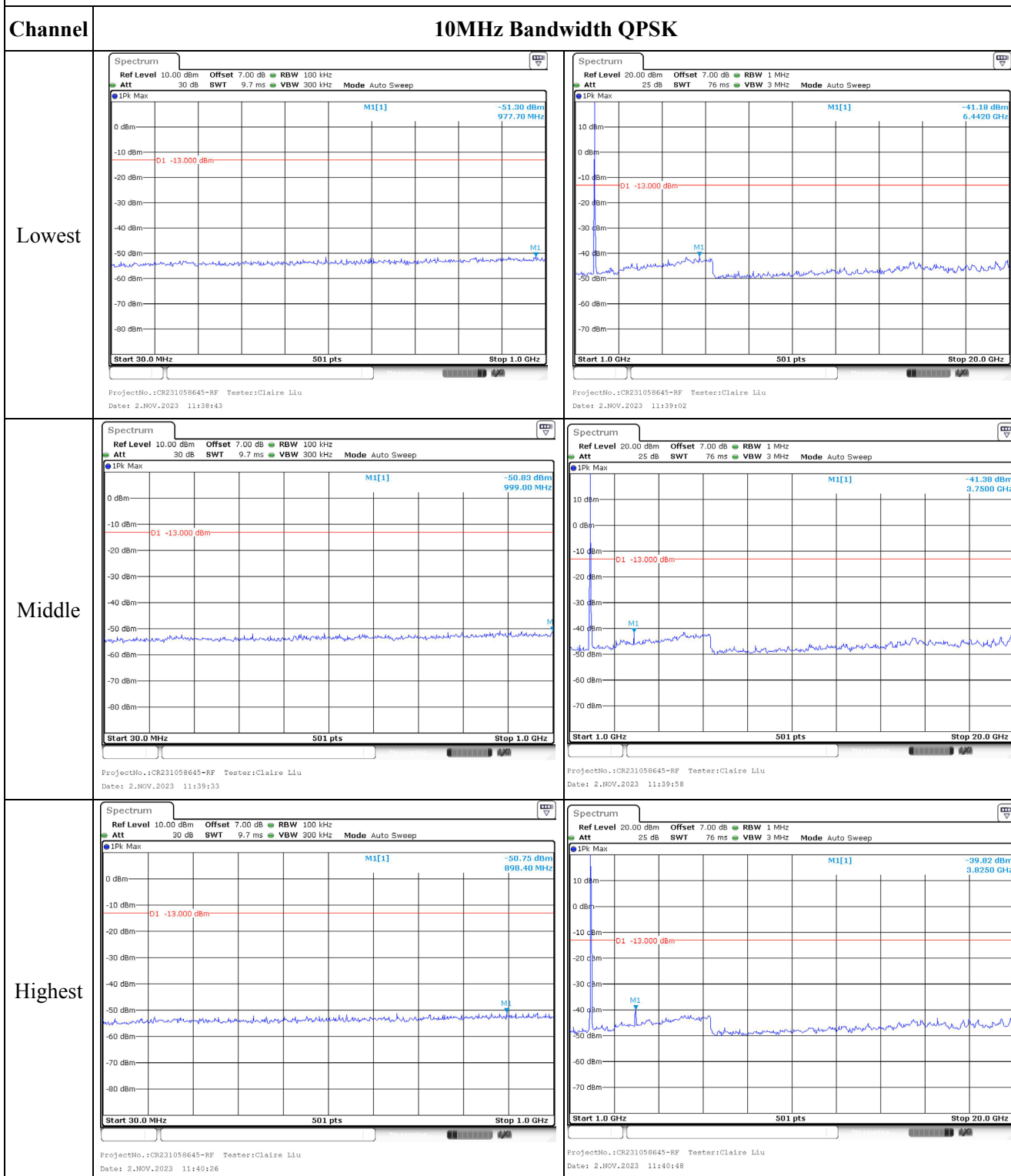


Spurious Emissions at Antenna Terminal

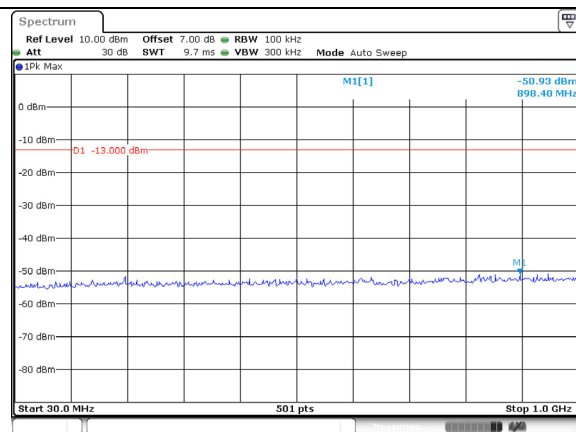


Spurious Emissions at Antenna Terminal

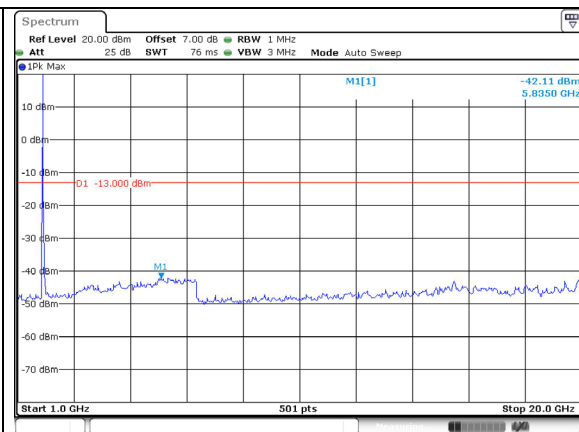
Channel

15MHz Bandwidth QPSK

Lowest

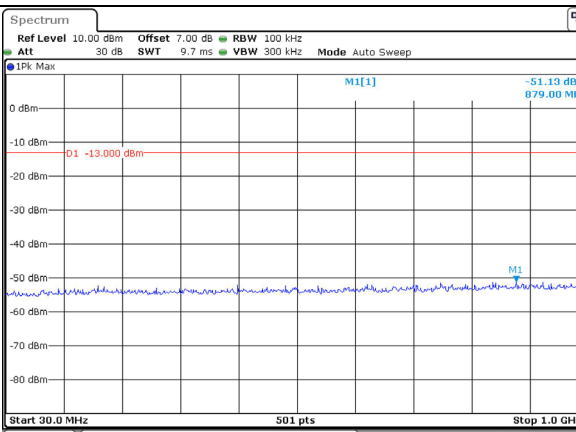


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 11:41:51

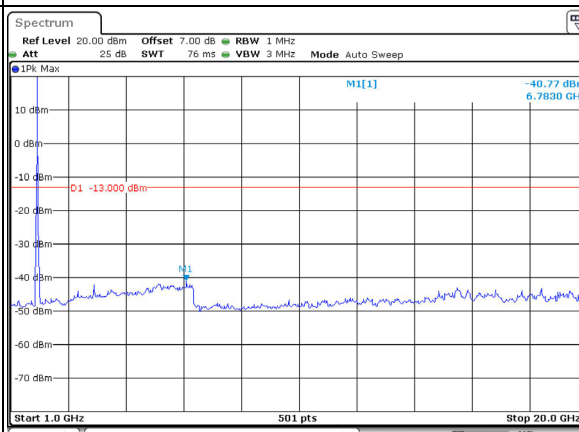


