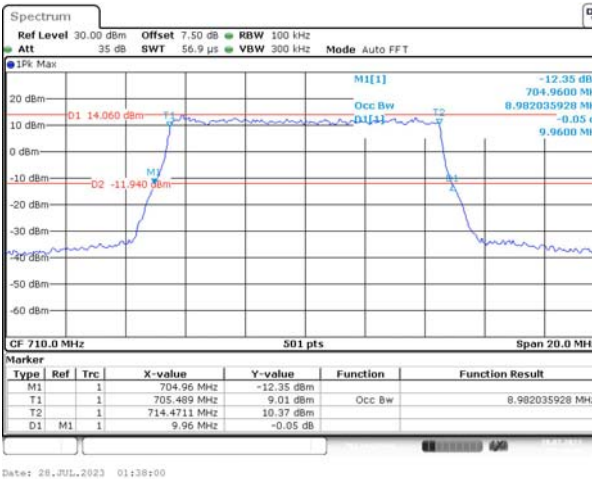
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

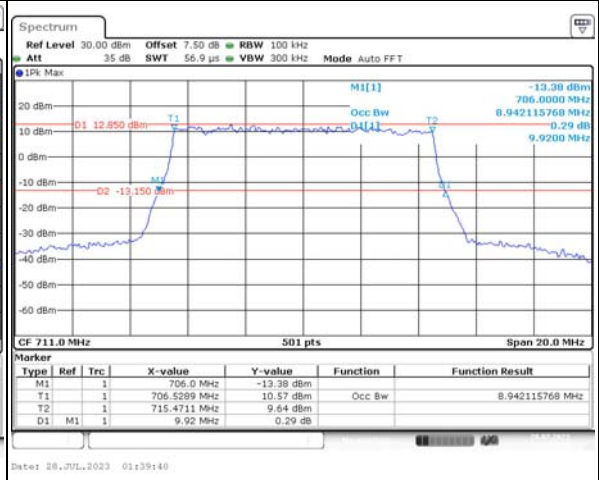
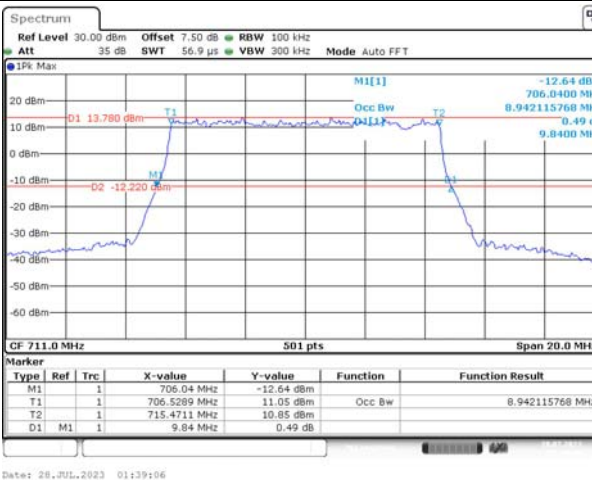
Lowest



Middle



Highest

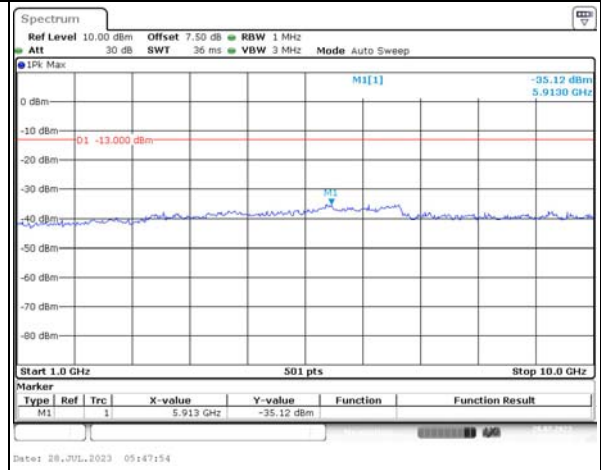
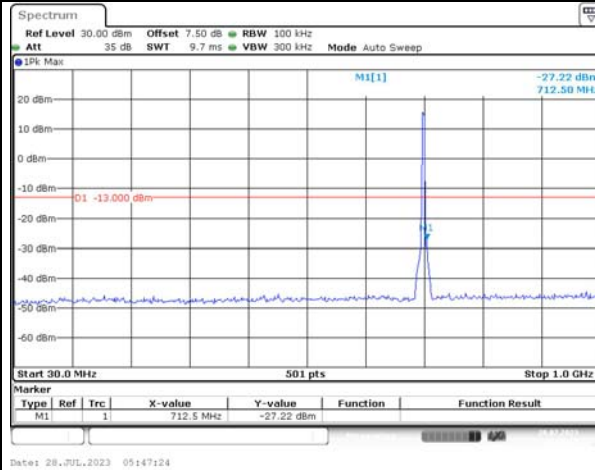


Spurious Emissions at Antenna Terminal

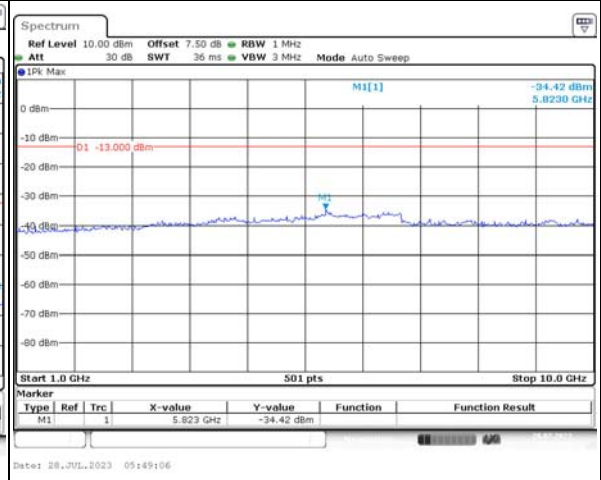
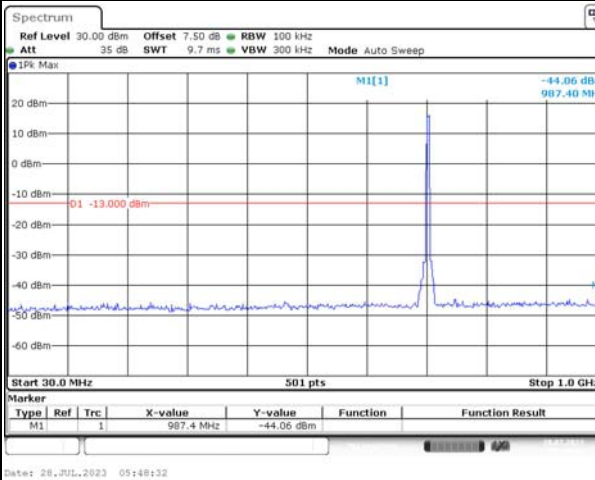
Channel

5MHz Bandwidth QPSK

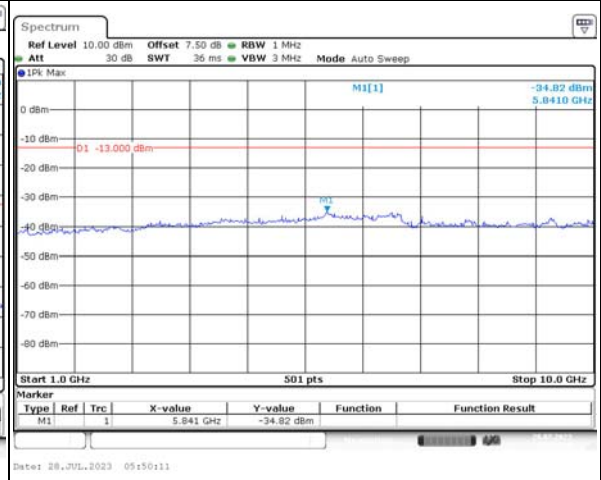
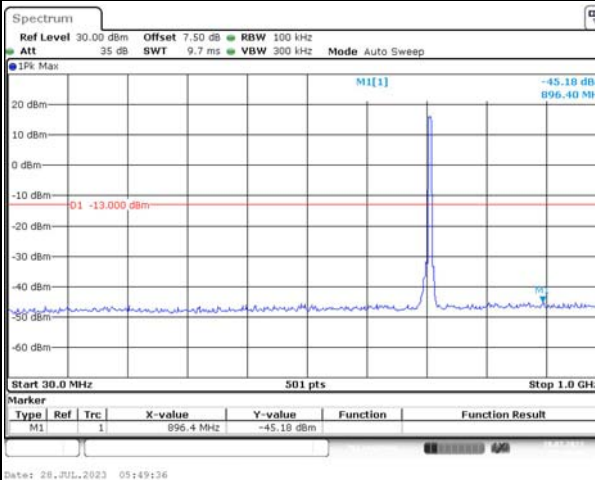
Lowest



Middle



Highest

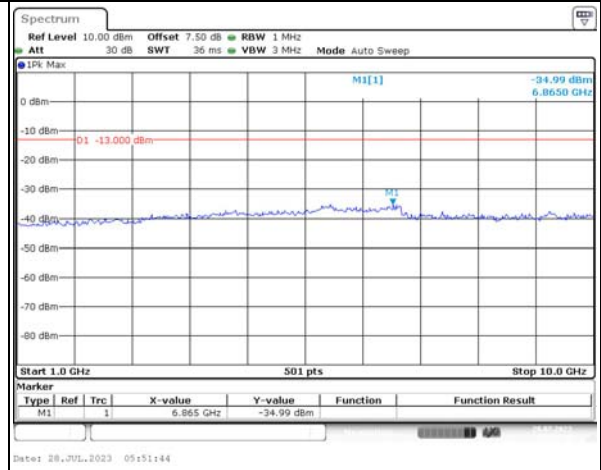
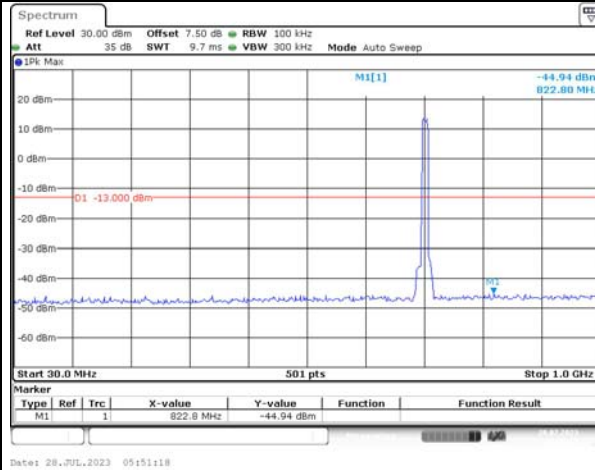


Spurious Emissions at Antenna Terminal

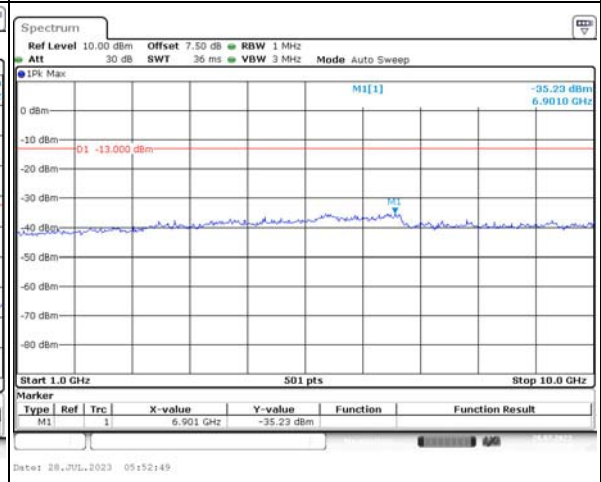
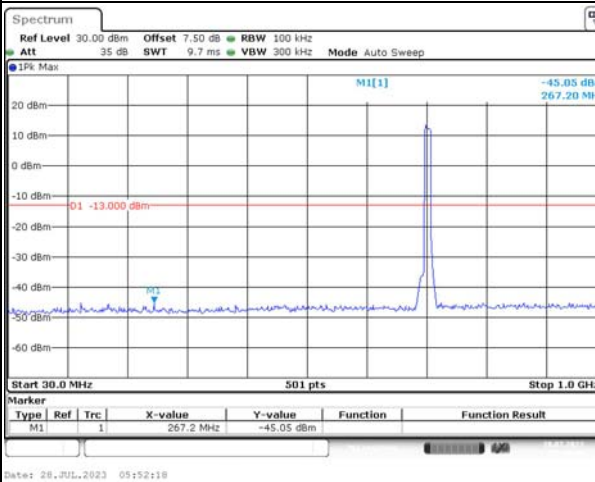
Channel

10MHz Bandwidth QPSK

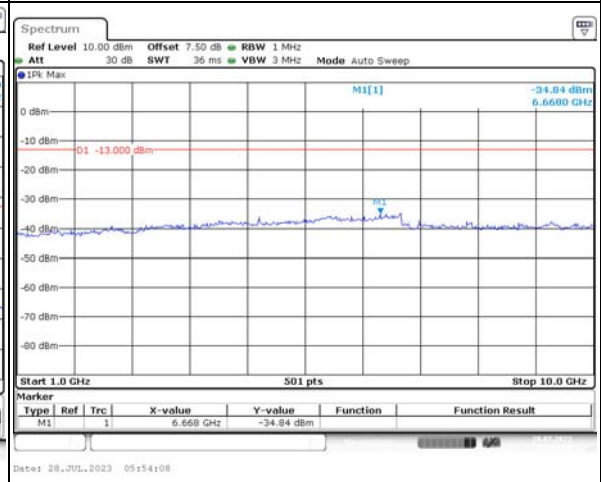
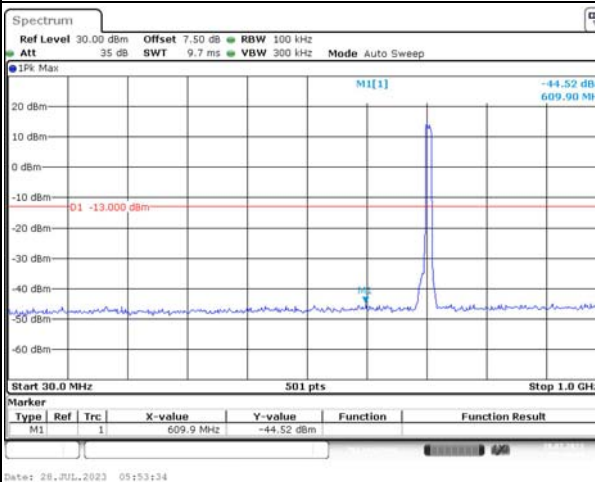
Lowest



