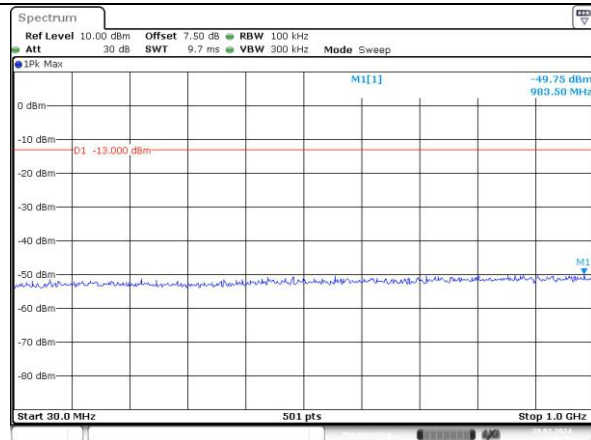


Spurious Emissions at Antenna Terminal

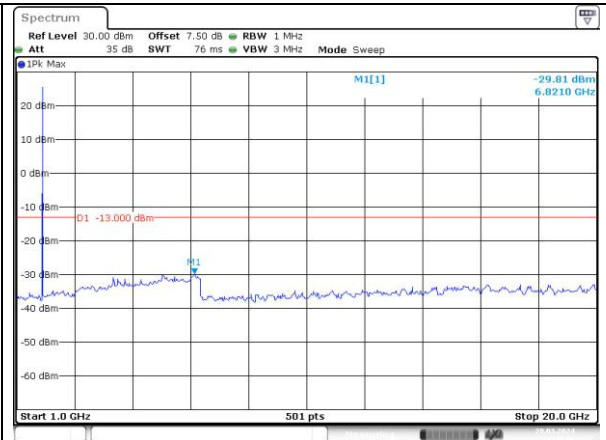
Channel

3MHz Bandwidth QPSK

Lowest

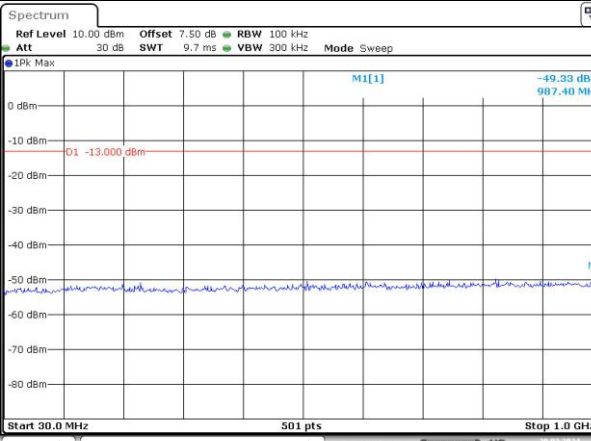


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:46:45

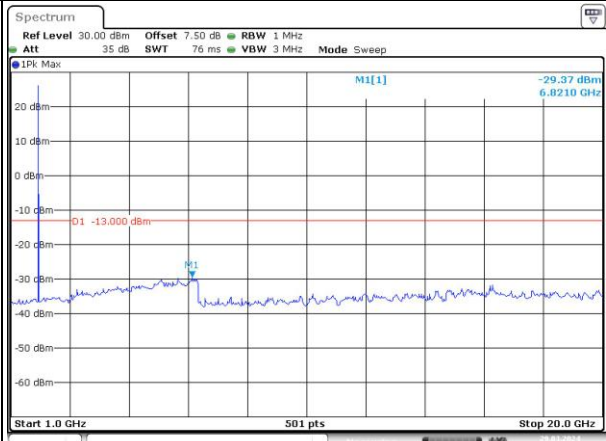


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:47:10

Middle

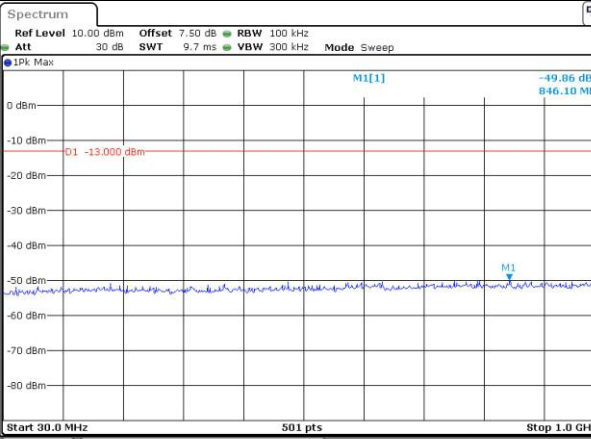


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:47:43

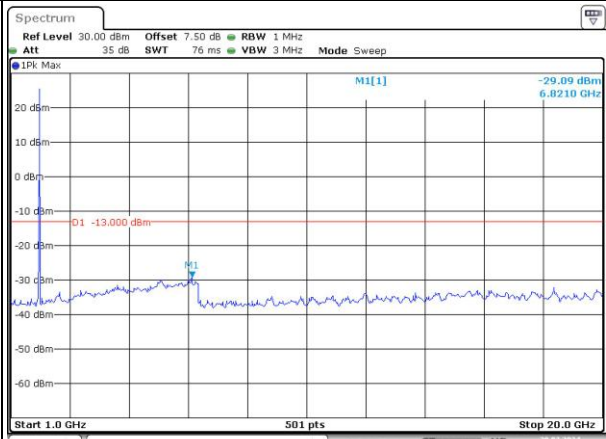


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:48:09

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:49:14



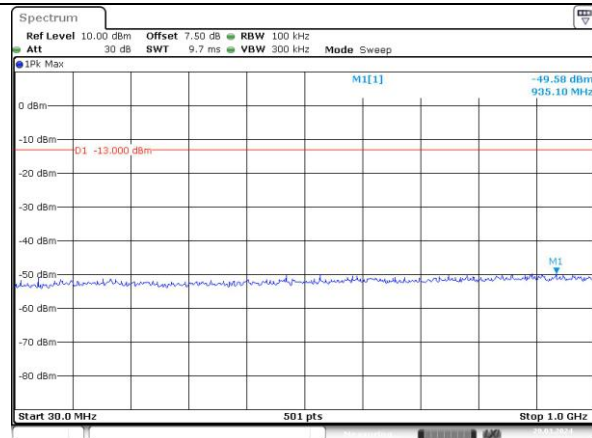
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:49:39

Spurious Emissions at Antenna Terminal

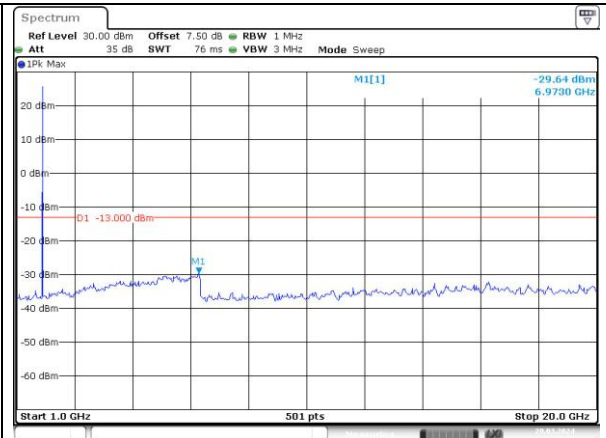
Channel

5MHz Bandwidth QPSK

Lowest

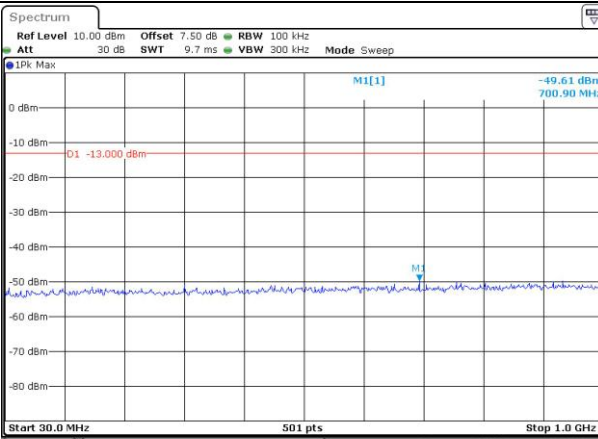


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:51:23

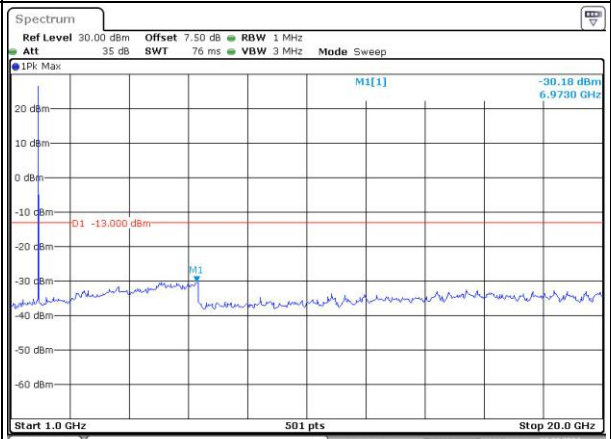


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:51:51

Middle

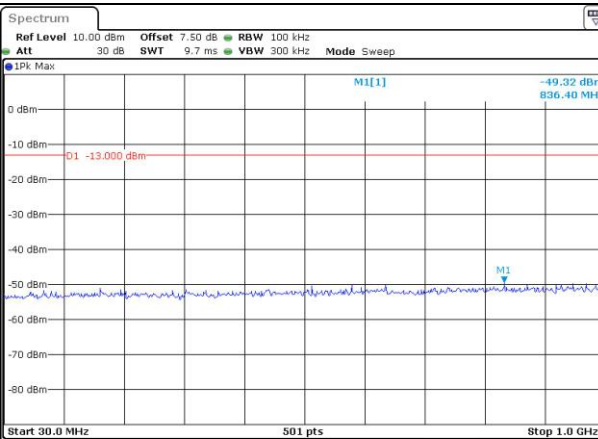


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:52:29

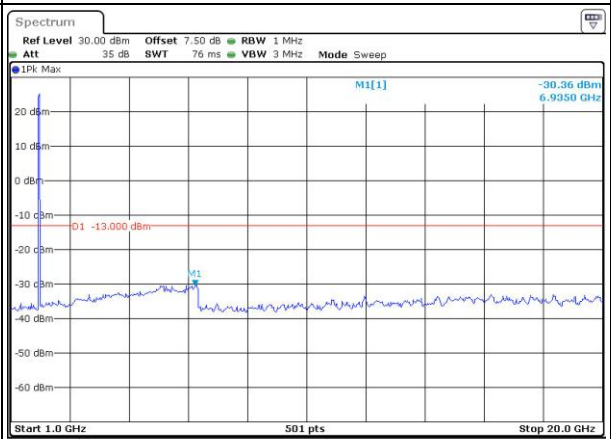


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:52:54

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:53:32



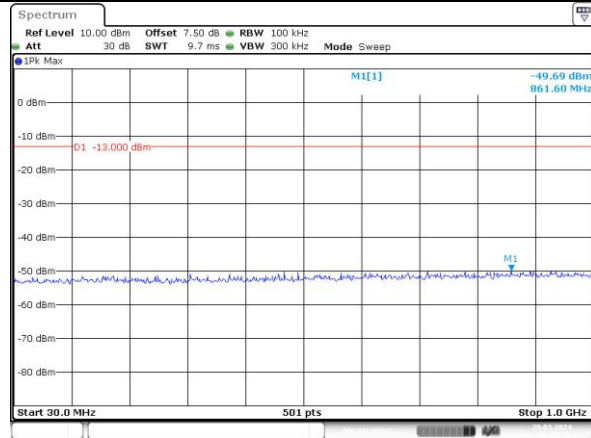
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:53:51

Spurious Emissions at Antenna Terminal

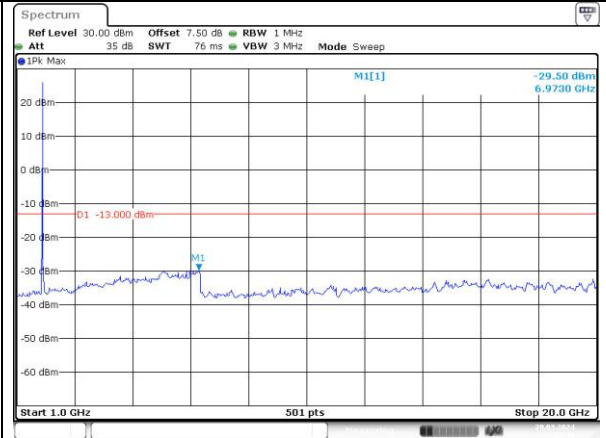
Channel

10MHz Bandwidth QPSK

Lowest

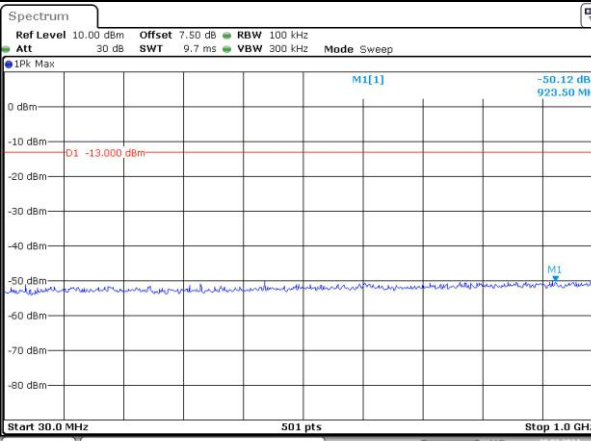


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:56:15

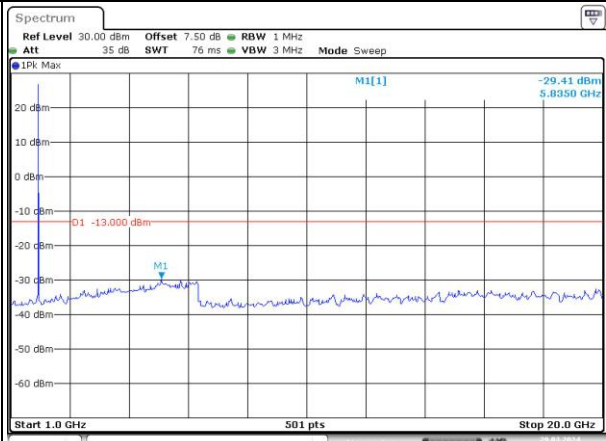


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:56:41

Middle

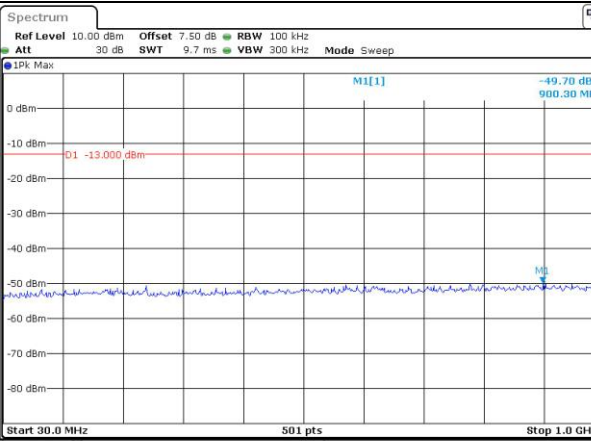


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Date: 29.MAR.2024 10:57:34

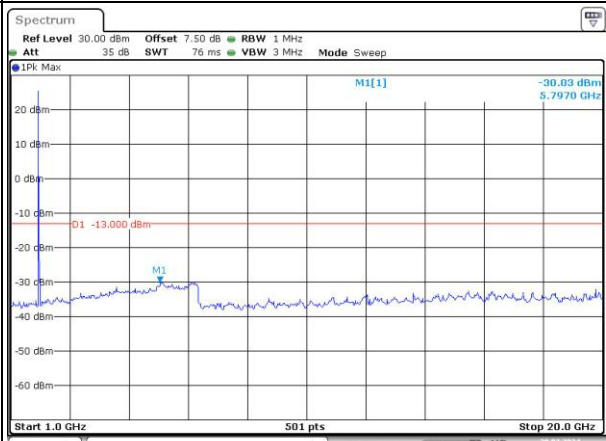


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:57:56

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:58:37



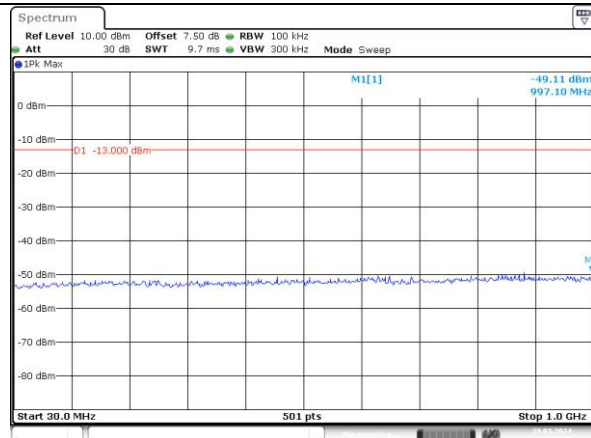
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:59:05

