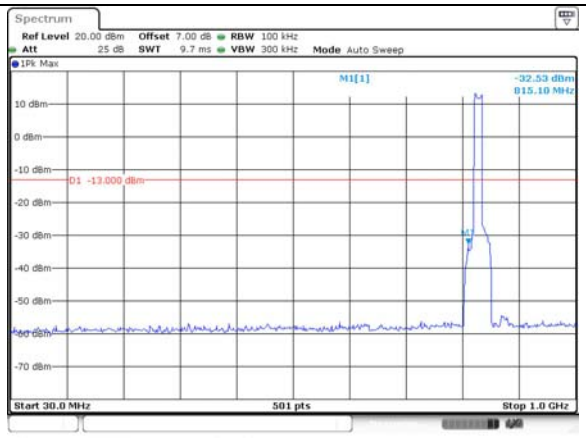
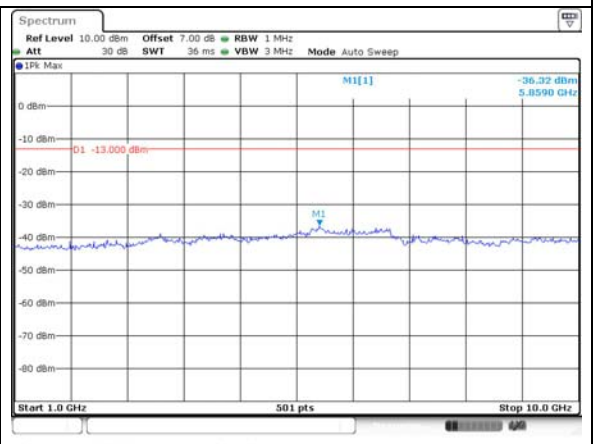
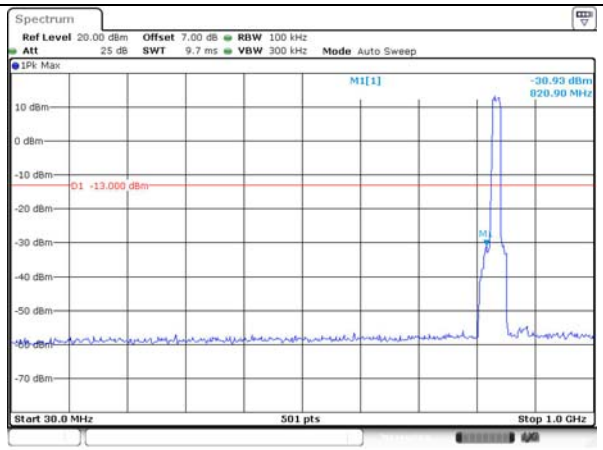
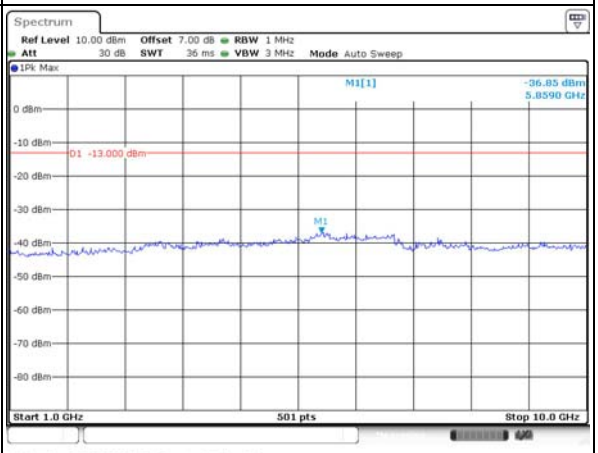
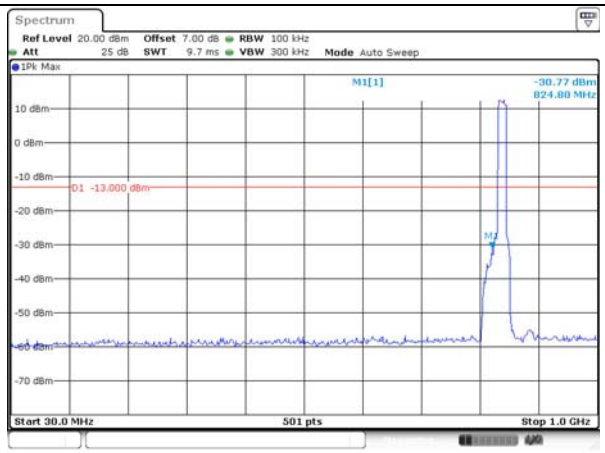
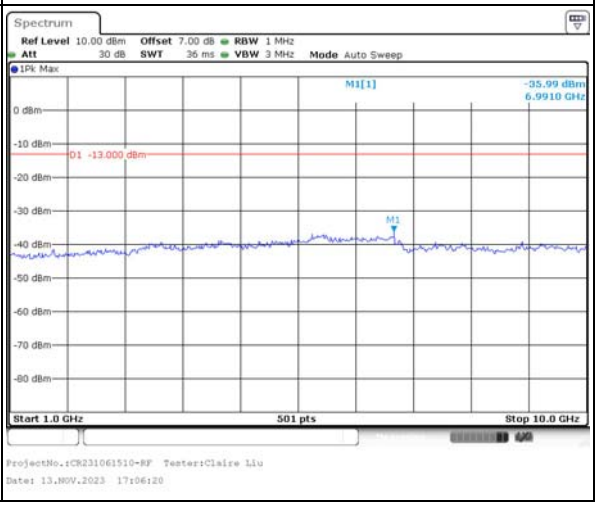
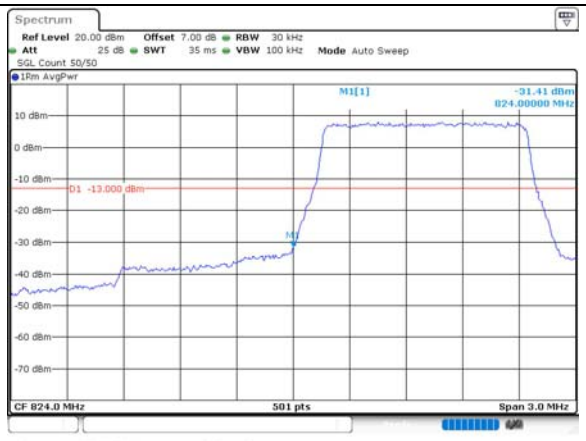
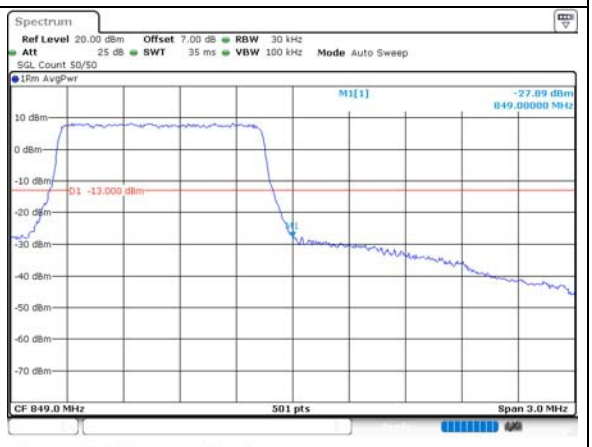
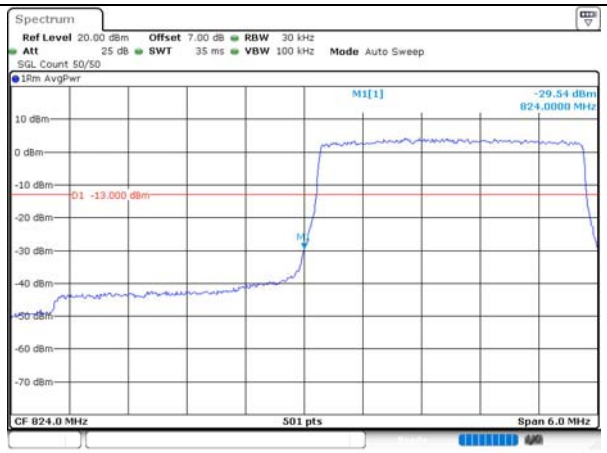
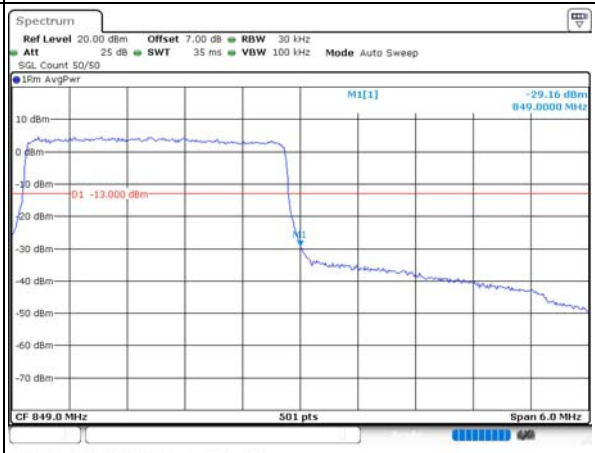
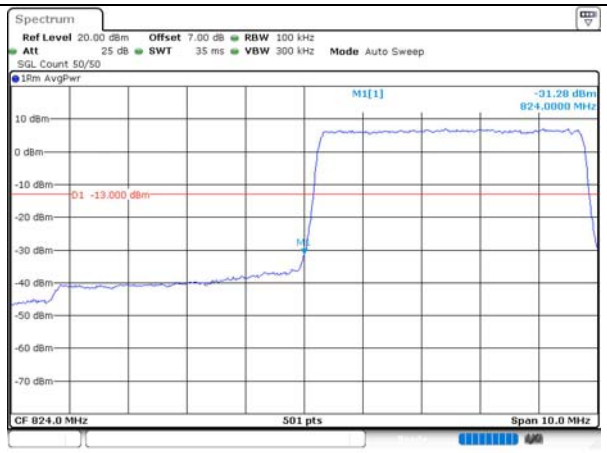
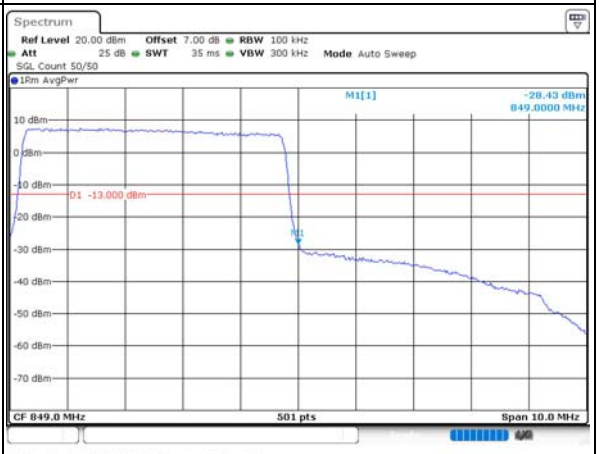
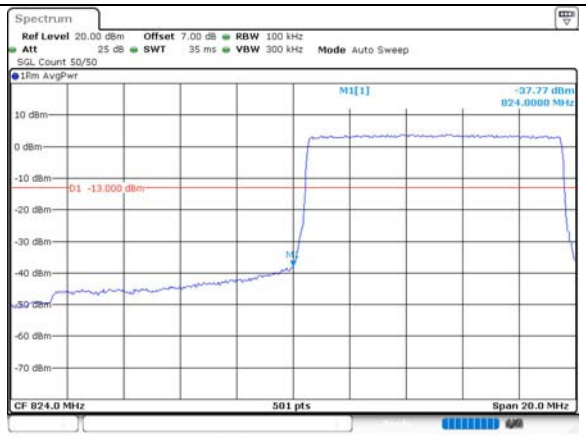
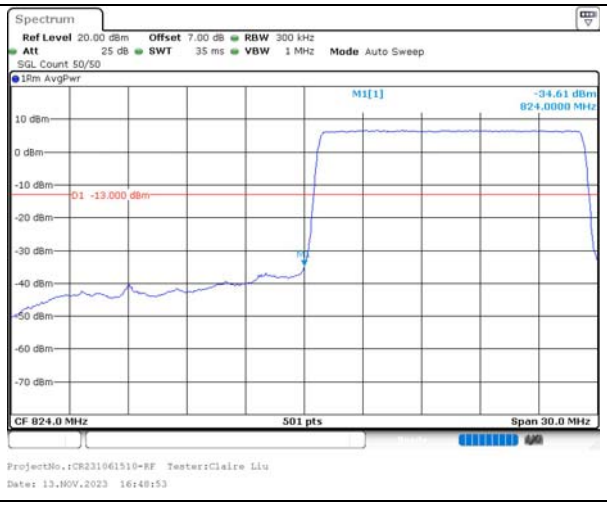
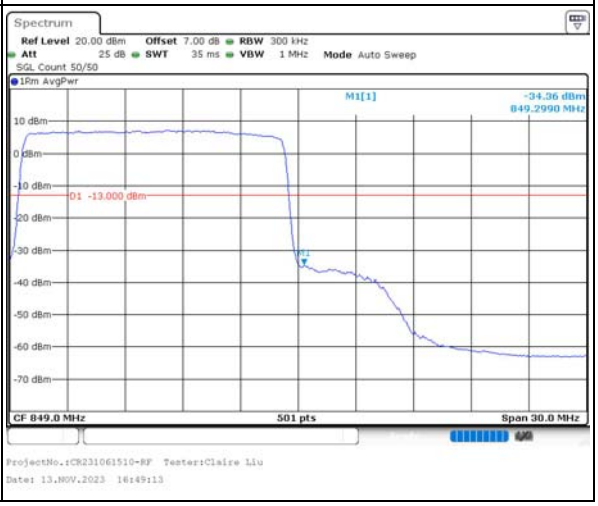
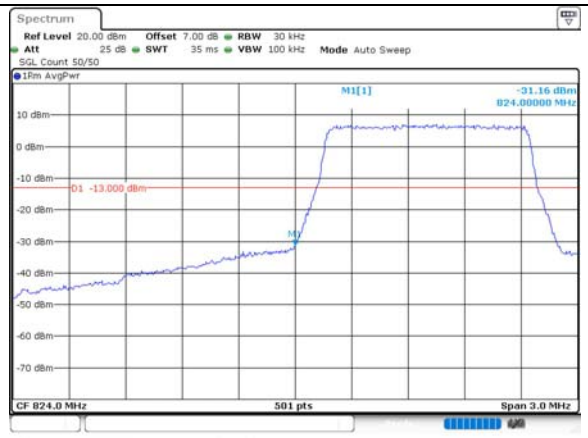
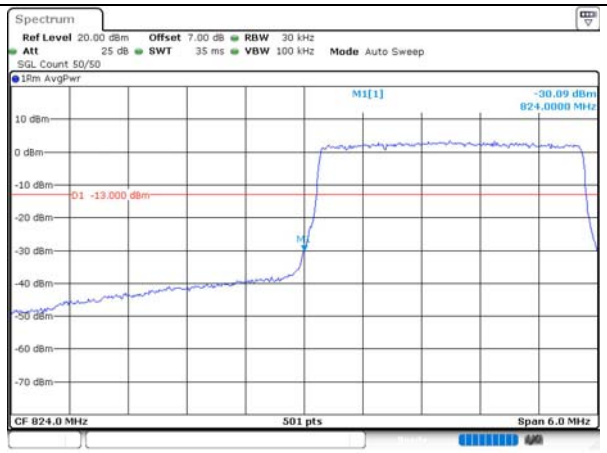
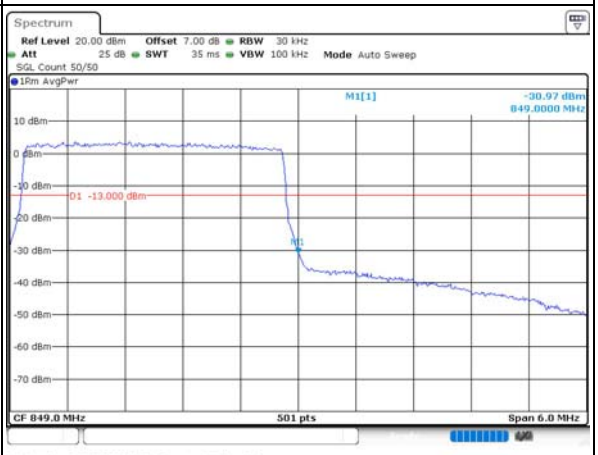
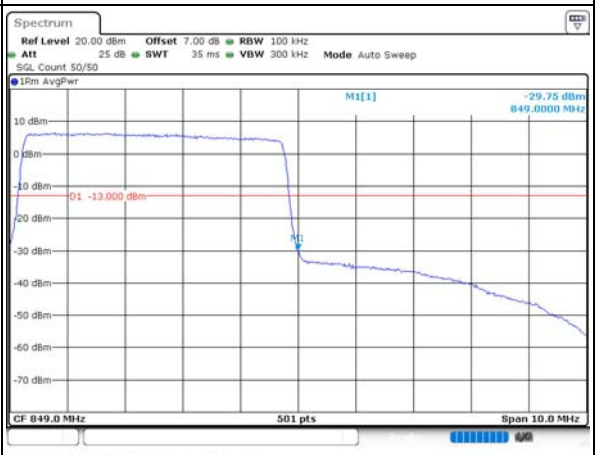
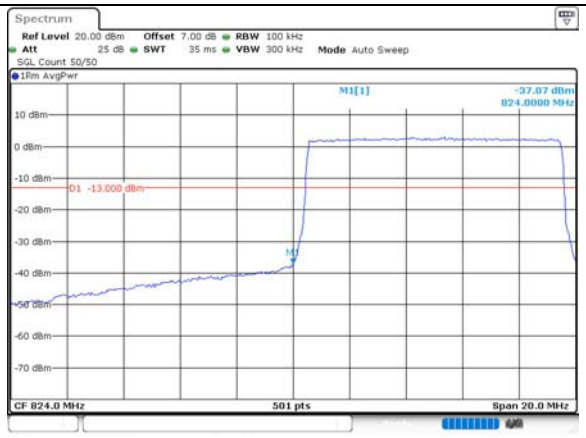
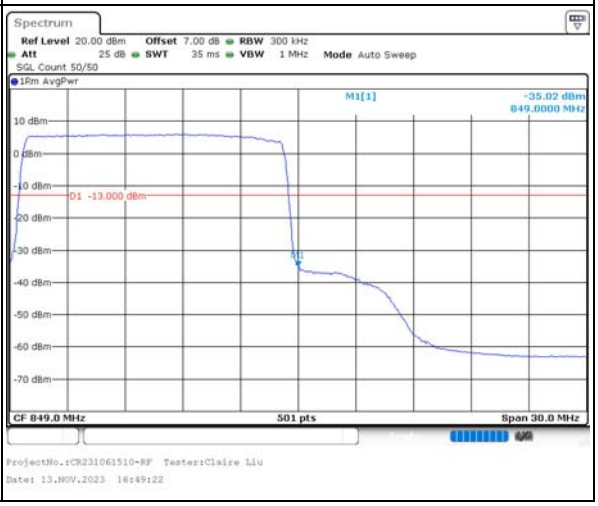
