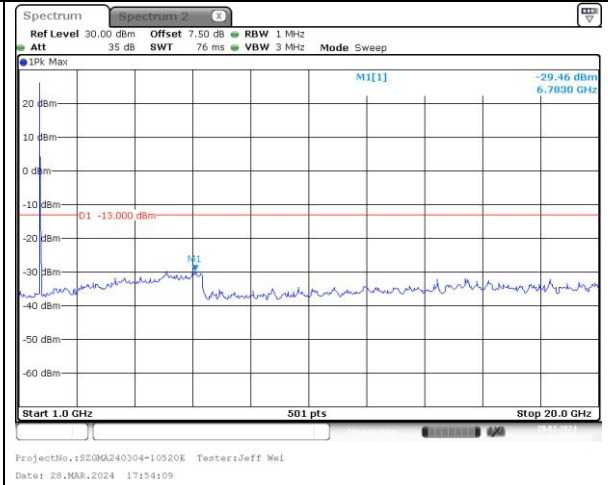
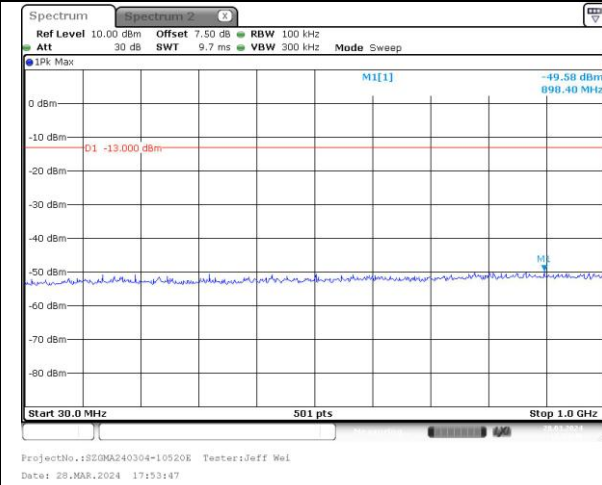


Spurious Emissions at Antenna Terminal

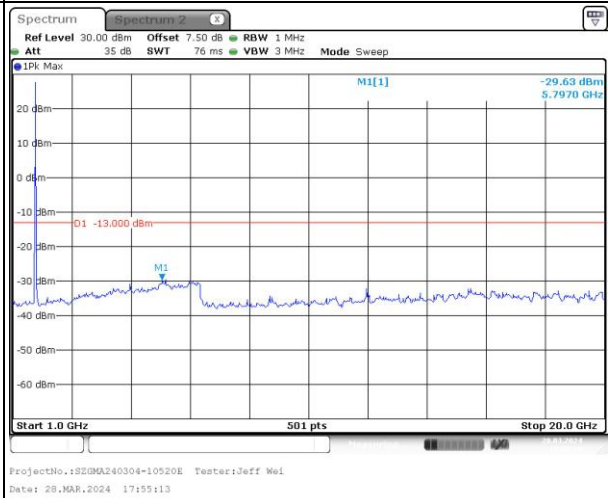
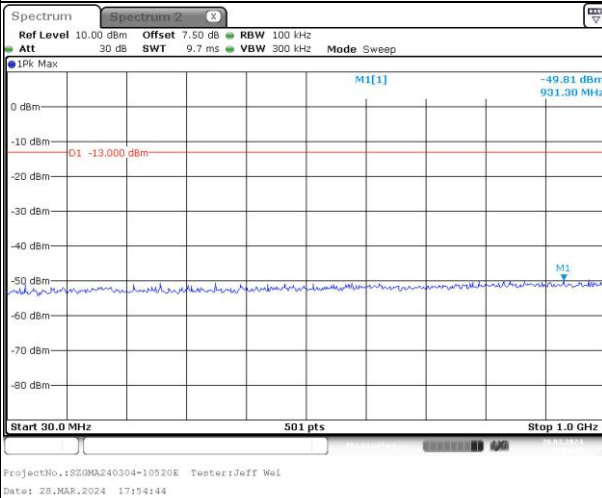
Channel

15MHz Bandwidth QPSK

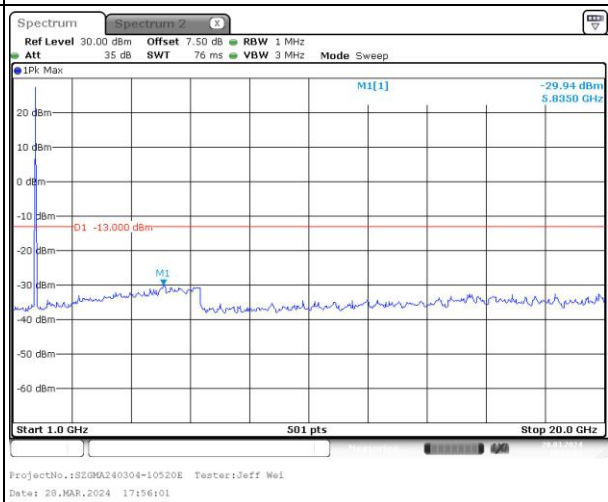
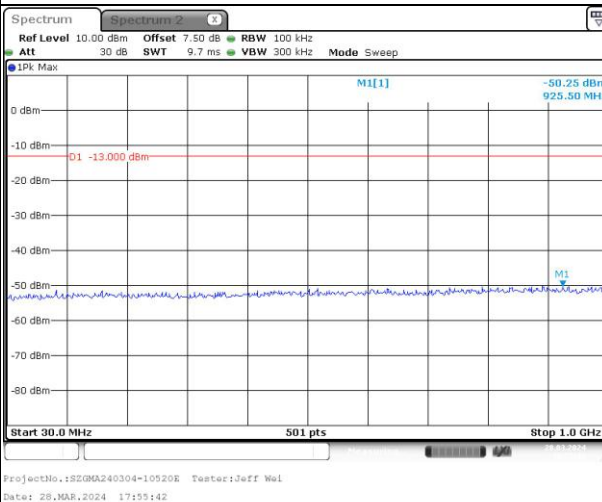
Lowest



Middle



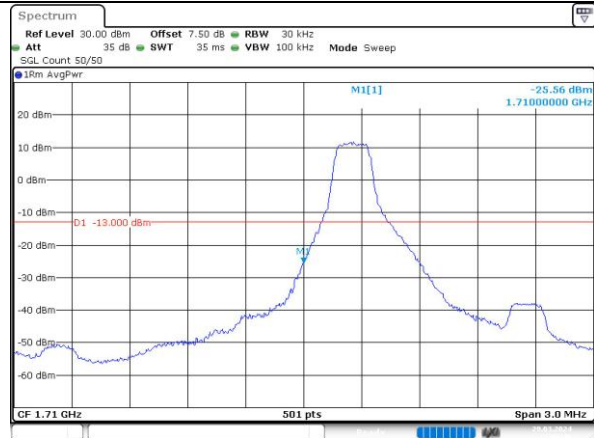
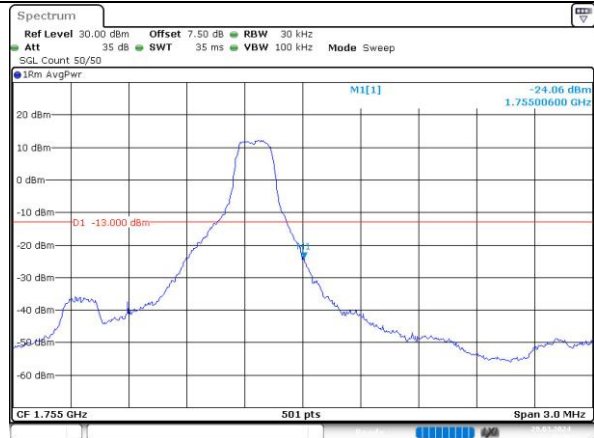
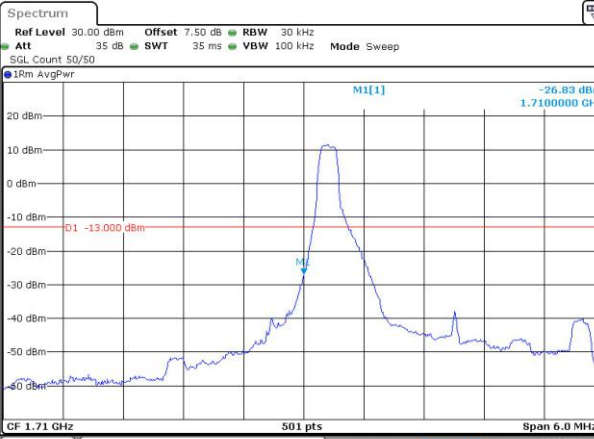
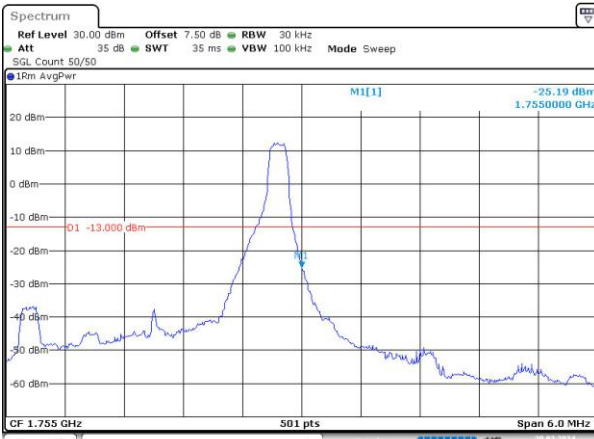
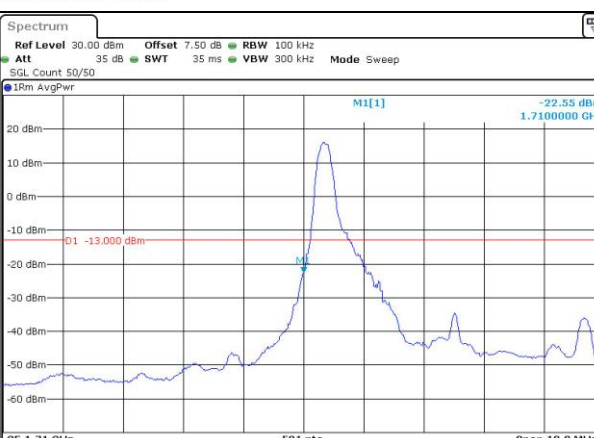
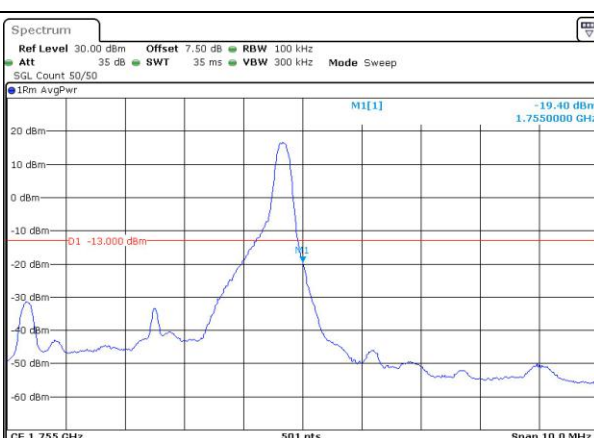
Highest