Spurious Emissions at Antenna Terminal

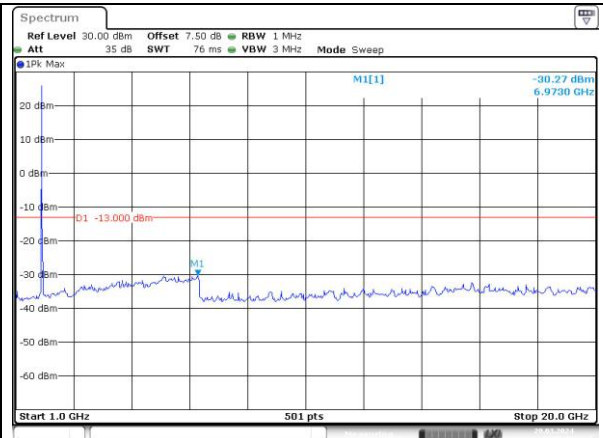
Channel

15MHz Bandwidth QPSK

Lowest

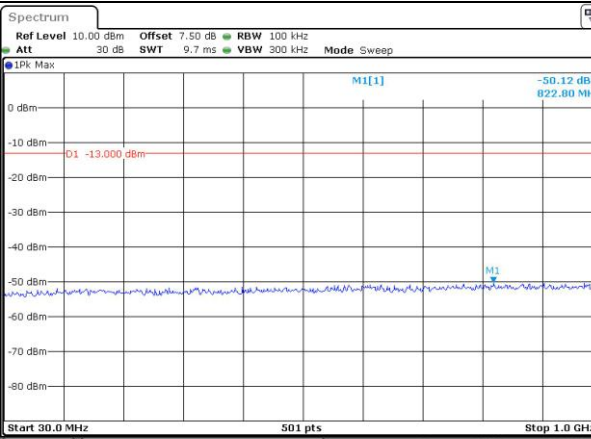


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Date: 29.MAR.2024 11:00:45

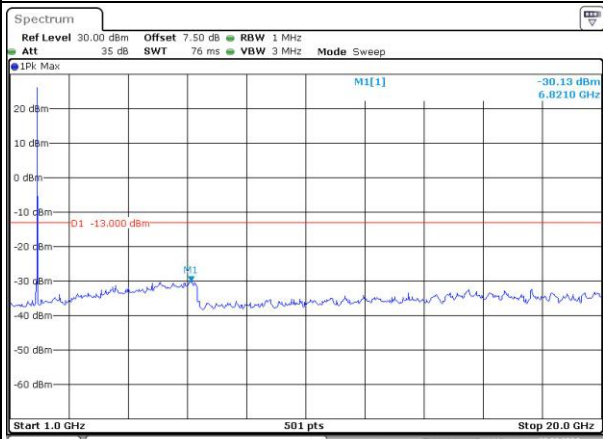


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:01:04

Middle

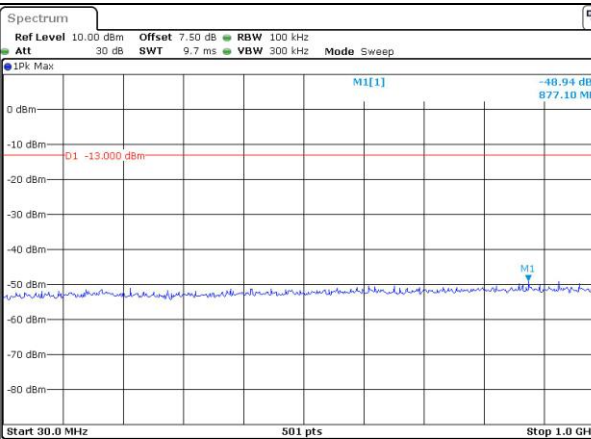


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:01:53

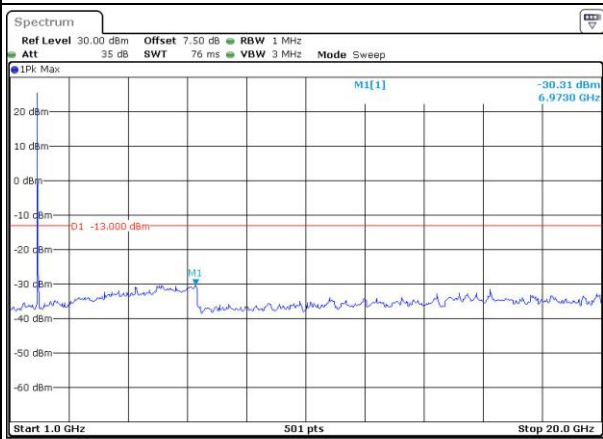


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:02:15

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:02:52



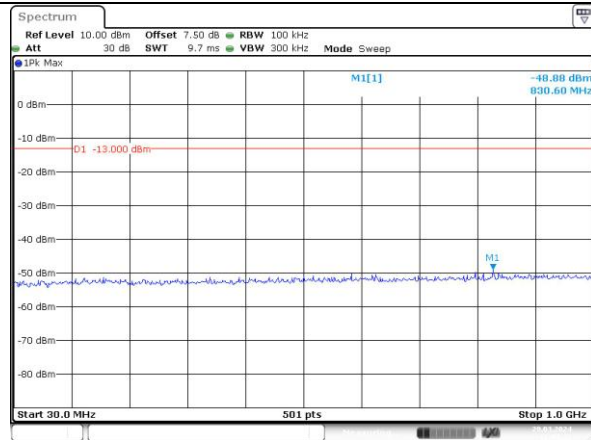
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:03:11

Spurious Emissions at Antenna Terminal

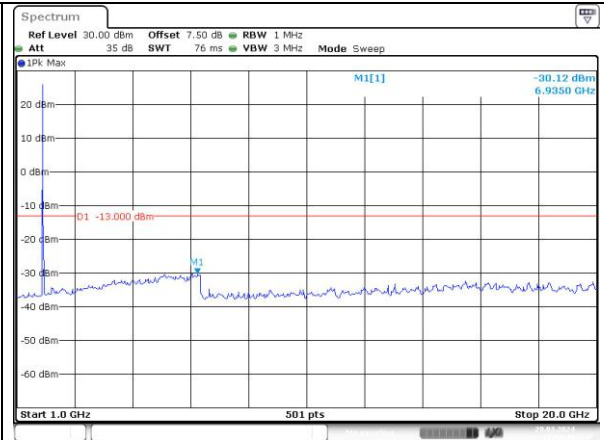
Channel

20MHz Bandwidth QPSK

Lowest

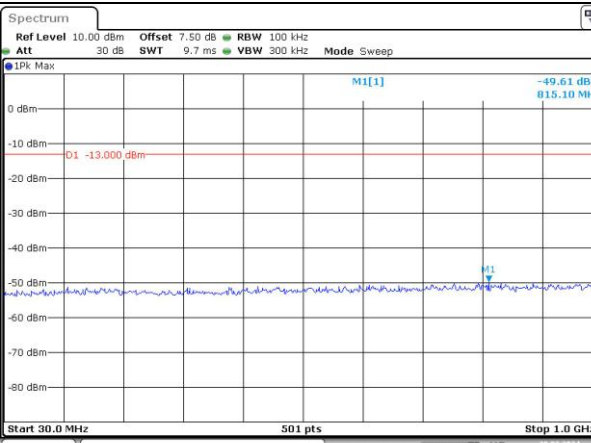


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Date: 29.MAR.2024 11:04:18

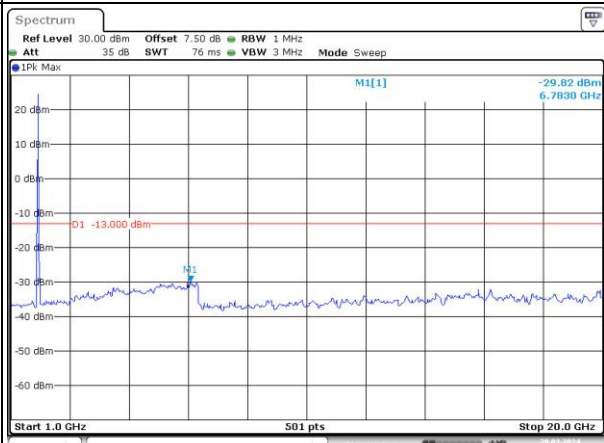


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:04:47

Middle

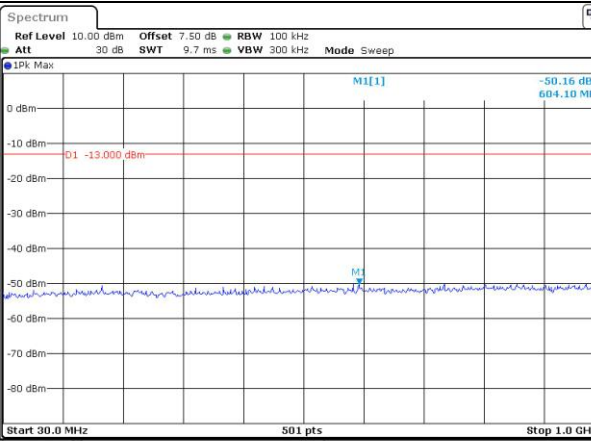


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:05:33

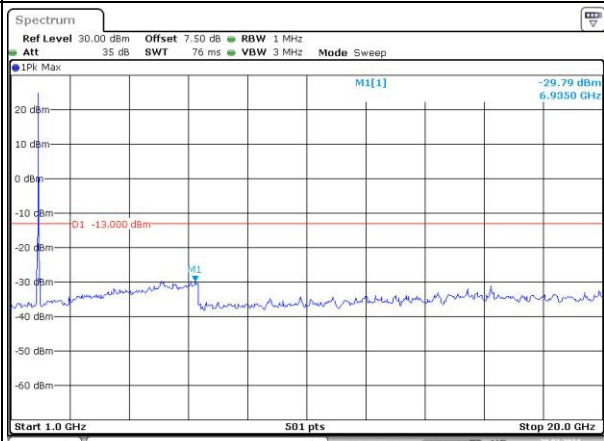


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:05:55

Highest

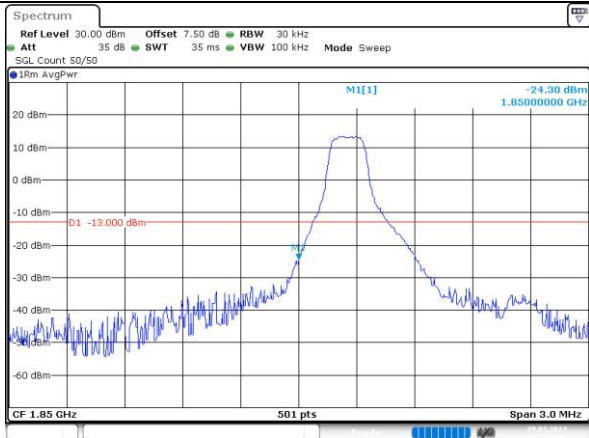
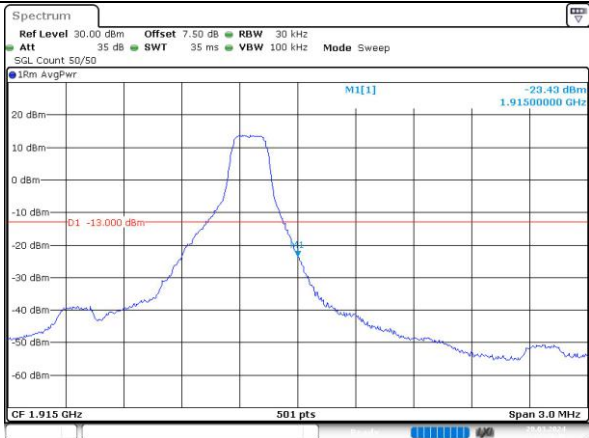
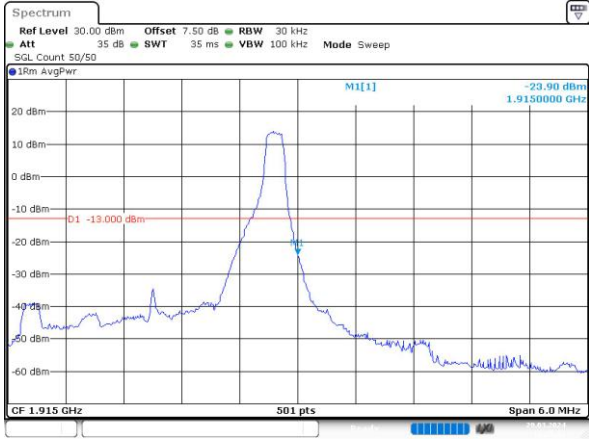
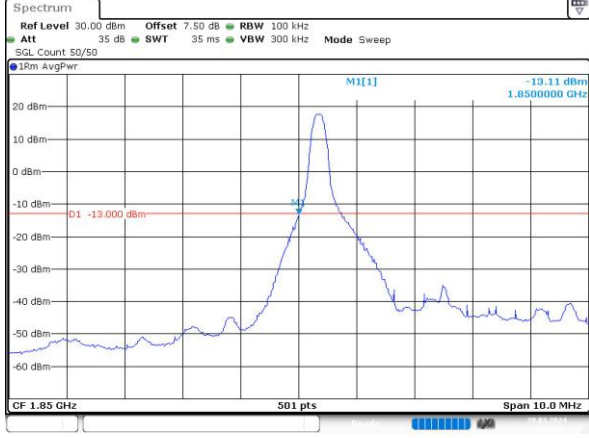
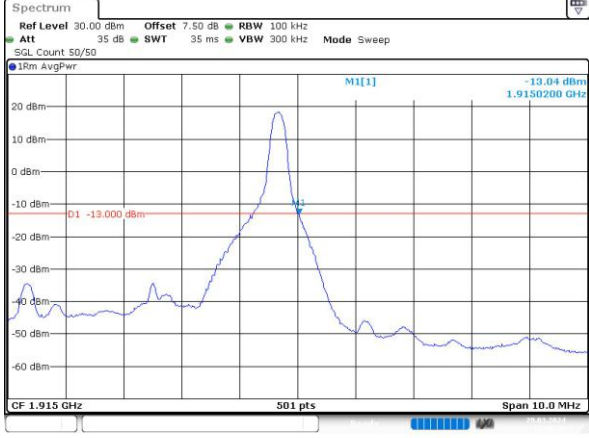


