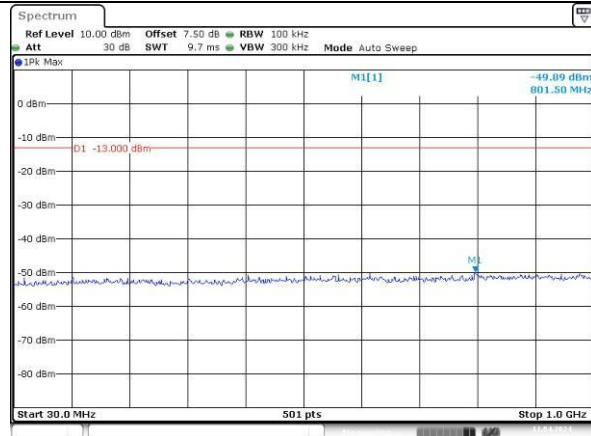


Spurious Emissions at Antenna Terminal

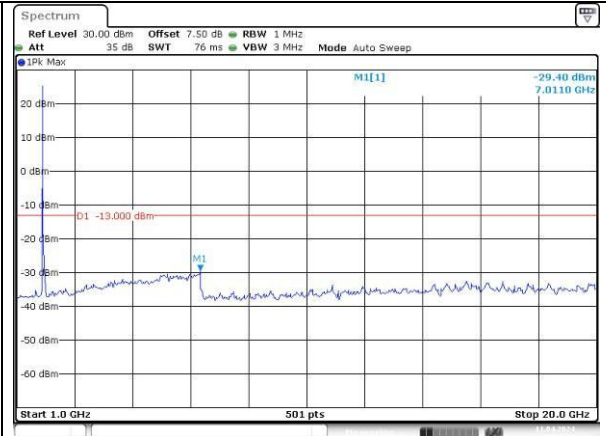
Channel

20MHz Bandwidth QPSK

Lowest

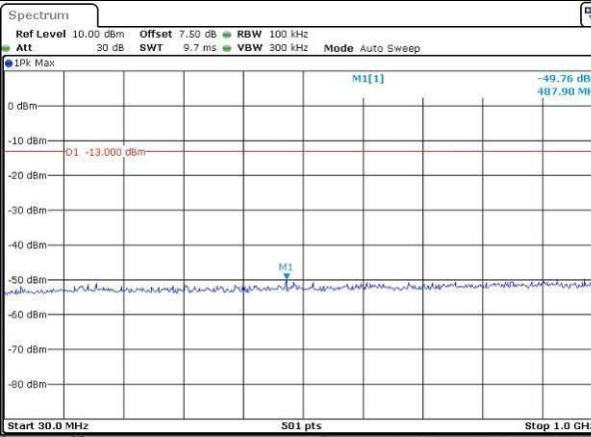


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:27:55

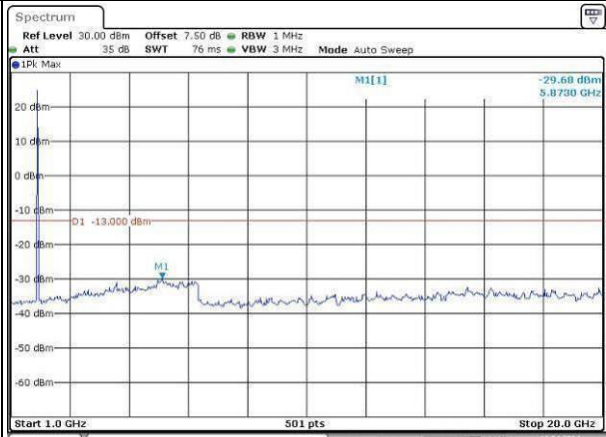


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:28:14

Middle

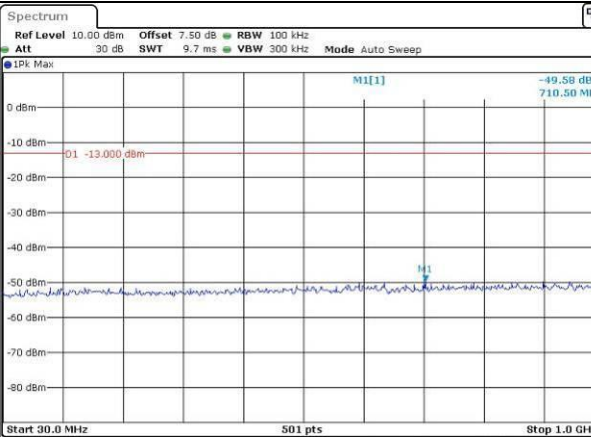


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:28:57

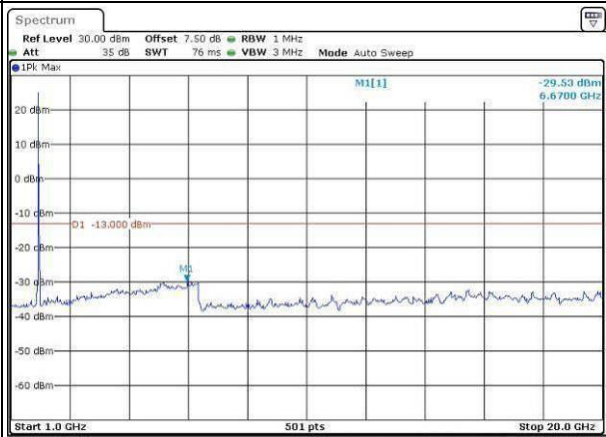


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:29:19

Highest

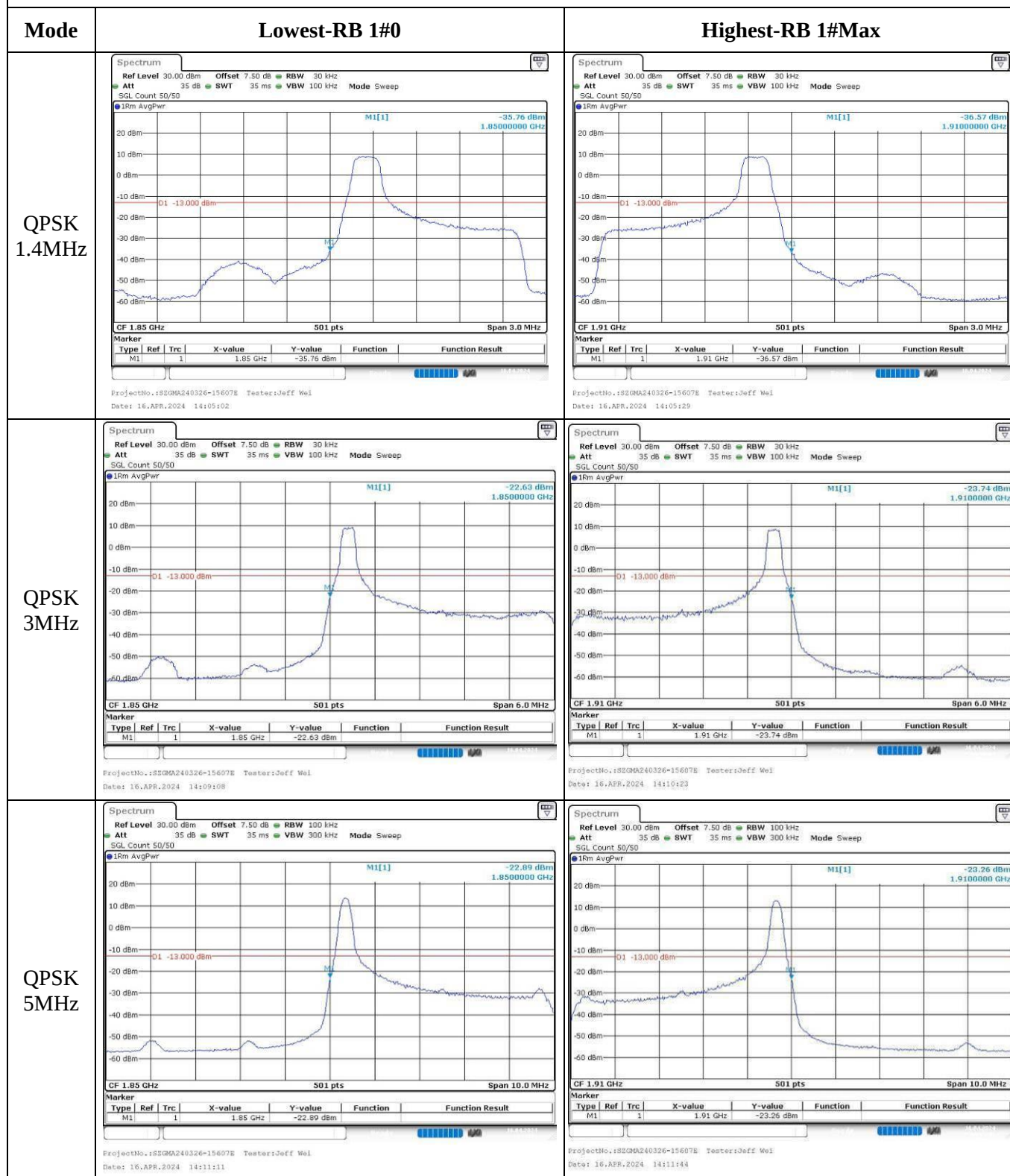


