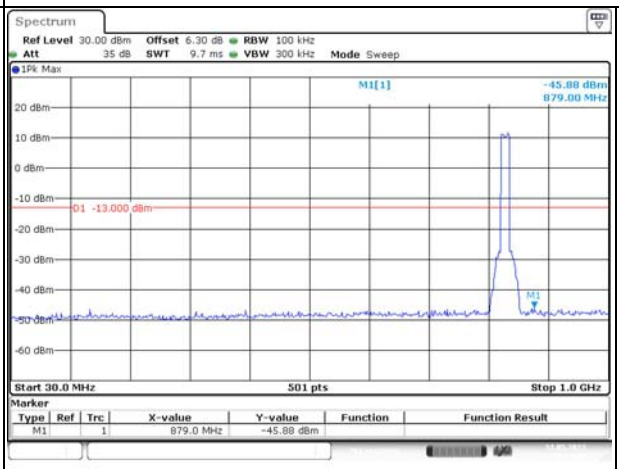
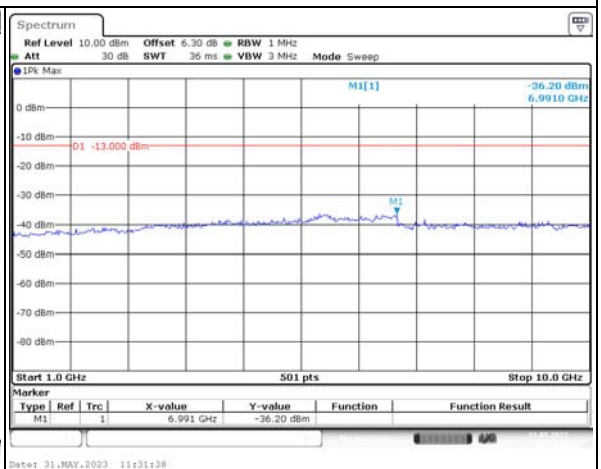
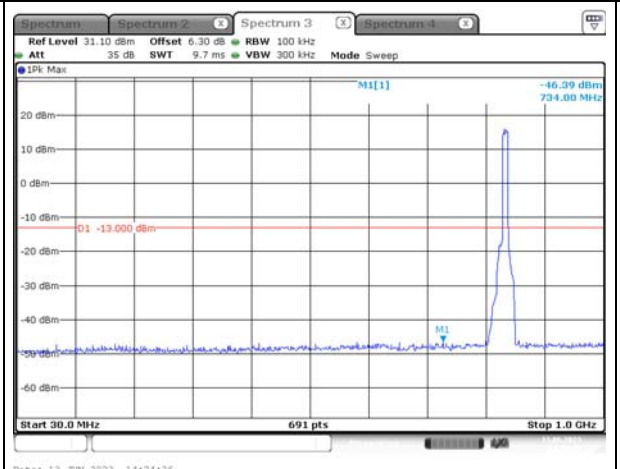
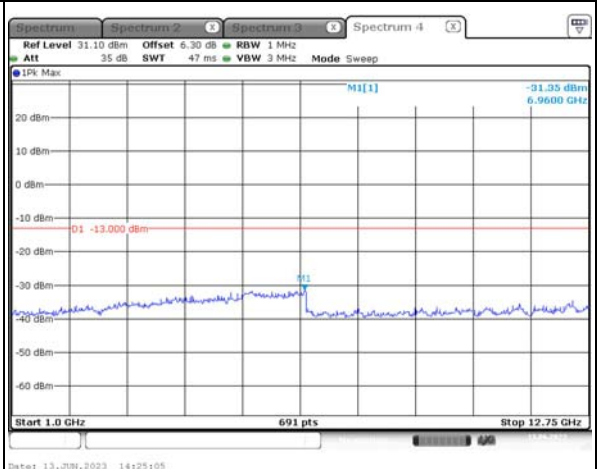
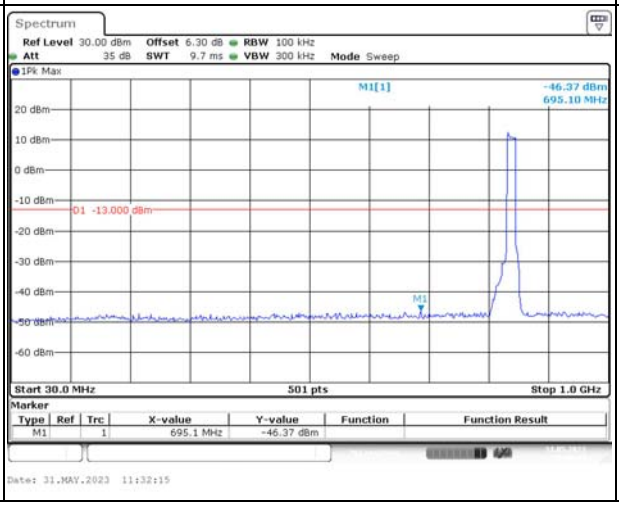
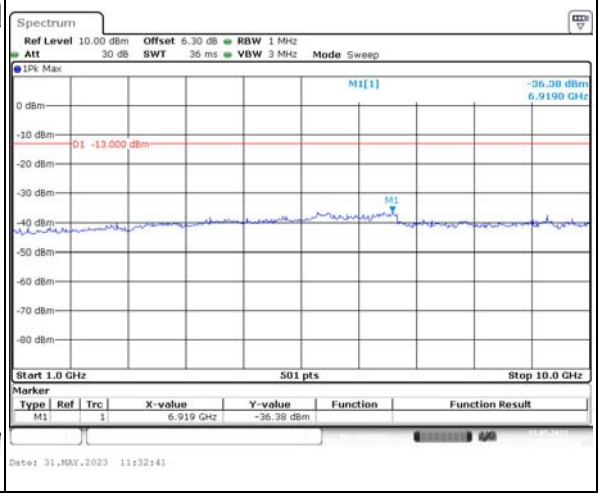
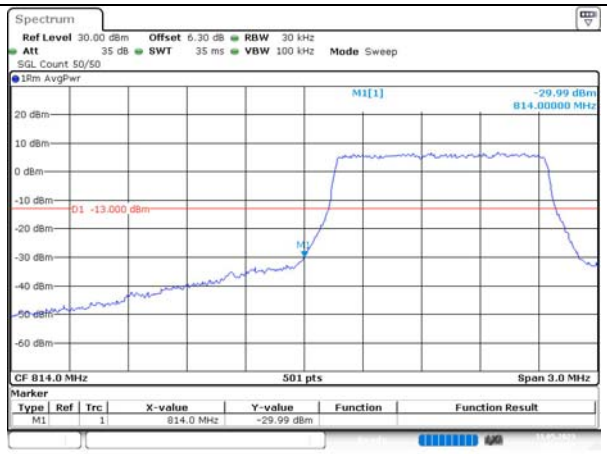
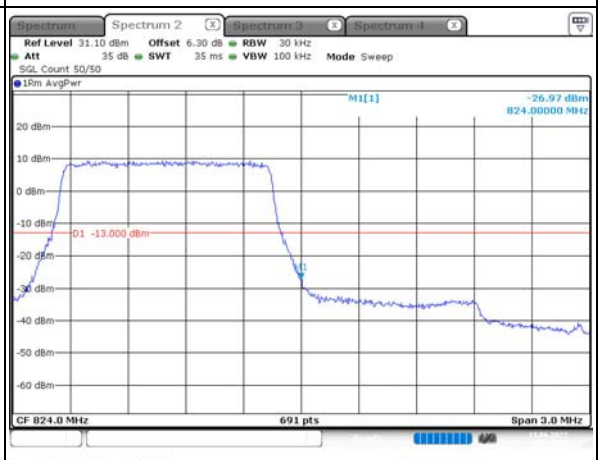
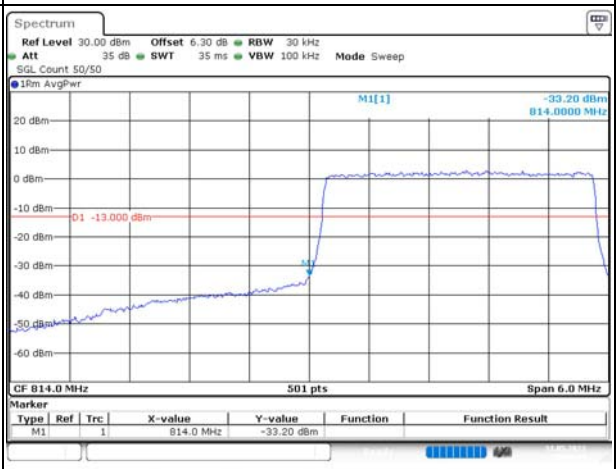
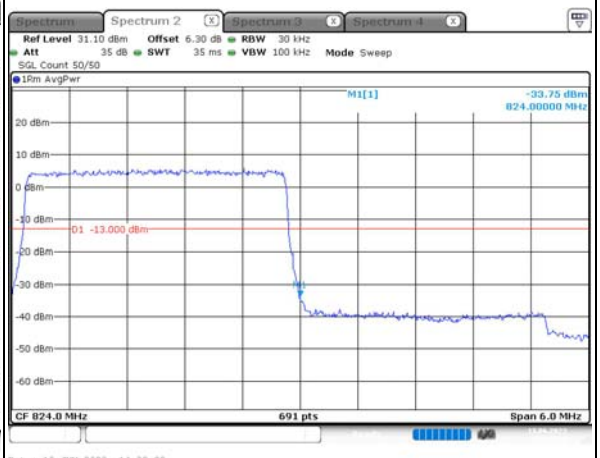
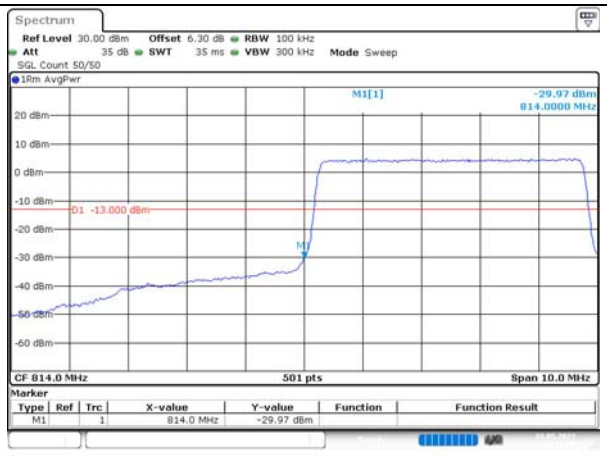
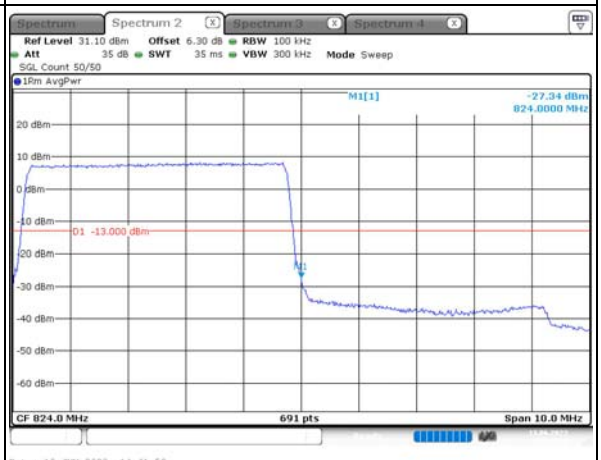
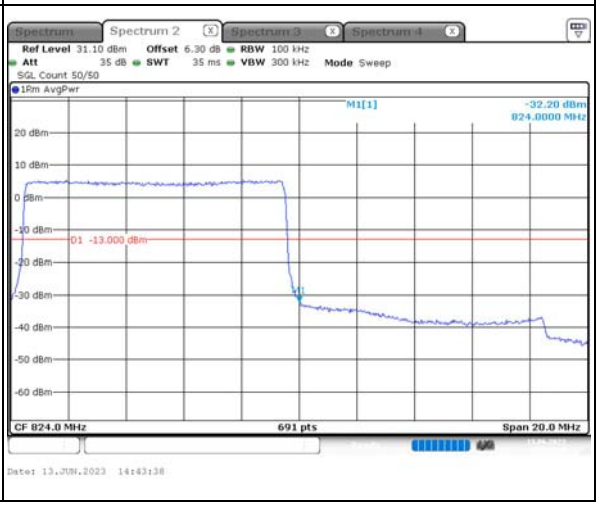
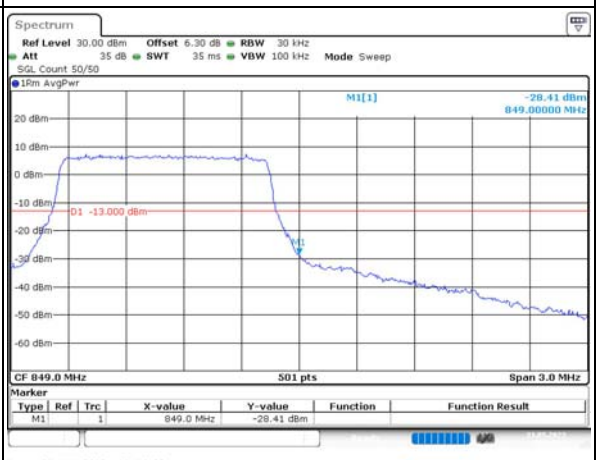
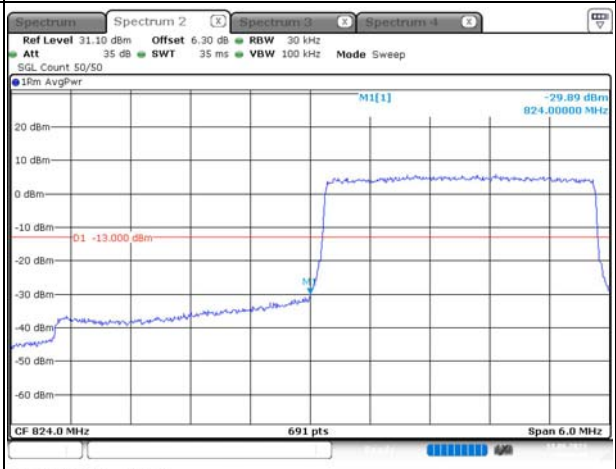
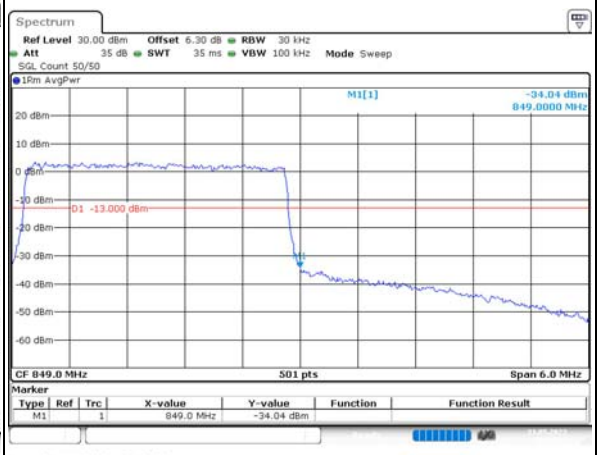
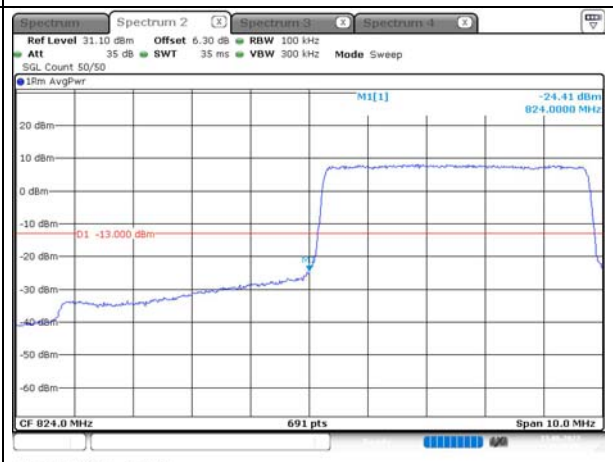
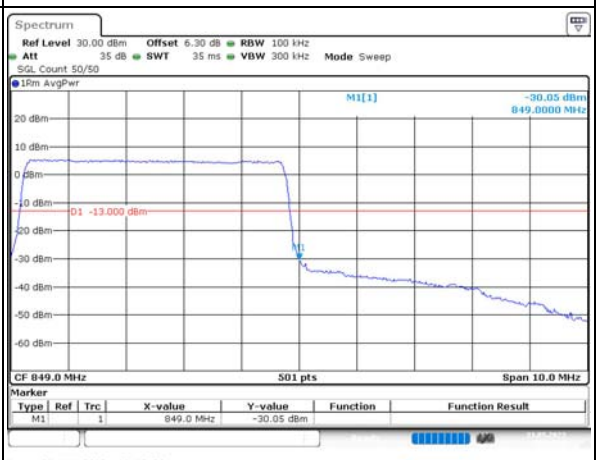
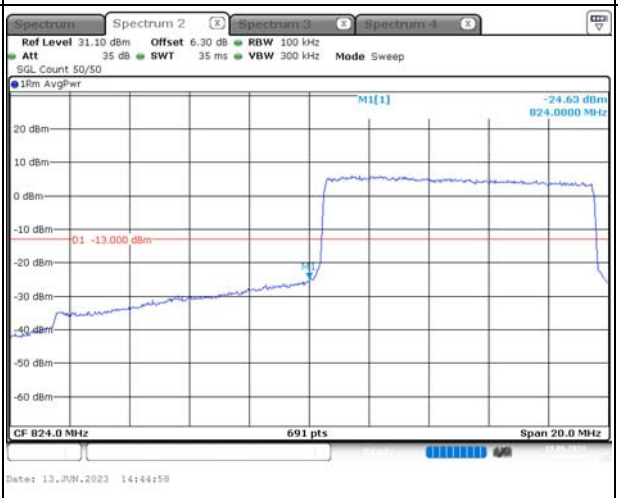
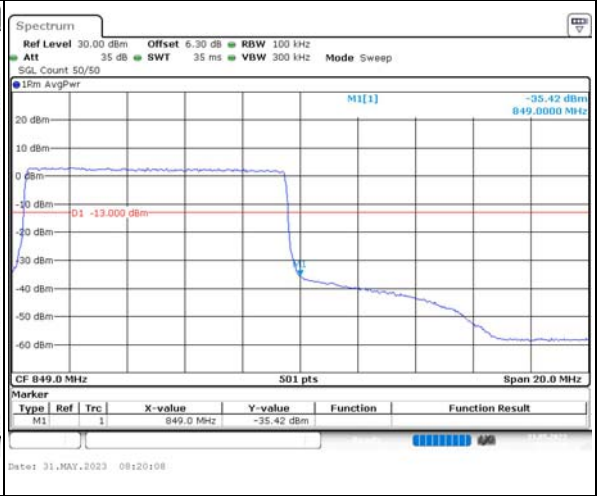
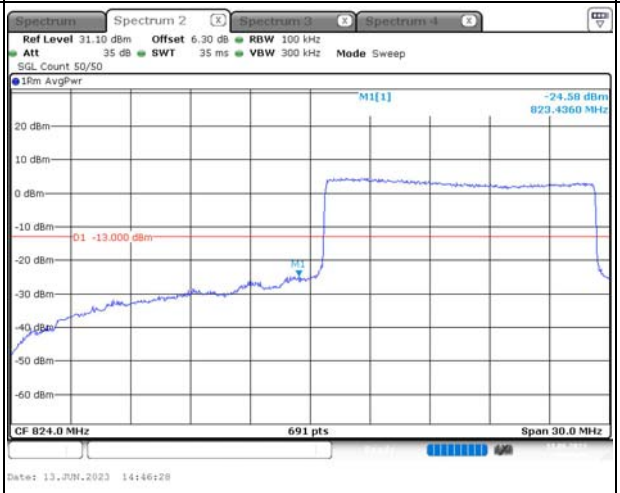
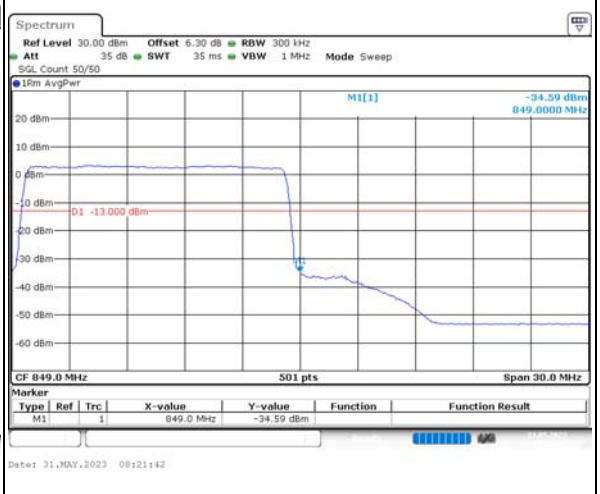
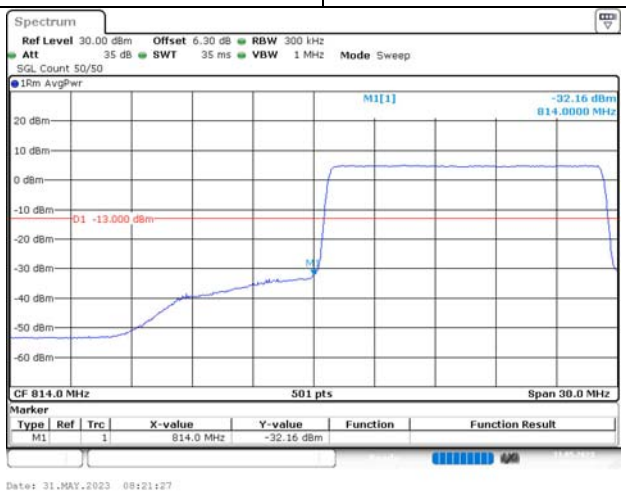
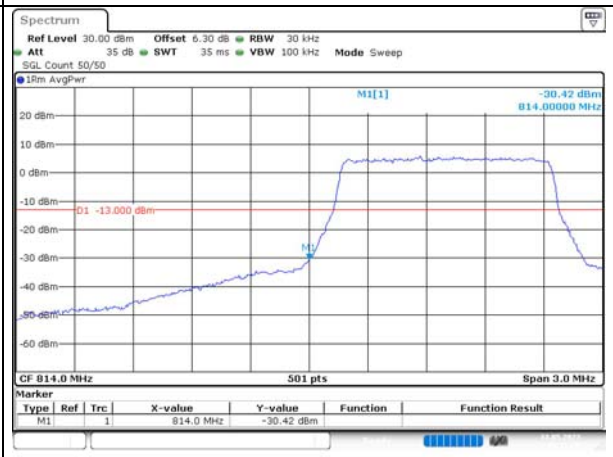
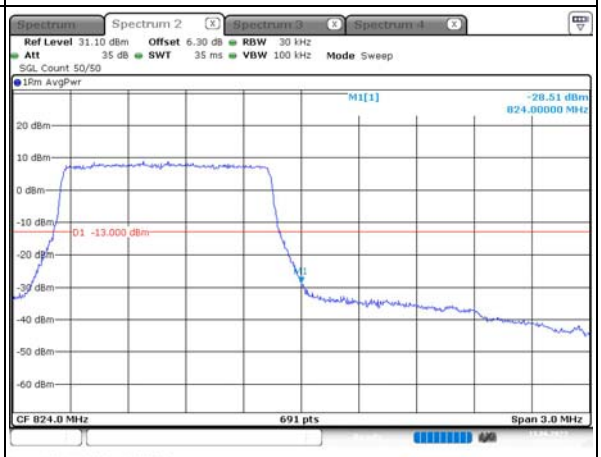
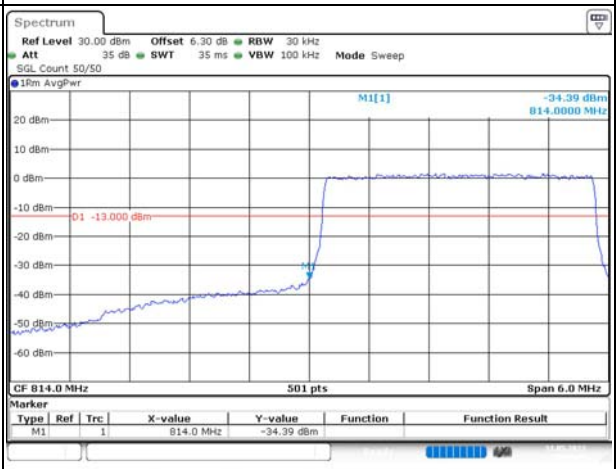
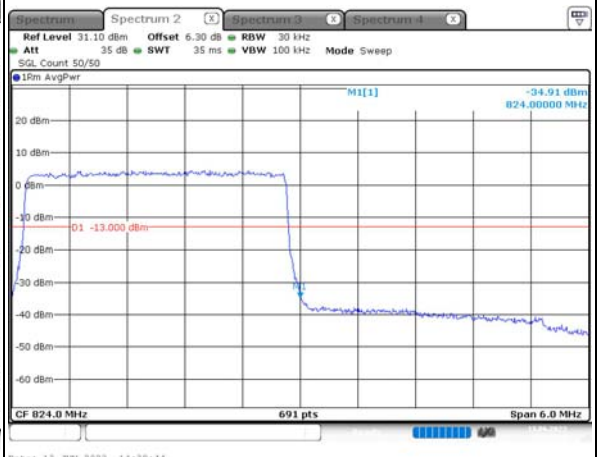
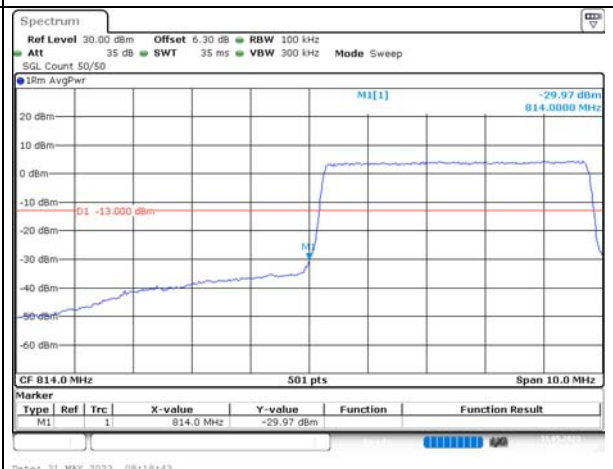
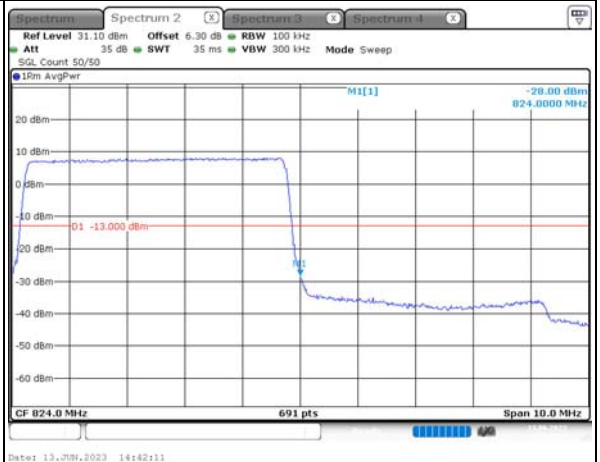
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest For 22H		
Middle For 22H		
Highest For 22H		

