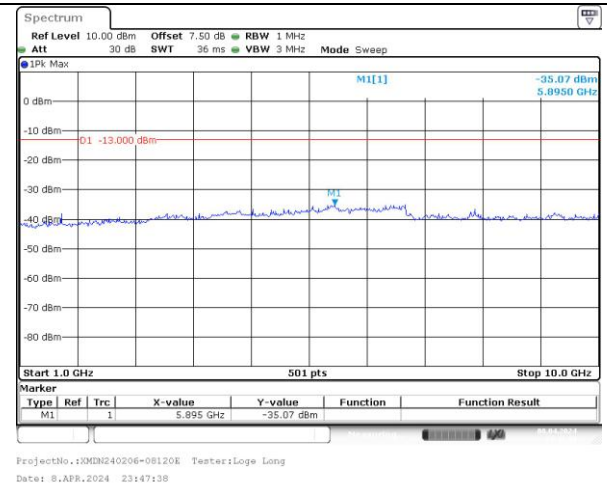
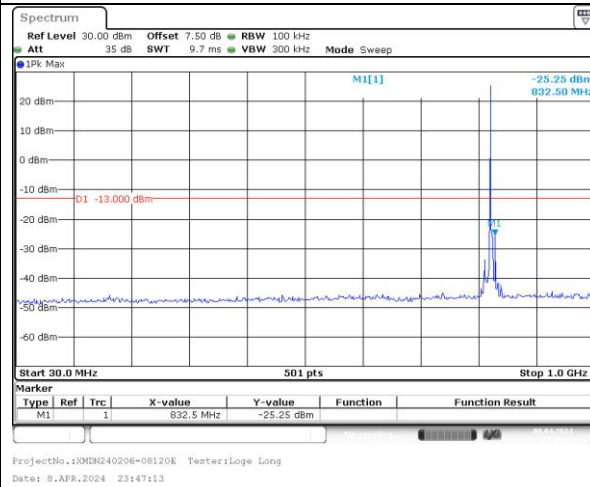
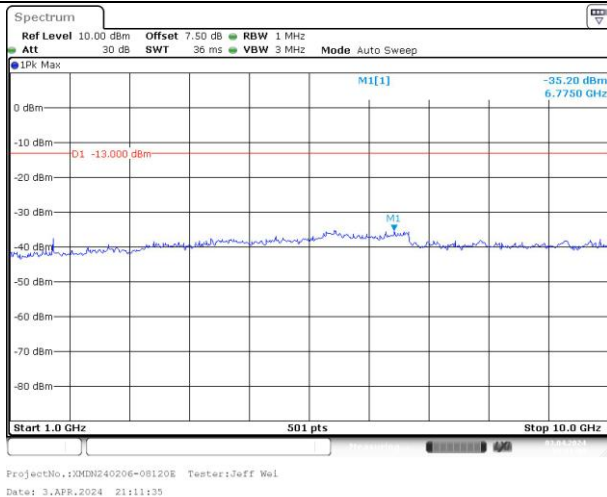
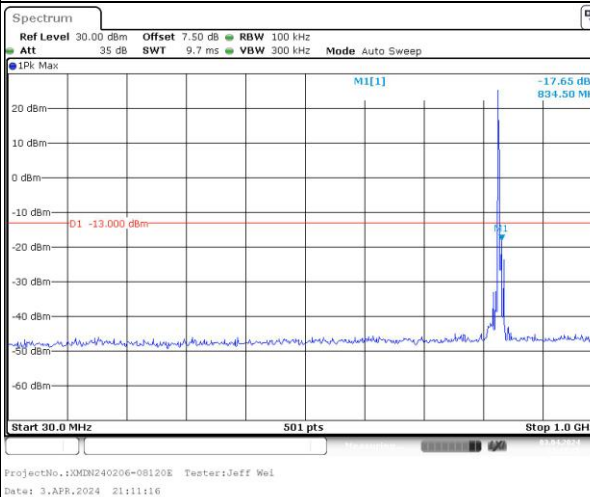
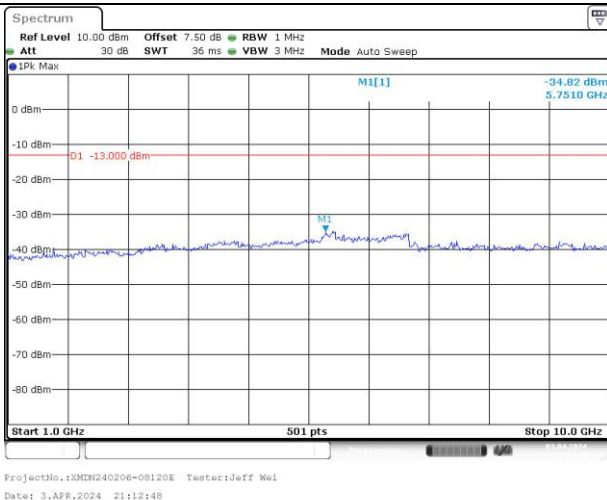
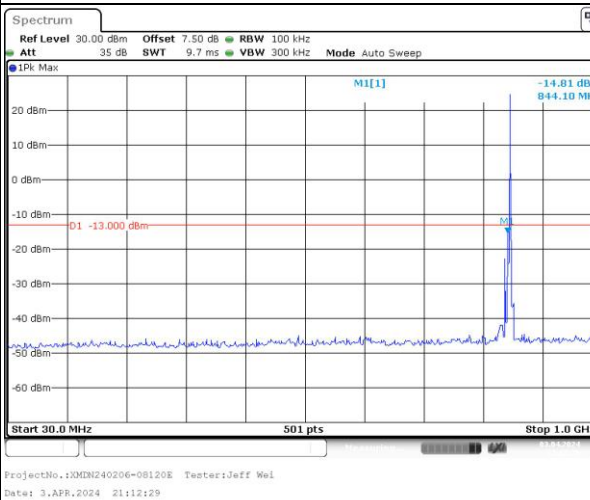


Spurious Emissions at Antenna Terminal

Channel

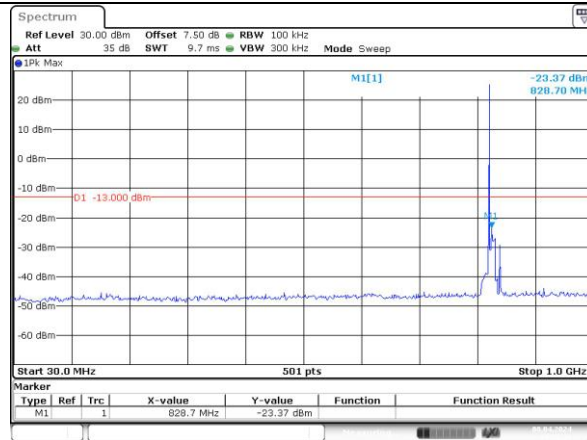
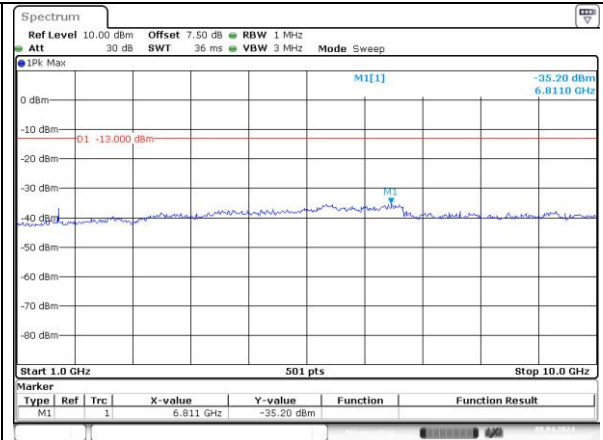
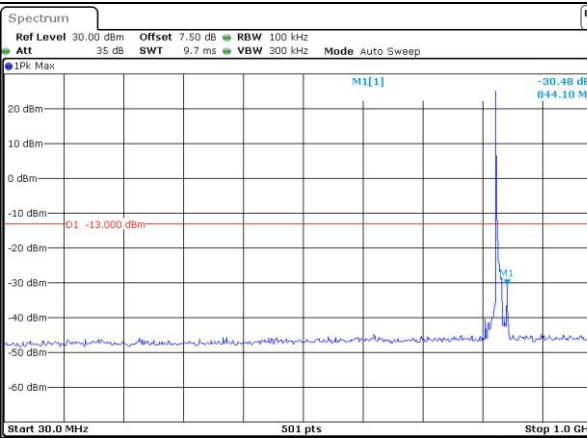
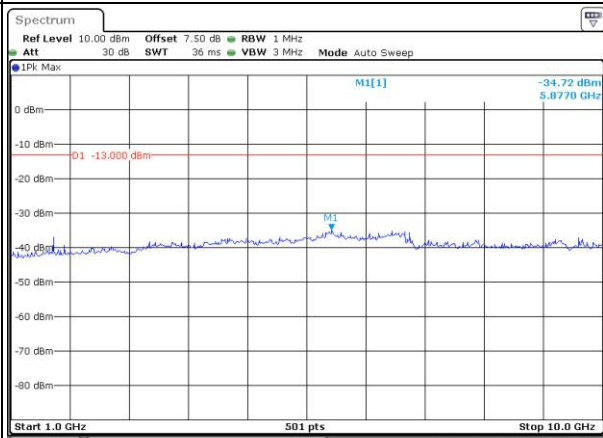
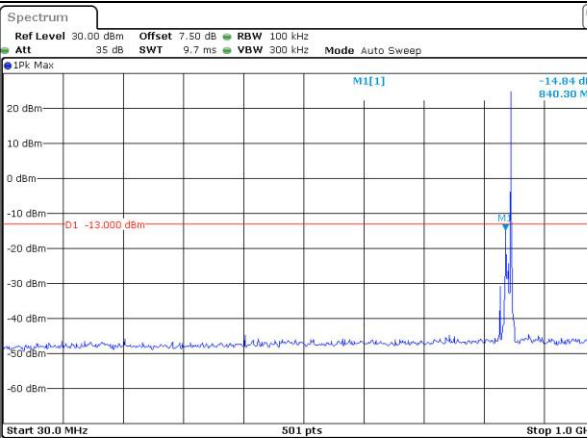
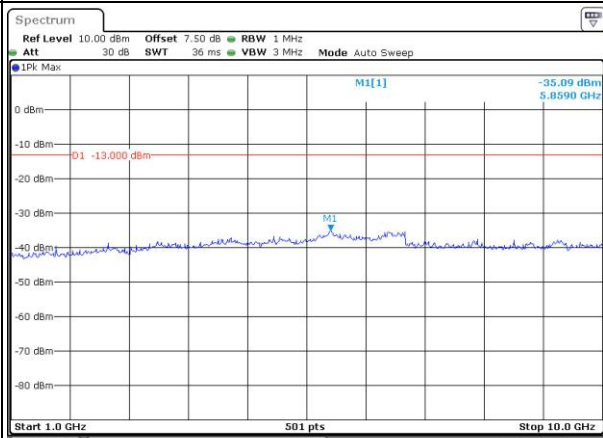
5MHz Bandwidth QPSK

