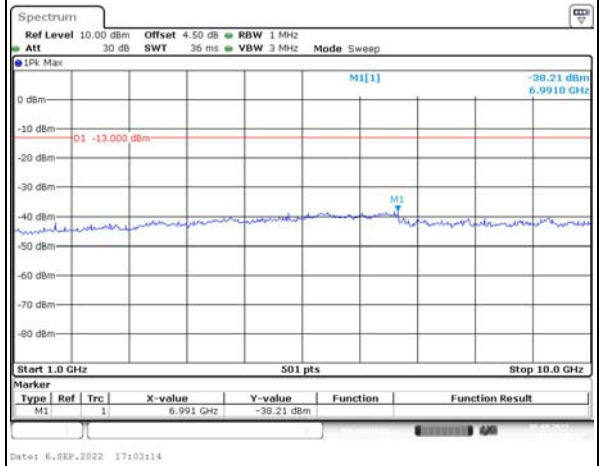
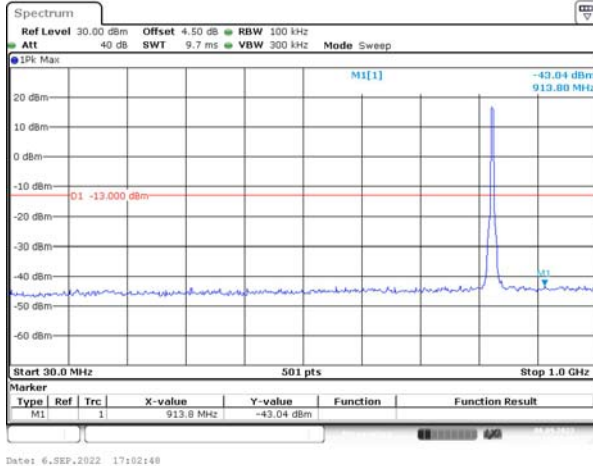


### Spurious Emissions at Antenna Terminal

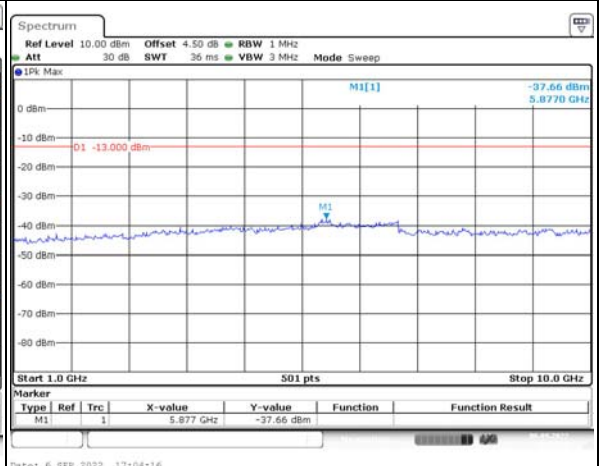
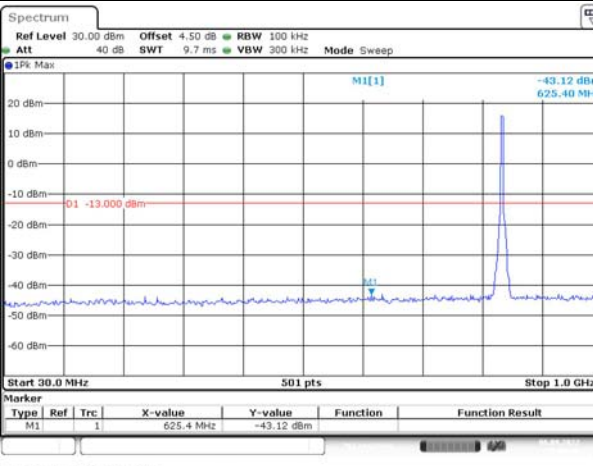
Channel

5MHz Bandwidth QPSK

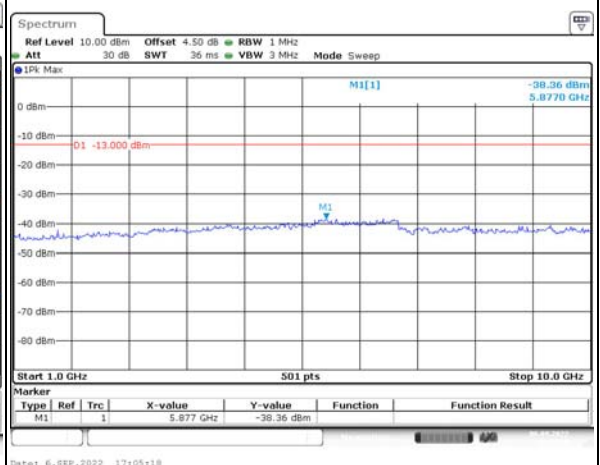
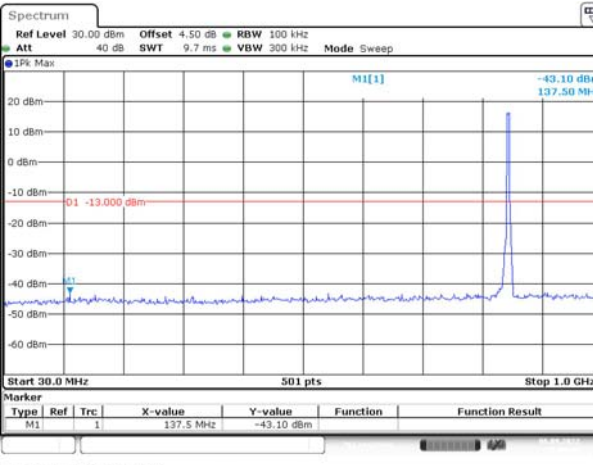
Lowest



Middle



Highest

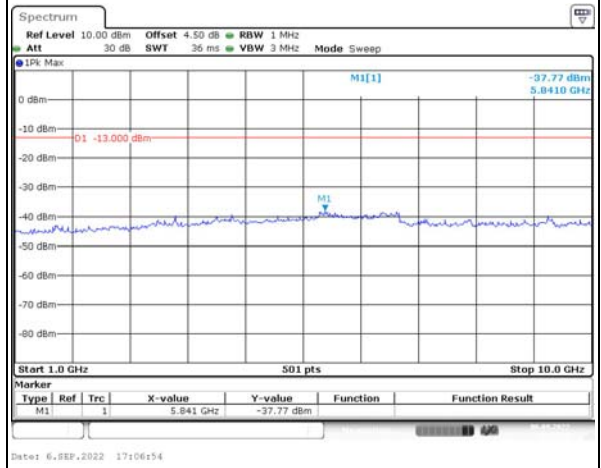
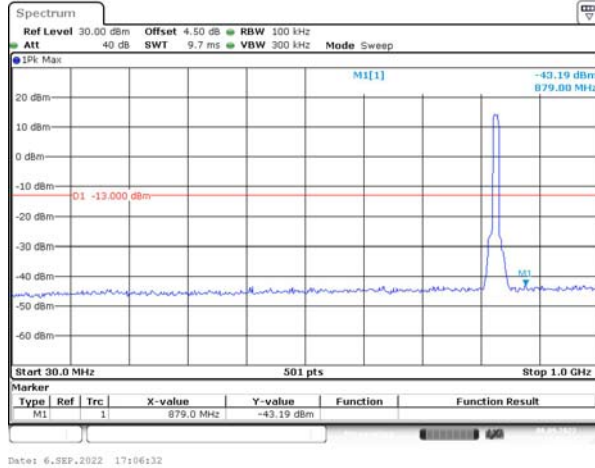


### Spurious Emissions at Antenna Terminal

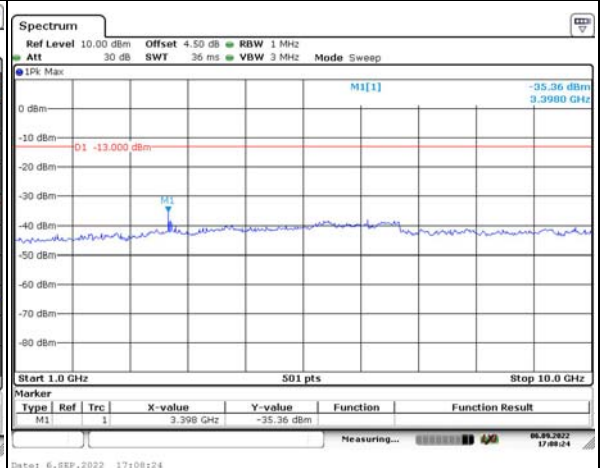
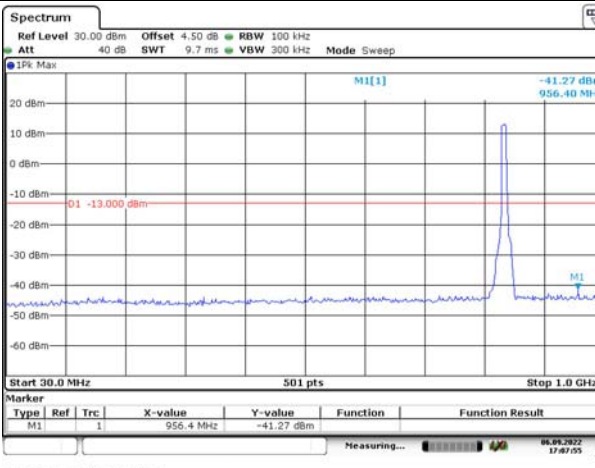
Channel

10MHz Bandwidth QPSK

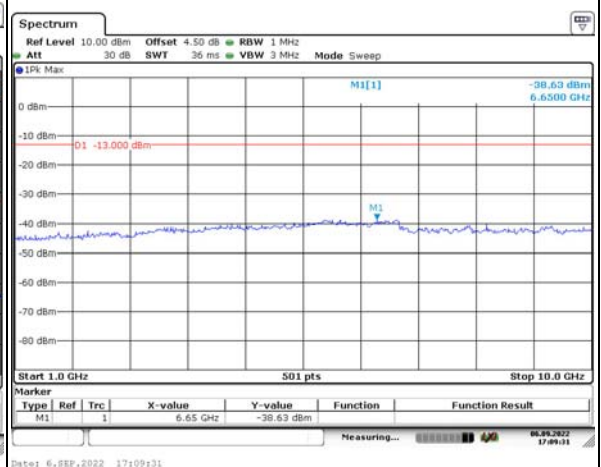
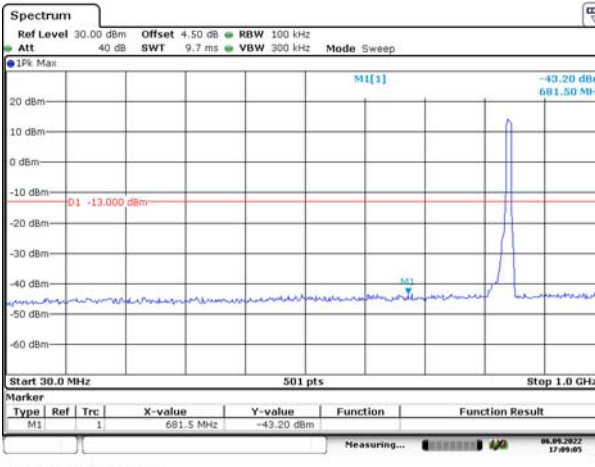
Lowest



