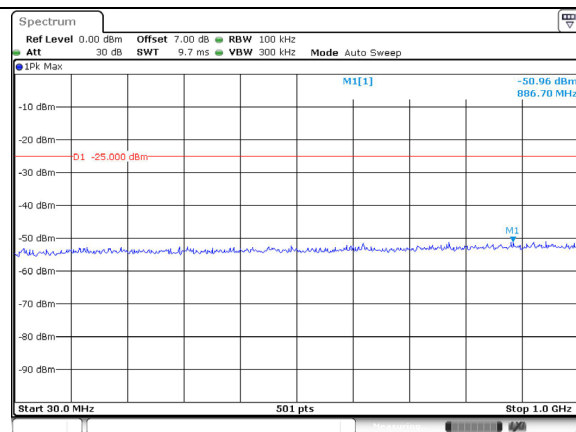


Spurious Emissions at Antenna Terminal

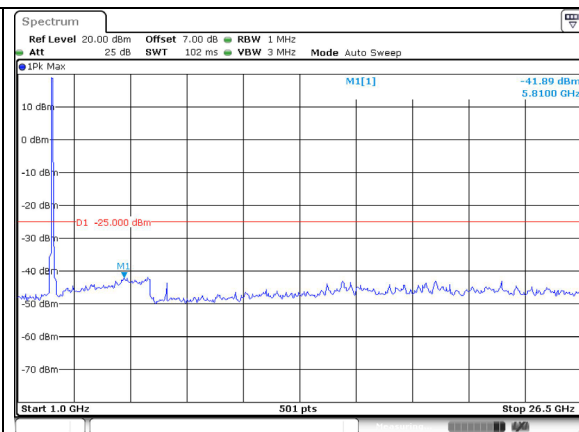
Channel

15MHz Bandwidth QPSK

Lowest

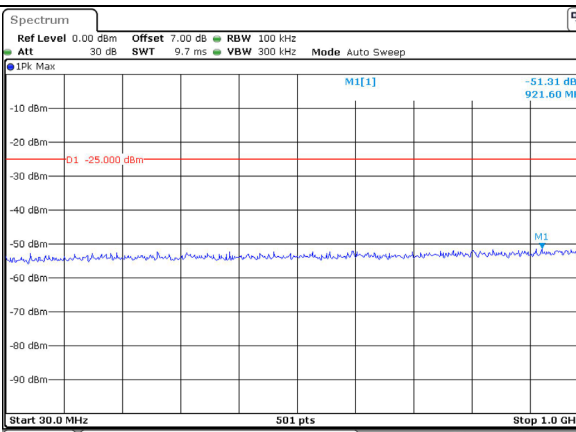


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:28:54

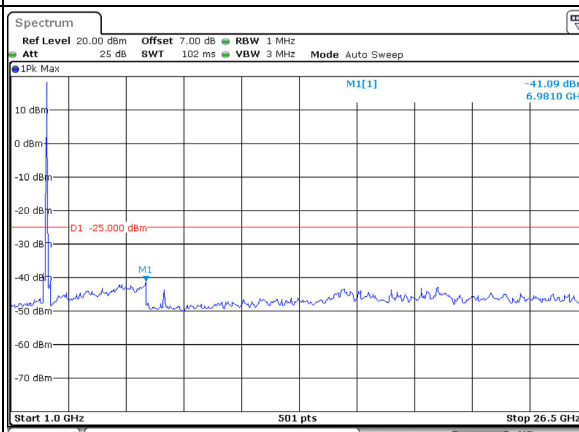


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:29:19

Middle

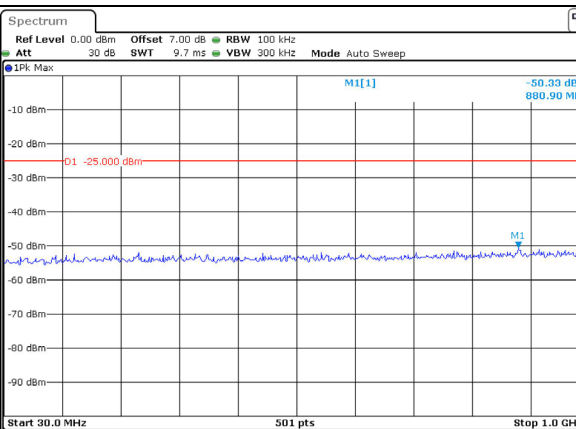


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:29:44

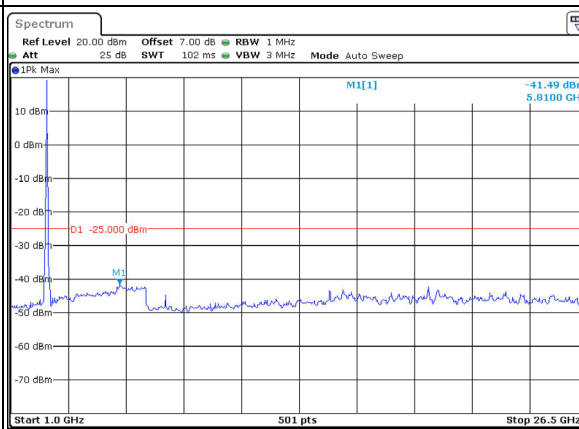


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:30:03

Highest



ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:30:35



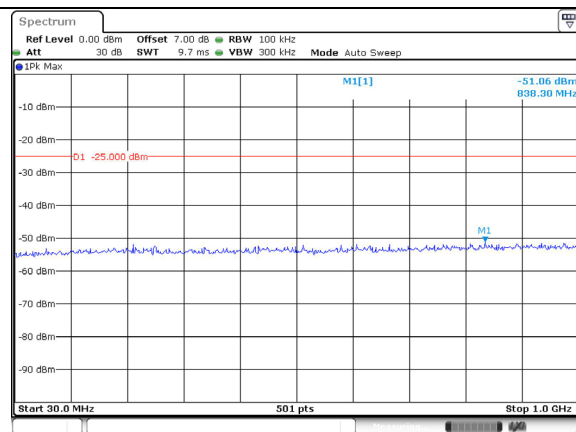
ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:31:00