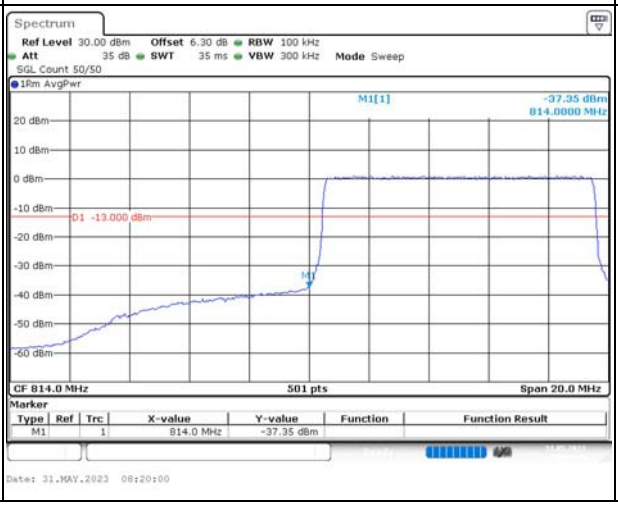
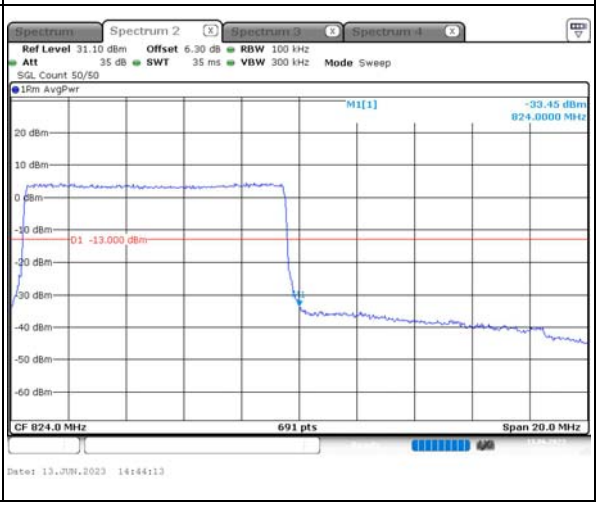
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 1.4MHz For 90S		
QPSK 3MHz For 90S		
QPSK 5MHz For 90S		

