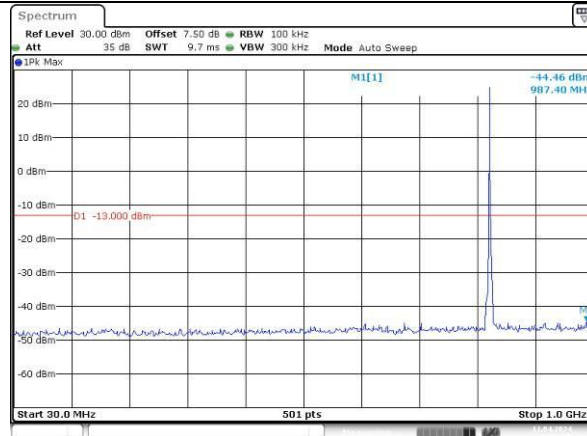


Spurious Emissions at Antenna Terminal

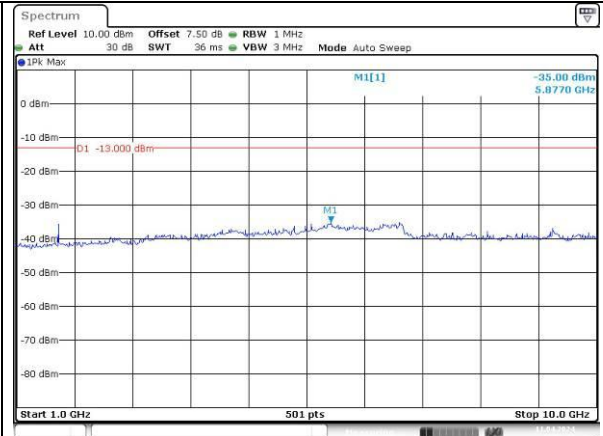
Channel

3MHz Bandwidth QPSK

Lowest

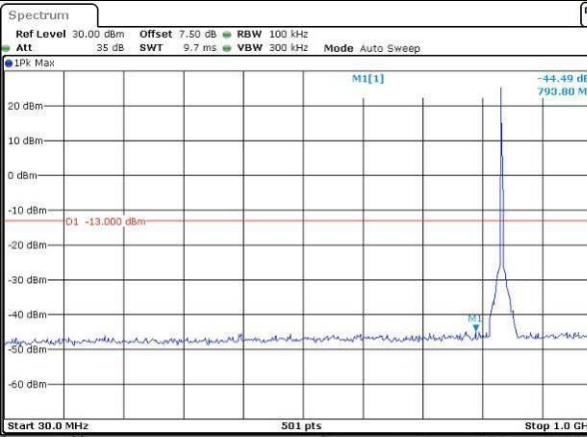


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:56:18

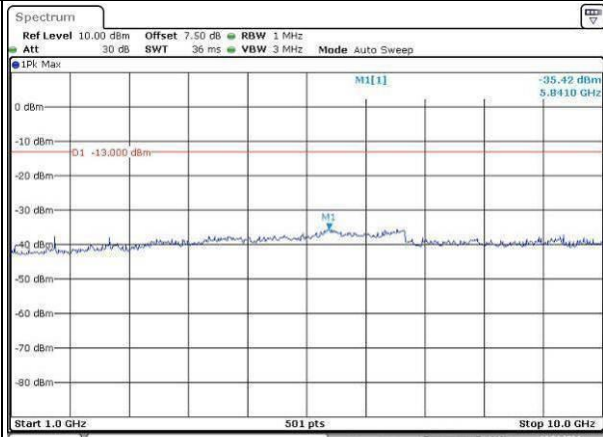


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:56:43

Middle

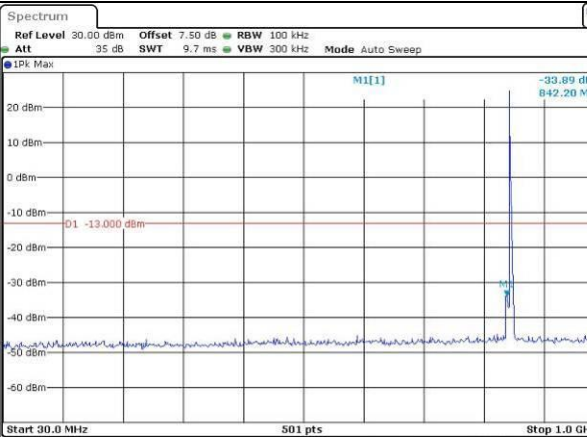


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:57:25

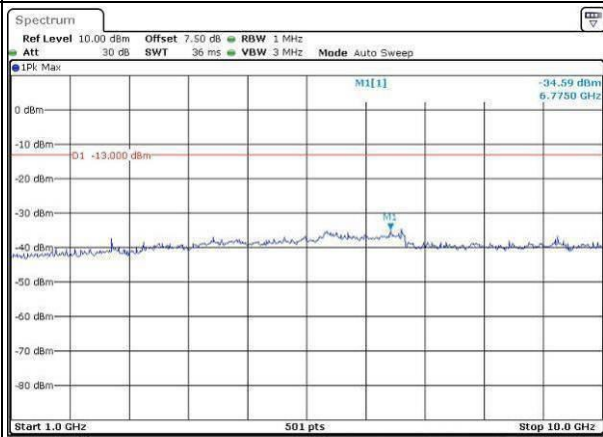


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:57:47

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:58:48



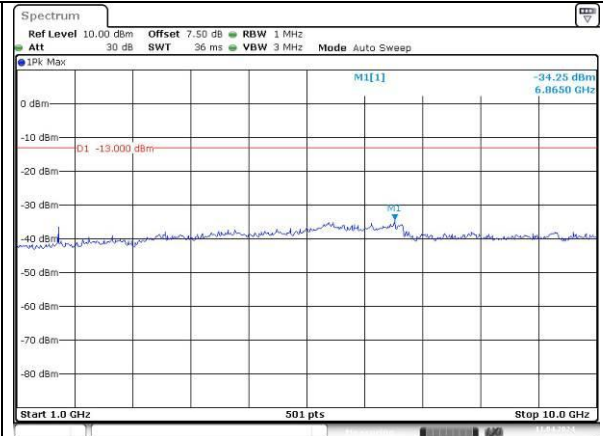
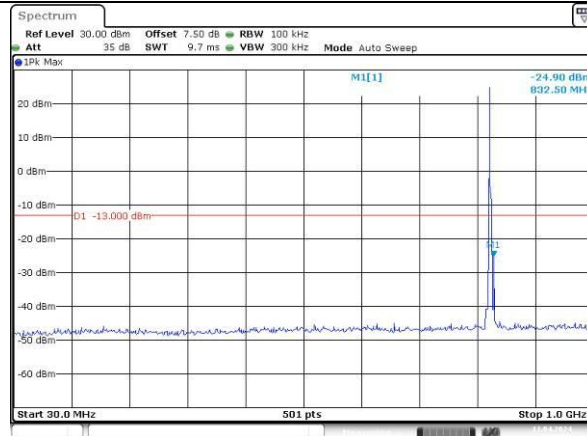
ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:59:06

Spurious Emissions at Antenna Terminal

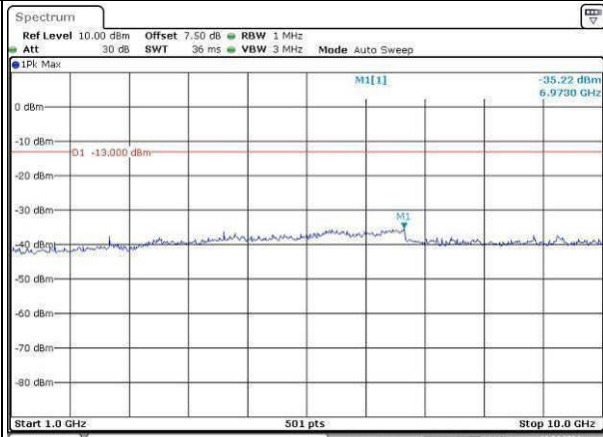
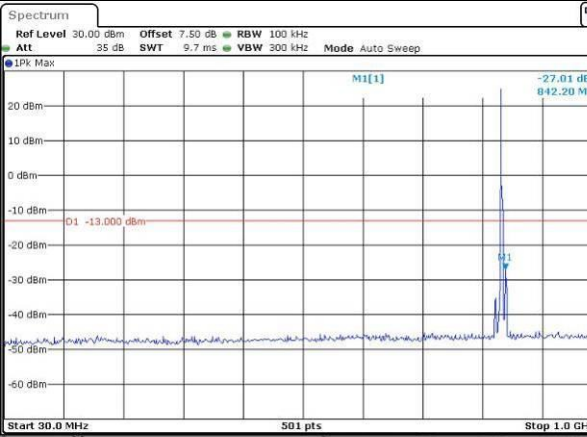
Channel

5MHz Bandwidth QPSK

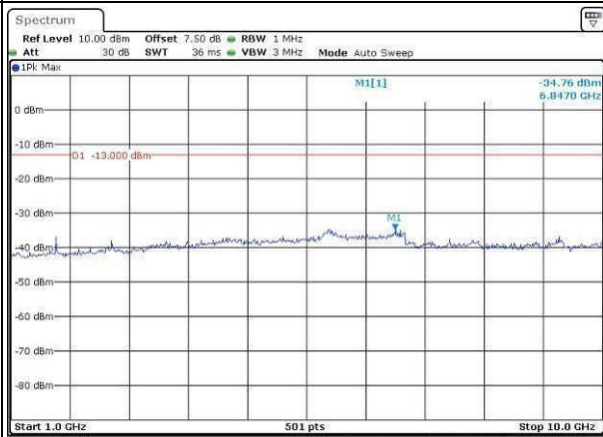
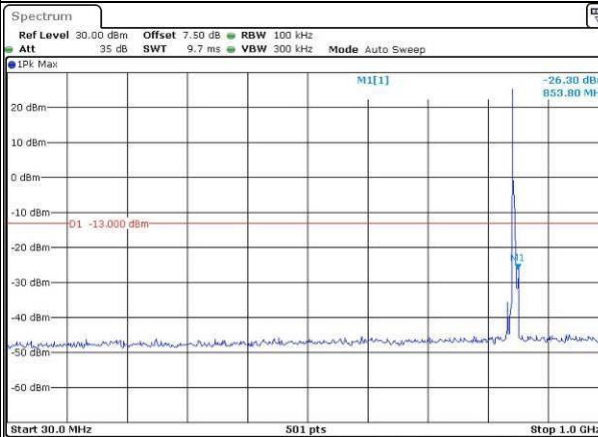
Lowest



