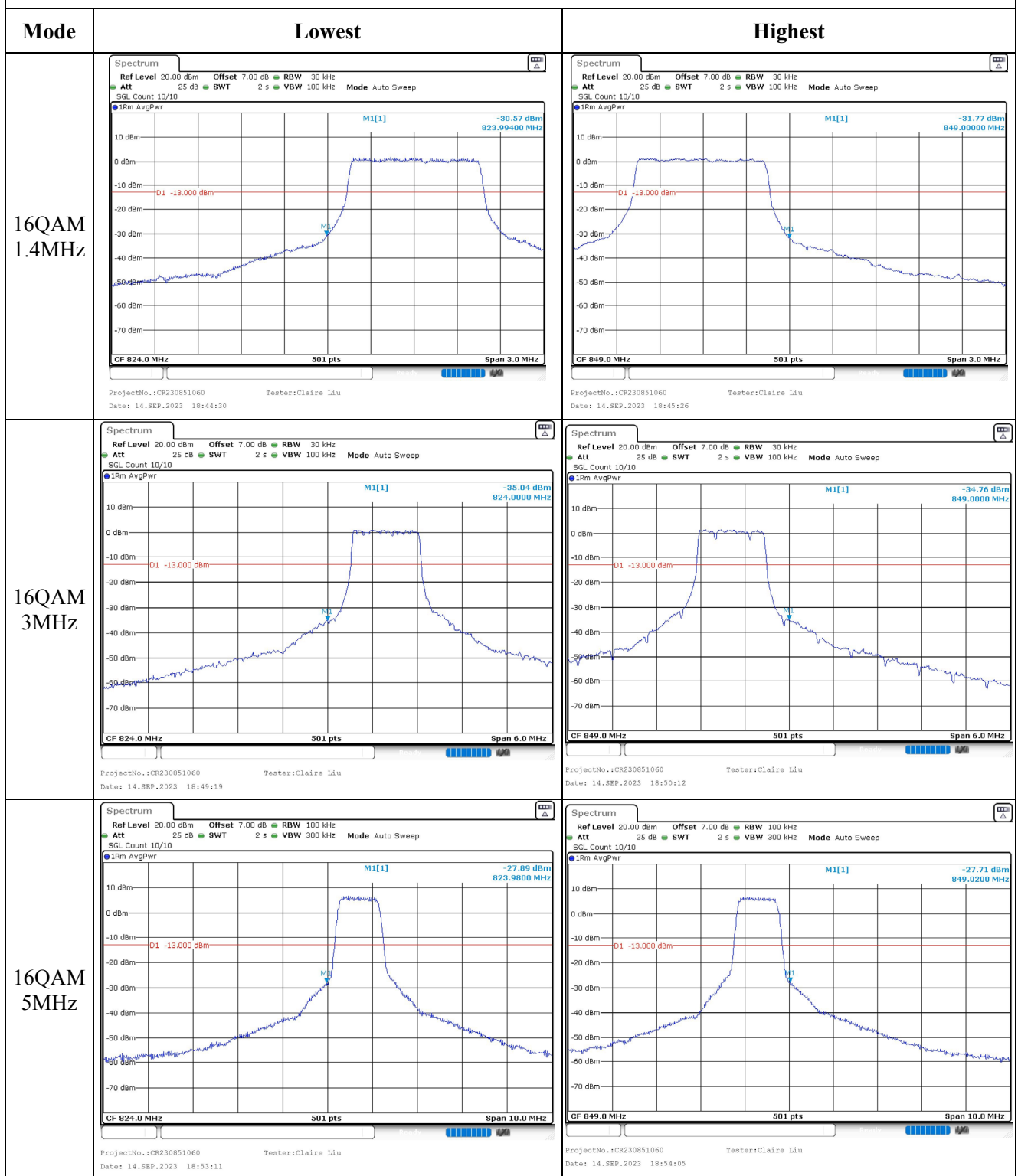