Lowest
For
22HMiddle
For
22HHighest
For
22H

Spurious Emissions at Antenna Terminal

Channel

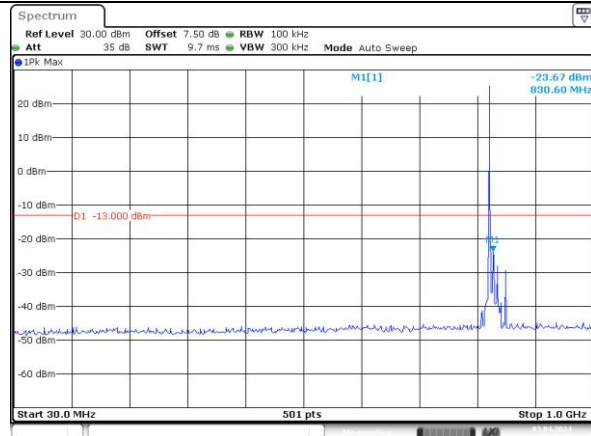
10MHz Bandwidth QPSK

Lowest
For
22HProjectNo.:XMDN240206-08120E Tester:Loge Long
Date: 8.APR.2024 23:55:10ProjectNo.:XMDN240206-08120E Tester:Loge Long
Date: 8.APR.2024 23:55:33Middle
For
22HProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 3.APR.2024 21:21:30ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 3.APR.2024 21:21:55Highest
For
22HProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 3.APR.2024 21:22:14ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 3.APR.2024 21:22:53

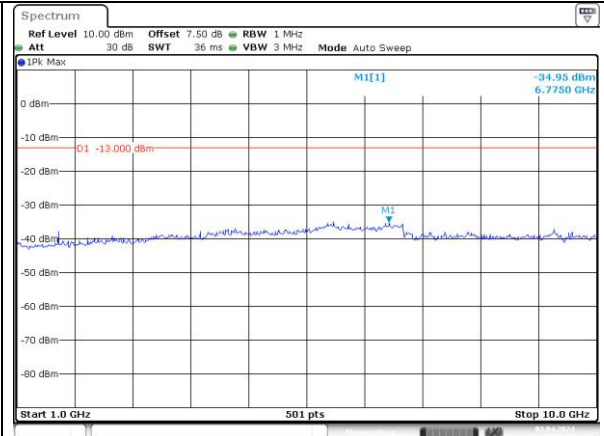
Spurious Emissions at Antenna Terminal

Channel

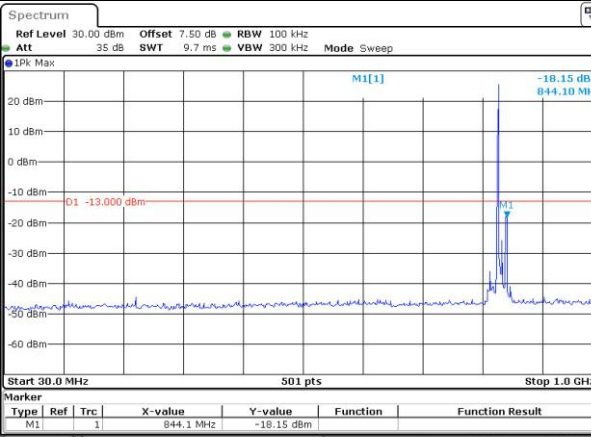
15MHz Bandwidth QPSK

Lowest
For
22H

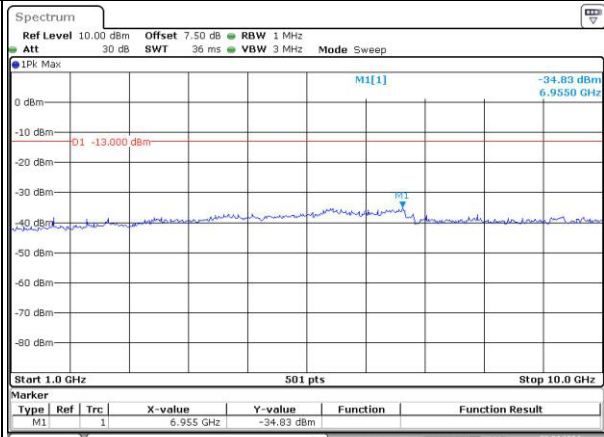
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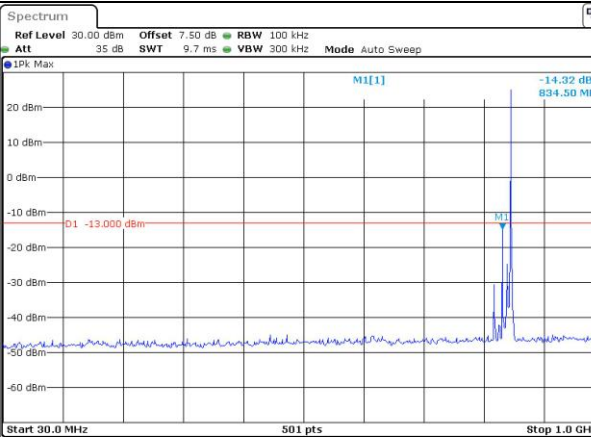
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Date: 3.APR.2024 21:26:07

Middle
For
22H

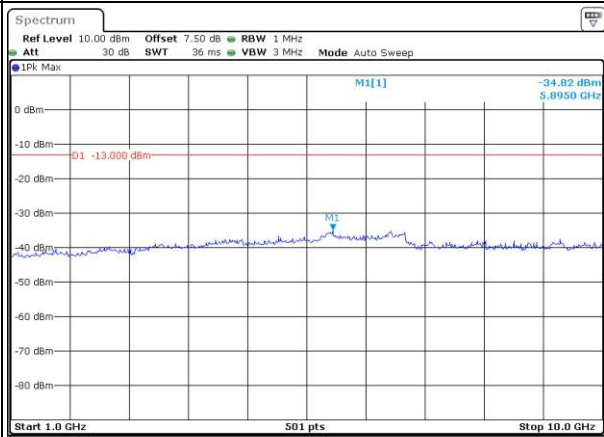
ProjectNo.:XMDN240206-08120E Tester:Loge Long
Date: 9.APR.2024 00:00:21



