

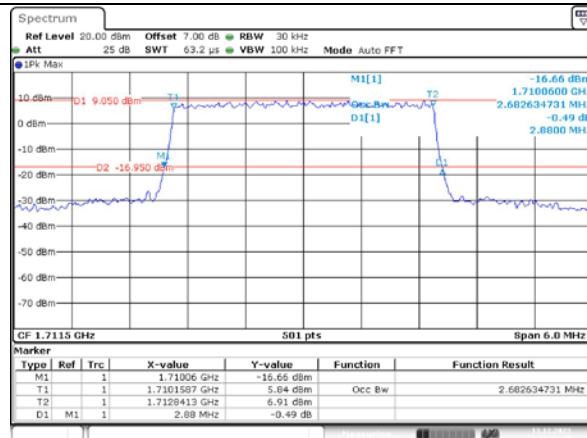
Occupied Bandwidth

Channel

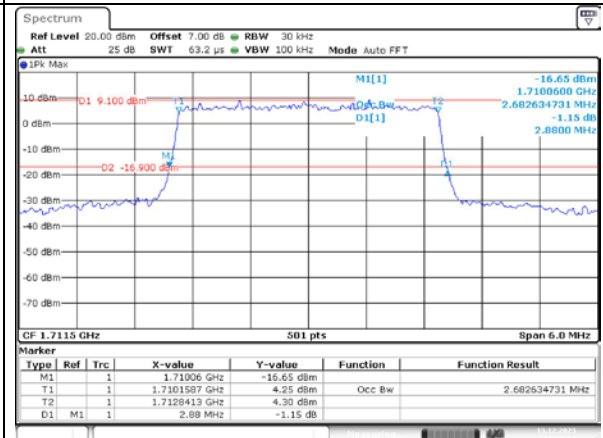
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

Lowest

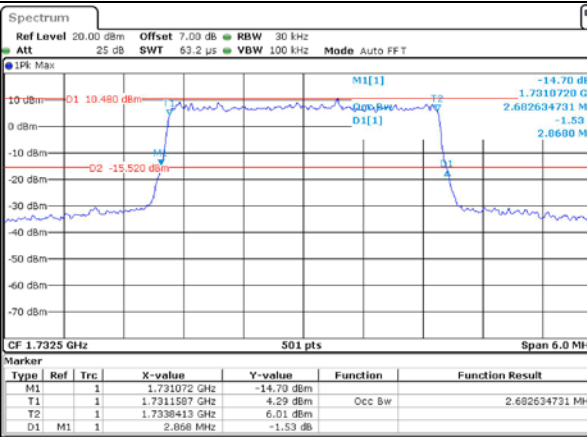


ProjectNo.:CR231272455-RF Tester: Claire Liu
Date: 13.DEC.2023 10:16:47

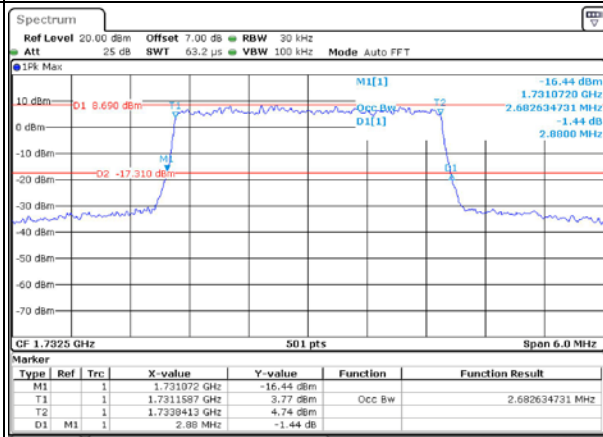


ProjectNo.:CR231272455-RF Tester: Claire Liu
Date: 13.DEC.2023 10:17:01

Middle

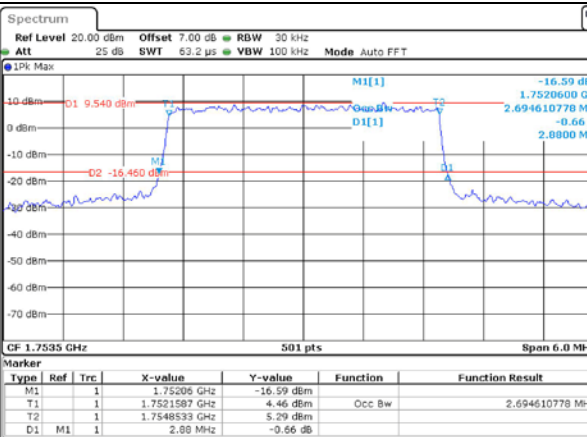


ProjectNo.:CR231272455-RF Tester: Claire Liu
Date: 13.DEC.2023 10:17:16

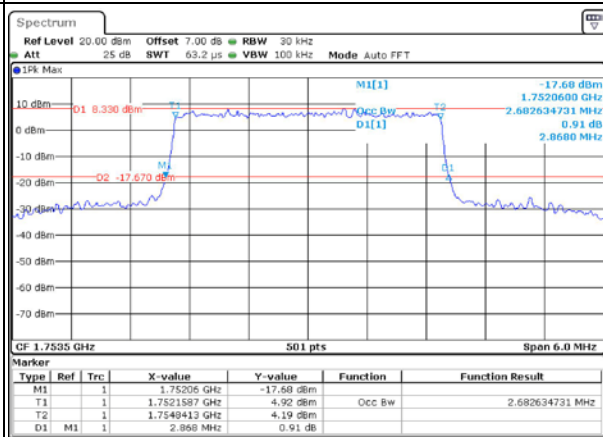


ProjectNo.:CR231272455-RF Tester: Claire Liu
Date: 13.DEC.2023 10:17:33

Highest



ProjectNo.:CR231272455-RF Tester: Claire Liu
Date: 13.DEC.2023 10:17:51



ProjectNo.:CR231272455-RF Tester: Claire Liu
Date: 13.DEC.2023 10:18:05

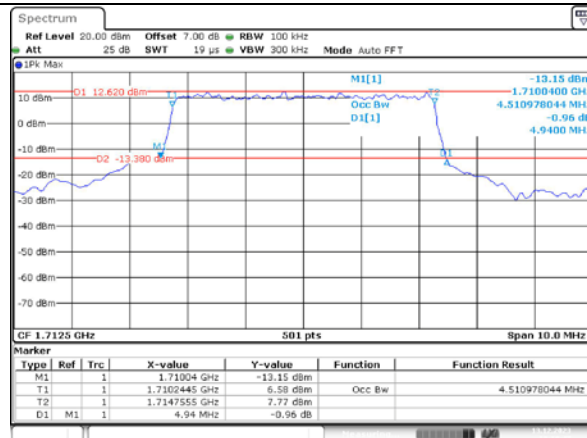
Occupied Bandwidth

Channel

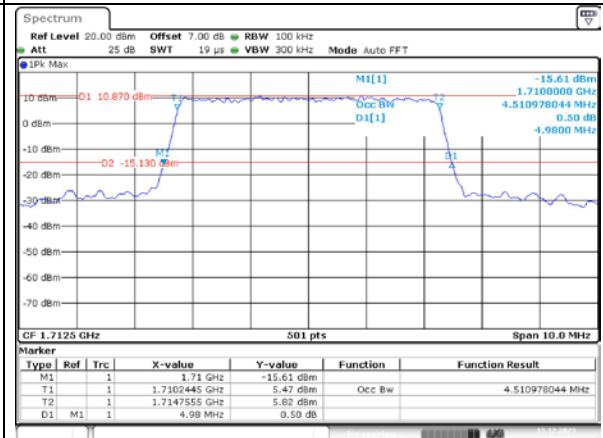
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