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 11:42:13

Middle

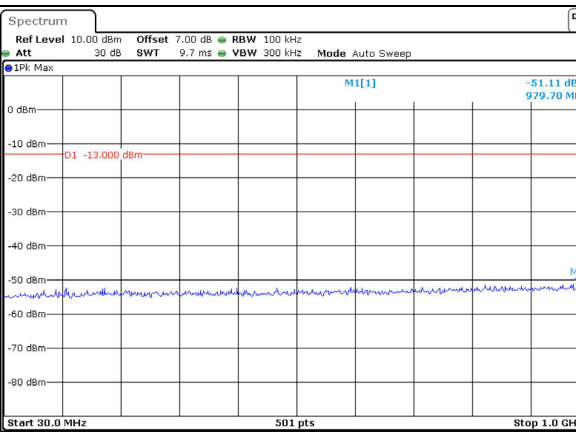


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 11:42:38

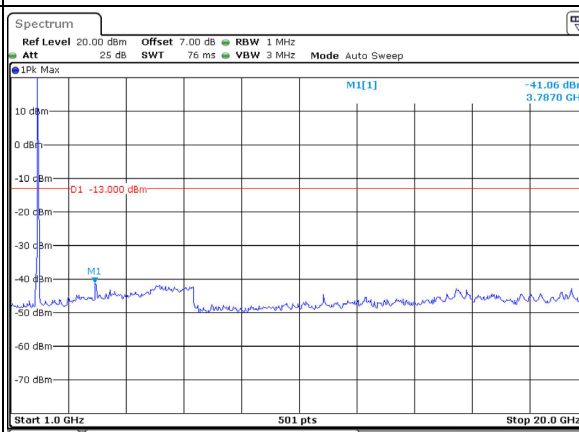


ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 11:43:06

Highest



ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 11:43:34