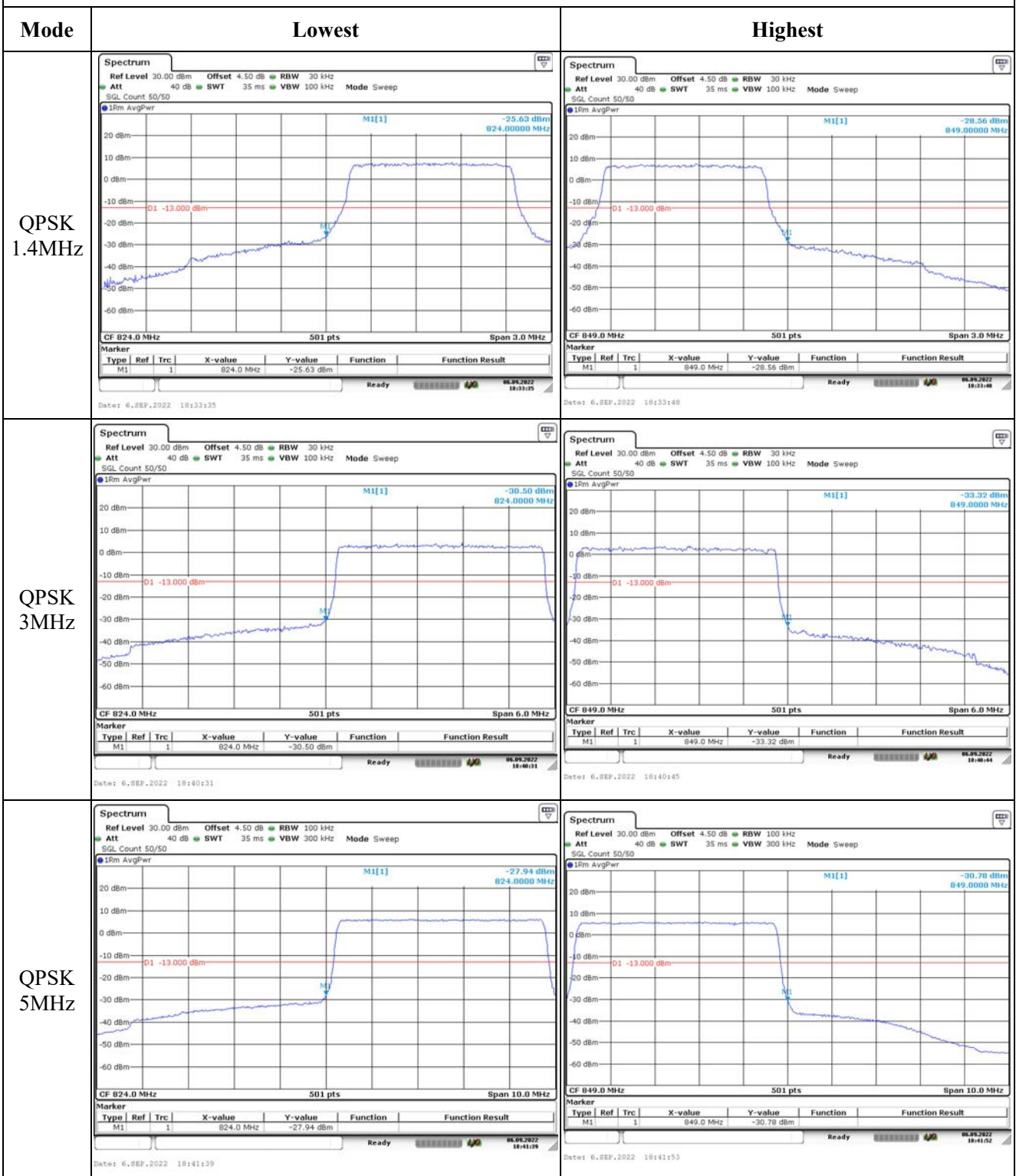
Middle



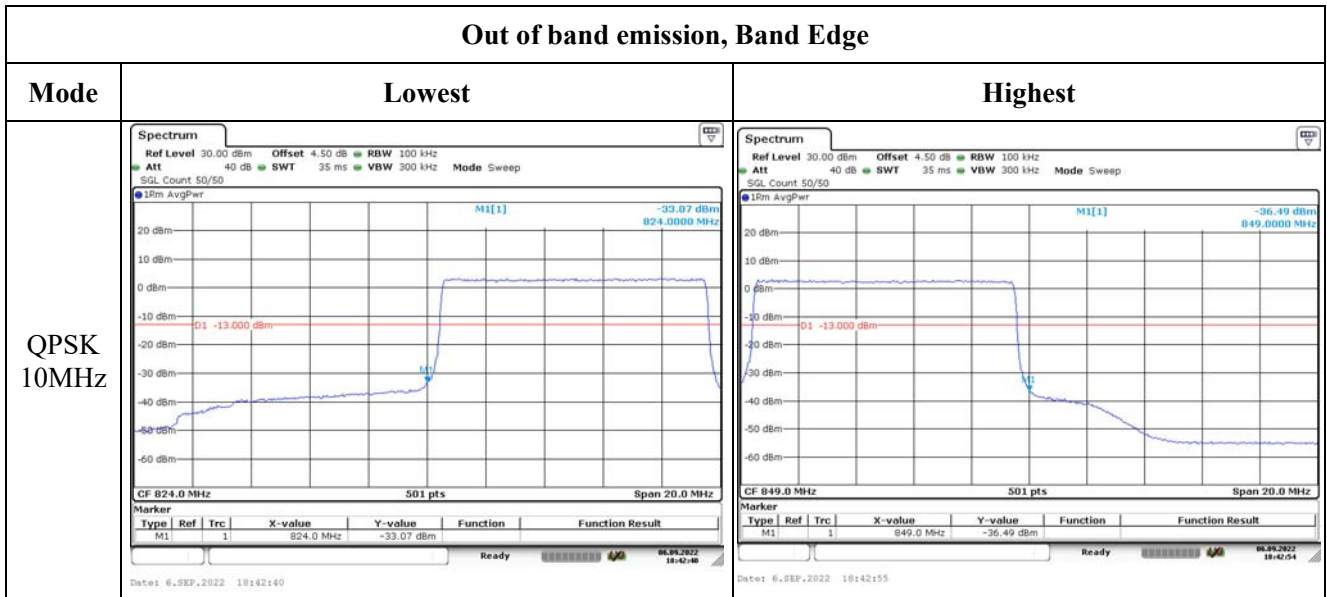
Highest



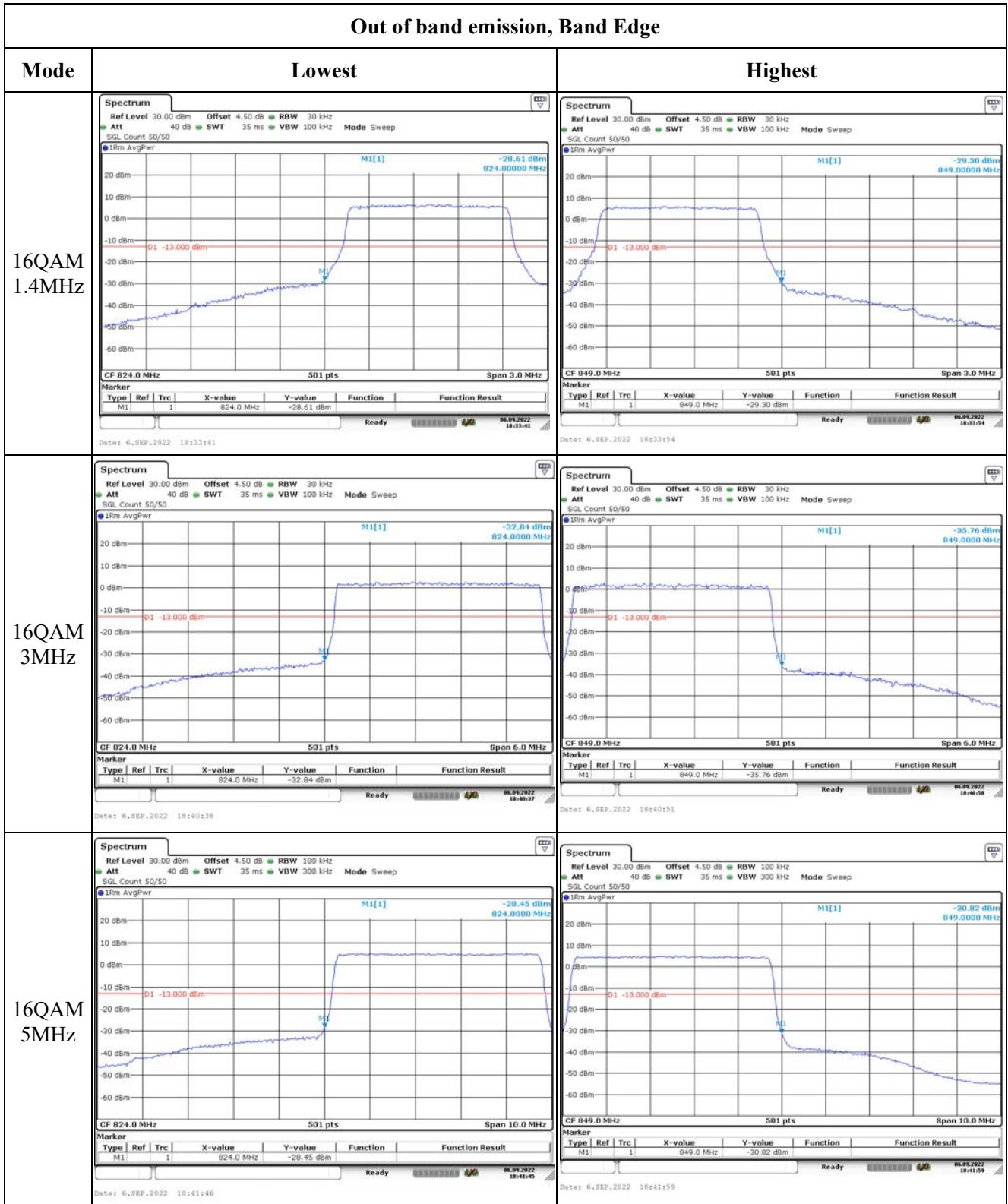
Out of band emission, Band Edge



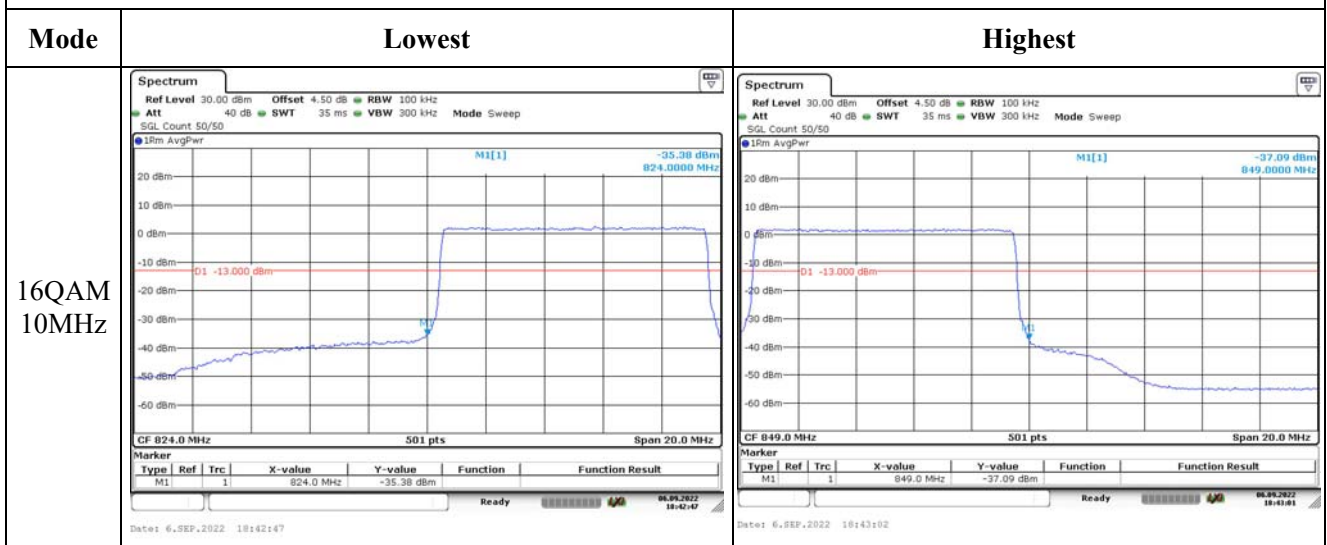
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



**4.9 Antenna Port Test Data and Results for LTE Band 7**

Serial Number:	CR22090006-RF-S1	Test Date:	2022-09-06~2022-09-07
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chan	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	25.1~25.6	Relative Humidity: (%)	52~58	ATM Pressure: (kPa)	100.1~100.8
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2022-07-15	2023-07-14
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Unknown	Coaxial tee connector	Unknown	2204006	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100004	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
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).

**EUT Information@LTE Band 7▲:**

Antenna Gain (dBi):	1.14	Cable Loss (dB):	0.4
Operation Voltage(V <sub>DC</sub> ):			
Lowest:	3.3	Normal:	3.87
		Highest:	4.45

**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:****FCC§2.1046;§ 27.50(h)(2)****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	22.43	22.65	22.92	23.75	33
	RB1#13	22.54	22.75	23.01		
	RB1#24	22.49	22.65	22.93		
	RB15#0	21.54	21.73	22.01		
	RB15#10	21.52	21.71	22.03		
	RB25#0	21.51	21.71	21.97		
5MHz 16QAM	RB1#0	21.72	21.72	21.8	22.61	33
	RB1#13	21.8	21.8	21.87		
	RB1#24	21.73	21.71	21.77		
	RB15#0	20.56	20.83	21.08		
	RB15#10	20.53	20.76	21.08		
	RB25#0	20.55	20.8	21.1		
10MHz QPSK	RB1#0	22.52	22.66	22.96	23.93	33
	RB1#25	22.65	22.84	23.19		
	RB1#49	22.54	22.78	23		
	RB25#0	21.58	21.78	22.07		
	RB25#25	21.55	21.79	22.06		
	RB50#0	21.6	21.8	22.04		
10MHz 16QAM	RB1#0	21.49	22.24	22.06	23.14	33
	RB1#25	21.69	22.4	22.32		
	RB1#49	21.54	22.32	22.1		
	RB25#0	20.74	20.87	21.11		
	RB25#25	20.7	20.89	21.13		
	RB50#0	20.68	20.88	21.11		
15MHz QPSK	RB1#0	22.41	22.64	22.84	23.75	33
	RB1#38	22.6	22.77	23.01		
	RB1#74	22.52	22.74	22.94		
	RB36#0	21.63	21.81	22.07		
	RB36#39	21.65	21.86	22.14		
	RB75#0	21.59	21.87	22.09		
15MHz 16QAM	RB1#0	21.58	22	22.38	23.33	33
	RB1#38	21.71	22.13	22.59		
	RB1#74	21.67	22.12	22.44		
	RB36#0	20.65	20.81	21.05		
	RB36#39	20.67	20.82	21.14		
	RB75#0	20.64	20.83	21.15		
20MHz QPSK	RB1#0	22.25	22.48	22.67	23.8	33
	RB1#50	22.72	22.95	23.06		
	RB1#99	22.42	22.65	22.78		



	RB50#0	21.56	21.75	21.93		
	RB50#50	21.61	21.71	22.03		
	RB100#0	21.61	21.76	21.97		
20MHz 16QAM	RB1#0	21.54	21.71	22.2	23.4	33
	RB1#50	22.03	22.09	22.66		
	RB1#99	21.71	21.81	22.27		
	RB50#0	20.61	20.79	21.01		
	RB50#50	20.67	20.78	21.05		
	RB100#0	20.66	20.81	21.08		

Note: EIRP=Conducted Power(dBm) - L<sub>C</sub>(dB) + G<sub>T</sub>(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	4.96	4.64	4.87	13
	RB100#0	5.22	4.96	4.99	13
20MHz 16QAM	RB1#0	5.94	5.3	5.45	13
	RB100#0	6.23	5.97	5.94	13
<b>Result:</b>					<b>Pass</b>

### 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
5MHz QPSK	4.511	4.491	4.511	4.96	4.94	4.96
5MHz 16QAM	4.511	4.511	4.491	4.94	4.96	4.94
10MHz QPSK	8.942	8.942	8.942	9.68	9.64	9.56
10MHz 16QAM	8.942	8.942	8.982	9.64	9.56	9.64
15MHz QPSK	13.533	13.413	13.473	14.88	14.7	15.06
15MHz 16QAM	13.533	13.473	13.473	14.76	14.7	14.76
20MHz QPSK	17.964	17.964	17.964	19.36	19.28	19.52
20MHz 16QAM	17.964	17.884	17.964	19.36	19.28	19.44

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

### FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal

<b>Result:</b>	<b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b>
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### FCC §2.1051, § 27.53:Out of band emission, Band Edge

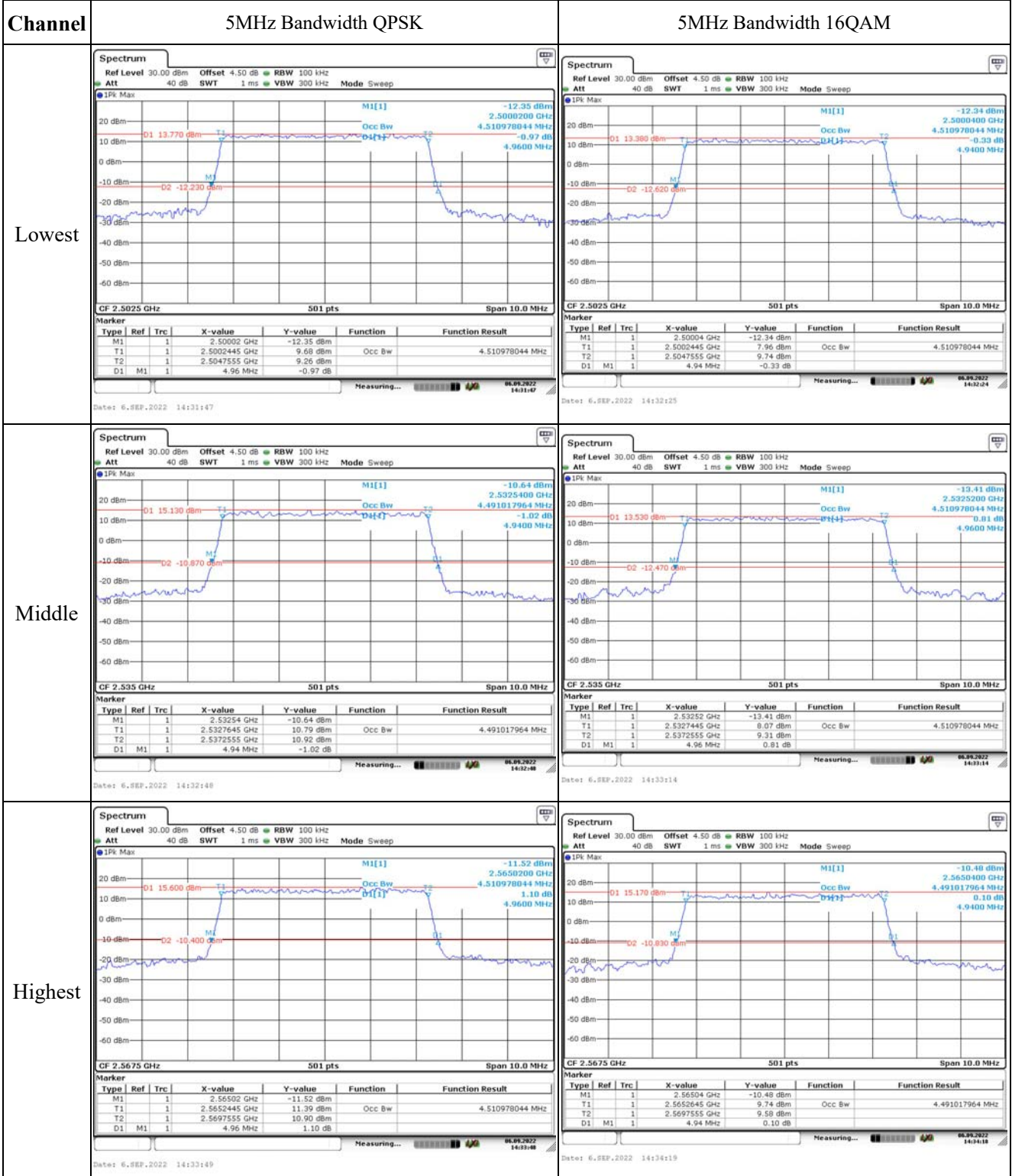
<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>
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FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	2501.005	2500.00	2569.040	2570
	-20	3.87	2501.004	2500.00	2569.005	2570
	-10	3.87	2501.082	2500.00	2569.035	2570
	0	3.87	2501.047	2500.00	2569.030	2570
	10	3.87	2501.097	2500.00	2569.002	2570
	20	3.87	2501.058	2500.00	2569.022	2570
	30	3.87	2501.026	2500.00	2569.082	2570
	40	3.87	2501.097	2500.00	2569.029	2570
	50	3.87	2501.063	2500.00	2569.005	2570
Frequency Stability vs. Voltage	20	3.3	2501.067	2500.00	2569.067	2570
	20	4.45	2501.057	2500.00	2569.091	2570
					<b>Result:</b>	<b>Pass</b>

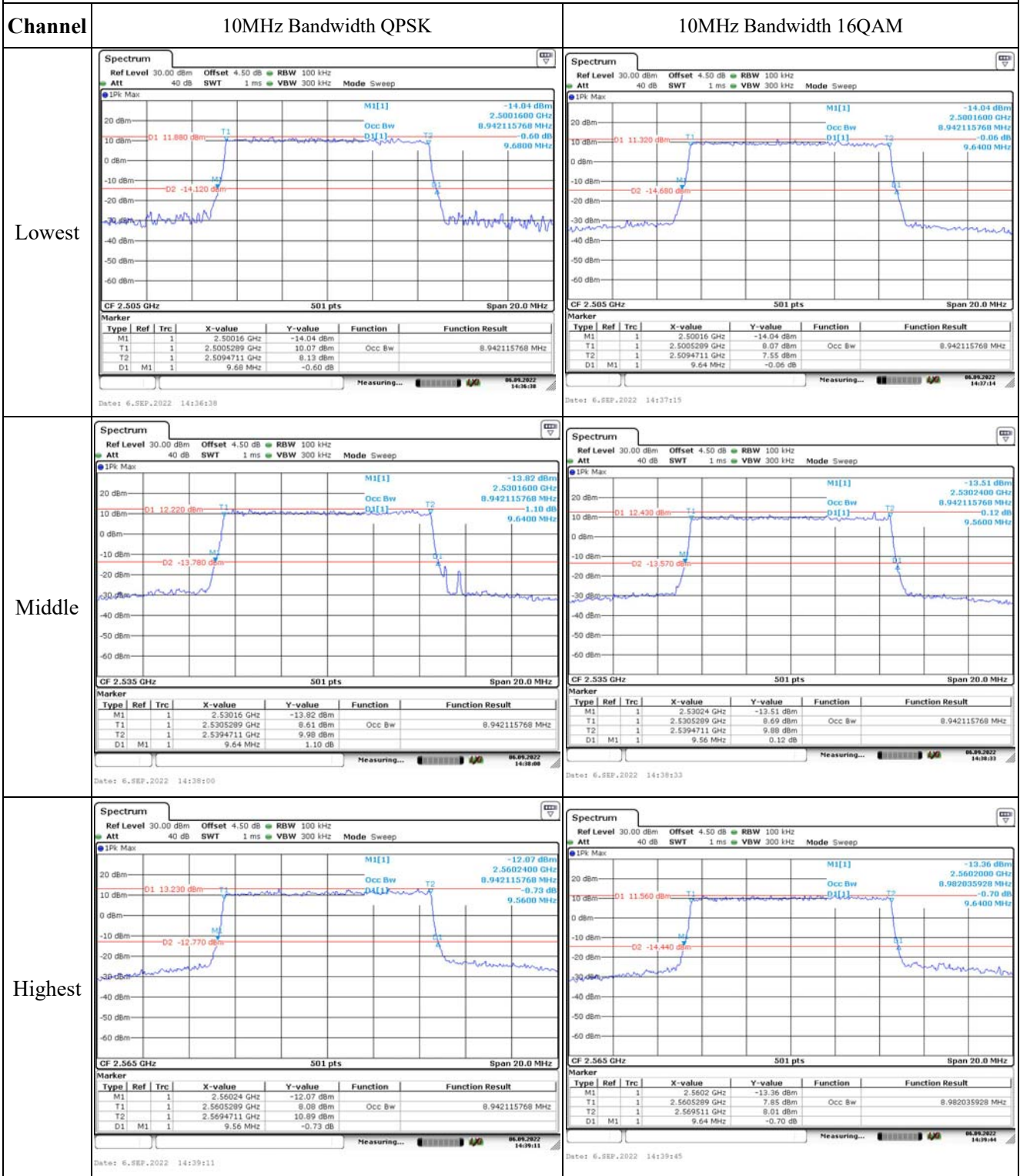
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	2501.099	2500.00	2569.041	2570
	-20	3.87	2501.056	2500.00	2569.060	2570
	-10	3.87	2501.051	2500.00	2569.002	2570
	0	3.87	2501.082	2500.00	2569.049	2570
	10	3.87	2501.026	2500.00	2569.080	2570
	20	3.87	2501.058	2500.00	2569.022	2570
	30	3.87	2501.001	2500.00	2569.000	2570
	40	3.87	2501.019	2500.00	2569.092	2570
	50	3.87	2501.089	2500.00	2569.060	2570
Frequency Stability vs. Voltage	20	3.3	2501.072	2500.00	2569.014	2570
	20	4.45	2501.079	2500.00	2569.036	2570
					<b>Result:</b>	<b>Pass</b>

Test Plots:

Occupied Bandwidth



Occupied Bandwidth



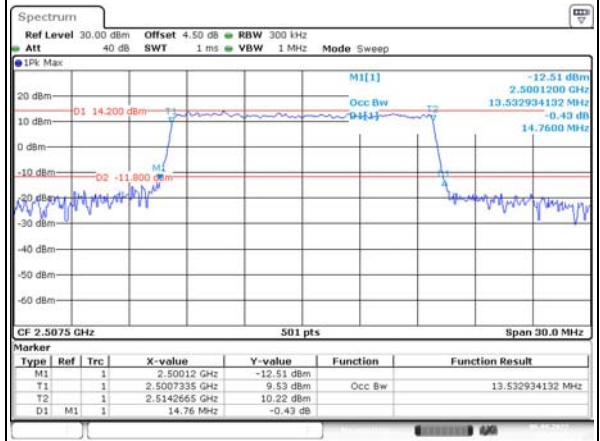
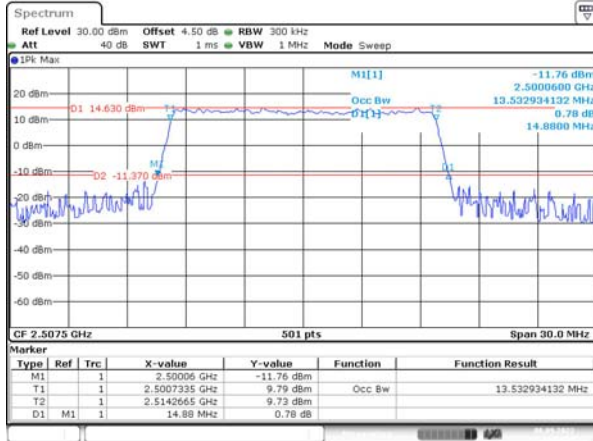
Occupied Bandwidth

