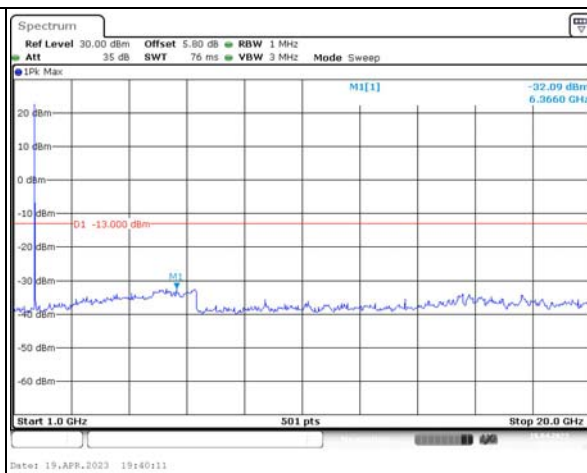
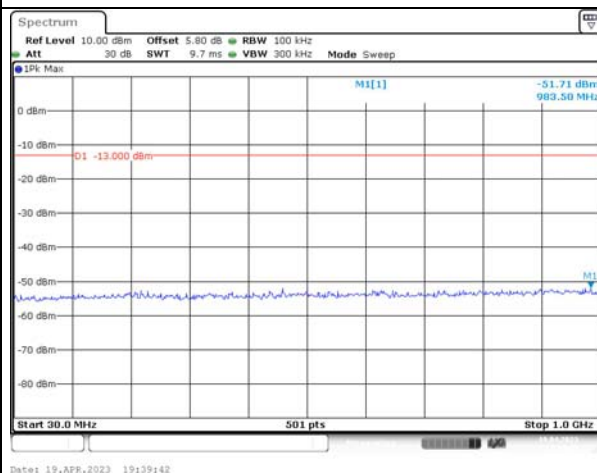


Spurious Emissions at Antenna Terminal

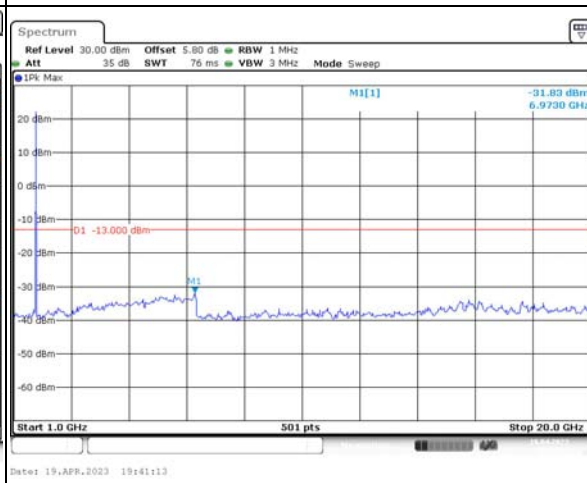
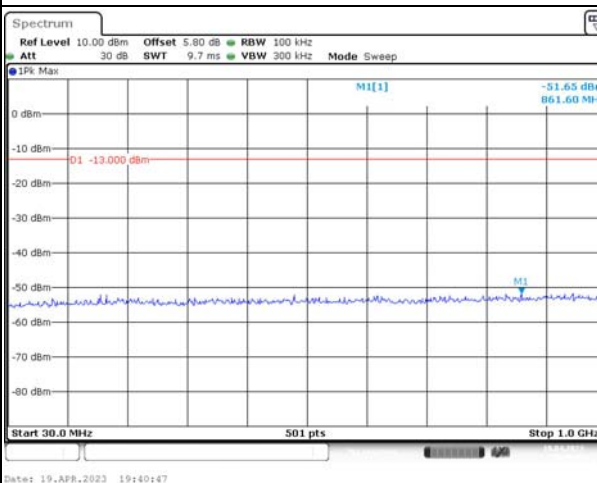
Channel

3MHz Bandwidth QPSK

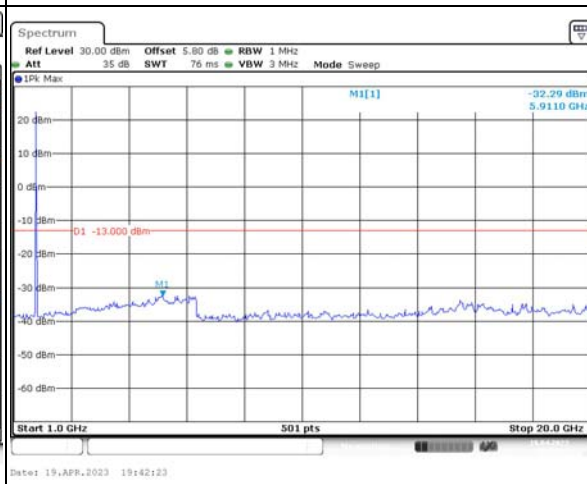
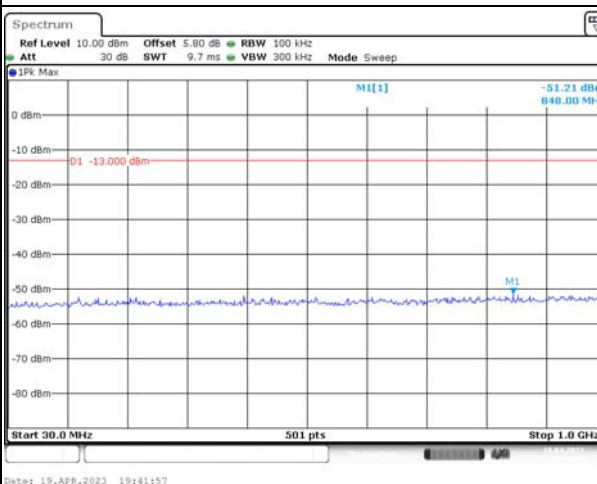
Lowest



Middle



Highest

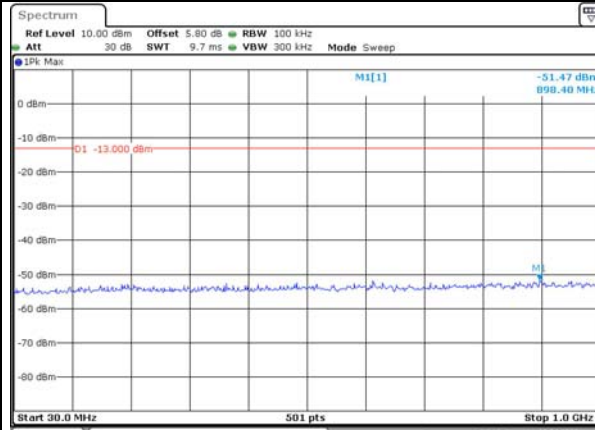


Spurious Emissions at Antenna Terminal

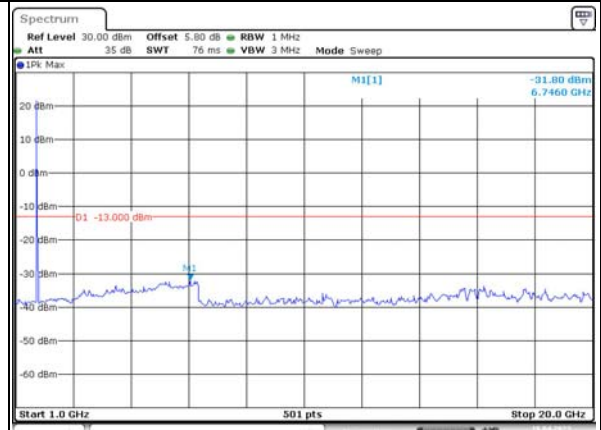
Channel

5MHz Bandwidth QPSK

Lowest

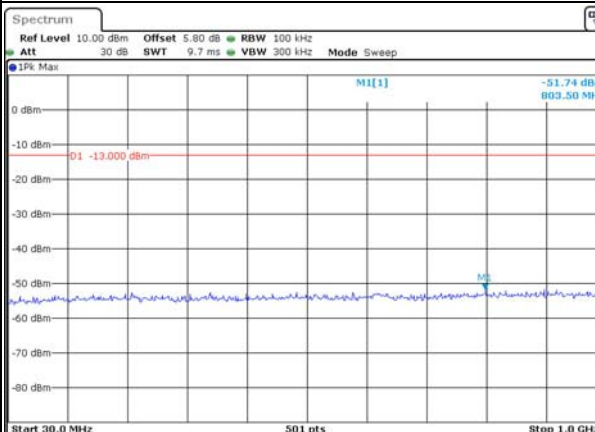


Date: 19.APR.2023 19:43:17

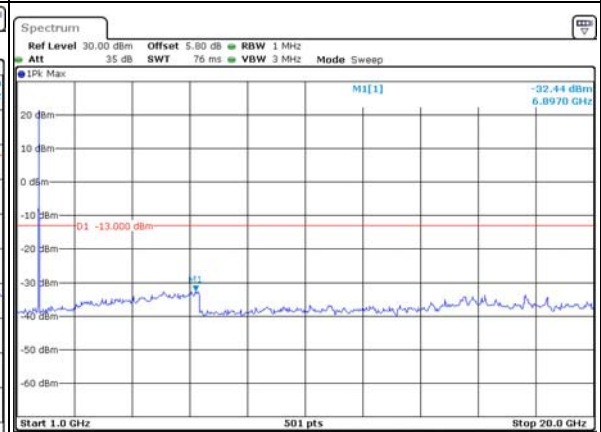


Date: 19.APR.2023 19:44:11

Middle

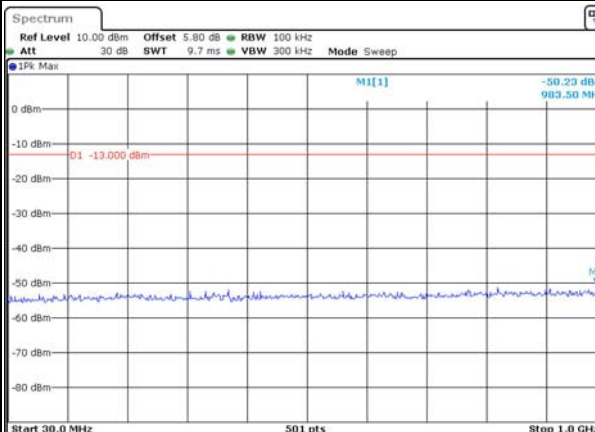


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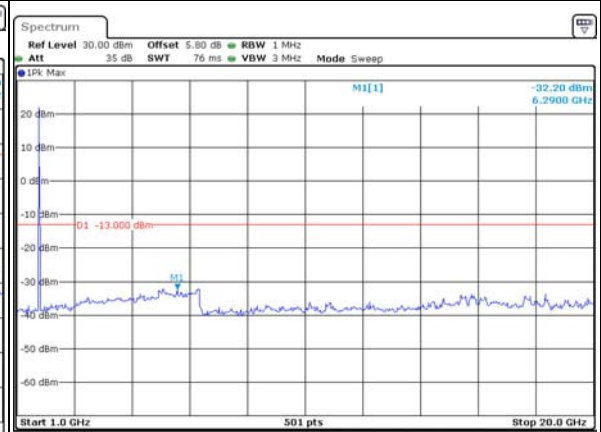


Date: 19.APR.2023 19:45:05

Highest



Date: 19.APR.2023 19:45:41



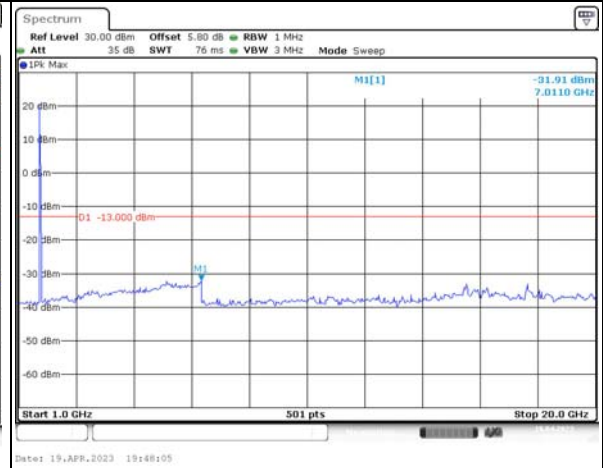
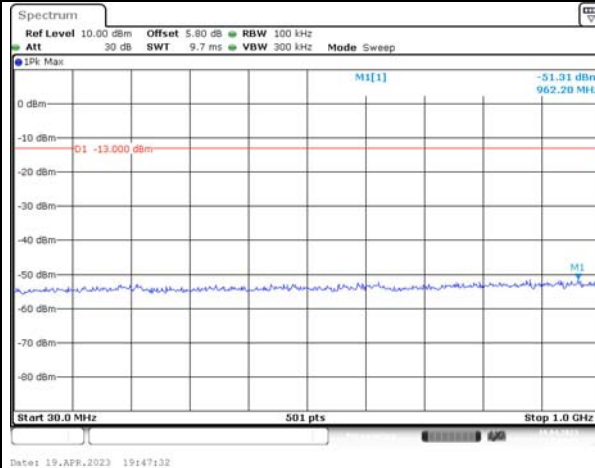
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Spurious Emissions at Antenna Terminal

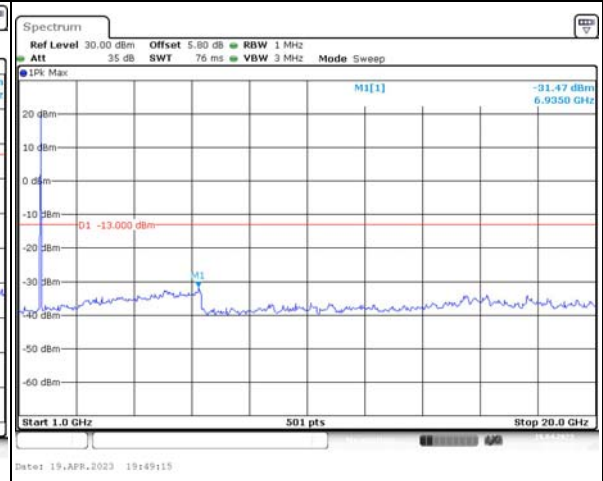
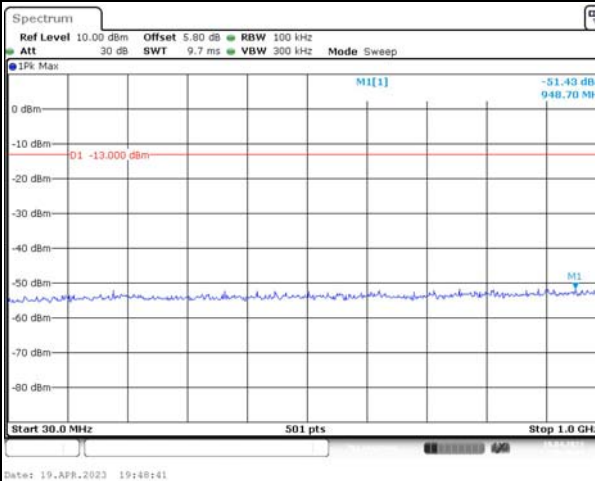
Channel

10MHz Bandwidth QPSK

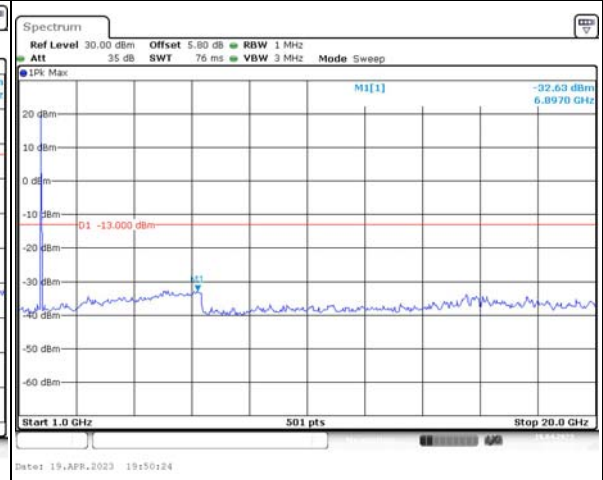
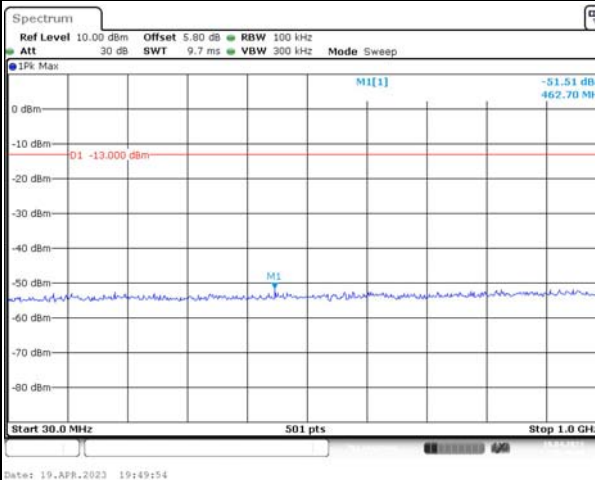
Lowest



Middle



Highest

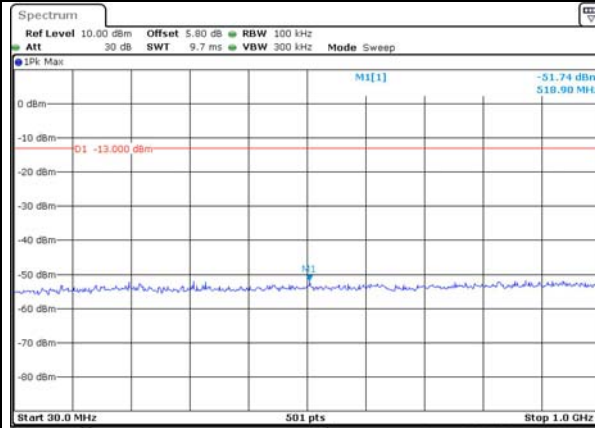


Spurious Emissions at Antenna Terminal

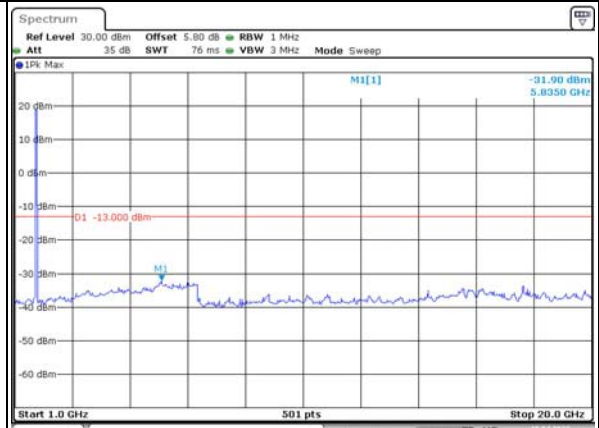
Channel

15MHz Bandwidth QPSK

Lowest

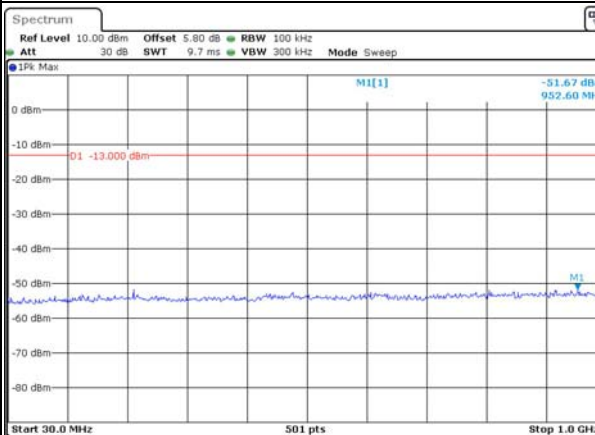


Date: 19.APR.2023 19:51:41

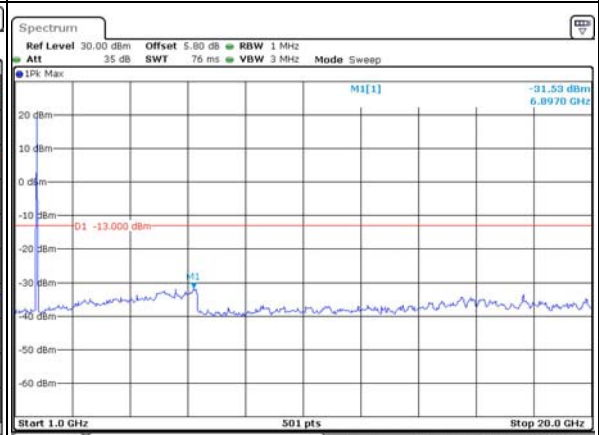


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Middle

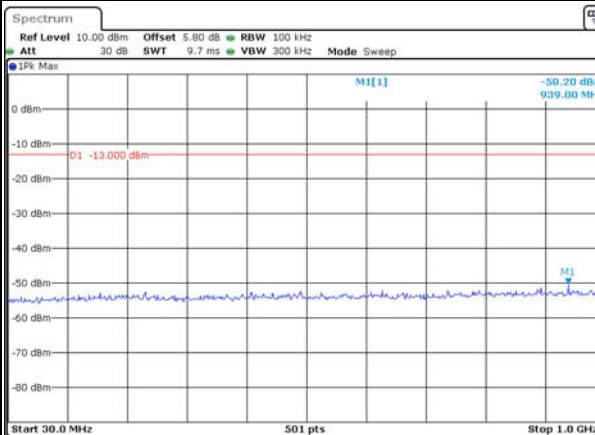


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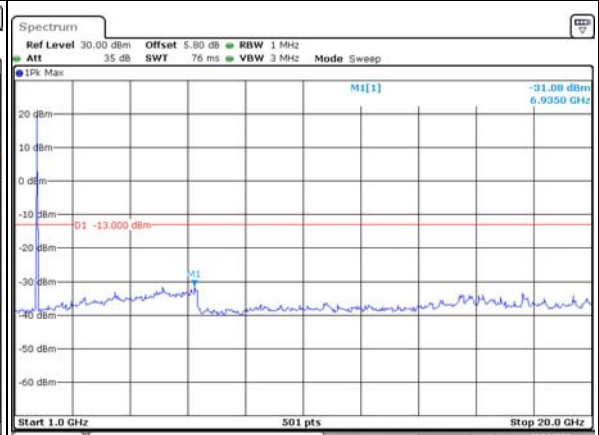