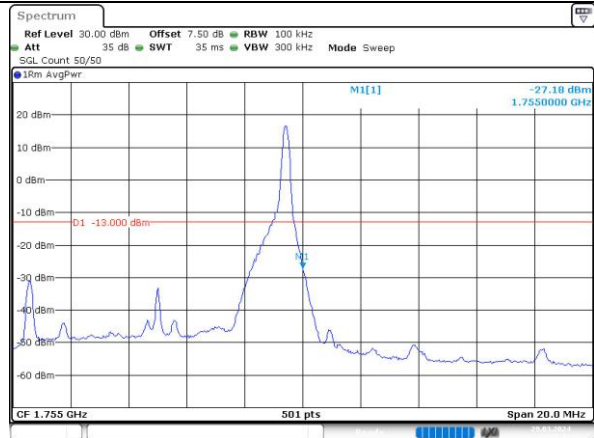
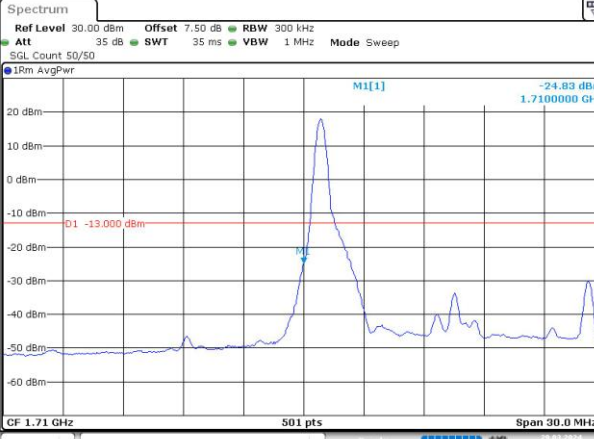
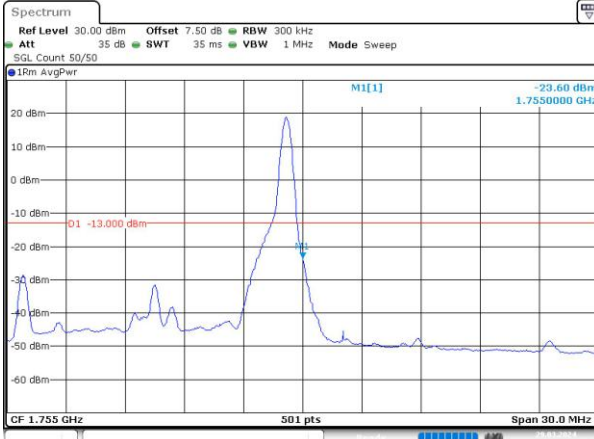
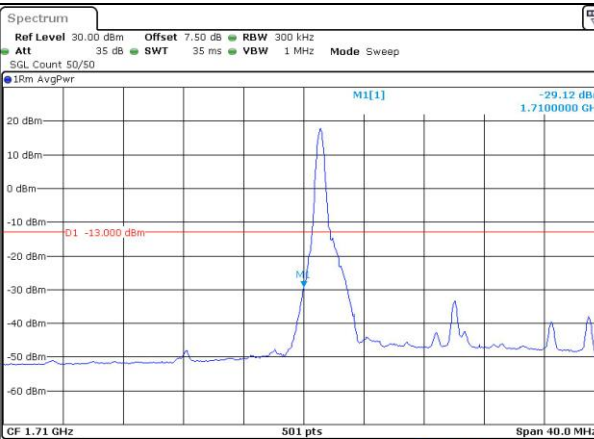
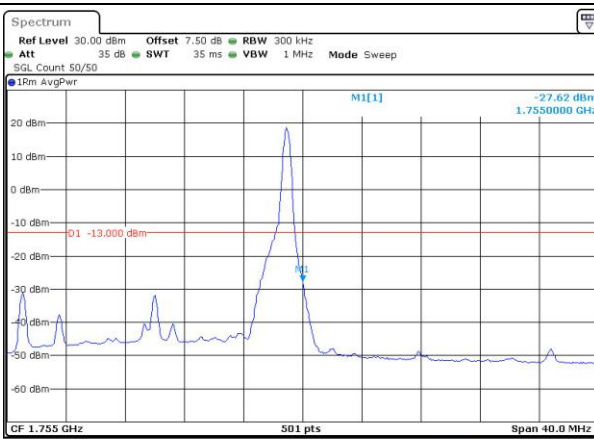
Spurious Emissions at Antenna Terminal

Channel	20MHz Bandwidth QPSK	
Lowest		
Middle		
Highest		

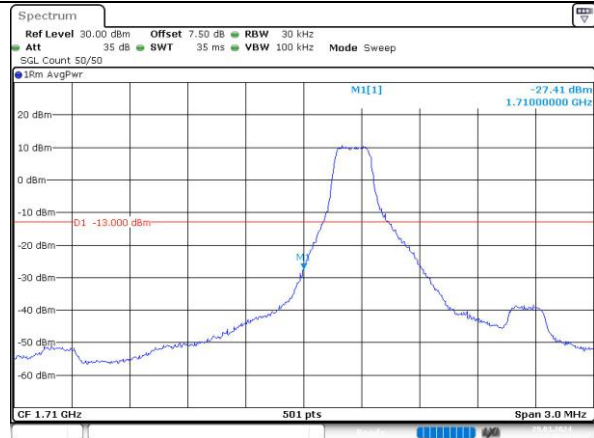
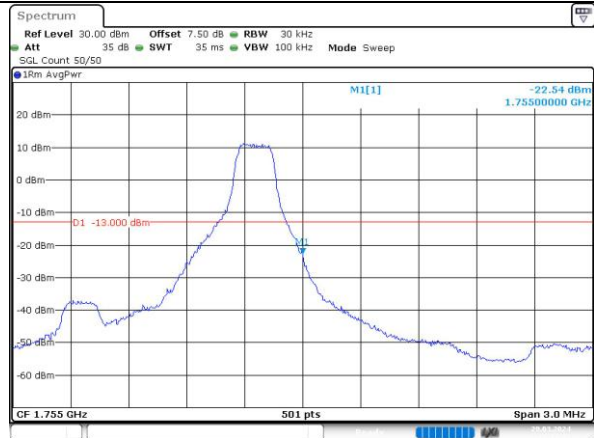
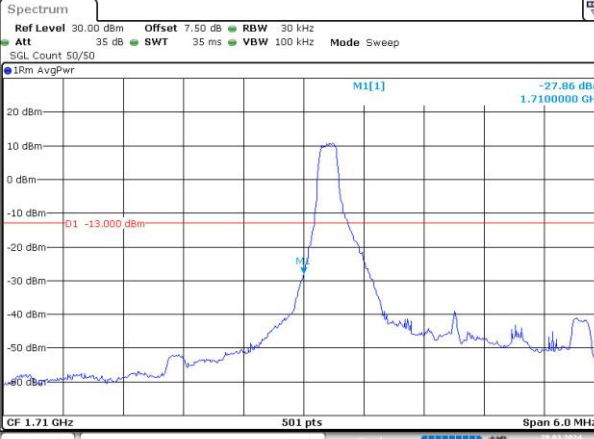
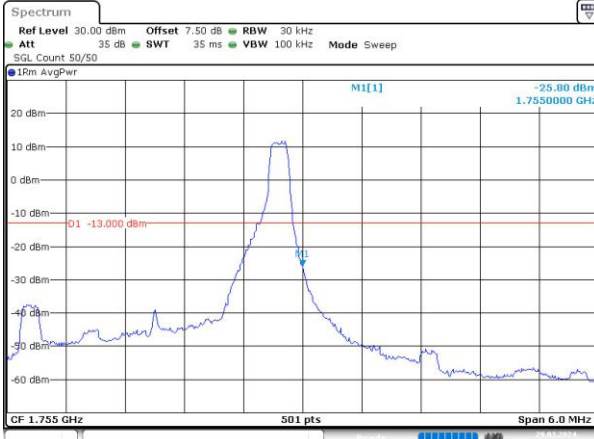
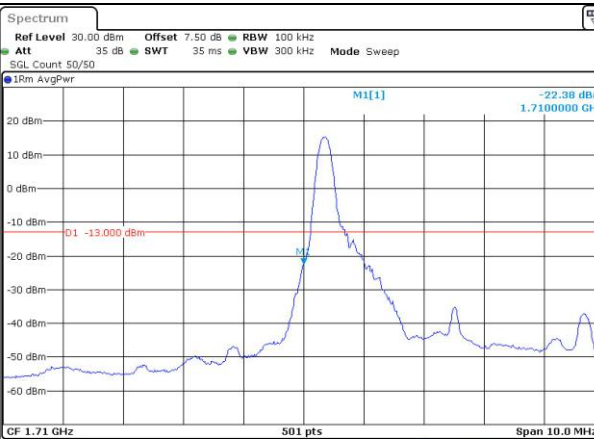
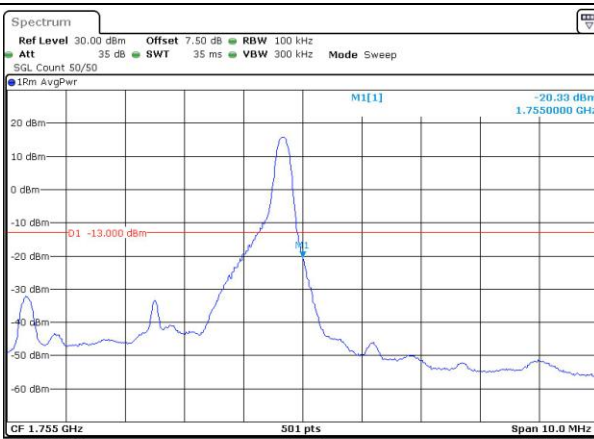
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
QPSK 1.4MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:09:46	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:10:49
QPSK 3MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:11:43	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:12:48
QPSK 5MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:17:06	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:18:55

