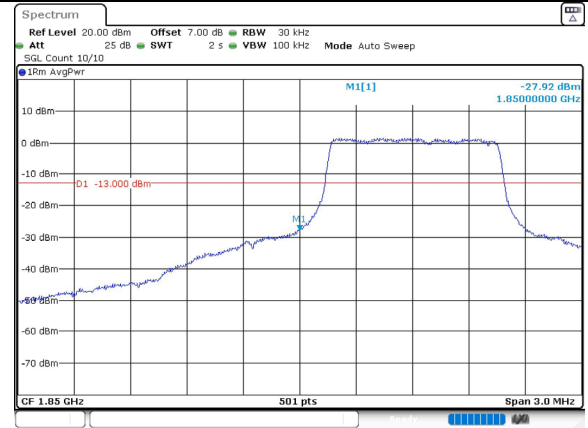
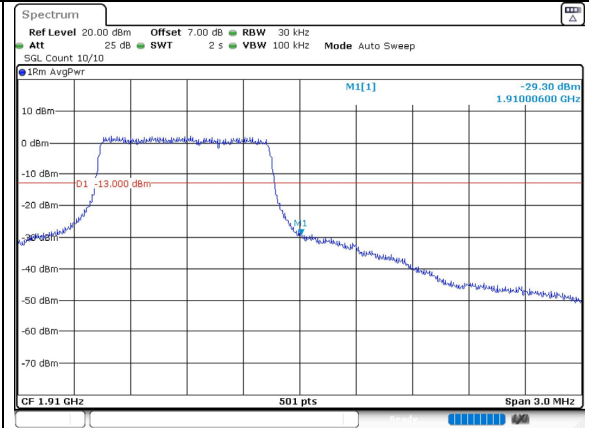
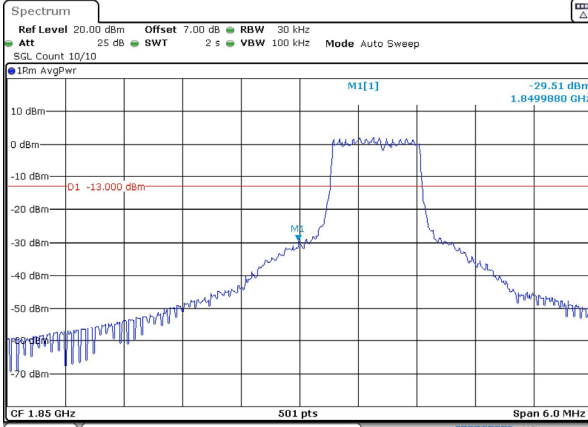
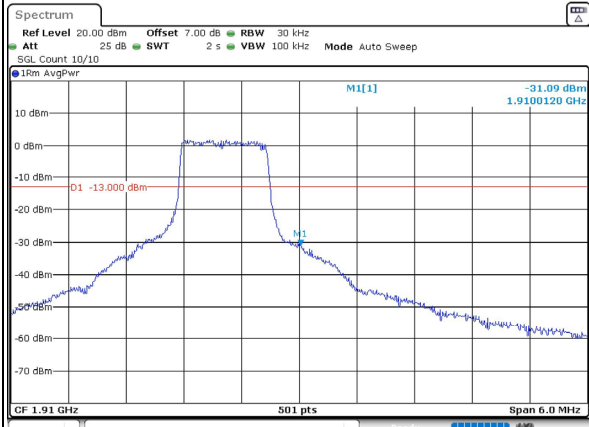