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Date: 11.APR.2024 14:30:04

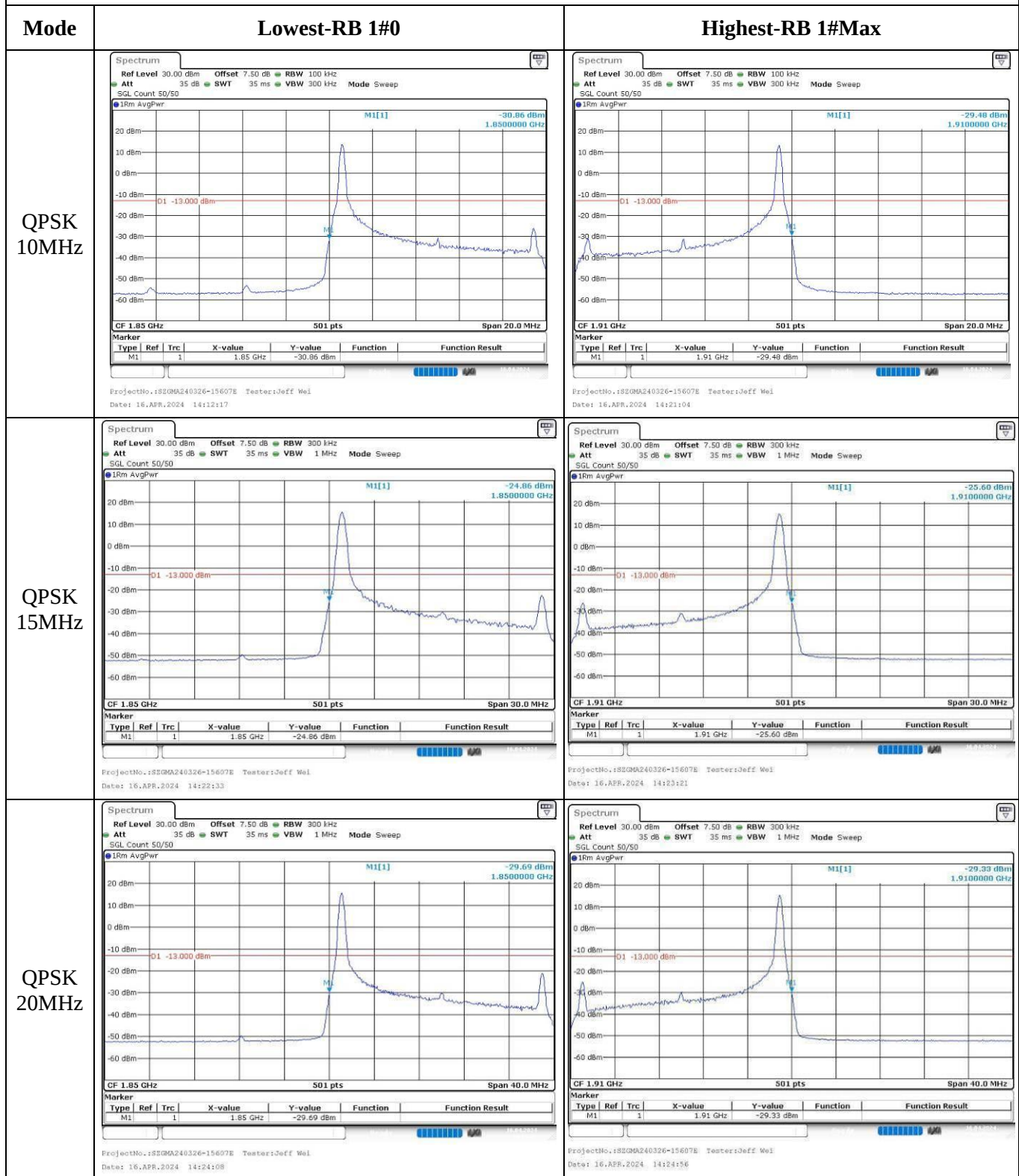


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:30:29

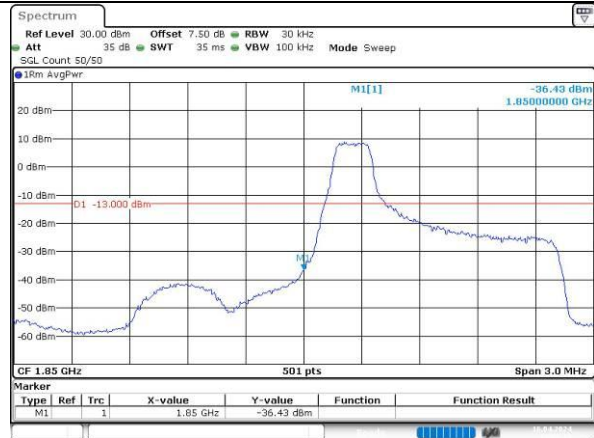
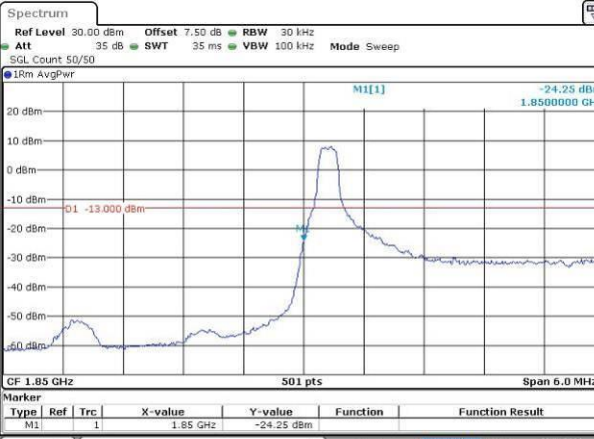
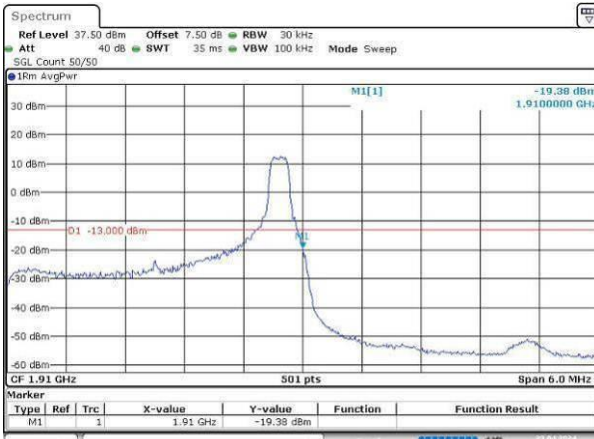
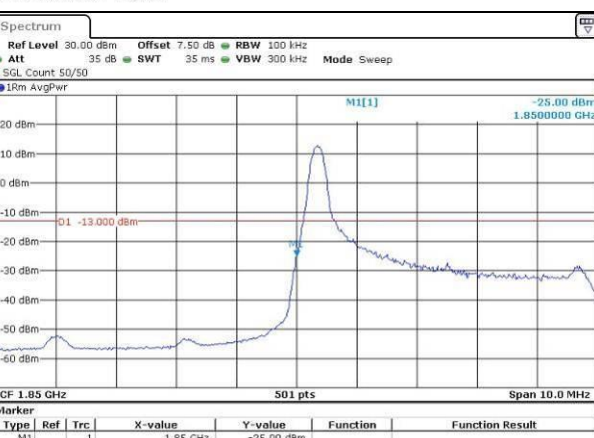
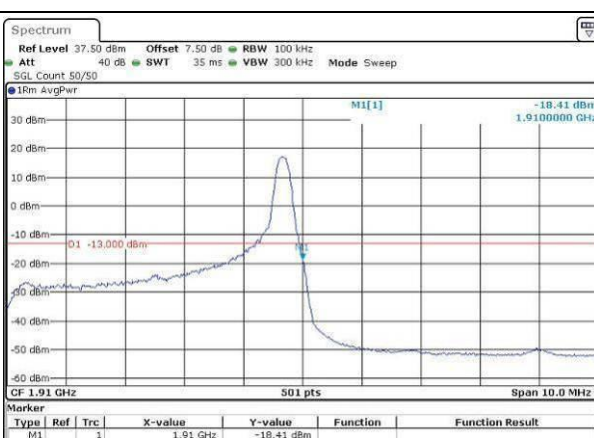
Out of band emission, Band Edge



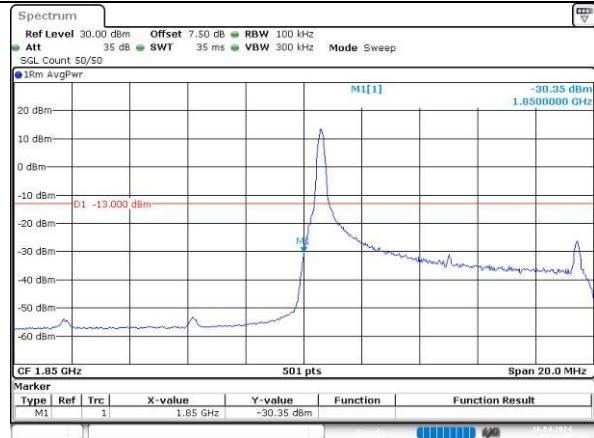
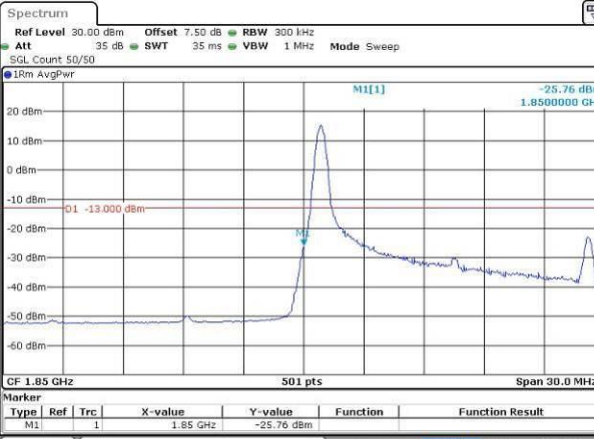
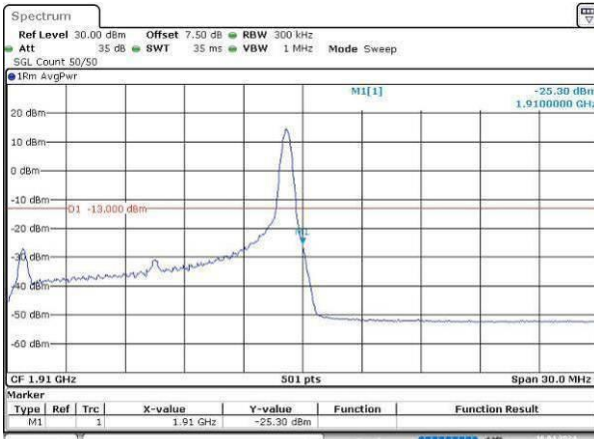
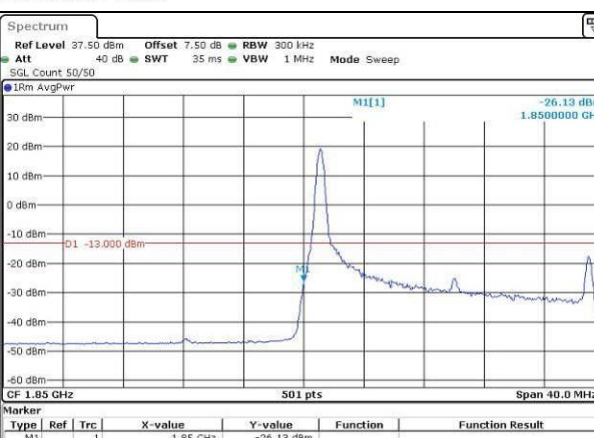
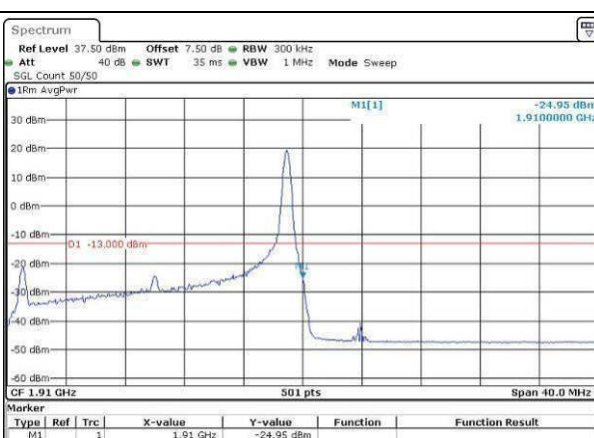
Out of band emission, Band Edge