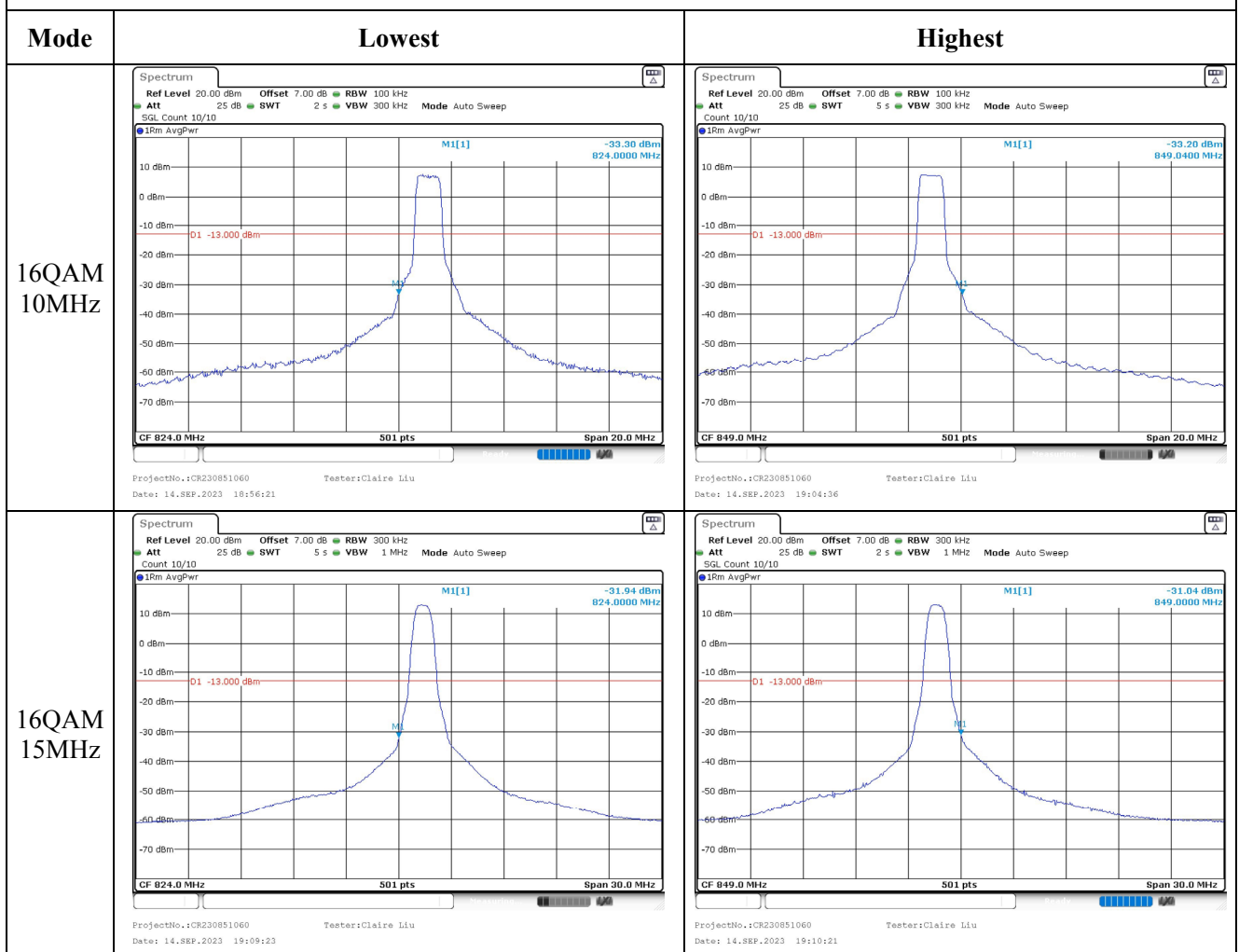