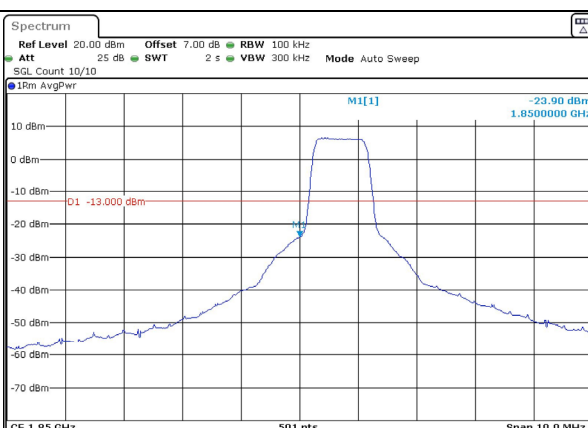
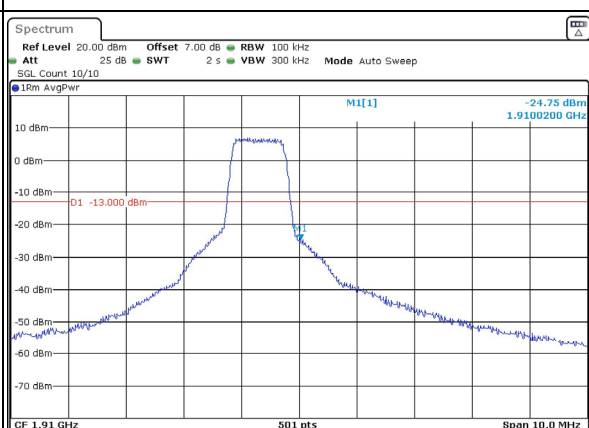
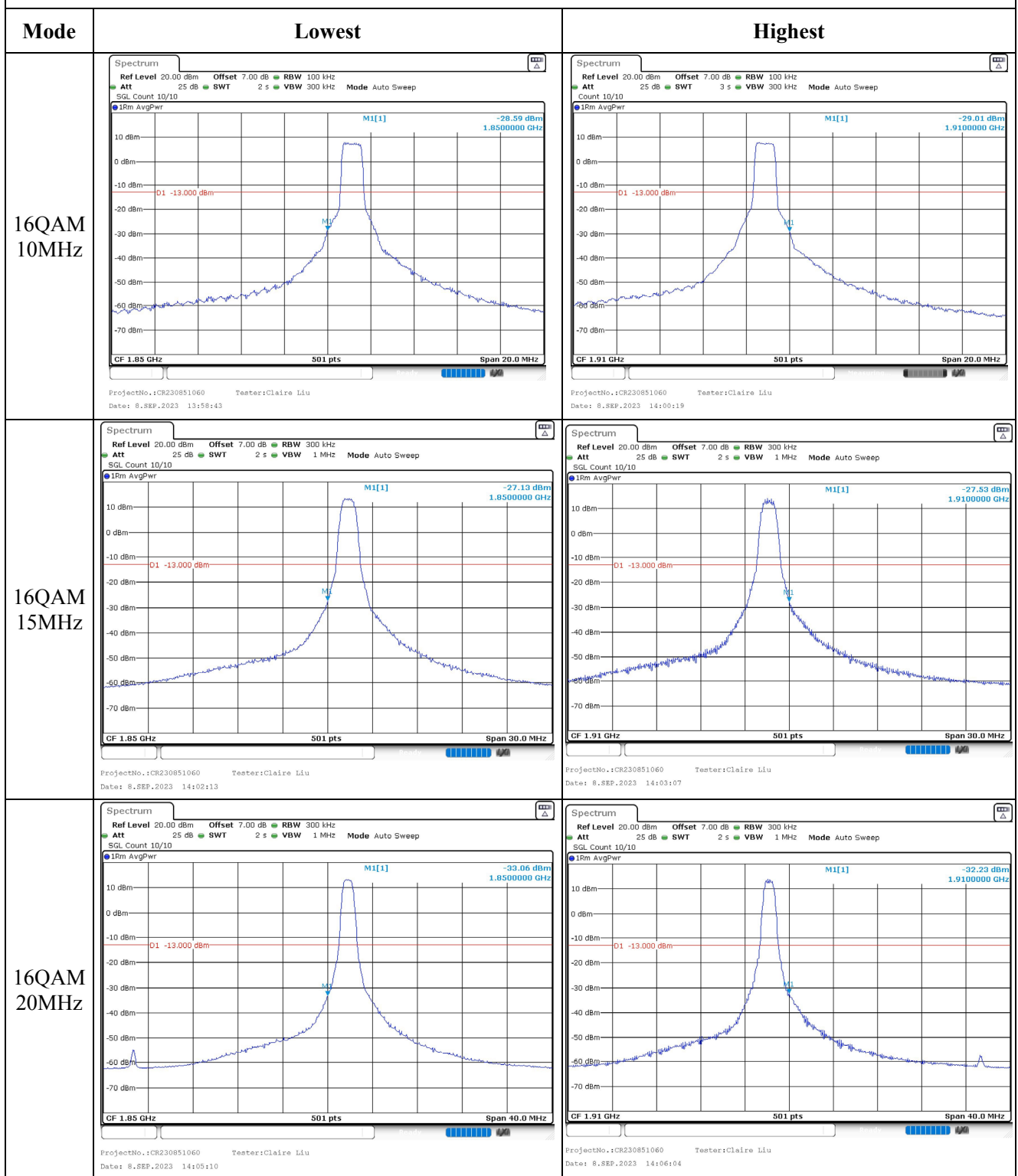


