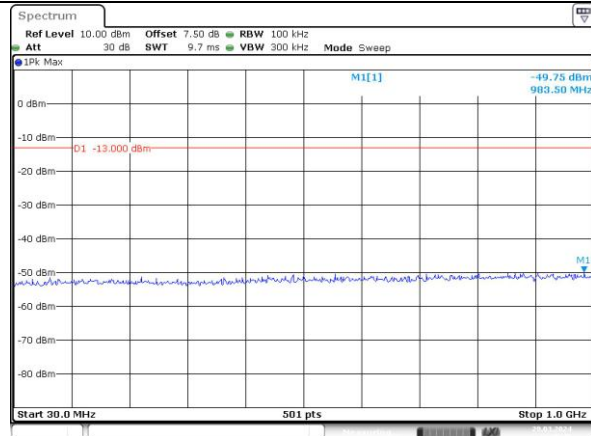


Spurious Emissions at Antenna Terminal

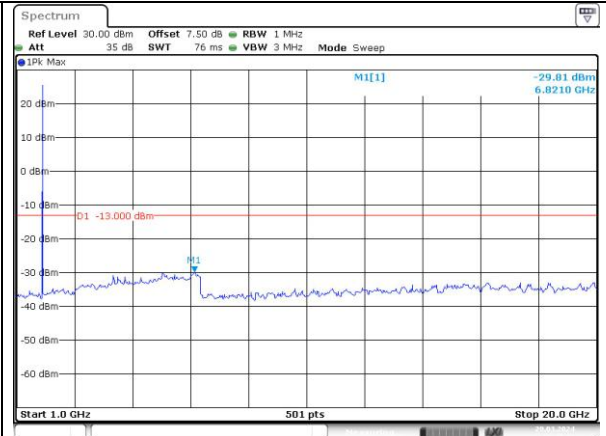
Channel

3MHz Bandwidth QPSK

Lowest

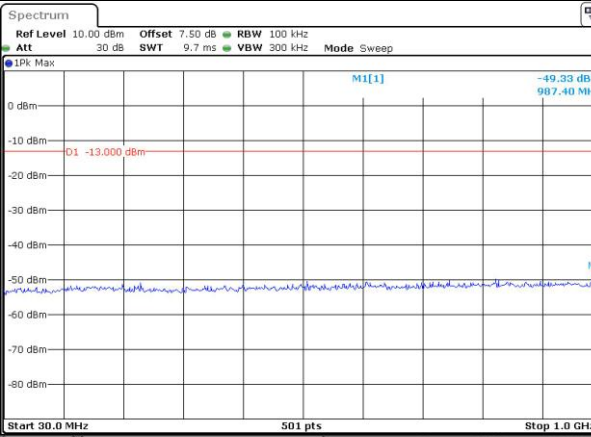


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:46:45

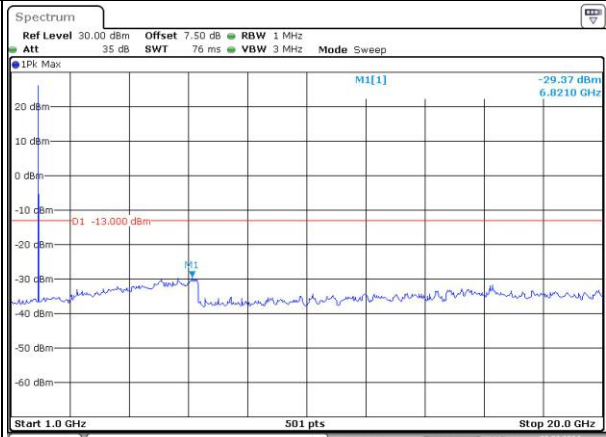


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:47:10

Middle

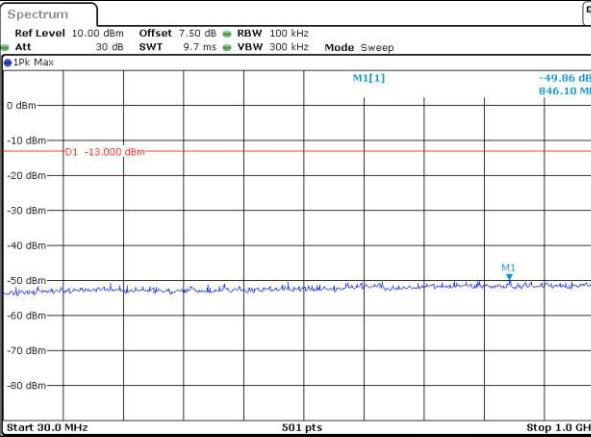


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:47:43

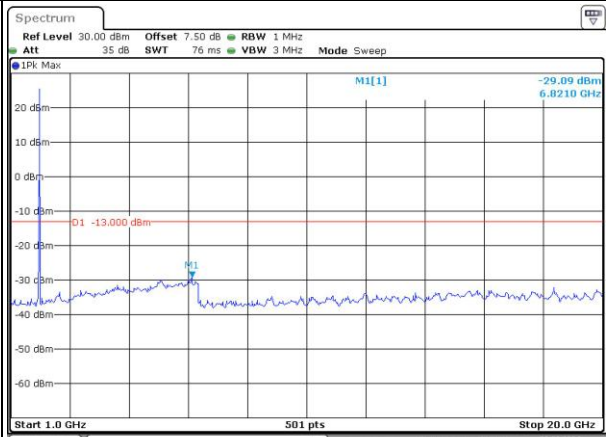


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:48:09

Highest



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



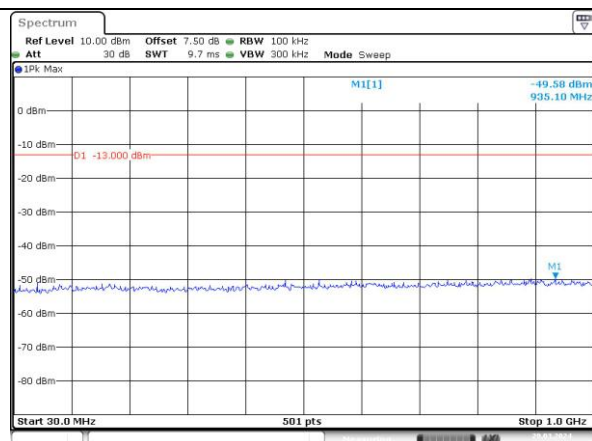
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:49:39

Spurious Emissions at Antenna Terminal

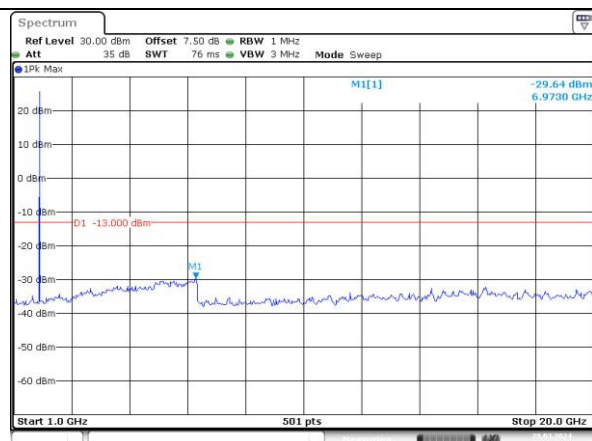
Channel

5MHz Bandwidth QPSK

Lowest

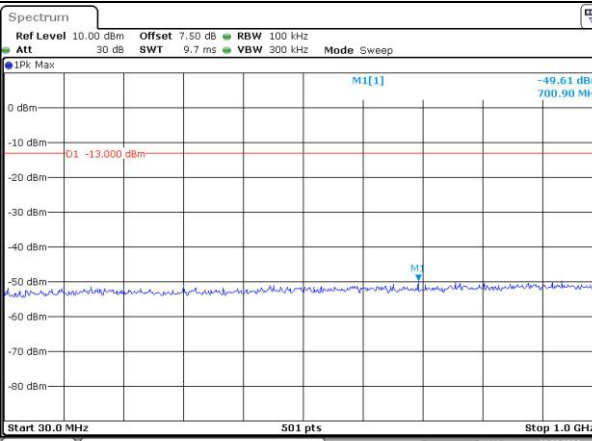


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:51:23

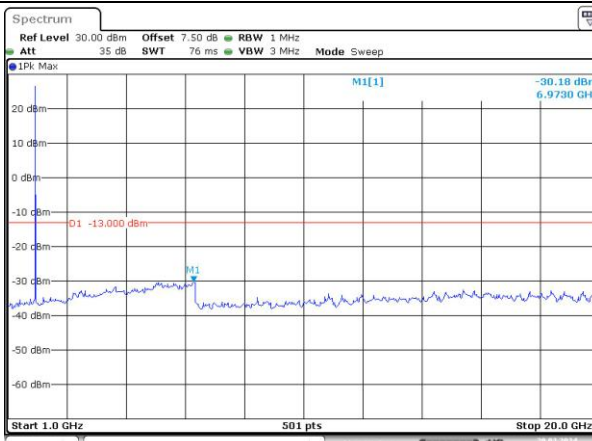


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:51:51

Middle

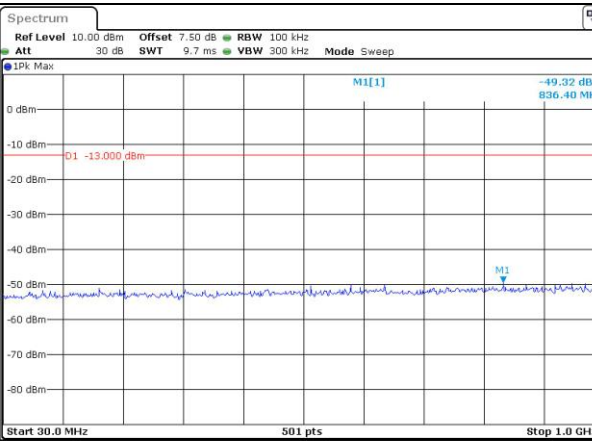


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:52:19

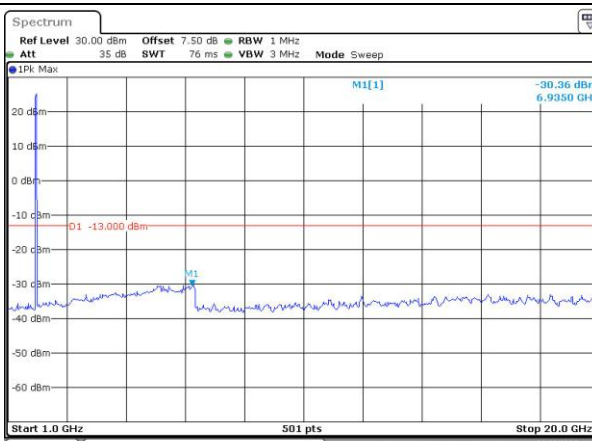


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:52:54

Highest



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



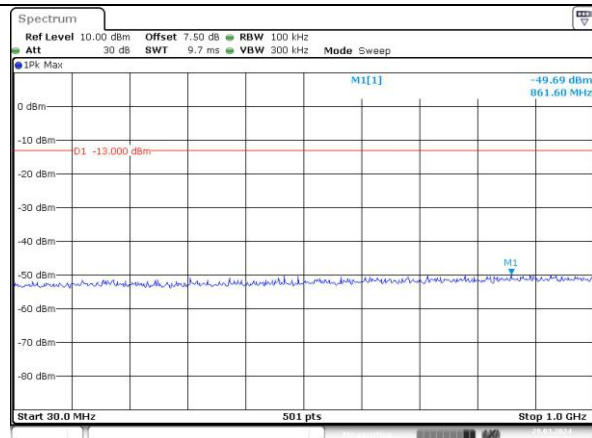
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:53:51