ProjectNo.:XMDN240206-08120E Tester:Loge Long
Date: 9.APR.2024 00:00:43

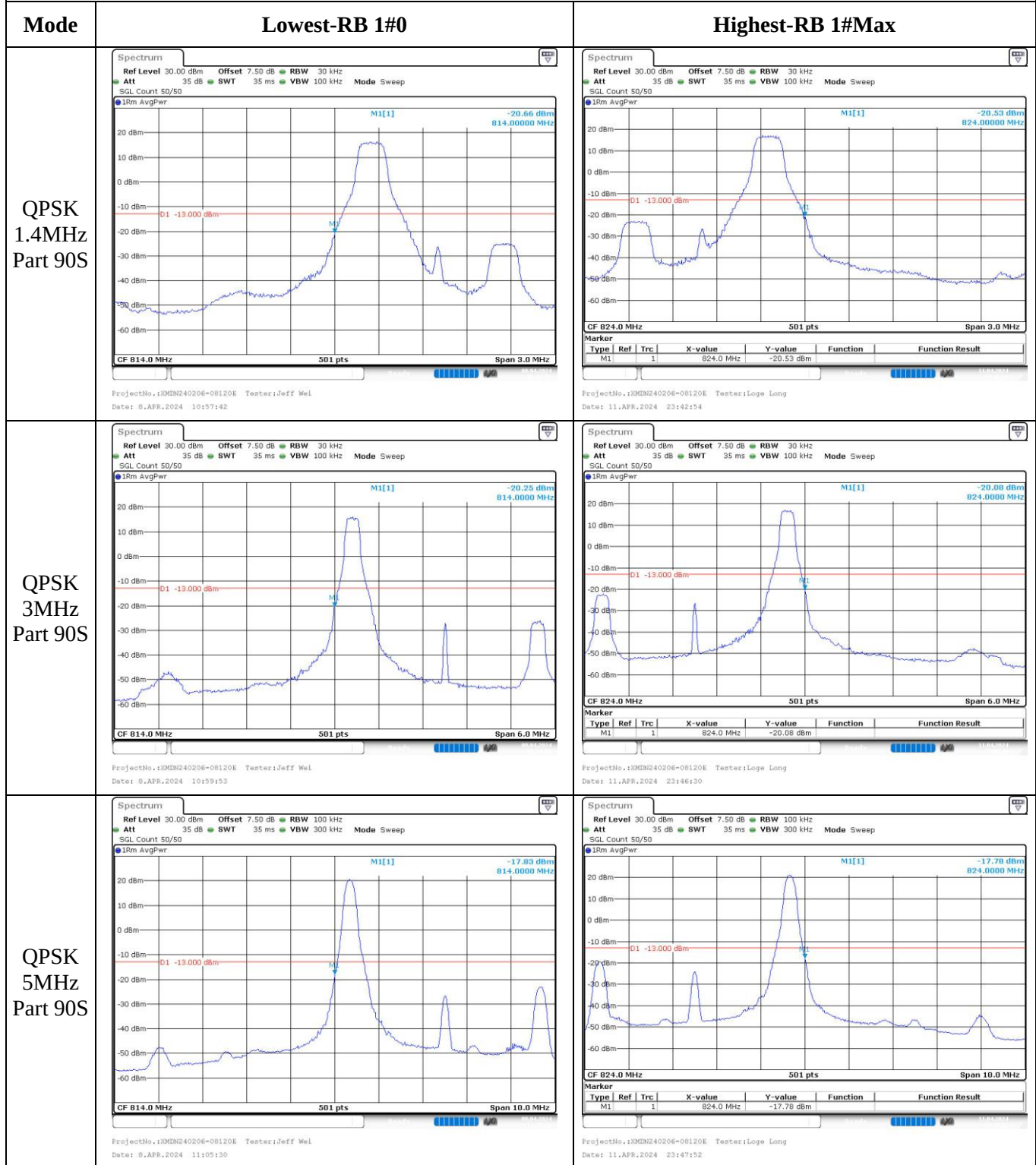
Highest
For
22H

ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 3.APR.2024 21:26:55



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 3.APR.2024 21:27:14

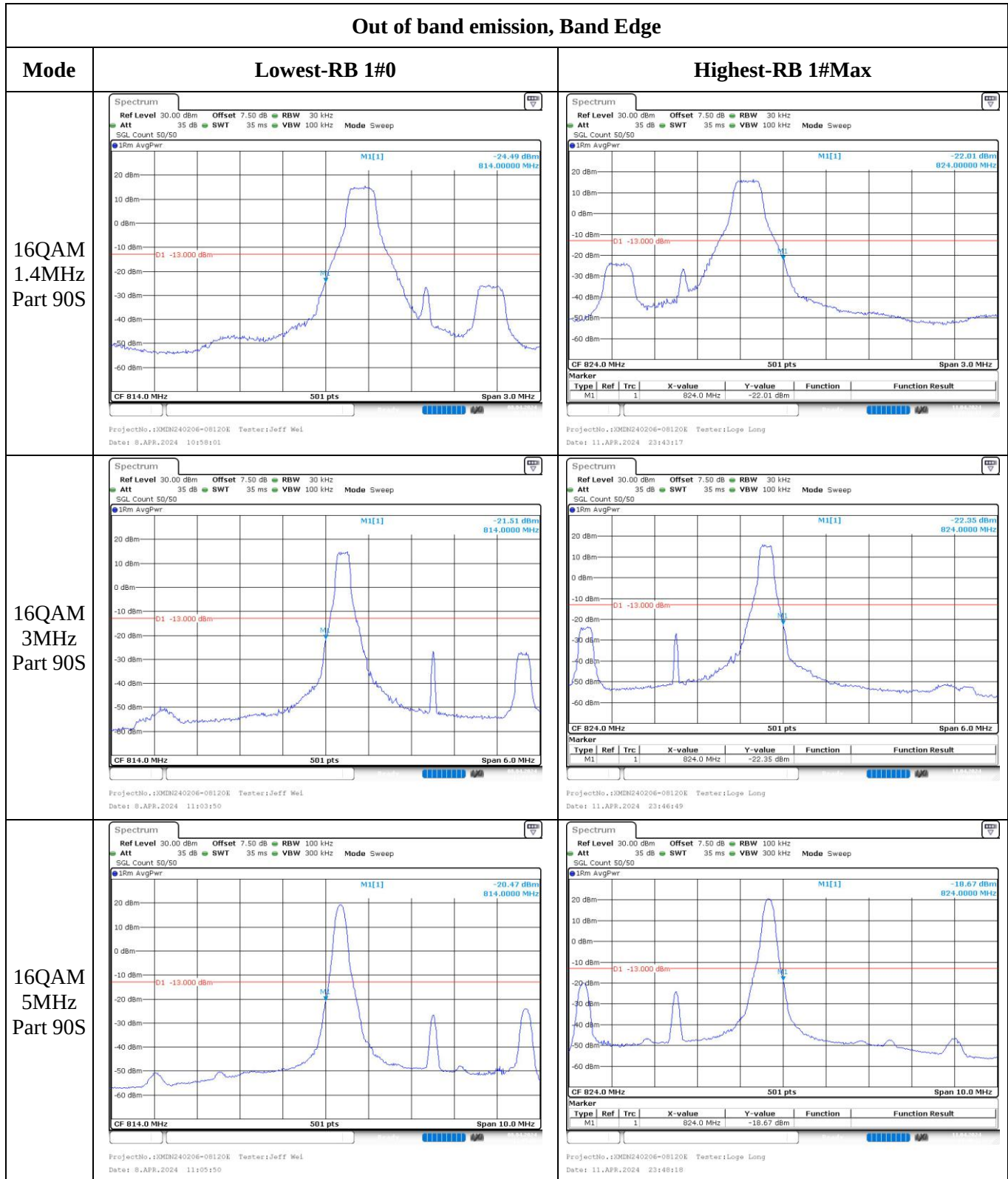
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
QPSK 10MHz Part 90S	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SGL Count 50/50 1Rm AvgPwr MI[1] -31.37 dBm 814.0000 MHz -13.000 dBm CF 014.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 8.APR.2024 11:11:18	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SGL Count 50/50 1Rm AvgPwr MI[1] -21.15 dBm 824.0000 MHz -13.000 dBm CF 024.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 2.APR.2024 23:09:06
	QPSK 15MHz Part 90S	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 35 ms VBW 1 MHz Mode Sweep SGL Count 50/50 1Rm AvgPwr MI[1] -21.85 dBm 814.0000 MHz -13.000 dBm CF 014.0 MHz 501 pts Span 30.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 8.APR.2024 11:13:15

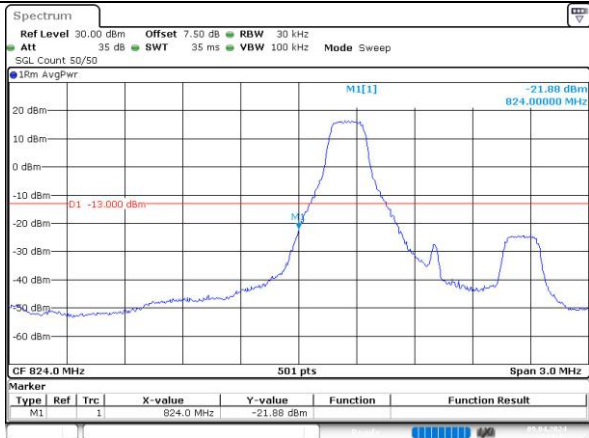
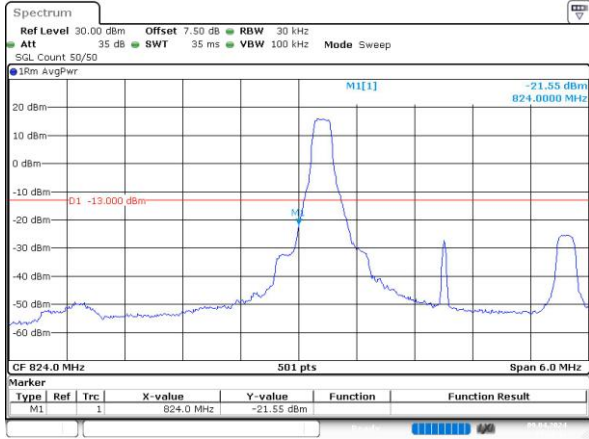
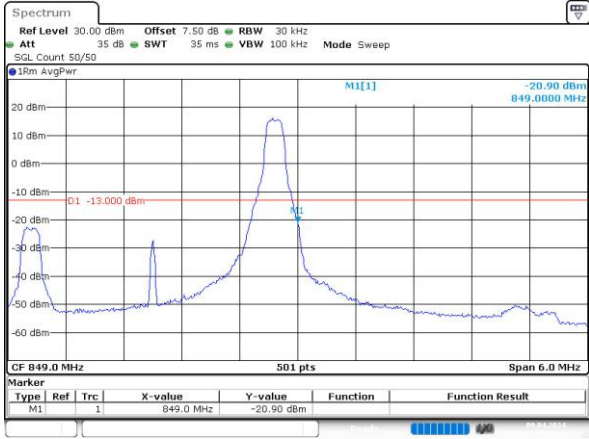
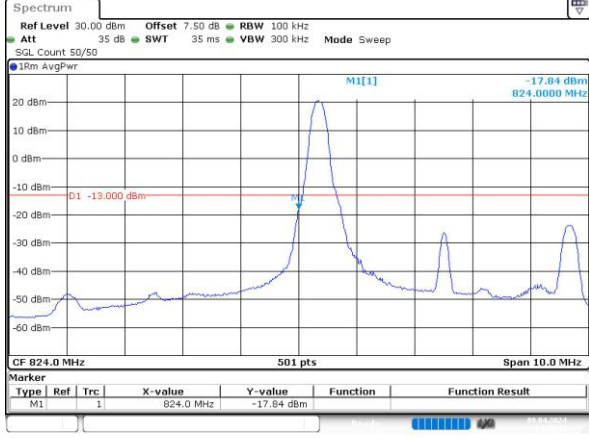
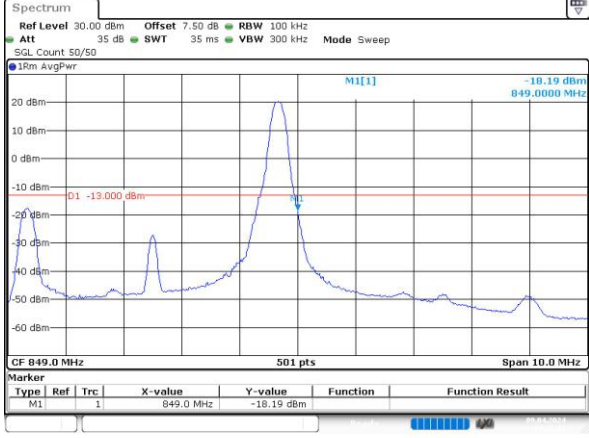
Out of band emission, Band Edge