Lowest

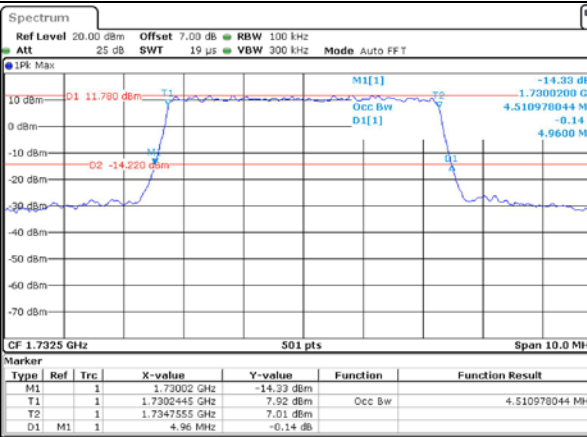


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:18:47

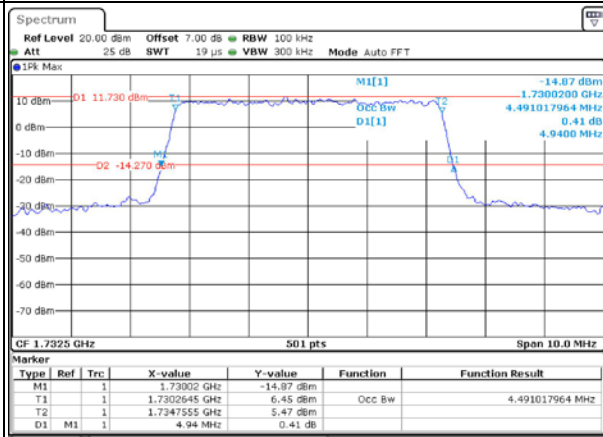


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:19:01

Middle

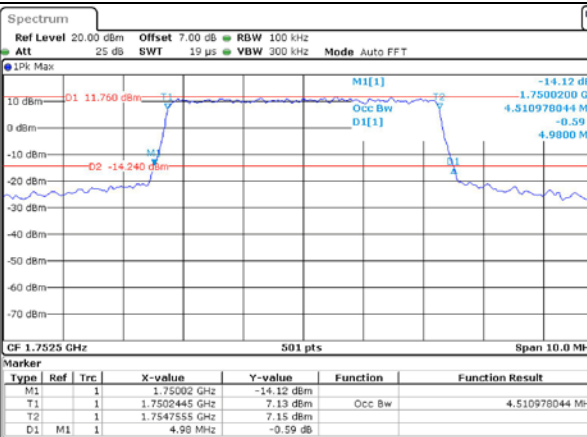


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:19:23

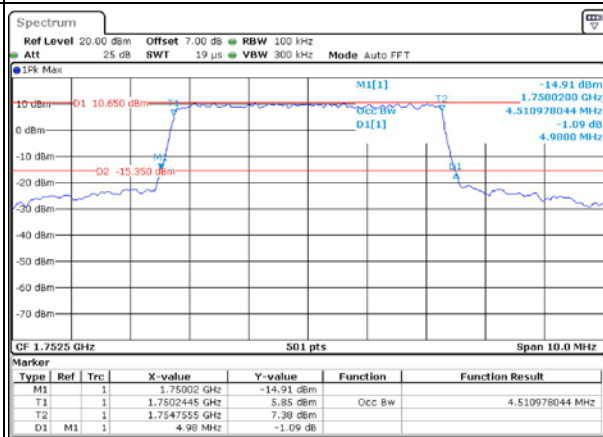


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:19:41

Highest

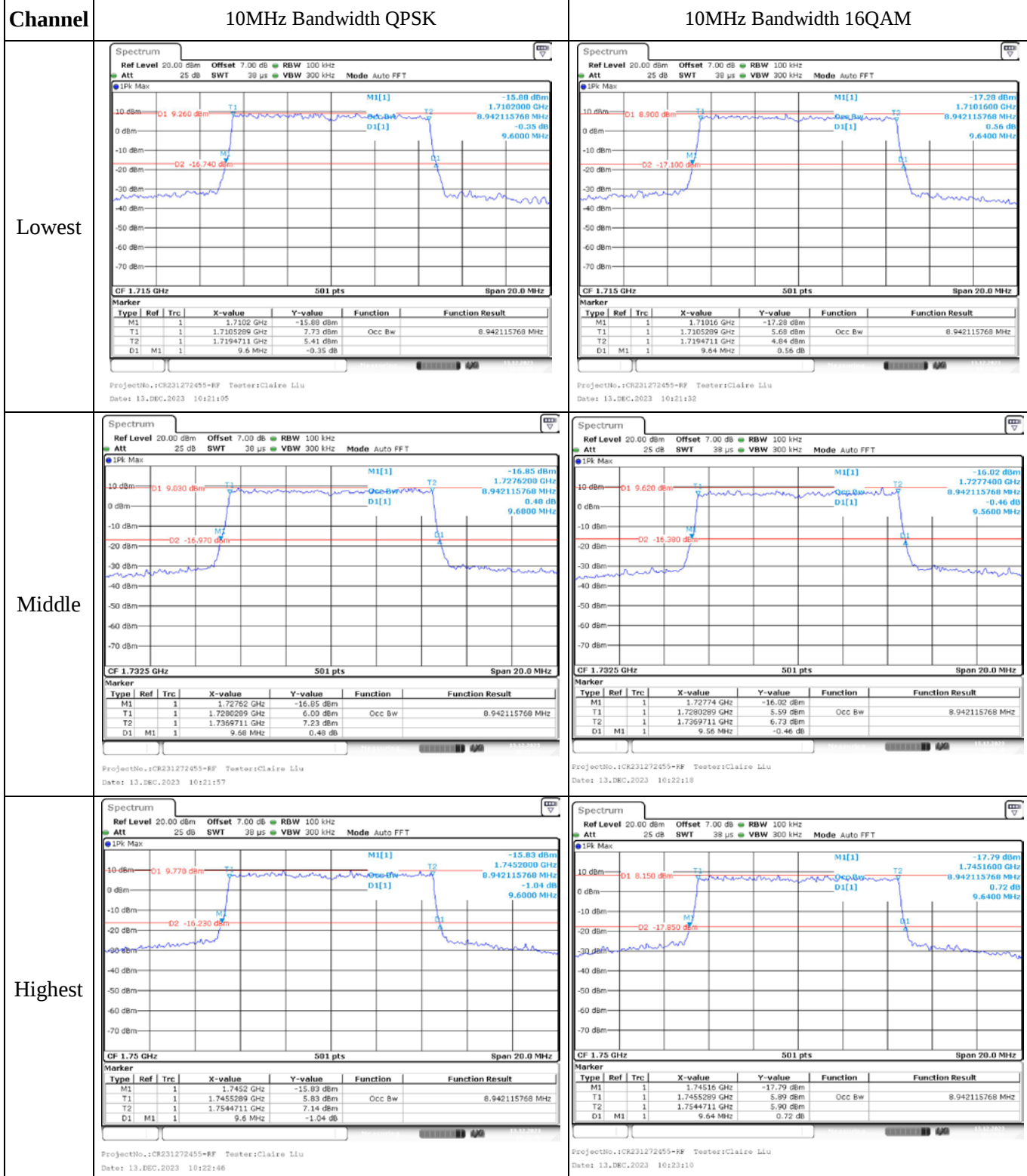


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:19:59



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:20:17

Occupied Bandwidth



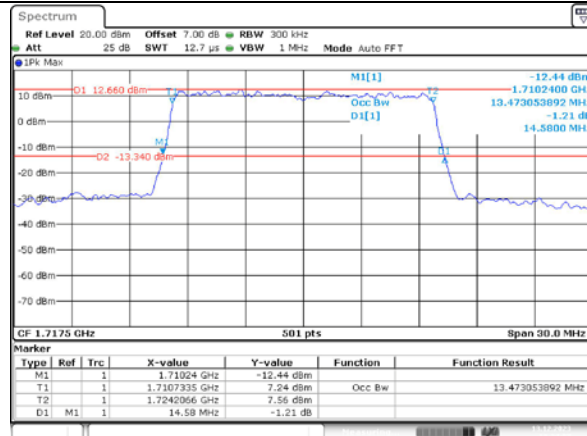
Occupied Bandwidth

Channel

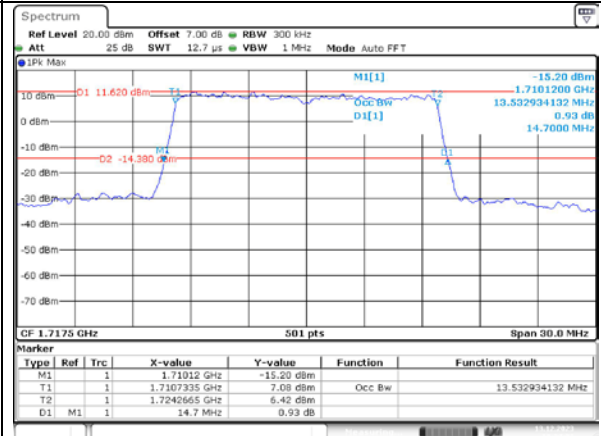
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