Middle



Highest

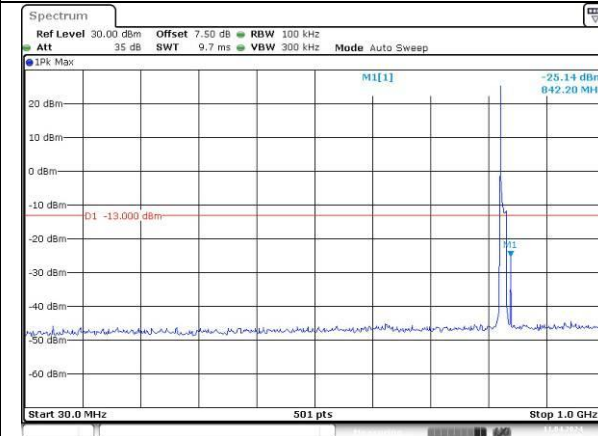


Spurious Emissions at Antenna Terminal

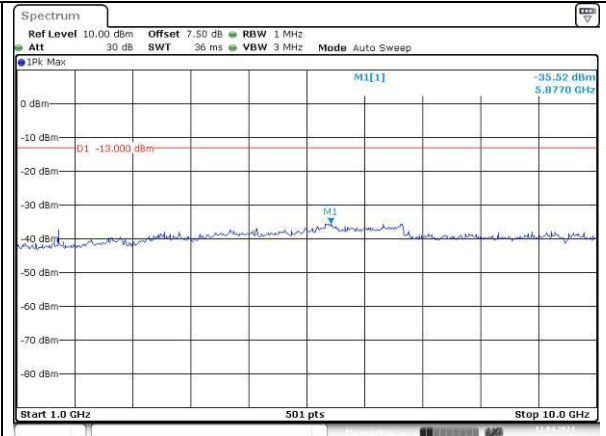
Channel

10MHz Bandwidth QPSK

Lowest

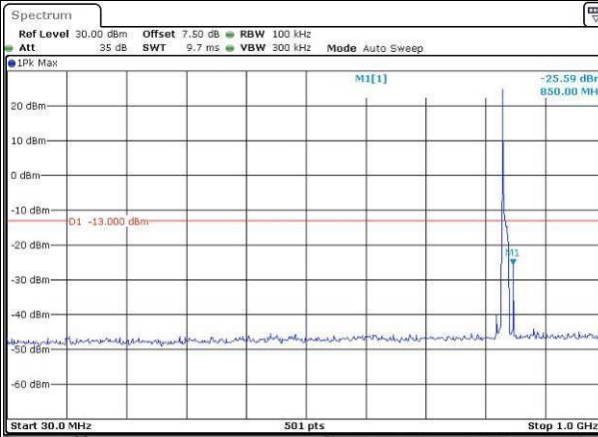


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:11:28

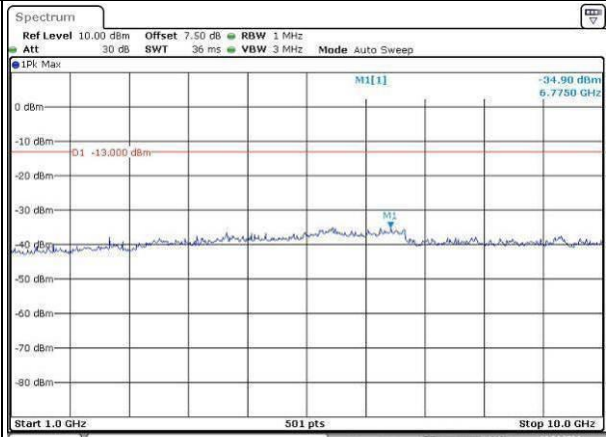


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:11:46

Middle

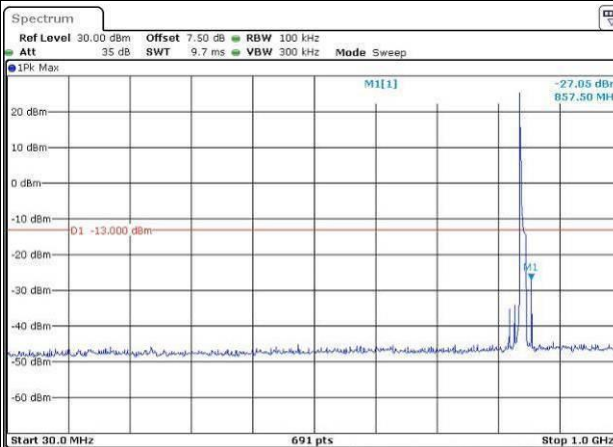


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:12:24

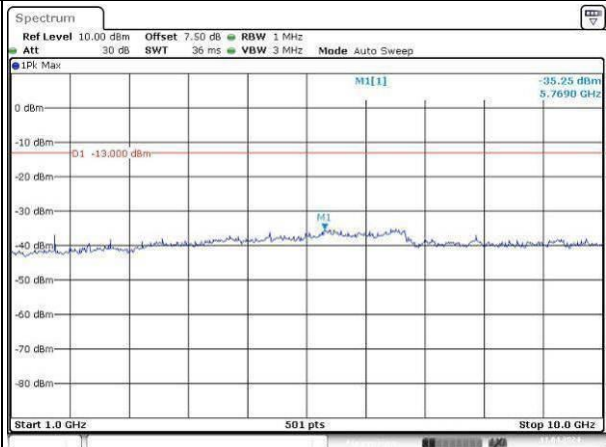


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:12:49

Highest

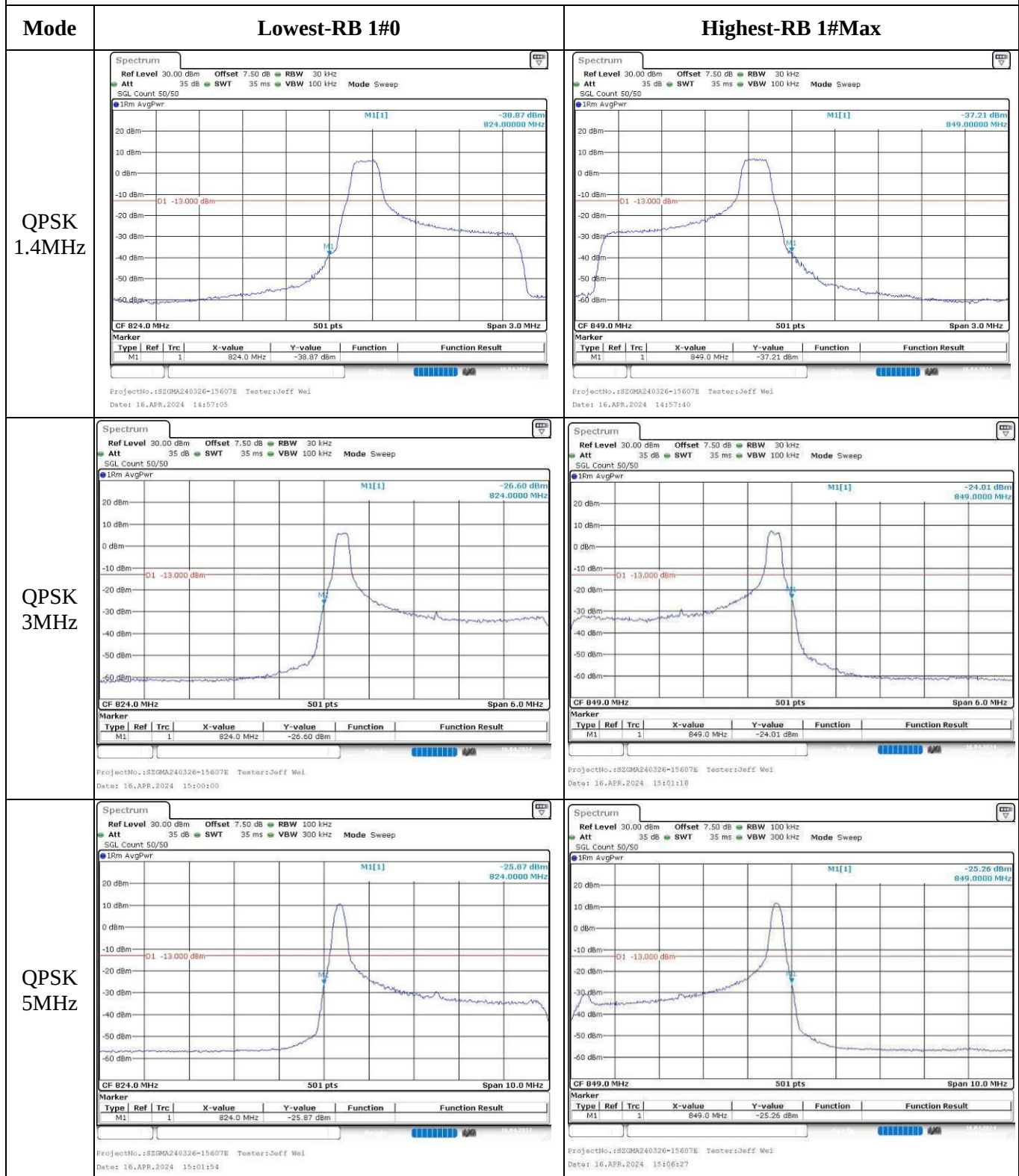


Date: 15.APR.2024 09:11:44

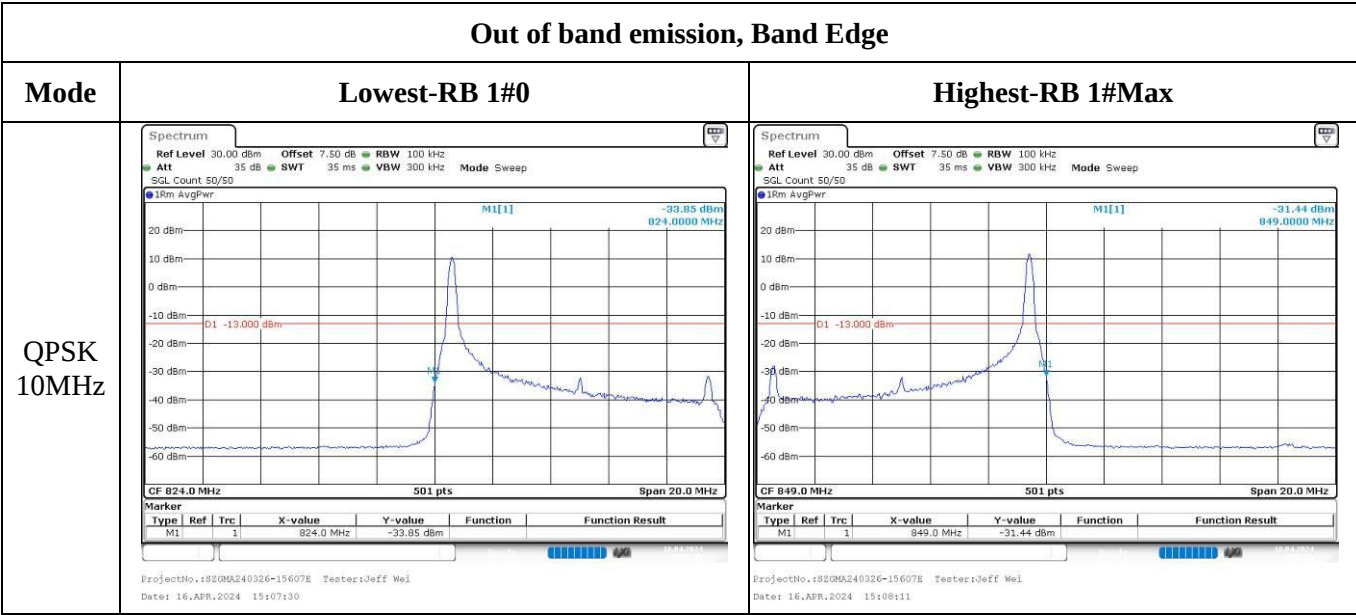


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:13:53

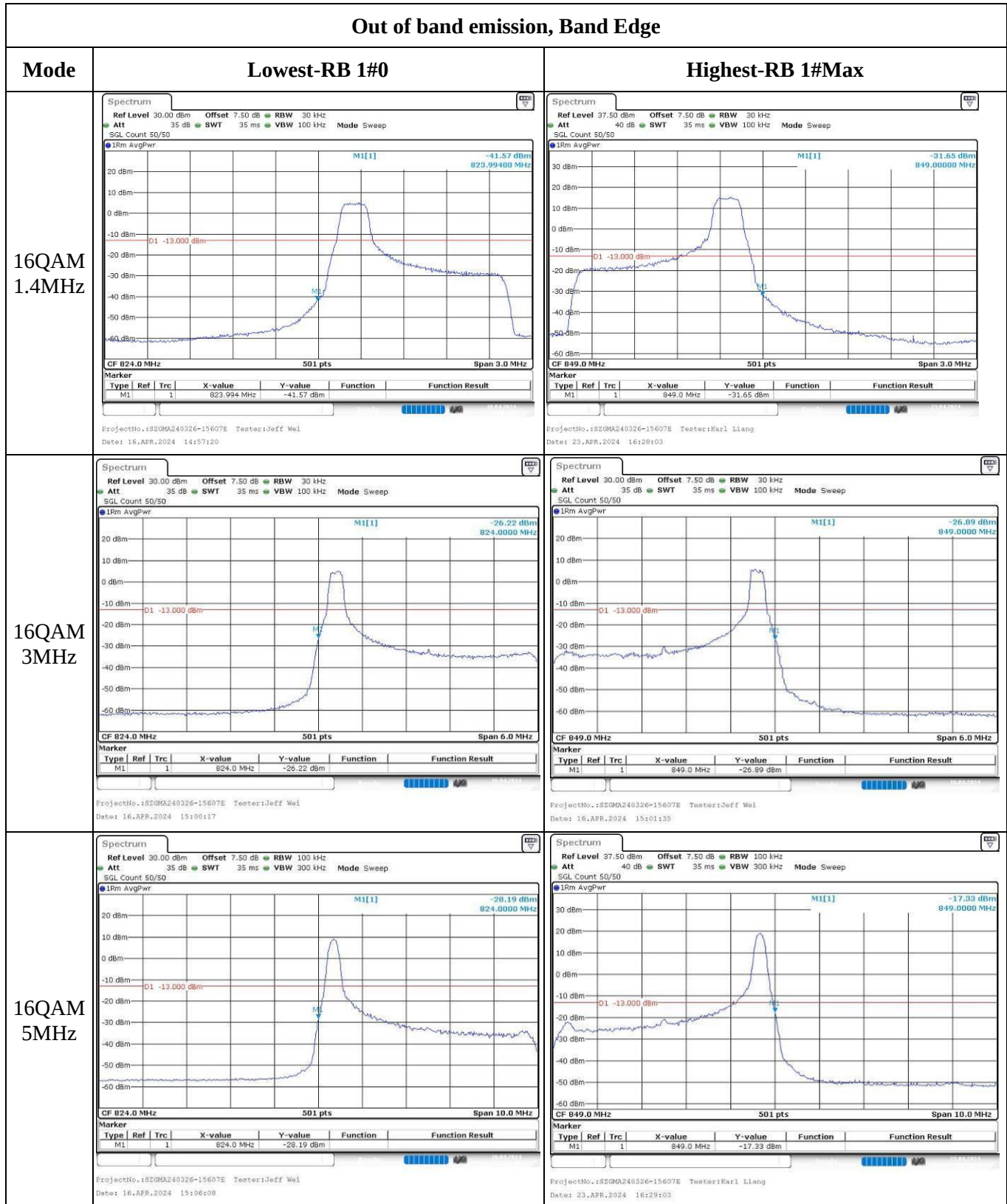
Out of band emission, Band Edge



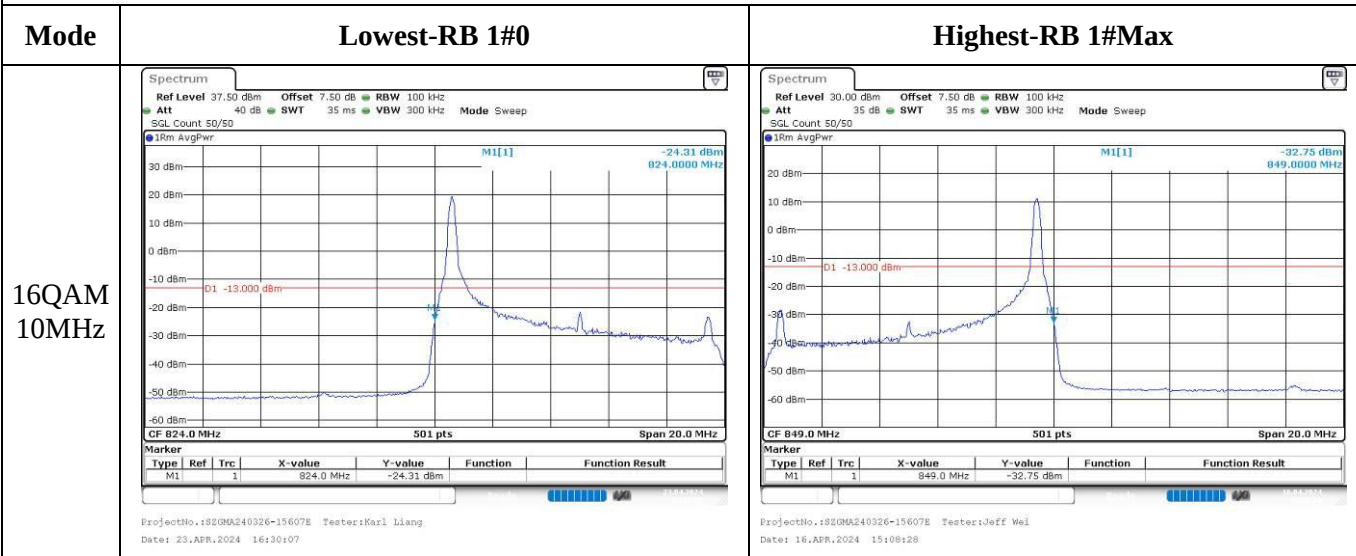
Out of band emission, Band Edge



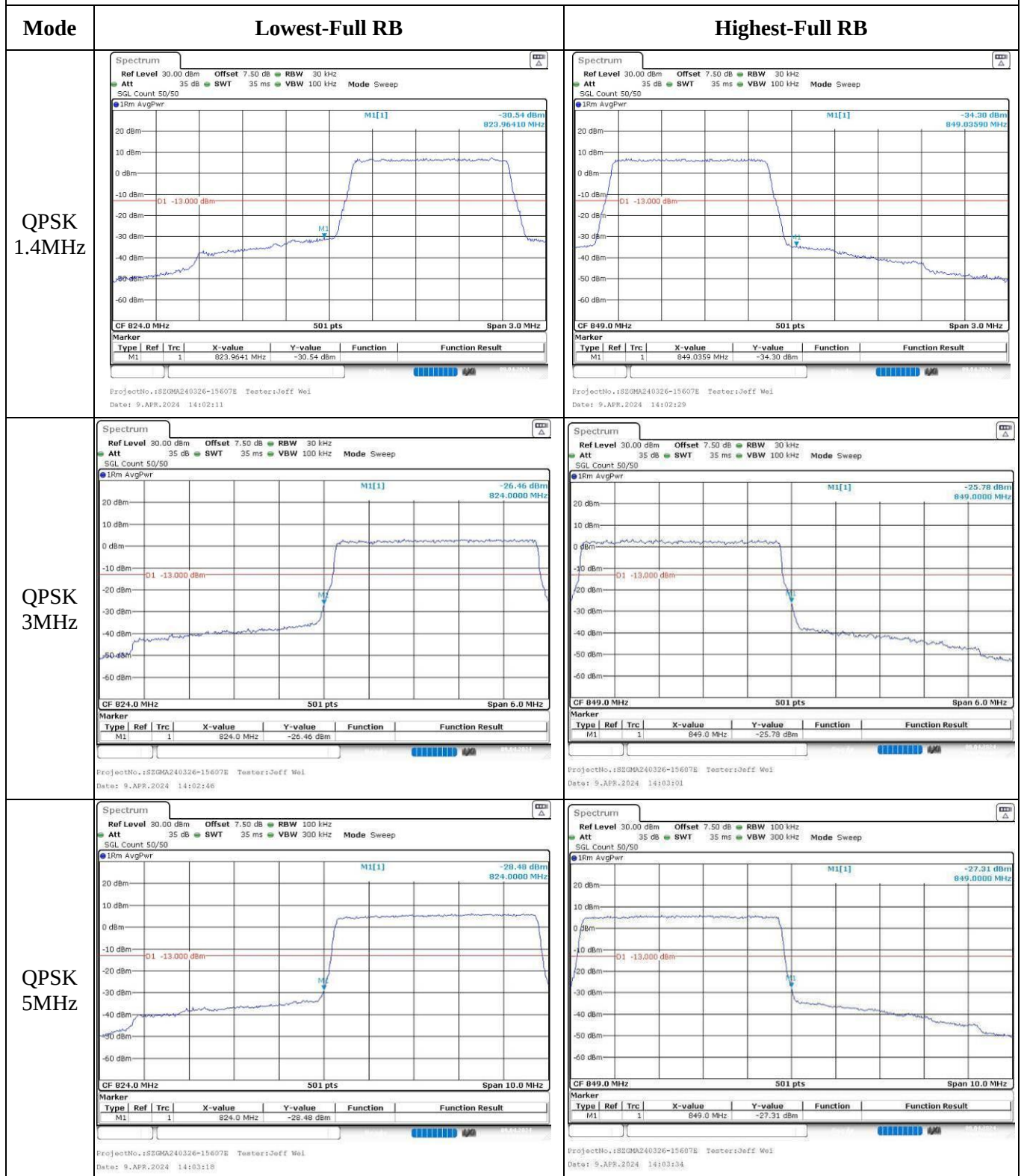
Out of band emission, Band Edge



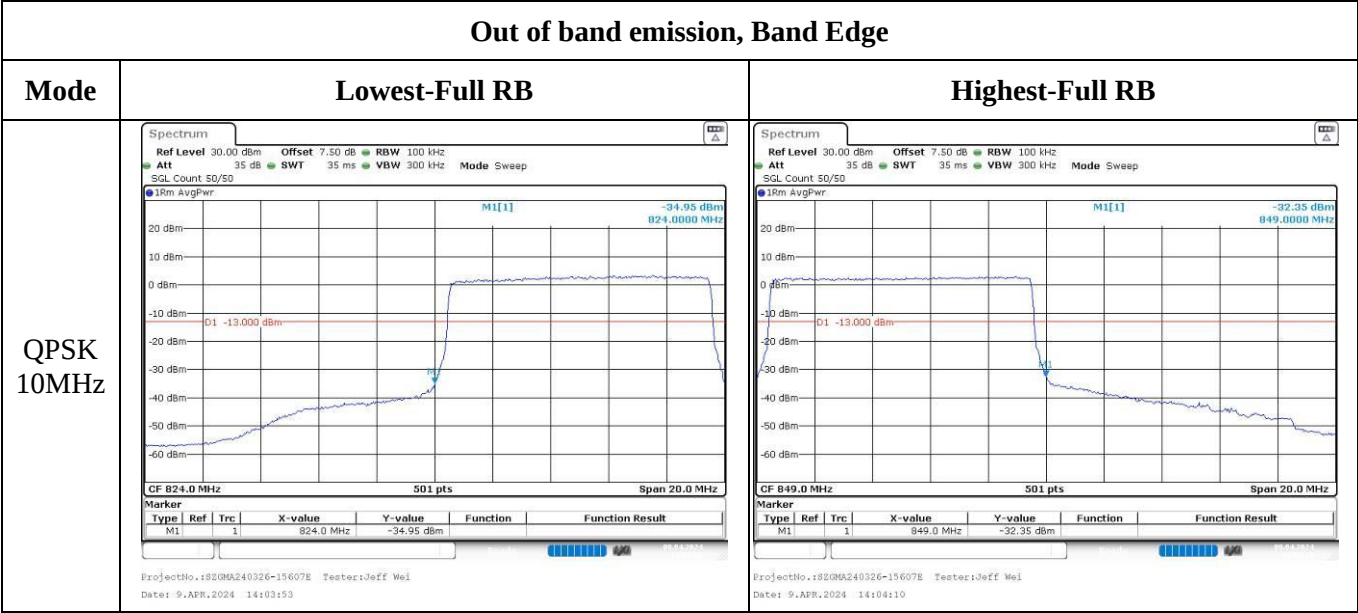
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



Highest-Full RB

Spectrum

Ref Level 30.00 dBm Offset 7.50 dB RBW 30 kHz
 Att 35 dB SWT 35 ms VBW 100 kHz Mode Sweep
 SQL Count 50/50

10m AvgPwr

CF 049.0 MHz 501 pts Span 0.0 MHz

Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1			1	049.0599 MHz	-35.00 dBm		

ProjectNo.:182QMA240326-156078 Testers:Jeff Wei
 Date: 9.APR.2024 14:02:35

Spectrum

Ref Level 30.00 dBm Offset 7.50 dB RBW 30 kHz
 Att 35 dB SWT 35 ms VBW 100 kHz Mode Sweep
 SGL Count 50/50
 1Rm AvgPwr

20 dBm
 10 dBm
 0 dBm
 -10 dBm
 -20 dBm
 -30 dBm
 -40 dBm
 -50 dBm
 -60 dBm

M1[1] -27.69 dBm
 849.0000 MHz

-01 -13.000 dBm

CF 849.0 MHz S01 pts Span 6.0 MHz

Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	849.0 MHz	-27.69 dBm		

ProjectNo.:SSOMA240326-15607E Tester:Jeff Wol
 Date: 9.APR.2024 14:03:07

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

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

M1[1] -29.66 dBm
849.0000 MHz

01 -13.000 dBm

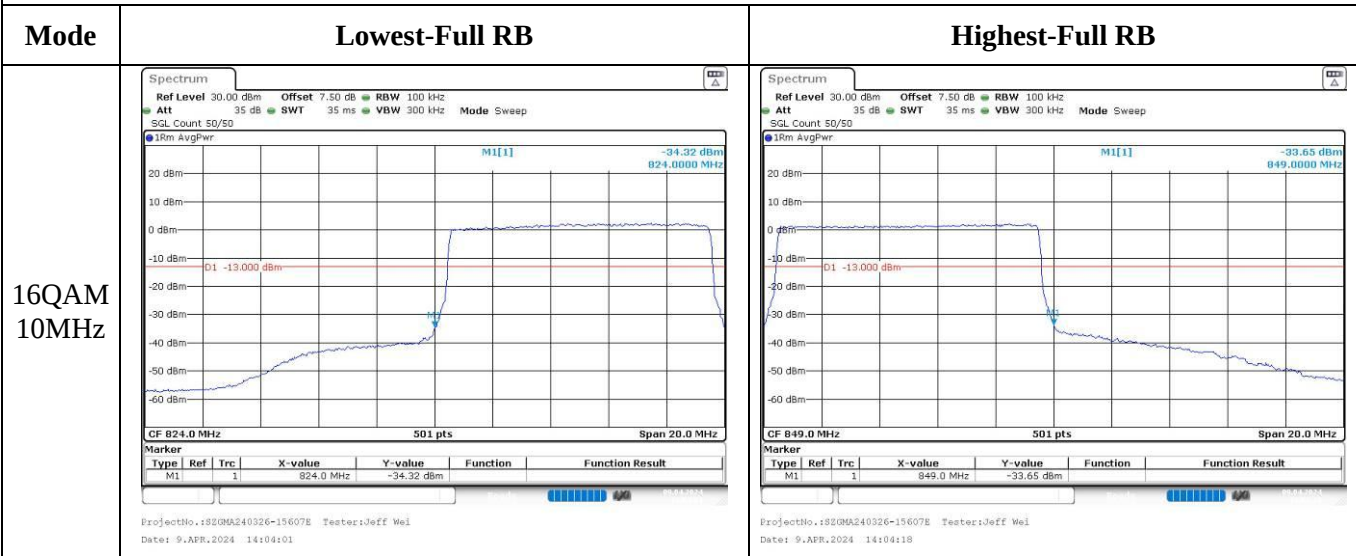