Channel

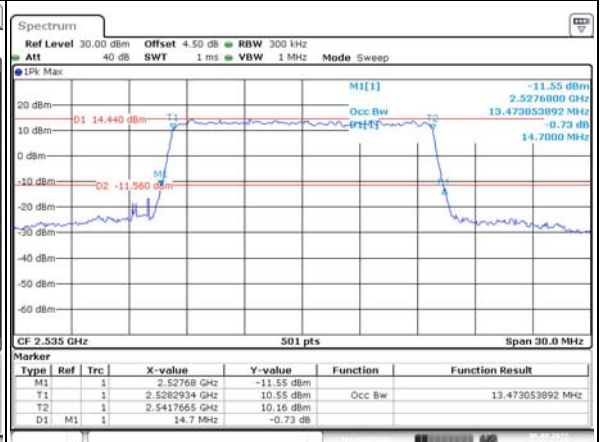
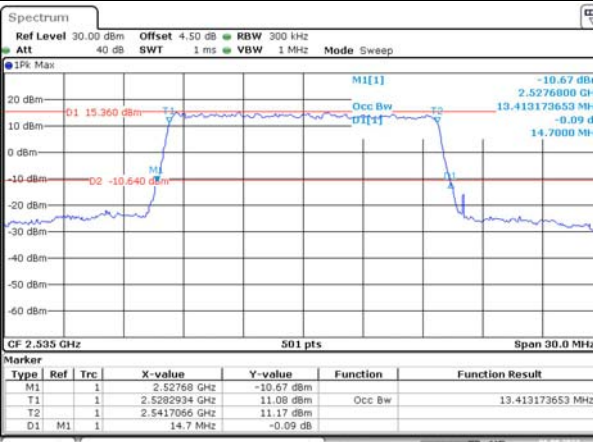
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

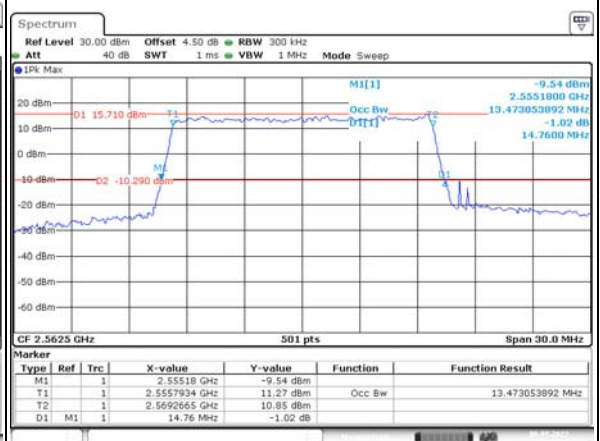
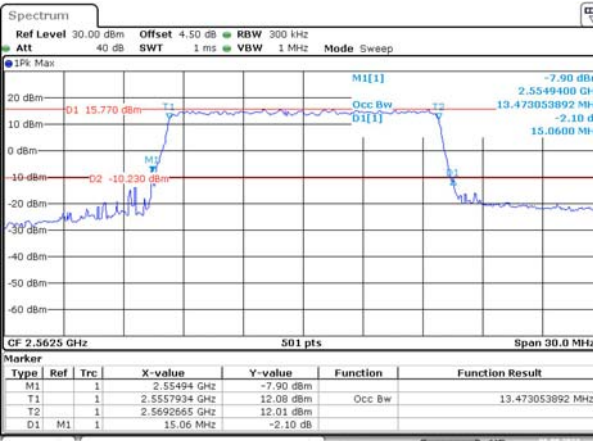
Lowest



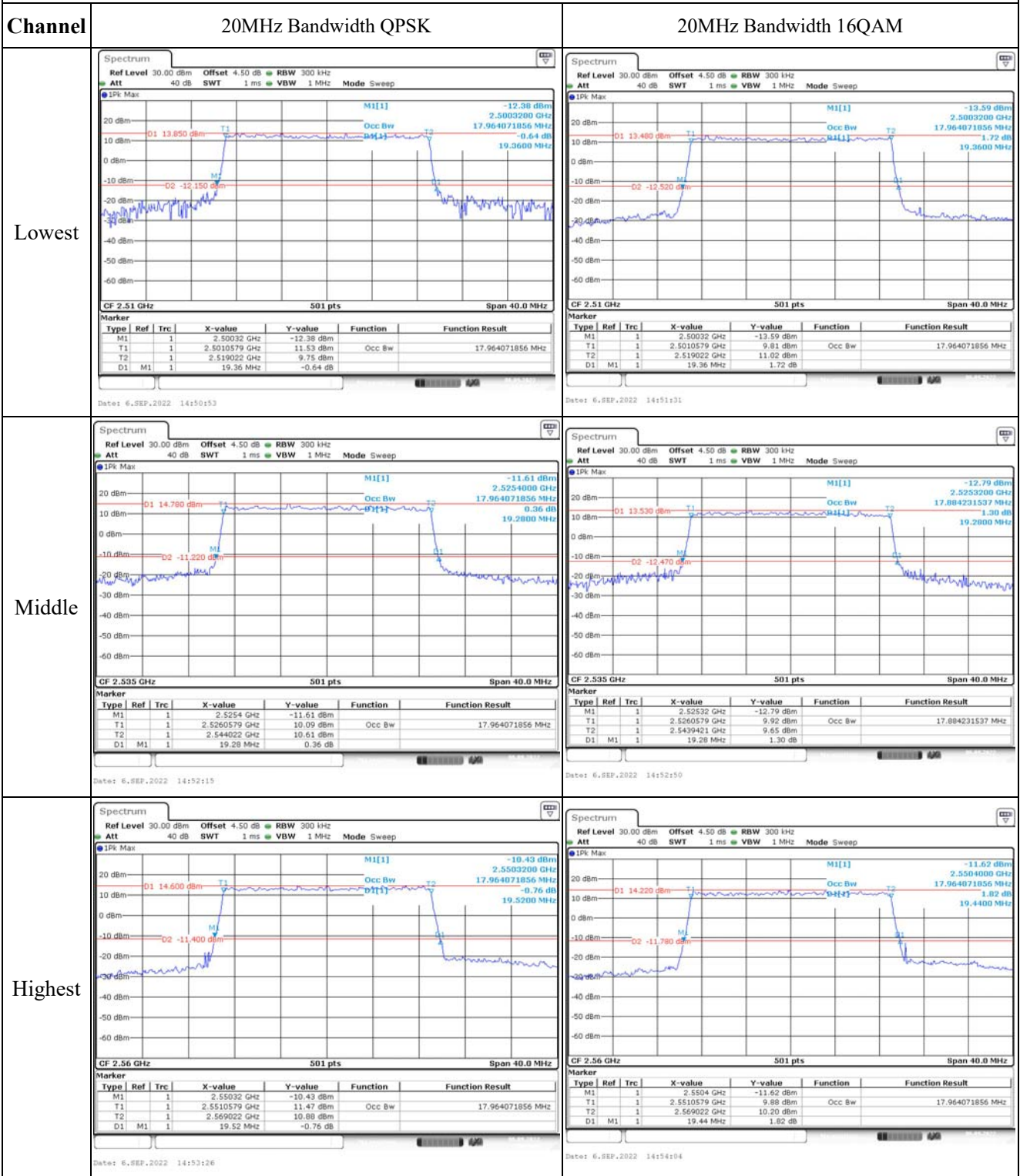
Middle



Highest



Occupied Bandwidth

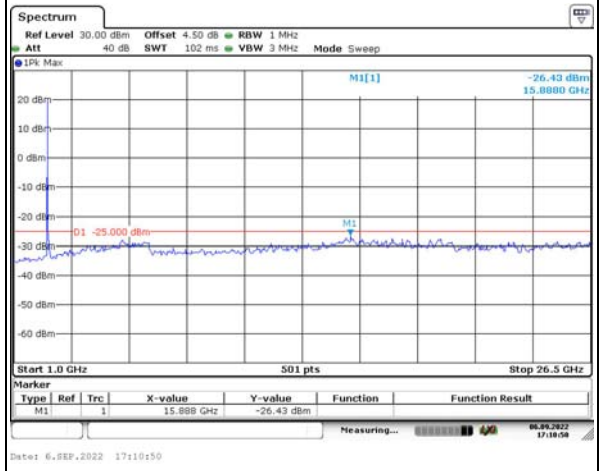
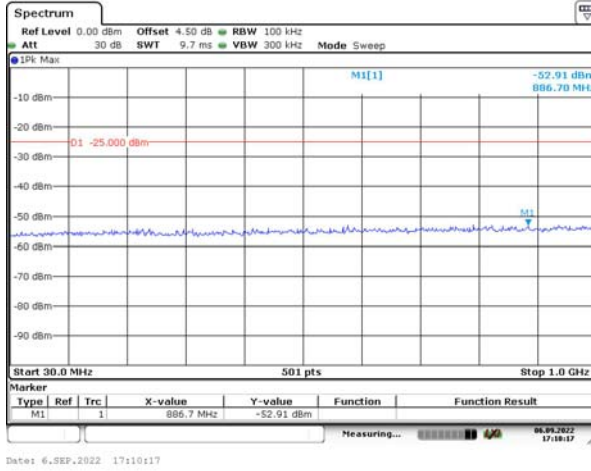


### Spurious Emissions at Antenna Terminal

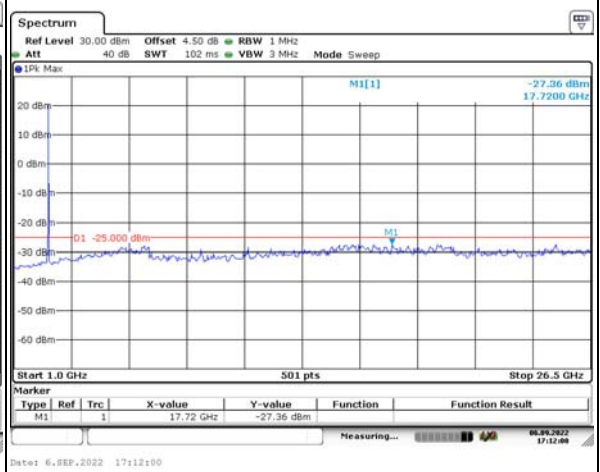
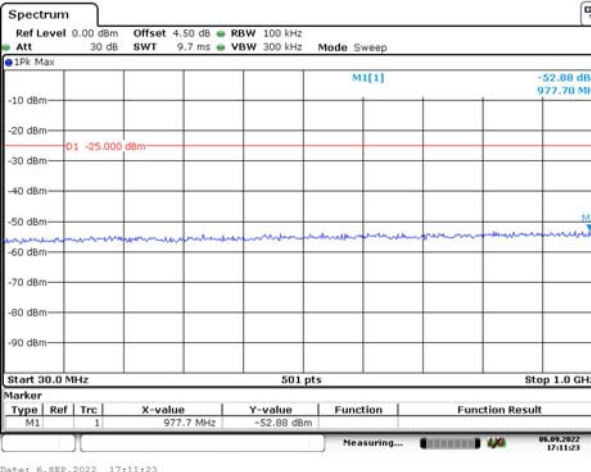
Channel

5MHz Bandwidth QPSK

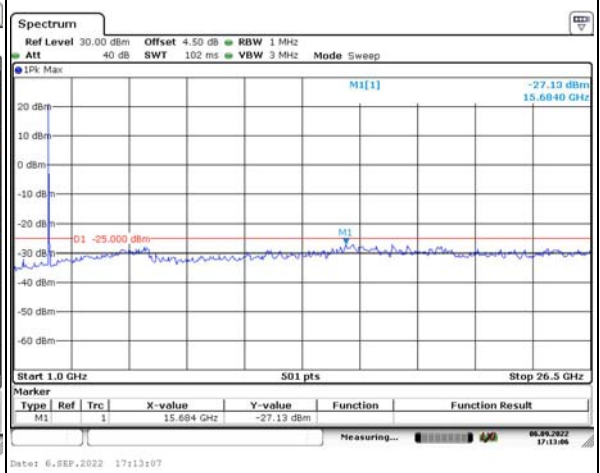
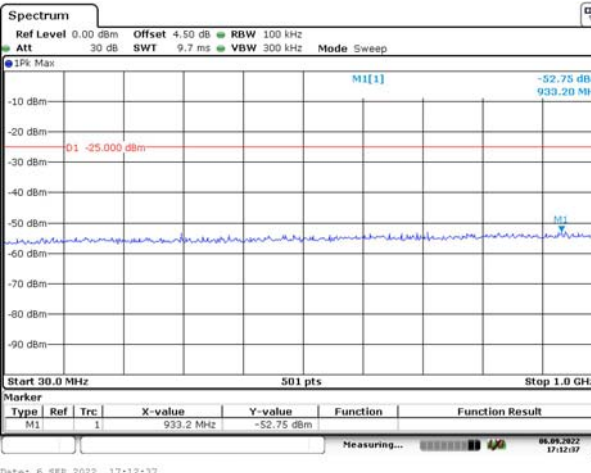
Lowest



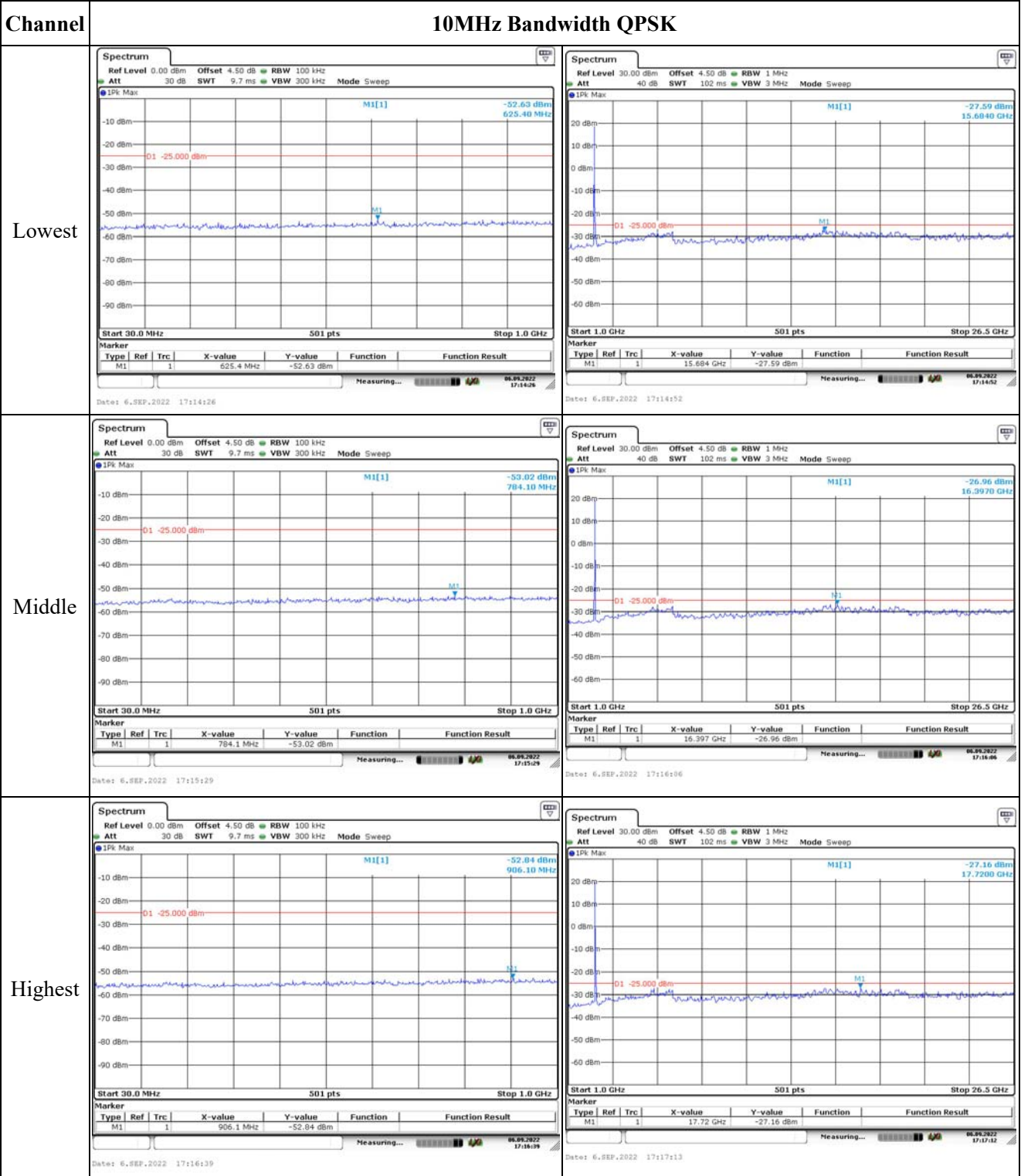
Middle



Highest



Spurious Emissions at Antenna Terminal



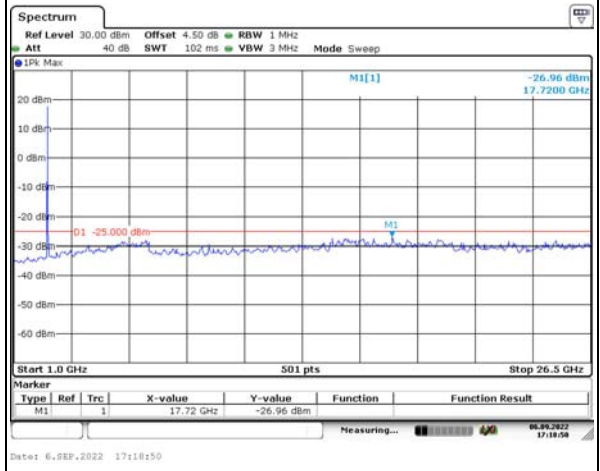
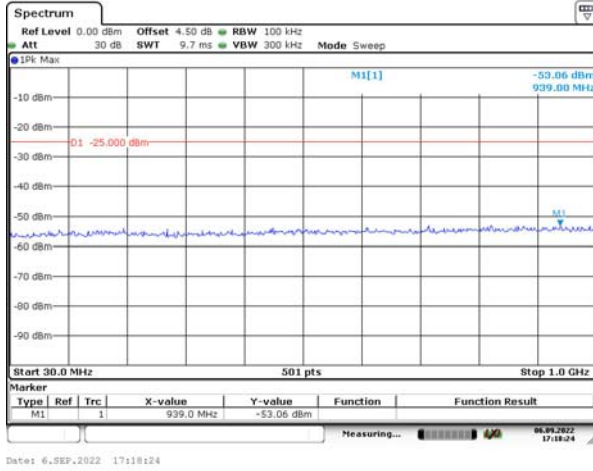