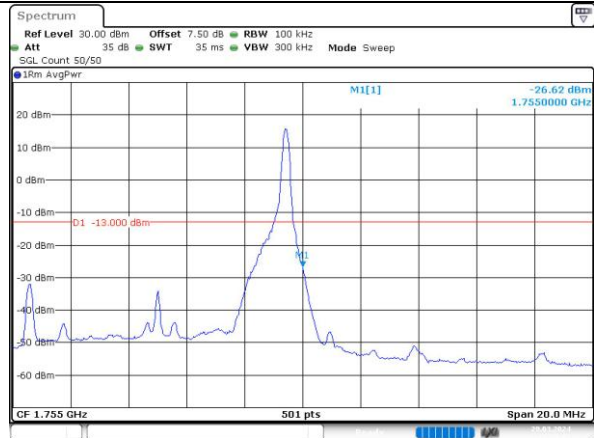
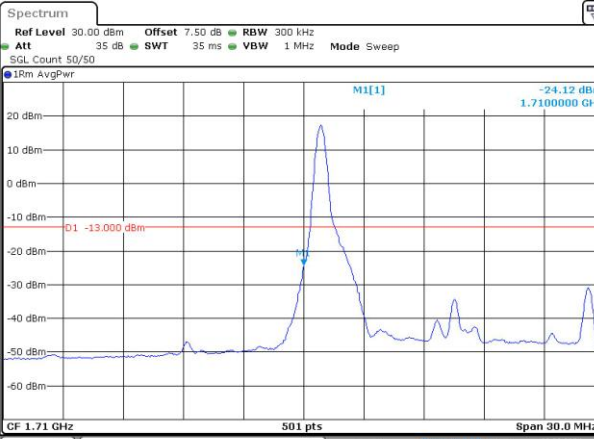
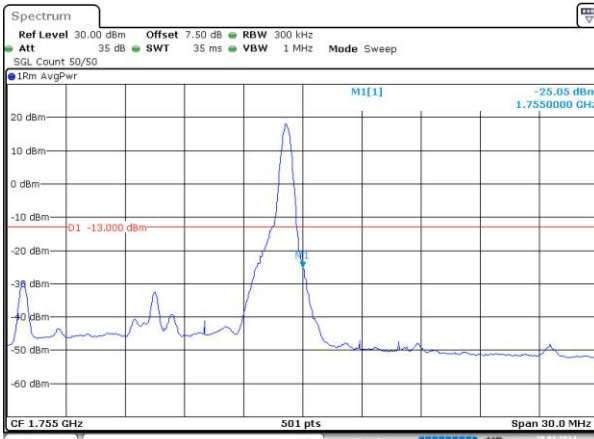
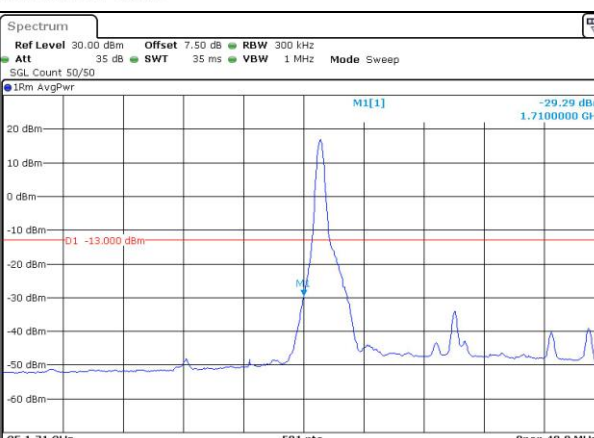
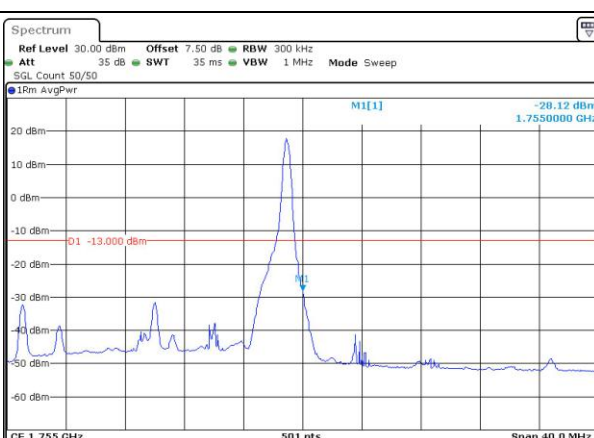
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
QPSK 10MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:19:53	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:21:33
QPSK 15MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:22:43	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:23:52
QPSK 20MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:25:05	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:25:54

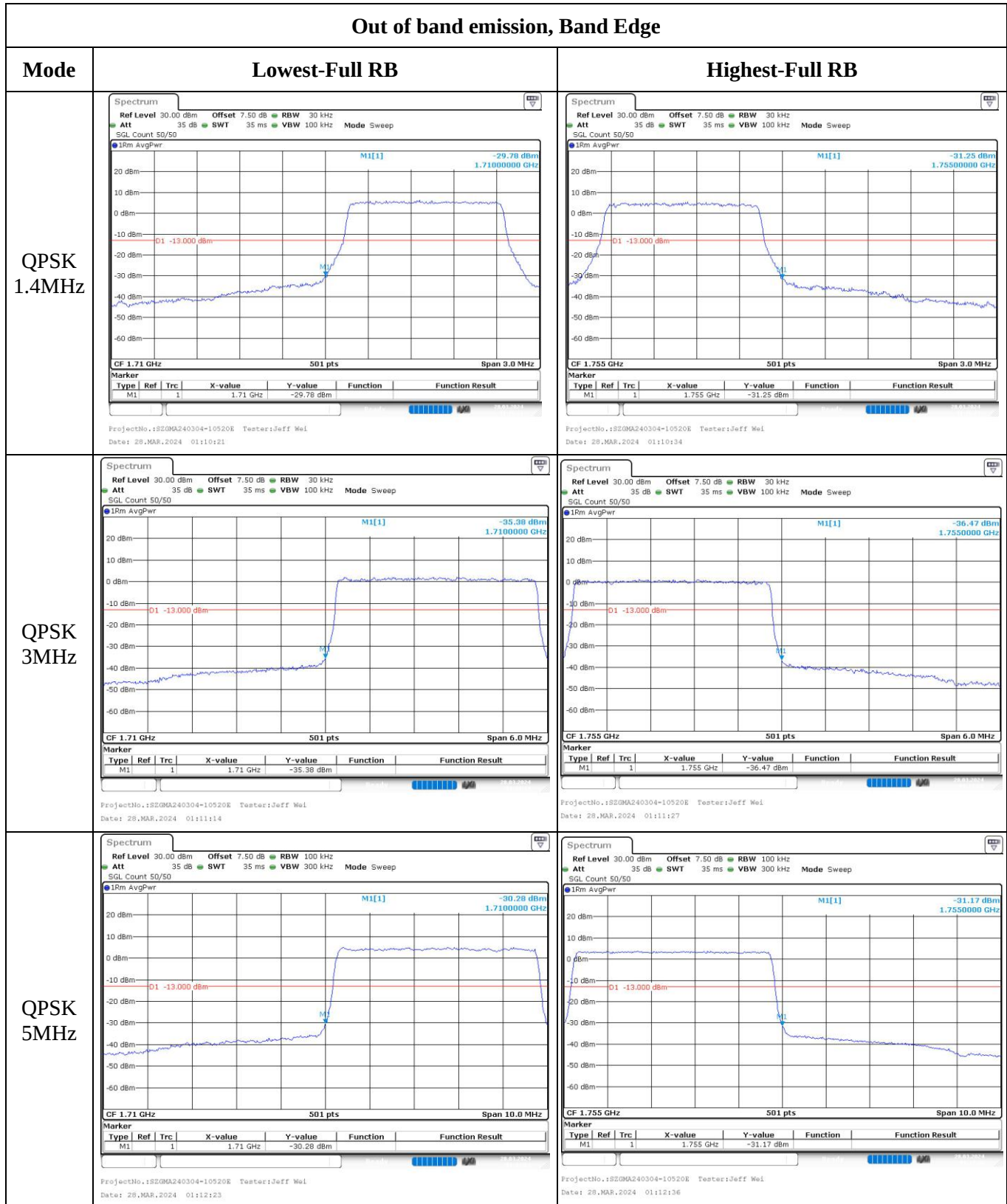
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 1.4MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:10:12	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:11:22
16QAM 3MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:12:10	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:13:04
16QAM 5MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:17:37	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:19:22

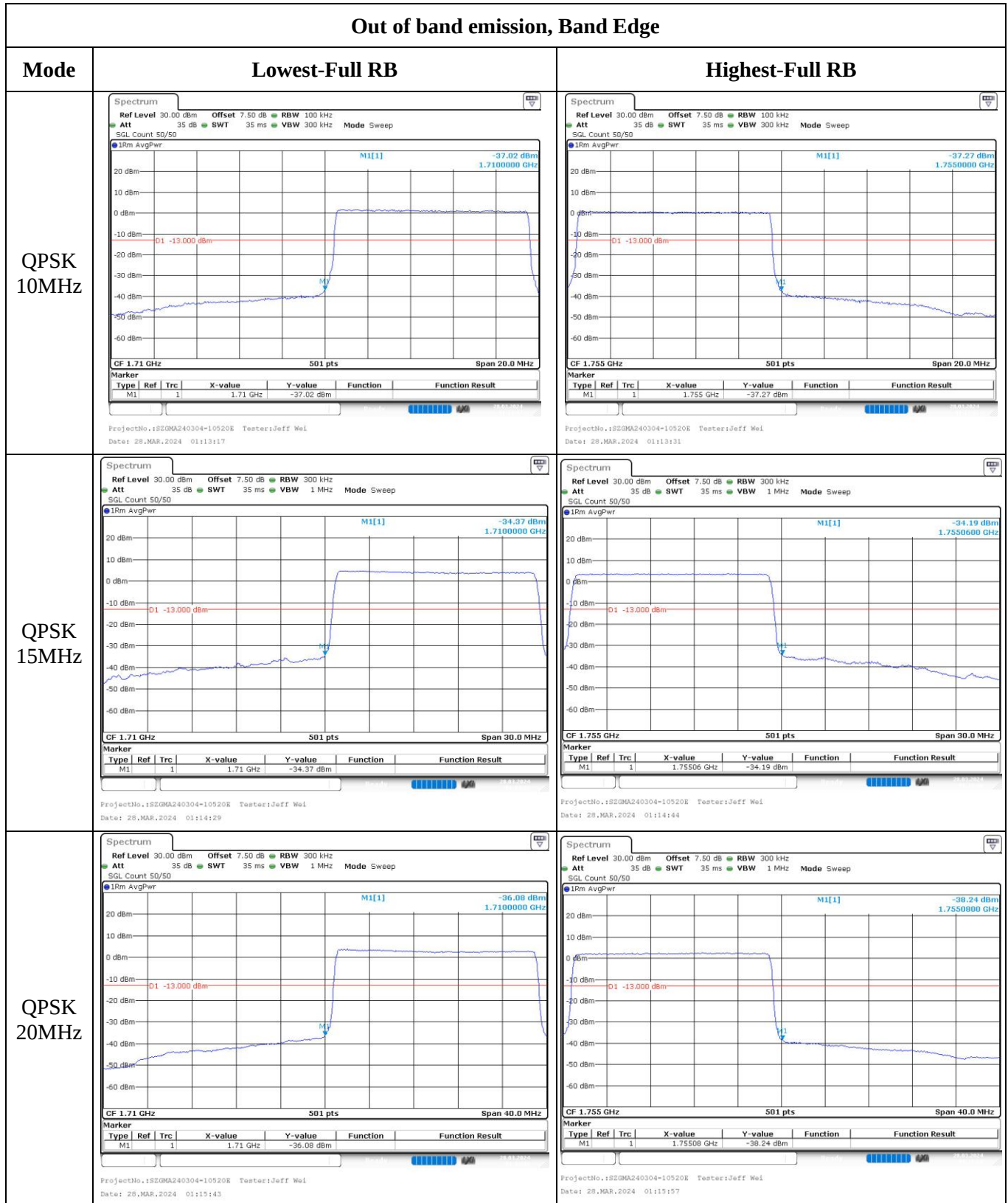
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 10MHz	 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 MI[1] -20.44 dBm 1.710000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 20.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:20:35	 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 MI[1] -26.62 dBm 1.755000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 20.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:22:02
16QAM 15MHz	 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 MI[1] -24.12 dBm 1.710000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 30.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:23:11	 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 MI[1] -25.05 dBm 1.755000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 30.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:24:21
16QAM 20MHz	 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 MI[1] -29.29 dBm 1.710000 GHz D1 -13.000 dBm CF 1.71 GHz 501 pts Span 40.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:25:32	 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 MI[1] -20.12 dBm 1.755000 GHz D1 -13.000 dBm CF 1.755 GHz 501 pts Span 40.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:26:16