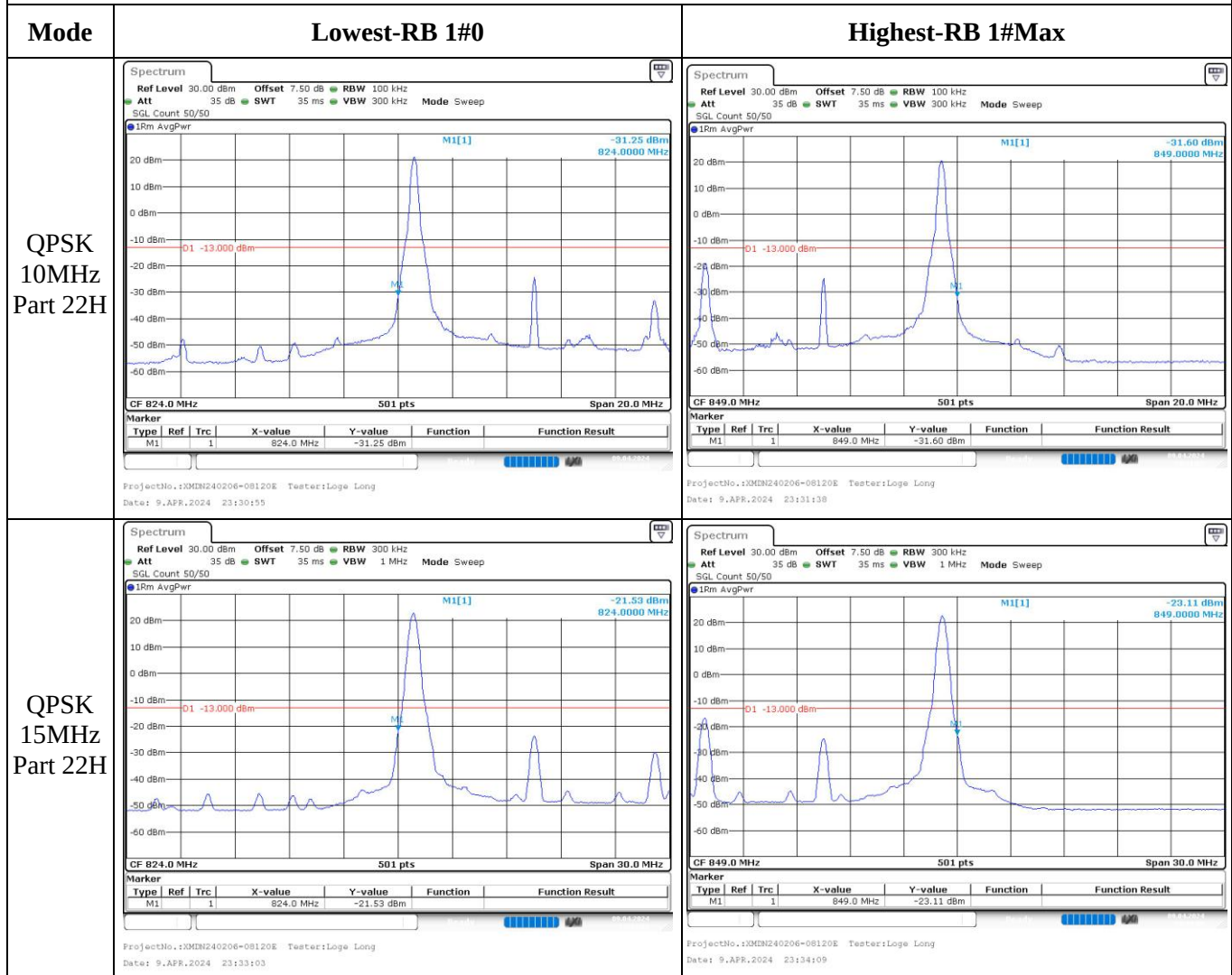
Out of band emission, Band Edge

Mode	Lowest-RB 1#0		Highest-RB 1#Max																																			
16QAM 10MHz Part 90S	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 814.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 8.APR.2024 11:11:41		Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 824.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 2.APR.2024 23:05:49																																			
	16QAM 15MHz Part 90S	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 35 ms VBW 1 MHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 814.0 MHz 501 pts Span 30.0 MHz <table><tr><th colspan="7">Marker</th></tr><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><tr><td>M1</td><td></td><td>1</td><td>814.0 MHz</td><td>-24.30 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td>-15.0 MHz</td><td>-27.92 dB</td><td></td><td></td></tr><tr><td>D2</td><td>M1</td><td>1</td><td>-15.0 MHz</td><td>-27.92 dB</td><td></td><td></td></tr></table> ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 8.APR.2024 11:15:14			Marker							Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1		1	814.0 MHz	-24.30 dBm			D1	M1	1	-15.0 MHz	-27.92 dB			D2	M1	1	-15.0 MHz	-27.92 dB	
Marker																																						
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																
M1		1	814.0 MHz	-24.30 dBm																																		
D1	M1	1	-15.0 MHz	-27.92 dB																																		
D2	M1	1	-15.0 MHz	-27.92 dB																																		

Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
QPSK 1.4MHz Part 22H	 ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:17:47	 ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 8.APR.2024 10:58:41
QPSK 3MHz Part 22H	 ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:12:14	 ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:12:04
QPSK 5MHz Part 22H	 ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:12:17	 ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:12:58