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Highest



Date: 19.APR.2023 19:53:53



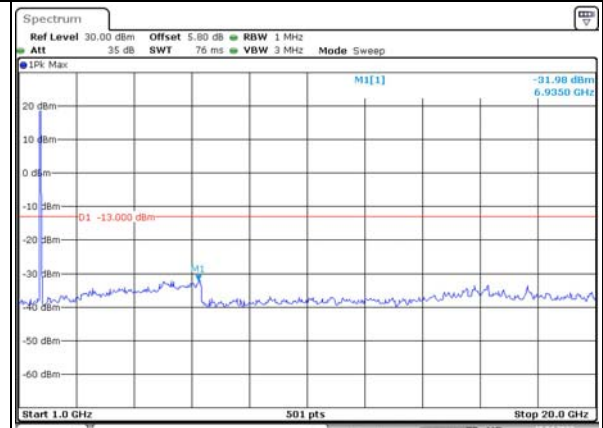
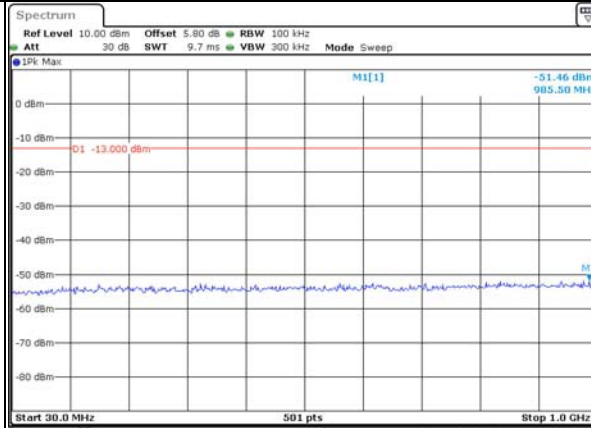
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Spurious Emissions at Antenna Terminal

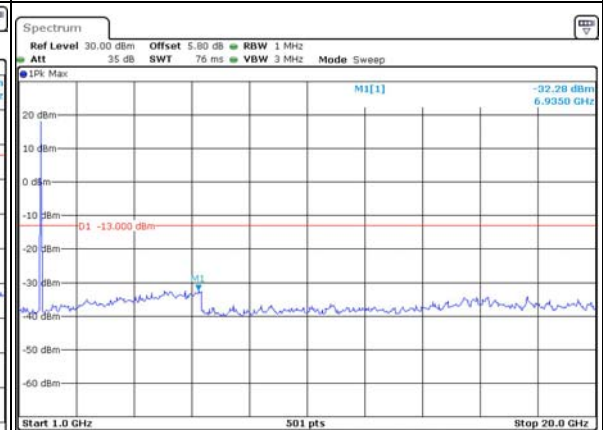
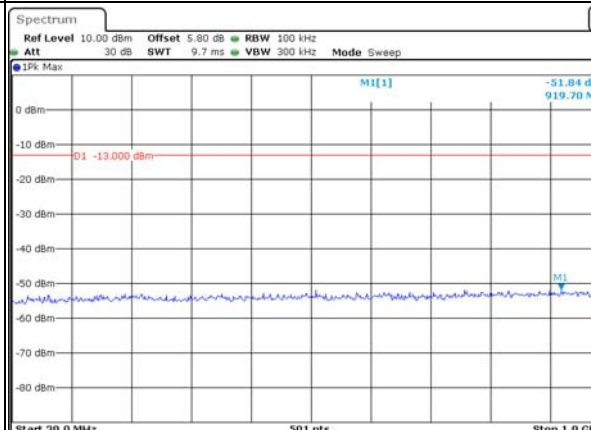
Channel

20MHz Bandwidth QPSK

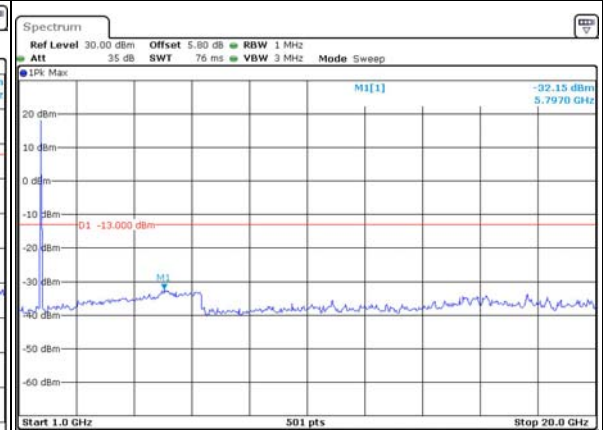
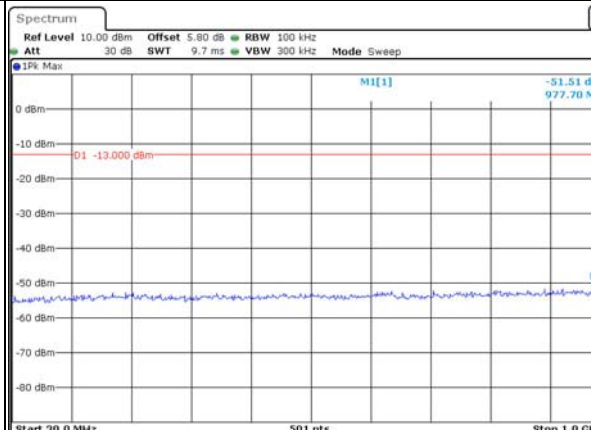
Lowest



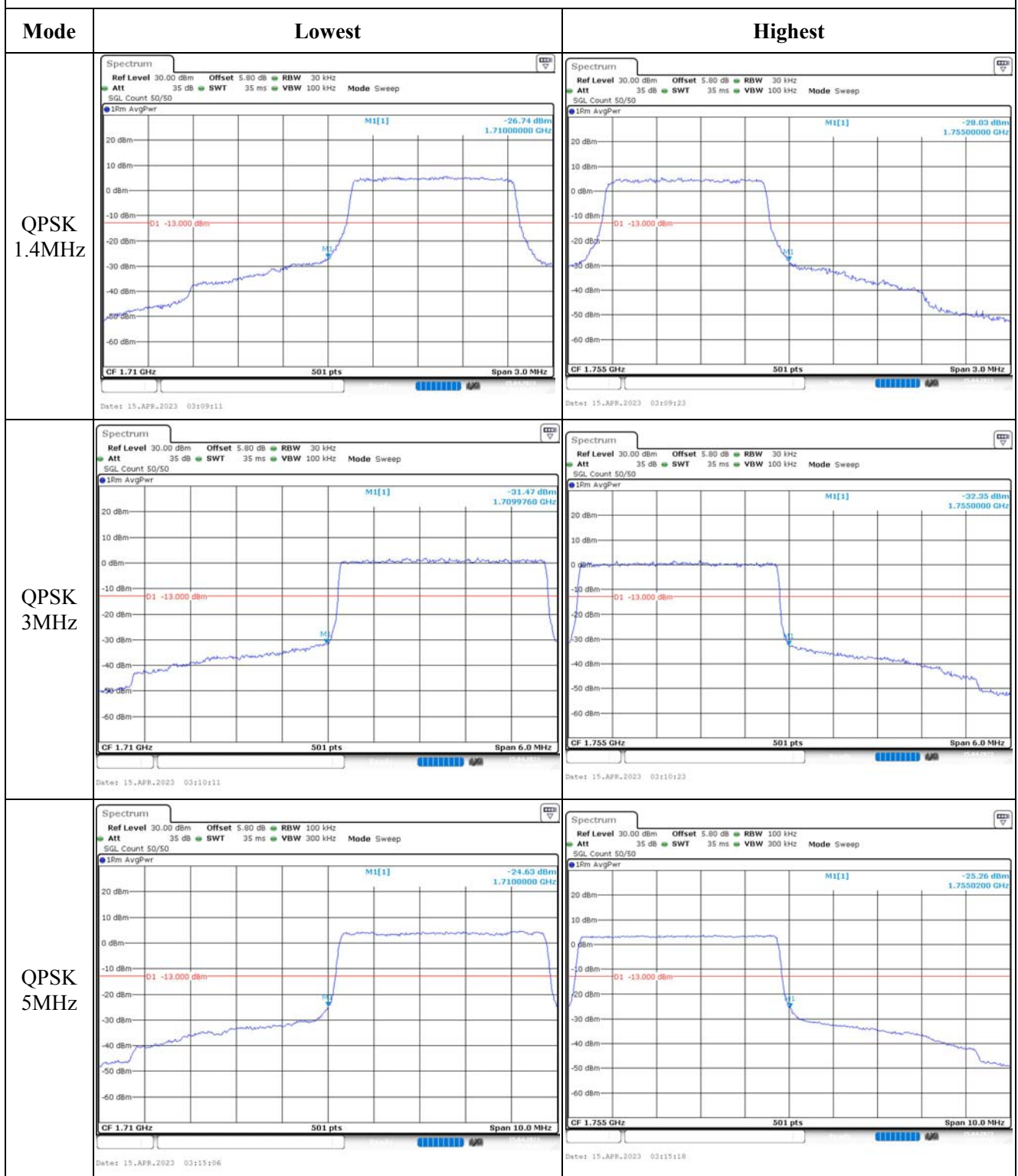
Middle



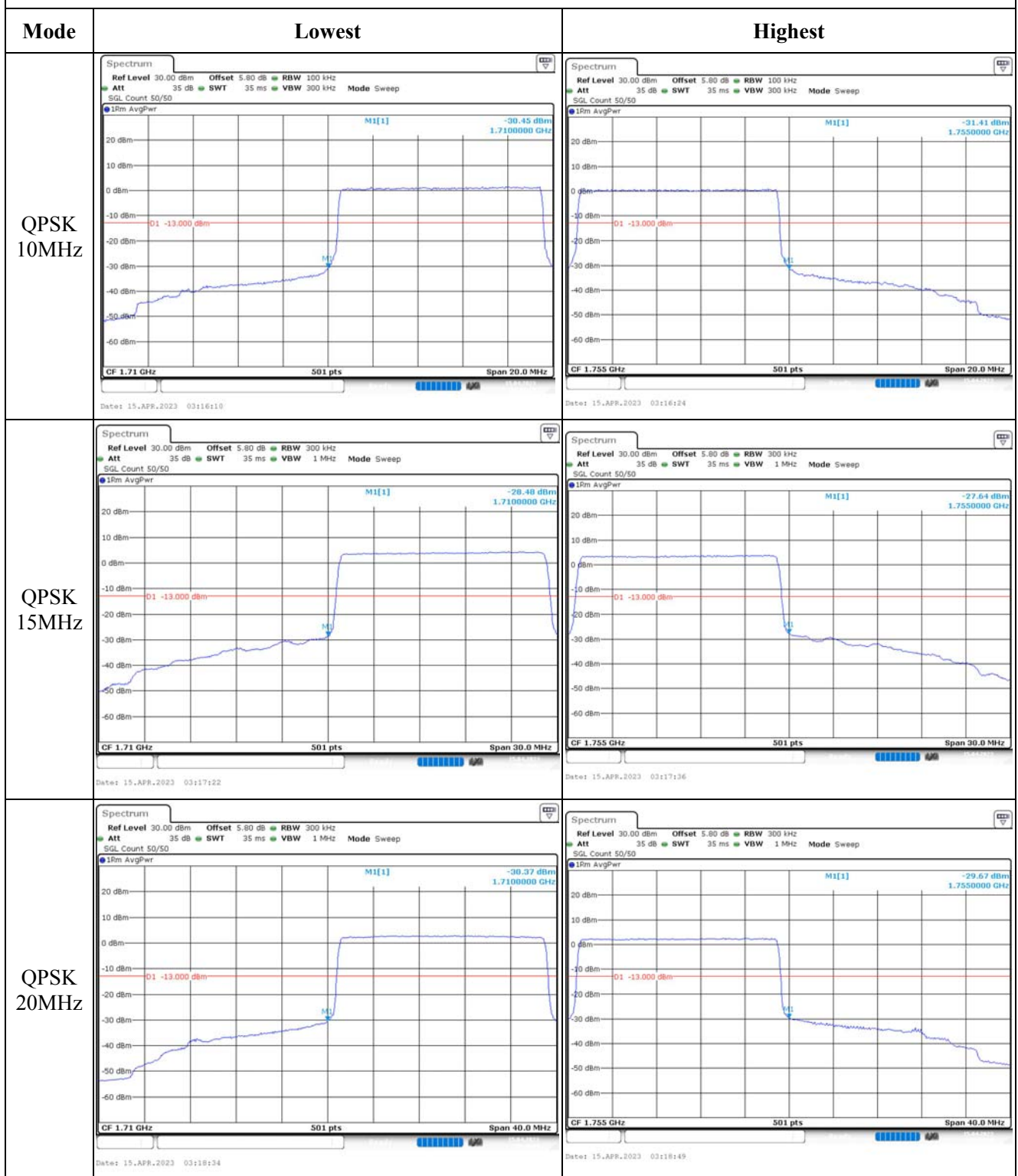
Highest



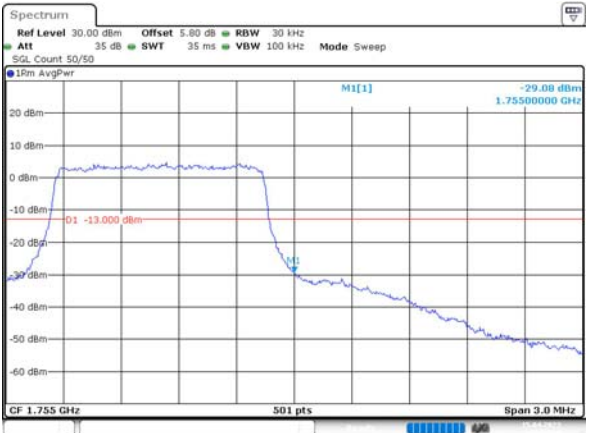
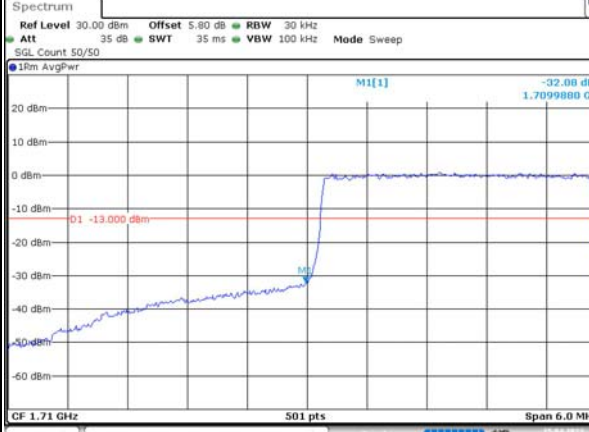
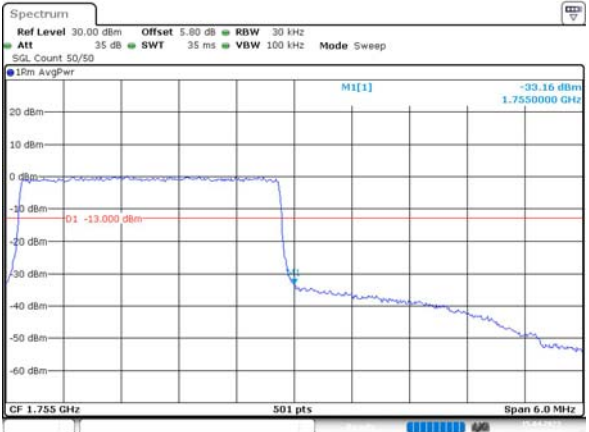
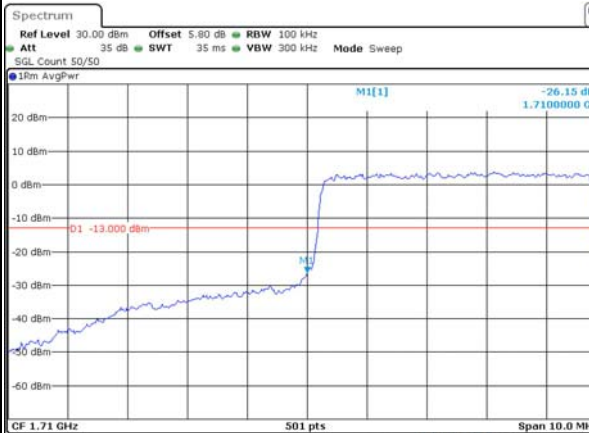
Out of band emission, Band Edge



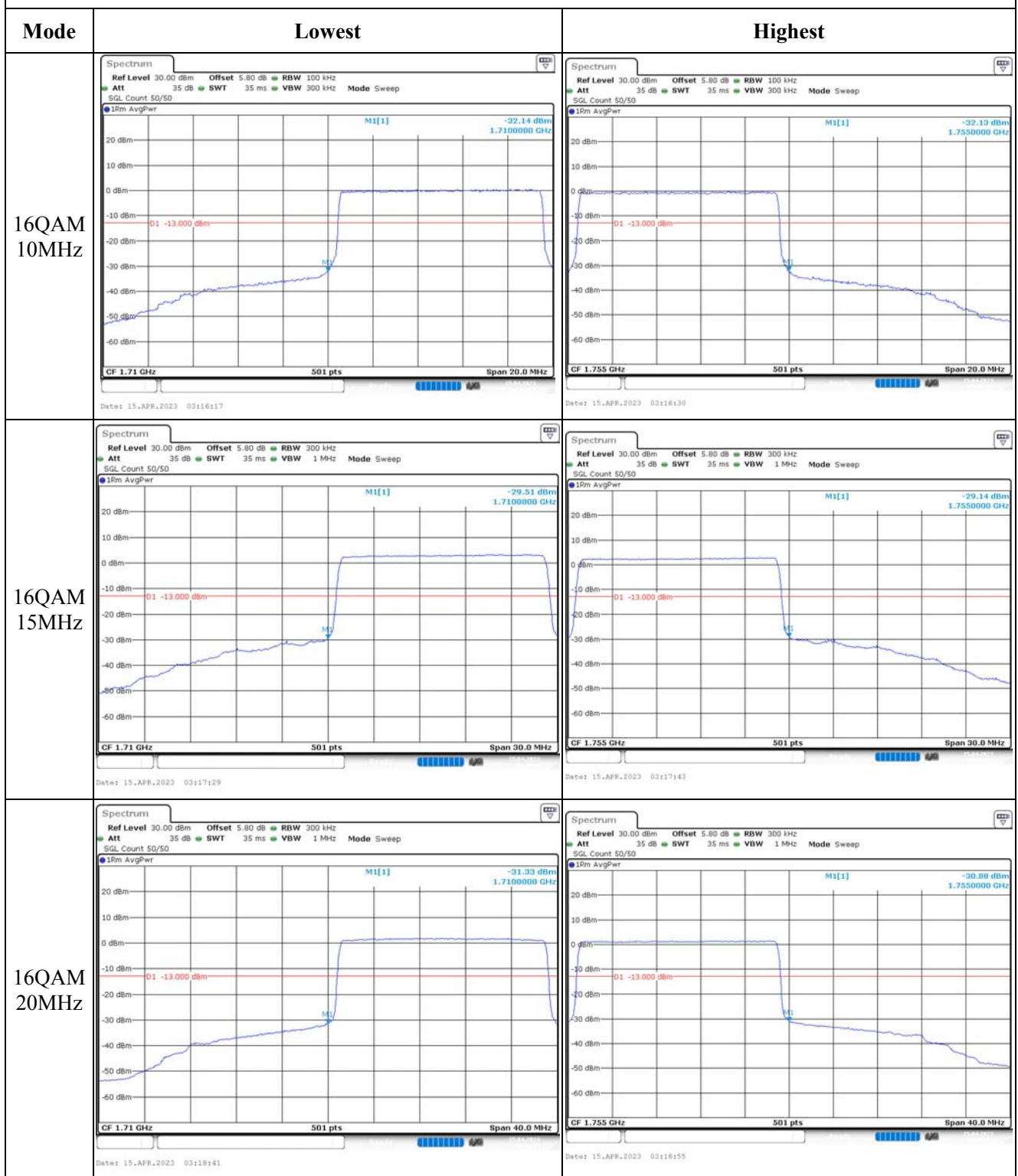
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz		
16QAM 3MHz		
16QAM 5MHz		

