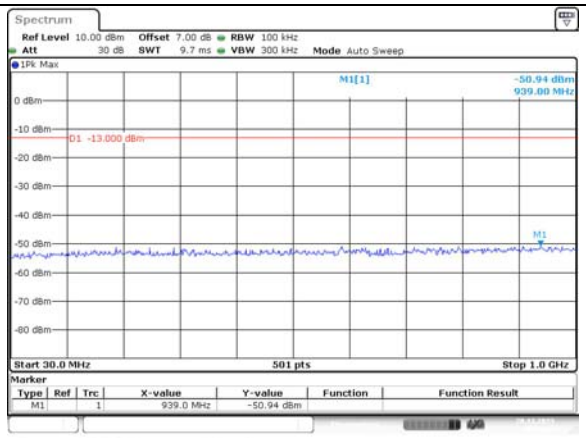
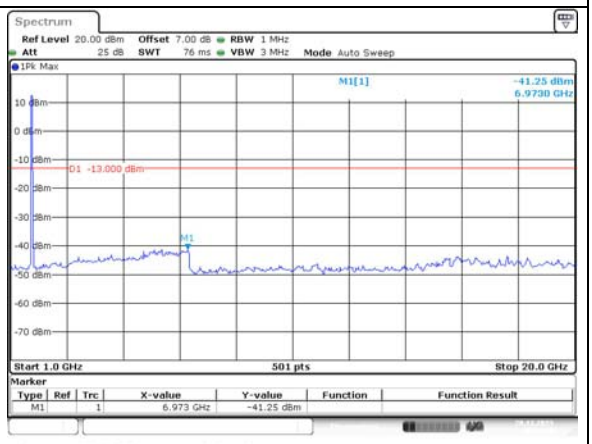
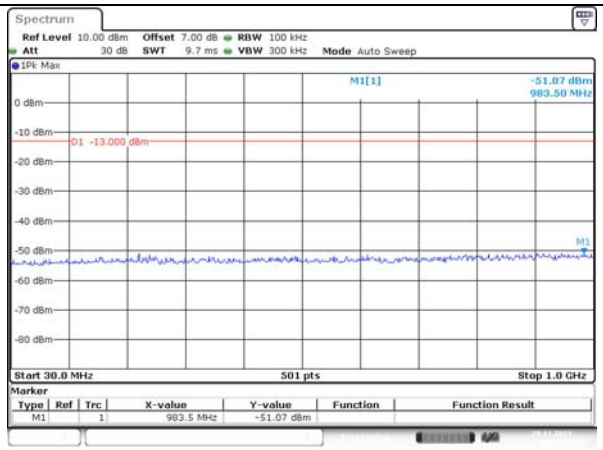
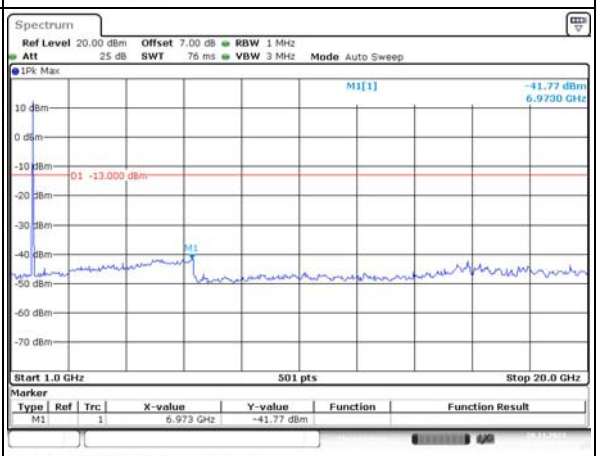
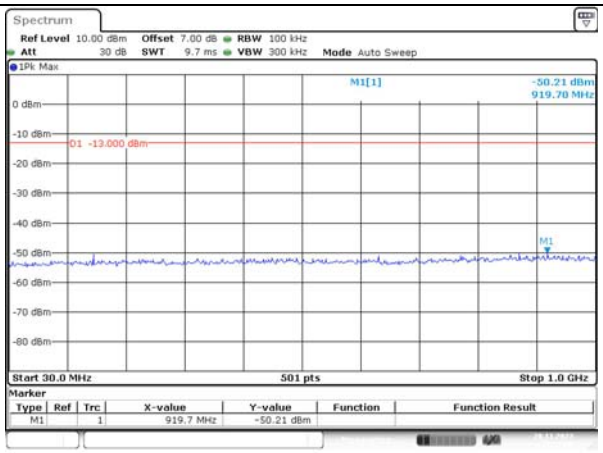
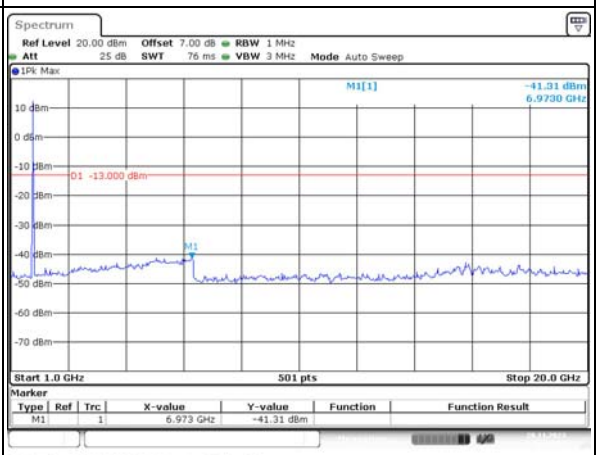
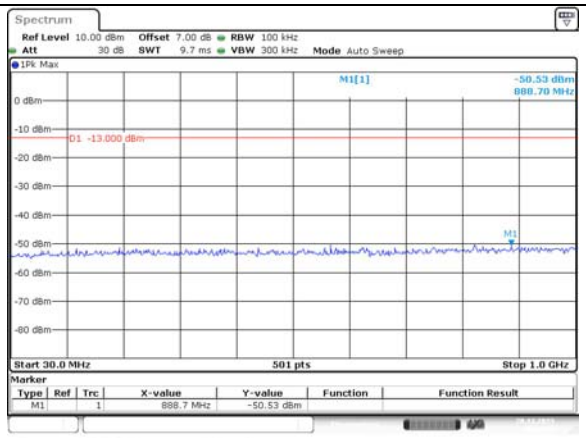
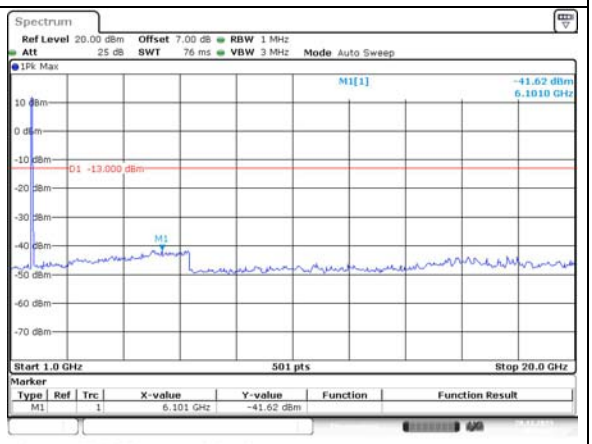
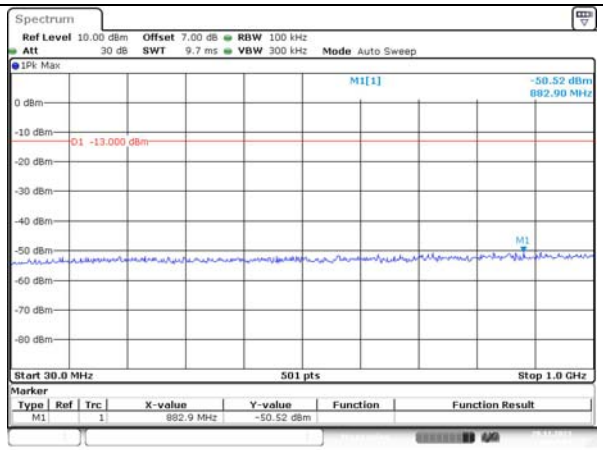
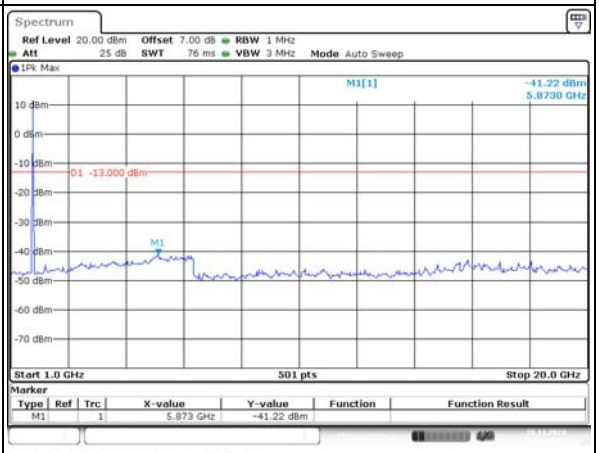
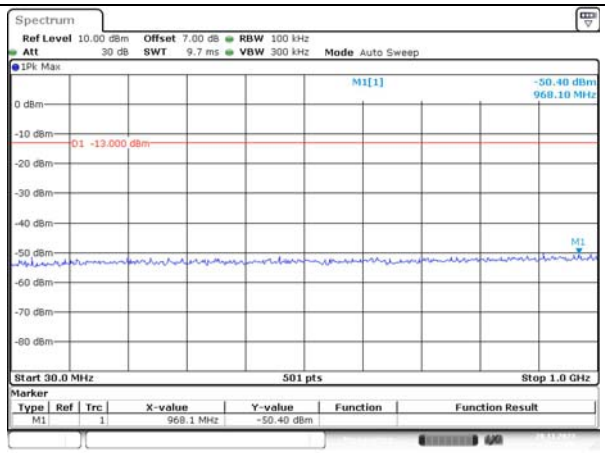
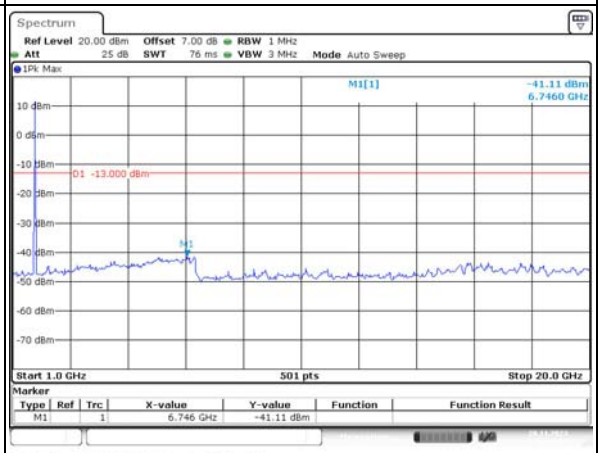
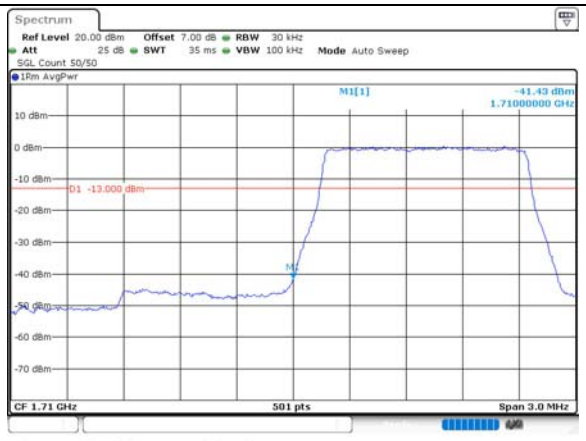
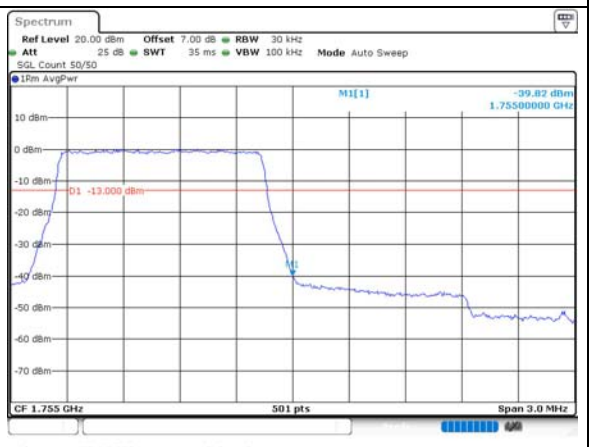
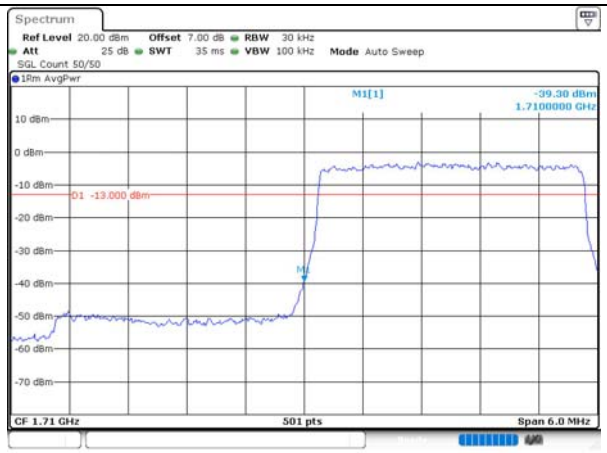
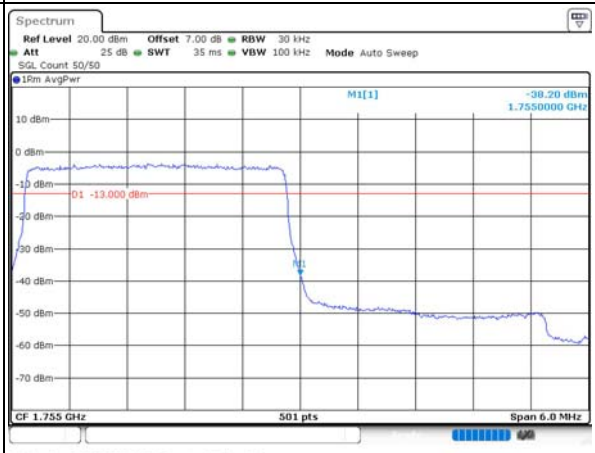
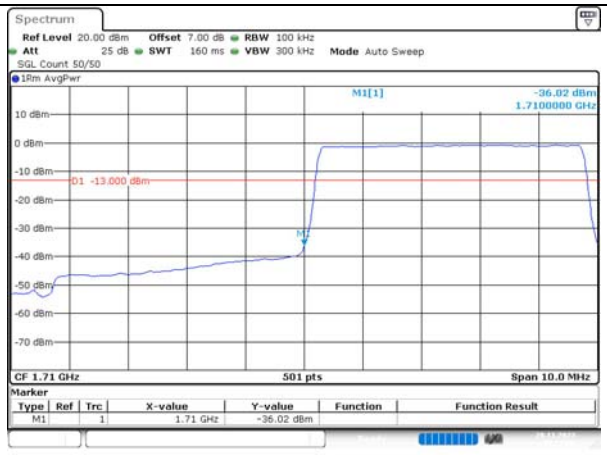
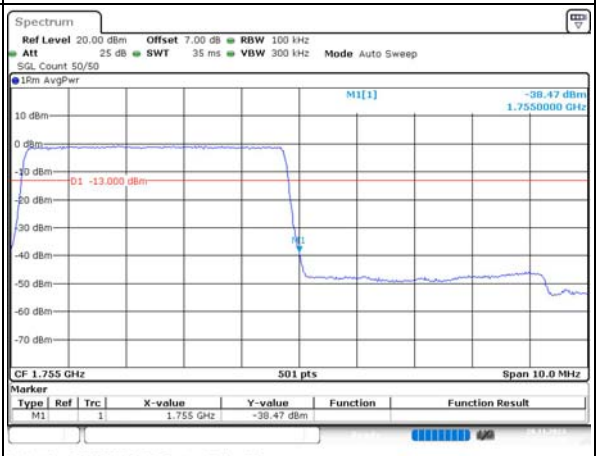
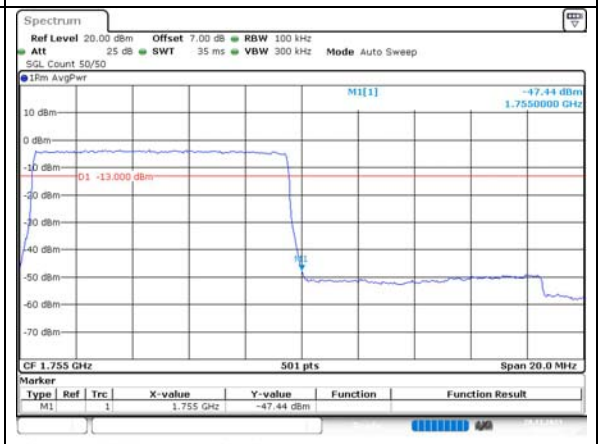
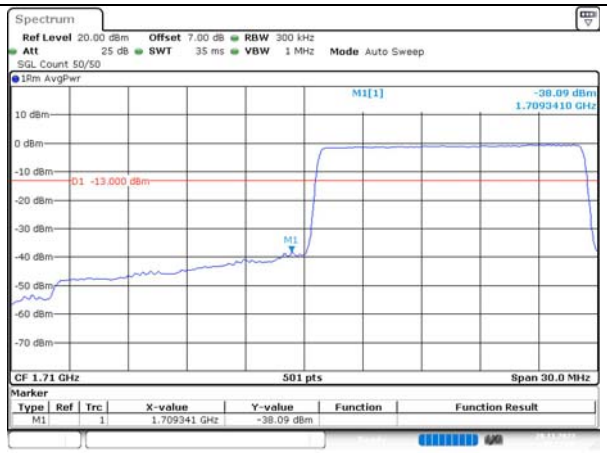
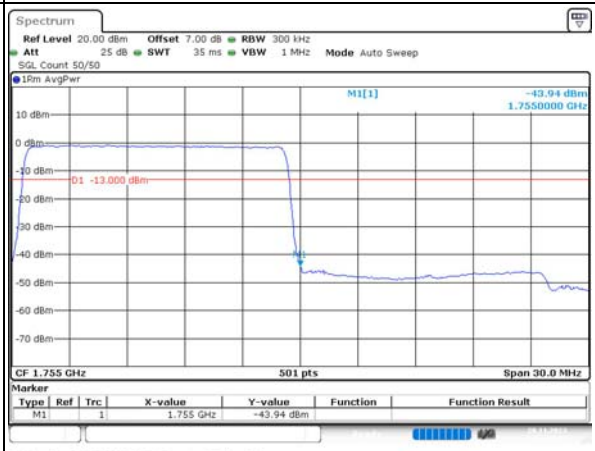
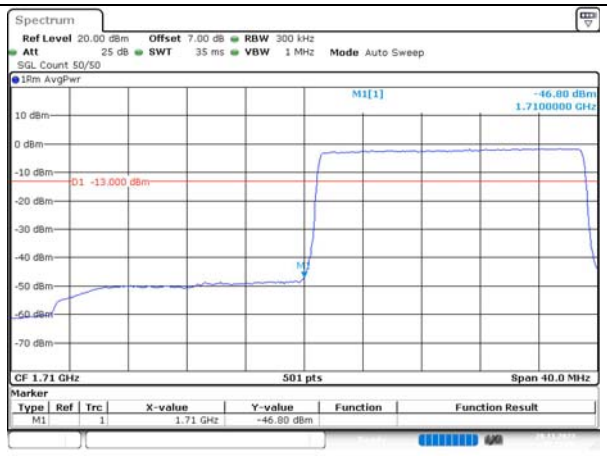
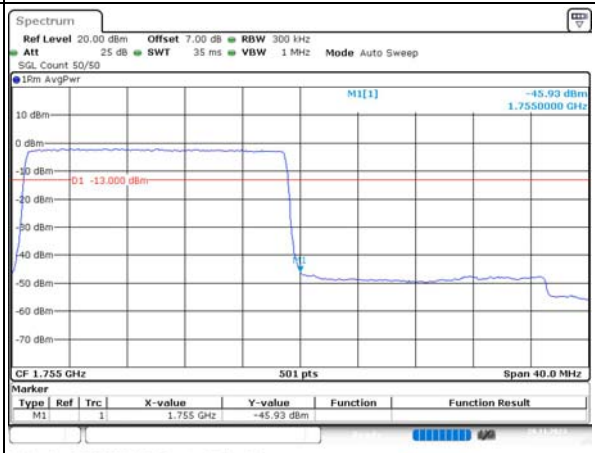
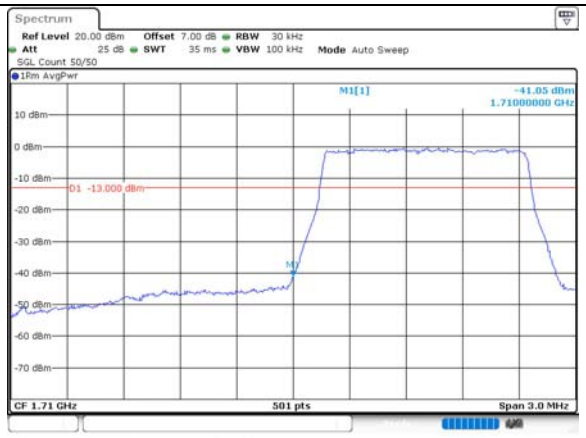
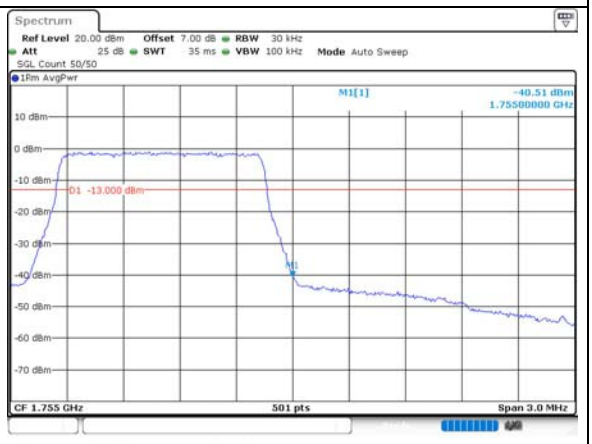
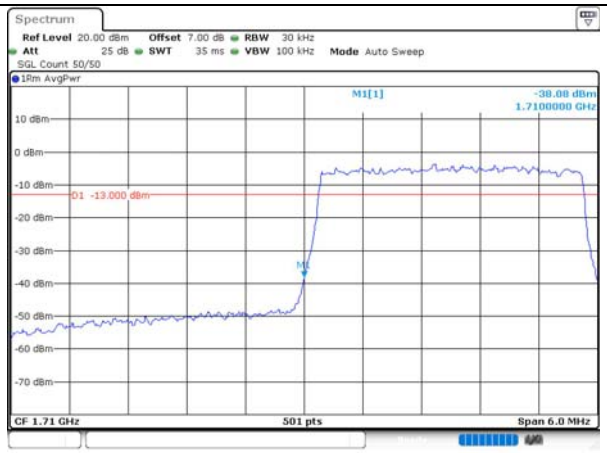
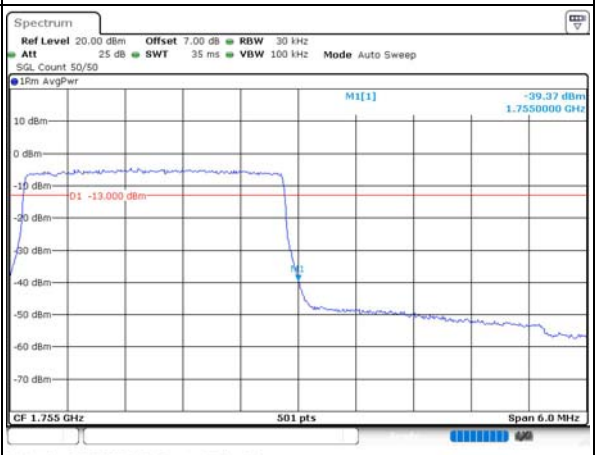
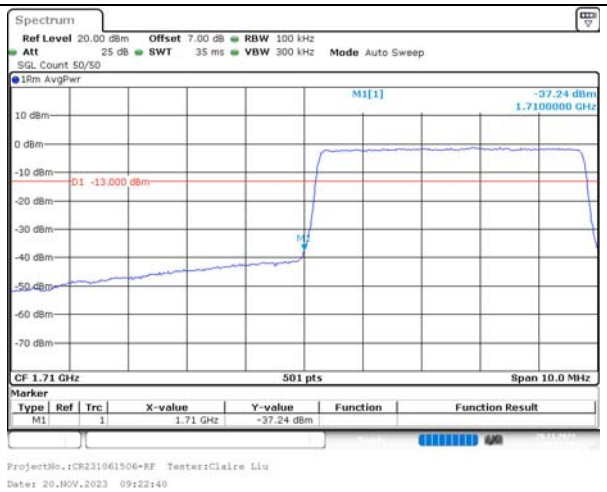
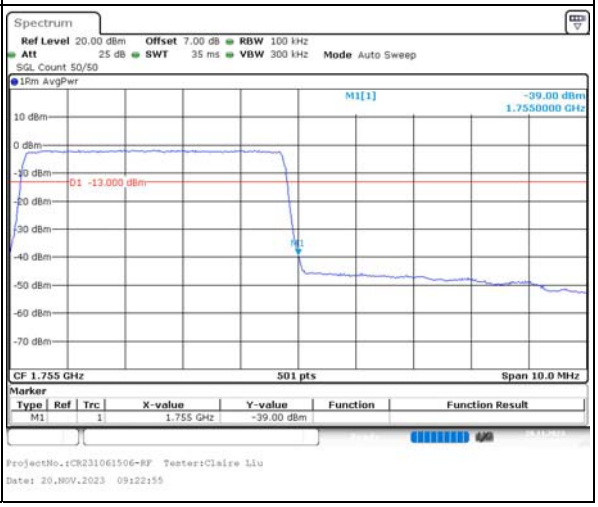
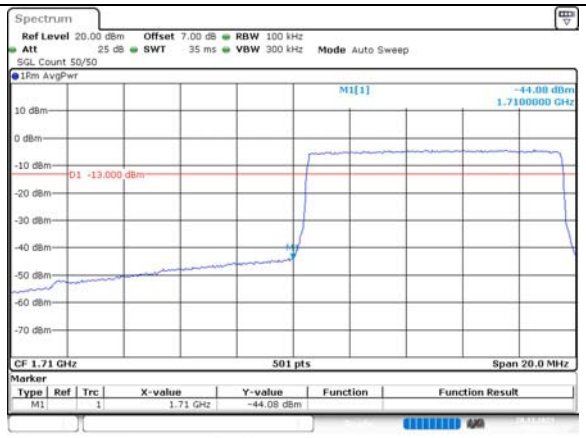
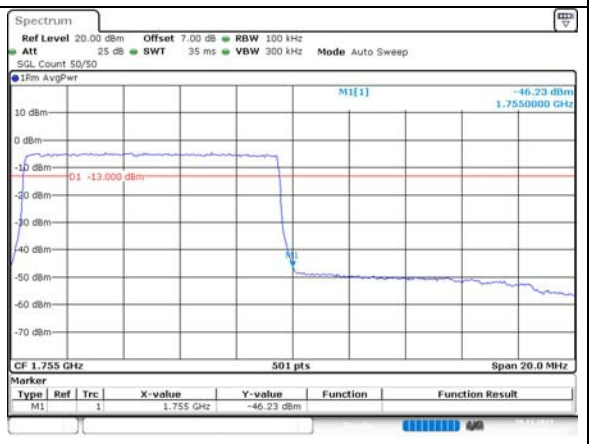
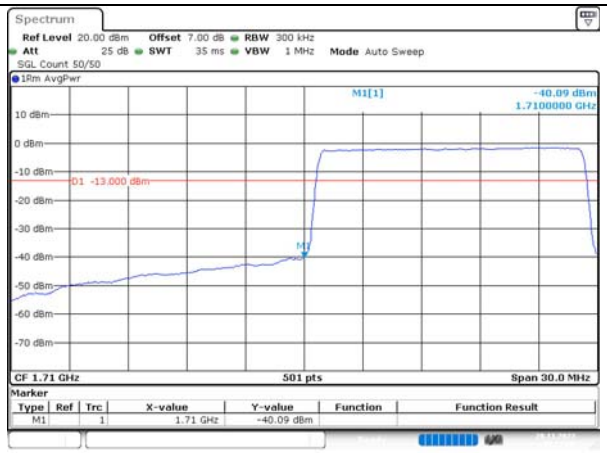
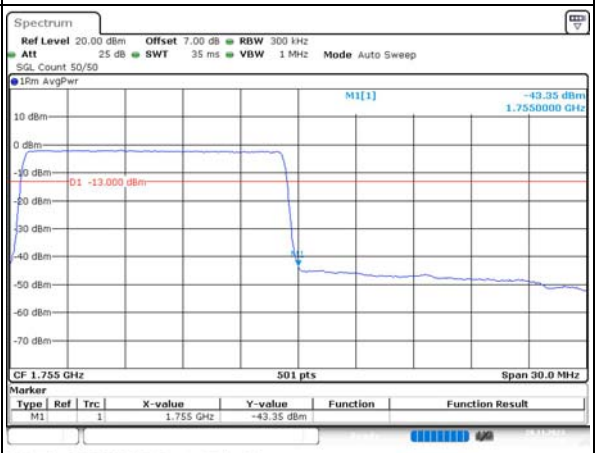
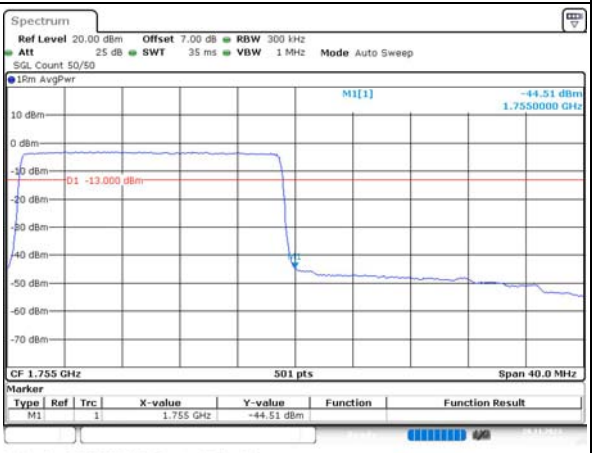
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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