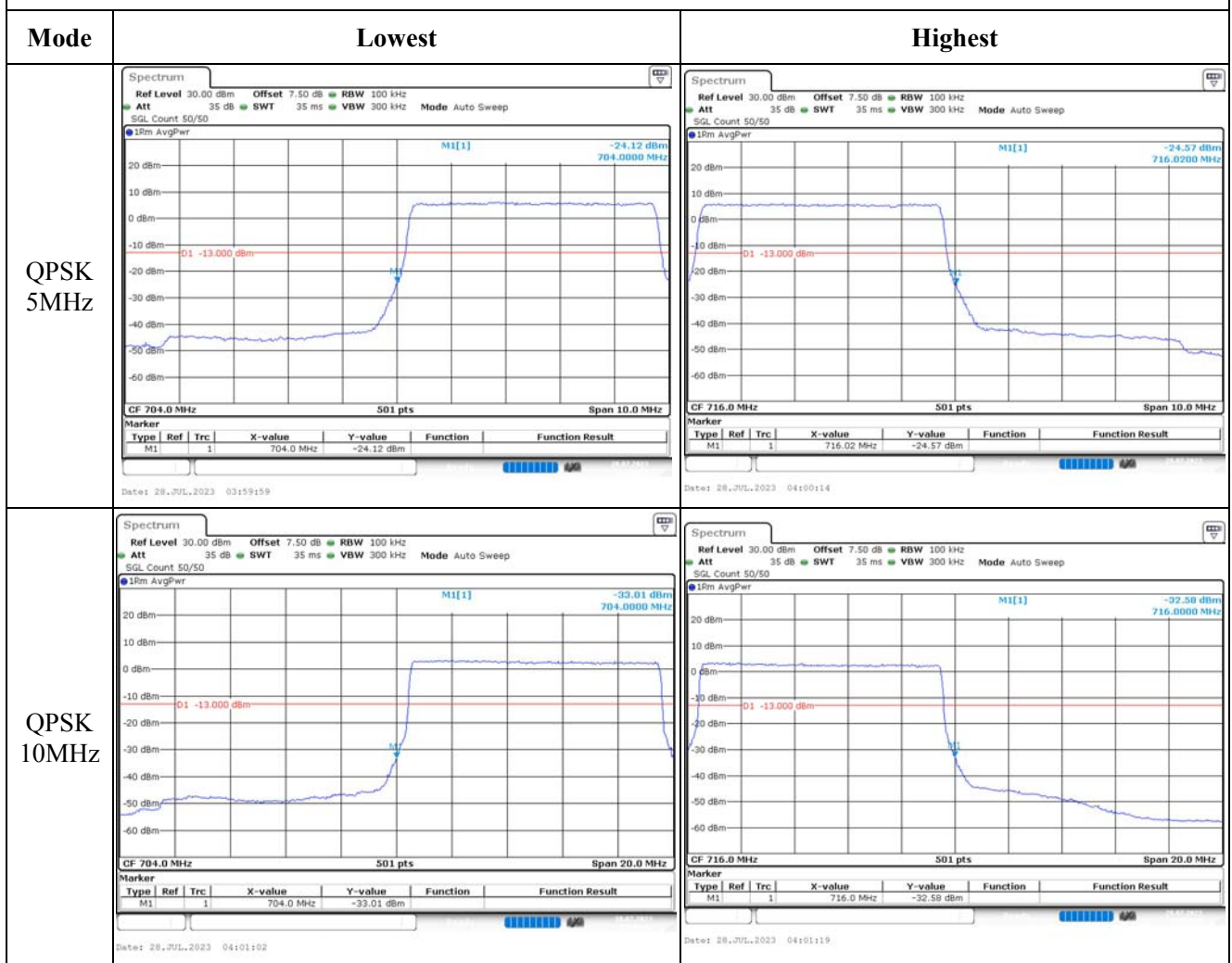
Middle



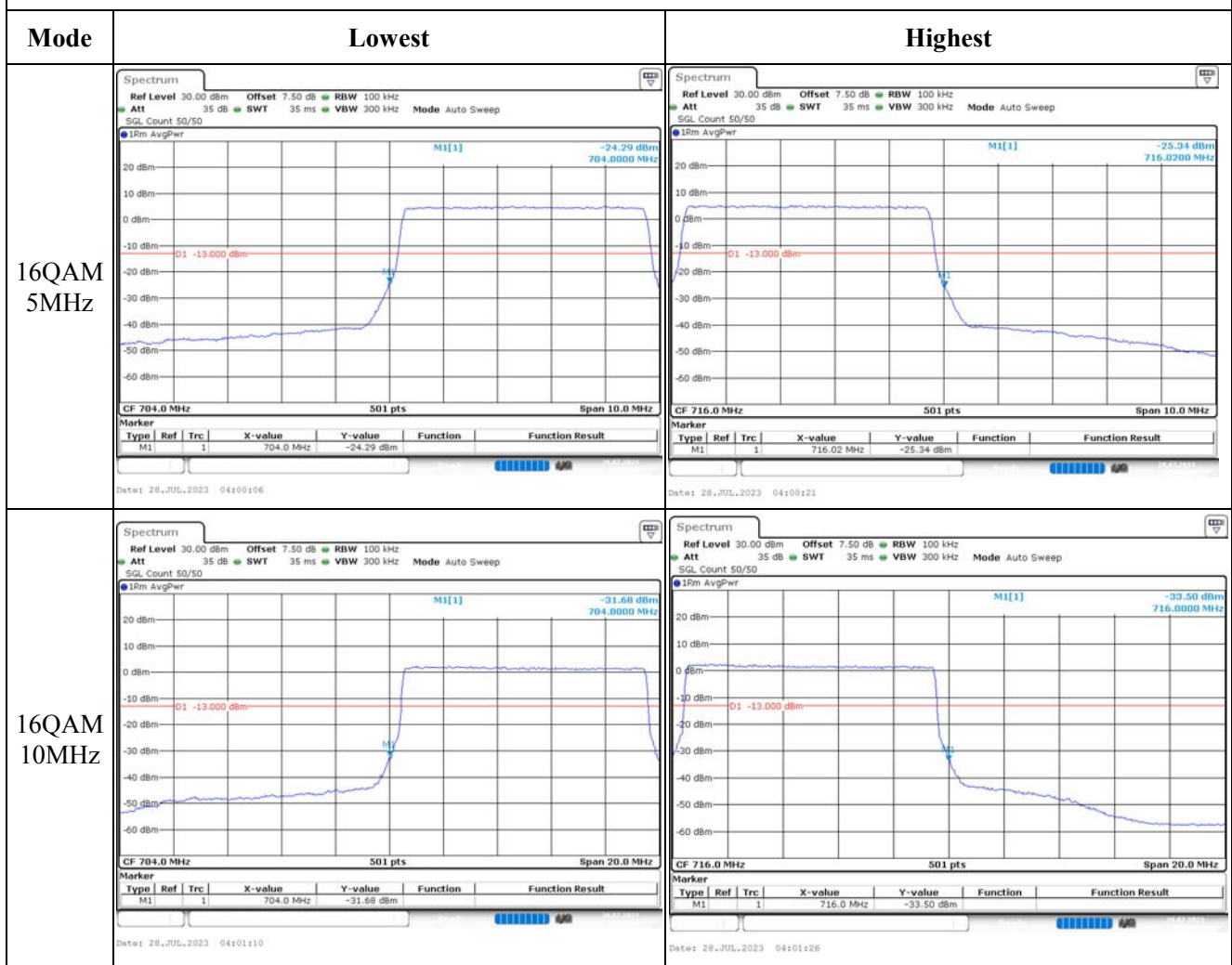
Highest



Out of band emission, Band Edge



Out of band emission, Band Edge



4.11 Antenna Port Test Data and Results for LTE Band 25

Serial Number:	28LK-1	Test Date:	2023/7/28~2023/8/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.8	Relative Humidity: (%)	42~55	ATM Pressure: (kPa)	99.7~100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	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	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)
1.4MHz	1850.7	1882.5	1914.3
3MHz	1851.5	1882.5	1913.5
5MHz	1852.5	1882.5	1912.5
10MHz	1855	1882.5	1910
15MHz	1857.5	1882.5	1907.5
20MHz	1860	1882.5	1905

Test Data:

FCC§2.1046;§ 24.232						
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	22.58	22.63	22.88	22.35	33
	RB1#3	22.72	22.85	23.03		
	RB1#5	22.56	22.68	22.85		
	RB3#0	22.66	22.81	22.98		
	RB3#3	22.59	22.8	22.99		
	RB6#0	21.62	21.75	21.91		
1.4MHz 16QAM	RB1#0	21.71	21.75	21.9	21.48	33
	RB1#3	21.85	21.93	22.07		
	RB1#5	21.74	21.76	21.88		
	RB3#0	21.63	21.92	22.15		
	RB3#3	21.68	21.91	22.16		
	RB6#0	20.73	20.75	20.99		
3MHz QPSK	RB1#0	22.58	22.77	22.93	22.25	33
	RB1#8	22.63	22.68	22.89		
	RB1#14	22.65	22.68	22.91		
	RB6#0	21.53	21.66	21.86		
	RB6#9	21.58	21.72	21.83		
	RB15#0	21.62	21.73	21.94		
3MHz 16QAM	RB1#0	21.7	22.39	22.1	21.72	33
	RB1#8	21.61	22.39	22.1		
	RB1#14	21.63	22.4	22.07		
	RB6#0	20.57	20.84	20.95		
	RB6#9	20.62	20.85	20.94		
	RB15#0	20.74	20.9	20.93		
5MHz QPSK	RB1#0	22.52	22.65	22.86	22.27	33
	RB1#13	22.67	22.76	22.95		
	RB1#24	22.57	22.64	22.87		
	RB15#0	21.68	21.82	21.96		
	RB15#10	21.68	21.82	21.86		
	RB25#0	21.66	21.78	21.9		
5MHz 16QAM	RB1#0	21.87	21.77	21.77	21.32	33
	RB1#13	22	21.89	21.9		
	RB1#24	21.9	21.76	21.81		
	RB15#0	20.72	20.91	21.09		
	RB15#10	20.74	20.92	21		
	RB25#0	20.71	20.89	21.03		
10MHz QPSK	RB1#0	22.55	22.71	22.83	22.39	33
	RB1#25	22.75	22.86	23.07		
	RB1#49	22.64	22.8	22.92		
	RB25#0	21.68	21.8	21.95		

	RB25#25	21.76	21.9	21.96		
	RB50#0	21.76	21.88	21.98		
10MHz 16QAM	RB1#0	22.23	21.91	21.88	21.73	33
	RB1#25	22.41	22.08	22.05		
	RB1#49	22.3	21.92	21.95		
	RB25#0	20.78	20.93	21.12		
	RB25#25	20.9	21	21.15		
	RB50#0	20.82	20.95	21.09		
15MHz QPSK	RB1#0	22.5	22.64	22.7	22.26	33
	RB1#38	22.63	22.8	22.94		
	RB1#74	22.57	22.75	22.85		
	RB36#0	21.67	21.81	21.94		
	RB36#39	21.71	21.87	22.08		
	RB75#0	21.67	21.81	22		
15MHz 16QAM	RB1#0	22.11	21.79	22.17	21.74	33
	RB1#38	22.27	21.97	22.42		
	RB1#74	22.21	21.87	22.31		
	RB36#0	20.69	20.84	20.98		
	RB36#39	20.78	20.89	21.07		
	RB75#0	20.74	20.9	21.03		
20MHz QPSK	RB1#0	22.4	22.4	22.5	22.35	33
	RB1#50	22.84	22.89	23.03		
	RB1#99	22.54	22.56	22.7		
	RB50#0	21.61	21.77	22.03		
	RB50#50	21.67	21.92	22		
	RB100#0	21.67	21.84	22.06		
20MHz 16QAM	RB1#0	21.58	22.01	21.87	21.81	33
	RB1#50	22.03	22.49	22.38		
	RB1#99	21.75	22.17	22.1		
	RB50#0	20.67	20.87	21.1		
	RB50#50	20.76	21.02	21.11		
	RB100#0	20.75	20.91	21.15		

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	5.59	5.88	5.28	13
	RB100#0	4.26	4.52	4.61	13
20MHz 16QAM	RB1#0	6.32	6.93	5.83	13
	RB100#0	5.91	6.12	6.12	13
				Result:	Pass

FCC §2.1049, §24.238: 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	1.102	1.096	1.326	1.29	1.296
1.4MHz 16QAM	1.096	1.096	1.096	1.29	1.296	1.314
3MHz QPSK	2.683	2.683	2.683	2.88	2.868	2.868
3MHz 16QAM	2.683	2.683	2.683	2.88	2.88	2.88
5MHz QPSK	4.551	4.511	4.511	5.22	5.24	5.18
5MHz 16QAM	4.511	4.551	4.531	5.18	5.22	5.18
10MHz QPSK	8.982	8.942	8.942	9.92	9.88	9.88
10MHz 16QAM	8.942	8.982	8.942	9.68	9.88	9.92
15MHz QPSK	13.593	13.473	13.533	14.94	14.82	14.88
15MHz 16QAM	13.473	13.533	13.533	14.88	14.82	14.94
20MHz QPSK	17.964	17.964	17.964	19.6	19.76	19.84
20MHz 16QAM	17.964	17.964	18.044	19.68	19.52	19.68

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

FCC §2.1051, § 24.238 (a):Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, § 24.238 (a):Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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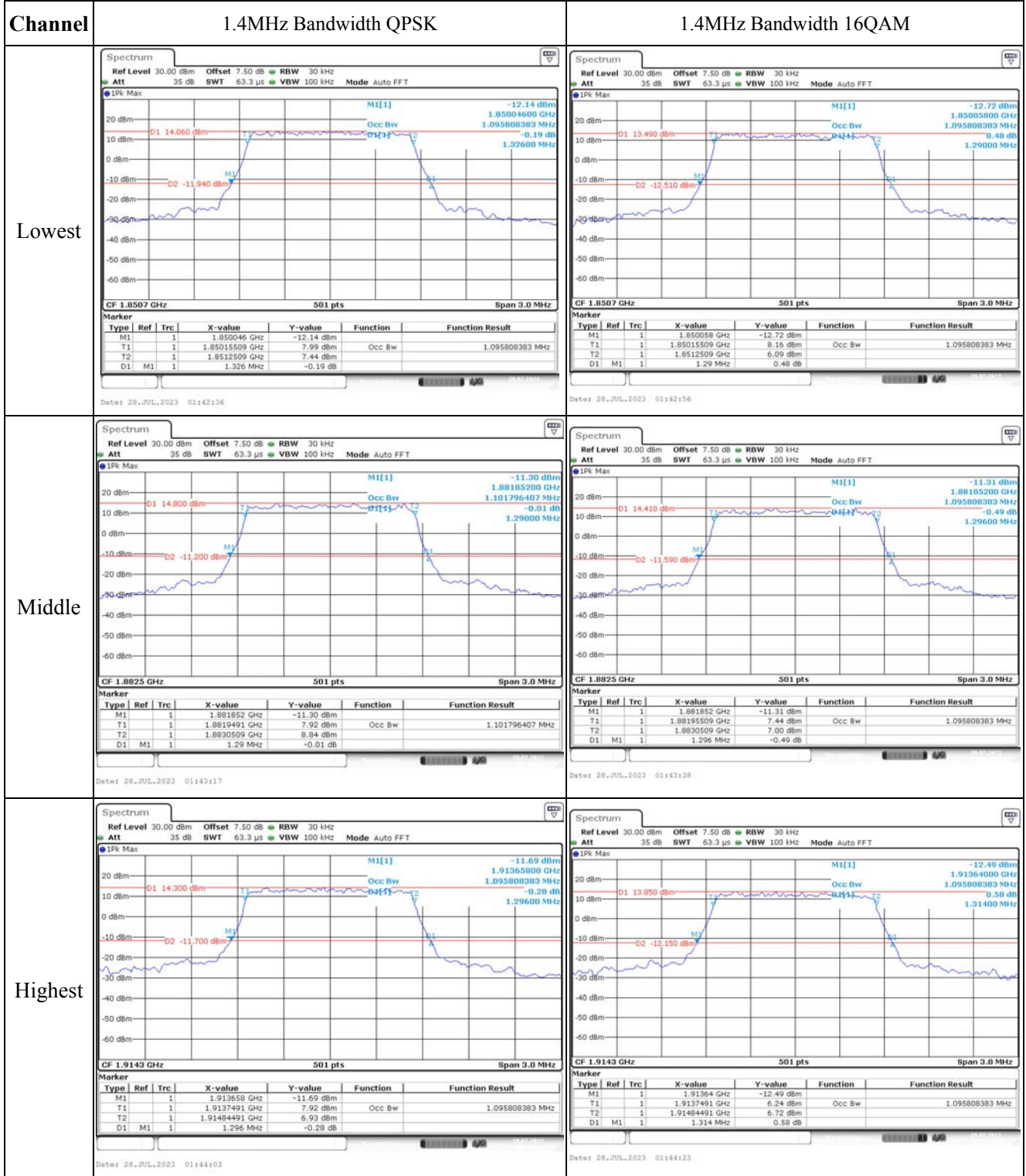
FCC §2.1055, §24.235: Frequency Stability

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	1850.978	1850.000	1913.945	1915.000
	-20	3.8	1850.911	1850.000	1913.961	1915.000
	-10	3.8	1850.956	1850.000	1913.962	1915.000
	0	3.8	1850.958	1850.000	1913.904	1915.000
	10	3.8	1850.977	1850.000	1913.986	1915.000
	20	3.8	1850.978	1850.000	1913.942	1915.000
	30	3.8	1850.923	1850.000	1913.997	1915.000
	40	3.8	1850.924	1850.000	1913.965	1915.000
	50	3.8	1850.978	1850.000	1913.934	1915.000
Frequency Stability vs. Voltage	20	3.65	1850.917	1850.000	1913.995	1915.000
	20	4.35	1850.921	1850.000	1913.960	1915.000
					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	1850.595	1850.000	1914.087	1915.000
	-20	3.8	1850.550	1850.000	1914.044	1915.000
	-10	3.8	1850.530	1850.000	1914.044	1915.000
	0	3.8	1850.579	1850.000	1914.020	1915.000
	10	3.8	1850.583	1850.000	1914.077	1915.000
	20	3.8	1850.579	1850.000	1914.022	1915.000
	30	3.8	1850.557	1850.000	1914.012	1915.000
	40	3.8	1850.544	1850.000	1914.029	1915.000
	50	3.8	1850.572	1850.000	1914.030	1915.000
Frequency Stability vs. Voltage	20	3.65	1850.534	1850.000	1914.015	1915.000
	20	4.35	1850.502	1850.000	1914.094	1915.000
					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):

Occupied Bandwidth



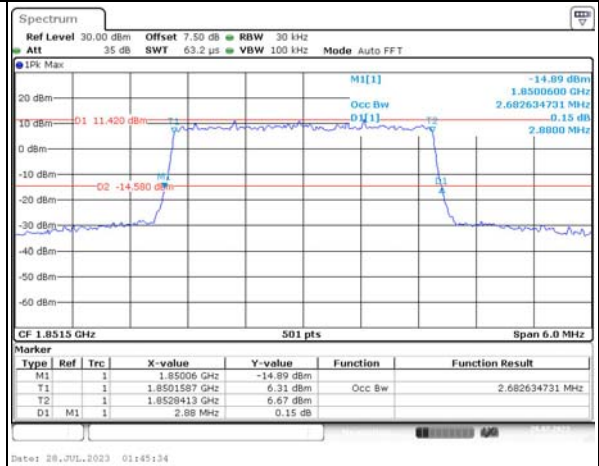
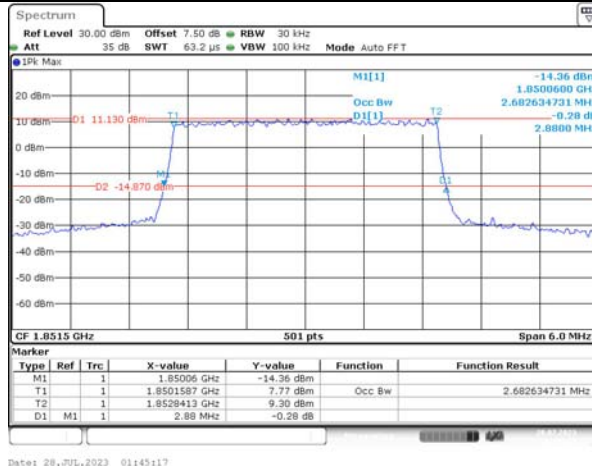
Occupied Bandwidth