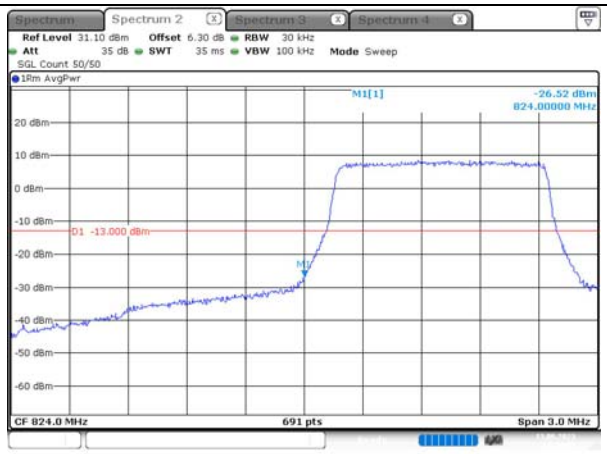
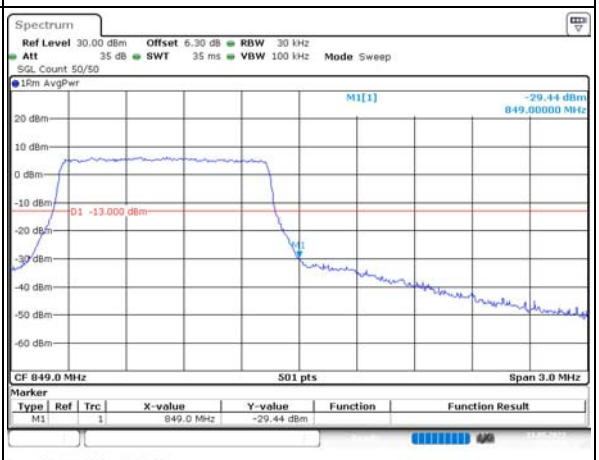
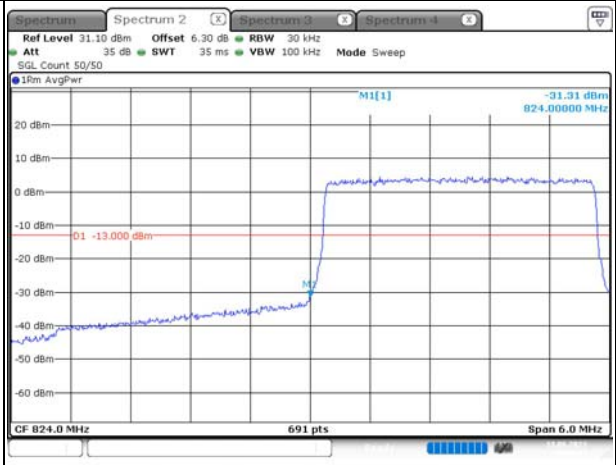
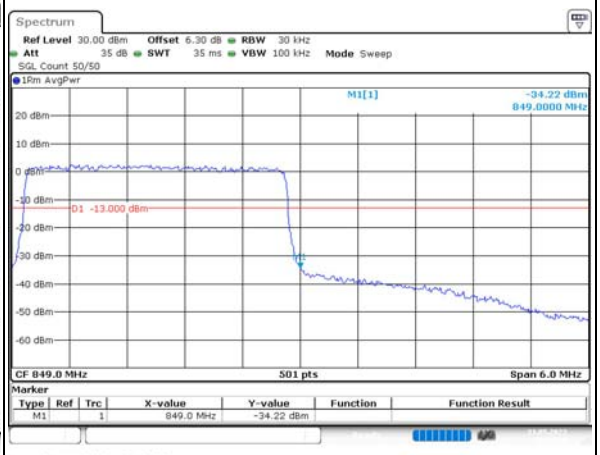
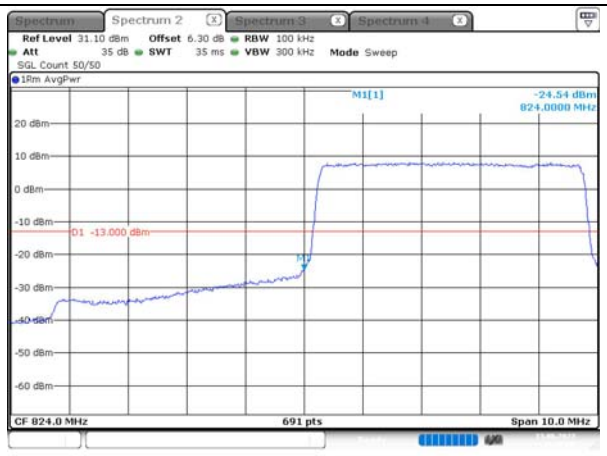
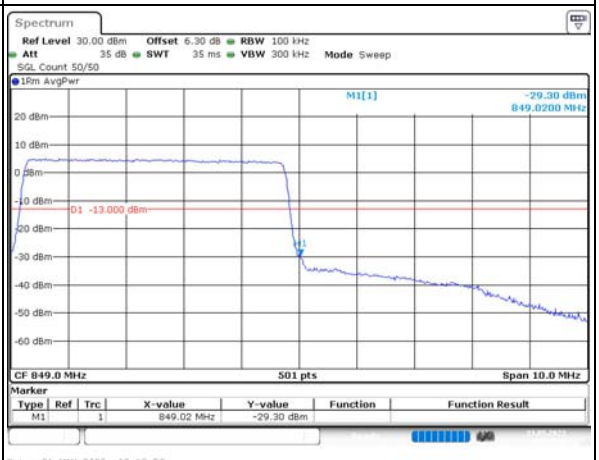
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 10MHz For 90S		

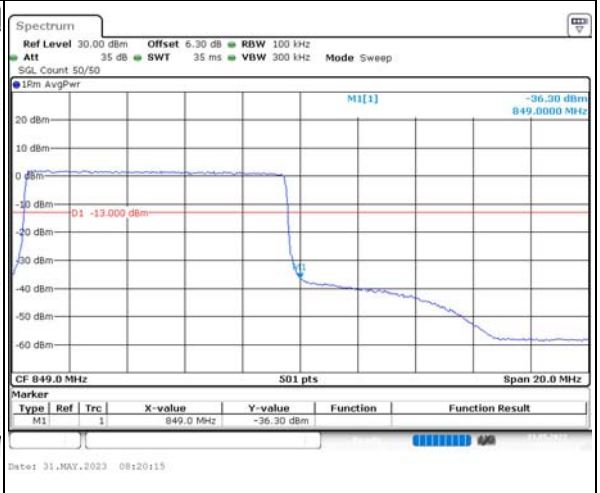
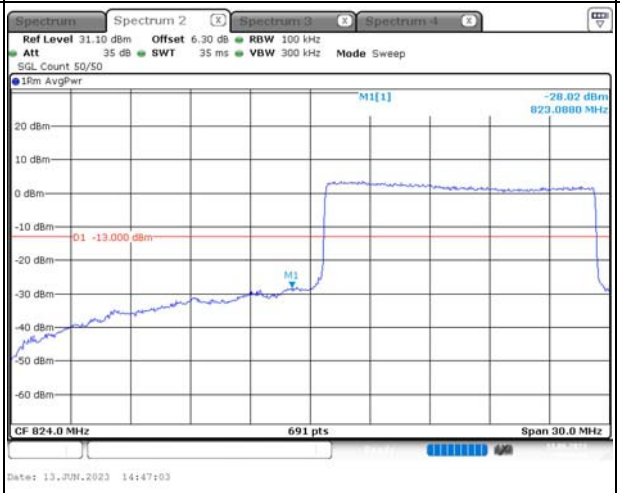
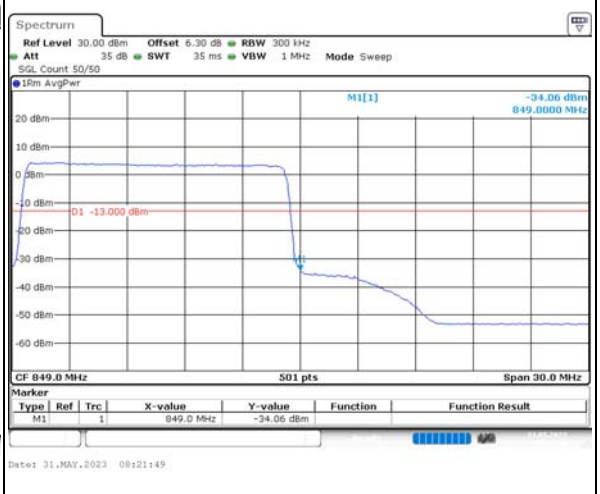
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 1.4MHz For 22H		
QPSK 3MHz For 22H		
QPSK 5MHz For 22H		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 10MHz For 22H		
QPSK 15MHz For 22H		
QPSK 15MHz Across 90S and 22H		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 1.4MHz For 90S		
16QAM 3MHz For 90S		
16QAM 5MHz For 90S		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 10MHz For 90S		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 1.4MHz For 22H		
16QAM 3MHz For 22H		
16QAM 5MHz For 22H		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 10MHz For 22H		
16QAM 15MHz For 22H		
16QAM 15MHz Across 90S and 22H		

4.16 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	25K9-3	Test Date:	2023/05/30~2023/05/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	**Pass**

Environmental Conditions:					
Temperature:	26.7~27.2	Relative Humidity:	49~55	ATM Pressure:	99.6~100.0

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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
Unknown	Coaxial tee connector	Unknown	2204004	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
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	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

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	22.48	22.37	22.45	23.64	33
	RB1#13	22.54	22.46	22.53		
	RB1#24	22.44	22.36	22.45		
	RB15#0	21.49	21.42	21.42		
	RB15#10	21.44	21.45	21.51		
	RB25#0	21.46	21.45	21.45		
5MHz 16QAM	RB1#0	21.59	21.36	21.46	22.81	33
	RB1#13	21.71	21.45	21.58		
	RB1#24	21.63	21.37	21.48		
	RB15#0	20.52	20.43	20.5		
	RB15#10	20.52	20.44	20.56		
	RB25#0	20.48	20.51	20.53		
10MHz QPSK	RB1#0	22.61	22.56	22.48	23.9	33
	RB1#25	22.79	22.8	22.78		
	RB1#49	22.54	22.55	22.52		
	RB25#0	21.55	21.48	21.51		
	RB25#25	21.52	21.53	21.56		
	RB50#0	21.48	21.52	21.5		
10MHz 16QAM	RB1#0	21.44	21.6	21.68	23.06	33
	RB1#25	21.66	21.83	21.96		
	RB1#49	21.42	21.59	21.68		
	RB25#0	20.6	20.55	20.54		
	RB25#25	20.6	20.59	20.58		
	RB50#0	20.55	20.58	20.55		
15MHz QPSK	RB1#0	22.49	22.46	22.38	23.61	33
	RB1#38	22.51	22.49	22.47		
	RB1#74	22.35	22.41	22.42		
	RB36#0	21.58	21.47	21.47		
	RB36#39	21.55	21.54	21.57		
	RB75#0	21.54	21.48	21.42		
15MHz 16QAM	RB1#0	21.35	21.59	21.52	22.79	33
	RB1#38	21.4	21.65	21.69		
	RB1#74	21.25	21.59	21.58		
	RB36#0	20.5	20.58	20.46		
	RB36#39	20.48	20.59	20.53		
	RB75#0	20.55	20.5	20.54		

20MHz QPSK	RB1#0	22.29	22.21	22.3	23.88	33
	RB1#50	22.7	22.68	22.78		
	RB1#99	22.23	22.21	22.32		
	RB50#0	21.41	21.34	21.31		
	RB50#50	21.5	21.52	21.63		
	RB100#0	21.46	21.47	21.43		
20MHz 16QAM	RB1#0	21.29	21.16	21.49	23.07	33
	RB1#50	21.73	21.59	21.97		
	RB1#99	21.29	21.18	21.51		
	RB50#0	20.43	20.42	20.38		
	RB50#50	20.5	20.65	20.67		
	RB100#0	20.45	20.5	20.5		
Note: EIRP=Conducted Power(dBm) - L_C(dB) + G_T(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	8.38	9.13	9.22	13
	RB100#0	9.04	9.3	9.28	13
20MHz 16QAM	RB1#0	9.33	10.06	10.09	13
	RB100#0	9.91	10.12	10.17	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	4.511	4.491	4.491	5.04	5.06	5.1
5MHz 16QAM	4.511	4.491	4.511	5.14	5	5.16
10MHz QPSK	8.942	8.982	8.942	9.96	9.64	9.8
10MHz 16QAM	8.942	8.982	8.942	10.16	9.48	9.6
15MHz QPSK	13.533	13.473	13.473	14.46	15.66	15.6
15MHz 16QAM	13.593	13.593	13.593	16.5	16.02	16.44
20MHz QPSK	17.964	17.964	17.964	18.64	20.24	19.92
20MHz 16QAM	17.964	17.964	17.964	21.2	20.64	19.36
Note: The test plots please refer to the Plots of Occupied Bandwidth						