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

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 10MHz		
QPSK 15MHz		
QPSK 20MHz		

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

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 10MHz		
16QAM 15MHz		
16QAM 20MHz		

4.8 Antenna Port Test Data and Results for LTE Band 5

Serial Number:	2CII-1	Test Date:	2023/11/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	24.5	Relative Humidity: (%)	54	ATM Pressure: (kPa)	100.1

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Clrcuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	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	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	2023/9/28	2024/9/27
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	824.7	836.5	848.3
3MHz	825.5	836.5	847.5
5MHz	826.5	836.5	846.5
10MHz	829	836.5	844

Test Data:

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		
1.4MHz QPSK	RB1#0	22.98	23	23.26	13.86	38.45
	RB1#3	23.02	23.01	**23.4**		
	RB1#5	22.89	22.95	23.3		
	RB3#0	23.04	23.05	23.31		
	RB3#3	23.1	23.15	23.3		
	RB6#0	22.16	22.16	22.45		
1.4MHz 16QAM	RB1#0	21.94	22.09	22.14	12.74	38.45
	RB1#3	22.03	22.23	**22.28**		
	RB1#5	21.97	22.13	22.22		
	RB3#0	22.24	22.12	22.25		
	RB3#3	22.22	22.15	22.25		
	RB6#0	21.1	21.26	21.29		
3MHz QPSK	RB1#0	22.4	22.41	22.76	13.32	38.45
	RB1#8	22.48	22.55	**22.86**		
	RB1#14	22.38	22.52	22.76		
	RB6#0	21.52	21.69	21.92		
	RB6#9	21.57	21.82	21.96		
	RB15#0	21.54	21.78	21.91		
3MHz 16QAM	RB1#0	21.41	22.09	21.84	12.64	38.45
	RB1#8	21.48	**22.18**	21.9		
	RB1#14	21.39	22.12	21.85		
	RB6#0	20.51	20.77	20.94		
	RB6#9	20.53	20.83	20.99		
	RB15#0	20.62	20.8	20.86		
5MHz QPSK	RB1#0	23.08	23.16	23.37	14.04	38.45
	RB1#13	23.27	23.3	**23.58**		
	RB1#24	23.13	23.31	23.5		
	RB15#0	22.09	22.32	22.5		
	RB15#10	22.13	22.34	22.47		
	RB25#0	22.07	22.33	22.42		
5MHz 16QAM	RB1#0	21.96	22.53	22.42	13.18	38.45
	RB1#13	22.07	**22.72**	22.52		
	RB1#24	22.01	22.65	22.44		
	RB15#0	21.13	21.31	21.5		
	RB15#10	21.19	21.33	21.51		
	RB25#0	21.15	21.36	21.54		
10MHz QPSK	RB1#0	23.3	23.33	23.41	14.1	38.45
	RB1#25	23.36	23.44	23.59		
	RB1#49	23.42	23.5	**23.64**		

	RB25#0	22.16	22.32	22.43		
	RB25#25	22.33	22.43	22.46		
	RB50#0	22.26	22.4	22.44		
10MHz 16QAM	RB1#0	22.81	22.44	22.44	13.45	38.45
	RB1#25	22.92	22.55	22.55		
	RB1#49	**22.99**	22.62	22.54		
	RB25#0	21.28	21.39	21.51		
	RB25#25	21.4	21.46	21.6		
	RB50#0	21.32	21.42	21.47		
Note: ERP= Conducted Power(dBm) - L_C(dB) + G_T(dBd) G_T(dBd)=G_T(dBi)-2.15						
					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	4.2	4.7	4.9	13
	RB50#0	5.16	5.19	4.96	13
10MHz 16QAM	RB1#0	5.19	5.39	5.77	13
	RB50#0	6.14	6.2	5.97	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
1.4MHz QPSK	1.102	1.096	1.102	1.278	1.278	1.29
1.4MHz 16QAM	1.102	1.096	1.096	1.278	1.302	1.272
3MHz QPSK	2.683	2.683	2.683	2.928	2.928	2.916
3MHz 16QAM	2.683	2.683	2.683	2.94	2.928	2.928
5MHz QPSK	4.511	4.511	4.491	4.92	4.92	4.92
5MHz 16QAM	4.491	4.511	4.511	4.92	4.96	4.96
10MHz QPSK	8.942	8.842	8.942	9.64	9.68	9.6
10MHz 16QAM	8.942	8.942	8.942	9.64	9.56	9.6
Note: The test plots please refer to the Plots of Occupied Bandwidth						

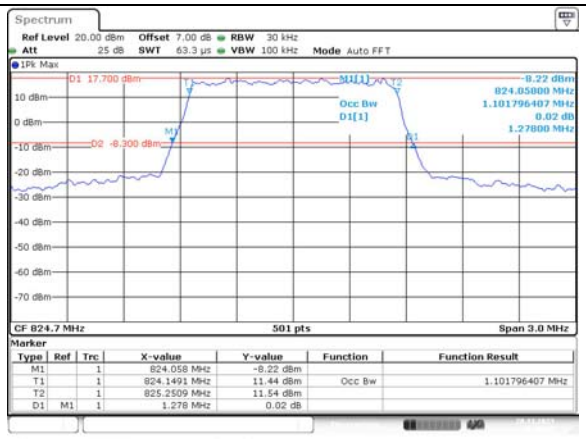
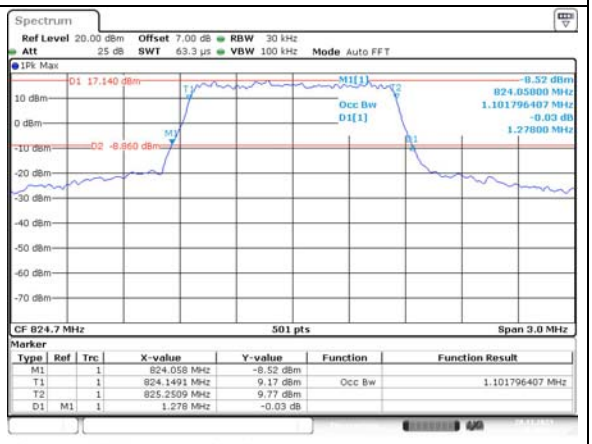
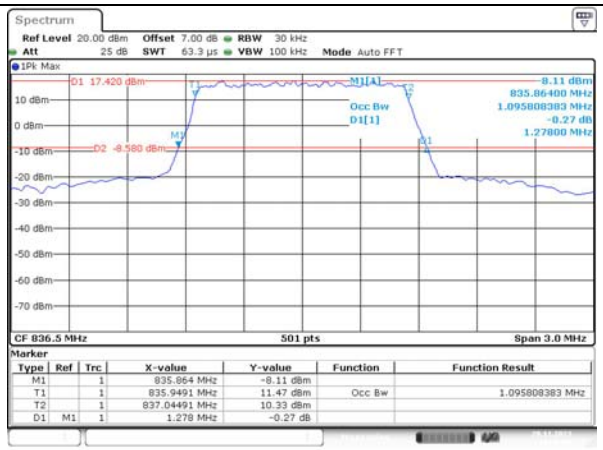
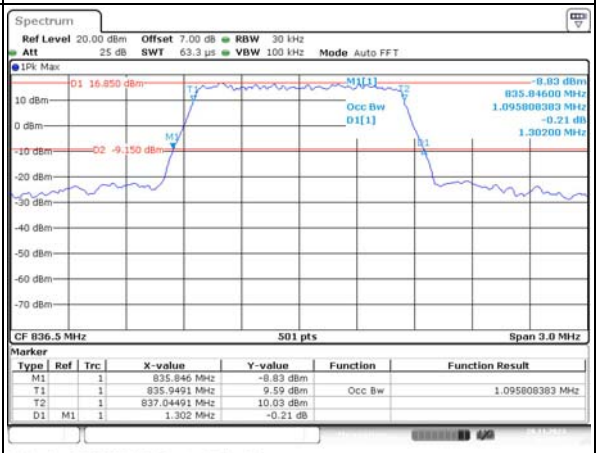
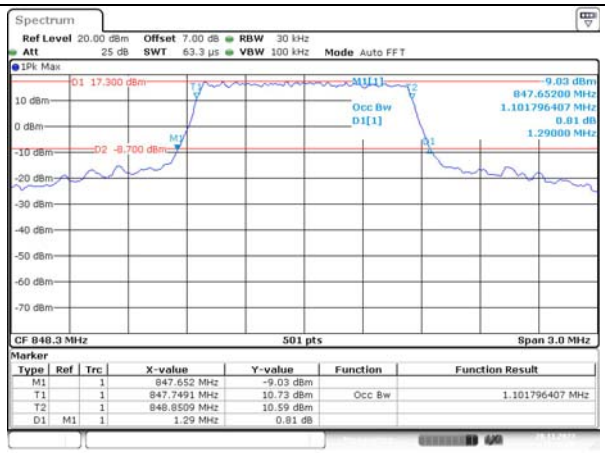
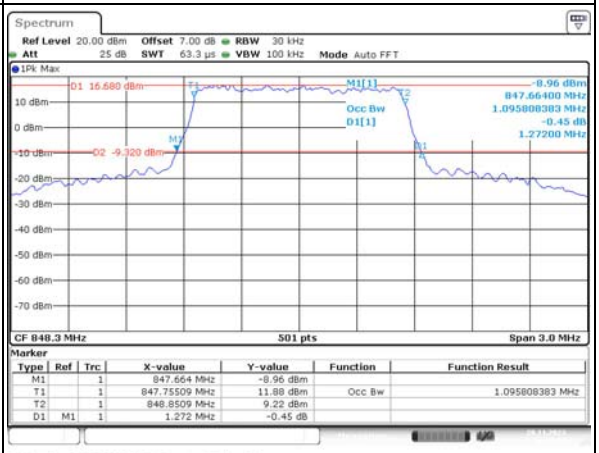
Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

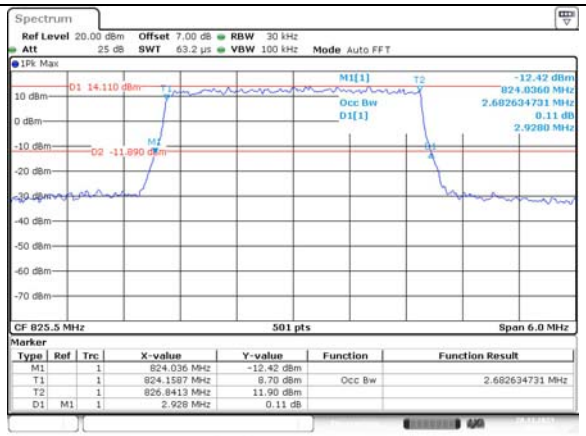
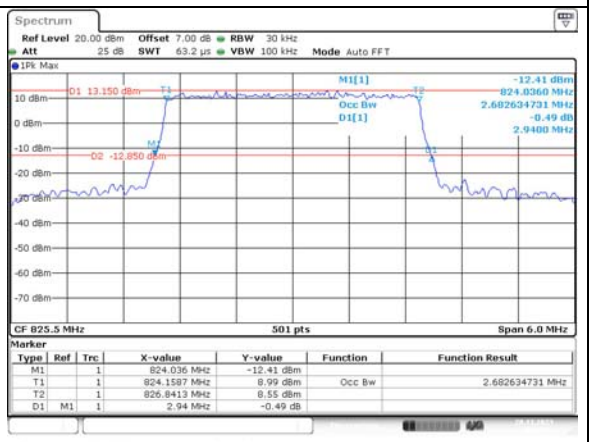
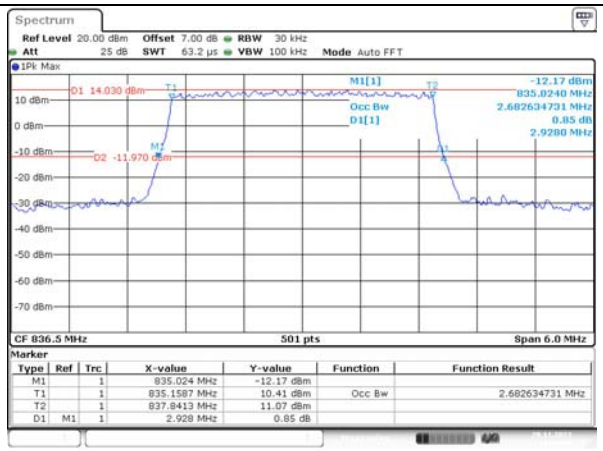
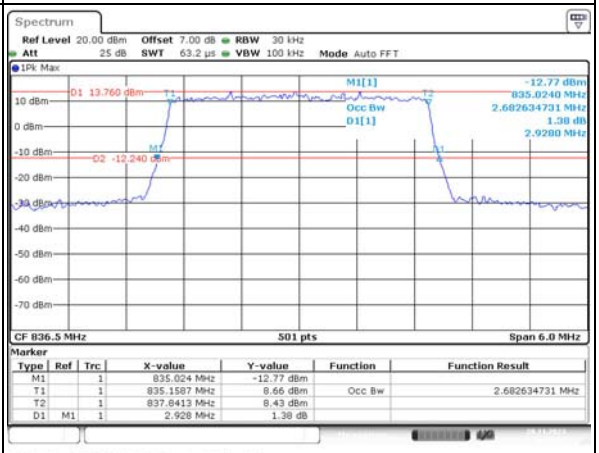
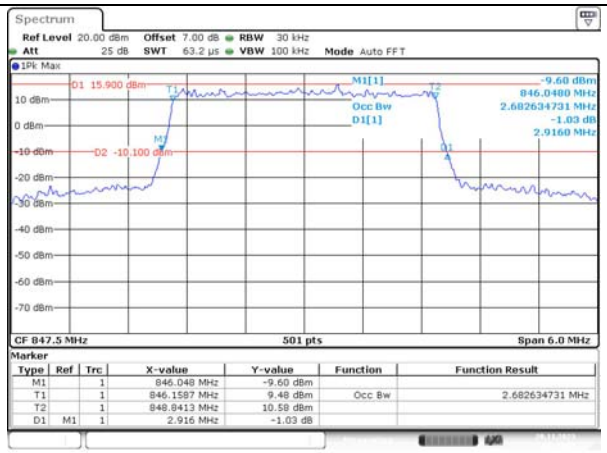
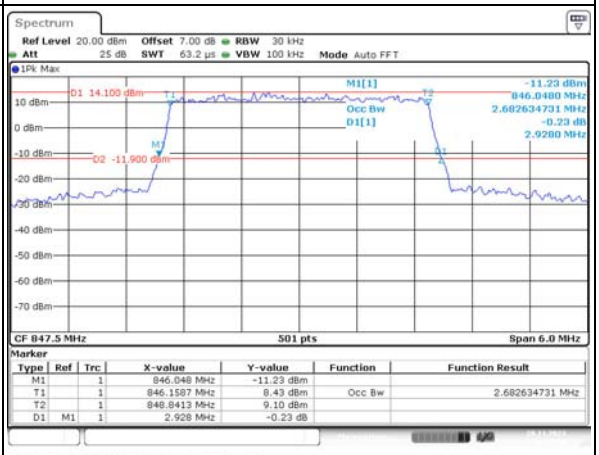
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