### Spurious Emissions at Antenna Terminal

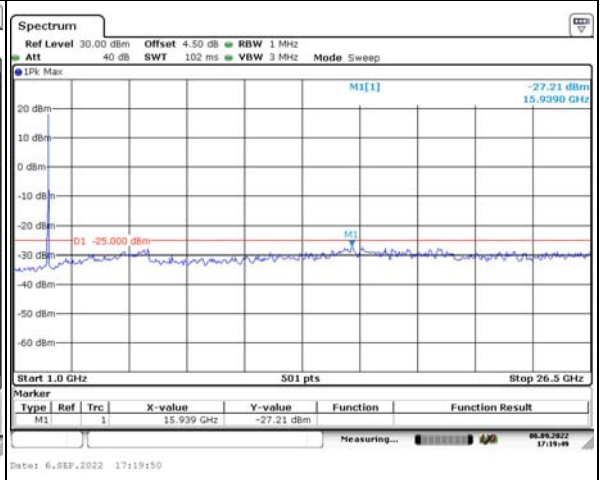
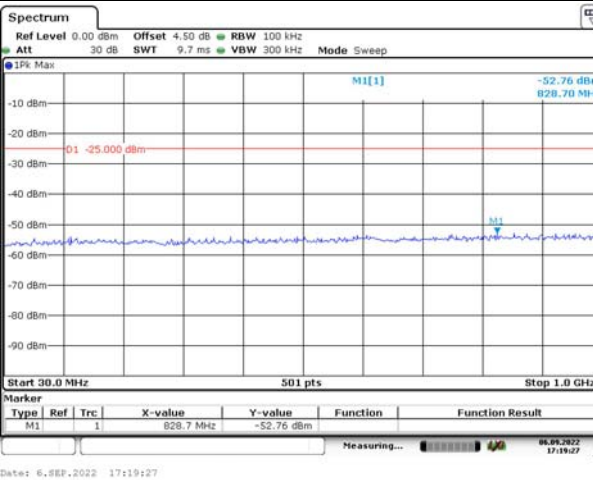
Channel

15MHz Bandwidth QPSK

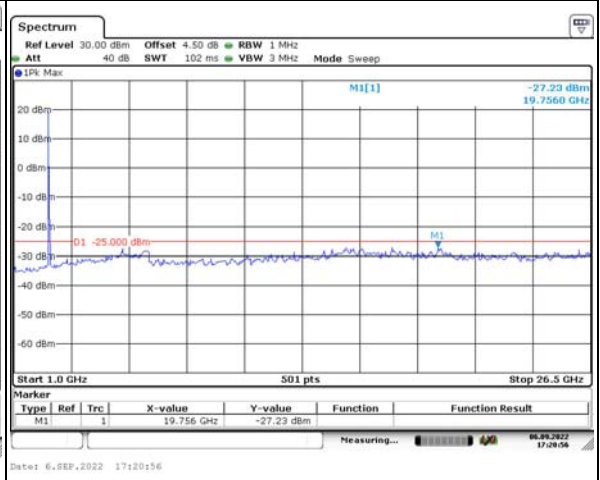
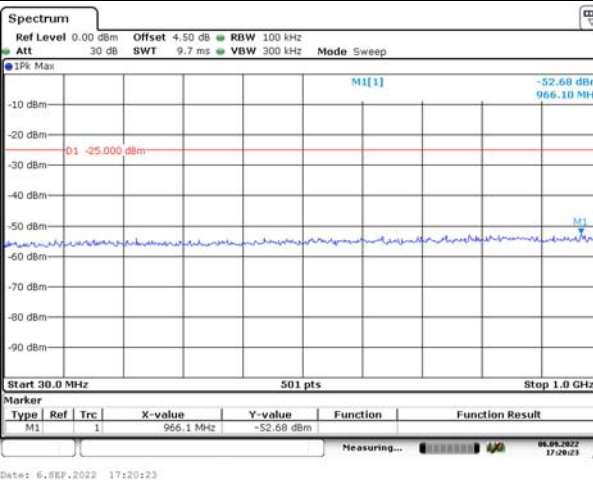
Lowest



Middle



Highest

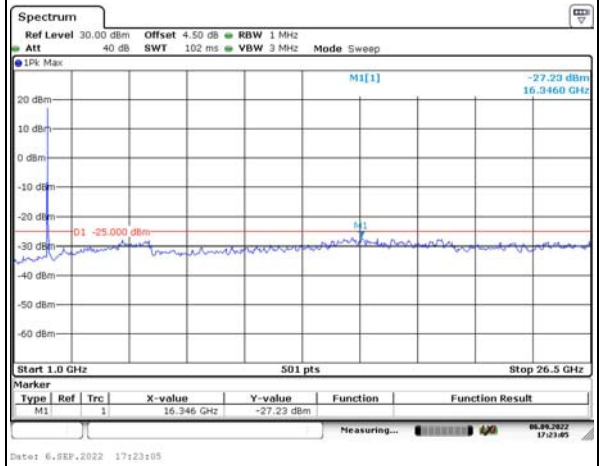
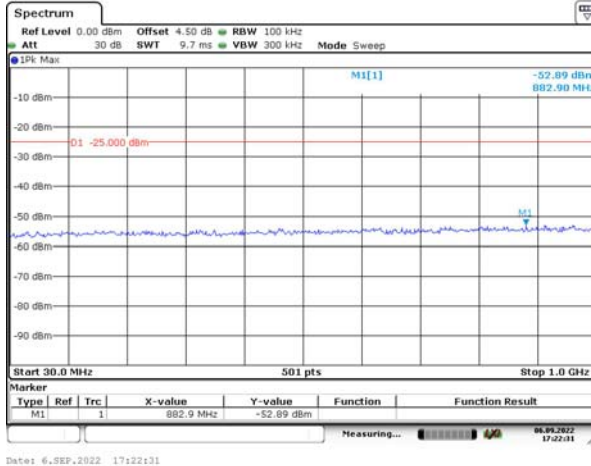


### Spurious Emissions at Antenna Terminal

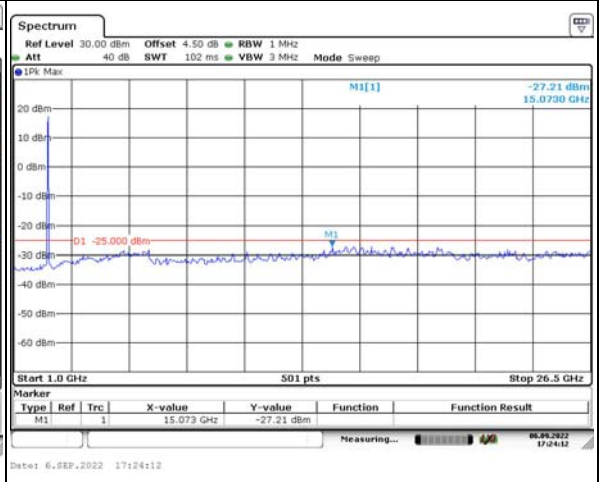
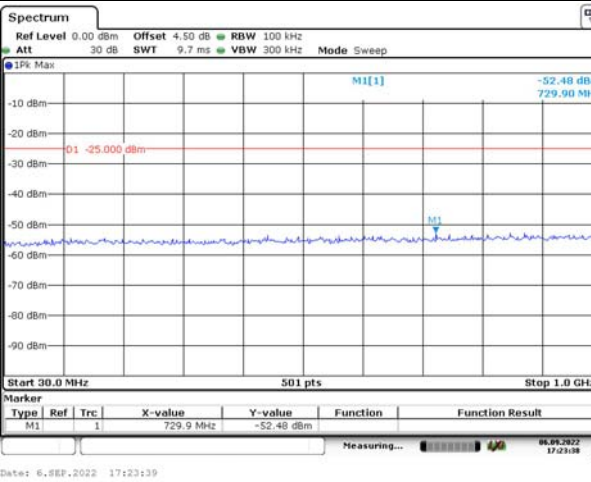
Channel

20MHz Bandwidth QPSK

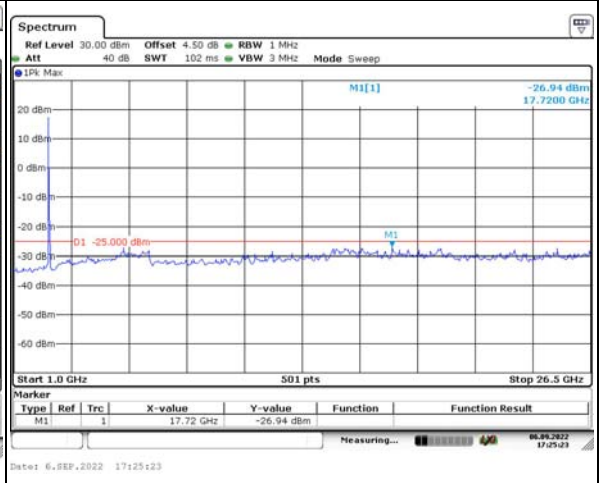
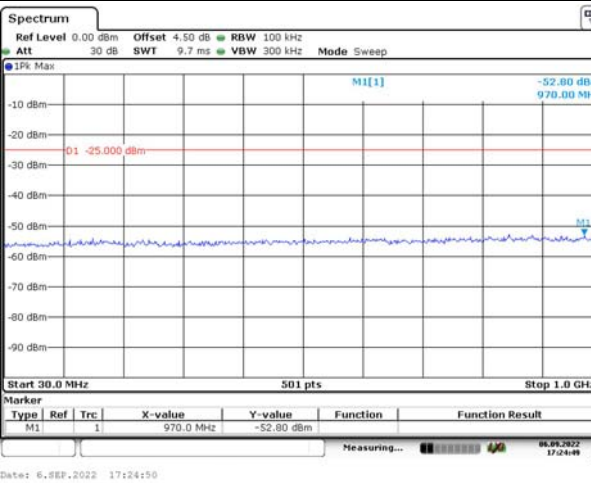
Lowest



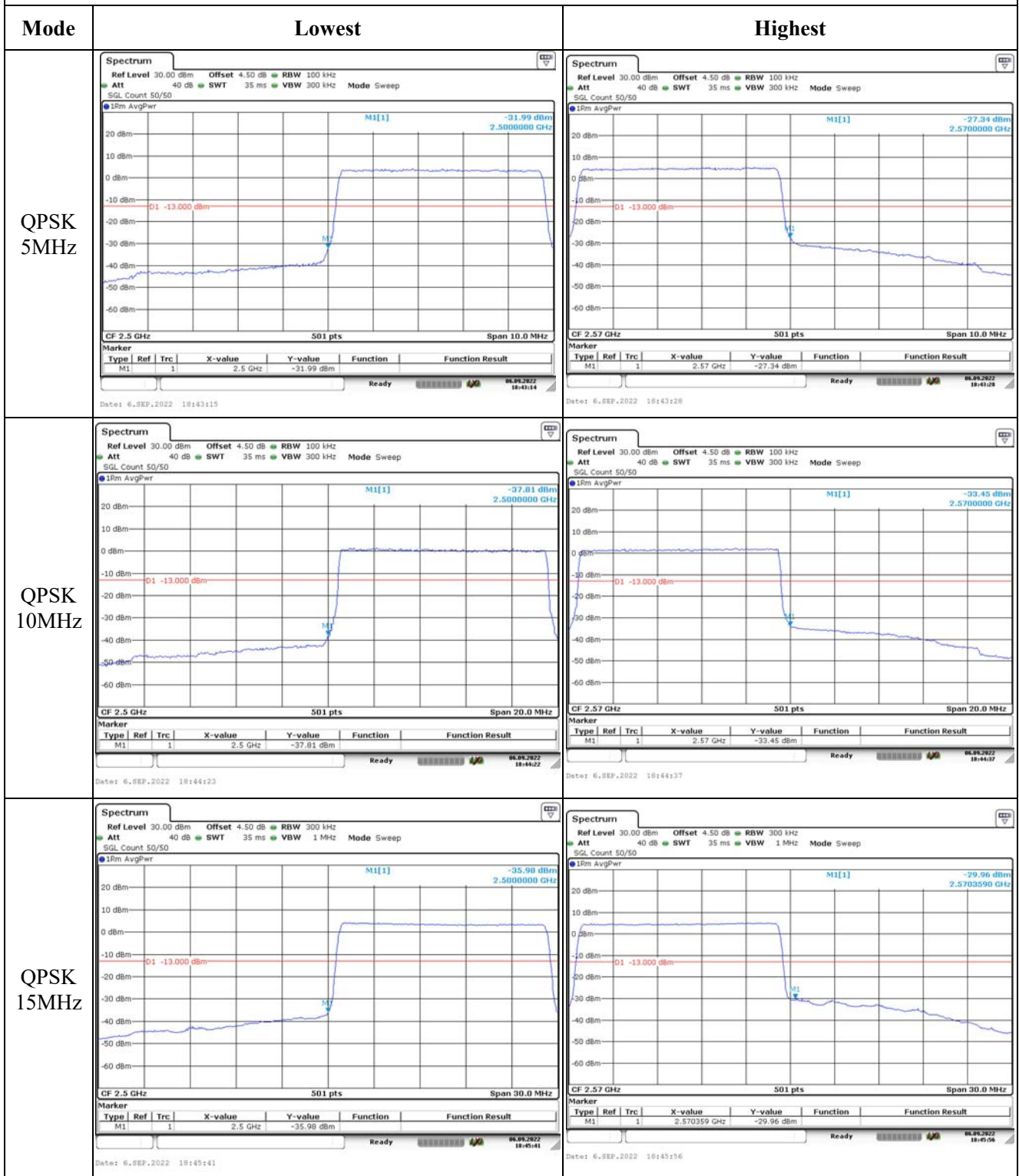
Middle



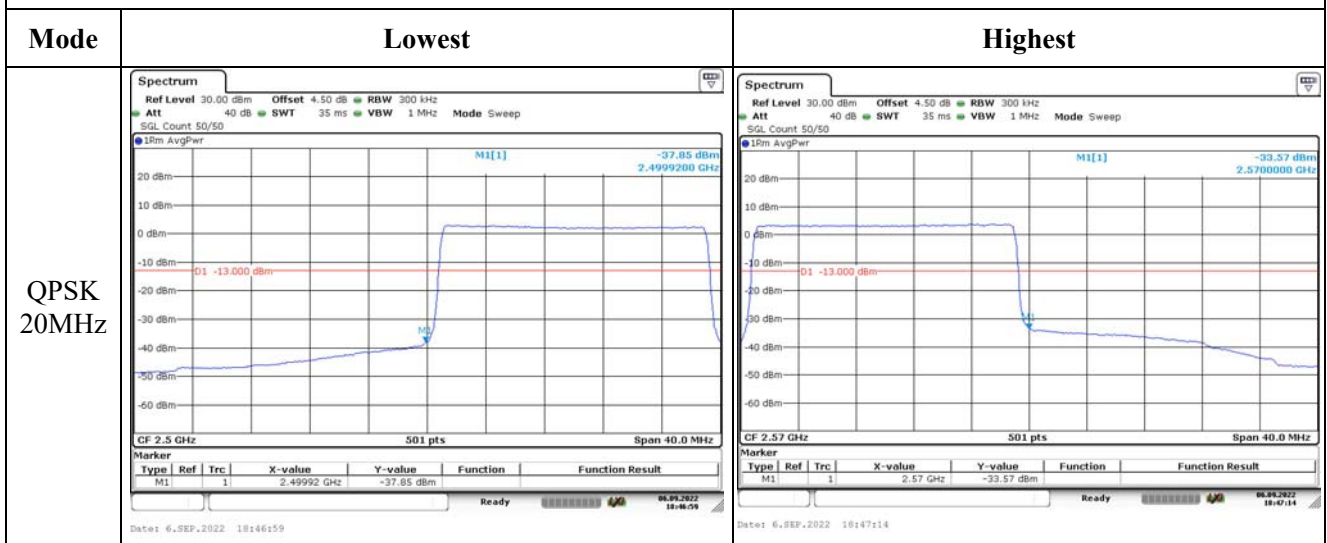
Highest



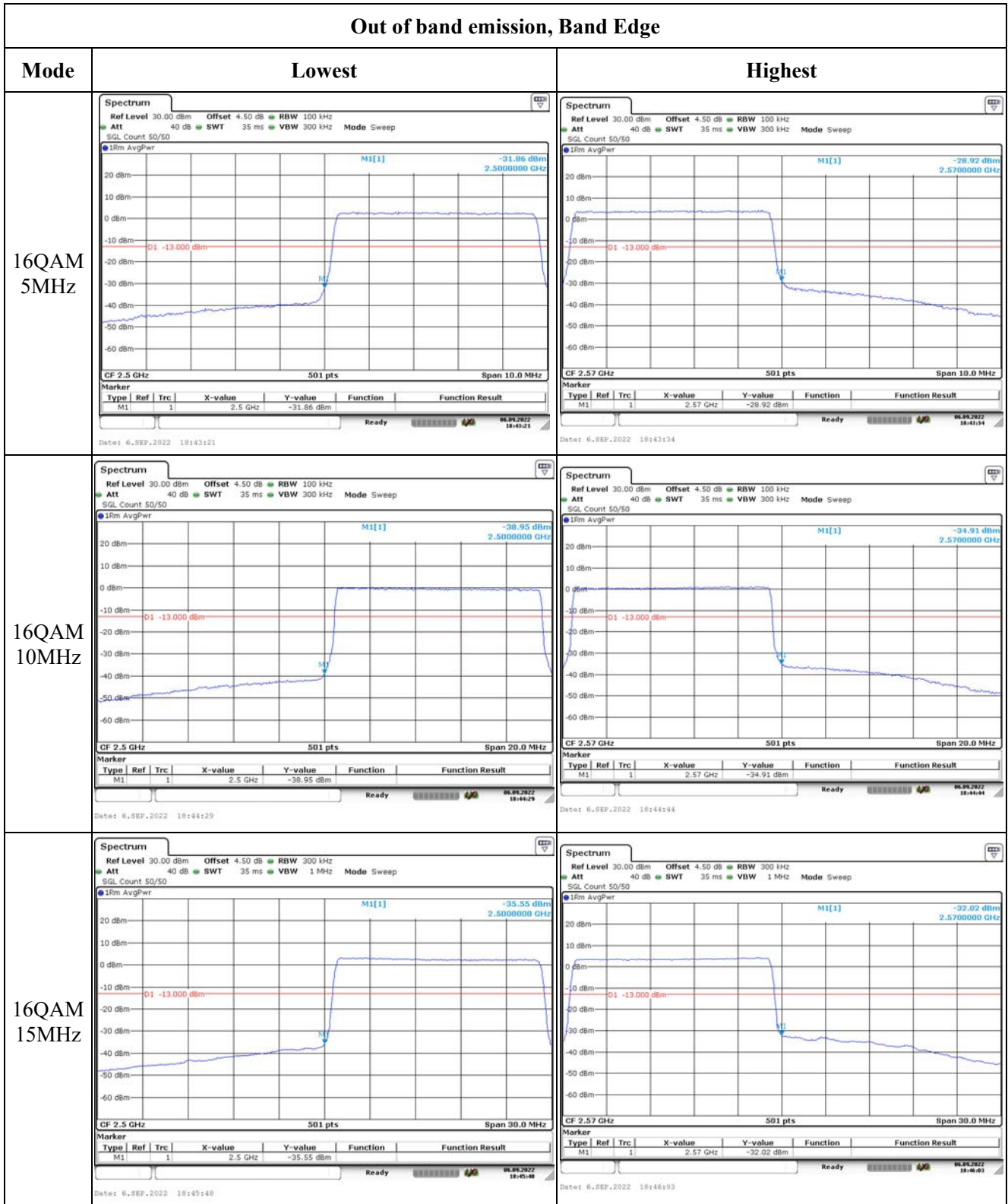
Out of band emission, Band Edge



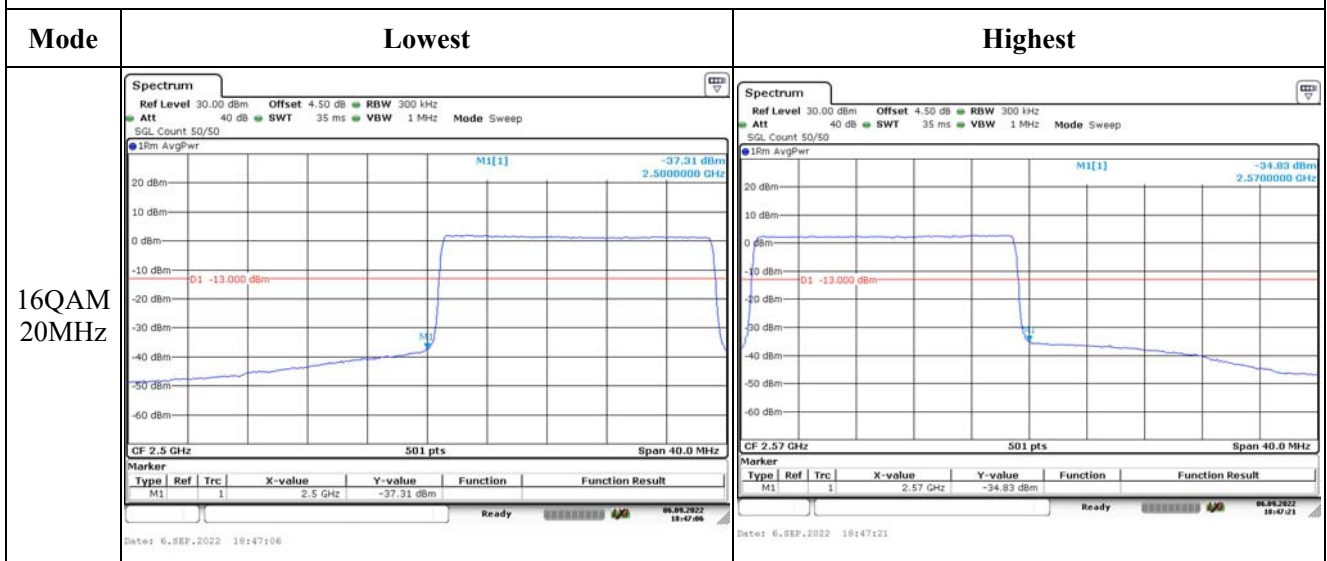
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



**4.10 Antenna Port Test Data and Results for LTE Band 12**

Serial Number:	CR22090006-RF-S1	Test Date:	2022-09-06~2022-09-07
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chan	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	25.1~25.6	Relative Humidity: (%)	52~58	ATM Pressure: (kPa)	100.1~100.8
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2022-07-15	2023-07-14
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Unknown	Coaxial tee connector	Unknown	2204006	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100004	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
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).