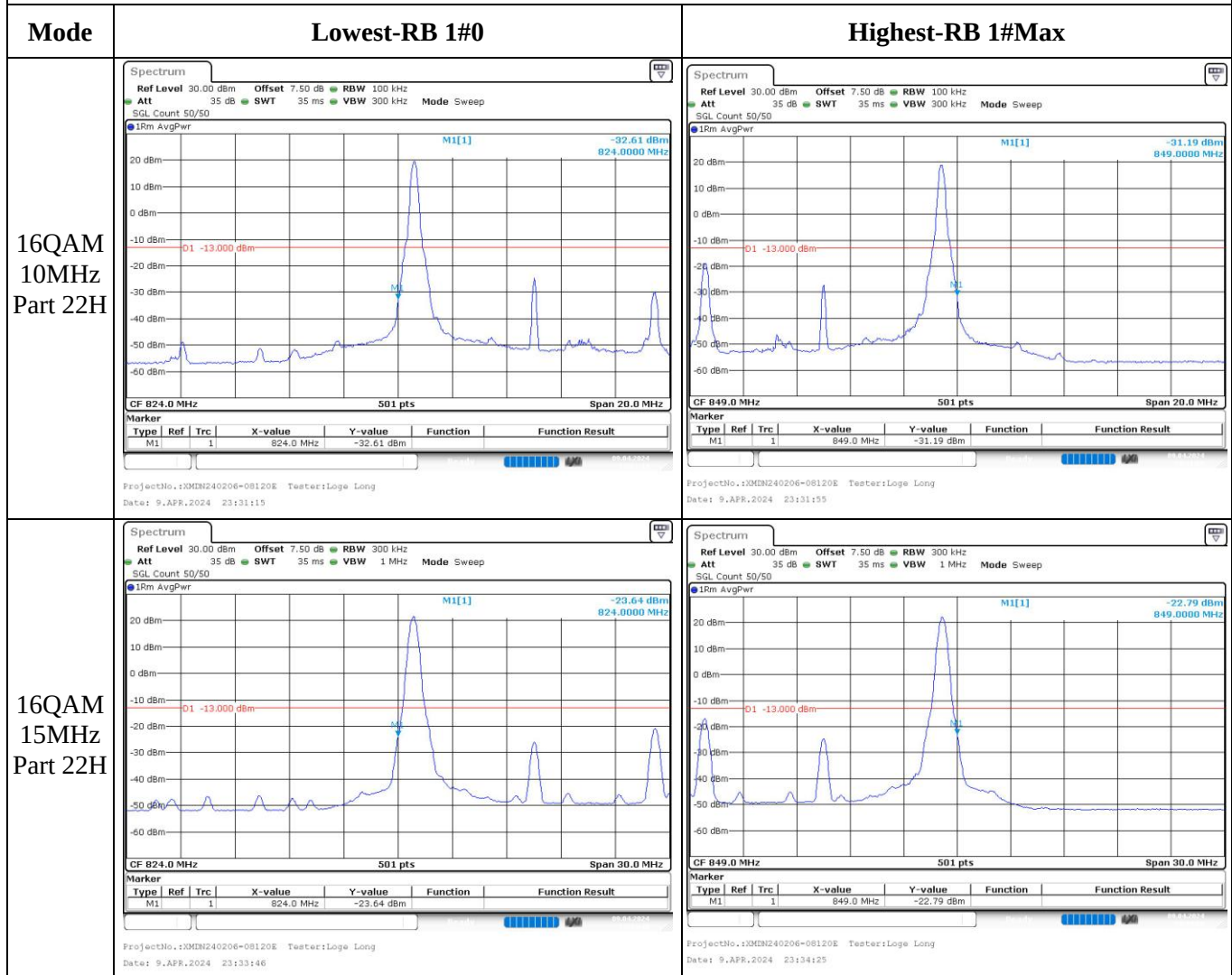
Out of band emission, Band Edge



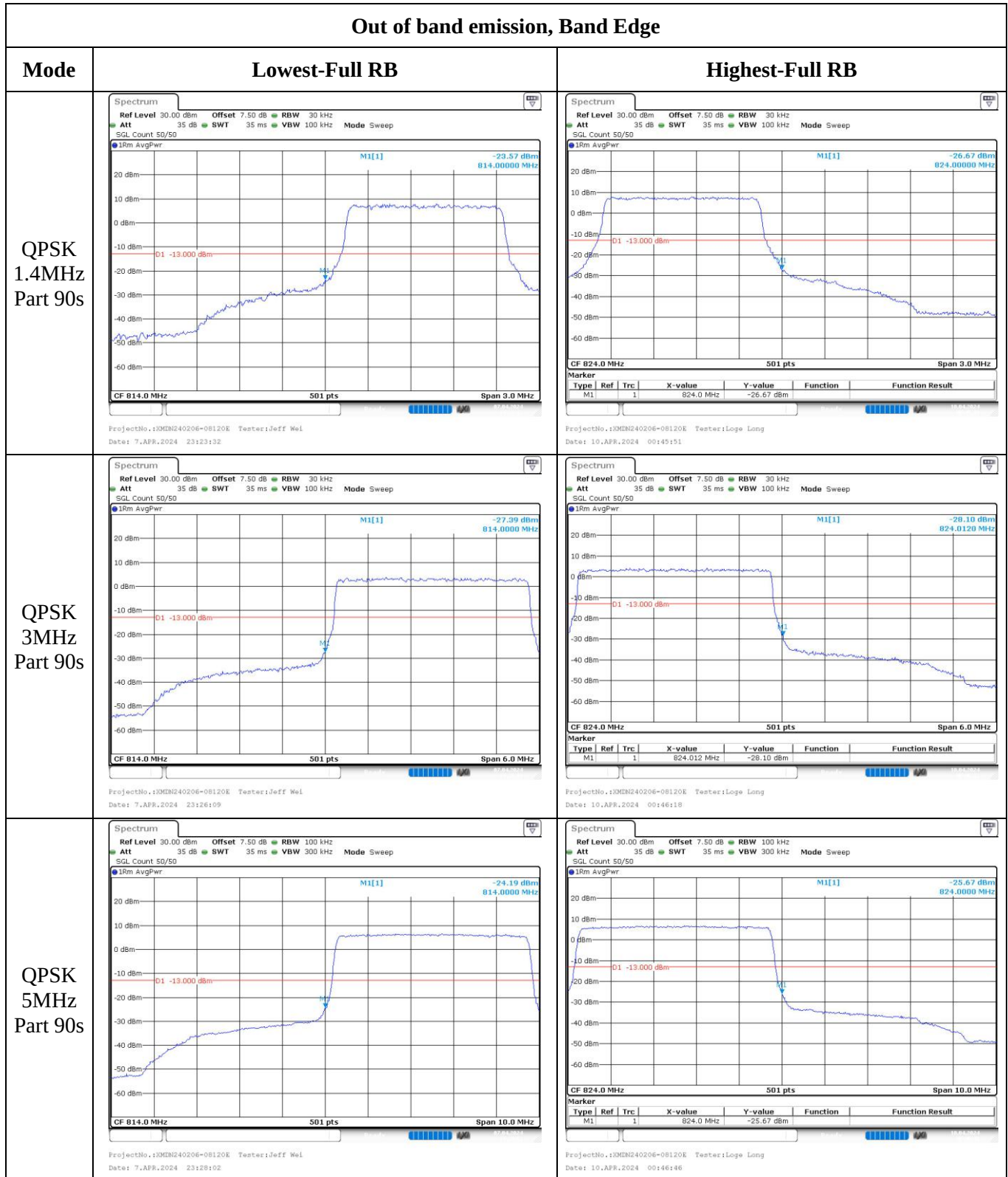
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 1.4MHz Part 22H	ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:18:38	ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 8.APR.2024 10:59:07
16QAM 3MHz Part 22H	ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:25:34	ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:26:29
16QAM 5MHz Part 22H	ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:28:34	ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 9.APR.2024 23:29:18

Out of band emission, Band Edge



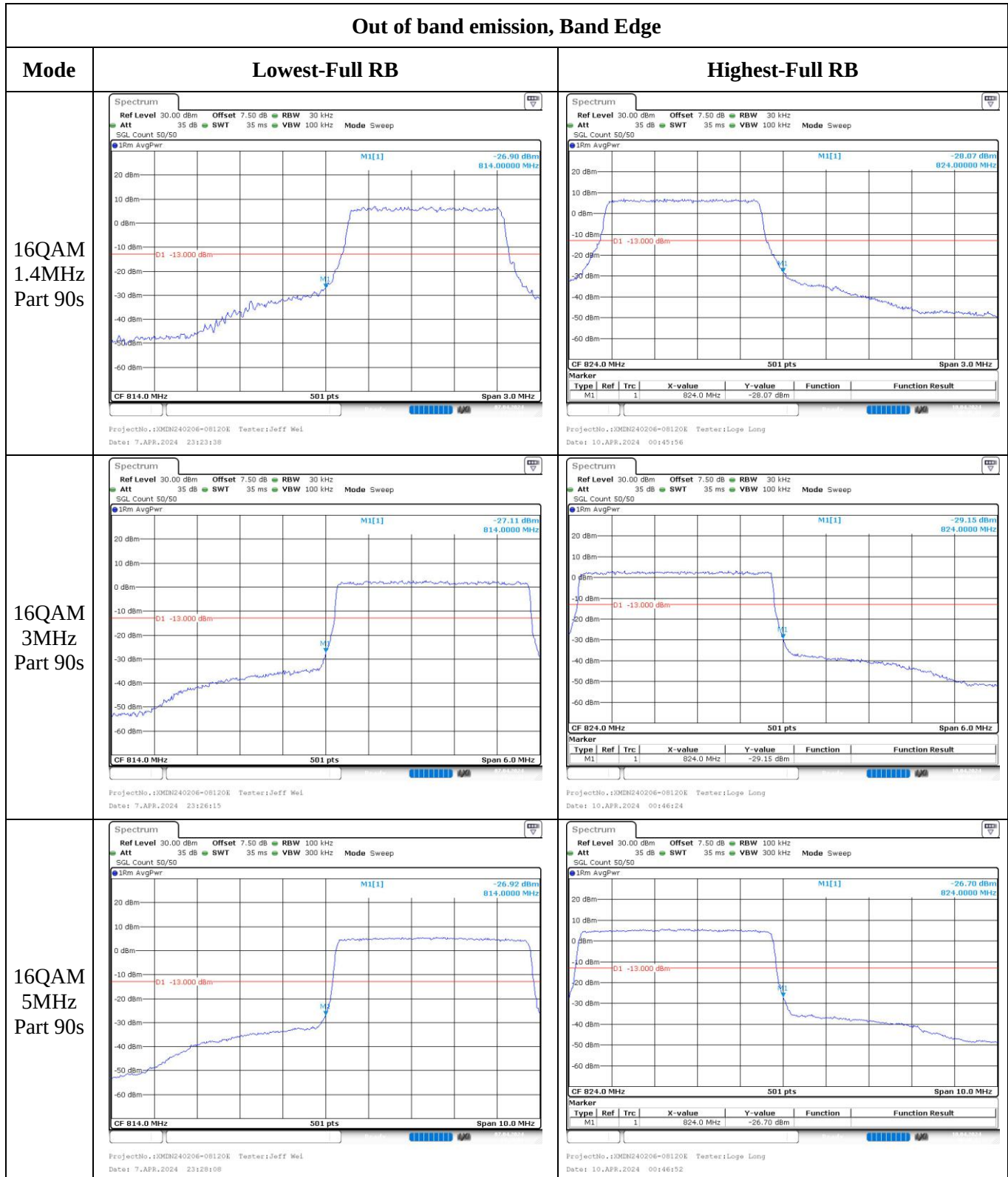
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest-Full RB	Highest-Full RB
QPSK 10MHz Part 90s	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 814.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 7.APR.2024 23:12:120	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 824.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 2.APR.2024 23:10:136
	QPSK 15MHz Part 90s	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 35 ms VBW 1 MHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 814.0 MHz 501 pts Span 30.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 7.APR.2024 23:11:151

Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest-Full RB	Highest-Full RB
16QAM 10MHz Part 90s	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 814.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 7.APR.2024 23:12:26	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep Count 50/50 1Rm AvgPwr CF 824.0 MHz 501 pts Span 20.0 MHz ProjectNo.:XMDN240206-08120E Tester:Loge Long Date: 2.APR.2024 23:07:14
	16QAM 15MHz Part 90s	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 35 ms VBW 1 MHz Mode Sweep SQL Count 50/50 1Rm AvgPwr CF 814.0 MHz 501 pts Span 30.0 MHz ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 7.APR.2024 23:31:58