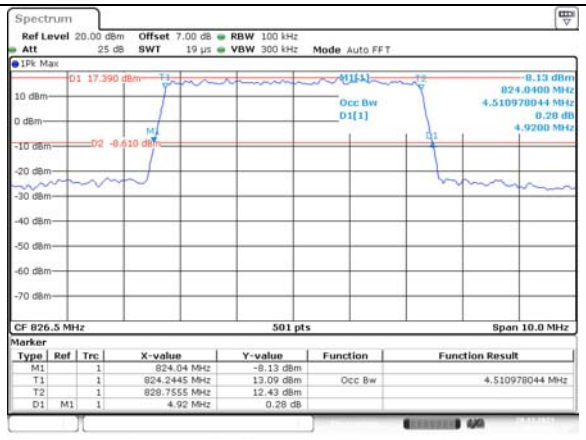
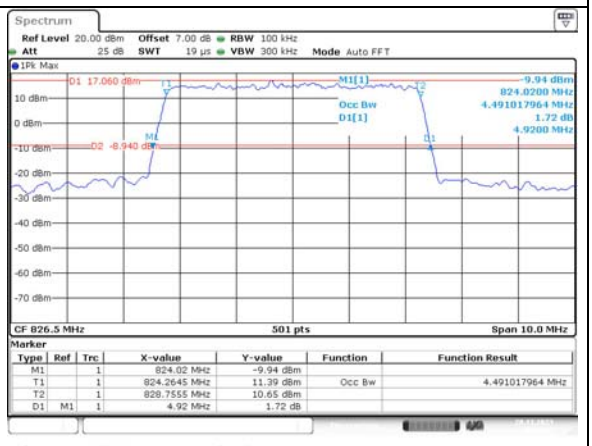
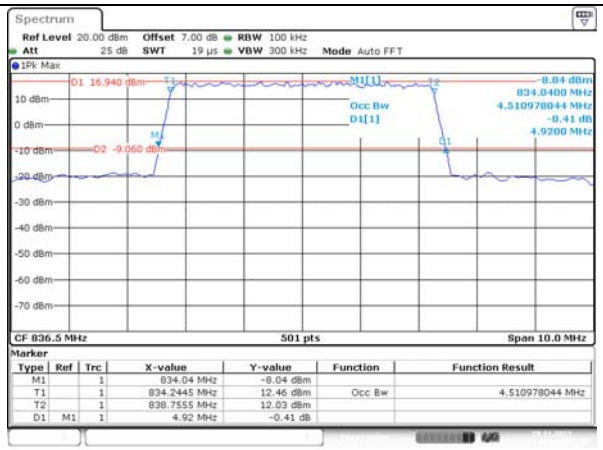
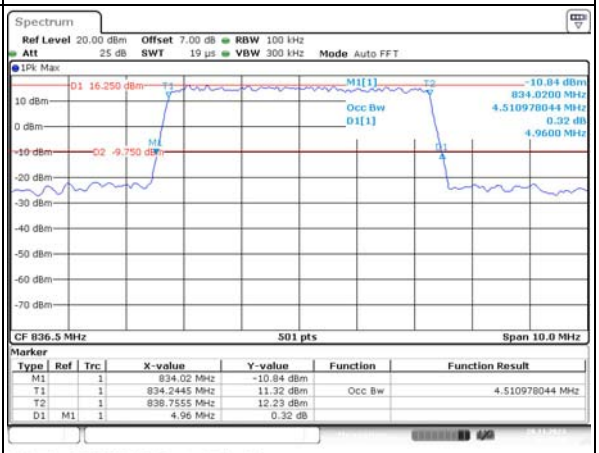
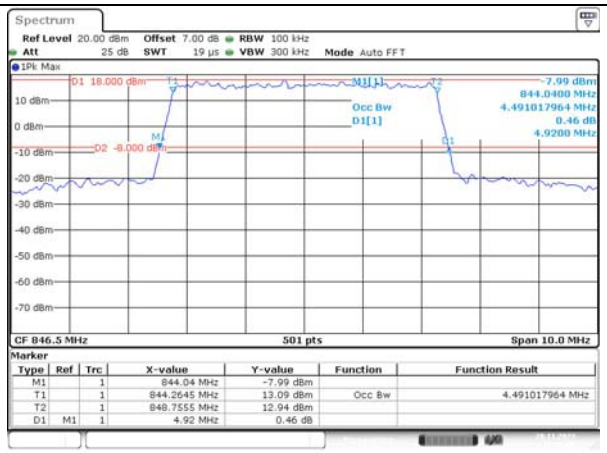
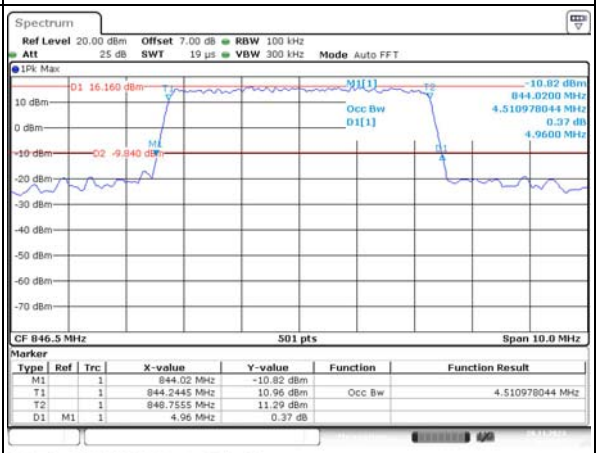
Frequency Stability					
Test Modulation:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.91	-0.99	-0.001	2.5
	-20	3.91	-1.7	-0.002	2.5
	-10	3.91	-2.56	-0.003	2.5
	0	3.91	-2.36	-0.003	2.5
	10	3.91	1.91	0.002	2.5
	20	3.91	-0.51	-0.001	2.5
	30	3.91	-2.66	-0.003	2.5
	40	3.91	0.28	0.000	2.5
	50	3.91	-0.94	-0.001	2.5
Frequency Stability vs. Voltage	20	3.45	-2.03	-0.002	2.5
	20	4.5	-1.15	-0.001	2.5
				Result:	**Pass**

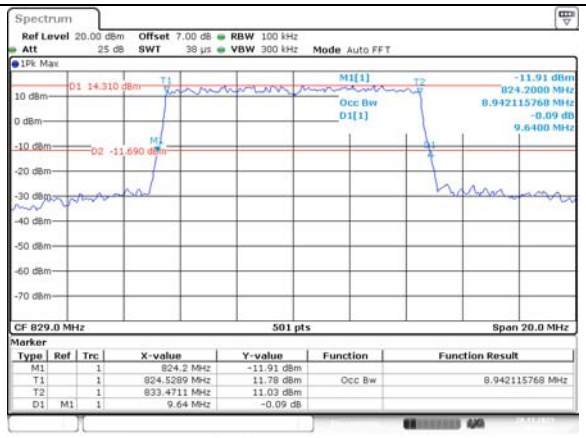
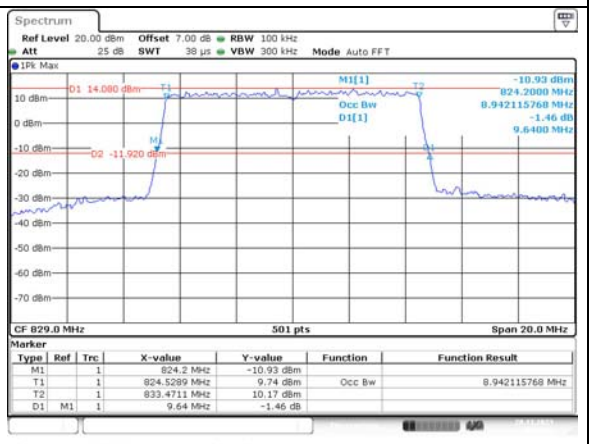
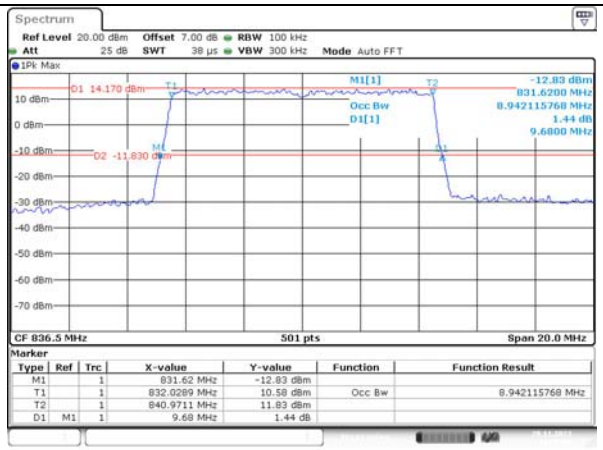
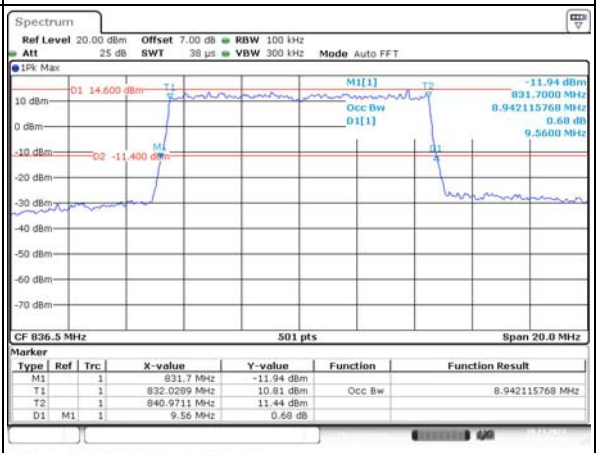
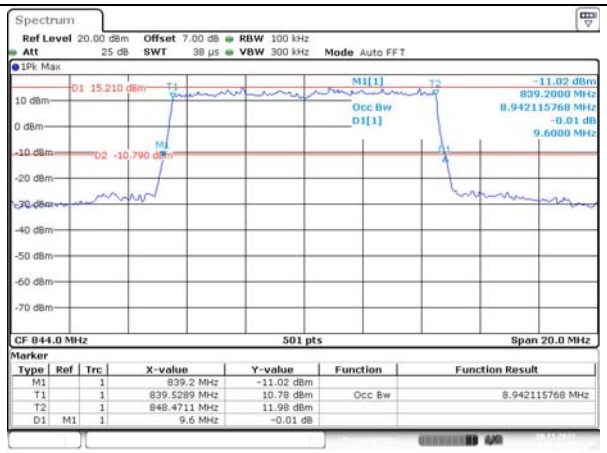
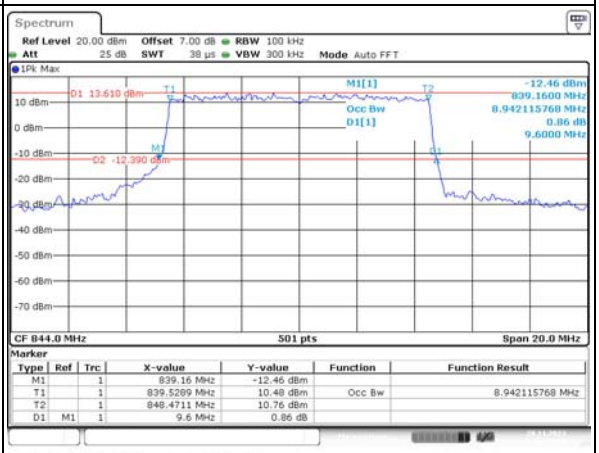
Test Modulation:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.91	-4.8	-0.006	2.5
	-20	3.91	-2.57	-0.003	2.5
	-10	3.91	-5.57	-0.007	2.5
	0	3.91	-1.02	-0.001	2.5
	10	3.91	-4.13	-0.005	2.5
	20	3.91	-3.15	-0.004	2.5
	30	3.91	-1.97	-0.002	2.5
	40	3.91	-4.33	-0.005	2.5
	50	3.91	-3.55	-0.004	2.5
Frequency Stability vs. Voltage	20	3.45	-2.87	-0.003	2.5
	20	4.5	-3.31	-0.004	2.5
				Result:	**Pass**

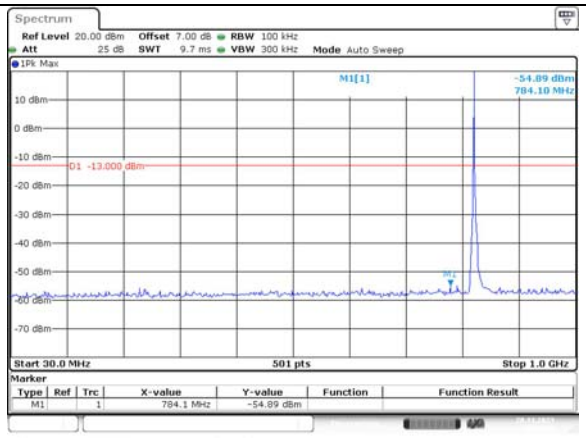
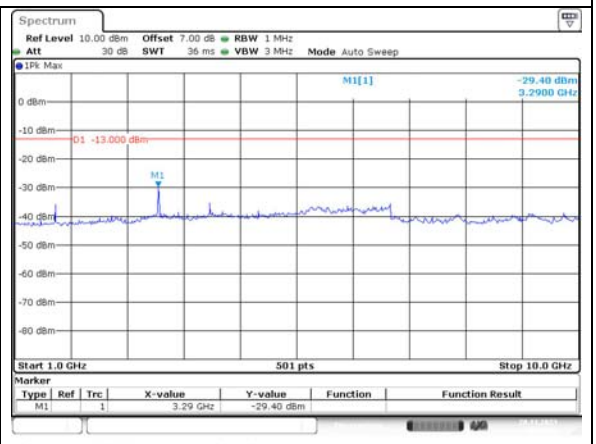
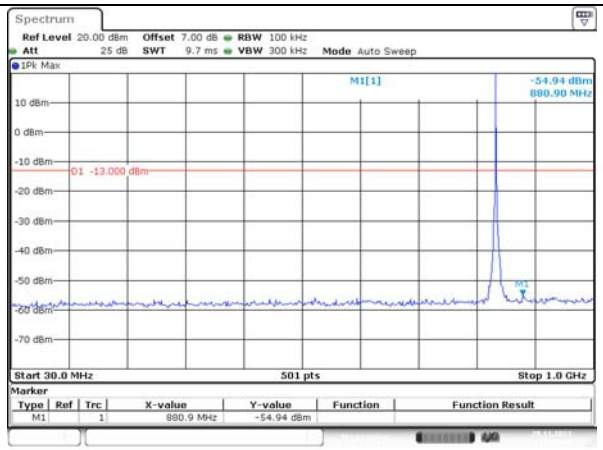
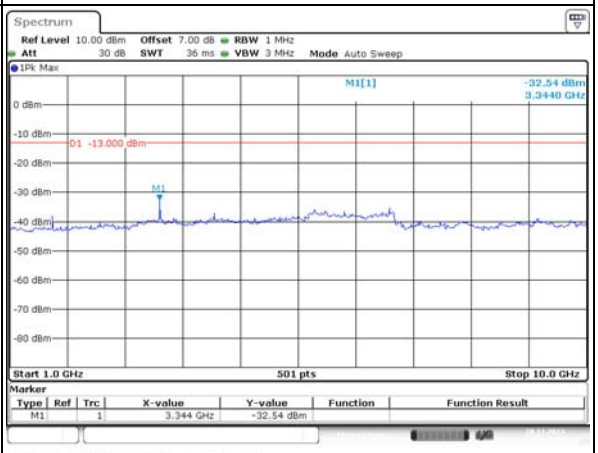
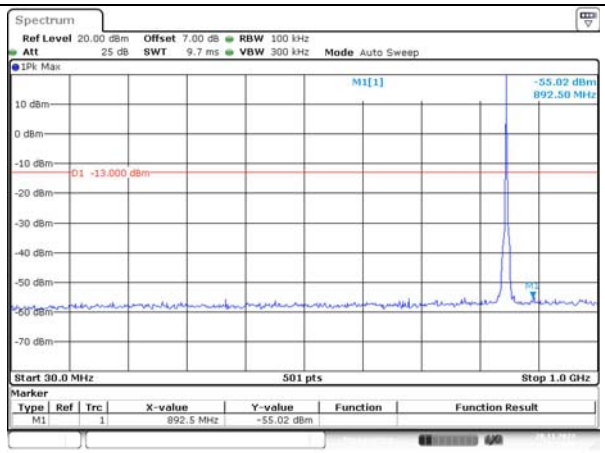
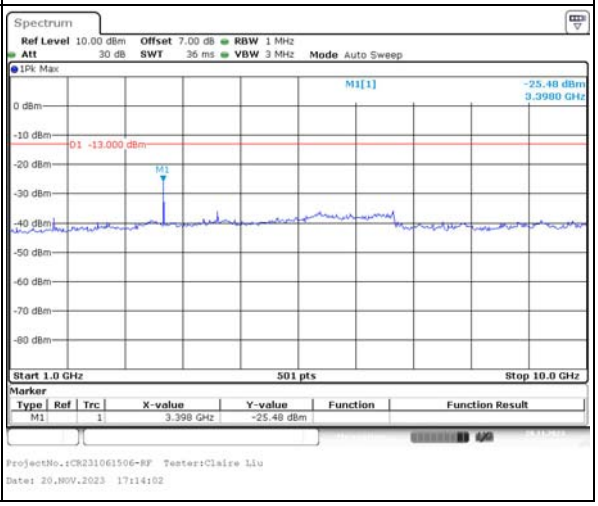
Test Plots(Note: The 7 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