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

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		

4.14 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2CIM-1	Test Date:	2023/11/12~2023/12/9
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24.7~25.5	Relative Humidity: (%)	53~62	ATM Pressure: (kPa)	100.1~102

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24
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	2023/11/16	2024/11/15

** 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	19	19.01	19.12	18.38	33
	RB1#13	19.15	19.15	19.26		
	RB1#24	19.04	19.01	19.16		
	RB15#0	18.02	18.05	18.18		
	RB15#10	18.09	18.06	18.17		
	RB25#0	18.02	18.03	18.15		
5MHz 16QAM	RB1#0	17.98	18.11	18.35	17.63	33
	RB1#13	18.16	18.23	18.51		
	RB1#24	18.02	18.09	18.4		
	RB15#0	17.02	17.13	17.27		
	RB15#10	17.03	17.13	17.26		
	RB25#0	17.13	17.17	17.24		
10MHz QPSK	RB1#0	19.06	19.15	19.21	18.43	33
	RB1#25	19.14	19.2	19.31		
	RB1#49	19.12	19.17	19.29		
	RB25#0	18.02	18.06	18.16		
	RB25#25	18.1	18.09	18.19		
	RB50#0	18.11	18.12	18.19		
10MHz 16QAM	RB1#0	18.31	18.04	18.29	17.52	33
	RB1#25	18.37	18.12	18.4		
	RB1#49	18.36	18.08	18.4		
	RB25#0	17.07	17.19	17.28		
	RB25#25	17.15	17.22	17.29		
	RB50#0	17.13	17.19	17.28		
15MHz QPSK	RB1#0	19.06	19.09	19.11	18.45	33
	RB1#38	19.21	19.22	19.33		
	RB1#74	19.1	19.19	19.26		
	RB36#0	18	18.05	18.1		
	RB36#39	18.01	18.11	18.19		
	RB75#0	18.01	18.09	18.15		
15MHz 16QAM	RB1#0	17.97	18.28	18.33	17.67	33
	RB1#38	18.12	18.45	18.55		
	RB1#74	18.03	18.4	18.49		
	RB36#0	17.04	17.2	17.16		
	RB36#39	17.07	17.26	17.25		
	RB75#0	17.06	17.17	17.17		
20MHz QPSK	RB1#0	18.91	18.91	19.05	18.51	33
	RB1#50	19.18	19.19	19.39		
	RB1#99	19.11	19.07	19.27		

	RB50#0	18.03	18.04	18.07		