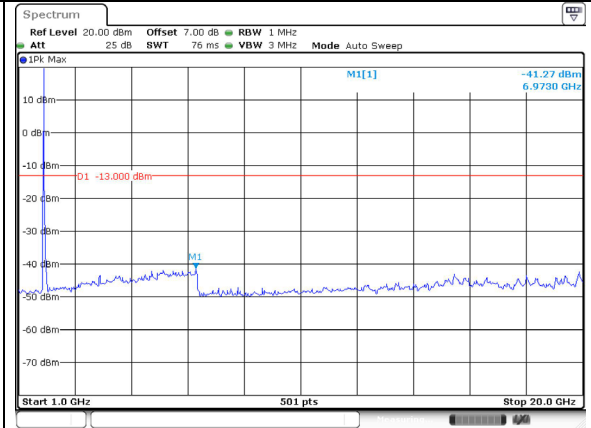
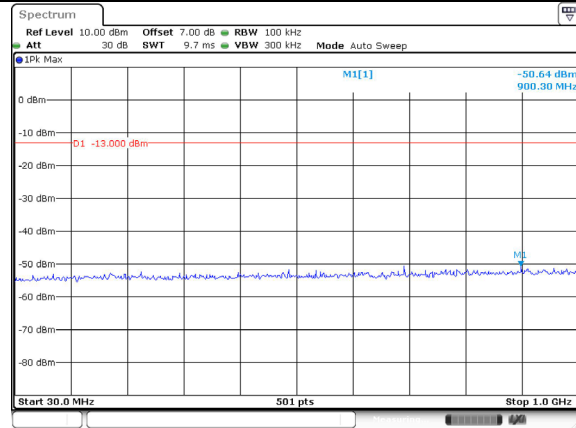
ProjectNo.:CR231058645-RF Tester: Claire Liu
Date: 2.NOV.2023 11:44:03

Spurious Emissions at Antenna Terminal

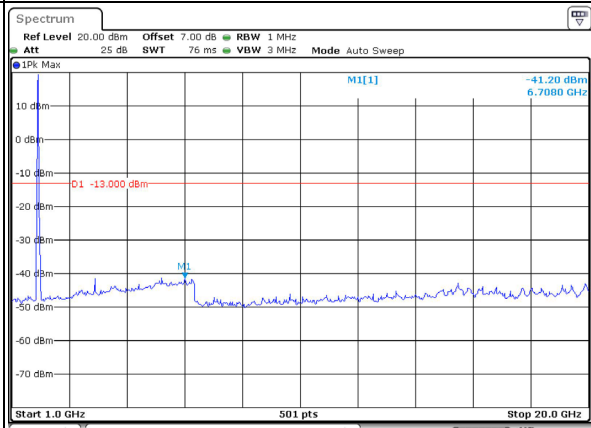
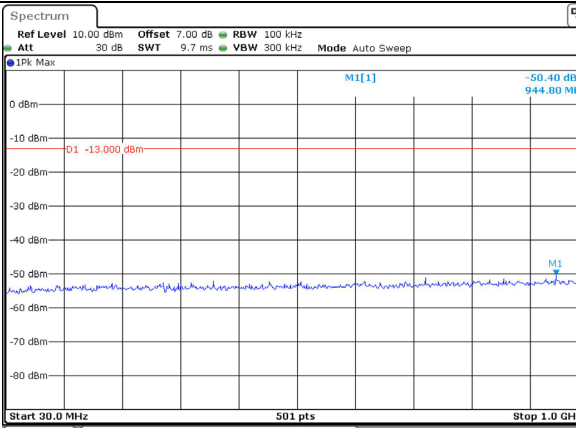
Channel

20MHz Bandwidth QPSK

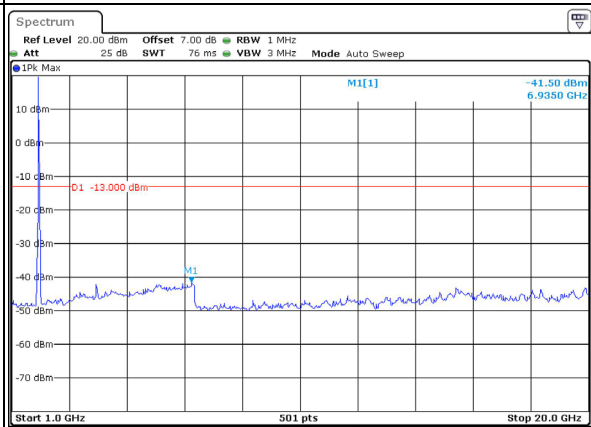
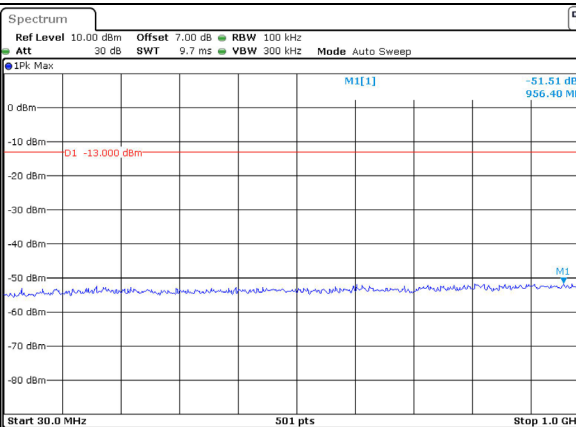
Lowest