Channel

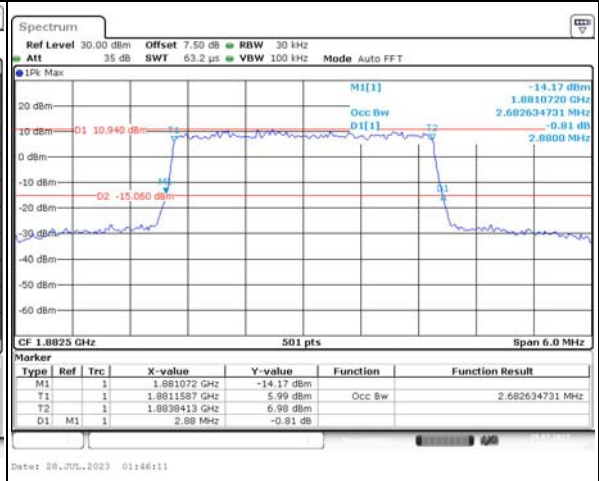
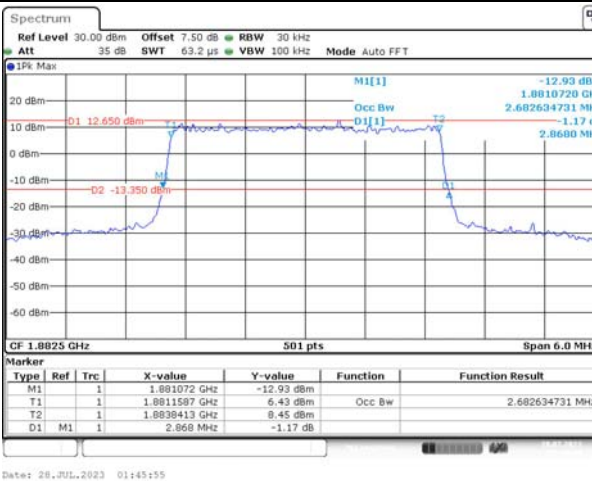
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

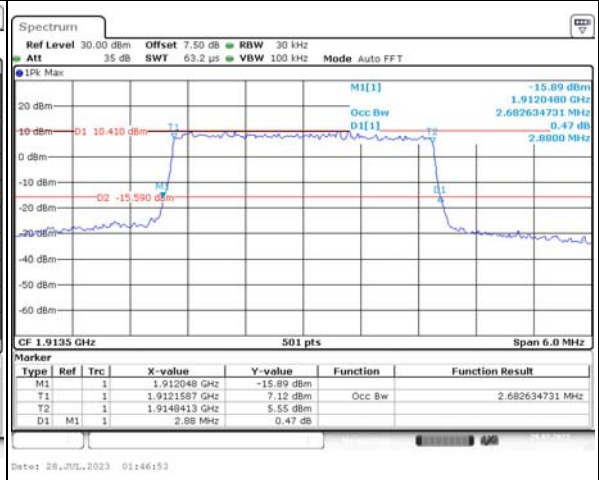
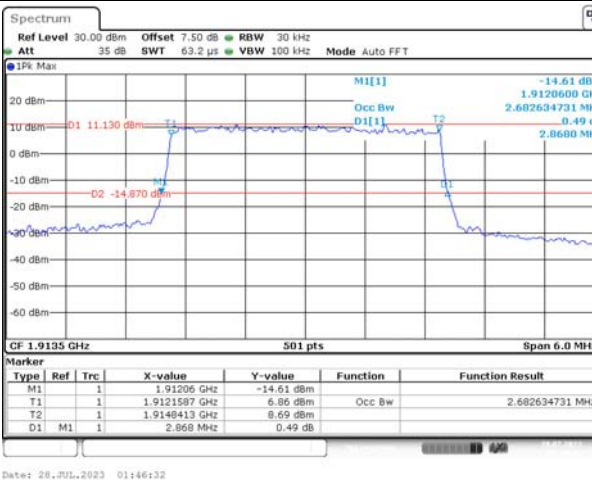
Lowest



Middle



Highest



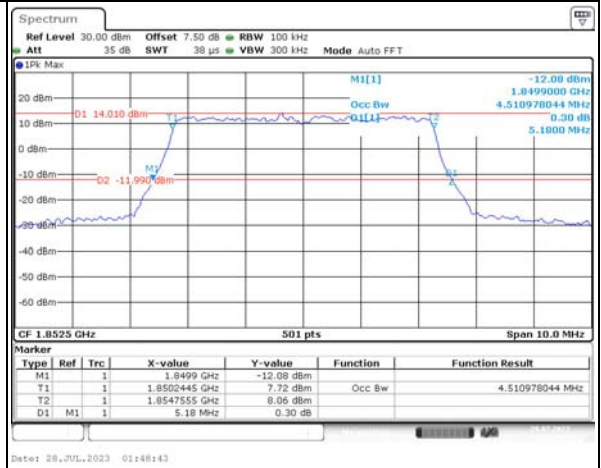
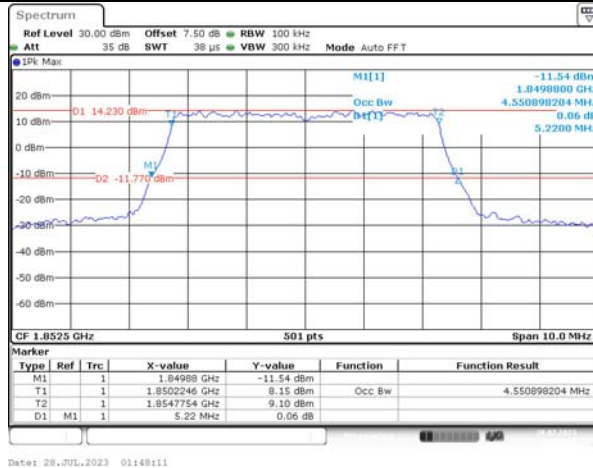
Occupied Bandwidth

Channel

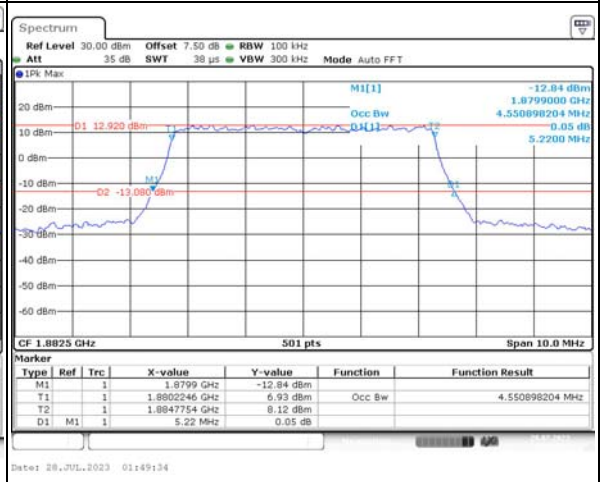
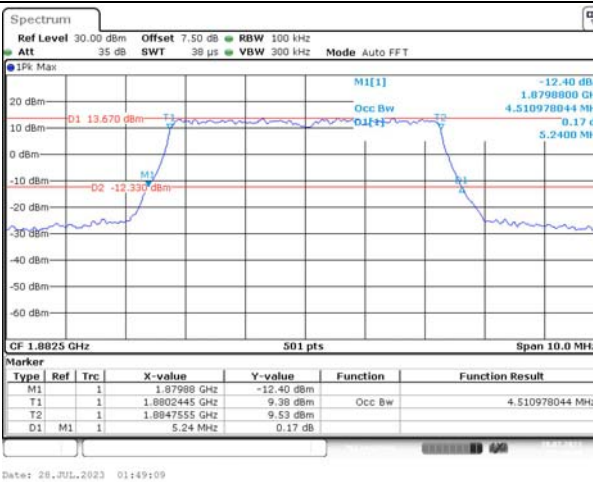
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

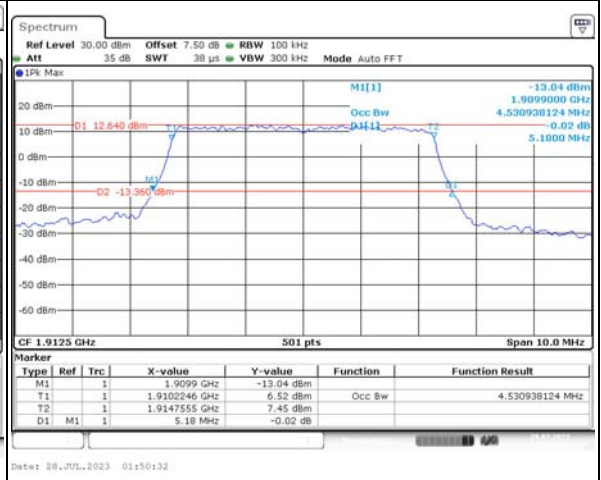
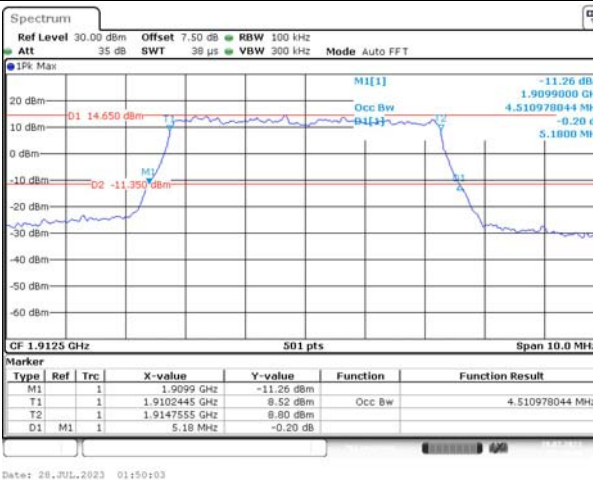
Lowest



Middle



Highest



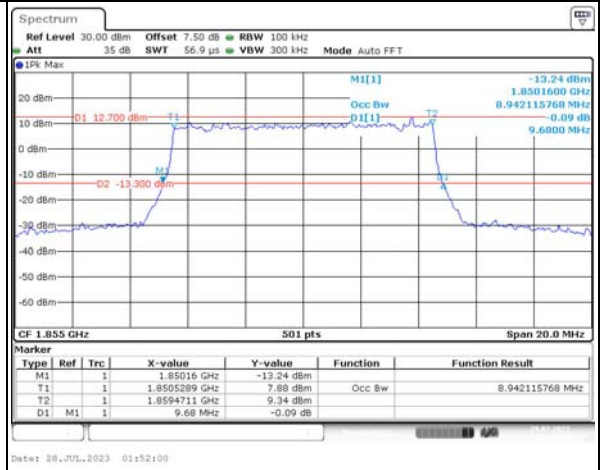
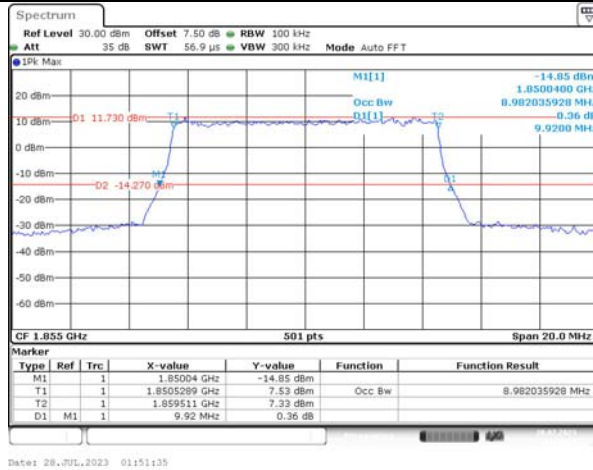
Occupied Bandwidth

Channel

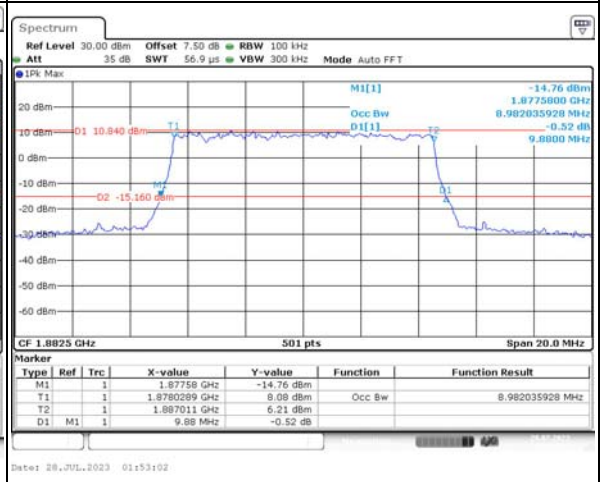
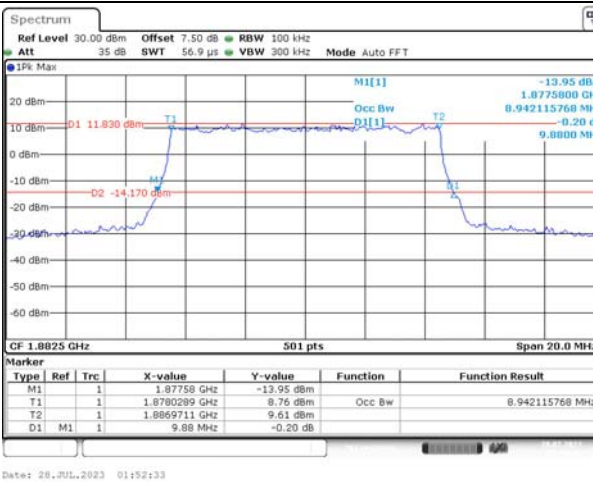
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

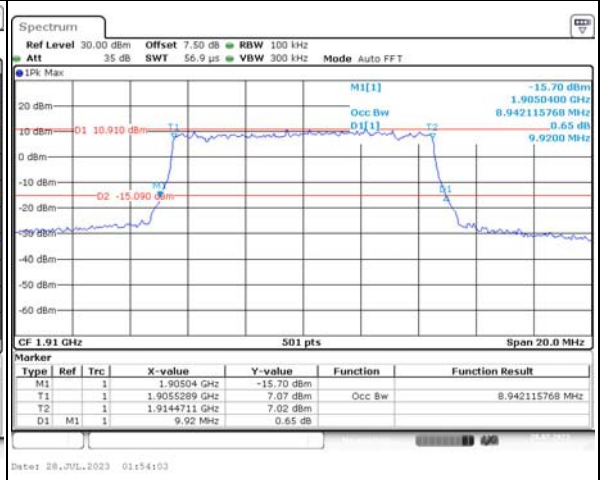
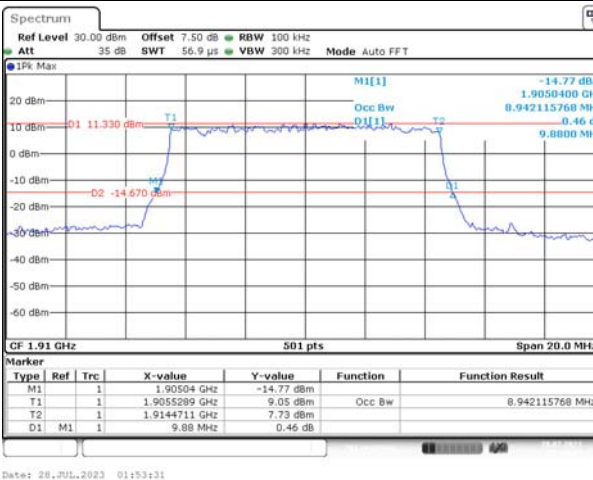
Lowest



Middle



Highest



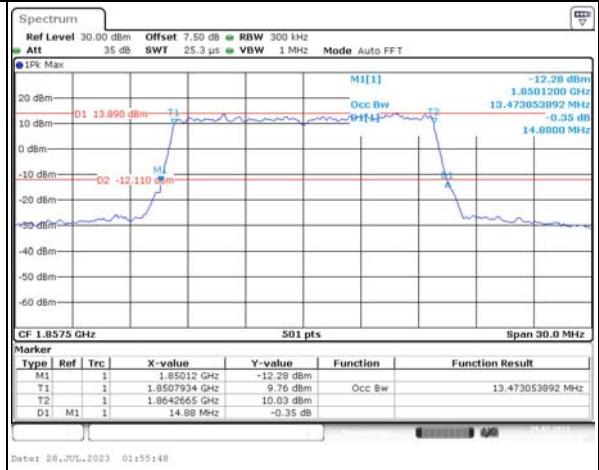
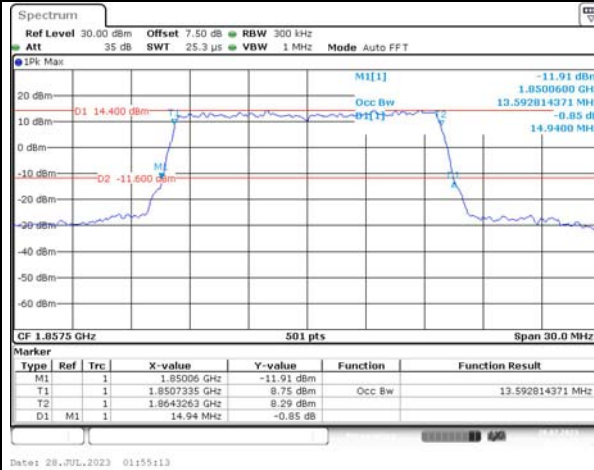
Spurious Emissions at Antenna Terminal