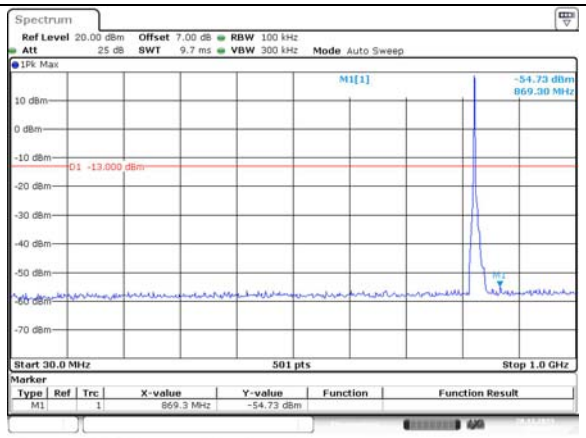
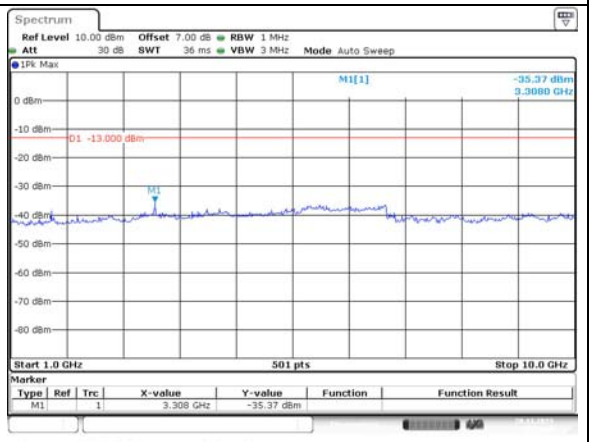
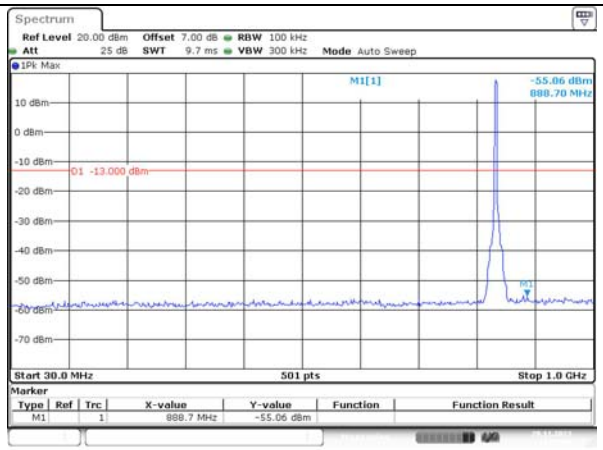
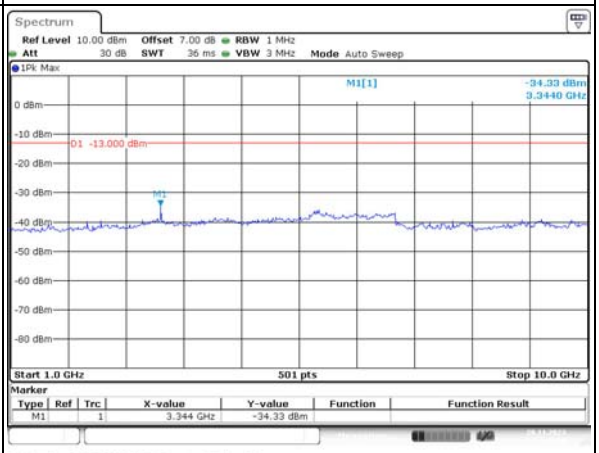
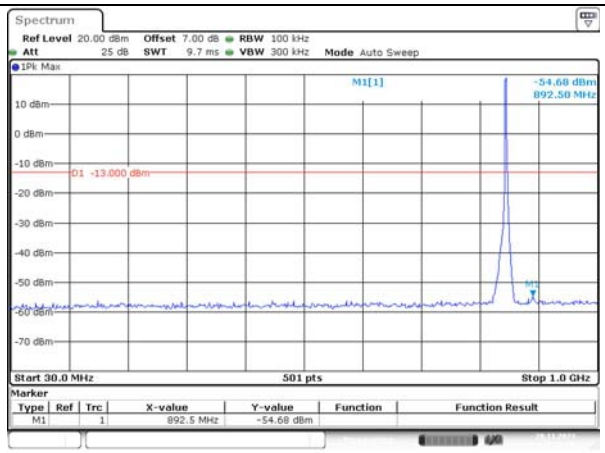
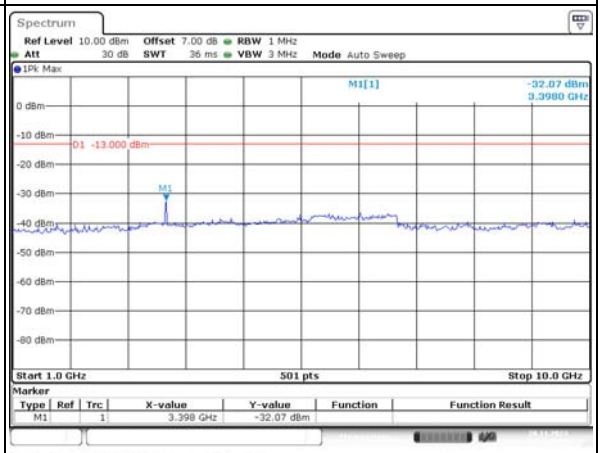
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

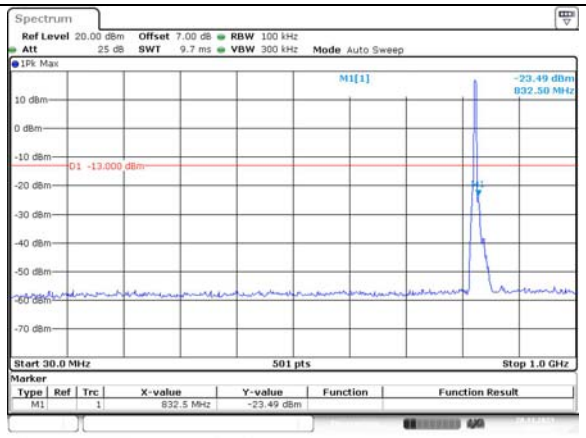
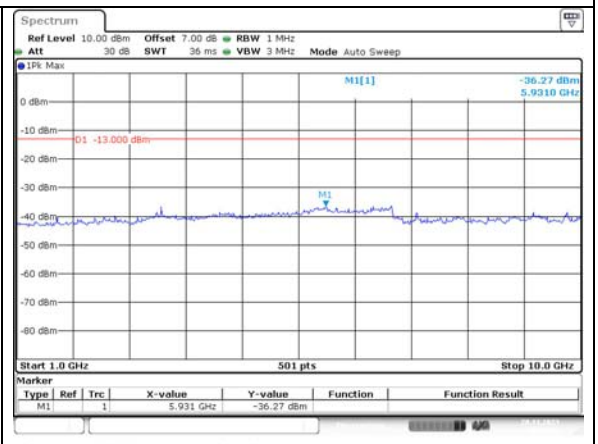
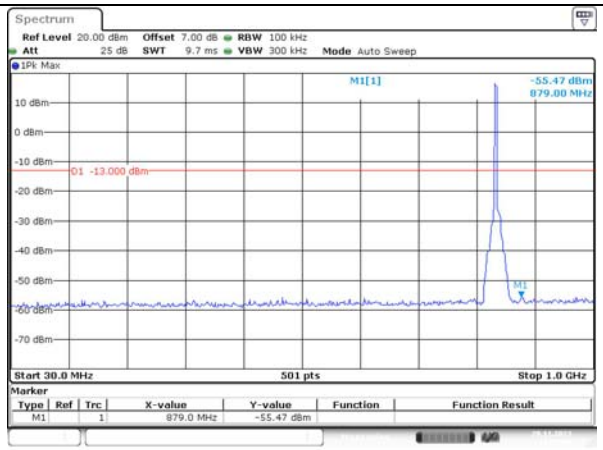
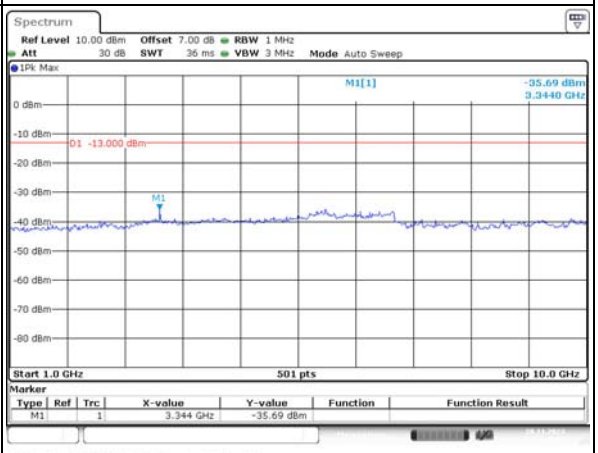
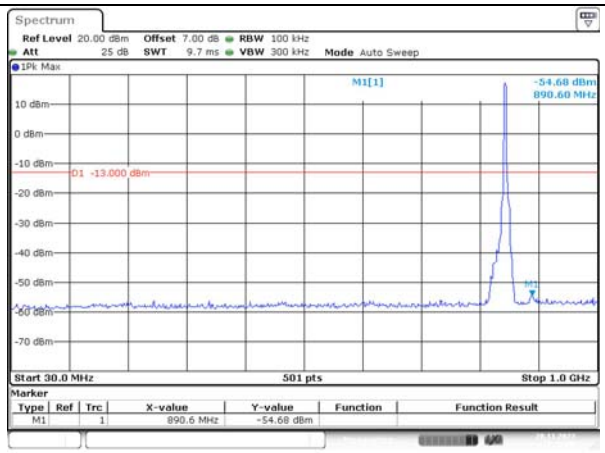
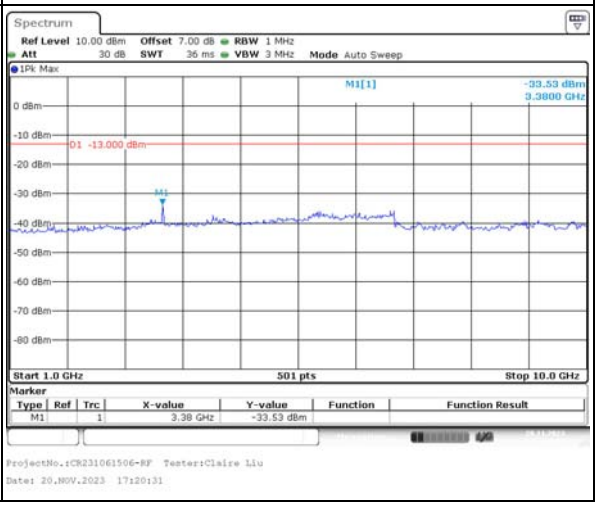
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

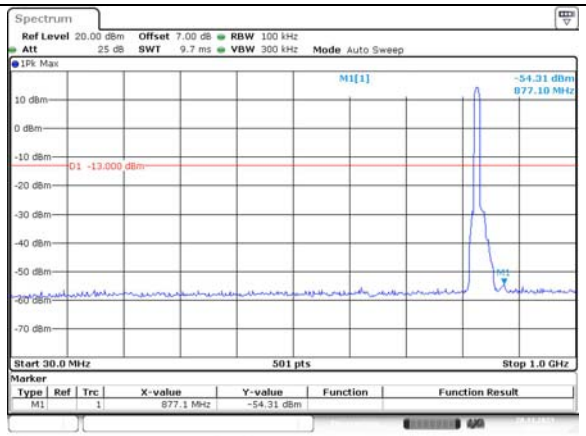
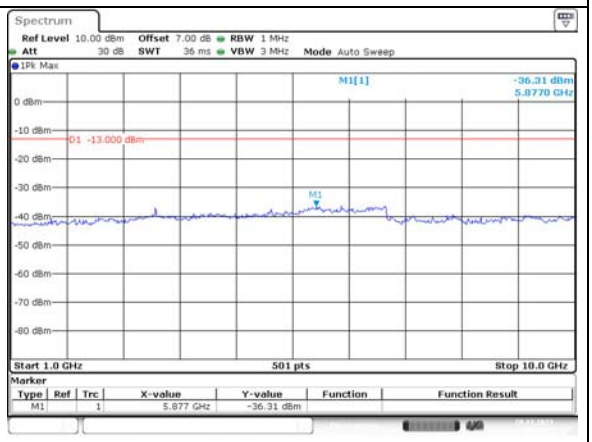
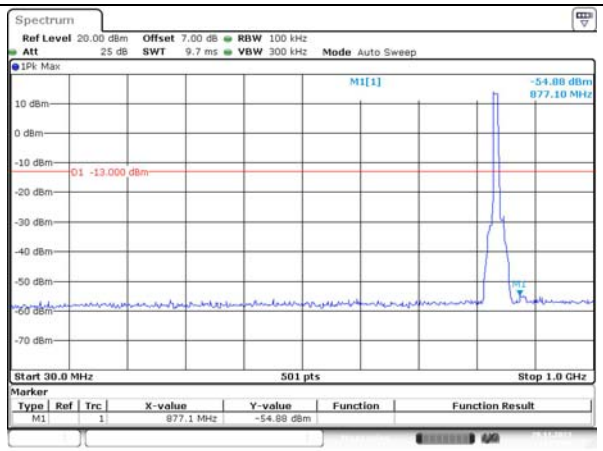
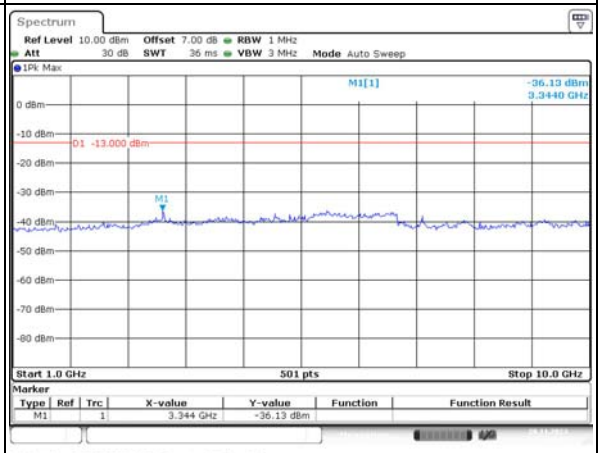
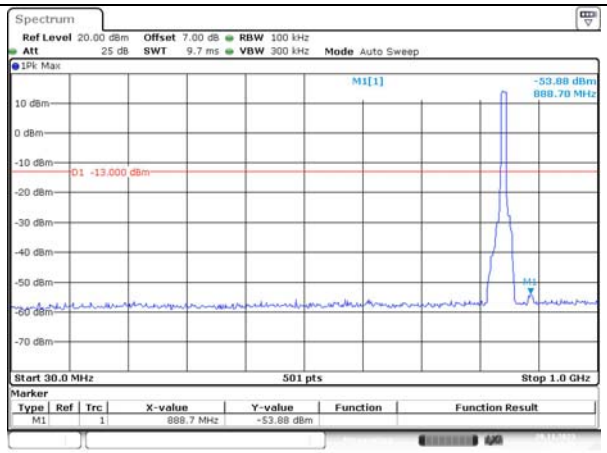
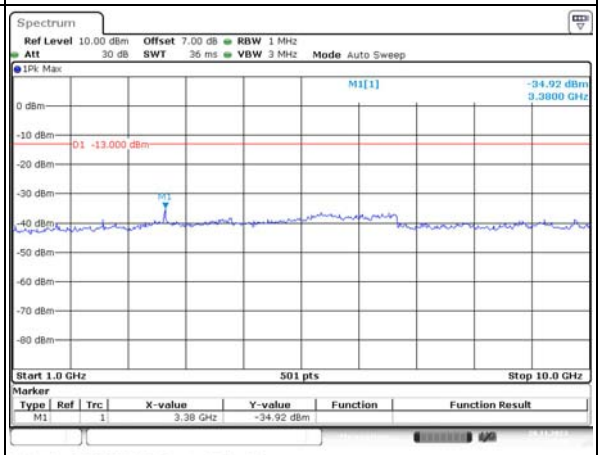
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

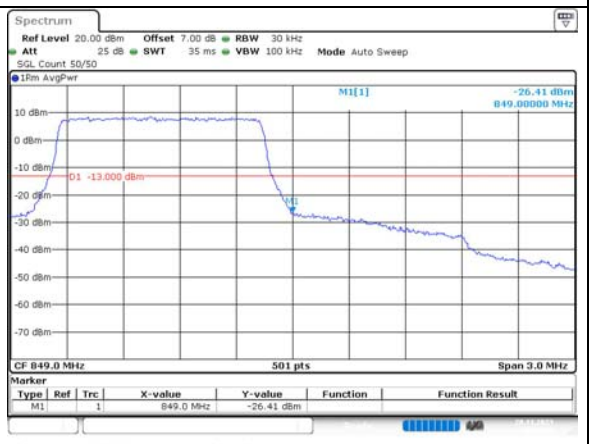
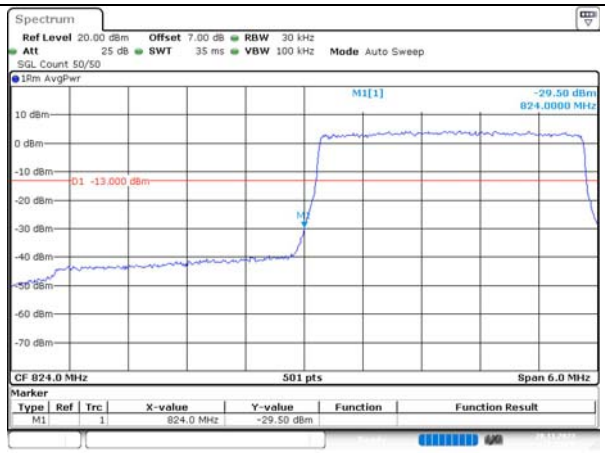
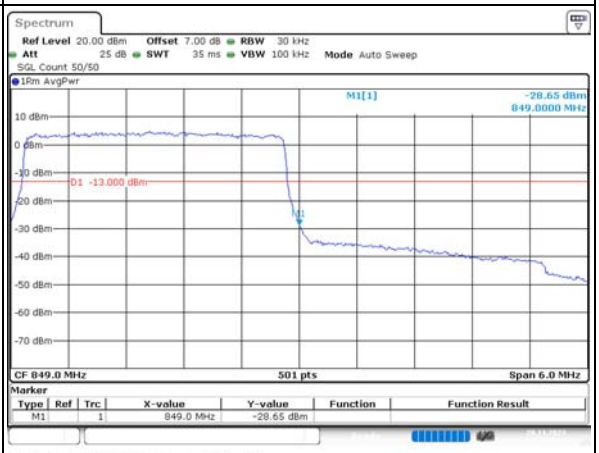
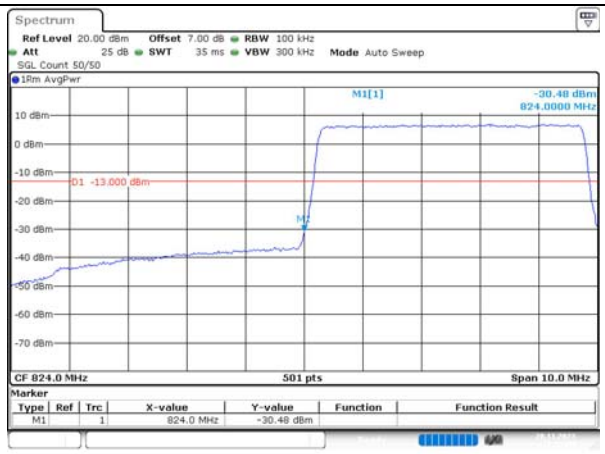
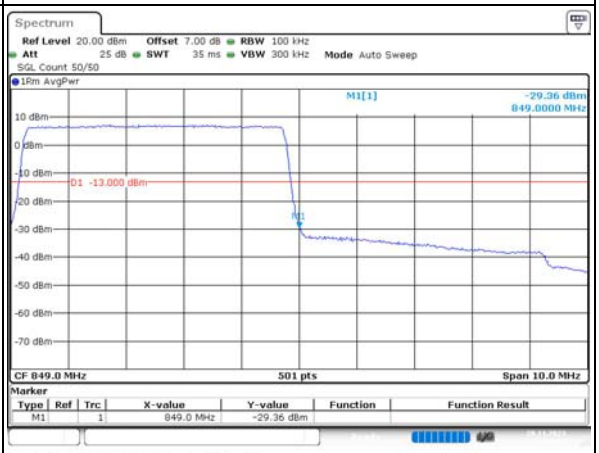
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

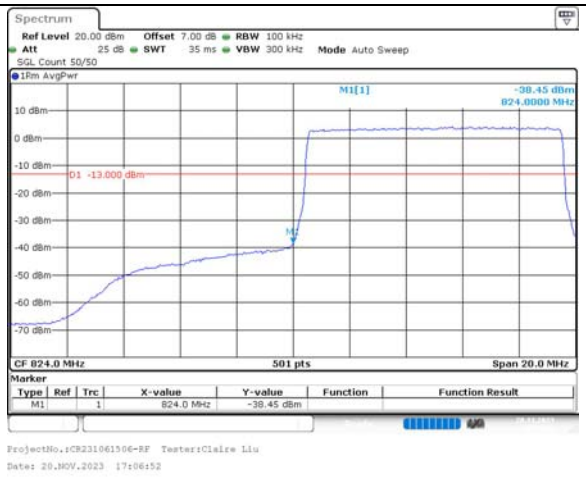
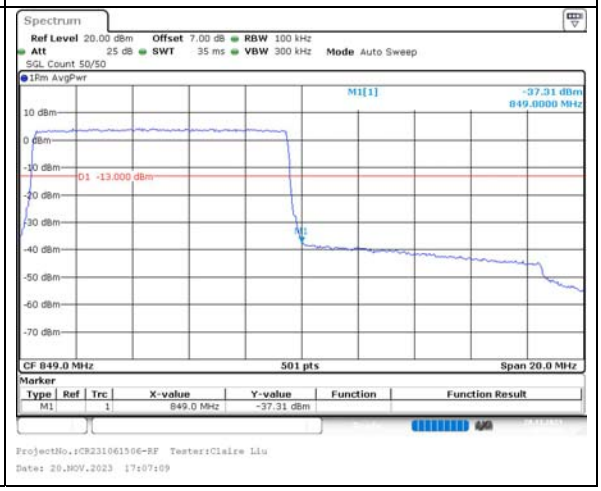
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