RB5 Out of band emission, Band Edge



RB5 Out of band emission, Band Edge



4.8 Antenna Port Test Data and Results for LTE Band 66

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	1745	1779.3
3MHz	1711.5	1745	1778.5
5MHz	1712.5	1745	1777.5
10MHz	1715	1745	1775
15MHz	1717.5	1745	1772.5
20MHz	1720	1745	1770

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	21.62	22.02	22.11	24.94	30
	RB1#3	21.48	21.76	22.05		
	RB1#5	21.42	21.66	21.87		
	RB3#0	20.74	20.9	21.09		
	RB3#3	20.71	20.74	20.92		
	RB6#0	19.78	19.87	19.98		
1.4MHz 16QAM	RB1#0	20.52	21.02	21.09	23.92	30
	RB1#3	20.5	20.83	21.02		
	RB1#5	20.39	20.92	20.84		
	RB3#0	19.7	19.76	20.12		
	RB3#3	19.57	19.62	19.97		
	RB5#0	19.65	19.74	19.9		
3MHz QPSK	RB1#1	21.68	21.97	22.07	24.9	30
	RB1#4	21.53	21.7	22.02		
	RB1#6	21.44	21.7	21.86		
	RB3#1	20.75	20.95	21.07		
	RB3#4	20.58	20.78	20.94		
	RB6#1	19.76	19.89	19.96		
3MHz 16QAM	RB1#1	20.95	21.38	21.06	24.21	30
	RB1#4	20.67	21.21	21.02		
	RB1#6	20.7	21.11	20.83		
	RB3#1	19.49	19.82	20.02		
	RB3#4	19.34	19.58	19.9		
	RB5#1	19.68	19.86	19.96		
5MHz QPSK	RB1#0	21.49	21.82	22.19	25.02	30
	RB1#3	21.46	21.61	22.14		
	RB1#5	21.44	21.6	21.98		
	RB3#0	20.86	20.91	21.09		
	RB3#3	20.68	20.86	20.91		
	RB6#0	20.83	20.94	20.99		
5MHz 16QAM	RB1#0	21.85	22.02	22.46	25.29	30
	RB1#3	21.49	21.67	22.42		
	RB1#5	21.43	21.61	22.24		
	RB3#0	20.78	20.97	21.27		
	RB3#3	20.74	20.83	21.13		
	RB5#0	19.67	19.86	20.16		
10MHz QPSK	RB1#1	21.73	21.84	22.17	25.05	30
	RB1#4	21.4	21.59	22.22		
	RB1#6	21.42	21.62	21.94		

	RB3#1	21.68	21.78	22.13		
	RB3#4	21.55	21.66	22.01		
	RB6#1	20.72	20.82	21.05		
10MHz 16QAM	RB1#1	21.72	21.93	22.54	25.37	30
	RB1#4	21.57	21.76	22.5		
	RB1#6	21.38	21.56	22.32		
	RB3#1	21.5	21.87	22.35		
	RB3#4	21.36	21.83	22.23		
	RB5#1	20.63	20.82	21.27		
15MHz QPSK	RB1#1	21.6	21.83	22.23	25.06	30
	RB1#4	21.54	21.66	22.18		
	RB1#6	21.34	21.47	21.99		
	RB3#1	21.65	21.77	22.11		
	RB3#4	21.6	21.71	21.96		
	RB6#1	21.66	21.76	22.02		
15MHz 16QAM	RB1#1	21.85	21.94	22.5	25.33	30
	RB1#4	21.55	21.65	22.47		
	RB1#6	21.55	21.74	22.28		
	RB3#1	21.64	21.84	22.32		
	RB3#4	21.61	21.7	22.19		
	RB5#1	21.55	21.77	22.26		
20MHz QPSK	RB1#2	21.48	21.7	22.11	24.94	30
	RB1#5	21.42	21.46	22.05		
	RB1#7	21.35	21.57	21.88		
	RB3#2	21.47	21.7	22		
	RB3#5	21.65	21.67	21.87		
	RB6#2	21.6	21.72	21.95		
20MHz 16QAM	RB1#2	21.6	21.77	22.23	25.07	30
	RB1#5	21.37	21.56	22.23		
	RB1#7	21.23	21.45	22.02		
	RB3#2	21.67	21.81	22.24		
	RB3#5	21.47	21.67	22.09		
	RB5#2	21.55	21.7	22.11		