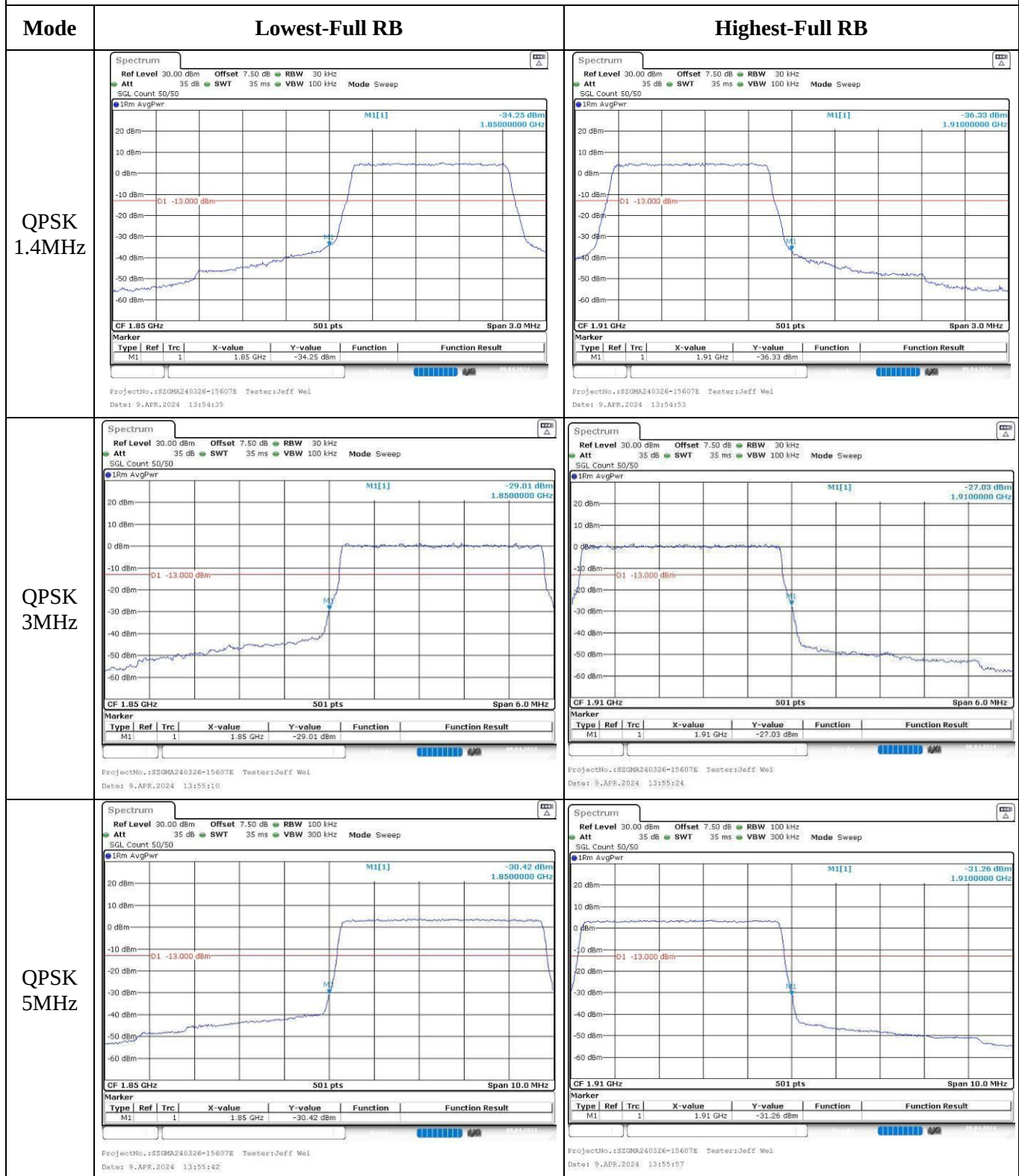
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 1.4MHz	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:05:15	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:05:47
16QAM 3MHz	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:10:03	 ProjectNo.:SZGMA240326-15607E Testers:Karl Liang Date: 23.APR.2024 16:05:05
16QAM 5MHz	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:11:28	 ProjectNo.:SZGMA240326-15607E Testers:Karl Liang Date: 23.APR.2024 16:05:14

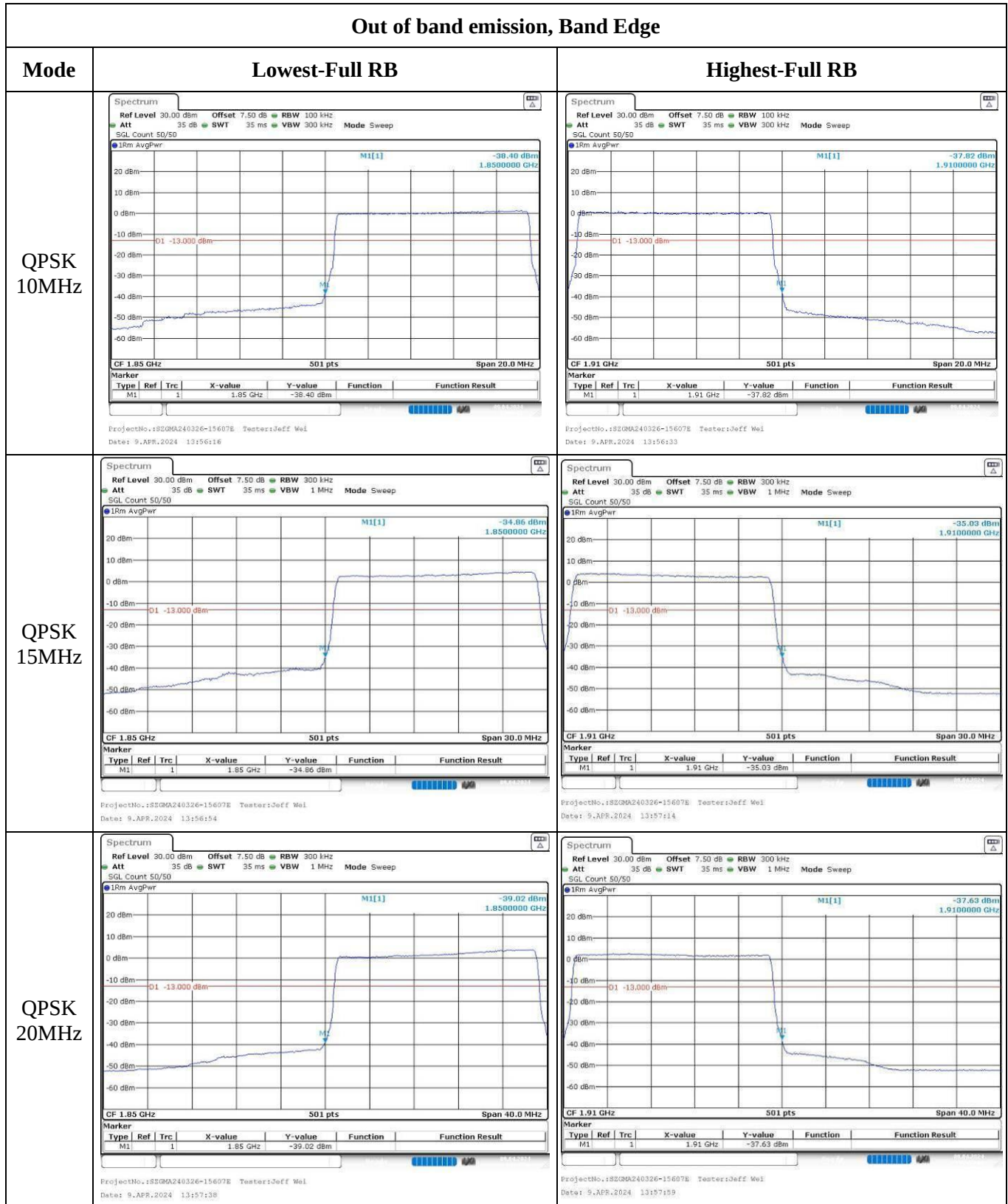
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 10MHz	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:12:35	 ProjectNo.:SZGMA240326-15607E Testers:Karl Liang Date: 23.APR.2024 16:07:35
16QAM 15MHz	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:22:59	 ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei Date: 16.APR.2024 14:23:45
16QAM 20MHz	 ProjectNo.:SZGMA240326-15607E Testers:Karl Liang Date: 23.APR.2024 16:10:11	 ProjectNo.:SZGMA240326-15607E Testers:Karl Liang Date: 23.APR.2024 16:11:27