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:06:48

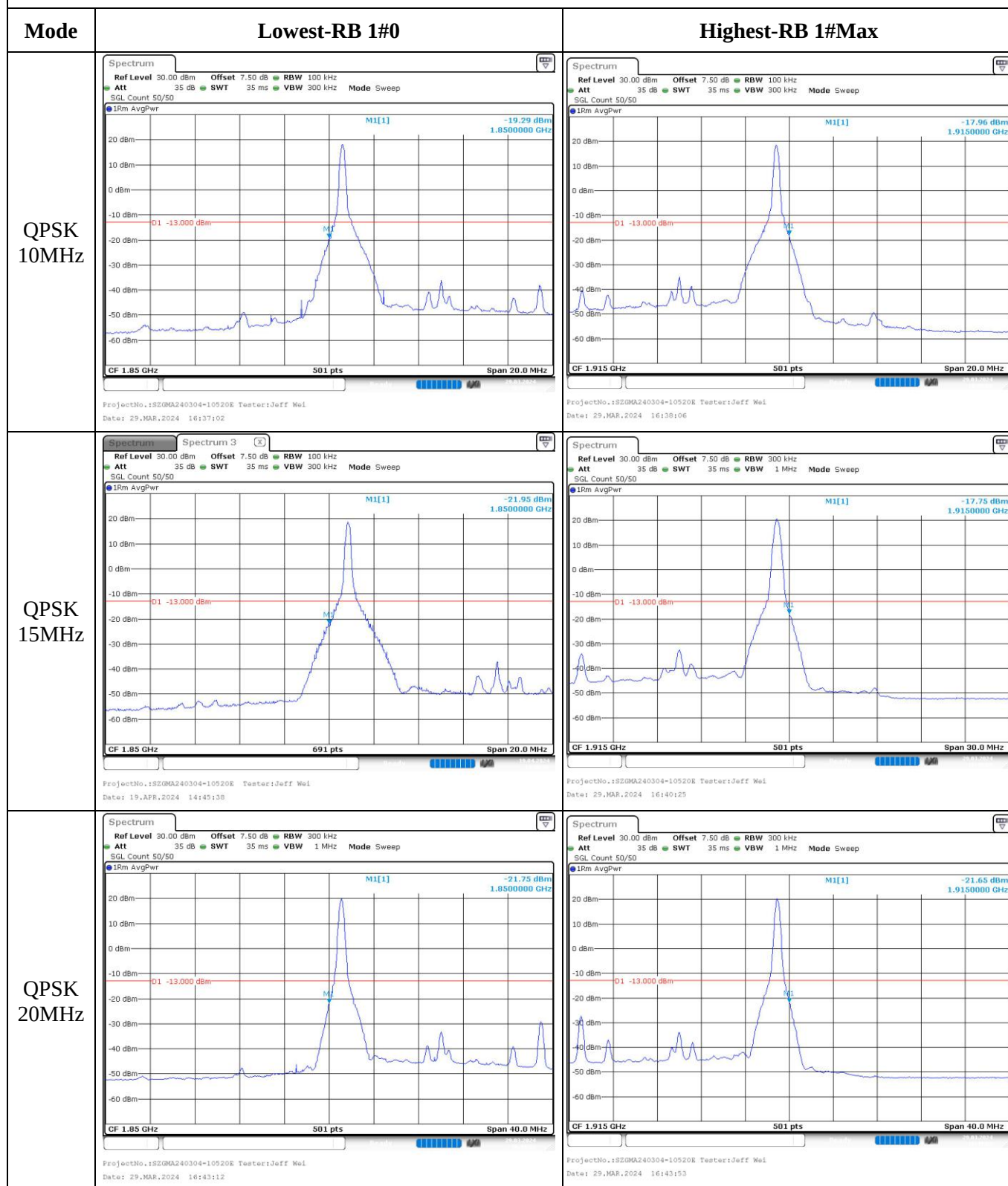


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:07:13

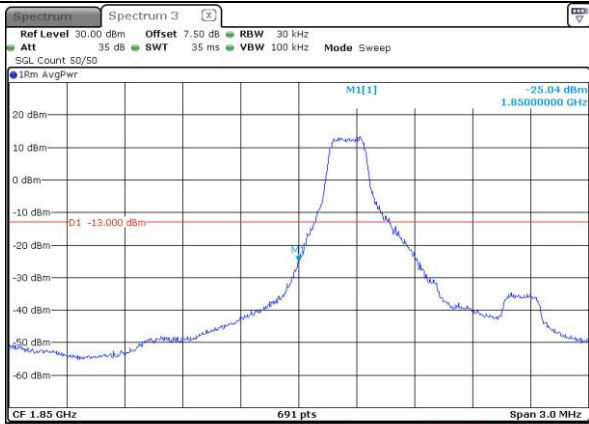
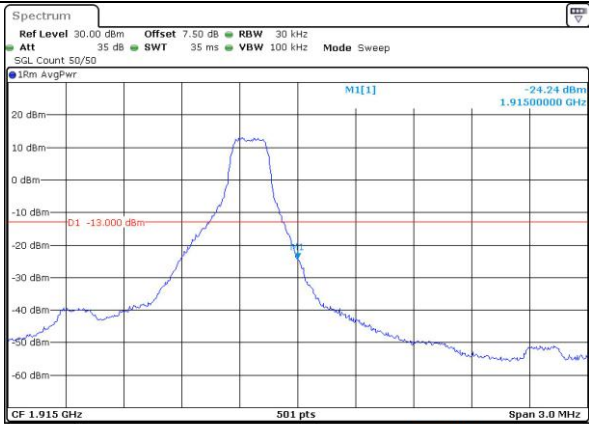
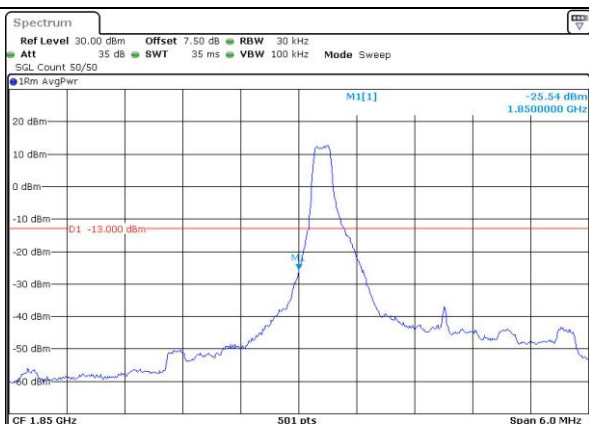
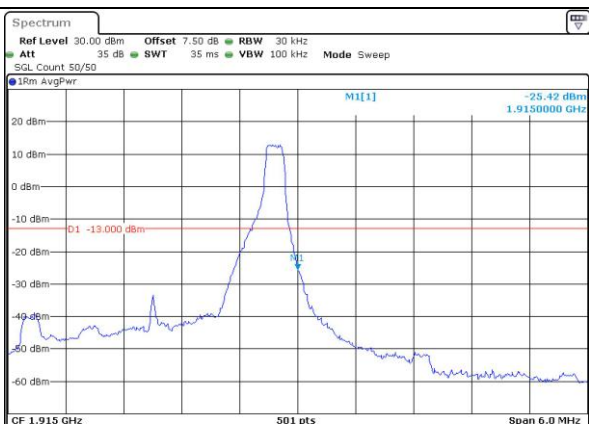
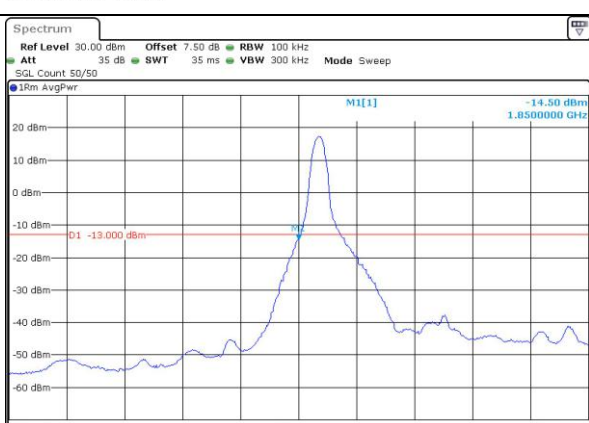
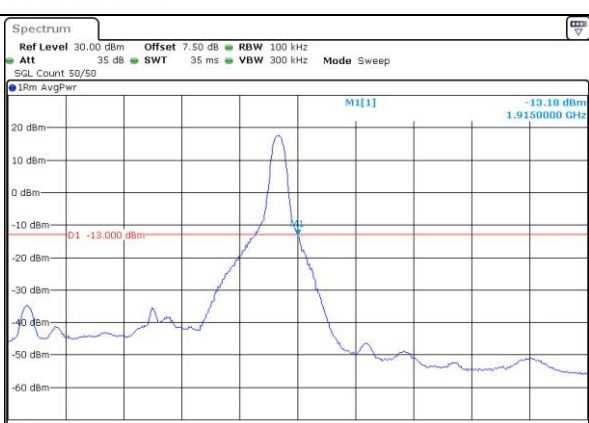
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
QPSK 1.4MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:26:45	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:27:45
QPSK 3MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:28:48	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:29:58
QPSK 5MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:35:05	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:36:10

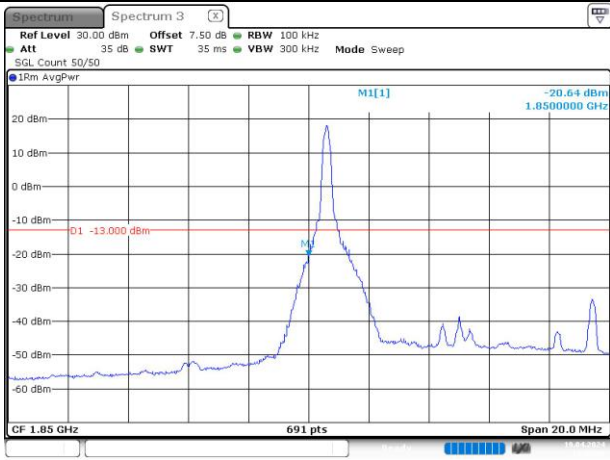
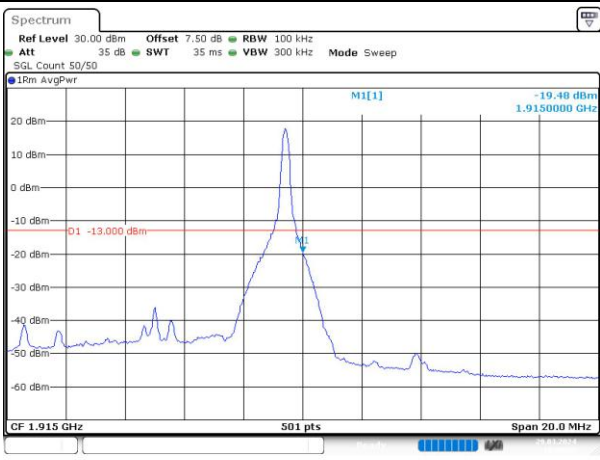
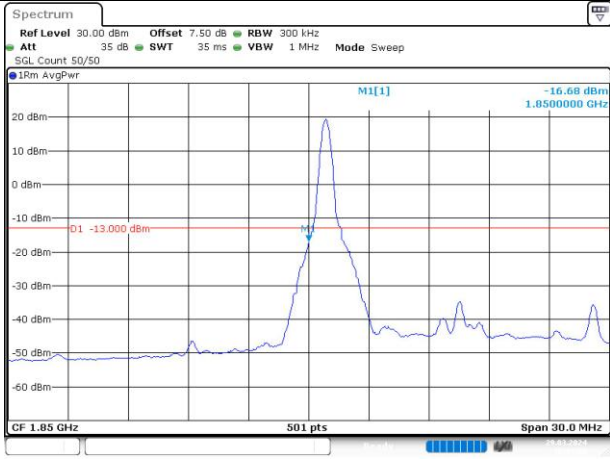
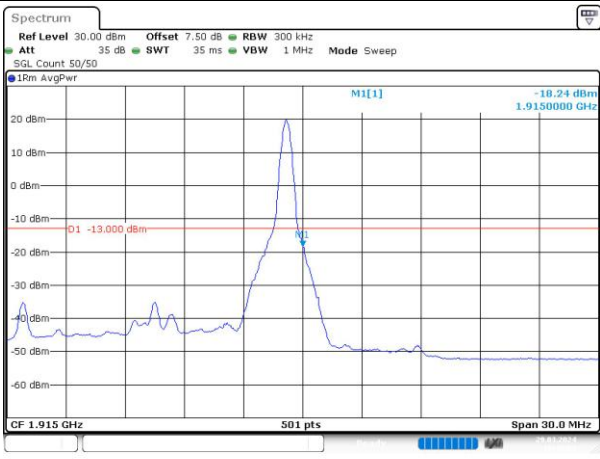
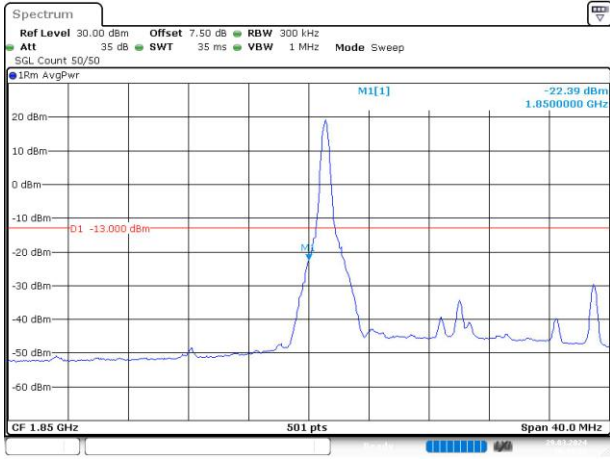
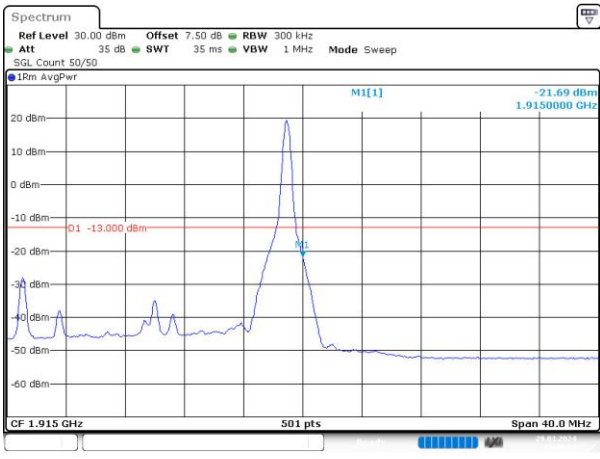
Out of band emission, Band Edge