Lowest

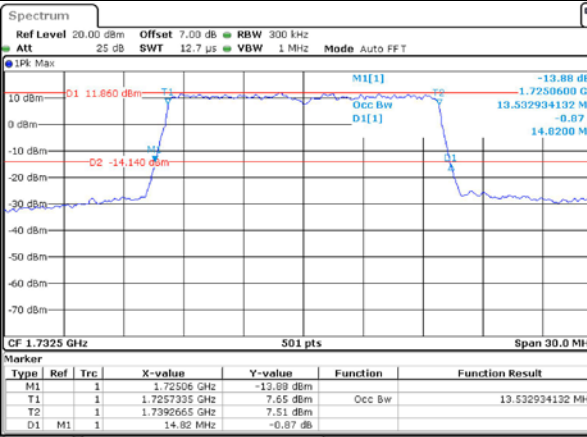


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:24:07

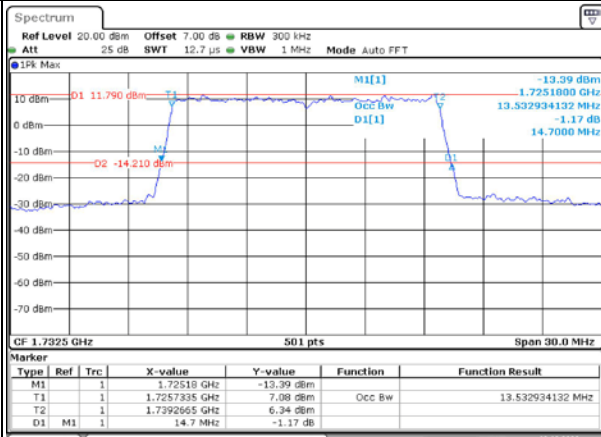


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:24:32

Middle

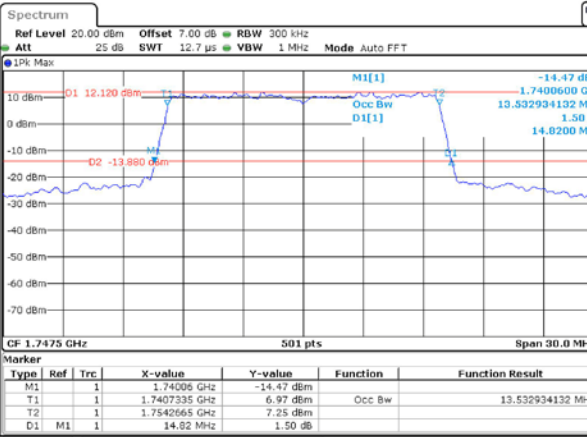


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:25:04

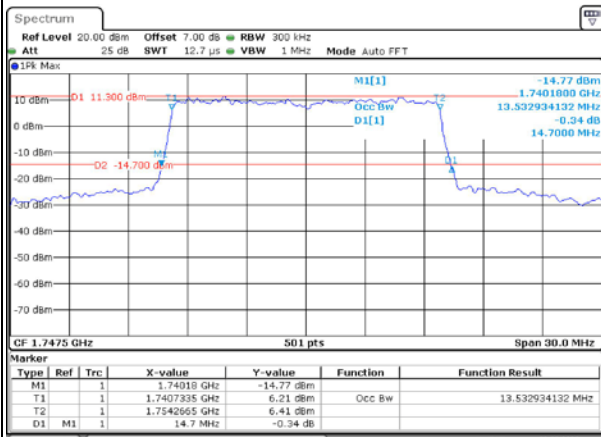


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:25:42

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:26:14



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:26:36

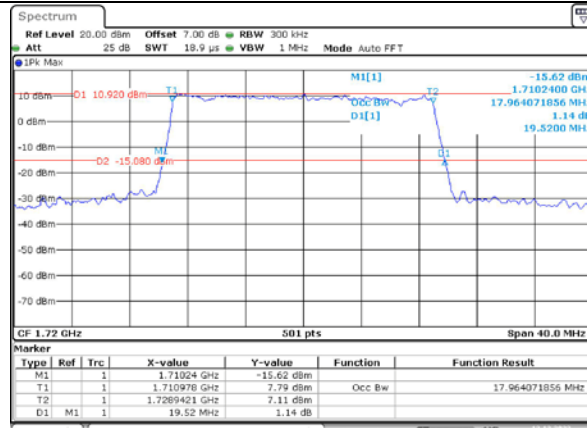
Occupied Bandwidth

Channel

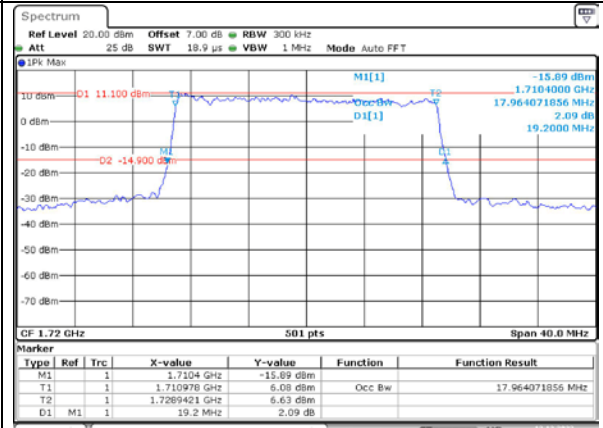
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

Lowest

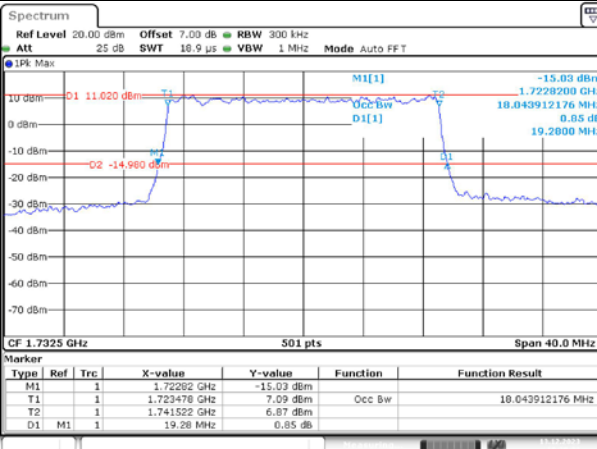


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:28:09

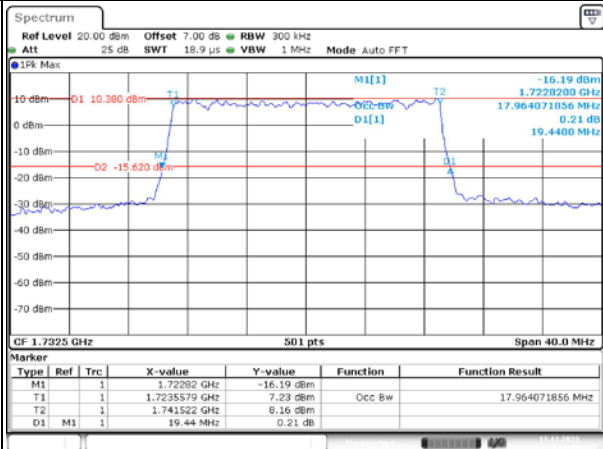


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:28:43

Middle

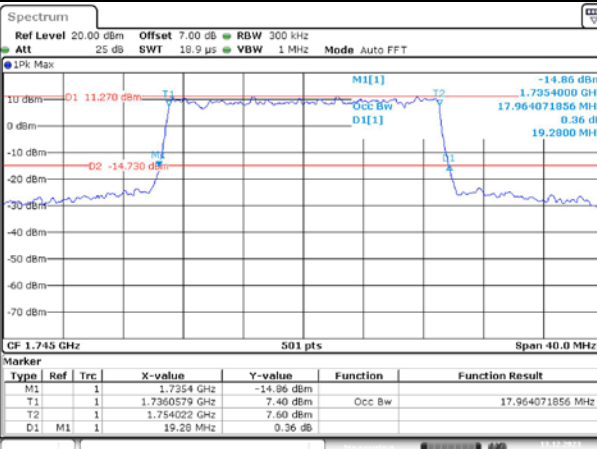


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:29:22

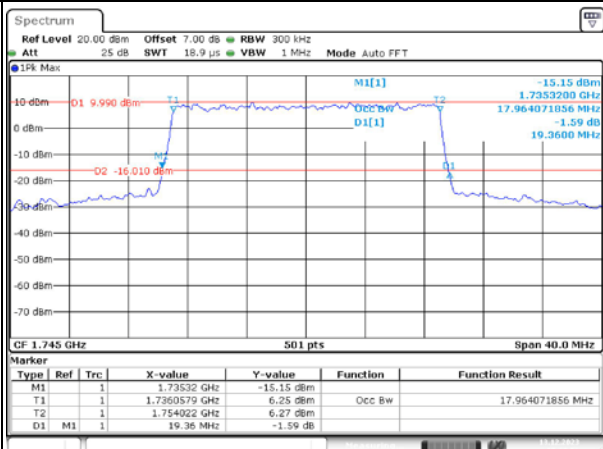


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:29:53

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:30:22



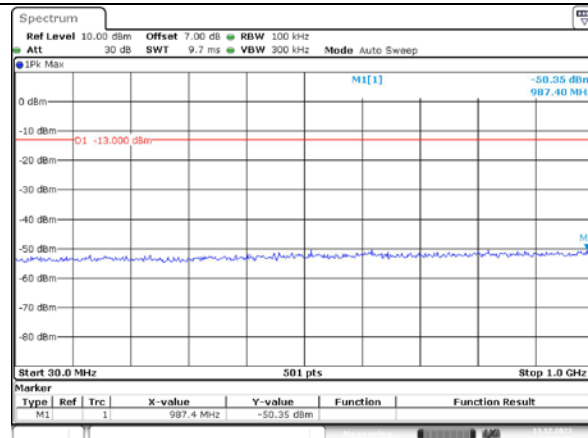
ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 10:30:56