**EUT Information@ LTE Band 12▲:**

Antenna Gain $G_T$ (dBi):	0.26	Antenna Gain $G_T$ (dBd):	-1.89	Path Loss $L_C$ (dB):	0.1
Operation Voltage( $V_{DC}$ ):					
Lowest:	3.3	Normal:	3.87	Highest:	4.45

**Test Frequency For Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	699.7	707.5	715.3
3MHz	700.5	707.5	714.5
5MHz	701.5	707.5	713.5
10MHz	704	707.5	711

**Test Data:**

<b>FCC§2.1046;§ 27.50(c) (10)</b>						
<b>RF Output Power:</b>						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	24	23.98	23.89	22.15	34.77
	RB1#3	24.13	24.1	24.14		
	RB1#5	24.01	23.98	23.95		
	RB3#0	24.07	24.04	24		
	RB3#3	24.08	24.02	24.01		
	RB6#0	23.05	23.02	23		
1.4MHz 16QAM	RB1#0	22.94	23.1	22.87	21.28	34.77
	RB1#3	22.99	23.27	23.11		
	RB1#5	23	23.08	22.95		
	RB3#0	23.16	22.94	23.01		
	RB3#3	23.21	23	23.01		
	RB6#0	22.06	22.11	22		
3MHz QPSK	RB1#0	24.12	24.08	24.05	22.16	34.77
	RB1#8	24.15	24.04	24		
	RB1#14	24.13	24.02	24.03		
	RB6#0	23	23.05	22.98		
	RB6#9	23.13	23.03	22.99		
	RB15#0	23.08	23.04	23.02		
3MHz 16QAM	RB1#0	23.08	23.59	23.1	21.6	34.77
	RB1#8	23.07	23.57	23.12		
	RB1#14	23.1	23.52	23.14		
	RB6#0	22.02	22.11	22.06		
	RB6#9	22.05	22.15	22.1		
	RB15#0	22.15	22.11	21.99		
5MHz QPSK	RB1#0	23.95	23.98	23.92	22.13	34.77
	RB1#13	24.12	24.08	24.02		
	RB1#24	24.02	23.97	23.95		
	RB15#0	23.03	22.99	23.09		
	RB15#10	22.99	23.08	22.95		
	RB25#0	22.96	23.02	23.01		
5MHz 16QAM	RB1#0	22.82	23.23	22.95	21.34	34.77
	RB1#13	22.94	23.33	23.06		
	RB1#24	22.91	23.24	22.98		
	RB15#0	22.1	22.01	22.15		
	RB15#10	22.09	22.11	22.01		
	RB25#0	22.03	22.08	22.06		
10MHz QPSK	RB1#0	24.02	24	24.02	22.25	34.77
	RB1#25	24.24	24.22	24.19		
	RB1#49	24.14	24.08	24.08		



	RB25#0	23.11	23.12	22.96		
	RB25#25	23.18	23.12	22.95		
	RB50#0	23.12	23.16	22.98		
10MHz 16QAM	RB1#0	23.1	22.97	23.53	21.7	34.77
	RB1#25	23.34	23.2	23.69		
	RB1#49	23.18	23.06	23.54		
	RB25#0	22.2	22.26	22.05		
	RB25#25	22.18	22.27	22.07		
	RB50#0	22.18	22.2	22.01		

Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)

**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	
10MHz QPSK	RB1#0	4.35	4.43	4.03	13
	RB50#0	5.01	4.9	4.7	13
10MHz 16QAM	RB1#0	5.1	5.01	4.64	13
	RB50#0	5.86	5.8	5.65	13
<b>Result:</b>					<b>Pass</b>

### 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	1.096	1.102	1.302	1.314	1.308
1.4MHz 16QAM	1.102	1.096	1.102	1.32	1.29	1.29
3MHz QPSK	2.683	2.683	2.683	2.892	2.856	2.892
3MHz 16QAM	2.683	2.683	2.683	2.88	2.88	2.88
5MHz QPSK	4.531	4.531	4.531	5.14	5.16	5.2
5MHz 16QAM	4.511	4.531	4.551	5.12	5.18	5.22
10MHz QPSK	8.982	8.982	8.942	9.96	9.96	9.76
10MHz 16QAM	8.982	8.942	8.942	9.92	9.68	9.76

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

### FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal

<b>Result:</b>	<b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b>
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### FCC §2.1051, §27.53:Out of band emission, Band Edge

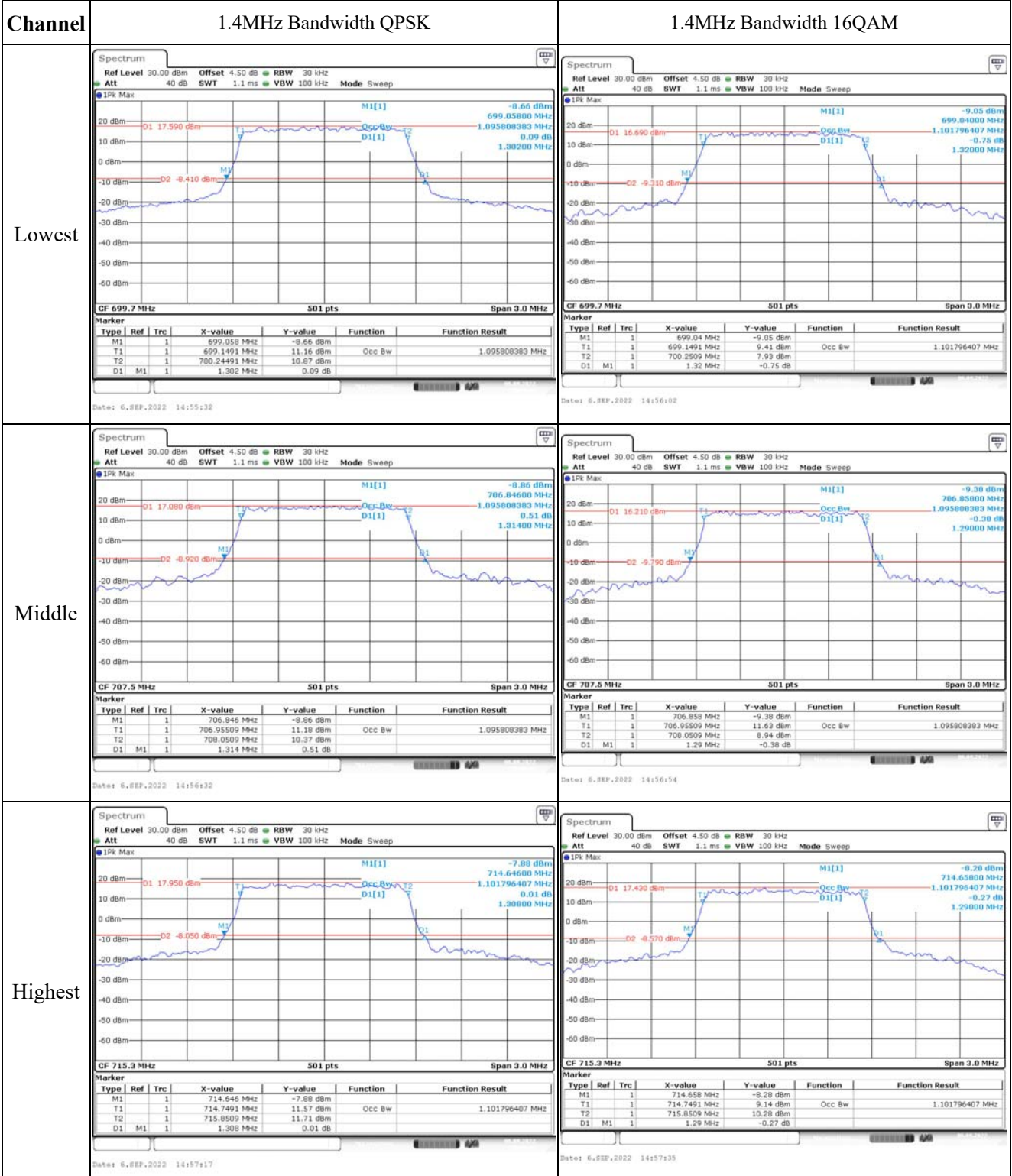
<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>
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FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	699.474	699.00	715.401	716.00
	-20	3.87	699.528	699.00	715.422	716.00
	-10	3.87	699.461	699.00	715.483	716.00
	0	3.87	699.528	699.00	715.464	716.00
	10	3.87	699.470	699.00	715.495	716.00
	20	3.87	699.489	699.00	715.471	716.00
	30	3.87	699.507	699.00	715.411	716.00
	40	3.87	699.497	699.00	715.499	716.00
	50	3.87	699.525	699.00	715.415	716.00
Frequency Stability vs. Voltage	20	3.3	699.488	699.00	715.423	716.00
	20	4.45	699.504	699.00	715.426	716.00
					<b>Result:</b>	<b>Pass</b>

Test Mode:	10M 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	699.473	699.00	715.402	716.00
	-20	3.87	699.470	699.00	715.409	716.00
	-10	3.87	699.470	699.00	715.451	716.00
	0	3.87	699.468	699.00	715.413	716.00
	10	3.87	699.477	699.00	715.425	716.00
	20	3.87	699.489	699.00	715.471	716.00
	30	3.87	699.458	699.00	715.401	716.00
	40	3.87	699.439	699.00	715.448	716.00
	50	3.87	699.443	699.00	715.470	716.00
Frequency Stability vs. Voltage	20	3.3	699.516	699.00	715.500	716.00
	20	4.45	699.473	699.00	715.403	716.00
					<b>Result:</b>	<b>Pass</b>

Test Plots:

Occupied Bandwidth



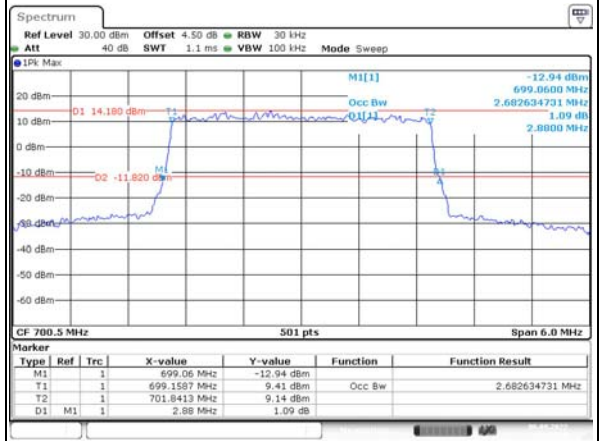
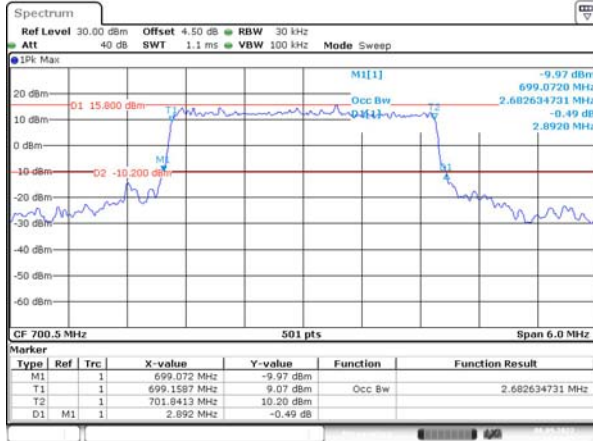
### Occupied Bandwidth

Channel

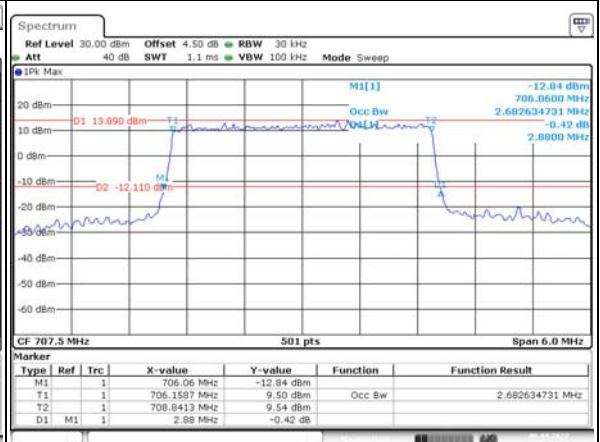
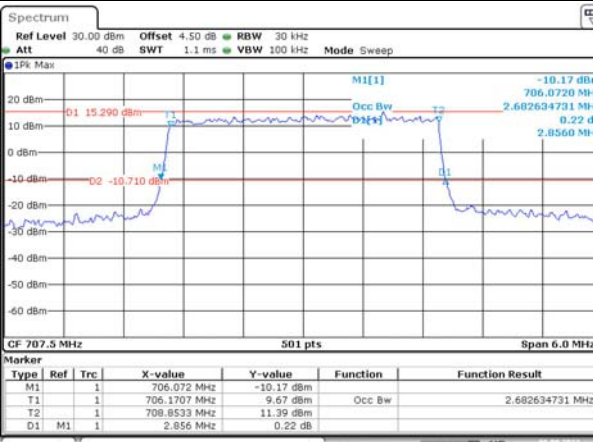
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

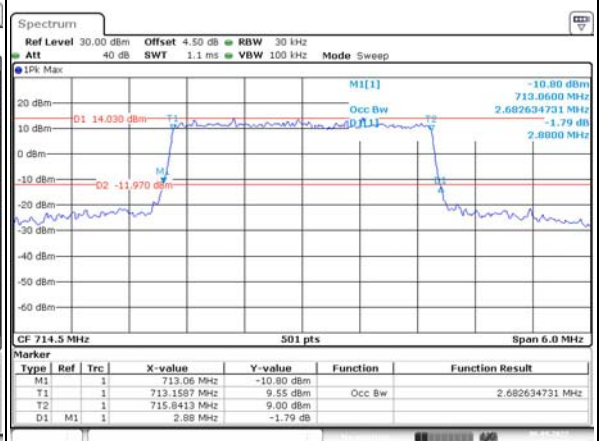
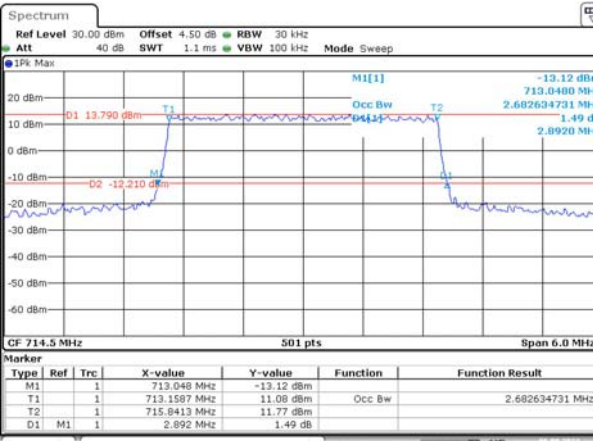
Lowest



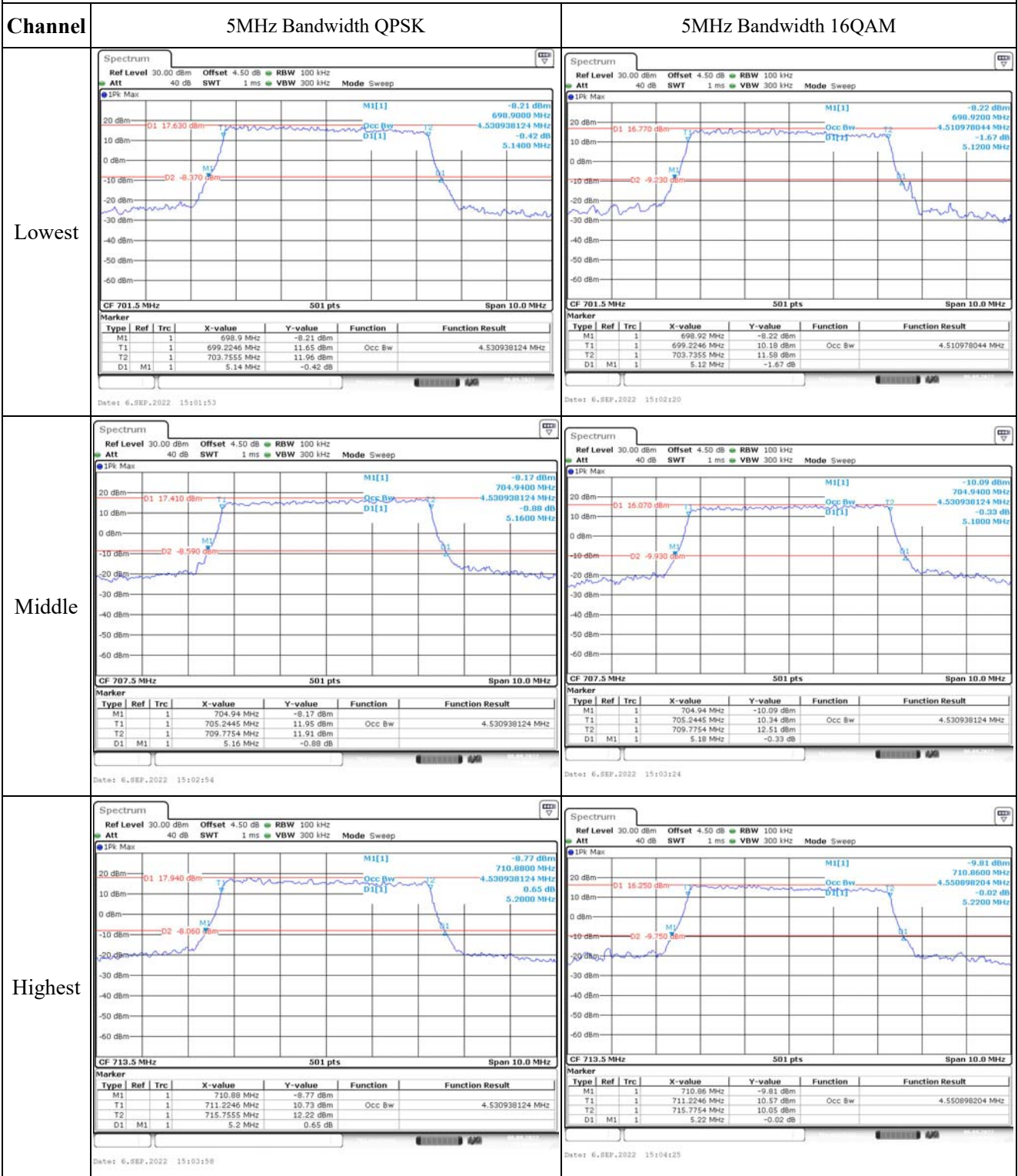
Middle



Highest



Occupied Bandwidth



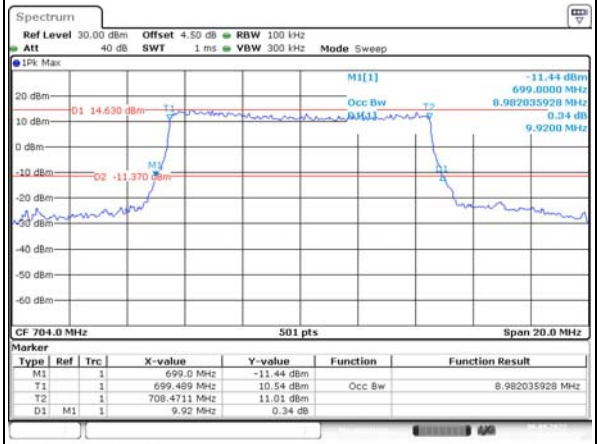
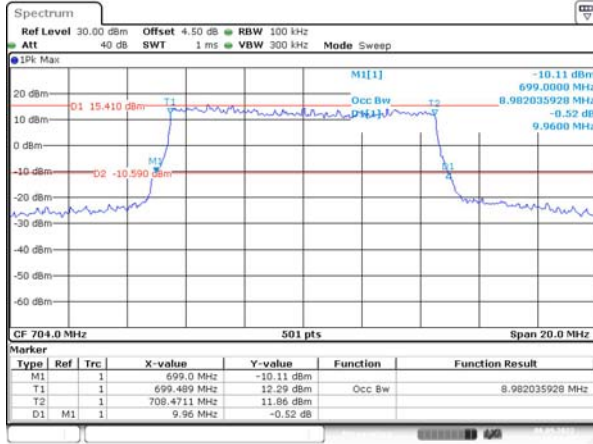
Occupied Bandwidth

Channel

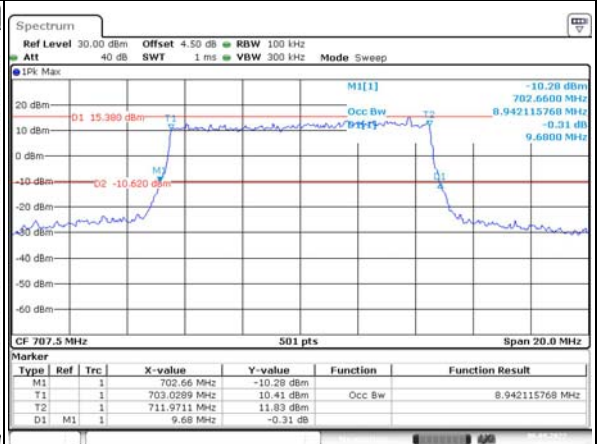
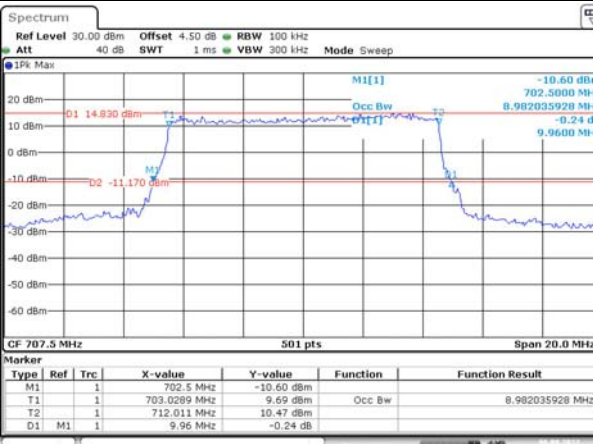
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

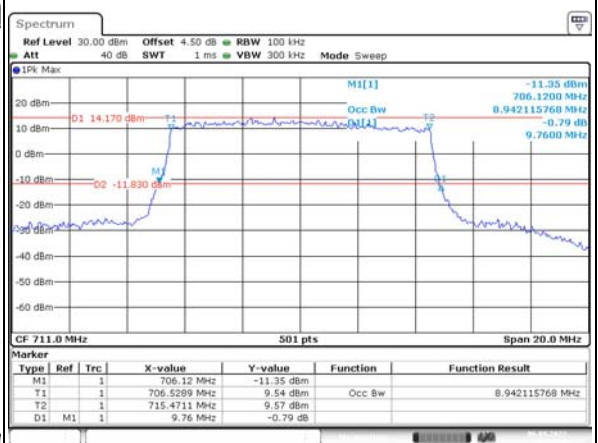
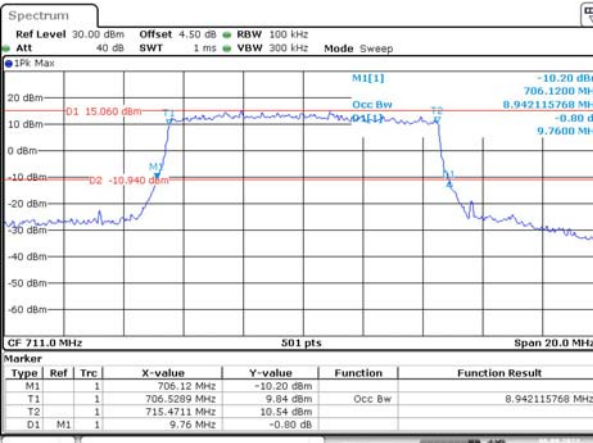
Lowest



Middle



Highest

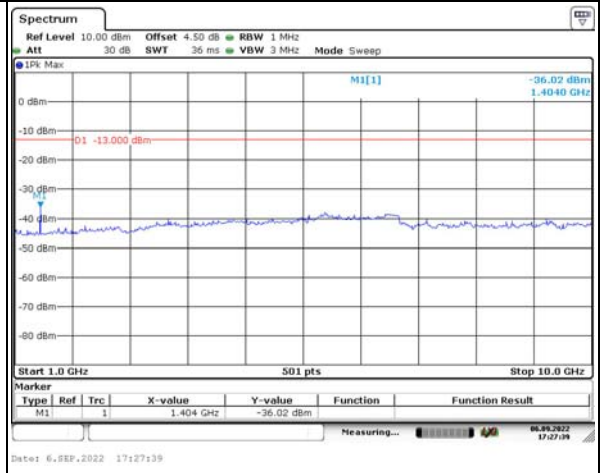
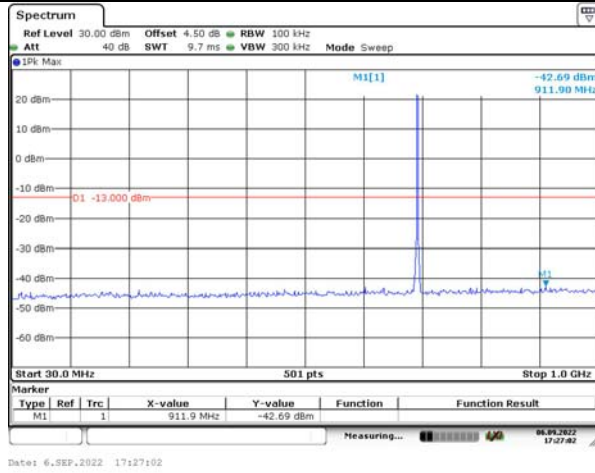


### Spurious Emissions at Antenna Terminal

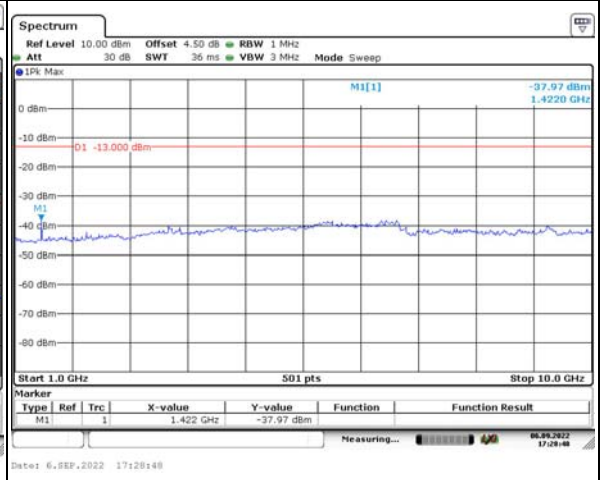
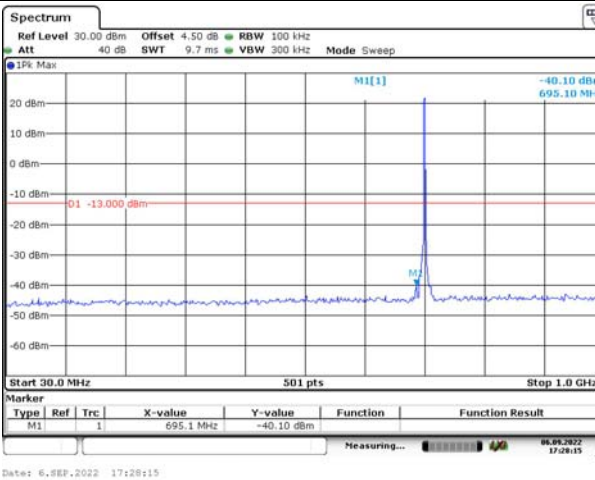
Channel

1.4MHz Bandwidth QPSK

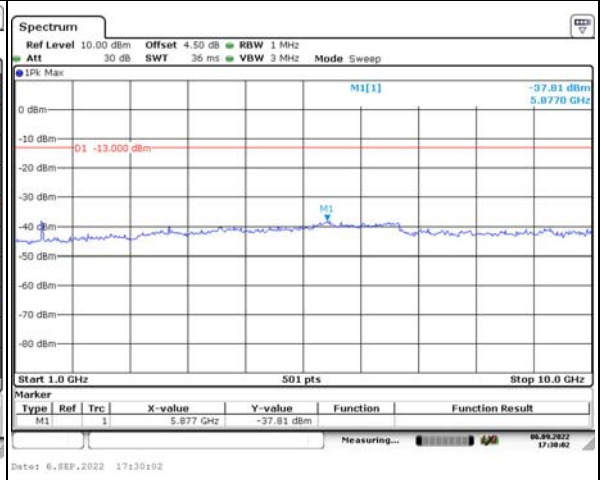
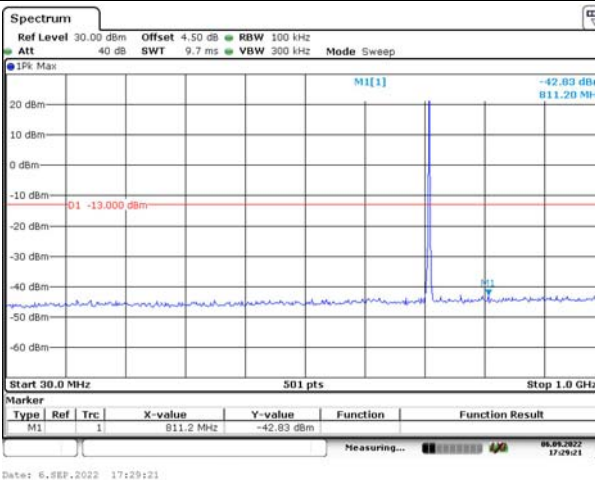
Lowest



Middle



Highest

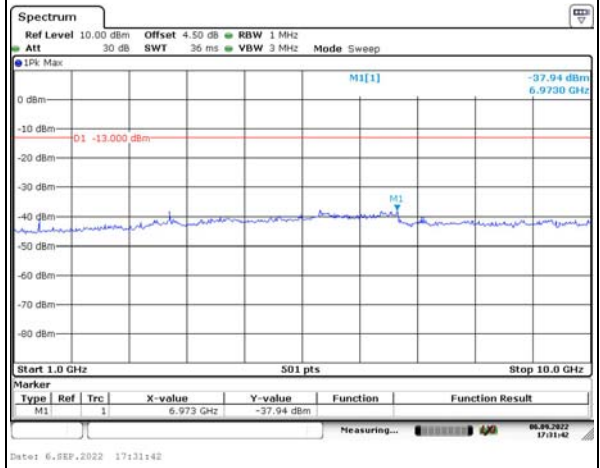
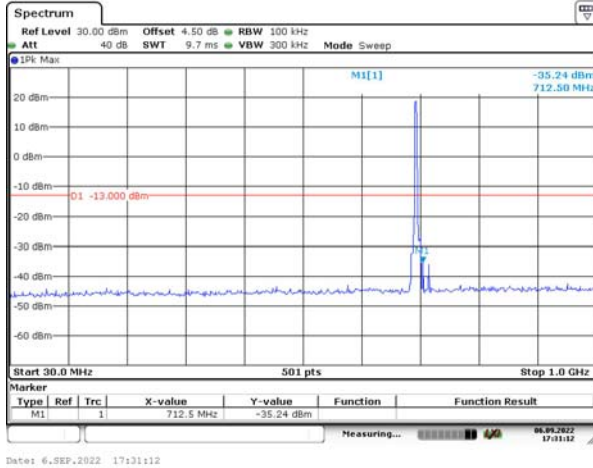


### Spurious Emissions at Antenna Terminal

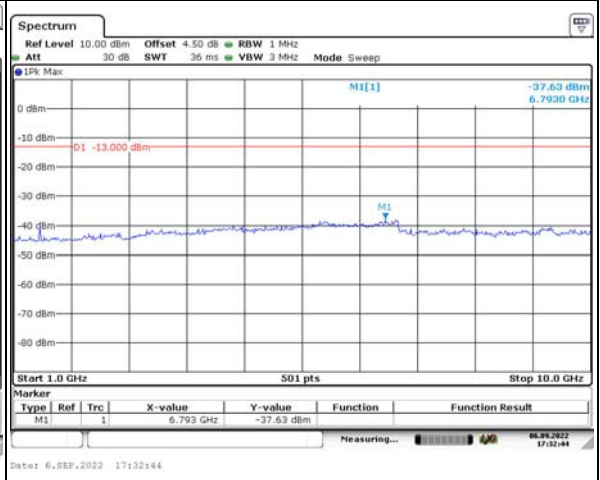
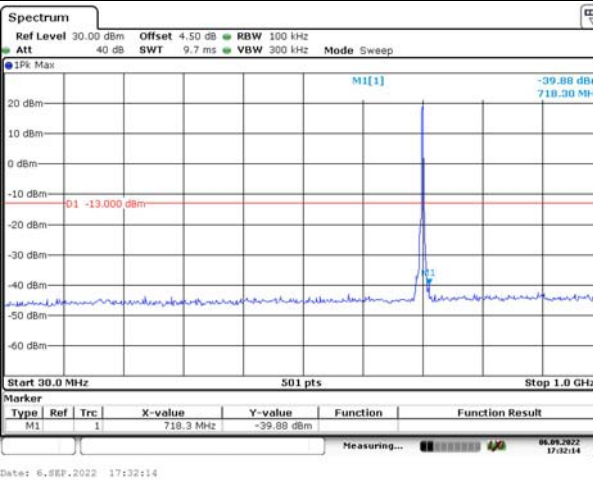
Channel

3MHz Bandwidth QPSK

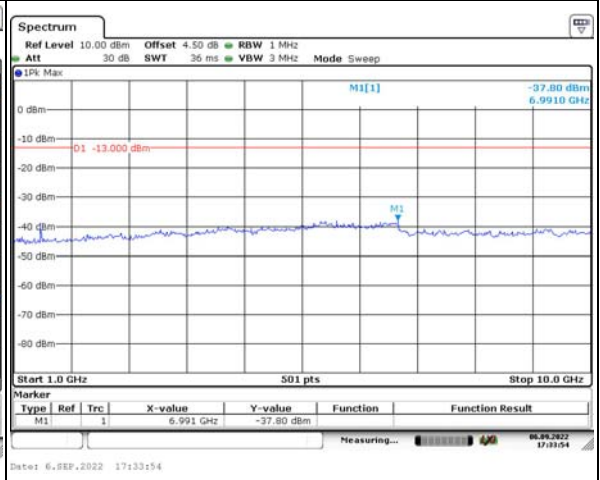
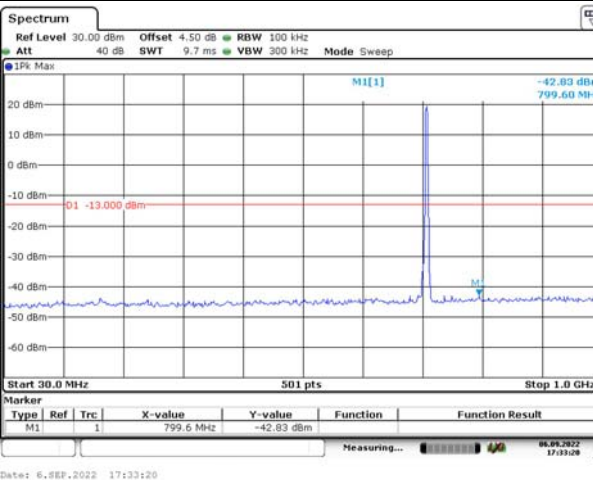
Lowest



Middle



Highest



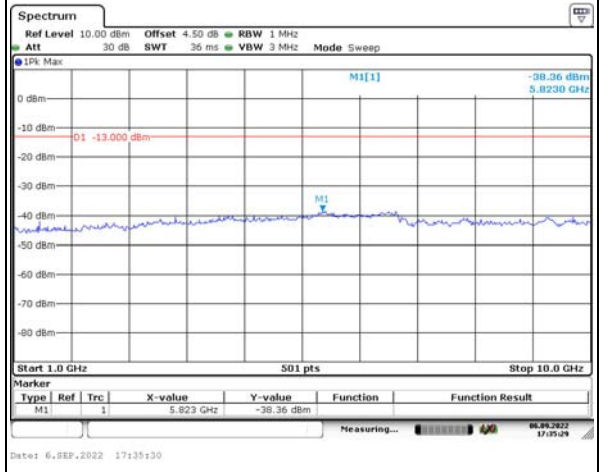
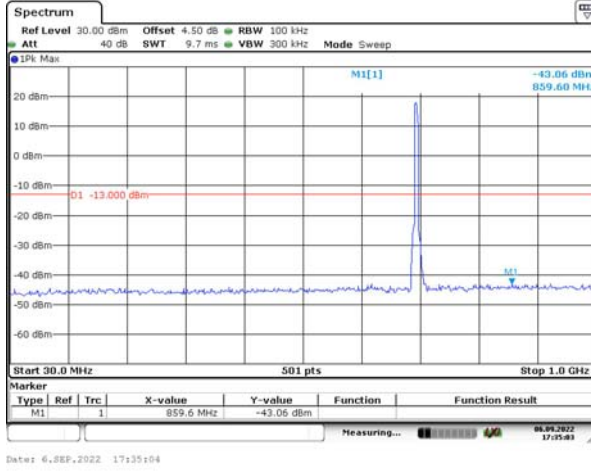


### Spurious Emissions at Antenna Terminal

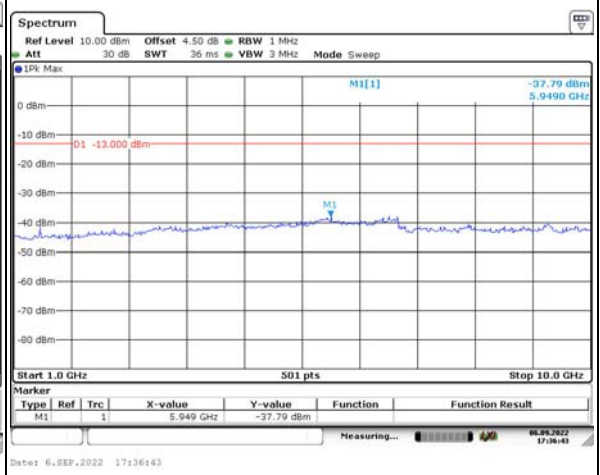
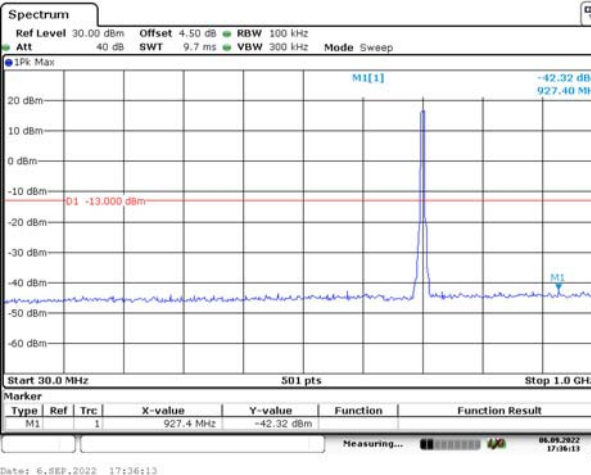
Channel

5MHz Bandwidth QPSK

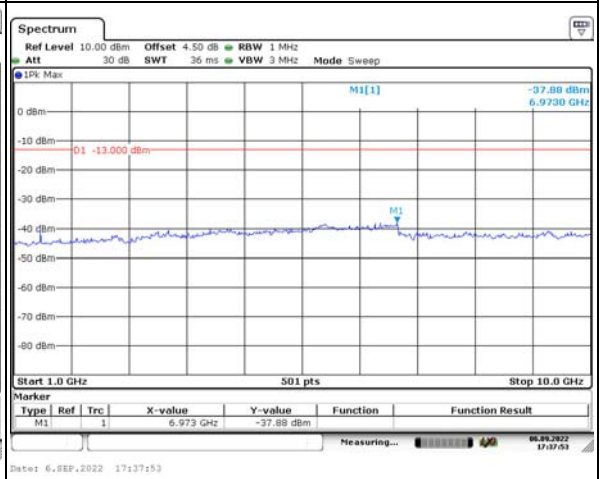
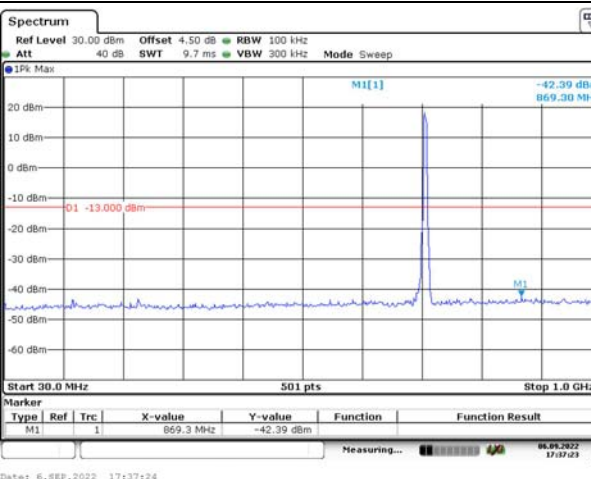
Lowest



Middle



Highest

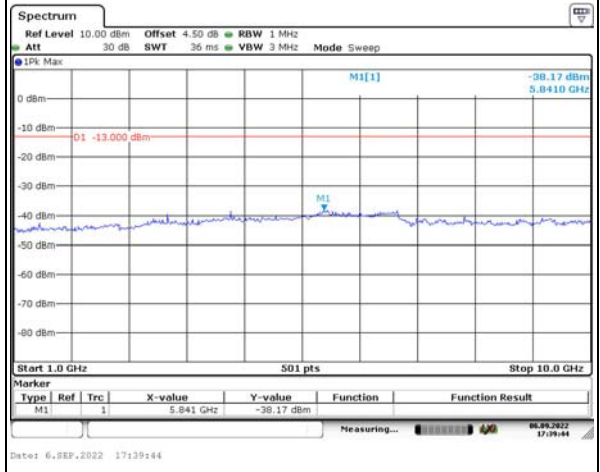
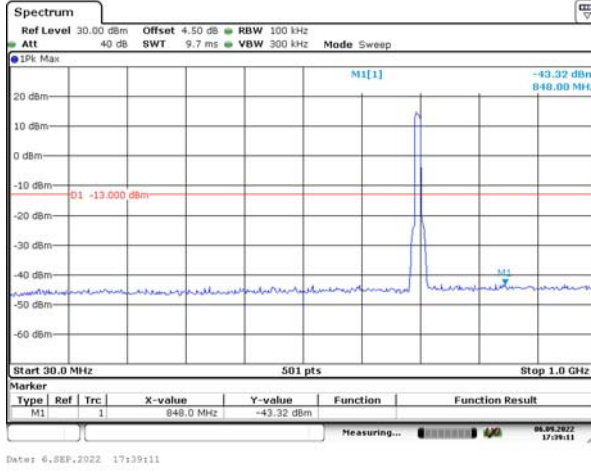


### Spurious Emissions at Antenna Terminal

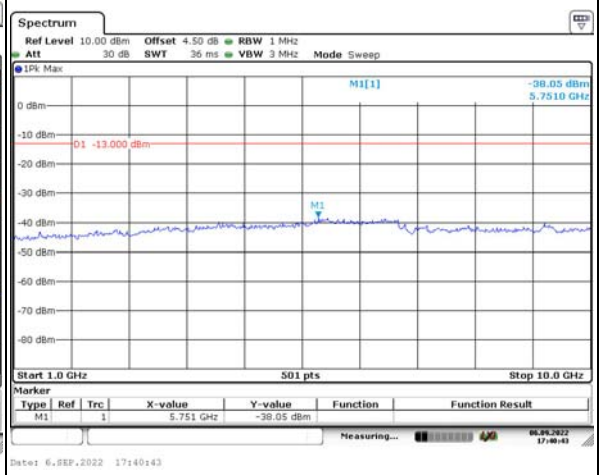
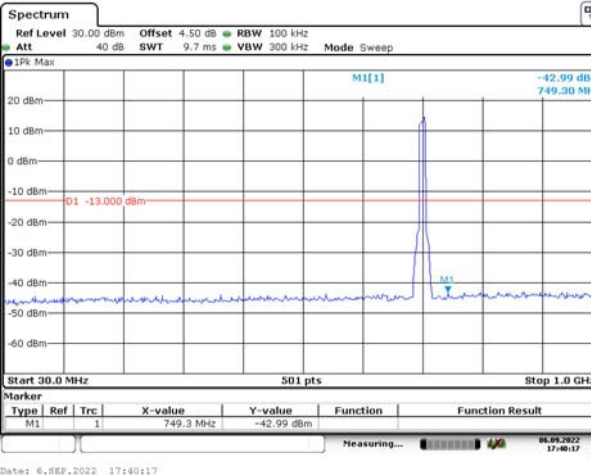
Channel

10MHz Bandwidth QPSK

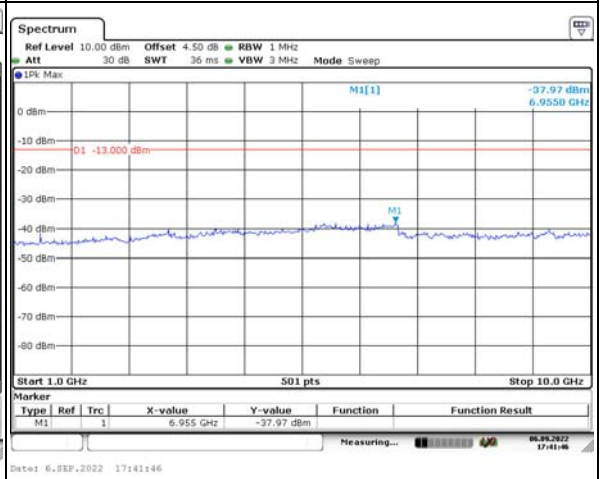
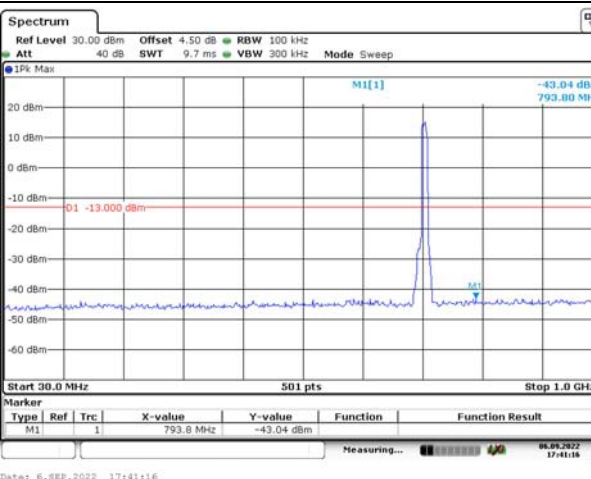
Lowest