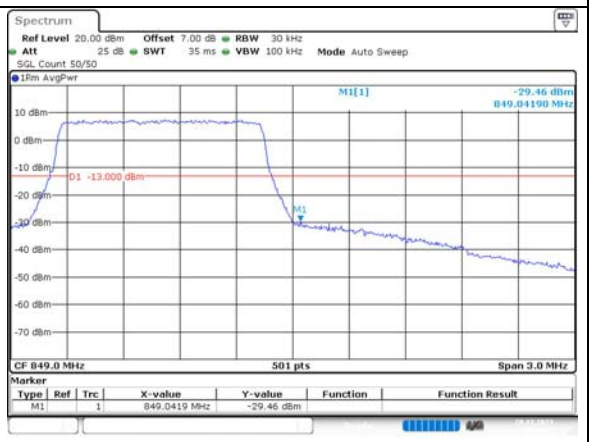
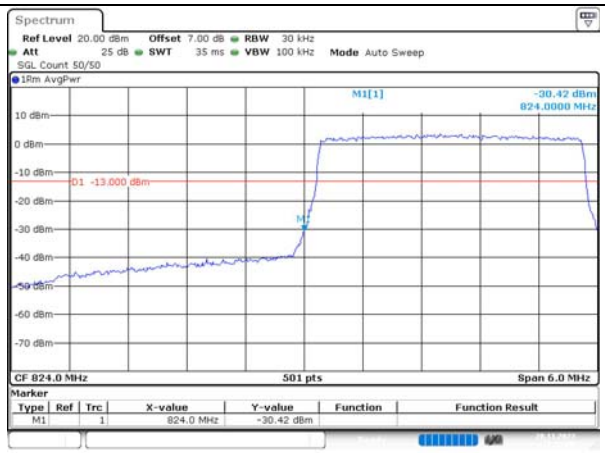
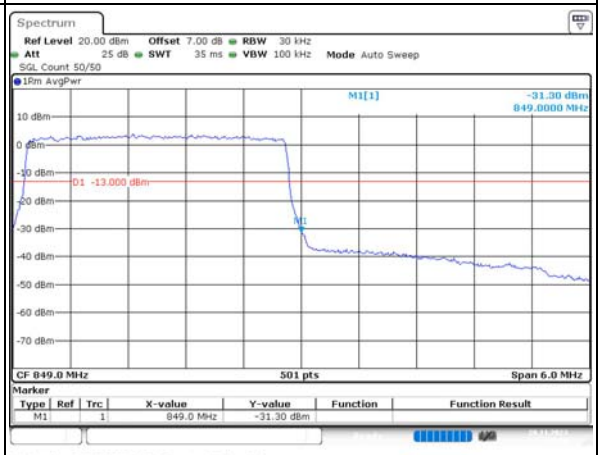
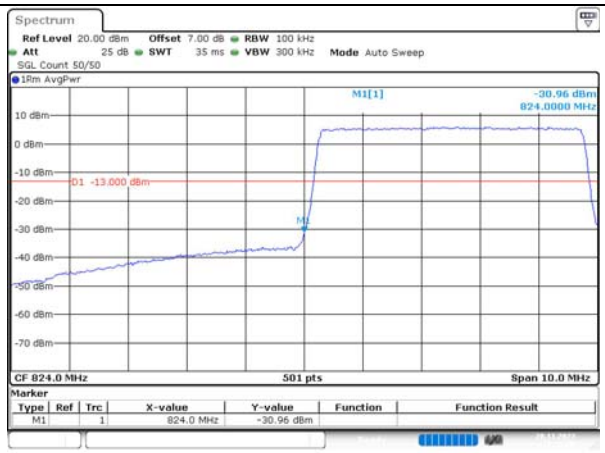
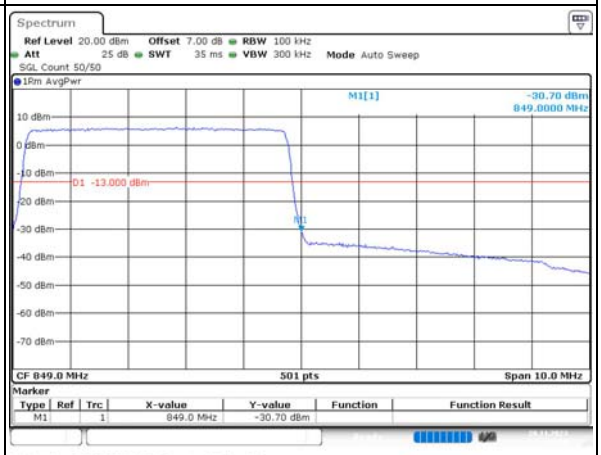
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

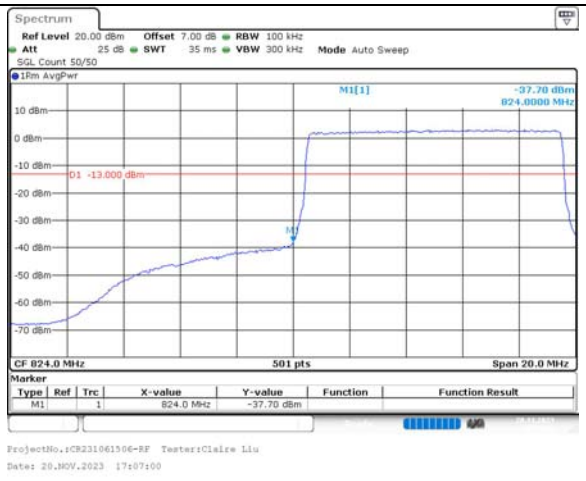
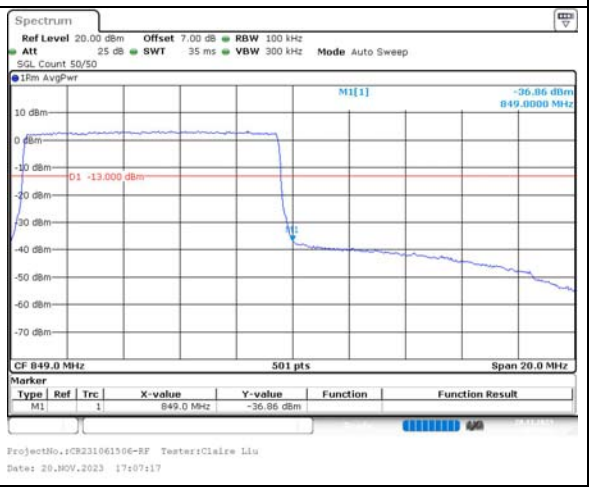
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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

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

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

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

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

4.9 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	2CII-1	Test Date:	2023/11/18-2023/11/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	24.5~26.5	Relative Humidity: (%)	54~64	ATM Pressure: (kPa)	100.1~102

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Clrcuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	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	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	2023/9/28	2024/9/27
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2502.5	2535	2567.5
10MHz	2505	2535	2565
15MHz	2507.5	2535	2562.5
20MHz	2510	2535	2560

Test Data:

RF Output Power

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	16.58	16.4	16.21	14.83	33
	RB1#13	**16.71**	16.51	16.33		
	RB1#24	16.57	16.39	16.19		
	RB15#0	15.52	15.38	15.28		
	RB15#10	15.67	15.42	15.28		
	RB25#0	15.58	15.38	15.24		
5MHz 16QAM	RB1#0	15.45	15.69	15.34	13.9	33
	RB1#13	15.61	**15.78**	15.44		
	RB1#24	15.49	15.68	15.3		
	RB15#0	14.58	14.33	14.3		
	RB15#10	14.73	14.41	14.31		
	RB25#0	14.68	14.45	14.31		
10MHz QPSK	RB1#0	16.62	16.4	16.29	14.79	33
	RB1#25	**16.67**	16.46	16.29		
	RB1#49	16.63	16.41	16.28		
	RB25#0	15.41	15.33	15.32		
	RB25#25	15.71	15.46	15.3		
	RB50#0	15.6	15.43	15.34		
10MHz 16QAM	RB1#0	15.79	15.46	15.94	14.09	33
	RB1#25	15.79	15.5	**15.97**		
	RB1#49	15.76	15.42	15.89		
	RB25#0	14.55	14.46	14.37		
	RB25#25	14.75	14.58	14.35		
	RB50#0	14.63	14.47	14.33		
15MHz QPSK	RB1#0	16.55	16.32	16.26	14.76	33
	RB1#38	**16.64**	16.46	16.39		
	RB1#74	16.53	16.35	16.3		
	RB36#0	15.41	15.32	15.29		
	RB36#39	15.55	15.44	15.27		
	RB75#0	15.49	15.41	15.31		
15MHz 16QAM	RB1#0	16	16	15.41	14.25	33
	RB1#38	16.1	**16.13**	15.52		
	RB1#74	15.98	15.97	15.42		
	RB36#0	14.43	14.37	14.34		
	RB36#39	14.58	14.44	14.31		
	RB75#0	14.5	14.39	14.31		
20MHz QPSK	RB1#0	16.48	16.25	16.18	14.77	33
	RB1#50	**16.65**	16.43	16.37		
	RB1#99	16.48	16.3	16.23		
	RB50#0	15.33	15.26	15.38		

	RB50#50	15.5	15.45	15.26		
	RB100#0	15.44	15.4	15.32		
20MHz 16QAM	RB1#0	15.72	15.9	15.51	14.19	33
	RB1#50	15.89	**16.07**	15.75		
	RB1#99	15.73	15.89	15.56		
	RB50#0	14.36	14.29	14.33		
	RB50#50	14.58	14.46	14.25		
	RB100#0	14.48	14.39	14.32		
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	6.17	6.46	5.86	13
	RB100#0	4.41	4.35	4.41	13
20MHz 16QAM	RB1#0	7.8	6.75	7.54	13
	RB100#0	6.14	5.97	6.09	13
				Result:	**Pass**

Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.491	4.511	4.511	4.92	4.94	4.94
5MHz 16QAM	4.511	4.491	4.511	4.94	4.92	4.94
10MHz QPSK	8.902	8.942	8.942	9.6	9.6	9.72
10MHz 16QAM	8.982	8.942	8.942	9.64	9.68	9.6
15MHz QPSK	13.413	13.473	13.413	14.58	14.64	14.58
15MHz 16QAM	13.473	13.473	13.473	14.58	14.58	14.58
20MHz QPSK	17.884	17.964	17.964	19.2	19.36	19.2
20MHz 16QAM	17.884	17.964	17.964	19.2	19.28	19.28
Note: The test plots please refer to the Plots of Occupied Bandwidth						

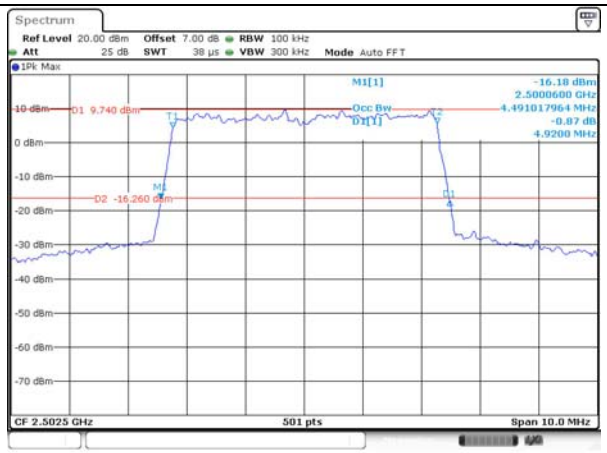
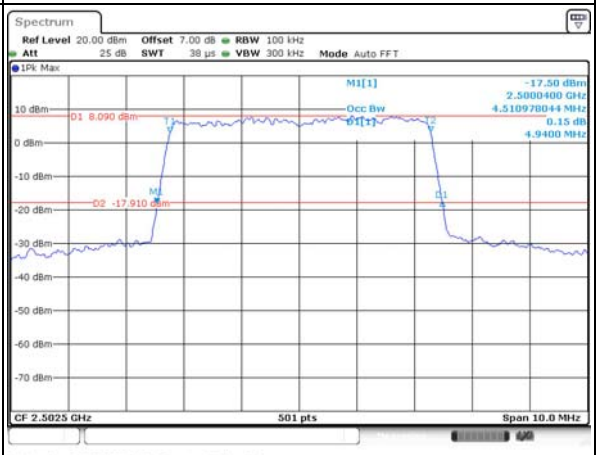
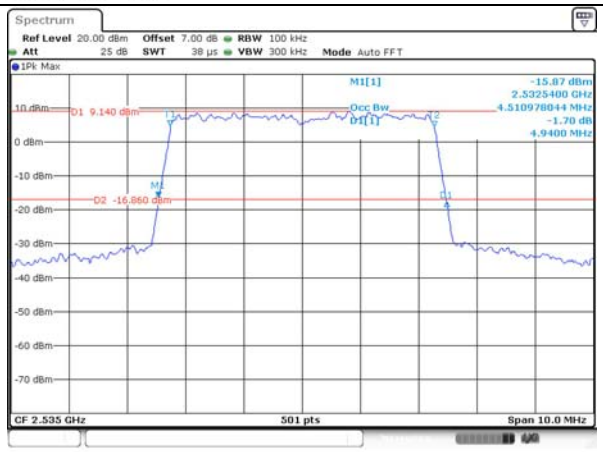
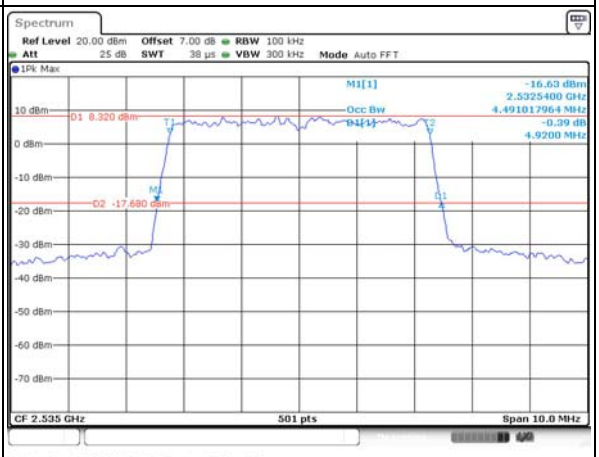
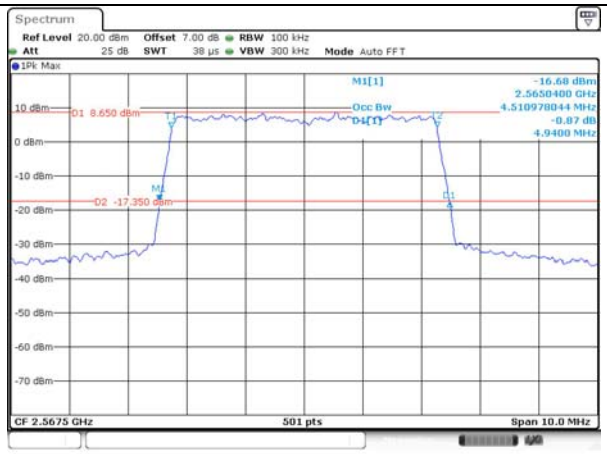
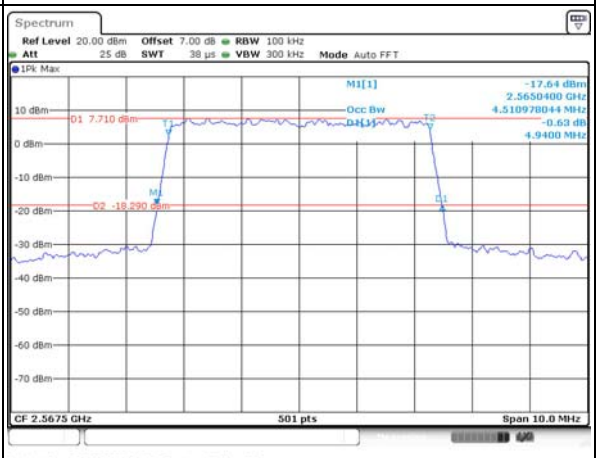
Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

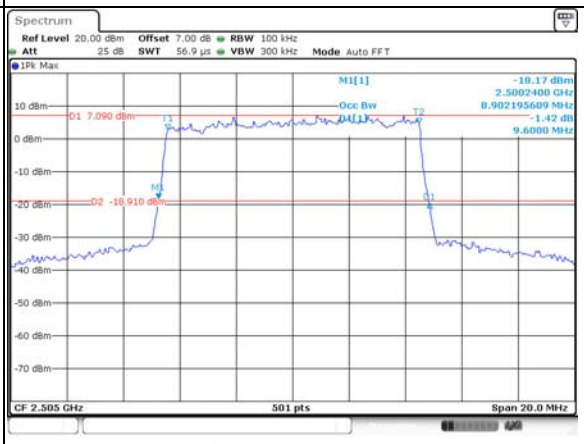
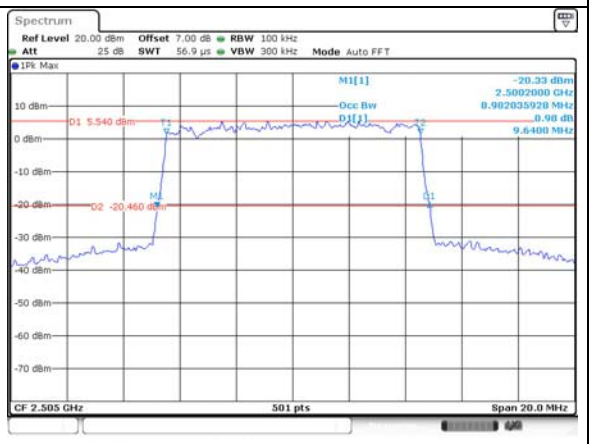
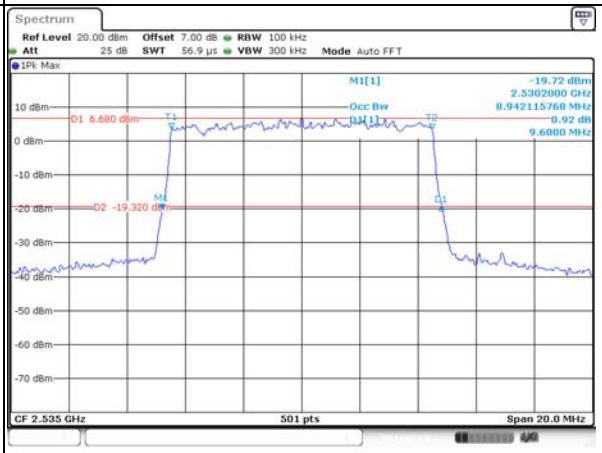
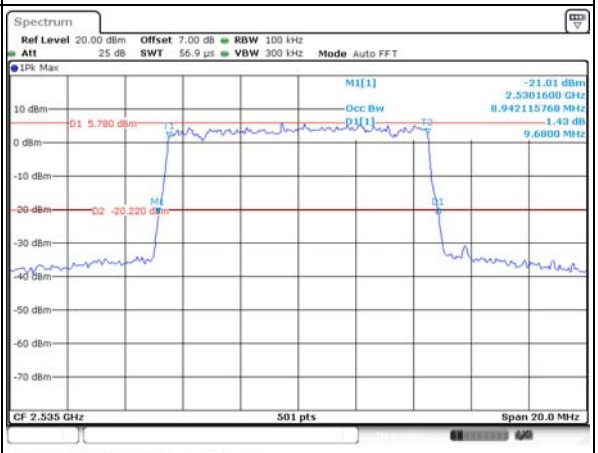
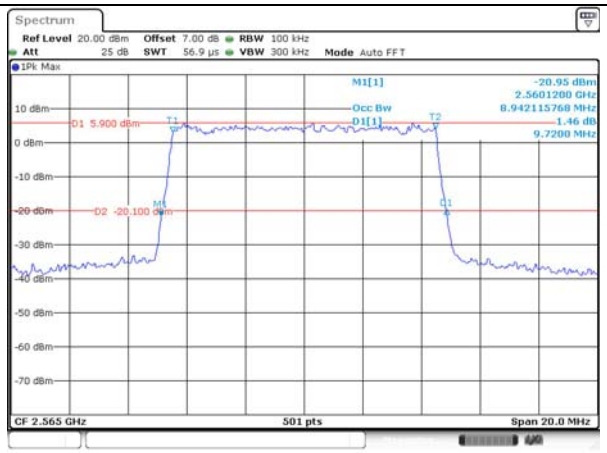
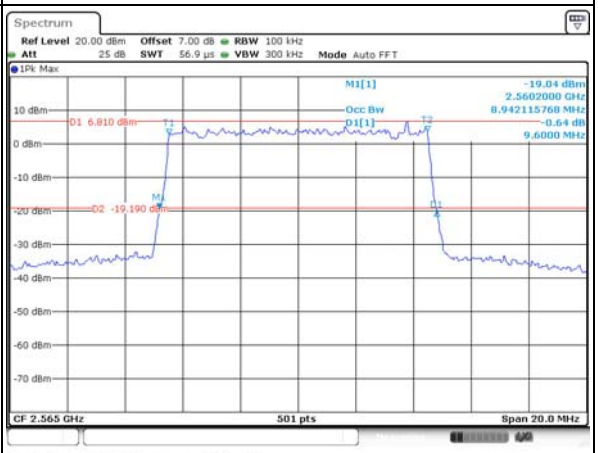
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

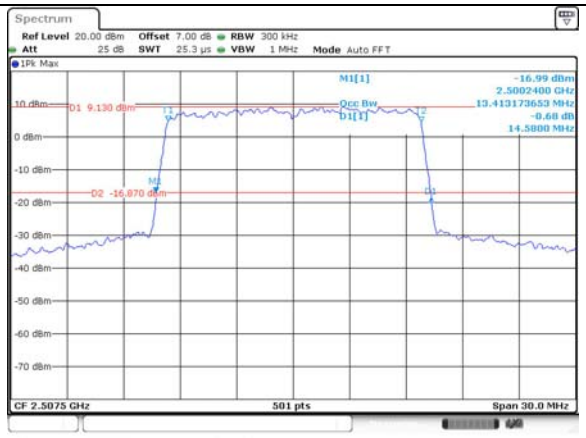
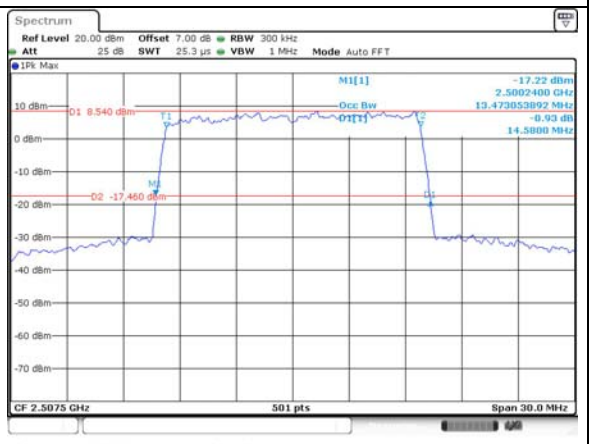
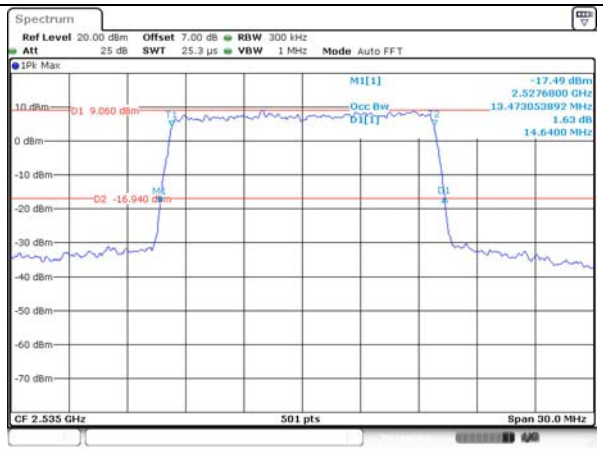
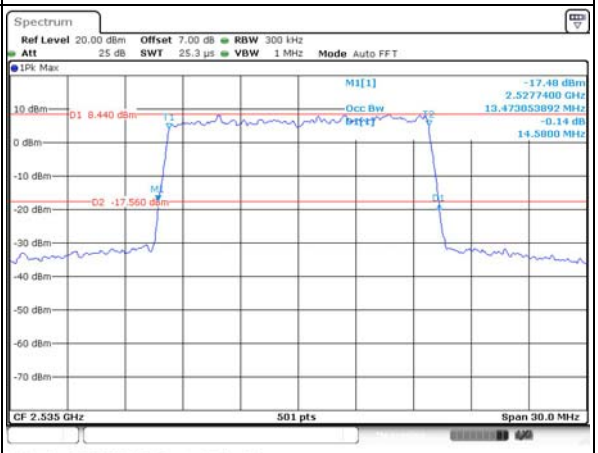
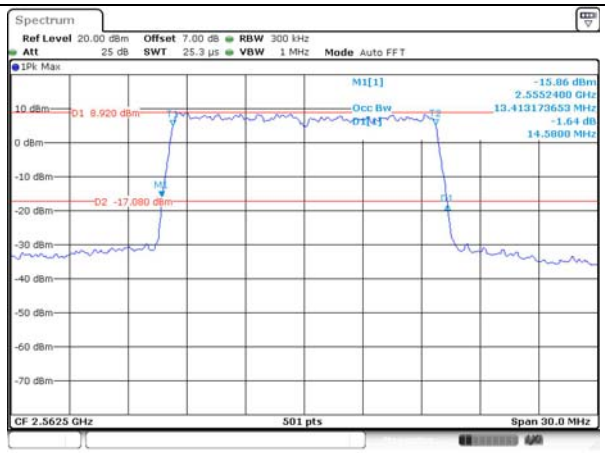
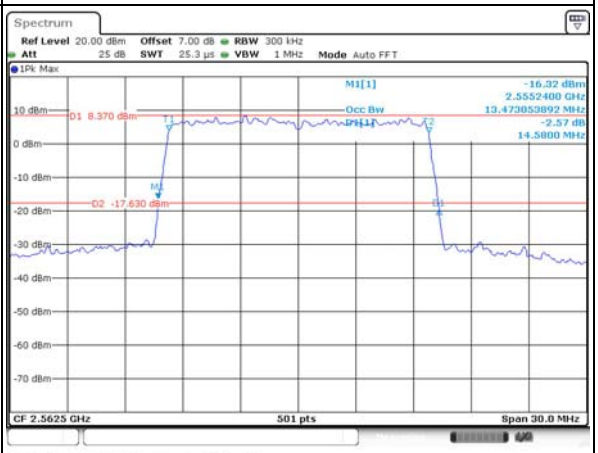
Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2500.483	2500.00	2569.831	2570
	-20	3.91	2500.571	2500.00	2569.828	2570
	-10	3.91	2500.518	2500.00	2569.873	2570
	0	3.91	2500.530	2500.00	2569.816	2570
	10	3.91	2500.562	2500.00	2569.841	2570
	20	3.91	2500.480	2500.00	2569.900	2570
	30	3.91	2500.483	2500.00	2569.811	2570
	40	3.91	2500.559	2500.00	2569.841	2570
	50	3.91	2500.497	2500.00	2569.859	2570
Frequency Stability vs. Voltage	20	3.45	2500.576	2500.00	2569.843	2570
	20	4.5	2500.555	2500.00	2569.847	2570
					Result:	**Pass**

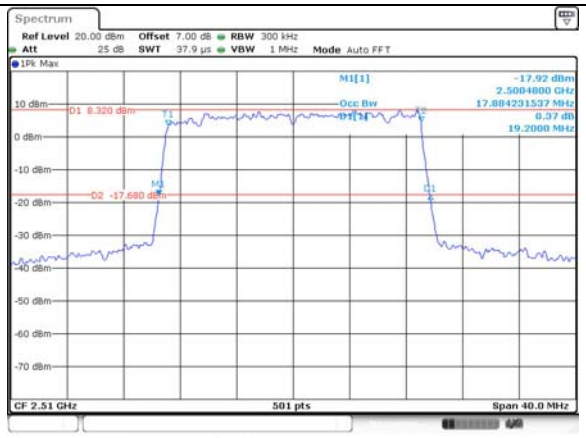
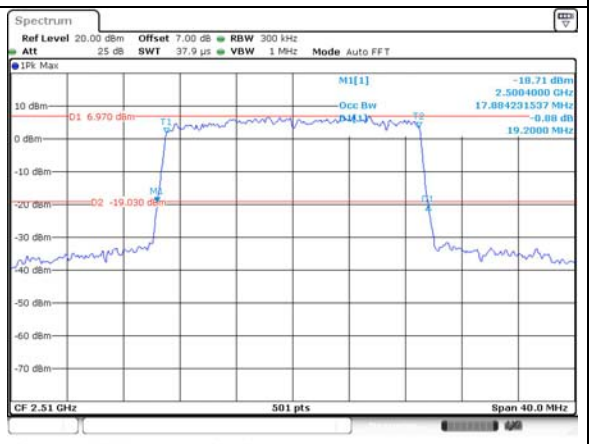
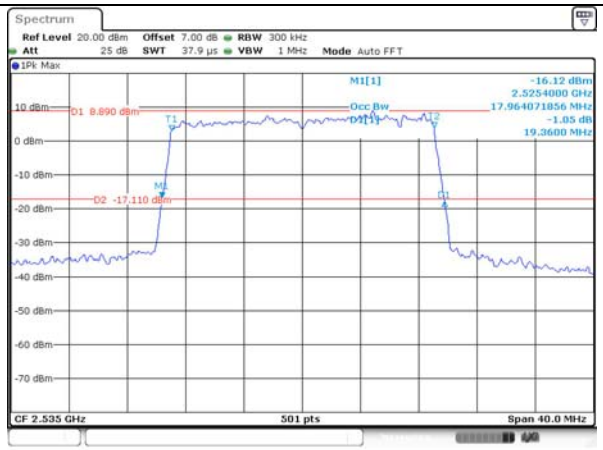
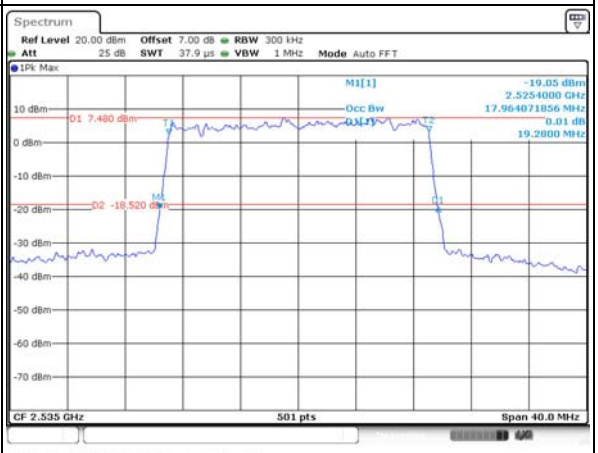
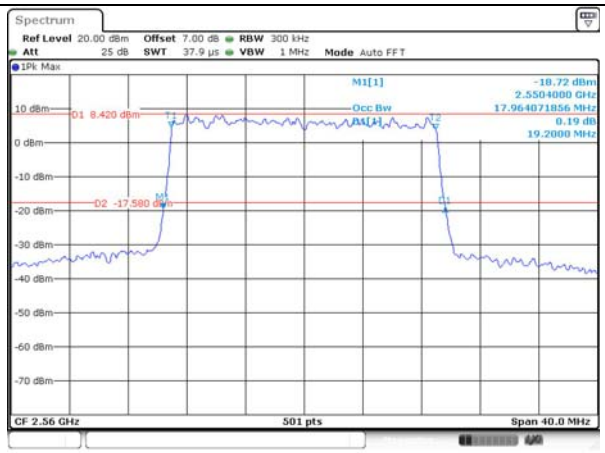
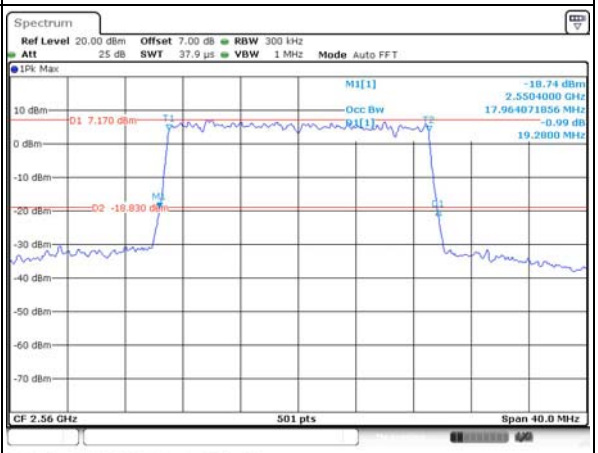
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2500.427	2500.00	2569.595	2570
	-20	3.91	2500.433	2500.00	2569.581	2570
	-10	3.91	2500.452	2500.00	2569.648	2570
	0	3.91	2500.459	2500.00	2569.660	2570
	10	3.91	2500.446	2500.00	2569.611	2570
	20	3.91	2500.400	2500.00	2569.680	2570
	30	3.91	2500.451	2500.00	2569.604	2570
	40	3.91	2500.490	2500.00	2569.665	2570
	50	3.91	2500.481	2500.00	2569.677	2570
Frequency Stability vs. Voltage	20	3.45	2500.462	2500.00	2569.658	2570
	20	4.5	2500.410	2500.00	2569.632	2570
					Result:	**Pass**

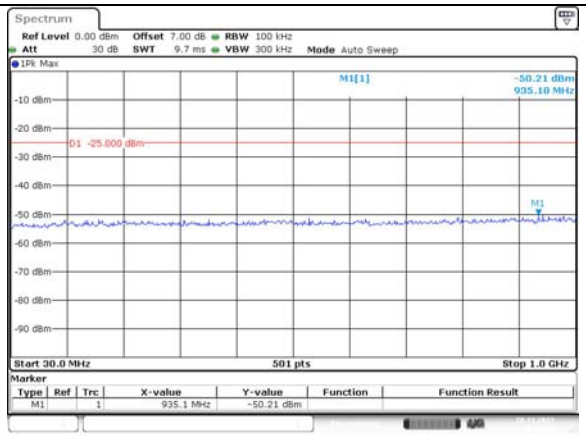
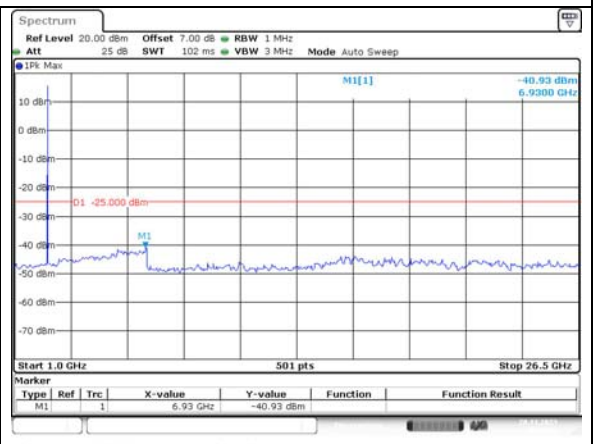
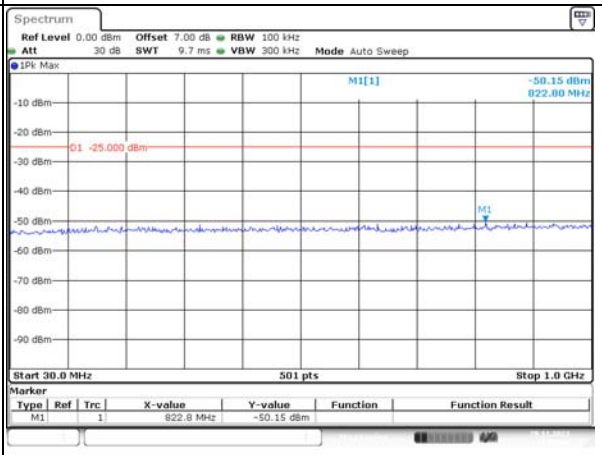
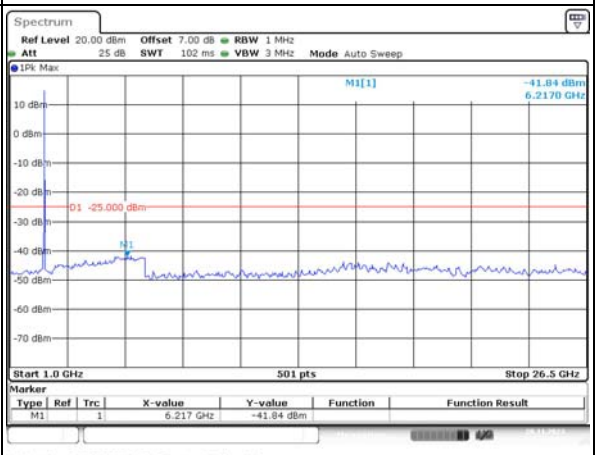
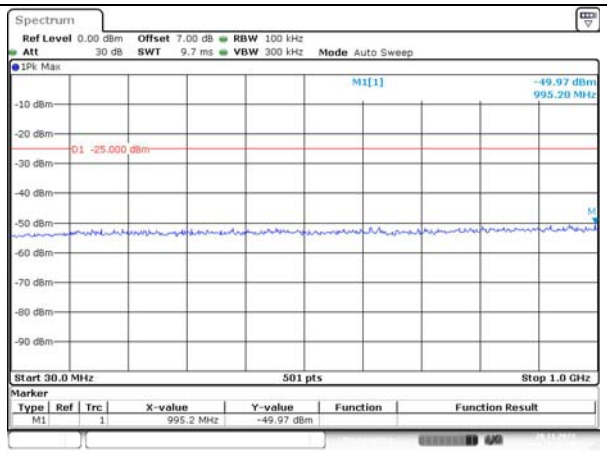
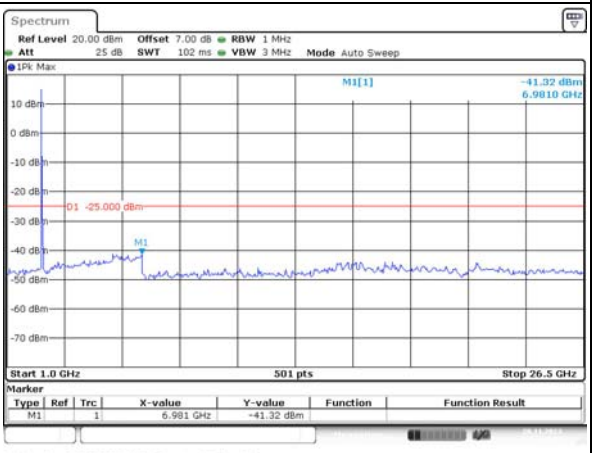
Test Plots(Note: The 7dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

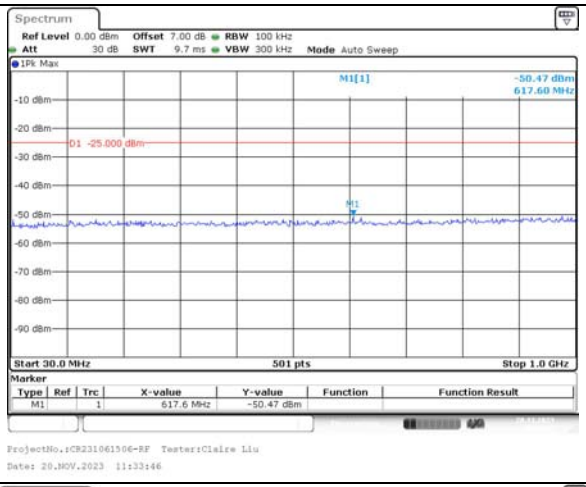
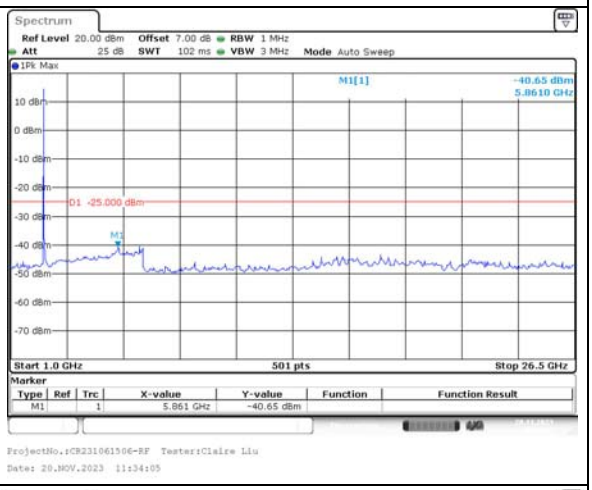
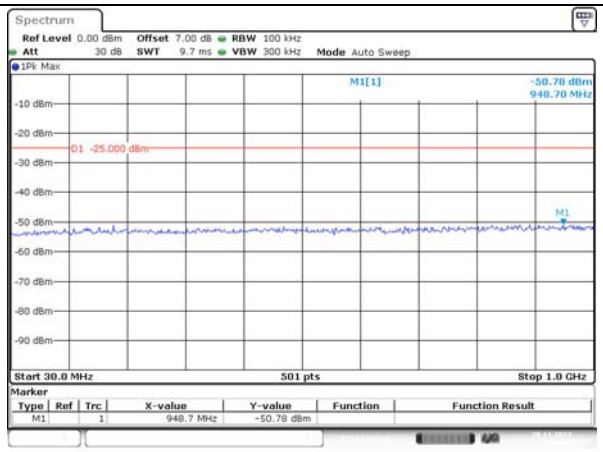
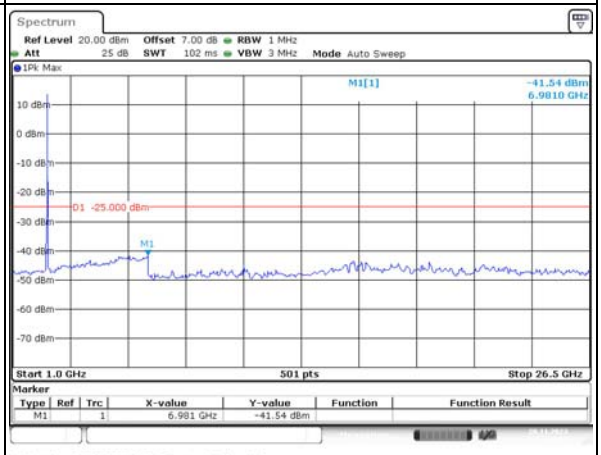
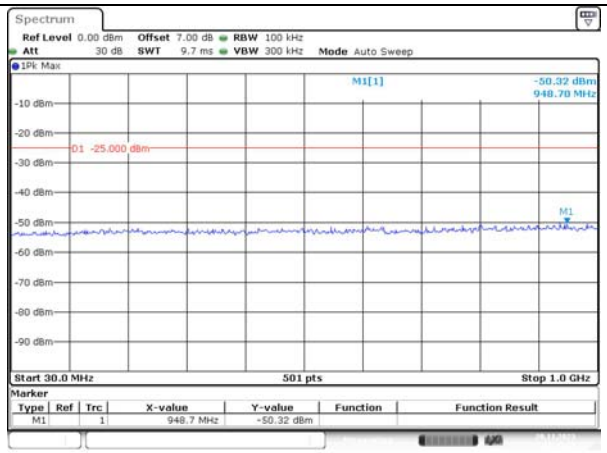
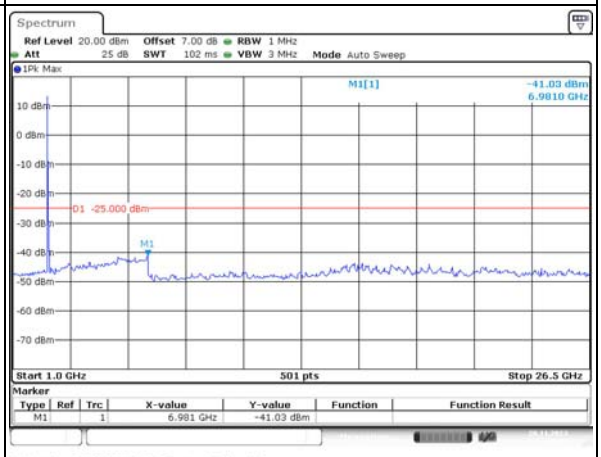
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

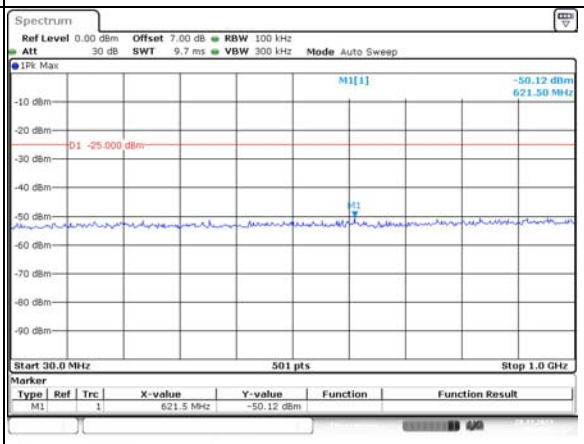
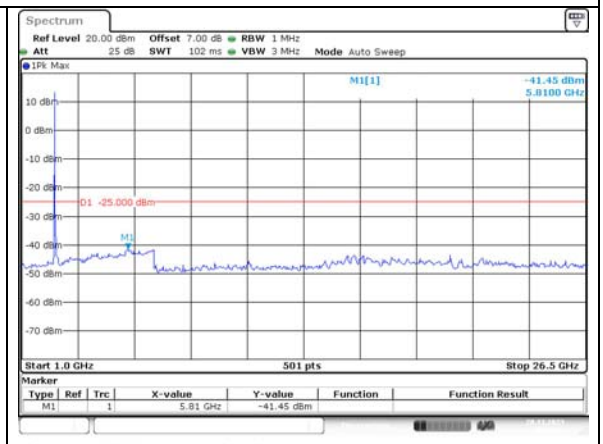
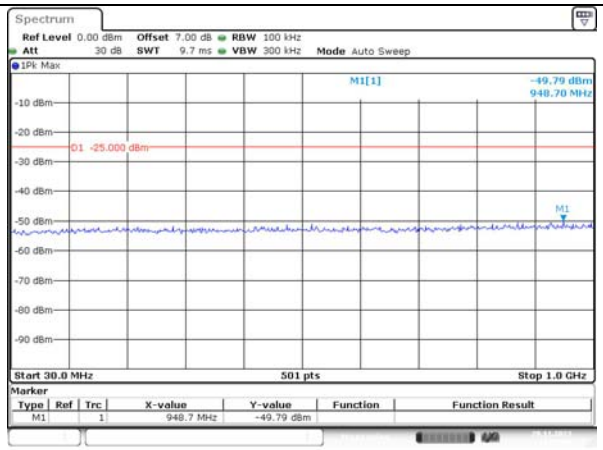
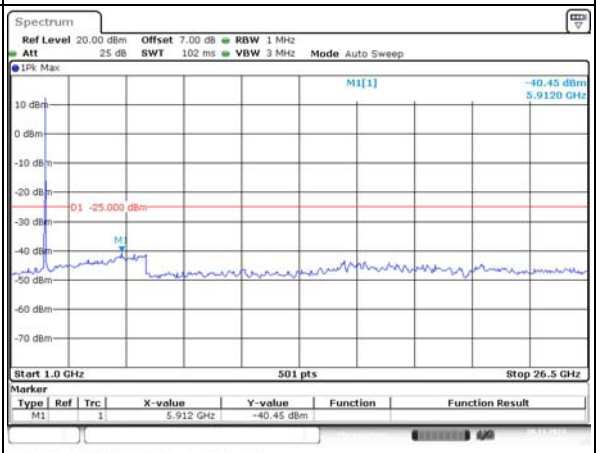
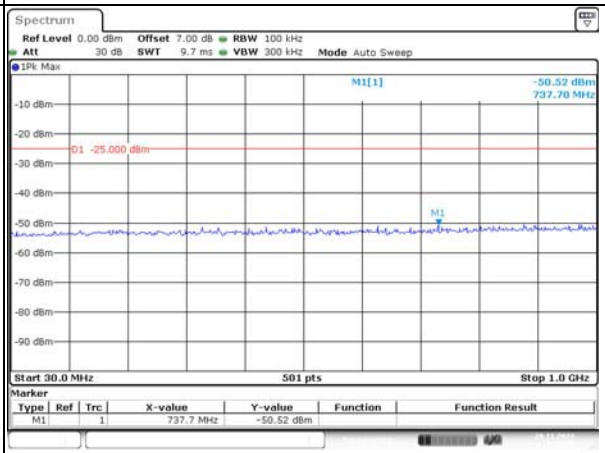
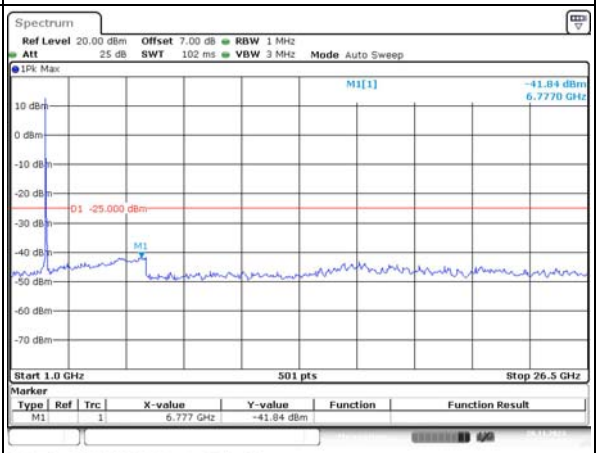
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

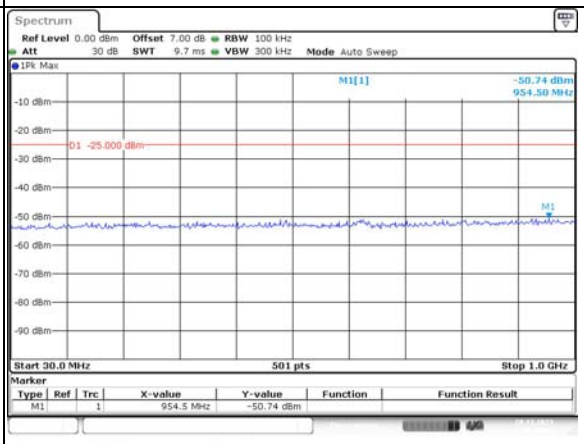
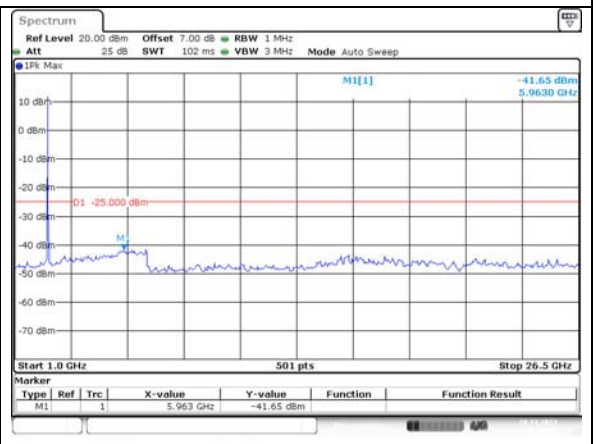
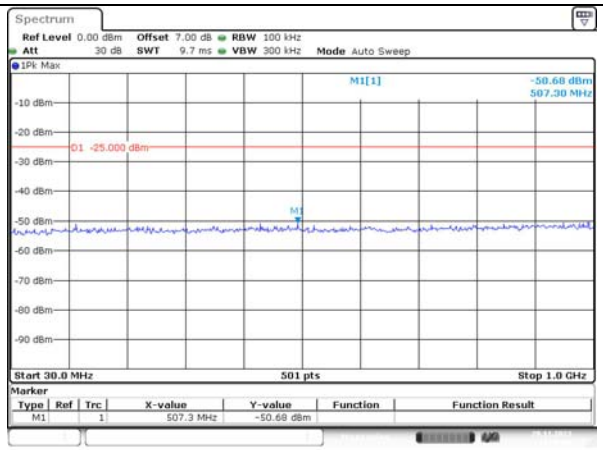
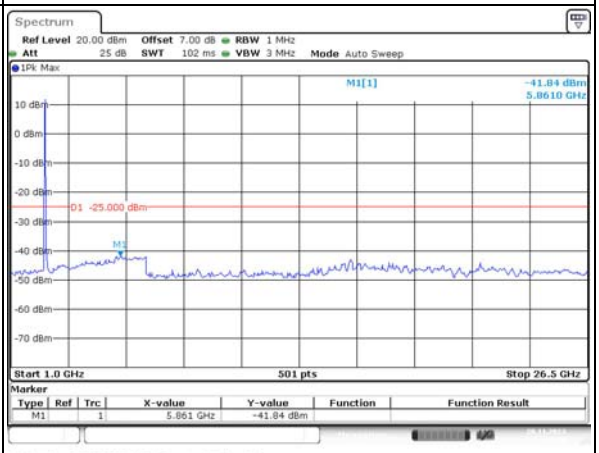
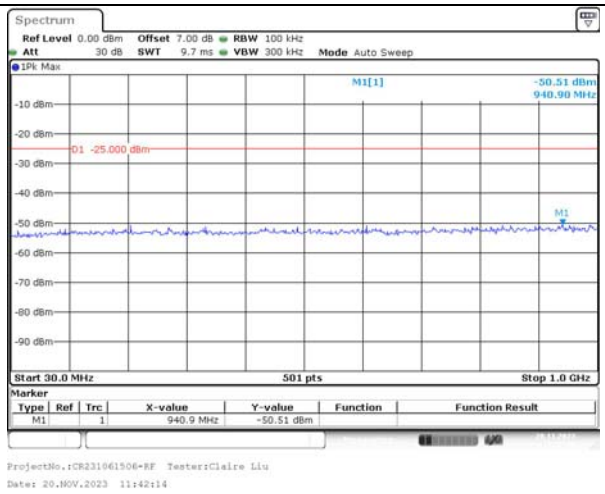
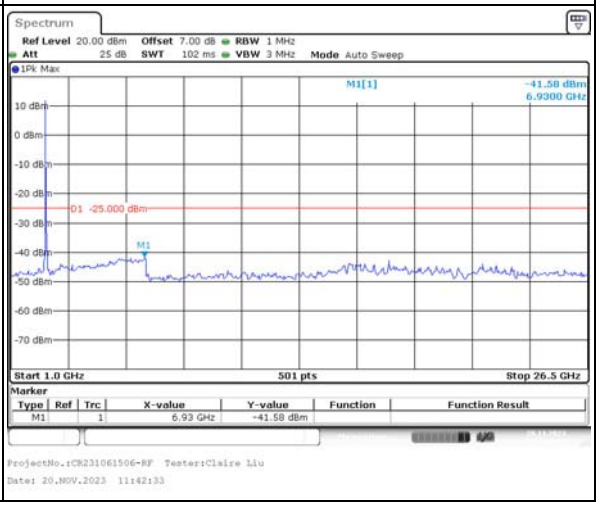
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

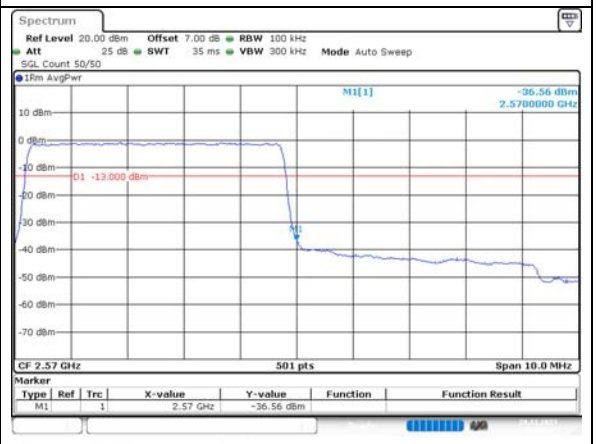
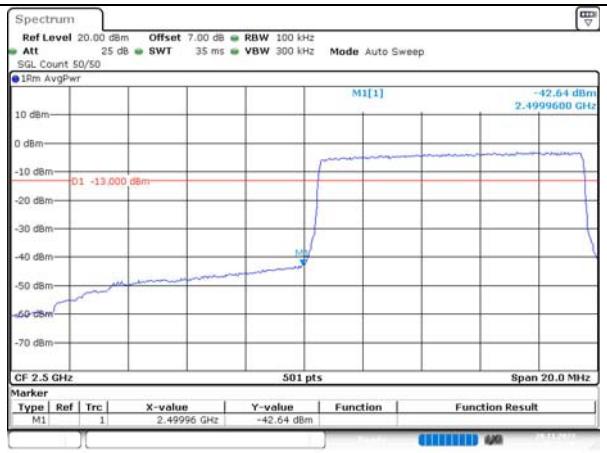
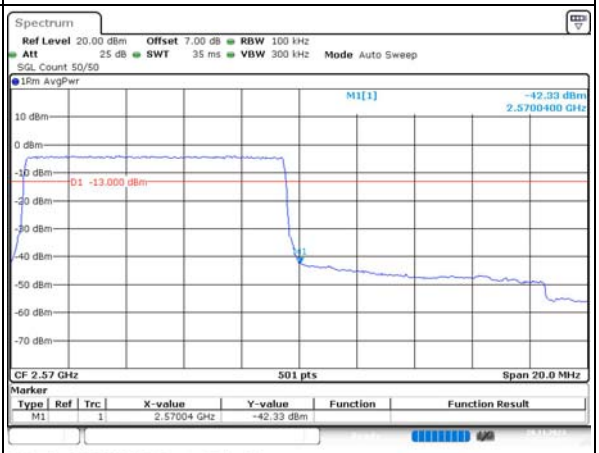
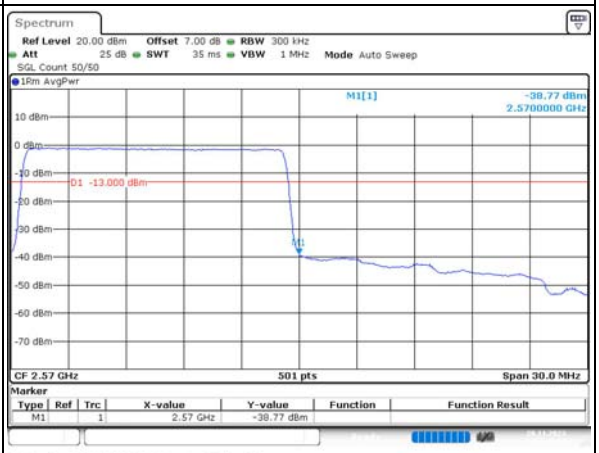
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

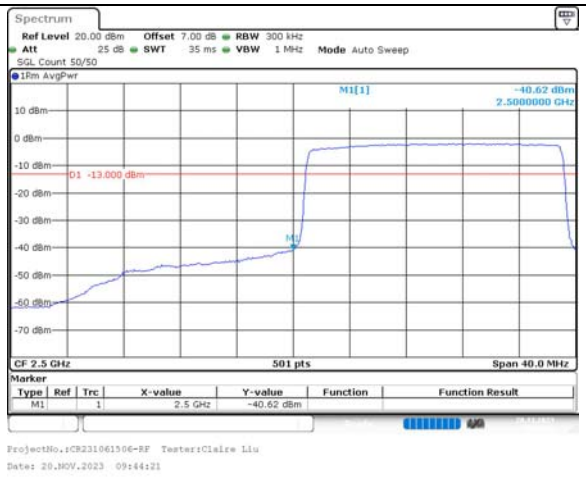
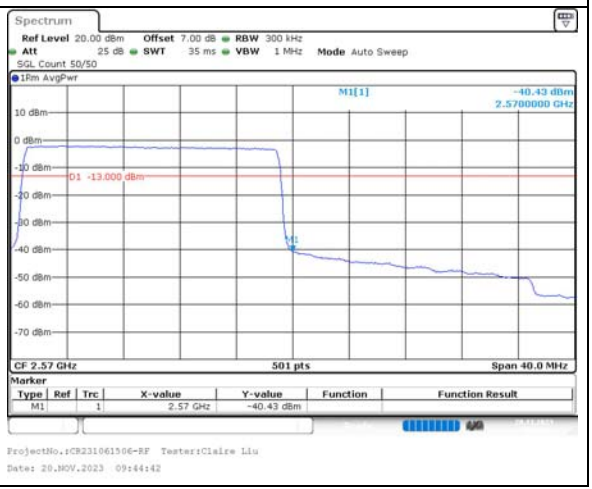
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

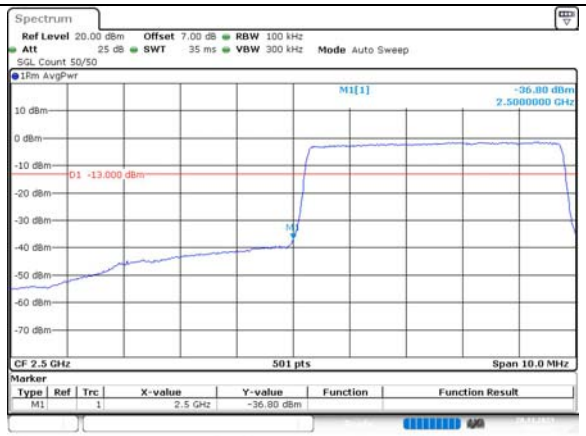
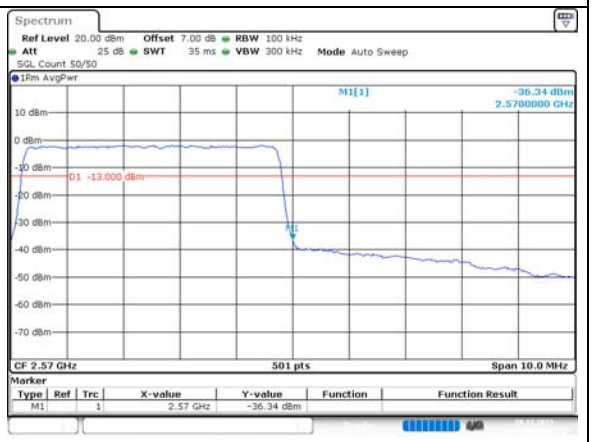
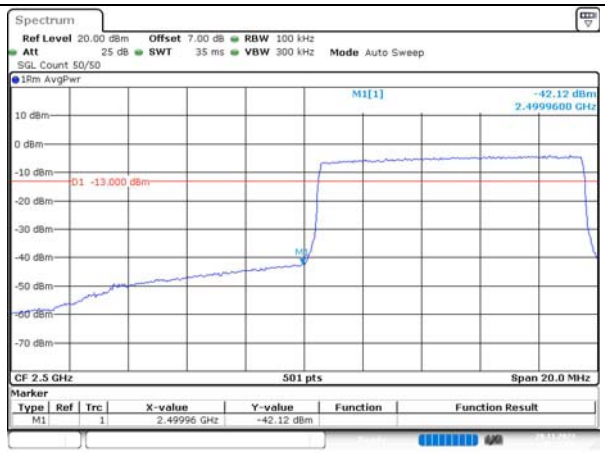
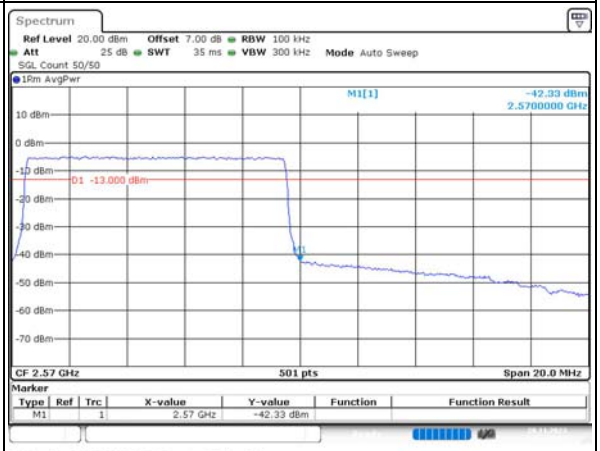
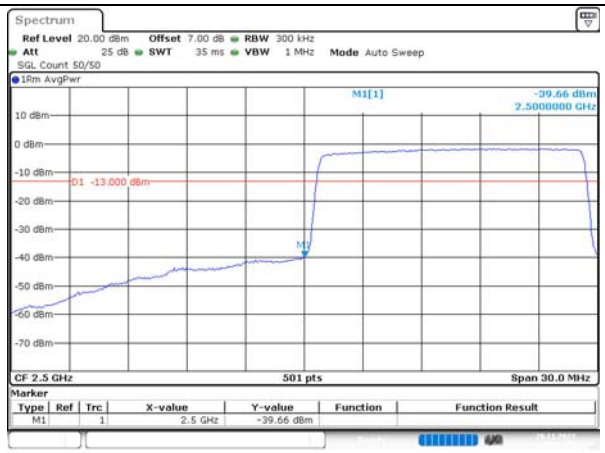
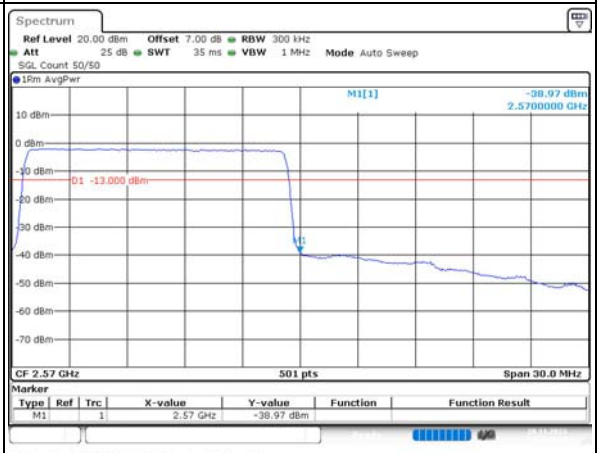
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

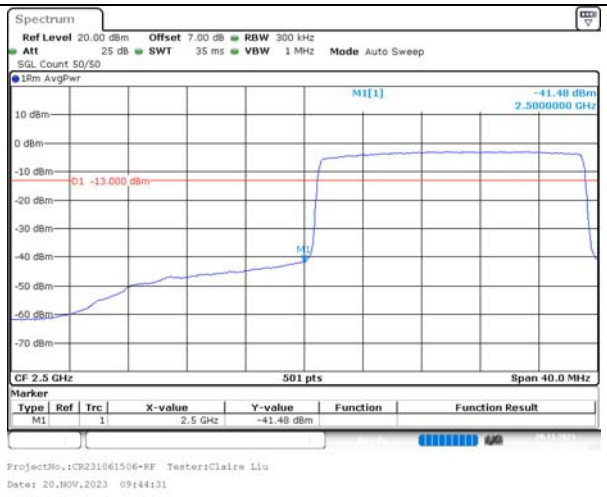
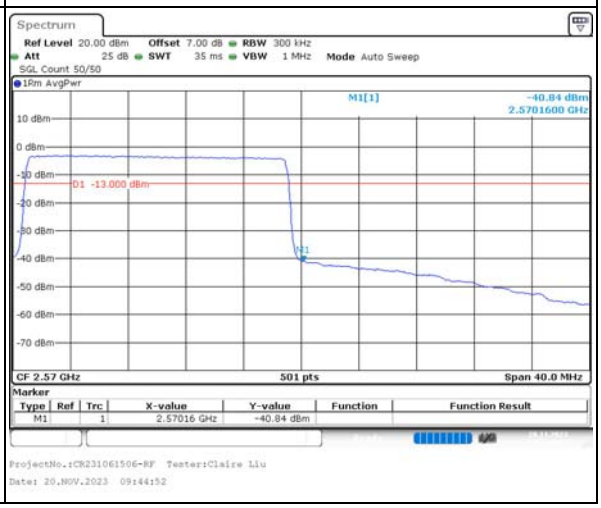
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

4.10 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2CII-1	Test Date:	2023/11/18-2023/11/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	24.5~26.5	Relative Humidity: (%)	54~64	ATM Pressure: (kPa)	100.1~102

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Minl-Clrcuits	Power Splitter	ZFRSC-183-S+	S F448201619	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	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	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	2023/9/28	2024/9/27
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24

** 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	18.16	18.15	18.26	16.52	33
	RB1#13	18.25	18.33	**18.4**		
	RB1#24	18.13	18.2	18.31		
	RB15#0	17.22	17.19	17.35		
	RB15#10	17.23	17.25	17.36		
	RB25#0	17.2	17.23	17.32		
5MHz 16QAM	RB1#0	17.28	17.46	17.28	15.7	33
	RB1#13	17.41	**17.58**	17.45		
	RB1#24	17.26	17.52	17.36		
	RB15#0	16.24	16.26	16.28		
	RB15#10	16.26	16.29	16.27		
	RB25#0	16.25	16.24	16.42		
10MHz QPSK	RB1#0	18.3	18.25	18.33	16.62	33
	RB1#25	18.33	18.34	**18.5**		
	RB1#49	18.3	18.3	18.45		
	RB25#0	17.23	17.24	17.35		
	RB25#25	17.28	17.32	17.42		
	RB50#0	17.28	17.31	17.43		
10MHz 16QAM	RB1#0	17.46	17.55	17.31	15.74	33
	RB1#25	17.45	**17.62**	17.44		
	RB1#49	17.53	17.57	17.45		
	RB25#0	16.27	16.24	16.45		
	RB25#25	16.34	16.31	16.48		
	RB50#0	16.28	16.27	16.4		
15MHz QPSK	RB1#0	18.19	18.14	18.18	16.52	33
	RB1#38	18.32	18.35	**18.4**		
	RB1#74	18.24	18.3	18.38		
	RB36#0	17.17	17.18	17.26		
	RB36#39	17.2	17.26	17.35		
	RB75#0	17.25	17.25	17.31		
15MHz 16QAM	RB1#0	17.45	17.15	17.5	15.79	33
	RB1#38	17.56	17.3	**17.67**		
	RB1#74	17.52	17.26	17.63		
	RB36#0	16.2	16.18	16.37		
	RB36#39	16.21	16.27	16.42		
	RB75#0	16.18	16.23	16.33		
20MHz QPSK	RB1#0	18.07	18.02	18.2	16.6	33
	RB1#50	18.27	18.3	**18.48**		
	RB1#99	18.16	18.23	18.42		

	RB50#0	17.16	17.15	17.25		
	RB50#50	17.26	17.29	17.35		
	RB100#0	17.19	17.27	17.31		
20MHz 16QAM	RB1#0	17.19	17.1	17.45	15.85	33
	RB1#50	17.4	17.33	**17.73**		
	RB1#99	17.31	17.24	17.7		
	RB50#0	16.15	16.24	16.26		
	RB50#50	16.27	16.36	16.34		
	RB100#0	16.22	16.26	16.31		
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	9.57	9.71	9.25	13
	RB100#0	8.29	8.29	8.23	13
20MHz 16QAM	RB1#0	10.23	10.29	9.91	13
	RB100#0	9.77	9.8	9.77	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	4.511	4.511	4.92	5.04	4.94
5MHz 16QAM	4.511	4.491	4.511	5.00	4.92	4.94
10MHz QPSK	8.942	8.942	8.942	9.54	9.6	9.68
10MHz 16QAM	8.942	8.942	8.942	9.56	9.68	9.52
15MHz QPSK	13.413	13.413	13.473	14.58	14.64	14.52
15MHz 16QAM	13.533	13.473	13.473	14.64	14.58	14.7
20MHz QPSK	17.964	17.964	17.884	19.2	19.2	19.12
20MHz 16QAM	17.884	17.884	17.884	19.12	19.2	19.12
Note: The test plots please refer to the Plots of Occupied Bandwidth						

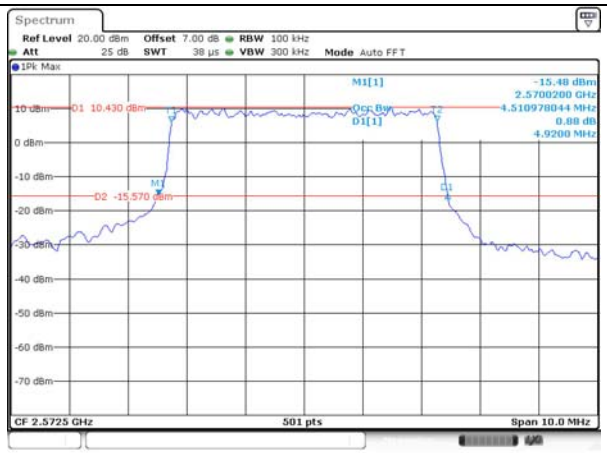
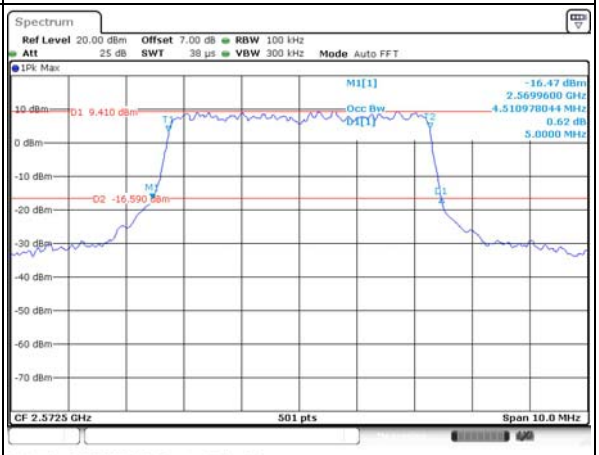
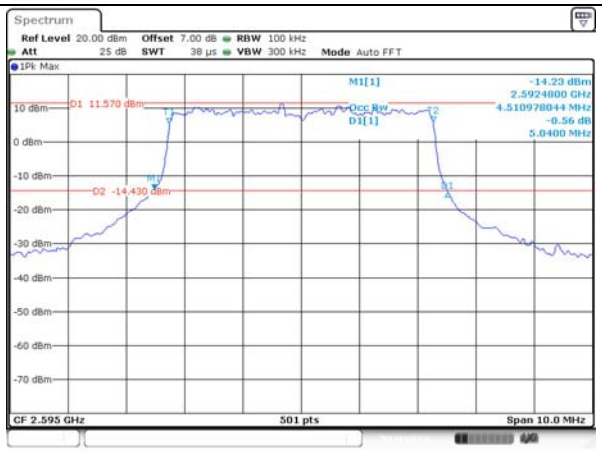
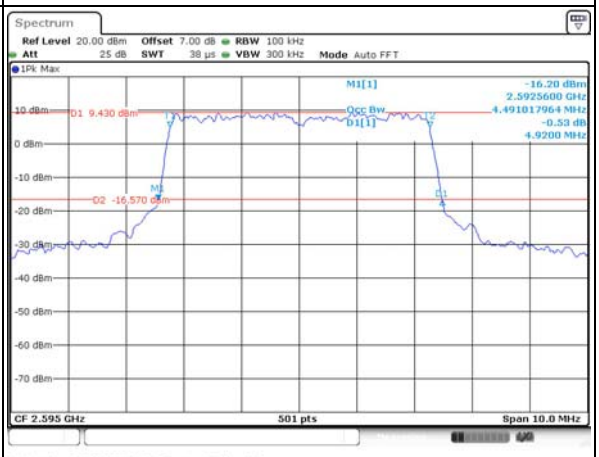
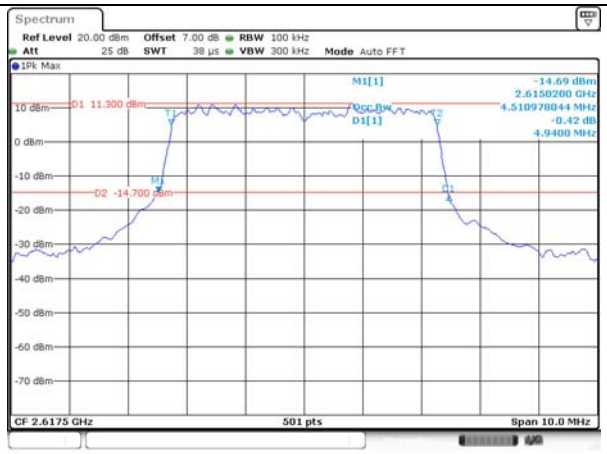
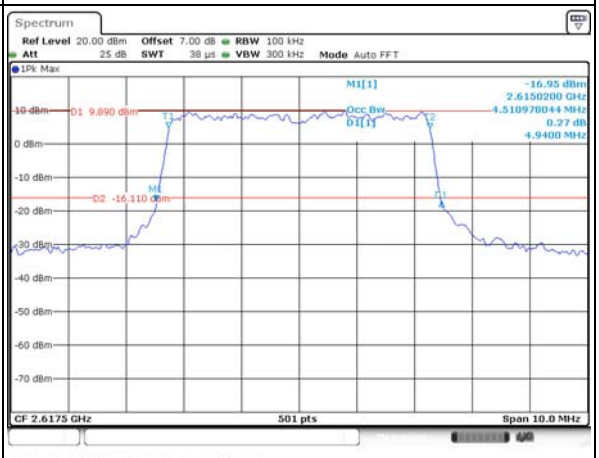
Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

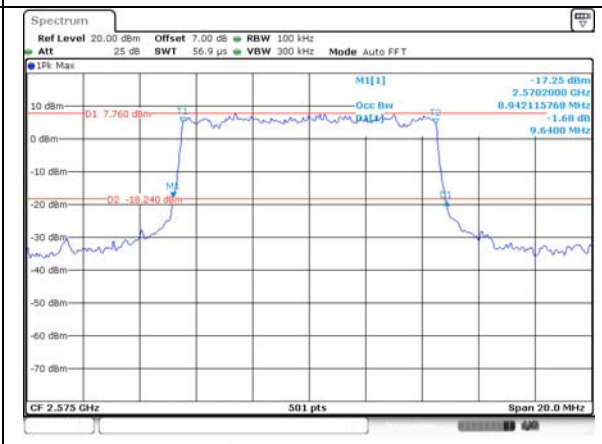
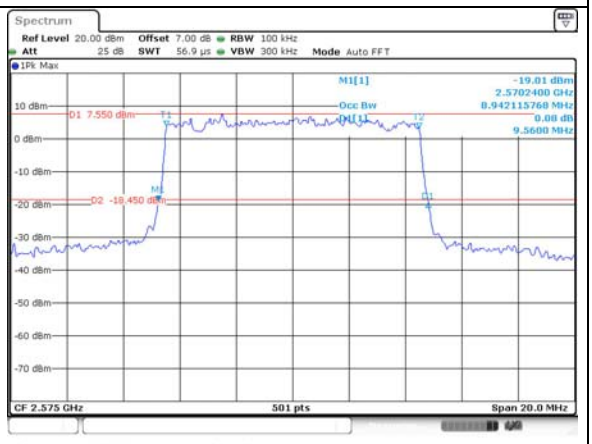
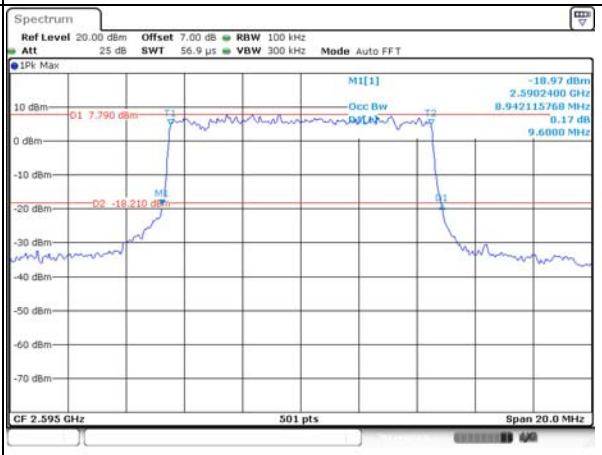
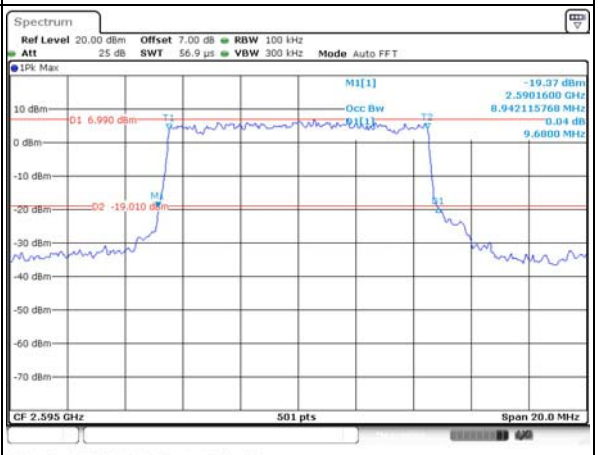
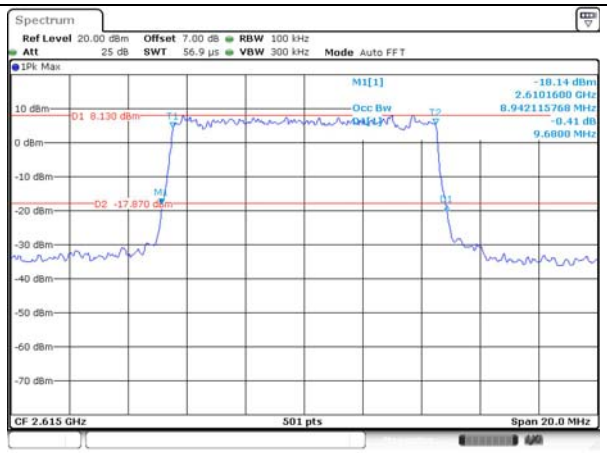
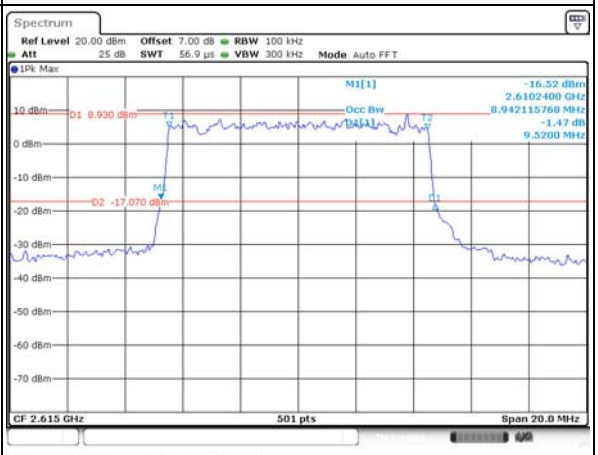
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

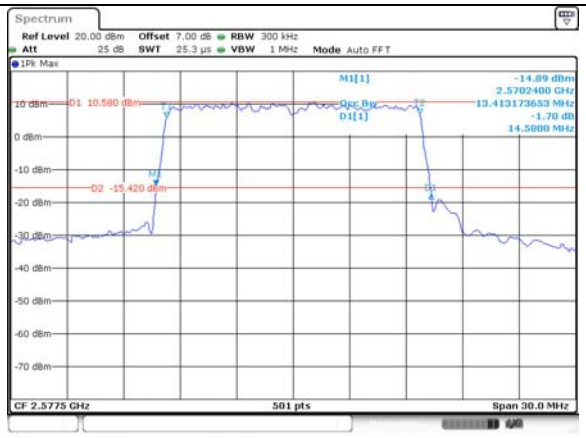
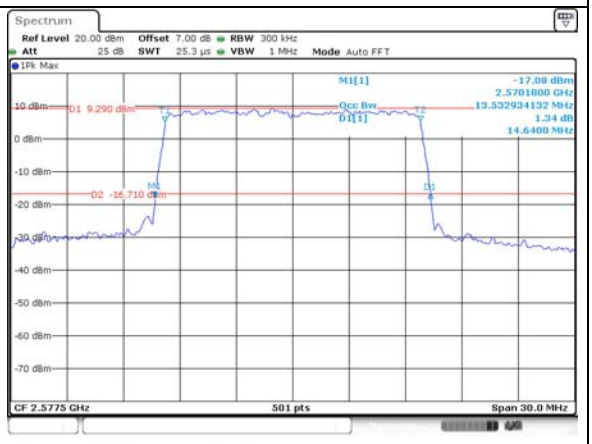
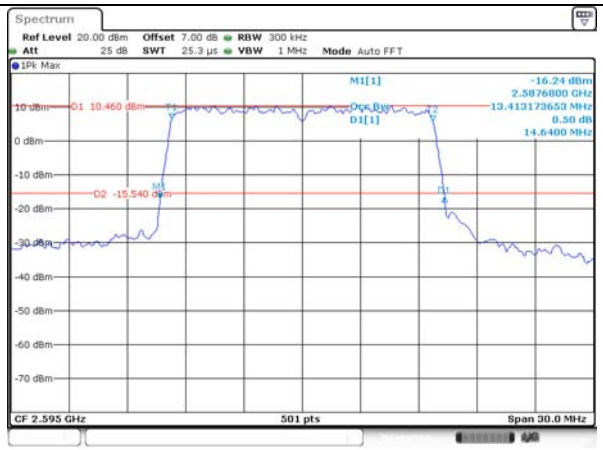
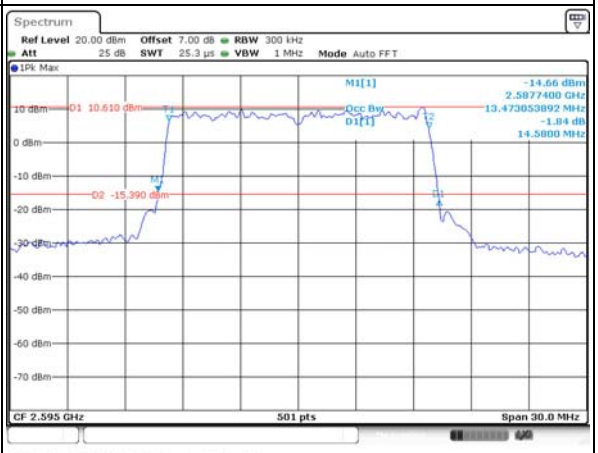
Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2570.403	2570.00	2619.532	2620
	-20	3.91	2570.327	2570.00	2619.550	2620
	-10	3.91	2570.383	2570.00	2619.540	2620
	0	3.91	2570.382	2570.00	2619.521	2620
	10	3.91	2570.378	2570.00	2619.527	2620
	20	3.91	2570.320	2570.00	2619.600	2620
	30	3.91	2570.391	2570.00	2619.558	2620
	40	3.91	2570.324	2570.00	2619.544	2620
	50	3.91	2570.342	2570.00	2619.516	2620
Frequency Stability vs. Voltage	20	3.45	2570.327	2570.00	2619.585	2620
	20	4.5	2570.326	2570.00	2619.531	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	3.91	2570.485	2570.00	2619.537	2620
	-20	3.91	2570.482	2570.00	2619.538	2620
	-10	3.91	2570.446	2570.00	2619.519	2620
	0	3.91	2570.433	2570.00	2619.558	2620
	10	3.91	2570.474	2570.00	2619.536	2620
	20	3.91	2570.400	2570.00	2619.600	2620
	30	3.91	2570.422	2570.00	2619.580	2620
	40	3.91	2570.407	2570.00	2619.501	2620
	50	3.91	2570.438	2570.00	2619.600	2620
Frequency Stability vs. Voltage	20	3.45	2570.435	2570.00	2619.584	2620
	20	4.5	2570.408	2570.00	2619.579	2620
					Result:	**Pass**

Test Plots(Note: The 7dB 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		
Highest		

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

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