Spurious Emissions at Antenna Terminal

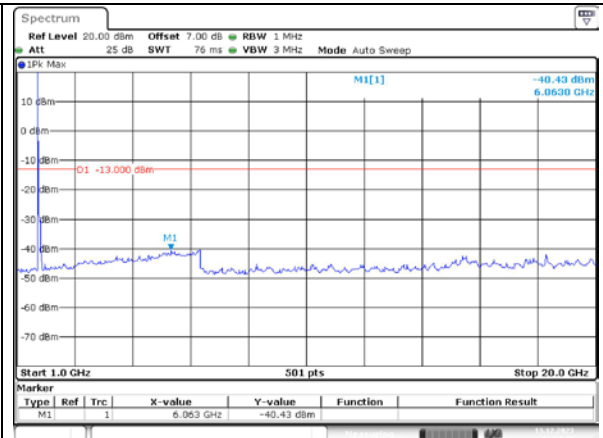
Channel

1.4MHz Bandwidth QPSK

Lowest

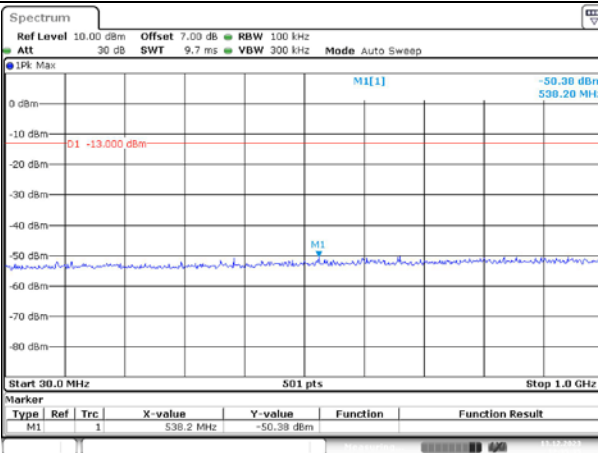


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:34:19

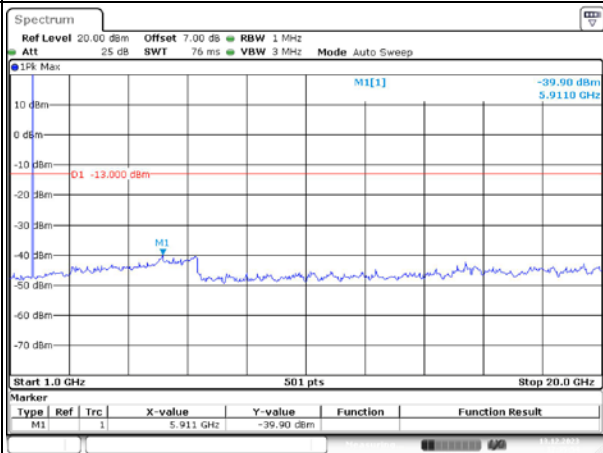


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:34:48

Middle

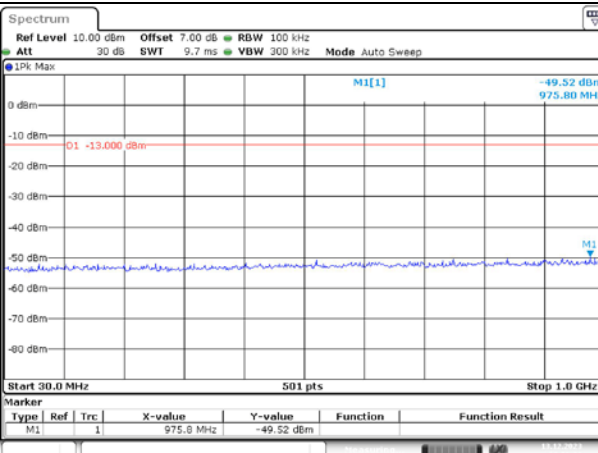


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:35:35

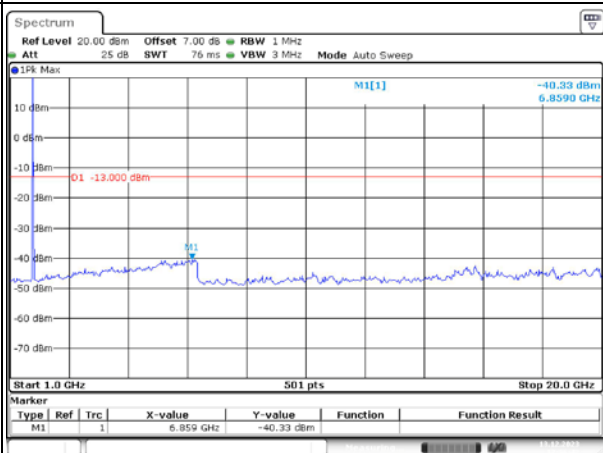


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:35:54

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:36:23



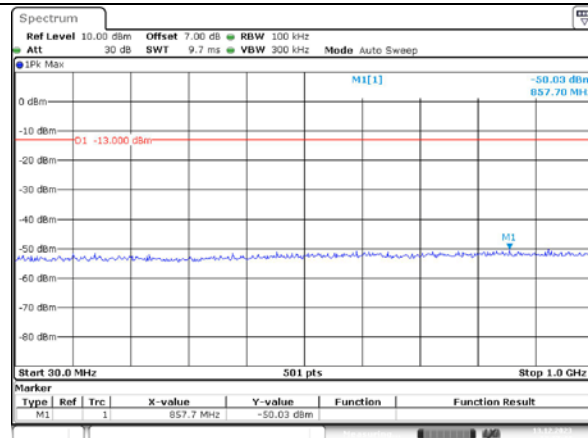
ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:36:42

Spurious Emissions at Antenna Terminal

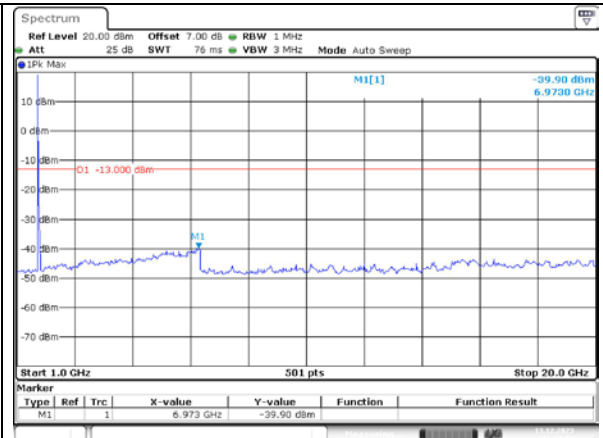
Channel

3MHz Bandwidth QPSK

Lowest

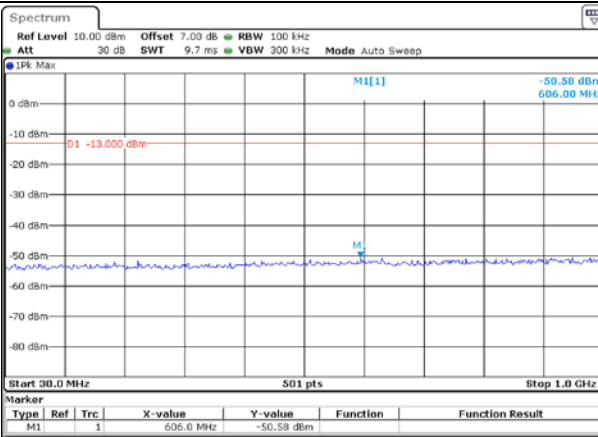


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:37:44

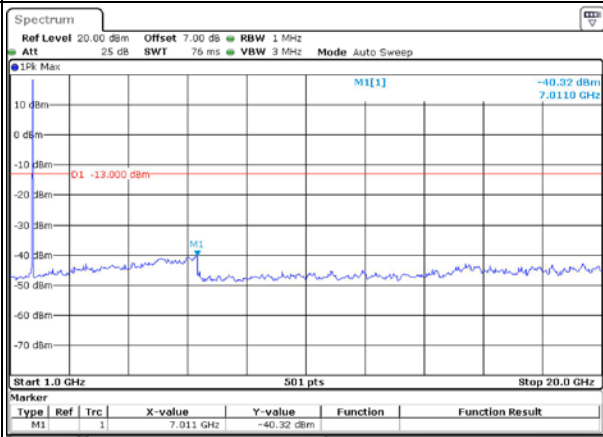


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:38:06

Middle

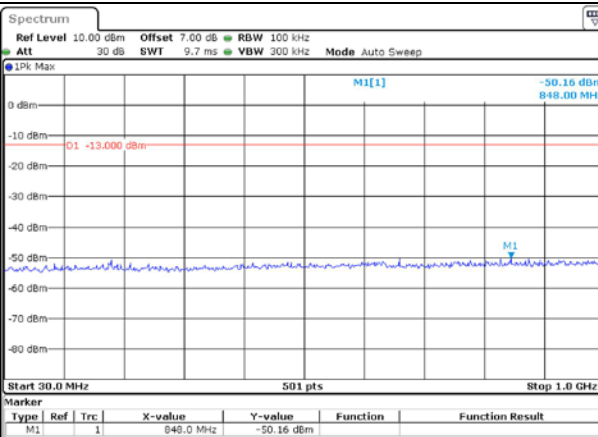


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:38:35

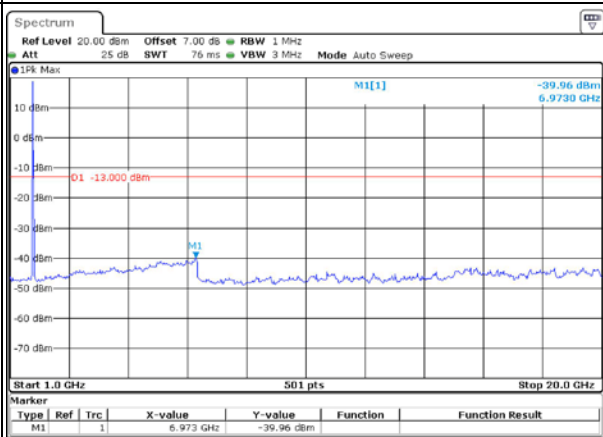


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:39:07

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:39:33



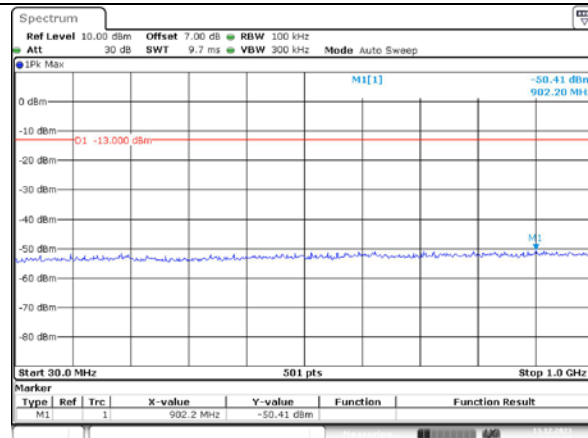
ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:40:01