Spurious Emissions at Antenna Terminal

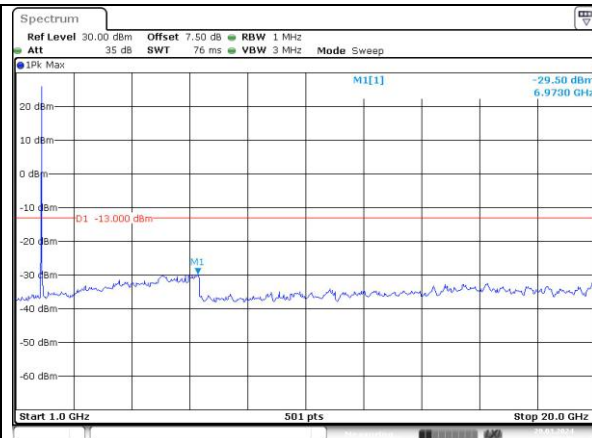
Channel

10MHz Bandwidth QPSK

Lowest

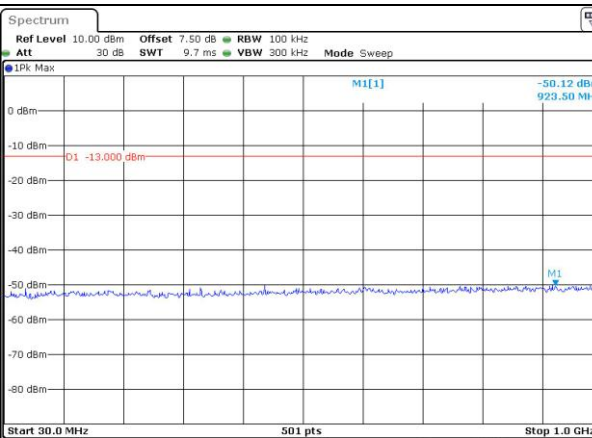


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:56:15

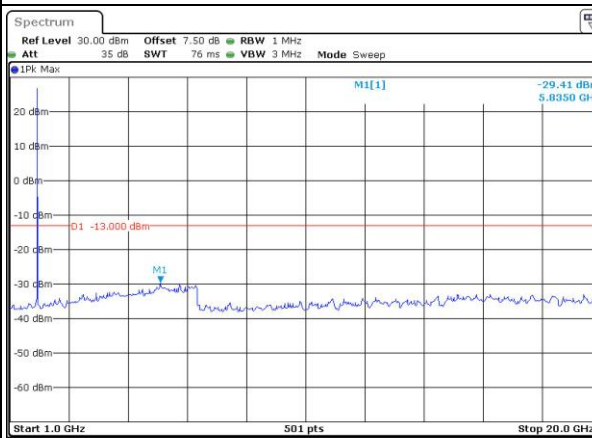


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:56:41

Middle

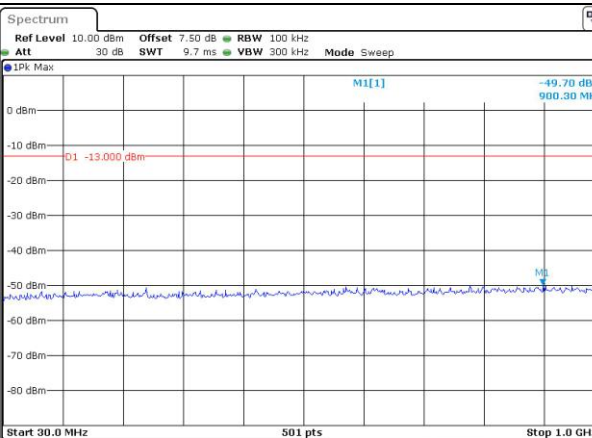


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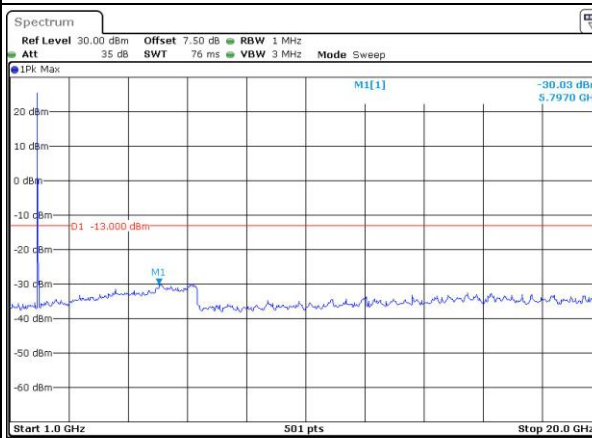


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:57:56

Highest



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



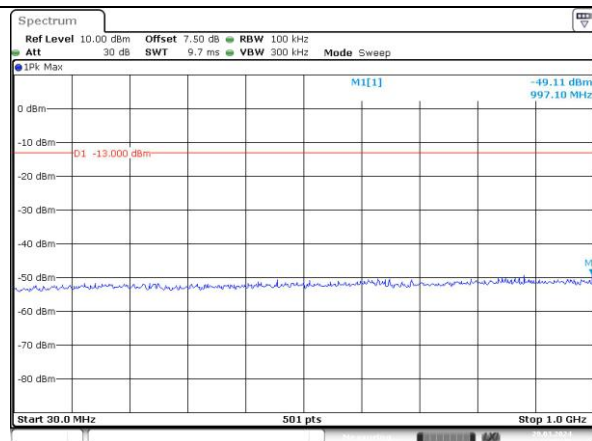
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 10:59:05

Spurious Emissions at Antenna Terminal

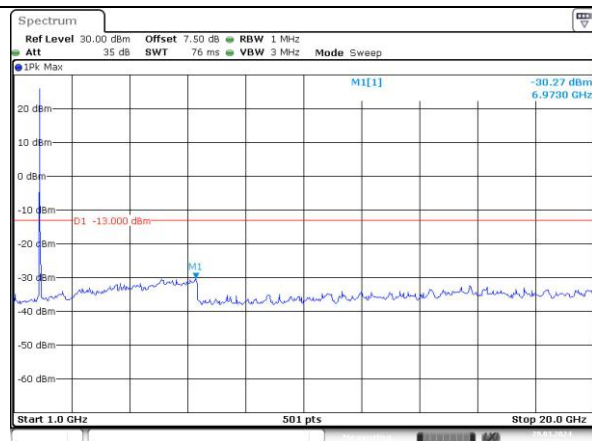
Channel

15MHz Bandwidth QPSK

Lowest

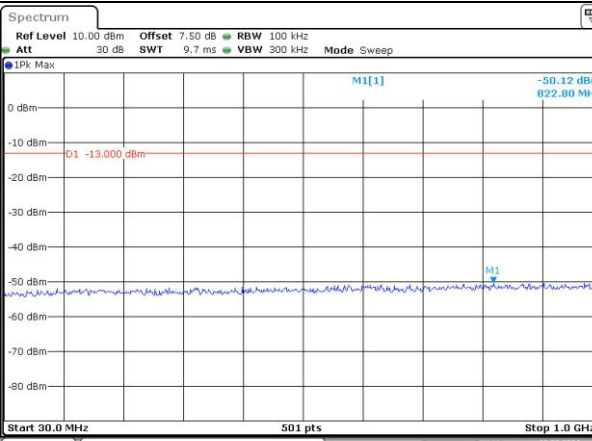


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:00:45

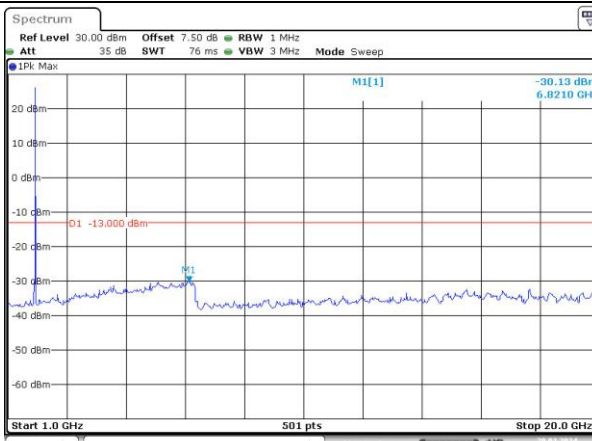


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:01:04

Middle

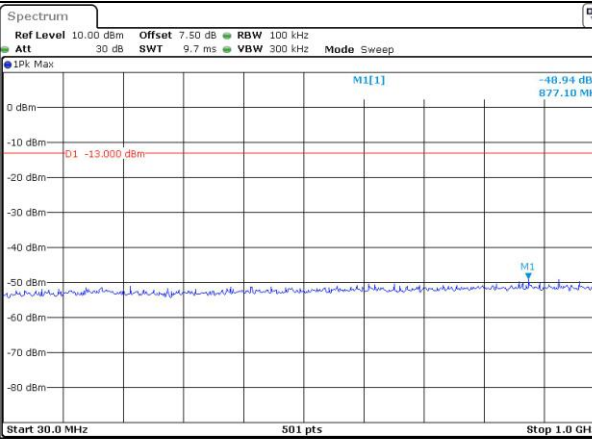


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:01:53

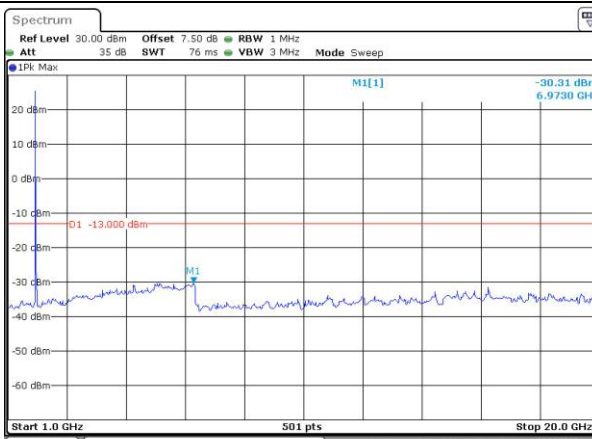


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:02:15

Highest



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



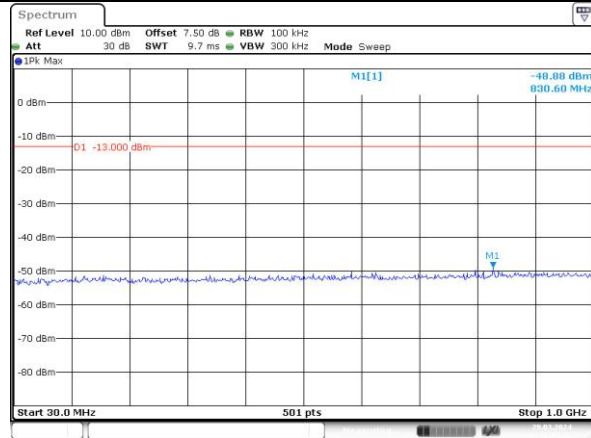
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Date: 29.MAR.2024 11:03:11

Spurious Emissions at Antenna Terminal

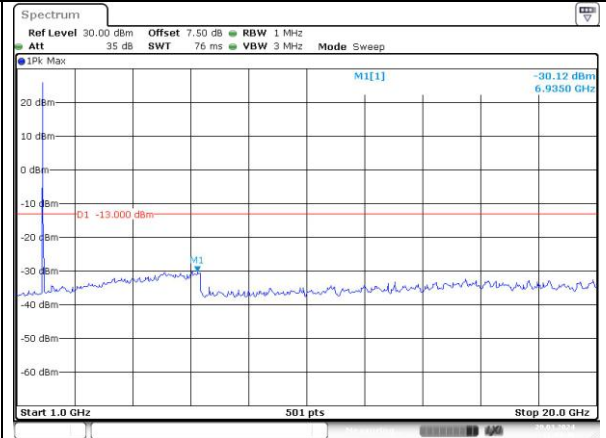
Channel

20MHz Bandwidth QPSK

Lowest

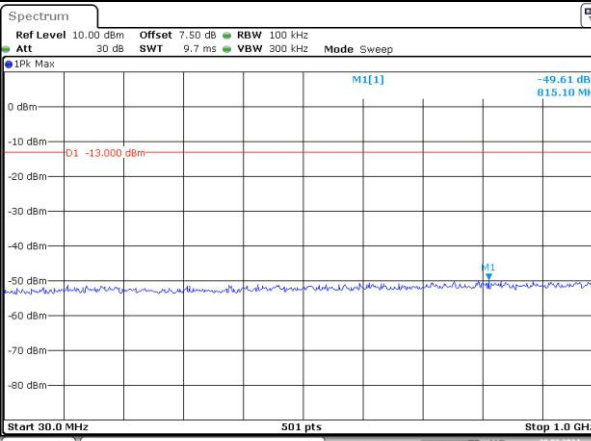


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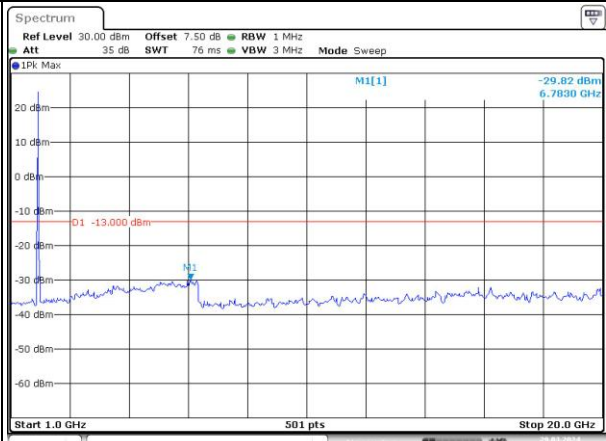