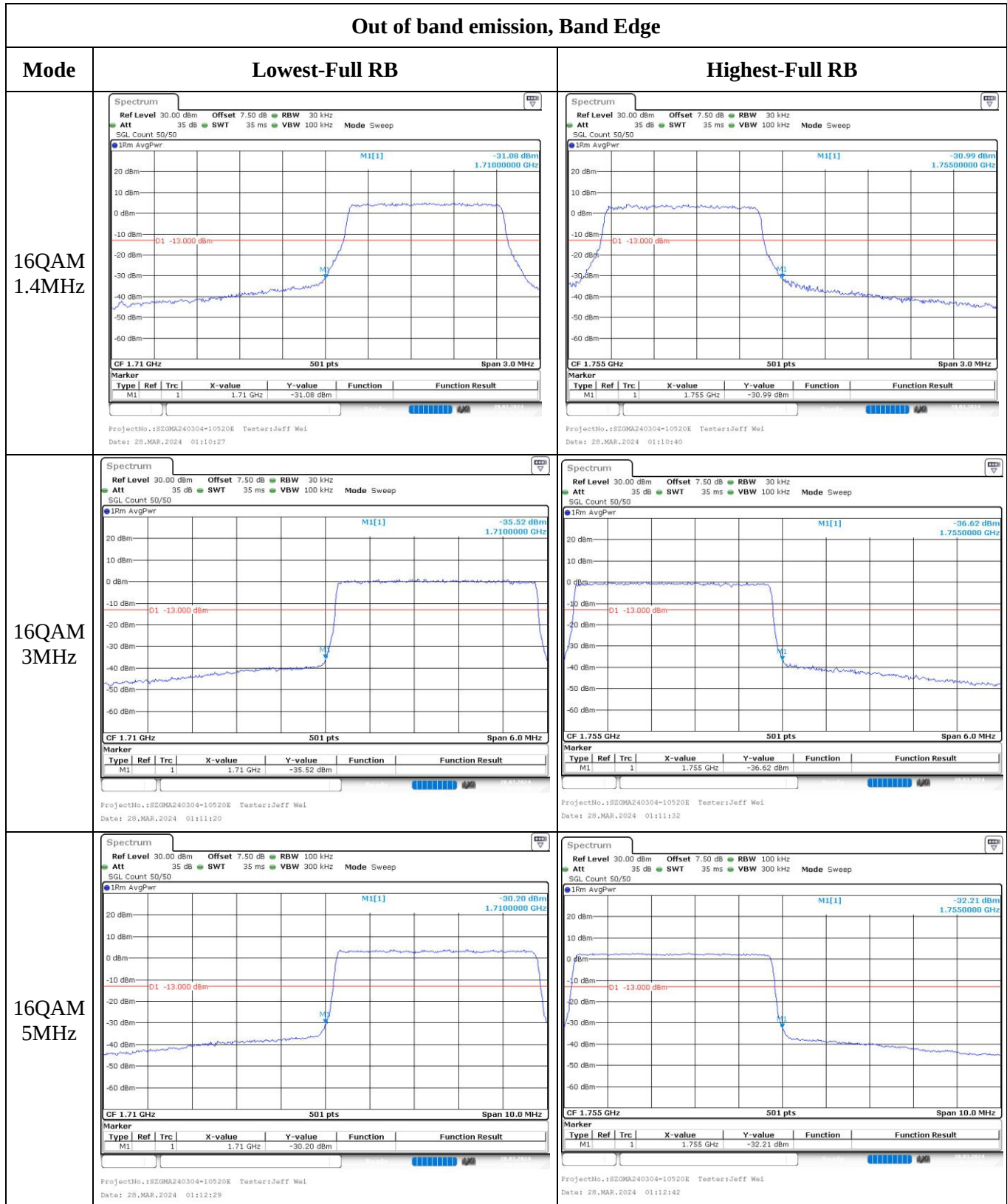
Out of band emission, Band Edge



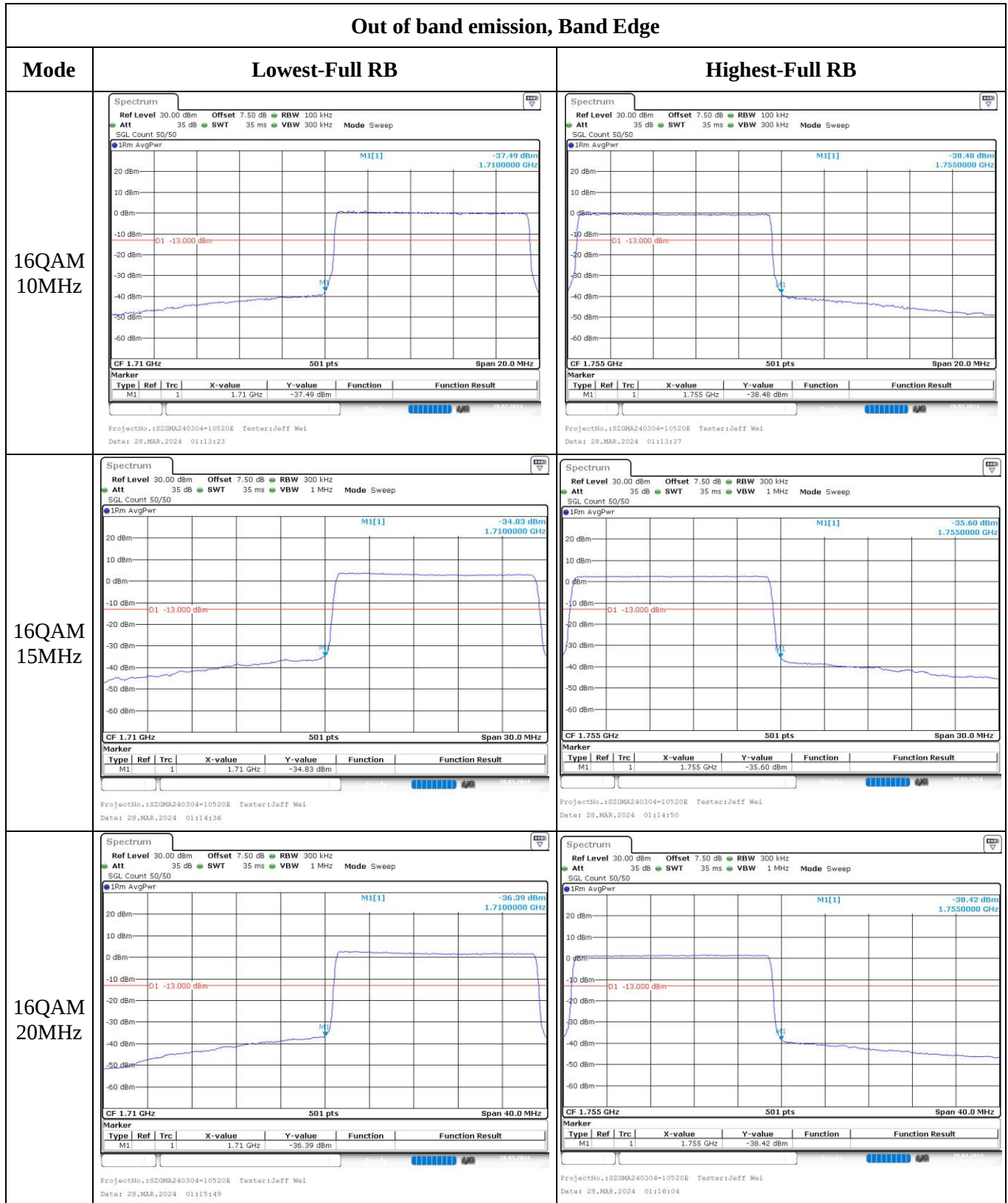
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



5.8 Antenna Port Test Data and Results for LTE Band 5

Serial Number:	2I92-2	Test Date:	2024/3/27-2024/4/19
Test Site:	RF	Test Mode:	Transmitting
Tester:	Jeff Wei	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	24.7~27.2	Relative Humidity: (%)	49~72	ATM Pressure: (kPa)	100.1~101.2

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	UFA210A	94089550	2023/9/1	2024/8/31
Minl-Clrcuts	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/2/25	2025/2/24
R&S	Wideband Radio Communication Tester	CMW500	149216	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)
1.4MHz	824.7	836.5	848.3
3MHz	825.5	836.5	847.5
5MHz	826.5	836.5	846.5
10MHz	829	836.5	844