RB5 Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	 ProjectNo.:CR230851060 Tester: Claire Liu Date: 8.SEP.2023 13:46:35	 ProjectNo.:CR230851060 Tester: Claire Liu Date: 8.SEP.2023 13:48:40
16QAM 3MHz	 ProjectNo.:CR230851060 Tester: Claire Liu Date: 8.SEP.2023 13:52:25	 ProjectNo.:CR230851060 Tester: Claire Liu Date: 8.SEP.2023 13:53:17
16QAM 5MHz	 ProjectNo.:CR230851060 Tester: Claire Liu Date: 8.SEP.2023 13:55:26	 ProjectNo.:CR230851060 Tester: Claire Liu Date: 8.SEP.2023 13:56:18

RB5 Out of band emission, Band Edge



4.2 Antenna Port Test Data and Results for LTE Band 4

Serial Number:	2AQ1-8	Test Date:	2023/9/8~2023/11/17
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.5~26.3	Relative Humidity: (%)	52~56	ATM Pressure: (kPa)	100.2~101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24
YINSAIGE	Coaxial Cable	SS402	SJ0100002	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

** 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	1710.7	1732.5	1754.3
3MHz	1711.5	1732.5	1753.5
5MHz	1712.5	1732.5	1752.5
10MHz	1715	1732.5	1750
15MHz	1717.5	1732.5	1747.5
20MHz	1720	1732.5	1745

Test Data:**FCC§2.1046;§ 27.50(d)(4)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	21.88	21.88	22.01	24.6	30
	RB1#3	21.56	21.66	21.68		
	RB1#5	21.59	21.62	21.7		
	RB3#0	20.58	20.45	20.62		
	RB3#3	20.41	20.29	20.4		
	RB6#0	19.49	19.49	19.58		
1.4MHz 16QAM	RB1#0	20.5	20.5	20.47	23.09	30
	RB1#3	20.39	20.37	20.35		
	RB1#5	20.46	19.96	20.23		
	RB3#0	19.25	19.32	19.32		
	RB3#3	19.11	19.09	19.17		
	RB5#0	19.46	19.44	19.5		
3MHz QPSK	RB1#1	21.91	21.88	21.69	24.5	30
	RB1#4	21.56	21.64	21.48		
	RB1#6	21.5	21.56	21.5		
	RB3#1	20.5	20.47	20.46		
	RB3#4	20.39	20.28	20.3		
3MHz 16QAM	RB6#1	19.47	19.44	19.54	23.24	30
	RB1#1	20.48	20.45	20.65		
	RB1#4	20.37	20.26	20.53		
	RB1#6	20.36	20.23	20.41		
	RB3#1	19.33	19.21	19.27		
	RB3#4	19.3	19.08	19.16		
5MHz QPSK	RB5#1	19.43	19.41	19.33	24.38	30
	RB1#0	21.62	21.79	21.74		
	RB1#3	21.58	21.46	21.37		
	RB1#5	21.59	21.46	21.51		
	RB3#0	20.63	20.5	20.54		
	RB3#3	20.5	20.37	20.31		
5MHz 16QAM	RB6#0	20.57	20.44	20.38	24.42	30
	RB1#0	21.83	21.71	21.53		
	RB1#3	21.53	21.39	21.43		
	RB1#5	21.5	21.36	21.32		
	RB3#0	20.65	20.53	20.32		
	RB3#3	20.5	20.38	20.09		
10MHz QPSK	RB5#0	19.57	19.61	19.59	24.44	30
	RB1#1	21.85	21.85	21.85		
	RB1#4	21.7	21.6	21.7		
	RB1#6	21.7	21.59	21.71		