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:04:47

Middle

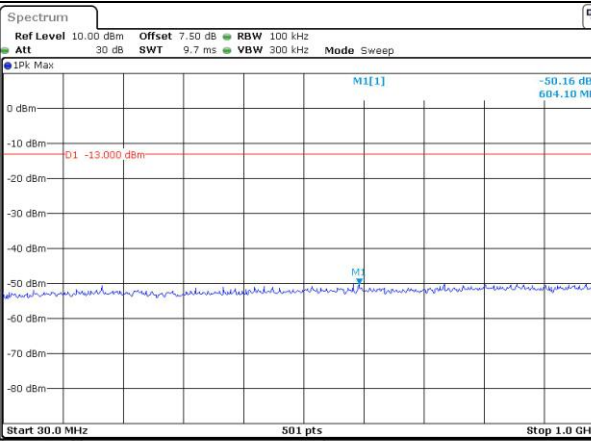


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Date: 29.MAR.2024 11:05:33

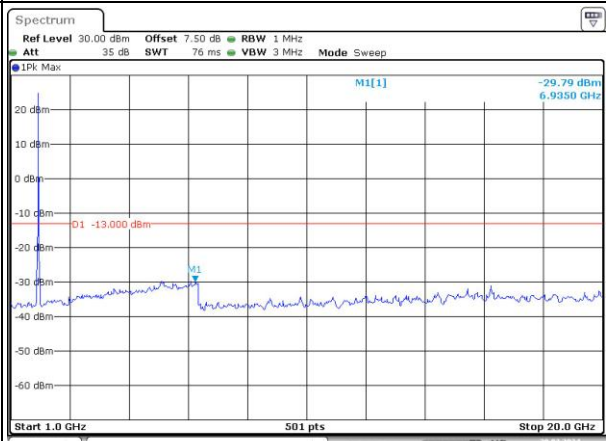


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:05:55

Highest

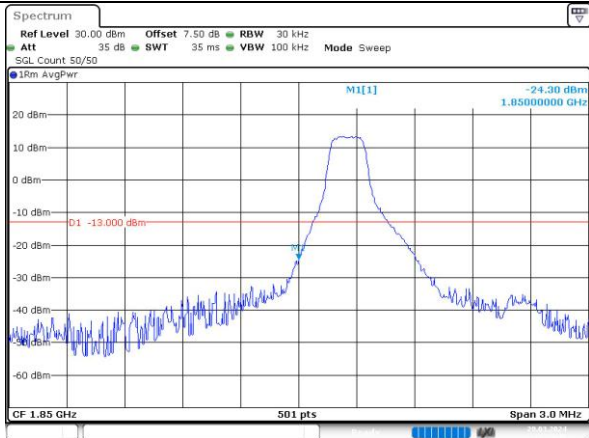
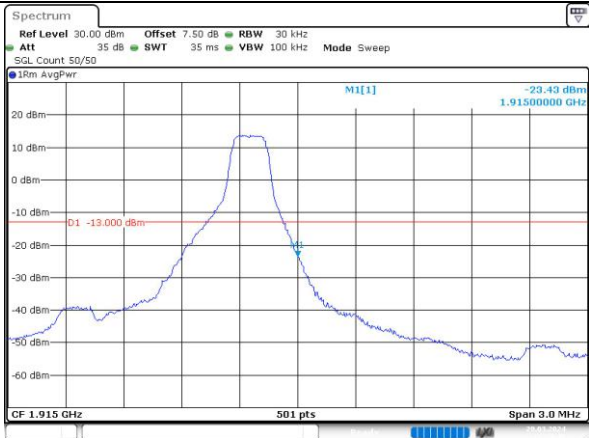
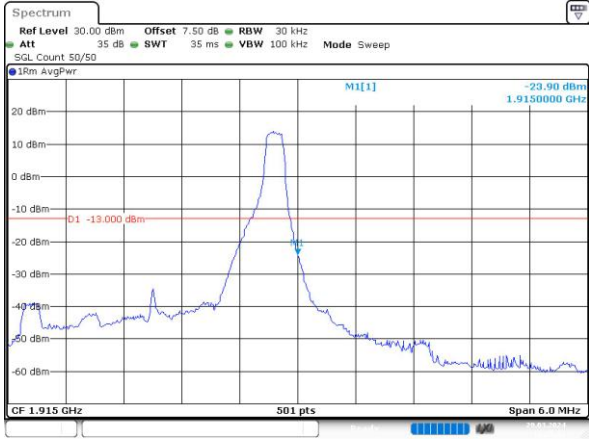
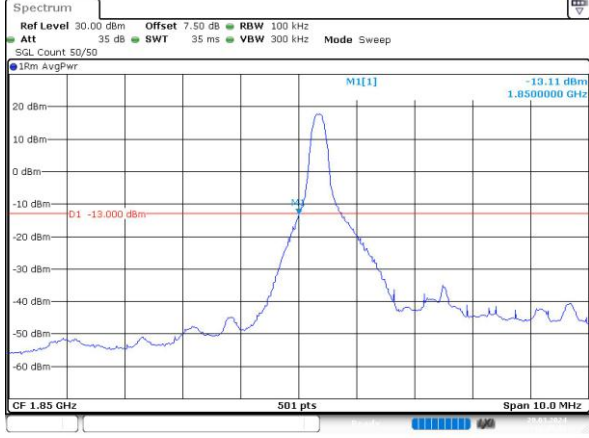
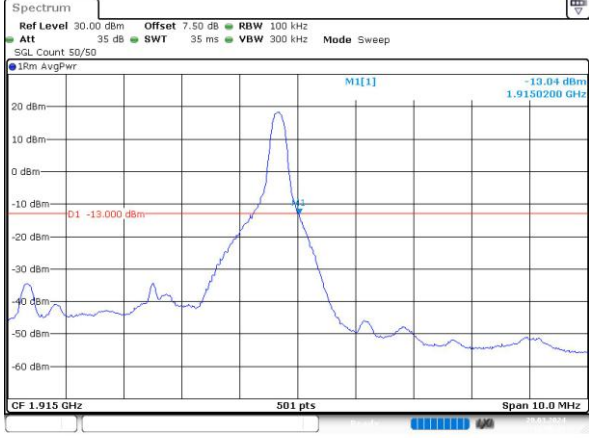


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:06:48

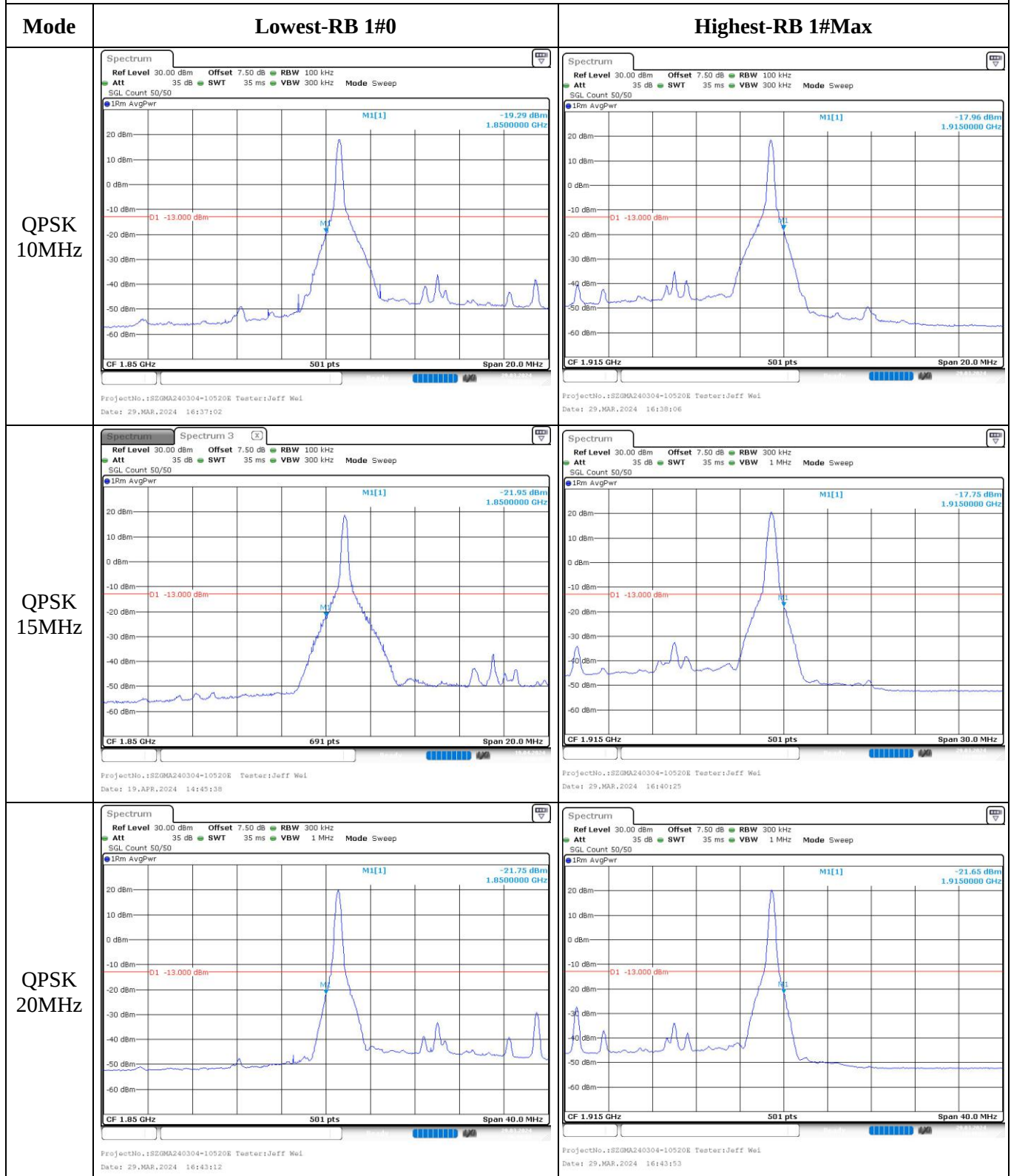


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 29.MAR.2024 11:07:13

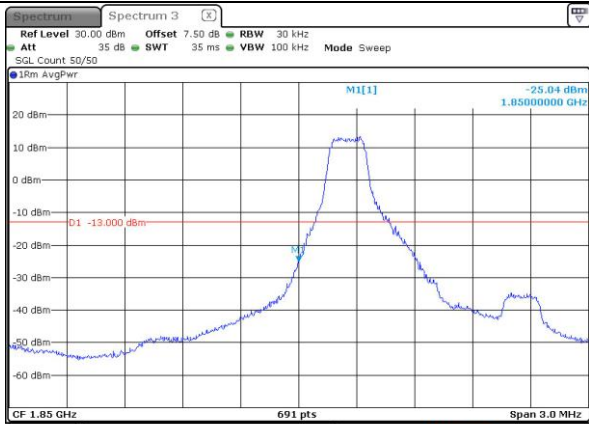
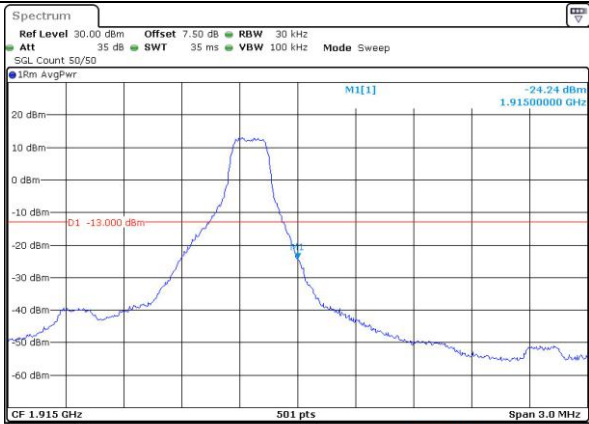
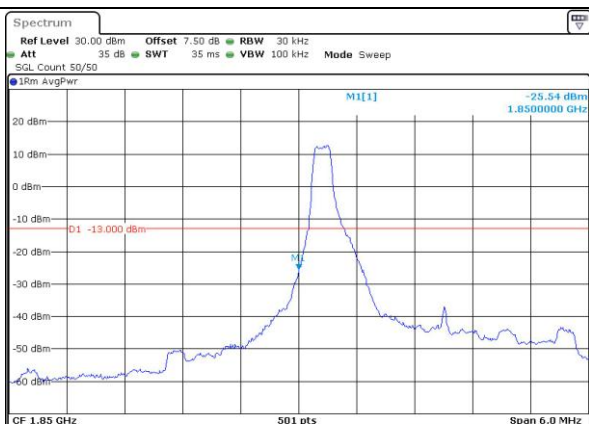
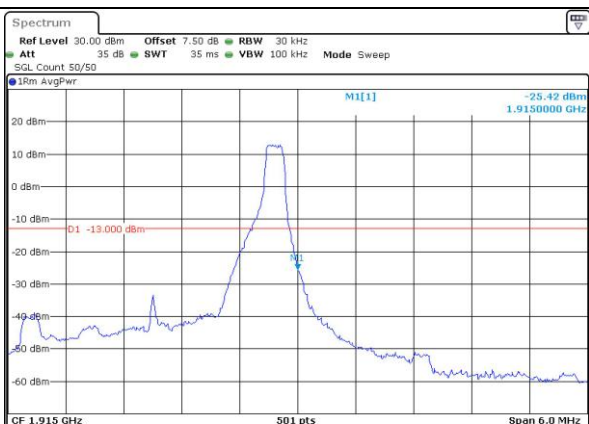
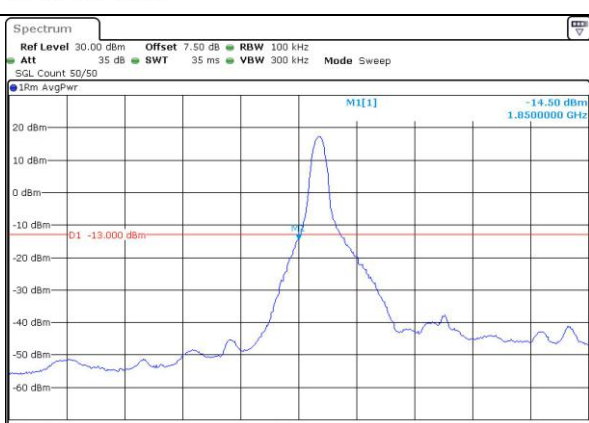
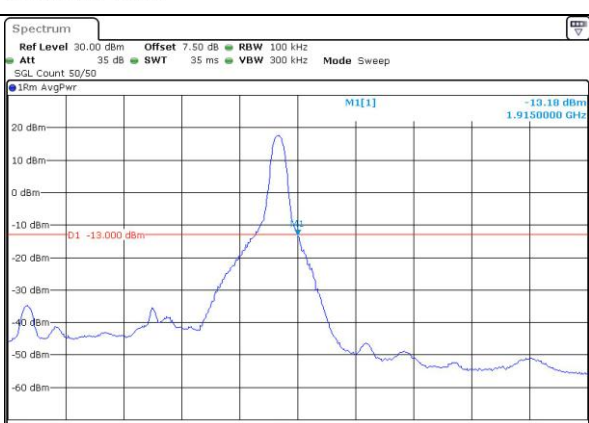
Out of band emission, Band Edge