Spurious Emissions at Antenna Terminal

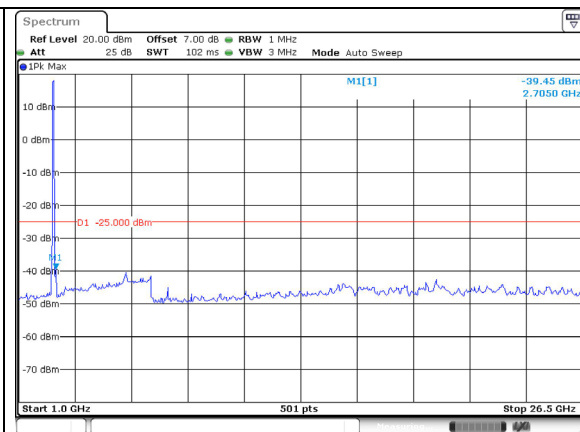
Channel

20MHz Bandwidth QPSK

Lowest

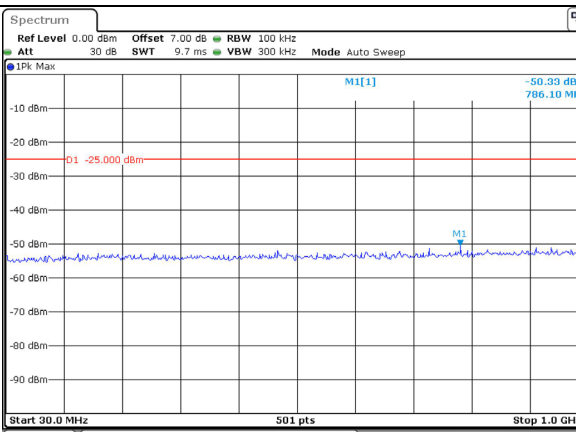


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:32:14