5.15 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	2HPA-1	Test Date:	2024/4/1~2024/4/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	Loge Long, Jeff Wei	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	25.1~26.9	Relative Humidity: (%)	49~72	ATM Pressure: (kPa)	100.2~101.1

Test Equipment List and Details:					
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101461	2023/11/27	2024/11/26
Micro-Coax	Coaxial Cable	UFB205A	323308-024	2024/1/2	2025/1/1
Minl-Clrucits	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/2/25	2025/2/24
R&S	Wideband Radio Communication Tester	CMW500	110479	2023/10/18	2024/10/17
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2023/10/18	2024/10/17
All-sun	Clamp Meter	EM305A	8348897	2023/8/3	2024/8/2
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A
* Statement of Traceability: Bay Area Compliance Laboratories Corp. (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	2498.5	2593	2687.5
10MHz	2501	2593	2685
15MHz	2503.5	2593	2682.5
20MHz	2506	2593	2680

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	22.59	22.83	22.9	24.88	33
	RB1#13	22.51	23.03	22.88		
	RB1#24	22.41	22.86	22.76		
	RB15#0	21.85	22.08	22.07		
	RB15#10	21.92	22.03	22.1		
	RB25#0	21.96	21.96	22.02		
5MHz 16QAM	RB1#0	22.34	22.34	21.82	24.4	33
	RB1#13	22.28	22.55	21.84		
	RB1#24	22.33	22.28	21.58		
	RB15#0	20.88	20.95	20.92		
	RB15#10	20.86	20.89	20.89		
	RB25#0	21.03	20.75	20.97		
10MHz QPSK	RB1#0	22.82	22.94	23.25	25.1	33
	RB1#25	22.71	23.07	23.21		
	RB1#49	22.95	23.04	23.08		
	RB25#0	22	22.12	22.09		
	RB25#25	22.08	22.04	22.14		
	RB50#0	21.9	22.12	22.13		
10MHz 16QAM	RB1#0	21.83	22.06	22.74	25.03	33
	RB1#25	22.34	21.82	23.18		
	RB1#49	22.48	21.83	22.63		
	RB25#0	21.08	20.89	21.19		
	RB25#25	21.19	20.8	21.17		
	RB50#0	20.92	21.09	21.03		
15MHz QPSK	RB1#0	22.67	22.99	23.26	25.11	33
	RB1#38	22.76	23.08	23.2		
	RB1#74	22.8	23.14	23.2		
	RB36#0	21.78	22.33	22.24		
	RB36#39	21.92	22.21	22.04		
	RB75#0	21.85	22.32	22.11		
15MHz 16QAM	RB1#0	21.96	22.06	22.43	24.42	33
	RB1#38	21.95	21.43	22.57		
	RB1#74	22.04	21.79	22.51		
	RB36#0	20.61	20.96	21.26		
	RB36#39	20.72	20.93	21.13		
	RB75#0	20.85	20.94	21.07		

20MHz QPSK	RB1#0	22.44	22.96	23.32	25.38	33
	RB1#50	22.91	23.53	23.36		
	RB1#99	22.54	23.07	23.17		
	RB50#0	21.78	22.07	22.18		
	RB50#50	21.92	22.11	22.11		
	RB100#0	21.86	22.06	22.1		
20MHz 16QAM	RB1#0	22.24	21.75	22.66	24.94	33
	RB1#50	22.62	21.91	23.09		
	RB1#99	22.25	21.85	22.61		
	RB50#0	20.91	21.11	21.02		
	RB50#50	20.94	21.09	21.22		
	RB100#0	20.93	21.01	21.11		
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	8.78	8.75	8.38	13
	RB100#0	8.29	8.32	8.26	13
20MHz 16QAM	RB1#0	9.3	9.65	8.87	13
	RB100#0	9.97	10.03	9.94	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	4.511	4.511	5.16	5.06	4.96
5MHz 16QAM	4.511	4.531	4.511	5	5.26	5.34
10MHz QPSK	8.942	8.982	8.942	10.16	10.68	9.96
10MHz 16QAM	8.982	8.942	8.942	11.4	9.6	9.6
15MHz QPSK	13.473	13.533	13.533	15.78	16.5	15.9
15MHz 16QAM	13.593	13.533	13.533	20.58	15.66	16.44
20MHz QPSK	17.964	17.884	17.884	19.76	19.28	19.6
20MHz 16QAM	17.884	17.884	17.884	19.52	20.16	20.24
Note: The test plots please refer to the Plots of Occupied Bandwidth						

Spurious Emissions at Antenna Terminal	
Result:	Pass, Test was performed at RB1#0, please refer to the test plots of Spurious Emissions at Antenna Terminal.

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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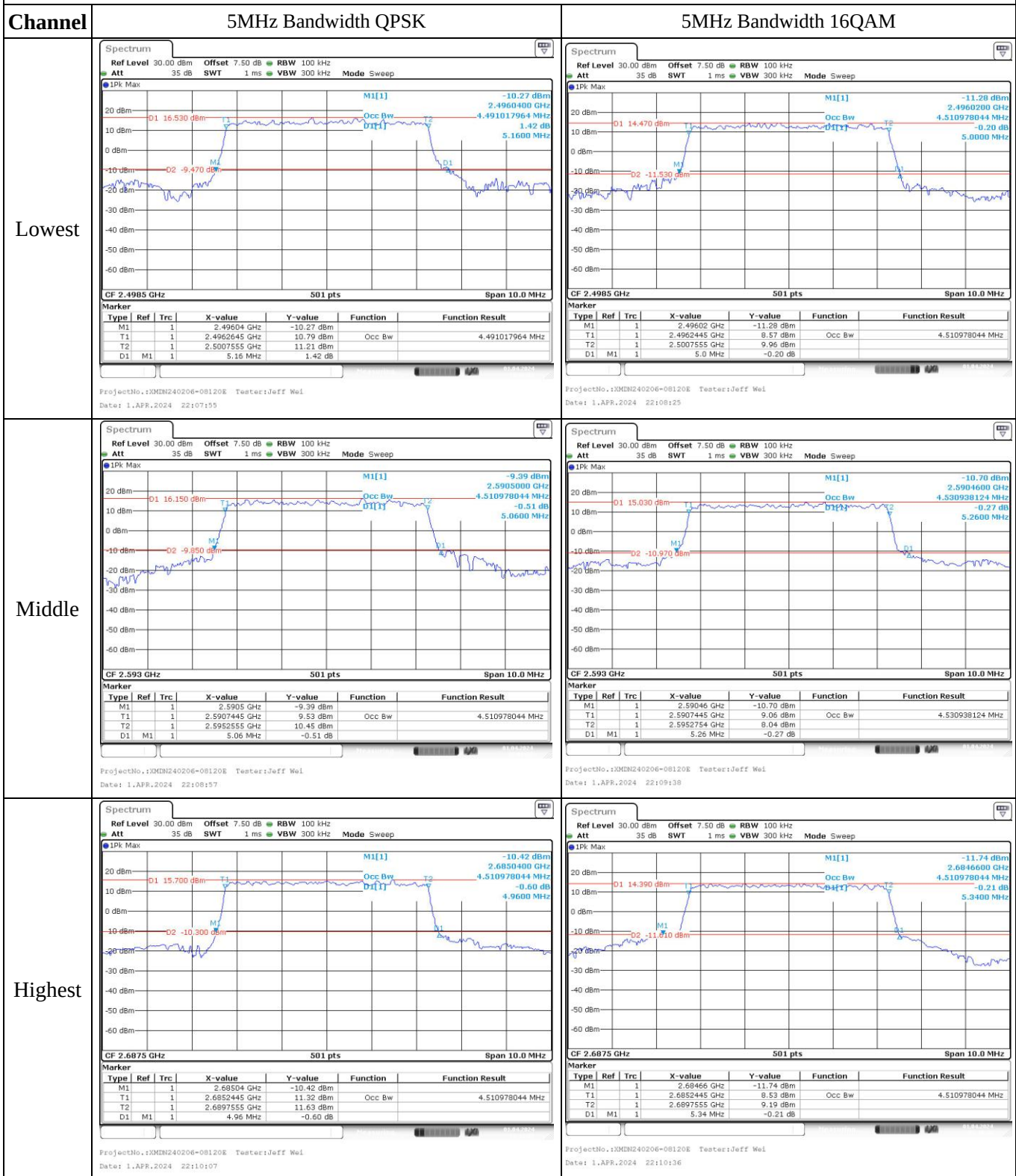
Frequency Stability

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	7.7	2497.034	2496.00	2688.924	2690
	-20	7.7	2497.031	2496.00	2688.930	2690
	-10	7.7	2497.037	2496.00	2688.936	2690
	0	7.7	2497.055	2496.00	2688.927	2690
	10	7.7	2497.055	2496.00	2688.939	2690
	20	7.7	2497.058	2496.00	2688.942	2690
	30	7.7	2497.079	2496.00	2688.966	2690
	40	7.7	2497.061	2496.00	2688.957	2690
	50	7.7	2497.079	2496.00	2688.951	2690
Frequency Stability vs. Voltage	20	6.8	2497.076	2496.00	2688.951	2690
	20	8.8	2497.082	2496.00	2688.951	2690
Result:					Pass	

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	7.7	2497.049	2496.00	2688.939	2690
	-20	7.7	2497.043	2496.00	2688.927	2690
	-10	7.7	2497.052	2496.00	2688.936	2690
	0	7.7	2497.052	2496.00	2688.918	2690
	10	7.7	2497.046	2496.00	2688.927	2690
	20	7.7	2497.058	2496.00	2688.942	2690
	30	7.7	2497.079	2496.00	2688.966	2690
	40	7.7	2497.076	2496.00	2688.954	2690
	50	7.7	2497.064	2496.00	2688.966	2690
Frequency Stability vs. Voltage	20	6.8	2497.079	2496.00	2688.969	2690
	20	8.8	2497.082	2496.00	2688.948	2690
Result:					Pass	