Spurious Emissions at Antenna Terminal

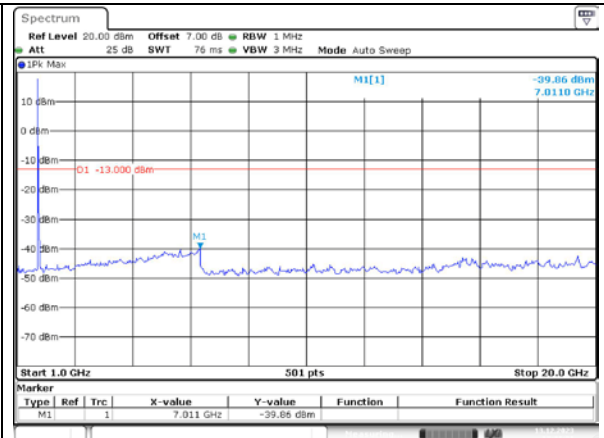
Channel

5MHz Bandwidth QPSK

Lowest

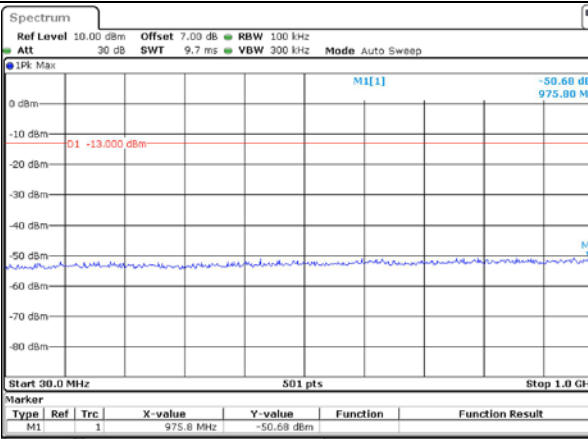


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:41:05

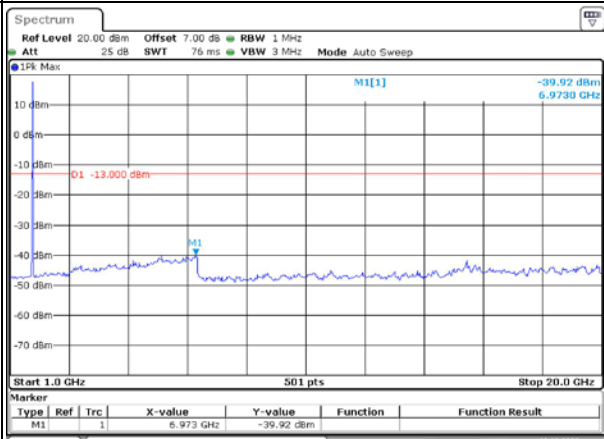


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:41:21

Middle

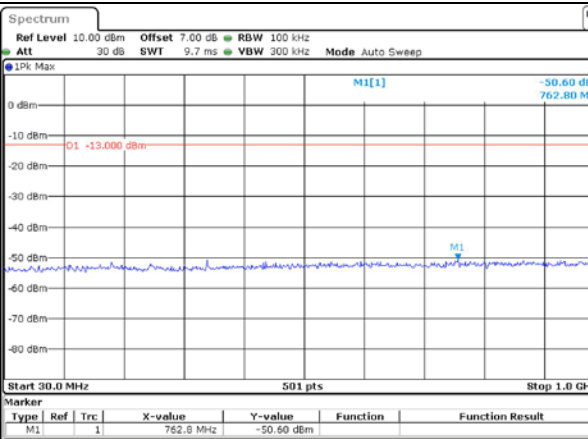


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:41:57

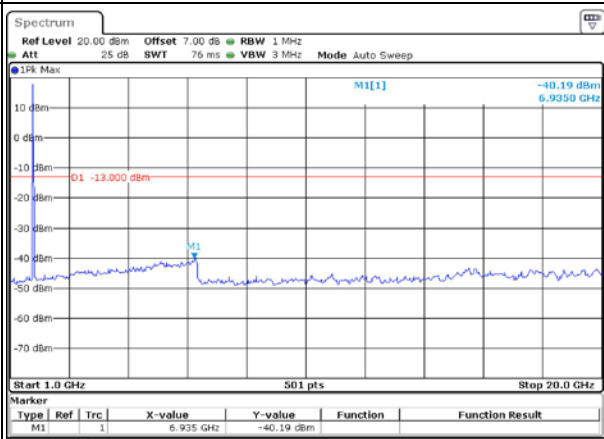


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:42:25

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:42:51



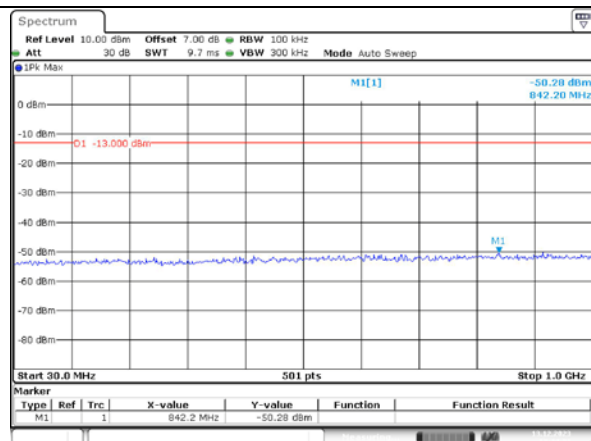
ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:43:07

Spurious Emissions at Antenna Terminal

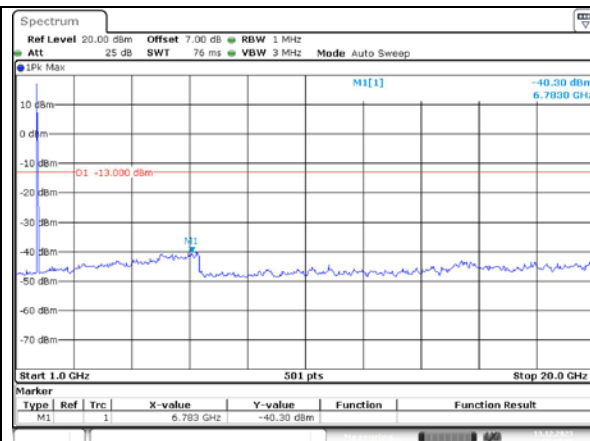
Channel

10MHz Bandwidth QPSK

Lowest

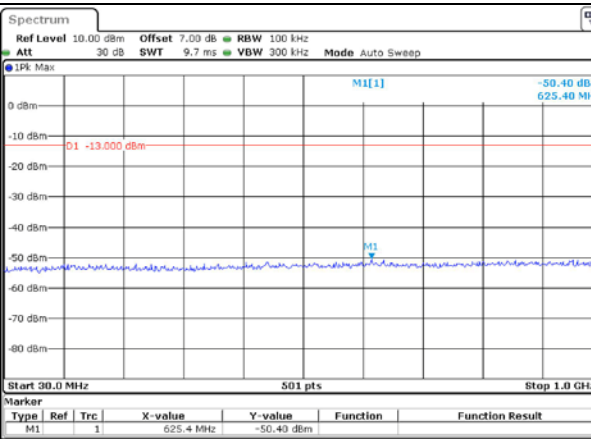


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:44:23

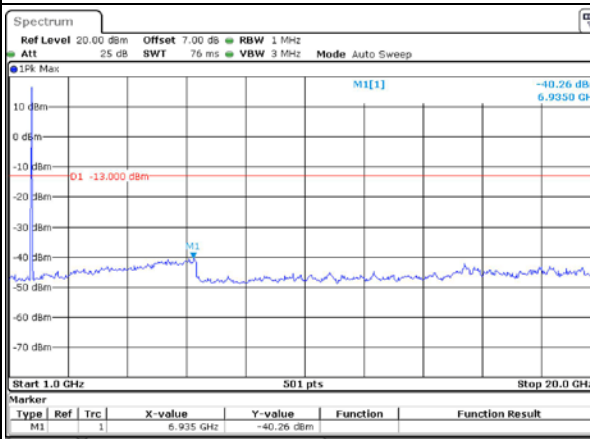


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:44:48

Middle

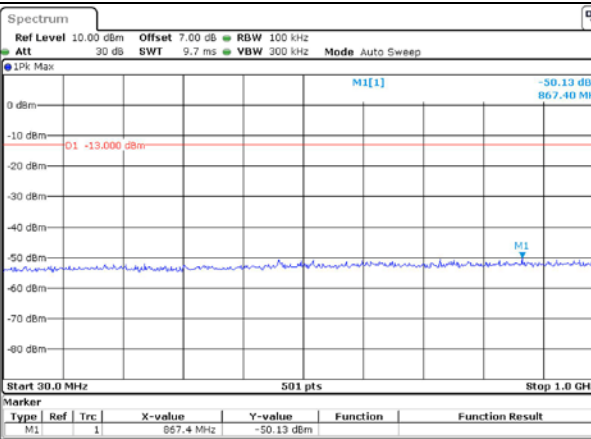


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:45:16

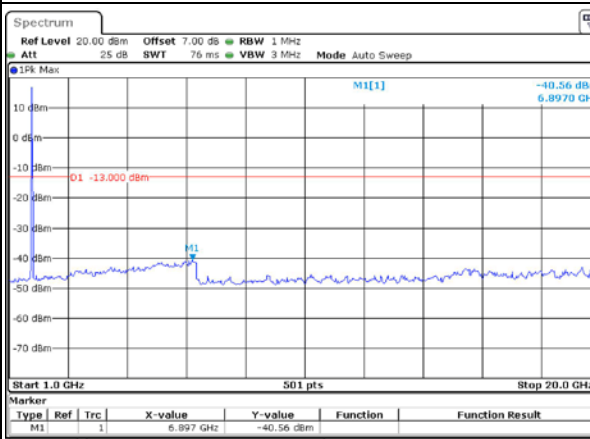


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:45:41

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:46:08



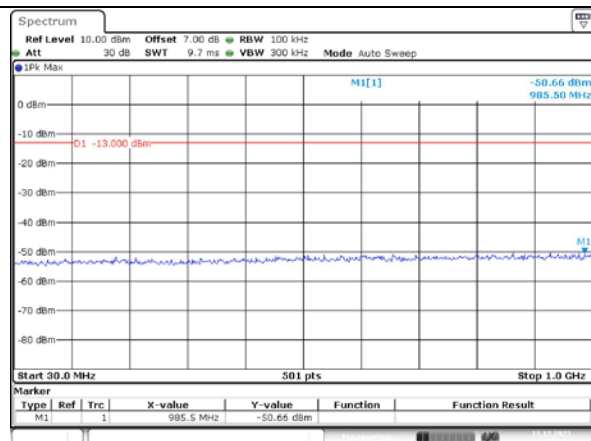
ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:46:27