Spurious Emissions at Antenna Terminal

Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

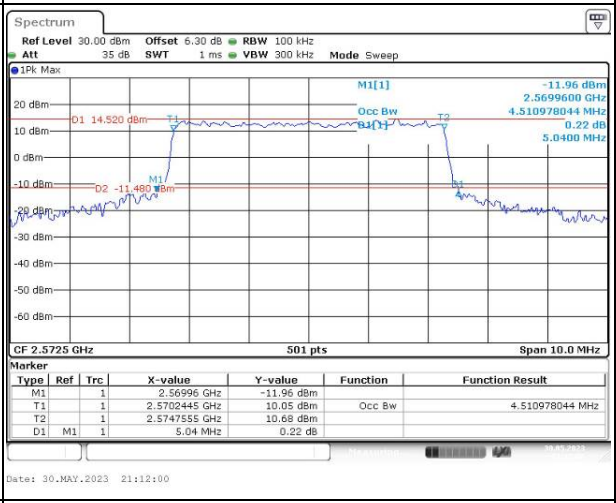
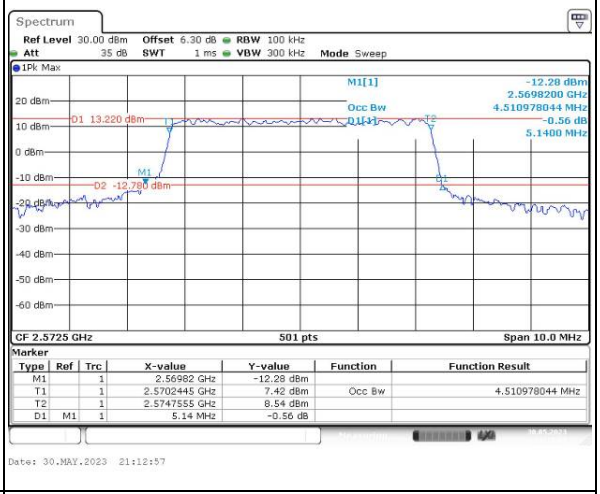
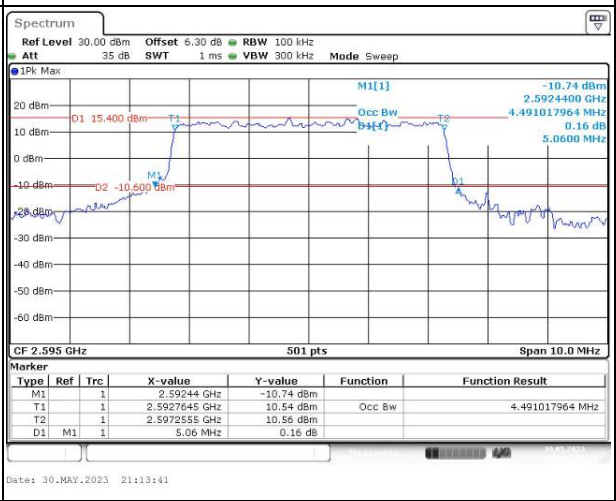
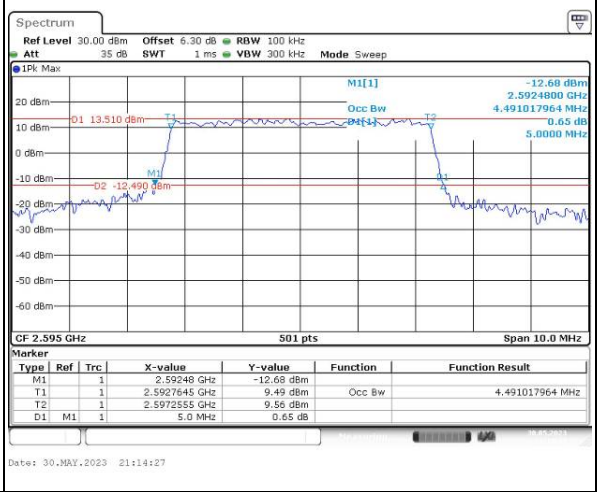
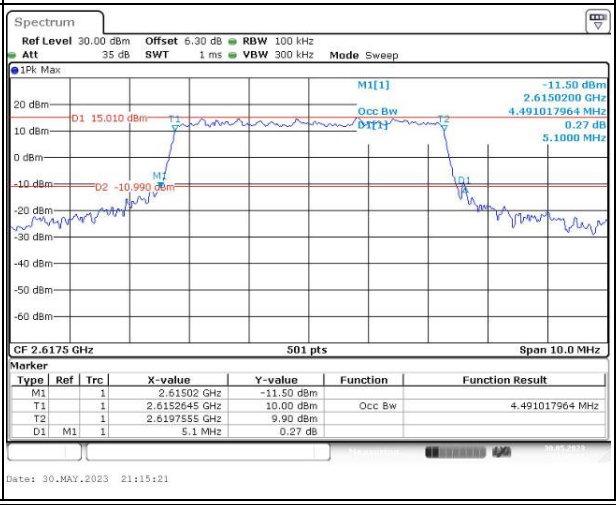
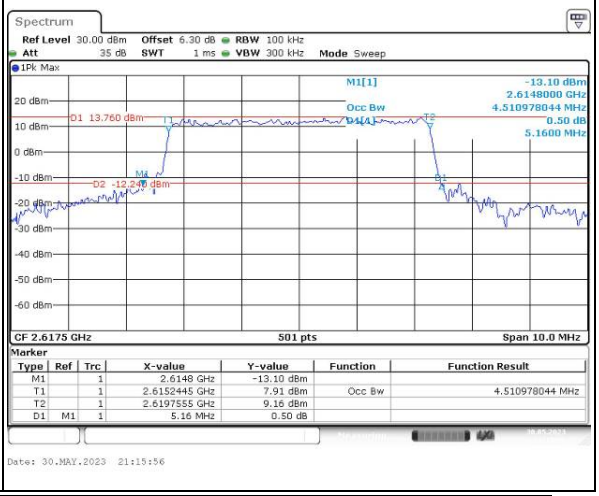
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

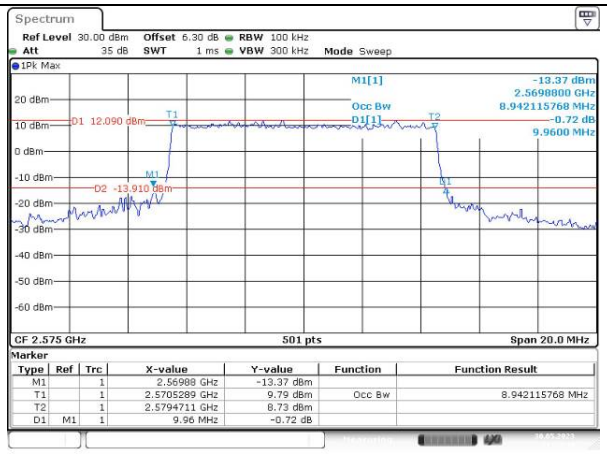
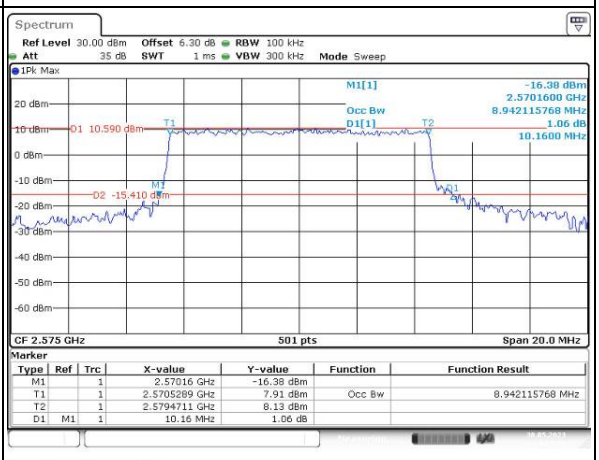
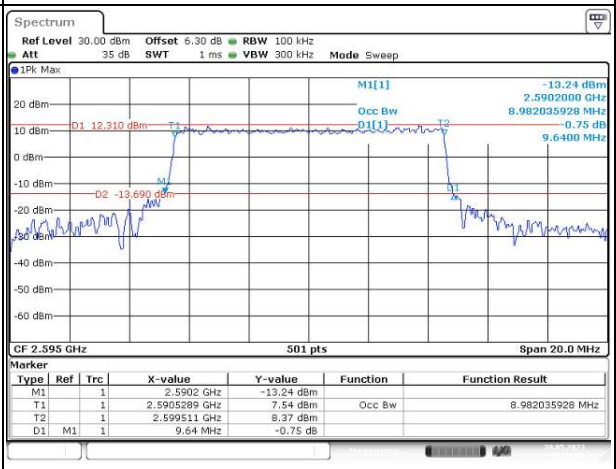
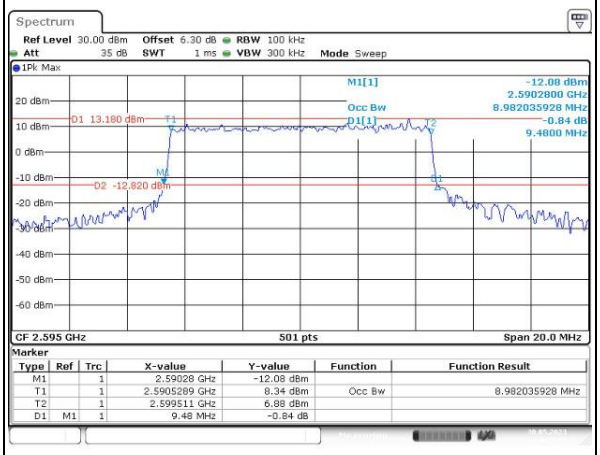
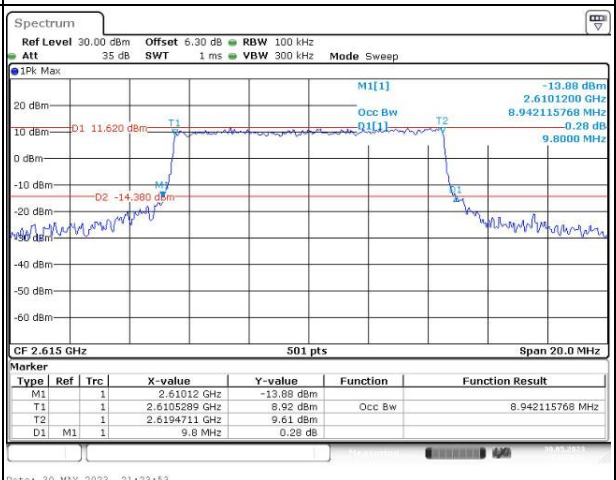
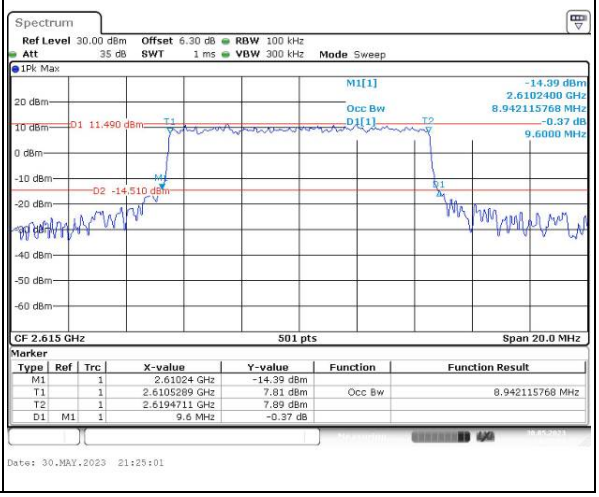
Frequency Stability

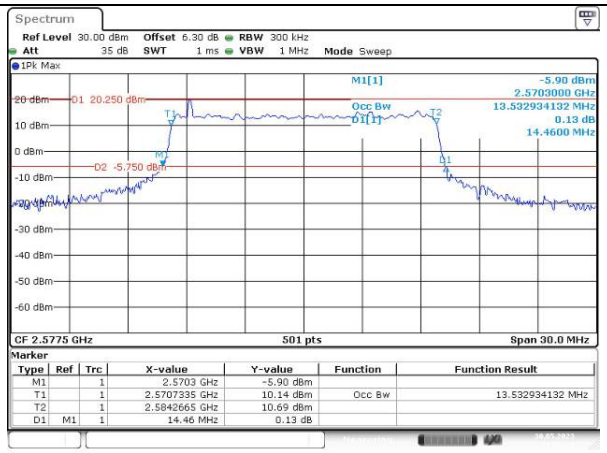
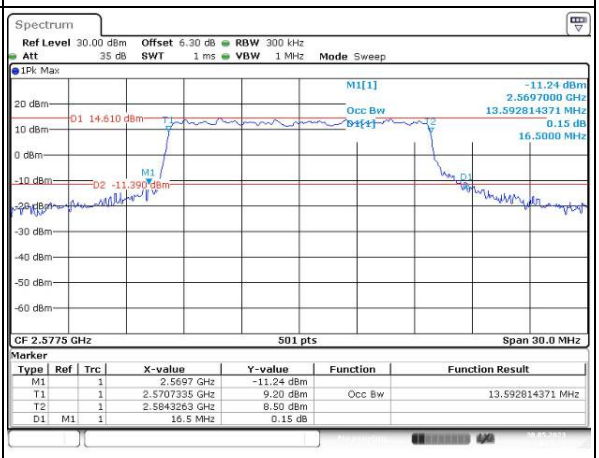
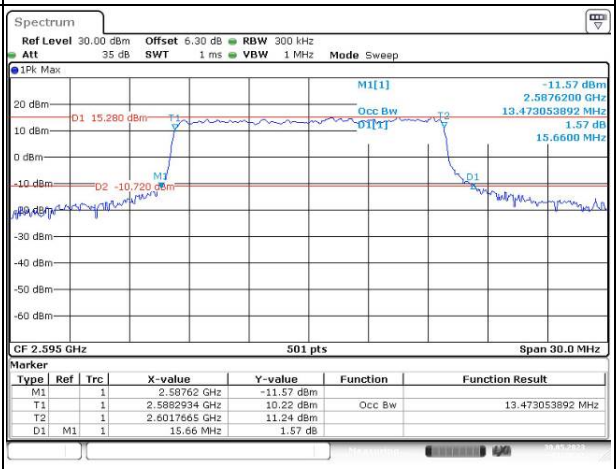
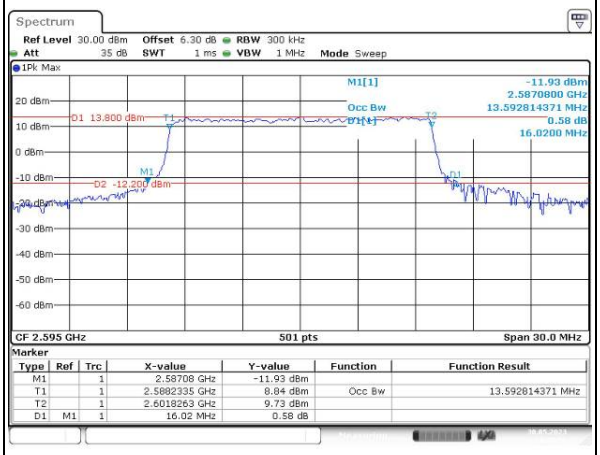
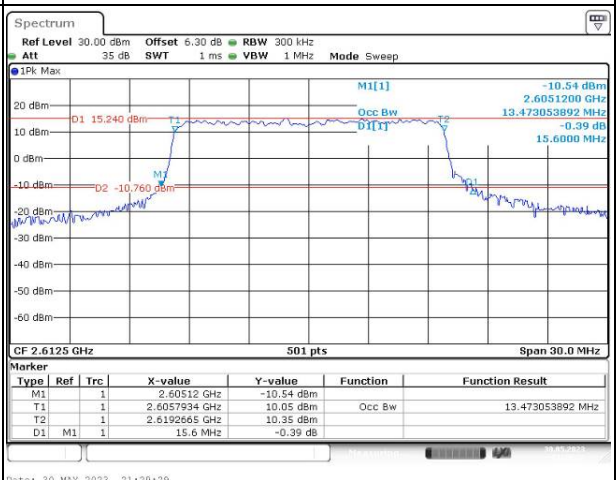
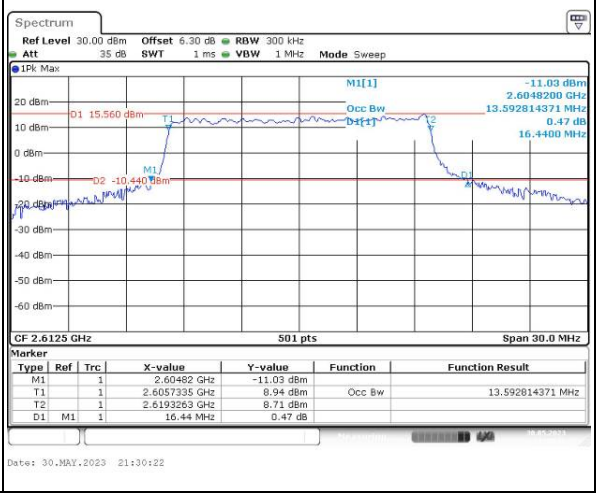
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	2571.085	2570.00	2619.086	2620
	-20	3.87	2571.044	2570.00	2619.097	2620
	-10	3.87	2571.098	2570.00	2619.057	2620
	0	3.87	2571.087	2570.00	2619.082	2620
	10	3.87	2571.088	2570.00	2619.053	2620
	20	3.87	2571.058	2570.00	2619.022	2620
	30	3.87	2571.064	2570.00	2619.042	2620
	40	3.87	2571.035	2570.00	2619.001	2620
	50	3.87	2571.097	2570.00	2619.008	2620
Frequency Stability vs. Voltage	20	3.47	2571.023	2570.00	2619.093	2620
	20	4.45	2571.081	2570.00	2619.061	2620
					Result:	**Pass**