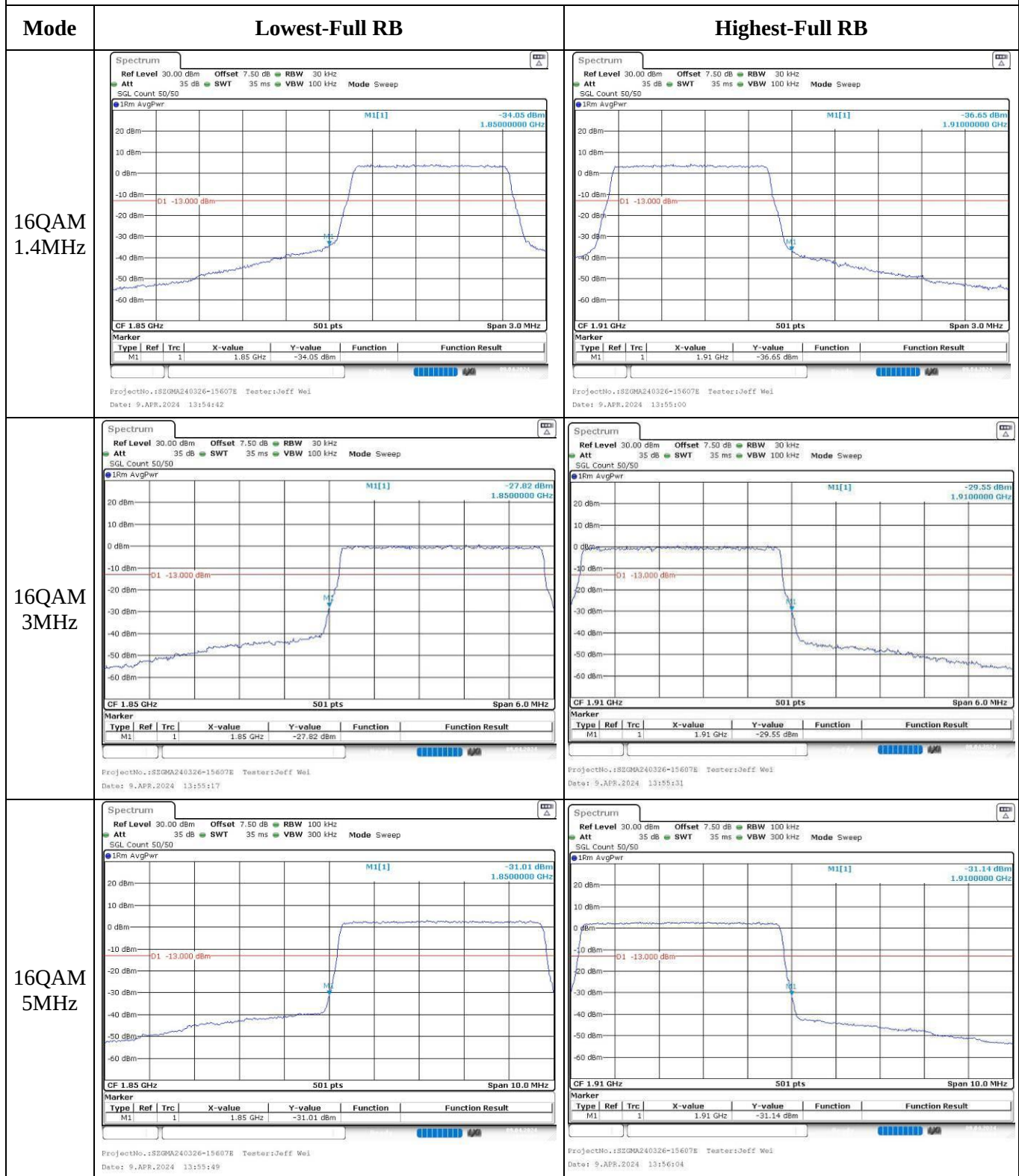
Out of band emission, Band Edge



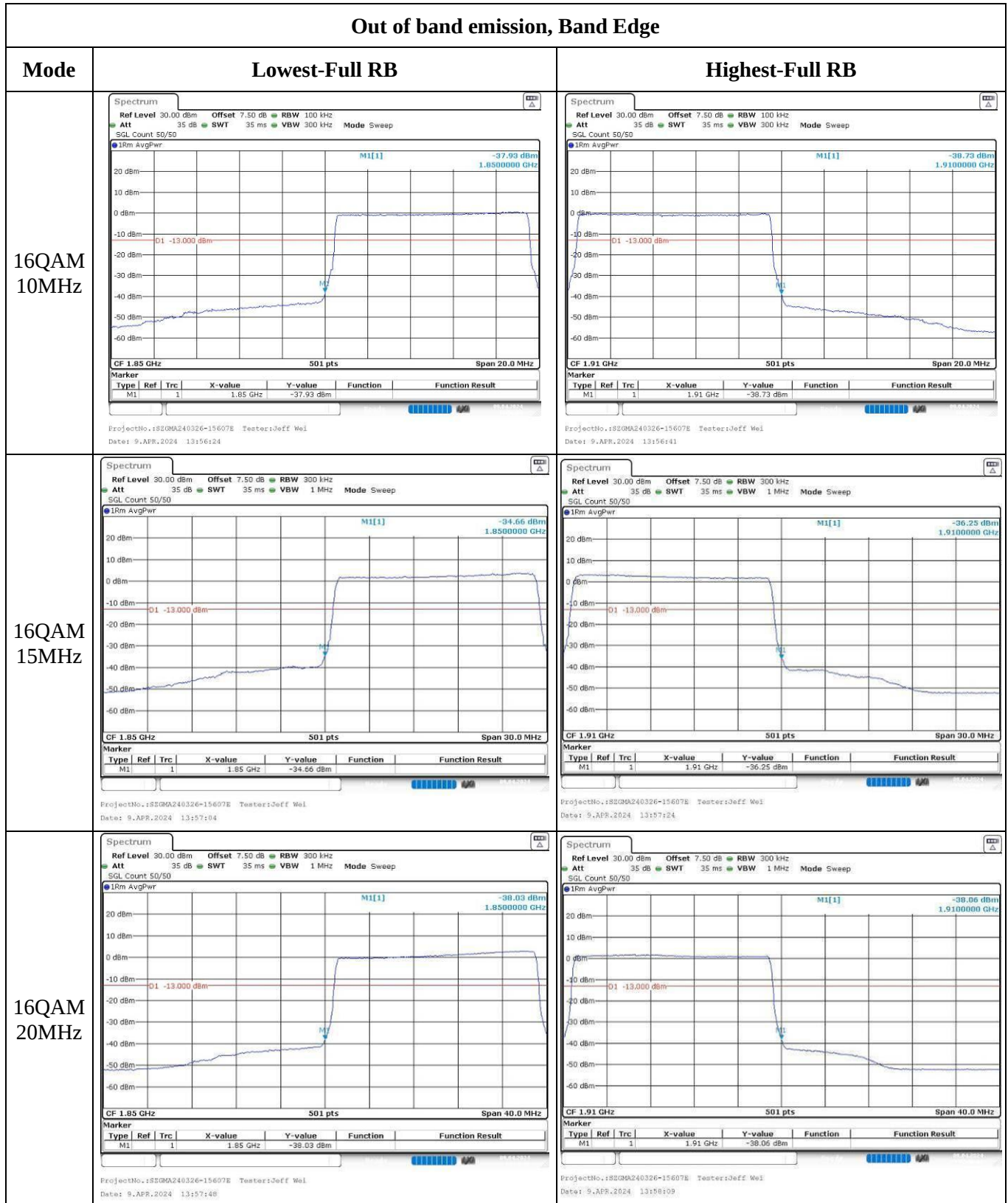
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



5.7 Antenna Port Test Data and Results for LTE Band 4

Serial Number:	2J4T-2	Test Date:	2024/4/9~2024/4/23
Test Site:	RF	Test Mode:	Transmitting
Tester:	Jeff Wei	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-Clrcuits	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)
1.4MHz	1710.7	1732.5	1754.3
3MHz	1711.5	1732.5	1753.5
5MHz	1712.5	1732.5	1752.5
10MHz	1715	1732.5	1750
15MHz	1717.5	1732.5	1747.5
20MHz	1720	1732.5	1745

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		
1.4MHz QPSK	RB1#0	20.88	20.76	20.73	22.05	30
	RB1#3	20.89	20.75	20.71		
	RB1#5	20.91	20.76	20.73		
	RB3#0	20.86	20.92	20.83		
	RB3#3	20.88	20.88	20.83		
	RB6#0	19.89	19.77	19.85		
1.4MHz 16QAM	RB1#0	20.64	20.6	20.46	21.79	30
	RB1#3	20.66	20.63	20.55		
	RB1#5	20.56	20.63	20.47		
	RB3#0	19.69	19.99	19.81		
	RB3#3	19.75	19.98	19.83		
	RB6#0	19.01	19.21	18.86		
3MHz QPSK	RB1#0	20.88	20.77	20.7	22.01	30
	RB1#8	20.87	20.8	20.75		
	RB1#14	20.81	20.73	20.72		
	RB6#0	19.9	19.93	19.84		
	RB6#9	19.71	19.86	19.81		
	RB15#0	19.84	19.92	19.83		
3MHz 16QAM	RB1#0	20.64	19.64	19.88	21.77	30
	RB1#8	20.64	19.63	19.89		
	RB1#14	20.56	19.64	19.91		
	RB6#0	19.05	19.05	18.89		
	RB6#9	18.93	19.17	18.9		
	RB15#0	18.98	19.01	18.93		
5MHz QPSK	RB1#0	20.88	20.84	20.84	22.01	30
	RB1#13	20.81	20.74	20.82		
	RB1#24	20.87	20.8	20.82		
	RB15#0	19.92	19.93	19.78		
	RB15#10	19.72	19.85	19.85		
	RB25#0	19.84	19.84	19.77		
5MHz 16QAM	RB1#0	20.06	19.59	18.97	21.19	30
	RB1#13	19.93	19.63	18.94		
	RB1#24	19.99	19.63	18.96		
	RB15#0	18.81	18.96	18.94		
	RB15#10	18.72	18.95	18.92		
	RB25#0	18.91	18.92	18.97		
10MHz QPSK	RB1#0	21	20.84	20.85	22.13	30
	RB1#25	20.92	20.81	20.82		
	RB1#49	20.98	20.84	20.77		
	RB25#0	19.72	19.92	19.92		

	RB25#25	19.79	19.86	19.76		
	RB50#0	19.82	19.82	19.88		
10MHz 16QAM	RB1#0	20.07	19.28	20.12	21.28	30
	RB1#25	20.03	19.34	20.15		
	RB1#49	20	19.4	20.07		
	RB25#0	19.01	19.11	18.99		
	RB25#25	19.02	19.08	18.93		
	RB50#0	18.96	18.96	19.04		
15MHz QPSK	RB1#0	21.01	20.72	20.87	22.14	30
	RB1#38	20.87	20.78	20.88		
	RB1#74	20.99	20.79	20.82		
	RB36#0	19.77	19.83	19.82		
	RB36#39	19.87	19.87	19.78		
	RB75#0	19.82	19.87	19.96		
15MHz 16QAM	RB1#0	20.08	20.17	20.16	21.38	30
	RB1#38	20	20.23	20.2		
	RB1#74	20.05	20.25	20.12		
	RB36#0	19.02	18.93	19.12		
	RB36#39	18.98	18.97	19.05		
	RB75#0	18.86	19.02	18.98		
20MHz QPSK	RB1#0	21.04	20.92	21.14	22.27	30
	RB1#50	20.93	20.95	21.13		
	RB1#99	21.05	21.01	21.05		
	RB50#0	19.78	19.78	19.87		
	RB50#50	19.84	19.8	19.86		
	RB100#0	19.82	19.96	19.93		
20MHz 16QAM	RB1#0	20.02	20.59	19.64	21.86	30
	RB1#50	19.85	20.73	19.58		
	RB1#99	20.01	20.72	19.57		
	RB50#0	18.83	18.83	19.07		
	RB50#50	18.97	18.92	18.94		
	RB100#0	18.87	19.04	19.14		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(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	5.07	5.42	13
	RB100#0	4.29	4.43	4.49	13
20MHz 16QAM	RB1#0	5.71	8.43	6.46	13
	RB100#0	5.94	6	6	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
1.4MHz QPSK	1.102	1.102	1.102	1.26	1.254	1.254
1.4MHz 16QAM	1.096	1.102	1.108	1.254	1.254	1.26
3MHz QPSK	2.695	2.695	2.695	3.012	3	3
3MHz 16QAM	2.695	2.695	2.683	2.94	3	3
5MHz QPSK	4.511	4.511	4.531	5	4.98	5
5MHz 16QAM	4.531	4.551	4.511	5.02	5	4.98
10MHz QPSK	8.942	8.942	8.981	9.8	9.8	9.76
10MHz 16QAM	8.981	8.942	8.981	9.84	9.84	9.72
15MHz QPSK	13.473	13.533	13.533	15	15.12	15.06
15MHz 16QAM	13.533	13.533	13.533	15.12	15.06	15.06
20MHz QPSK	17.964	18.044	18.044	19.6	19.92	19.52
20MHz 16QAM	17.964	18.044	17.964	19.76	19.76	19.84
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	1711.049	1710.00	1754.099	1755
	-20	3.7	1711.052	1710.00	1754.093	1755
	-10	3.7	1711.037	1710.00	1754.096	1755
	0	3.7	1711.034	1710.00	1754.087	1755
	10	3.7	1711.055	1710.00	1754.087	1755
	20	3.7	1711.058	1710.00	1754.102	1755
	30	3.7	1711.064	1710.00	1754.117	1755
	40	3.7	1711.076	1710.00	1754.108	1755
	50	3.7	1711.076	1710.00	1754.114	1755
Frequency Stability vs. Voltage	20	3.4	1711.076	1710.00	1754.114	1755
	20	4.35	1711.061	1710.00	1754.114	1755
					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	1711.034	1710.00	1754.013	1755
	-20	3.7	1711.046	1710.00	1754.007	1755
	-10	3.7	1711.043	1710.00	1754.010	1755
	0	3.7	1711.046	1710.00	1753.995	1755
	10	3.7	1711.052	1710.00	1754.019	1755
	20	3.7	1711.058	1710.00	1754.022	1755
	30	3.7	1711.070	1710.00	1754.049	1755
	40	3.7	1711.085	1710.00	1754.049	1755
	50	3.7	1711.073	1710.00	1754.031	1755
Frequency Stability vs. Voltage	20	3.4	1711.085	1710.00	1754.034	1755
	20	4.35	1711.076	1710.00	1754.046	1755
					Result:	Pass