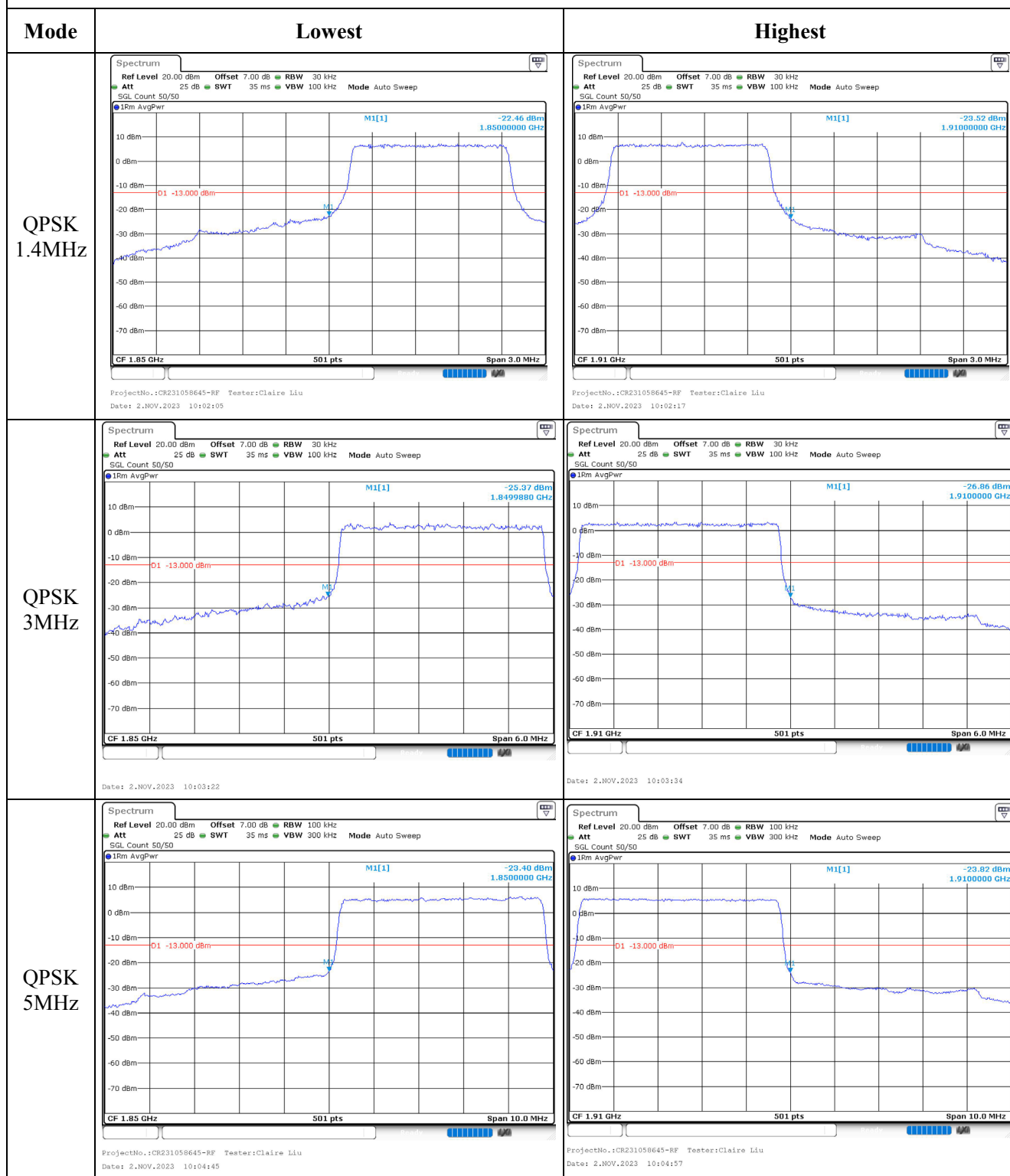
Middle



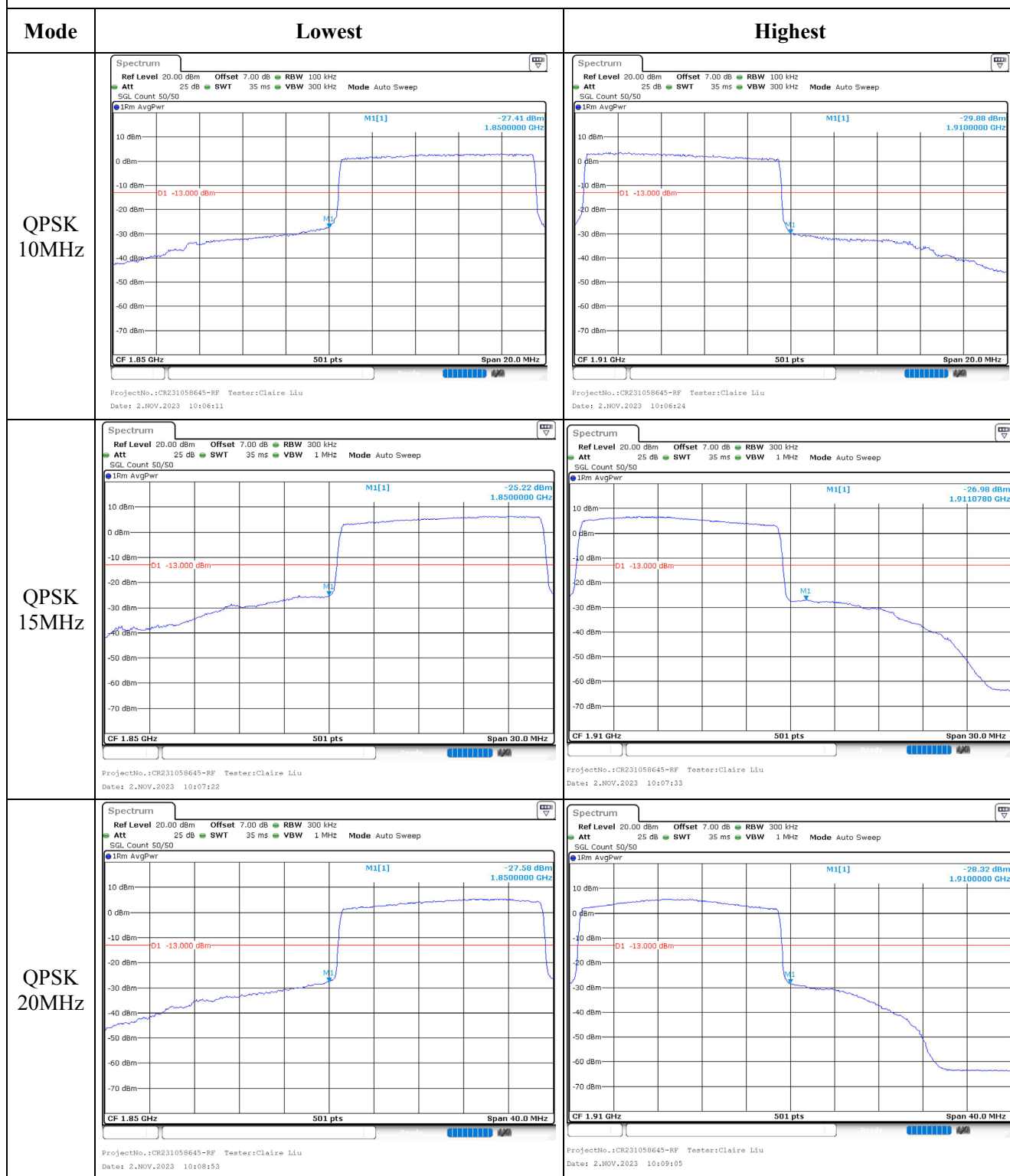
Highest



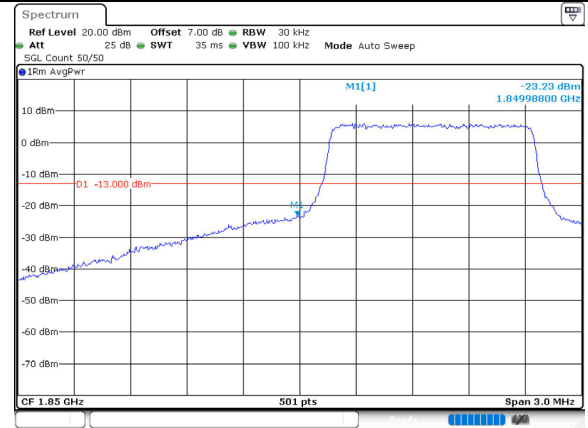