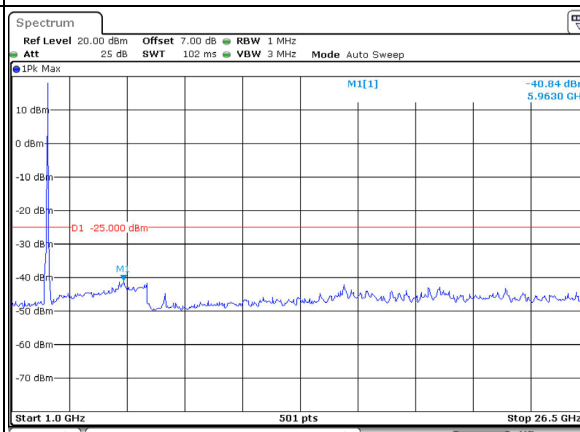


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:32:19

Middle

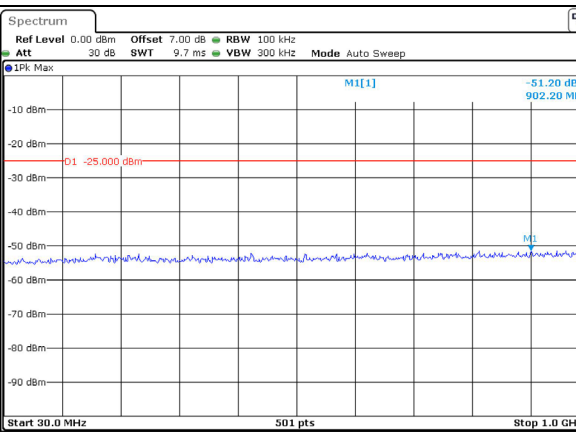


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:33:04

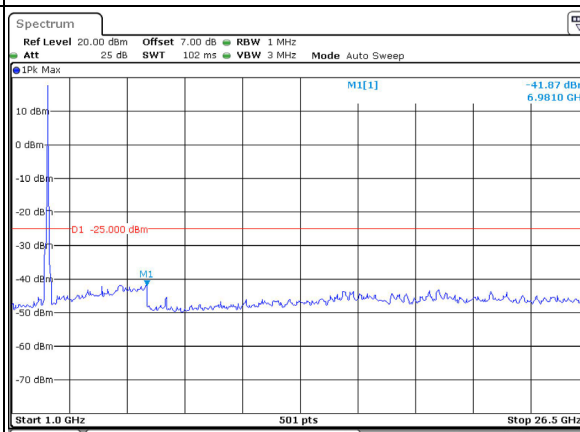