Test Data:**FCC §2.1046; § 22.913 (a)****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		
1.4MHz QPSK	RB1#0	22.47	22.47	22.36	17.77	38.45
	RB1#3	22.67	22.62	22.58		
	RB1#5	22.49	22.46	22.42		
	RB3#0	22.62	22.6	22.51		
	RB3#3	22.55	22.52	22.55		
	RB6#0	21.56	21.51	21.51		
1.4MHz 16QAM	RB1#0	21.53	21.57	21.42	16.9	38.45
	RB1#3	21.62	21.77	21.64		
	RB1#5	21.52	21.58	21.51		
	RB3#0	21.79	21.52	21.61		
	RB3#3	21.8	21.56	21.6		
	RB6#0	20.59	20.54	20.45		
3MHz QPSK	RB1#0	22.56	22.48	22.5	17.66	38.45
	RB1#8	22.55	22.44	22.47		
	RB1#14	22.51	22.47	22.51		
	RB6#0	21.51	21.5	21.45		
	RB6#9	21.5	21.5	21.47		
	RB15#0	21.58	21.54	21.53		
3MHz 16QAM	RB1#0	21.63	22.09	21.64	17.23	38.45
	RB1#8	21.55	22.1	21.63		
	RB1#14	21.53	22.13	21.69		
	RB6#0	20.5	20.65	20.54		
	RB6#9	20.46	20.57	20.49		
	RB15#0	20.63	20.64	20.73		
5MHz QPSK	RB1#0	22.98	22.96	22.98	18.17	38.45
	RB1#13	23.07	23.07	23		
	RB1#24	22.92	22.96	22.96		
	RB15#0	22.08	22.11	22.03		
	RB15#10	22.09	22.07	21.97		
	RB25#0	22.04	22.07	21.98		
5MHz 16QAM	RB1#0	22.09	21.9	22.32	17.43	38.45
	RB1#13	22.13	21.97	22.33		
	RB1#24	22.01	21.91	22.27		
	RB15#0	21.14	21.17	20.98		
	RB15#10	21.11	21.1	20.94		
	RB25#0	21.08	21.12	21.01		
10MHz QPSK	RB1#0	23.09	23.05	23.07	18.33	38.45
	RB1#25	23.23	23.17	23.17		
	RB1#49	23.01	23.08	23.07		

10MHz 16QAM	RB25#0	22.1	22.21	22.09	17.81	38.45
	RB25#25	22.1	22.12	22.04		
	RB50#0	22.11	22.18	22.09		
	RB1#0	22.7	22.22	22.1		
	RB1#25	22.71	22.38	22.21		
	RB1#49	22.59	22.28	22.08		
	RB25#0	21.17	21.24	21.21		
	RB25#25	21.16	21.21	21.17		
	RB50#0	21.1	21.19	21.18		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + G_T(dBd)G_T(dBd)=G_T(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	4.87	4.32	5.3	13
	RB50#0	5.04	5.28	5.36	13
10MHz 16QAM	RB1#0	5.91	5.07	6.17	13
	RB50#0	5.97	6.2	6.26	13
				Result:	Pass

FCC §2.1049, §22.905: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	1.102	1.302	1.32	1.296
1.4MHz 16QAM	1.102	1.09	1.102	1.32	1.29	1.296
3MHz QPSK	2.683	2.683	2.683	2.88	2.868	2.88
3MHz 16QAM	2.683	2.683	2.683	2.868	2.892	2.88
5MHz QPSK	4.531	4.511	4.491	4.96	4.98	4.94
5MHz 16QAM	4.491	4.531	4.511	4.94	4.96	4.96
10MHz QPSK	8.942	8.942	8.942	9.6	9.68	9.64
10MHz 16QAM	8.942	8.942	8.942	9.64	9.6	9.56

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

FCC §2.1051, §22.917(a):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.
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FCC §2.1051, §22.917(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, §22.355: Frequency Stability					
Test Modulation:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	-5.25	-0.006	2.5
	-20	3.85	-9.64	-0.012	2.5
	-10	3.85	-5.31	-0.006	2.5
	0	3.85	6.88	0.008	2.5
	10	3.85	-3.89	-0.005	2.5
	20	3.85	-6.9	-0.008	2.5
	30	3.85	-2.66	-0.003	2.5
	40	3.85	-1.58	-0.002	2.5
	50	3.85	-6.28	-0.008	2.5
Frequency Stability vs. Voltage	20	3.6	-3.03	-0.004	2.5
	20	4.4	-3.04	-0.004	2.5
				Result:	Pass

Test Modulation:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	1.56	0.002	2.5
	-20	3.85	7.77	0.009	2.5
	-10	3.85	1.3	0.002	2.5
	0	3.85	-6.76	-0.008	2.5
	10	3.85	8.1	0.010	2.5
	20	3.85	-3.59	-0.004	2.5
	30	3.85	-5.09	-0.006	2.5
	40	3.85	-0.7	-0.001	2.5
	50	3.85	-5.17	-0.006	2.5
Frequency Stability vs. Voltage	20	3.6	3.98	0.005	2.5
	20	4.4	2.94	0.004	2.5
				Result:	Pass

Test Plots:

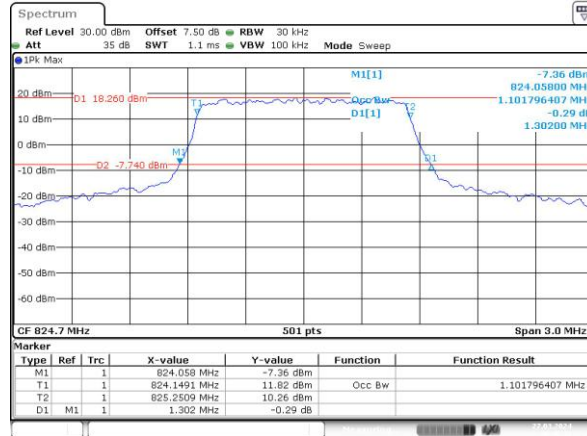
Occupied Bandwidth

Channel

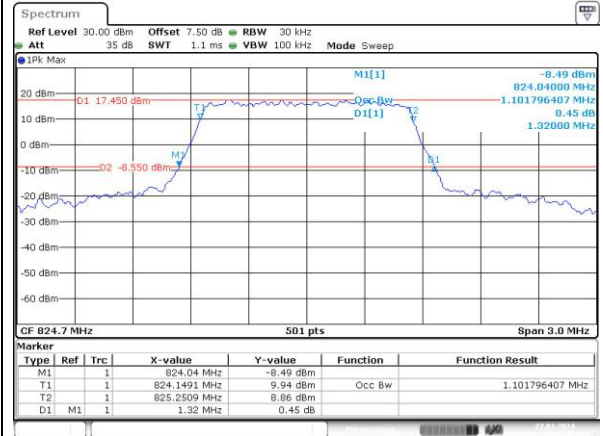
1.4MHz Bandwidth QPSK

1.4MHz Bandwidth 16QAM

Lowest

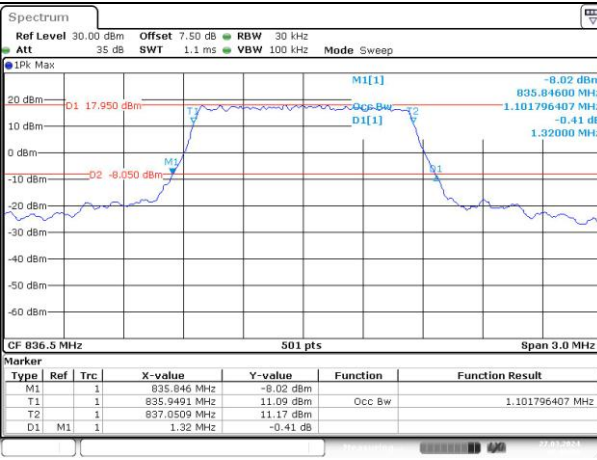


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Date: 27.MAR.2024 20:49:15

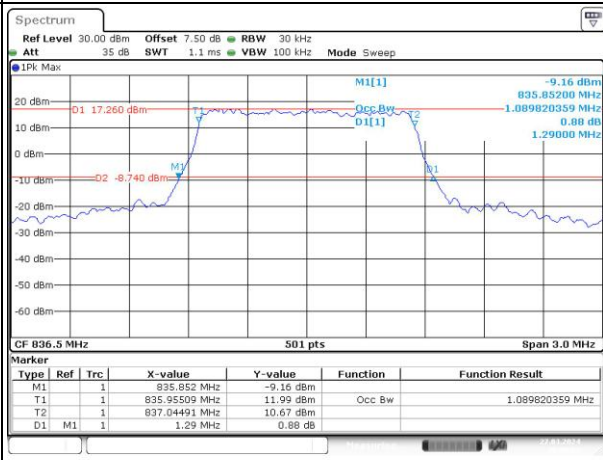


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:49:39

Middle

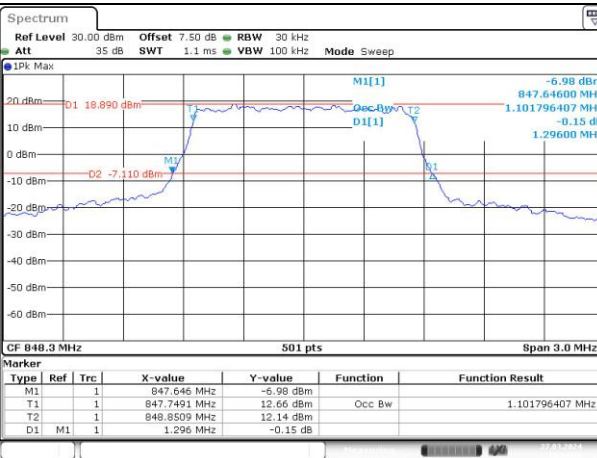


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Date: 27.MAR.2024 20:50:00

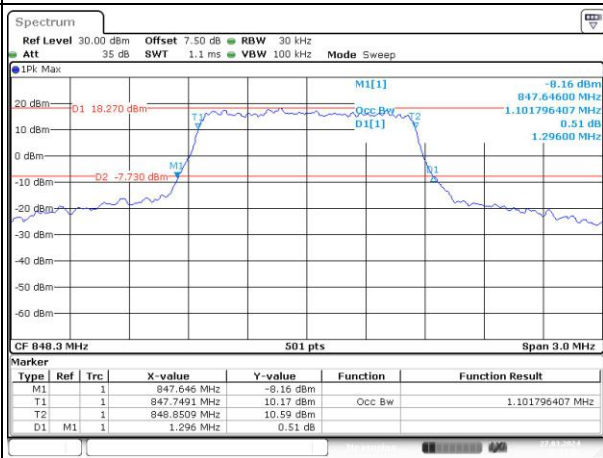


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:50:23

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:50:44



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:51:04

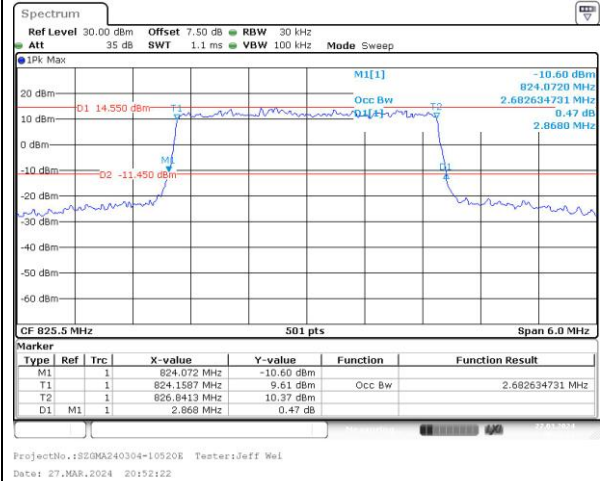
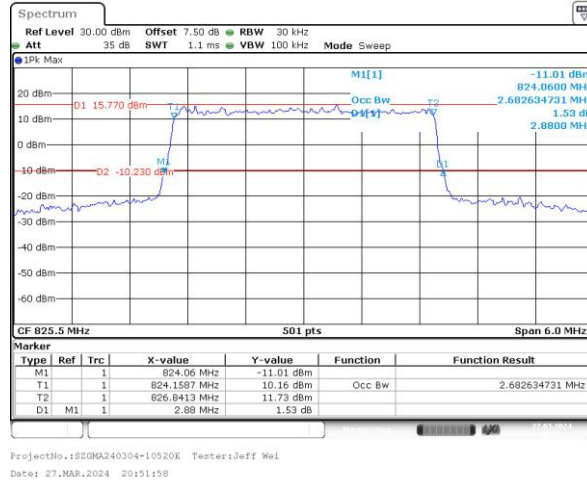
Occupied Bandwidth