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	11.51	11.48	11.01	13
	RB6#2	11.74	11.65	11.3	13
20MHz 16QAM	RB1#2	12.12	12.06	11.13	13
	RB5#2	12.29	12.23	10.72	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	1.09	1.29	1.296	1.272
1.4MHz 16QAM	0.934	0.934	0.934	1.14	1.134	1.194
3MHz QPSK	1.114	1.102	1.09	1.296	1.296	1.296
3MHz 16QAM	0.934	0.934	0.934	1.14	1.14	1.188
5MHz QPSK	1.118	1.118	1.098	1.32	1.32	1.3
5MHz 16QAM	0.958	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	1.16	1.16	1.12
15MHz QPSK	1.138	1.138	1.138	1.44	1.44	1.38
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	1.038	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

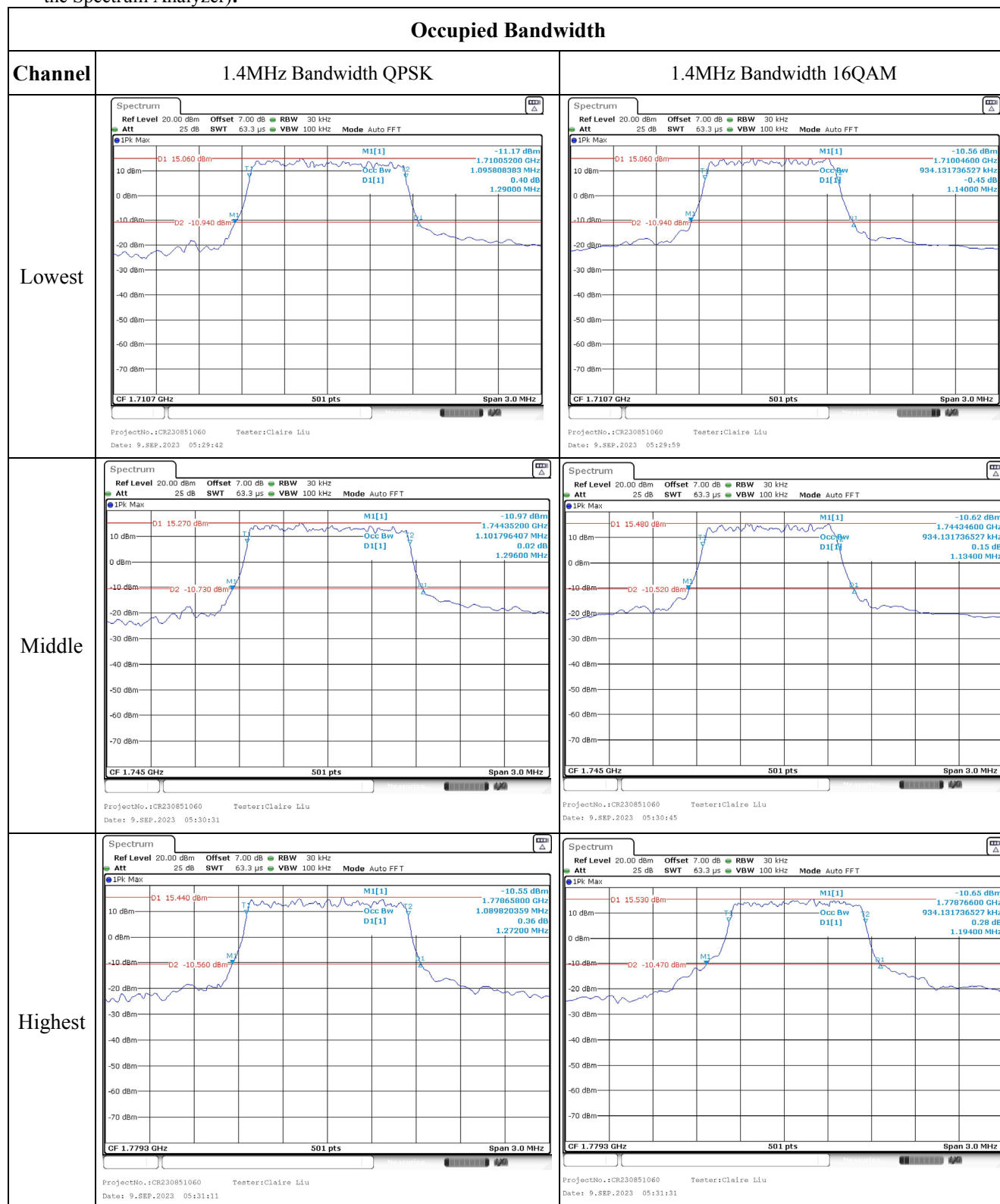
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §27.54: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	12	1710.12	1710.00	1779.925	1780
	-20	12	1710.153	1710.00	1779.894	1780
	-10	12	1710.235	1710.00	1779.858	1780
	0	12	1710.271	1710.00	1779.851	1780
	10	12	1710.369	1710.00	1779.834	1780
	20	12	1710.052	1710.00	1779.93	1780
	30	12	1710.12	1710.00	1779.925	1780
	40	12	1710.173	1710.00	1779.905	1780
	50	12	1710.233	1710.00	1779.866	1780
Frequency Stability vs. Voltage	20	9	1710.289	1710.00	1779.873	1780
	20	14	1710.3	1710.00	1779.92	1780
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	12	1710.054	1710.00	1779.934	1780
	-20	12	1710.122	1710.00	1779.944	1780
	-10	12	1710.214	1710.00	1779.895	1780
	0	12	1710.162	1710.00	1779.942	1780
	10	12	1710.231	1710.00	1779.955	1780
	20	12	1710.046	1710.00	1779.962	1780
	30	12	1710.062	1710.00	1779.888	1780
	40	12	1710.115	1710.00	1779.929	1780
	50	12	1710.128	1710.00	1779.9	1780
Frequency Stability vs. Voltage	20	9	1710.218	1710.00	1779.895	1780
	20	14	1710.296	1710.00	1779.949	1780
					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):