	RB50#50	18.1	18.12	18.17		
	RB100#0	18.07	18.06	18.12		
20MHz 16QAM	RB1#0	18	17.92	18.24	17.69	33
	RB1#50	18.27	18.17	18.57		
	RB1#99	18.18	18.07	18.48		
	RB50#0	17.08	17.15	17.17		
	RB50#50	17.14	17.24	17.26		
	RB100#0	17.13	17.15	17.19		
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	9.77	9.33	9.42	13
	RB100#0	8.38	8.35	8.35	13
20MHz 16QAM	RB1#0	10.35	10	10.26	13
	RB100#0	9.91	9.88	9.8	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	4.980	4.511	5.040	4.511	4.940
5MHz 16QAM	4.511	5.040	4.511	4.940	4.511	4.940
10MHz QPSK	8.942	9.680	8.942	9.680	8.942	9.560
10MHz 16QAM	8.942	9.520	8.942	9.520	8.942	9.920
15MHz QPSK	13.533	14.640	13.413	14.760	13.413	15.000
15MHz 16QAM	13.533	14.640	13.533	14.940	13.533	15.480
20MHz QPSK	17.884	19.200	17.884	19.280	17.884	19.360
20MHz 16QAM	17.884	19.280	17.884	19.200	17.884	19.120
Note: The test plots please refer to the Plots of Occupied Bandwidth						