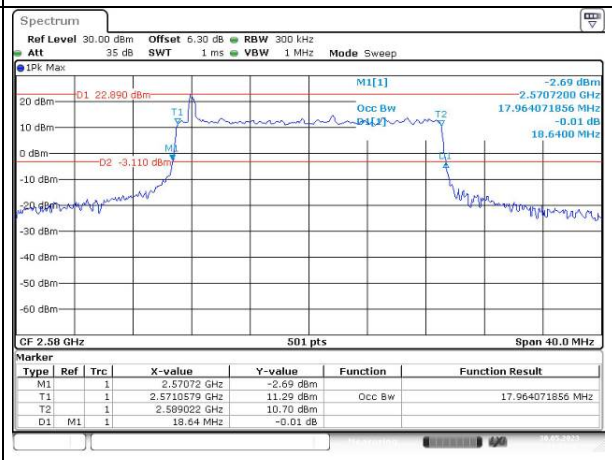
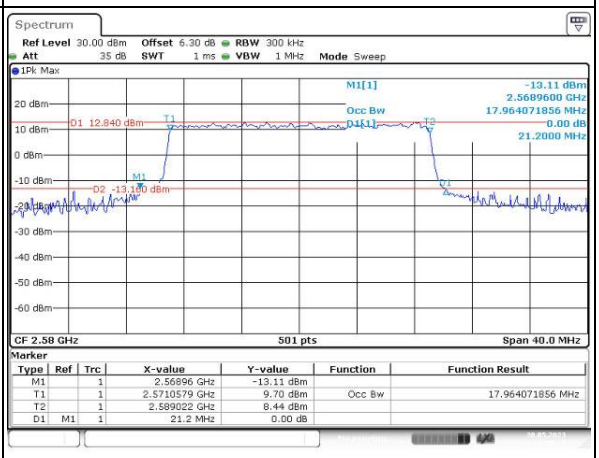
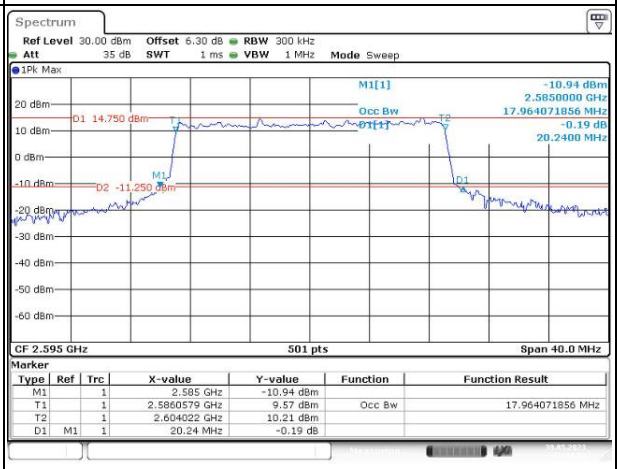
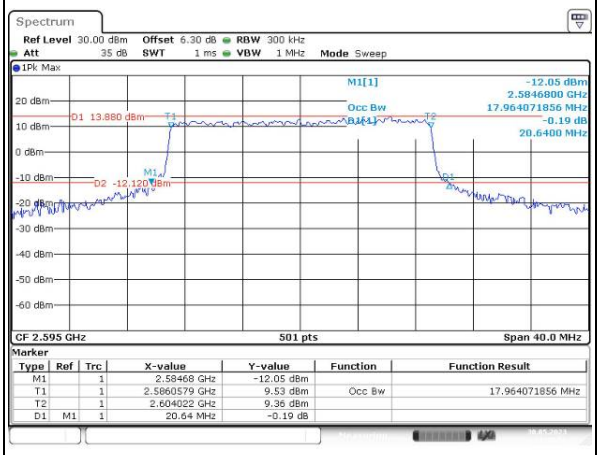
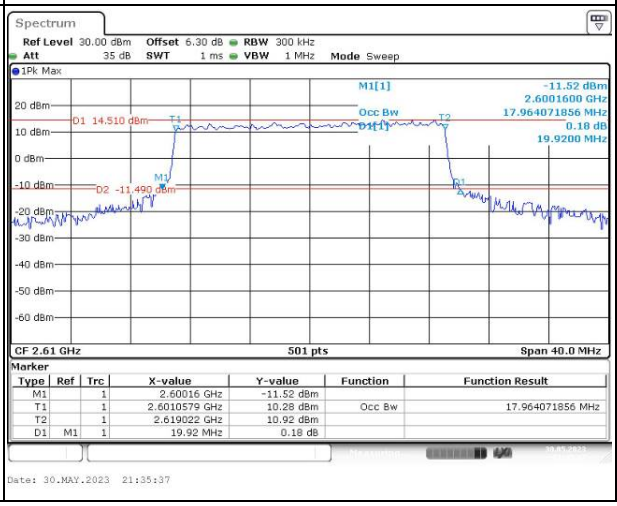
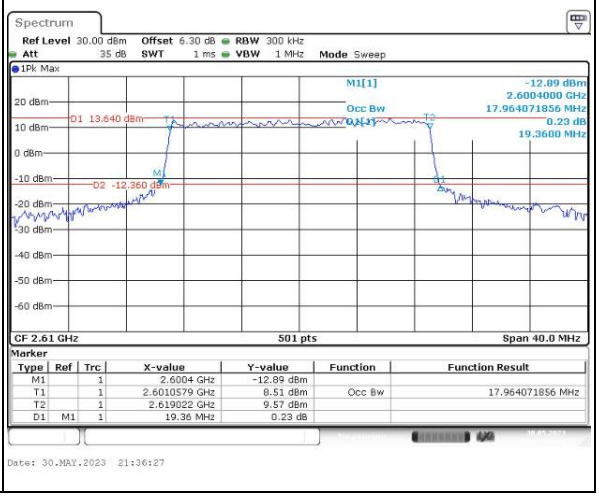
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	2571.021	2570.00	2619.077	2620
	-20	3.87	2571.062	2570.00	2619.078	2620
	-10	3.87	2571.002	2570.00	2619.010	2620
	0	3.87	2571.085	2570.00	2619.036	2620
	10	3.87	2571.040	2570.00	2619.043	2620
	20	3.87	2571.058	2570.00	2619.022	2620
	30	3.87	2571.064	2570.00	2619.001	2620
	40	3.87	2571.066	2570.00	2619.027	2620
	50	3.87	2571.067	2570.00	2619.078	2620
Frequency Stability vs. Voltage	20	3.47	2571.087	2570.00	2619.020	2620
	20	4.45	2571.004	2570.00	2619.070	2620
					Result:	**Pass**

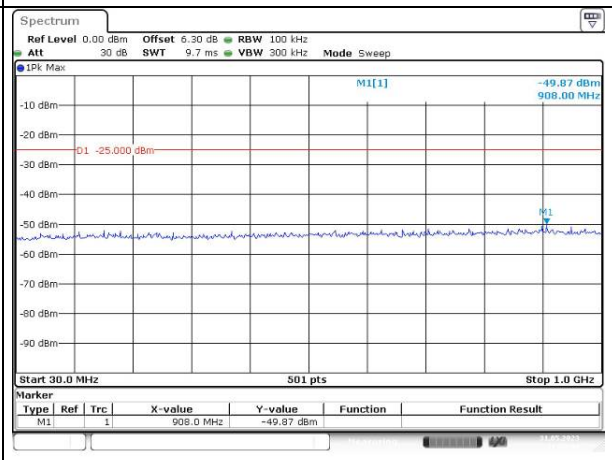
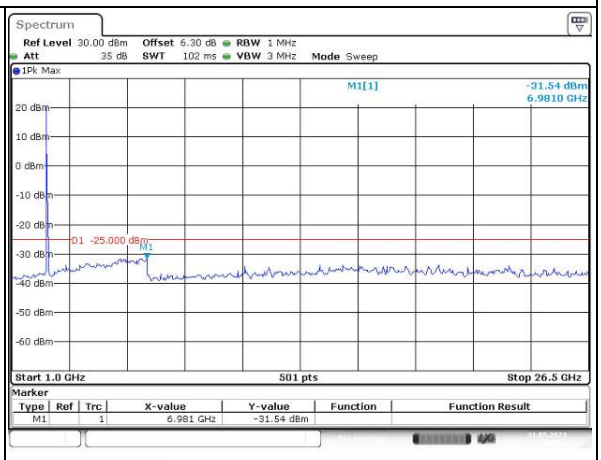
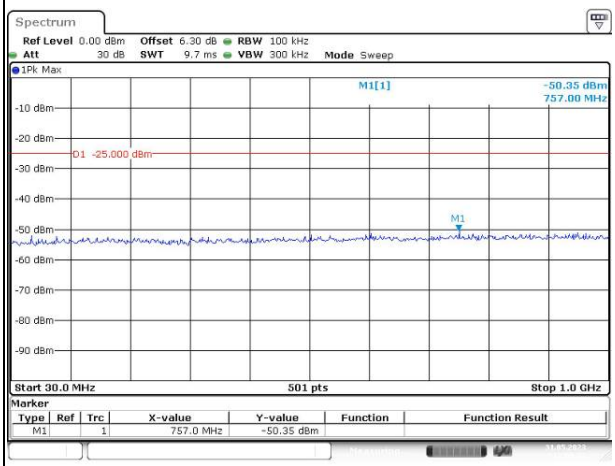
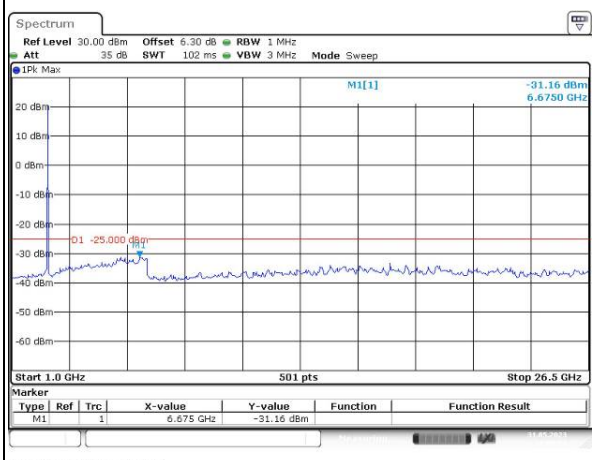
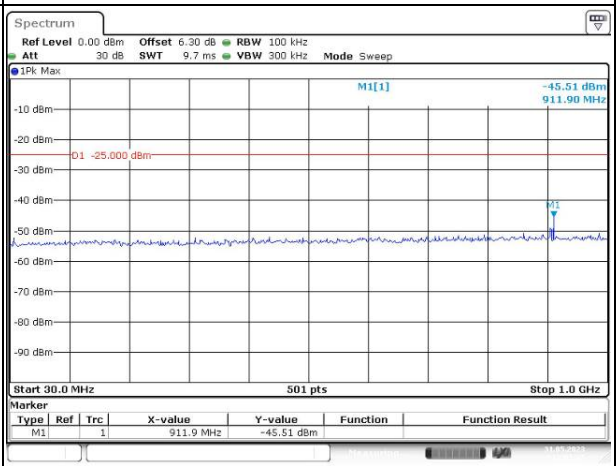
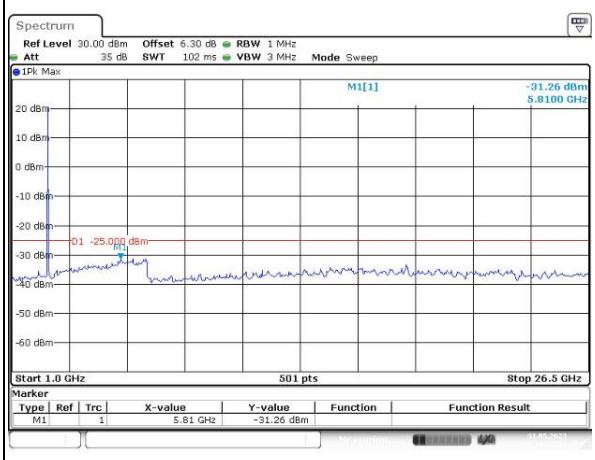
Test Plots(Note: The 6.3dB is the Insertion loss of the RF cable, Power splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