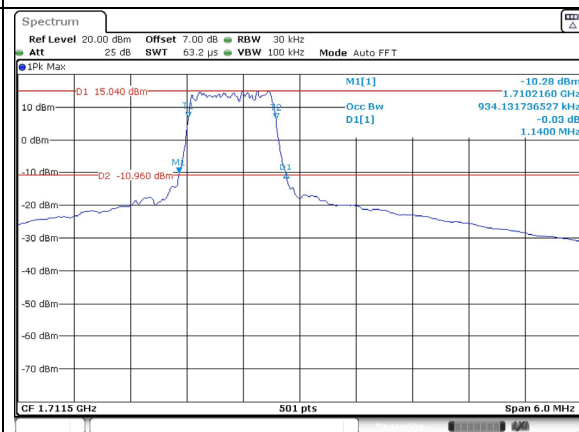
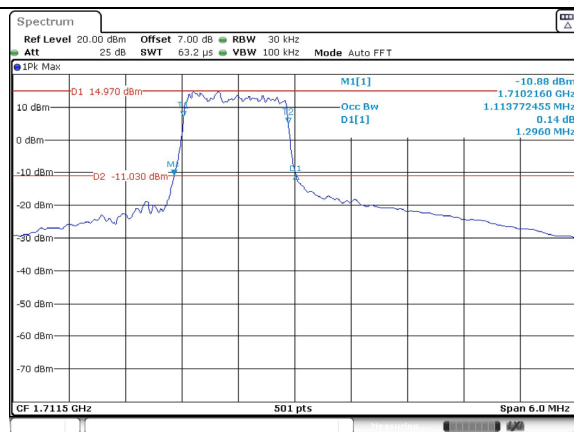
Occupied Bandwidth

Channel

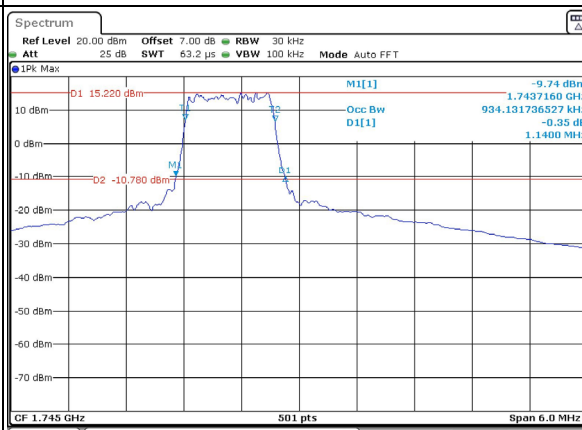
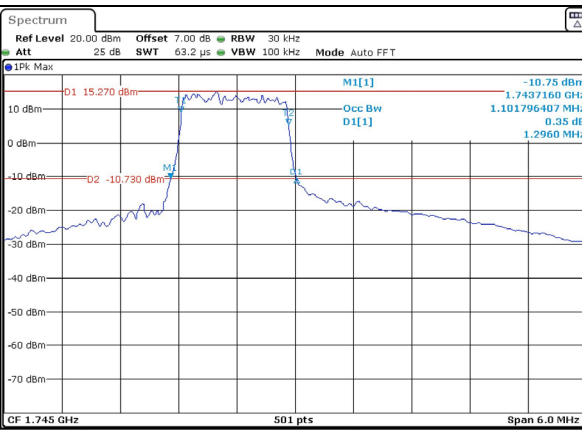
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