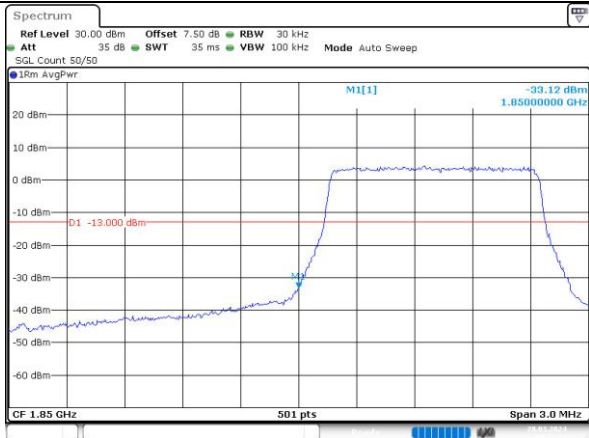
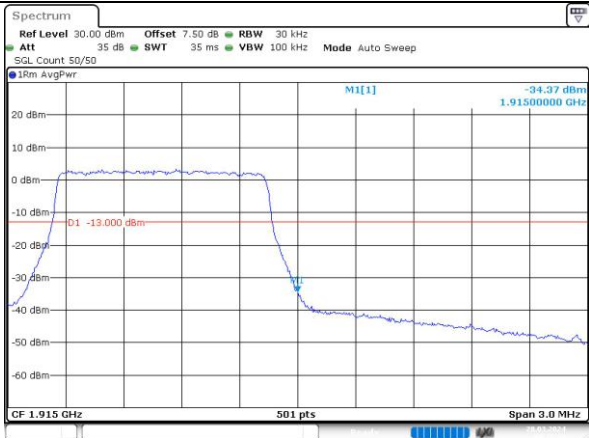
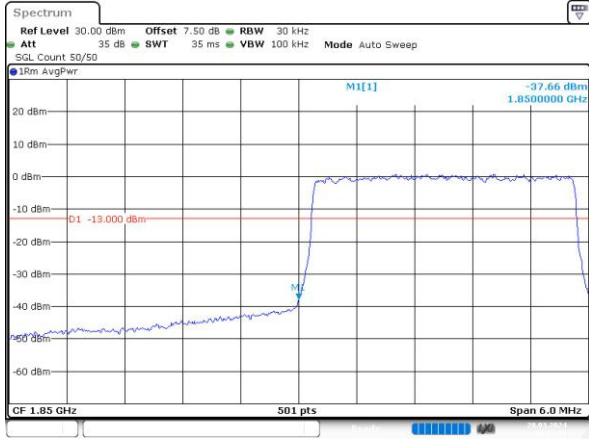
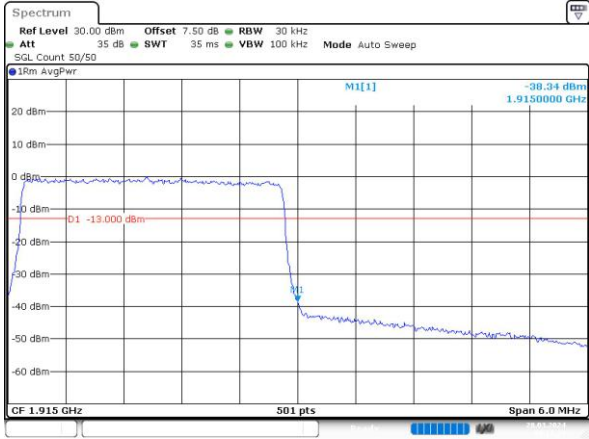
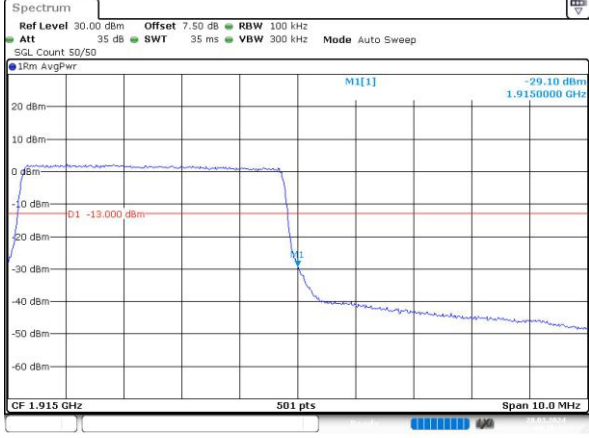
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 1.4MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 19.APR.2024 14:42:16	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:20:29
16QAM 3MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:29:18	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:34:39
16QAM 5MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:35:34	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:36:40

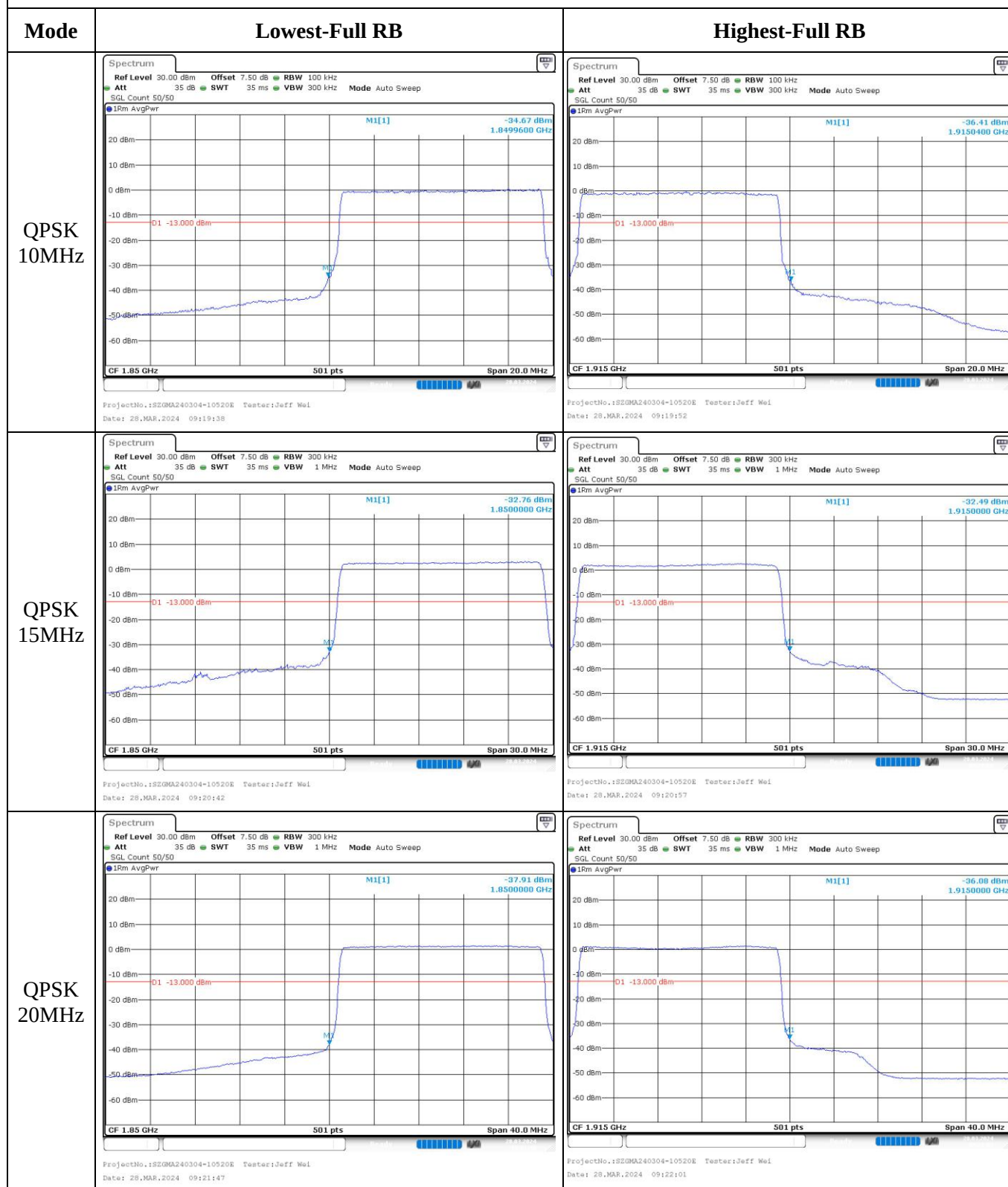
Out of band emission, Band Edge

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 SGL Count 50/50 1Rm AvgPwr MI[1] -20.64 dBm 1.850000 GHz D1 -13.000 dBm CF 1.85 GHz 691 pts Span 20.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 19.APR.2024 14:43:59	 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] -19.48 dBm 1.915000 GHz D1 -13.000 dBm CF 1.915 GHz 501 pts Span 20.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:38:37
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 SGL Count 50/50 1Rm AvgPwr MI[1] -16.68 dBm 1.850000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 30.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:39:58	 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] -10.24 dBm 1.915000 GHz D1 -13.000 dBm CF 1.915 GHz 501 pts Span 30.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:42:51
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 SGL Count 50/50 1Rm AvgPwr MI[1] -22.39 dBm 1.850000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 40.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:43:32	 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] -21.69 dBm 1.915000 GHz D1 -13.000 dBm CF 1.915 GHz 501 pts Span 40.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:47:21

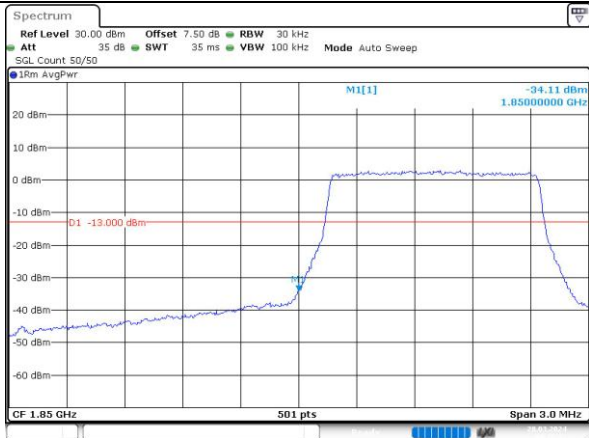
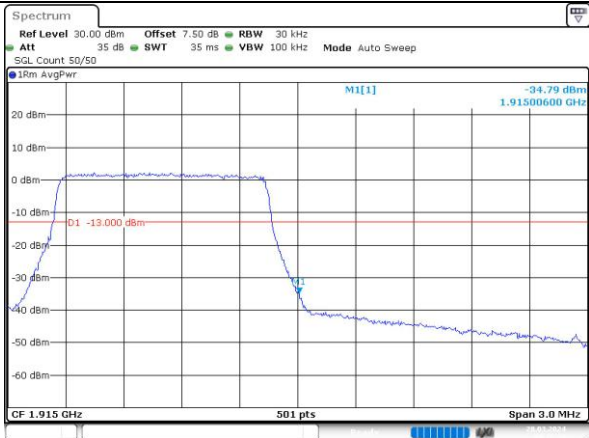
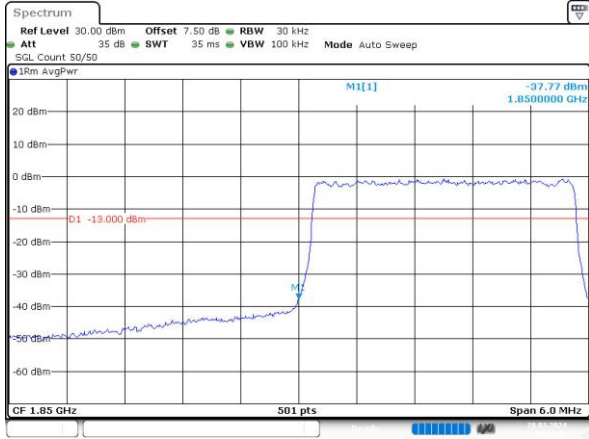
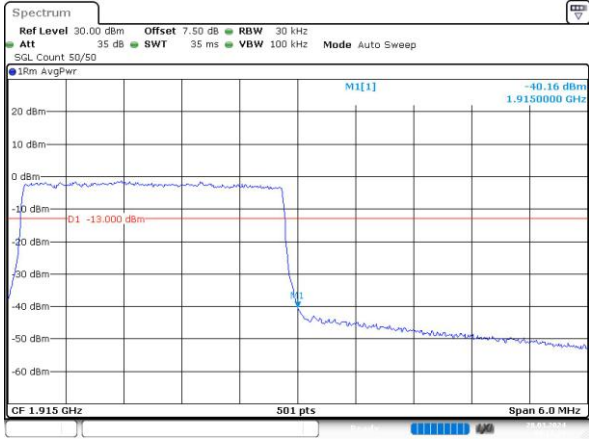
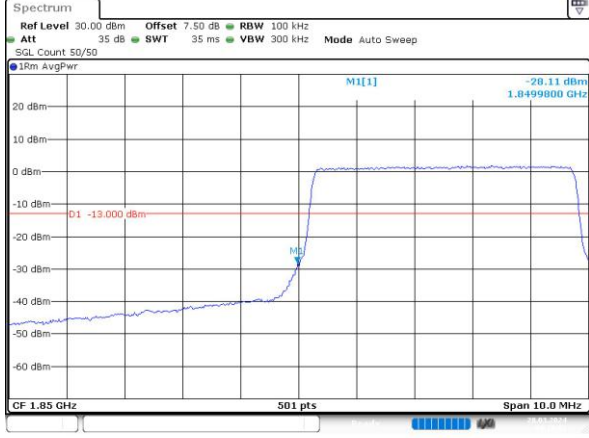
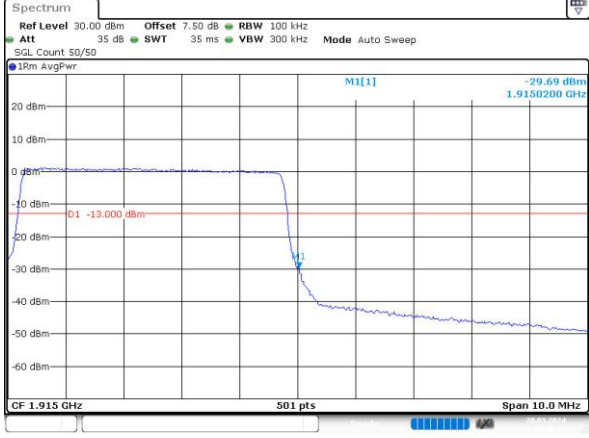
Out of band emission, Band Edge