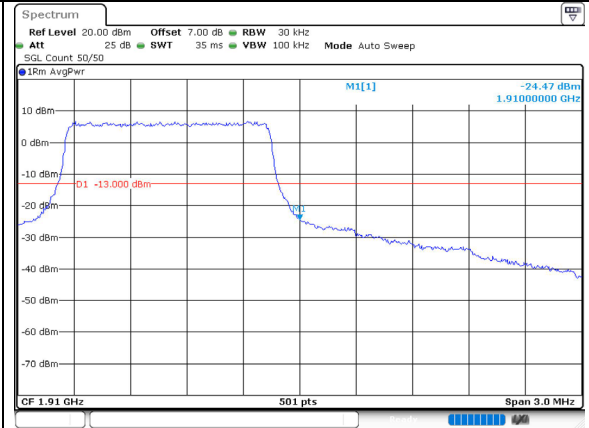
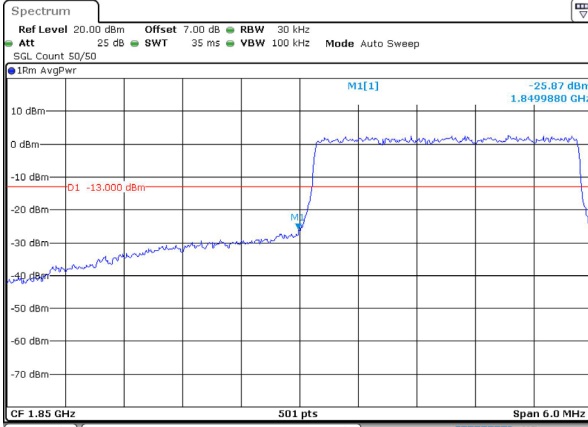
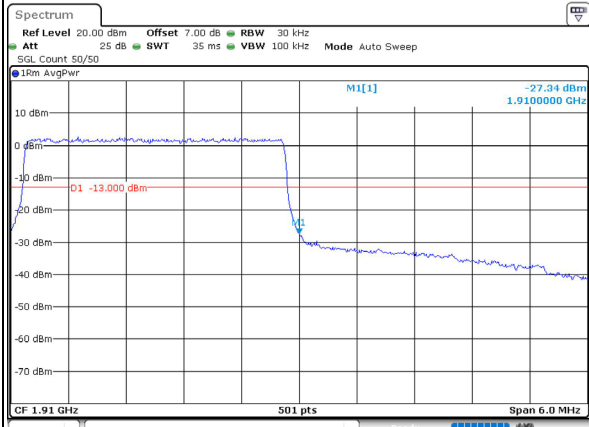