Out of band emission, Band Edge



4.4 Antenna Port Test Data and Results for LTE Band 5

Serial Number:	247B_1	Test Date:	2023/4/14~2023/4/21
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	23.2~26.1	Relative Humidity: (%)	38~56	ATM Pressure: (kPa)	99.9~102.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2022-07-15	2023-07-14
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-09-29	2023-09-28
UNI-T	Multimeter	UT39A+	C210582554	N/A	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	2022-07-15	2023-07-14

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	824.7	836.5	848.3
3MHz	825.5	836.5	847.5
5MHz	826.5	836.5	846.5
10MHz	829	836.5	844

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

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.78	21.52	21.29	19.5	38.45
	RB1#3	21.49	21.65	21.45		
	RB1#5	21.26	21.5	21.25		
	RB3#0	21.37	21.55	21.29		
	RB3#3	21.43	21.57	21.3		
	RB6#0	20.31	20.57	20.28		
1.4MHz 16QAM	RB1#0	20.26	20.47	20.35	18.48	38.45
	RB1#3	20.46	20.65	20.51		
	RB1#5	20.34	20.49	20.34		
	RB3#0	20.45	20.76	20.29		
	RB3#3	20.49	20.76	20.3		
	RB6#0	19.23	19.56	19.32		
3MHz QPSK	RB1#0	21.85	21.52	21.41	19.57	38.45
	RB1#8	21.47	21.52	21.36		
	RB1#14	21.35	21.51	21.31		
	RB6#0	20.21	20.49	20.3		
	RB6#9	20.31	20.45	20.25		
	RB15#0	20.3	20.55	20.31		
3MHz 16QAM	RB1#0	20.3	21.08	20.49	18.8	38.45
	RB1#8	20.36	21.08	20.42		
	RB1#14	20.36	21.04	20.41		
	RB6#0	19.19	19.54	19.29		
	RB6#9	19.21	19.54	19.26		
	RB15#0	19.34	19.54	19.18		
5MHz QPSK	RB1#0	21.54	21.46	21.4	19.27	38.45
	RB1#13	21.42	21.55	21.38		
	RB1#24	21.44	21.51	21.24		
	RB15#0	20.38	20.49	20.4		
	RB15#10	20.42	20.53	20.35		
	RB25#0	20.41	20.49	20.39		
5MHz 16QAM	RB1#0	20.56	20.51	20.25	18.42	38.45
	RB1#13	20.7	20.59	20.23		
	RB1#24	20.67	20.52	20.07		
	RB15#0	19.32	19.5	19.44		
	RB15#10	19.37	19.52	19.34		
	RB25#0	19.37	19.51	19.4		
10MHz QPSK	RB1#0	21.32	21.62	21.5	19.4	38.45
	RB1#25	21.66	21.68	21.59		
	RB1#49	21.56	21.54	21.3		

10MHz 16QAM	RB25#0	20.48	20.44	20.66	18.9	38.45
	RB25#25	20.66	20.5	20.42		
	RB50#0	20.59	20.48	20.56		
	RB1#0	20.42	20.53	21.08		
	RB1#25	20.7	20.67	21.18		
	RB1#49	20.69	20.51	20.84		
	RB25#0	19.47	19.5	19.69		
	RB25#25	19.7	19.61	19.4		
	RB50#0	19.56	19.49	19.53		
Note: $ERP = \text{Conducted Power(dBm)} - L_c(\text{dB}) + G_T(\text{dBd})$ $G_T(\text{dBd}) = G_T(\text{dBi}) - 2.15$						
					Result:	Pass

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit(dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	5.88	5.54	5.42	13
	RB50#0	5.62	5.33	5.51	13
10MHz 16QAM	RB1#0	6.78	6.52	6.03	13
	RB50#0	6.38	6.29	6.38	13
				Result:	Pass

FCC §2.1049, §22.905:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.102	1.108	1.096	1.32	1.32	1.302
1.4MHz 16QAM	1.09	1.102	1.096	1.284	1.296	1.326
3MHz QPSK	2.683	2.683	2.683	2.868	2.892	2.868
3MHz 16QAM	2.683	2.683	2.683	2.88	2.868	2.892
5MHz QPSK	4.511	4.511	4.531	5.12	5.16	5.22
5MHz 16QAM	4.551	4.531	4.511	5.16	5.2	5.2
10MHz QPSK	8.982	8.942	8.982	10	9.84	9.96
10MHz 16QAM	8.982	8.942	8.982	9.8	9.8	10.12
Note: The test plots please refer to the Plots of Occupied Bandwidth						

FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal	
Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

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

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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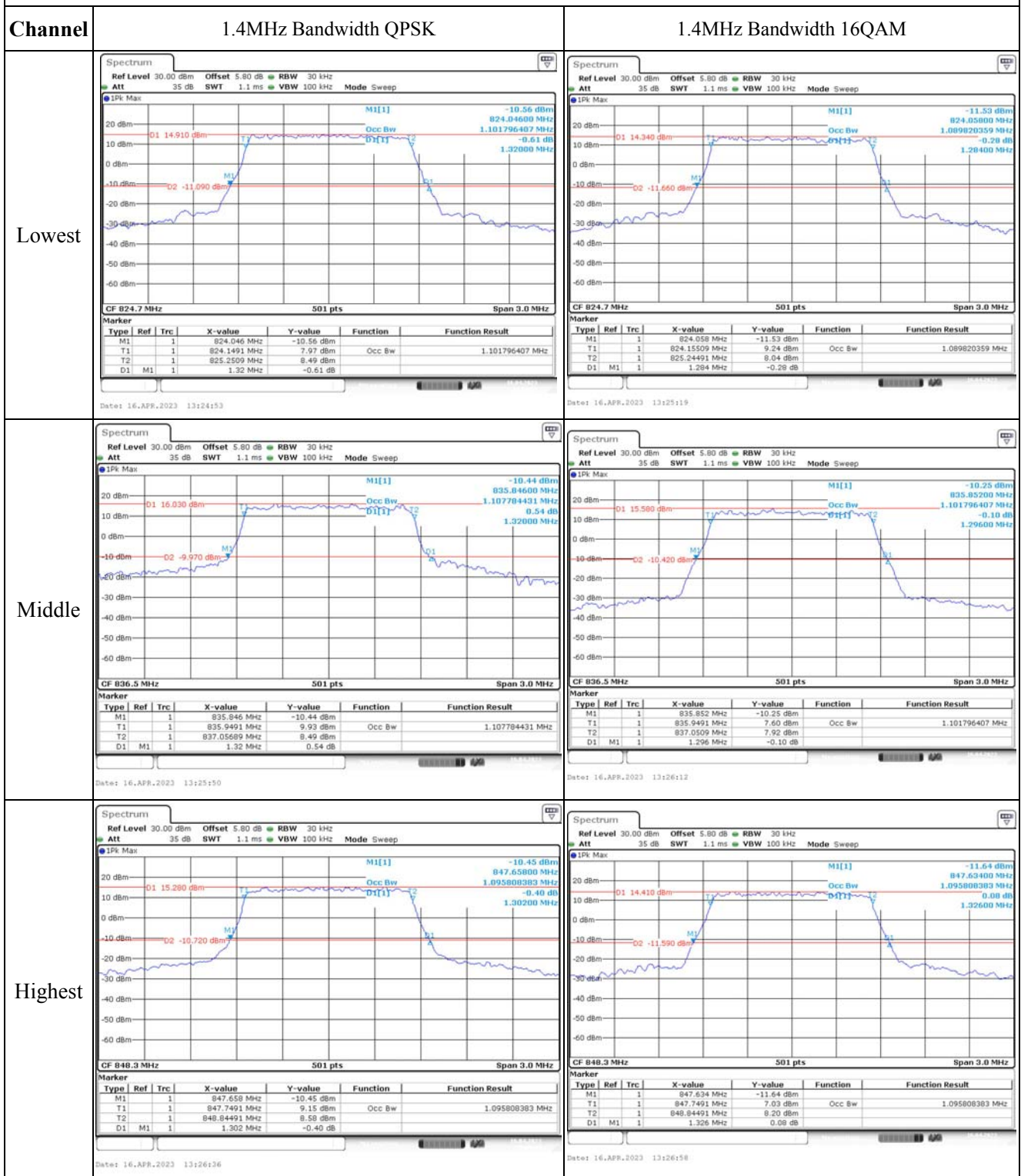
FCC §2.1055, §22.355: Frequency Stability

Test Modulation:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.7	-5.51	-0.007	2.5
	-20	3.7	-9.97	-0.012	2.5
	-10	3.7	-6.13	-0.007	2.5
	0	3.7	6.17	0.007	2.5
	10	3.7	7.92	0.009	2.5
	20	3.7	6.46	0.008	2.5
	30	3.7	-6.52	-0.008	2.5
	40	3.7	7.18	0.009	2.5
	50	3.7	-9.7	-0.012	2.5
Frequency Stability vs. Voltage	20	3.6	-8.17	-0.010	2.5
	20	4.35	-7.05	-0.008	2.5
Result:				Pass	

Test Modulation:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature(°C)	Voltage(V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.7	-7.87	-0.009	2.5
	-20	3.7	-6.68	-0.008	2.5
	-10	3.7	9.77	0.012	2.5
	0	3.7	-7.62	-0.009	2.5
	10	3.7	-9.91	-0.012	2.5
	20	3.7	-9.82	-0.012	2.5
	30	3.7	-6.68	-0.008	2.5
	40	3.7	-8.86	-0.011	2.5
	50	3.7	5.67	0.007	2.5
Frequency Stability vs. Voltage	20	3.6	6.05	0.007	2.5
	20	4.35	7.52	0.009	2.5
Result:				Pass	

Test Plots(Note: The 5.8dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

Occupied Bandwidth



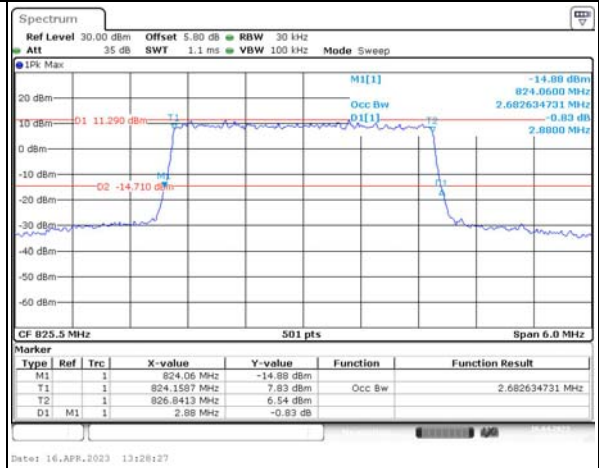
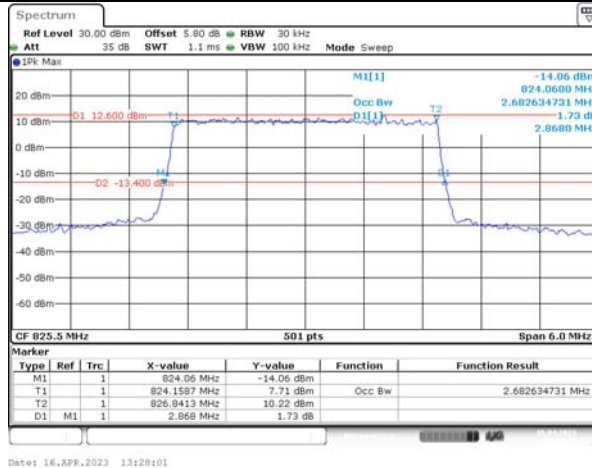
Occupied Bandwidth

Channel

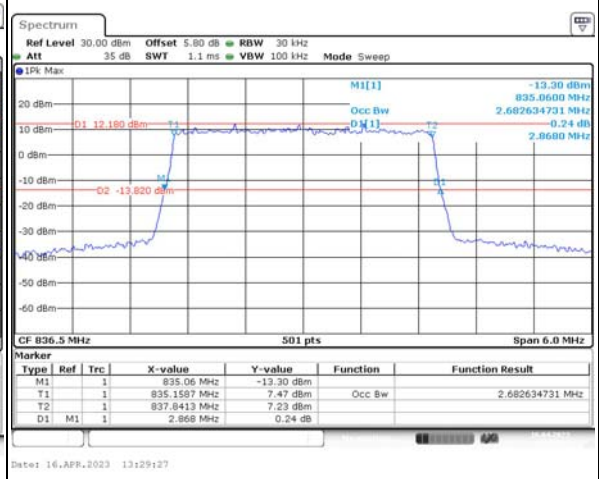
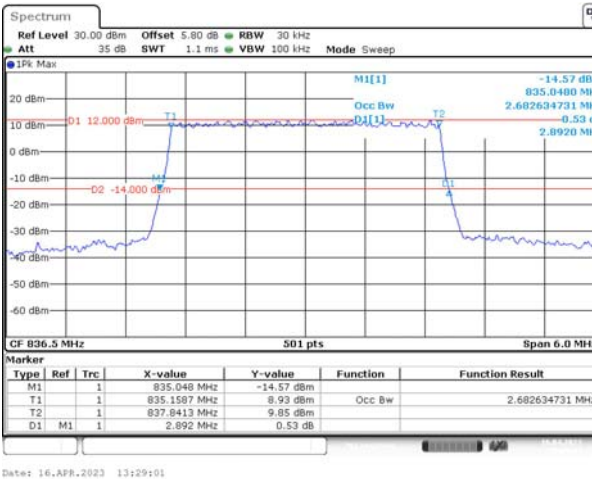
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

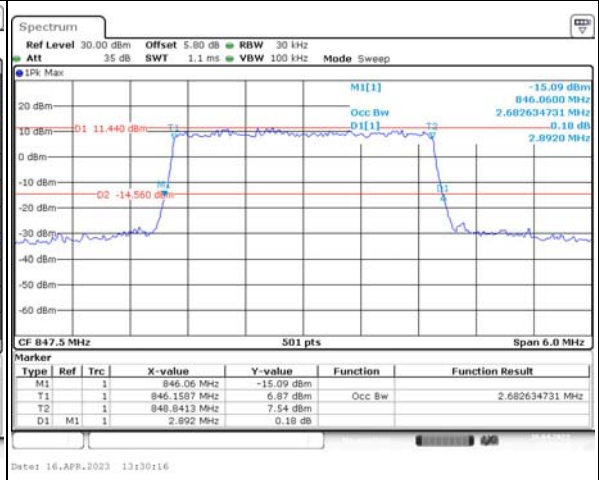
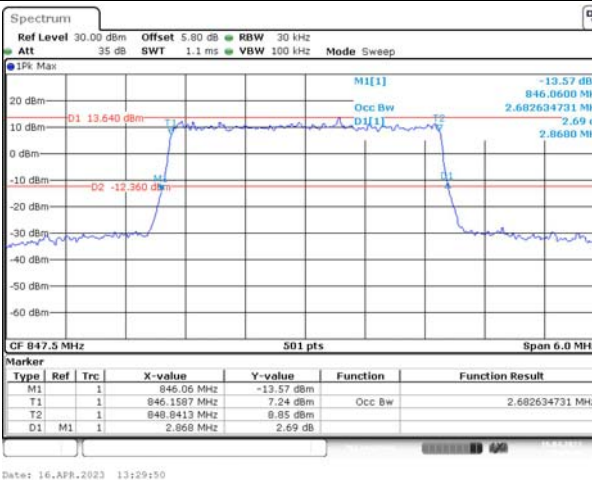
Lowest



Middle



Highest



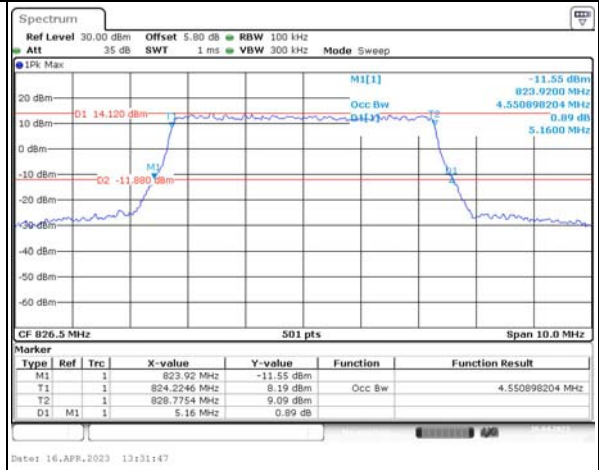
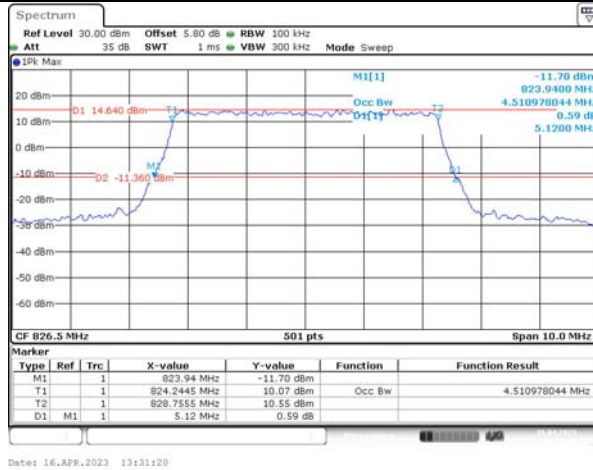
Occupied Bandwidth

Channel

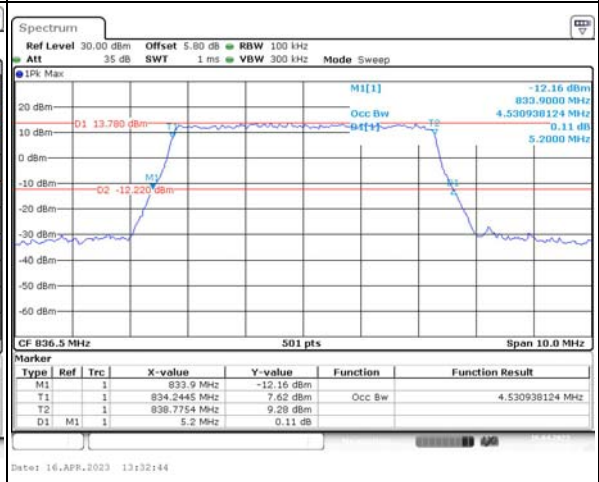
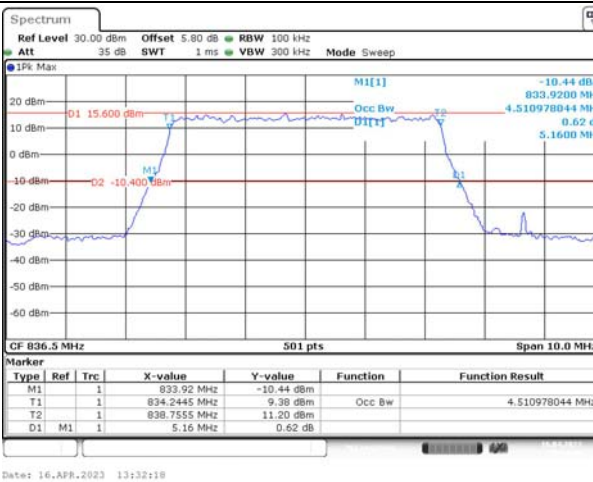
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

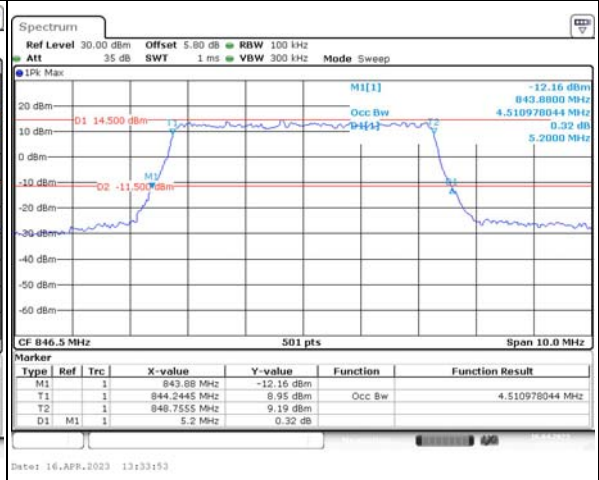
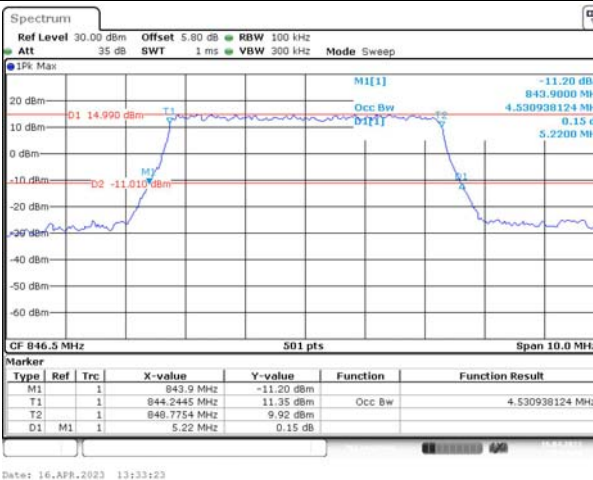
Lowest