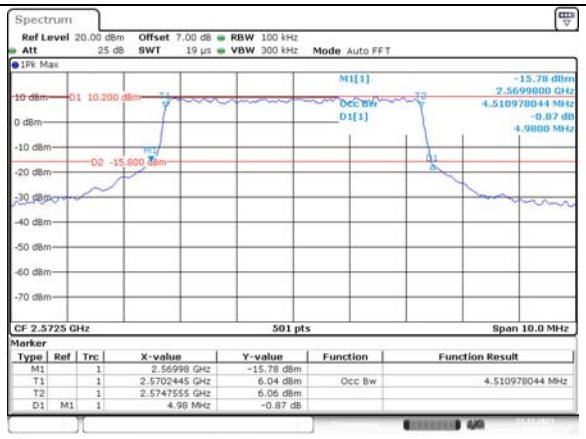
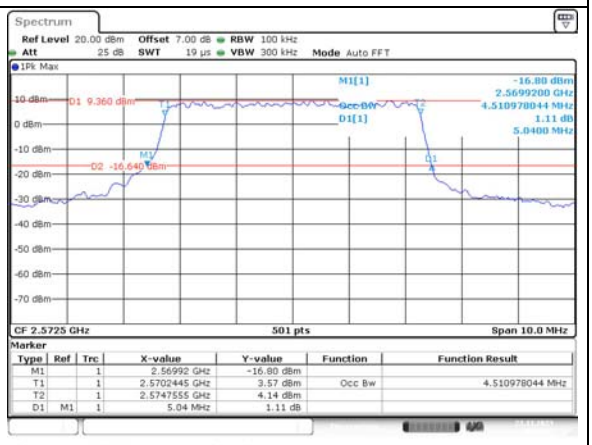
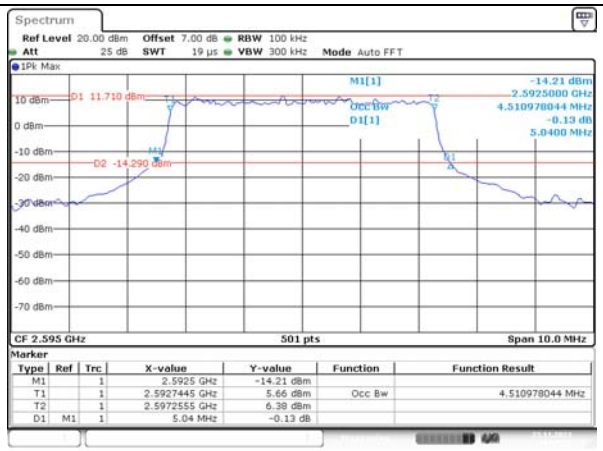
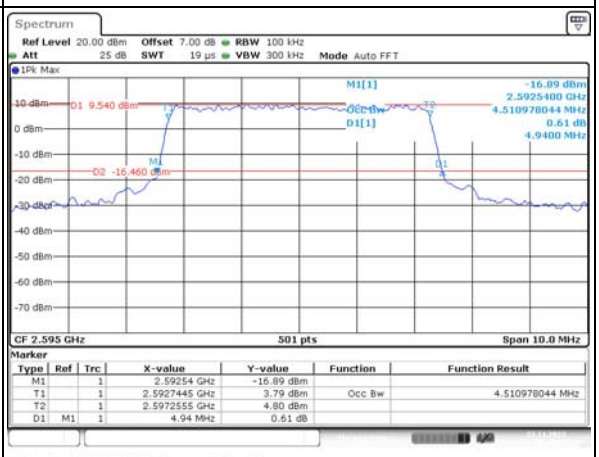
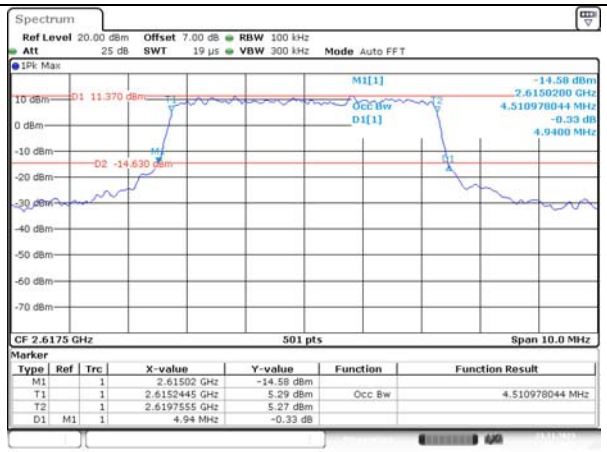
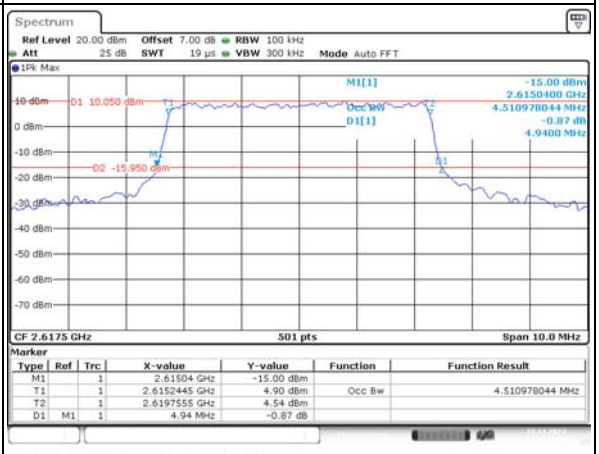
Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

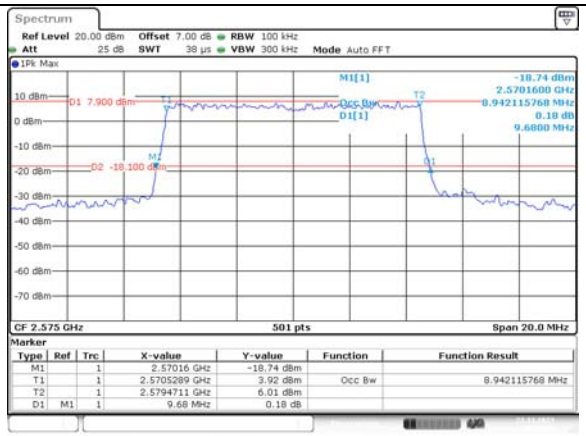
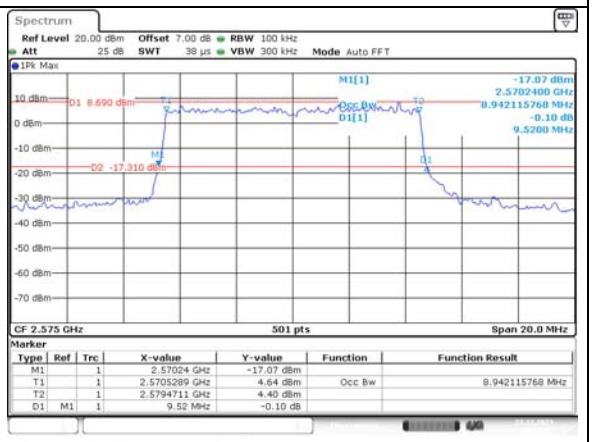
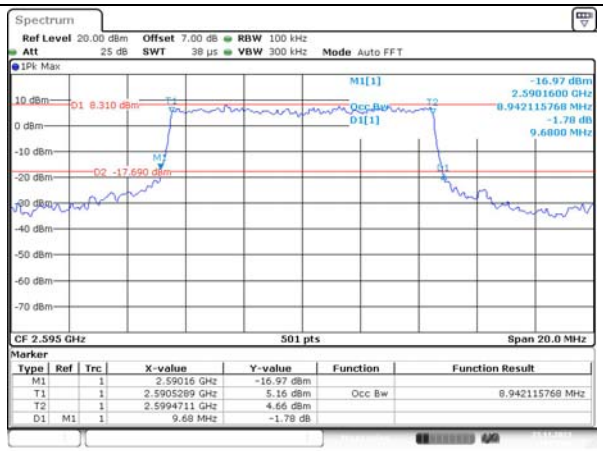
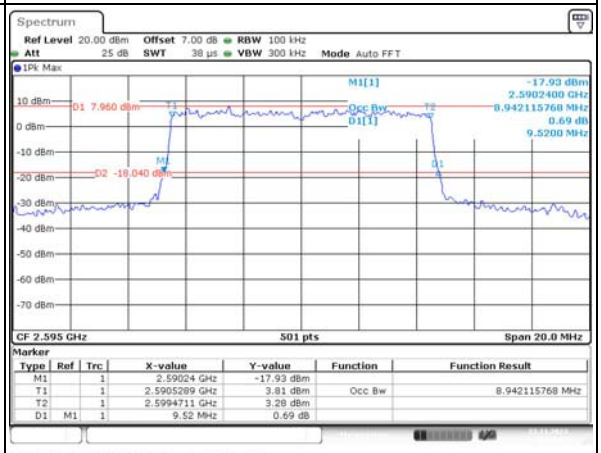
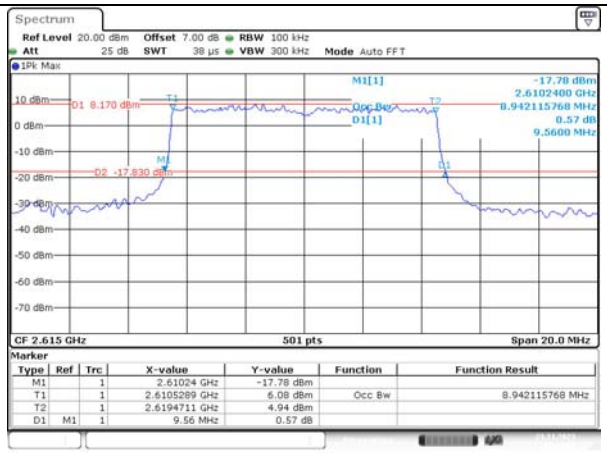
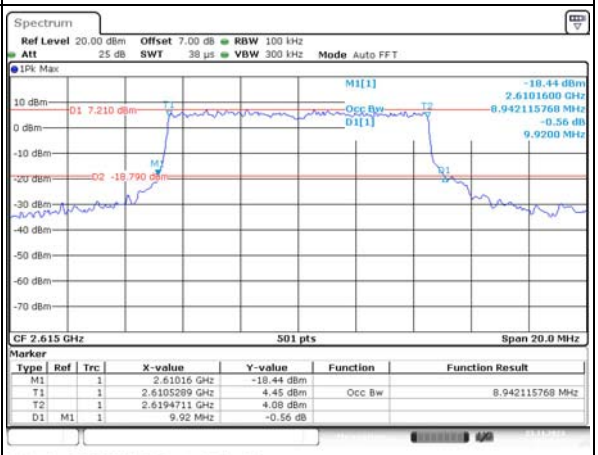
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

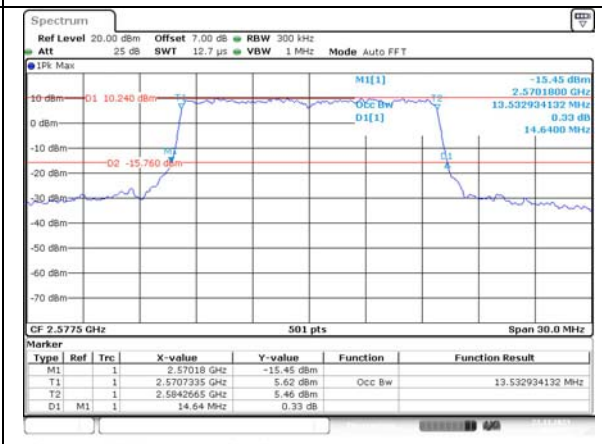
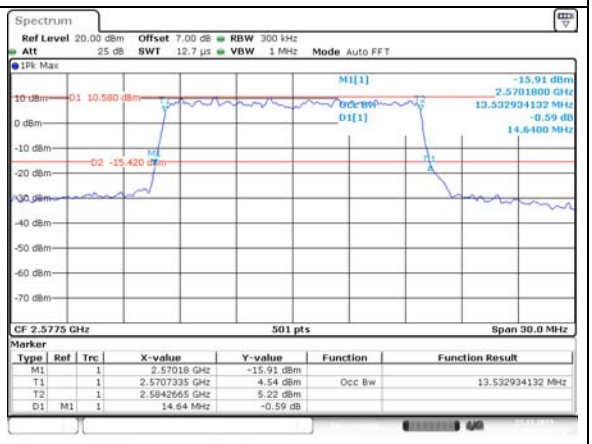
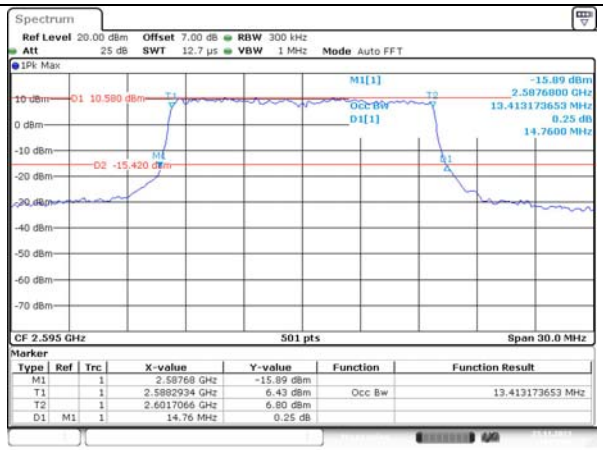
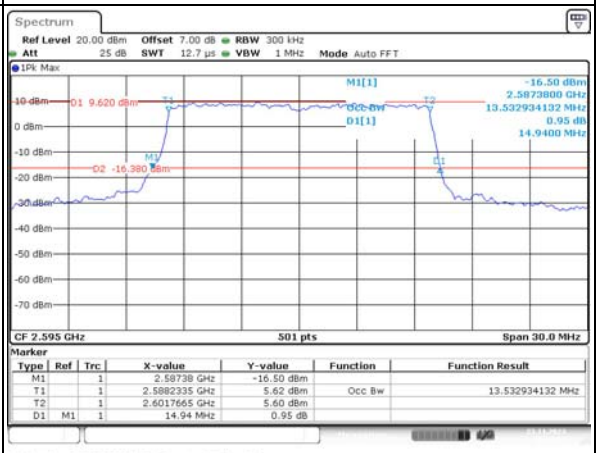
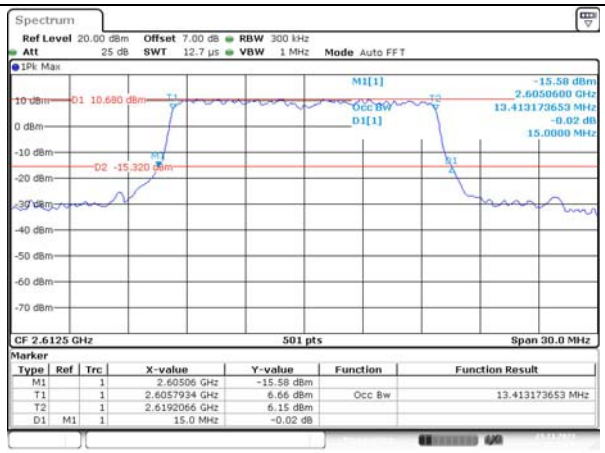
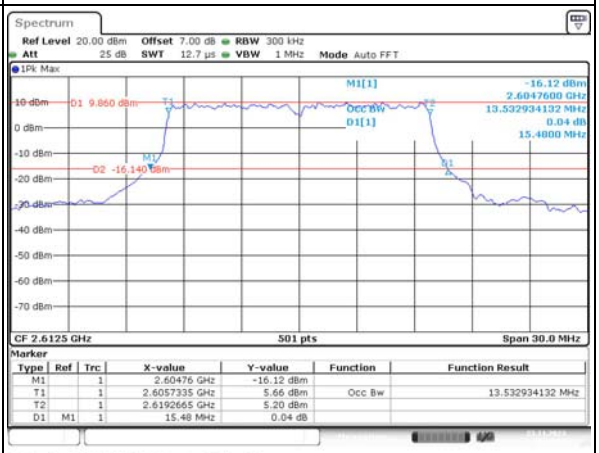
Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2570.403	2570.00	2619.656	2620
	-20	3.91	2570.452	2570.00	2619.639	2620
	-10	3.91	2570.441	2570.00	2619.583	2620
	0	3.91	2570.431	2570.00	2619.669	2620
	10	3.91	2570.483	2570.00	2619.623	2620
	20	3.91	2570.400	2570.00	2619.680	2620
	30	3.91	2570.407	2570.00	2619.582	2620
	40	3.91	2570.440	2570.00	2619.677	2620
	50	3.91	2570.447	2570.00	2619.655	2620
Frequency Stability vs. Voltage	20	3.45	2570.410	2570.00	2619.652	2620
	20	4.5	2570.481	2570.00	2619.629	2620
					Result:	**Pass**

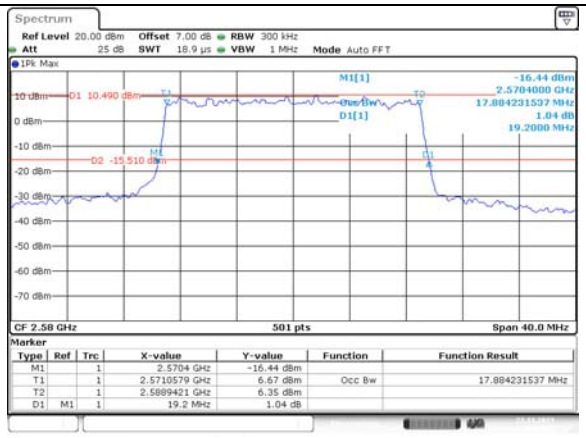
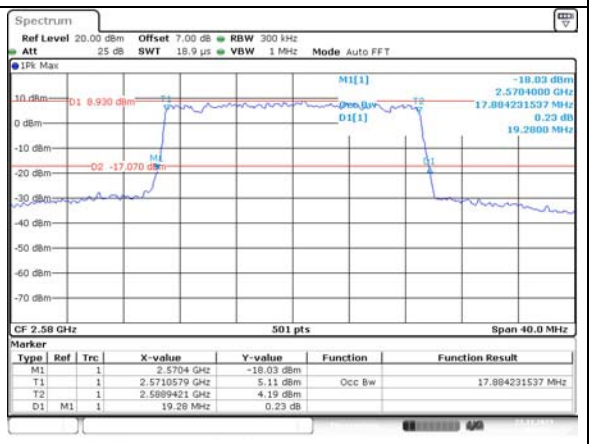
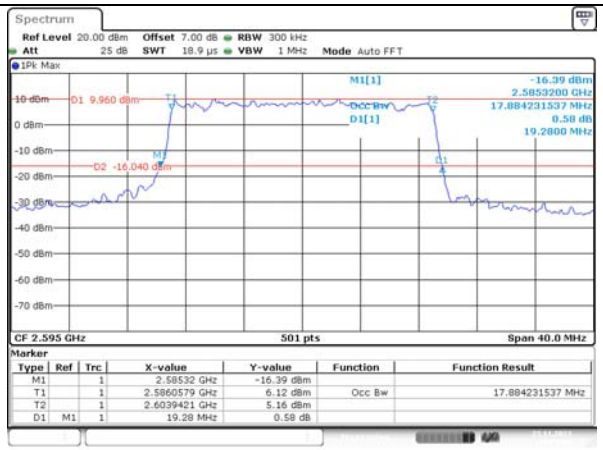
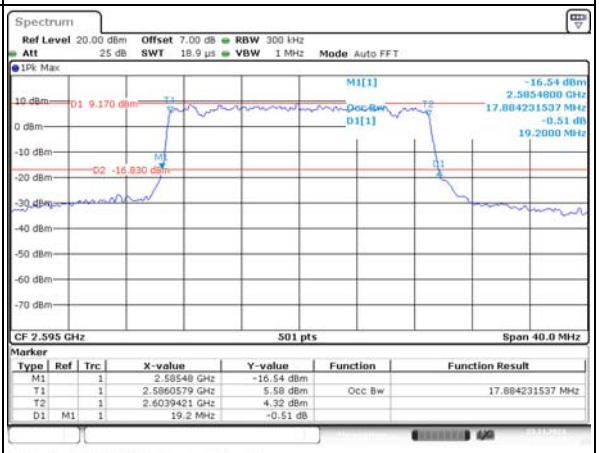
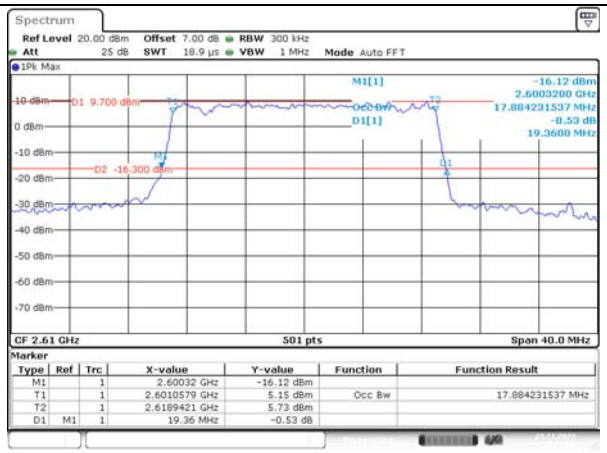
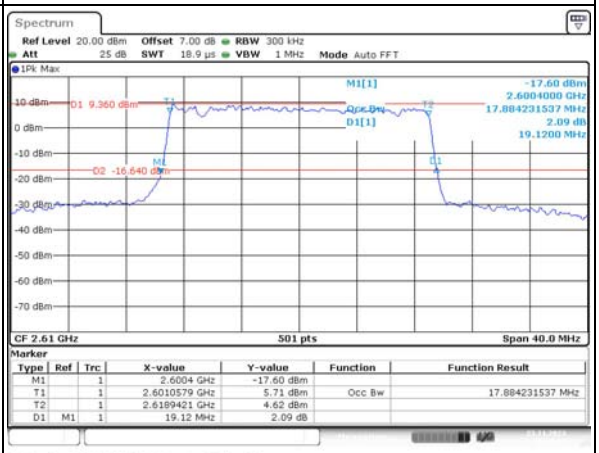
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2570.406	2570.00	2619.464	2620