Spurious Emissions at Antenna Terminal

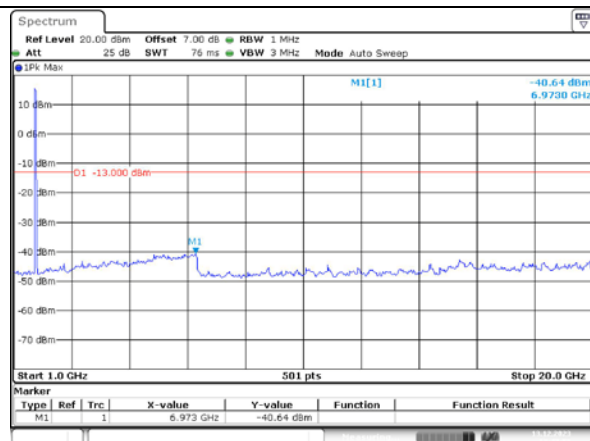
Channel

15MHz Bandwidth QPSK

Lowest

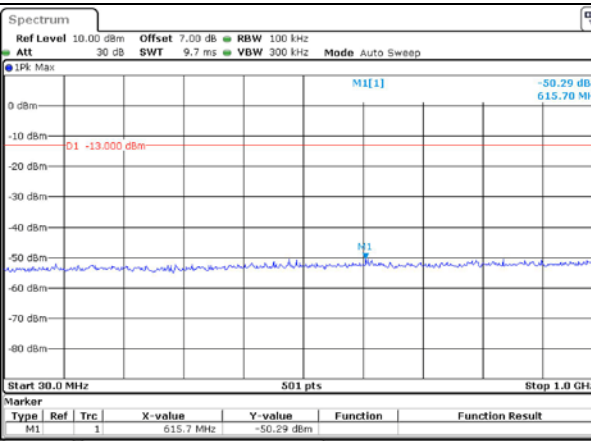


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:47:28

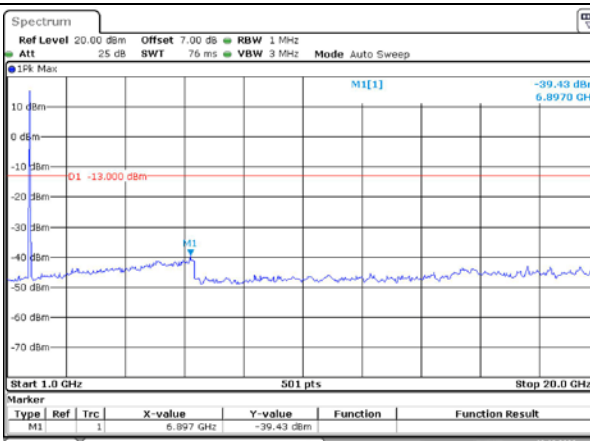


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:47:50

Middle

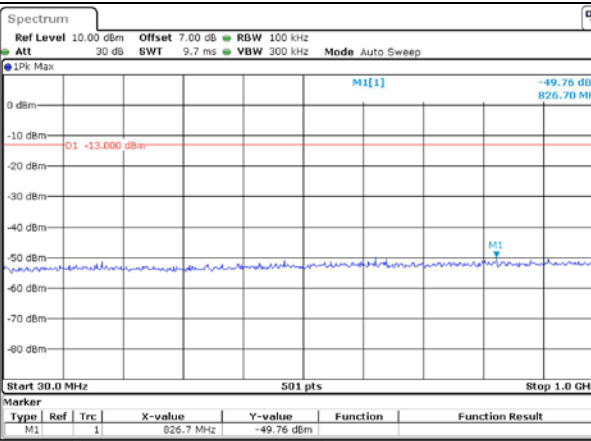


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:48:20

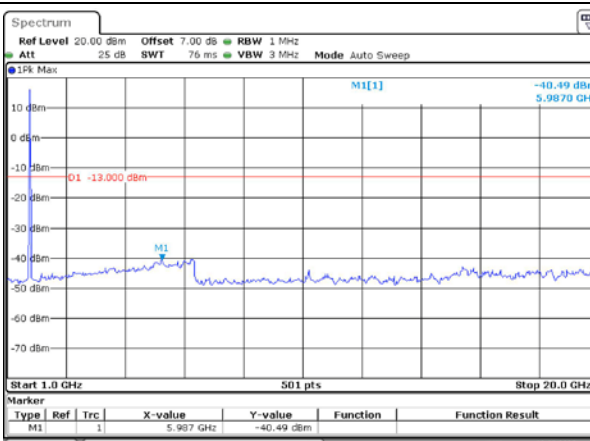


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:48:39

Highest



ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:49:08



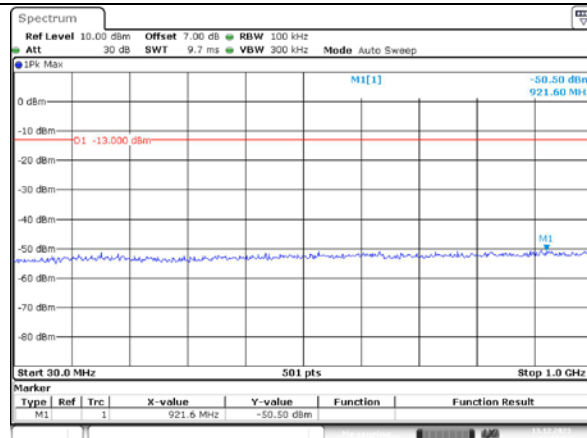
ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:49:27