Mode	Lowest-Full RB	Highest-Full RB
QPSK 1.4MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28,MAR,2024 09:11:24	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28,MAR,2024 09:16:20
QPSK 3MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28,MAR,2024 09:17:08	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28,MAR,2024 09:17:20
QPSK 5MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28,MAR,2024 09:18:01	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28,MAR,2024 09:18:14

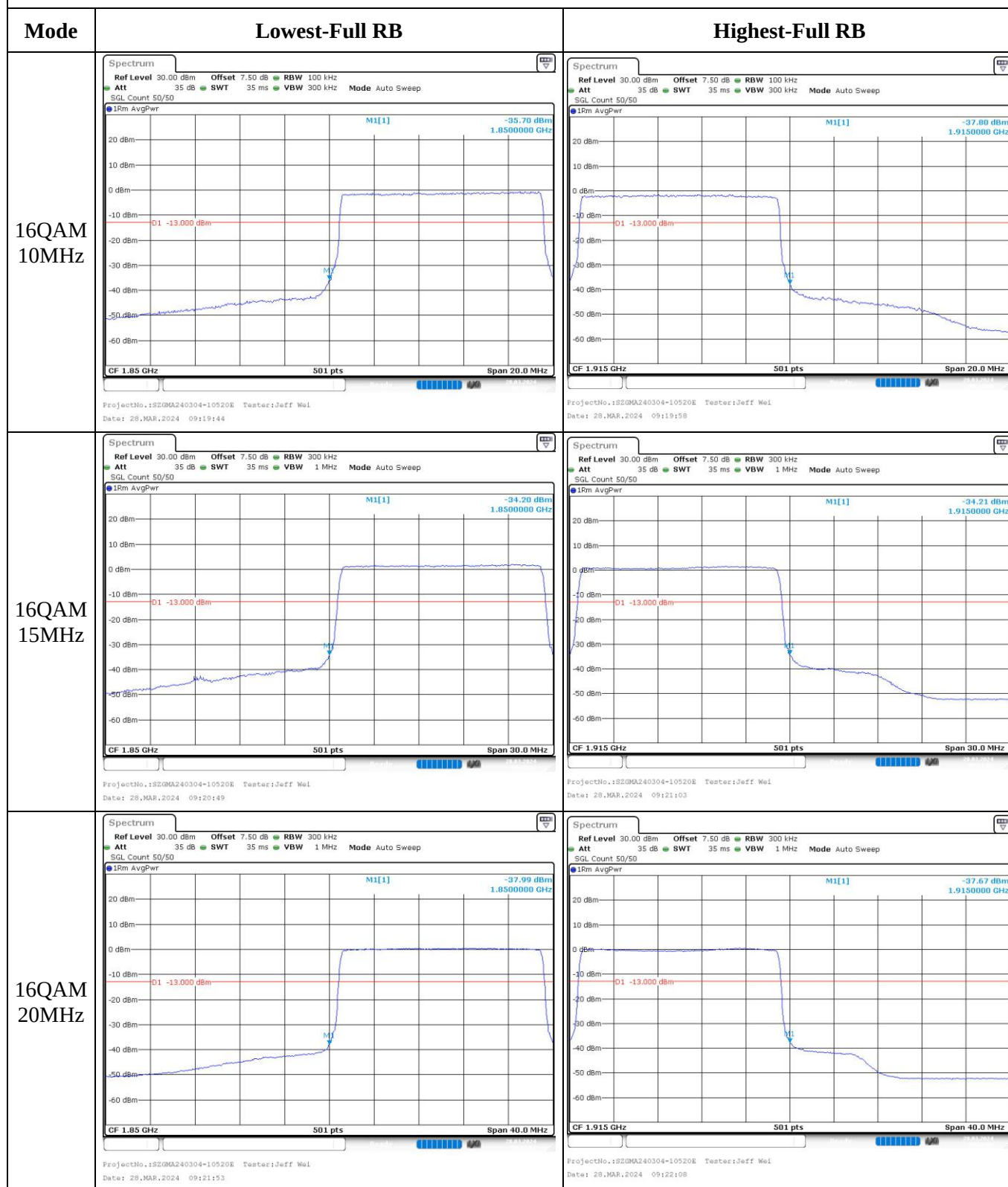
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest-Full RB	Highest-Full RB
16QAM 1.4MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28.MAR.2024 09:16:14	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28.MAR.2024 09:16:26
16QAM 3MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28.MAR.2024 09:17:14	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28.MAR.2024 09:17:26
16QAM 5MHz	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28.MAR.2024 09:18:07	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 28.MAR.2024 09:18:20

Out of band emission, Band Edge



5.12 Antenna Port Test Data and Results for LTE Band 26

Serial Number:	2I92-2	Test Date:	2024/3/27~2024/4/29
Test Site:	RF	Test Mode:	Transmitting
Tester:	Jeff Wei,Karl Liang	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	24.7~27.2	Relative Humidity: (%)	49~72	ATM Pressure: (kPa)	100.2~101.2

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-Clruiuts	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
R&S	Spectrum Analyzer	FSP 38	100478	2023/10/18	2024/10/17

Test Frequency For Each Mode:						
Operation Bandwidth	Lowest Frequency For 90S (MHz)	Highest Frequency For 90S (MHz)	Channel Cross 90S and 22H	Lowest Frequency For 22H (MHz)	Middle Frequency For 22H (MHz)	Highest Frequency For 22H (MHz)
1.4MHz	814.7	823.3	824	824.7	836.5	848.3
3MHz	815.5	822.5	824	825.5	836.5	847.5
5MHz	816.5	821.5	824	826.5	836.5	846.5
10MHz	819	/	824	829	836.5	844
15MHz	821.5	/	824	831.5	836.5	841.5

Test Data:**FCC §2.1046; § 22.913 (a), § 90.542****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)						Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel For 90S	Highest Channel For 90S	Cross Channe	Lowest Frequency For 22H	Middle Frequency For 22H	Highest Frequency For 22H		
1.4MHz QPSK	RB1#0	23.05	23.02	21.32	23.13	22.65	22.52	18.37	38.45
	RB1#3	23.23	23.22	21.54	23.27	22.78	22.73		
	RB1#5	23.05	23	21.28	23.09	22.53	22.53		
	RB3#0	23.2	23.14	21.42	23.23	22.69	22.67		
	RB3#3	23.16	23.14	21.36	23.15	22.72	22.65		
	RB6#0	22.18	22.14	20.42	22.2	21.66	21.67		
1.4MHz 16QAM	RB1#0	22.09	22.13	20.35	22.25	21.61	21.59	17.59	38.45
	RB1#3	22.31	22.28	22.23	22.49	21.83	21.8		
	RB1#5	22.1	22.1	22.12	22.27	21.69	21.65		
	RB3#0	22.37	22.29	22.31	22.2	21.79	21.86		
	RB3#3	22.45	22.26	22.28	22.26	21.75	21.87		
	RB6#0	21.22	21.09	21.15	21.22	20.64	20.69		
3MHz QPSK	RB1#0	23.1	23.09	22.96	23.13	23.12	23.09	18.24	38.45
	RB1#8	23.06	23.01	23.1	23.12	23.14	22.74		
	RB1#14	23.03	23.01	22.96	23.09	23.07	22.62		
	RB6#0	22.05	22.04	22.01	22.12	22.13	21.58		
	RB6#9	22.07	22.01	21.95	22.14	22.14	21.75		
	RB15#0	22.14	22.15	22.01	22.17	22.22	21.82		
3MHz 16QAM	RB1#0	22.28	22.74	21.96	22.72	22.22	21.66	17.87	38.45
	RB1#8	22.27	22.65	21.88	22.77	22.31	21.63		
	RB1#14	22.19	22.69	21.92	22.65	22.27	21.65		
	RB6#0	21.13	21.18	20.87	21.25	21.11	20.55		
	RB6#9	21.14	21.13	20.97	21.19	21.17	20.51		
	RB15#0	21.1	21.18	20.79	21.24	21.15	20.77		
5MHz QPSK	RB1#0	23	22.95	23.04	23.1	22.99	22.98	18.26	38.45
	RB1#13	23.09	23.05	23.16	23.16	23.13	23.11		
	RB1#24	22.98	22.88	22.98	23	23	22.7		
	RB15#0	22.17	22.11	22.19	22.21	22.26	21.86		
	RB15#10	22.16	22.13	22.19	22.22	22.14	21.57		
	RB25#0	22.19	22.11	22.14	22.16	22.18	21.84		
5MHz 16QAM	RB1#0	22.34	22	22.04	22.21	21.93	21.88	17.52	38.45
	RB1#13	22.42	22.07	21.93	22.3	22.1	21.97		
	RB1#24	22.36	21.87	21.84	22.12	21.99	21.78		
	RB15#0	21.17	21.17	21.2	21.21	21.27	20.63		
	RB15#10	21.14	21.19	21.21	21.23	21.2	20.59		
	RB25#0	21.16	21.21	21.23	21.21	21.28	20.78		
10MHz QPSK	RB1#0	23.06	/	22.64	23.15	23.09	23.12	18.3	38.45
	RB1#25	23.16	/	22.78	23.2	23.2	23.2		

	RB1#49	23.01	/	22.57	23.12	23.07	23.11		
	RB25#0	22.21	/	21.68	22.2	22.31	22.22		
	RB25#25	22.22	/	21.73	22.17	22.19	22.16		
	RB50#0	22.26	/	21.7	22.17	22.28	22.2		
10MHz 16QAM	RB1#0	22.25	/	21.74	22.19	22.63	22.28	17.92	38.45
	RB1#25	22.39	/	21.83	22.28	22.82	22.3		
	RB1#49	22.24	/	21.67	22.15	22.77	21.98		
	RB25#0	21.27	/	20.9	21.28	21.36	21.2		
	RB25#25	21.25	/	20.87	21.22	21.21	21.14		
15MHz QPSK	RB50#0	21.25	/	21.06	21.25	21.31	21.21	18.43	38.45
	RB1#0	23.18	/	22.72	23.17	22.68	23.13		
	RB1#38	23.23	/	23.33	23.21	22.75	23.22		
	RB1#74	23.12	/	23.18	23.12	22.65	23.1		
	RB36#0	22.3	/	22.42	22.31	21.94	22.31		
15MHz 16QAM	RB36#39	22.33	/	21.89	22.26	21.82	22.28	17.99	38.45
	RB75#0	22.37	/	21.87	22.29	21.87	22.32		
	RB1#0	22.72	/	22.39	22.32	21.88	22.56		
	RB1#38	22.89	/	22.44	22.34	21.85	22.7		
	RB1#74	22.67	/	22.21	22.33	21.86	22.51		
	RB36#0	21.36	/	20.87	21.27	20.96	21.32		
	RB36#39	21.3	/	20.86	21.24	20.86	21.26		
	RB75#0	21.37	/	20.91	21.26	20.87	21.3		

Note:

ERP= Conducted Power(dBm) - LC(dB) + GT(dBd)

GT(dBd)=GT(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 Frequency For 22H	Middle Frequency For 22H	Highest Frequency For 22H	
15MHz QPSK	RB1#0	4.78	4.49	4.67	13
	RB75#0	4.96	5.16	5.19	13
15MHz 16QAM	RB1#0	5.48	5.25	5.59	13
	RB75#0	5.94	6.12	6.2	13
Result:					Pass

FCC §2.1049, §22.905, §90.209:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)					
	Lowest For 90S	Highest For 90S	Cross	Lowest For 22H	Middle For 22H	Highest For 22H
1.4MHz QPSK	1.098	1.092	1.098	1.104	1.092	1.104
1.4MHz 16QAM	1.098	1.104	1.092	1.098	1.098	1.092
3MHz QPSK	2.688	2.676	2.688	2.676	2.676	2.7
3MHz 16QAM	2.688	2.688	2.688	2.688	2.676	2.688
5MHz QPSK	4.52	4.5	4.52	4.52	4.52	4.48
5MHz 16QAM	4.5	4.5	4.52	4.52	4.52	4.5
10MHz QPSK	8.96	/	8.96	8.96	8.96	8.96
10MHz 16QAM	8.96	/	8.96	8.96	8.96	8.96
15MHz QPSK	13.473	/	13.593	13.5	13.56	13.56
15MHz 16QAM	13.533	/	13.593	13.56	13.56	13.5
Operation Mode	26 dB Occupied Bandwidth (MHz)					
	Lowest For 90S	Highest For 90S	Cross	Lowest For 22H	Middle For 22H	Highest For 22H
1.4MHz QPSK	1.284	1.29	1.296	1.302	1.284	1.314
1.4MHz 16QAM	1.314	1.32	1.272	1.302	1.308	1.278
3MHz QPSK	2.88	2.856	2.88	2.88	2.868	2.868
3MHz 16QAM	2.868	2.88	2.856	2.88	2.88	2.868
5MHz QPSK	4.96	4.9	4.92	4.92	4.94	4.88
5MHz 16QAM	4.94	4.98	4.94	4.96	4.96	4.94
10MHz QPSK	9.64	/	9.56	9.68	9.48	9.56
10MHz 16QAM	9.64	/	9.6	9.6	9.56	9.64
15MHz QPSK	14.82	/	15.9	14.76	14.82	14.88
15MHz 16QAM	14.82	/	16.68	14.82	14.88	14.82

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

FCC §2.1051, §22.917(a), §90.543: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), §90.543:Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §90.213: Frequency Stability					
Test Modulation:	15 MHz QPSK		Test Channel:	821.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	-3.91	-0.005	2.5
	-20	3.85	1.54	0.002	2.5
	-10	3.85	3.9	0.005	2.5
	0	3.85	5.32	0.006	2.5
	10	3.85	-7.61	-0.009	2.5
	20	3.85	-6.32	-0.008	2.5
	30	3.85	9.12	0.011	2.5
	40	3.85	4.66	0.006	2.5
Frequency Stability vs. Voltage	50	3.85	6.55	0.008	2.5
	20	3.6	8.05	0.010	2.5
	20	4.4	8.24	0.010	2.5
				Result:	Pass

FCC §2.1055, §90.213: Frequency Stability					
Test Modulation:	15 MHz 16QAM		Test Channel:	821.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	7.95	0.010	2.5
	-20	3.85	-9.01	-0.011	2.5
	-10	3.85	4.47	0.005	2.5
	0	3.85	4.39	0.005	2.5
	10	3.85	9.44	0.011	2.5
	20	3.85	-3.42	-0.004	2.5
	30	3.85	2.93	0.004	2.5
	40	3.85	6.87	0.008	2.5
Frequency Stability vs. Voltage	50	3.85	-2.41	-0.003	2.5
	20	3.6	-1.34	-0.002	2.5
	20	4.4	-8.11	-0.010	2.5
				Result:	Pass