	RB3#1	21.83	21.83	21.77		
	RB3#4	21.8	21.71	21.6		
	RB6#1	20.73	20.65	20.5		
10MHz 16QAM	RB1#1	21.91	21.71	21.87	24.5	30
	RB1#4	21.68	21.68	21.51		
	RB1#6	21.5	21.41	21.4		
	RB3#1	21.84	21.75	21.67		
	RB3#4	21.71	21.73	21.36		
	RB5#1	20.68	20.61	20.49		
15MHz QPSK	RB1#1	22.14	21.77	21.98	24.73	30
	RB1#4	21.89	21.62	21.84		
	RB1#6	21.9	21.52	21.61		
	RB3#1	21.95	21.8	21.76		
	RB3#4	21.77	21.72	21.63		
	RB6#1	21.78	21.83	21.7		
15MHz 16QAM	RB1#1	22.06	21.79	21.68	24.65	30
	RB1#4	21.7	21.56	21.54		
	RB1#6	21.68	21.34	21.48		
	RB3#1	21.76	21.88	21.54		
	RB3#4	21.55	21.76	21.46		
	RB5#1	21.88	21.91	21.84		
20MHz QPSK	RB1#2	21.82	21.87	22	24.59	30
	RB1#5	21.78	21.64	21.64		
	RB1#7	21.8	21.65	21.67		
	RB3#2	21.93	21.78	21.8		
	RB3#5	21.85	21.67	21.67		
	RB6#2	21.87	21.73	21.75		
20MHz 16QAM	RB1#2	21.91	21.87	21.78	24.5	30
	RB1#5	21.62	21.58	21.61		
	RB1#7	21.59	21.55	21.47		
	RB3#2	21.86	21.82	21.61		
	RB3#5	21.73	21.69	21.55		
	RB5#2	21.75	21.72	21.85		
Note: EIRP=Conducted Power(dBm) - Lc(dB) + G _T (dBi)						
					Result:	Pass

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#2	11.36	11.28	11.39	13
	RB6#2	11.57	11.65	11.54	13
20MHz 16QAM	RB1#2	11.97	12.17	11.83	13
	RB5#2	12.12	12.14	11.97	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	1.284	1.302	1.284
1.4MHz 16QAM	0.934	0.934	0.934	1.14	1.14	1.188
3MHz QPSK	1.102	1.102	1.102	1.296	1.296	1.284
3MHz 16QAM	0.934	0.934	0.934	1.14	1.14	1.2
5MHz QPSK	1.098	1.098	1.098	1.3	1.32	1.3
5MHz 16QAM	0.938	0.958	0.958	1.16	1.16	1.16
10MHz QPSK	1.118	1.118	1.118	1.32	1.32	1.32
10MHz 16QAM	0.958	0.958	0.958	1.12	1.16	1.12
15MHz QPSK	1.138	1.138	1.138	1.32	1.38	1.32
15MHz 16QAM	0.958	0.958	0.958	1.2	1.2	1.2
20MHz QPSK	1.198	1.198	1.118	1.36	1.36	1.36
20MHz 16QAM	0.958	1.038	1.038	1.2	1.28	1.2