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:33:12

Highest

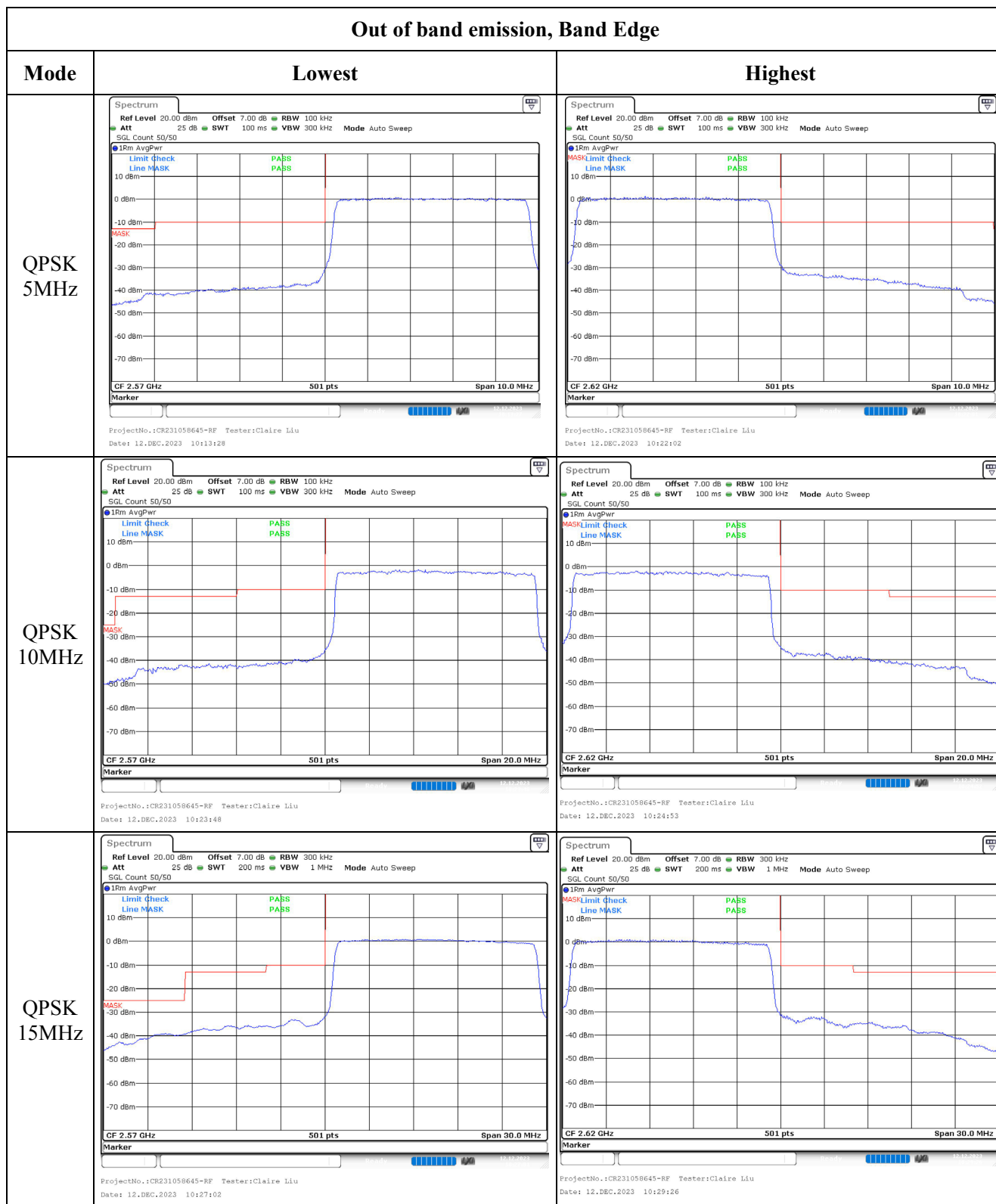


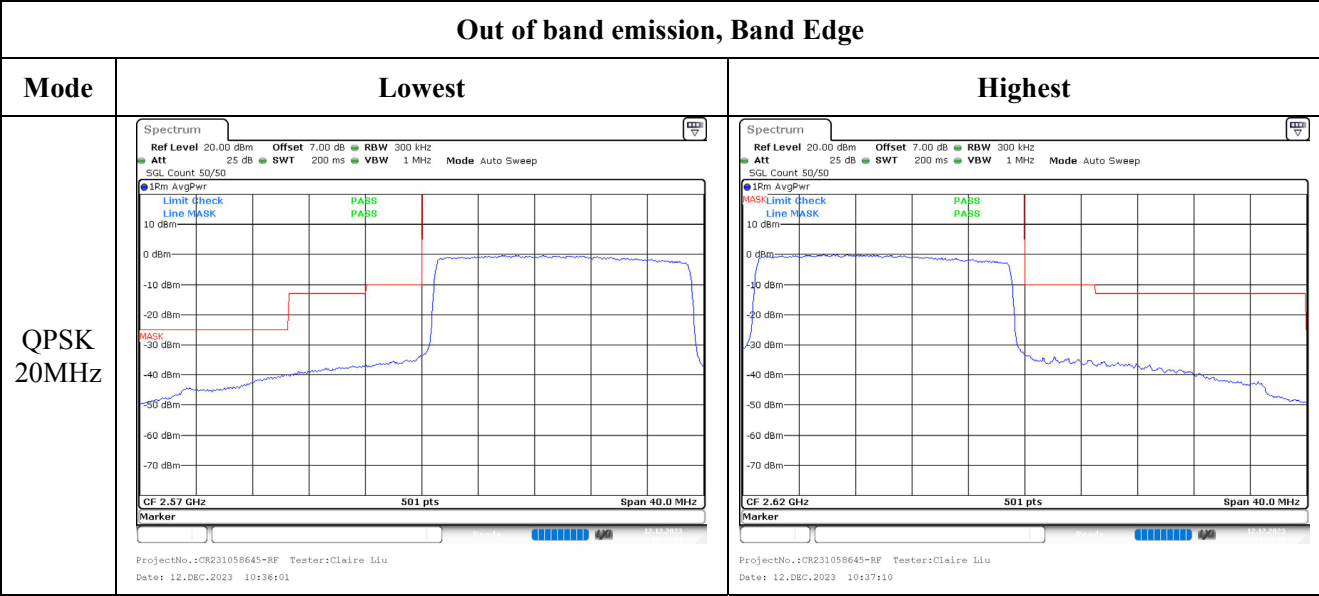
ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 14:34:00