CF 849.0 MHz 501 pts Span 10.0 MHz

Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	849.0 MHz	-29.66 dBm		

Project:ho..sSOMA240326-15607E Tester:Jeff Wol
Date: 9.APR.2024 14:03:41

Out of band emission, Band Edge



5.9 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	2J4T-2	Test Date:	2024/4/9~2024/4/23
Test Site:	RF	Test Mode:	Transmitting
Tester:	Jeff Wei, Karl Liang	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	25.1~27.2	Relative Humidity: (%)	49~72	ATM Pressure: (kPa)	100.0~101.2

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-Clrcts	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/2/25	2025/2/24
R&S	Wideband Radio Communication Tester	CMW500	144976	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	2502.5	2535	2567.5
10MHz	2505	2535	2565
15MHz	2507.5	2535	2562.5
20MHz	2510	2535	2560

Test Data:**RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	19.63	19.64	19.48	18.79	33
	RB1#13	19.71	19.64	19.39		
	RB1#24	19.68	19.67	19.32		
	RB15#0	18.52	18.74	18.33		
	RB15#10	18.55	18.7	18.39		
	RB25#0	18.57	18.68	18.32		
5MHz 16QAM	RB1#0	18.66	18.25	17.68	17.83	33
	RB1#13	18.75	18.35	17.7		
	RB1#24	18.67	18.33	17.55		
	RB15#0	17.53	17.91	17.66		
	RB15#10	17.67	17.91	17.57		
	RB25#0	17.83	17.78	17.68		
10MHz QPSK	RB1#0	19.66	19.66	19.28	18.81	33
	RB1#25	19.65	19.67	19.29		
	RB1#49	19.71	19.73	19.31		
	RB25#0	18.56	18.81	18.53		
	RB25#25	18.59	18.76	18.36		
	RB50#0	18.66	18.68	18.37		
10MHz 16QAM	RB1#0	18.64	18.21	18.68	17.88	33
	RB1#25	18.68	18.2	18.65		
	RB1#49	18.8	18.21	18.58		
	RB25#0	17.86	18.02	17.66		
	RB25#25	17.8	18.01	17.61		
	RB50#0	17.86	17.89	17.54		
15MHz QPSK	RB1#0	19.64	19.67	19.5	18.83	33
	RB1#38	19.62	19.65	19.38		
	RB1#74	19.75	19.68	19.3		
	RB36#0	18.72	18.69	18.57		
	RB36#39	18.57	18.75	18.51		
	RB75#0	18.65	18.8	18.47		
15MHz 16QAM	RB1#0	18.84	19.22	18.87	18.35	33
	RB1#38	18.82	19.22	18.7		
	RB1#74	18.95	19.27	18.53		
	RB36#0	17.94	17.96	17.79		
	RB36#39	17.99	17.87	17.58		
	RB75#0	17.8	17.91	17.58		
20MHz QPSK	RB1#0	19.76	19.86	19.66	18.96	33
	RB1#50	19.82	19.83	19.54		
	RB1#99	19.84	19.88	19.36		
	RB50#0	18.65	18.83	18.65		