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

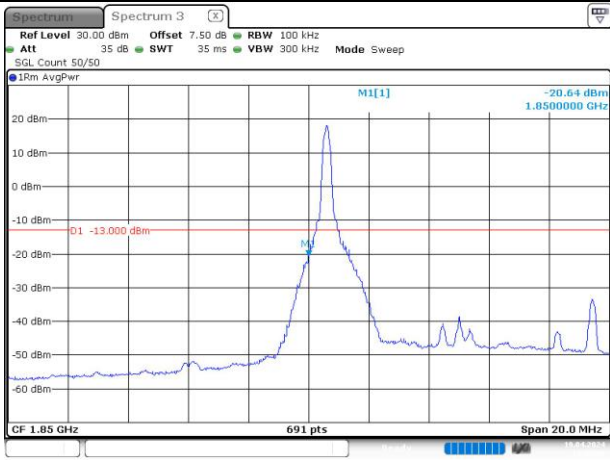
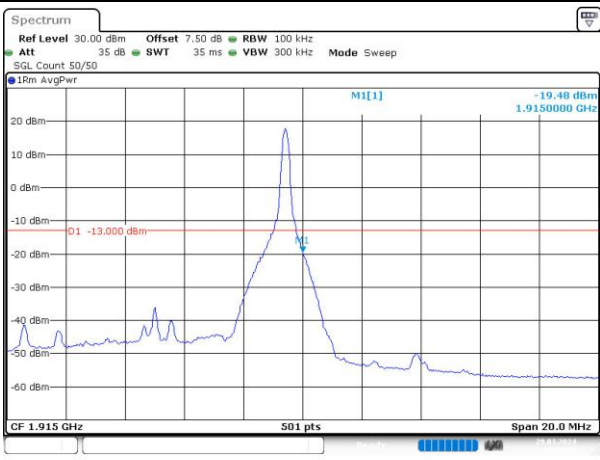
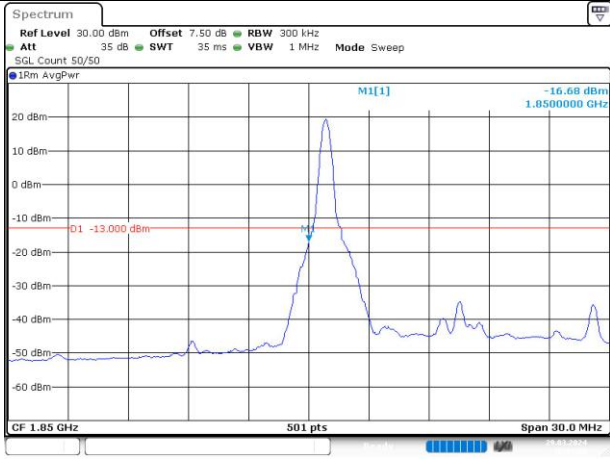
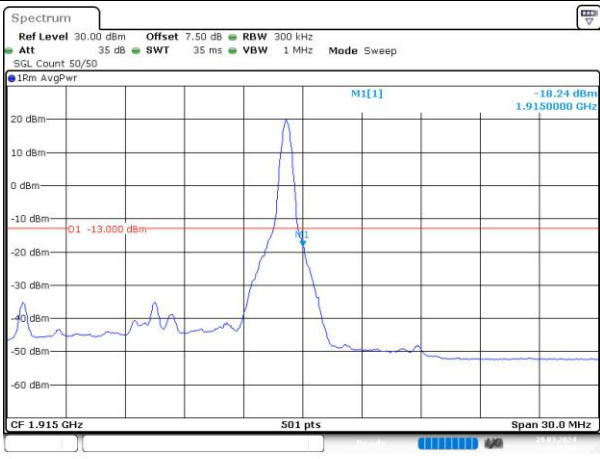
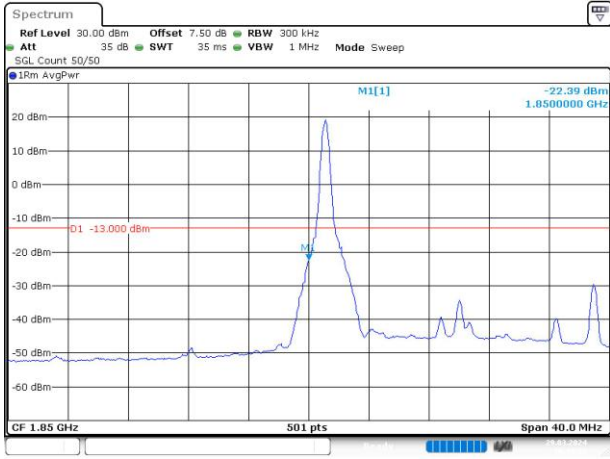
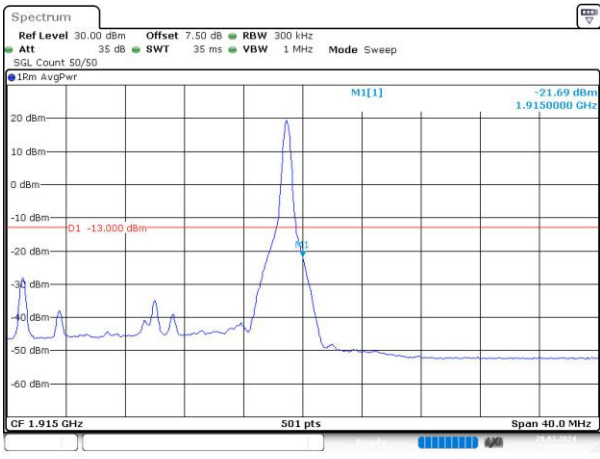
Out of band emission, Band Edge



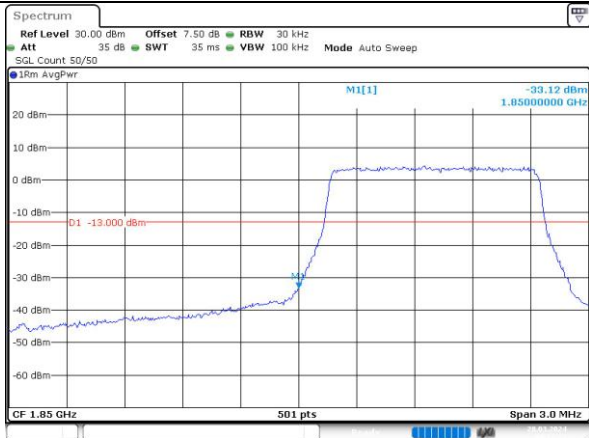
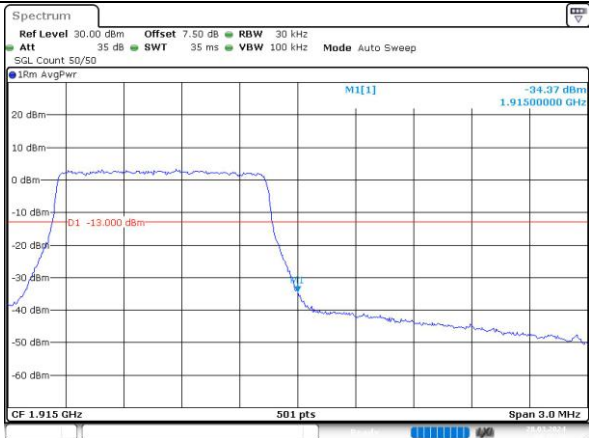
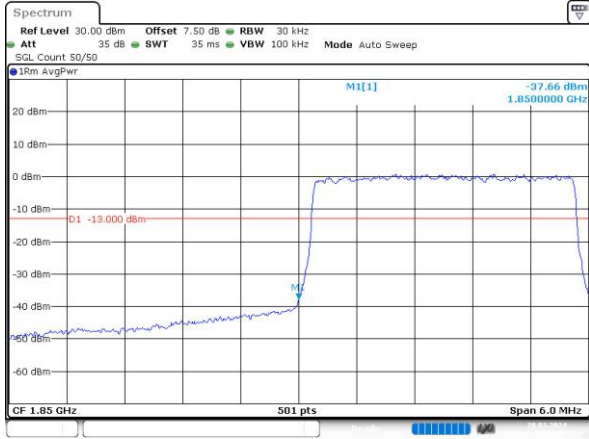
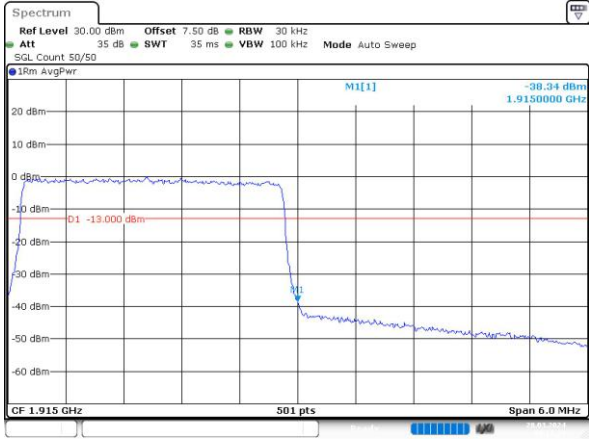
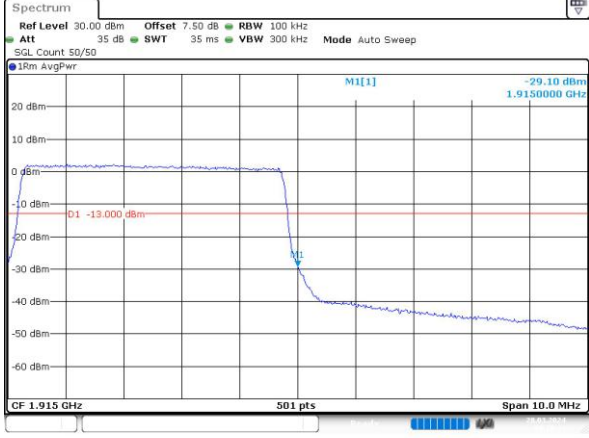
Out of band emission, Band Edge

Mode	Lowest-RB 1#0	Highest-RB 1#Max
16QAM 1.4MHz	 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 1Rm AvgPwr M1[1] -25.04 dBm 1.850000 GHz D1 -13.000 dBm CF 1.85 GHz 691 pts Span 3.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 19.APR.2024 14:42:16	 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 1Rm AvgPwr M1[1] -24.24 dBm 1.915000 GHz D1 -13.000 dBm CF 1.915 GHz 501 pts Span 3.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:20:29
16QAM 3MHz	 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 1Rm AvgPwr M1[1] -25.54 dBm 1.850000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 6.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:29:18	 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 1Rm AvgPwr M1[1] -25.42 dBm 1.915000 GHz D1 -13.000 dBm CF 1.915 GHz 501 pts Span 6.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:34:39
16QAM 5MHz	 Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr M1[1] -14.50 dBm 1.850000 GHz D1 -13.000 dBm CF 1.85 GHz 501 pts Span 10.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:35:34	 Ref Level 30.00 dBm Offset 7.50 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SQL Count 50/50 1Rm AvgPwr M1[1] -13.10 dBm 1.915000 GHz D1 -13.000 dBm CF 1.915 GHz 501 pts Span 10.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:36:40