Test Plots:

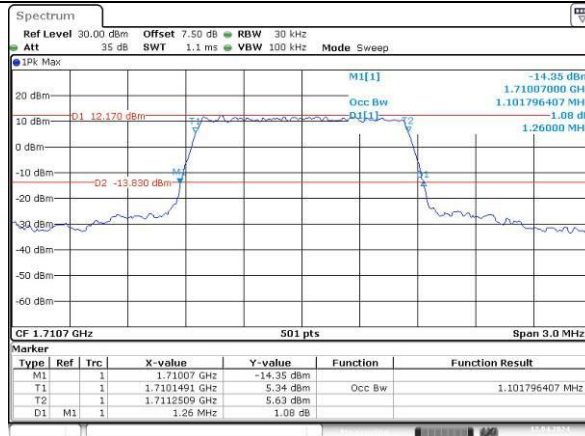
Occupied Bandwidth

Channel

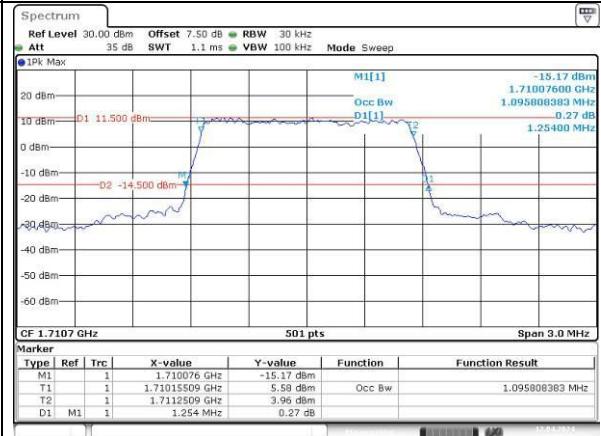
1.4MHz Bandwidth QPSK

1.4MHz Bandwidth 16QAM

Lowest

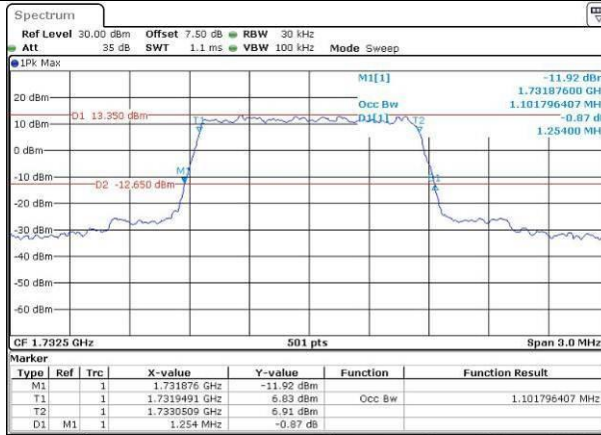


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:09:126

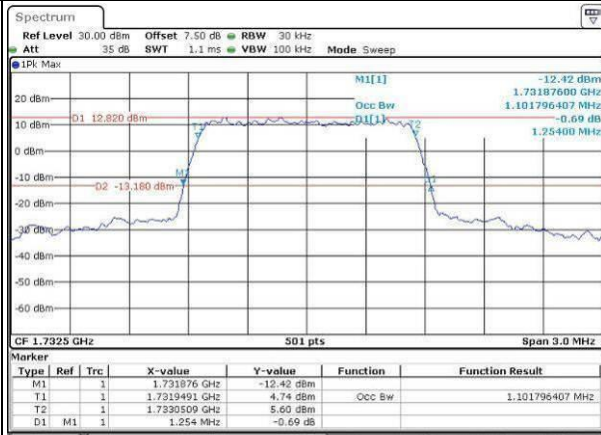


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Date: 12.APR.2024 00:09:145

Middle

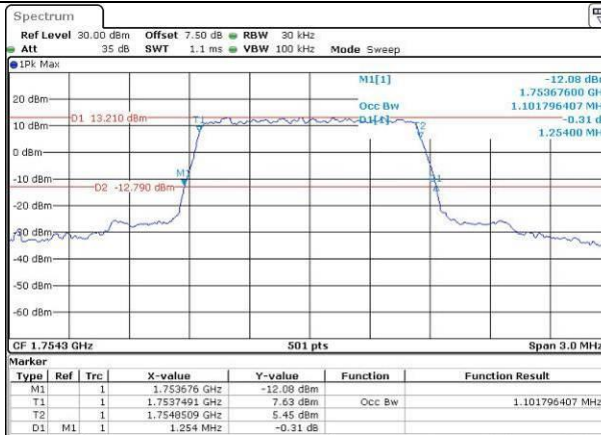


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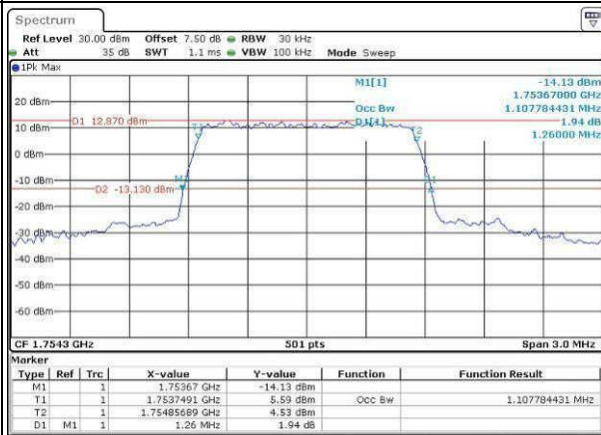


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:10:138

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:10:159



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:11:15

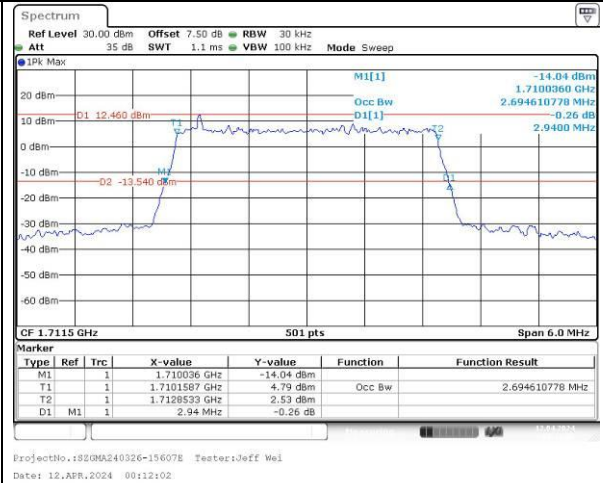
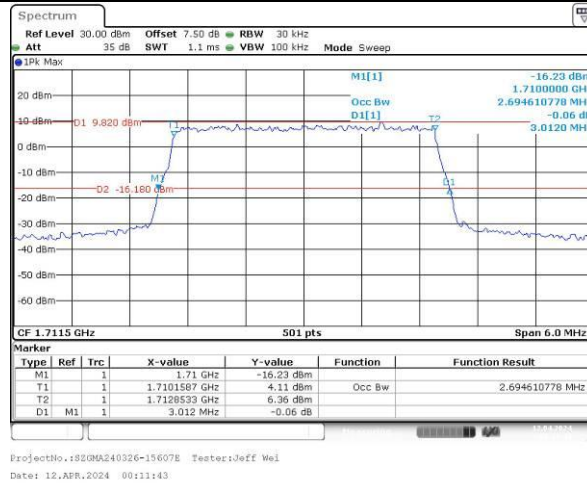
Occupied Bandwidth

Channel

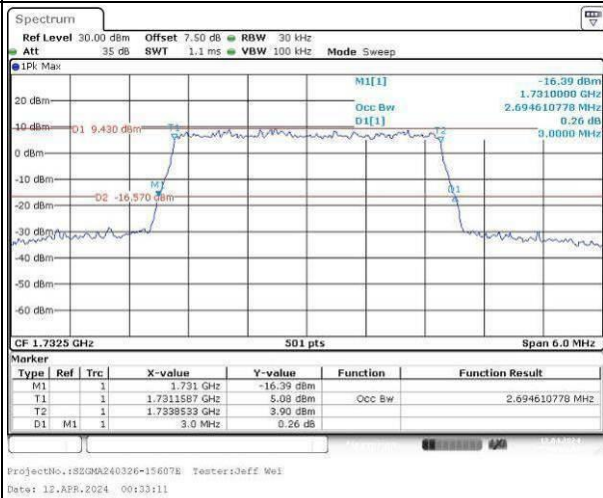
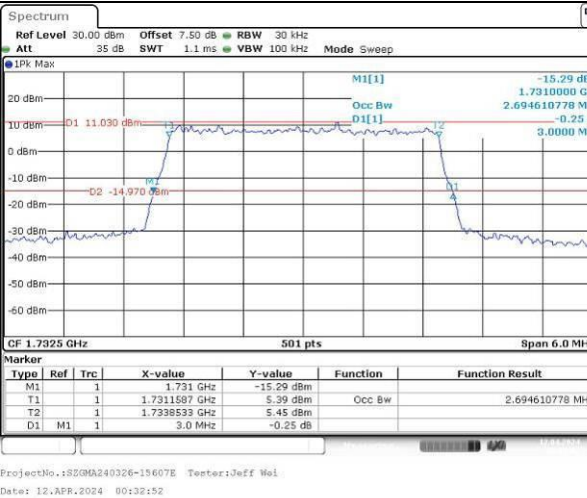
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