Channel

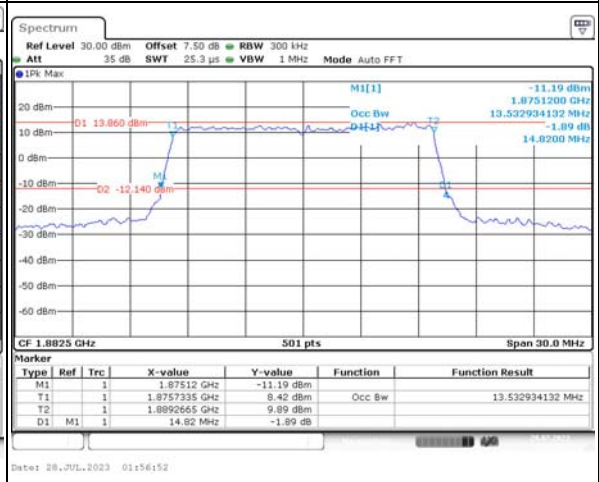
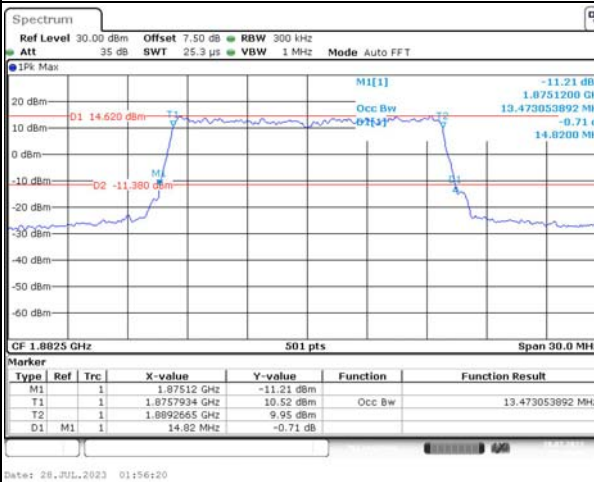
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

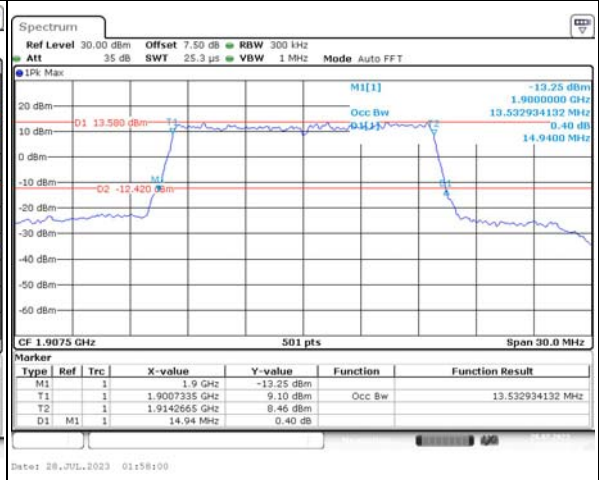
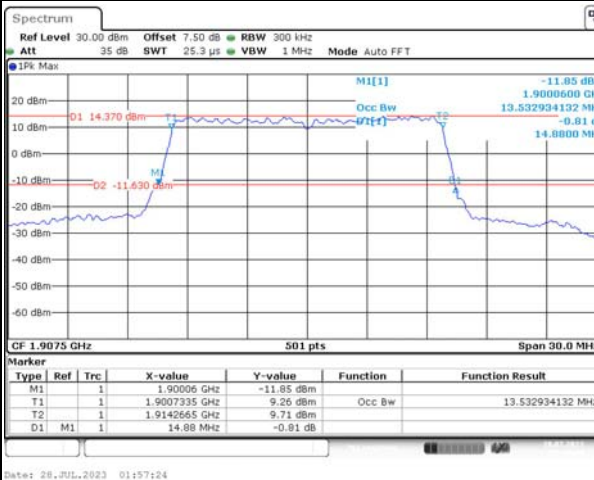
Lowest



Middle



Highest



Spurious Emissions at Antenna Terminal

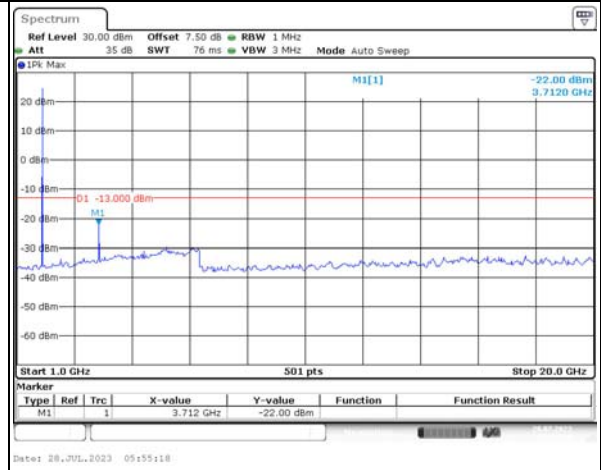
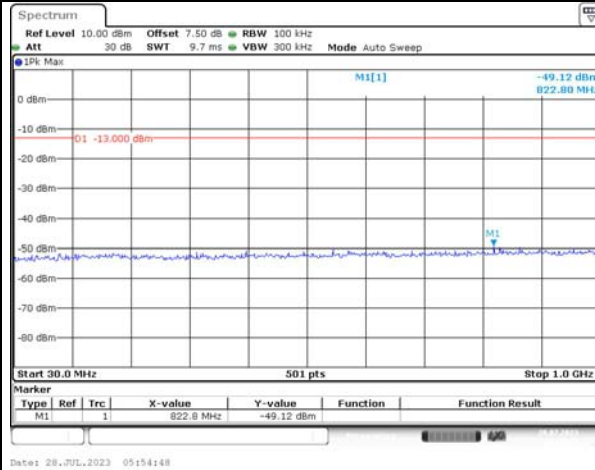
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM																																																																						
Lowest	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 37.9 μs VBW 1 MHz Mode Auto FFT CF 1.86 GHz 501 pts Span 40.0 MHz <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>1.85016 GHz</td><td>-12.41 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>1.850978 GHz</td><td>9.14 dBm</td><td>Occ Bw</td><td>17.964071856 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>1.8609421 GHz</td><td>10.67 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>19.6 MHz</td><td>0.41 dB</td><td></td><td></td></tr></tbody></table> Date: 28.JUL.2023 01:59:17	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.85016 GHz	-12.41 dBm			T1	1		1.850978 GHz	9.14 dBm	Occ Bw	17.964071856 MHz	T2	1		1.8609421 GHz	10.67 dBm			D1	M1	1	19.6 MHz	0.41 dB			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 37.9 μs VBW 1 MHz Mode Auto FFT CF 1.86 GHz 501 pts Span 40.0 MHz <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>1.85024 GHz</td><td>-13.36 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>1.8510579 GHz</td><td>9.01 dBm</td><td>Occ Bw</td><td>17.884231537 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>1.8609421 GHz</td><td>9.43 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>19.6 MHz</td><td>-0.30 dB</td><td></td><td></td></tr></tbody></table> Date: 28.JUL.2023 01:59:52	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.85024 GHz	-13.36 dBm			T1	1		1.8510579 GHz	9.01 dBm	Occ Bw	17.884231537 MHz	T2	1		1.8609421 GHz	9.43 dBm			D1	M1	1	19.6 MHz	-0.30 dB		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																		
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M1	1		1.85024 GHz	-13.36 dBm																																																																				
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D1	M1	1	19.6 MHz	-0.30 dB																																																																				
Middle	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 37.9 μs VBW 1 MHz Mode Auto FFT CF 1.8825 GHz 501 pts Span 40.0 MHz <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>1.87266 GHz</td><td>-13.03 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>1.8735579 GHz</td><td>9.50 dBm</td><td>Occ Bw</td><td>17.964071856 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>1.891522 GHz</td><td>8.80 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>19.76 MHz</td><td>0.46 dB</td><td></td><td></td></tr></tbody></table> Date: 28.JUL.2023 02:00:29	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.87266 GHz	-13.03 dBm			T1	1		1.8735579 GHz	9.50 dBm	Occ Bw	17.964071856 MHz	T2	1		1.891522 GHz	8.80 dBm			D1	M1	1	19.76 MHz	0.46 dB			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 37.9 μs VBW 1 MHz Mode Auto FFT CF 1.8825 GHz 501 pts Span 40.0 MHz <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>1.87274 GHz</td><td>-12.71 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>1.8735579 GHz</td><td>9.00 dBm</td><td>Occ Bw</td><td>17.964071856 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>1.891522 GHz</td><td>9.36 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>19.52 MHz</td><td>-0.16 dB</td><td></td><td></td></tr></tbody></table> Date: 28.JUL.2023 02:01:12	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.87274 GHz	-12.71 dBm			T1	1		1.8735579 GHz	9.00 dBm	Occ Bw	17.964071856 MHz	T2	1		1.891522 GHz	9.36 dBm			D1	M1	1	19.52 MHz	-0.16 dB		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																		
M1	1		1.87266 GHz	-13.03 dBm																																																																				
T1	1		1.8735579 GHz	9.50 dBm	Occ Bw	17.964071856 MHz																																																																		
T2	1		1.891522 GHz	8.80 dBm																																																																				
D1	M1	1	19.76 MHz	0.46 dB																																																																				
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																		
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T2	1		1.891522 GHz	9.36 dBm																																																																				
D1	M1	1	19.52 MHz	-0.16 dB																																																																				
Highest	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 37.9 μs VBW 1 MHz Mode Auto FFT CF 1.905 GHz 501 pts Span 40.0 MHz <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>1.89508 GHz</td><td>-12.53 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>1.895978 GHz</td><td>10.47 dBm</td><td>Occ Bw</td><td>17.964071856 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>1.9139421 GHz</td><td>9.33 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>19.84 MHz</td><td>0.98 dB</td><td></td><td></td></tr></tbody></table> Date: 28.JUL.2023 02:01:52	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.89508 GHz	-12.53 dBm			T1	1		1.895978 GHz	10.47 dBm	Occ Bw	17.964071856 MHz	T2	1		1.9139421 GHz	9.33 dBm			D1	M1	1	19.84 MHz	0.98 dB			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 37.9 μs VBW 1 MHz Mode Auto FFT CF 1.905 GHz 501 pts Span 40.0 MHz <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>1.89524 GHz</td><td>-11.33 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>1.895978 GHz</td><td>9.37 dBm</td><td>Occ Bw</td><td>18.043912176 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>1.914022 GHz</td><td>7.68 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>19.68 MHz</td><td>-1.77 dB</td><td></td><td></td></tr></tbody></table> Date: 28.JUL.2023 02:02:04	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.89524 GHz	-11.33 dBm			T1	1		1.895978 GHz	9.37 dBm	Occ Bw	18.043912176 MHz	T2	1		1.914022 GHz	7.68 dBm			D1	M1	1	19.68 MHz	-1.77 dB		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																		
M1	1		1.89508 GHz	-12.53 dBm																																																																				
T1	1		1.895978 GHz	10.47 dBm	Occ Bw	17.964071856 MHz																																																																		
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M1	1		1.89524 GHz	-11.33 dBm																																																																				
T1	1		1.895978 GHz	9.37 dBm	Occ Bw	18.043912176 MHz																																																																		
T2	1		1.914022 GHz	7.68 dBm																																																																				
D1	M1	1	19.68 MHz	-1.77 dB																																																																				

Spurious Emissions at Antenna Terminal

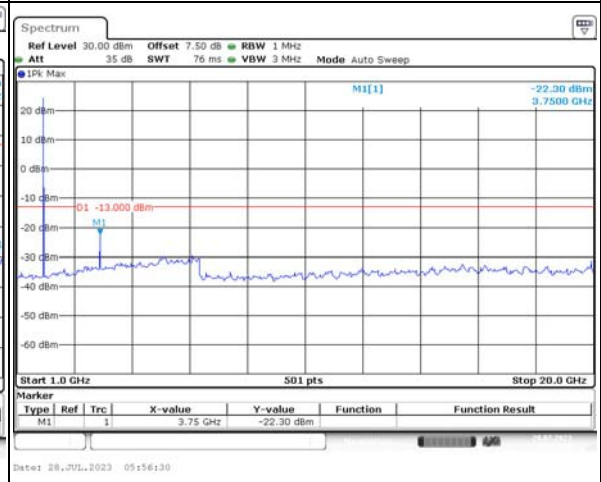
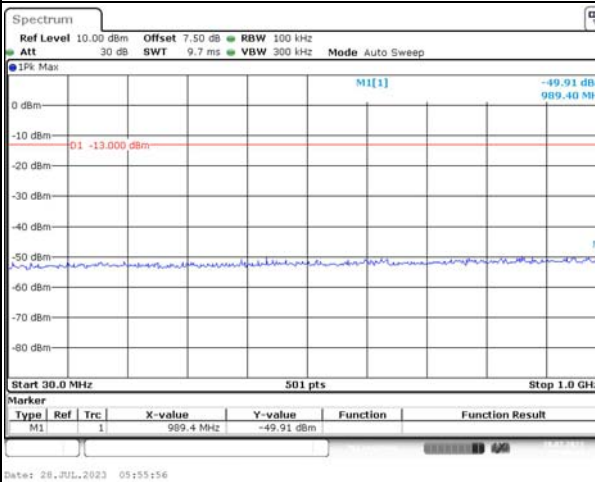
Channel

1.4MHz Bandwidth QPSK

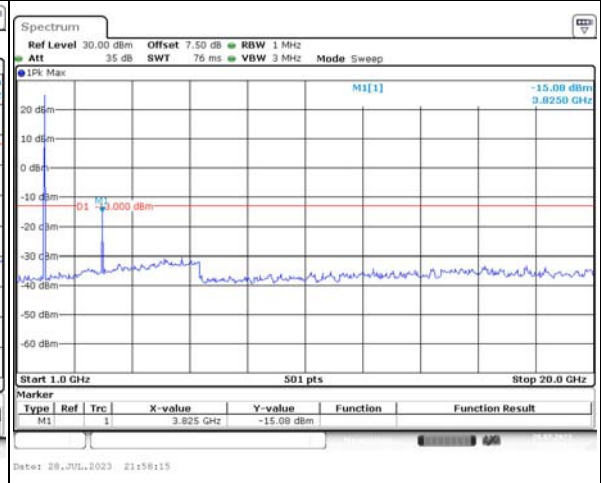
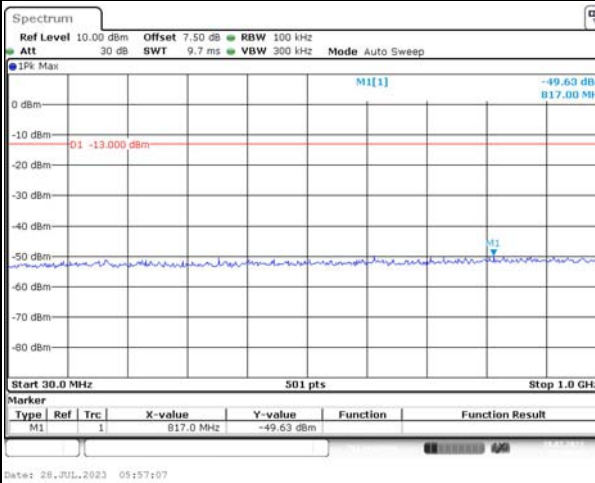
Lowest



Middle



Highest

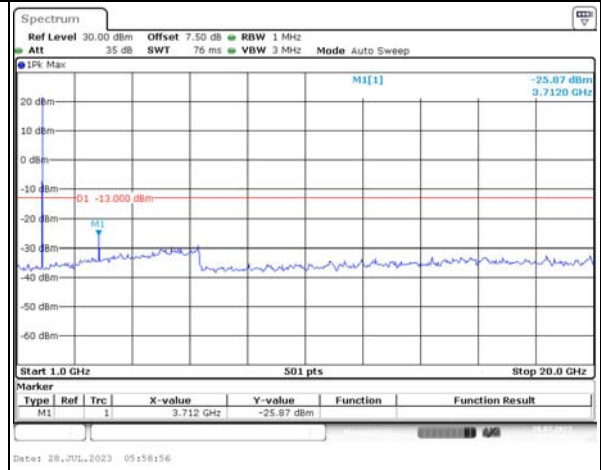
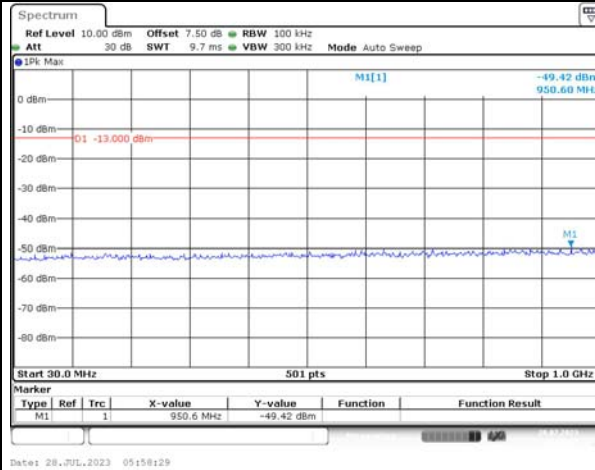