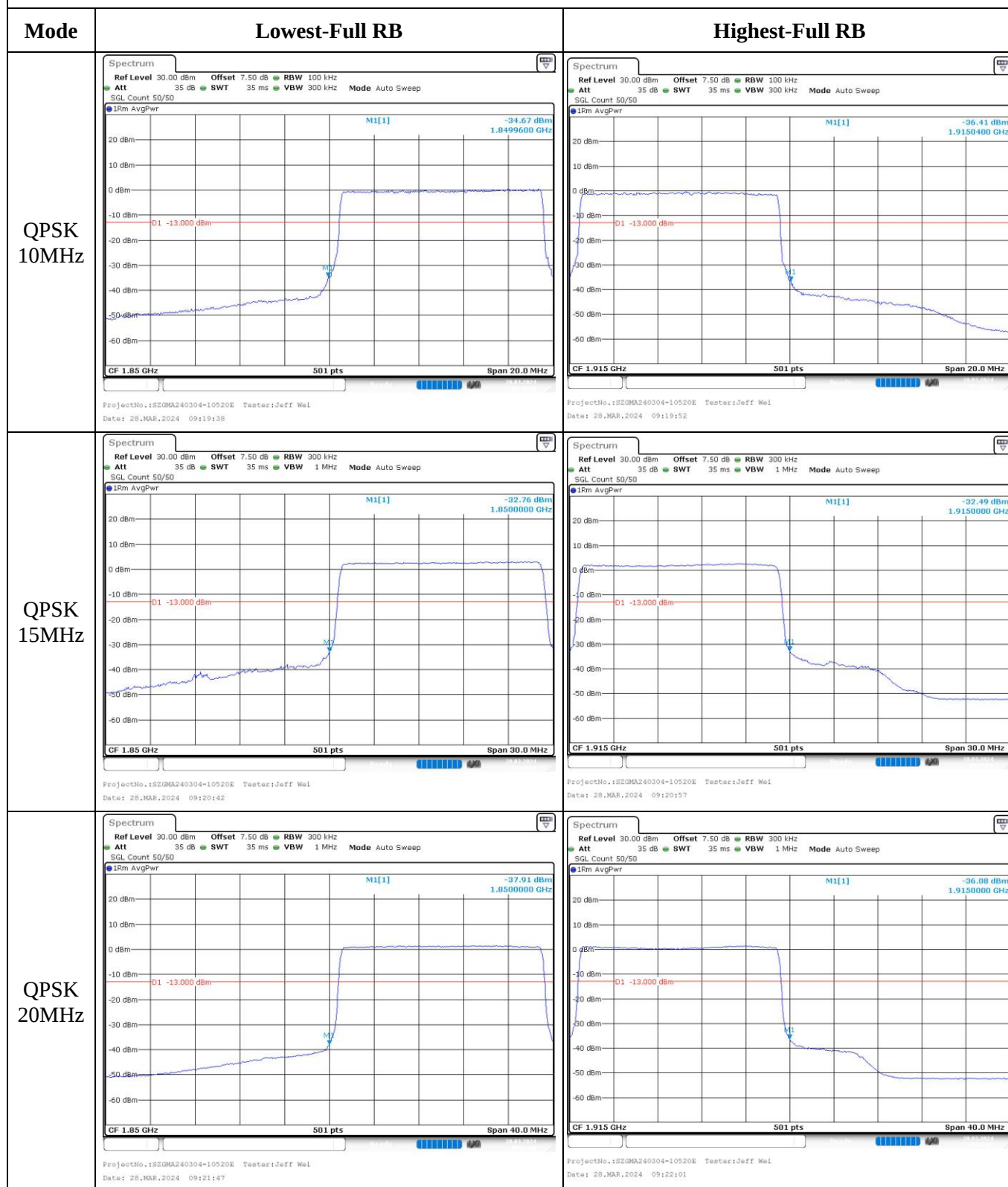
Out of band emission, Band Edge

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 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 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 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 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 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 CF 1.915 GHz 501 pts Span 40.0 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 29.MAR.2024 16:47:21

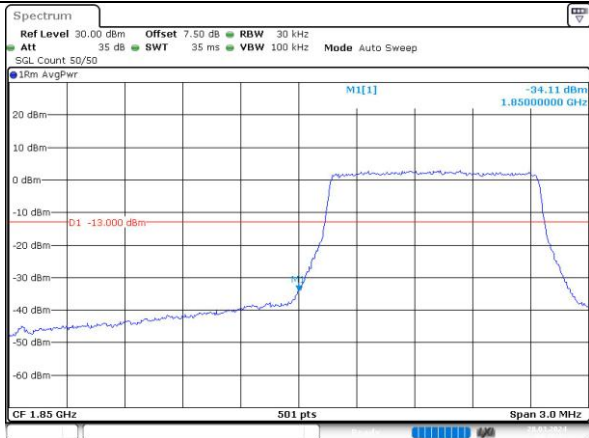
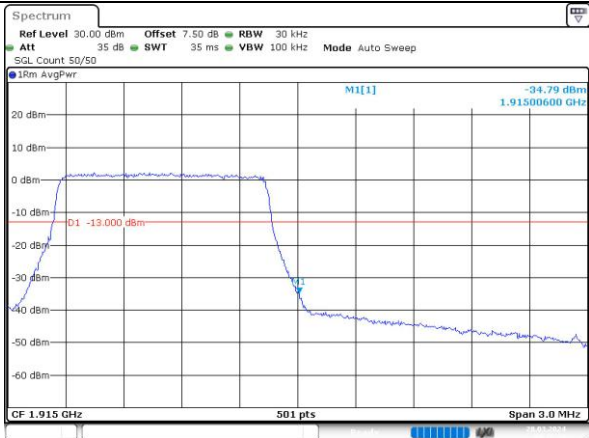
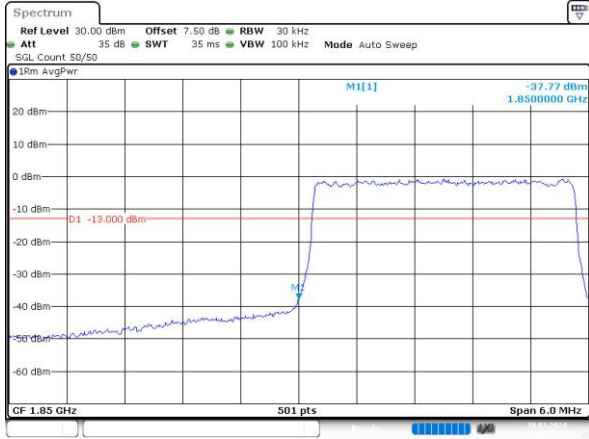
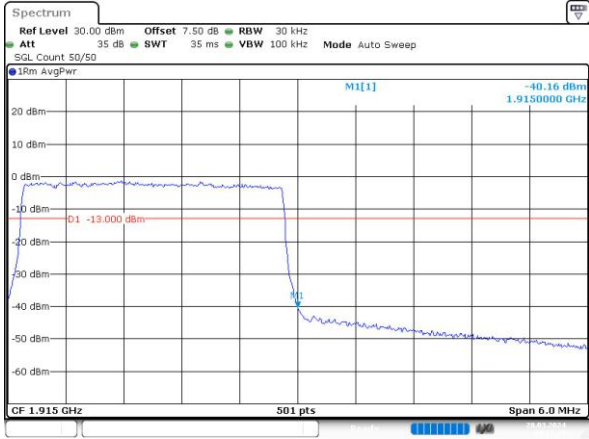
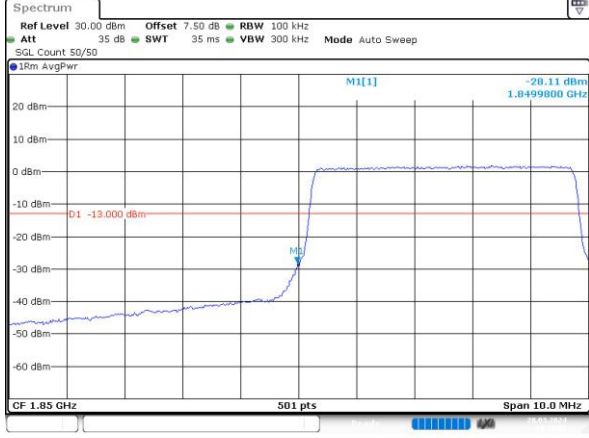
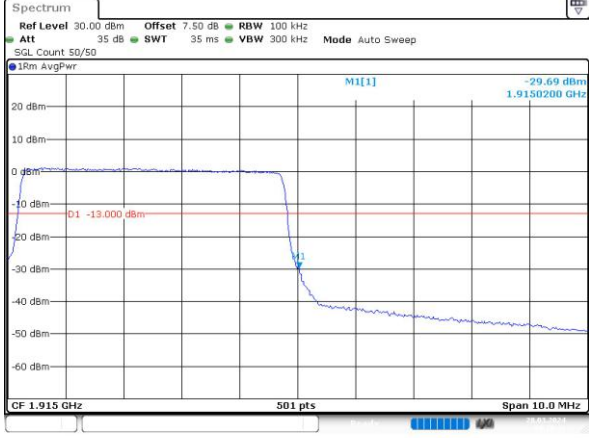
Out of band emission, Band Edge

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

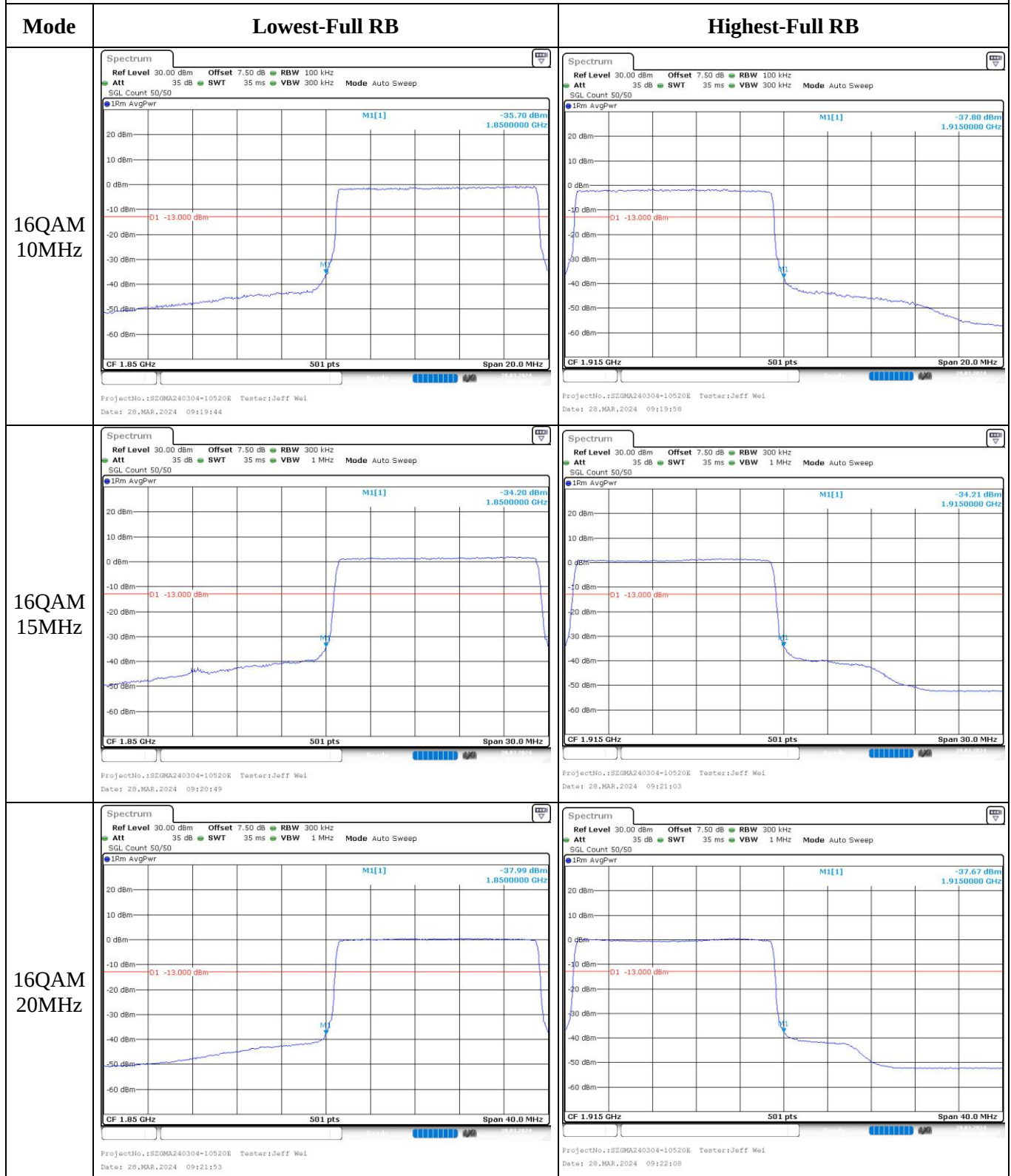
Out of band emission, Band Edge



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
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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		
	RB50#0	21.25	/	21.06	21.25	21.31	21.21		
15MHz QPSK	RB1#0	23.18	/	22.72	23.17	22.68	23.13	18.43	38.45
	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		
	RB36#39	22.33	/	21.89	22.26	21.82	22.28		
	RB75#0	22.37	/	21.87	22.29	21.87	22.32		
15MHz 16QAM	RB1#0	22.72	/	22.39	22.32	21.88	22.56	17.99	38.45
	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

Test Plots:

Occupied Bandwidth	
Channel	1.4MHz Bandwidth QPSK
Lowest For 90S	ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 11:22:52
Highest For 90S	ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 11:22:22
90S&22H Cross	ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 12:12:45
	1.4MHz Bandwidth 16QAM
Lowest For 90S	ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 11:23:14
Highest For 90S	ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 11:26:44
90S&22H Cross	ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 12:13:03

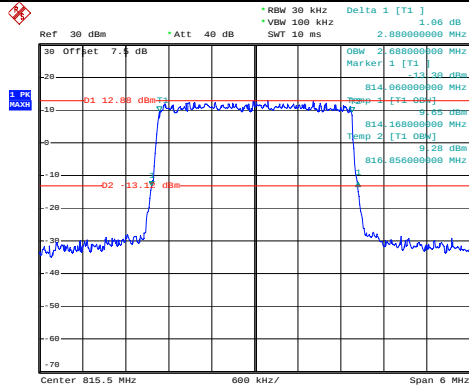
Occupied Bandwidth

Channel

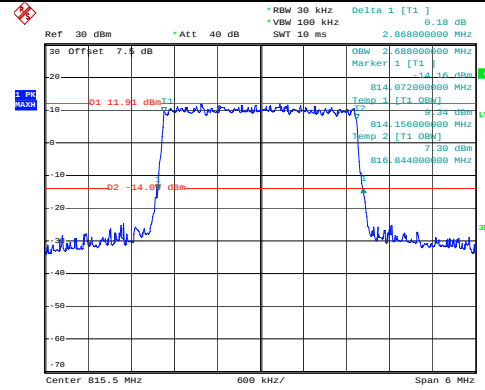
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