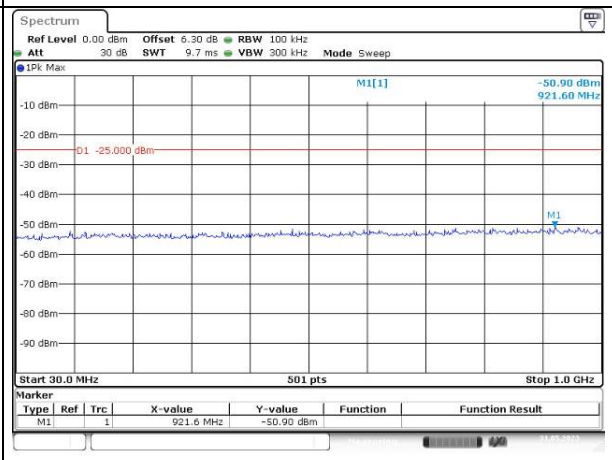
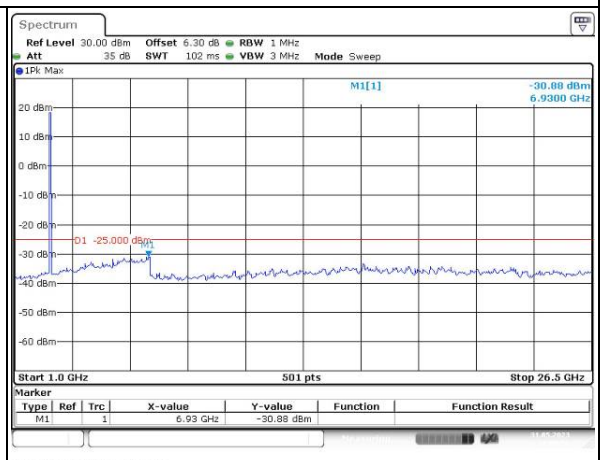
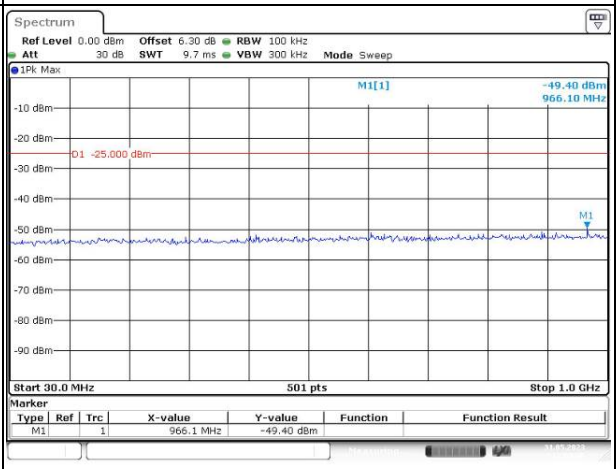
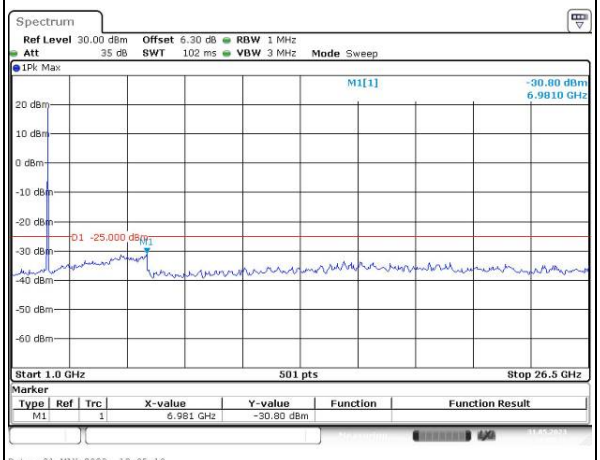
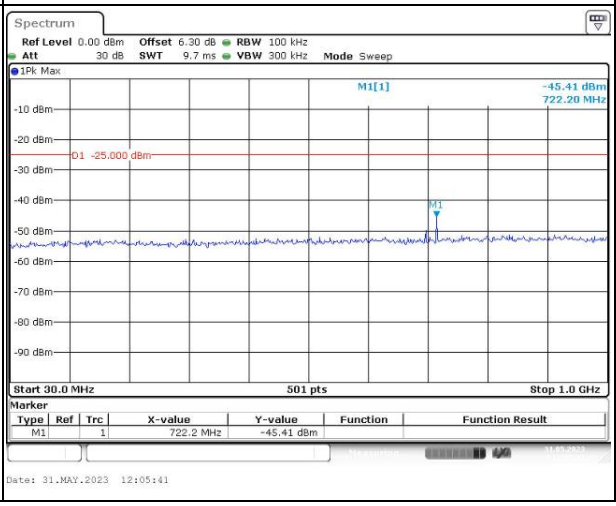
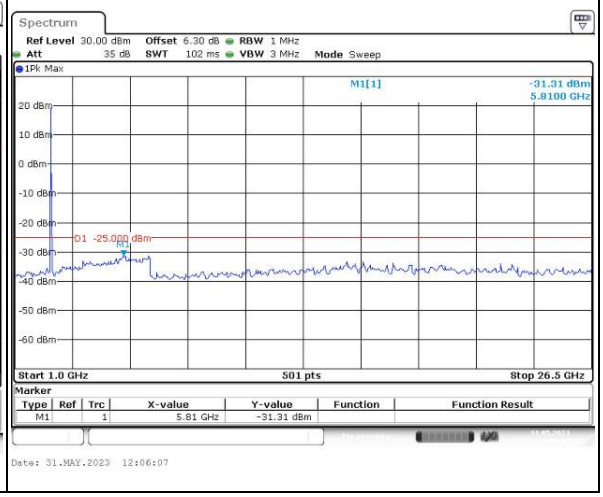
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Hist		

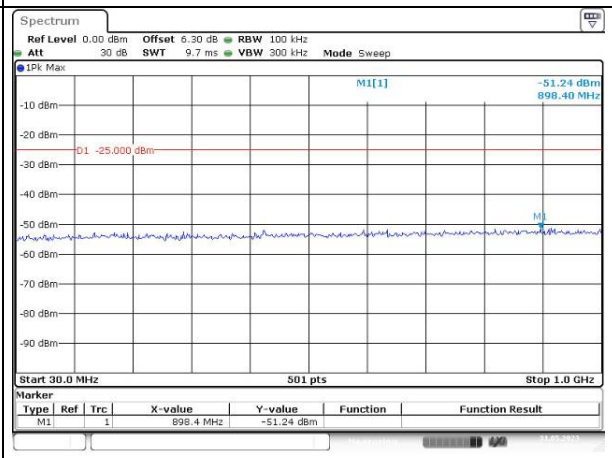
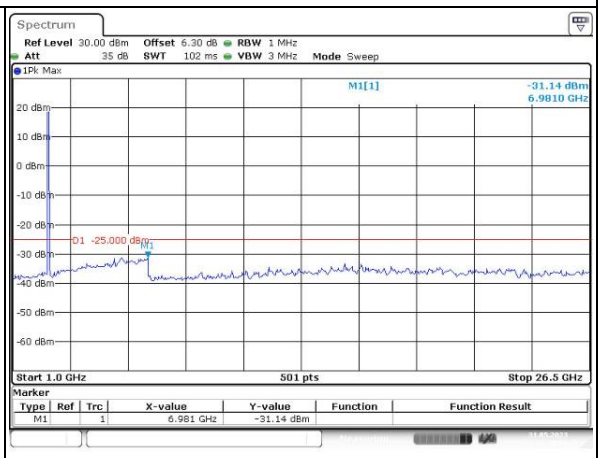
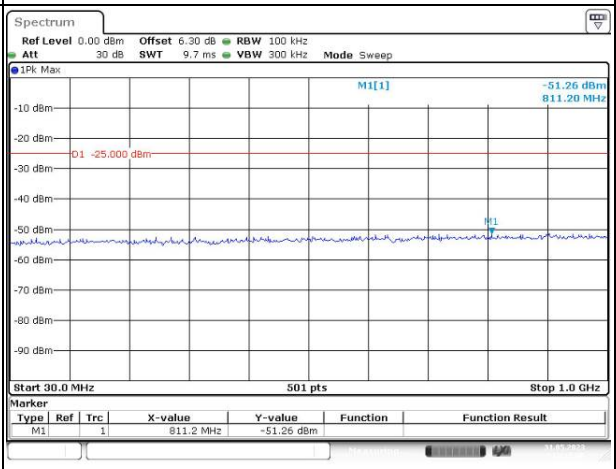
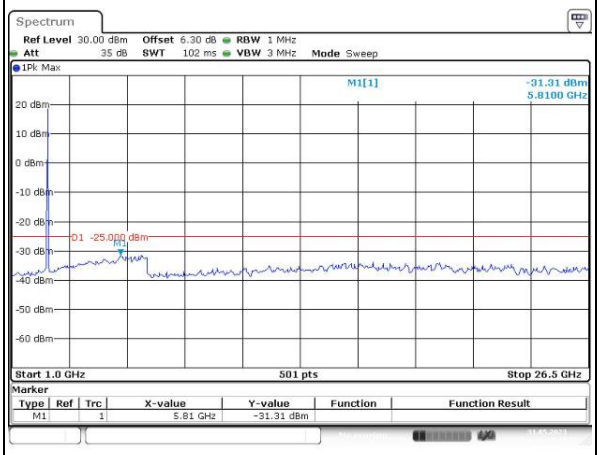
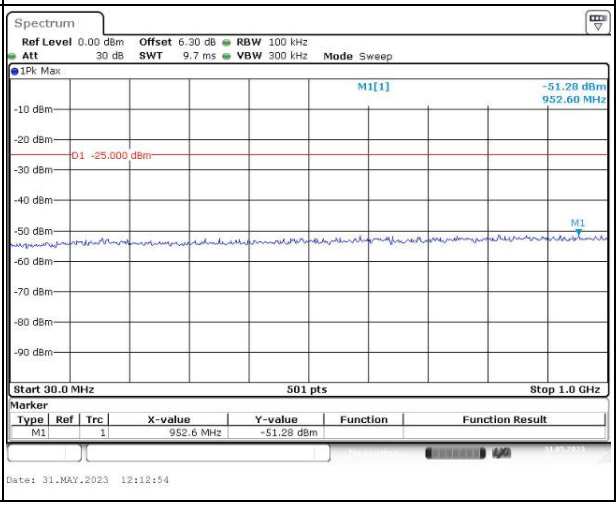
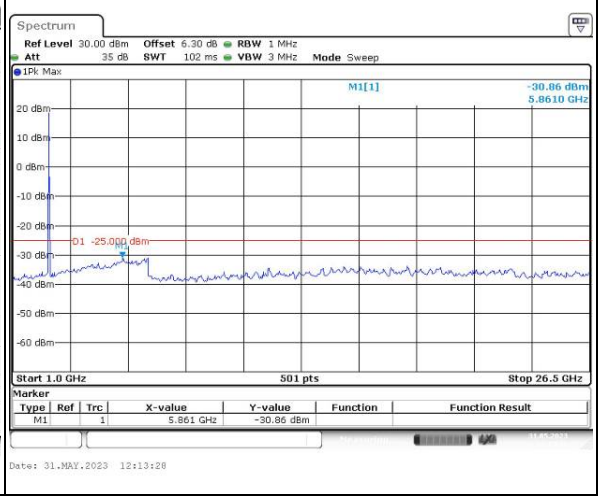
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

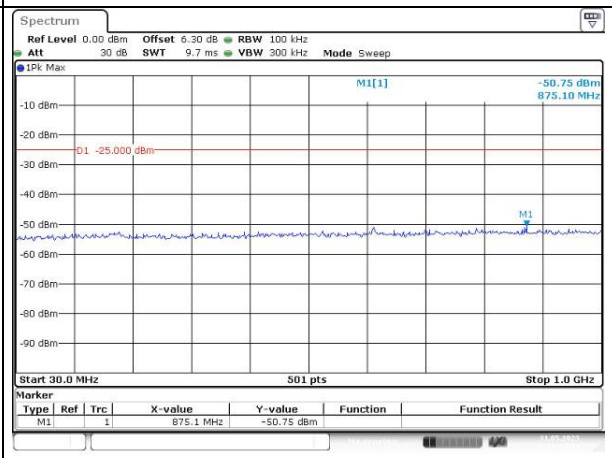
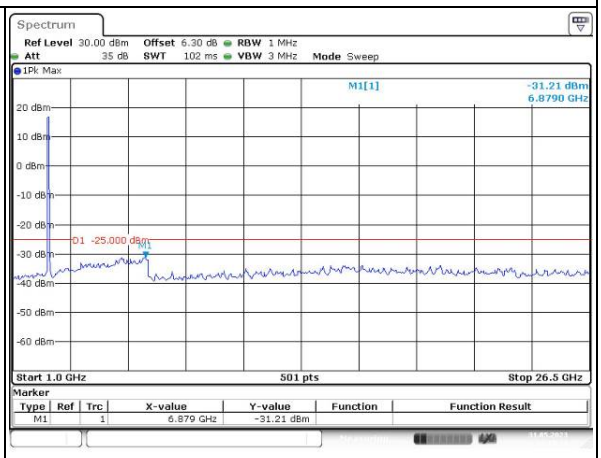
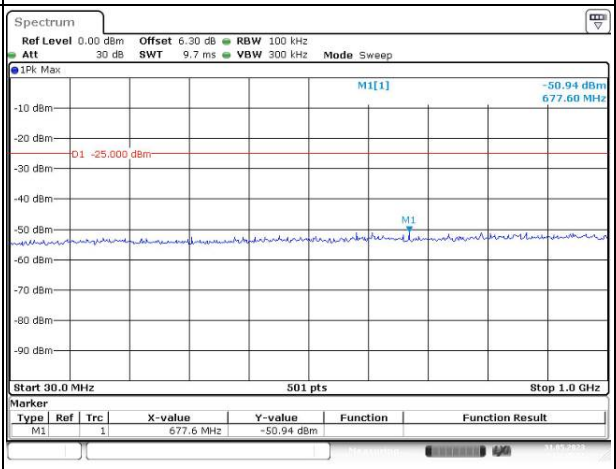
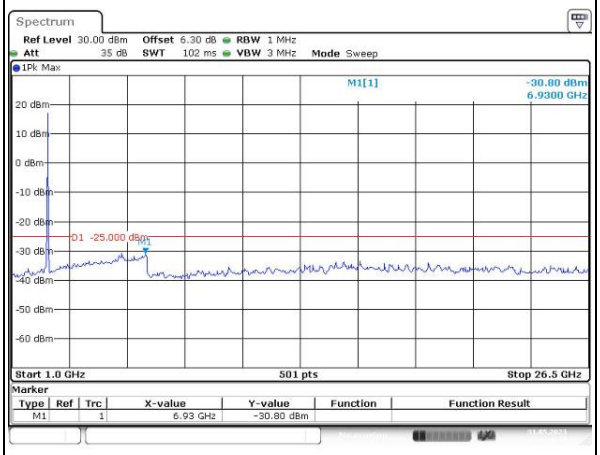
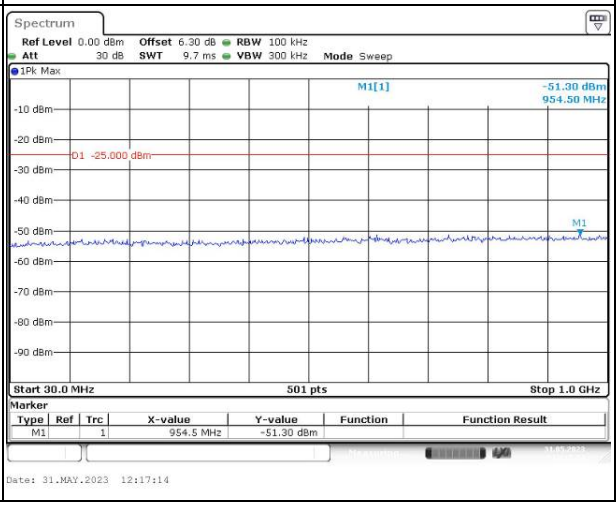
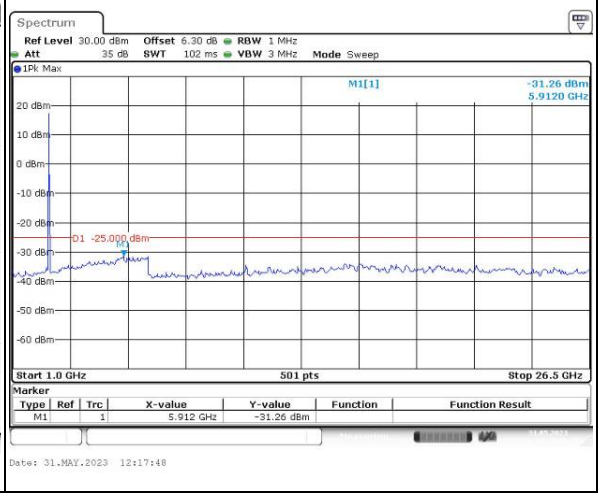
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