Test Plots:

Occupied Bandwidth



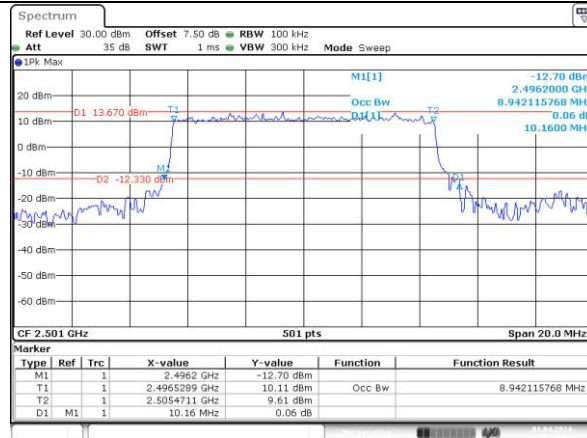
Occupied Bandwidth

Channel

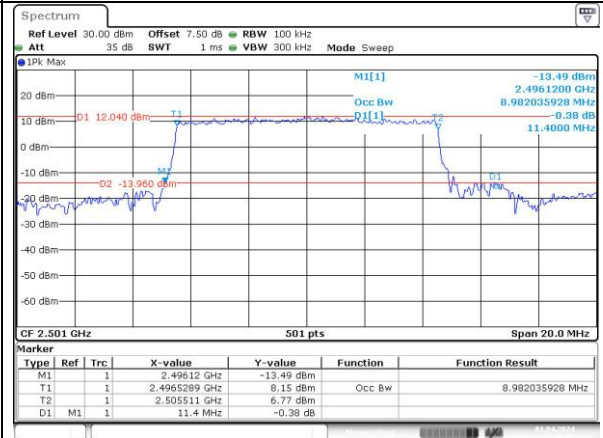
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Lowest

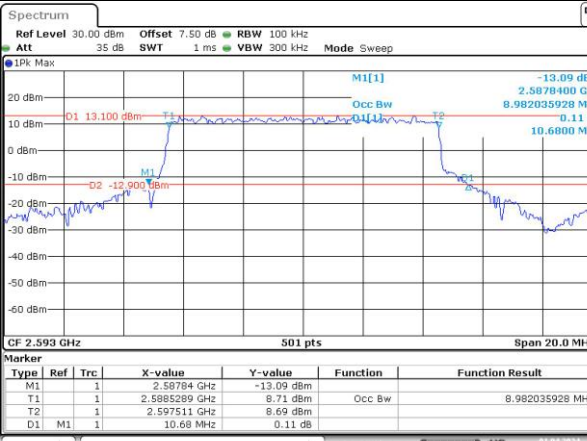


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:20:08

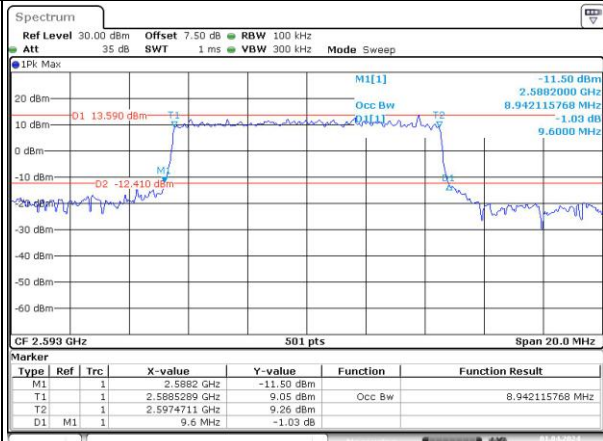


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:20:57

Middle

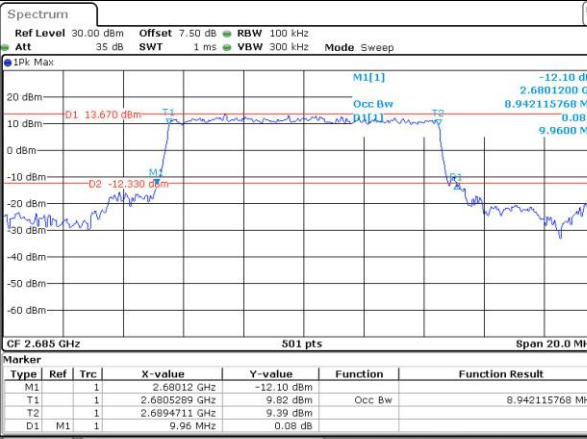


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:21:53

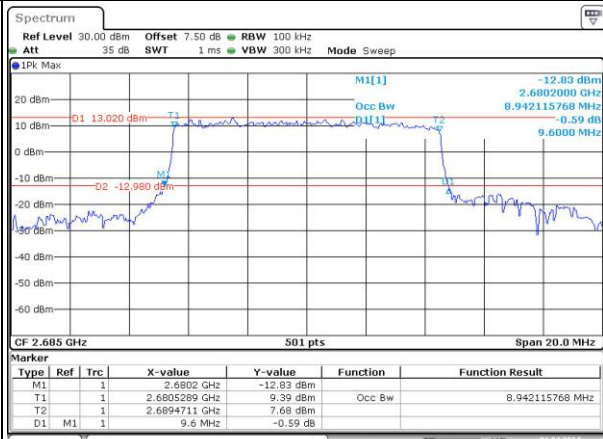


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:22:48

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:23:25



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:24:08

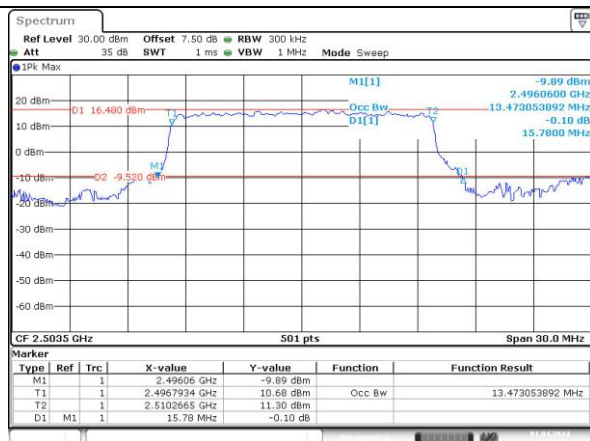
Occupied Bandwidth

Channel

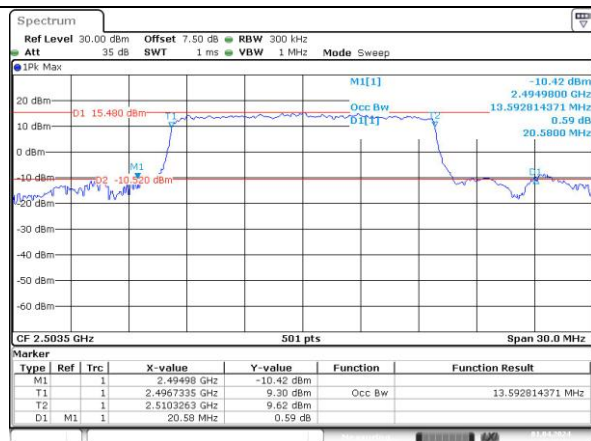
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