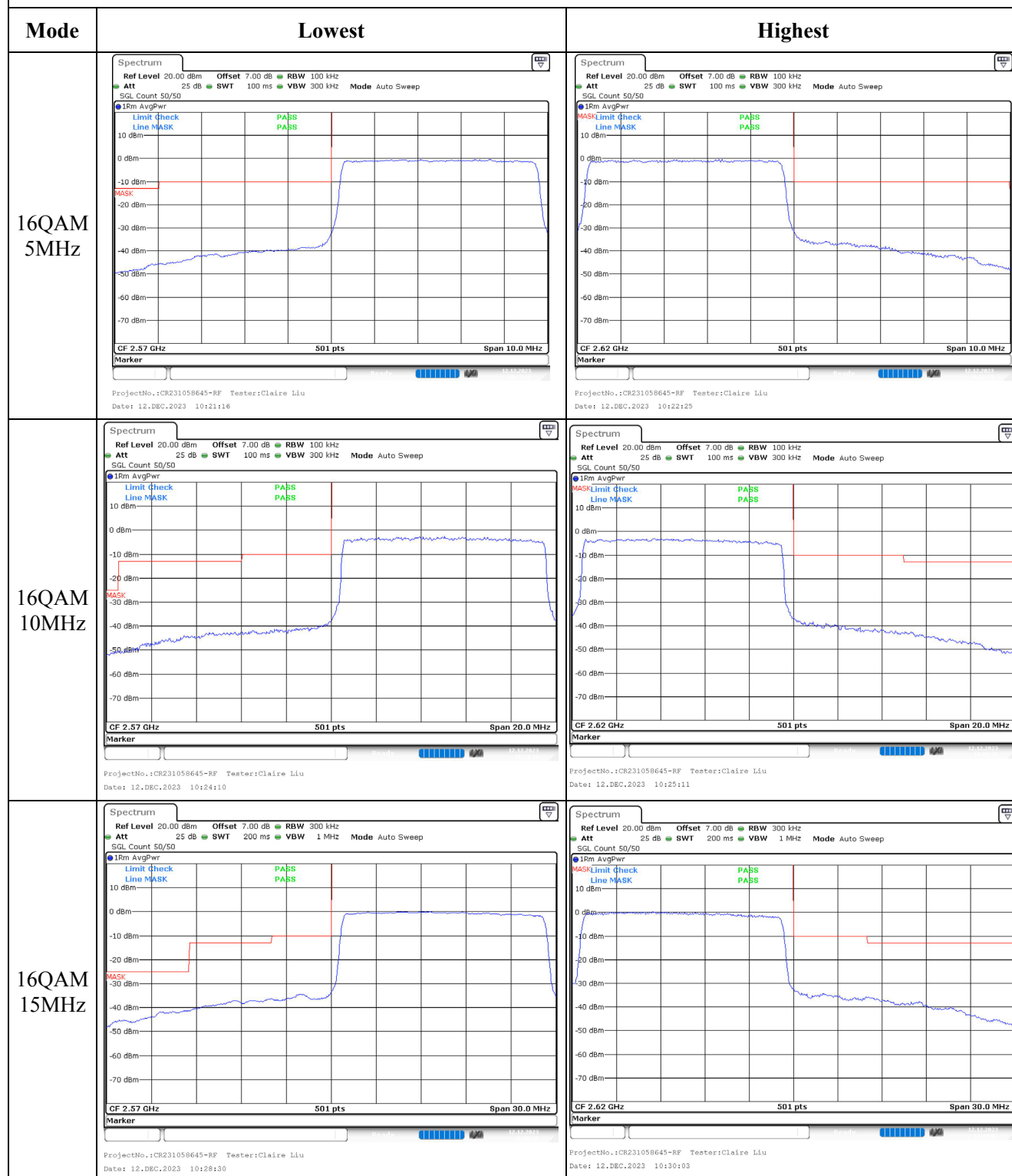
ProjectNo.:CR231058645-RF Tester: Claire Liu