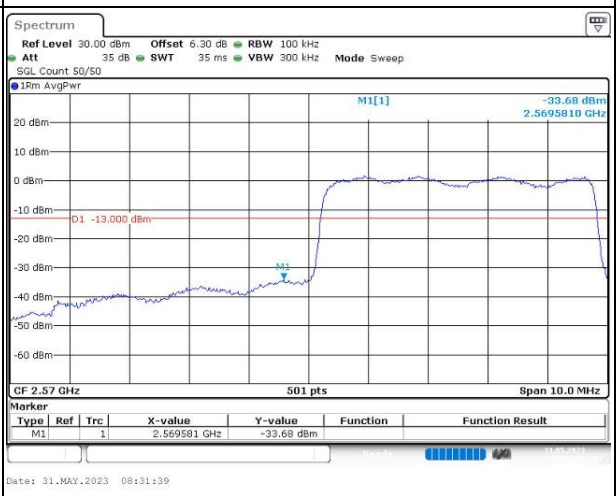
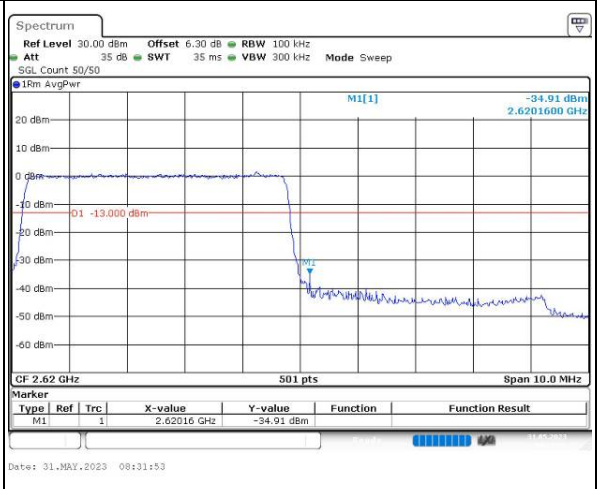
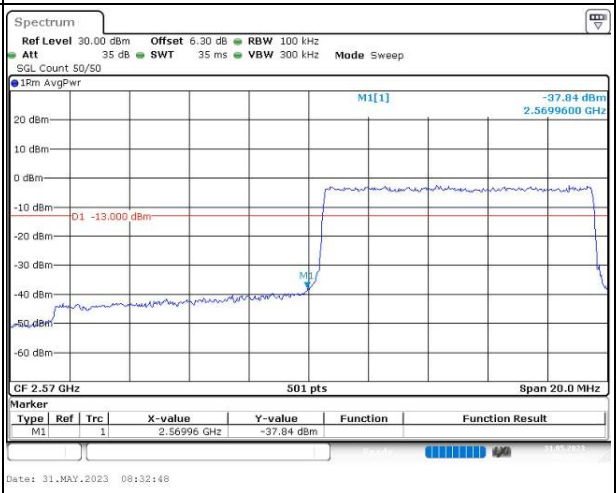
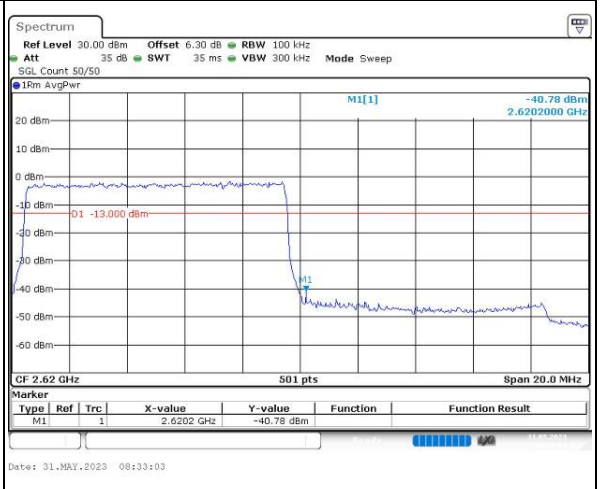
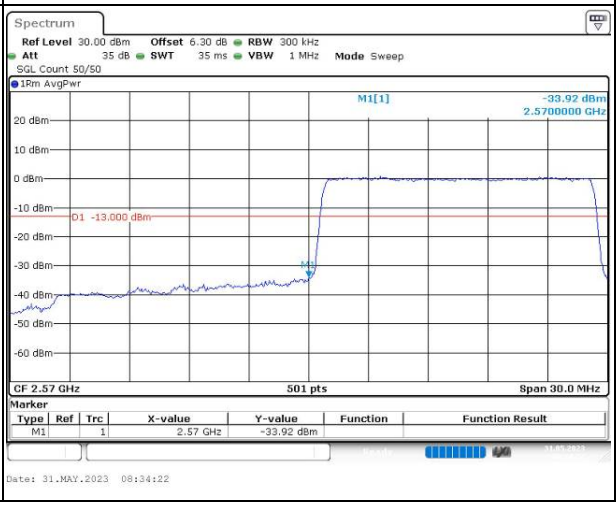
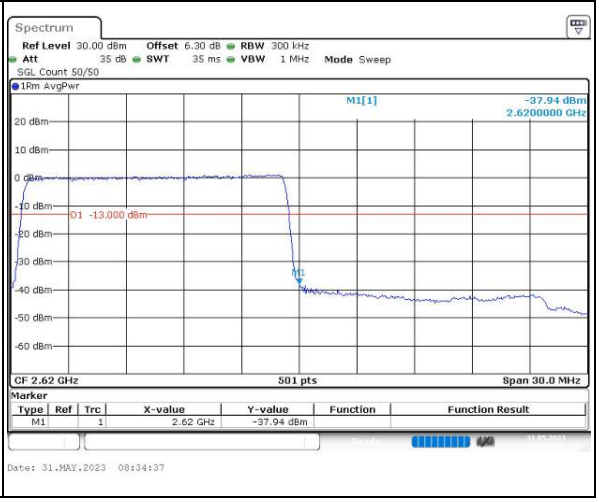
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

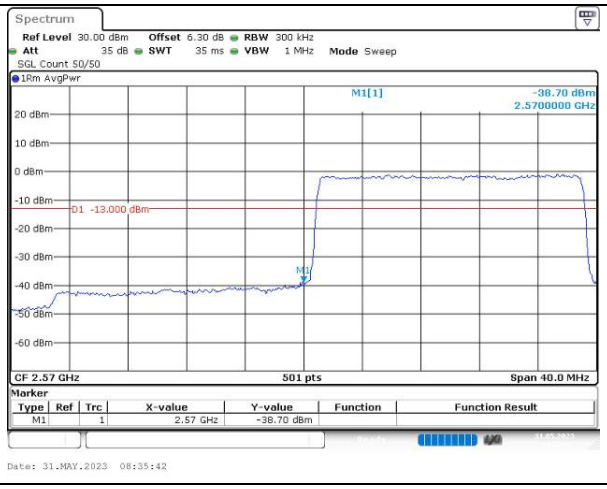
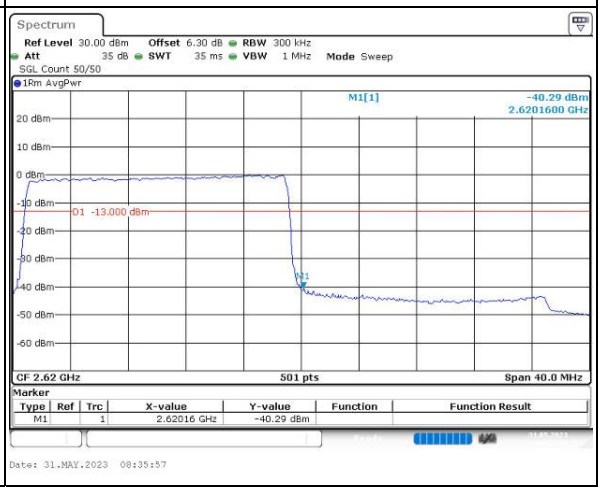
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

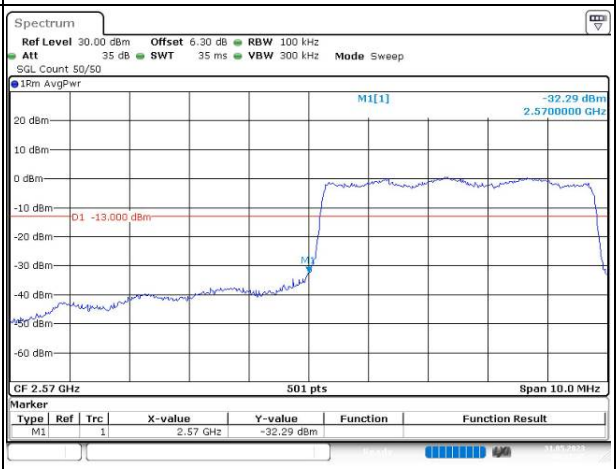
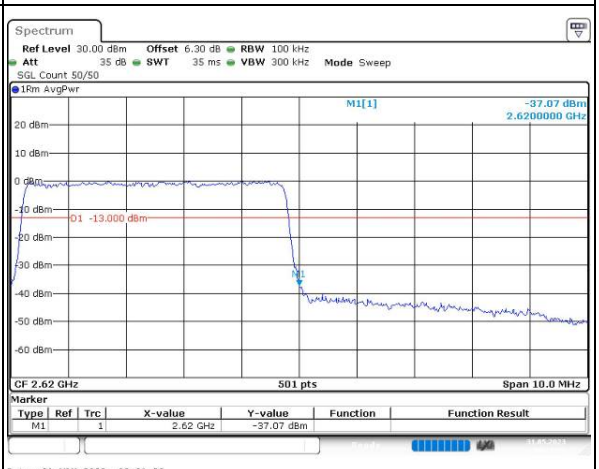
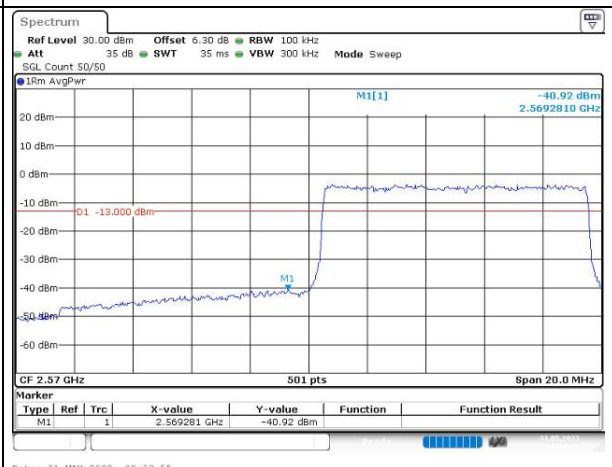
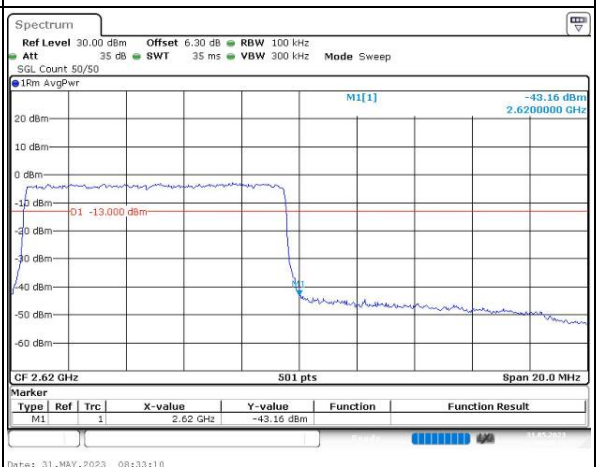
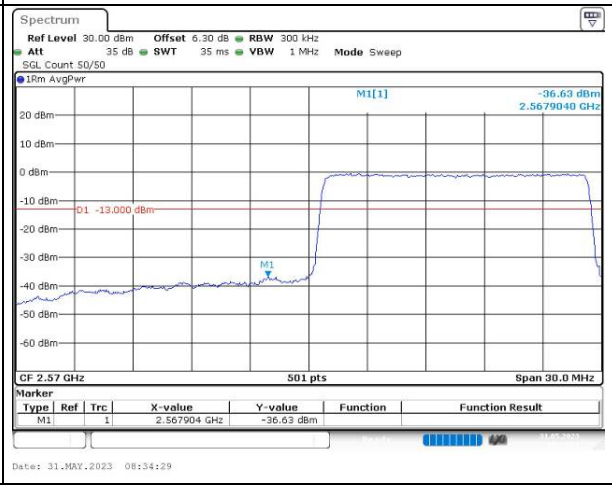
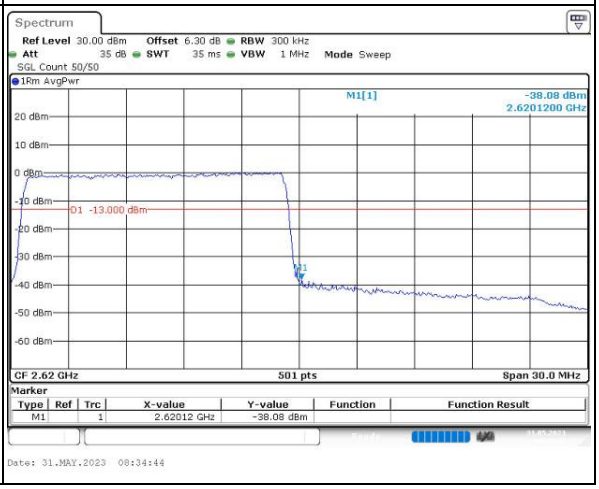
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

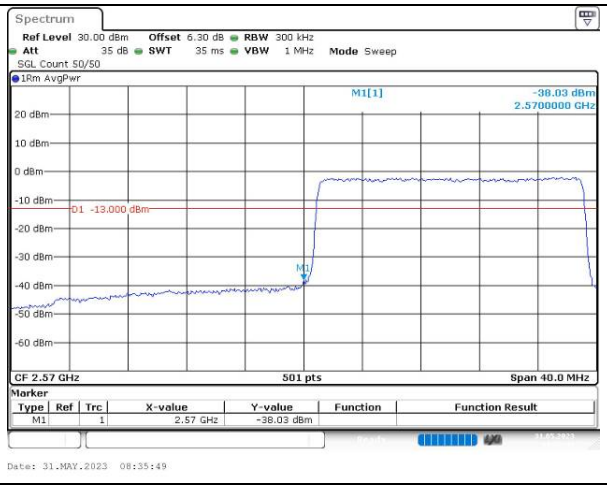
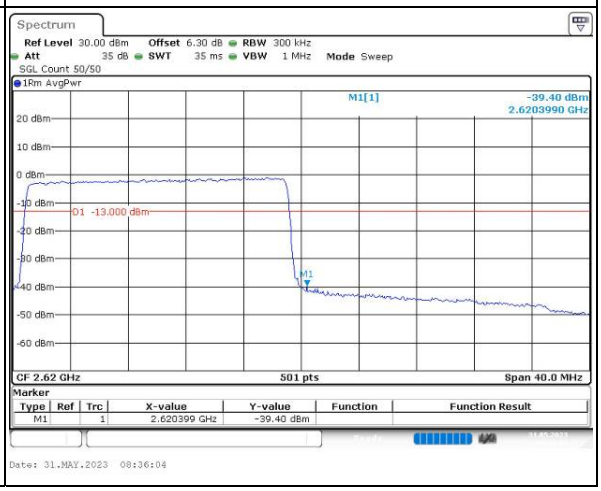
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal		
Channel	**20MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 5MHz		
QPSK 10MHz		
QPSK 15MHz		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 20MHz		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 5MHz		
16QAM 10MHz		
16QAM 15MHz		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 20MHz		

4.17 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	25K9-3	Test Date:	2023/05/30~2023/08/16
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	**Pass**