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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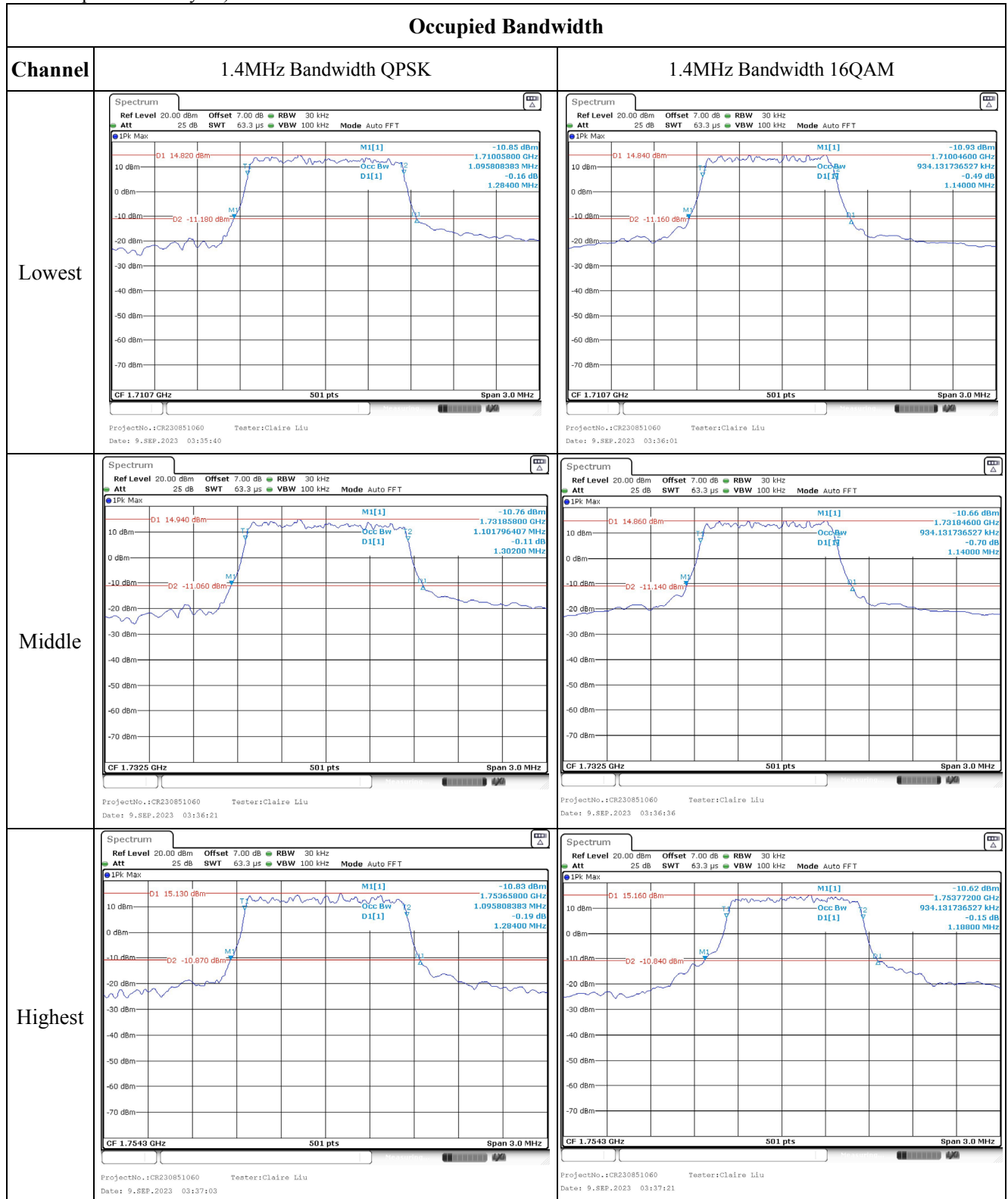
FCC §2.1051, § 27.53:Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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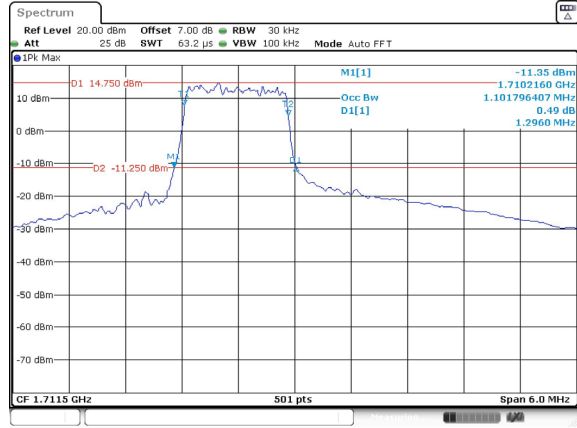
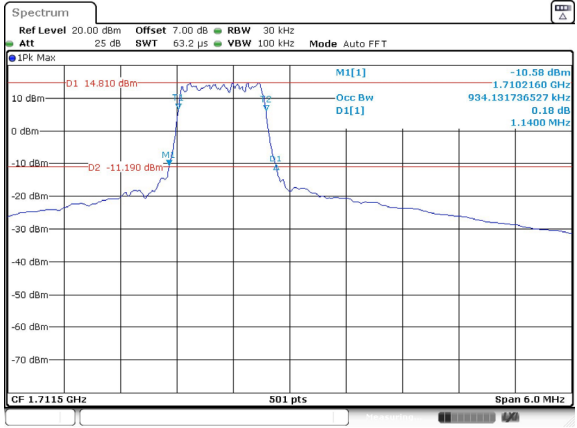
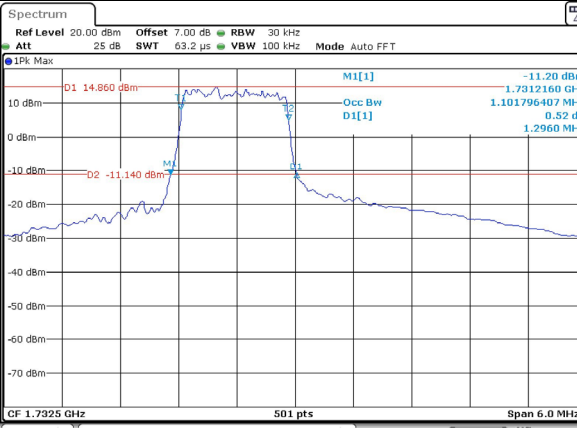
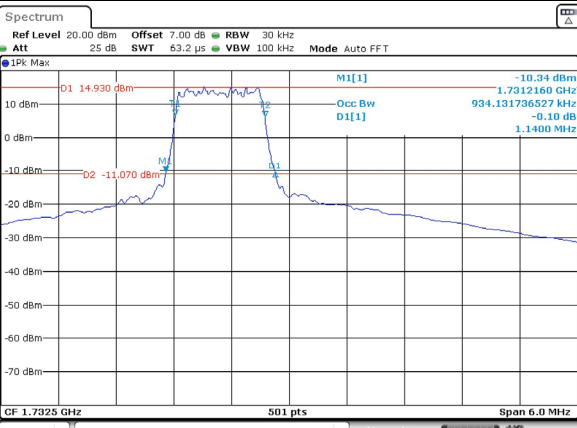
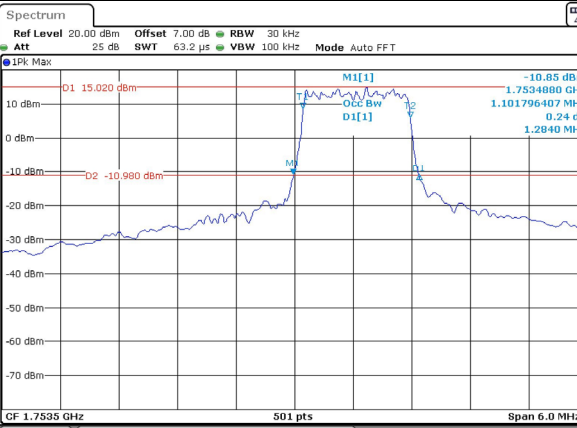
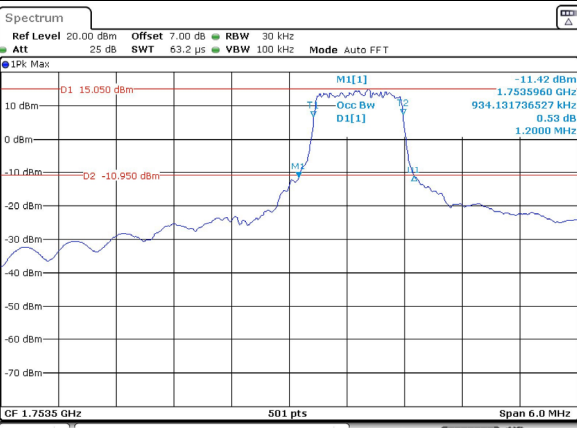
FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	12	1710.192	1710.00	1754.899	1755
	-20	12	1710.046	1710.00	1754.855	1755
	-10	12	1710.007	1710.00	1754.878	1755
	0	12	1710.153	1710.00	1754.886	1755
	10	12	1710.086	1710.00	1754.907	1755
	20	12	1710.058	1710.00	1754.942	1755
	30	12	1710.124	1710.00	1754.857	1755
	40	12	1710.159	1710.00	1754.899	1755
	50	12	1710.152	1710.00	1754.875	1755
Frequency Stability vs. Voltage	20	9	1710.106	1710.00	1754.858	1755
	20	14	1710.134	1710.00	1754.885	1755
					Result:	Pass