	RB50#50	18.73	18.77	18.51		
	RB100#0	18.6	18.67	18.62		
20MHz 16QAM	RB1#0	18.83	19.36	18.41	18.47	33
	RB1#50	18.86	19.3	18.34		
	RB1#99	18.93	19.39	18.27		
	RB50#0	17.8	17.88	17.93		
	RB50#50	17.87	17.92	17.63		
	RB100#0	17.75	17.98	17.7		
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	4.96	5.71	5.3	13
	RB100#0	4.32	4.26	4.38	13
20MHz 16QAM	RB1#0	5.62	6.46	6.17	13
	RB100#0	5.86	5.86	5.86	13
				Result:	Pass

Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.511	4.491	4.511	5	4.88	5.02
5MHz 16QAM	4.551	4.491	4.531	5.02	4.98	5.02
10MHz QPSK	8.942	8.942	8.982	9.8	9.8	9.8
10MHz 16QAM	8.982	8.942	8.982	9.8	9.84	9.76
15MHz QPSK	13.473	13.533	13.533	15.06	15.12	15.12
15MHz 16QAM	13.533	13.473	13.593	15	15.06	15.06
20MHz QPSK	17.964	18.044	18.044	19.68	19.76	19.68
20MHz 16QAM	18.044	17.964	17.884	19.84	19.76	18.72
Note: The test plots please refer to the Plots of Occupied Bandwidth						

Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
----------------	--

Out of band emission, Band Edge

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

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	3.7	2501.025	2500.00	2569.010	2570
	-20	3.7	2501.037	2500.00	2569.019	2570
	-10	3.7	2501.040	2500.00	2569.004	2570
	0	3.7	2501.034	2500.00	2569.016	2570
	10	3.7	2501.052	2500.00	2569.013	2570
	20	3.7	2501.058	2500.00	2569.022	2570
	30	3.7	2501.085	2500.00	2569.028	2570
	40	3.7	2501.070	2500.00	2569.040	2570
	50	3.7	2501.064	2500.00	2569.025	2570
Frequency Stability vs. Voltage	20	3.4	2501.064	2500.00	2569.049	2570
	20	4.35	2501.067	2500.00	2569.040	2570
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	2500.969	2500.00	2569.019	2570
	-20	3.7	2500.966	2500.00	2568.998	2570
	-10	3.7	2500.966	2500.00	2569.007	2570
	0	3.7	2500.972	2500.00	2569.013	2570
	10	3.7	2500.975	2500.00	2569.004	2570
	20	3.7	2500.978	2500.00	2569.022	2570
	30	3.7	2500.984	2500.00	2569.028	2570
	40	3.7	2500.993	2500.00	2569.031	2570
	50	3.7	2500.993	2500.00	2569.034	2570
Frequency Stability vs. Voltage	20	3.4	2500.999	2500.00	2569.031	2570
	20	4.35	2500.990	2500.00	2569.049	2570
					Result:	Pass

Test Plots

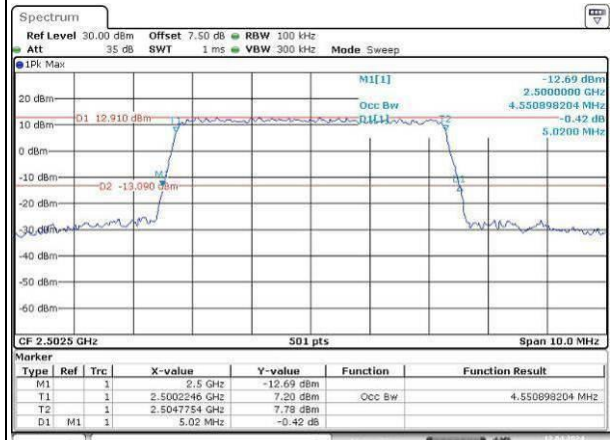
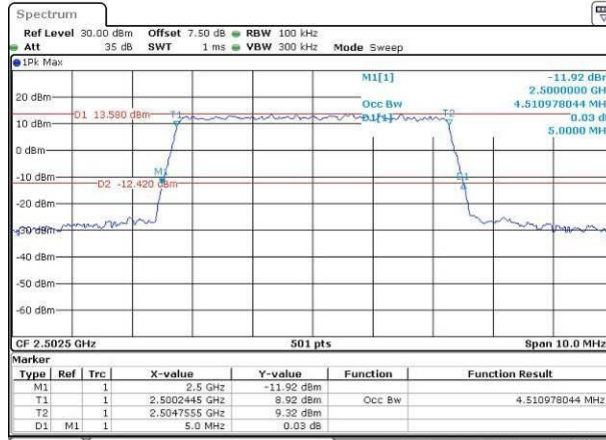
Occupied Bandwidth

Channel

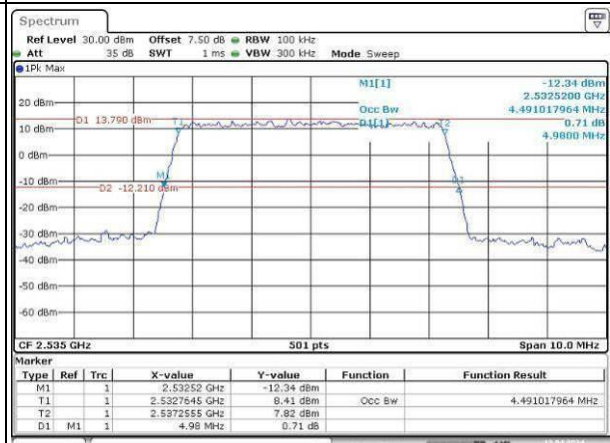
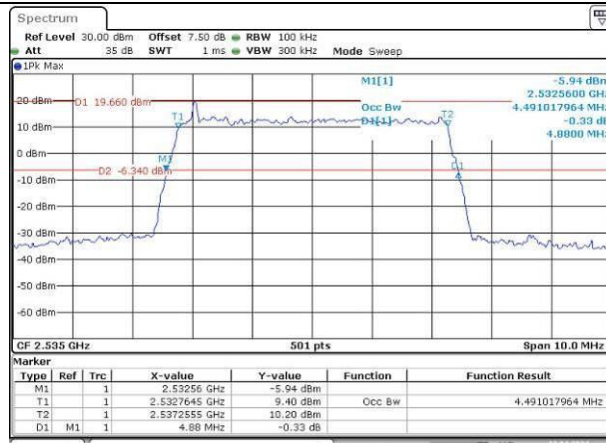
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

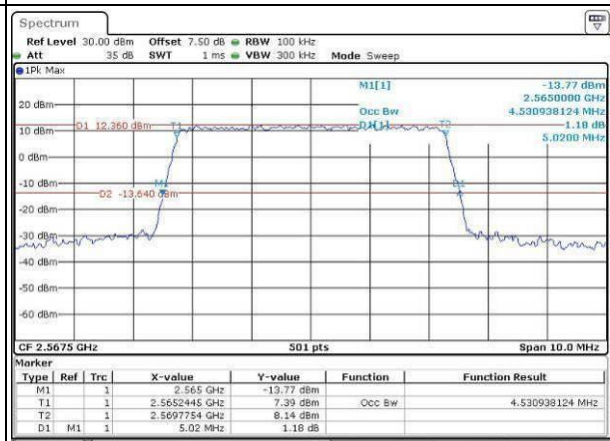
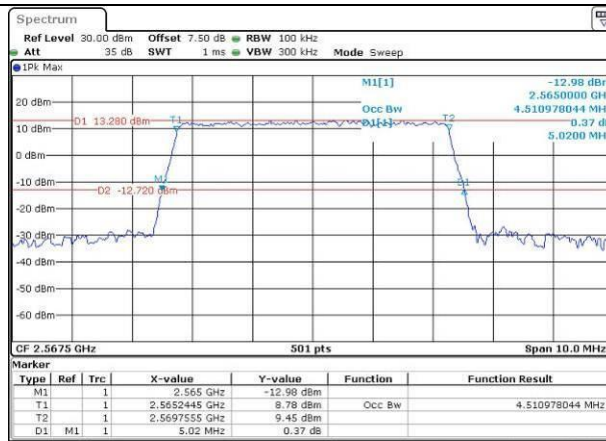
Lowest



Middle



Highest



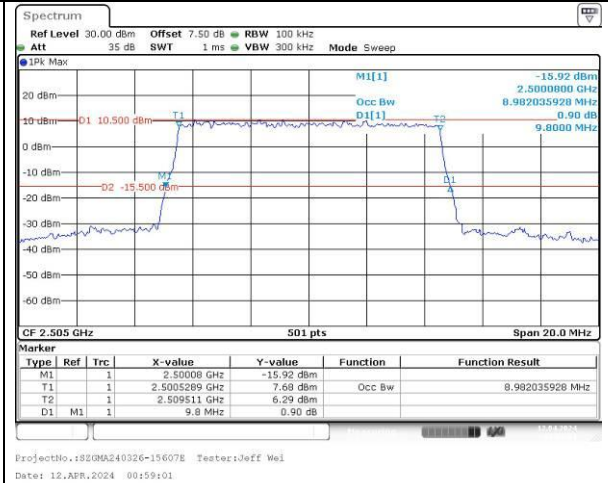
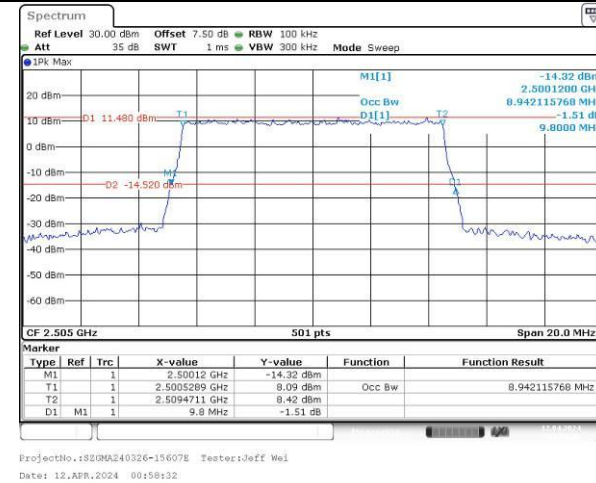
Occupied Bandwidth

Channel

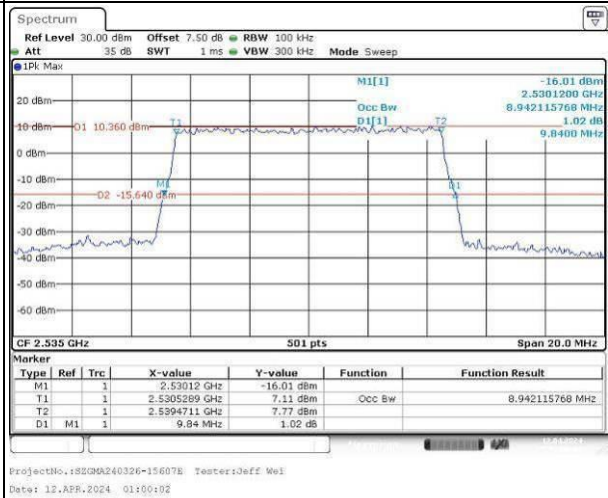
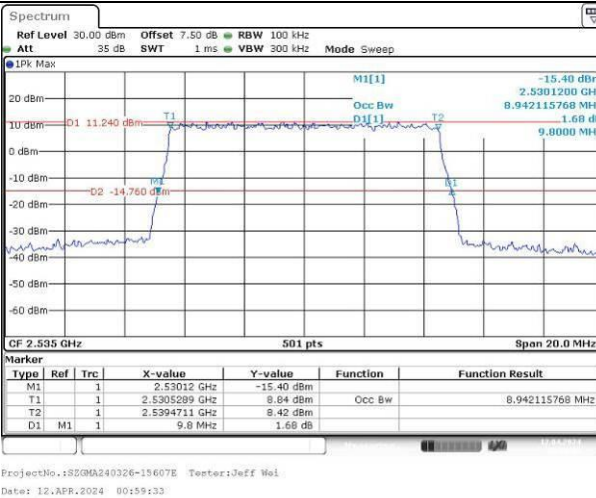
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

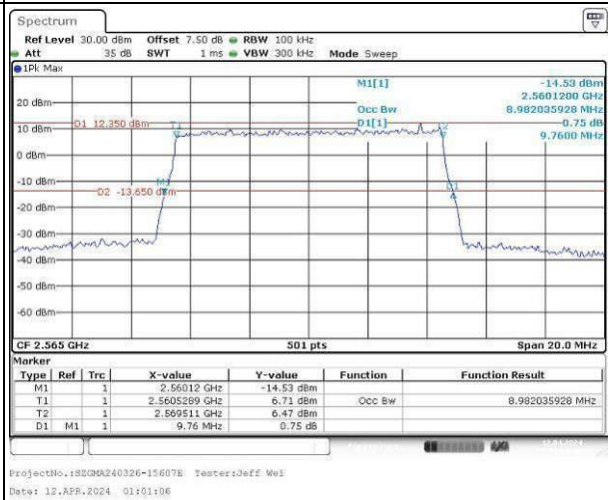
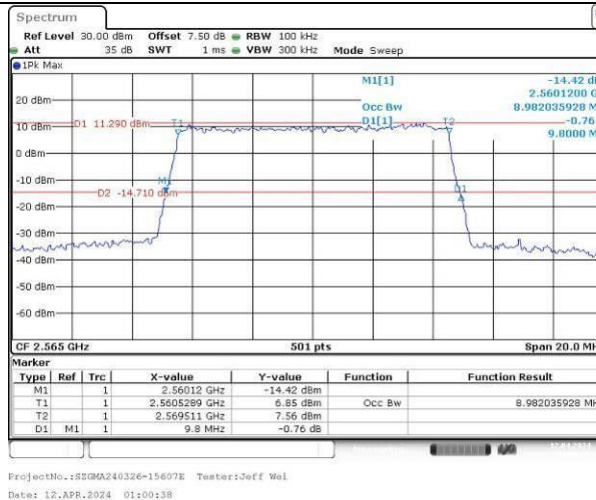
Lowest



Middle



Highest



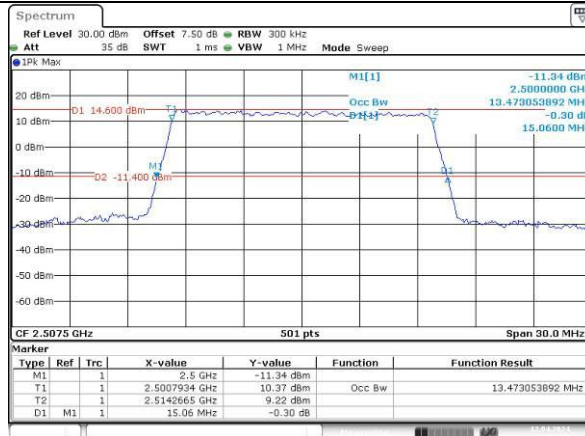
Occupied Bandwidth

Channel

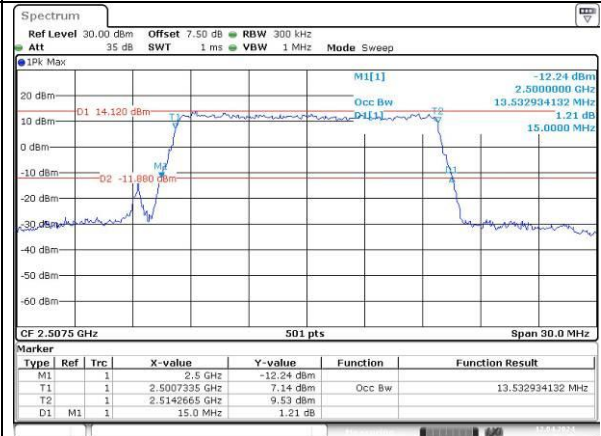
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

Lowest

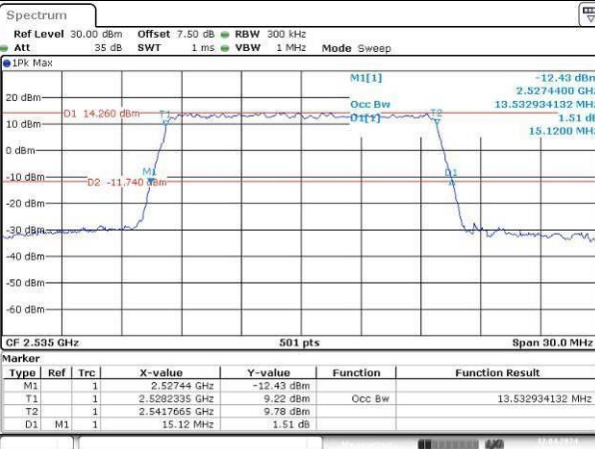


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:01:33

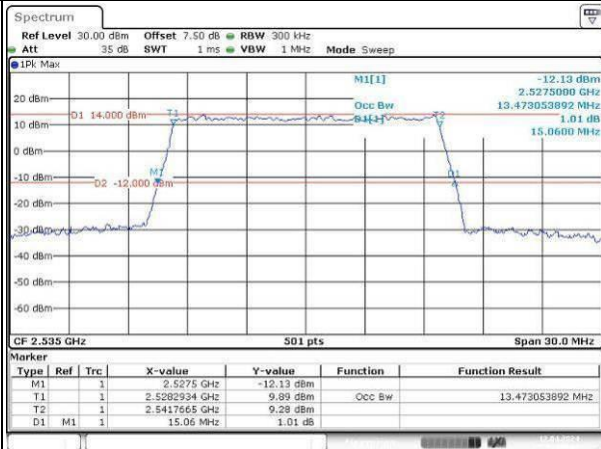


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:01:48

Middle

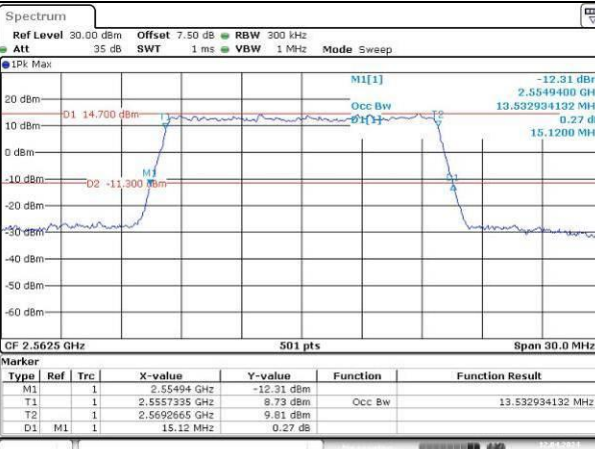


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:04:29

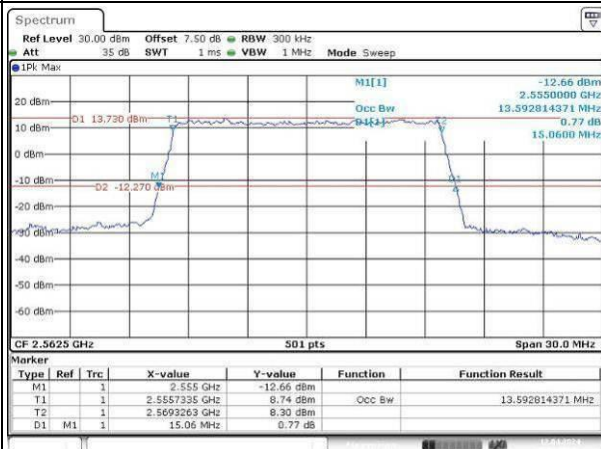


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:04:55

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:05:20



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:05:43

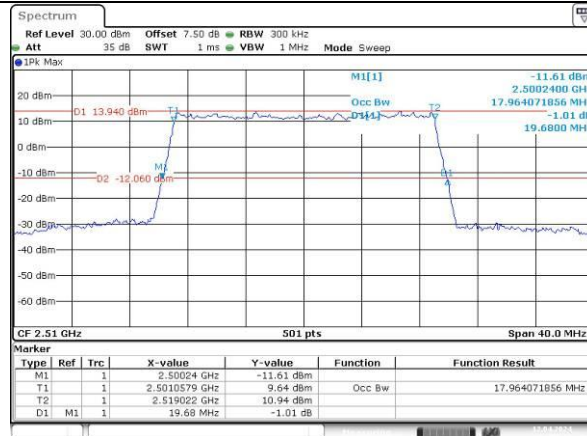
Occupied Bandwidth

Channel

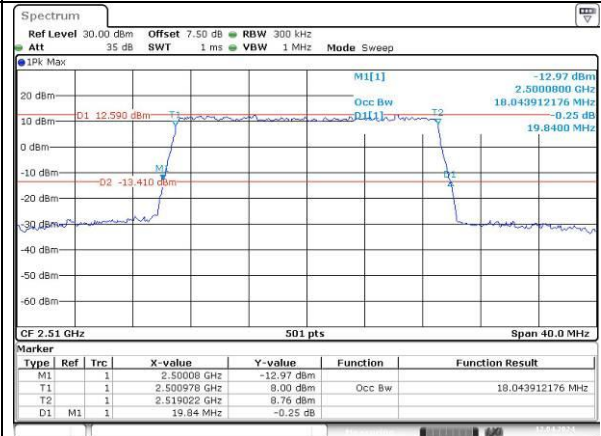
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

Lowest

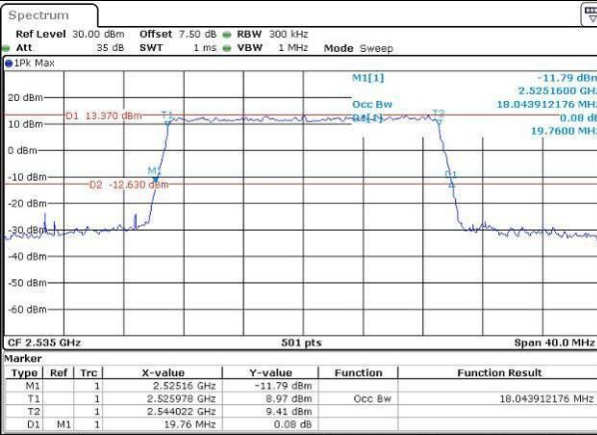


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:06:11

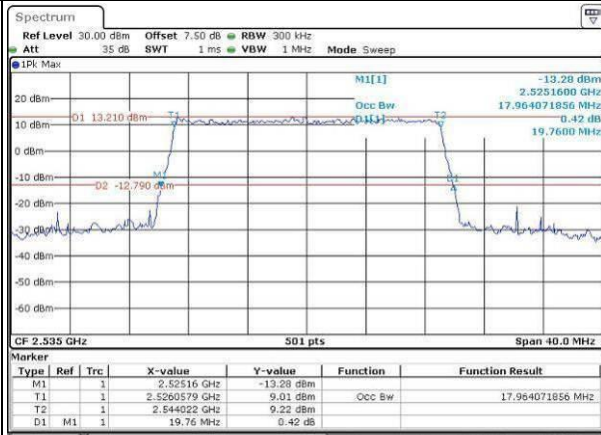


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:06:40

Middle

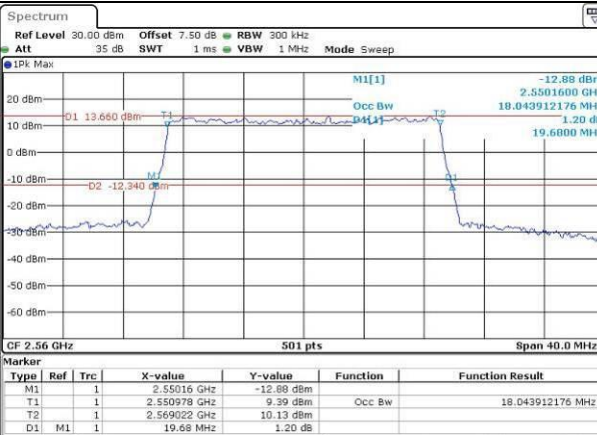


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:07:20

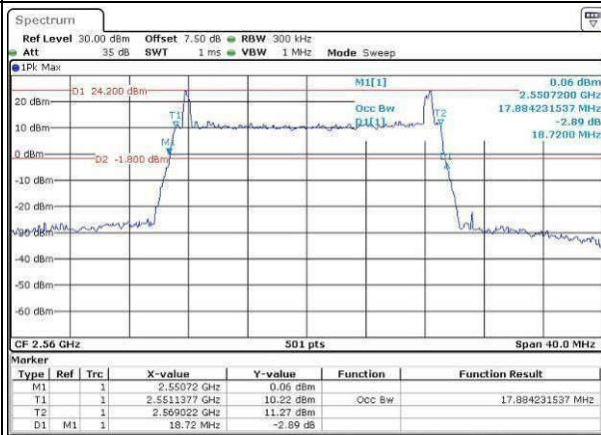


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:07:50

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:08:17



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 01:08:34

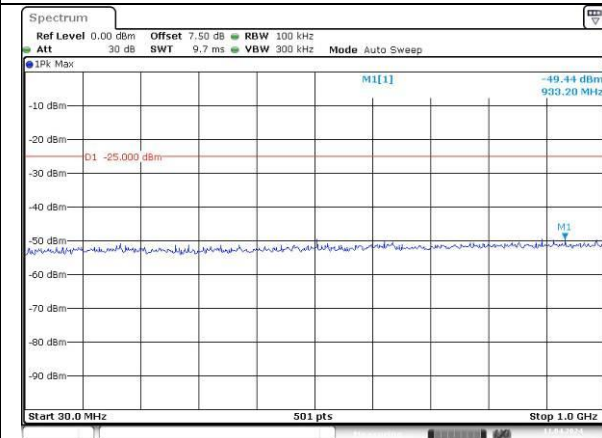
1RB:

Spurious Emissions at Antenna Terminal

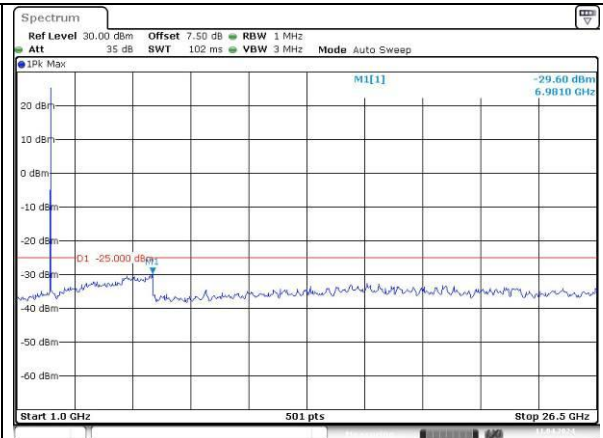
Channel

5MHz Bandwidth QPSK

Lowest

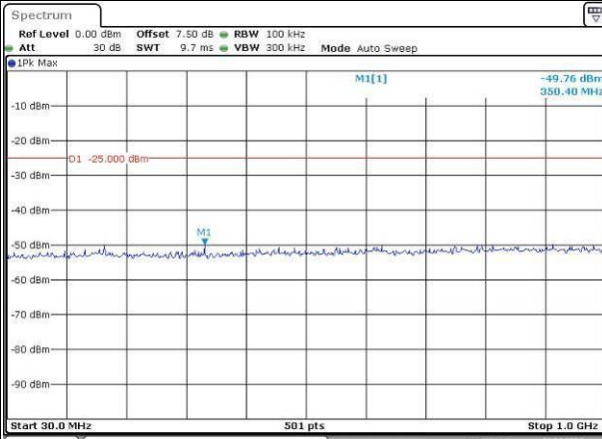


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:15:08

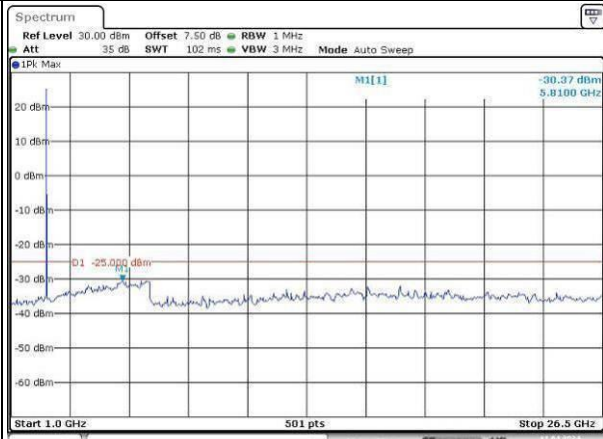


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:15:30

Middle

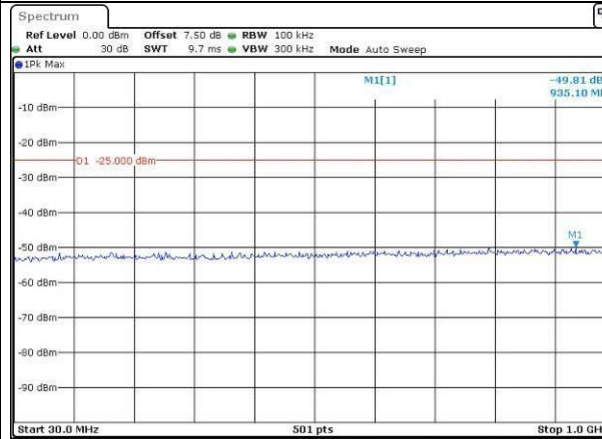


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:16:10

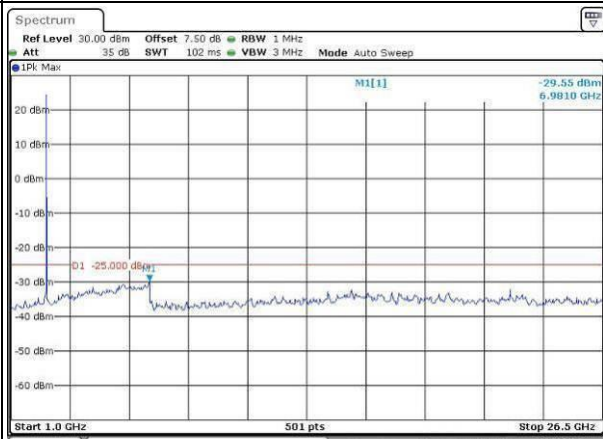


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:16:32

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:17:16



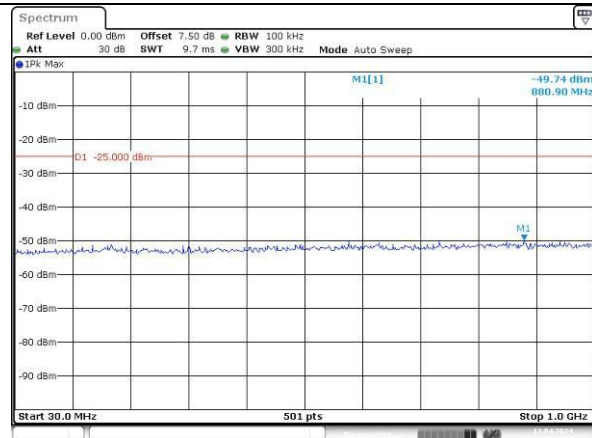
ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:17:35