Spurious Emissions at Antenna Terminal

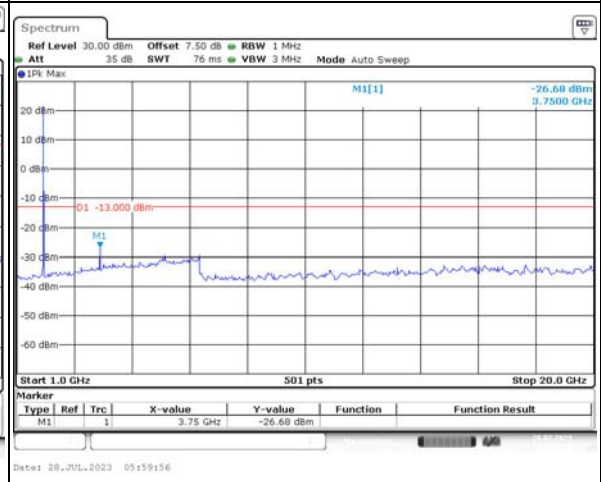
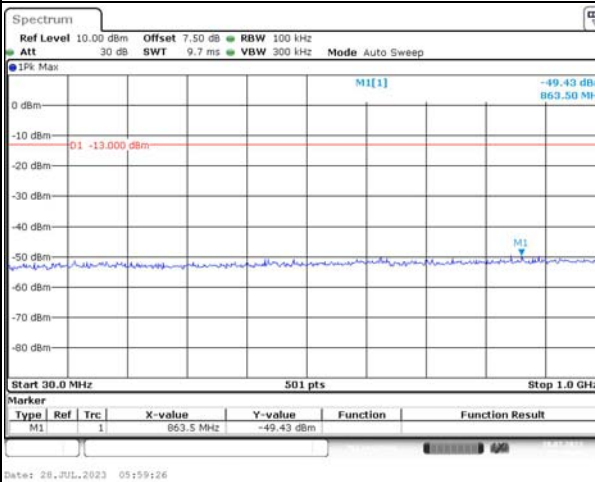
Channel

3MHz Bandwidth QPSK

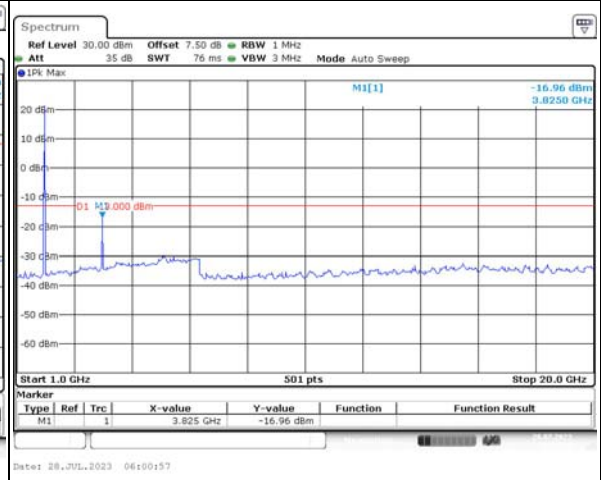
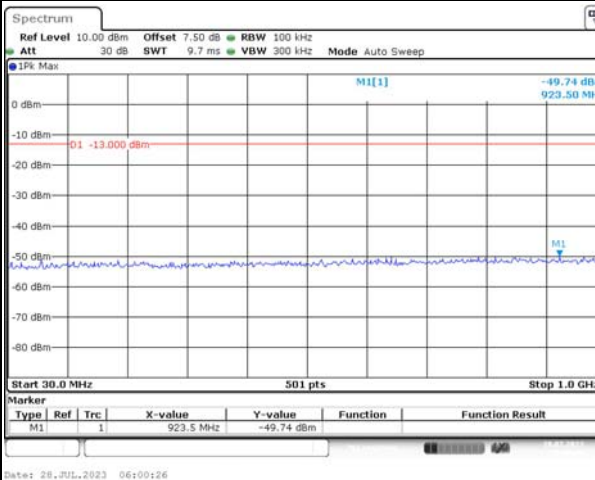
Lowest



Middle



Highest

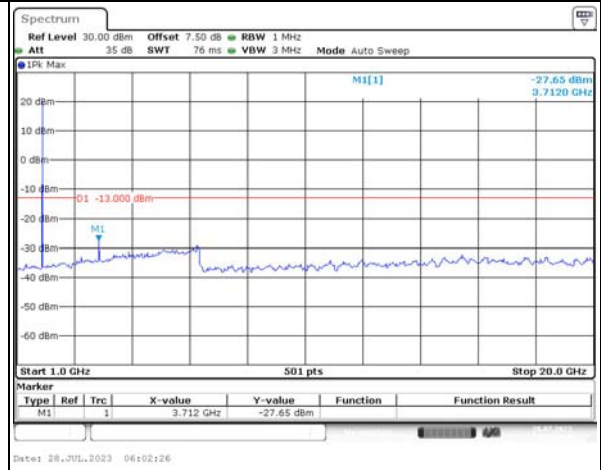
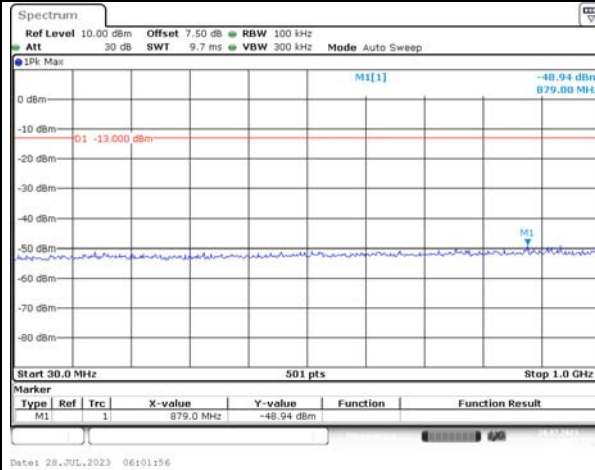


Spurious Emissions at Antenna Terminal

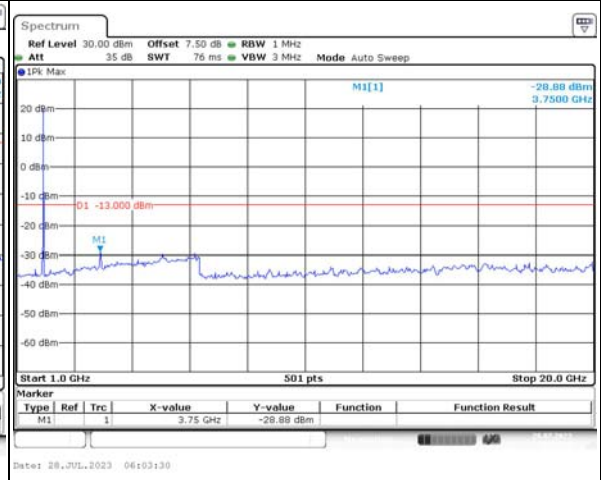
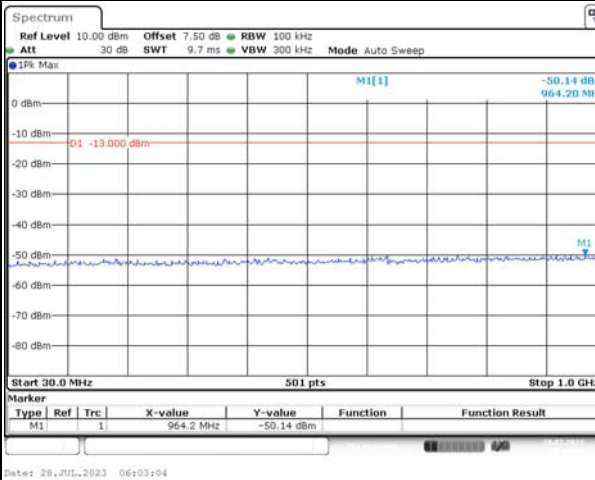
Channel

5MHz Bandwidth QPSK

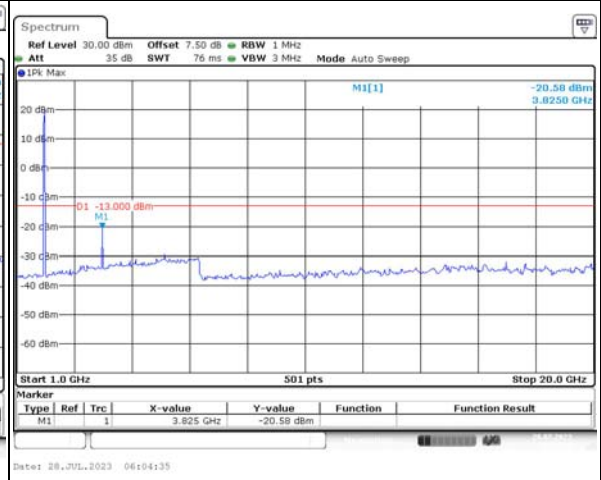
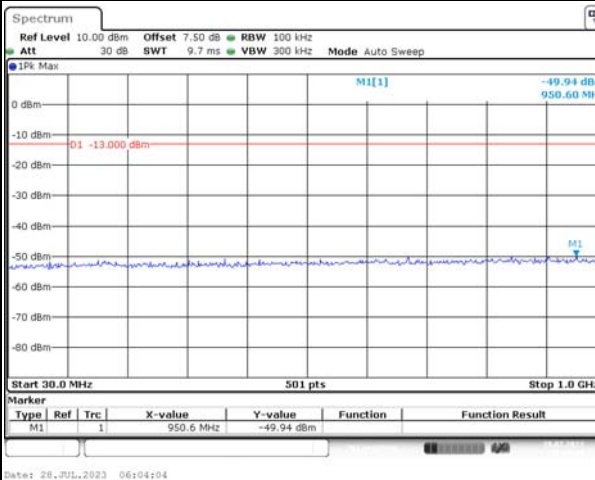
Lowest



Middle



Highest

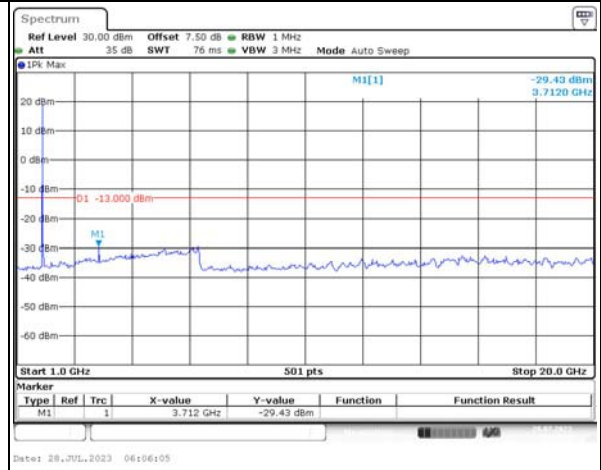
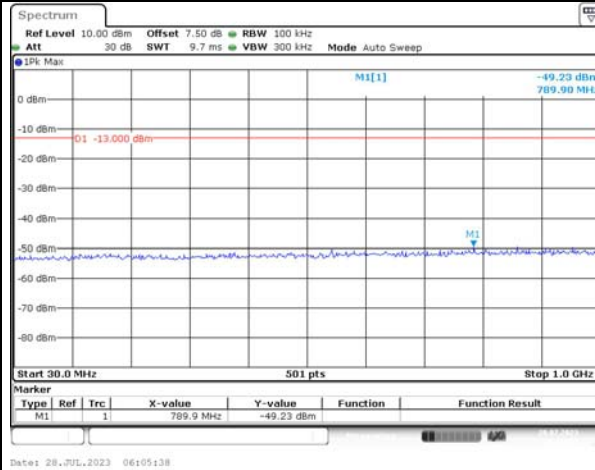


Spurious Emissions at Antenna Terminal

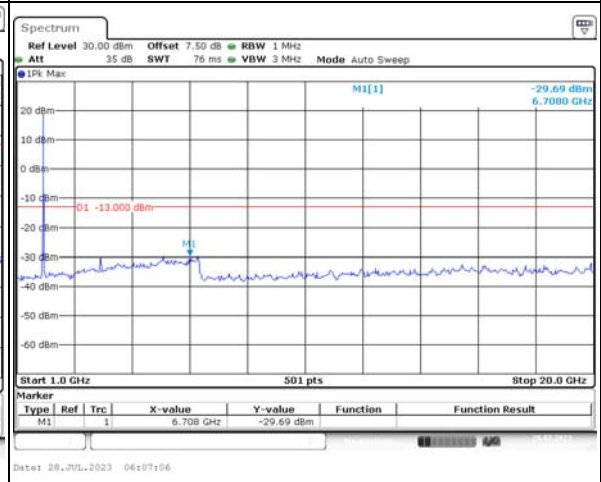
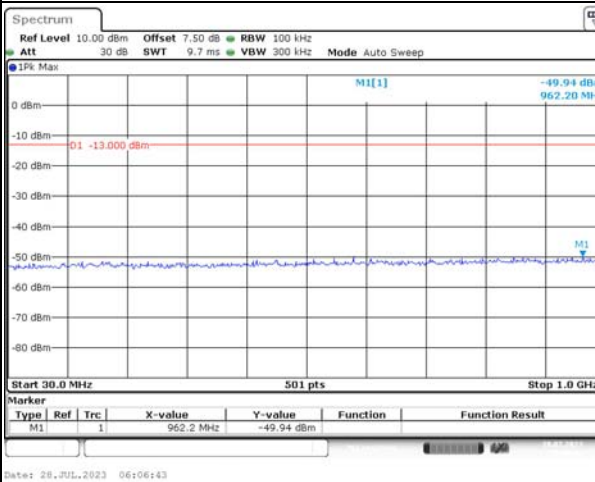
Channel

10MHz Bandwidth QPSK

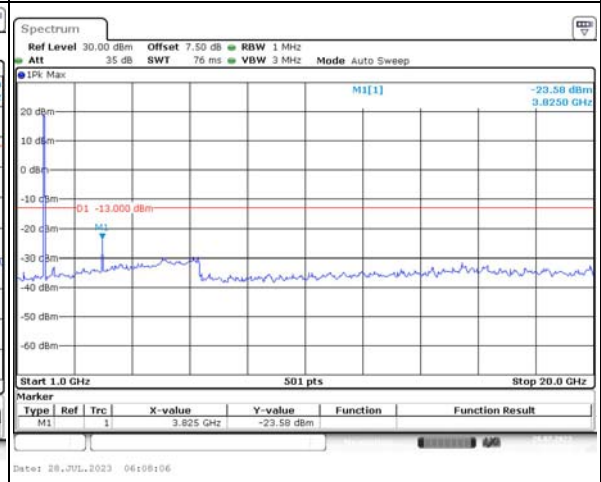
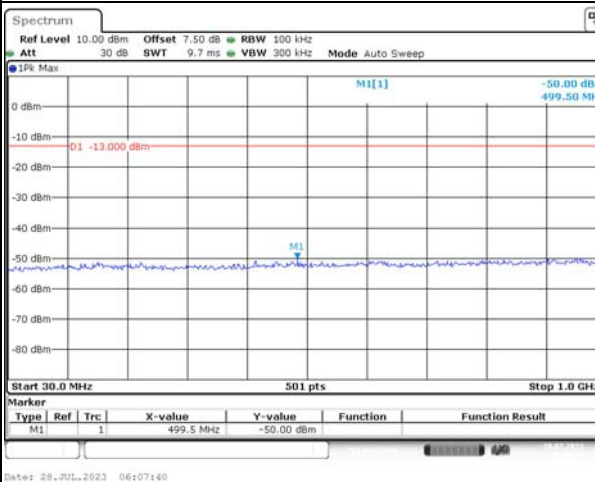
Lowest



Middle



Highest

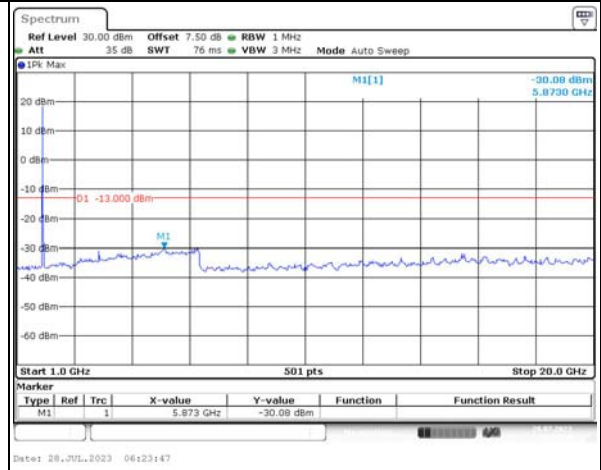
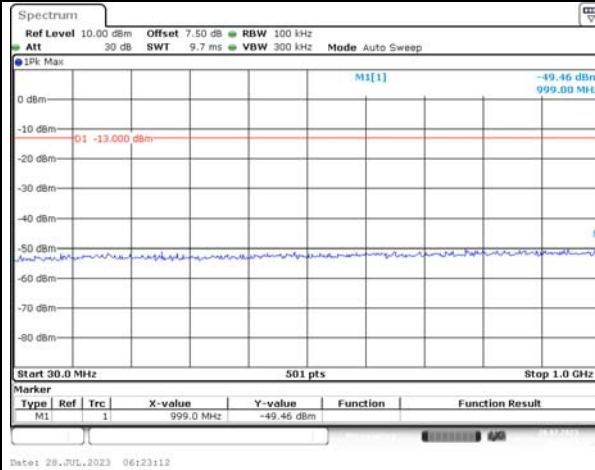