Middle



Highest



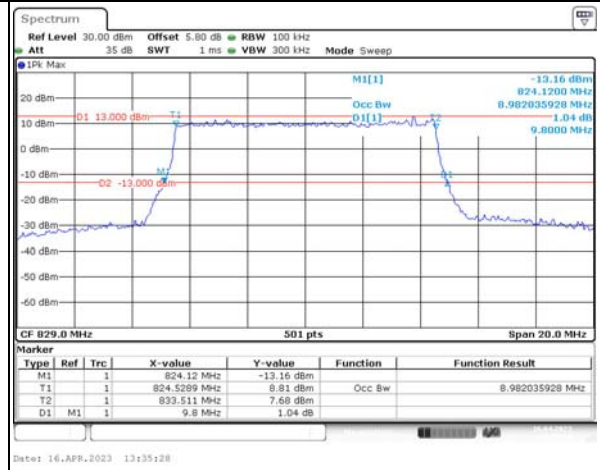
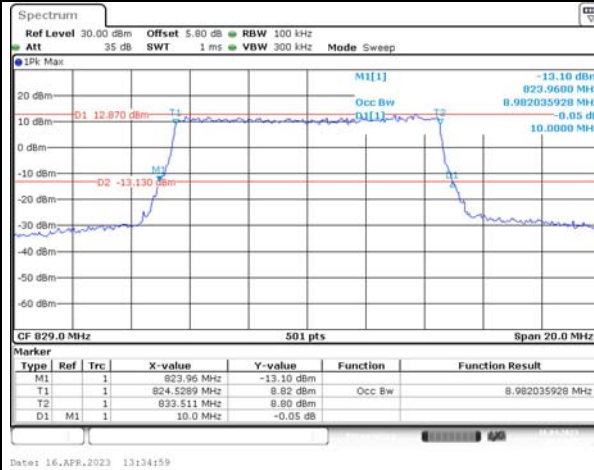
Occupied Bandwidth

Channel

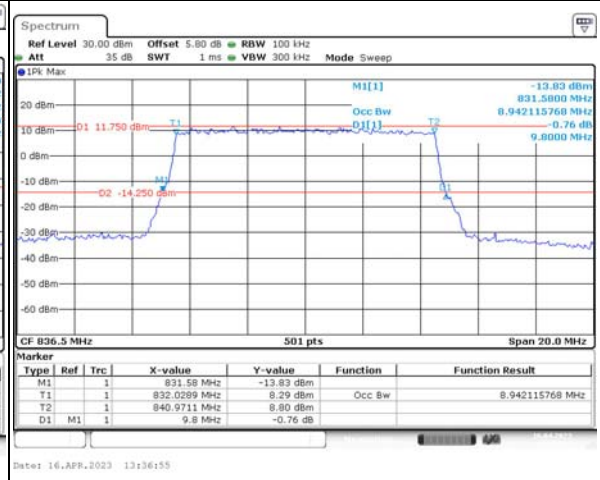
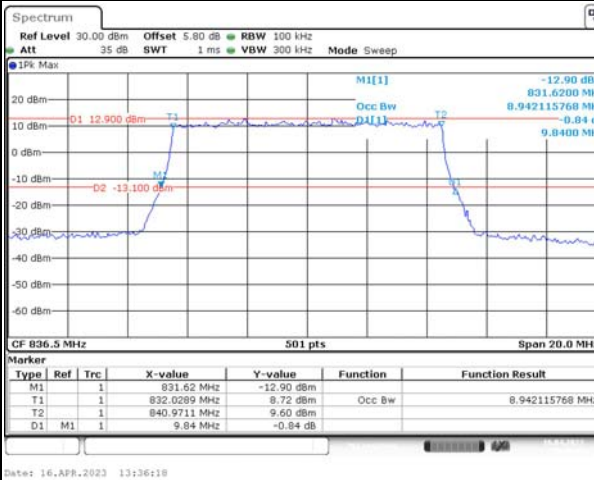
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

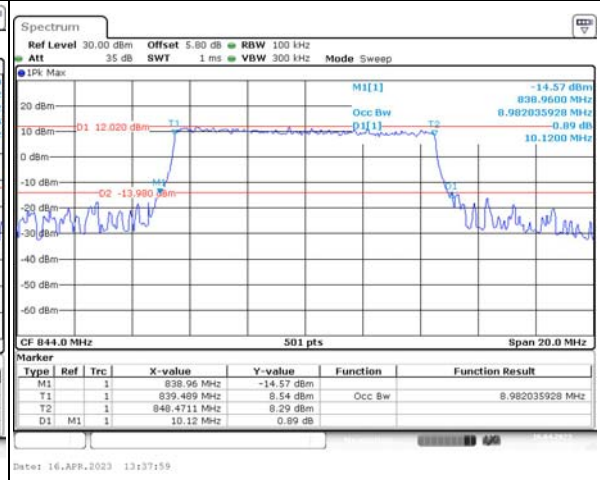
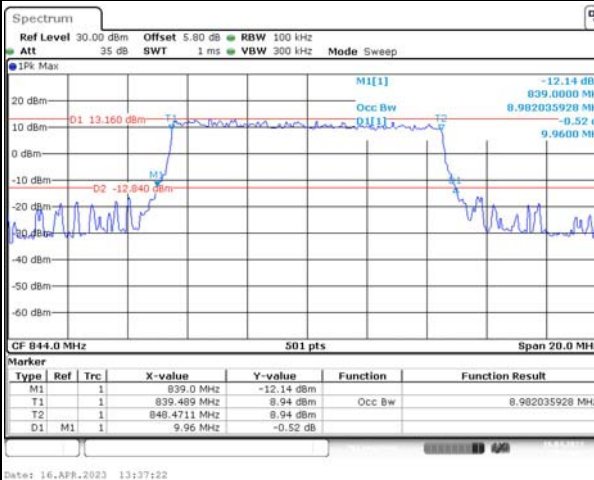
Lowest



Middle



Highest

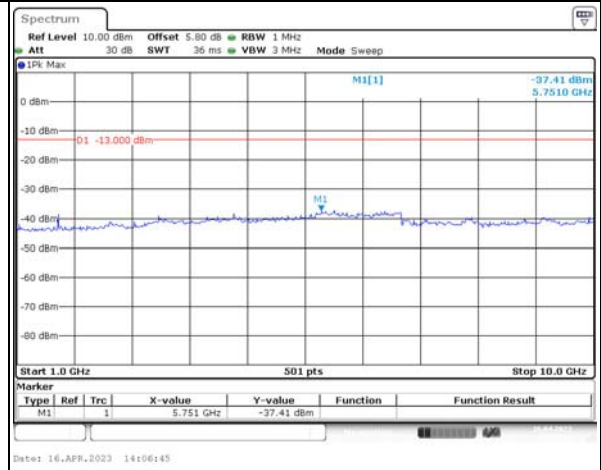
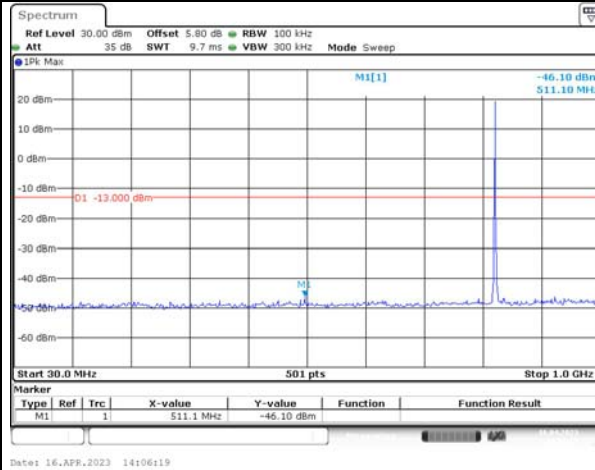


Spurious Emissions at Antenna Terminal

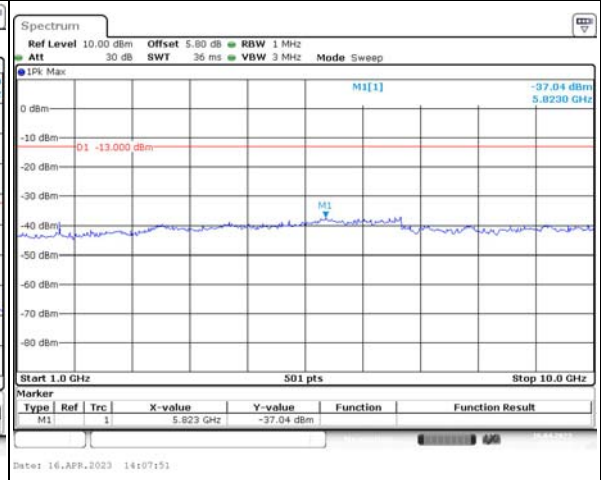
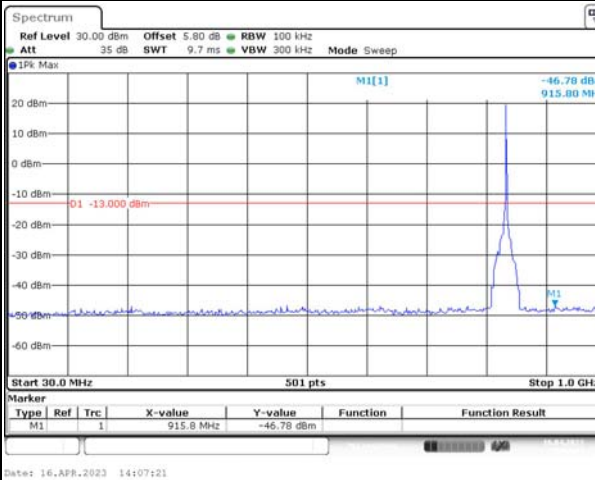
Channel

1.4MHz Bandwidth QPSK

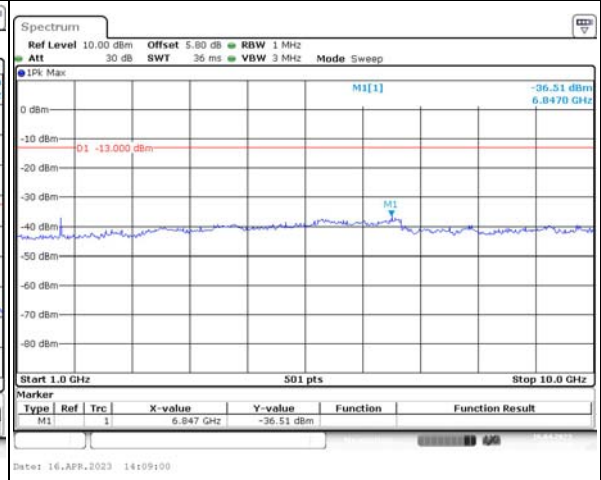
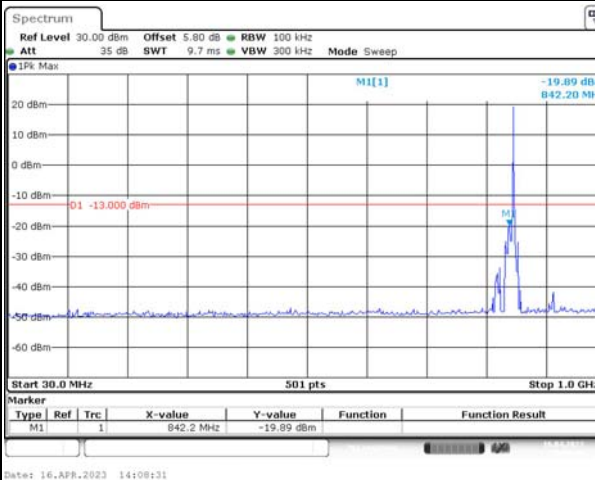
Lowest



Middle



Highest

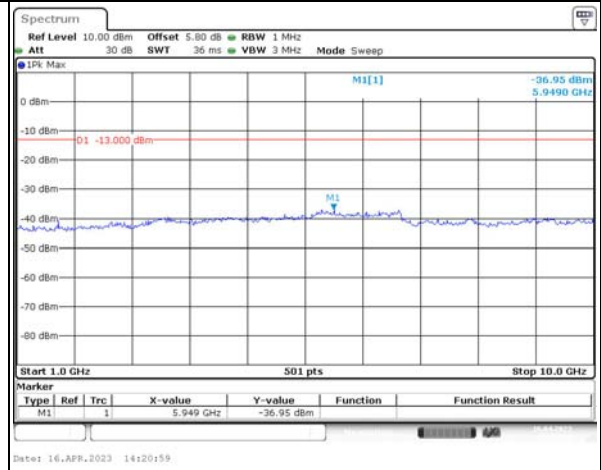
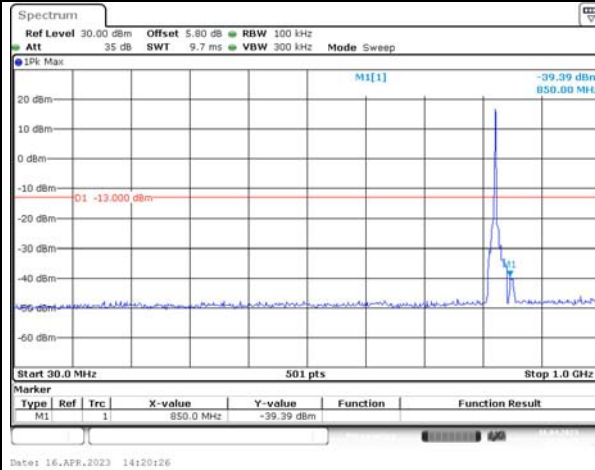


Spurious Emissions at Antenna Terminal

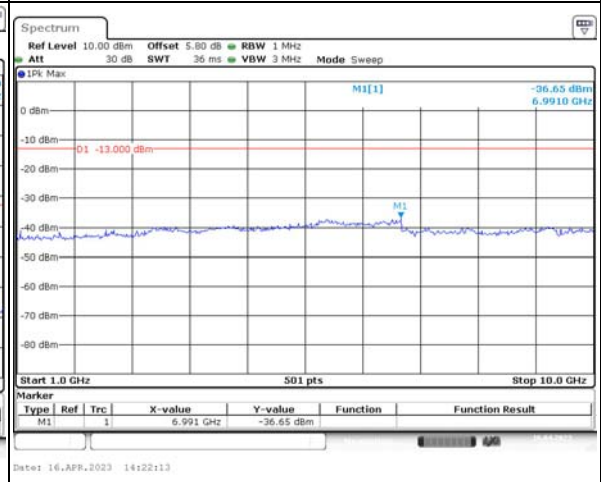
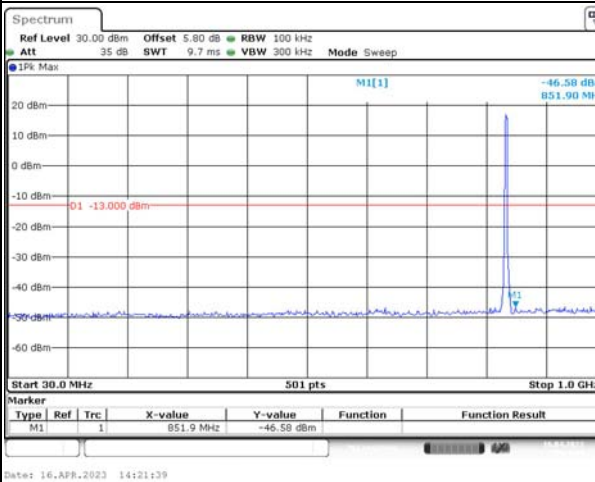
Channel

3MHz Bandwidth QPSK

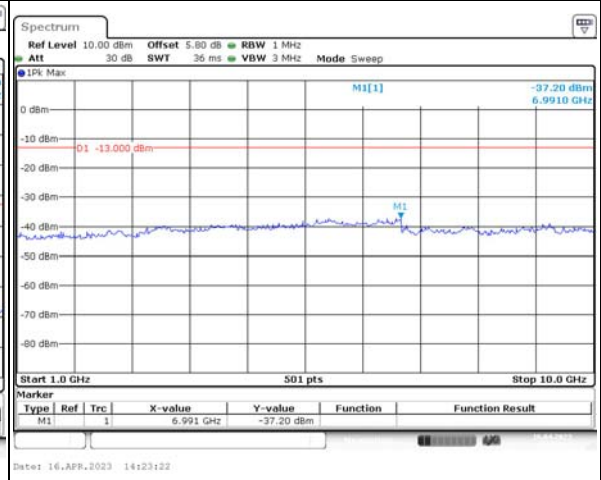
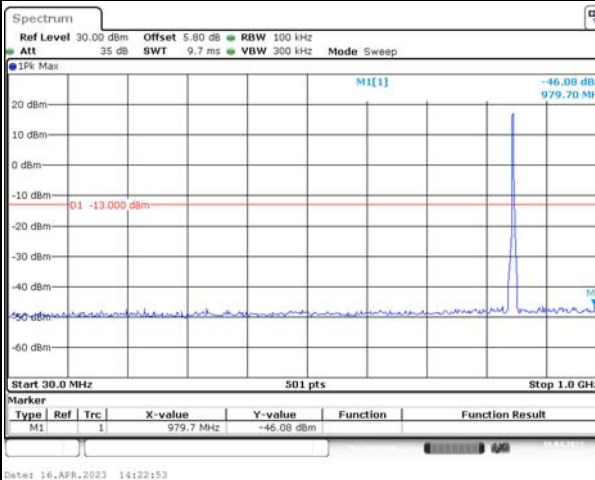
Lowest



Middle



Highest

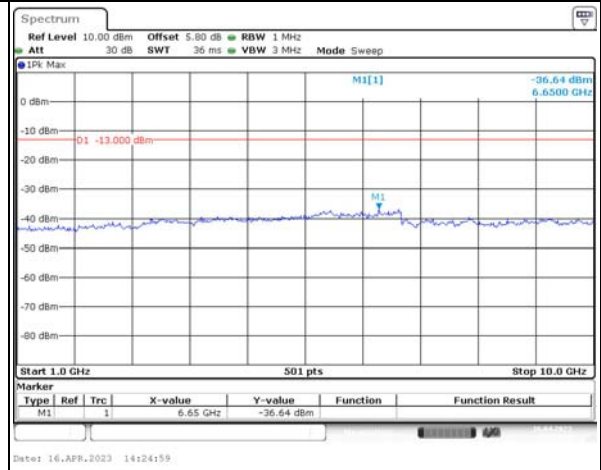
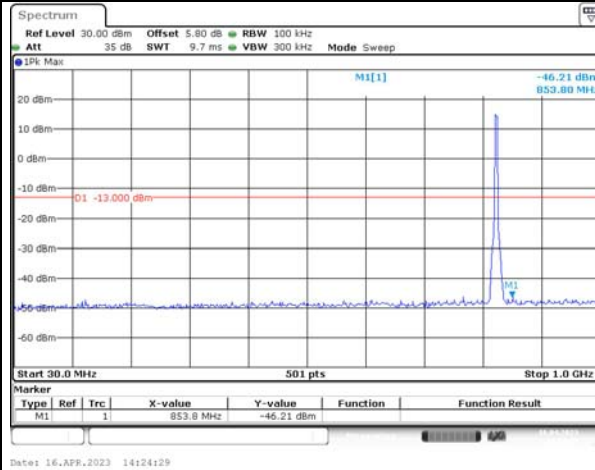


Spurious Emissions at Antenna Terminal

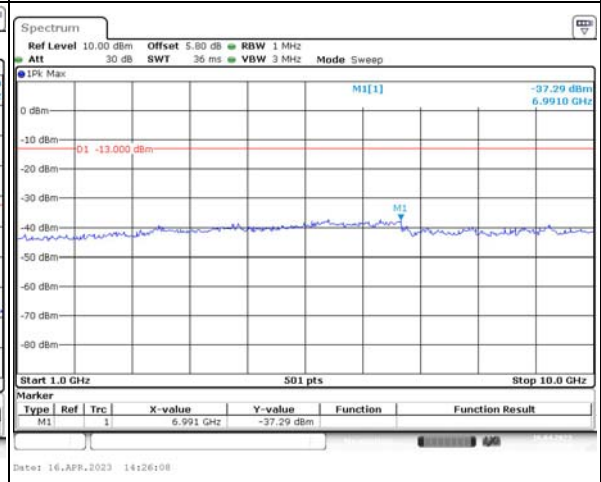
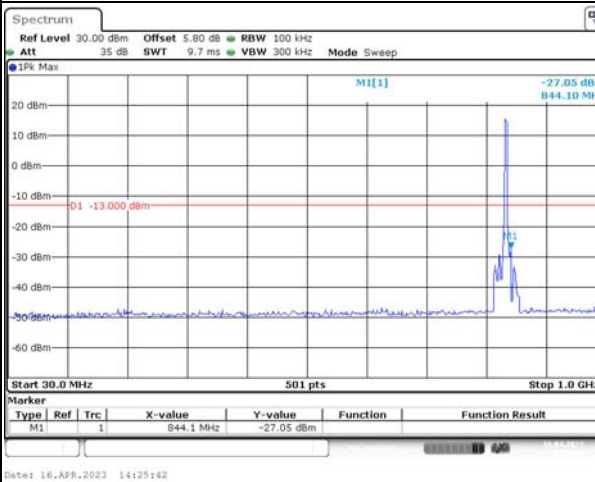
Channel