Channel

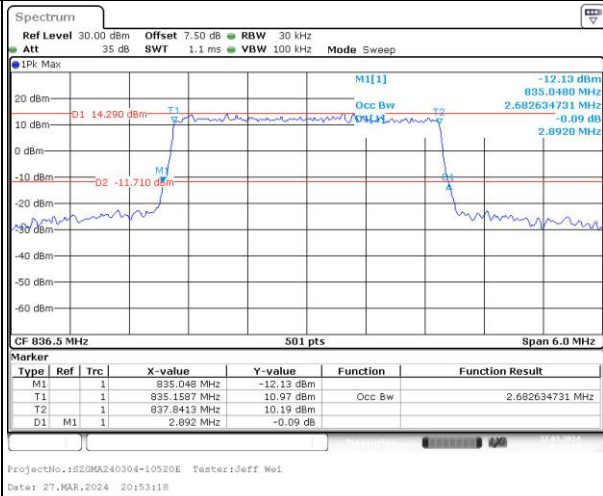
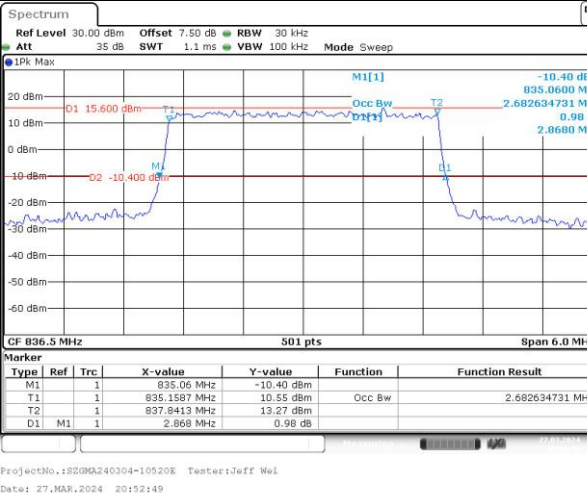
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

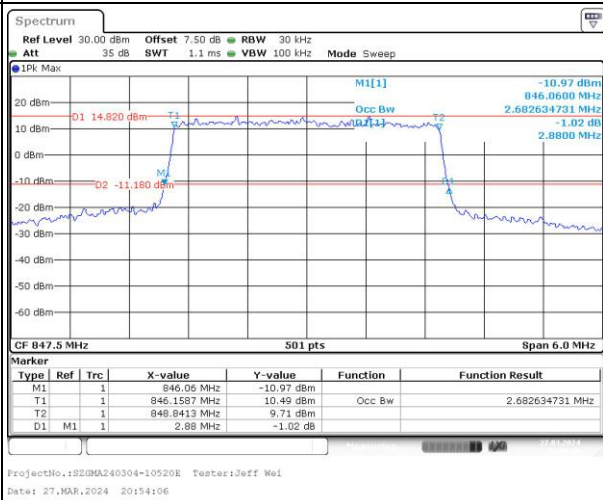
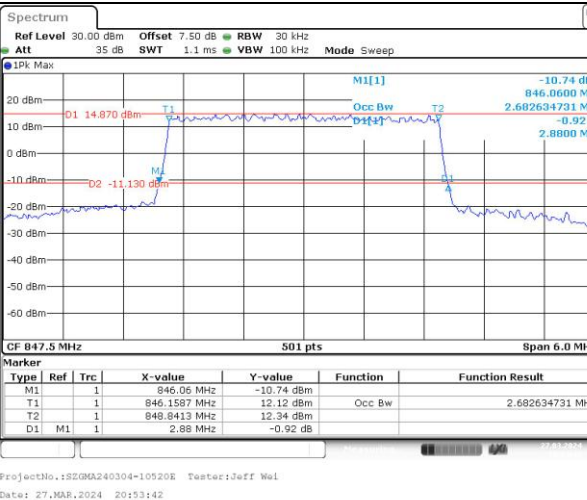
Lowest



Middle



Highest



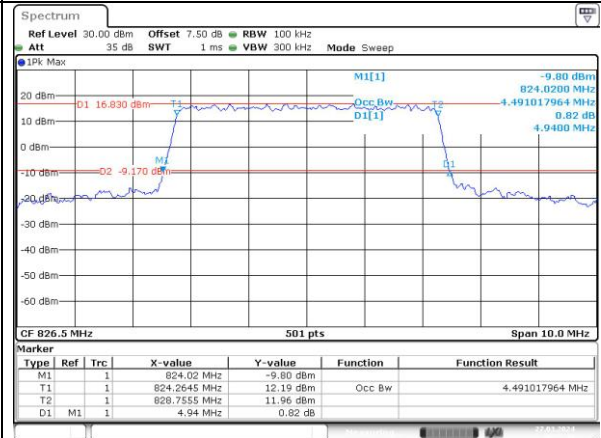
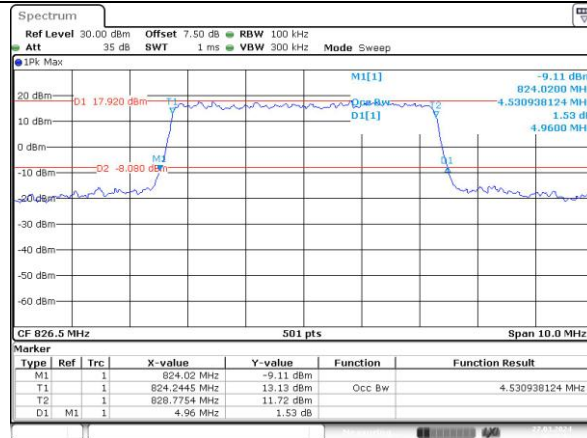
Occupied Bandwidth

Channel

5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

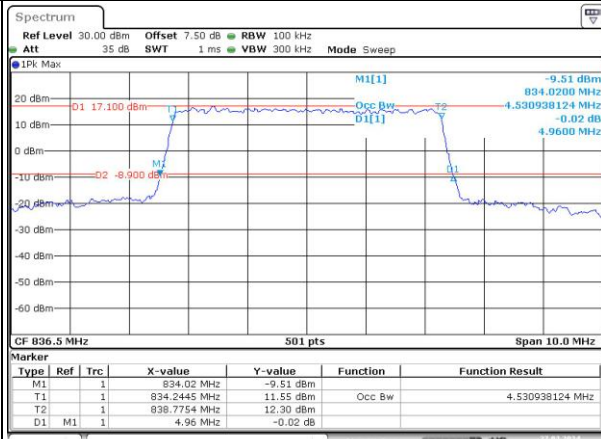
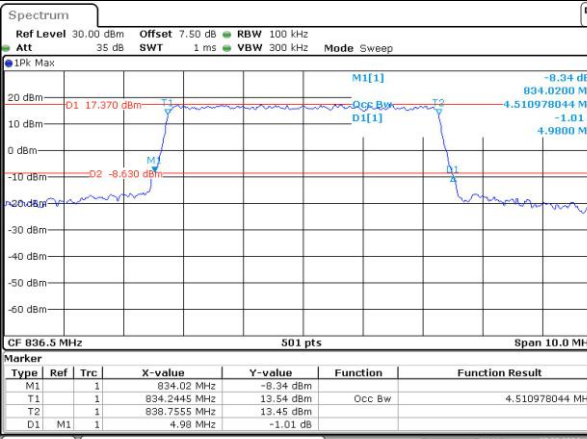
Lowest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:55:04

ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:55:37

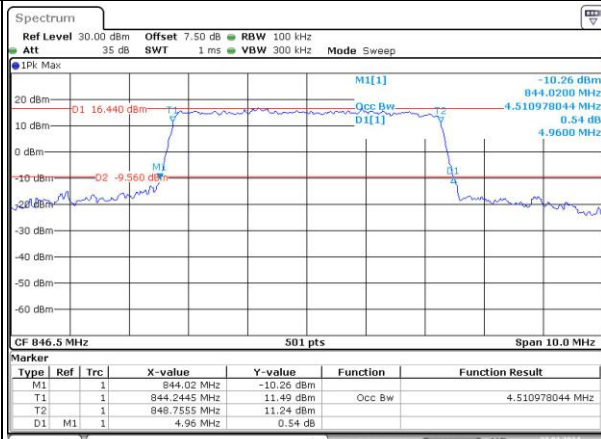
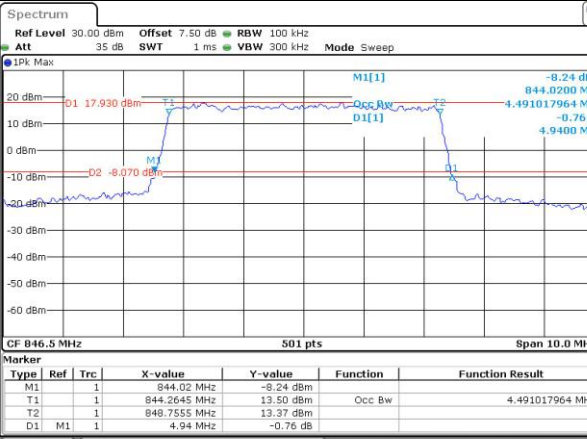
Middle