Spurious Emissions at Antenna Terminal

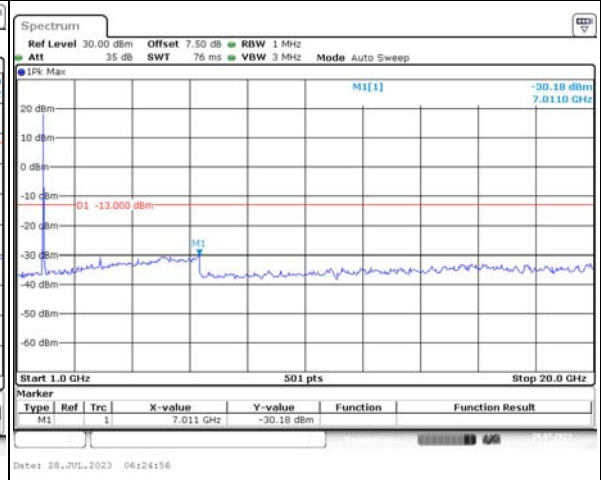
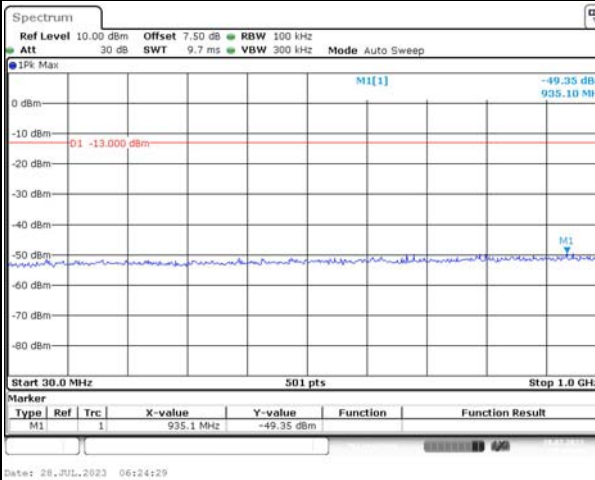
Channel

15MHz Bandwidth QPSK

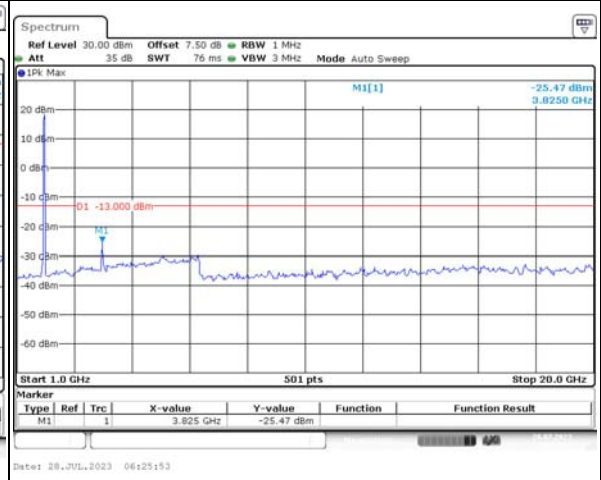
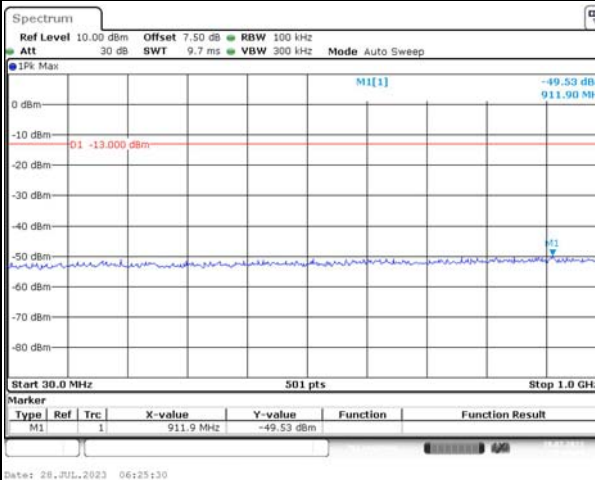
Lowest



Middle



Highest

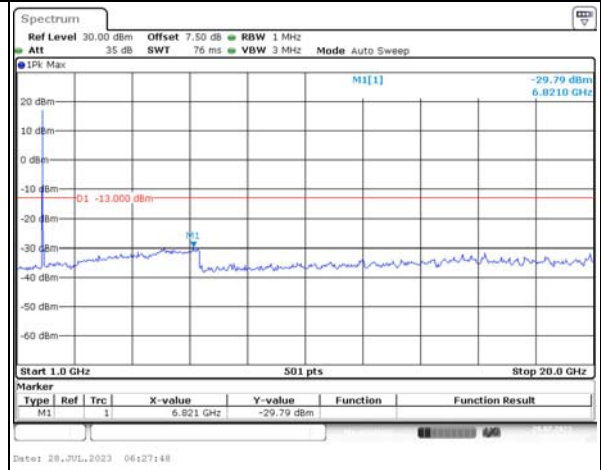
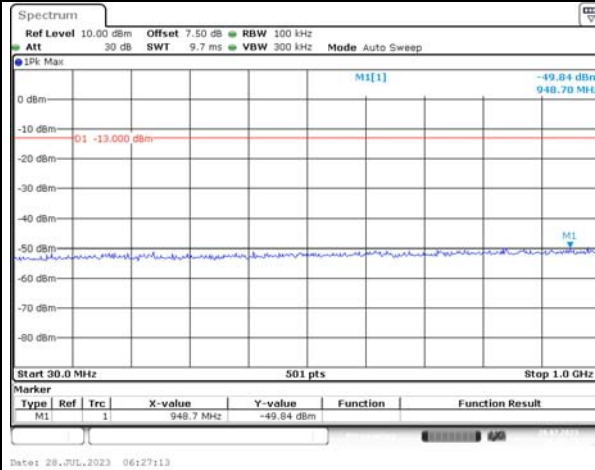


Spurious Emissions at Antenna Terminal

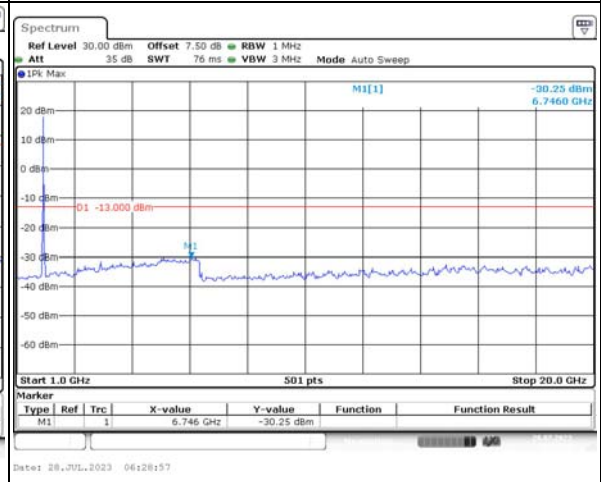
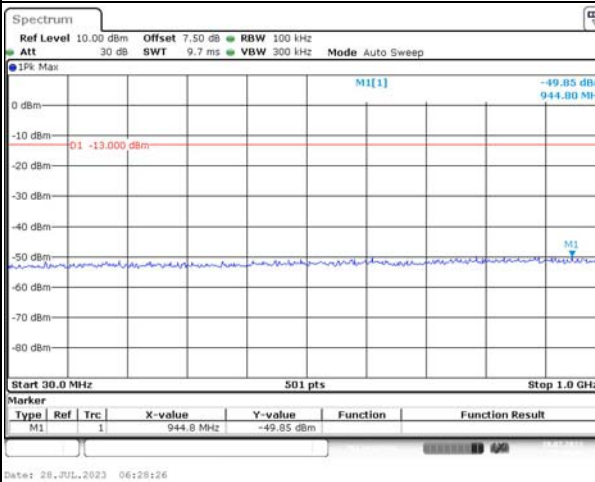
Channel

20MHz Bandwidth QPSK

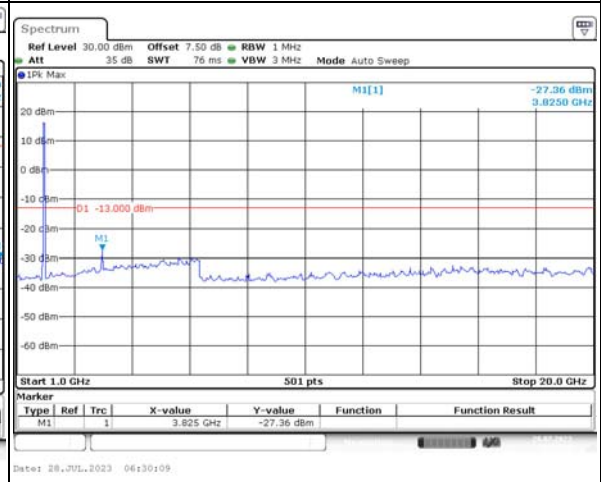
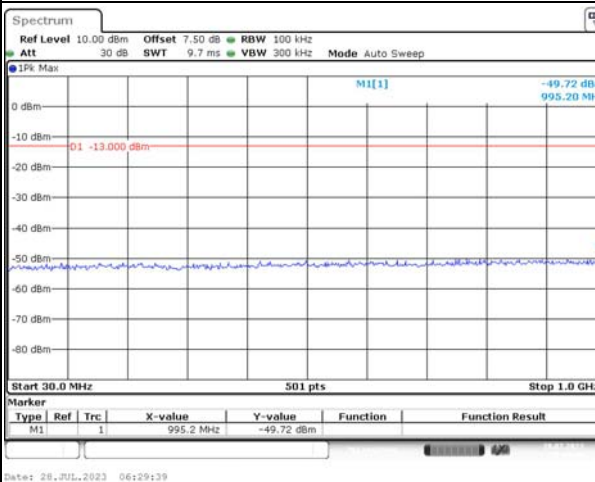
Lowest