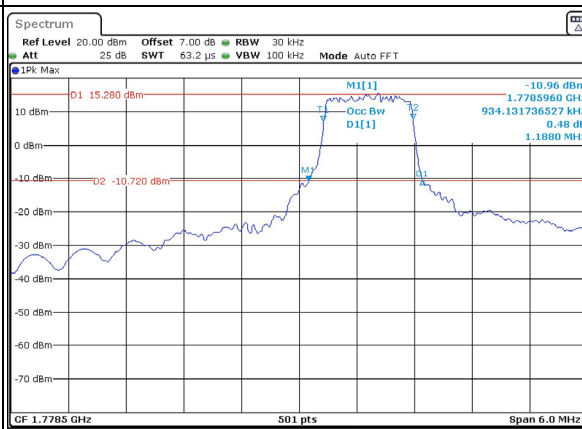
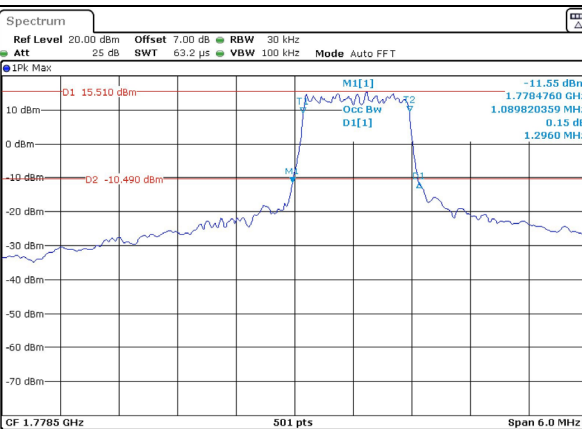
Lowest