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:56:11

ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:56:41

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:57:08

ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:57:35

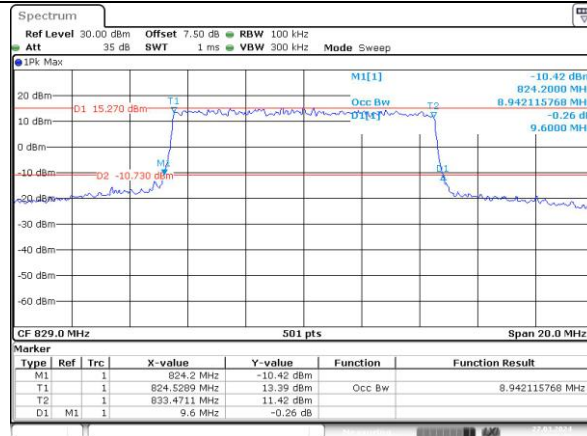
Occupied Bandwidth

Channel

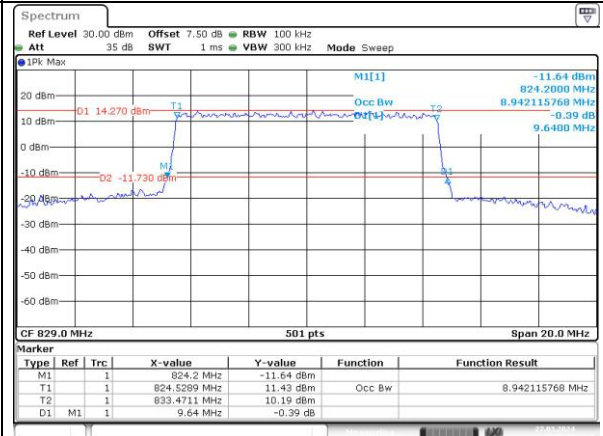
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Lowest

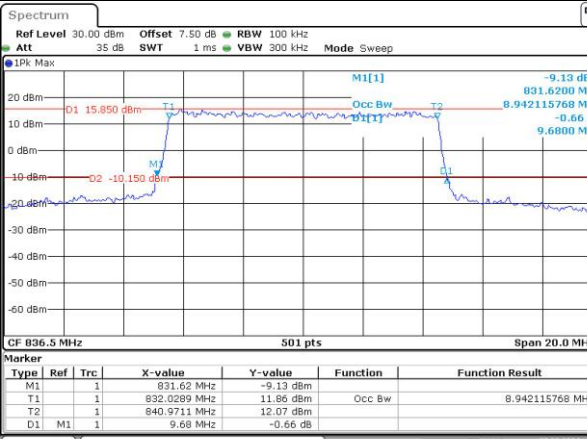


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:58:36

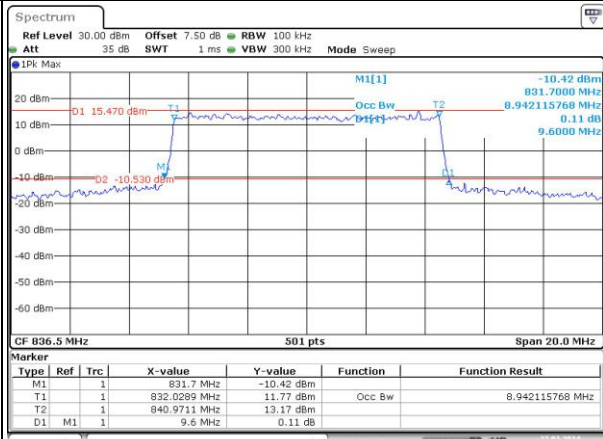


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:59:07

Middle

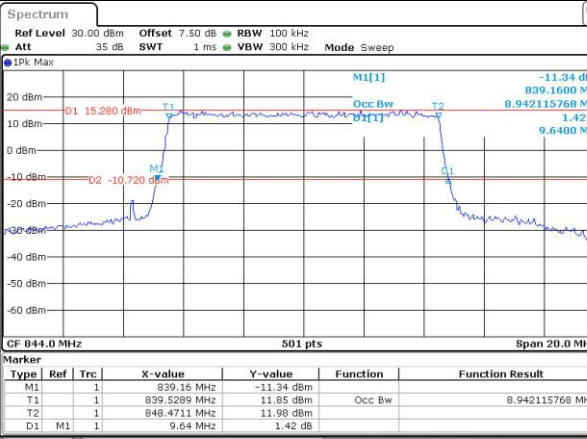


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 20:59:51

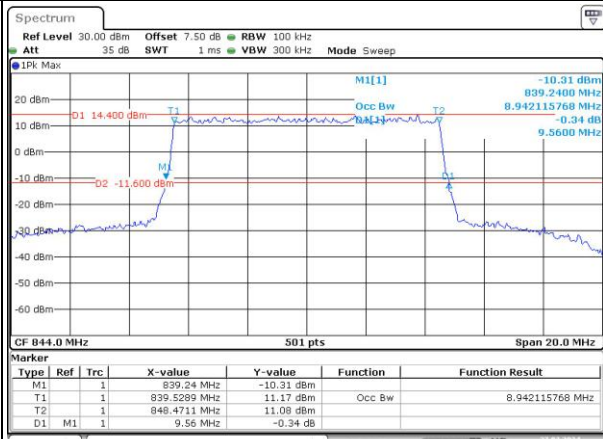


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 21:01:17

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 21:38:59



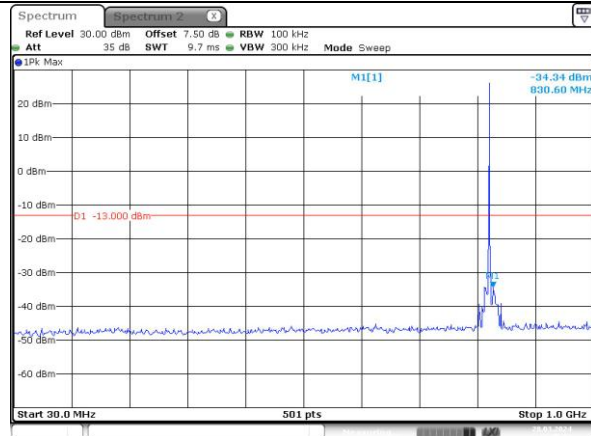
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 27.MAR.2024 21:37:26

Spurious Emissions at Antenna Terminal

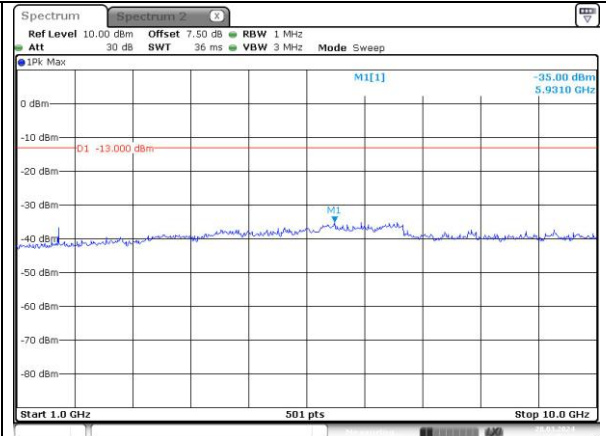
Channel

1.4MHz Bandwidth QPSK

Lowest

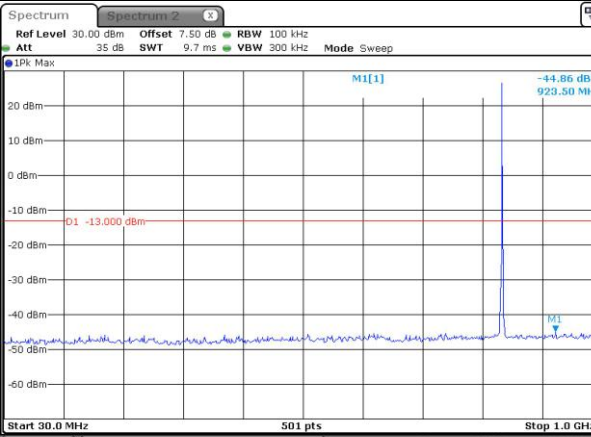


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 18:09:04

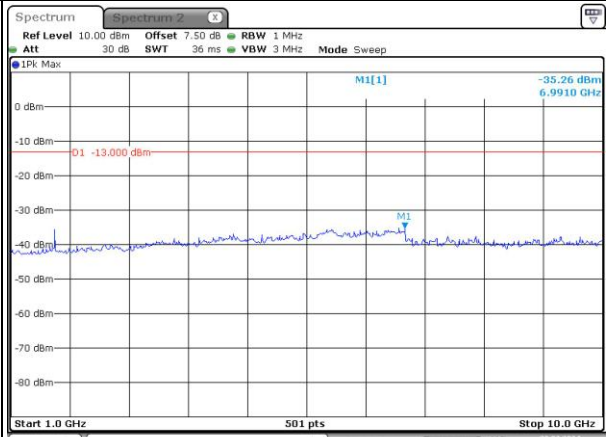


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 18:09:27

Middle

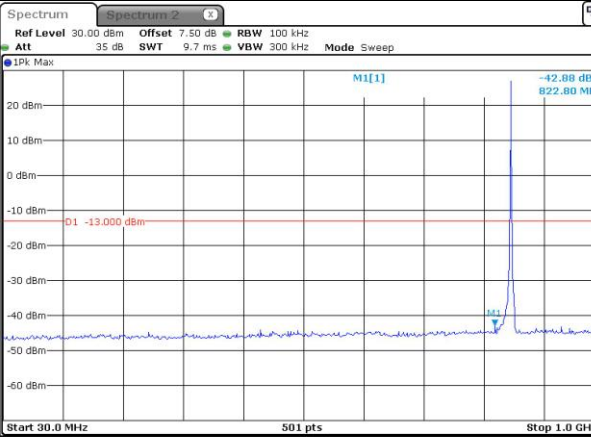


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 18:24:05

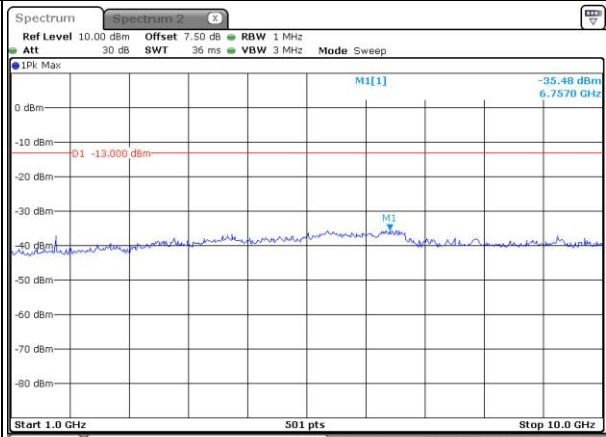


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 18:24:24

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 18:58:47



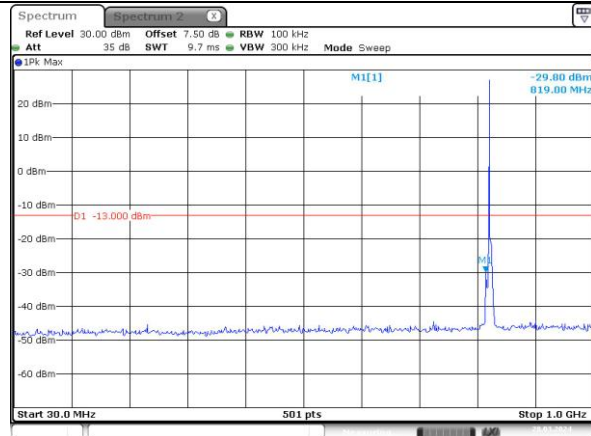
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 18:59:09