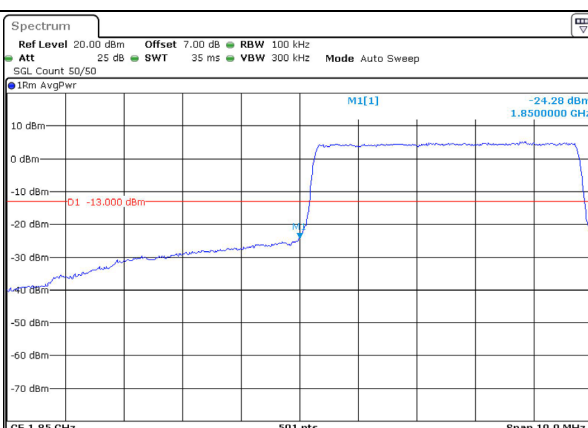
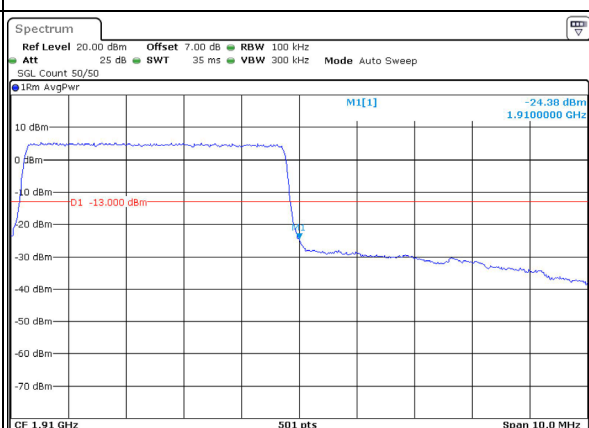
Out of band emission, Band Edge



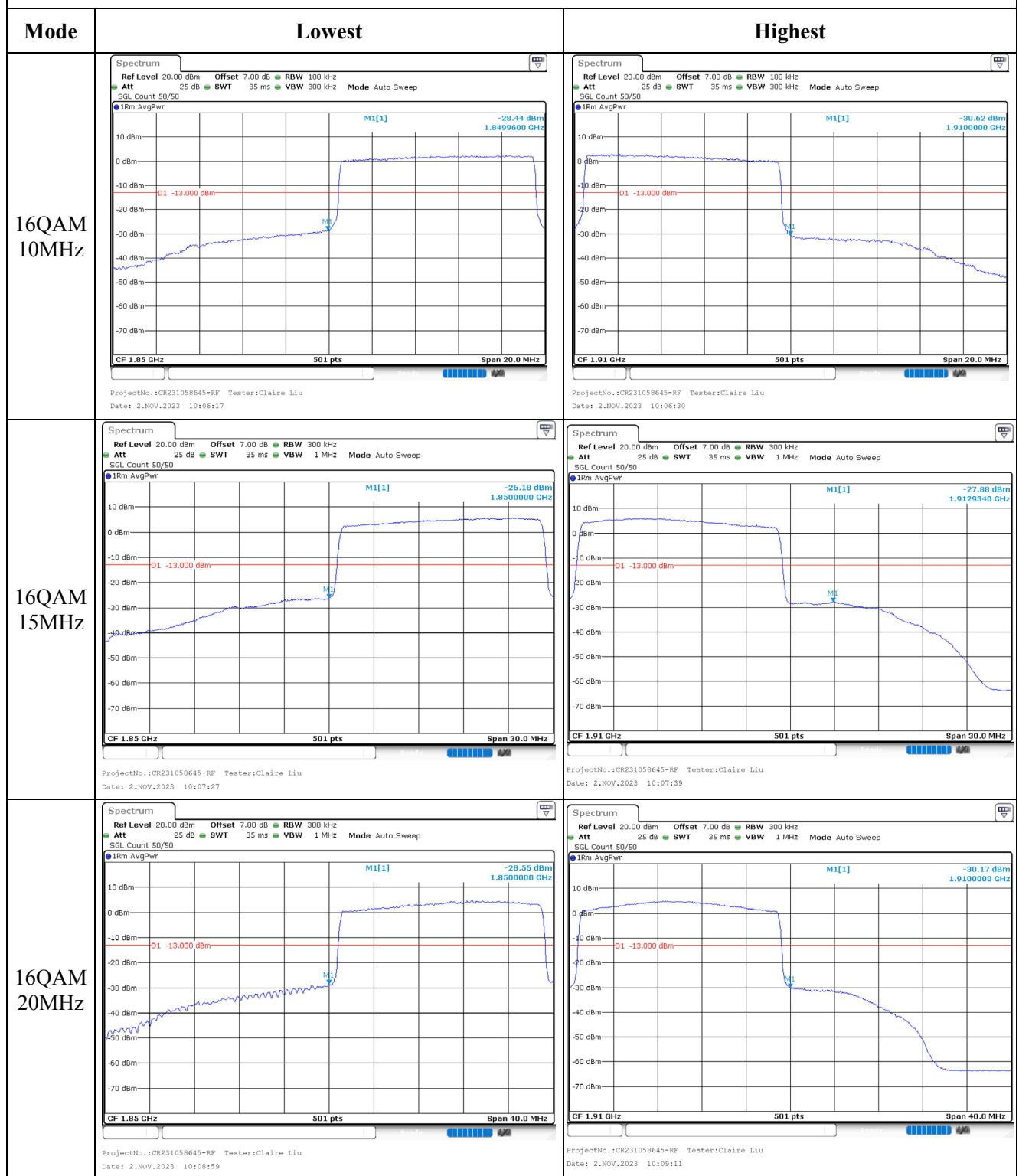
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	 ProjectNo.:CR231058645-RF Tester:Claire Liu Date: 2.NOV.2023 10:02:11	 ProjectNo.:CR231058645-RF Tester:Claire Liu Date: 2.NOV.2023 10:02:22
16QAM 3MHz	 ProjectNo.:CR231058645-RF Tester:Claire Liu Date: 2.NOV.2023 10:03:27	 ProjectNo.:CR231058645-RF Tester:Claire Liu Date: 2.NOV.2023 10:03:39
16QAM 5MHz	 ProjectNo.:CR231058645-RF Tester:Claire Liu Date: 2.NOV.2023 10:04:51	 ProjectNo.:CR231058645-RF Tester:Claire Liu Date: 2.NOV.2023 10:05:03

Out of band emission, Band Edge



4.6 Antenna Port Test Data and Results for LTE Band 4

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)
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:

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	23.08	22.88	22.78	23.59	30
	RB1#3	23.19	22.96	23.08		
	RB1#5	23.06	23	23.19		
	RB3#0	23.24	22.98	22.9		
	RB3#3	23.19	23	22.95		
	RB6#0	22.26	22.15	22.09		
1.4MHz 16QAM	RB1#0	22.76	22.19	22.19	23.17	30
	RB1#3	22.82	22.1	22.33		
	RB1#5	22.61	22	22.34		
	RB3#0	22.04	22.35	22		
	RB3#3	22.21	22.26	21.92		
	RB6#0	21.29	21.17	21.19		
3MHz QPSK	RB1#0	23.25	23.12	22.67	23.72	30
	RB1#8	23.35	22.91	22.74		
	RB1#14	23.37	23	22.89		
	RB6#0	22.31	22.02	21.74		
	RB6#9	22.14	22.07	21.91		
	RB15#0	22.27	22.06	21.95		
3MHz 16QAM	RB1#0	22.22	22.61	22.08	22.96	30
	RB1#8	21.66	22.17	22.18		
	RB1#14	22.01	22.28	22.17		
	RB6#0	21.01	21.25	20.85		
	RB6#9	20.96	21.29	21.17		
	RB15#0	21.18	21.28	20.88		
5MHz QPSK	RB1#0	23.19	22.99	22.91	23.54	30
	RB1#13	22.96	23.03	22.65		
	RB1#24	23.13	23.06	23.18		
	RB15#0	22.19	22.14	21.94		
	RB15#10	22.2	22.08	21.87		
	RB25#0	22.25	22.14	22.06		
5MHz 16QAM	RB1#0	21.9	21.66	22.33	22.92	30
	RB1#13	21.93	21.2	22.16		
	RB1#24	21.96	21.56	22.57		
	RB15#0	21.14	20.95	20.78		
	RB15#10	21.07	21.09	20.77		
	RB25#0	21.27	21.14	21.06		
10MHz QPSK	RB1#0	23.07	23.06	23.08	23.67	30
	RB1#25	23.08	23.19	23.11		
	RB1#49	23.32	23	23.18		

	RB25#0	22.3	22.14	22.02		
	RB25#25	22.09	22.03	22.11		
	RB50#0	22.16	22.13	22.01		
10MHz 16QAM	RB1#0	22.16	22.31	22.71	23.06	30
	RB1#25	22.14	22.45	22.55		
	RB1#49	21.93	22.16	22.69		
	RB25#0	21.21	21.2	21.3		
	RB25#25	21.14	21.13	21.04		
	RB50#0	21.06	21.05	21.12		
15MHz QPSK	RB1#0	23.11	22.95	23.07	23.58	30
	RB1#38	22.89	22.92	22.78		
	RB1#74	23.23	22.94	23.02		
	RB36#0	22.14	22.22	22.28		
	RB36#39	21.97	22.05	22.04		
	RB75#0	22	22.02	22.07		
15MHz 16QAM	RB1#0	22.42	22.59	22.42	23.33	30
	RB1#38	22.25	22.57	21.74		
	RB1#74	22.34	22.98	22.17		
	RB36#0	21.11	21.04	21.27		
	RB36#39	21.07	21.15	21.16		
	RB75#0	21	21.06	21.09		
20MHz QPSK	RB1#0	23.09	22.94	23.35	23.73	30
	RB1#50	23.2	23.38	23.36		
	RB1#99	23.02	23.02	22.89		
	RB50#0	22	22.09	22.31		
	RB50#50	22.06	22.06	21.98		
	RB100#0	22.05	22.13	22.22		
20MHz 16QAM	RB1#0	22.89	22.3	22.4	23.28	30
	RB1#50	22.75	22.93	22.09		
	RB1#99	22.87	22.8	22.22		
	RB50#0	20.98	21.02	21.39		
	RB50#50	21.15	21.18	20.9		
	RB100#0	21.07	21.26	21.24		

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	4.61	5.28	4.7	13
	RB100#0	4.32	4.12	4.2	13
20MHz 16QAM	RB1#0	5.65	6.14	5.33	13
	RB100#0	6.14	6.03	6.03	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
1.4MHz QPSK	1.102	1.108	1.102	1.332	1.302	1.32
1.4MHz 16QAM	1.096	1.102	1.102	1.308	1.308	1.326
3MHz QPSK	2.695	2.695	2.695	2.952	2.94	2.964
3MHz 16QAM	2.695	2.683	2.683	2.964	2.964	2.952
5MHz QPSK	4.511	4.531	4.511	5.04	5.06	5.02
5MHz 16QAM	4.531	4.511	4.551	5.06	5.02	5.06
10MHz QPSK	8.982	8.942	8.942	9.76	9.72	9.8
10MHz 16QAM	8.942	8.942	8.942	9.68	9.68	9.8
15MHz QPSK	13.533	13.413	13.413	14.76	14.64	14.64
15MHz 16QAM	13.533	13.413	13.533	14.64	14.64	14.64
20MHz QPSK	17.964	17.804	17.884	19.36	19.36	19.36
20MHz 16QAM	17.964	17.804	18.044	19.52	19.12	19.36
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.

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

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	1710.360	1710.00	1754.708	1755
	-20	7.6	1710.415	1710.00	1754.748	1755
	-10	7.6	1710.472	1710.00	1754.630	1755
	0	7.6	1710.367	1710.00	1754.720	1755
	10	7.6	1710.329	1710.00	1754.603	1755
	20	7.6	1710.400	1710.00	1754.680	1755
	30	7.6	1710.379	1710.00	1754.765	1755
	40	7.6	1710.319	1710.00	1754.689	1755
	50	7.6	1710.397	1710.00	1754.613	1755
Frequency Stability vs. Voltage	20	6.8	1710.376	1710.00	1754.727	1755
	20	8.7	1710.327	1710.00	1754.682	1755
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	1710.261	1710.00	1754.692	1755
	-20	7.6	1710.334	1710.00	1754.635	1755
	-10	7.6	1710.167	1710.00	1754.514	1755
	0	7.6	1710.272	1710.00	1754.516	1755
	10	7.6	1710.158	1710.00	1754.564	1755
	20	7.6	1710.240	1710.00	1754.600	1755
	30	7.6	1710.244	1710.00	1754.578	1755
	40	7.6	1710.253	1710.00	1754.526	1755
	50	7.6	1710.154	1710.00	1754.530	1755
Frequency Stability vs. Voltage	20	6.8	1710.156	1710.00	1754.617	1755
	20	8.7	1710.243	1710.00	1754.541	1755
					Result:	Pass