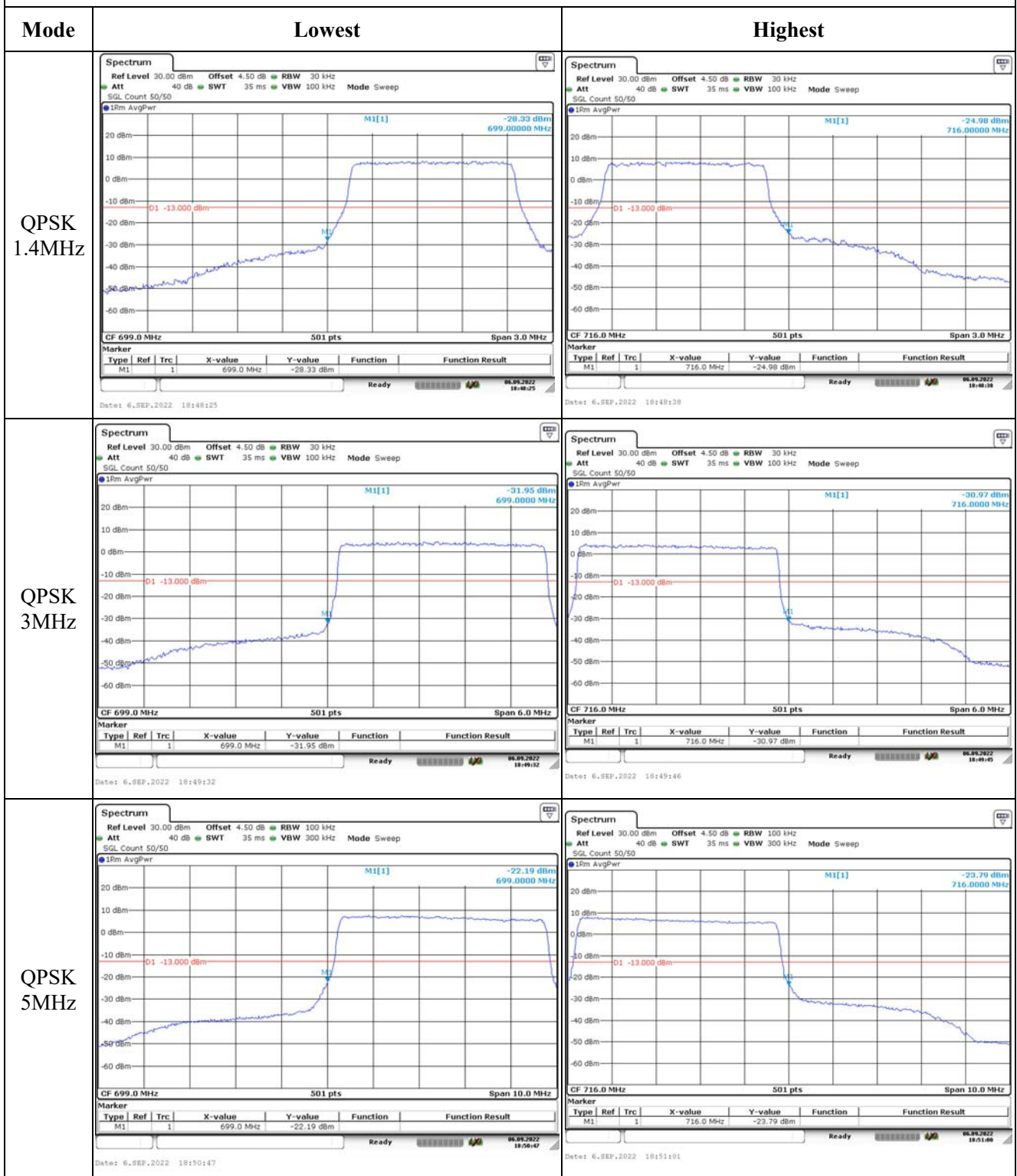
Middle



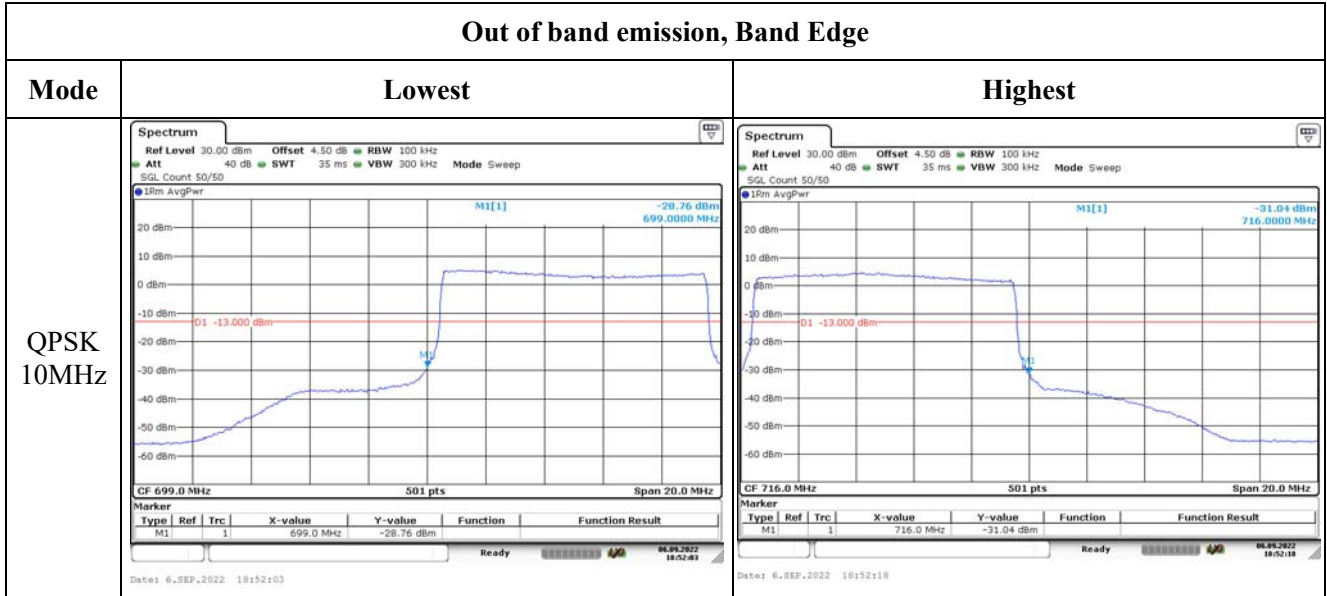
Highest



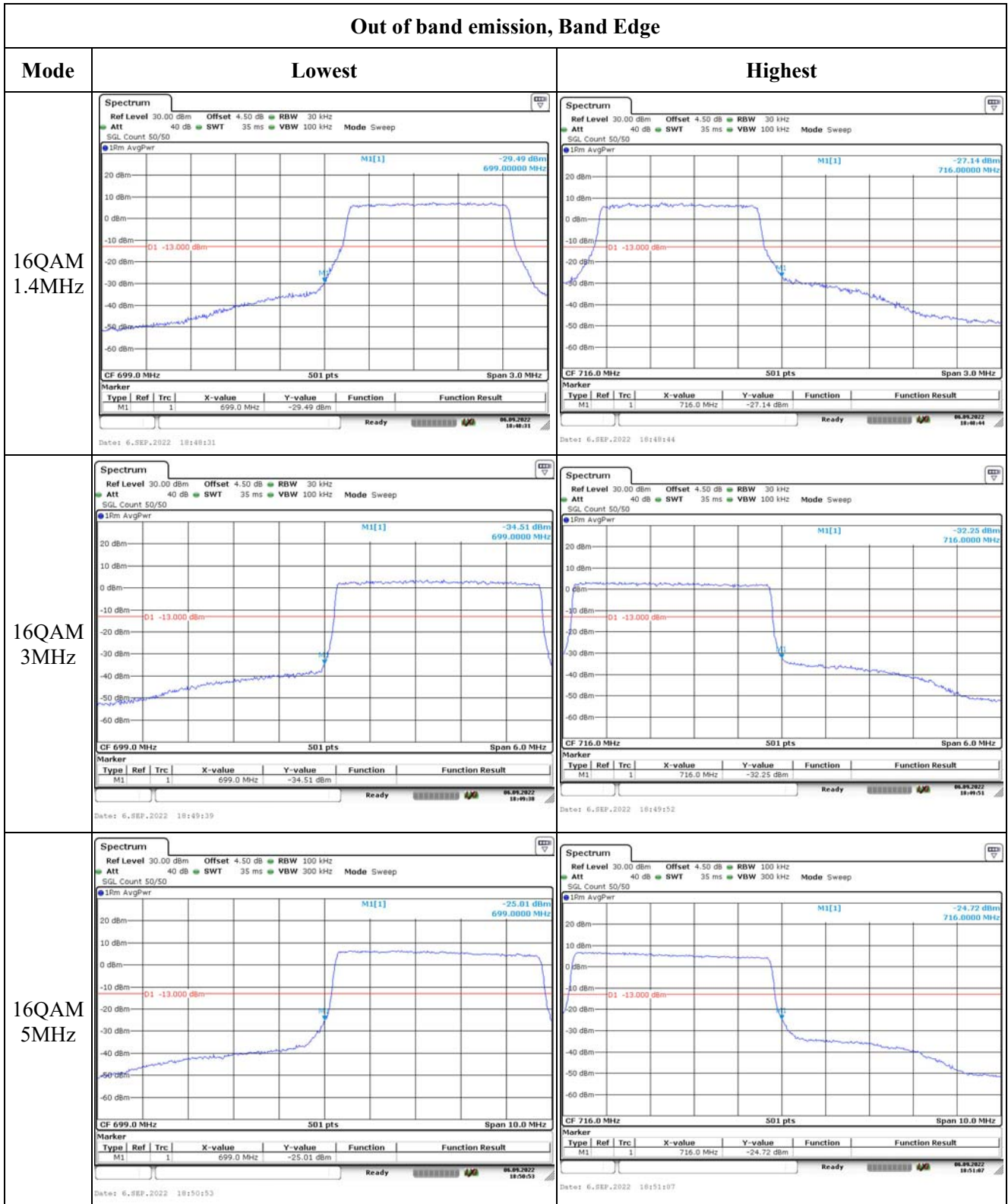
Out of band emission, Band Edge



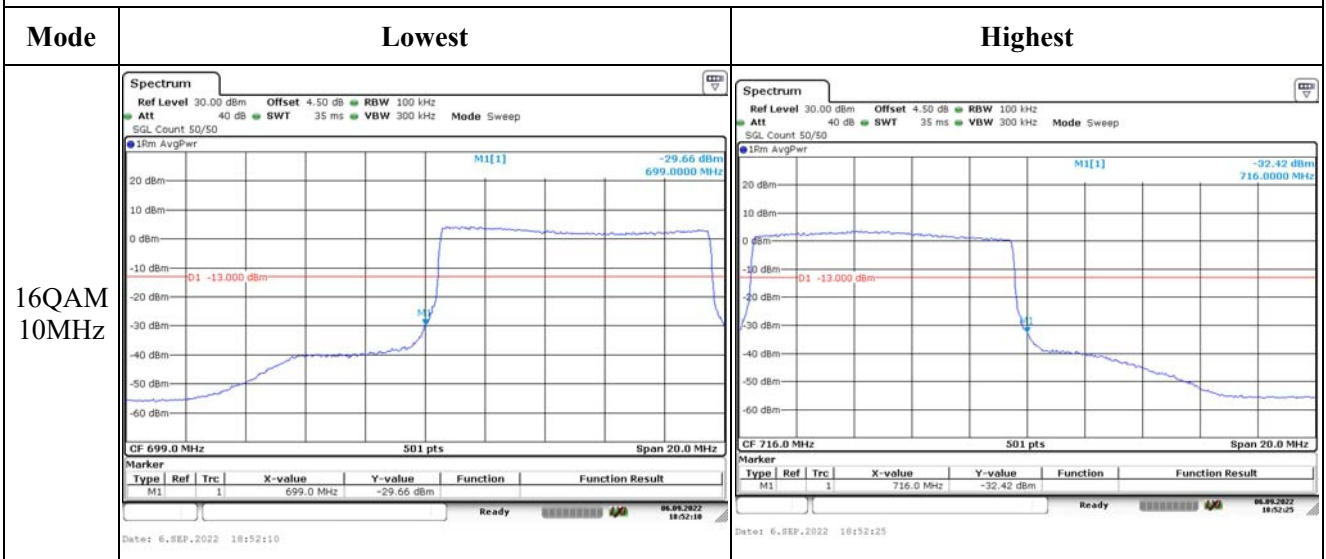
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



**4.11 Antenna Port Test Data and Results for LTE Band 17**

Serial Number:	CR22090006-RF-S1	Test Date:	2022-09-06~2022-09-07
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chan	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	25.1~25.6	Relative Humidity: (%)	52~58	ATM Pressure: (kPa)	100.1~100.8
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**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2022-07-15	2023-07-14
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100004	Each time	N/A
Unknown	Coaxial tee connector	Unknown	2204006	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022-07-15	2023-07-14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
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).

**EUT Information@LTE Band 17▲:**

Antenna Gain (dBi):	0.26	Antenna Gain (dBd):	-1.89	Cable Loss (dB):	0.1
Operation Voltage(V <sub>DC</sub> ):					
Lowest:	3.3	Normal:	3.87	Highest:	4.45

**Test Frequency For Each Mode:**

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	706.5	710	713.5
10MHz	709	710	711

**Test Data:****FCC§2.1046;§ 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	23.94	23.88	23.91	22.08	34.77
	RB1#13	24.07	23.97	24.03		
	RB1#24	23.99	23.92	23.89		
	RB15#0	23.01	22.93	23.1		
	RB15#10	23.05	22.95	22.95		
	RB25#0	23	22.91	22.95		
5MHz 16QAM	RB1#0	23.16	22.94	22.74	21.33	34.77
	RB1#13	23.32	23.08	22.89		
	RB1#24	23.23	22.97	22.77		
	RB15#0	22.03	22.01	22.15		
	RB15#10	22.04	22.03	22.03		
	RB25#0	22.09	22	22.06		
10MHz QPSK	RB1#0	24	23.94	23.97	22.21	34.77
	RB1#25	24.2	24.17	24.15		
	RB1#49	24.08	24.02	24.08		
	RB25#0	23.02	22.96	22.97		
	RB25#25	23.01	22.94	22.91		
	RB50#0	23.02	22.97	22.96		
10MHz 16QAM	RB1#0	23.5	23.06	22.99	21.69	34.77
	RB1#25	23.68	23.28	23.12		
	RB1#49	23.58	23.15	23.06		
	RB25#0	22.14	22.01	22.1		
	RB25#25	22.1	22	22.05		
	RB50#0	22.07	21.99	22.04		

Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)

**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	
10MHz QPSK	RB1#0	4.09	3.83	3.91	13
	RB50#0	4.72	4.72	4.64	13
10MHz 16QAM	RB1#0	5.36	4.72	5.01	13
	RB50#0	5.8	5.71	5.71	13
<b>Result:</b>					<b>Pass</b>



<b>FCC §2.1049, §27.53: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
5MHz QPSK	4.531	4.491	4.551	5.18	5.16	5.2
5MHz 16QAM	4.551	4.531	4.531	5.2	5.16	5.18
10MHz QPSK	8.942	8.942	8.942	9.8	9.88	9.8
10MHz 16QAM	8.942	8.942	8.942	9.8	9.8	9.76

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

<b>FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.</b>

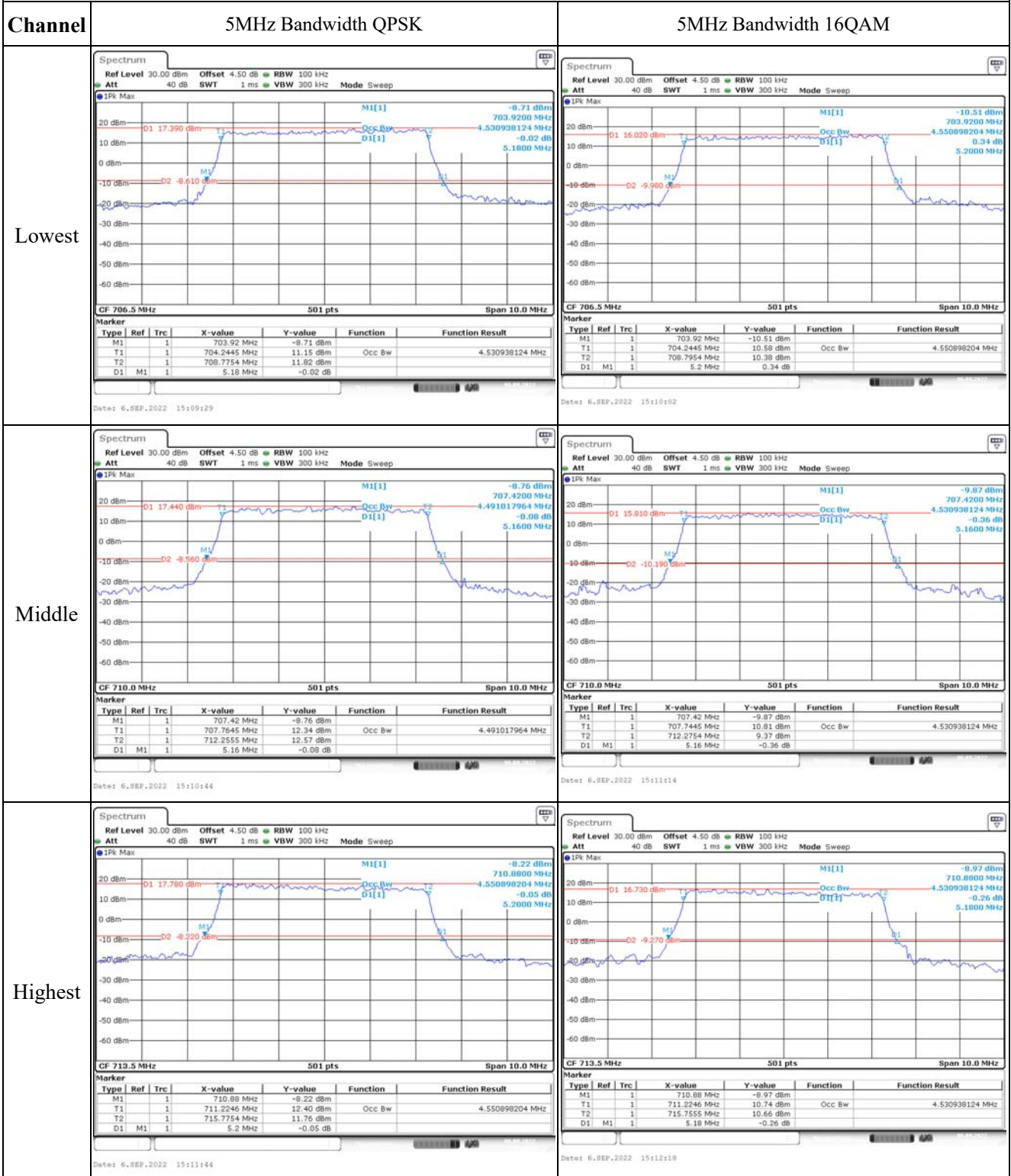
<b>FCC §2.1051, §27.53:Out of band emission, Band Edge</b>	
<b>Result:</b>	<b>Pass, Please refer to the test plots of Out of band emission, Band Edge.</b>

<b>FCC §2.1055, §27.54: Frequency Stability</b>						
Test Mode:	10M 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	704.573	704.00	715.481	716.00
	-20	3.87	704.529	704.00	715.413	716.00
	-10	3.87	704.558	704.00	715.485	716.00
	0	3.87	704.542	704.00	715.479	716.00
	10	3.87	704.505	704.00	715.433	716.00
	20	3.87	704.529	704.00	715.471	716.00
	30	3.87	704.482	704.00	715.457	716.00
	40	3.87	704.494	704.00	715.465	716.00
Frequency Stability vs. Voltage	20	3.3	704.535	704.00	715.402	716.00
	20	4.45	704.567	704.00	715.432	716.00
	<b>Result:</b>					<b>Pass</b>

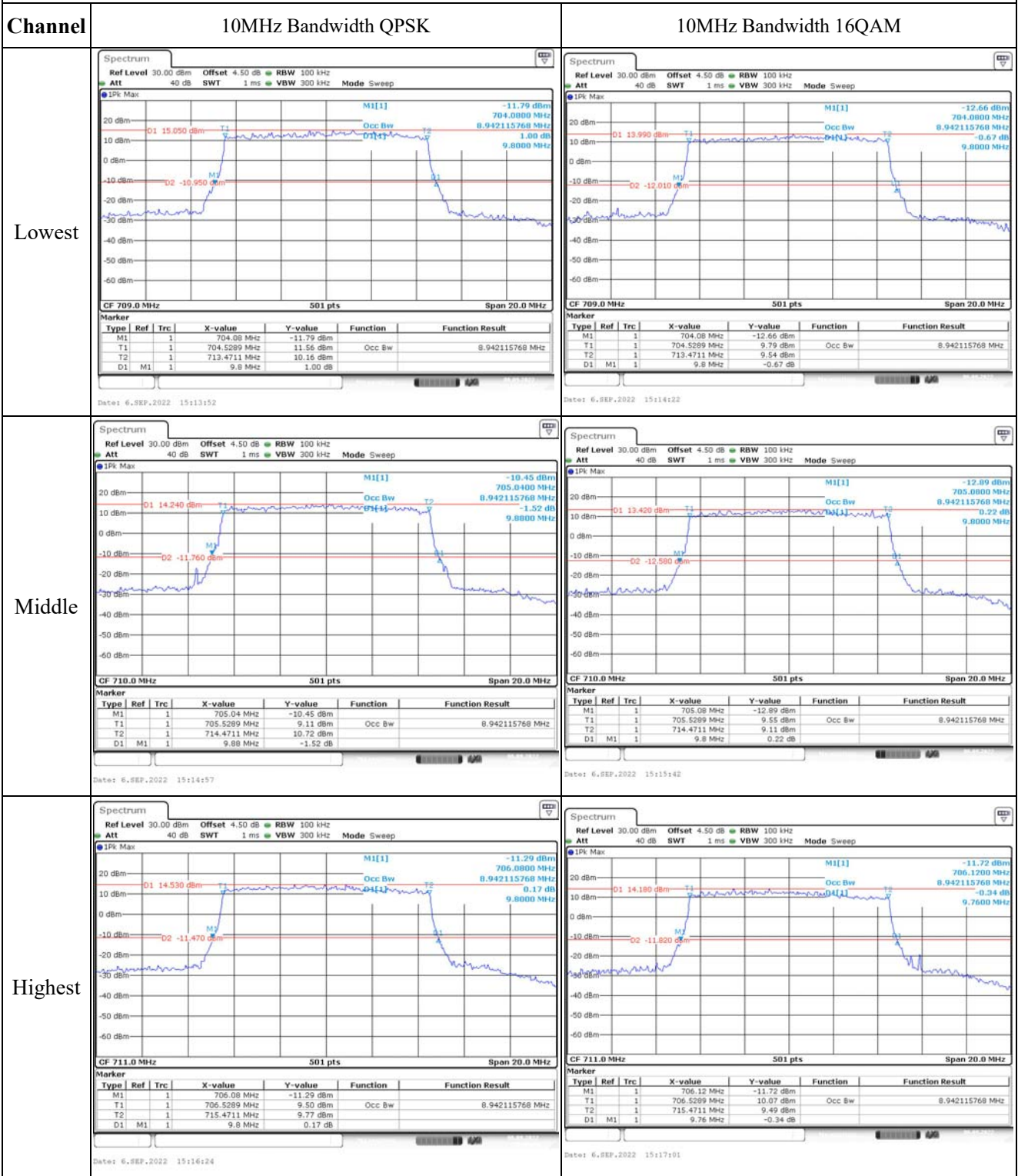
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	704.491	704.00	715.468	716.00
	-20	3.87	704.535	704.00	715.402	716.00
	-10	3.87	704.554	704.00	715.429	716.00
	0	3.87	704.529	704.00	715.422	716.00
	10	3.87	704.502	704.00	715.429	716.00
	20	3.87	704.529	704.00	715.471	716.00
	30	3.87	704.558	704.00	715.470	716.00
	40	3.87	704.513	704.00	715.429	716.00
	50	3.87	704.545	704.00	715.484	716.00
Frequency Stability vs. Voltage	20	3.3	704.517	704.00	715.481	716.00
	20	4.45	704.544	704.00	715.445	716.00
					<b>Result:</b>	<b>Pass</b>

Test Plots:

Occupied Bandwidth



Occupied Bandwidth

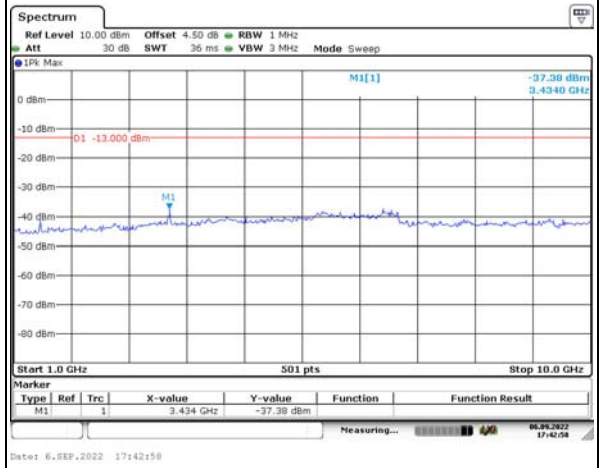
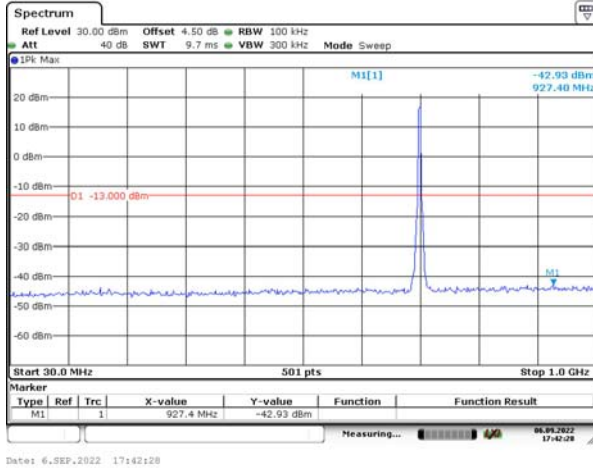


### Spurious Emissions at Antenna Terminal

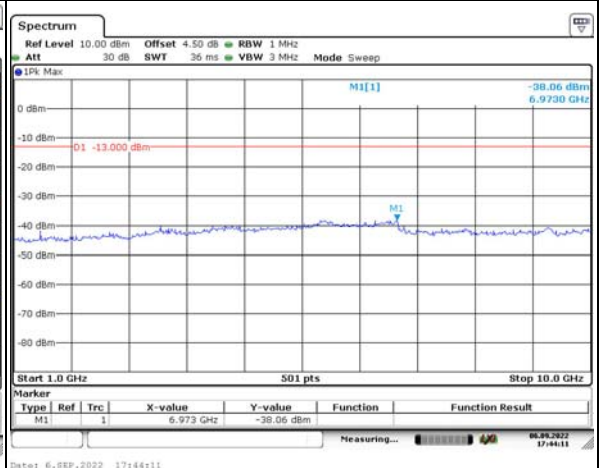
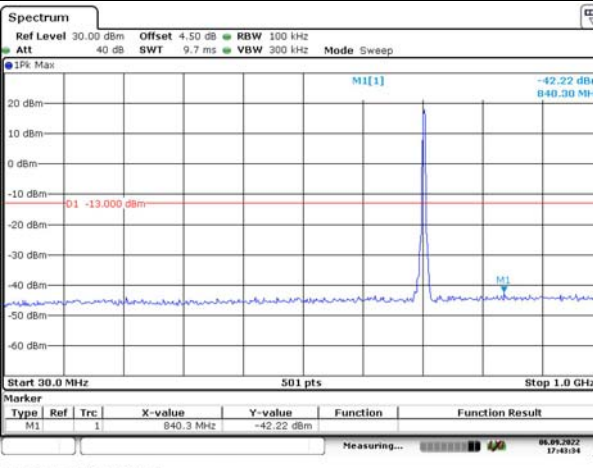
Channel

5MHz Bandwidth QPSK

Lowest



Middle



Highest