5MHz Bandwidth QPSK

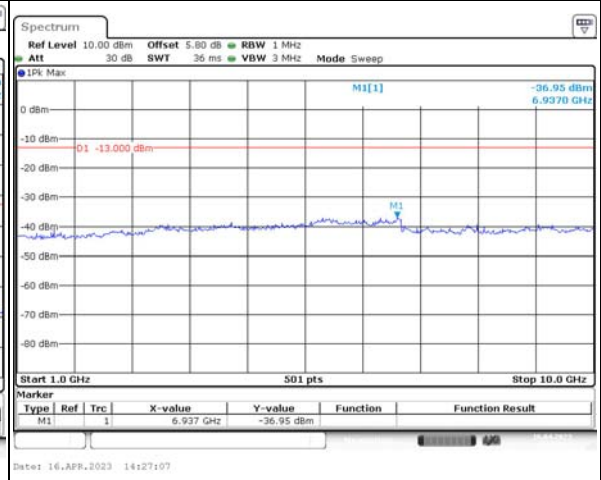
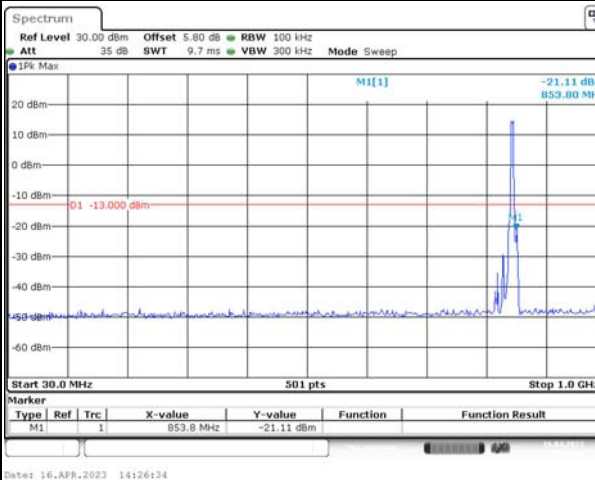
Lowest



Middle



Highest

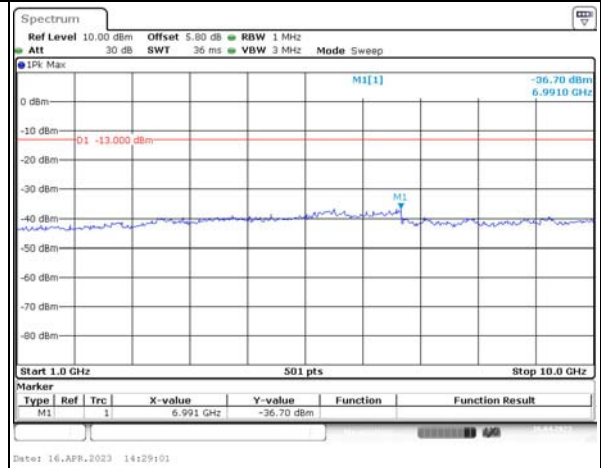
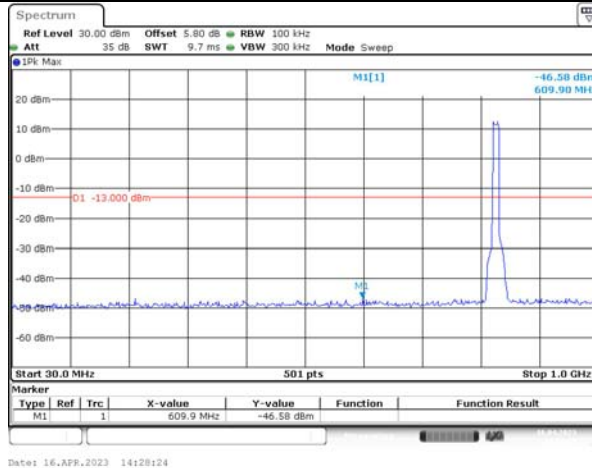


Spurious Emissions at Antenna Terminal

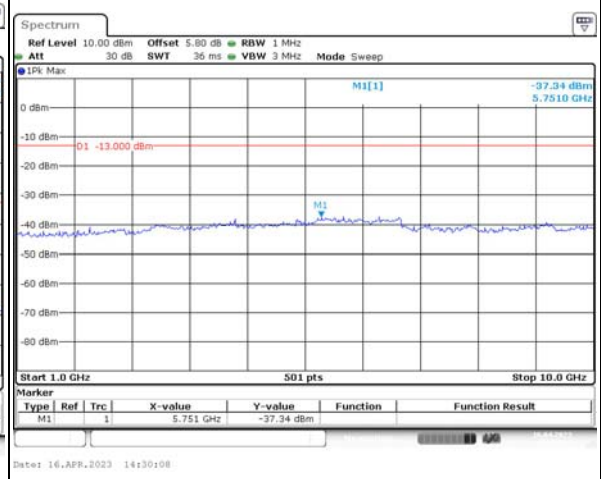
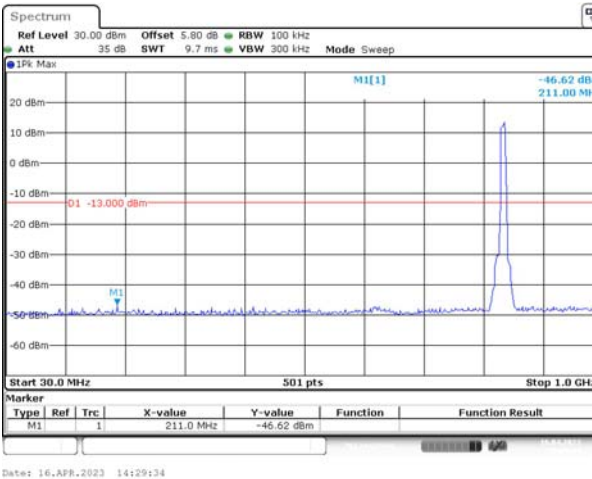
Channel

10MHz Bandwidth QPSK

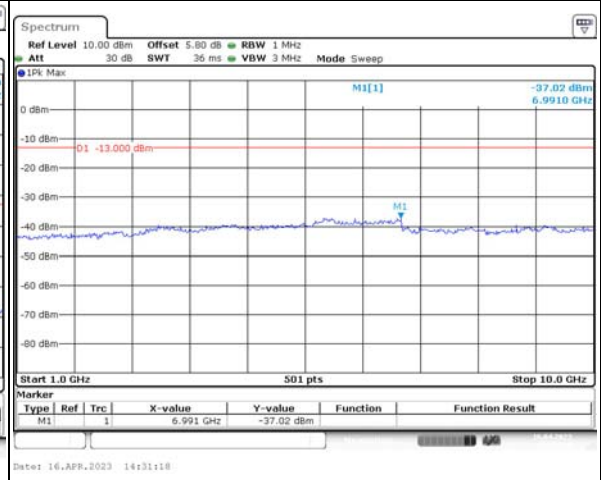
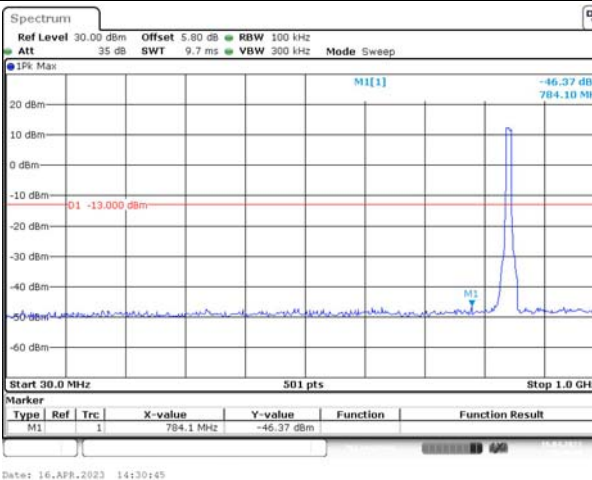
Lowest



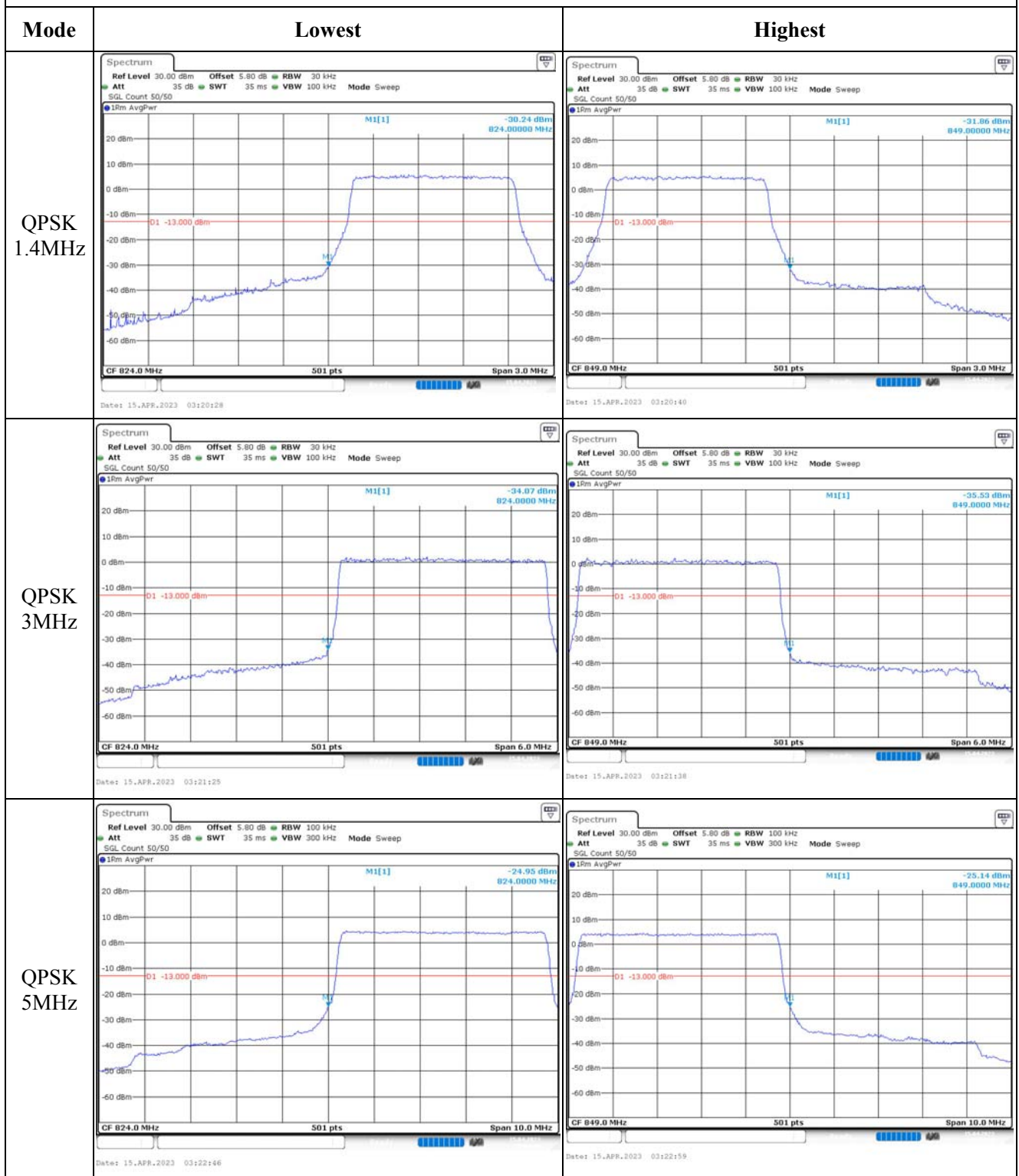
Middle



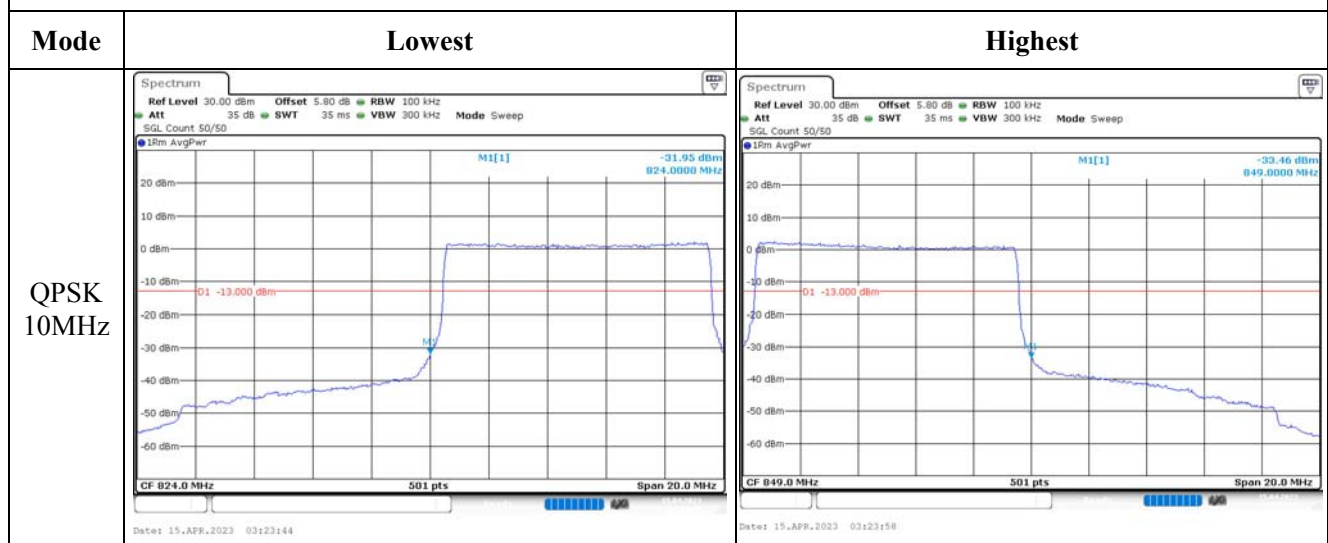
Highest



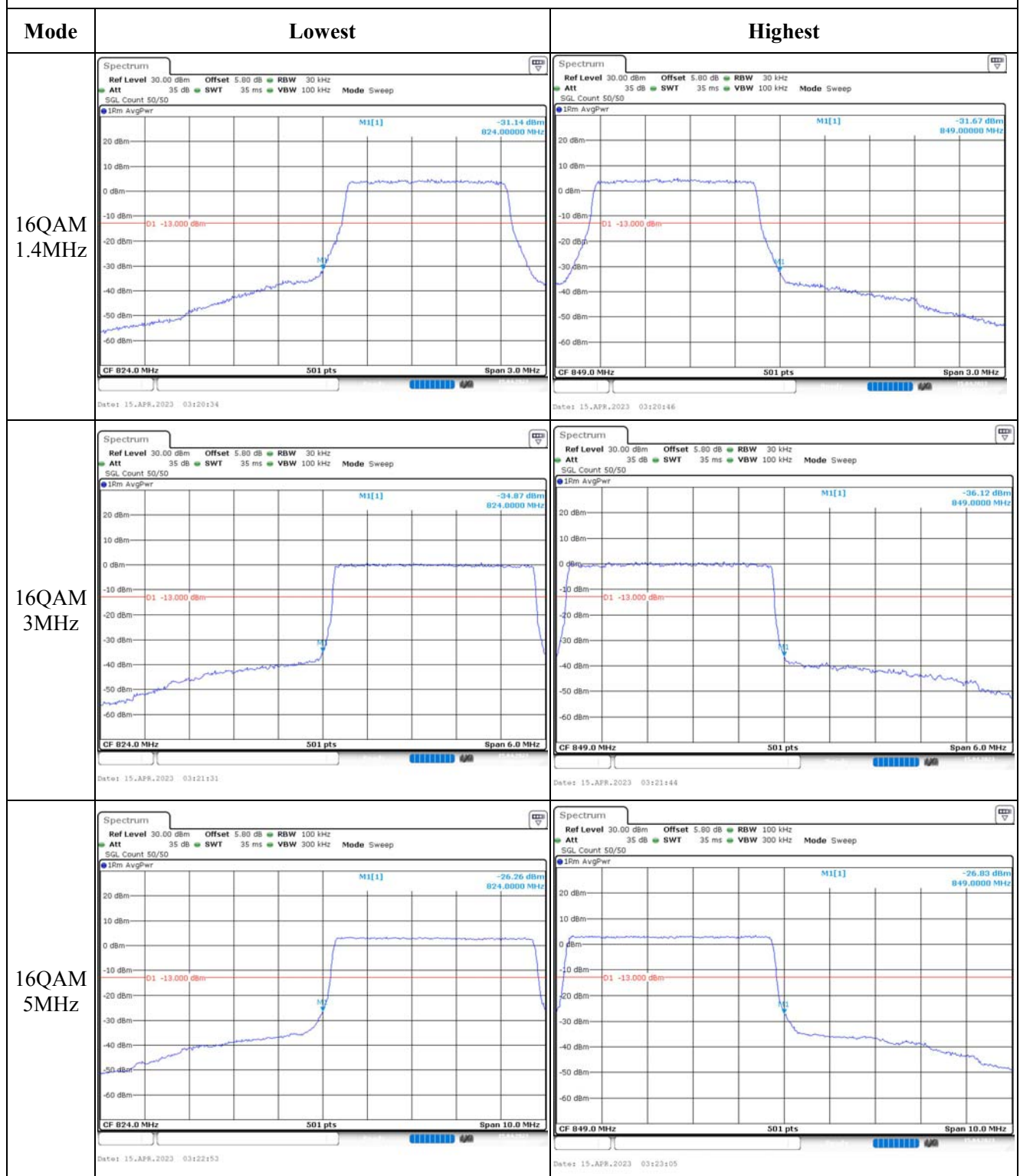
Out of band emission, Band Edge



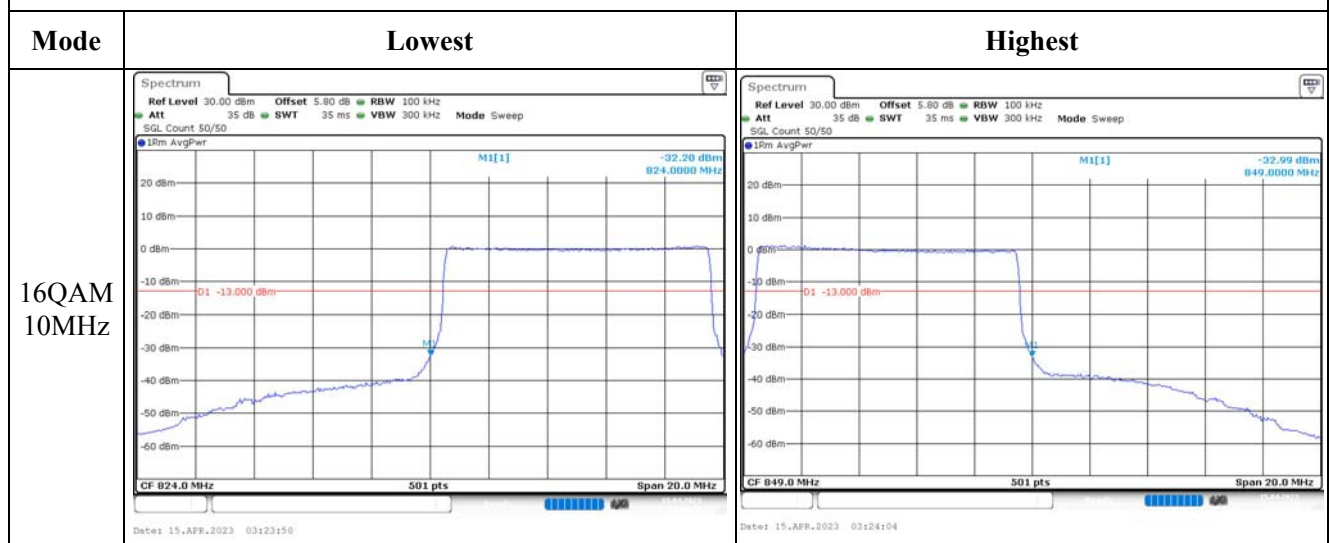
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.5 Antenna Port Test Data and Results for LTE Band 12

Serial Number:	247B_1	Test Date:	2023/4/14~2023/4/21
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	23.2~26.1	Relative Humidity: (%)	38~56	ATM Pressure: (kPa)	99.9~102.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2022-07-15	2023-07-14
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-09-29	2023-09-28
UNI-T	Multimeter	UT39A+	C210582554	N/A	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	2022-07-15	2023-07-14

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	699.7	707.5	715.3
3MHz	700.5	707.5	714.5
5MHz	701.5	707.5	713.5
10MHz	704	707.5	711

Test Data:**FCC§2.1046;§ 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.04	21.2	21.42	19.14	34.77
	RB1#3	21.25	21.38	21.59		
	RB1#5	21.11	21.24	21.42		
	RB3#0	21.09	21.31	21.48		
	RB3#3	21.14	21.36	21.46		
	RB6#0	20.14	20.37	20.52		
1.4MHz 16QAM	RB1#0	20.11	20.24	20.42	18.32	34.77
	RB1#3	20.37	20.47	20.63		
	RB1#5	20.18	20.32	20.45		
	RB3#0	20.06	20.46	20.72		
	RB3#3	20.16	20.48	20.77		
	RB6#0	19.13	19.32	19.51		
3MHz QPSK	RB1#0	21.06	21.23	21.4	19.01	34.77
	RB1#8	21.18	21.19	21.46		
	RB1#14	21.13	21.23	21.44		
	RB6#0	20.03	20.27	20.39		
	RB6#9	20.05	20.31	20.42		
	RB15#0	20.06	20.28	20.47		
3MHz 16QAM	RB1#0	20.02	20.88	20.5	18.43	34.77
	RB1#8	20.17	20.88	20.64		
	RB1#14	20.14	20.87	20.57		
	RB6#0	18.92	19.29	19.38		
	RB6#9	19.03	19.33	19.46		
	RB15#0	19.08	19.33	19.35		
5MHz QPSK	RB1#0	20.96	21.2	21.22	18.99	34.77
	RB1#13	21.12	21.32	21.44		
	RB1#24	21.11	21.23	21.4		
	RB15#0	20.14	20.32	20.39		
	RB15#10	20.12	20.39	20.43		
	RB25#0	20.09	20.37	20.45		
5MHz 16QAM	RB1#0	19.95	20.08	20.6	18.37	34.77
	RB1#13	20.18	20.24	20.82		
	RB1#24	20.21	20.19	20.73		
	RB15#0	19.12	19.33	19.36		
	RB15#10	19.1	19.4	19.37		
	RB25#0	19.1	19.36	19.4		
10MHz QPSK	RB1#0	21.05	21.04	21.2	19.04	34.77
	RB1#25	21.31	21.3	21.48		
	RB1#49	21.35	21.39	21.49		

