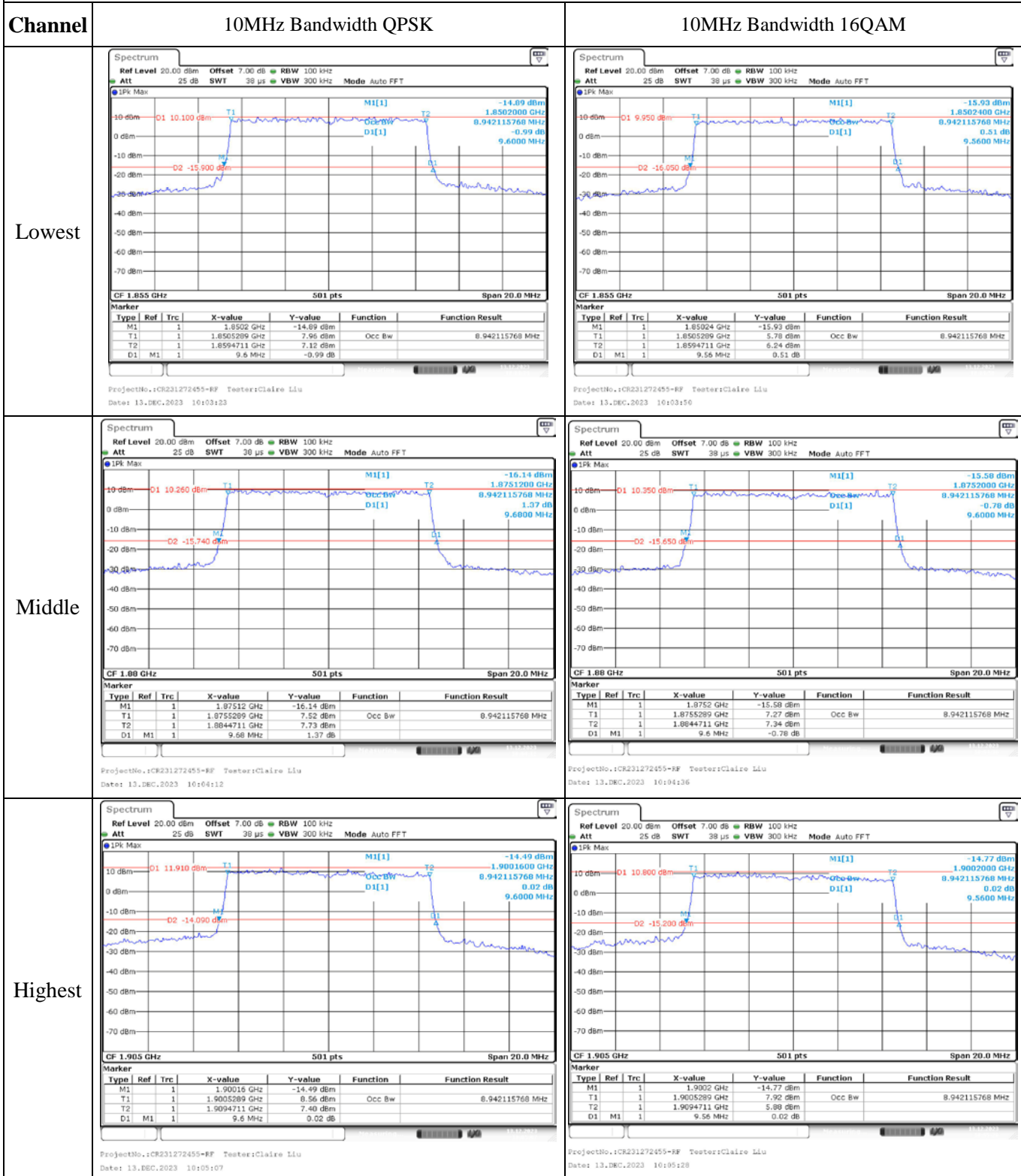


### Occupied Bandwidth

Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM																																																																						
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### Occupied Bandwidth



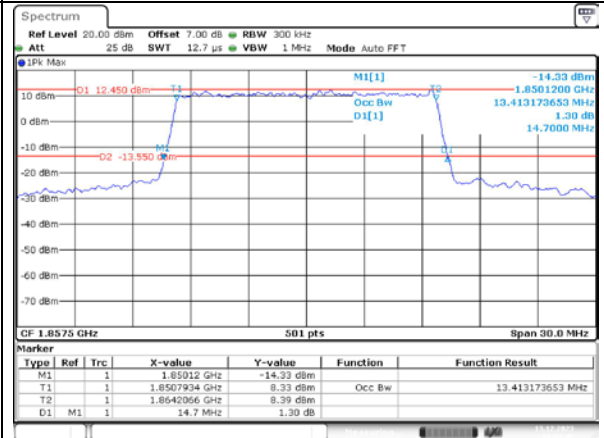
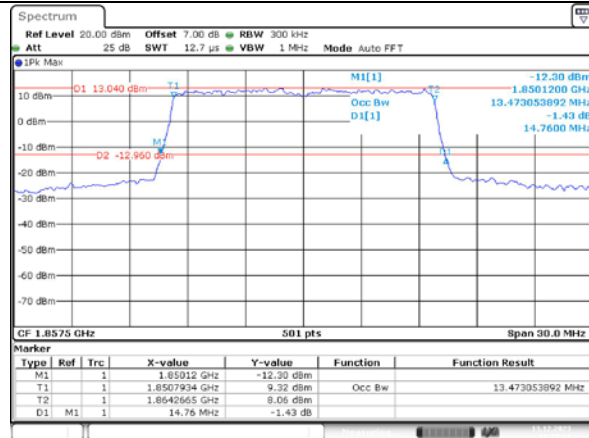
Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