Spurious Emissions at Antenna Terminal

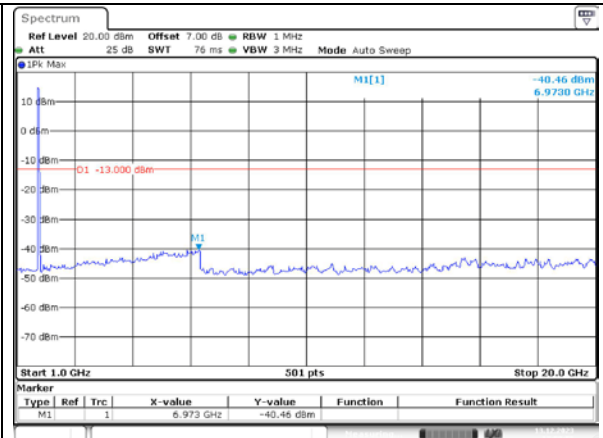
Channel

20MHz Bandwidth QPSK

Lowest

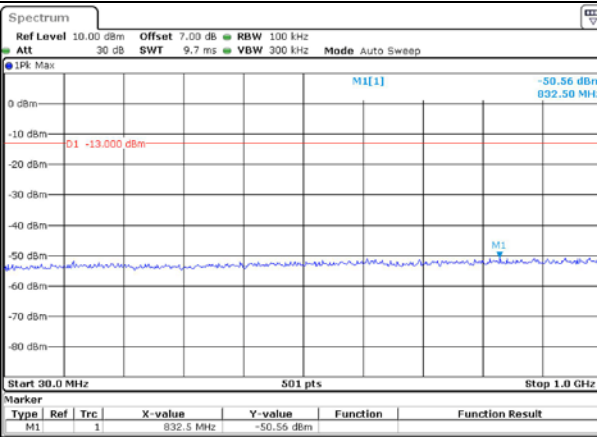


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Date: 13.DEC.2023 12:50:14

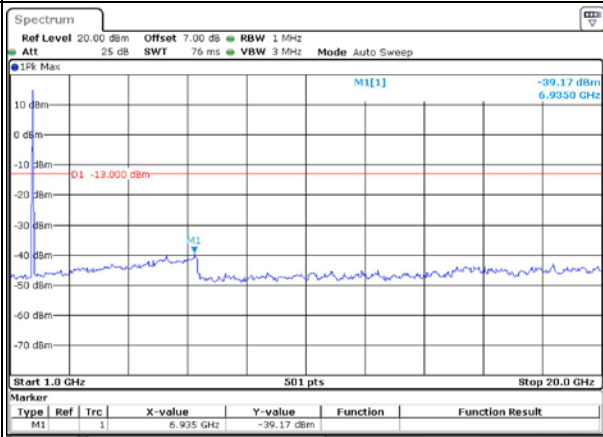


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:50:56

Middle

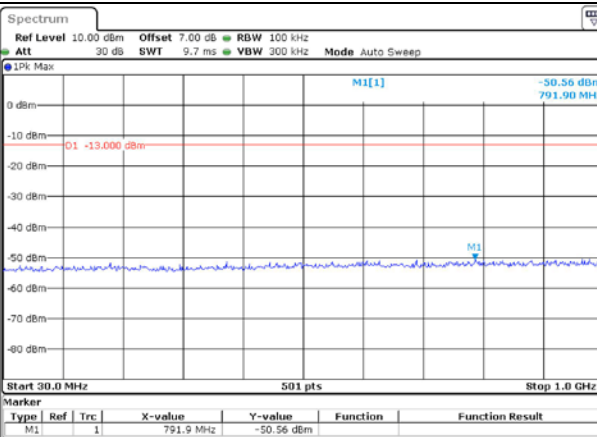


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:51:26

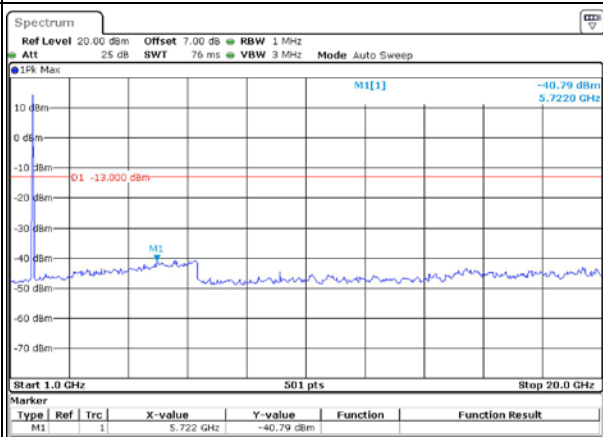


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:51:51

Highest

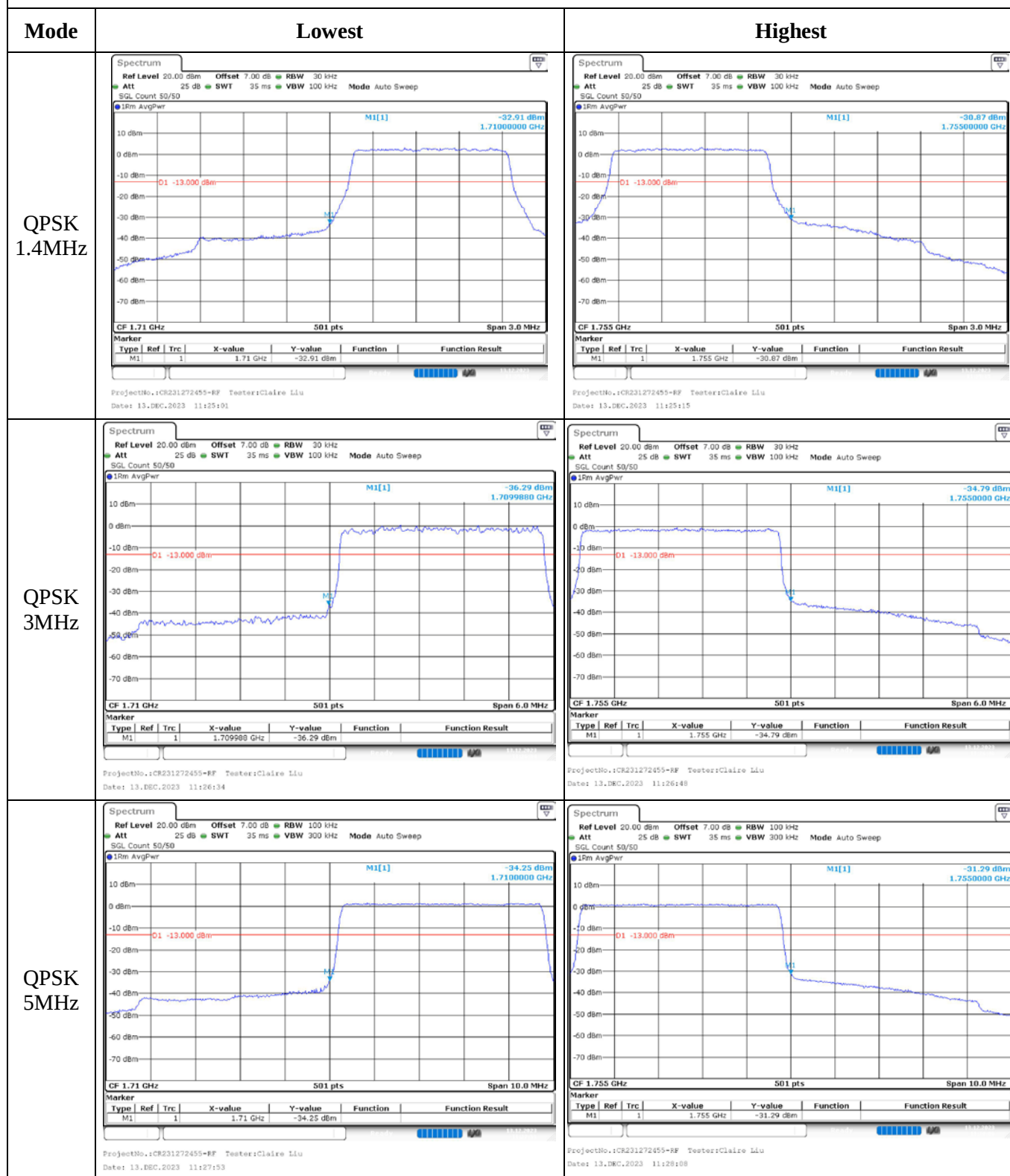


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:52:24

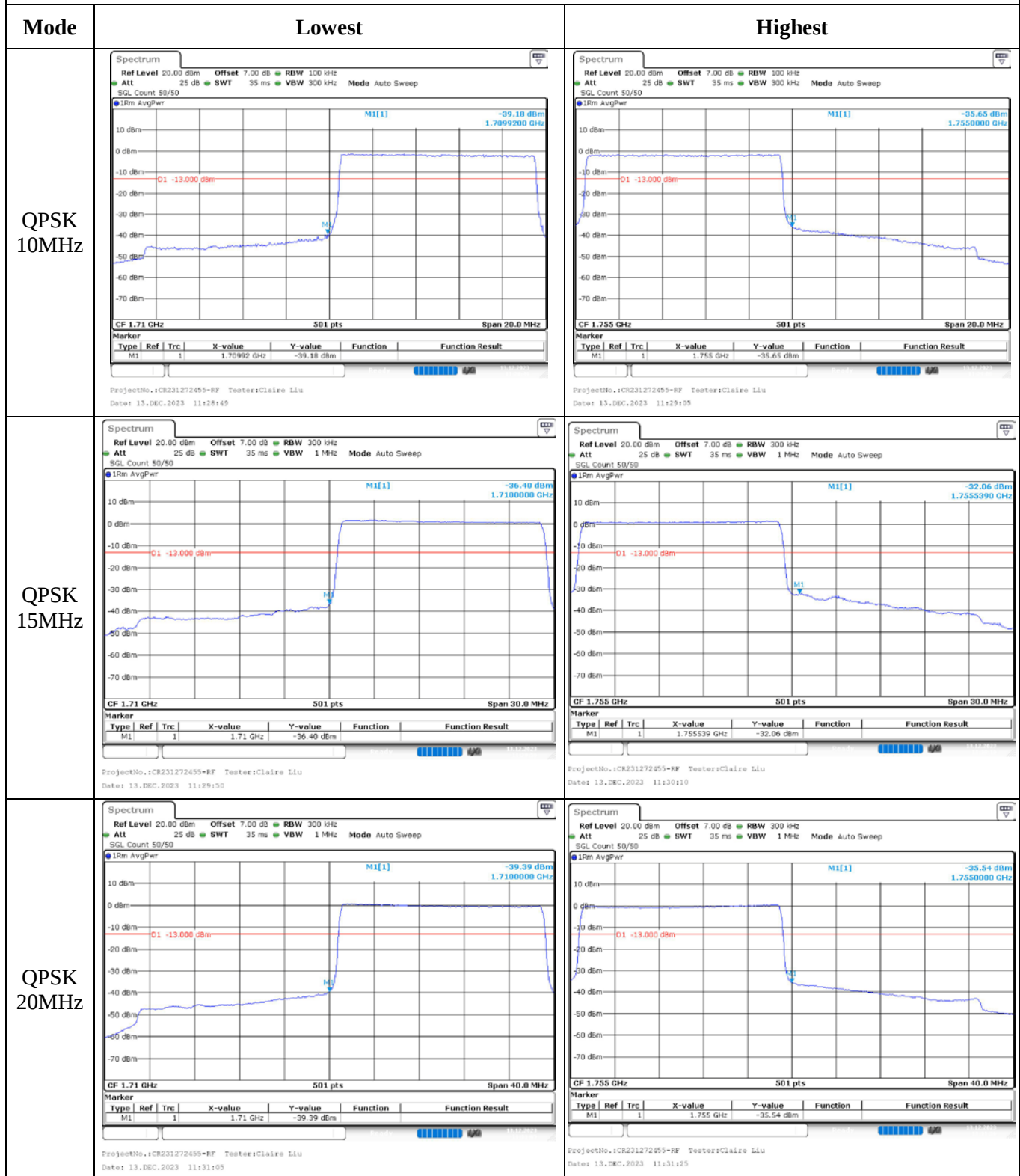


ProjectNo.:CR231272455-RF Testers:Claire Liu
Date: 13.DEC.2023 12:52:43

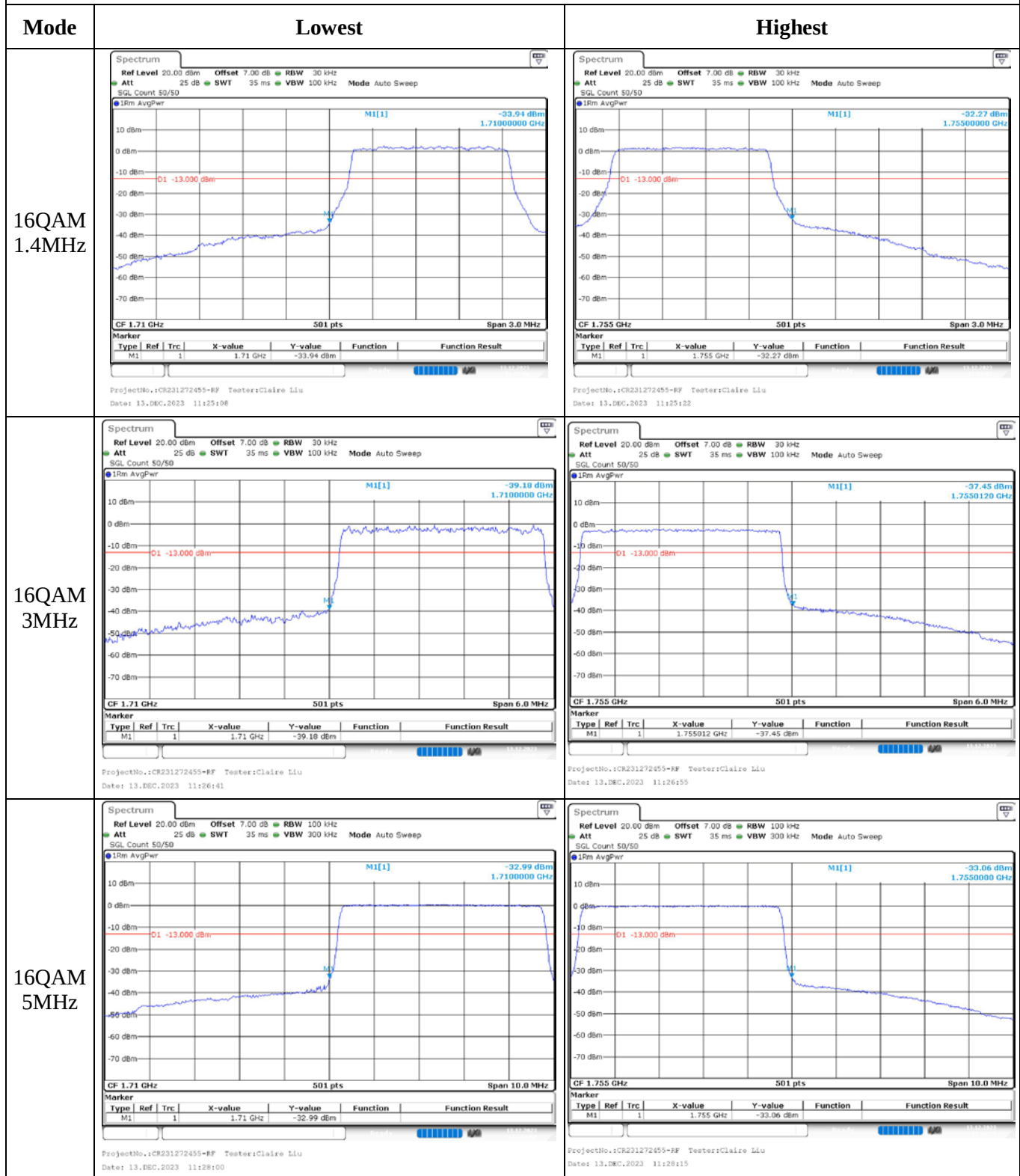
Out of band emission, Band Edge



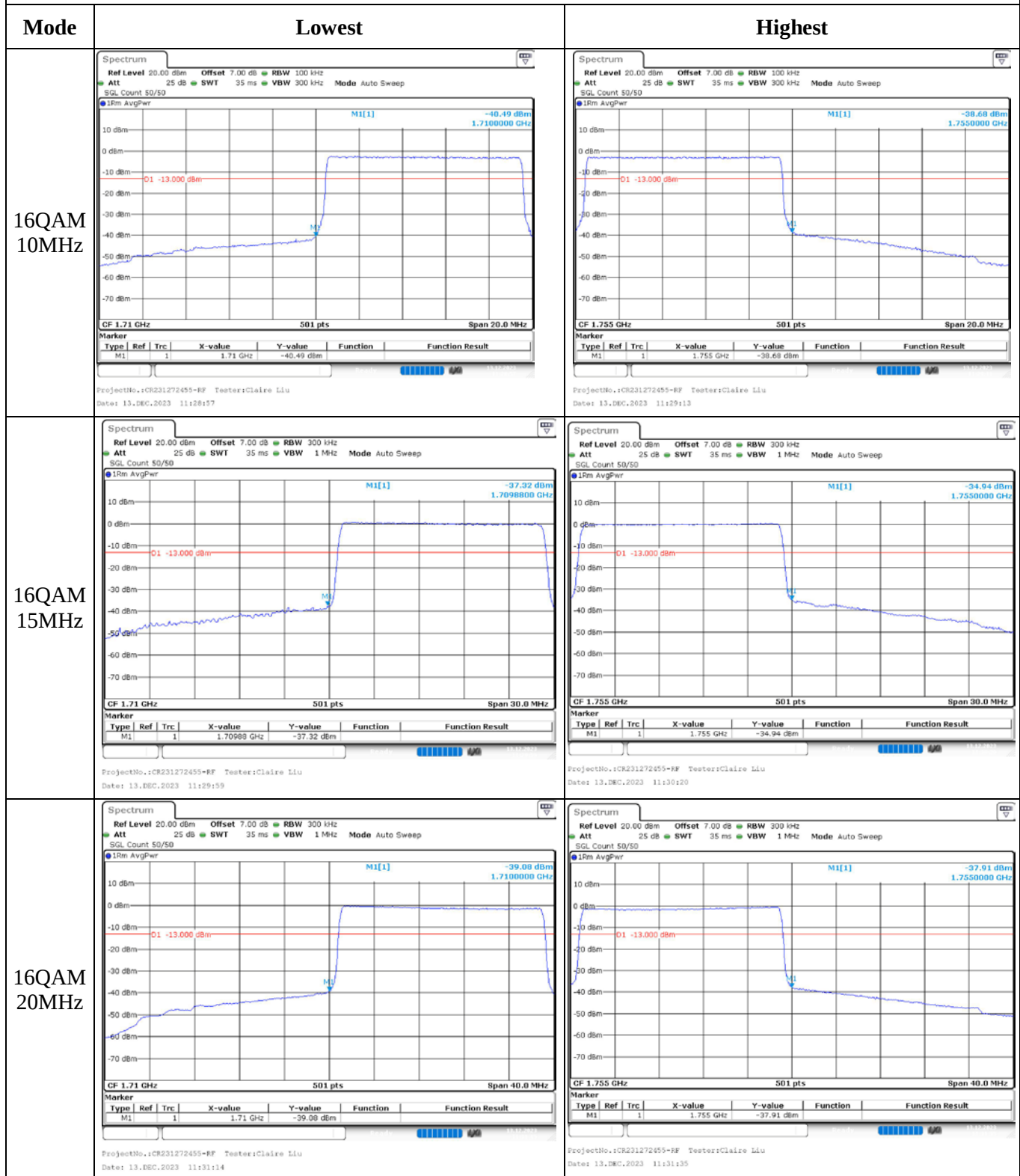
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.8 Antenna Port Test Data and Results for LTE Band 7

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)
5MHz	2502.5	2535	2567.5
10MHz	2505	2535	2565
15MHz	2507.5	2535	2562.5
20MHz	2510	2535	2560

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	21.6	21.58	21.53	22.56	33
	RB1#13	21.78	21.75	21.63		
	RB1#24	21.75	21.65	21.49		
	RB15#0	20.79	20.89	20.63		
	RB15#10	20.81	20.76	20.48		
	RB25#0	20.68	20.72	20.48		
5MHz 16QAM	RB1#0	20.69	20.53	20.76	21.69	33
	RB1#13	20.91	20.68	20.89		
	RB1#24	20.84	20.59	20.74		
	RB15#0	19.57	19.84	19.63		
	RB15#10	19.62	19.81	19.57		
	RB25#0	19.56	19.86	19.6		
10MHz QPSK	RB1#0	23.12	23.1	22.35	24.14	33
	RB1#25	23.36	23.12	22.49		
	RB1#49	23.18	22.83	22.11		
	RB25#0	22.17	22.03	21.39		
	RB25#25	22.25	21.88	21.17		
	RB50#0	22.27	21.92	21.28		
10MHz 16QAM	RB1#0	22.17	21.88	21.81	23.33	33
	RB1#25	22.55	22.05	21.91		
	RB1#49	22.35	21.78	21.62		
	RB25#0	21.15	21.05	20.42		
	RB25#25	21.24	20.93	20.2		
	RB50#0	21.19	20.94	20.29		
15MHz QPSK	RB1#0	22.97	22.94	22.25	24	33
	RB1#38	23.22	22.94	22.35		
	RB1#74	23.02	22.61	21.95		
	RB36#0	22.3	22.12	21.49		
	RB36#39	22.31	21.94	21.27		
	RB75#0	22.26	22	21.34		
15MHz 16QAM	RB1#0	22.03	22.08	21.82	23.14	33