Spurious Emissions at Antenna Terminal

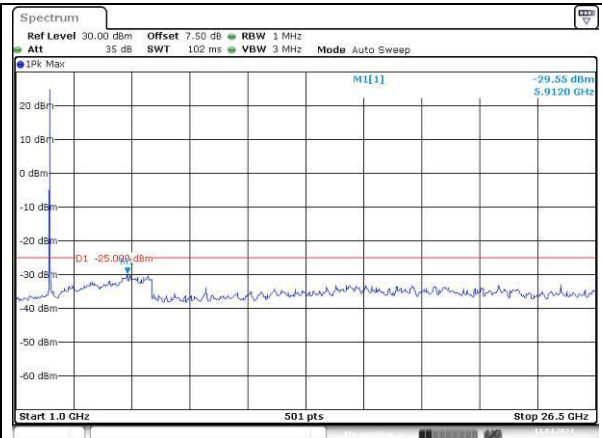
Channel

10MHz Bandwidth QPSK

Lowest

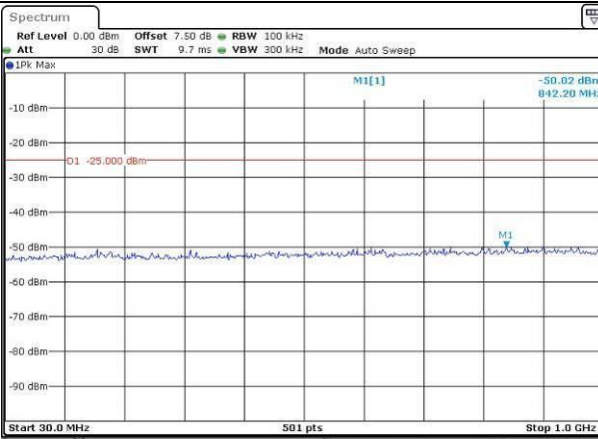


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:18:14

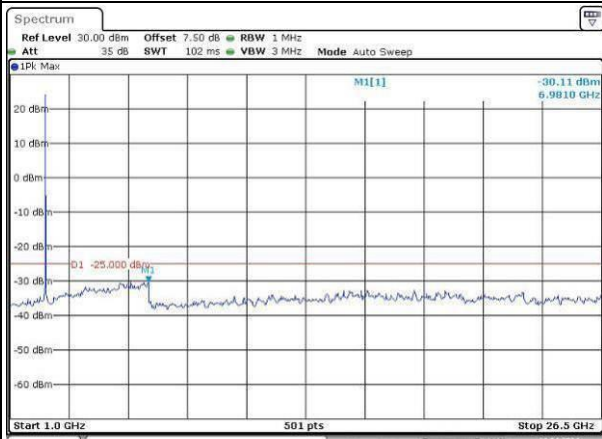


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:18:30

Middle

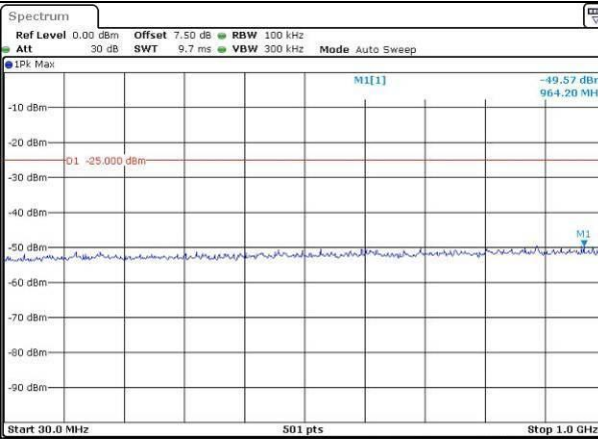


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:19:08

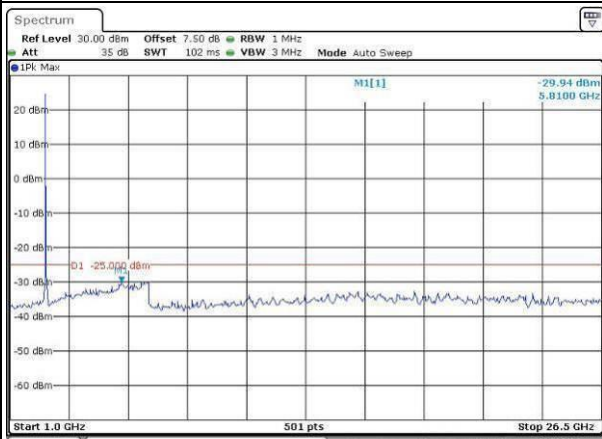


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:19:33

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:20:15



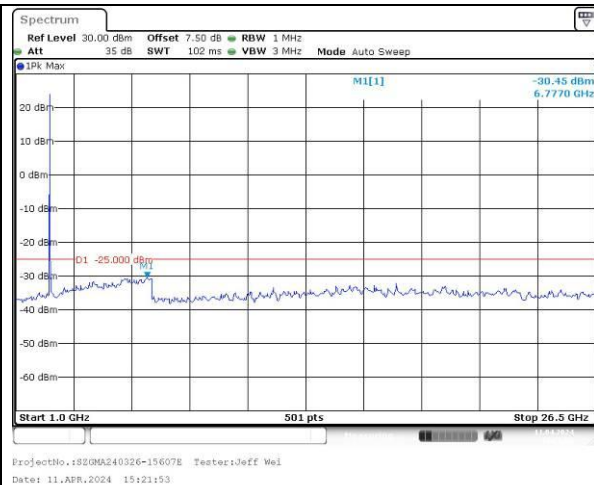
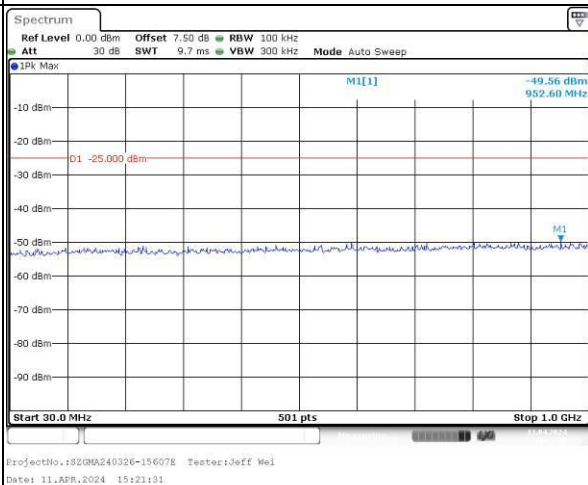
ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:20:37

Spurious Emissions at Antenna Terminal

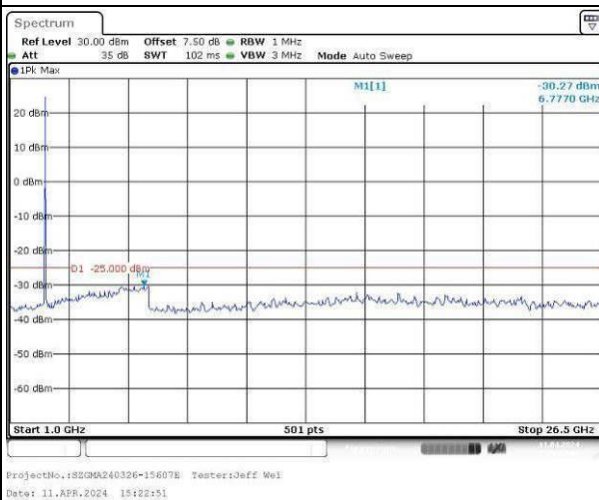
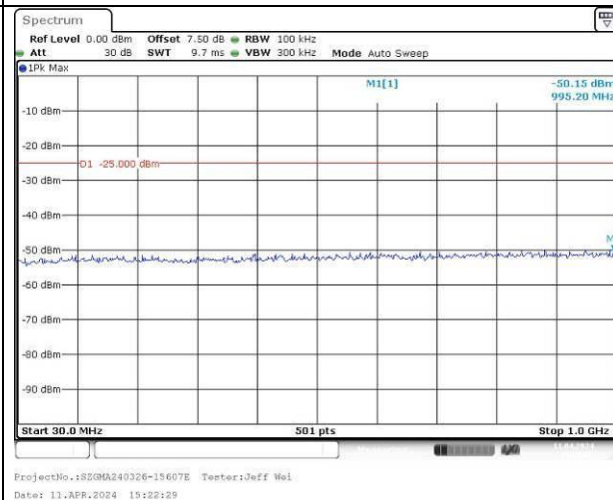
Channel

15MHz Bandwidth QPSK

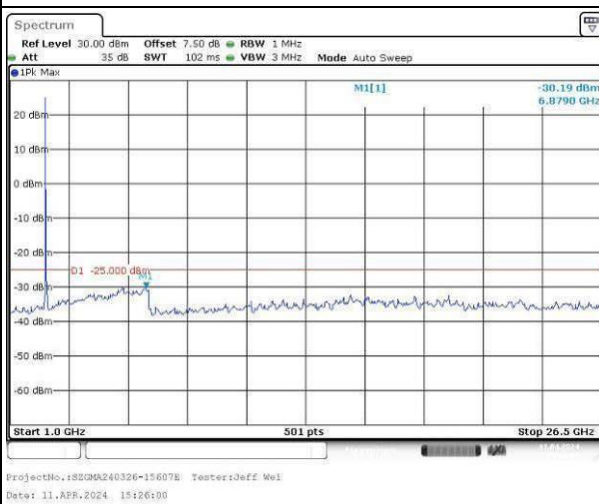
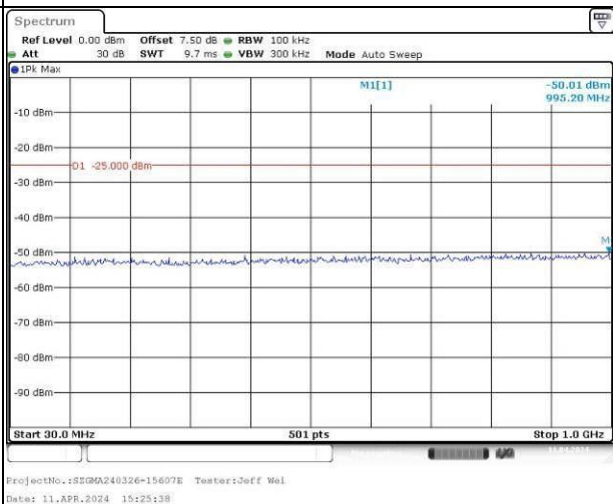
Lowest



Middle



Highest

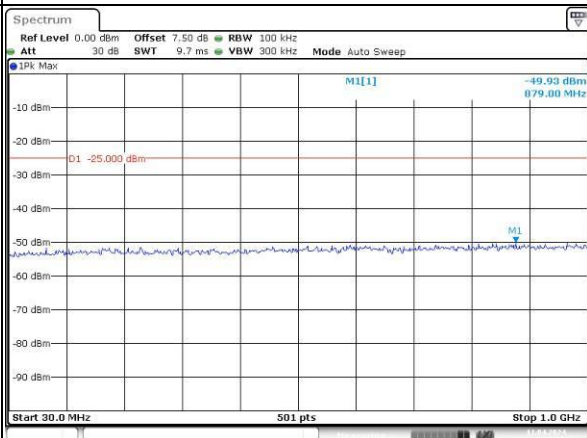


Spurious Emissions at Antenna Terminal

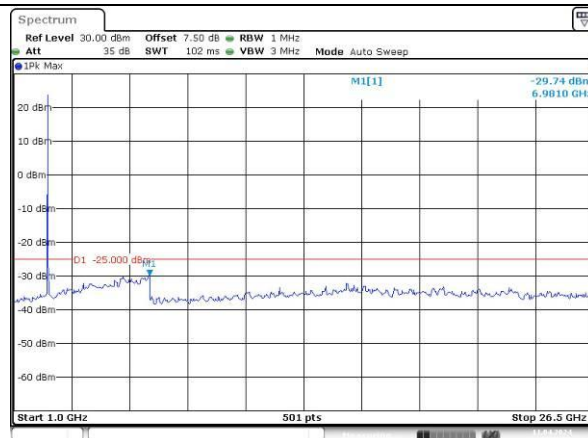
Channel

20MHz Bandwidth QPSK

Lowest

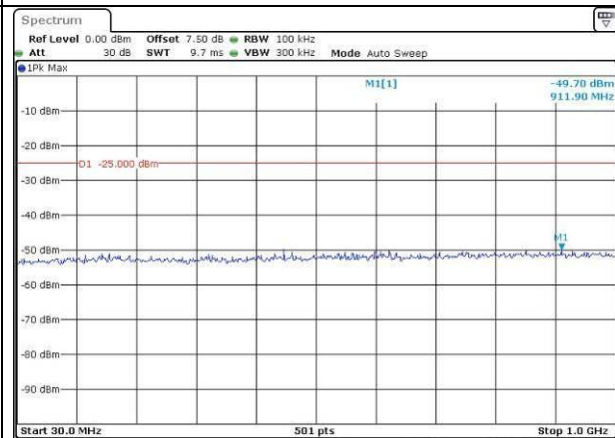


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:26:37

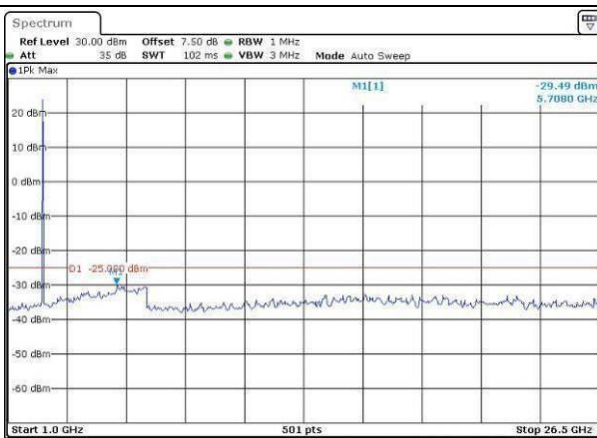


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:26:59

Middle

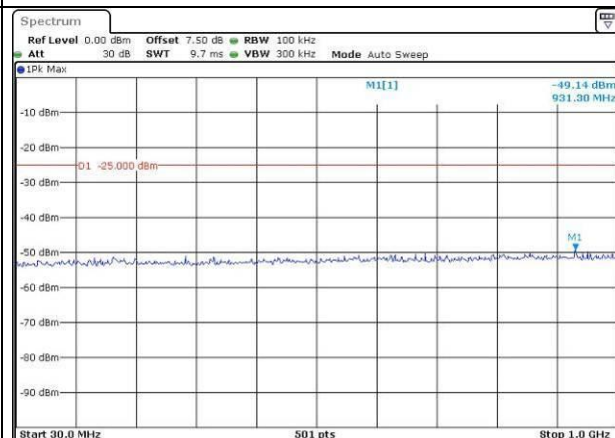


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:27:40

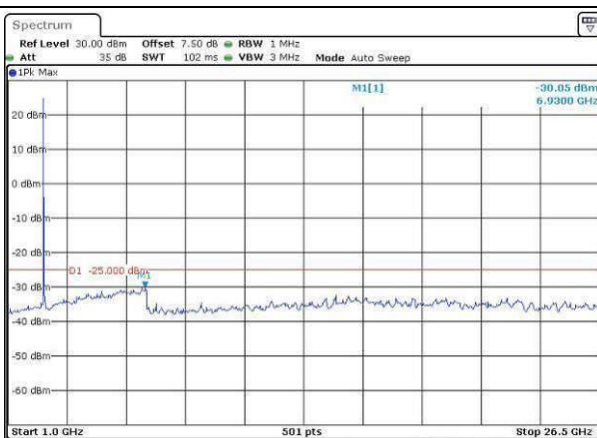


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:28:05

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:28:43



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 15:29:08

Out of band emission, Band Edge