	-20	3.91	2570.422	2570.00	2619.450	2620
	-10	3.91	2570.409	2570.00	2619.463	2620
	0	3.91	2570.401	2570.00	2619.512	2620
	10	3.91	2570.414	2570.00	2619.478	2620
	20	3.91	2570.400	2570.00	2619.520	2620
	30	3.91	2570.422	2570.00	2619.511	2620
	40	3.91	2570.446	2570.00	2619.491	2620
	50	3.91	2570.431	2570.00	2619.486	2620
Frequency Stability vs. Voltage	20	3.45	2570.416	2570.00	2619.507	2620
	20	4.5	2570.497	2570.00	2619.460	2620
					Result:	**Pass**

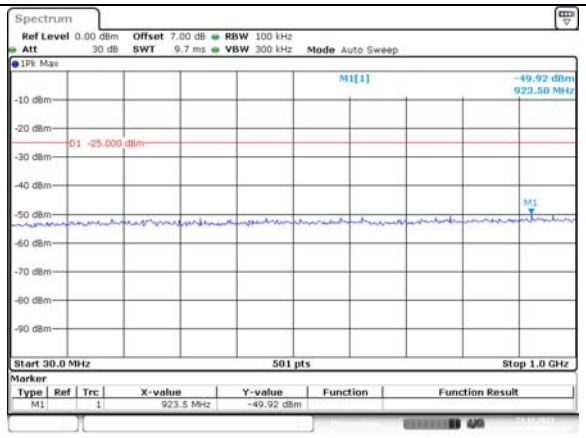
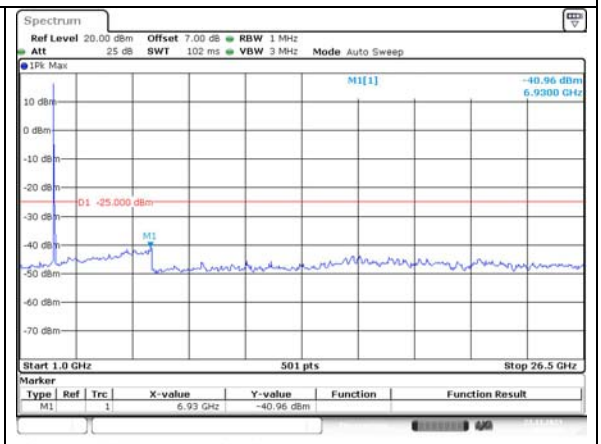
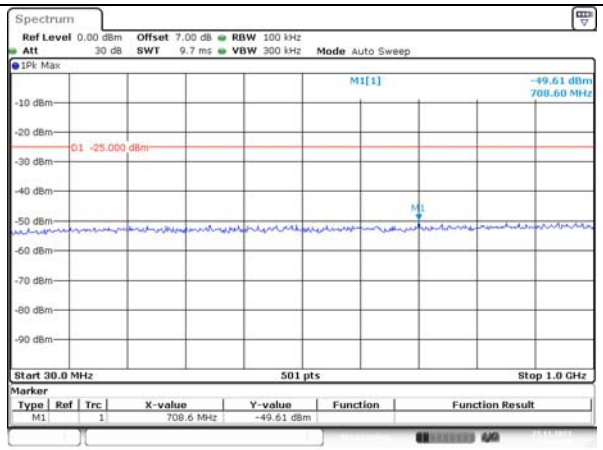
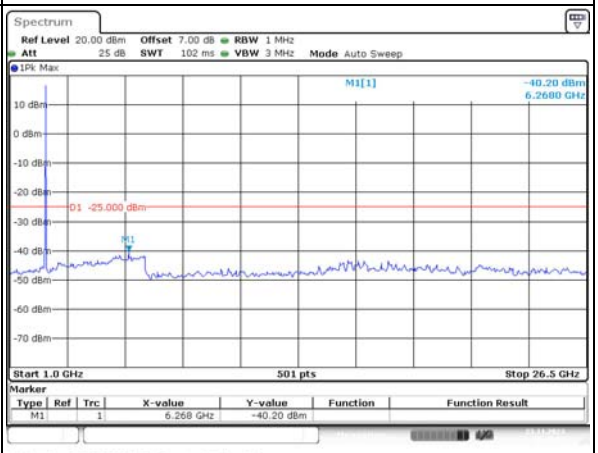
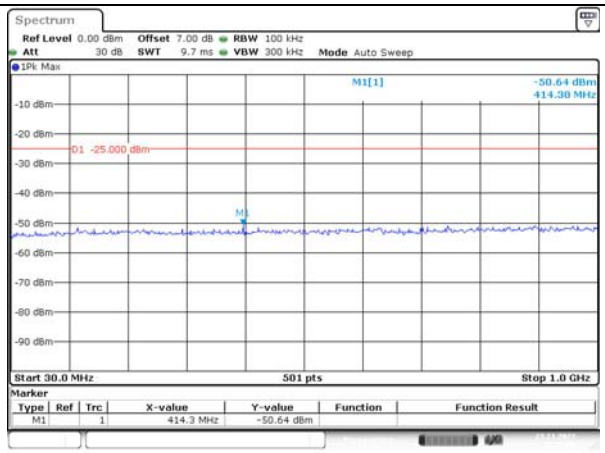
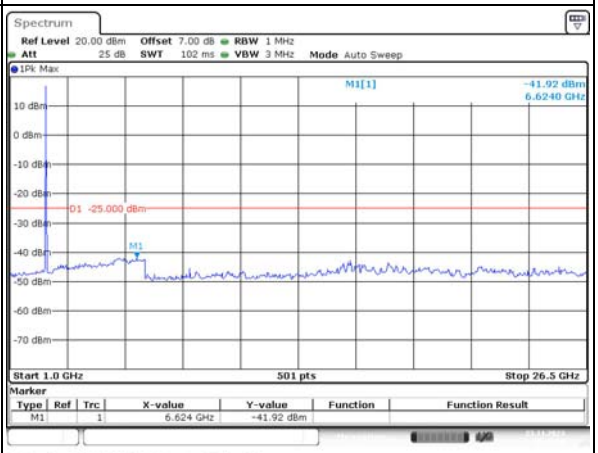
Test Plots(Note: The 7.0dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

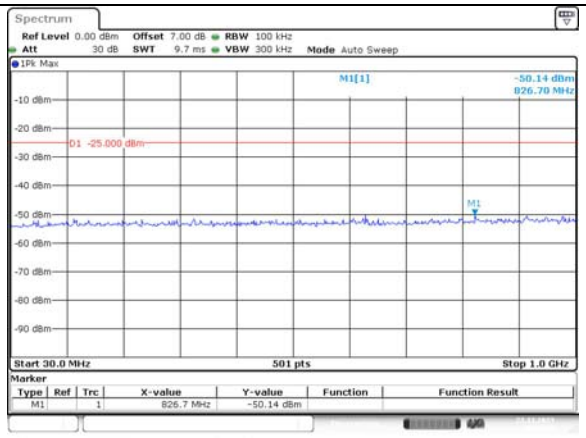
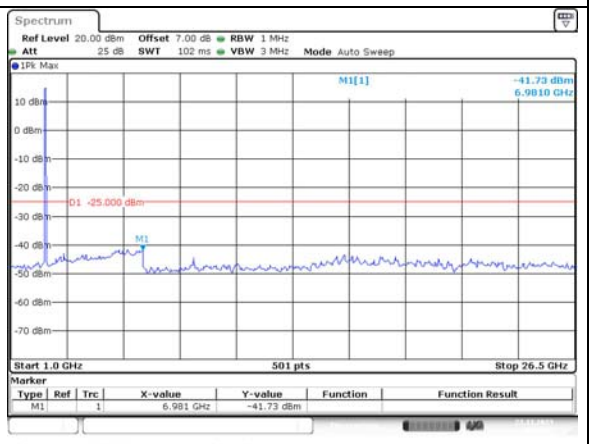