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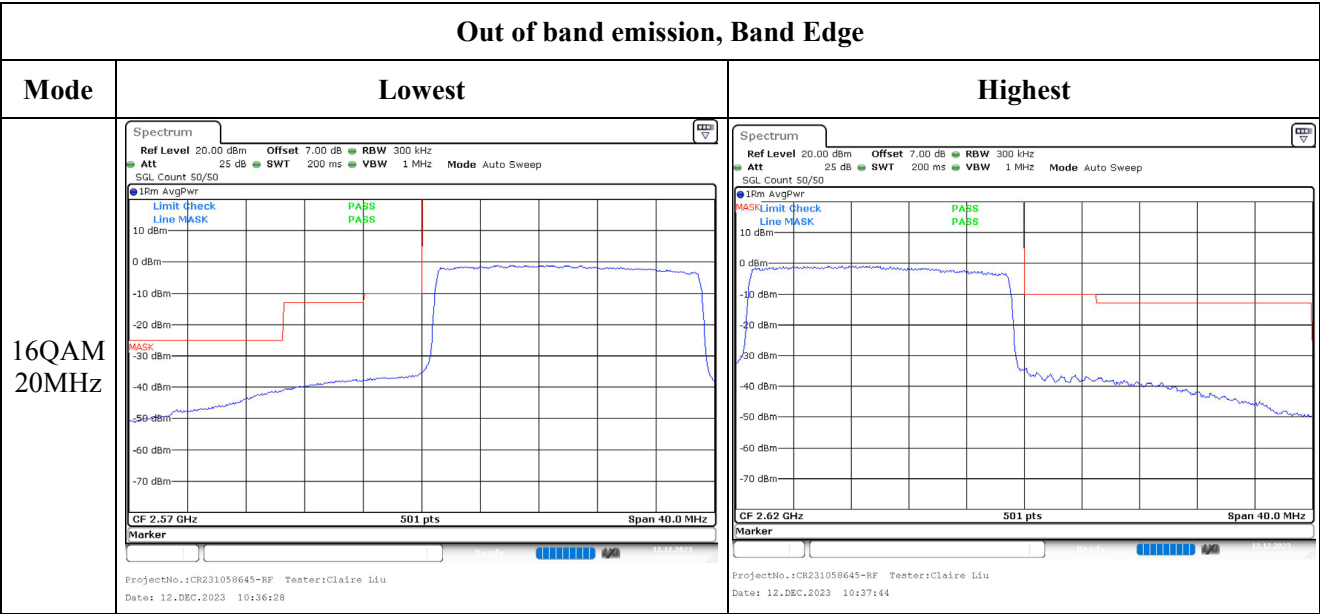
Out of band emission, Band Edge





Out of band emission, Band Edge





4.13 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	2C04-3	Test Date:	2023/10/29-2023/11/2
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.3-25.6	Relative Humidity: (%)	45-58	ATM Pressure: (kPa)	101-101.54
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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	2022/11/23	2023/11/24
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Unknown	Coaxial tee connector	Unknown	2204004	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	2023/9/28	2024/9/27
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)
5MHz	2498.5	2593	2687.5
10MHz	2501	2593	2685
15MHz	2503.5	2593	2682.5
20MHz	2506	2593	2680

Test Data:

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		
5MHz QPSK	RB1#0	22.28	21.82	21.65	23.27	33
	RB1#13	22.25	21.93	21.58		
	RB1#24	22.03	21.85	22		
	RB15#0	21.31	20.97	20.79		
	RB15#10	21.29	20.94	20.87		
	RB25#0	21.31	20.93	20.9		
5MHz 16QAM	RB1#0	21.43	21.09	20.26	22.66	33
	RB1#13	21.67	21.08	20.36		
	RB1#24	21.46	20.82	20.27		
	RB15#0	20.35	19.81	19.44		
	RB15#10	20.23	19.83	19.39		
	RB25#0	20.27	19.85	19.59		
10MHz QPSK	RB1#0	22.39	22.02	21.57	23.47	33
	RB1#25	22.32	22.07	21.59		
	RB1#49	22.48	21.98	21.99		
	RB25#0	21.32	21.07	21.02		
	RB25#25	21.32	21.08	20.79		
	RB50#0	21.29	21.08	20.58		
10MHz 16QAM	RB1#0	21.42	21.45	21.3	22.66	33
	RB1#25	21.55	21.67	21.03		
	RB1#49	21.47	21.33	20.76		
	RB25#0	20.33	20.16	19.96		
	RB25#25	20.41	20.17	19.7		
	RB50#0	20.51	20.12	19.72		
15MHz QPSK	RB1#0	22.23	21.96	21.25	23.33	33
	RB1#38	22.18	21.94	21.45		
	RB1#74	22.34	21.93	21.94		
	RB36#0	21.14	21.07	20.75		
	RB36#39	21.29	20.91	21.02		
	RB75#0	21.1	20.97	20.57		
15MHz 16QAM	RB1#0	21.23	21.06	20.22	22.38	33
	RB1#38	21.21	21.39	20.53		
	RB1#74	21.29	21.22	20.75		
	RB36#0	20.12	20.08	19.73		
	RB36#39	20.17	20	19.67		
	RB75#0	20.14	20.02	19.61		
20MHz QPSK	RB1#0	22	22.11	21.96	23.39	33
	RB1#50	21.98	22.4	21.64		
	RB1#99	22	21.99	21.86		
	RB50#0	21.12	21.08	20.8		

	RB50#50	21.23	21.03	20.85		
	RB100#0	21.24	21.08	20.72		
20MHz 16QAM	RB1#0	21.35	20.85	21.49	22.53	33
	RB1#50	21.54	20.86	21.49		
	RB1#99	21.39	20.6	21.54		
	RB50#0	20.38	20.25	19.89		
	RB50#50	20.41	20.18	19.67		
	RB100#0	20.34	20.13	19.89		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(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#0	8.29	7.71	8.23	13
	RB100#0	8.12	7.83	8.67	13
20MHz 16QAM	RB1#0	8.99	8.35	9.68	13
	RB100#0	9.74	9.51	10	13
				Result:	Pass

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	4.511	4.511	4.511	4.96	5.96	4.98
5MHz 16QAM	4.511	4.511	4.511	4.98	5	5
10MHz QPSK	8.942	4.942	8.942	9.76	9.84	9.64
10MHz 16QAM	8.942	8.902	4.942	9.64	9.64	9.68
15MHz QPSK	13.413	13.473	13.473	14.58	14.52	14.58
15MHz 16QAM	13.473	13.473	13.533	14.64	14.7	14.58
20MHz QPSK	17.884	17.884	17.884	19.28	19.28	19.36
20MHz 16QAM	17.884	17.884	17.884	19.28	19.28	19.28

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

Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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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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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	7.6	2496.283	2496.00	2689.655	2690
	-20	7.6	2496.361	2496.00	2689.713	2690
	-10	7.6	2496.274	2496.00	2689.583	2690
	0	7.6	2496.274	2496.00	2689.709	2690
	10	7.6	2496.220	2496.00	2689.614	2690
	20	7.6	2496.320	2496.00	2689.680	2690
	30	7.6	2496.261	2496.00	2689.684	2690
	40	7.6	2496.304	2496.00	2689.663	2690
	50	7.6	2496.317	2496.00	2689.765	2690
Frequency Stability vs. Voltage	20	6.8	2496.262	2496.00	2689.634	2690
	20	8.7	2496.278	2496.00	2689.779	2690
					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	7.6	2496.328	2496.00	2689.754	2690
	-20	7.6	2496.499	2496.00	2689.728	2690
	-10	7.6	2496.389	2496.00	2689.707	2690
	0	7.6	2496.447	2496.00	2689.745	2690
	10	7.6	2496.500	2496.00	2689.589	2690
	20	7.6	2496.400	2496.00	2689.680	2690
	30	7.6	2496.337	2496.00	2689.719	2690
	40	7.6	2496.391	2496.00	2689.720	2690
	50	7.6	2496.450	2496.00	2689.643	2690
Frequency Stability vs. Voltage	20	6.8	2496.381	2496.00	2689.777	2690
	20	8.7	2496.455	2496.00	2689.698	2690
					Result:	Pass

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