FCC §2.1055, §22.355: Frequency Stability					
Test Modulation:	15 MHz QPSK		Test Channel:	831.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	-4.21	-0.005	2.5
	-20	3.85	-3.91	-0.005	2.5
	-10	3.85	3.33	0.004	2.5
	0	3.85	-8.14	-0.010	2.5
	10	3.85	-1.24	-0.001	2.5
	20	3.85	-4.01	-0.005	2.5
	30	3.85	-3.05	-0.004	2.5
	40	3.85	-6.51	-0.008	2.5
	50	3.85	6.8	0.008	2.5
Frequency Stability vs. Voltage	20	3.6	8.59	0.010	2.5
	20	4.4	-7.62	-0.009	2.5
				Result:	Pass

FCC §2.1055, §22.355: Frequency Stability					
Test Modulation:	15 MHz 16QAM		Test Channel:	831.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	3.83	0.005	2.5
	-20	3.85	3.84	0.005	2.5
	-10	3.85	-9.1	-0.011	2.5
	0	3.85	9.76	0.012	2.5
	10	3.85	-3.64	-0.004	2.5
	20	3.85	-5.08	-0.006	2.5
	30	3.85	-5.3	-0.006	2.5
	40	3.85	5.99	0.007	2.5
	50	3.85	-4.95	-0.006	2.5
Frequency Stability vs. Voltage	20	3.6	-5.91	-0.007	2.5
	20	4.4	4.73	0.006	2.5
				Result:	Pass

Occupied Bandwidth

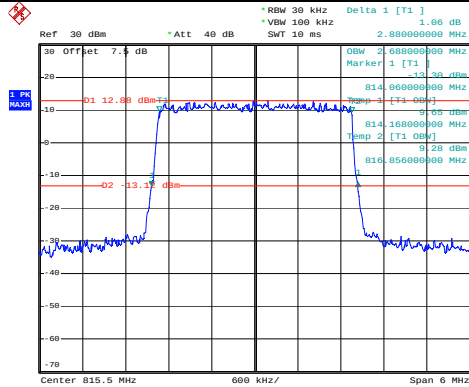
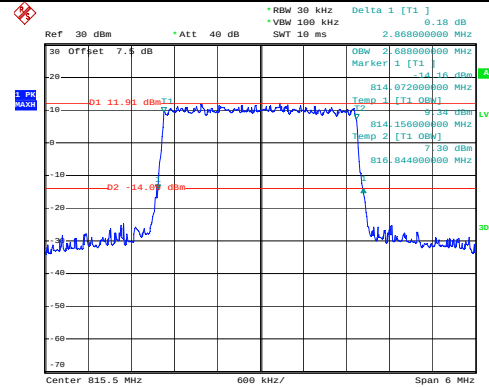
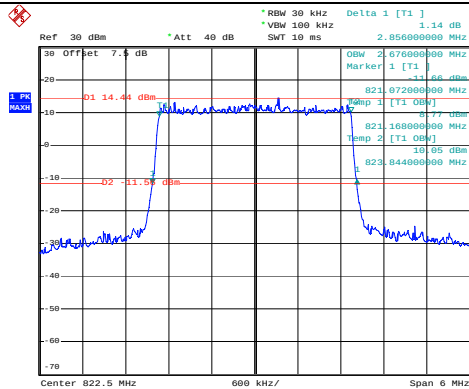
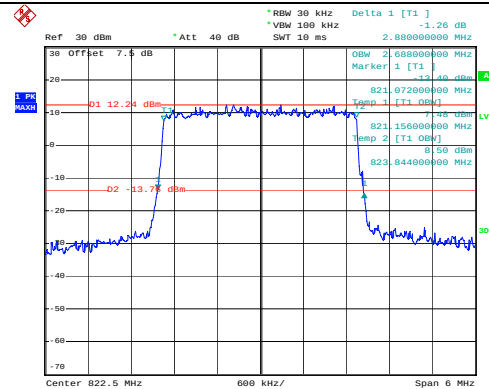
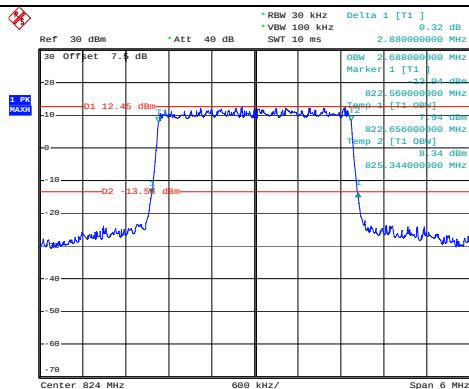
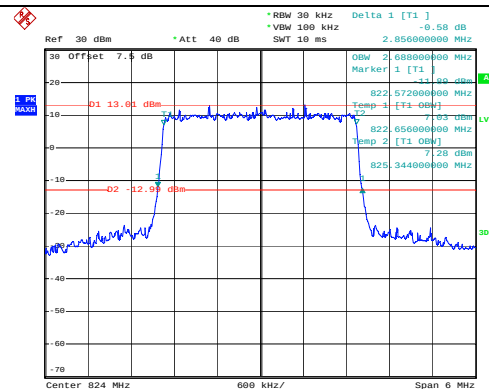
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Occupied Bandwidth

Channel

3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

Lowest
For 90SProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:27:02ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:27:21Highest
For 90SProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:28:18ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:28:3690S&22H
CrossProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:14:34ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:14:52

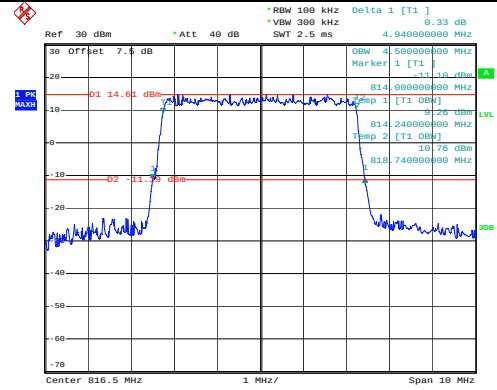
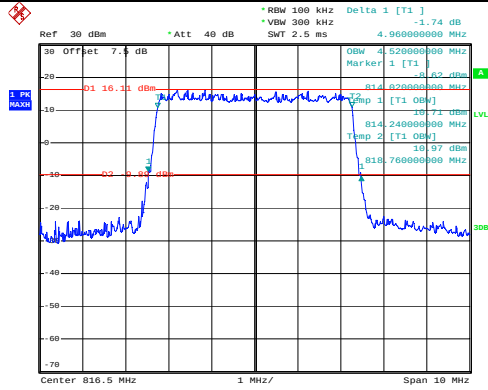
Occupied Bandwidth

Channel

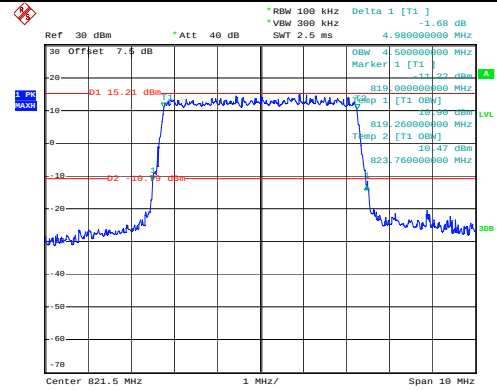
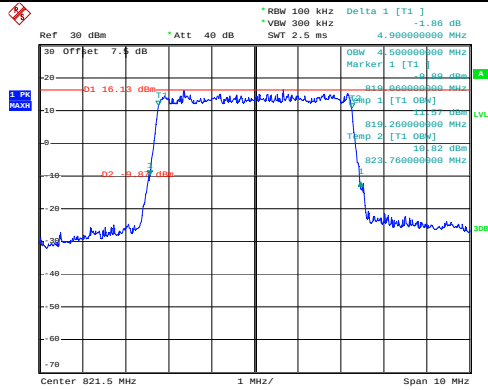
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

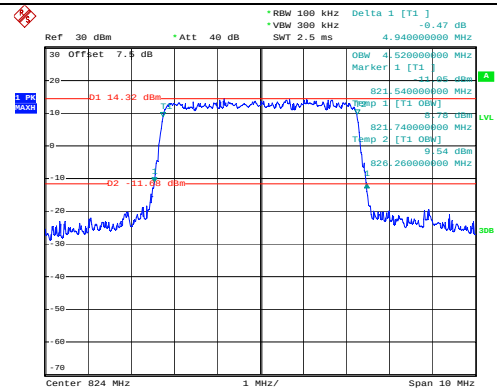
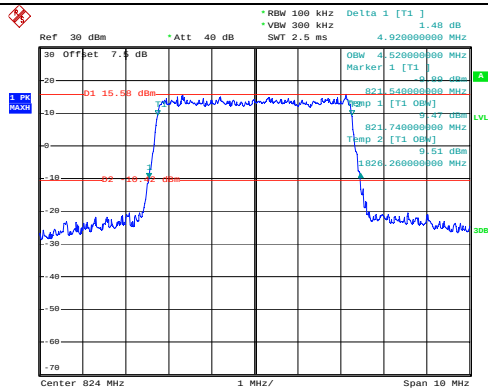
Lowest
For 90S



Highest
For 90S



90S&22H
Cross



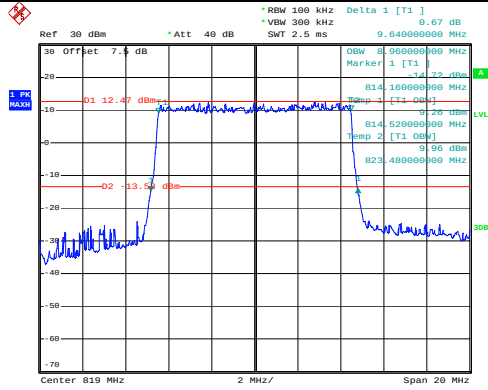
Occupied Bandwidth

Channel

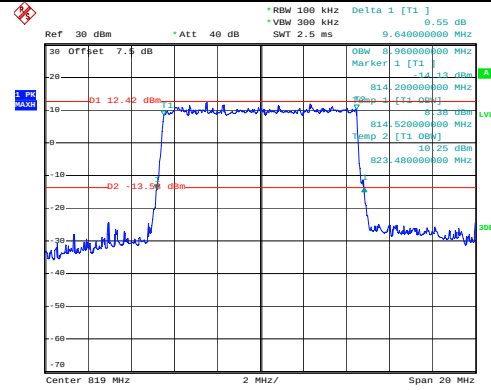
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Lowest
For 90S