	RB1#38	22.36	22.15	21.81		
	RB1#74	22.17	21.93	21.45		
	RB36#0	21.19	21	20.39		
	RB36#39	21.22	20.84	20.19		
	RB75#0	21.23	20.92	20.31		
20MHz QPSK	RB1#0	22.81	22.75	22.27	24.14	33
	RB1#50	23.36	23.08	22.64		
	RB1#99	22.85	22.42	21.9		
	RB50#0	22.21	21.94	21.42		

20MHz 16QAM	RB50#50	22.18	21.79	21.15	23.67	33
	RB100#0	22.23	21.91	21.32		
	RB1#0	22.29	21.96	21.47		
	RB1#50	22.89	22.29	21.77		
	RB1#99	22.38	21.74	21		
	RB50#0	21.23	20.91	20.48		
	RB50#50	21.18	20.74	20.14		
	RB100#0	21.21	20.85	20.32		

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	4.9	4.81	4.46	13
	RB100#0	4.14	4.06	3.97	13
20MHz 16QAM	RB1#0	5.77	5.86	5.1	13
	RB100#0	5.83	5.77	5.71	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	4.491	4.511	4.511	4.94	4.96	4.96
5MHz 16QAM	4.511	4.471	4.511	4.98	4.92	4.96
10MHz QPSK	8.942	8.942	8.942	9.6	9.68	9.68
10MHz 16QAM	8.942	8.982	8.942	9.64	9.64	9.6
15MHz QPSK	13.533	13.533	13.473	14.76	14.76	14.64
15MHz 16QAM	13.473	13.533	13.533	14.7	14.64	14.64
20MHz QPSK	17.964	17.884	17.884	19.6	19.28	19.36
20MHz 16QAM	17.884	18.043	17.884	19.36	19.2	19.321

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	3.87	2500.264	2500.00	2569.642	2570
	-20	3.87	2500.284	2500.00	2569.769	2570
	-10	3.87	2500.259	2500.00	2569.749	2570
	0	3.87	2500.153	2500.00	2569.706	2570
	10	3.87	2500.162	2500.00	2569.736	2570
	20	3.87	2500.240	2500.00	2569.680	2570
	30	3.87	2500.275	2500.00	2569.755	2570
	40	3.87	2500.331	2500.00	2569.714	2570
	50	3.87	2500.278	2500.00	2569.637	2570
Frequency Stability vs. Voltage	20	3.4	2500.202	2500.00	2569.704	2570
	20	4.4	2500.274	2500.00	2569.647	2570
					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	3.87	2500.223	2500.00	2569.758	2570
	-20	3.87	2500.354	2500.00	2569.754	2570
	-10	3.87	2500.331	2500.00	2569.834	2570
	0	3.87	2500.293	2500.00	2569.779	2570
	10	3.87	2500.257	2500.00	2569.757	2570
	20	3.87	2500.320	2500.00	2569.660	2570
	30	3.87	2500.227	2500.00	2569.836	2570
	40	3.87	2500.399	2500.00	2569.767	2570
	50	3.87	2500.329	2500.00	2569.746	2570
Frequency Stability vs. Voltage	20	3.4	2500.335	2500.00	2569.887	2570
	20	4.4	2500.223	2500.00	2569.930	2570
					Result:	Pass