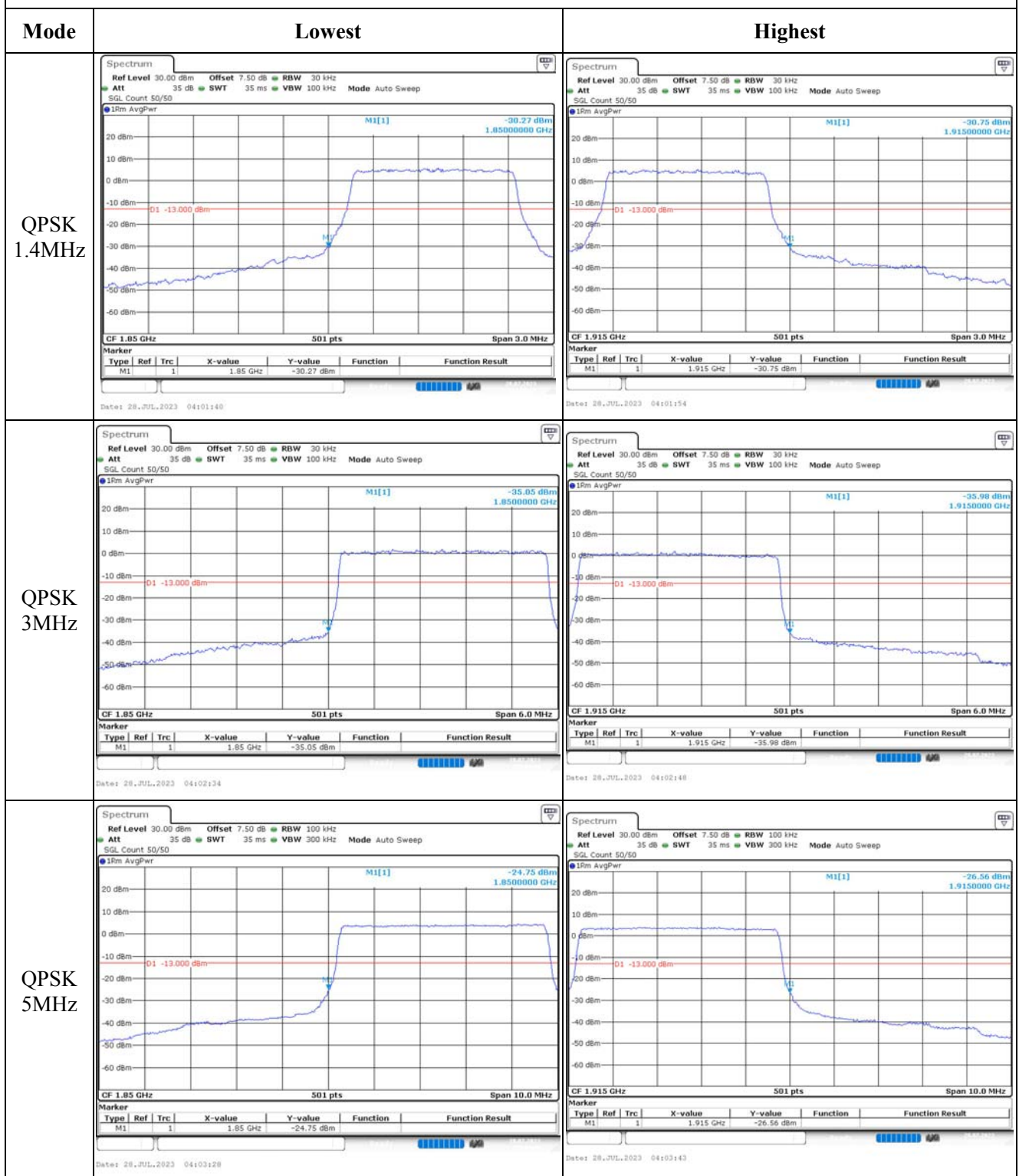
Middle



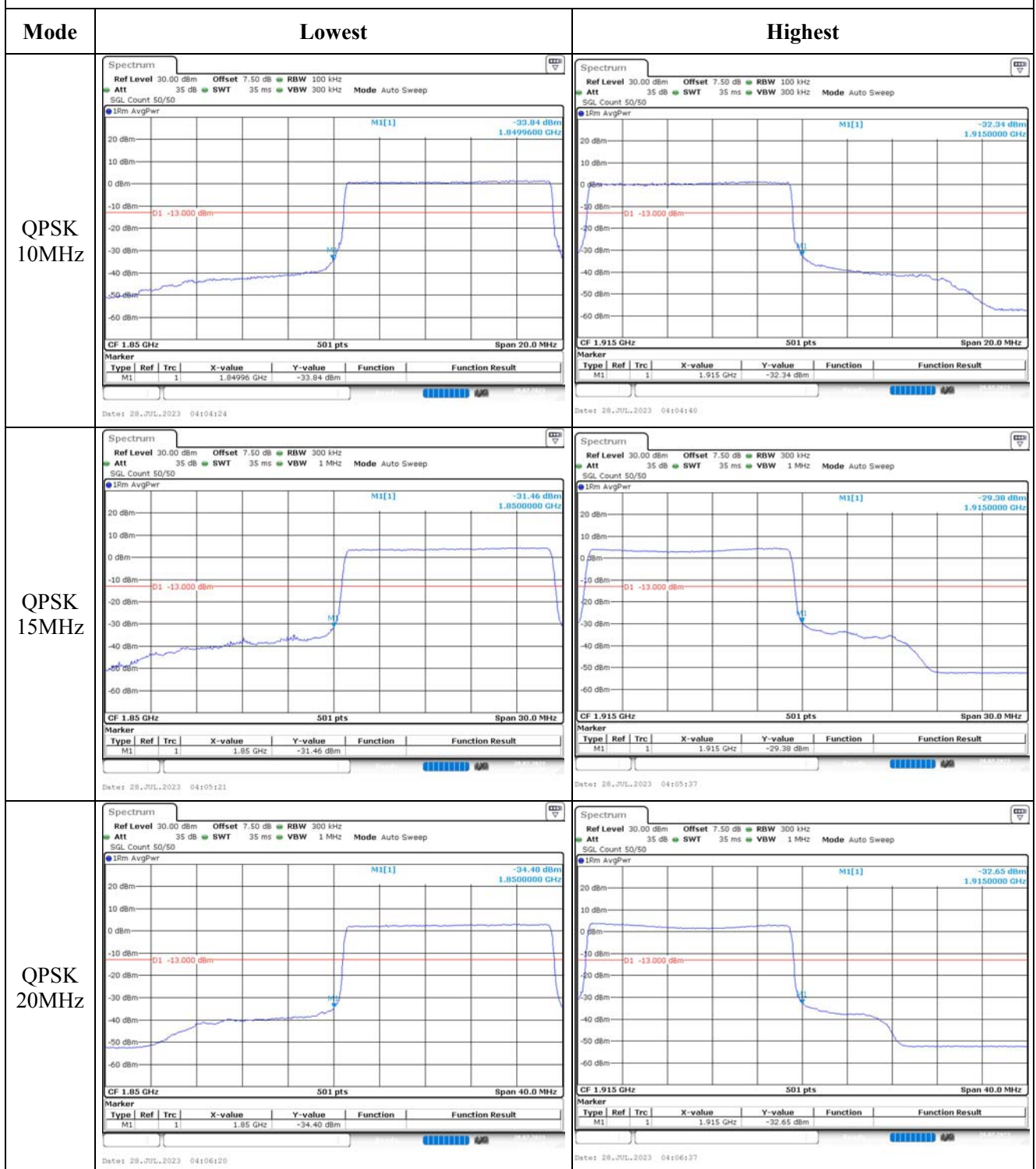
Highest



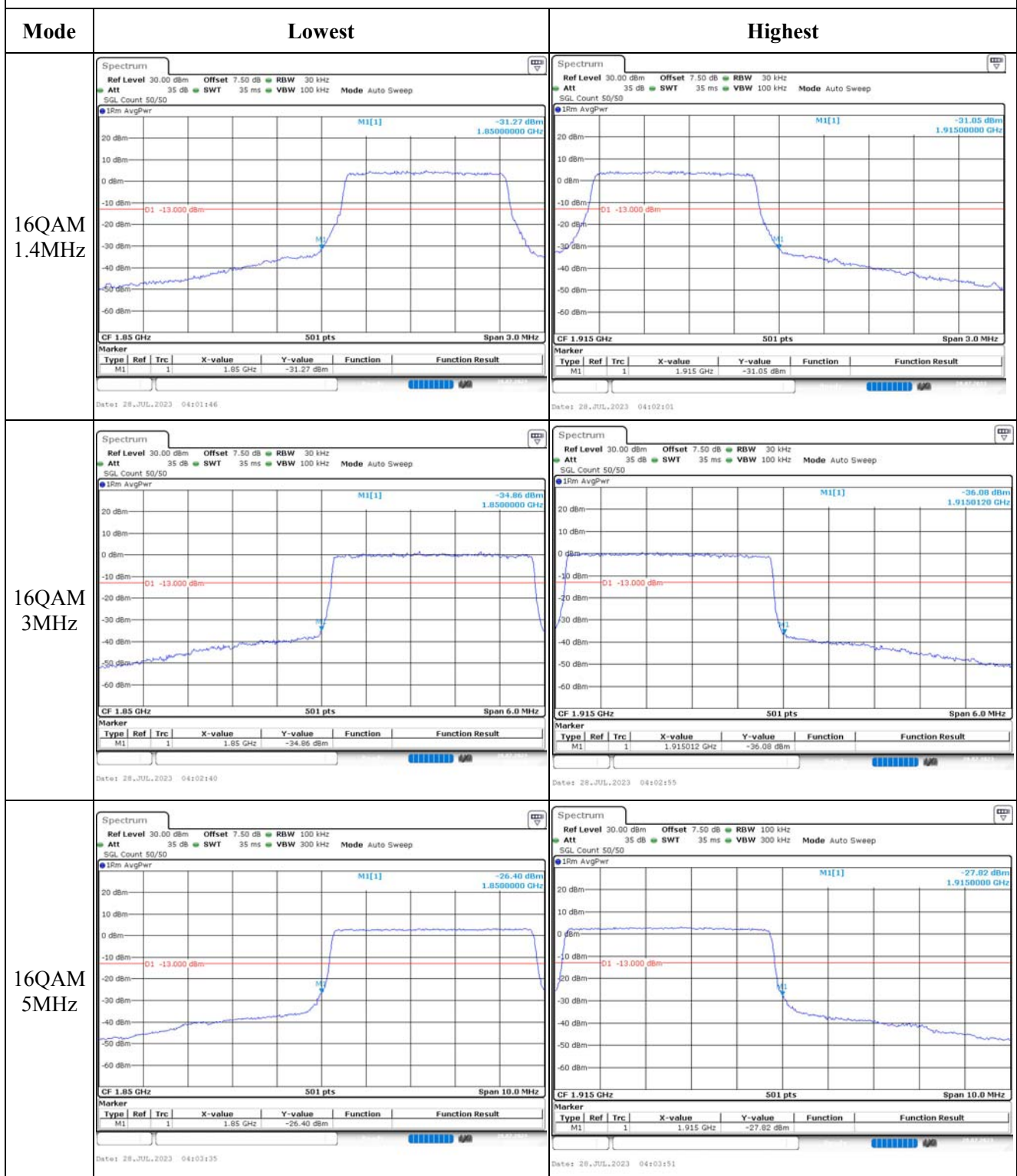
Out of band emission, Band Edge



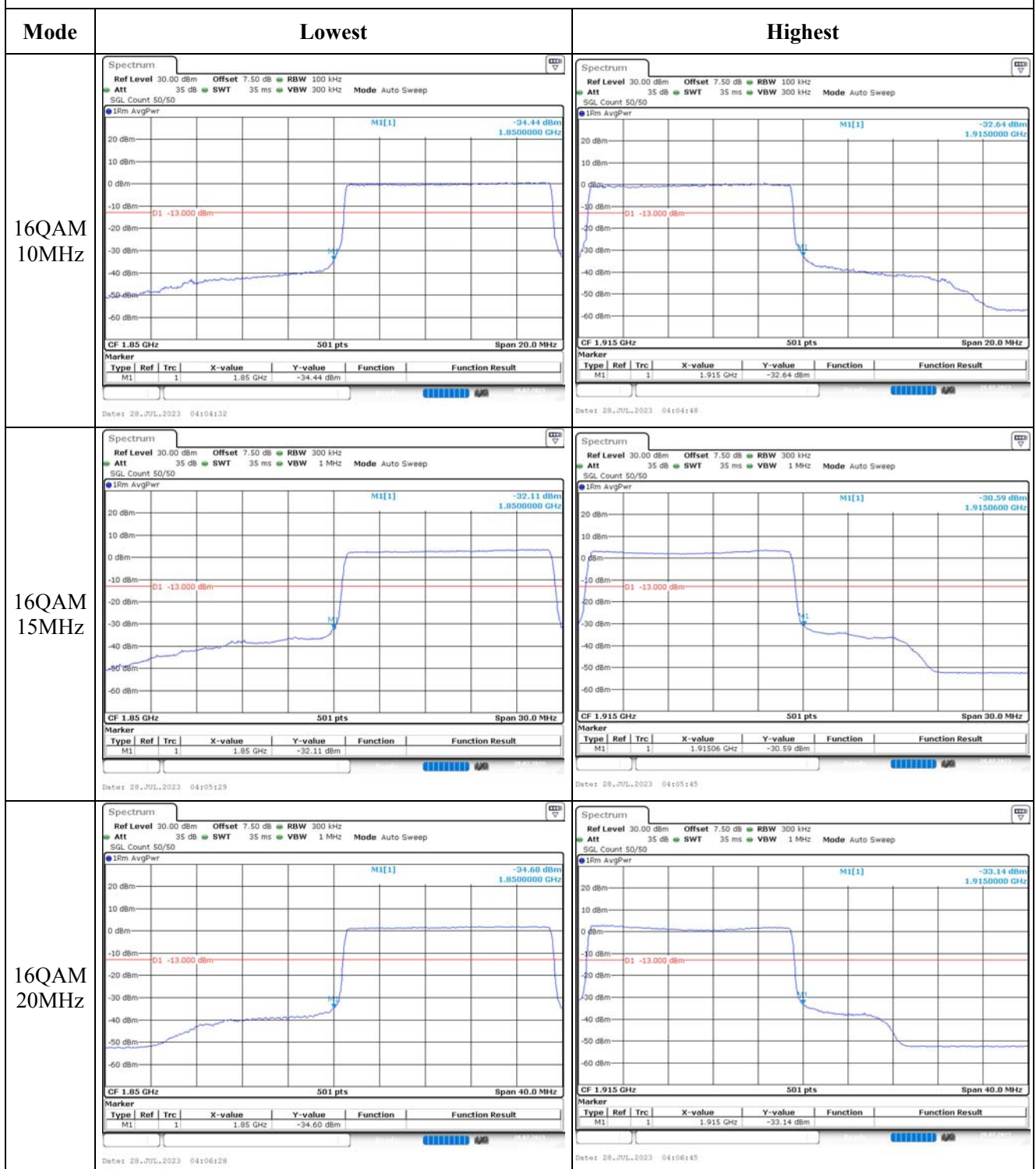
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.12 Antenna Port Test Data and Results for LTE Band 26

Serial Number:	28LK-1	Test Date:	2023/7/28~2023/8/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.2~26.8	Relative Humidity: (%)	42~55	ATM Pressure: (kPa)	99.7~100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	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	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 For 90S (MHz)	Highest Frequency For 90S (MHz)	Channel Cross 90S and 22H	Lowest Frequency For 22H (MHz)	Middle Frequency For 22H (MHz)	Highest Frequency For 22H (MHz)
1.4MHz	814.7	823.3	824	824.7	831.5	848.3
3MHz	815.5	822.5	824	825.5	831.5	847.5
5MHz	816.5	821.5	824	826.5	831.5	846.5
10MHz	819	/	824	829	831.5	844
15MHz	821.5	/	824	831.5	836.5	841.5

4.12.1 Test Data for Part 90S:

FCC§2.1046; § 90.635: RF Output Power						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel For 90S	Highest Channel For 90S	Cross Channel		
1.4MHz QPSK	RB1#0	23.26	23.24	23.4	21.6	50
	RB1#3	23.4	23.08	23.29		
	RB1#5	23.18	22.97	22.97		
	RB3#0	23.29	22.86	22.87		
	RB3#3	23.29	22.7	23.06		
	RB6#0	22.32	22.56	23.03		
1.4MHz 16QAM	RB1#0	22.37	22.49	22.97	21.17	50
	RB1#3	22.57	22.34	22.62		
	RB1#5	22.37	22.14	22.68		
	RB3#0	22.3	21.97	22.24		
	RB3#3	22.33	21.9	22.25		
	RB6#0	21.36	21.73	21.86		
3MHz QPSK	RB1#0	23.35	23.24	23.36	21.56	50
	RB1#8	23.32	23.16	23.36		
	RB1#14	23.32	23.16	23.18		
	RB6#0	22.24	23.1	23.23		
	RB6#9	22.34	22.98	23.13		
	RB15#0	22.31	22.84	22.86		
3MHz 16QAM	RB1#0	22.46	22.73	23.16	21.36	50
	RB1#8	22.45	22.71	23.03		
	RB1#14	22.5	22.53	23.02		
	RB6#0	21.26	22.34	22.49		
	RB6#9	21.38	22.21	22.6		
	RB15#0	21.3	22.03	22.47		
5MHz QPSK	RB1#0	23.21	23.24	23.69	21.89	50
	RB1#13	23.3	23.13	23.28		
	RB1#24	23.19	23.04	23.52		
	RB15#0	22.24	22.95	23.41		
	RB15#10	22.38	22.86	23.3		
	RB25#0	22.32	22.84	23.19		
5MHz 16QAM	RB1#0	22.49	22.71	23.14	21.34	50
	RB1#13	22.66	22.55	22.55		
	RB1#24	22.52	22.43	22.39		
	RB15#0	21.23	22.38	22.86		
	RB15#10	21.37	22.2	22.62		
	RB25#0	21.33	22.04	22.16		
10MHz QPSK	RB1#0	23.28	/	23.24	21.68	50
	RB1#25	23.48	/	23.1		
	RB1#49	23.42	/	23.01		
	RB25#0	22.27	/	22.85		

	RB25#25	22.46	/	22.7		
	RB50#0	22.39	/	22.52		
10MHz 16QAM	RB1#0	22.46	/	22.48	20.82	50
	RB1#25	22.62	/	22.33		
	RB1#49	22.52	/	22.19		
	RB25#0	21.31	/	22.02		
	RB25#25	21.5	/	21.93		
	RB50#0	21.38	/	21.81		
15MHz QPSK	RB1#0	23.17	/	23.24	21.53	50
	RB1#38	23.33	/	23.16		
	RB1#74	23.31	/	23.13		
	RB36#0	22.26	/	22.99		
	RB36#39	22.37	/	22.91		
	RB75#0	22.35	/	22.8		
15MHz 16QAM	RB1#0	22.79	/	22.66	21.16	50
	RB1#38	22.91	/	22.52		
	RB1#74	22.96	/	22.43		
	RB36#0	21.23	/	22.28		
	RB36#39	21.41	/	22.11		
	RB75#0	21.3	/	22.02		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)

Gr(dBd)=Gr(dBi)-2.15

Result:

Pass

FCC §2.1049, §90.209: Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Lowest For 90S	Highest For 90S	Cross	Lowest For 90S	Highest For 90S	Cross
1.4MHz QPSK	1.096	1.102	1.096	1.314	1.317	1.312
1.4MHz 16QAM	1.09	1.09	1.102	1.284	1.293	1.324
3MHz QPSK	2.683	2.683	2.683	2.88	2.874	2.874
3MHz 16QAM	2.683	2.683	2.683	2.868	2.886	2.898
5MHz QPSK	4.491	4.511	4.511	4.94	4.97	5.014
5MHz 16QAM	4.491	4.511	4.491	4.98	4.97	4.954
10MHz QPSK	8.942	/	8.942	9.68	/	9.625
10MHz 16QAM	8.942	/	8.942	9.56	/	9.745
15MHz QPSK	13.473	/	13.473	14.7	/	14.97
15MHz 16QAM	13.473	/	13.473	14.58	/	14.91

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

FCC §2.1051, §90.691: Spurious Emissions at Antenna Terminal

Result:	Pass. Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, §90.691: Out of band emission, Band Edge

Result:	Pass. Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §90.213: Frequency Stability

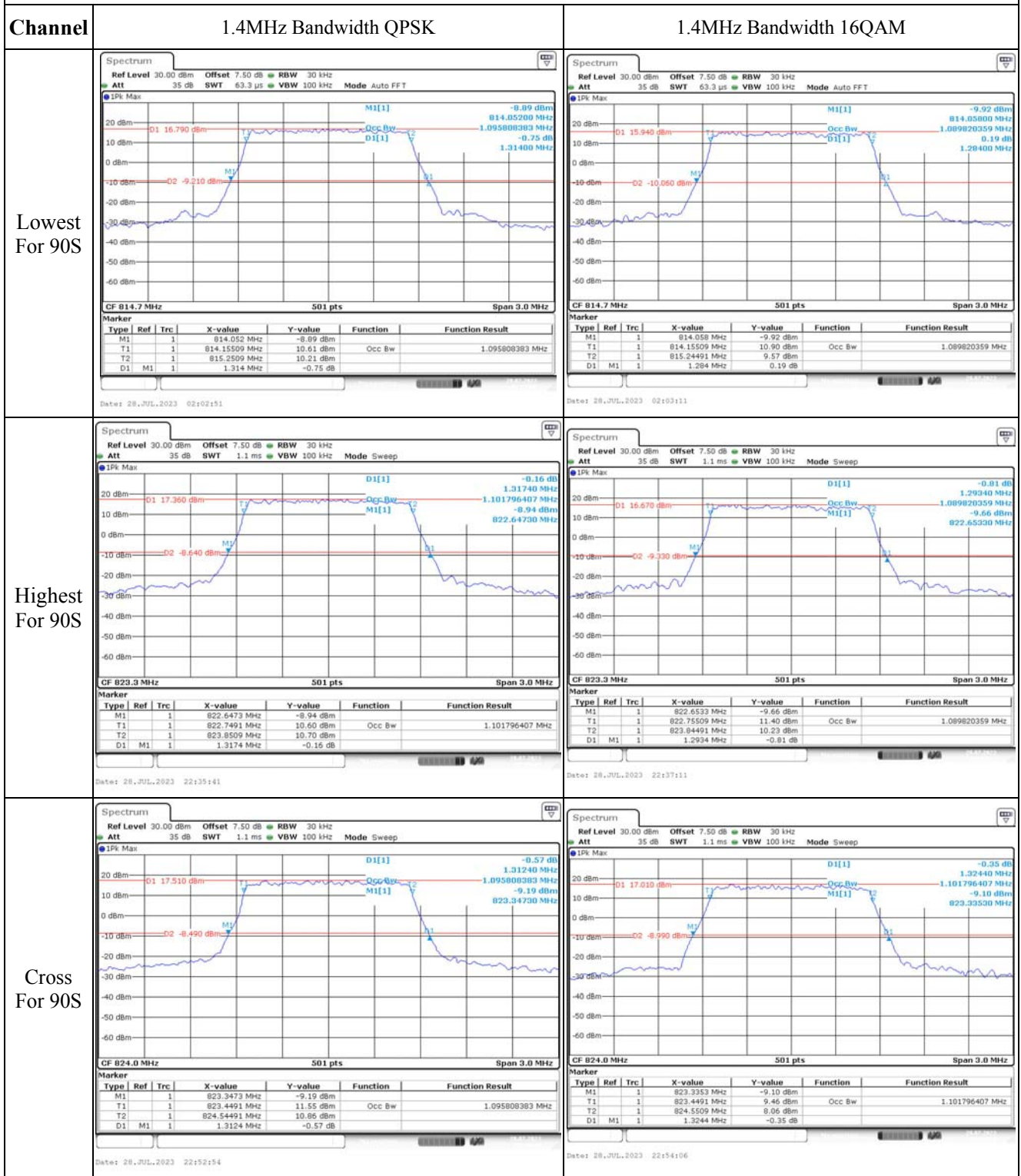
Test Modulation:	15 MHz QPSK		Test Channel:	821.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	-5.28	-0.006	2.5
	-20	3.8	6.09	0.007	2.5
	-10	3.8	-7.02	-0.008	2.5
	0	3.8	7.35	0.009	2.5
	10	3.8	8.23	0.010	2.5
	20	3.8	-9.14	-0.011	2.5
	30	3.8	9.53	0.011	2.5
	40	3.8	-6.52	-0.008	2.5
	50	3.8	-7.83	-0.009	2.5
Frequency Stability vs. Voltage	20	3.65	7.38	0.009	2.5
	20	4.35	7.02	0.008	2.5
Result:				Pass	

FCC §2.1055, §90.213: Frequency Stability

Test Modulation:	15 MHz 16QAM		Test Channel:	821.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	-6.19	-0.007	2.5
	-20	3.8	-6.9	-0.008	2.5
	-10	3.8	-8.41	-0.010	2.5
	0	3.8	-8.47	-0.010	2.5
	10	3.8	6.4	0.008	2.5
	20	3.8	-6.95	-0.008	2.5
	30	3.8	6.53	0.008	2.5
	40	3.8	9.18	0.011	2.5
	50	3.8	7.47	0.009	2.5
Frequency Stability vs. Voltage	20	3.65	8.88	0.011	2.5
	20	4.35	-7.46	-0.009	2.5
Result:				Pass	