Lowest
For 90S

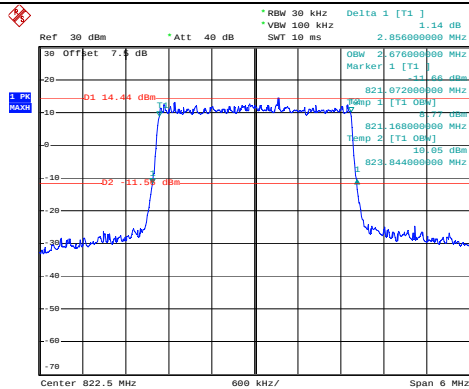


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
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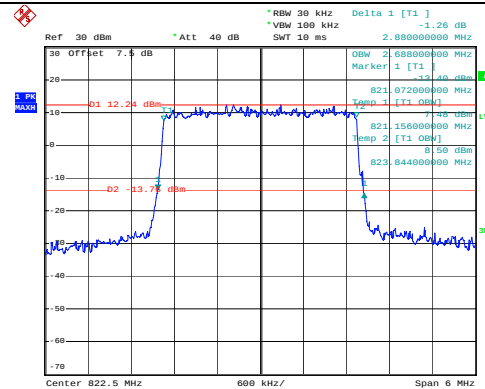


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:27:21

Highest
For 90S

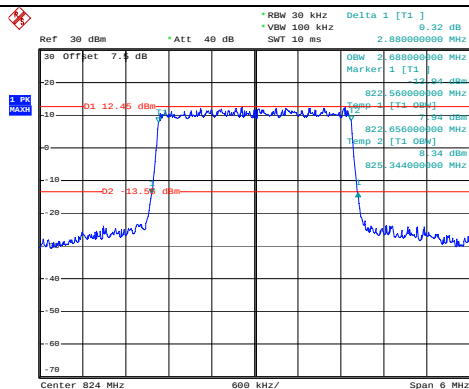


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Date: 17.APR.2024 11:28:18

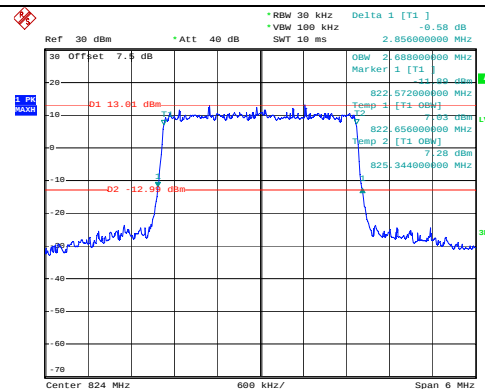


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:28:36

90S&22H
Cross



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:14:34



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:14:52

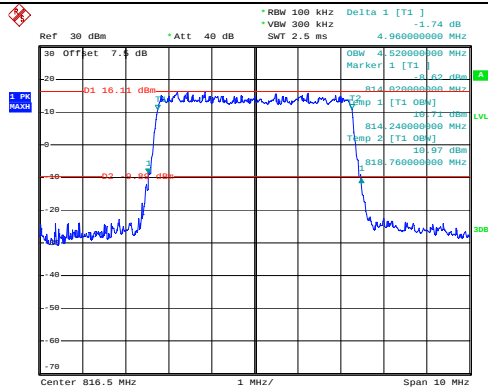
Occupied Bandwidth

Channel

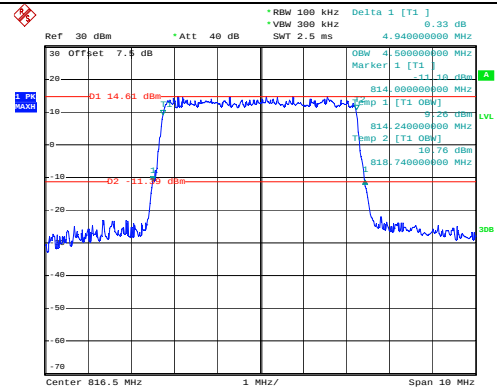
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

Lowest
For 90S

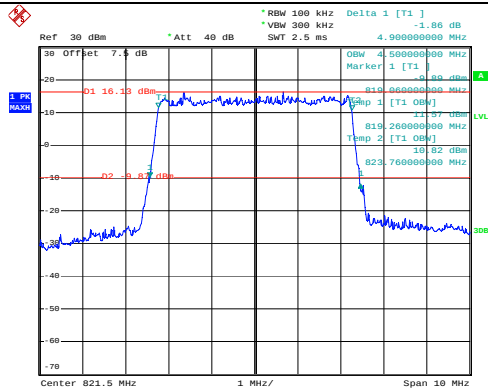


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:29:07

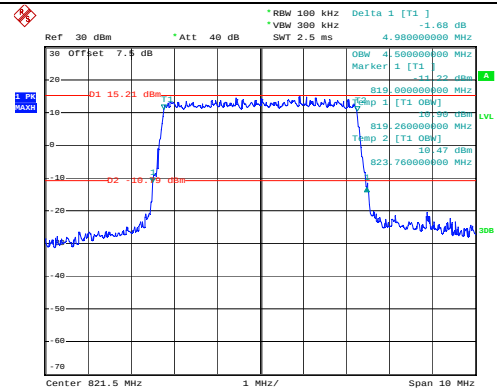


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:29:29

Highest
For 90S

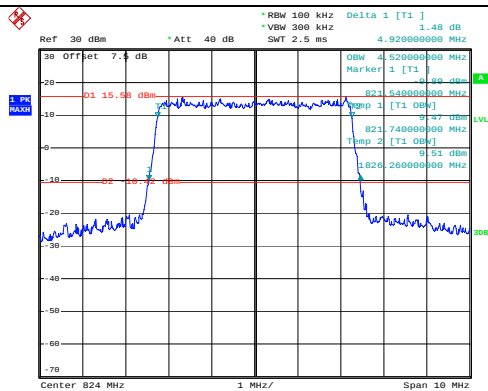


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
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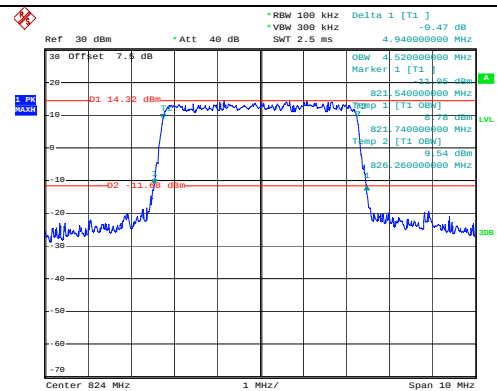


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:30:47

90S&22H
Cross



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:16:37



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:16:59

Occupied Bandwidth

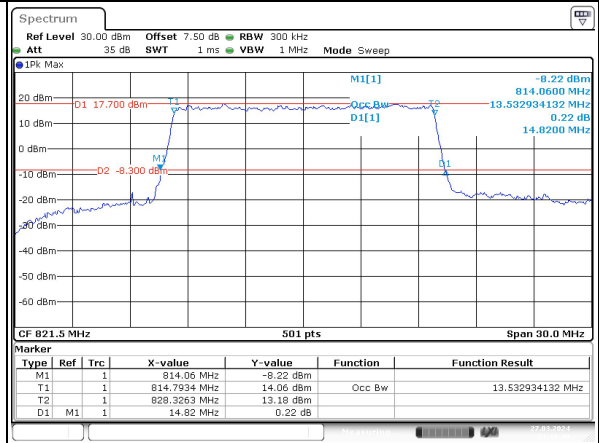
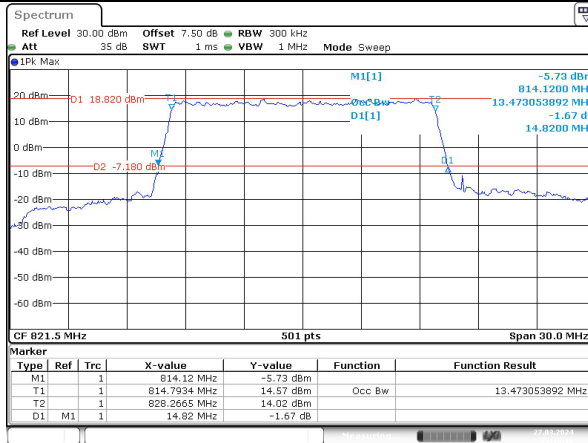
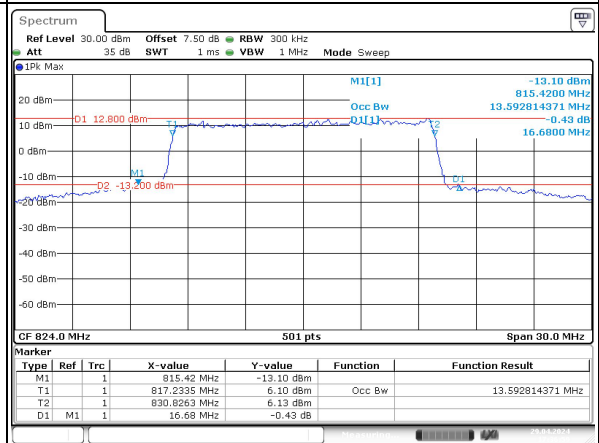
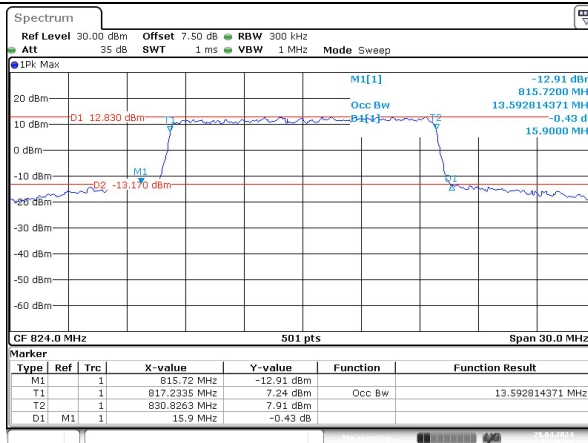
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest For 90S	Ref 30 dBm *Att 40 dB RBW 100 kHz Delta 1 [T1] 0.67 dB VBW 300 kHz SWT 2.5 ms 9.640000000 MHz Marker 1 [T1] -12.47 dBm 819.200000000 MHz Temp 1 [T1] 0.67 dB 819.520000000 MHz Temp 2 [T1] 0.67 dB 823.480000000 MHz Center 819 MHz 2 MHz/ Span 20 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 11:31:10	Ref 30 dBm *Att 40 dB RBW 100 kHz Delta 1 [T1] 0.55 dB VBW 300 kHz SWT 2.5 ms 9.640000000 MHz Marker 1 [T1] -12.42 dBm 819.200000000 MHz Temp 1 [T1] 0.55 dB 819.520000000 MHz Temp 2 [T1] 0.55 dB 823.480000000 MHz Center 819 MHz 2 MHz/ Span 20 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 11:31:33
90S&22H Cross	Ref 30 dBm *Att 40 dB RBW 100 kHz Delta 1 [T1] 1.10 dB VBW 300 kHz SWT 2.5 ms 9.560000000 MHz Marker 1 [T1] -13.60 dBm 819.200000000 MHz Temp 1 [T1] 1.10 dB 819.520000000 MHz Temp 2 [T1] 1.10 dB 823.480000000 MHz Center 824 MHz 2 MHz/ Span 20 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 12:18:41	Ref 30 dBm *Att 40 dB RBW 100 kHz Delta 1 [T1] 1.40 dB VBW 300 kHz SWT 2.5 ms 9.600000000 MHz Marker 1 [T1] -12.19 dBm 819.200000000 MHz Temp 1 [T1] 1.40 dB 819.520000000 MHz Temp 2 [T1] 1.40 dB 823.480000000 MHz Center 824 MHz 2 MHz/ Span 20 MHz ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 12:19:01

Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

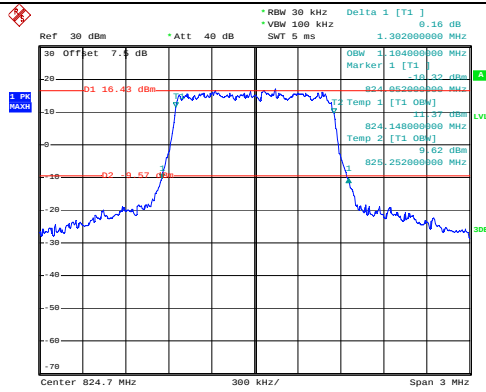
Lowest
For 90S90S&22H
Cross

Occupied Bandwidth

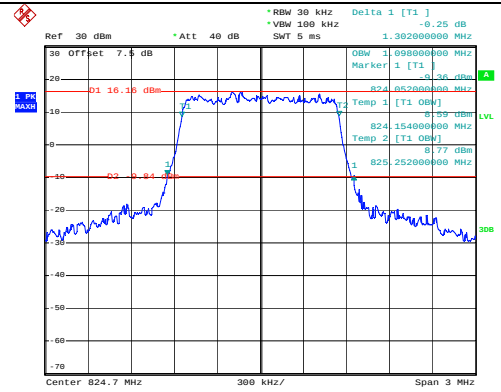
Channel

1.4MHz Bandwidth QPSK

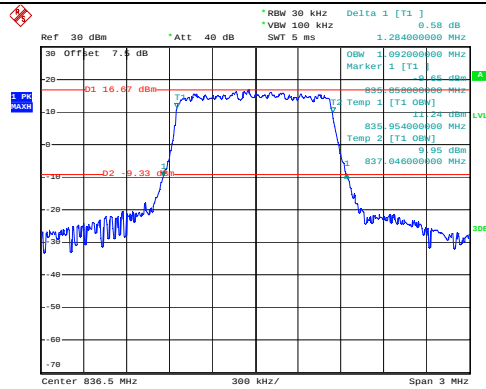
1.4MHz Bandwidth 16QAM

Lowest
For
22H

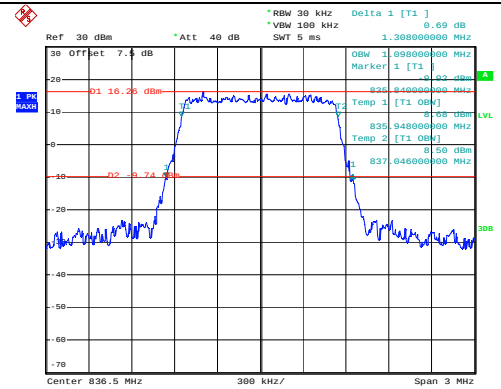
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:31:18



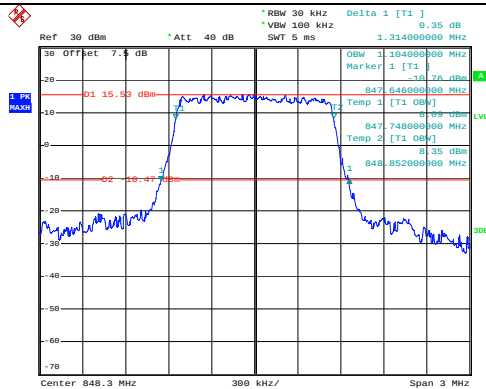
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:31:37

Middle
For
22H

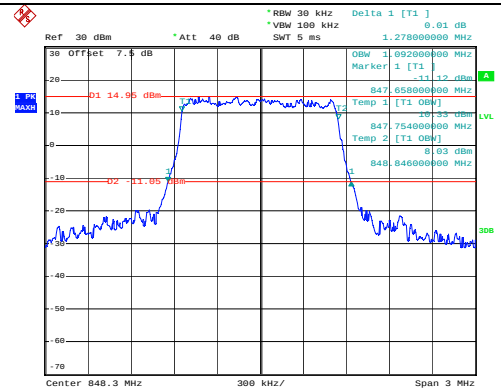
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:31:56



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



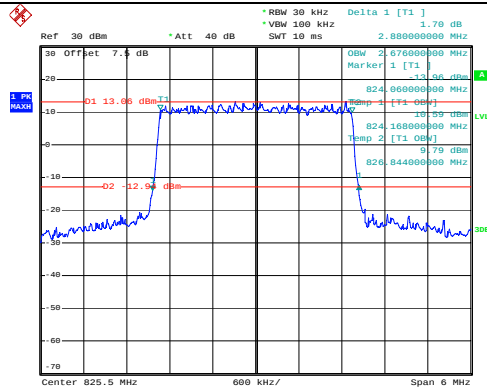
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:32:52

Occupied Bandwidth

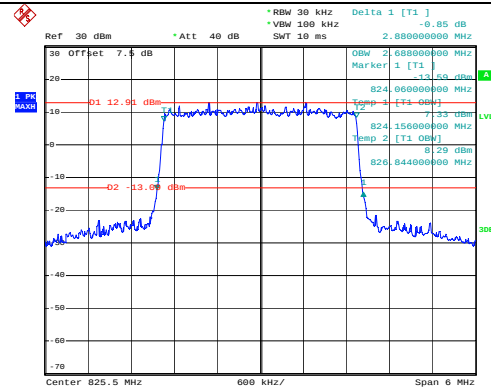
Channel

3MHz Bandwidth QPSK

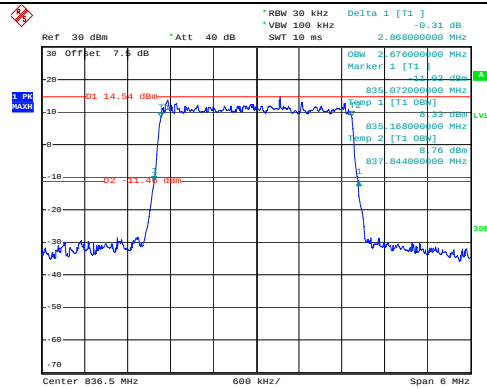
3MHz Bandwidth 16QAM

Lowest
For
22H

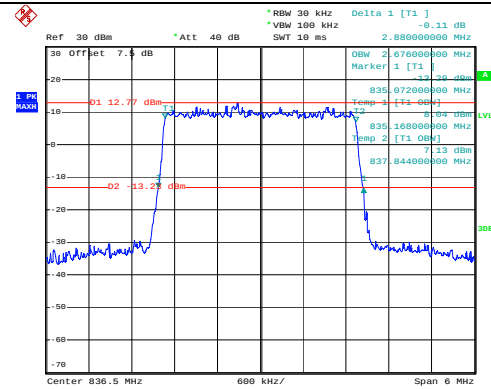
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:33:46



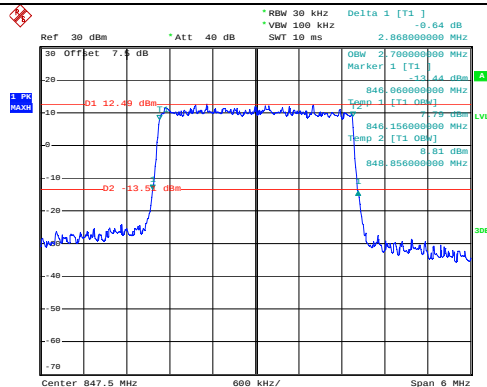
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:34:04

Middle
For
22H

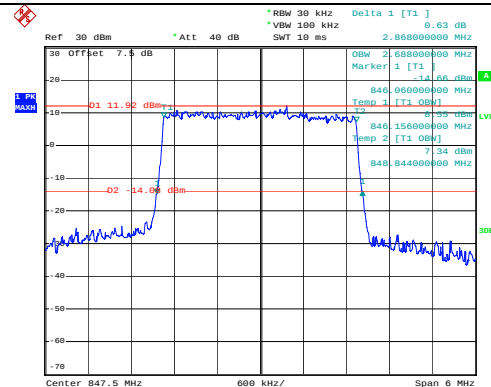
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:34:24



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:34:42

Highest
For
22H

ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:35:01



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:35:20

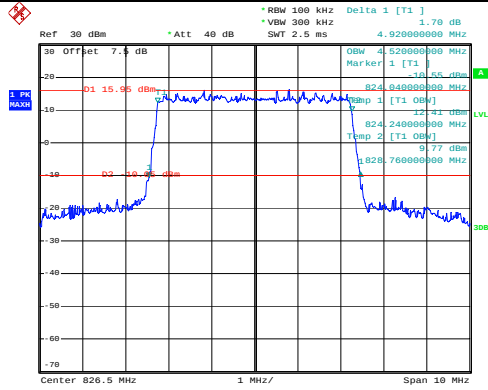
Occupied Bandwidth

Channel

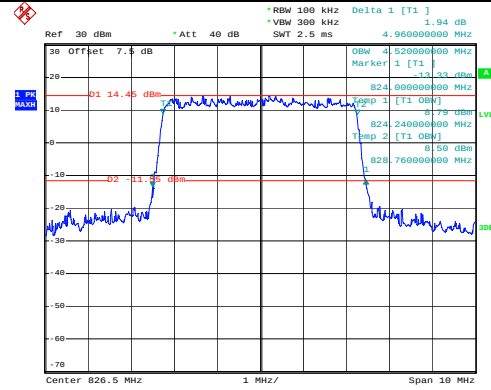
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

Lowest
For
22H

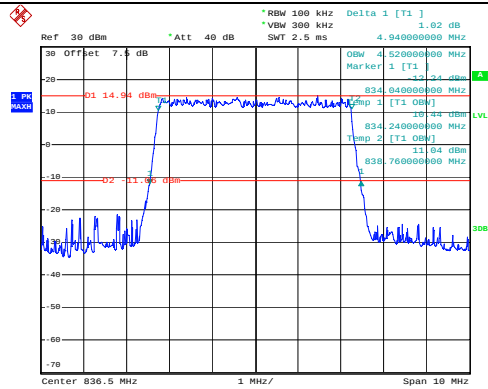


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:36:10

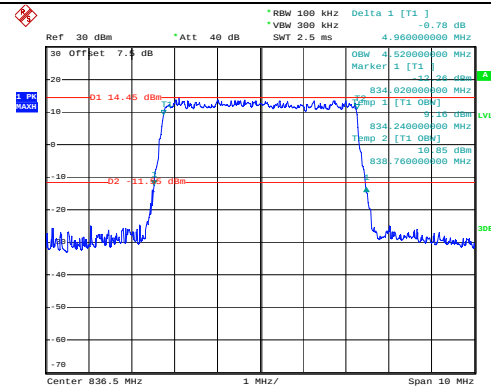


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:36:29

Middle
For
22H

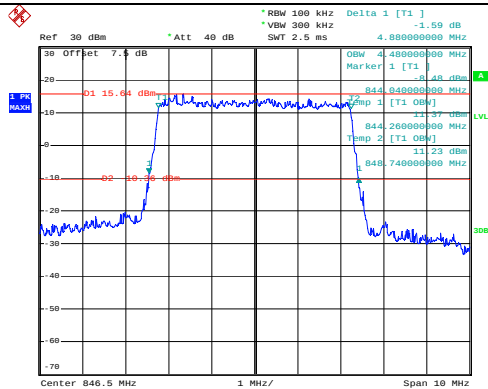


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:36:46

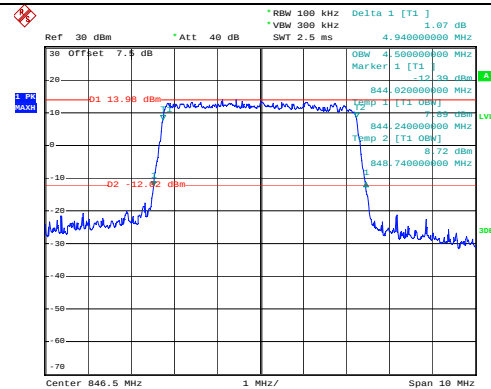


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:37:07

Highest
For
22H

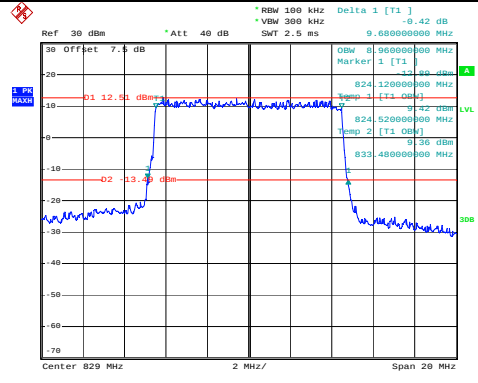
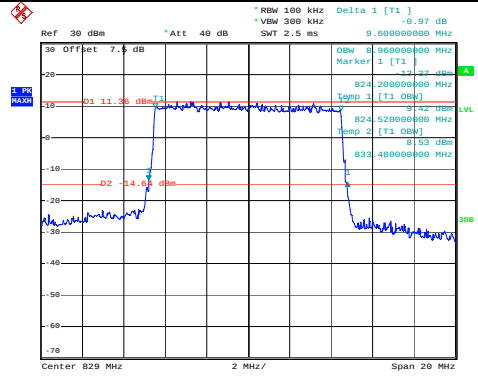
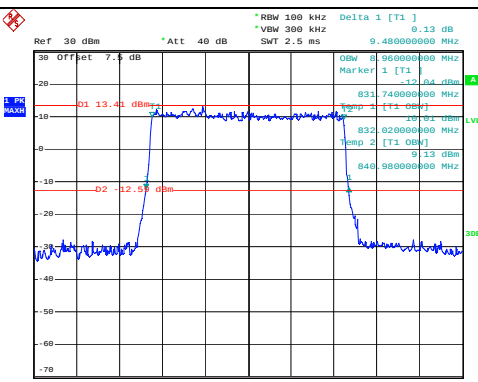
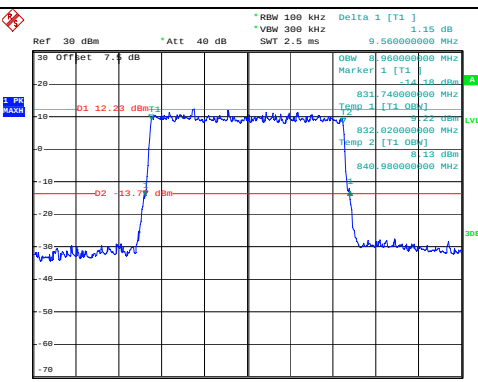
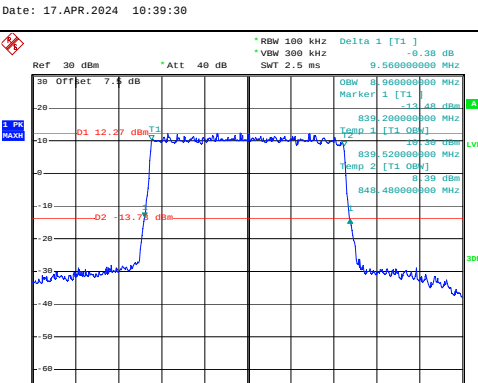
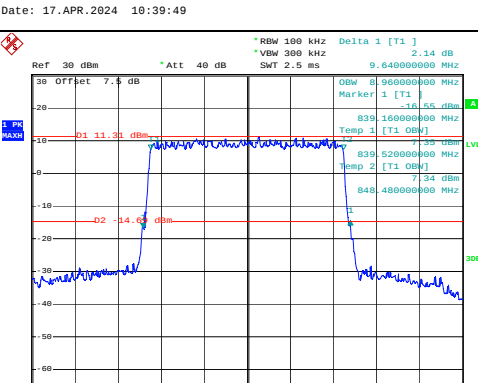