Test Mode:	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	12	1710.073	1710.00	1754.916	1755
	-20	12	1710.215	1710.00	1754.921	1755
	-10	12	1710.283	1710.00	1754.937	1755
	0	12	1710.304	1710.00	1754.881	1755
	10	12	1710.327	1710.00	1754.908	1755
	20	12	1710.046	1710.00	1754.96	1755
	30	12	1710.13	1710.00	1754.95	1755
	40	12	1710.213	1710.00	1754.935	1755
	50	12	1710.259	1710.00	1754.891	1755
Frequency Stability vs. Voltage	20	9	1710.284	1710.00	1754.924	1755
	20	14	1710.285	1710.00	1754.867	1755
					Result:	Pass

Test Plots(Note: The 7dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):



Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	 ProjectNo.:CR230851060 Testerr: Claire Liu Date: 9.SEP.2023 03:41:00	 ProjectNo.:CR230851060 Testerr: Claire Liu Date: 9.SEP.2023 03:41:18
Middle	 ProjectNo.:CR230851060 Testerr: Claire Liu Date: 9.SEP.2023 03:41:40	 ProjectNo.:CR230851060 Testerr: Claire Liu Date: 9.SEP.2023 03:41:57
Highest	 ProjectNo.:CR230851060 Testerr: Claire Liu Date: 9.SEP.2023 03:42:16	 ProjectNo.:CR230851060 Testerr: Claire Liu Date: 9.SEP.2023 03:42:43

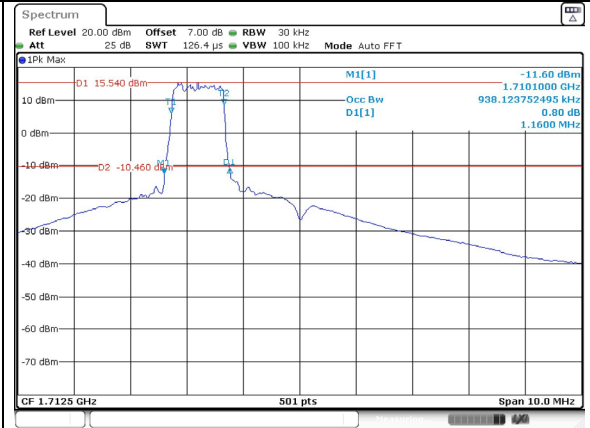
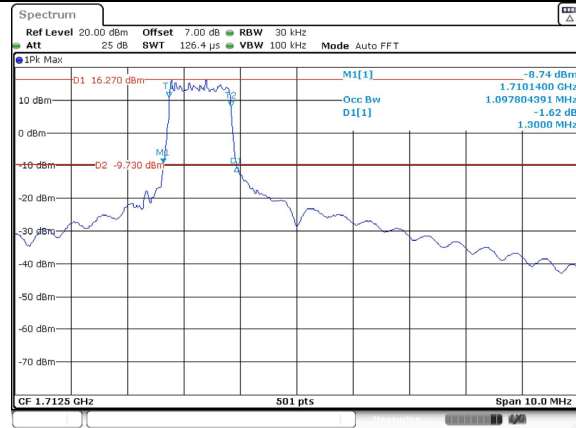
Occupied Bandwidth