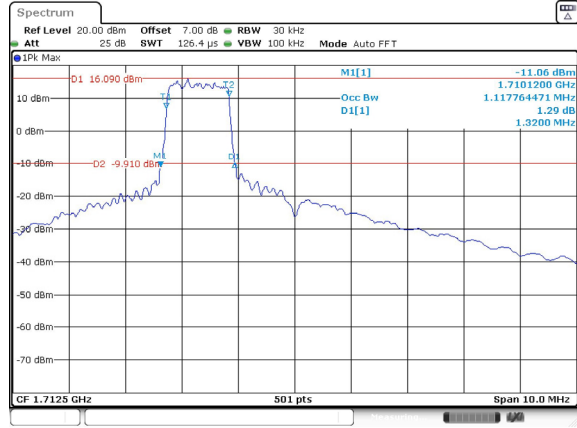
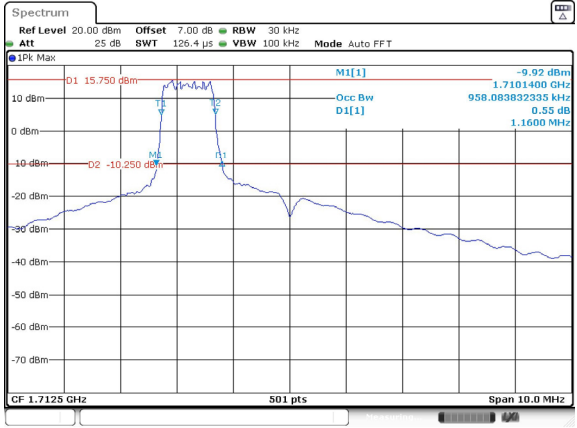
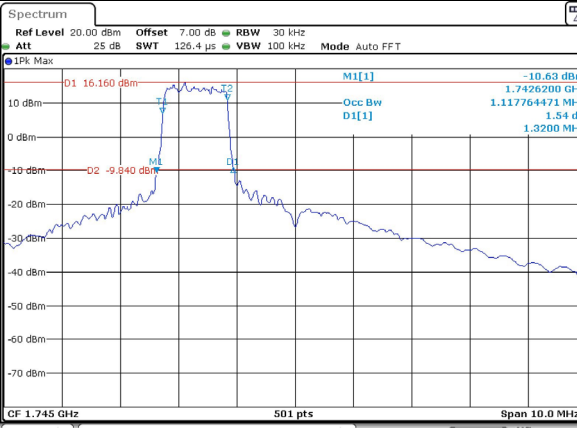
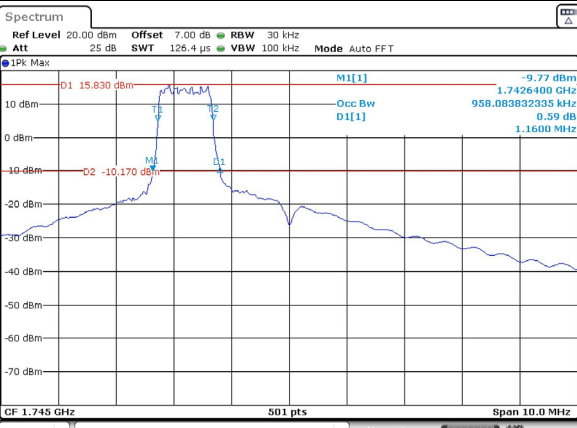
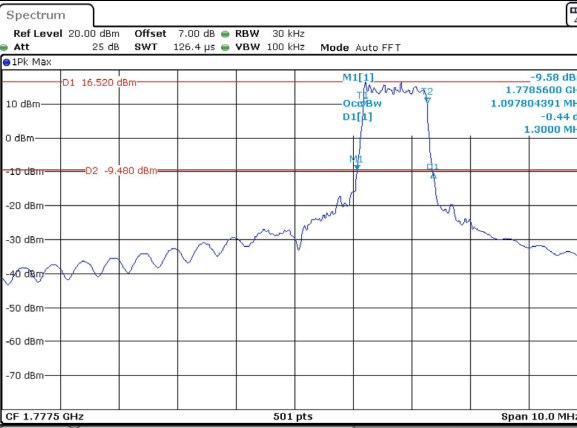
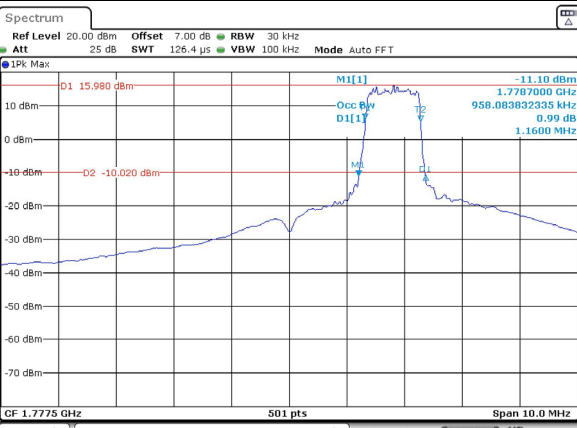
Middle



Highest



Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest	 ProjectNo.:CR230851060 Testerr:Claire Liu Date: 9. SEP. 2023 05:45:35	 ProjectNo.:CR230851060 Testerr:Claire Liu Date: 9. SEP. 2023 05:45:53
Middle	 ProjectNo.:CR230851060 Testerr:Claire Liu Date: 9. SEP. 2023 05:46:16	 ProjectNo.:CR230851060 Testerr:Claire Liu Date: 9. SEP. 2023 05:46:40
Highest	 ProjectNo.:CR230851060 Testerr:Claire Liu Date: 9. SEP. 2023 05:47:05	 ProjectNo.:CR230851060 Testerr:Claire Liu Date: 9. SEP. 2023 05:47:23

Occupied Bandwidth