Environmental Conditions:					
Temperature:	26.7~27.2	Relative Humidity:	49~55	ATM Pressure:	99.6~100.0

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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
Unknown	Coaxial tee connector	Unknown	2204004	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
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	2537.5	2595	2652.5
10MHz	2540	2595	2650
15MHz	2542.5	2595	2647.5
20MHz	2545	2595	2645

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	22.3	22.29	22.6	24.2	33
	RB1#13	22.45	22.3	22.79		
	RB1#24	22.27	22.18	22.65		
	RB15#0	21.28	21.22	21.7		
	RB15#10	21.41	21.29	21.74		
	RB25#0	21.32	21.27	21.67		
5MHz 16QAM	RB1#0	21.33	21.43	21.56	23.18	33
	RB1#13	21.49	21.54	21.77		
	RB1#24	21.28	21.39	21.62		
	RB15#0	20.33	20.32	20.66		
	RB15#10	20.44	20.37	20.71		
	RB25#0	20.44	20.29	20.71		
10MHz QPSK	RB1#0	22.36	22.32	22.63	24.42	33
	RB1#25	22.64	22.5	23.01		
	RB1#49	22.31	22.34	22.75		
	RB25#0	21.21	21.26	21.71		
	RB25#25	21.4	21.35	21.77		
	RB50#0	21.3	21.33	21.74		
10MHz 16QAM	RB1#0	21.24	21.38	21.79	23.57	33
	RB1#25	21.51	21.59	22.16		
	RB1#49	21.17	21.38	21.88		
	RB25#0	20.31	20.34	20.75		
	RB25#25	20.45	20.43	20.74		
	RB50#0	20.34	20.38	20.71		
15MHz QPSK	RB1#0	22.27	22.22	22.42	24.11	33
	RB1#38	22.34	22.32	22.7		
	RB1#74	22.25	22.21	22.65		
	RB36#0	21.33	21.23	21.69		
	RB36#39	21.41	21.38	21.8		
	RB75#0	21.38	21.33	21.74		
15MHz 16QAM	RB1#0	21.21	21.42	21.63	23.28	33
	RB1#38	21.23	21.47	21.87		
	RB1#74	21.12	21.41	21.82		
	RB36#0	20.19	20.35	20.64		
	RB36#39	20.27	20.45	20.74		
	RB75#0	20.29	20.34	20.72		

20MHz QPSK	RB1#0	22.04	22.12	22.2	24.31	33
	RB1#50	22.54	22.59	22.9		
	RB1#99	22.01	22.11	22.56		
	RB50#0	21.1	21.18	21.57		
	RB50#50	21.26	21.36	21.64		
	RB100#0	21.18	21.28	21.65		
20MHz 16QAM	RB1#0	21.08	21.35	21.26	23.32	33
	RB1#50	21.52	21.8	21.91		
	RB1#99	20.99	21.33	21.56		
	RB50#0	20.14	20.26	20.66		
	RB50#50	20.29	20.44	20.71		
	RB100#0	20.19	20.35	20.67		
Note: EIRP=Conducted Power(dBm) - L_C(dB) + G_T(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	8.75	9.1	8.93	13
	RB100#0	8.2	9.36	9.19	13
20MHz 16QAM	RB1#0	9.59	10	9.77	13
	RB100#0	9.83	10.14	10.03	13
				Result:	**Pass**

Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.531	4.491	4.491	5	5.02	5
5MHz 16QAM	4.491	4.511	4.511	5	4.94	5.14
10MHz QPSK	8.982	8.942	8.982	9.72	9.68	10.48
10MHz 16QAM	8.942	8.982	8.942	9.56	10.08	9.6
15MHz QPSK	13.413	13.473	13.533	15.36	16.02	16.08
15MHz 16QAM	13.533	13.593	13.533	15.24	16.44	16.14
20MHz QPSK	17.884	17.964	18.044	19.28	19.92	19.92
20MHz 16QAM	17.964	17.964	18.044	20.24	19.28	19.68
Note: The test plots please refer to the Plots of Occupied Bandwidth						

Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

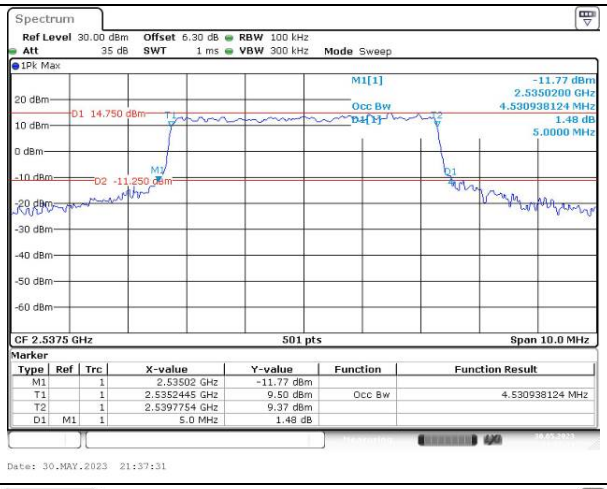
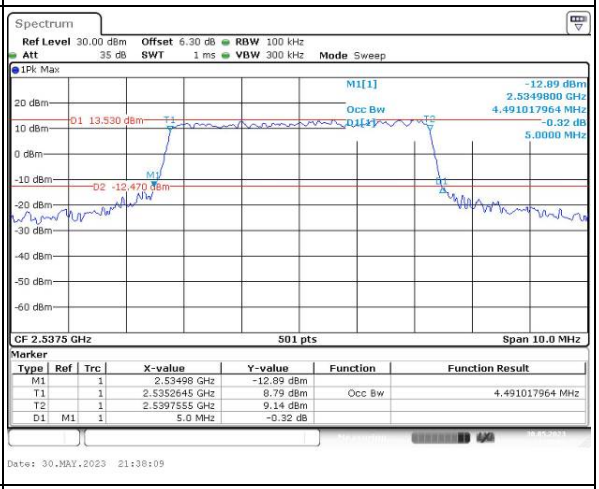
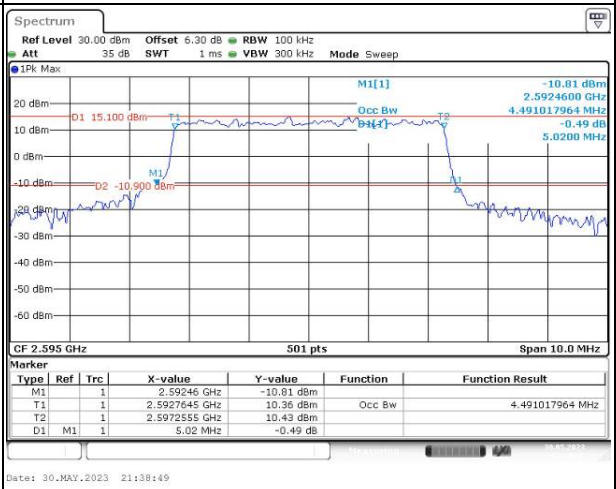
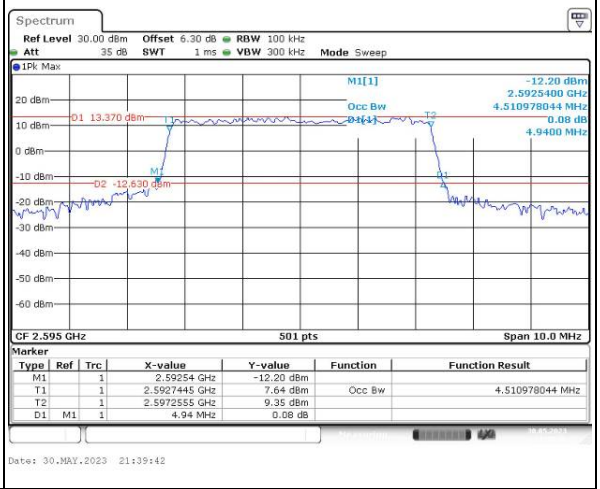
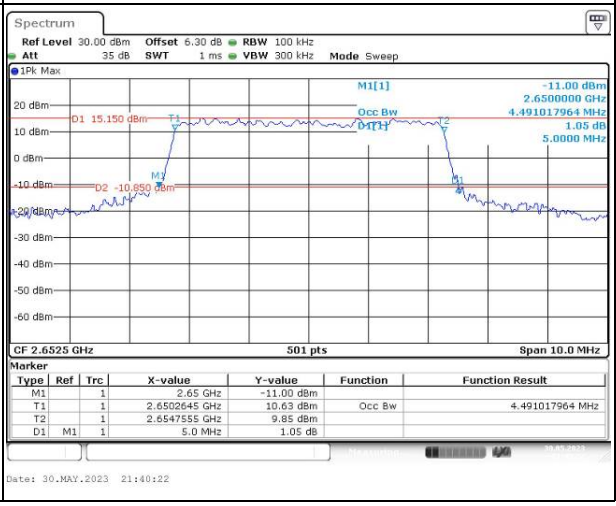
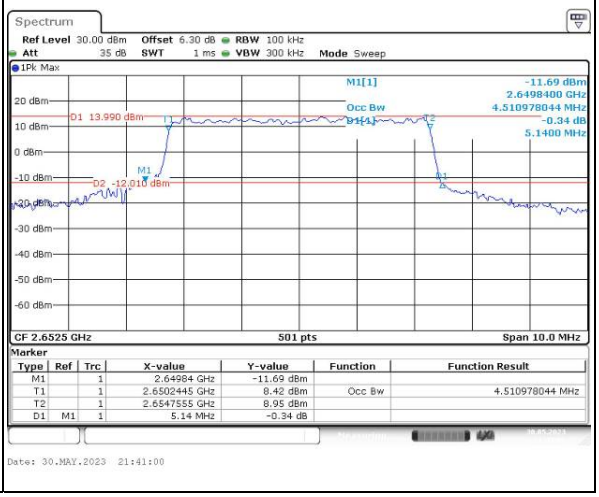
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

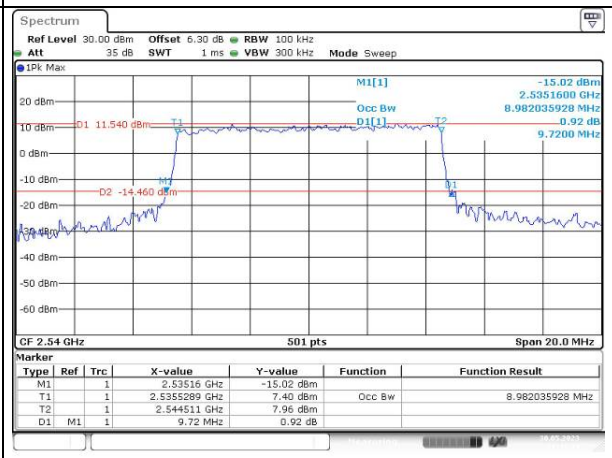
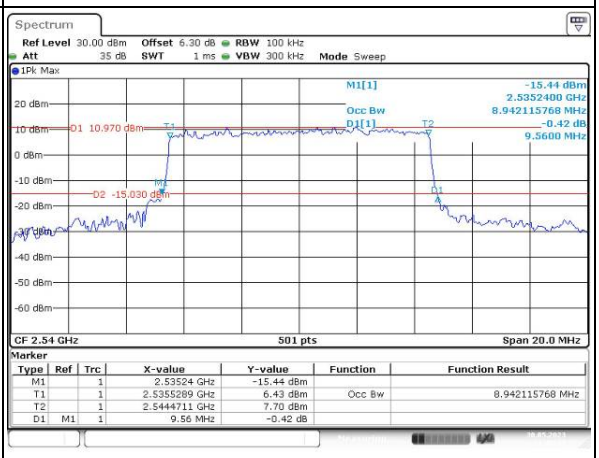
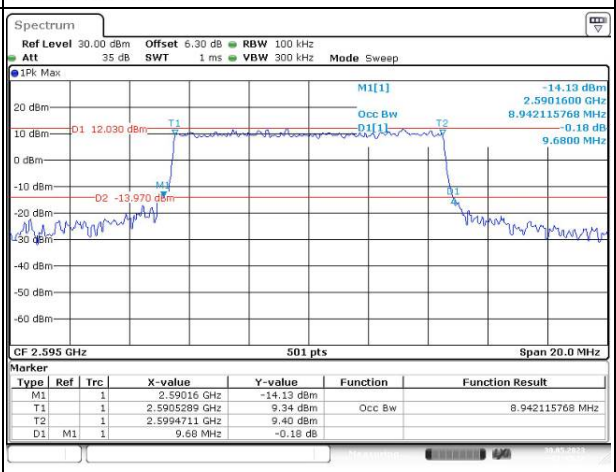
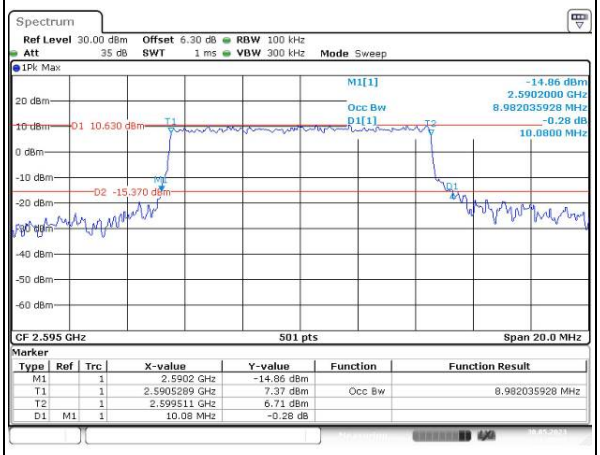
Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	2536.197	2535.00	2654.008	2655
	-20	3.87	2536.186	2535.00	2654.038	2655
	-10	3.87	2536.183	2535.00	2654.016	2655
	0	3.87	2536.106	2535.00	2654.096	2655
	10	3.87	2536.160	2535.00	2654.071	2655
	20	3.87	2536.138	2535.00	2654.022	2655
	30	3.87	2536.161	2535.00	2654.049	2655
	40	3.87	2536.159	2535.00	2654.064	2655
	50	3.87	2536.179	2535.00	2654.008	2655
Frequency Stability vs. Voltage	20	3.47	2536.164	2535.00	2654.016	2655
	20	4.45	2536.141	2535.00	2654.072	2655
					Result:	**Pass**

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	2536.017	2535.00	2654.053	2655
	-20	3.87	2536.000	2535.00	2654.042	2655
	-10	3.87	2536.014	2535.00	2654.074	2655
	0	3.87	2536.029	2535.00	2654.014	2655
	10	3.87	2536.077	2535.00	2654.002	2655
	20	3.87	2536.058	2535.00	2654.022	2655
	30	3.87	2536.023	2535.00	2654.079	2655
	40	3.87	2536.056	2535.00	2654.070	2655
	50	3.87	2536.099	2535.00	2654.008	2655
Frequency Stability vs. Voltage	20	3.47	2536.068	2535.00	2654.090	2655
	20	4.45	2536.025	2535.00	2654.093	2655
					Result:	**Pass**

Test Plots(Note: The 6.3dB is the Insertion loss of the RF cable, Coaxial tee connector and DC Block, which was offset into the Spectrum Analyzer)**:**

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest