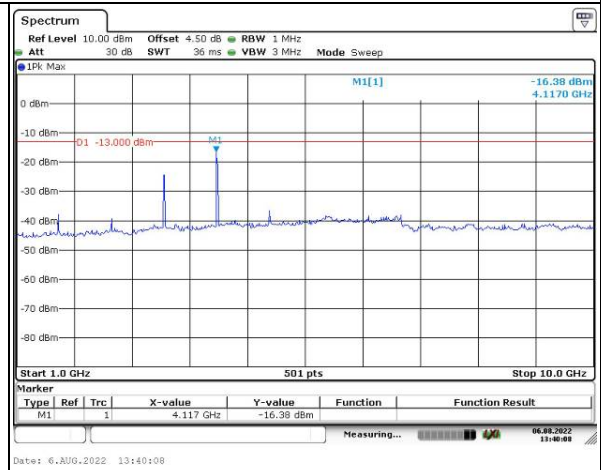
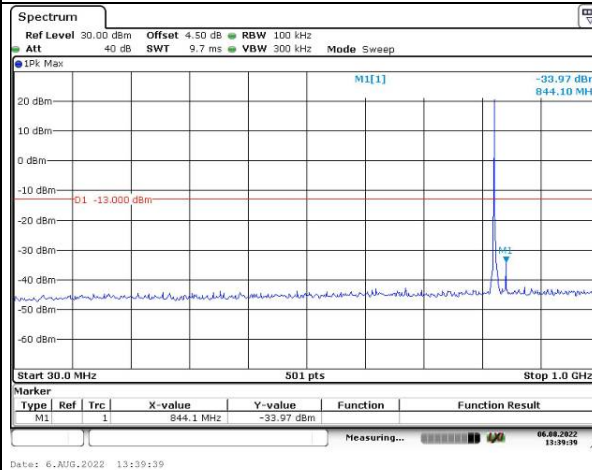


Spurious Emissions at Antenna Terminal

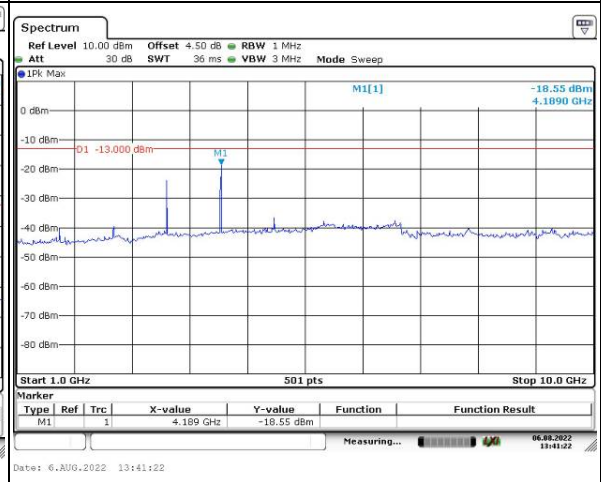
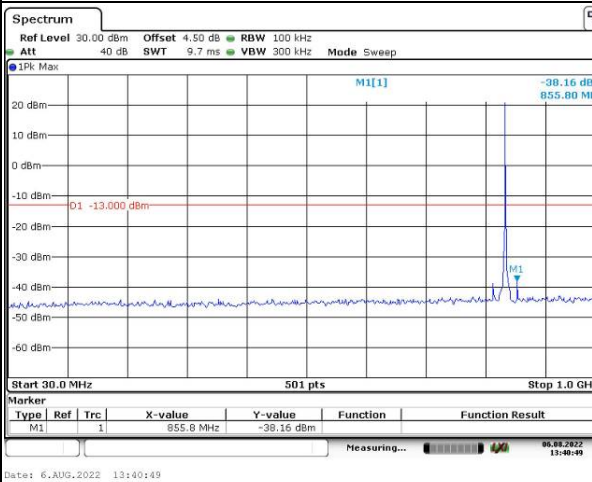
Channel

1.4MHz Bandwidth QPSK

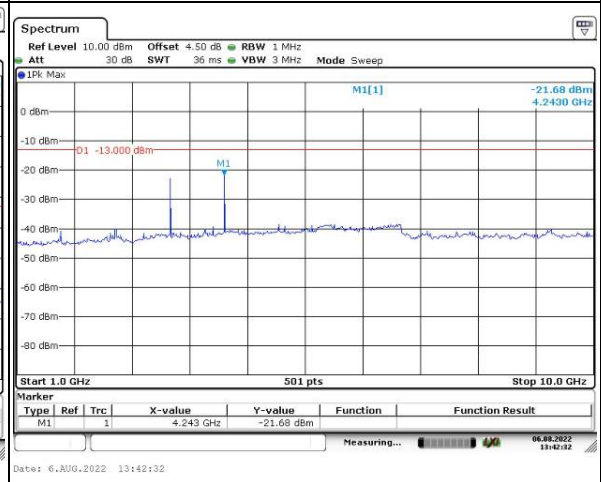
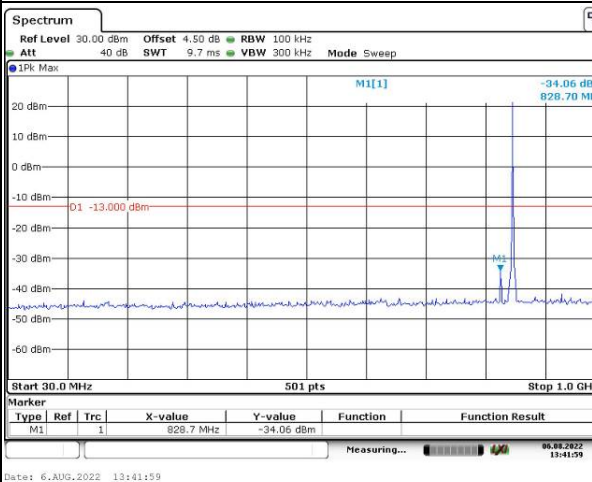
Lowest



Middle



Highest

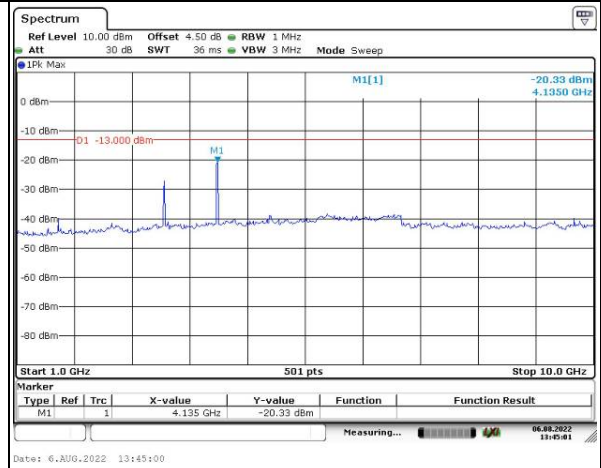
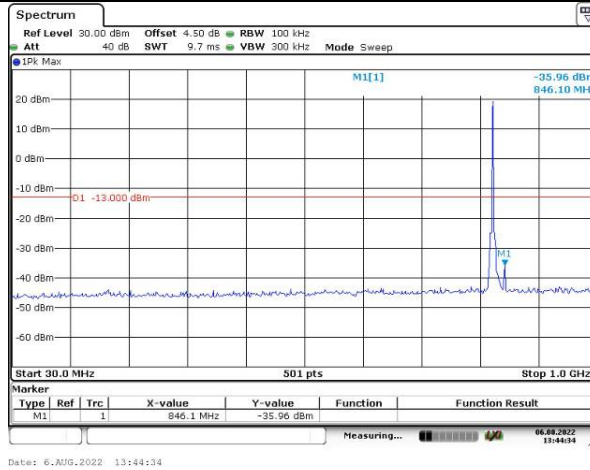


Spurious Emissions at Antenna Terminal

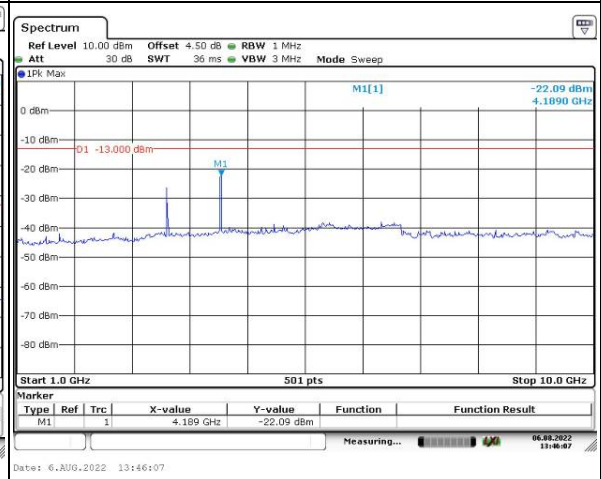
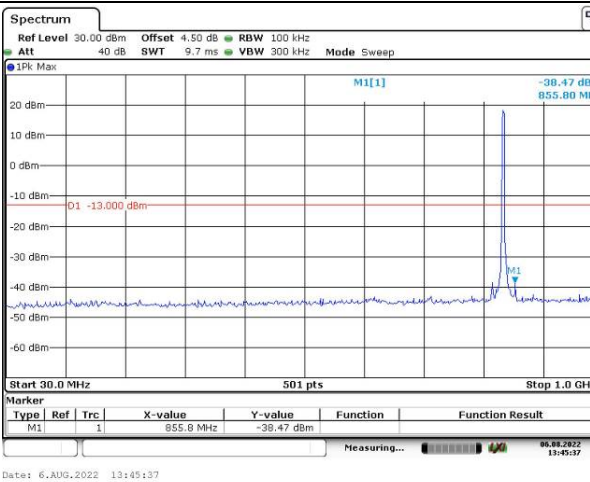
Channel

3MHz Bandwidth QPSK

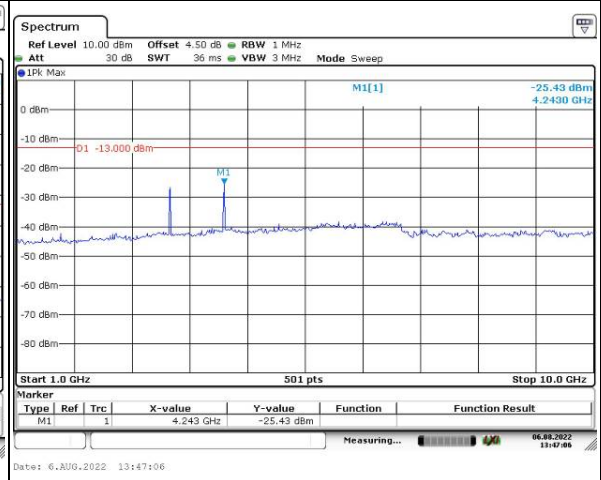
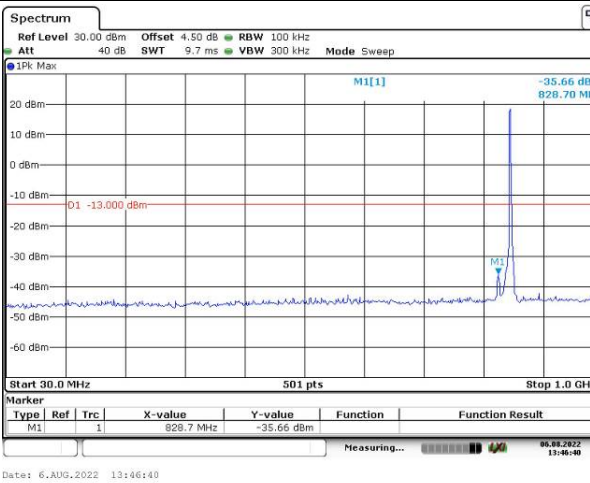
Lowest



Middle



Highest

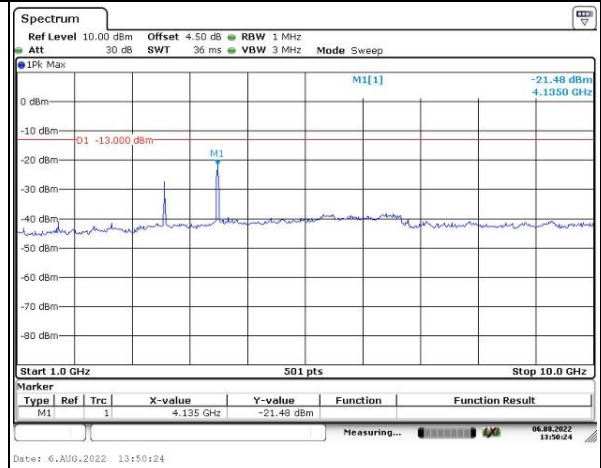
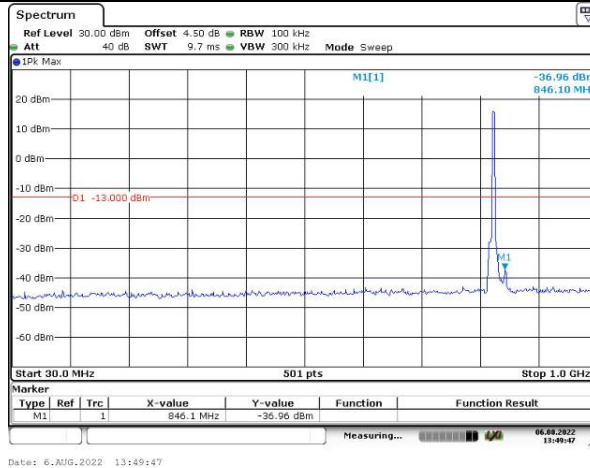


Spurious Emissions at Antenna Terminal

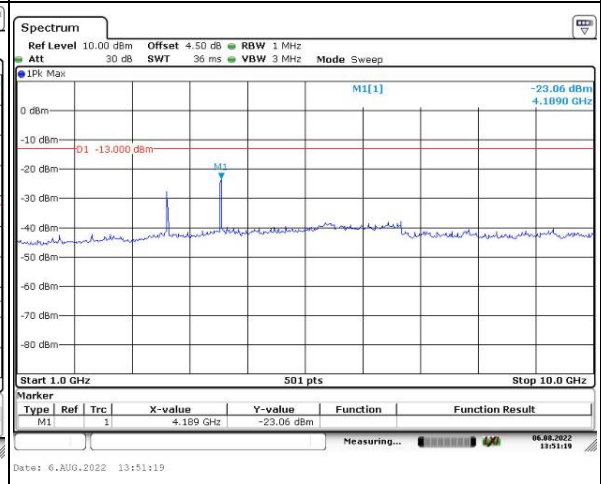
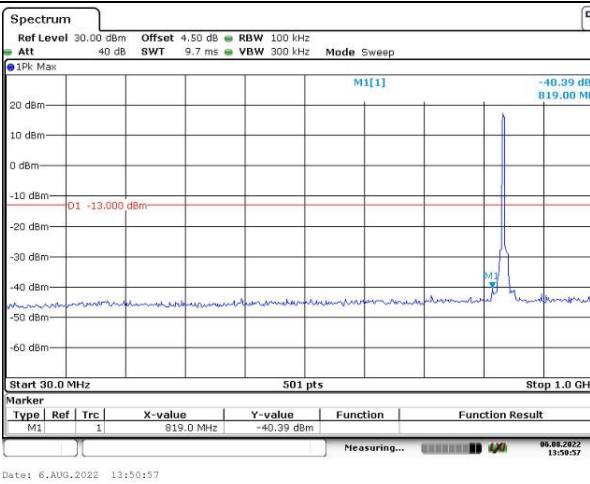
Channel

5MHz Bandwidth QPSK

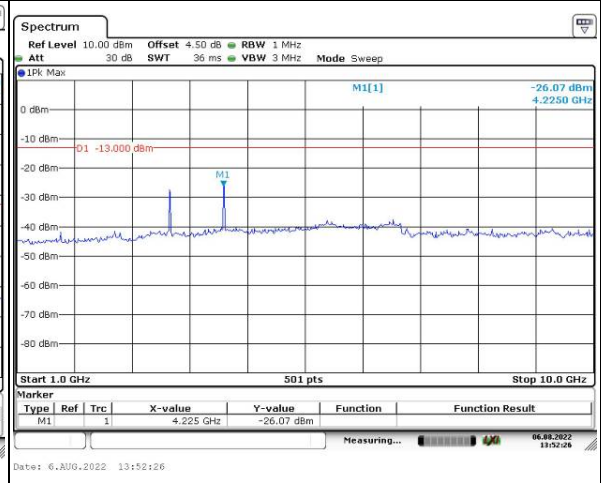
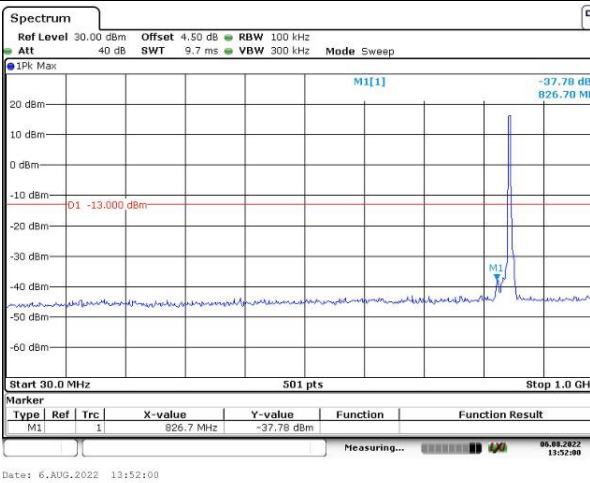
Lowest



Middle



Highest

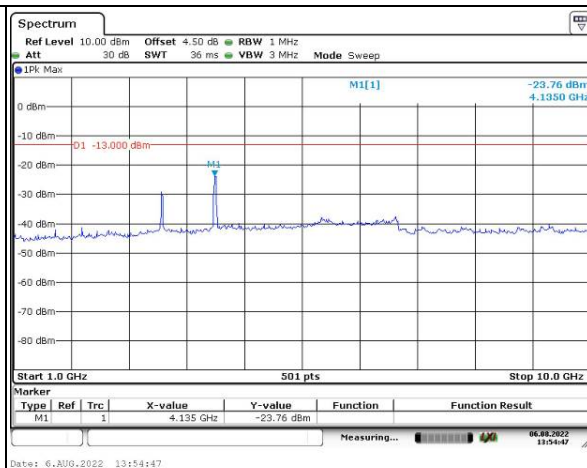
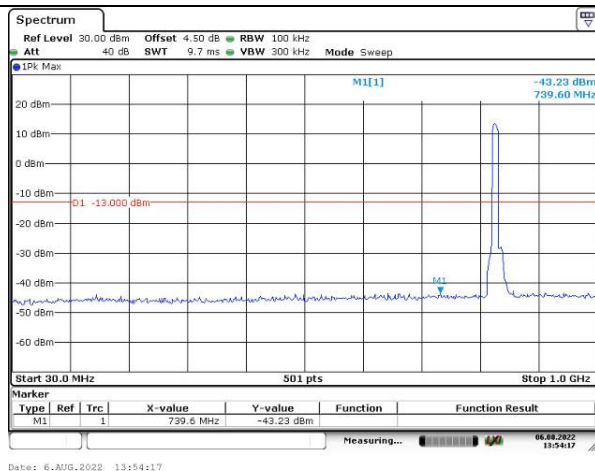


Spurious Emissions at Antenna Terminal

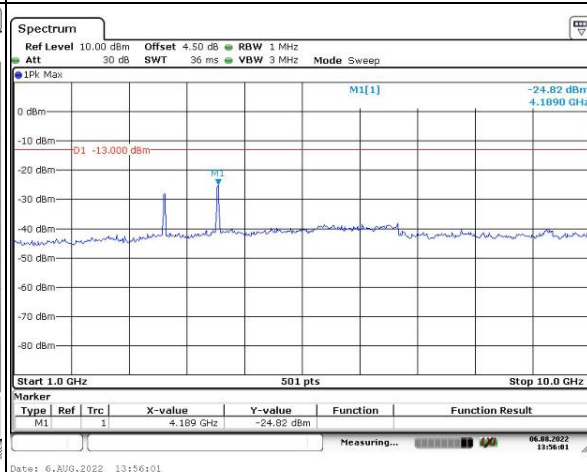
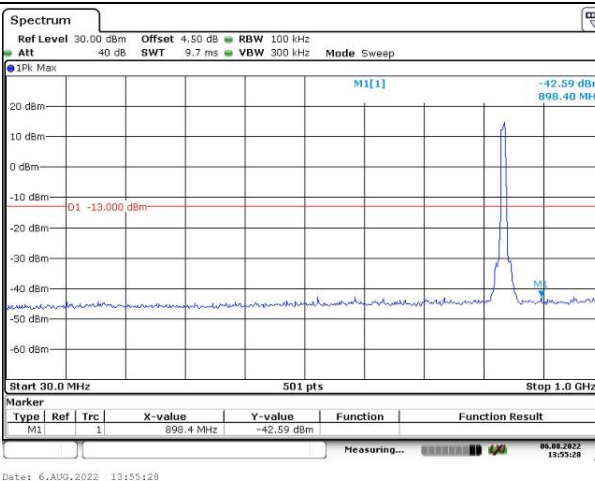
Channel

10MHz Bandwidth QPSK

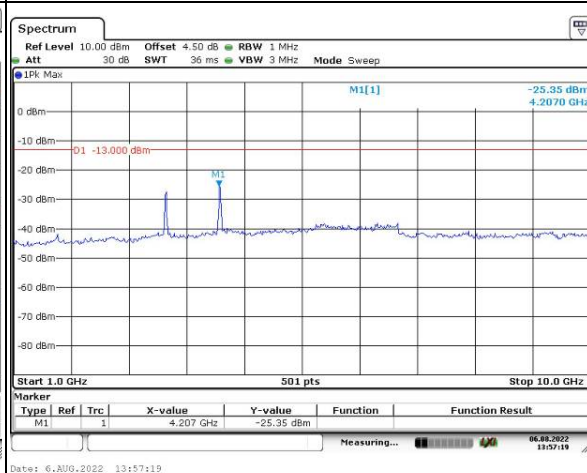
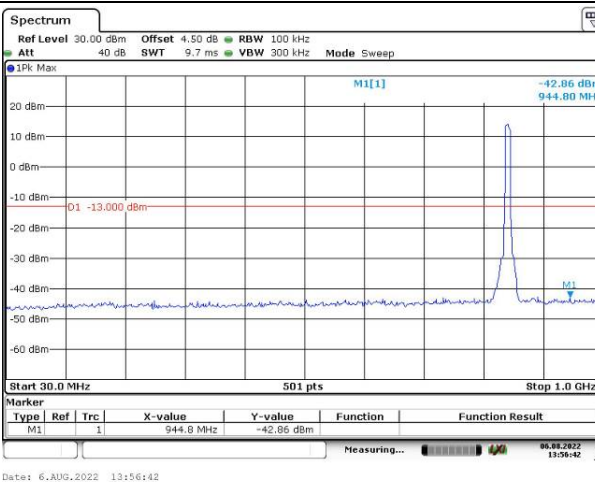
Lowest



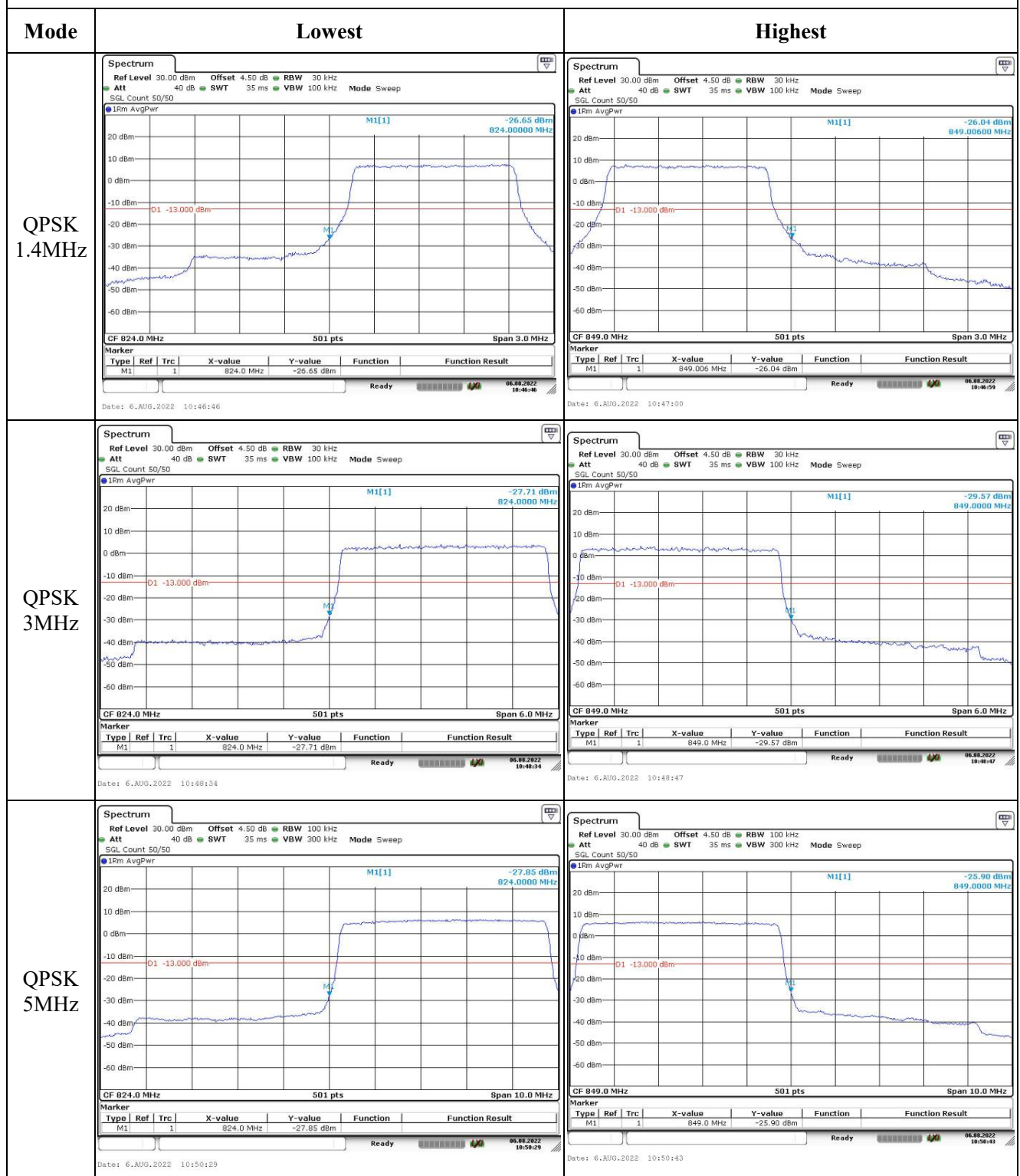
Middle



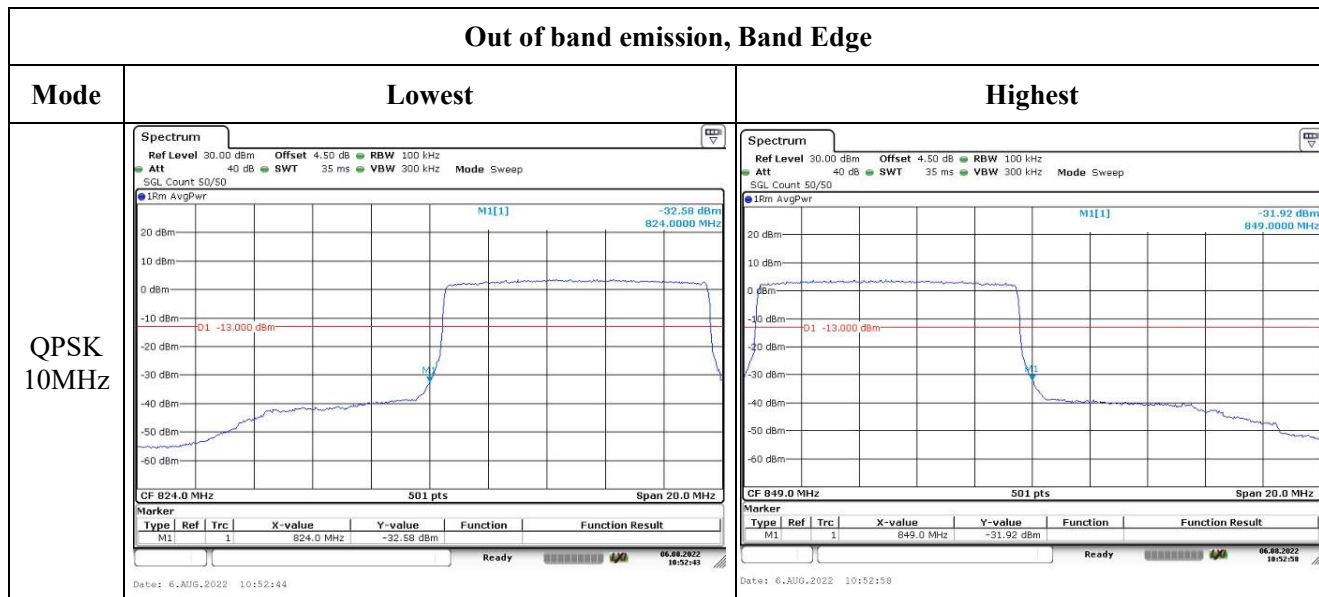
Highest



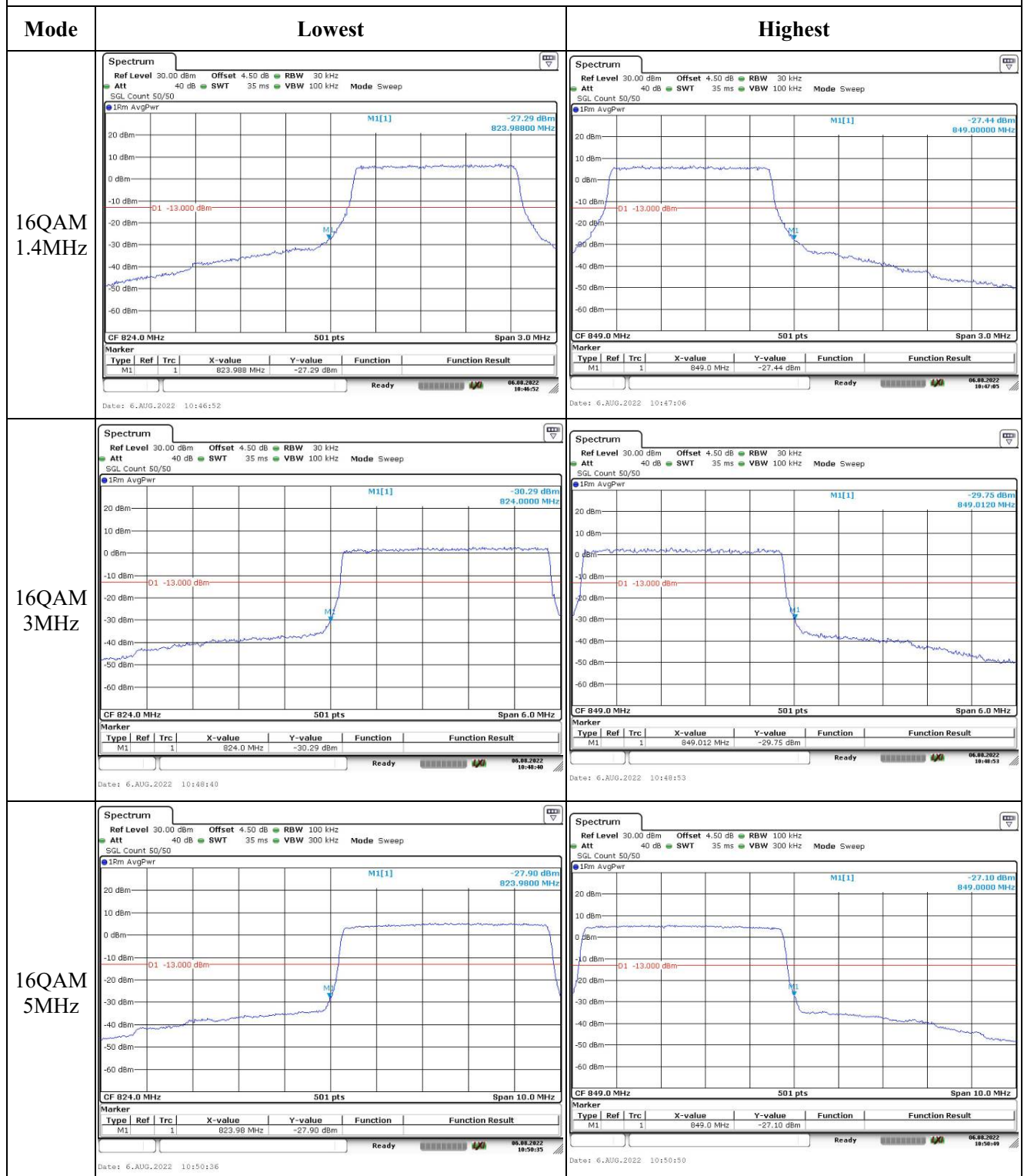
Out of band emission, Band Edge



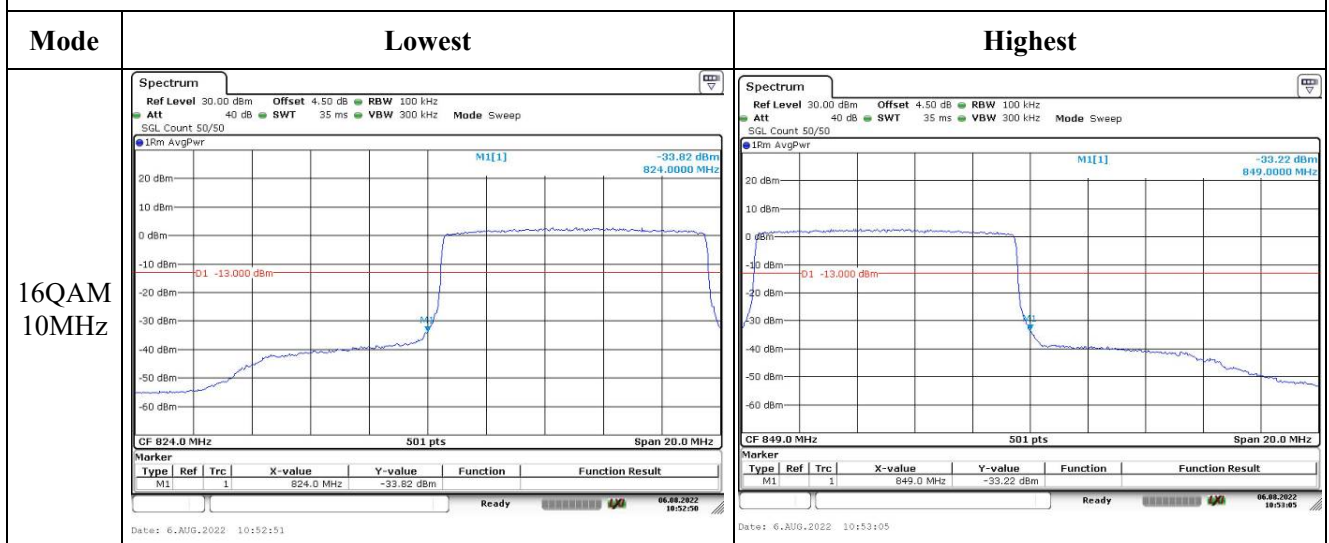
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.9 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	CR22010034-RF-S1	Test Date:	2022-08-06
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.2	Relative Humidity: (%)	69	ATM Pressure: (kPa)	99.9
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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	2204004	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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).

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	23.39	23.53	23.66	25.22	33
	RB1#13	23.49	23.58	23.9		
	RB1#24	23.44	23.42	23.62		
	RB15#0	22.37	22.63	22.87		
	RB15#10	22.42	22.61	22.87		
	RB25#0	22.41	22.67	22.94		
5MHz 16QAM	RB1#0	21.97	22.14	22.9	24.53	33
	RB1#13	22.32	22.18	23.21		
	RB1#24	22.12	21.98	23.03		
	RB15#0	21.32	21.69	21.82		
	RB15#10	21.29	21.56	21.75		
	RB25#0	21.59	21.66	21.68		
10MHz QPSK	RB1#0	23.33	23.54	23.81	25.39	33
	RB1#25	23.74	23.8	24.07		
	RB1#49	23.42	23.68	23.47		
	RB25#0	22.44	22.74	22.92		
	RB25#25	22.54	22.67	22.95		
	RB50#0	22.51	22.7	22.91		
10MHz 16QAM	RB1#0	22.64	23.03	22.9	24.97	33
	RB1#25	23.09	23.65	22.92		
	RB1#49	22.36	23.35	22.47		
	RB25#0	21.47	21.76	21.87		
	RB25#25	21.68	21.69	21.85		
	RB50#0	21.53	21.63	21.87		
15MHz QPSK	RB1#0	23.32	23.7	23.64	25.02	33
	RB1#38	23.43	23.48	23.69		
	RB1#74	23.62	23.59	23.34		
	RB36#0	22.52	22.68	22.84		
	RB36#39	22.57	22.66	22.94		
	RB75#0	22.46	22.61	22.79		
15MHz 16QAM	RB1#0	22.6	22.66	23.15	24.86	33
	RB1#38	23.54	22.52	23.1		
	RB1#74	23.2	22.28	22.99		
	RB36#0	21.5	21.7	21.71		
	RB36#39	21.58	21.66	21.93		
	RB75#0	21.61	21.64	21.75		

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	4.17	4.06	3.94	13
	RB100#0	4.67	4.61	4.35	13
20MHz 16QAM	RB1#0	5.1	4.81	4.84	13
	RB100#0	5.65	5.68	5.65	13
				Result:	Pass

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	5.04	5.00	5.04
5MHz 16QAM	4.531	4.531	4.511	5.06	5.06	5.00
10MHz QPSK	8.942	8.942	8.942	9.76	9.84	9.72
10MHz 16QAM	8.942	8.942	8.942	9.8	9.68	9.72
15MHz QPSK	13.473	13.413	13.413	14.94	14.76	14.82
15MHz 16QAM	13.473	13.473	13.473	14.82	14.82	14.82
20MHz QPSK	17.964	17.884	17.884	19.36	19.44	19.6
20MHz 16QAM	17.964	17.884	17.884	19.44	19.52	19.44

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

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

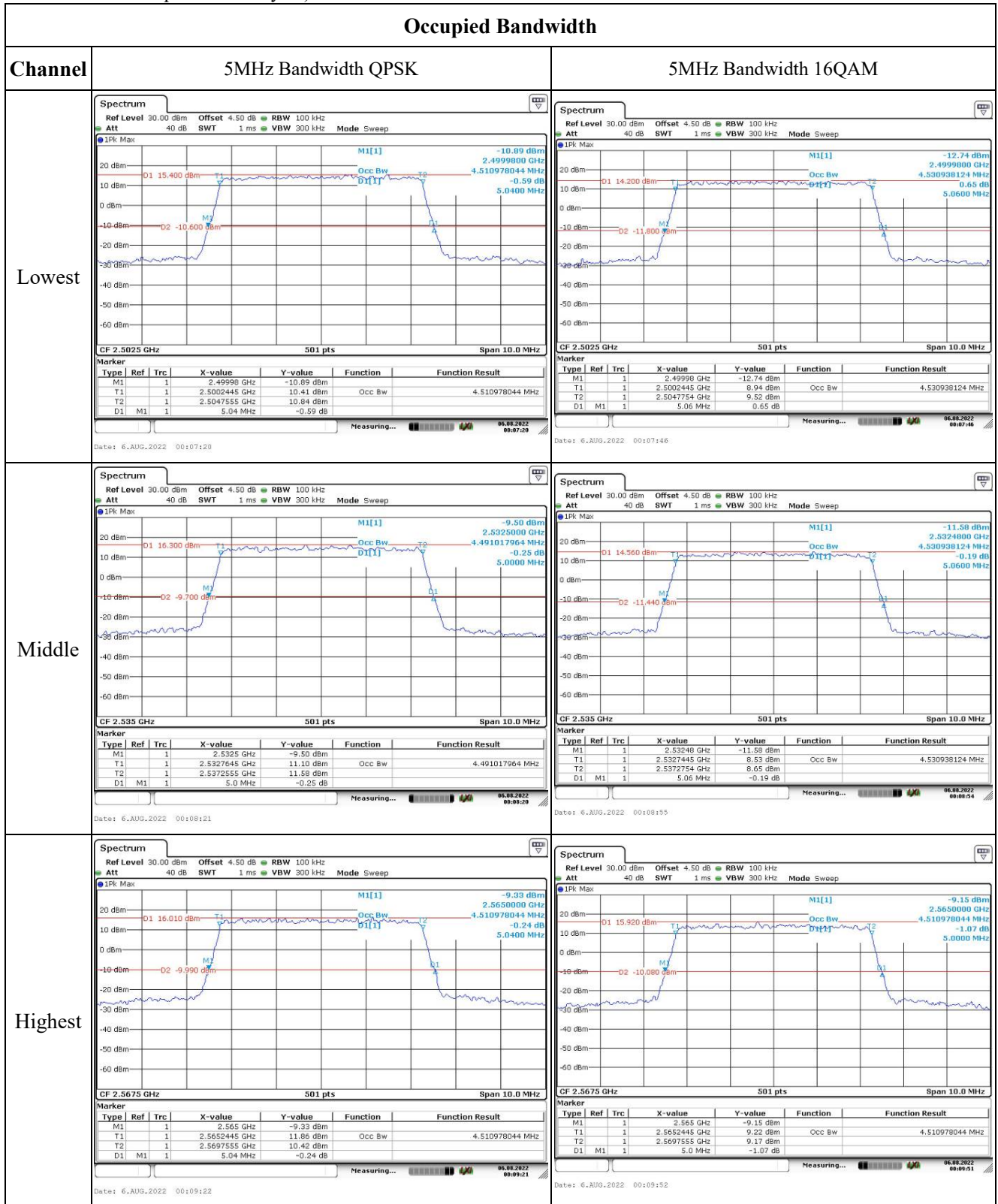
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §27.54: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	2500.958	2500.00	2568.970	2570
	-20	3.8	2500.965	2500.00	2568.955	2570
	-10	3.8	2501.032	2500.00	2569.050	2570
	0	3.8	2501.026	2500.00	2569.035	2570
	10	3.8	2501.011	2500.00	2568.971	2570
	20	3.8	2501.058	2500.00	2568.942	2570
	30	3.8	2500.986	2500.00	2569.016	2570
	40	3.8	2501.014	2500.00	2568.979	2570
	50	3.8	2501.043	2500.00	2568.956	2570
Frequency Stability vs. Voltage	20	3.5	2501.032	2500.00	2568.991	2570
	20	4.35	2501.014	2500.00	2568.956	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	3.8	2501.026	2500.00	2569.020	2570
	-20	3.8	2500.969	2500.00	2568.968	2570
	-10	3.8	2501.043	2500.00	2568.959	2570
	0	3.8	2501.005	2500.00	2569.004	2570
	10	3.8	2500.954	2500.00	2569.041	2570
	20	3.8	2501.058	2500.00	2568.942	2570
	30	3.8	2501.049	2500.00	2568.958	2570
	40	3.8	2500.953	2500.00	2568.957	2570
	50	3.8	2500.995	2500.00	2568.980	2570
Frequency Stability vs. Voltage	20	3.5	2501.033	2500.00	2569.015	2570
	20	4.35	2501.043	2500.00	2569.004	2570
Result:					Pass	

Test Plots(Note: The 4.5dB is the Insertion loss of the RF cable, Coaxial tee connector and DC Block, which was offset into the Spectrum Analyzer):



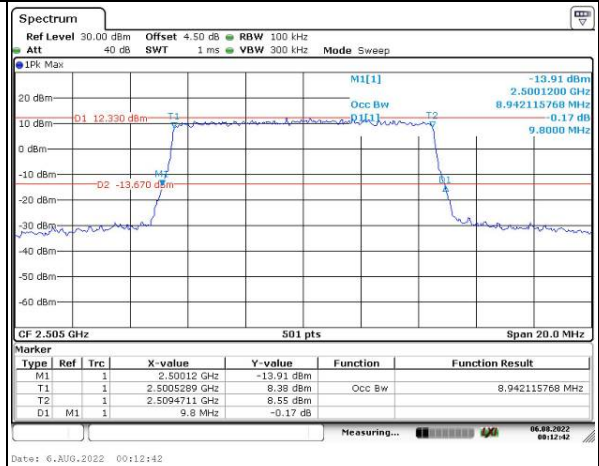
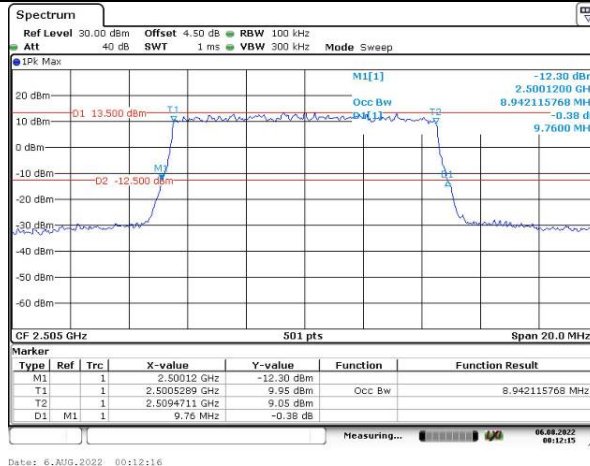
Occupied Bandwidth

Channel

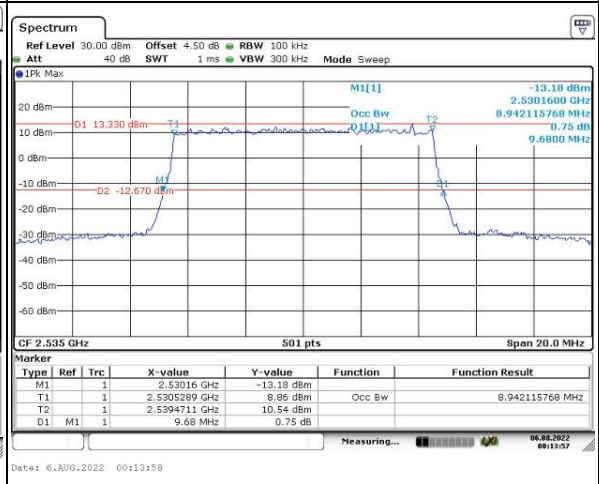
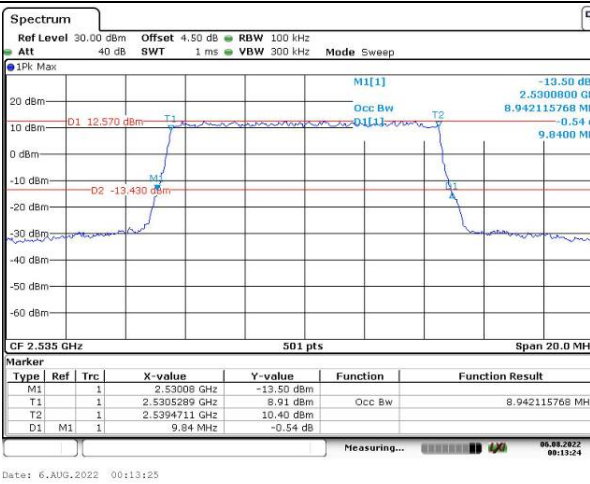
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

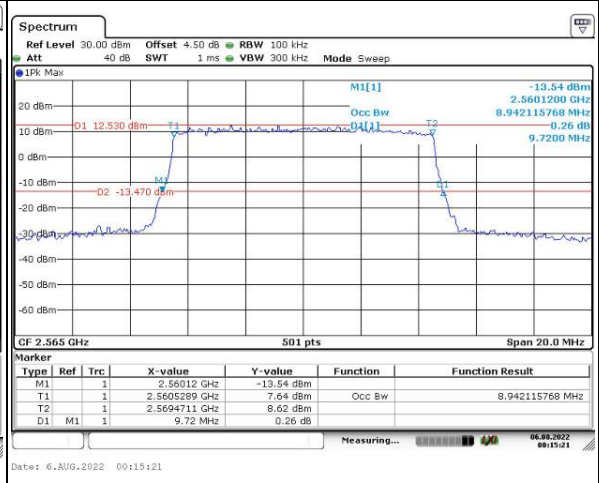
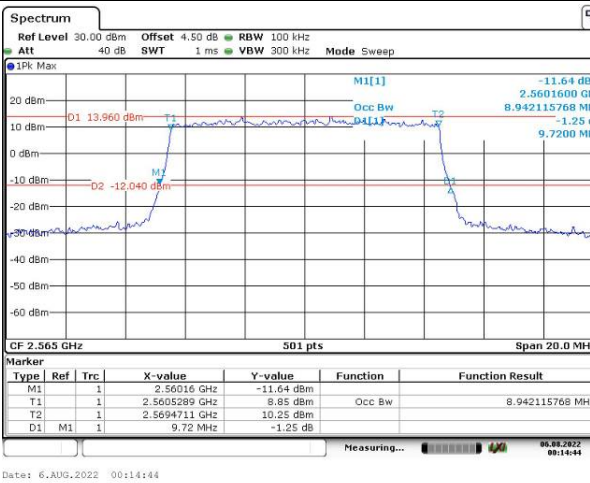
Lowest



Middle



Highest



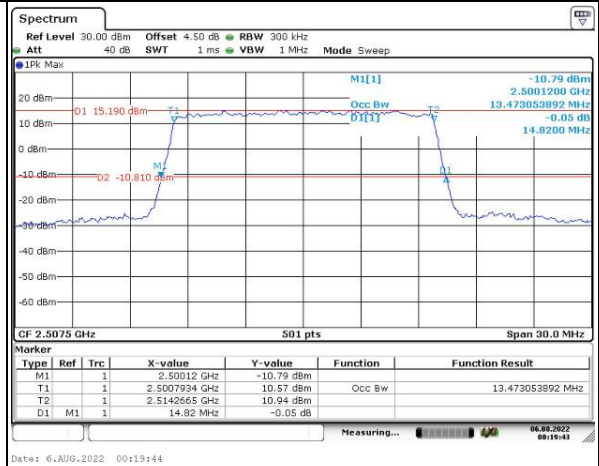
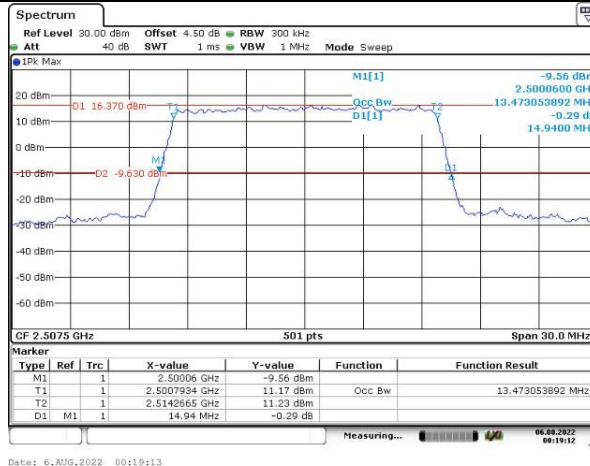
Occupied Bandwidth

Channel

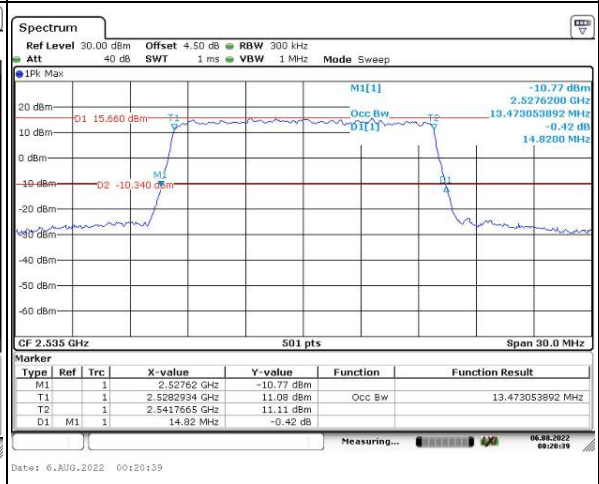
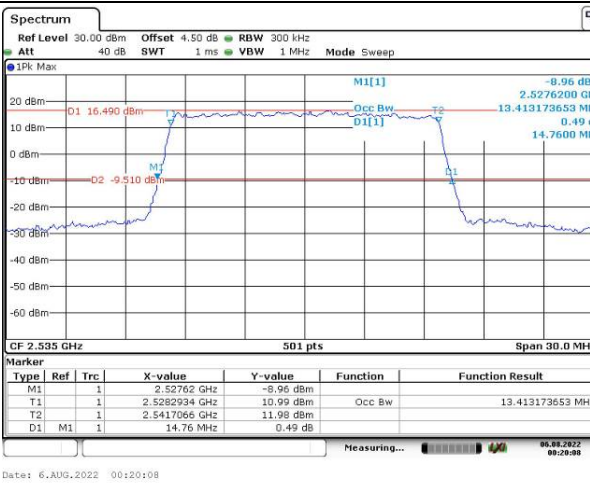
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

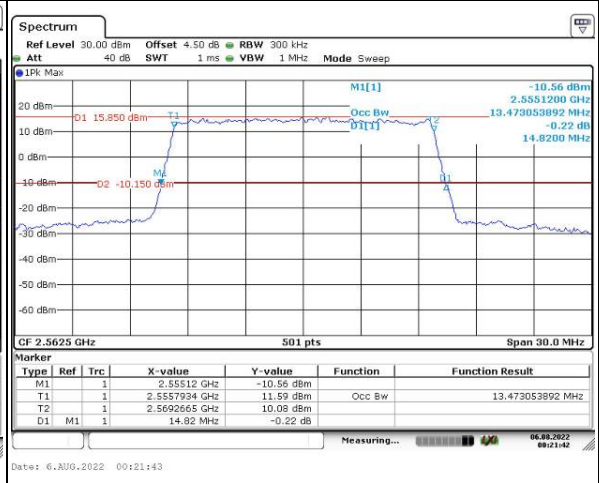
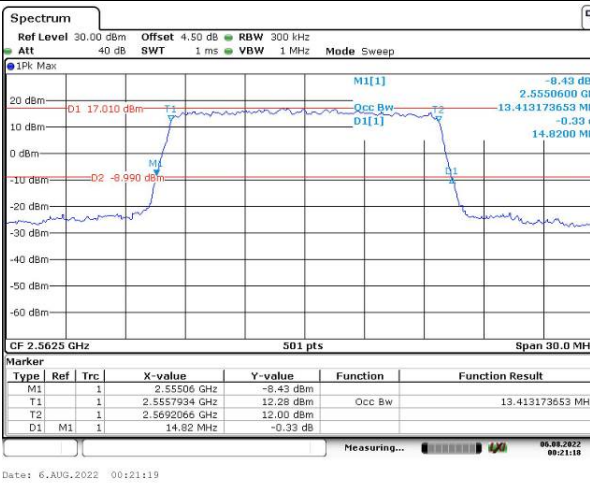
Lowest



Middle



Highest



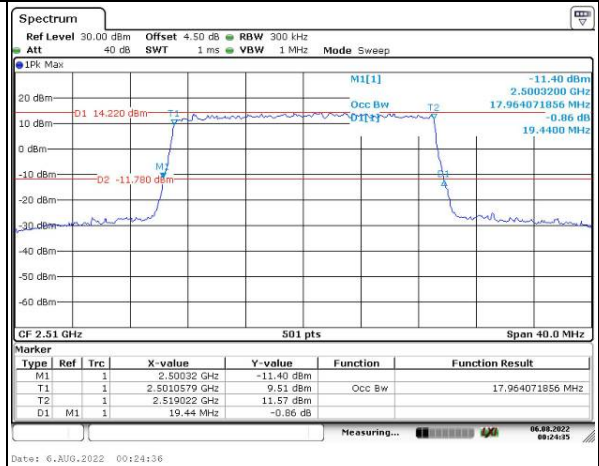
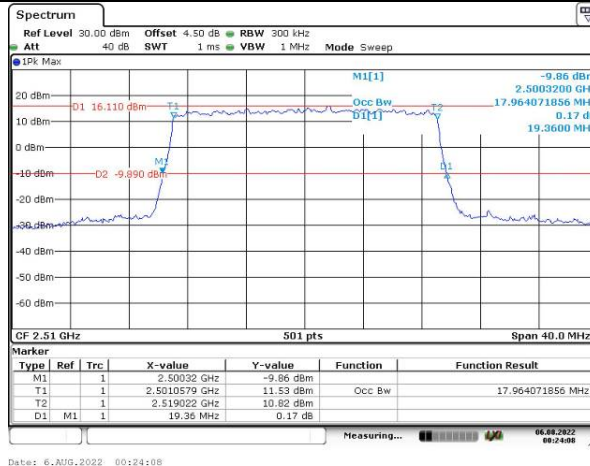
Occupied Bandwidth

Channel

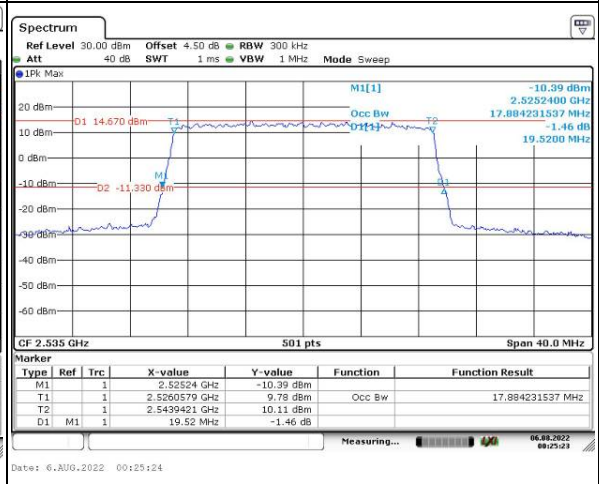
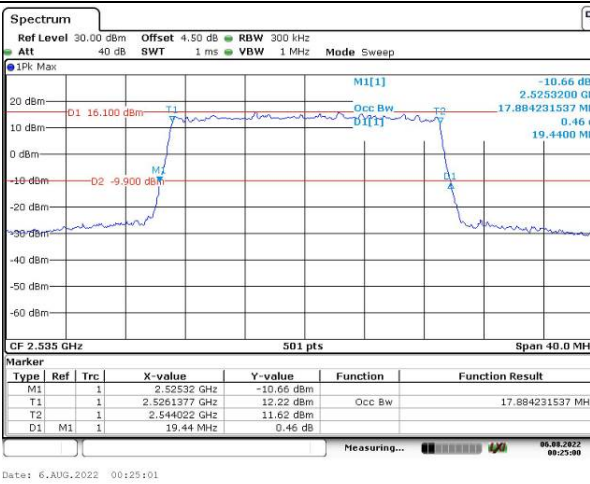
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

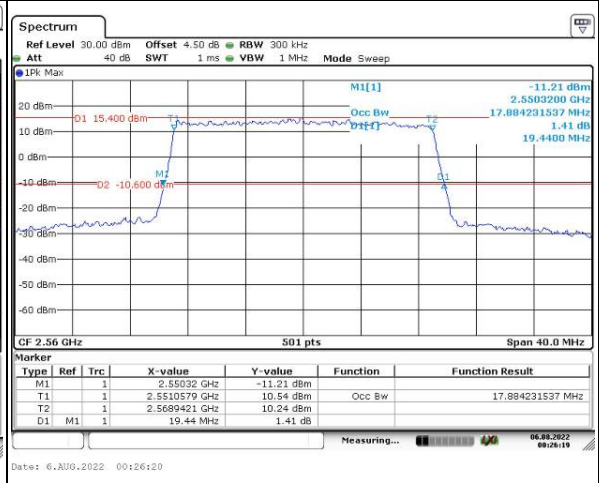
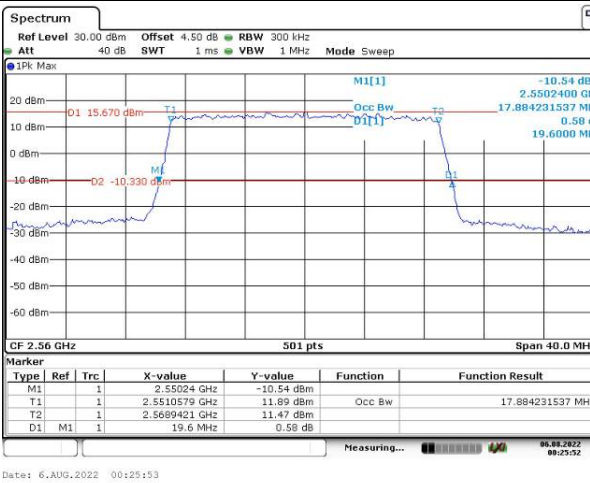
Lowest



Middle



Highest

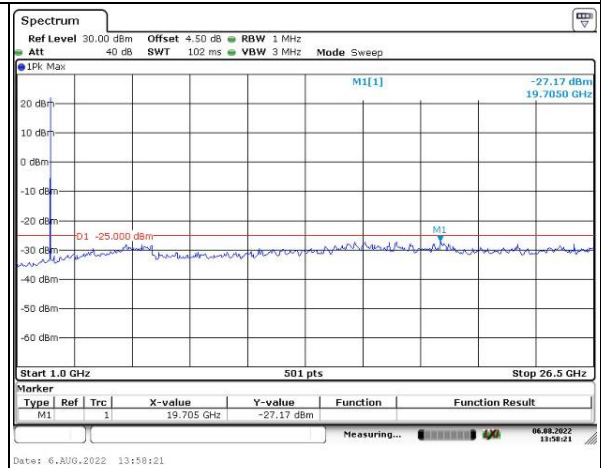
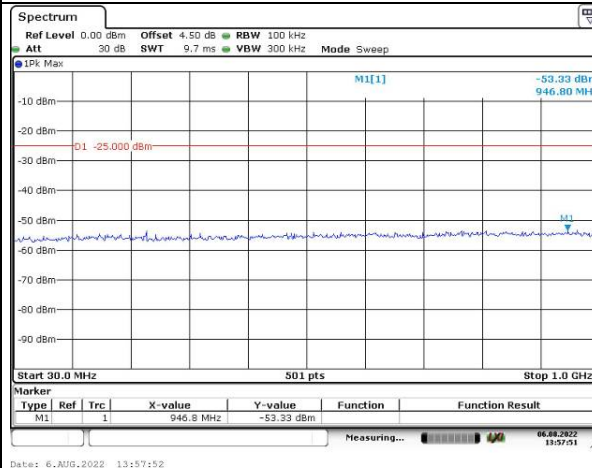


Spurious Emissions at Antenna Terminal

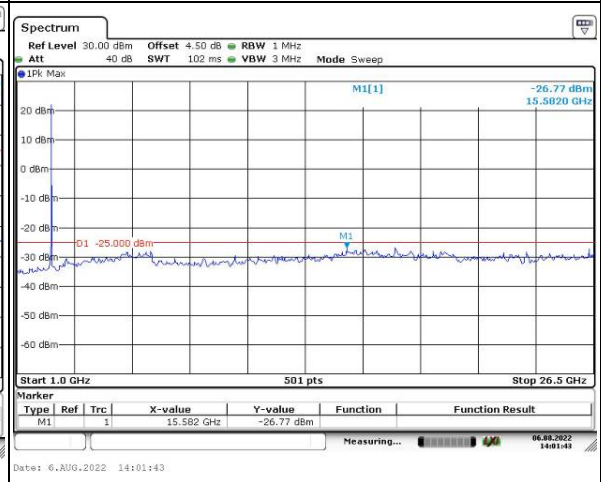
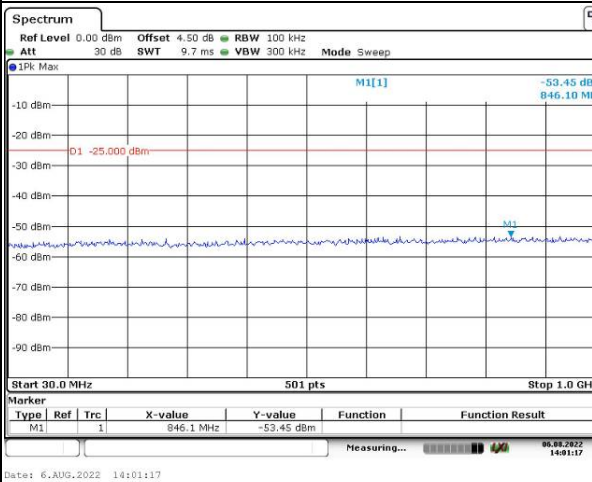
Channel

5MHz Bandwidth QPSK

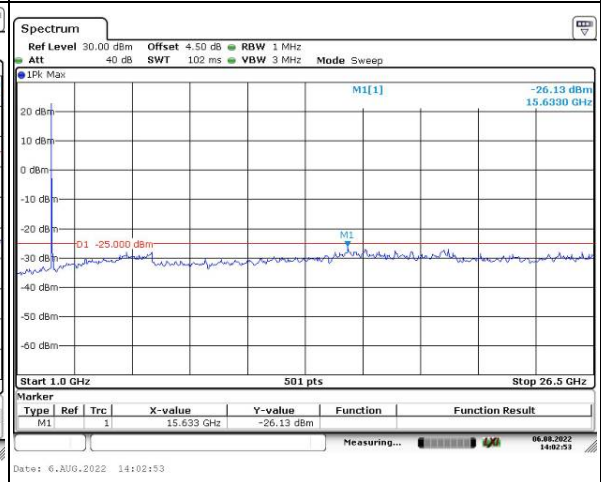
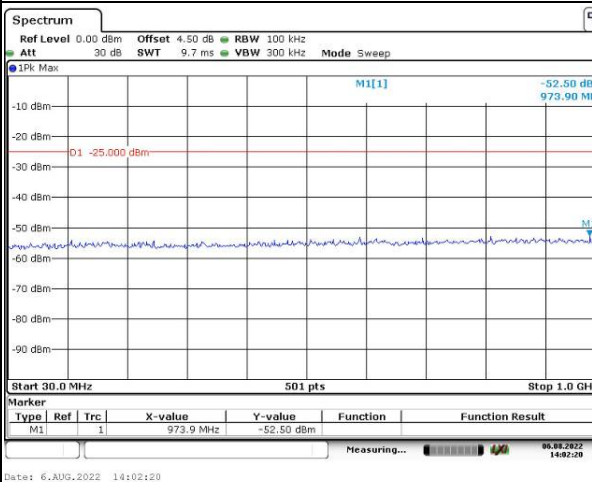
Lowest



Middle



Highest

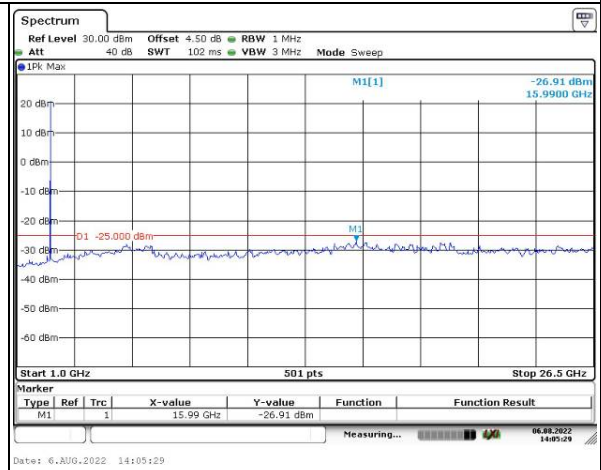
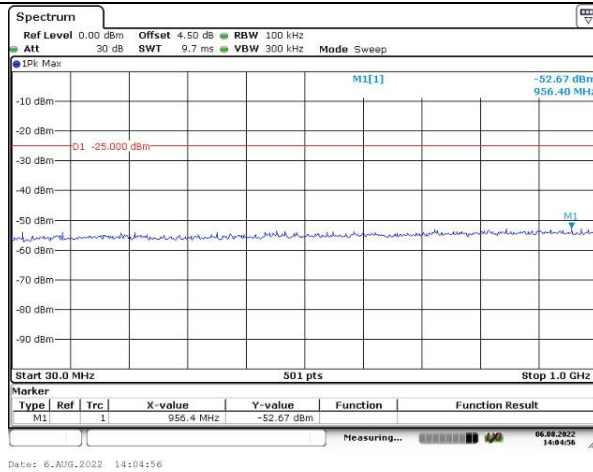


Spurious Emissions at Antenna Terminal

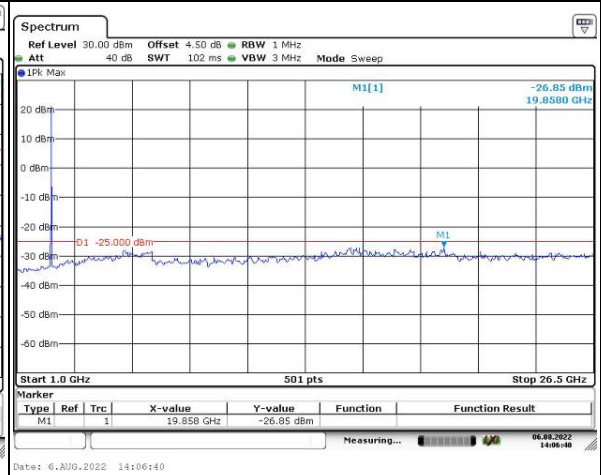
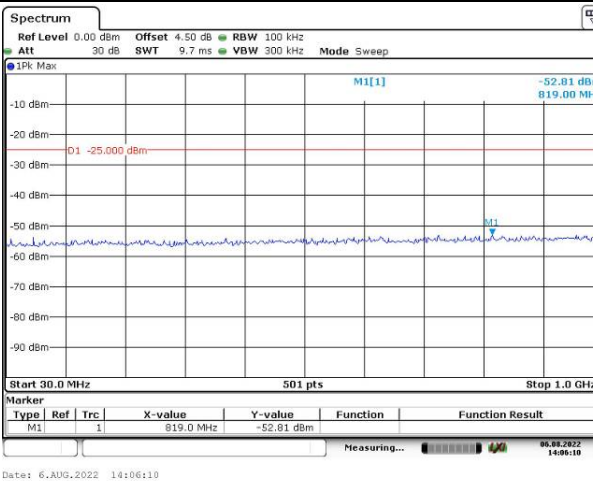
Channel

10MHz Bandwidth QPSK

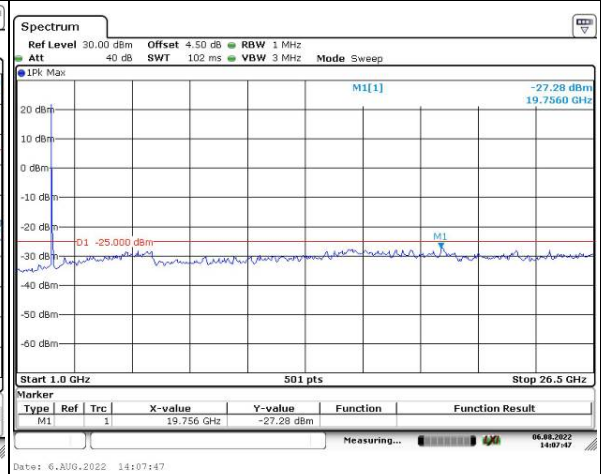
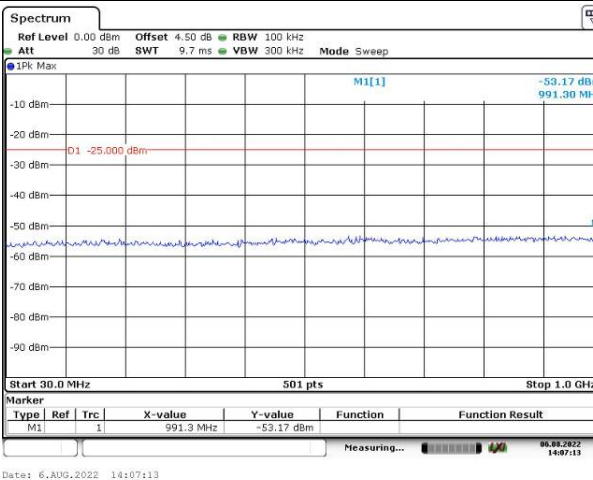
Lowest



Middle



Highest

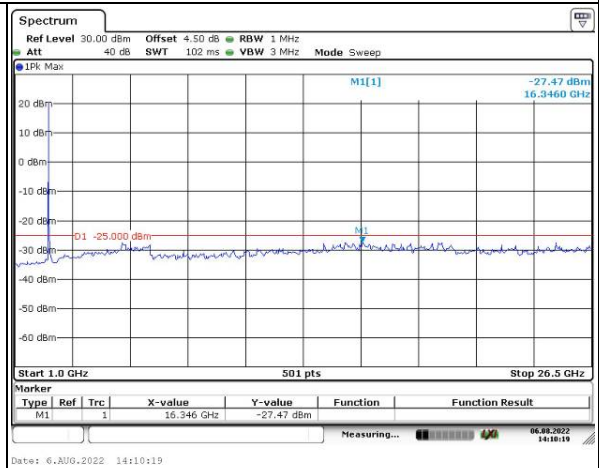
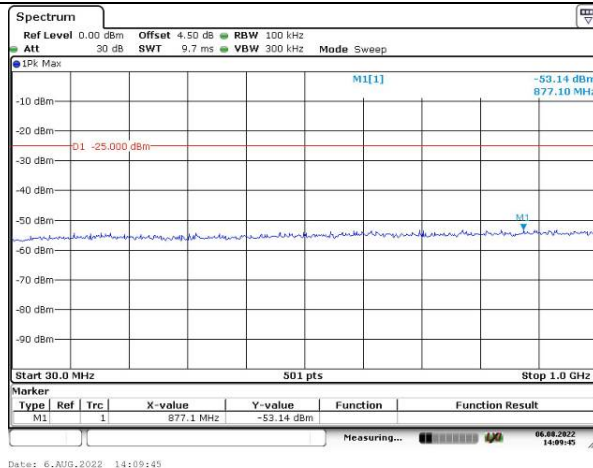


Spurious Emissions at Antenna Terminal

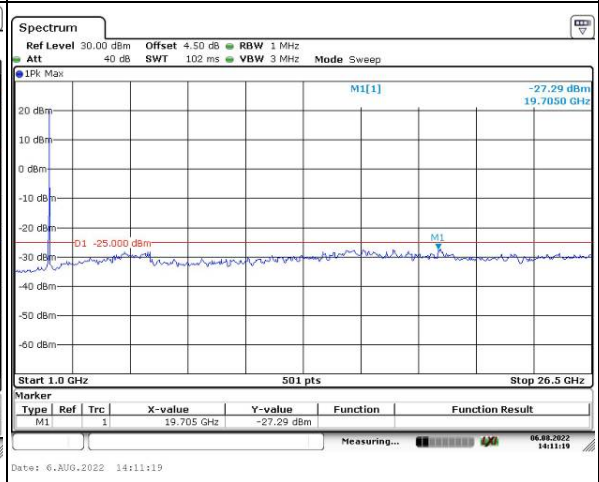
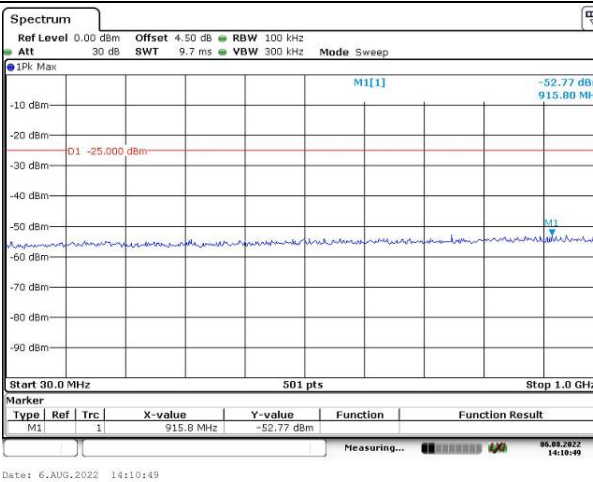
Channel

15MHz Bandwidth QPSK

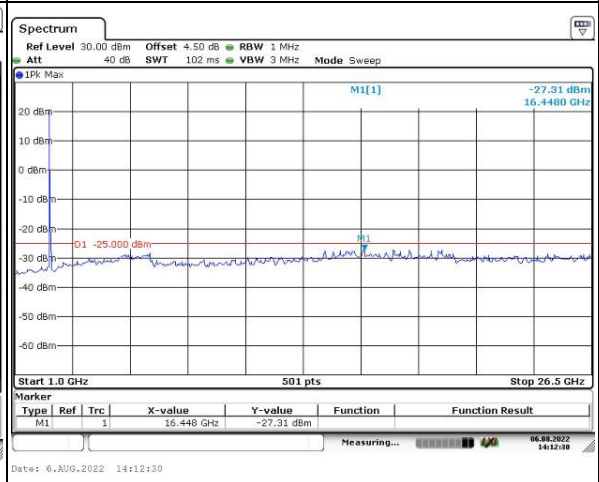
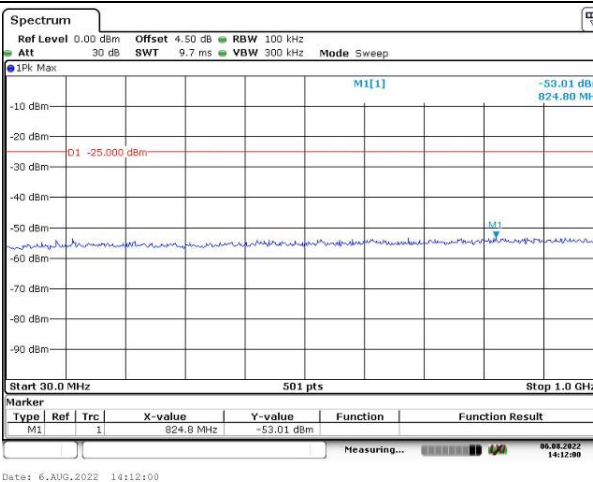
Lowest



Middle



Highest

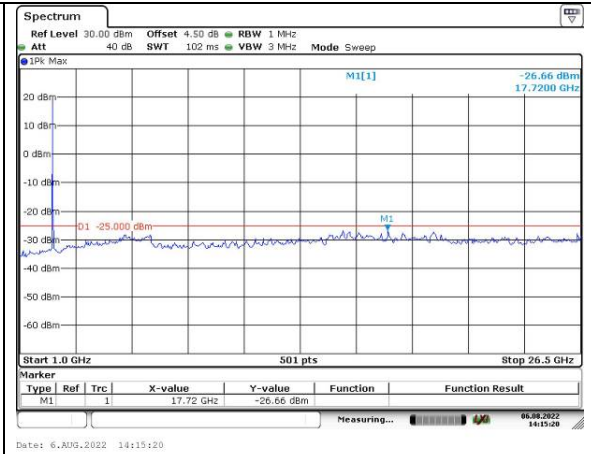
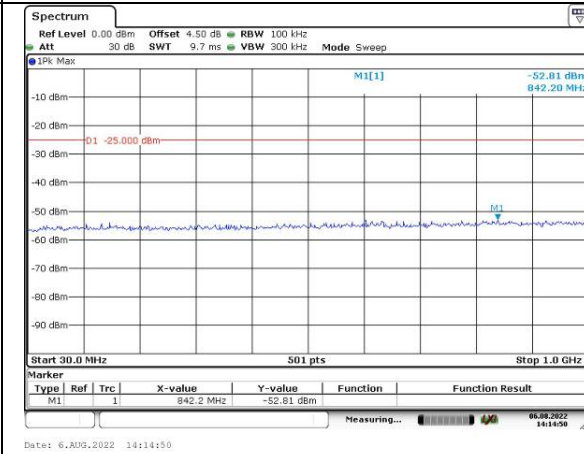


Spurious Emissions at Antenna Terminal

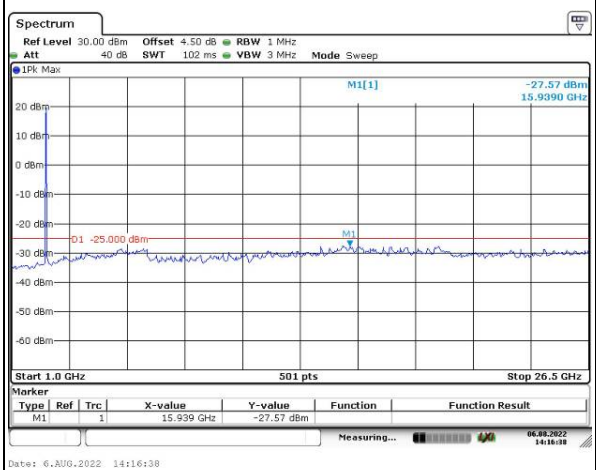
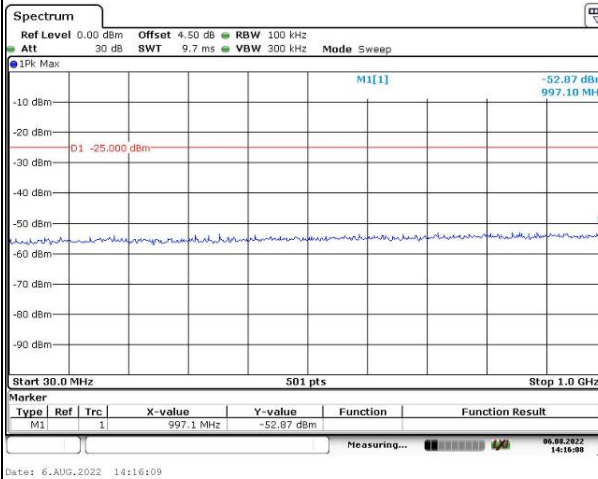
Channel

20MHz Bandwidth QPSK

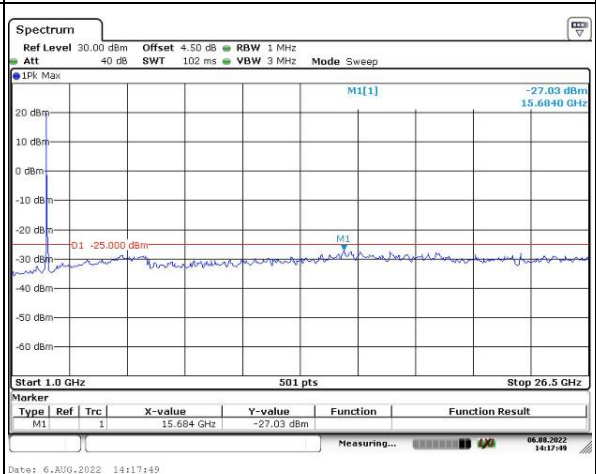
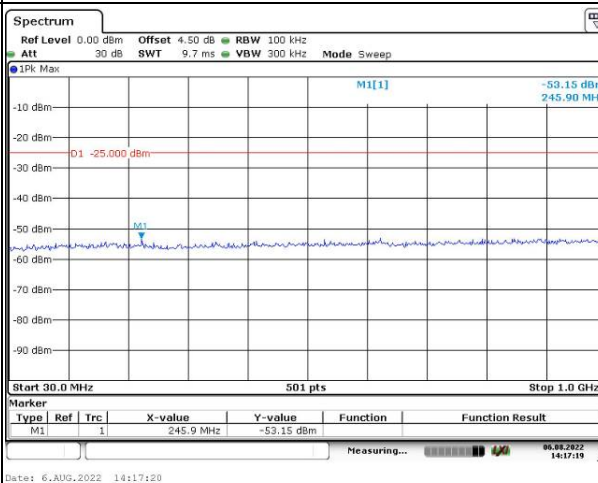
Lowest



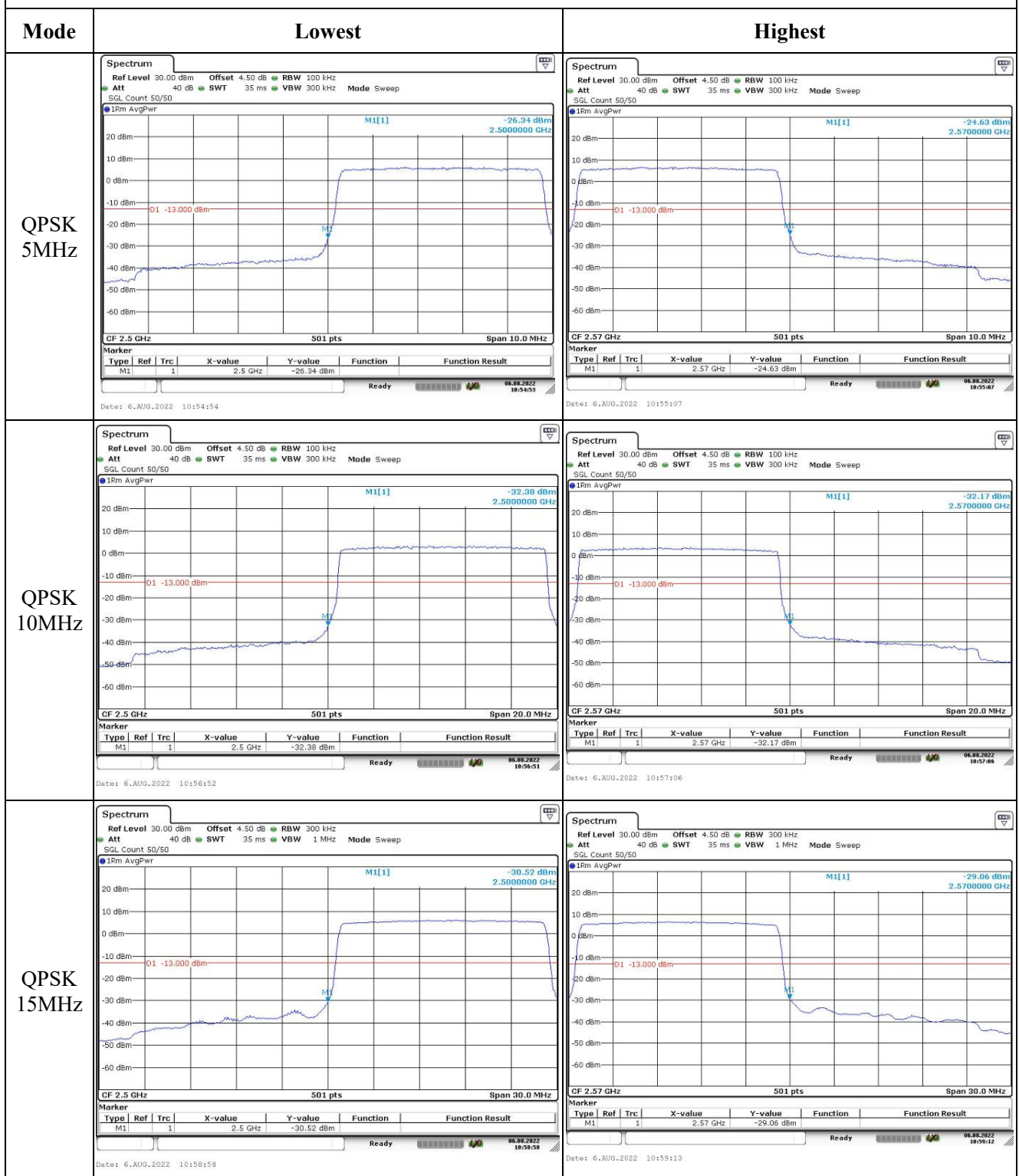
Middle



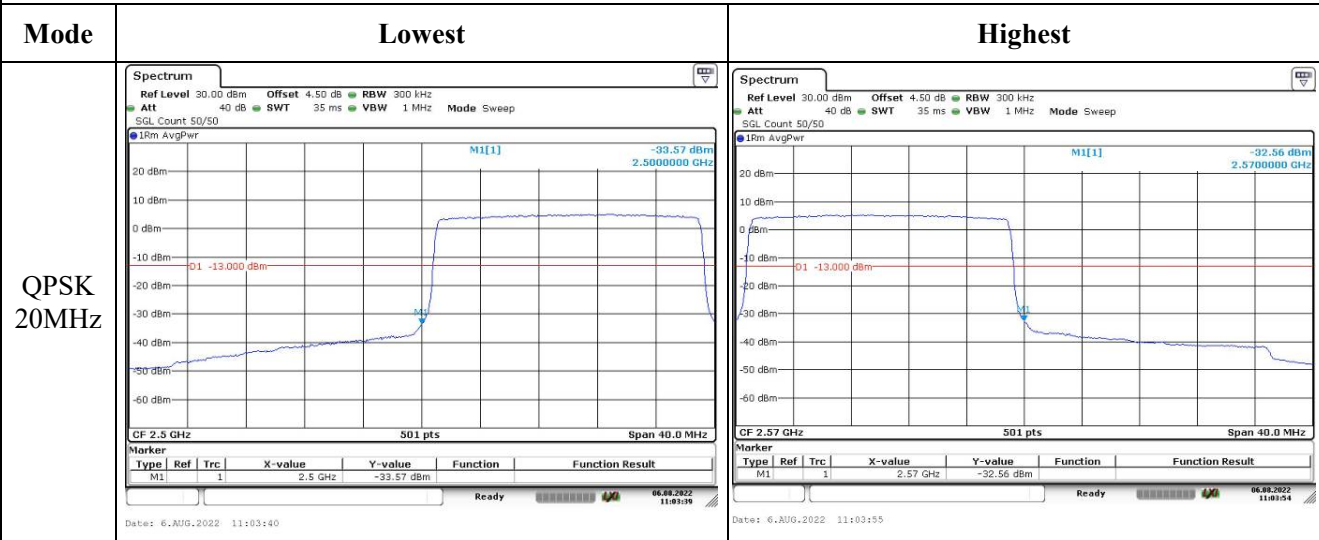
Highest



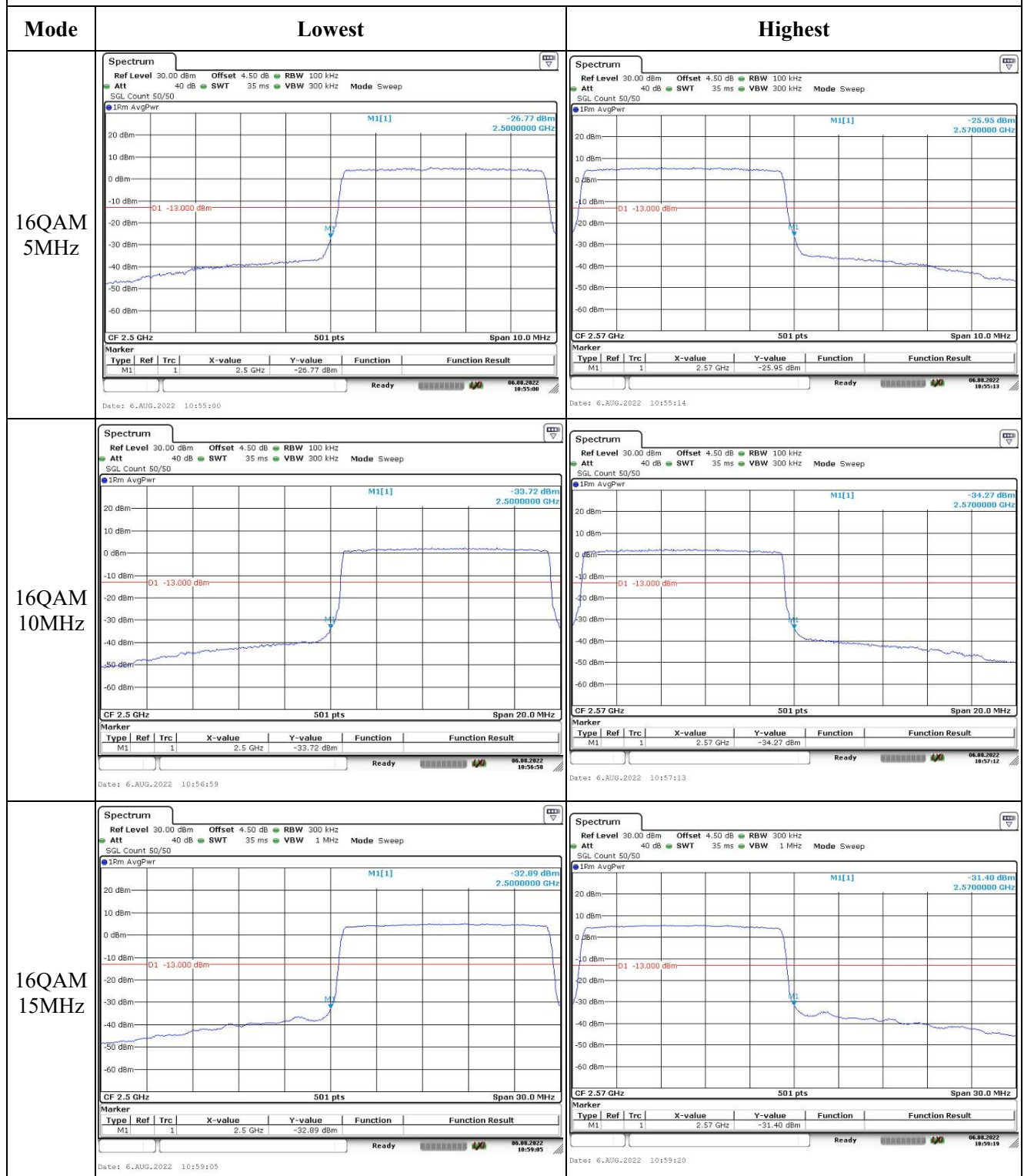
Out of band emission, Band Edge



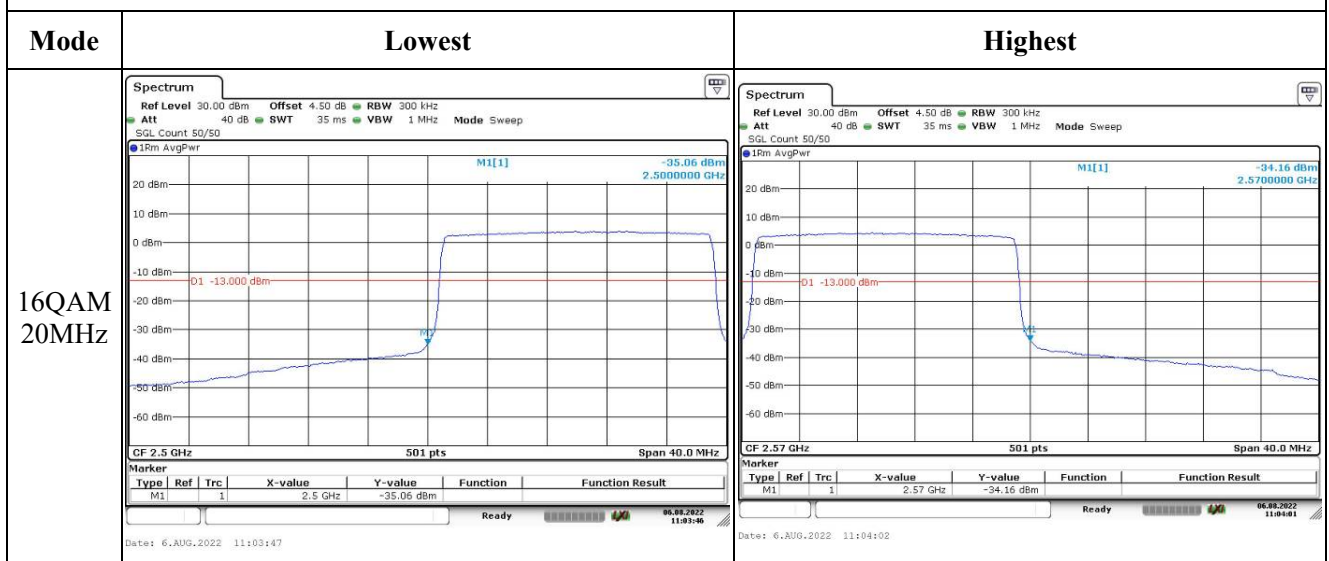
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.10 Antenna Port Test Data and Results for LTE Band 17

Serial Number:	CR22010034-RF-S1	Test Date:	2022-08-06
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.2	Relative Humidity: (%)	69	ATM Pressure: (kPa)	99.9
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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	2204004	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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).

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	22.93	23.6	23.57	15.47	34.77
	RB1#13	23.49	23.56	23.6		
	RB1#24	23.61	23.44	23.5		
	RB15#0	22.53	22.62	22.59		
	RB15#10	22.5	22.55	22.61		
	RB25#0	22.58	22.61	22.57		
5MHz 16QAM	RB1#0	21.72	22.82	22.26	14.75	34.77
	RB1#13	22.02	22.82	22.31		
	RB1#24	22.21	22.89	22.39		
	RB15#0	21.5	21.63	21.49		
	RB15#10	21.83	21.41	21.46		
	RB25#0	21.42	21.65	21.68		
10MHz QPSK	RB1#0	22.83	23.17	23.83	15.83	34.77
	RB1#25	23.74	23.97	23.89		
	RB1#49	23.67	23.25	23.3		
	RB25#0	22.71	22.53	22.66		
	RB25#25	22.69	22.62	22.65		
	RB50#0	22.72	22.63	22.6		
10MHz 16QAM	RB1#0	22.31	22.28	22.18	15.67	34.77
	RB1#25	23.23	23.81	23.32		
	RB1#49	22.48	22.42	21.97		
	RB25#0	21.72	21.9	21.87		
	RB25#25	21.62	21.48	21.63		
	RB50#0	21.7	21.66	21.68		
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	5.1	4.99	4.64	13
	RB50#0	4.75	4.81	4.81	13
10MHz 16QAM	RB1#0	5.68	6.12	5.71	13
	RB50#0	6	6.06	6.03	13
Result:					Pass

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	4.511	4.511	5.02	5	5.06
5MHz 16QAM	4.531	4.491	4.531	5.06	4.96	5.06
10MHz QPSK	8.902	8.902	8.942	9.68	9.68	9.72
10MHz 16QAM	8.902	8.902	8.942	9.6	9.64	9.6

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

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

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, §27.53: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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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 _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	704.587	704.00	715.483	716.00
	-20	3.8	704.548	704.00	715.440	716.00
	-10	3.8	704.520	704.00	715.449	716.00
	0	3.8	704.548	704.00	715.497	716.00
	10	3.8	704.592	704.00	715.473	716.00
	20	3.8	704.569	704.00	715.471	716.00
	30	3.8	704.523	704.00	715.453	716.00
	40	3.8	704.544	704.00	715.490	716.00
	50	3.8	704.539	704.00	715.477	716.00
Frequency Stability vs. Voltage	20	3.5	704.557	704.00	715.465	716.00
	20	4.35	704.539	704.00	715.449	716.00
Result:					Pass	

Test Mode:	10M 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	3.8	704.566	704.00	715.425	716.00
	-20	3.8	704.529	704.00	715.492	716.00
	-10	3.8	704.595	704.00	715.457	716.00
	0	3.8	704.537	704.00	715.451	716.00
	10	3.8	704.503	704.00	715.500	716.00
	20	3.8	704.569	704.00	715.471	716.00
	30	3.8	704.585	704.00	715.452	716.00
	40	3.8	704.536	704.00	715.458	716.00
	50	3.8	704.558	704.00	715.483	716.00
Frequency Stability vs. Voltage	20	3.5	704.562	704.00	715.497	716.00
	20	4.35	704.536	704.00	715.458	716.00
					Result:	Pass