Channel

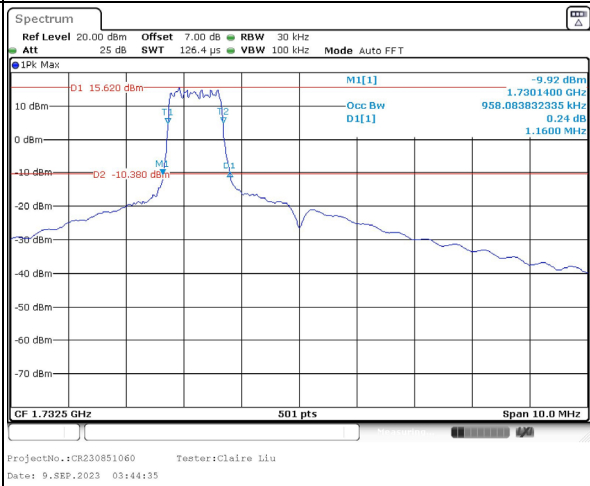
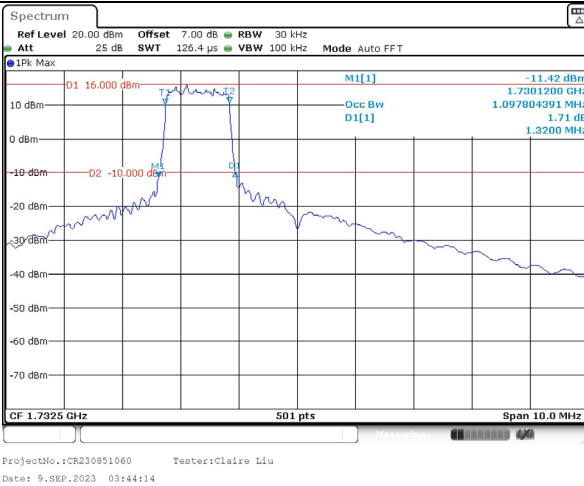
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

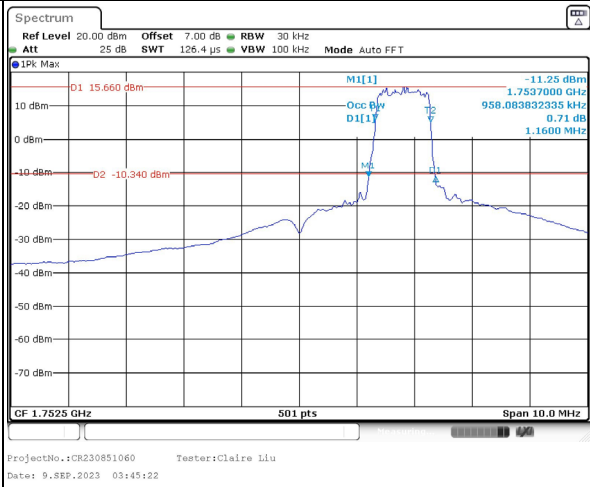
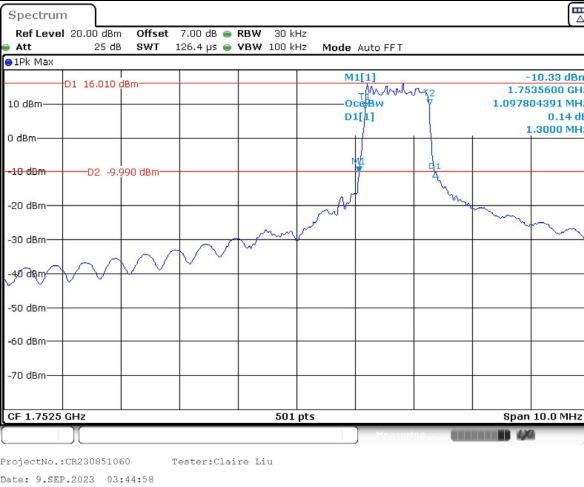
Lowest



Middle



Highest



Occupied Bandwidth