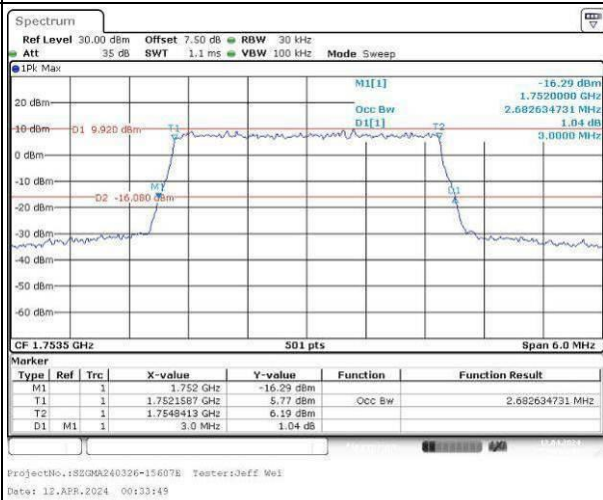
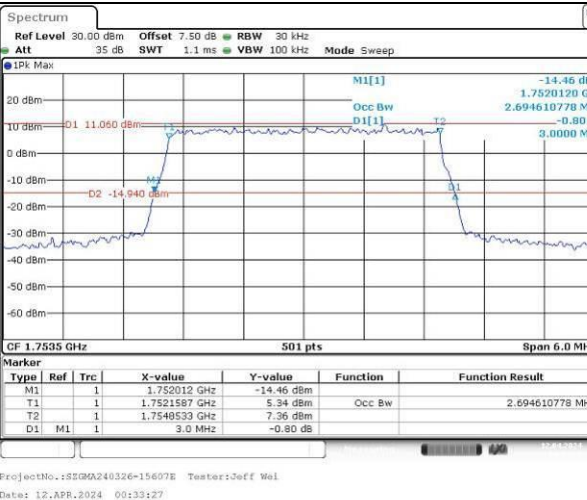
Lowest



Middle



Highest



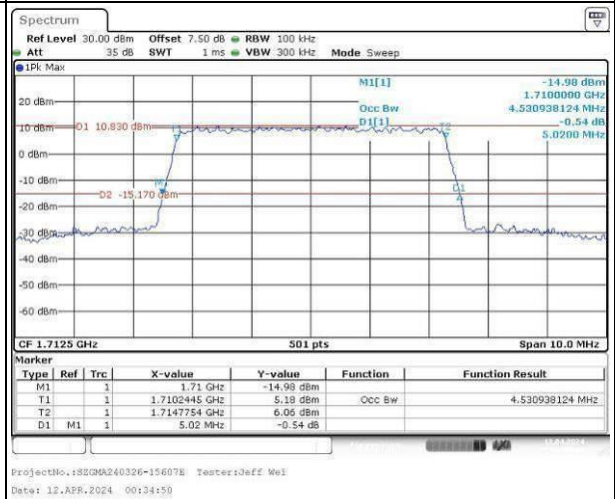
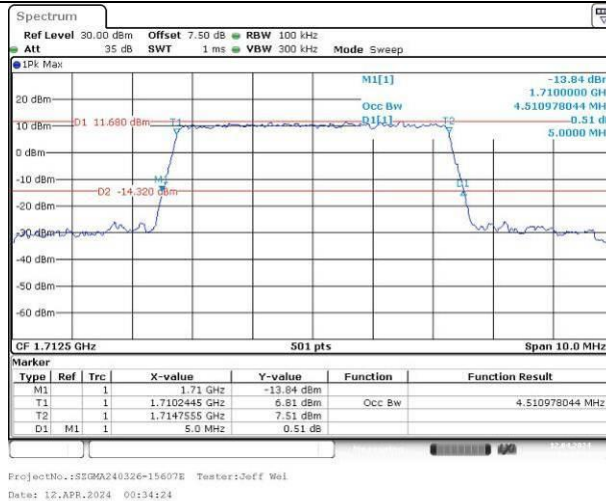
Occupied Bandwidth

Channel

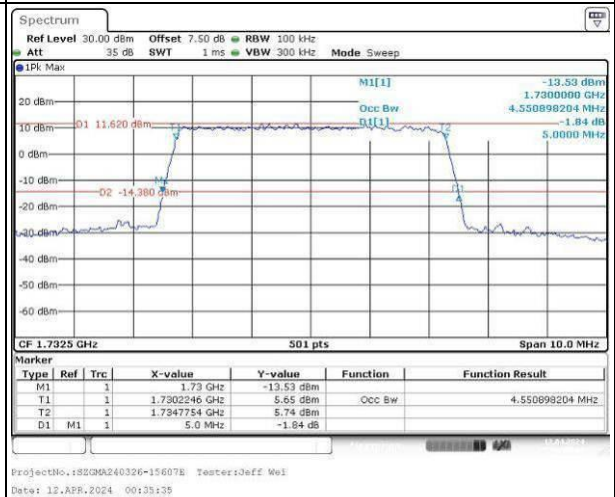
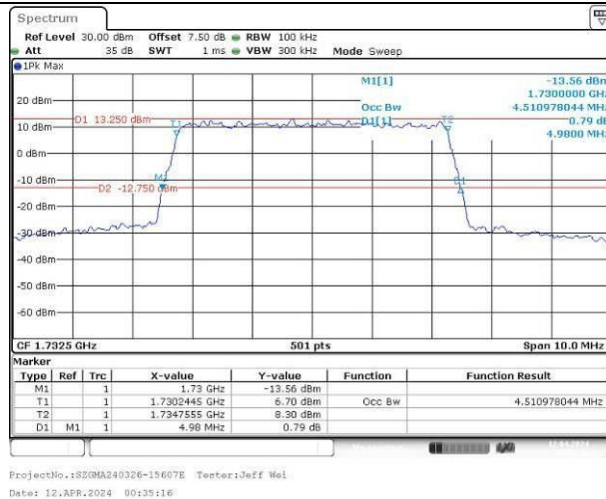
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

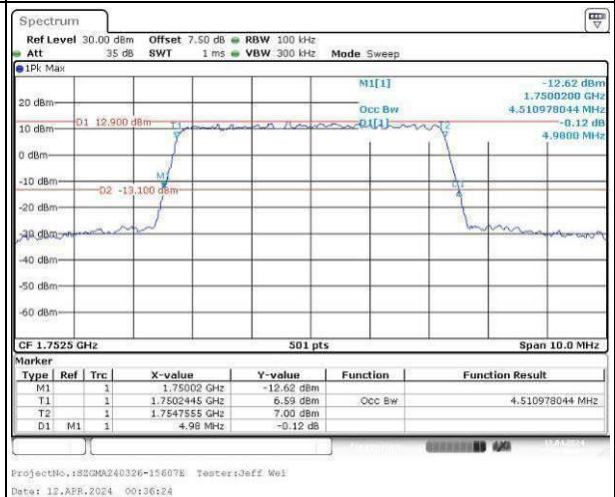
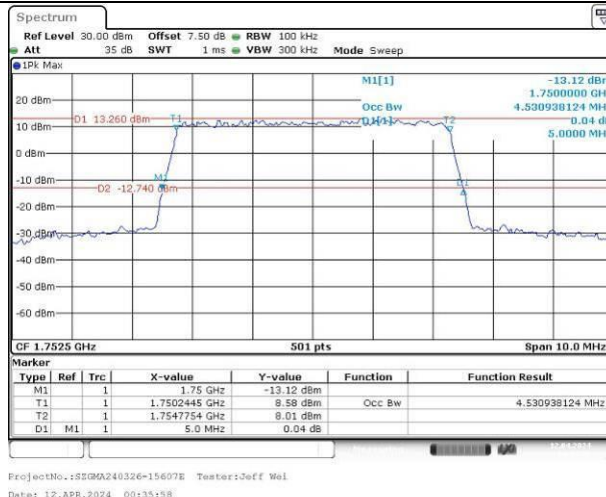
Lowest



Middle



Highest



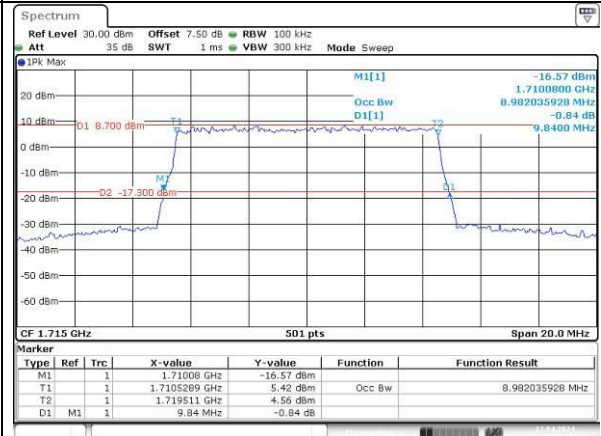
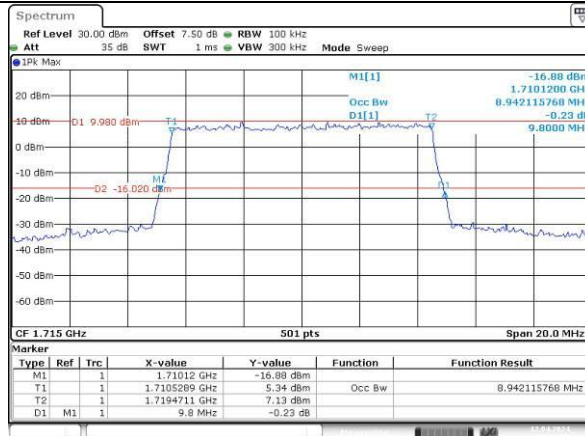
Occupied Bandwidth

Channel

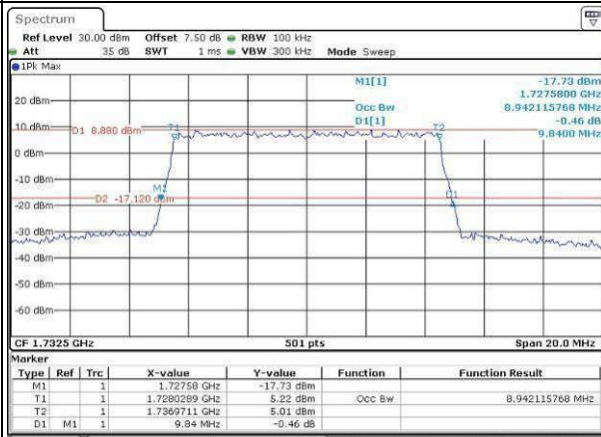
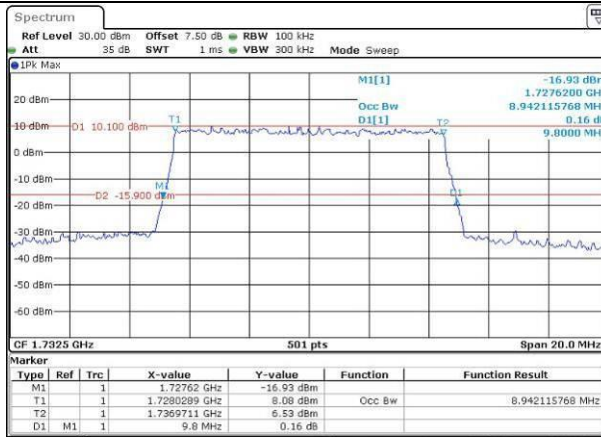
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

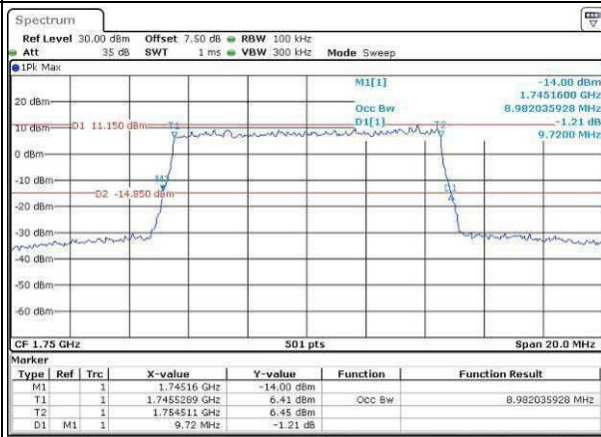
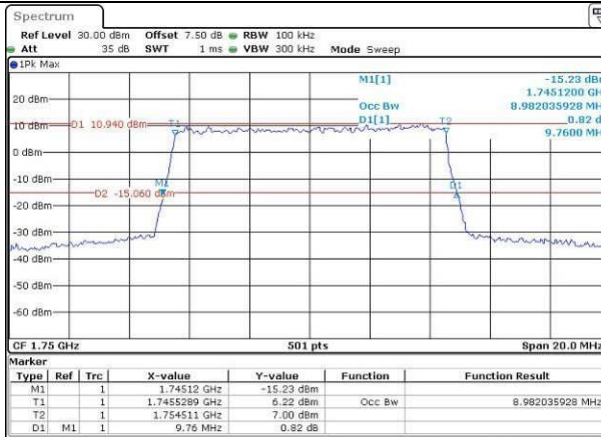
Lowest



Middle



Highest



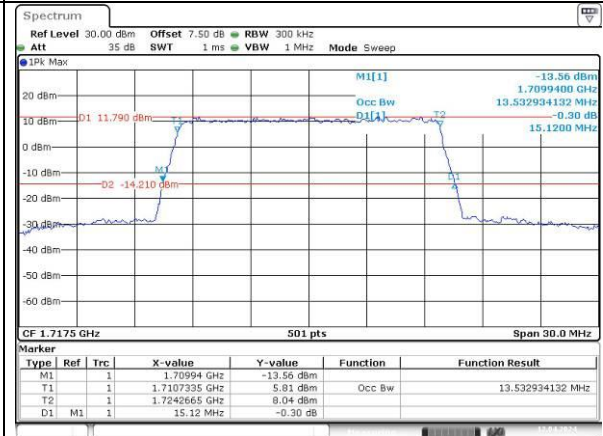
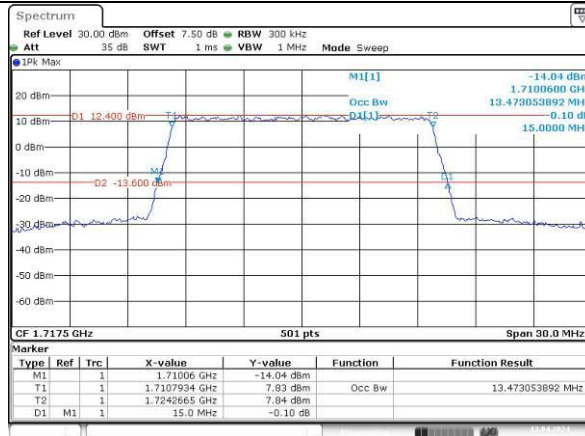
Occupied Bandwidth

Channel

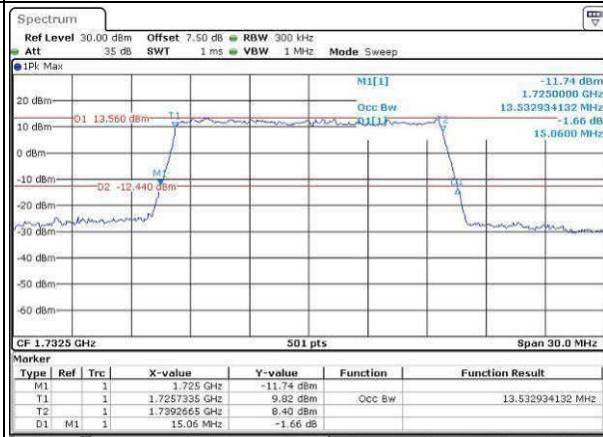
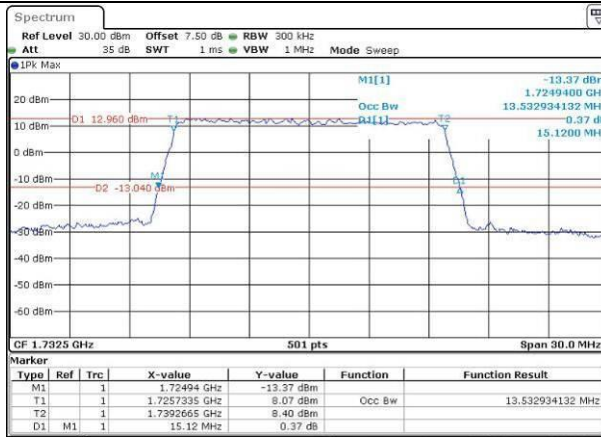
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

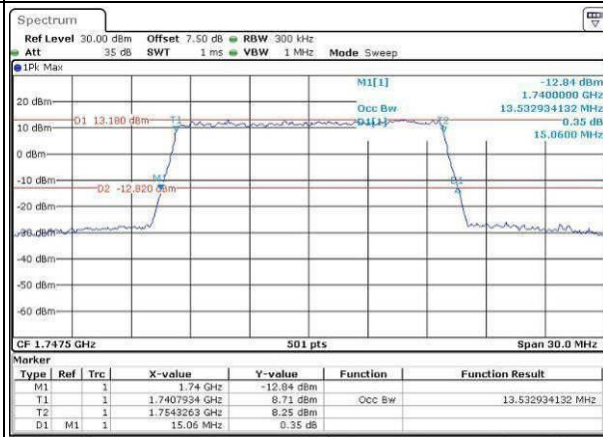
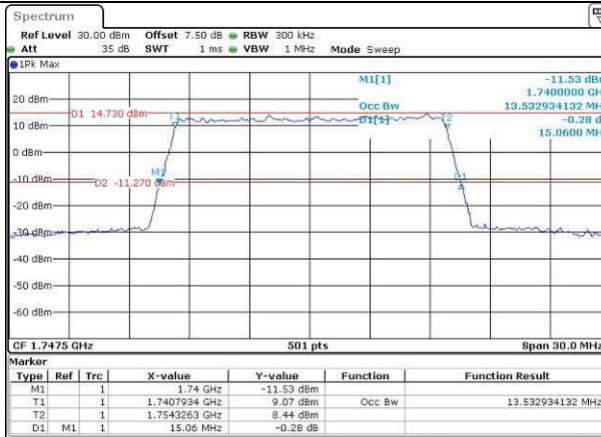
Lowest



Middle



Highest



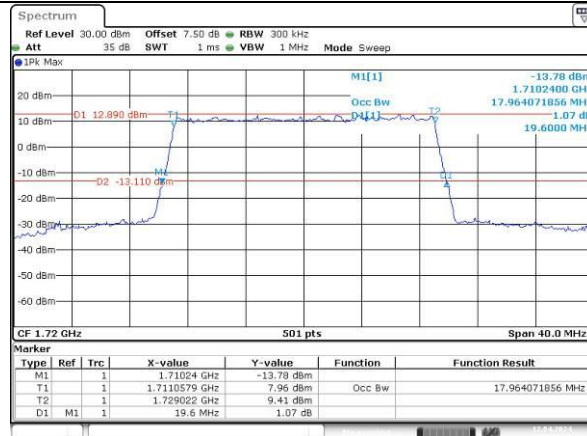
Occupied Bandwidth

Channel

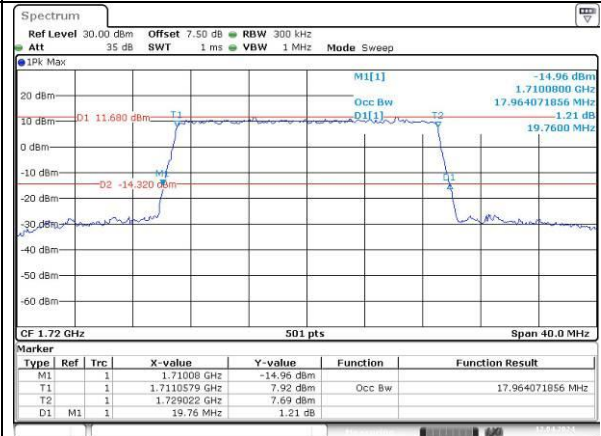
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

Lowest

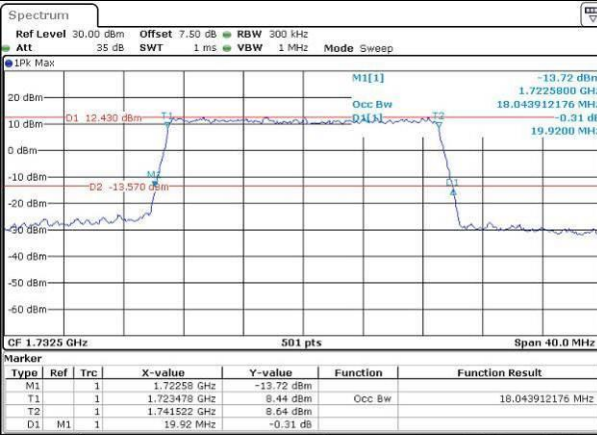


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:42:12

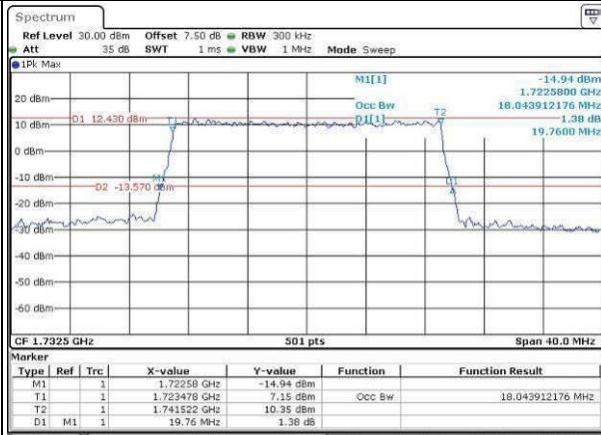


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:42:38

Middle



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:43:12

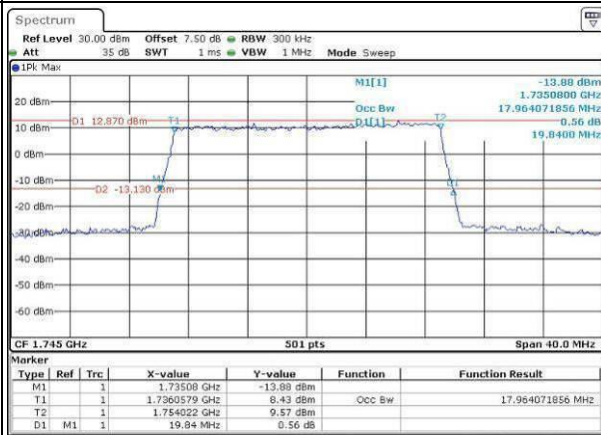


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:43:48

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:44:09



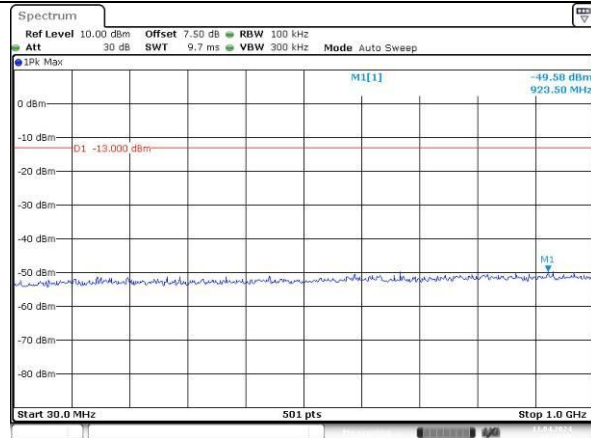
ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 12.APR.2024 00:44:33

Spurious Emissions at Antenna Terminal

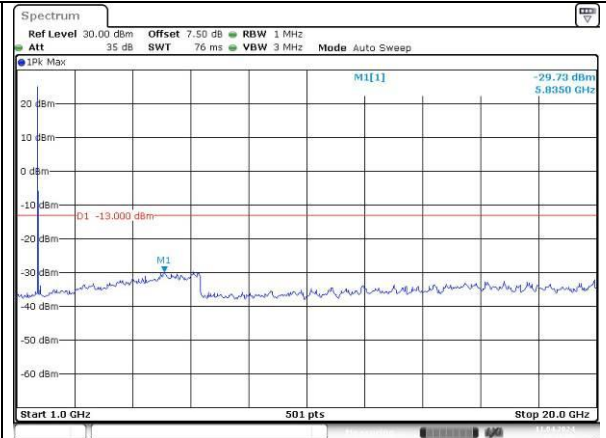
Channel

1.4MHz Bandwidth QPSK

Lowest

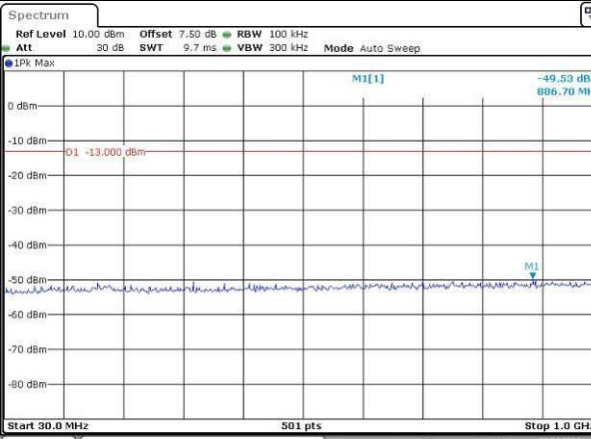


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:31:22

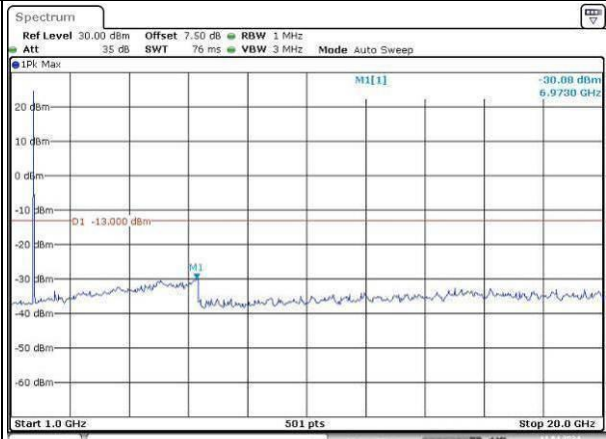


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:31:50

Middle

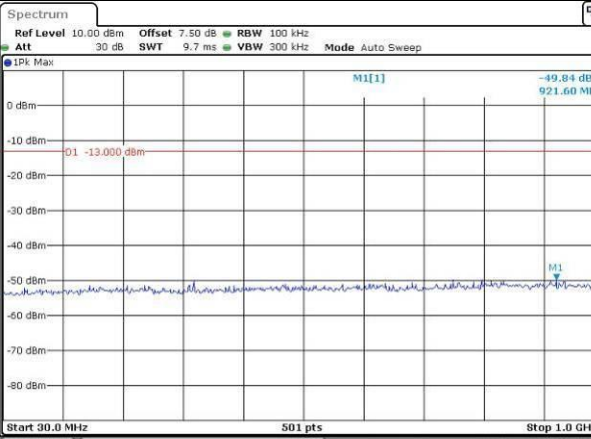


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:32:33

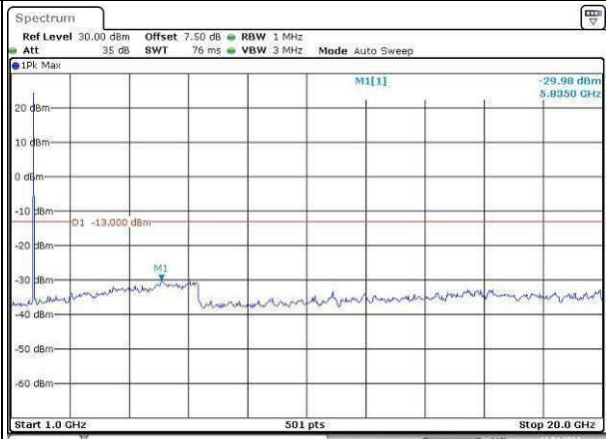


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:32:52

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:33:32



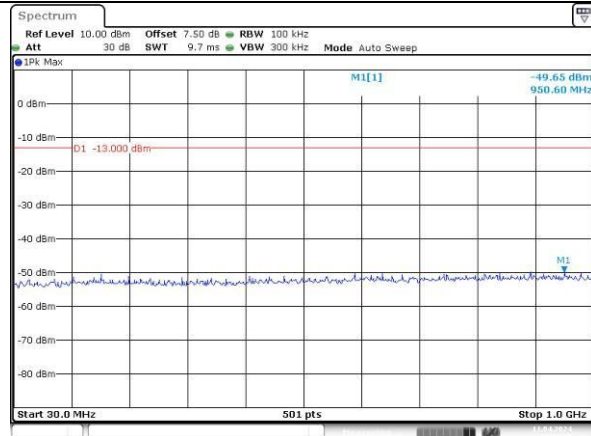
ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:33:54

Spurious Emissions at Antenna Terminal

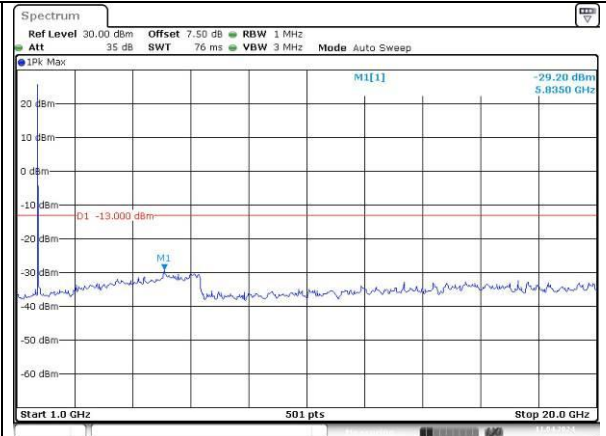
Channel

3MHz Bandwidth QPSK

Lowest

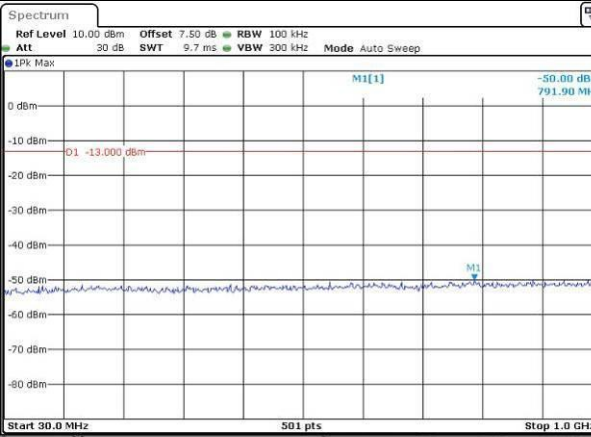


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:34:28

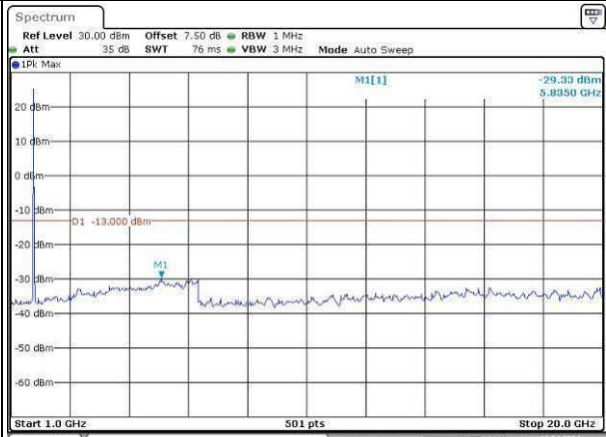


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:34:53

Middle

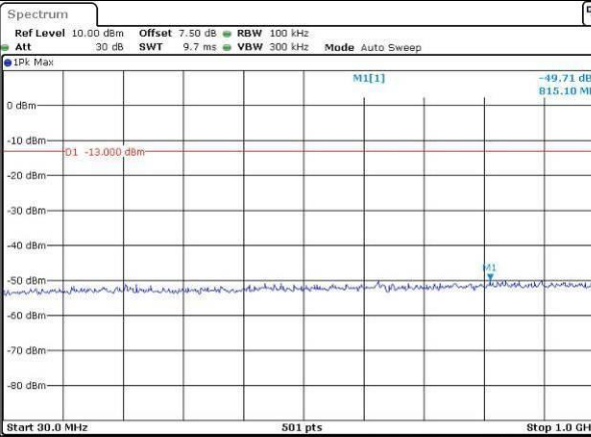


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:35:36

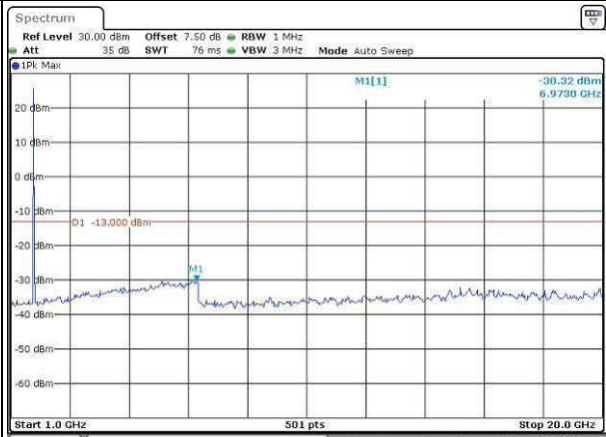


ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:36:01

Highest



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:36:42



ProjectNo.:SZGMA240326-15607E Testers:Jeff Wei
Date: 11.APR.2024 14:37:07