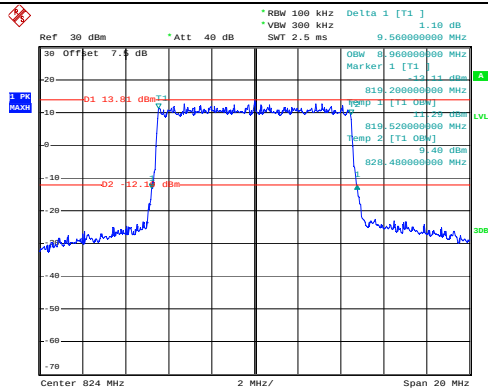


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:31:10

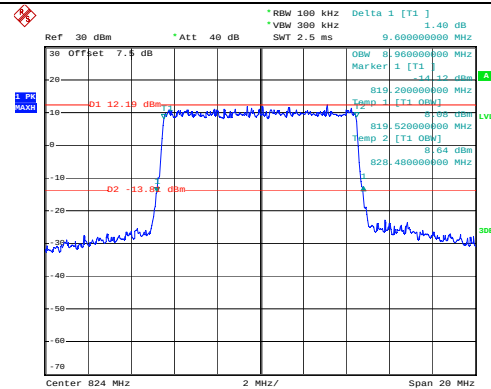


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:31:33

90S&22H
Cross



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:18:41



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:19:01

Occupied Bandwidth

Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM																																																																																
Lowest For 90S	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 1 ms VBW 1 MHz Mode Sweep IPK Max 20 dBm D1 18.820 dBm M1 M1[1] -5.73 dBm 814.1200 MHz 13.473053892 MHz D1[1] -1.67 dB 14.8200 MHz D2 -7.180 dBm M2 M2 D1 CF 821.5 MHz 501 pts Span 30.0 MHz <table><tr><th>Marker</th><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></td><td>814.12 MHz</td><td>-5.73 dBm</td><td></td><td></td></tr><tr><td>T1</td><td></td><td>1</td><td></td><td>814.7934 MHz</td><td>14.57 dBm</td><td>Occ Bw</td><td>13.473053892 MHz</td></tr><tr><td>T2</td><td></td><td>1</td><td></td><td>828.2665 MHz</td><td>14.02 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td></td><td>14.82 MHz</td><td>-1.67 dB</td><td></td><td></td></tr></table> ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 27.MAR.2024 23:10:16	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1		1		814.12 MHz	-5.73 dBm			T1		1		814.7934 MHz	14.57 dBm	Occ Bw	13.473053892 MHz	T2		1		828.2665 MHz	14.02 dBm			D1	M1	1		14.82 MHz	-1.67 dB			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 1 ms VBW 1 MHz Mode Sweep IPK Max 20 dBm D1 17.700 dBm M1 M1[1] -8.22 dBm 814.0600 MHz 13.532934132 MHz D1[1] 0.22 dB 14.8200 MHz D2 -8.300 dBm M2 M2 D1 CF 821.5 MHz 501 pts Span 30.0 MHz <table><tr><th>Marker</th><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></td><td>814.06 MHz</td><td>-8.22 dBm</td><td></td><td></td></tr><tr><td>T1</td><td></td><td>1</td><td></td><td>814.7934 MHz</td><td>14.06 dBm</td><td>Occ Bw</td><td>13.532934132 MHz</td></tr><tr><td>T2</td><td></td><td>1</td><td></td><td>828.3263 MHz</td><td>13.18 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td></td><td>14.82 MHz</td><td>0.22 dB</td><td></td><td></td></tr></table> ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 27.MAR.2024 23:10:40	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1		1		814.06 MHz	-8.22 dBm			T1		1		814.7934 MHz	14.06 dBm	Occ Bw	13.532934132 MHz	T2		1		828.3263 MHz	13.18 dBm			D1	M1	1		14.82 MHz	0.22 dB		
	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																										
M1		1		814.12 MHz	-5.73 dBm																																																																													
T1		1		814.7934 MHz	14.57 dBm	Occ Bw	13.473053892 MHz																																																																											
T2		1		828.2665 MHz	14.02 dBm																																																																													
D1	M1	1		14.82 MHz	-1.67 dB																																																																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																											
M1		1		814.06 MHz	-8.22 dBm																																																																													
T1		1		814.7934 MHz	14.06 dBm	Occ Bw	13.532934132 MHz																																																																											
T2		1		828.3263 MHz	13.18 dBm																																																																													
D1	M1	1		14.82 MHz	0.22 dB																																																																													
90S&22H Cross	Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 1 ms VBW 1 MHz Mode Sweep IPK Max 20 dBm D1 12.830 dBm M1 M1[1] -12.91 dBm 815.7200 MHz 13.592814371 MHz D1[1] -0.43 dB 15.9000 MHz D2 -13.170 dBm M2 M2 D1 CF 824.0 MHz 501 pts Span 30.0 MHz <table><tr><th>Marker</th><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></td><td>815.72 MHz</td><td>-12.91 dBm</td><td></td><td></td></tr><tr><td>T1</td><td></td><td>1</td><td></td><td>817.2335 MHz</td><td>7.24 dBm</td><td>Occ Bw</td><td>13.592814371 MHz</td></tr><tr><td>T2</td><td></td><td>1</td><td></td><td>830.8263 MHz</td><td>7.91 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td></td><td>15.9 MHz</td><td>-0.43 dB</td><td></td><td></td></tr></table> ProjectNo.:SZGMA240304-10520E Tester:Karl Liang Date: 29.APR.2024 17:36:36	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1		1		815.72 MHz	-12.91 dBm			T1		1		817.2335 MHz	7.24 dBm	Occ Bw	13.592814371 MHz	T2		1		830.8263 MHz	7.91 dBm			D1	M1	1		15.9 MHz	-0.43 dB			Spectrum Ref Level 30.00 dBm Offset 7.50 dB RBW 300 kHz Att 35 dB SWT 1 ms VBW 1 MHz Mode Sweep IPK Max 20 dBm D1 12.900 dBm M1 M1[1] -13.10 dBm 815.4200 MHz 13.592814371 MHz D1[1] -0.43 dB 16.6800 MHz D2 -13.200 dBm M2 M2 D1 CF 824.0 MHz 501 pts Span 30.0 MHz <table><tr><th>Marker</th><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></td><td>815.42 MHz</td><td>-13.10 dBm</td><td></td><td></td></tr><tr><td>T1</td><td></td><td>1</td><td></td><td>817.2335 MHz</td><td>6.10 dBm</td><td>Occ Bw</td><td>13.592814371 MHz</td></tr><tr><td>T2</td><td></td><td>1</td><td></td><td>830.8263 MHz</td><td>6.13 dBm</td><td></td><td></td></tr><tr><td>D1</td><td>M1</td><td>1</td><td></td><td>16.68 MHz</td><td>-0.43 dB</td><td></td><td></td></tr></table> ProjectNo.:SZGMA240304-10520E Tester:Karl Liang Date: 29.APR.2024 17:36:59	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1		1		815.42 MHz	-13.10 dBm			T1		1		817.2335 MHz	6.10 dBm	Occ Bw	13.592814371 MHz	T2		1		830.8263 MHz	6.13 dBm			D1	M1	1		16.68 MHz	-0.43 dB		
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																											
M1		1		815.72 MHz	-12.91 dBm																																																																													
T1		1		817.2335 MHz	7.24 dBm	Occ Bw	13.592814371 MHz																																																																											
T2		1		830.8263 MHz	7.91 dBm																																																																													
D1	M1	1		15.9 MHz	-0.43 dB																																																																													
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																																																											
M1		1		815.42 MHz	-13.10 dBm																																																																													
T1		1		817.2335 MHz	6.10 dBm	Occ Bw	13.592814371 MHz																																																																											
T2		1		830.8263 MHz	6.13 dBm																																																																													
D1	M1	1		16.68 MHz	-0.43 dB																																																																													

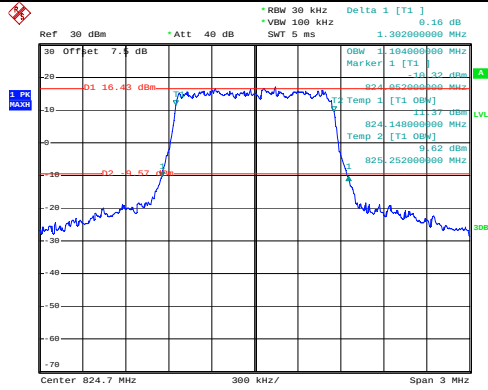
Occupied Bandwidth

Channel

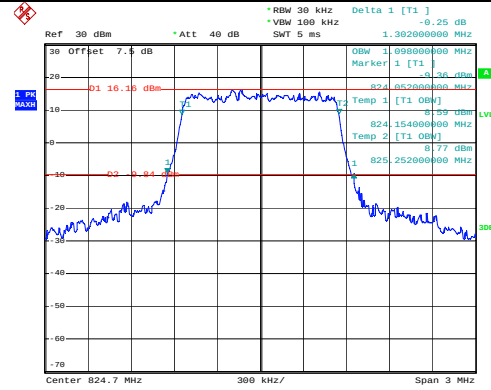
1.4MHz Bandwidth QPSK

1.4MHz Bandwidth 16QAM

Lowest
For
22H

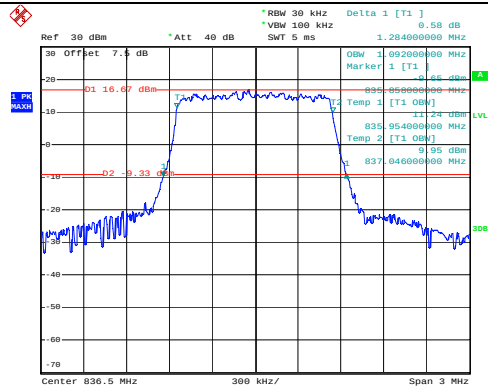


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:31:18

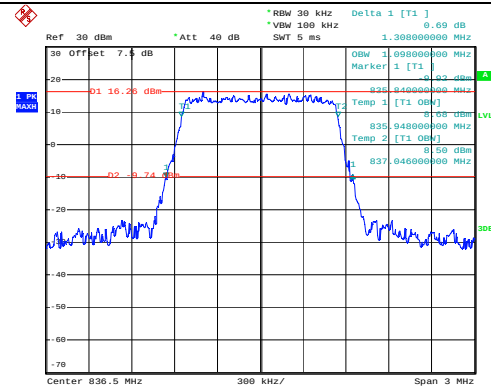


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:31:37

Middle
For
22H

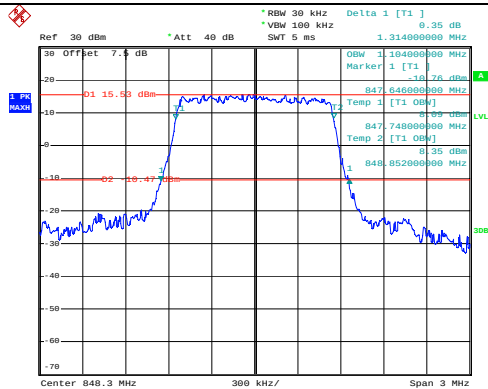


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:31:56

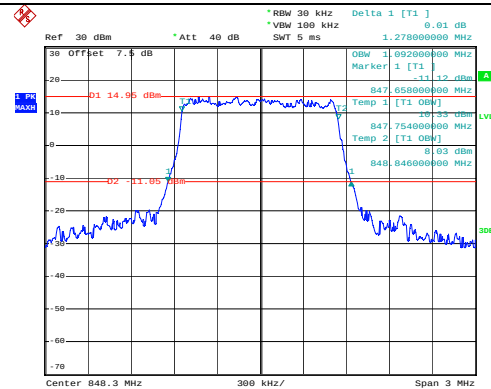


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:32:14

Highest
For
22H



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:32:33



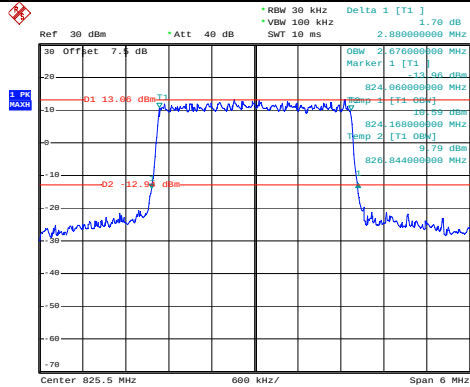
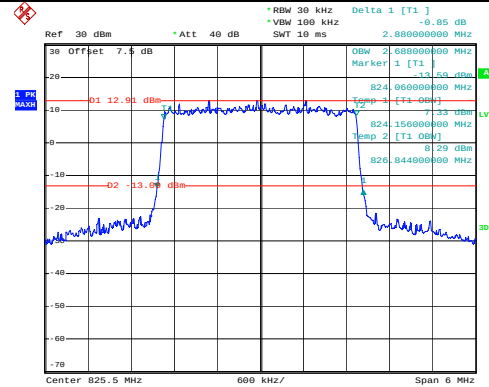
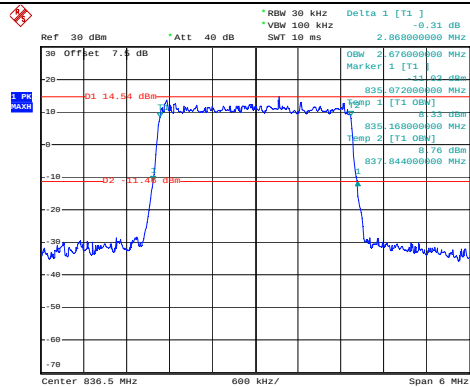
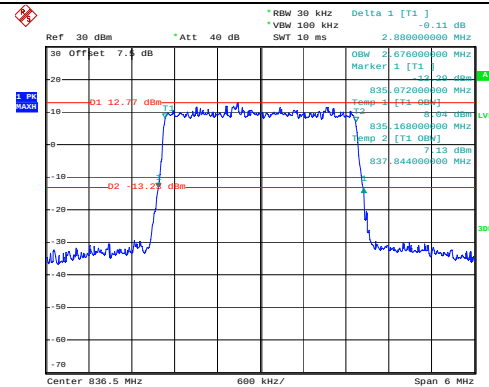
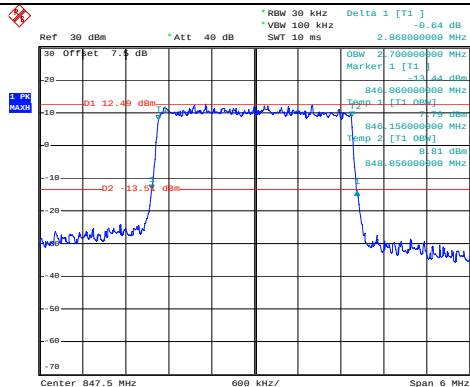
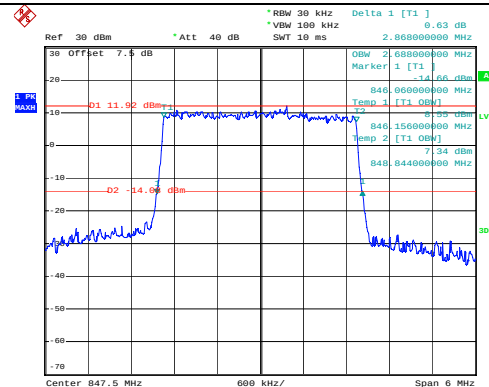
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:32:52

Occupied Bandwidth

Channel

3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

Lowest
For
22HProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:33:46ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:34:04Middle
For
22HProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:34:24ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:34:42Highest
For
22HProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:35:01ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:35:20

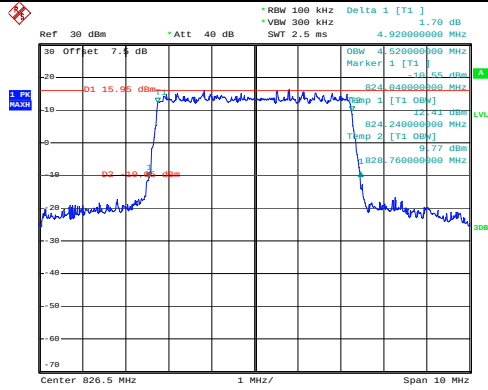
Occupied Bandwidth

Channel

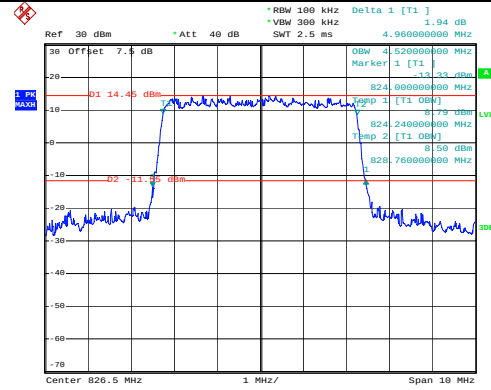
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