10MHz 16QAM	RB25#0	20.28	20.34	20.28	18.6	34.77
	RB25#25	20.35	20.55	20.47		
	RB50#0	20.31	20.48	20.39		
	RB1#0	19.99	20.69	20.35		
	RB1#25	20.41	21.05	20.66		
	RB1#49	20.38	21.01	20.62		
	RB25#0	19.29	19.38	19.27		
	RB25#25	19.4	19.56	19.48		
	RB50#0	19.27	19.41	19.36		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)

Gr(dBd)=Gr(dBi)-2.15

Result:

Pass

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit(dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	5.8	5.74	5.65	13
	RB50#0	5.57	5.62	5.45	13
10MHz 16QAM	RB1#0	6.67	6.72	6.14	13
	RB50#0	6.35	6.43	6.35	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.096	1.102	1.096	1.32	1.296	1.302
1.4MHz 16QAM	1.09	1.102	1.102	1.29	1.29	1.326
3MHz QPSK	2.683	2.695	2.683	2.88	2.88	2.892
3MHz 16QAM	2.683	2.683	2.671	2.892	2.88	2.868
5MHz QPSK	4.531	4.531	4.511	5.22	5.14	5.18
5MHz 16QAM	4.551	4.531	4.511	5.18	5.24	5.12
10MHz QPSK	8.942	8.942	8.982	9.8	10	9.96
10MHz 16QAM	8.942	8.942	8.982	9.84	9.96	9.8

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

FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, §27.53: 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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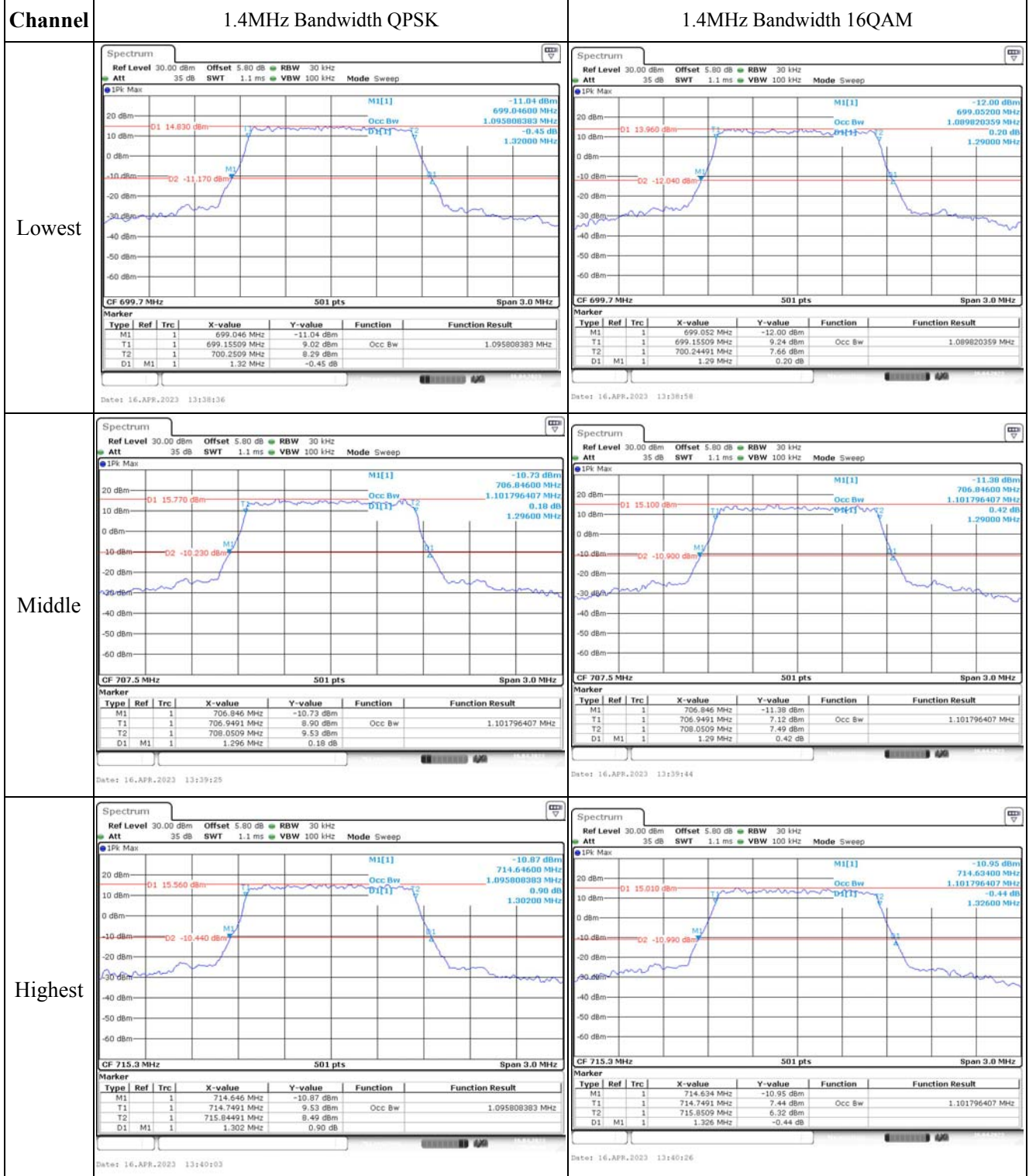
FCC §2.1055, §27.54: Frequency Stability

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	699.574	699.00	715.589	716.00
	-20	3.7	699.554	699.00	715.581	716.00
	-10	3.7	699.586	699.00	715.547	716.00
	0	3.7	699.600	699.00	715.547	716.00
	10	3.7	699.572	699.00	715.523	716.00
	20	3.7	699.529	699.00	715.511	716.00
	30	3.7	699.545	699.00	715.560	716.00
	40	3.7	699.506	699.00	715.557	716.00
	50	3.7	699.504	699.00	715.506	716.00
Frequency Stability vs. Voltage	20	3.6	699.563	699.00	715.592	716.00
	20	4.35	699.563	699.00	715.588	716.00
Result:					Pass	

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	699.514	699.00	715.571	716.00
	-20	3.7	699.505	699.00	715.533	716.00
	-10	3.7	699.544	699.00	715.556	716.00
	0	3.7	699.532	699.00	715.578	716.00
	10	3.7	699.568	699.00	715.524	716.00
	20	3.7	699.529	699.00	715.511	716.00
	30	3.7	699.501	699.00	715.554	716.00
	40	3.7	699.588	699.00	715.544	716.00
	50	3.7	699.510	699.00	715.595	716.00
Frequency Stability vs. Voltage	20	3.6	699.505	699.00	715.586	716.00
	20	4.35	699.534	699.00	715.578	716.00
Result:					Pass	

Test Plots(Note: The 5.8dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

Occupied Bandwidth



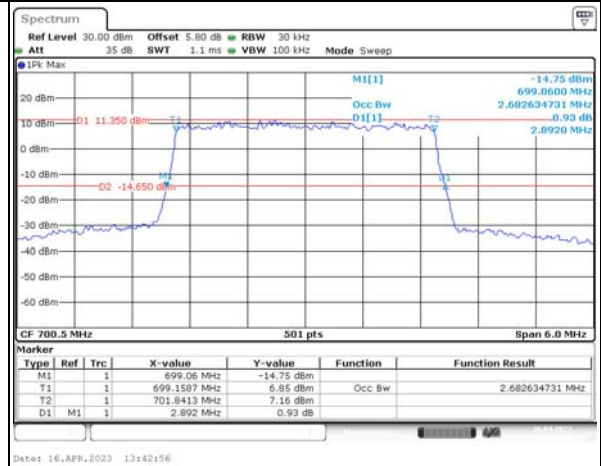
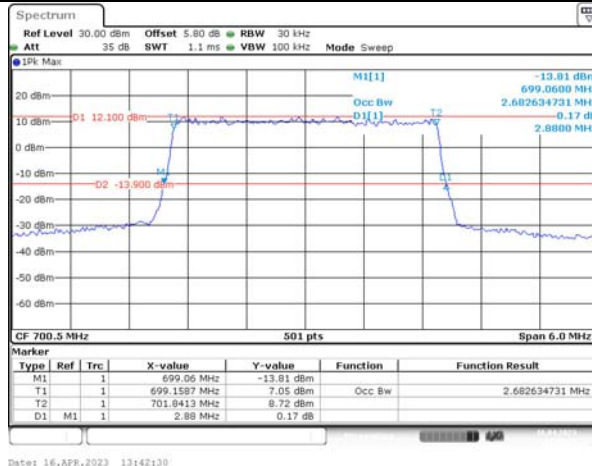
Occupied Bandwidth

Channel

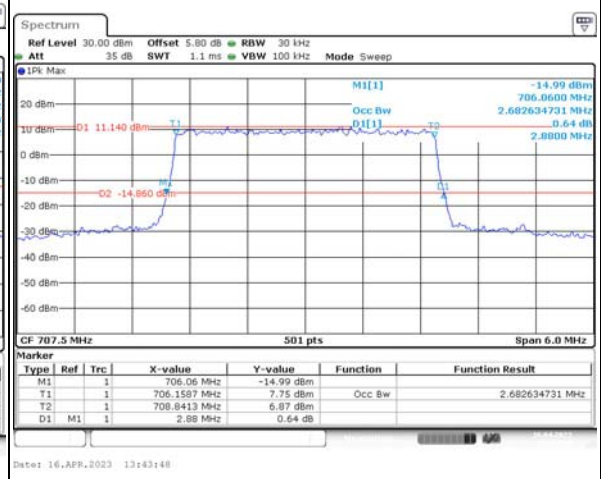
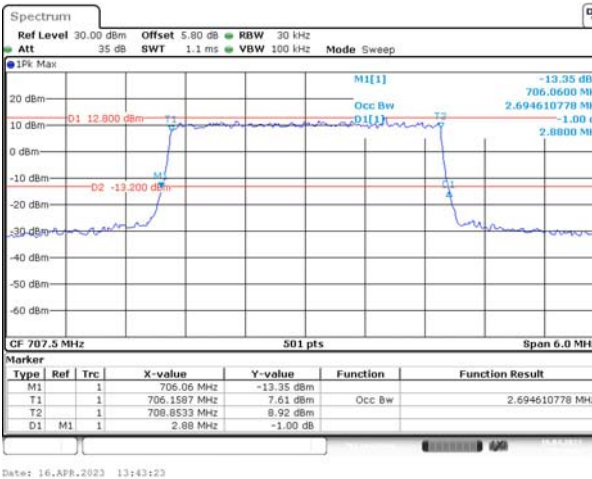
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

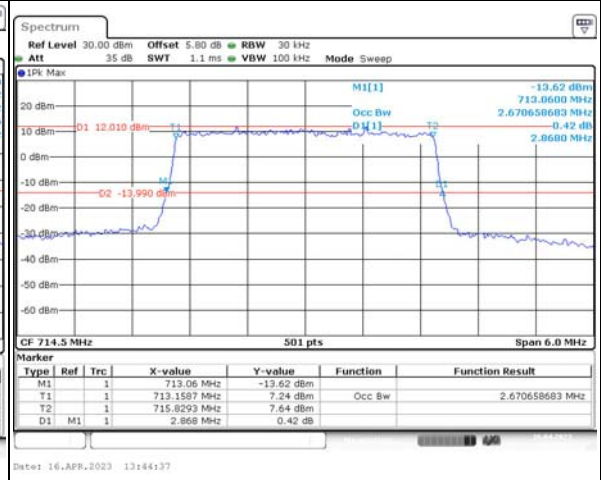
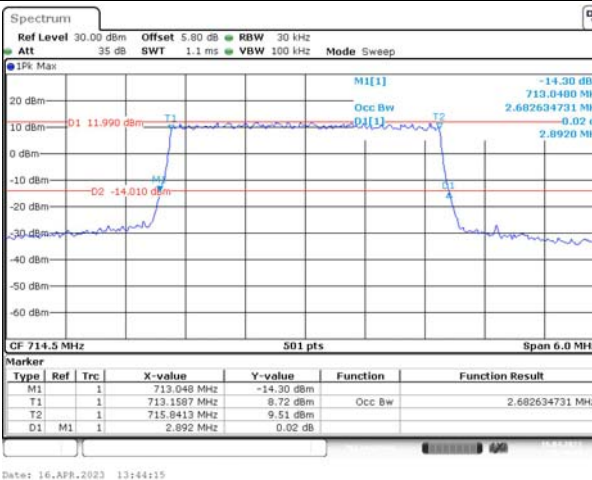
Lowest



Middle



Highest



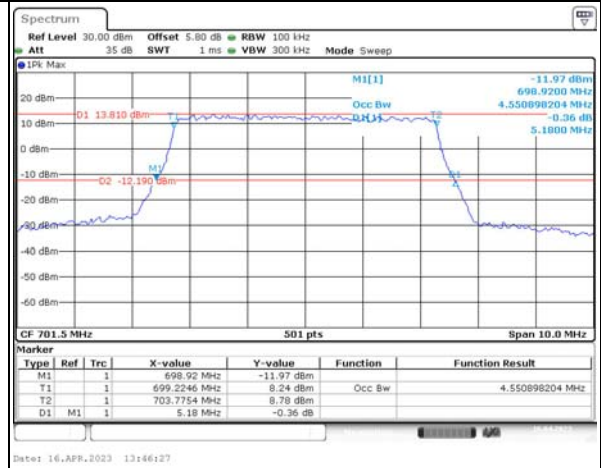
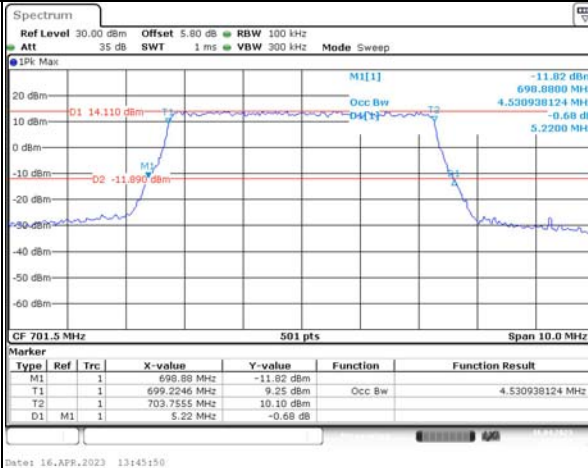
Occupied Bandwidth

Channel

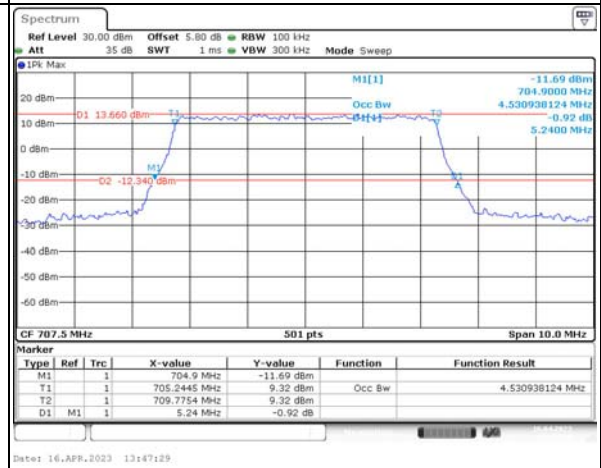
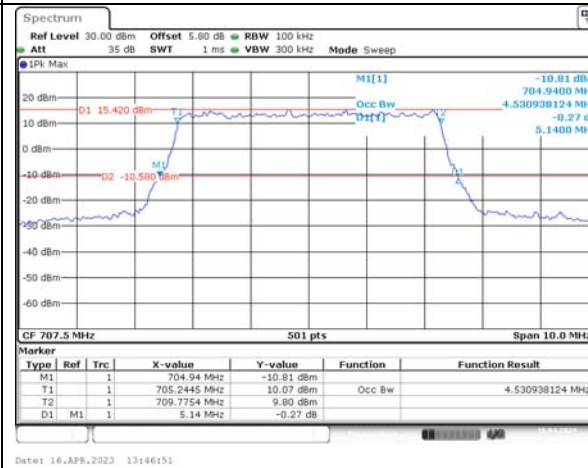
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

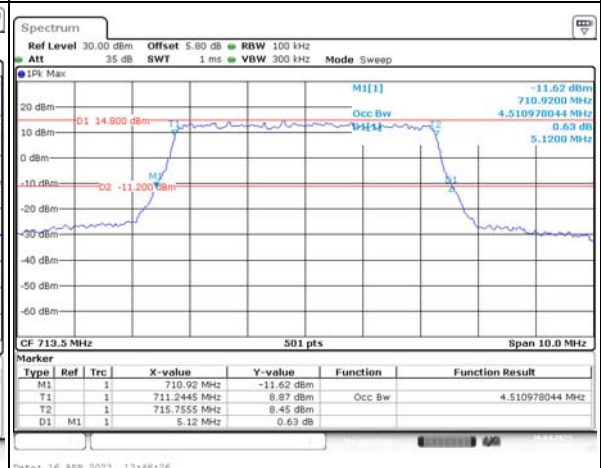
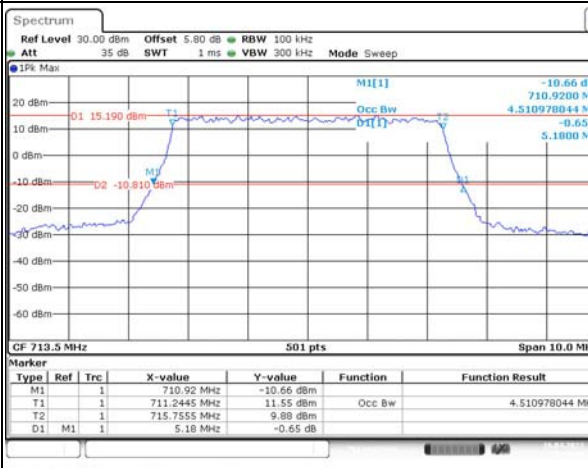
Lowest



Middle



Highest



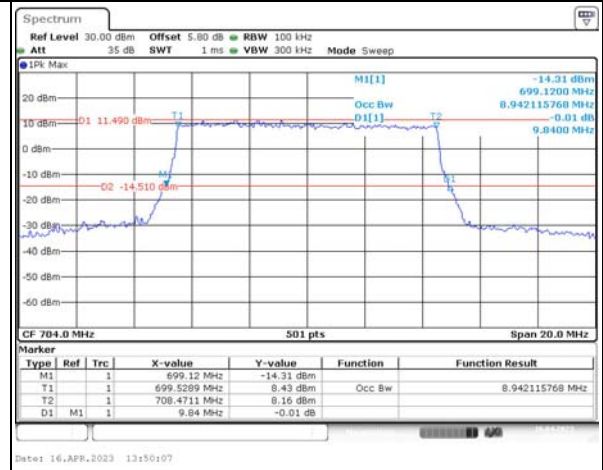
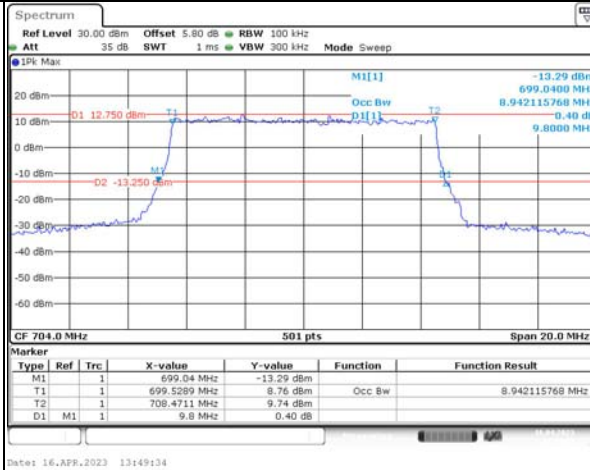
Occupied Bandwidth