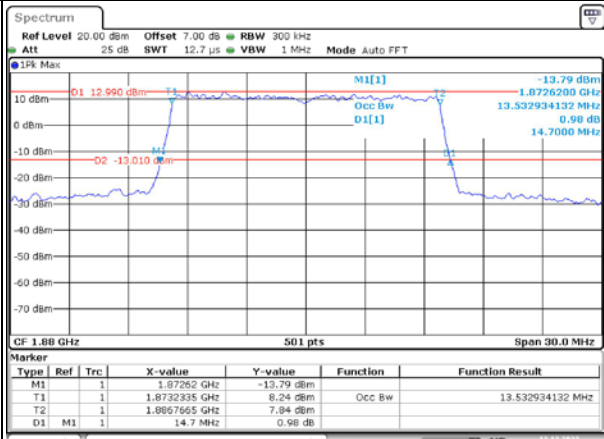
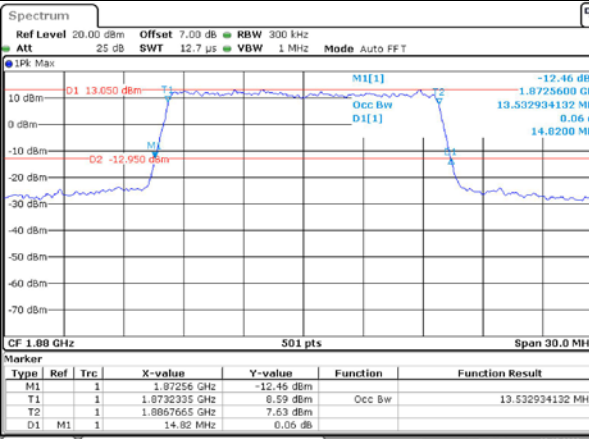
Lowest



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 10:07:11

ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 10:07:45

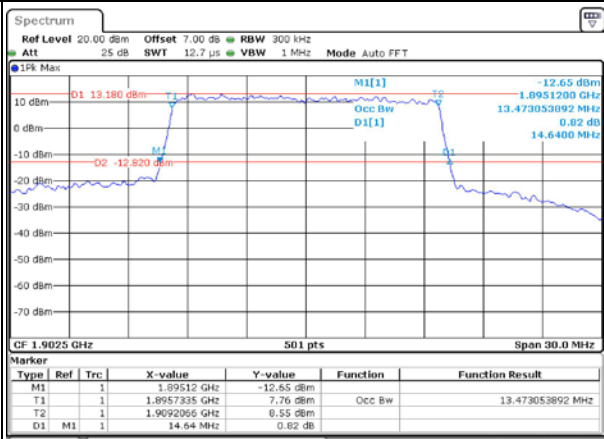
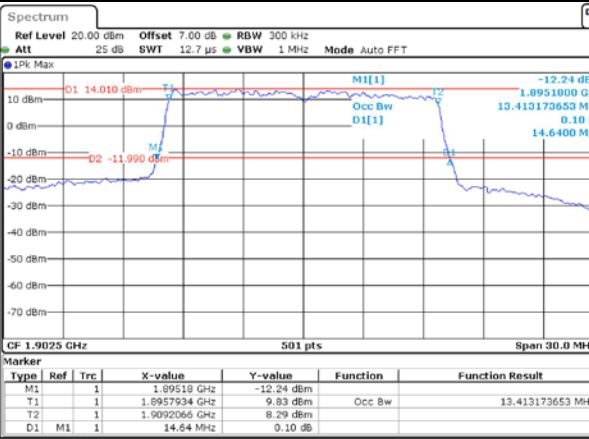
Middle



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 10:08:17

ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 10:08:48

Highest



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 10:09:14

ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 10:09:53

### Occupied Bandwidth

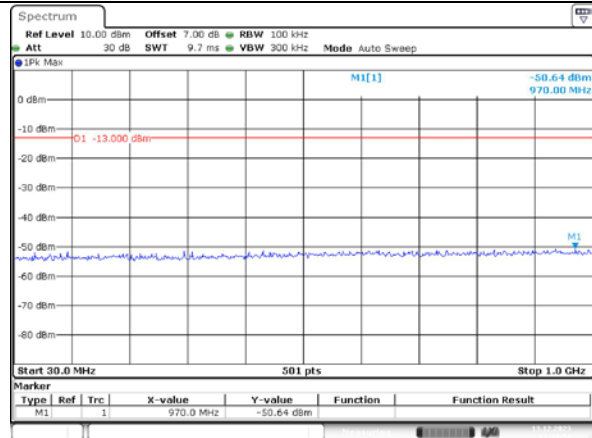
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### Spurious Emissions at Antenna Terminal

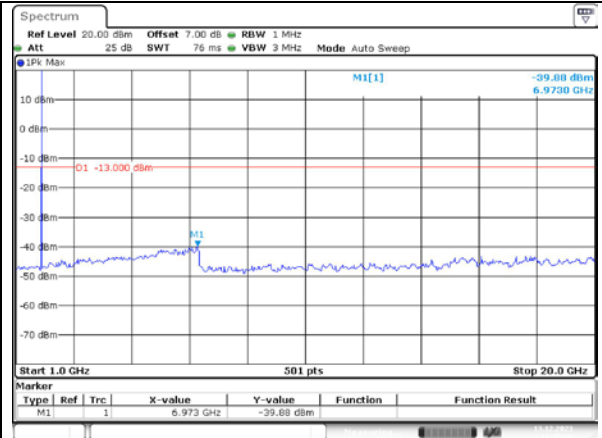
Channel

1.4MHz Bandwidth QPSK

Lowest

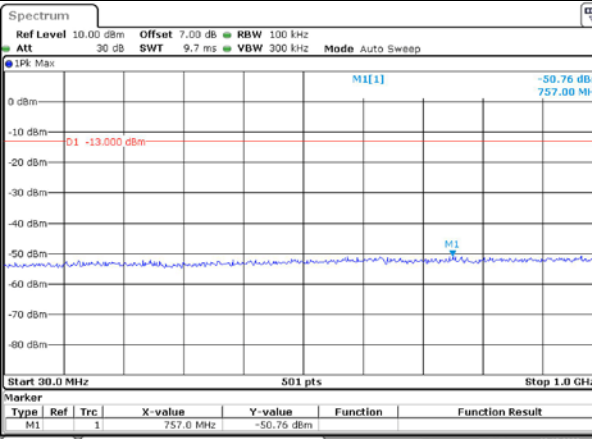


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Date: 13. DEC. 2023 11:44:51

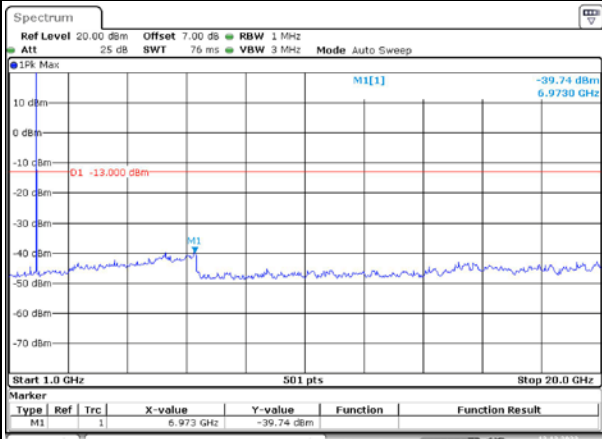


ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 11:45:19

Middle

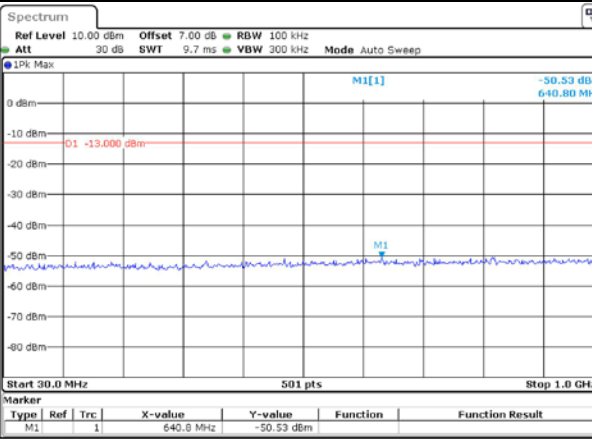


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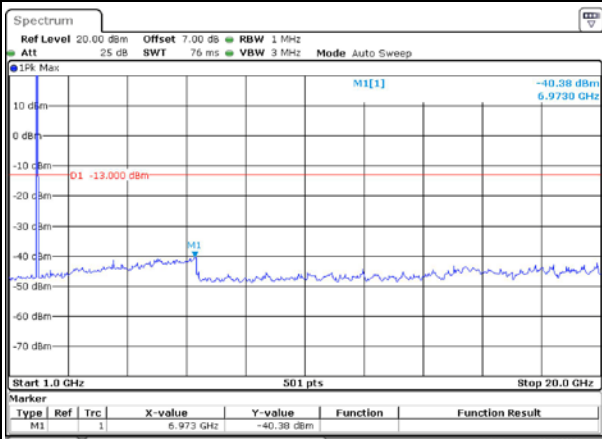


ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 11:46:14

Highest



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13. DEC. 2023 11:46:40



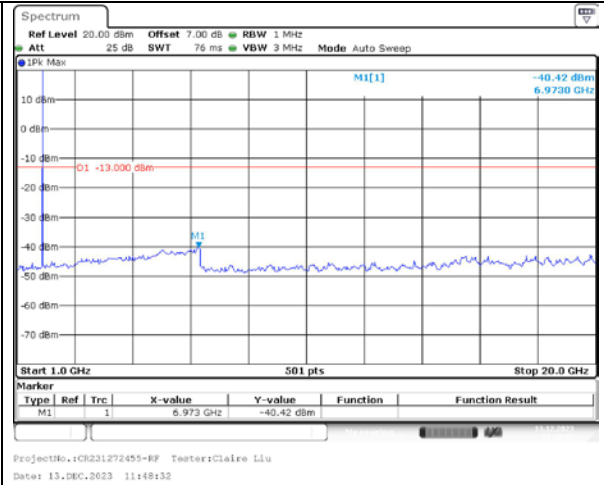
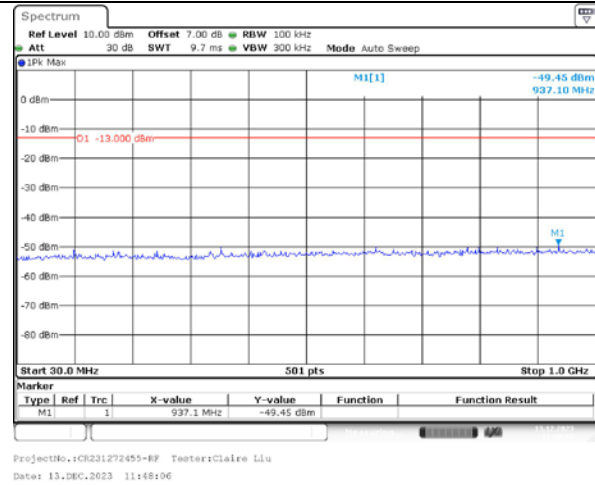
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Date: 13. DEC. 2023 11:47:05

### Spurious Emissions at Antenna Terminal

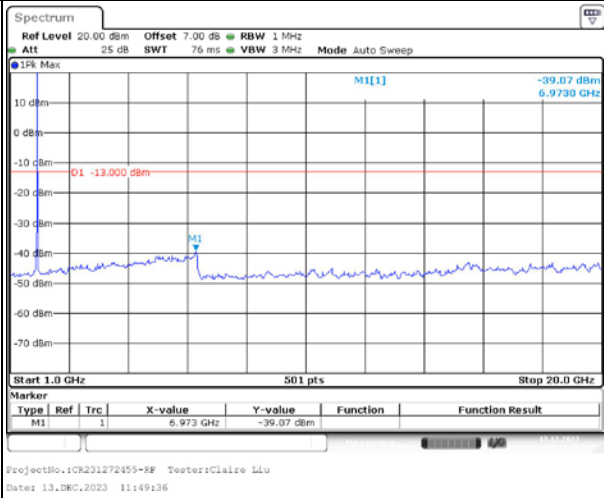
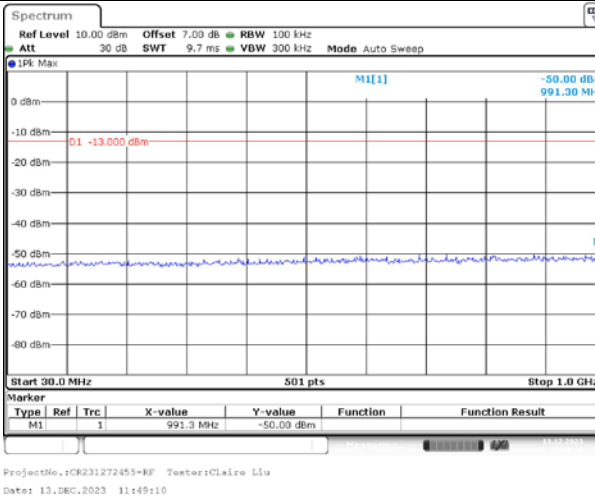
Channel

3MHz Bandwidth QPSK

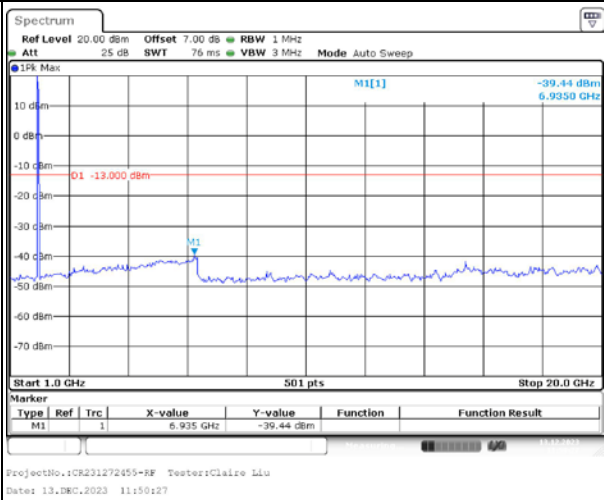
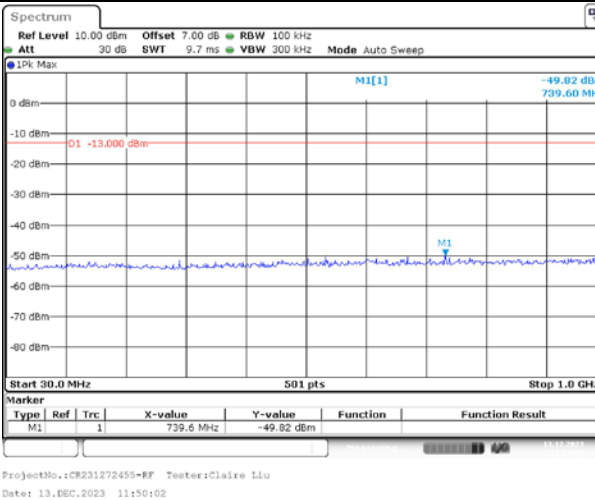
Lowest



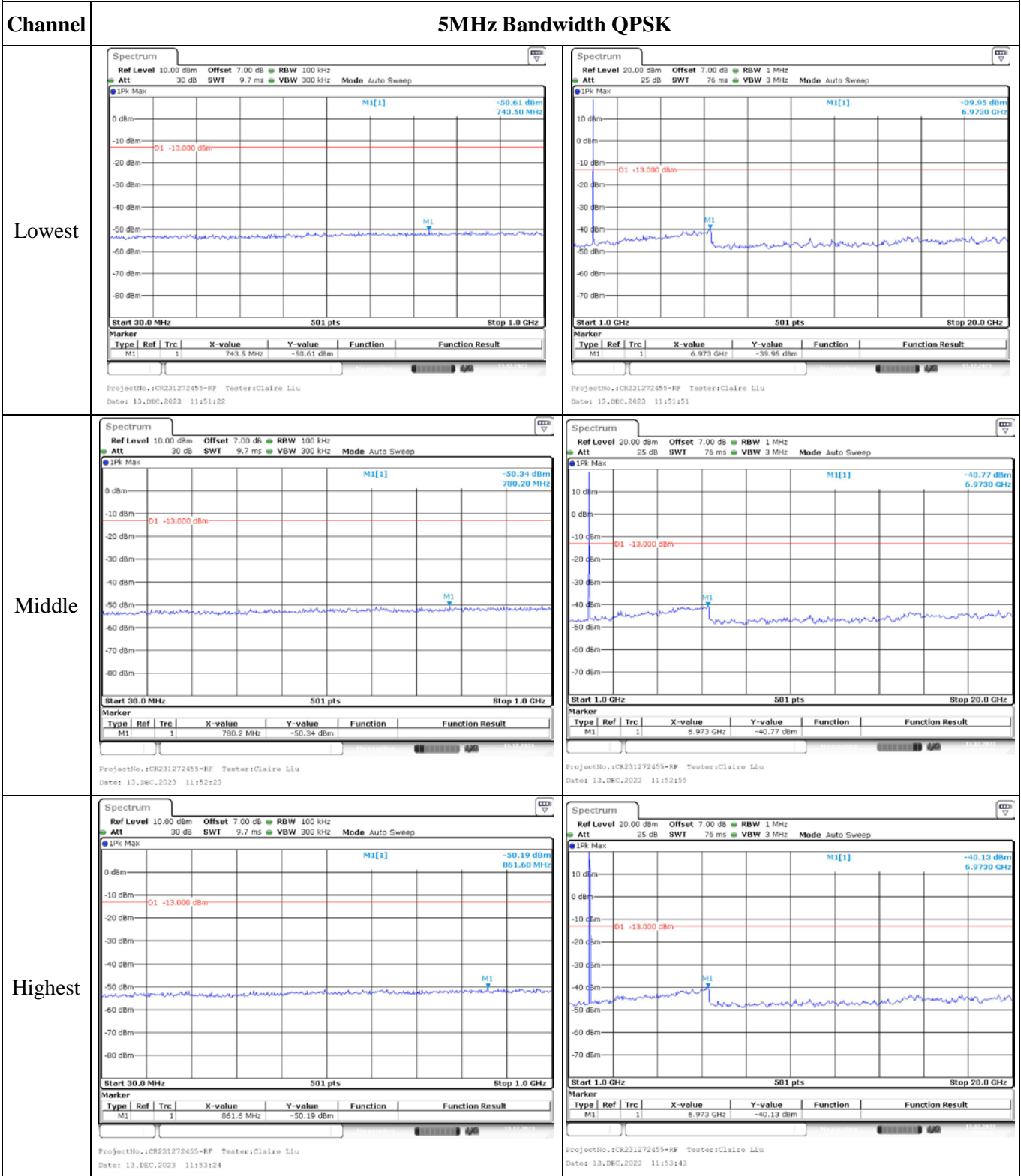
Middle



Highest



### Spurious Emissions at Antenna Terminal

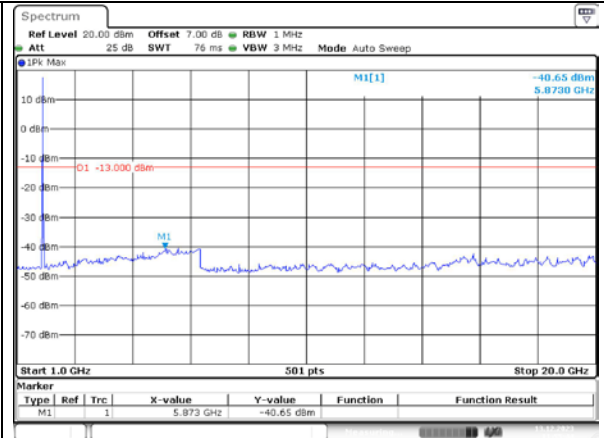
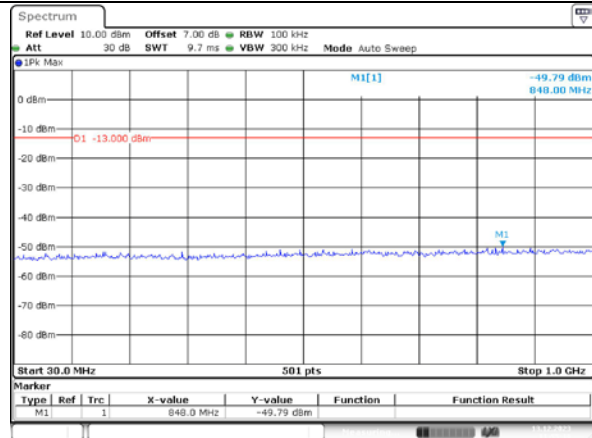


### Spurious Emissions at Antenna Terminal

Channel

10MHz Bandwidth QPSK

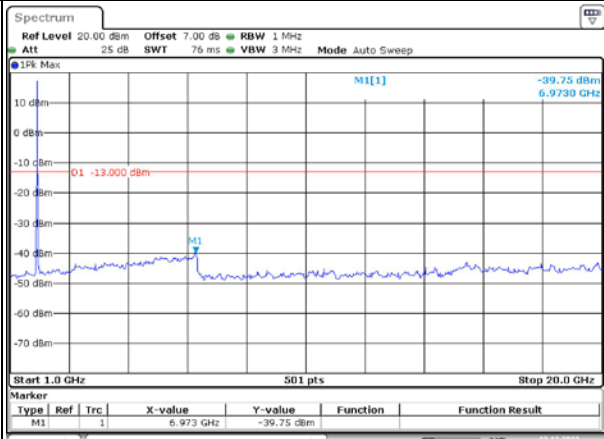
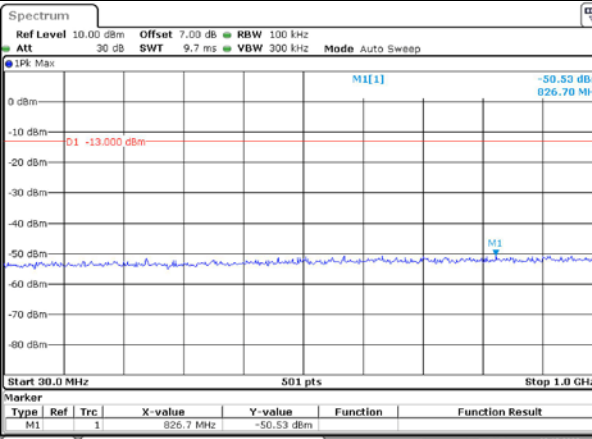
Lowest



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13.DEC.2023 11:55:19

ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13.DEC.2023 11:55:44

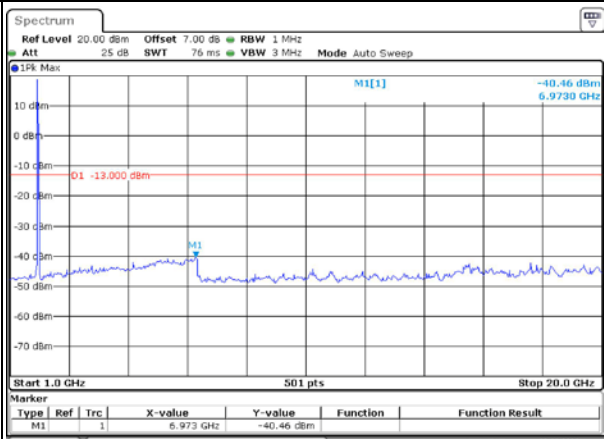
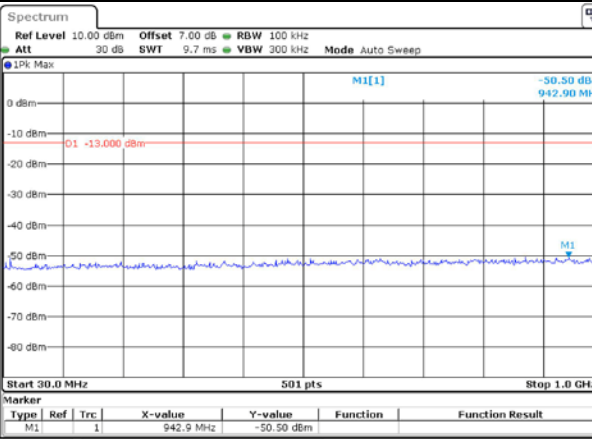
Middle



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13.DEC.2023 11:56:14

ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13.DEC.2023 11:56:37

Highest



ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13.DEC.2023 11:57:10

ProjectNo.:CR231272455-RF Tester: Claire Liu  
Date: 13.DEC.2023 11:57:32

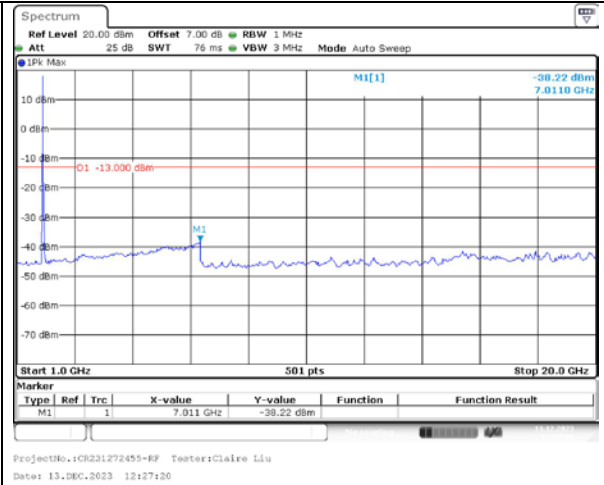
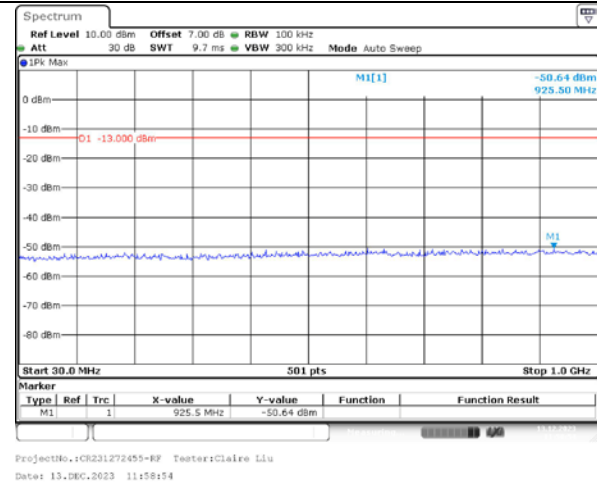


### Spurious Emissions at Antenna Terminal

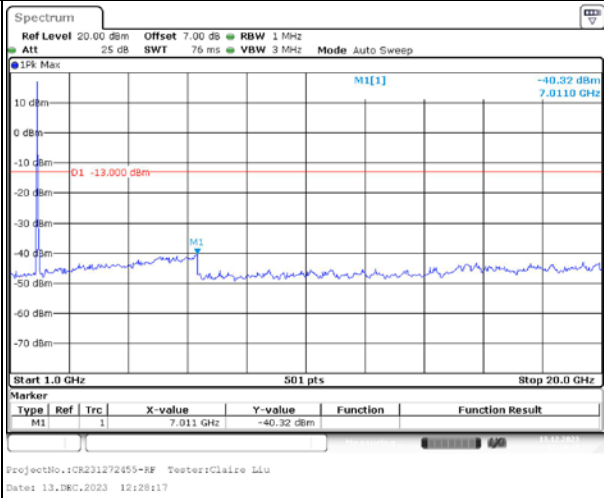
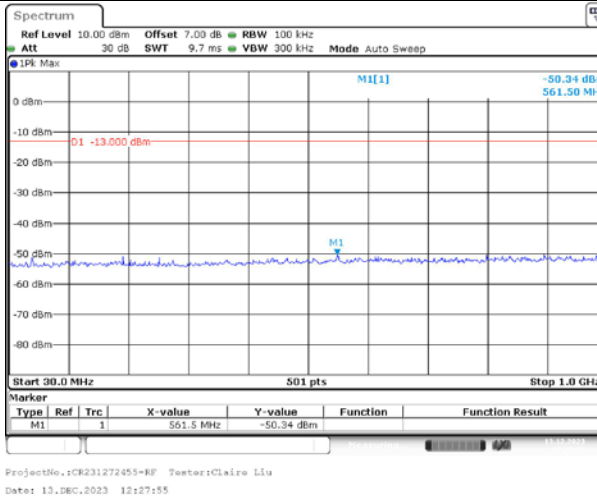
Channel

15MHz Bandwidth QPSK

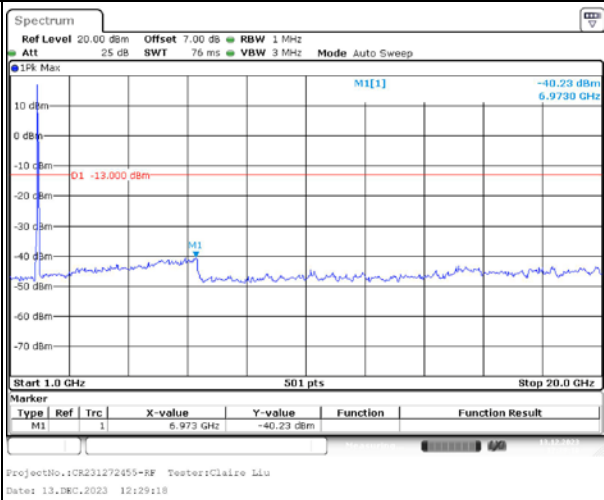
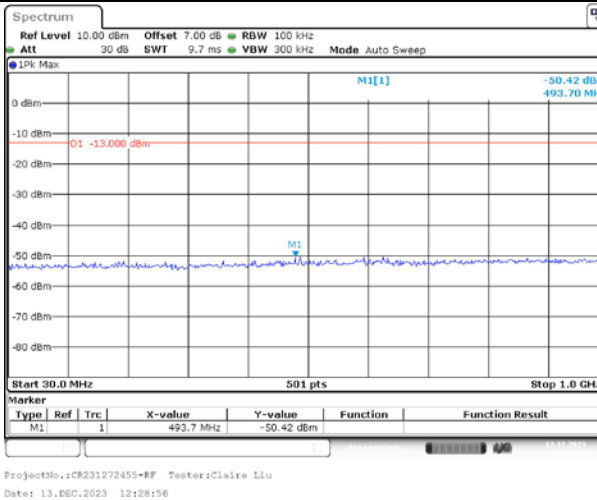
Lowest



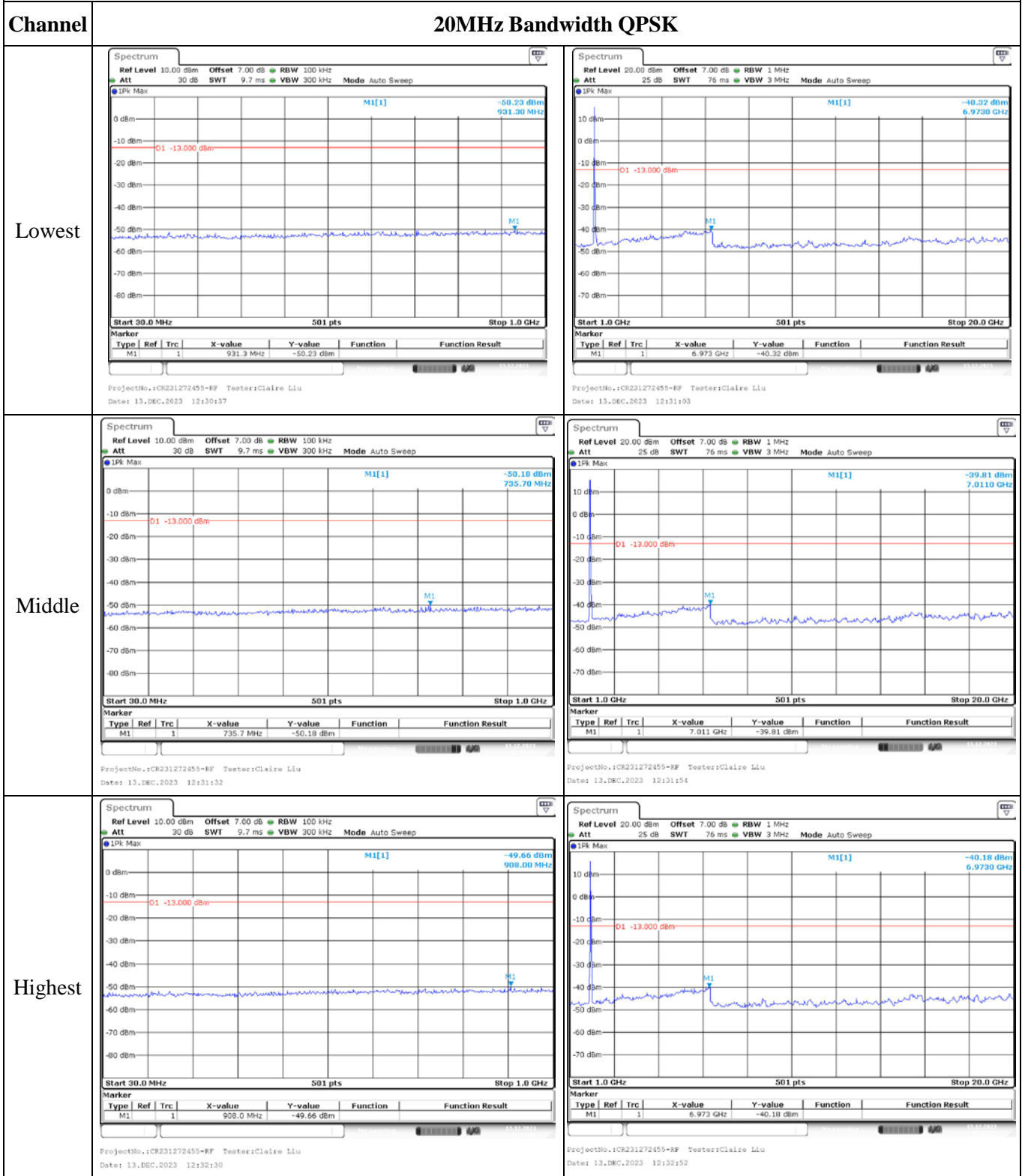
Middle



Highest



### Spurious Emissions at Antenna Terminal



### Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz		
QPSK 3MHz		
QPSK 5MHz		

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz	<p>ProjectNo.:CR231272455-RF Tester: Claire Liu Date: 13.DEC.2023 11:20:46</p>	<p>ProjectNo.:CR231272455-RF Tester: Claire Liu Date: 13.DEC.2023 11:21:03</p>
QPSK 15MHz	<p>ProjectNo.:CR231272455-RF Tester: Claire Liu Date: 13.DEC.2023 11:22:20</p>	<p>ProjectNo.:CR231272455-RF Tester: Claire Liu Date: 13.DEC.2023 11:22:40</p>
QPSK 20MHz	<p>ProjectNo.:CR231272455-RF Tester: Claire Liu Date: 13.DEC.2023 11:23:35</p>	<p>ProjectNo.:CR231272455-RF Tester: Claire Liu Date: 13.DEC.2023 11:23:56</p>

Out of band emission, Band Edge

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

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz		
16QAM 15MHz		
16QAM 20MHz		

**4.7 Antenna Port Test Data and Results for LTE Band 4**

Serial Number:	2EOC-1	Test Date:	2023/12/13~2023/12/19
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	18~22	Relative Humidity: (%)	36~54	ATM Pressure: (kPa)	101.5
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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	2023/11/16	2024/11/15
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	2023/3/31	2024/3/30
BACL	EMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	N/A	N/A
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:**

<b>RF Output Power</b>						
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	22.38	22.22	22.2	21.87	30
	RB1#3	<b>22.5</b>	22.44	22.32		
	RB1#5	22.35	22.22	22.18		
	RB3#0	22.43	22.3	22.28		
	RB3#3	22.45	22.31	22.2		
	RB6#0	21.43	21.28	21.3		
1.4MHz 16QAM	RB1#0	21.44	21.2	21.23	20.99	30
	RB1#3	<b>21.62</b>	21.35	21.32		
	RB1#5	21.43	21.21	21.25		
	RB3#0	21.35	21.34	21.45		
	RB3#3	21.34	21.32	21.44		
	RB6#0	20.5	20.3	20.34		
3MHz QPSK	RB1#0	<b>22.59</b>	22.47	22.4	21.96	30
	RB1#8	22.58	22.42	22.41		
	RB1#14	22.58	22.42	22.45		
	RB6#0	21.52	21.43	21.42		
	RB6#9	21.55	21.41	21.42		
	RB15#0	21.54	21.45	21.37		
3MHz 16QAM	RB1#0	21.56	<b>21.98</b>	21.49	21.35	30
	RB1#8	21.54	21.94	21.53		
	RB1#14	21.52	21.93	21.52		
	RB6#0	20.49	20.55	20.4		
	RB6#9	20.51	20.53	20.41		
	RB15#0	20.64	20.54	20.35		
5MHz QPSK	RB1#0	22.43	22.28	22.25	21.91	30
	RB1#13	<b>22.54</b>	22.46	22.39		
	RB1#24	22.36	22.26	22.29		
	RB15#0	21.53	21.39	21.32		
	RB15#10	21.48	21.41	21.36		
	RB25#0	21.46	21.36	21.32		
5MHz 16QAM	RB1#0	21.47	21.2	21.44	20.98	30
	RB1#13	21.58	21.3	<b>21.61</b>		
	RB1#24	21.43	21.16	21.51		
	RB15#0	20.59	20.46	20.26		
	RB15#10	20.53	20.48	20.29		
	RB25#0	20.54	20.46	20.31		
10MHz QPSK	RB1#0	22.45	22.34	22.23	21.98	30
	RB1#25	<b>22.61</b>	22.55	22.49		
	RB1#49	22.48	22.34	22.35		



	RB25#0	21.52	21.41	21.3		
	RB25#25	21.44	21.43	21.43		
	RB50#0	21.45	21.43	21.36		
10MHz 16QAM	RB1#0	21.39	21.87	21.33	21.47	30
	RB1#25	21.54	<b>22.1</b>	21.59		
	RB1#49	21.4	21.85	21.43		
	RB25#0	20.67	20.51	20.4		
	RB25#25	20.59	20.55	20.42		
	RB50#0	20.54	20.5	20.41		
15MHz QPSK	RB1#0	22.31	22.23	22.12	21.8	30
	RB1#38	<b>22.43</b>	22.4	22.33		
	RB1#74	22.3	22.21	22.23		
	RB36#0	21.5	21.42	21.33		
	RB36#39	21.49	21.45	21.44		
	RB75#0	21.51	21.44	21.39		
15MHz 16QAM	RB1#0	21.67	21.76	21.23	21.28	30
	RB1#38	21.8	<b>21.91</b>	21.43		
	RB1#74	21.67	21.68	21.31		
	RB36#0	20.52	20.4	20.34		
	RB36#39	20.49	20.45	20.35		
	RB75#0	20.53	20.45	20.4		
20MHz QPSK	RB1#0	22.12	21.89	21.7	21.95	30
	RB1#50	<b>22.58</b>	22.34	22.01		
	RB1#99	22.16	21.88	21.59		
	RB50#0	21.47	21.2	20.76		
	RB50#50	21.41	21.21	20.88		
	RB100#0	21.48	21.22	20.81		
20MHz 16QAM	RB1#0	21.65	21.29	20.92	21.52	30
	RB1#50	<b>22.15</b>	21.67	21.29		
	RB1#99	21.66	21.22	20.92		
	RB50#0	20.59	20.11	19.91		
	RB50#50	20.32	20.09	20.05		
	RB100#0	20.38	20.13	20.03		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(dBi)

**Result:**

**Pass**

<b>Peak-to-average Ratio(PAR)</b>					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.93	5.3	4.84	13
	RB100#0	4.23	4.23	3.94	13
20MHz 16QAM	RB1#0	5.74	6.46	5.45	13
	RB100#0	5.83	5.8	5.57	13
<b>Result:</b>					<b>Pass</b>

<b>Occupied Bandwidth</b>						
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	1.096	1.102	1.29	1.302	1.308
1.4MHz 16QAM	1.096	1.102	1.09	1.284	1.332	1.284
3MHz QPSK	2.683	2.683	2.695	2.88	2.868	2.88
3MHz 16QAM	2.683	2.683	2.683	2.88	2.88	2.868
5MHz QPSK	4.511	4.511	4.511	4.94	4.96	4.98
5MHz 16QAM	4.511	4.491	4.511	4.98	4.94	4.98
10MHz QPSK	8.942	8.942	8.942	9.6	9.68	9.6
10MHz 16QAM	8.942	8.942	8.942	9.64	9.56	9.64
15MHz QPSK	13.473	13.533	13.533	14.58	14.82	14.82
15MHz 16QAM	13.533	13.533	13.533	14.7	14.7	14.7
20MHz QPSK	17.964	18.044	17.964	19.52	19.28	19.28
20MHz 16QAM	17.964	17.964	17.964	19.2	19.44	19.36
Note: The test plots please refer to the Plots of Occupied Bandwidth						

<b>Spurious Emissions at Antenna Terminal</b>	
<b>Result:</b>	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

<b>Out of band emission, Band Edge</b>	
<b>Result:</b>	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 <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	1710.264	1710.00	1754.671	1755
	-20	3.87	1710.167	1710.00	1754.772	1755
	-10	3.87	1710.214	1710.00	1754.629	1755
	0	3.87	1710.167	1710.00	1754.756	1755
	10	3.87	1710.206	1710.00	1754.690	1755
	20	3.87	1710.240	1710.00	1754.680	1755
	30	3.87	1710.223	1710.00	1754.627	1755
	40	3.87	1710.163	1710.00	1754.779	1755
	50	3.87	1710.257	1710.00	1754.581	1755
Frequency Stability vs. Voltage	20	3.4	1710.204	1710.00	1754.707	1755
	20	4.4	1710.321	1710.00	1754.773	1755
					<b>Result:</b>	<b>Pass</b>

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	1710.422	1710.00	1754.605	1755
	-20	3.87	1710.359	1710.00	1754.709	1755
	-10	3.87	1710.300	1710.00	1754.655	1755
	0	3.87	1710.477	1710.00	1754.586	1755
	10	3.87	1710.382	1710.00	1754.604	1755
	20	3.87	1710.400	1710.00	1754.680	1755
	30	3.87	1710.400	1710.00	1754.651	1755
	40	3.87	1710.349	1710.00	1754.734	1755
	50	3.87	1710.391	1710.00	1754.626	1755
Frequency Stability vs. Voltage	20	3.4	1710.398	1710.00	1754.717	1755
	20	4.4	1710.497	1710.00	1754.697	1755
					<b>Result:</b>	<b>Pass</b>

**Test Plots**(Note: The 7.0dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