4.12.2 Test Plots for Part 90S:

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

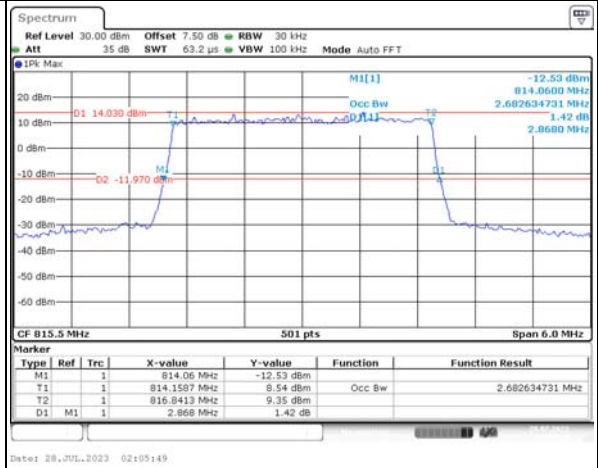
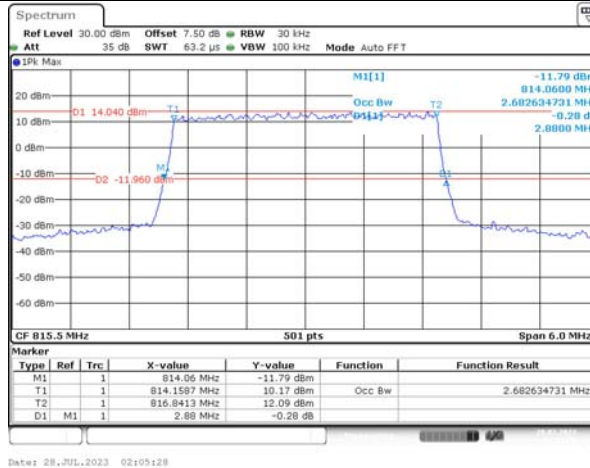
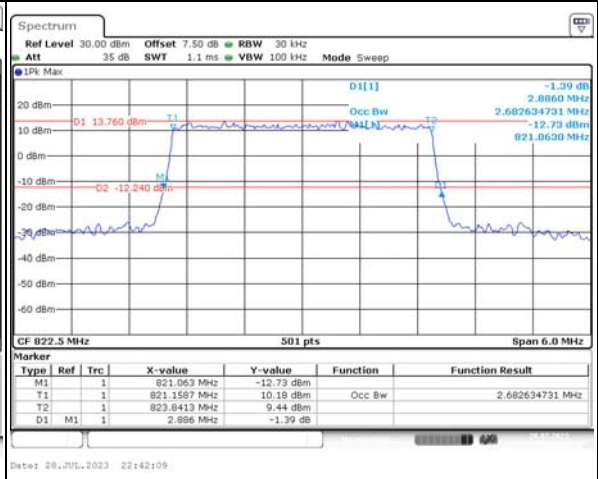
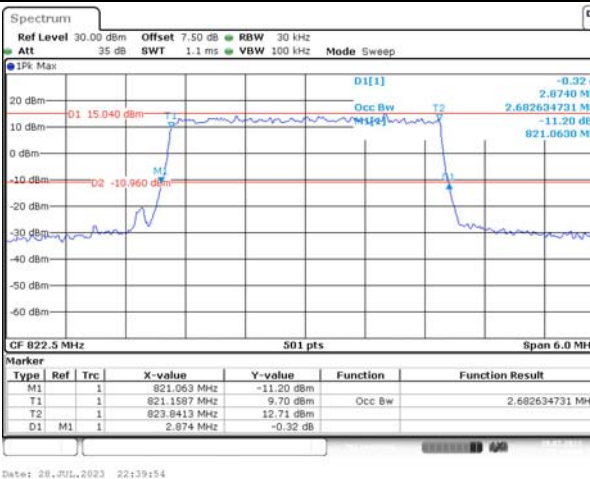
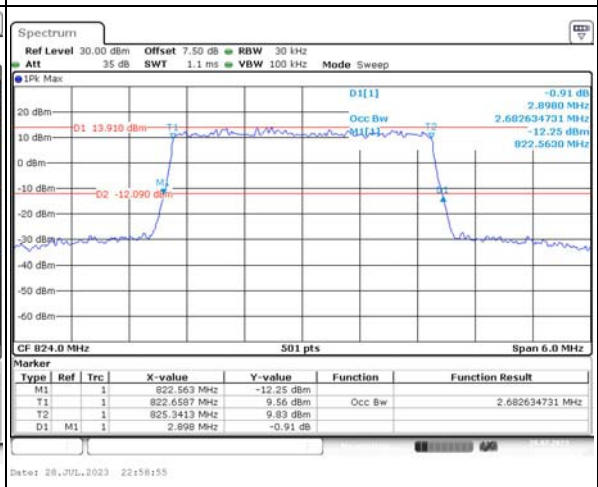
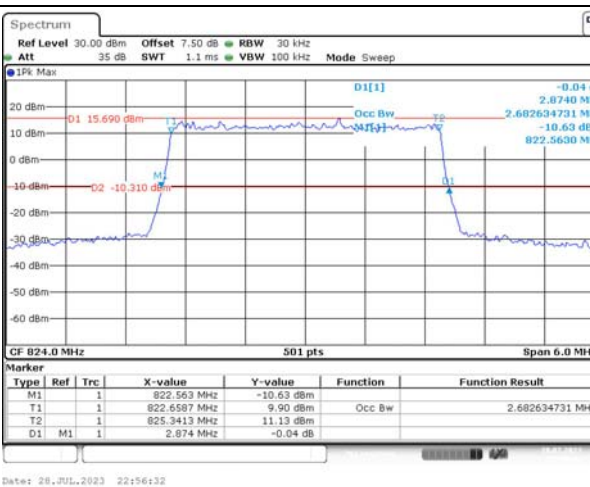
Occupied Bandwidth

Occupied Bandwidth

Channel

3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

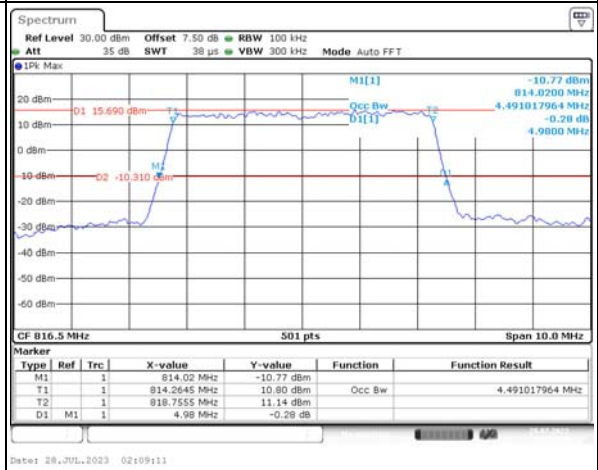
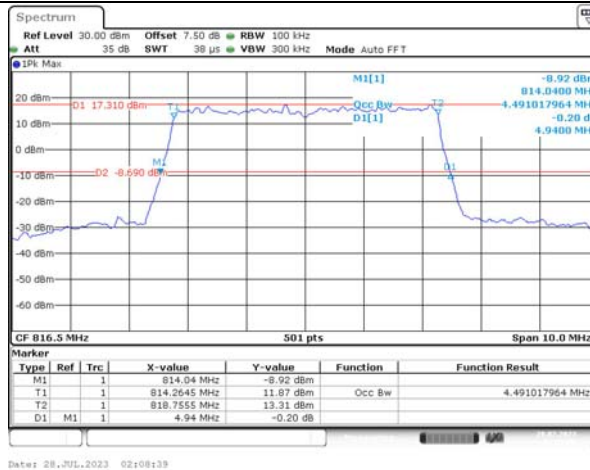
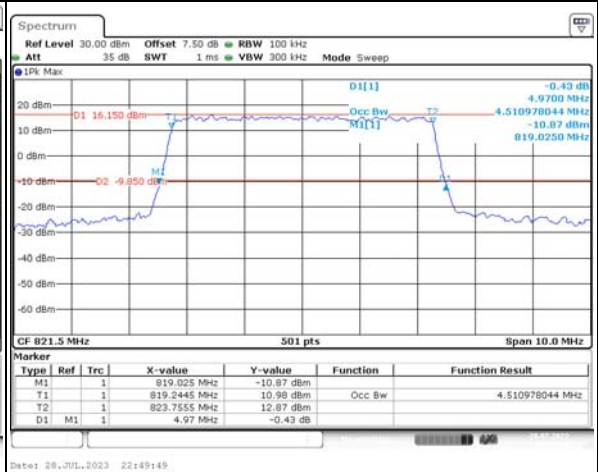
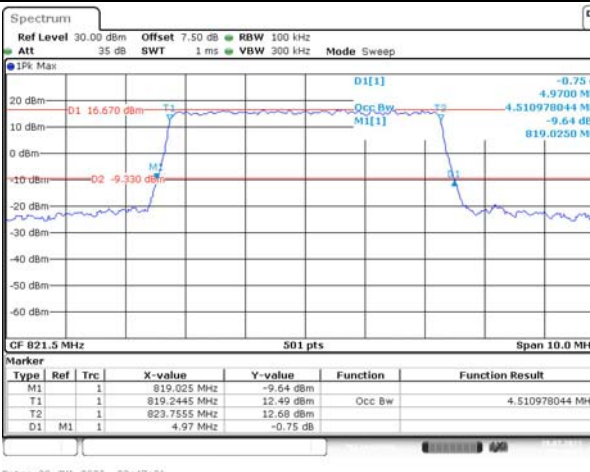
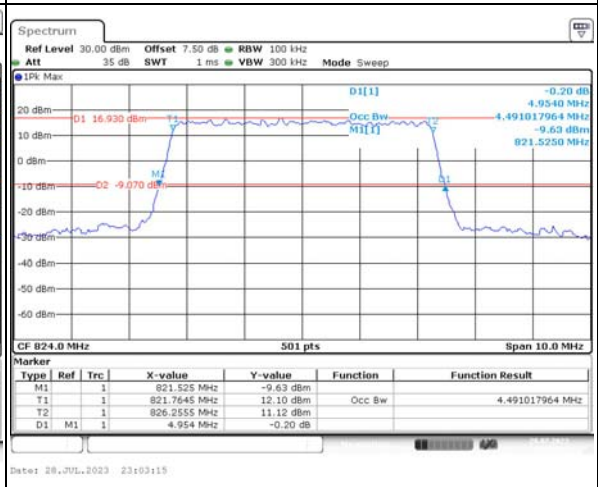
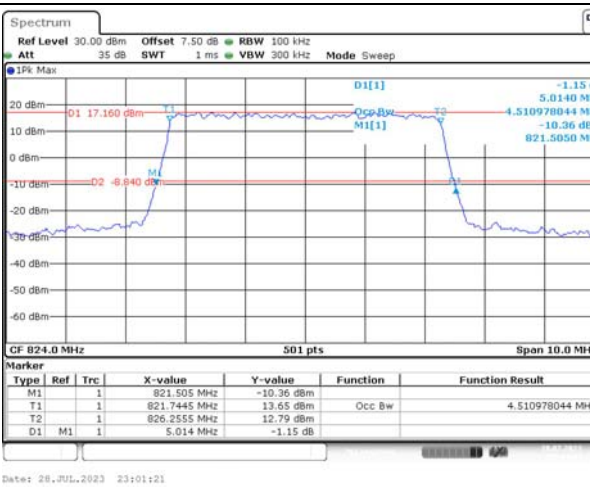
Lowest
For 90SHighest
For 90SCross
For 90S

Occupied Bandwidth

Channel

5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

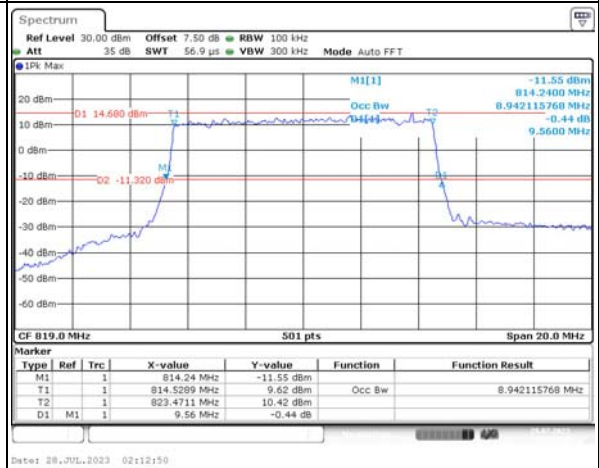
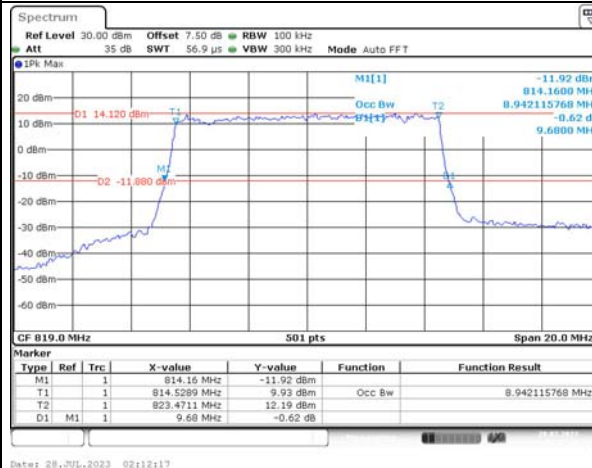
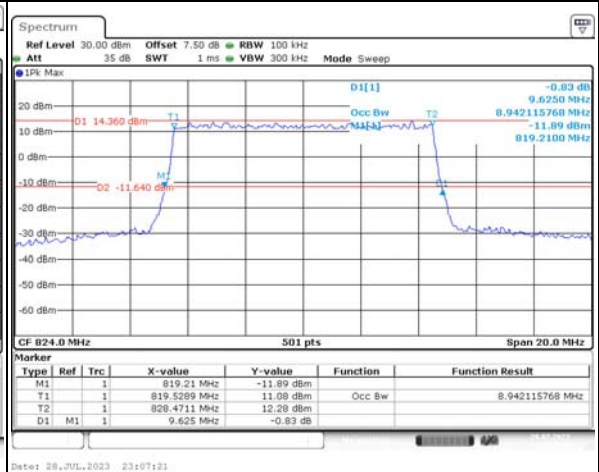
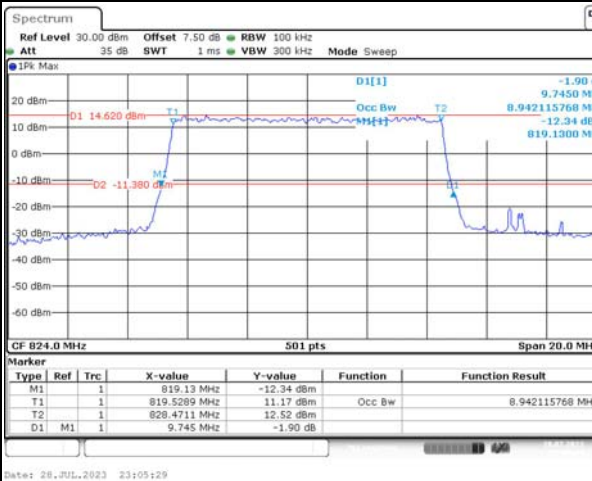
Lowest
For 90SHighest
For 90SCross
For 90S

Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

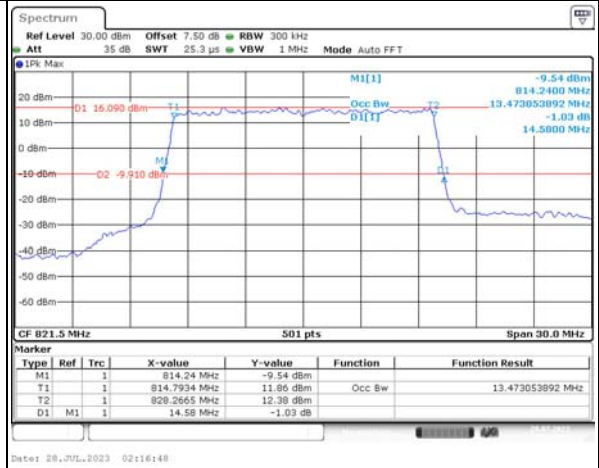
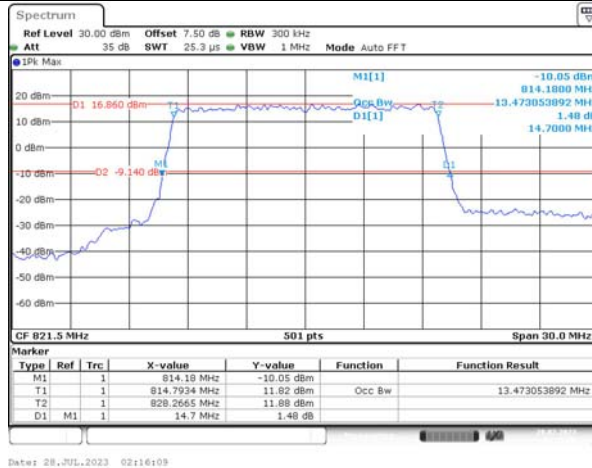
Lowest
For 90SCross
Channel

Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

Middle
For 90SCross
Channel