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 10:37:24



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

Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest For 22H	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:38:52	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:39:12
Middle For 22H	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:39:30	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:39:49
Highest For 22H	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:40:13	 ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei Date: 17.APR.2024 10:40:29

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

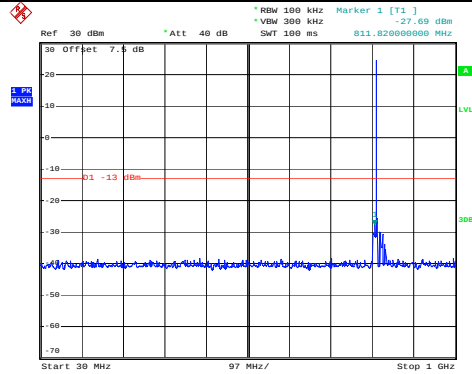
814-824MHz

Spurious Emissions at Antenna Terminal

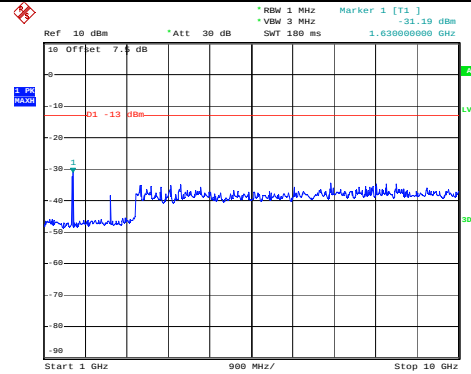
Channel

1.4MHz Bandwidth QPSK

Lowest
For 90S

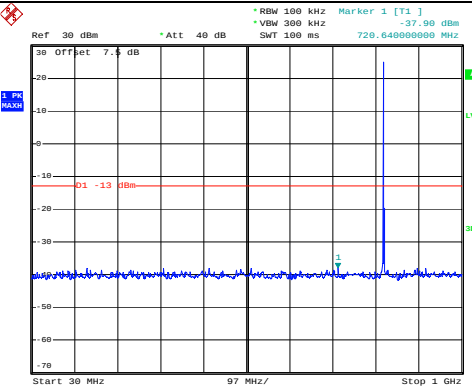


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:48:08

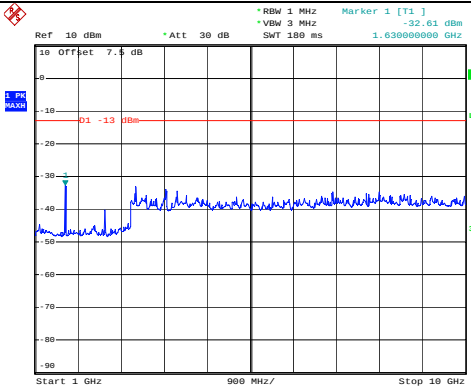


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:48:12

Highest
For 90S

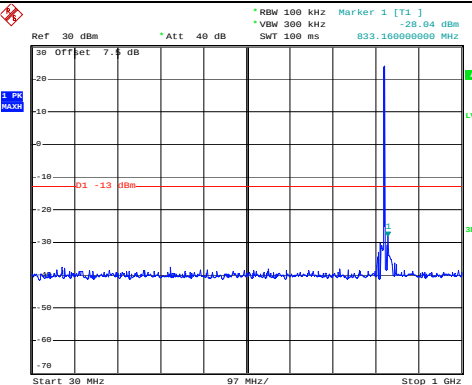


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:49:30

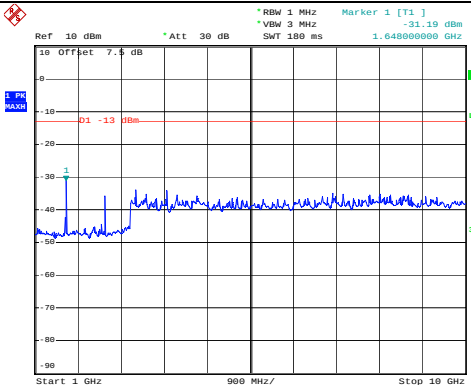


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:49:42

90S&22H
Cross



ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:21:56



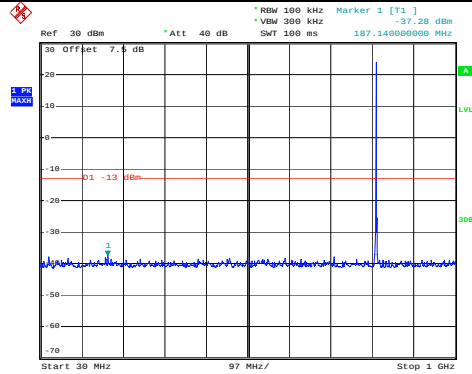
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:22:08

Spurious Emissions at Antenna Terminal

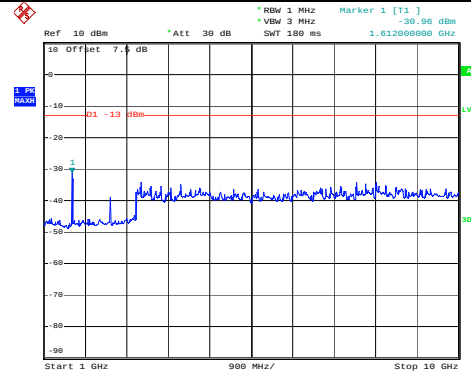
Channel

3MHz Bandwidth QPSK

Lowest
For 90S

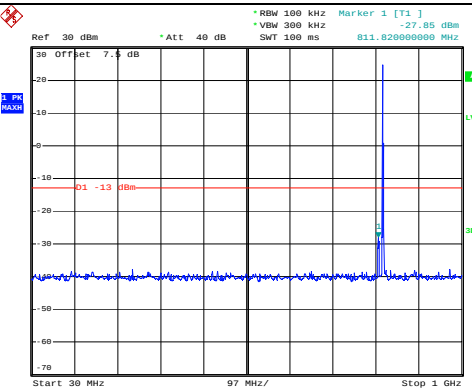


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:50:16

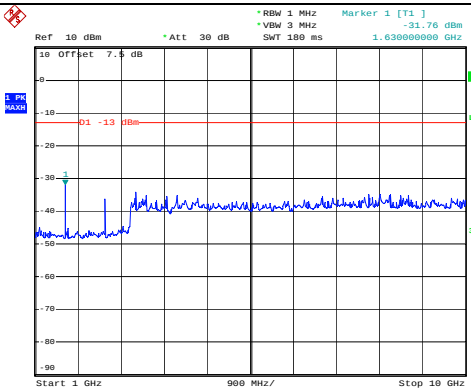


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:50:28

Highest
For 90S

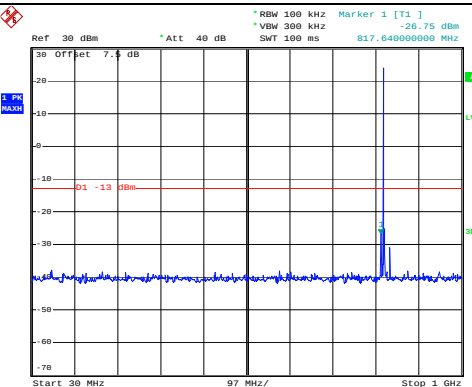


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:51:36

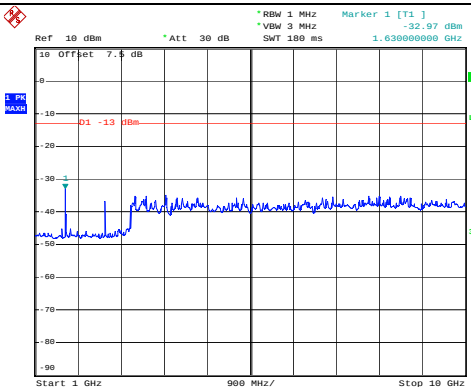


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:51:48

90S&22H
Cross



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



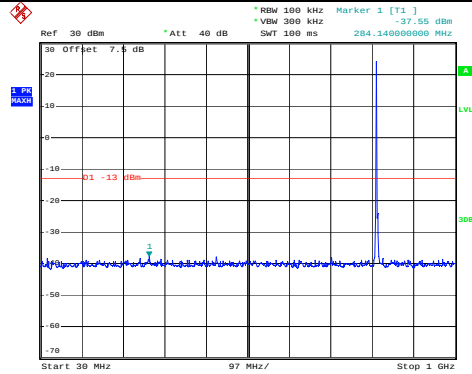
ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 12:24:08

Spurious Emissions at Antenna Terminal

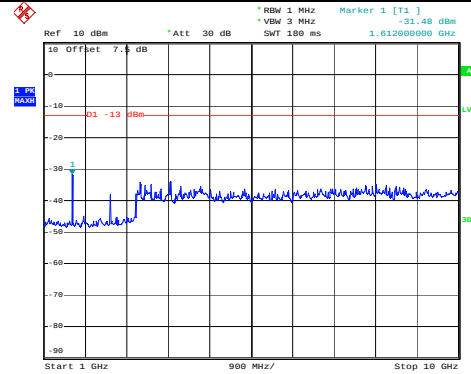
Channel

5MHz Bandwidth QPSK

Lowest

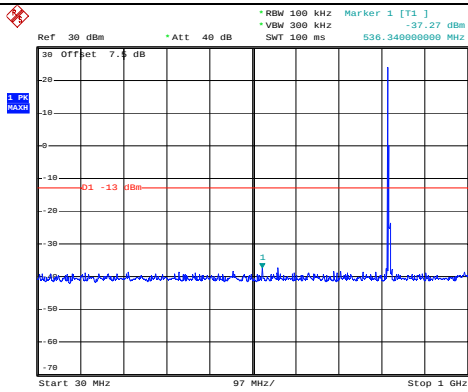


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:52:27

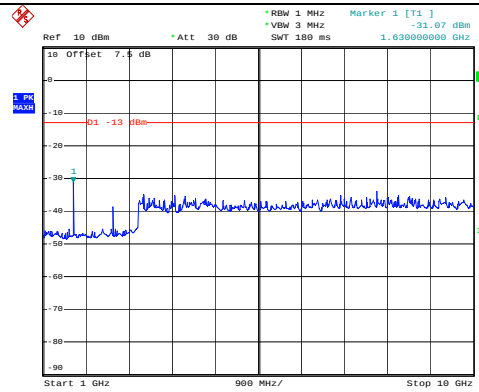


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:52:39

Middle

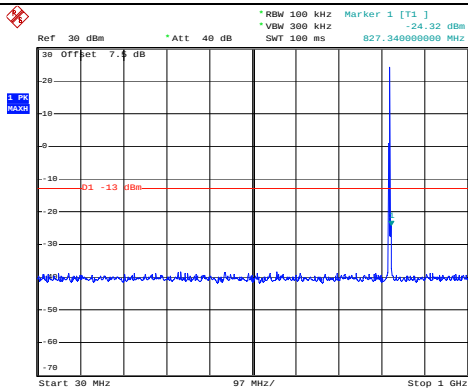


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:53:39

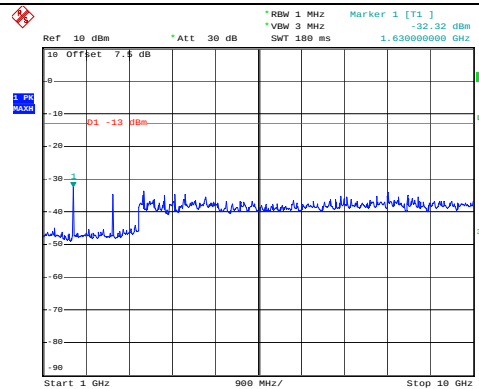


ProjectNo.:SZGMA240304-10520E Tester:Jeff Wei
Date: 17.APR.2024 11:53:51

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