Lowest

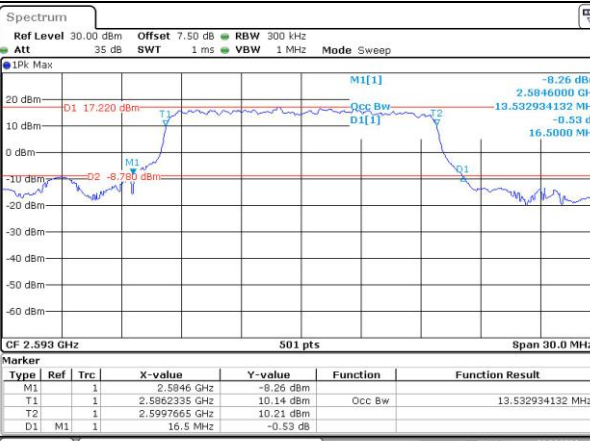


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:25:132

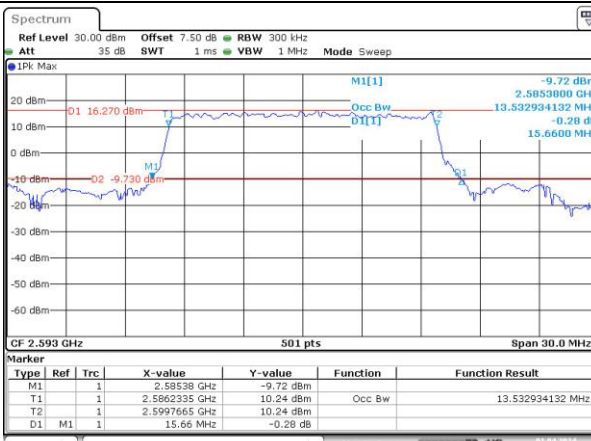


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:26:122

Middle

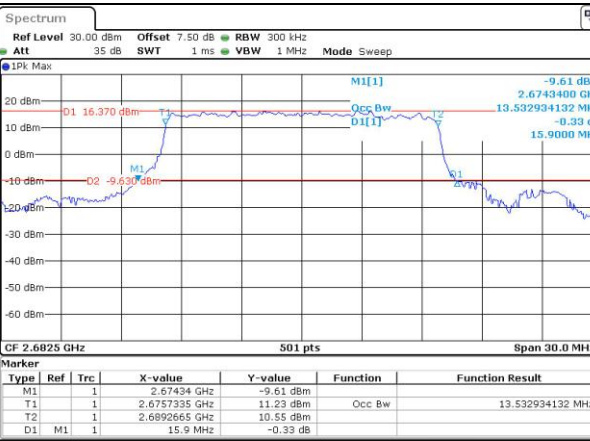


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:17:111

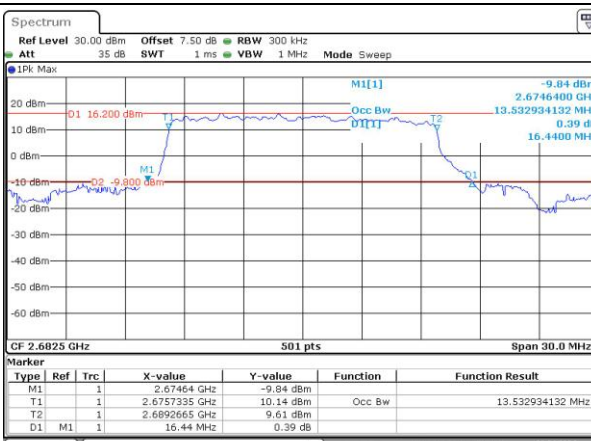


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:17:155

Highest



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:18:137



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:19:131

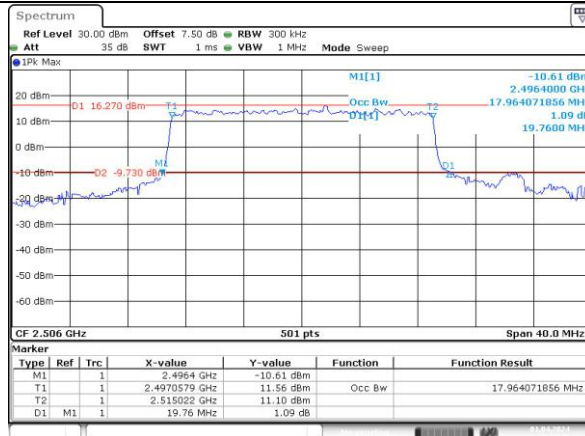
Occupied Bandwidth

Channel

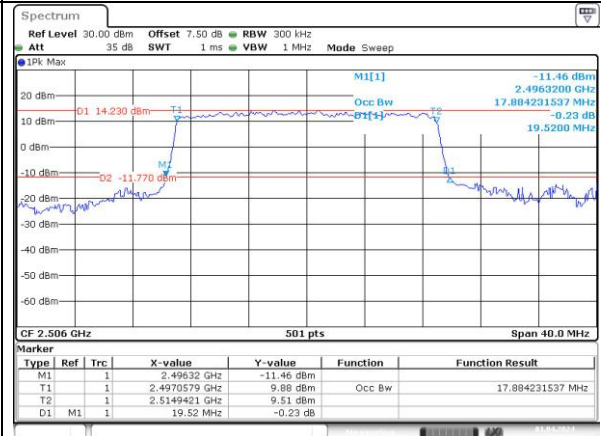
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

Lowest

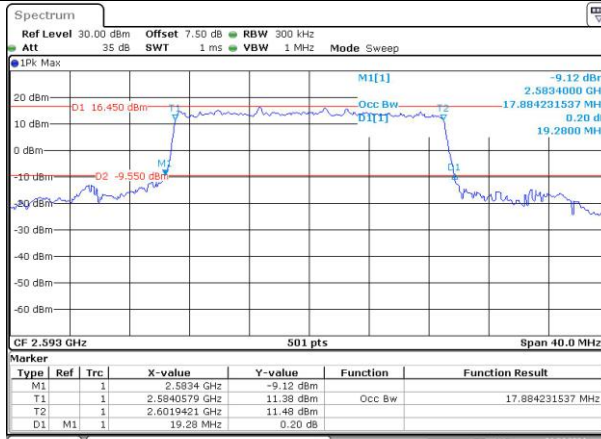


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:33:48

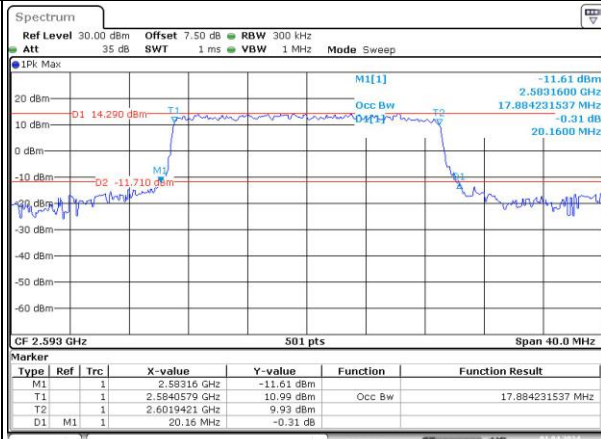


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:34:30

Middle

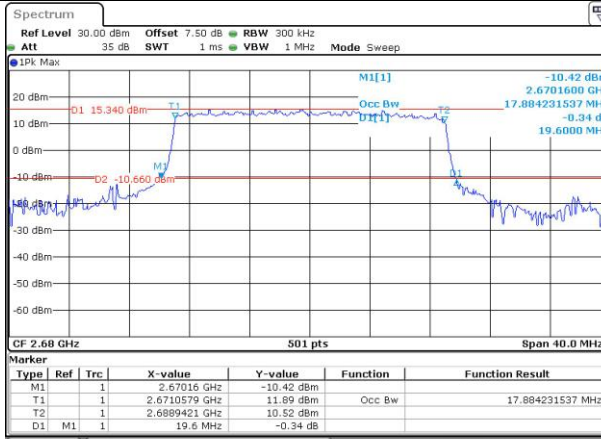


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:35:08

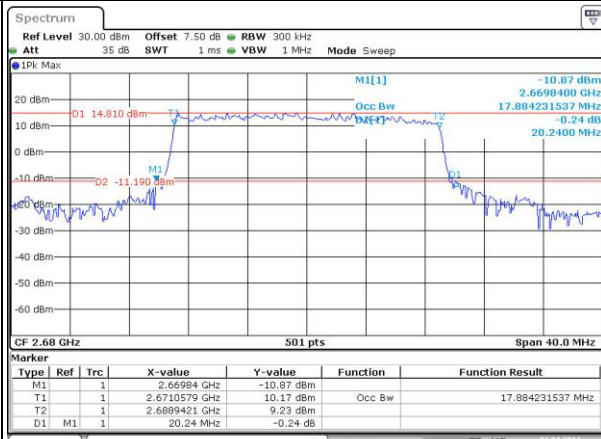


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:35:40

Highest

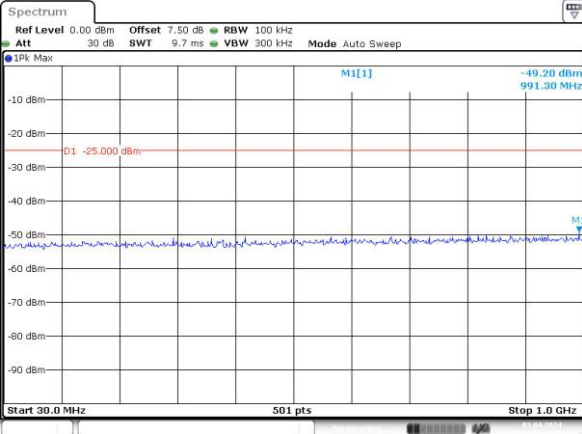
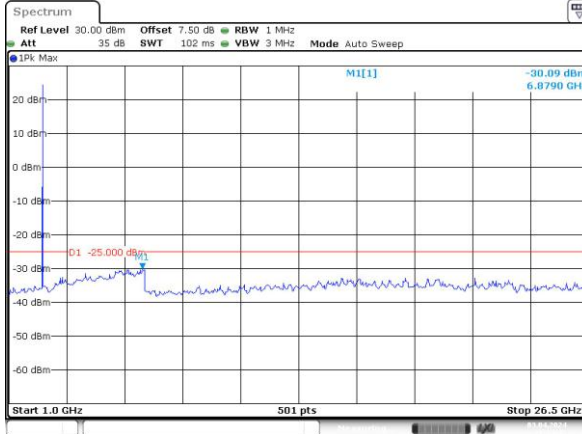
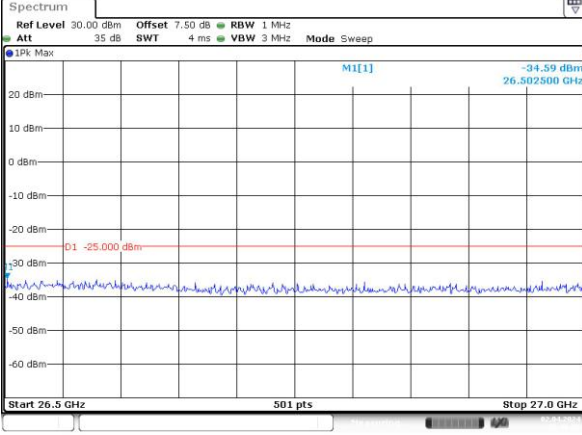


ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:36:21



ProjectNo.:XMDN240206-08120E Tester:Jeff Wei
Date: 1.APR.2024 22:37:04

Spurious Emissions at Antenna Terminal

Channel	5MHz Bandwidth QPSK	
Lowest	 ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 3.APR.2024 21:33:20	 ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 3.APR.2024 21:33:42
	 ProjectNo.:XMDN240206-08120E Tester:Jeff Wei Date: 3.APR.2024 10:46:36	