Channel

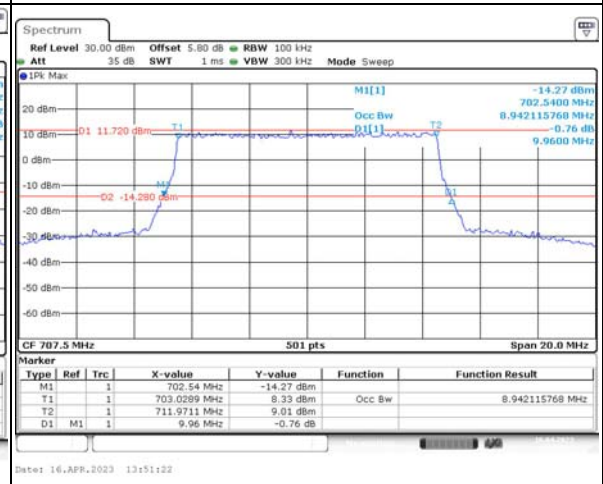
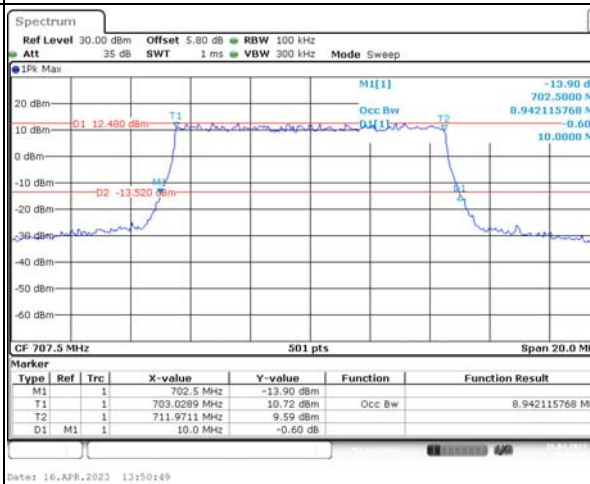
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

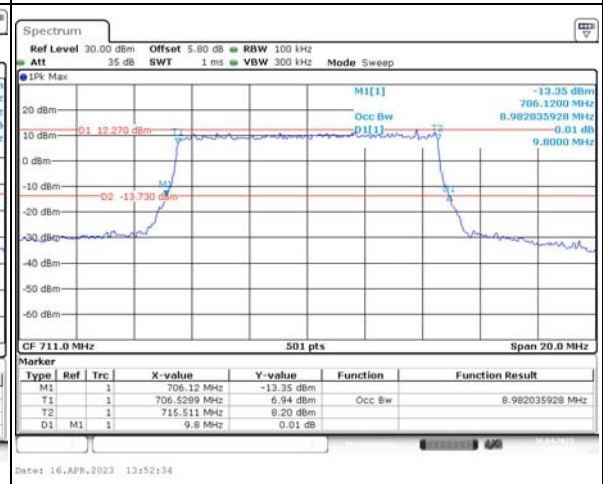
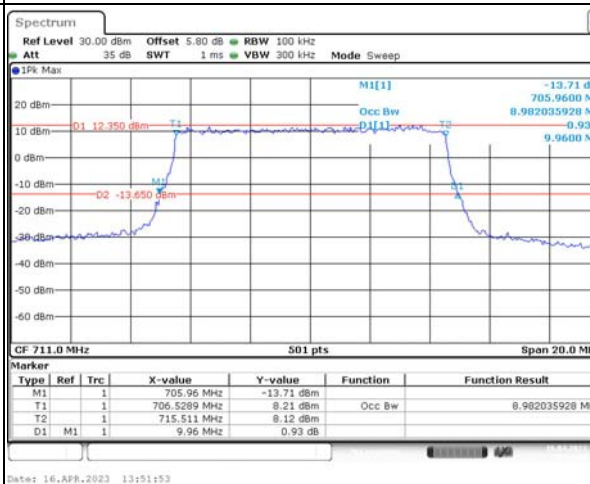
Lowest



Middle



Highest

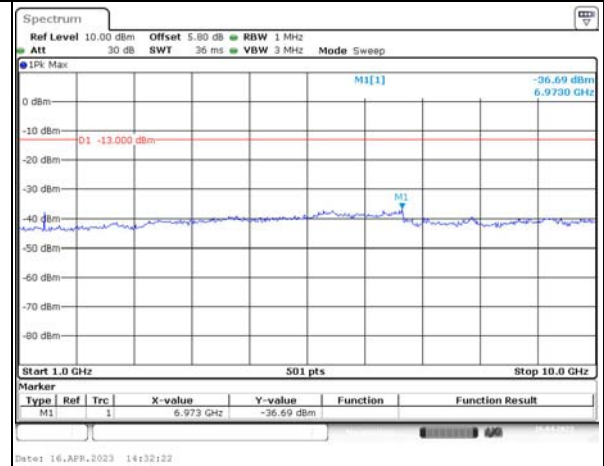
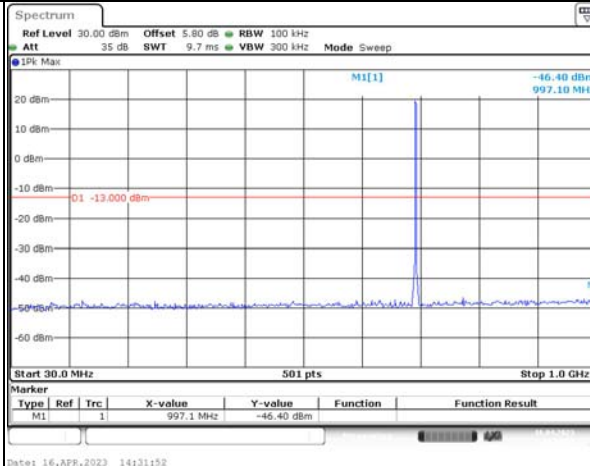


Spurious Emissions at Antenna Terminal

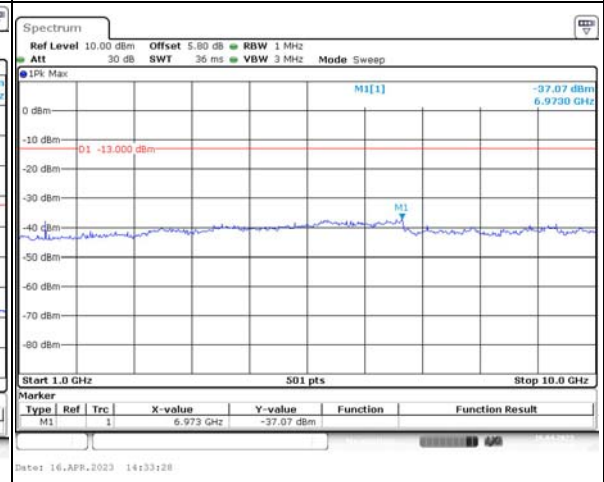
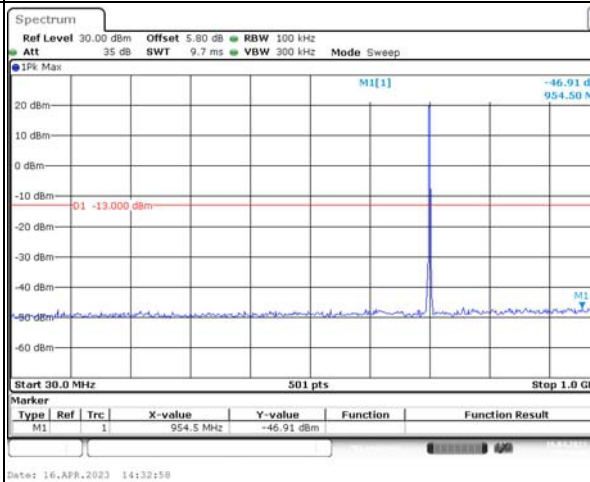
Channel

1.4MHz Bandwidth QPSK

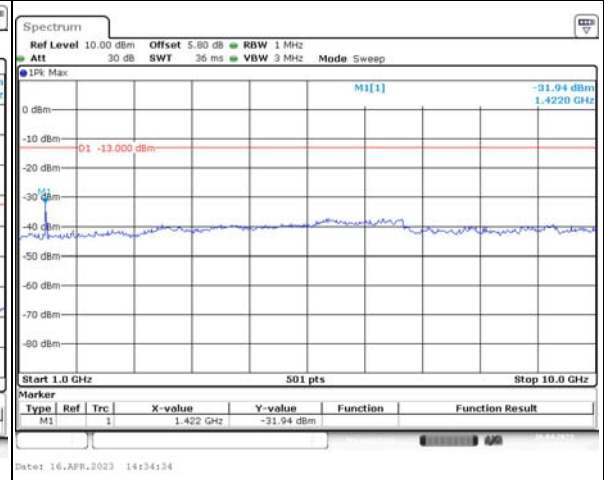
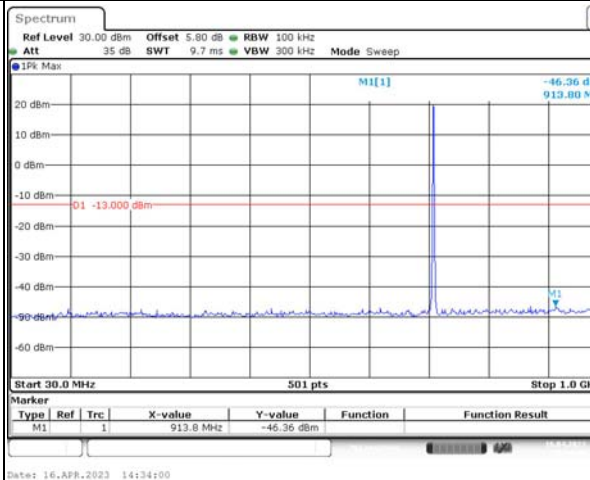
Lowest



Middle



Highest

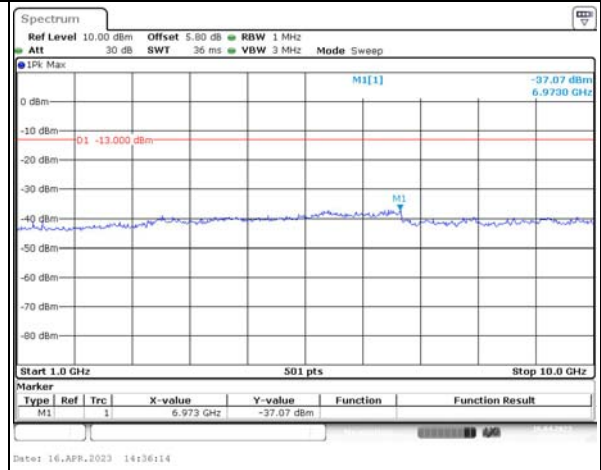
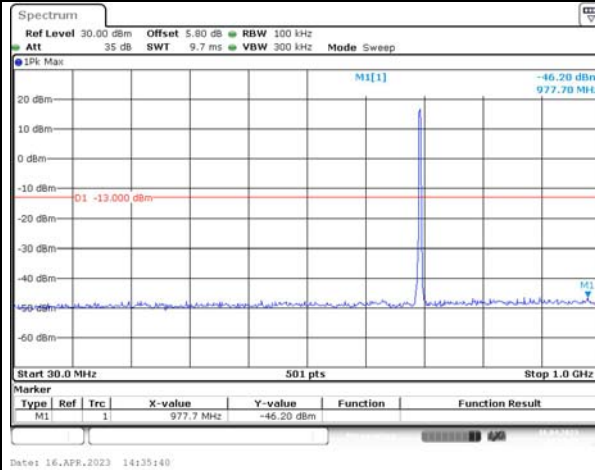


Spurious Emissions at Antenna Terminal

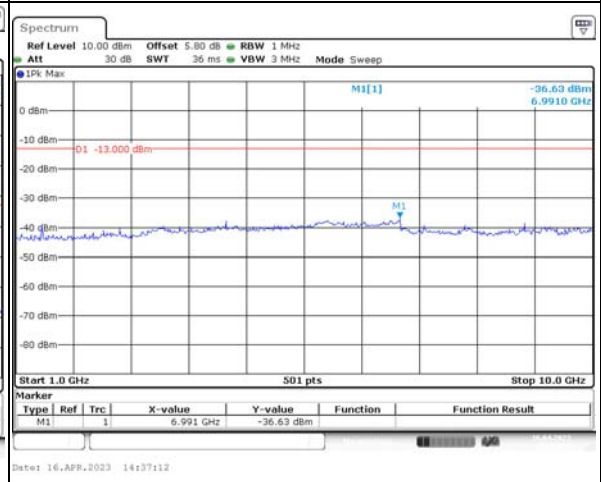
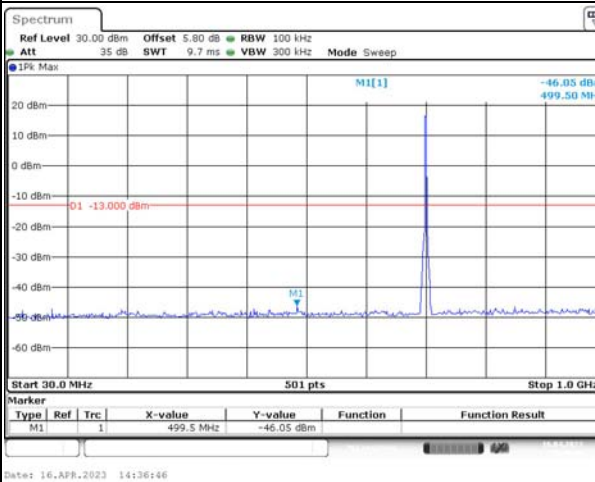
Channel

3MHz Bandwidth QPSK

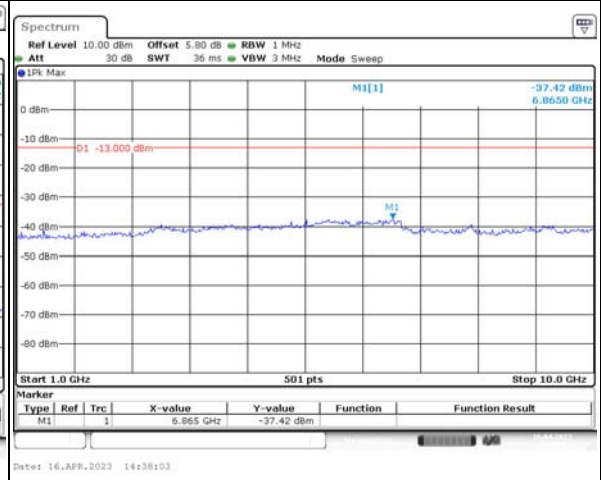
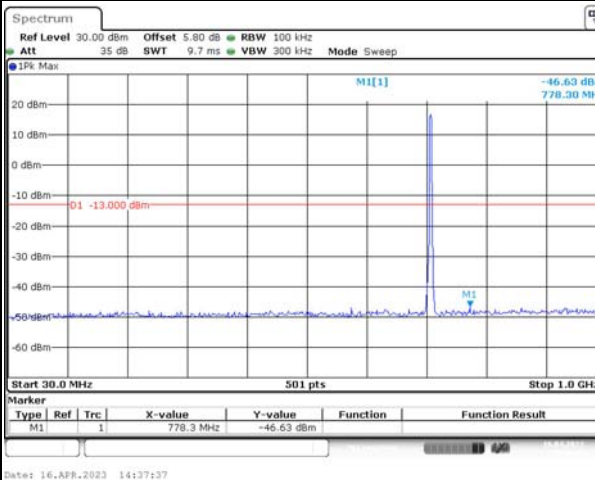
Lowest



Middle



Highest

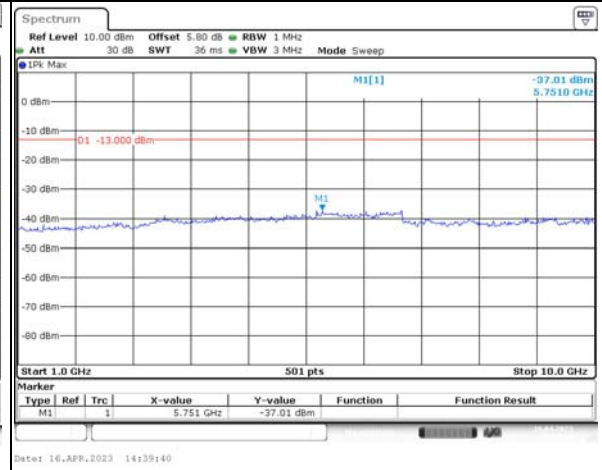
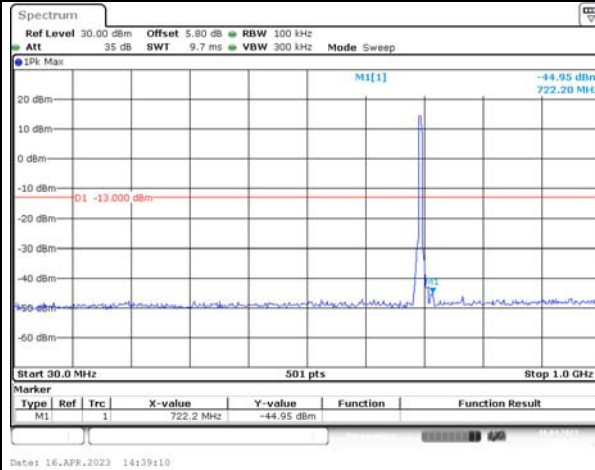


Spurious Emissions at Antenna Terminal

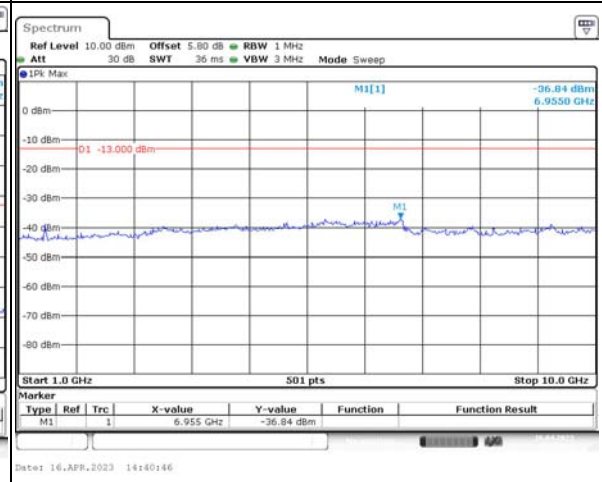
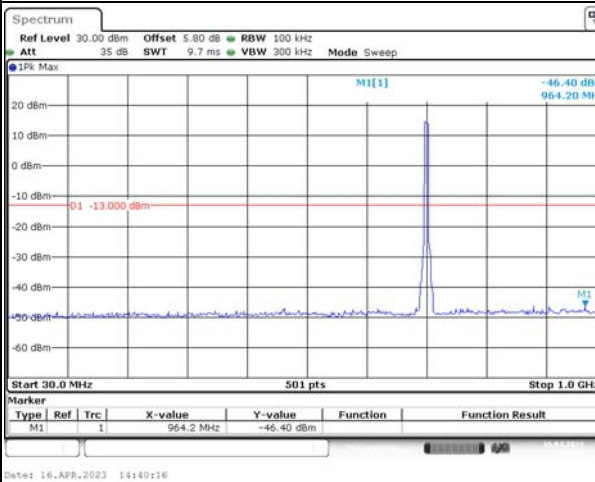
Channel

5MHz Bandwidth QPSK

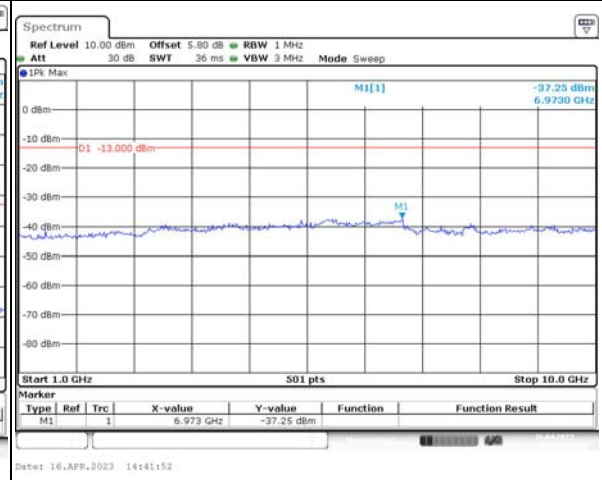
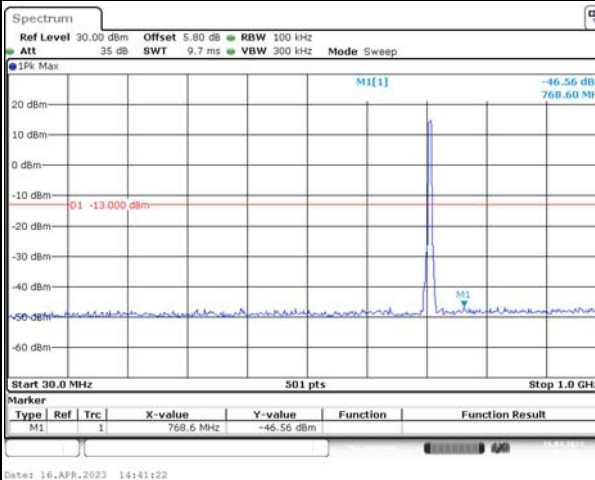
Lowest



Middle



Highest

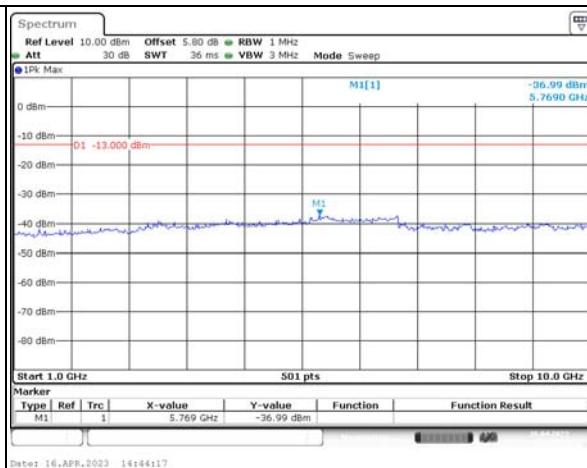
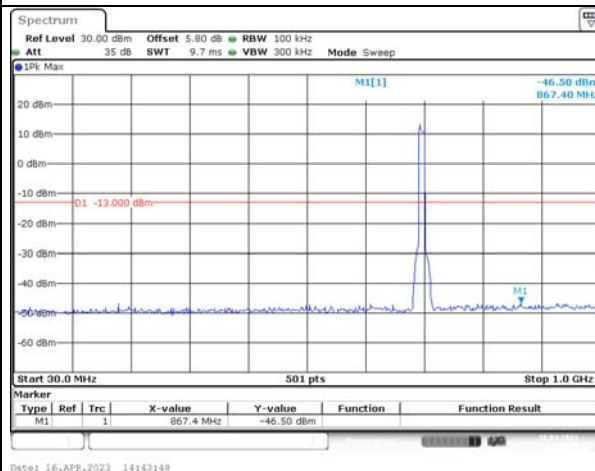


Spurious Emissions at Antenna Terminal

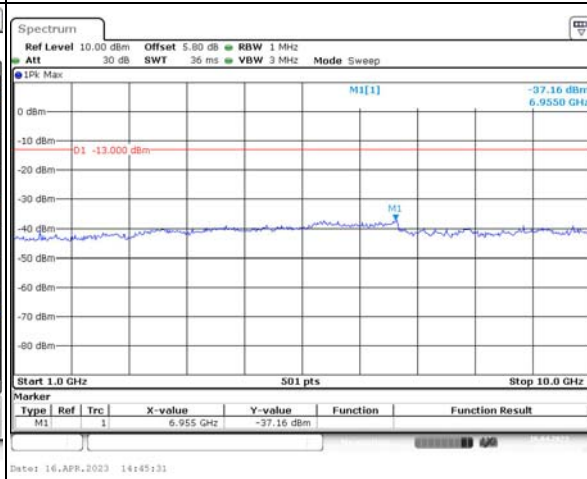
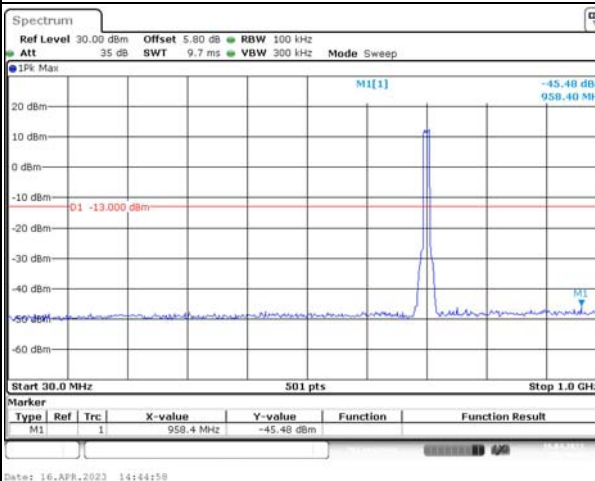
Channel

10MHz Bandwidth QPSK

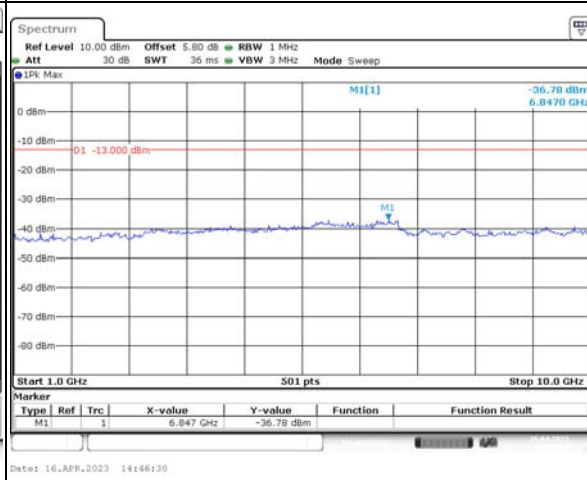
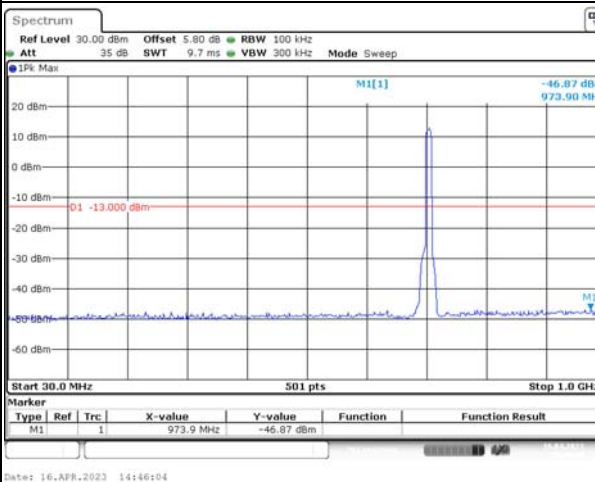
Lowest



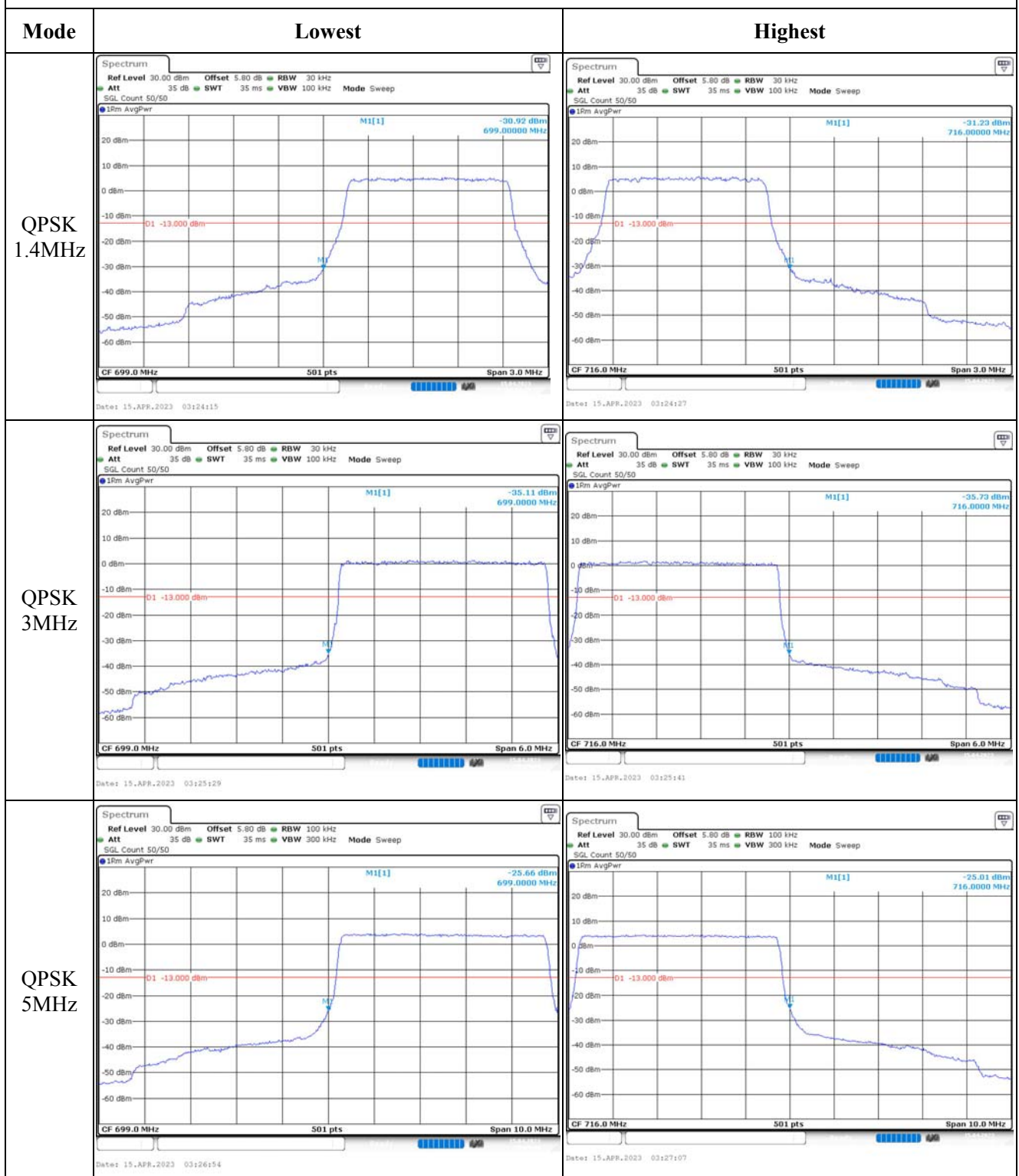
Middle



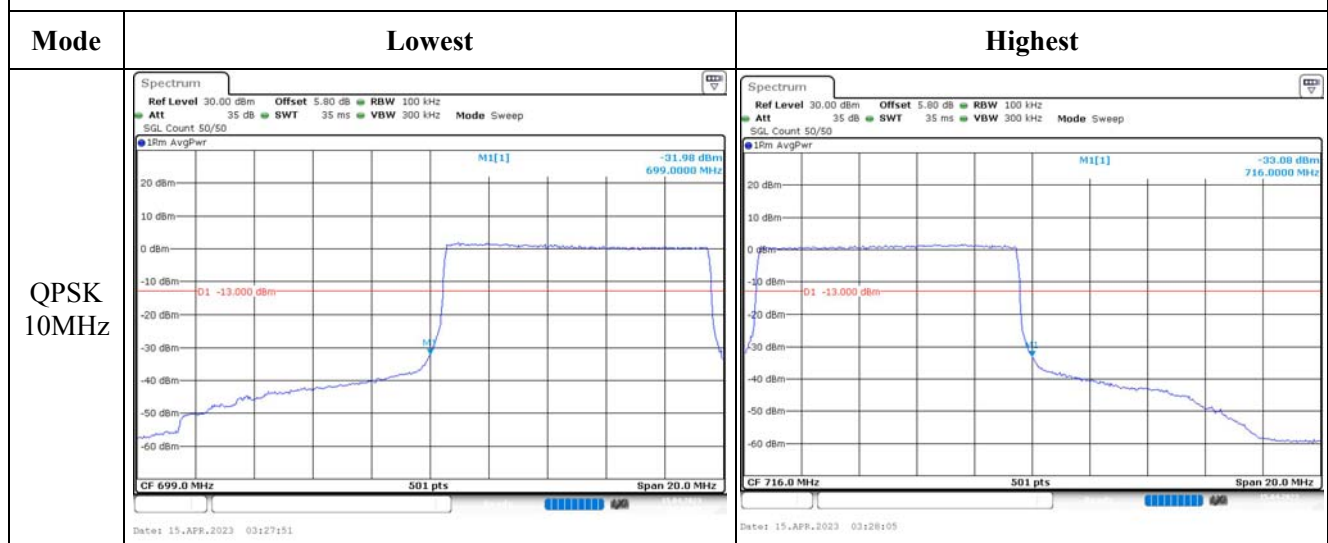
Highest



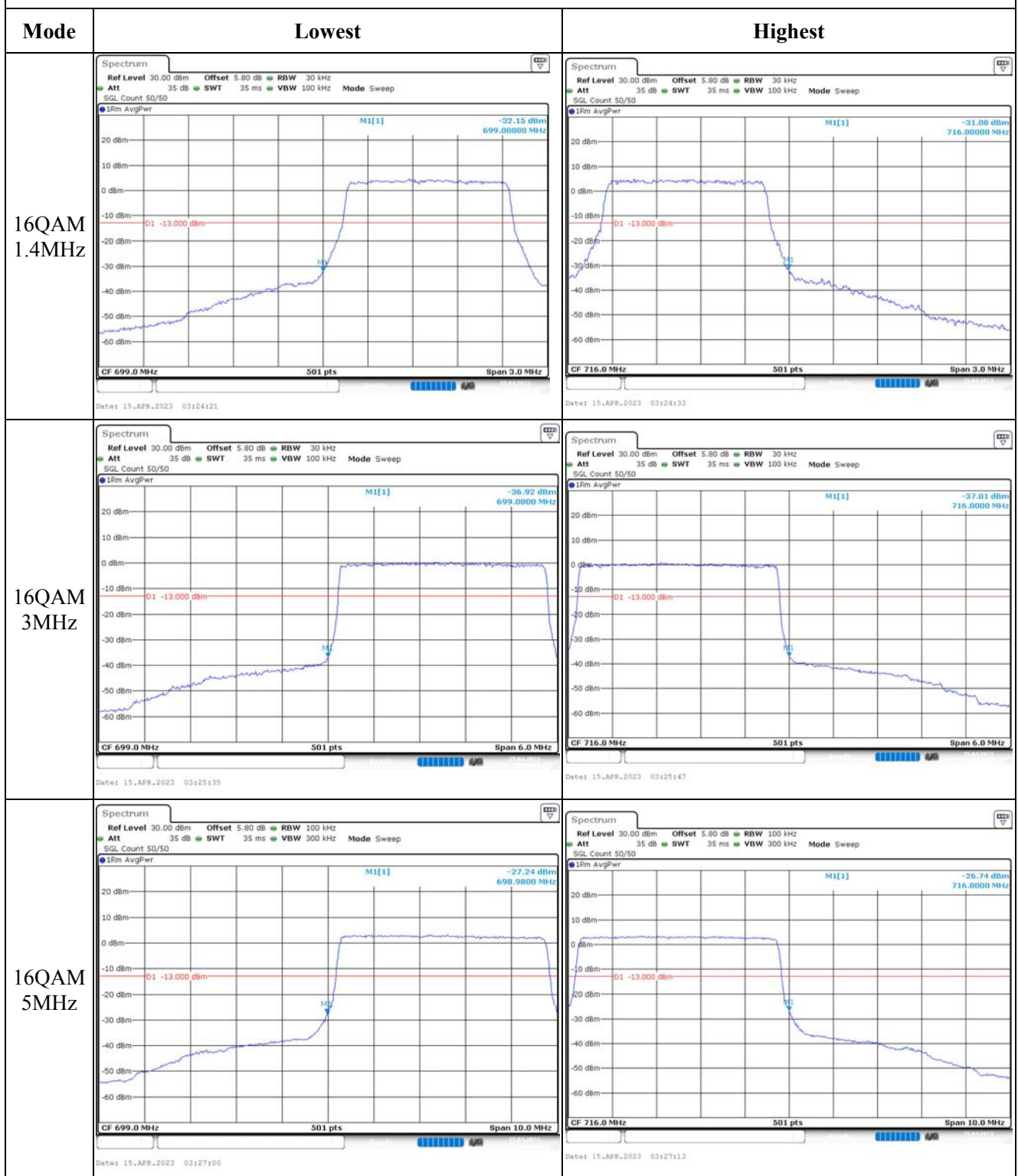
Out of band emission, Band Edge



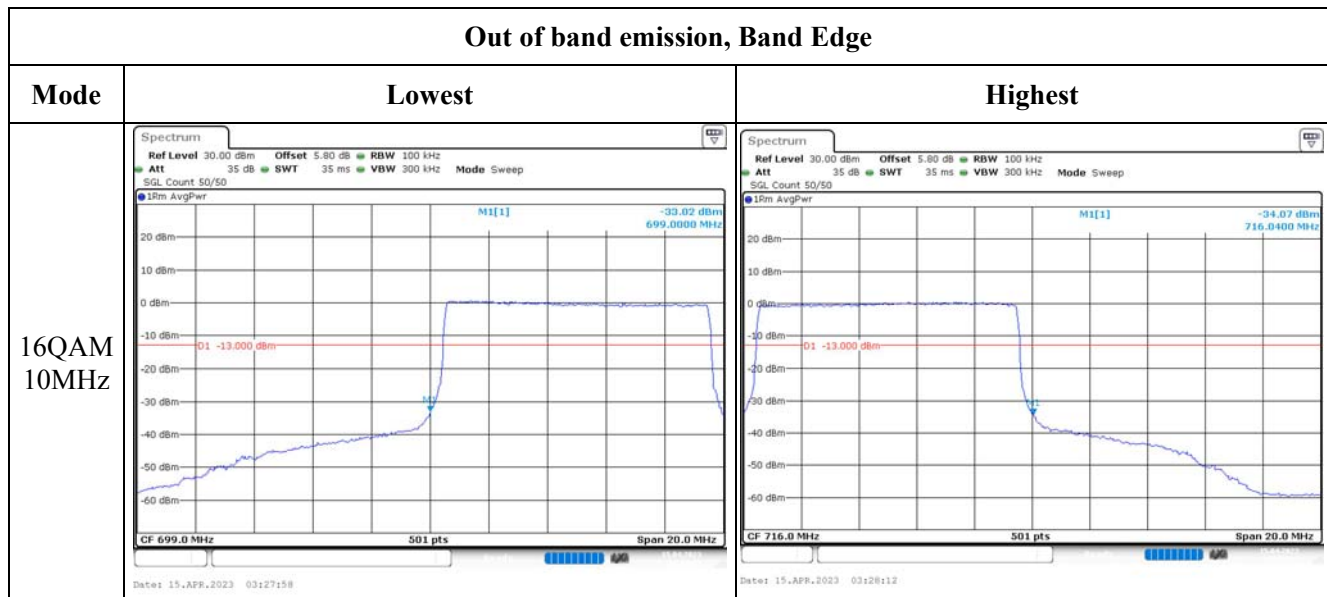
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.6 Antenna Port Test Data and Results for LTE Band 13

Serial Number:	247B_1	Test Date:	2023/4/14~2023/4/21
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	23.2~26.1	Relative Humidity: (%)	38~56	ATM Pressure: (kPa)	99.9~102.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2022-07-15	2023-07-14
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-09-29	2023-09-28
UNI-T	Multimeter	UT39A+	C210582554	N/A	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	2022-07-15	2023-07-14

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	779.5	/	784.5
10MHz	/	782	/

Test Data:**FCC§2.1046;§ 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.06	/	20.97	18.81	34.77
	RB1#13	21.14	/	21.11		
	RB1#24	21.01	/	20.92		
	RB15#0	20.09	/	20.01		
	RB15#10	19.96	/	20.11		
	RB25#0	20.02	/	20.06		
5MHz 16QAM	RB1#0	20.27	/	19.81	18.03	34.77
	RB1#13	20.36	/	19.94		
	RB1#24	20.33	/	19.8		
	RB15#0	19.13	/	19.12		
	RB15#10	18.98	/	19.25		
	RB25#0	19.08	/	19.19		
10MHz QPSK	RB1#0	/	21.09	/	18.92	34.77
	RB1#25	/	21.25	/		
	RB1#49	/	21.01	/		
	RB25#0	/	20.29	/		
	RB25#25	/	20.12	/		
	RB50#0	/	20.2	/		
10MHz 16QAM	RB1#0	/	20.14	/	17.99	34.77
	RB1#25	/	20.32	/		
	RB1#49	/	20.1	/		
	RB25#0	/	19.29	/		
	RB25#25	/	19.2	/		
	RB50#0	/	19.23	/		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + Gr(dBd)

Gr(dBd)=Gr(dBi)-2.15

Result:**Pass****Peak-to-average Ratio(PAR)**

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	/	5.16	/	13
	RB50#0	/	5.62	/	13
10MHz 16QAM	RB1#0	/	5.8	/	13
	RB50#0	/	6.46	/	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.531	4.511	4.551	5.16	5.16	5.22
5MHz 16QAM	4.531	4.551	4.531	5.16	5.22	5.24
10MHz QPSK	/	8.942	/	/	9.96	/
10MHz 16QAM	/	8.982	/	/	9.96	/
Note: The test plots please refer to the Plots of Occupied Bandwidth						

FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal	
Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.

FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	777.565	777.00	786.492	787.00
	-20	3.7	777.585	777.00	786.456	787.00
	-10	3.7	777.594	777.00	786.519	787.00
	0	3.7	777.584	777.00	786.469	787.00
	10	3.7	777.552	777.00	786.458	787.00
	20	3.7	777.529	777.00	786.471	787.00
	30	3.7	777.597	777.00	786.518	787.00
	40	3.7	777.536	777.00	786.529	787.00
	50	3.7	777.556	777.00	786.447	787.00
Frequency Stability vs. Voltage	20	3.6	777.518	777.00	786.506	787.00
	20	4.35	777.505	777.00	786.525	787.00
					Result:	Pass

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	777.593	777.00	786.600	787.00
	-20	3.7	777.514	777.00	786.593	787.00
	-10	3.7	777.564	777.00	786.532	787.00
	0	3.7	777.528	777.00	786.543	787.00
	10	3.7	777.562	777.00	786.557	787.00
	20	3.7	777.529	777.00	786.511	787.00
	30	3.7	777.525	777.00	786.553	787.00
	40	3.7	777.509	777.00	786.560	787.00
	50	3.7	777.530	777.00	786.502	787.00
Frequency Stability vs. Voltage	20	3.6	777.541	777.00	786.549	787.00
	20	4.35	777.520	777.00	786.543	787.00
					Result:	Pass