Spurious Emissions at Antenna Terminal

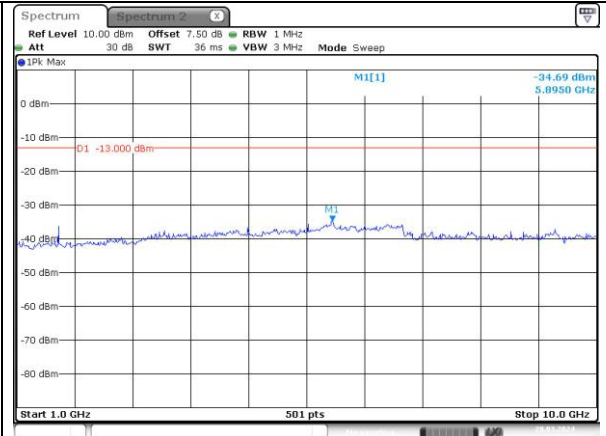
Channel

3MHz Bandwidth QPSK

Lowest

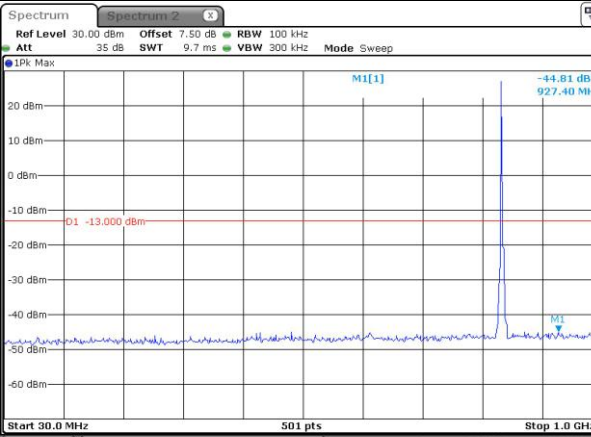


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:00:14

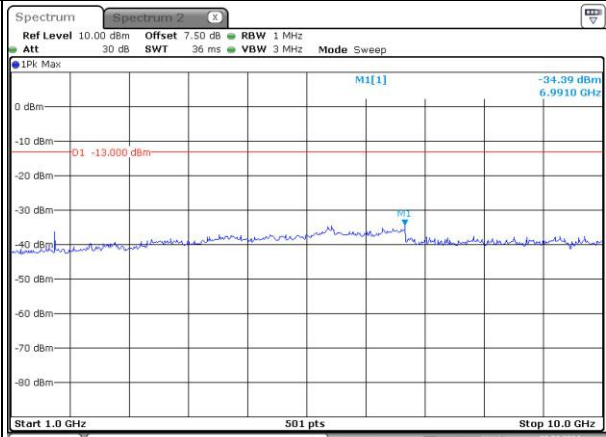


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:00:36

Middle

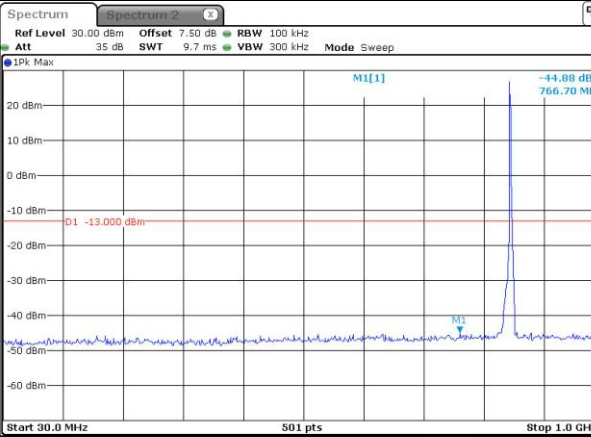


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:01:23

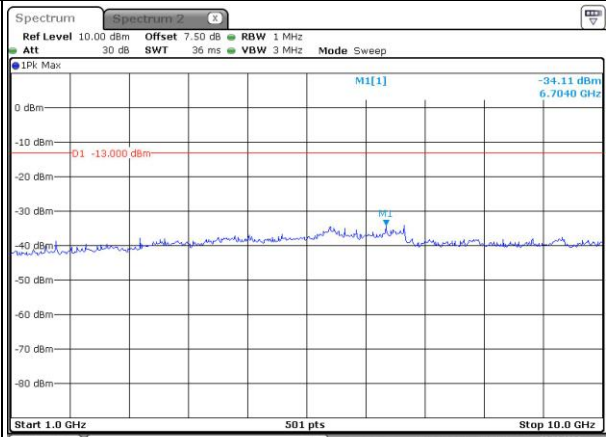


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:01:51

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:02:27



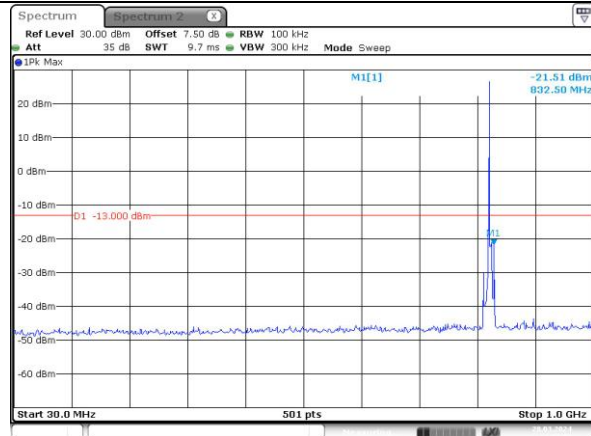
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:02:49

Spurious Emissions at Antenna Terminal

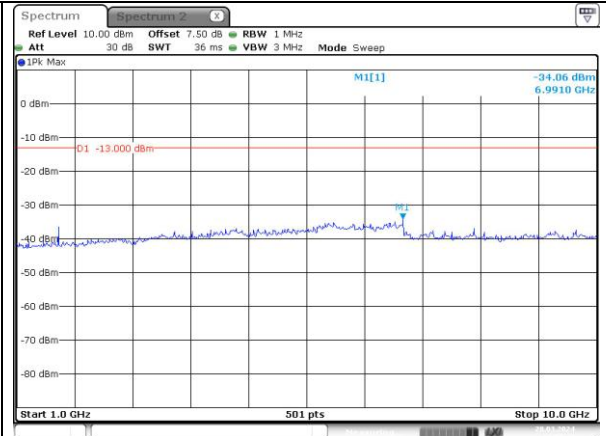
Channel

5MHz Bandwidth QPSK

Lowest

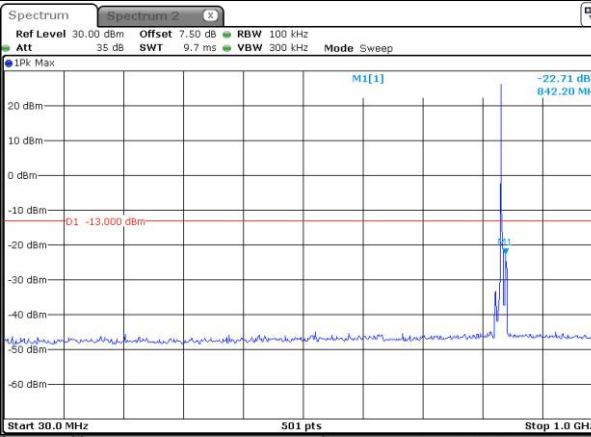


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:04:00

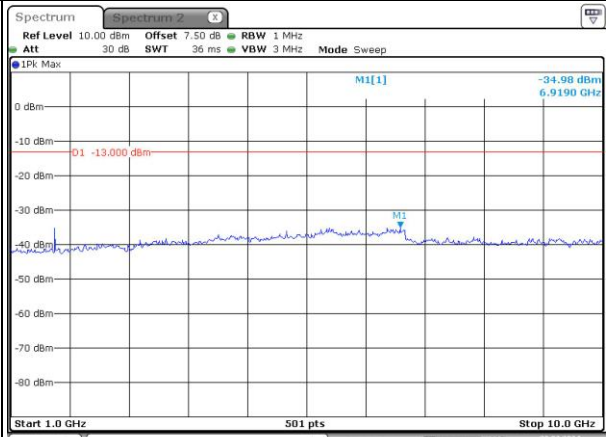


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:04:28

Middle

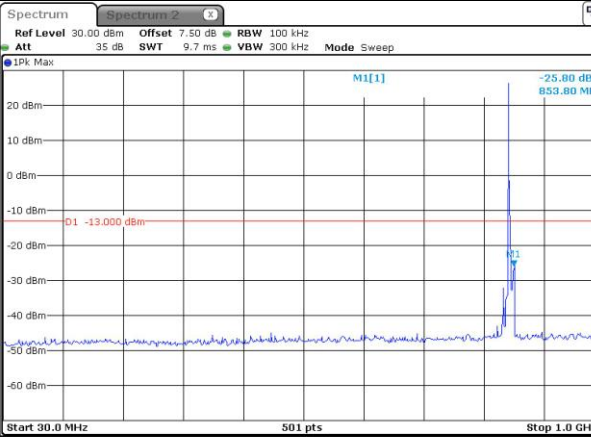


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:05:24

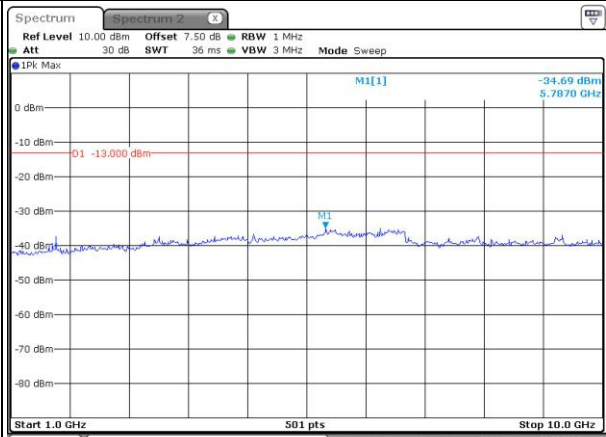


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:05:52

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:06:48



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 28.MAR.2024 19:07:22