Lowest
For
22H

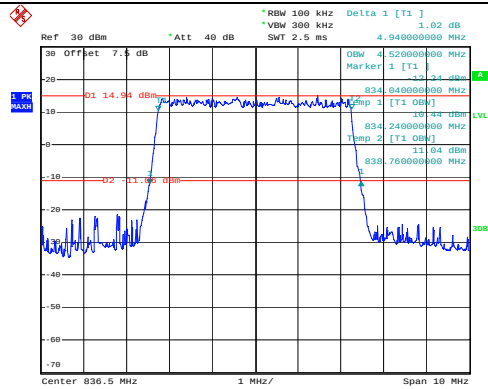


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:36:10

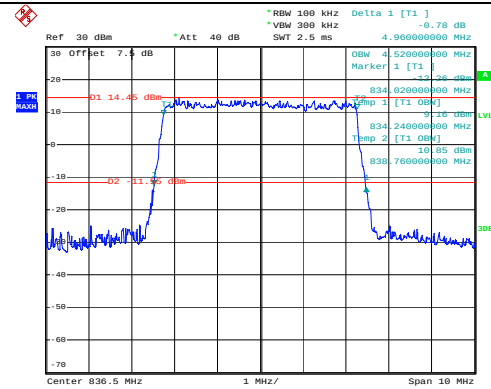


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:36:29

Middle
For
22H

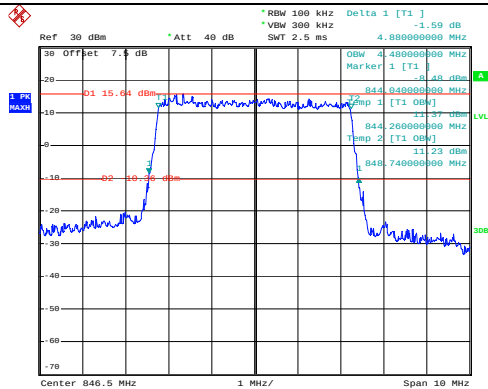


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:36:46

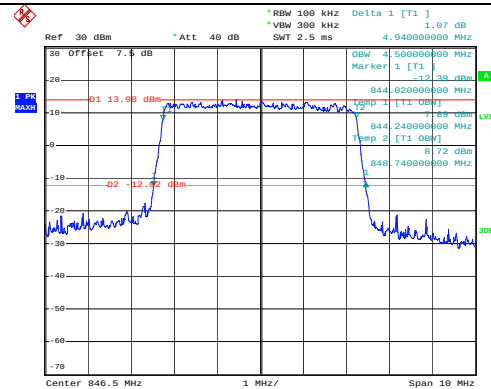


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:37:07

Highest
For
22H

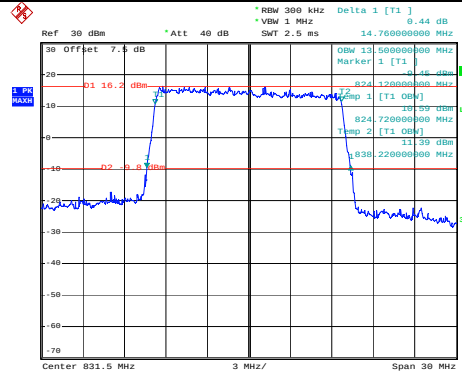
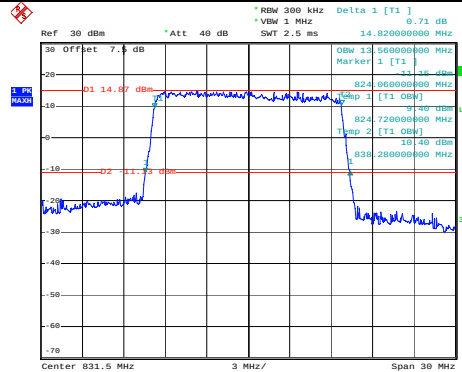
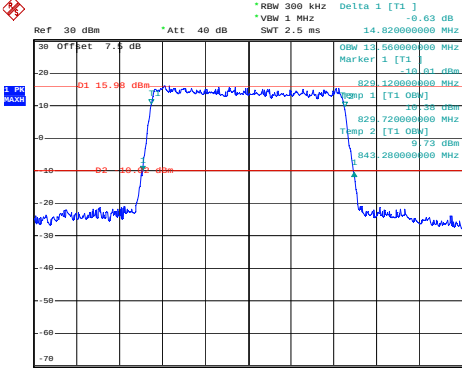
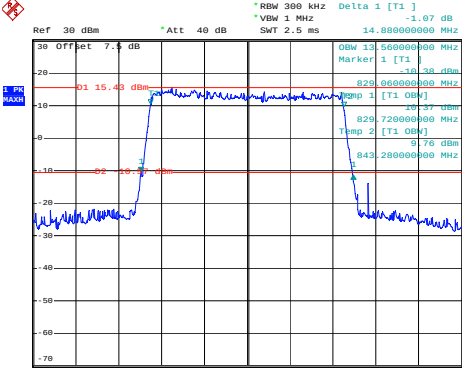
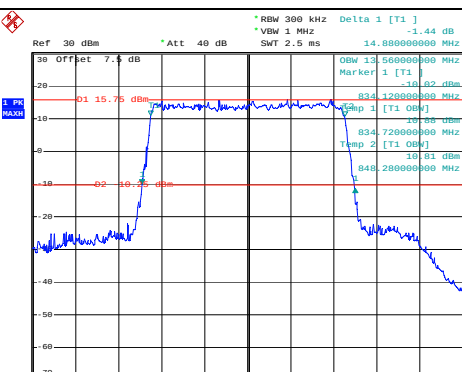
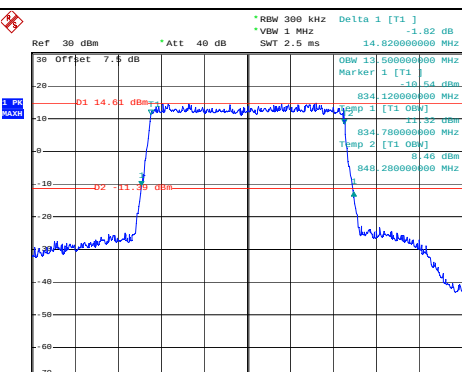


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:37:24



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:37:43

Occupied Bandwidth

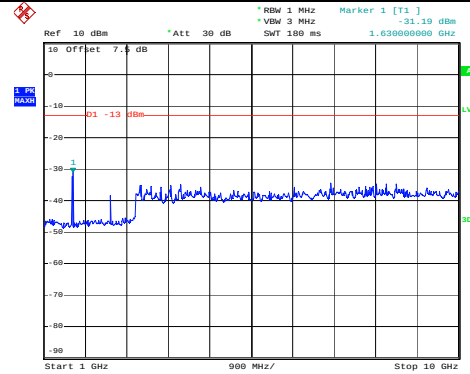
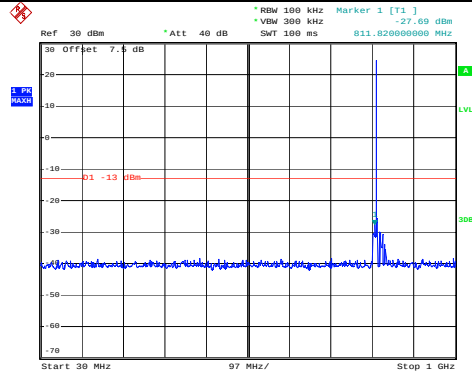
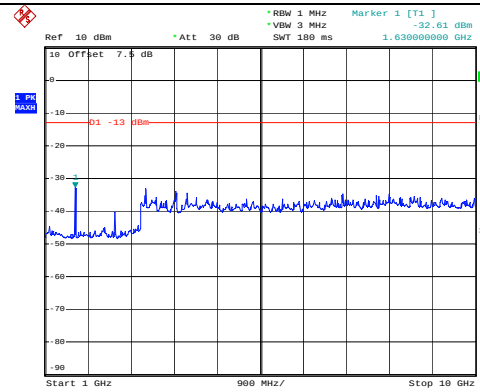
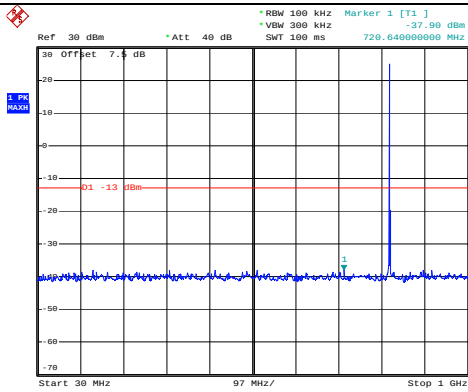
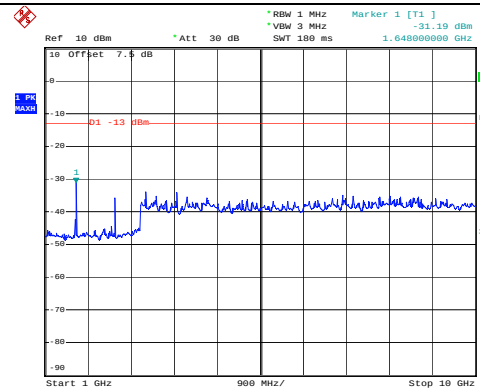
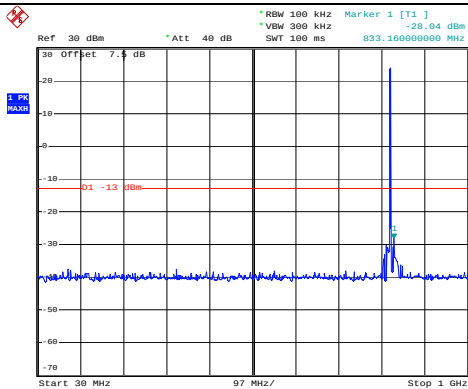
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest For 22H	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:41:41	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:42:03
Middle For 22H	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:42:26	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:42:48
Highest For 22H	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:43:11	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:43:30

814-824MHz

Spurious Emissions at Antenna Terminal

Channel

1.4MHz Bandwidth QPSK

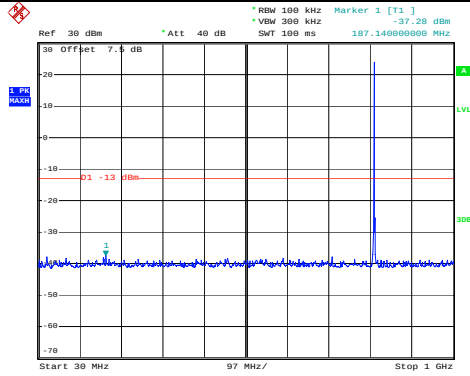
Lowest
For 90SHighest
For 90S90S&22H
Cross

Spurious Emissions at Antenna Terminal

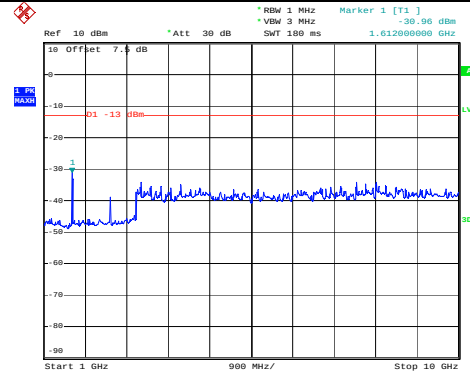
Channel

3MHz Bandwidth QPSK

Lowest
For 90S

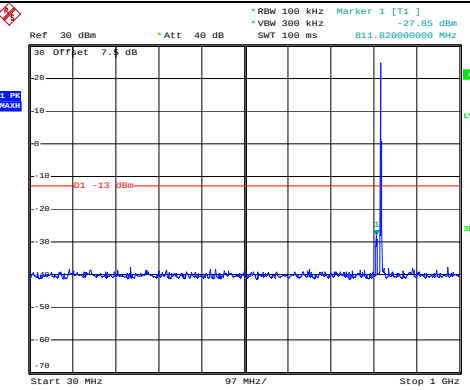


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:50:16

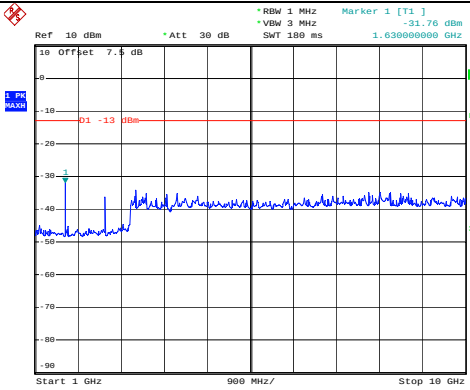


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:50:28

Highest
For 90S

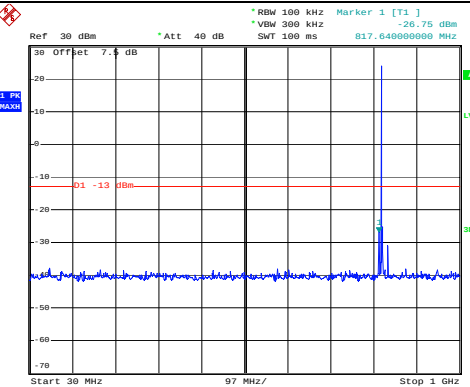


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:51:36

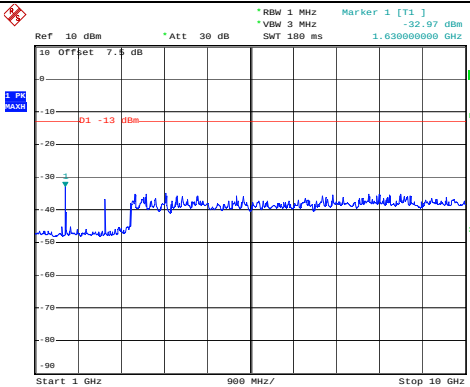


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:51:48

90S&22H
Cross



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:23:56



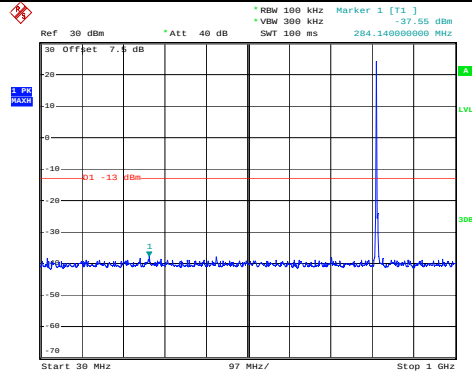
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:24:08

Spurious Emissions at Antenna Terminal

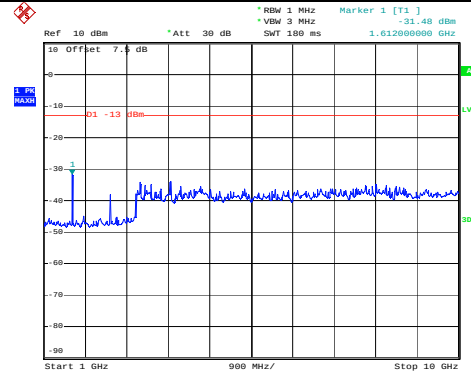
Channel

5MHz Bandwidth QPSK

Lowest

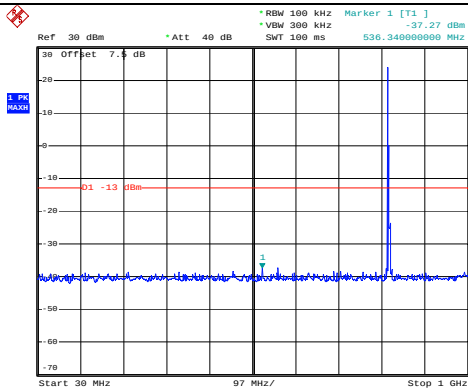


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:52:27

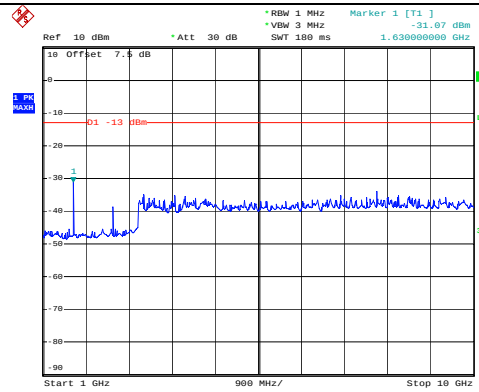


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:52:39

Middle

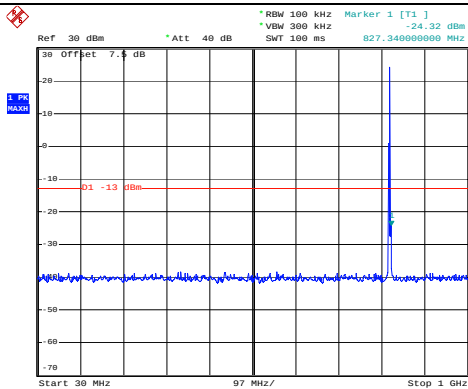


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:53:39

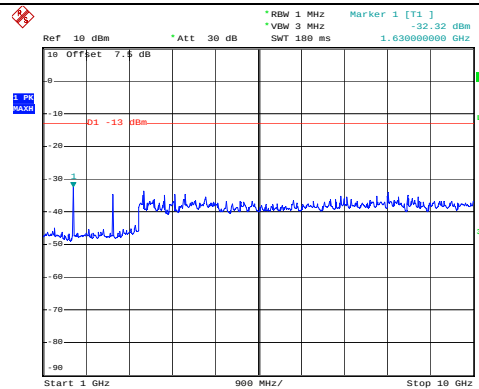


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:53:51

Highest



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:25:51



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:26:04