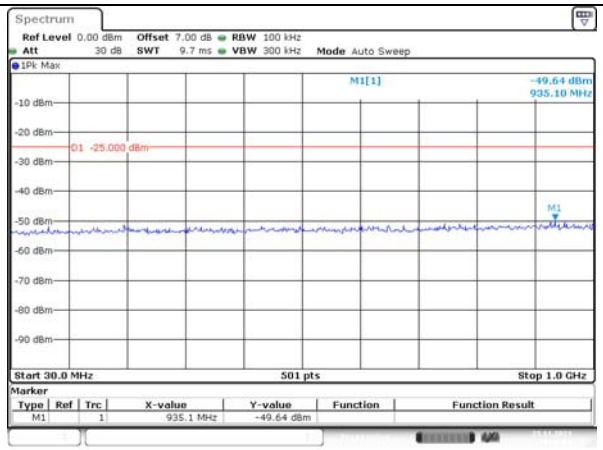
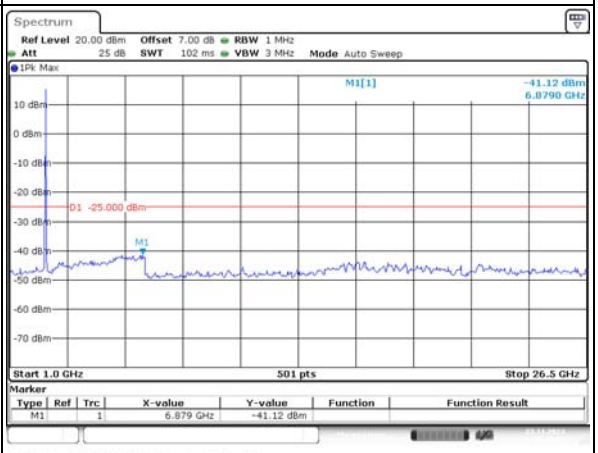
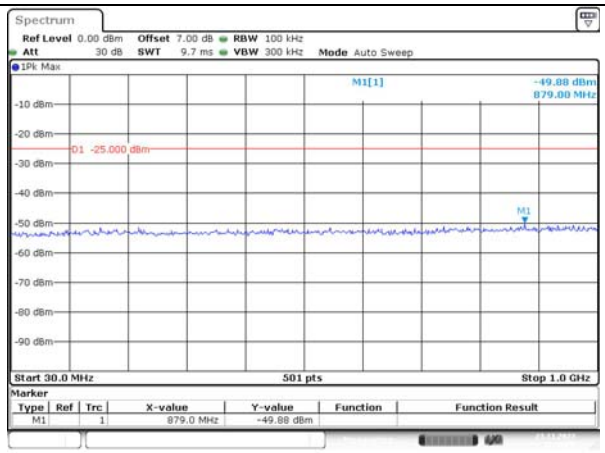
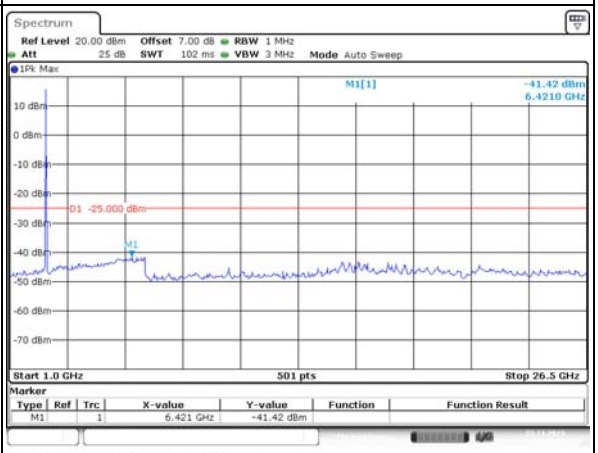
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

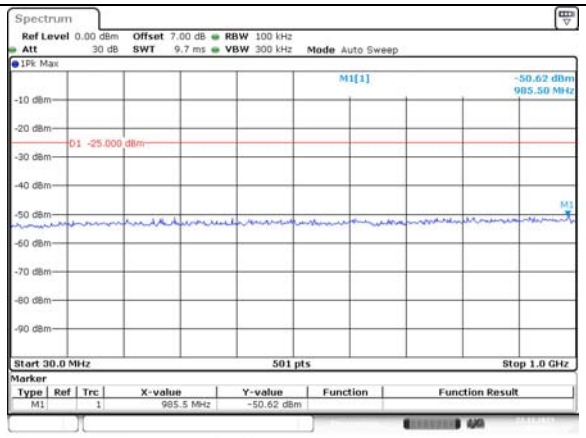
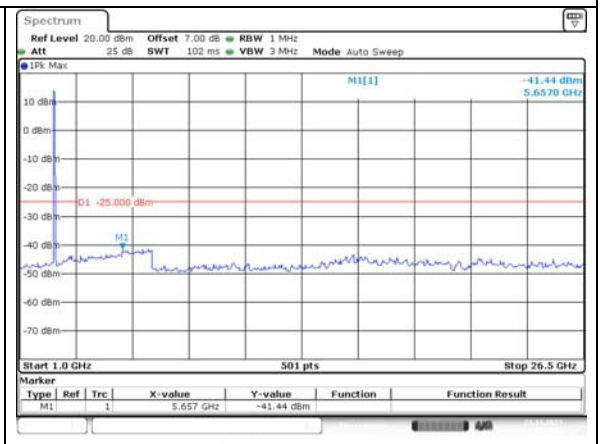
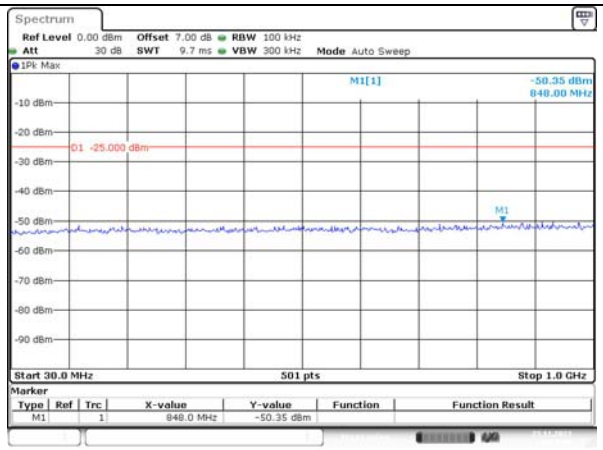
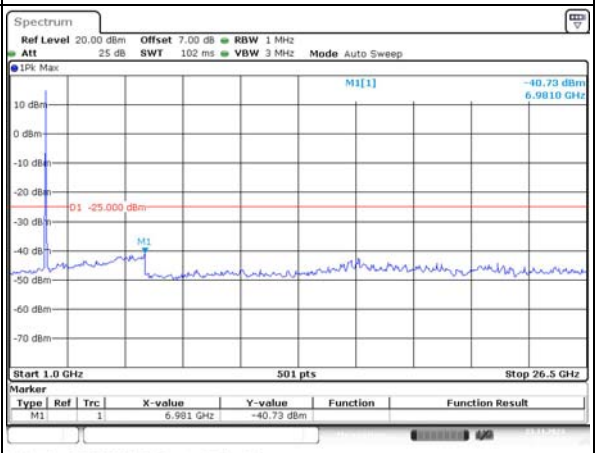
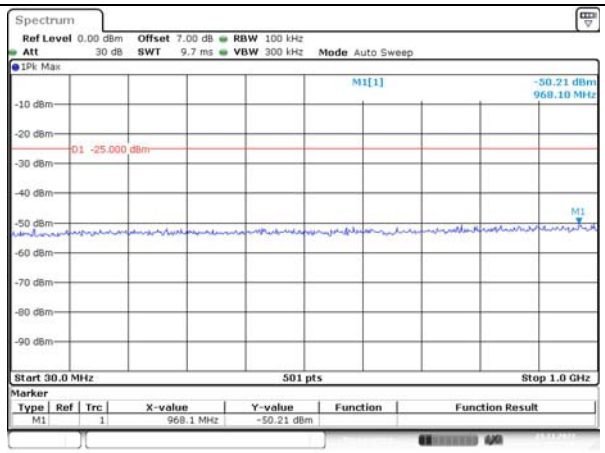
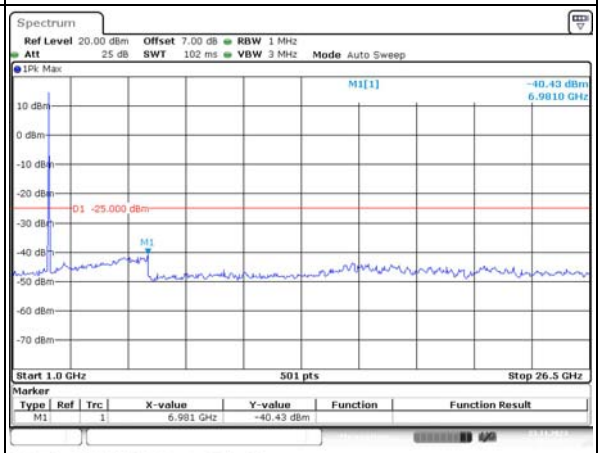
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

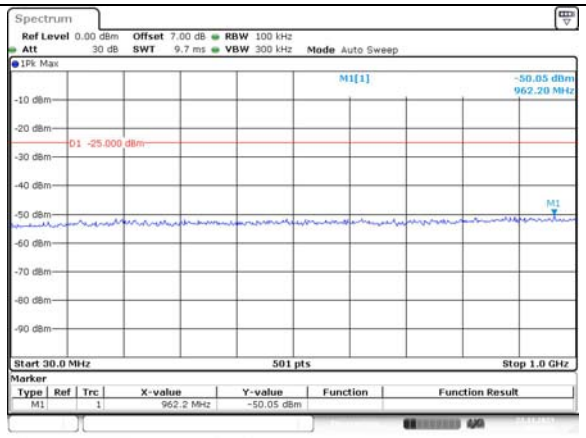
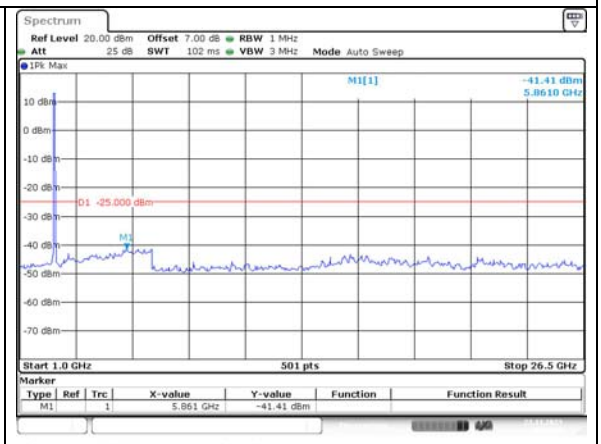
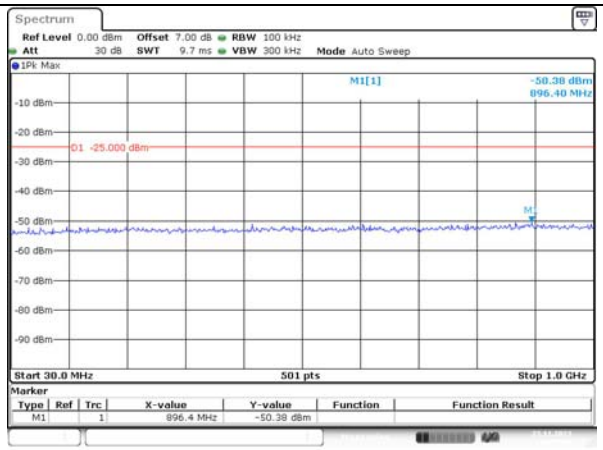
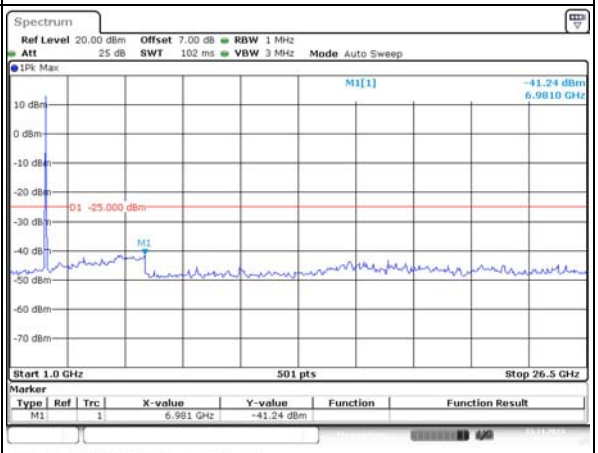
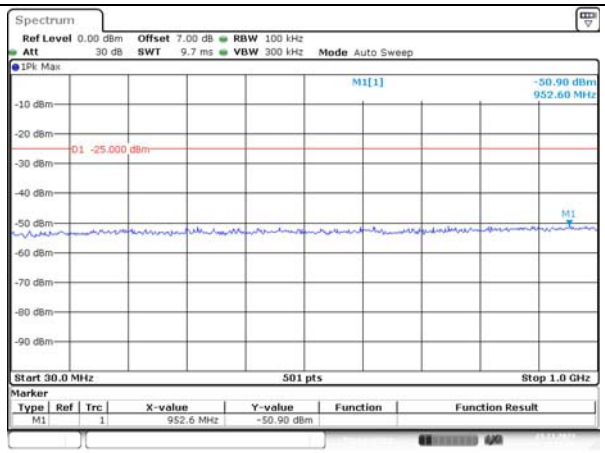
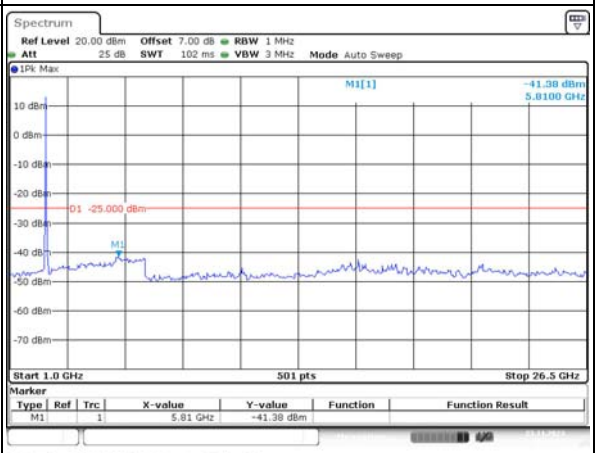
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

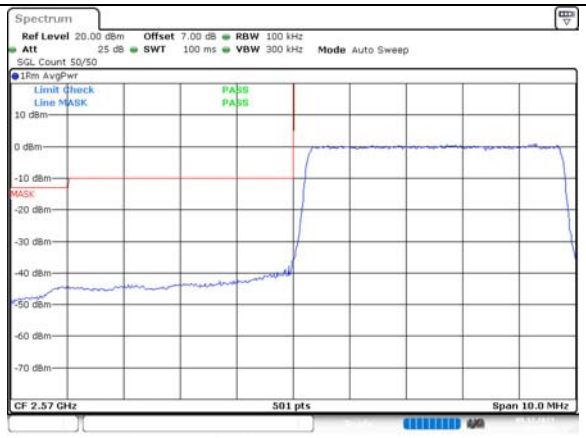
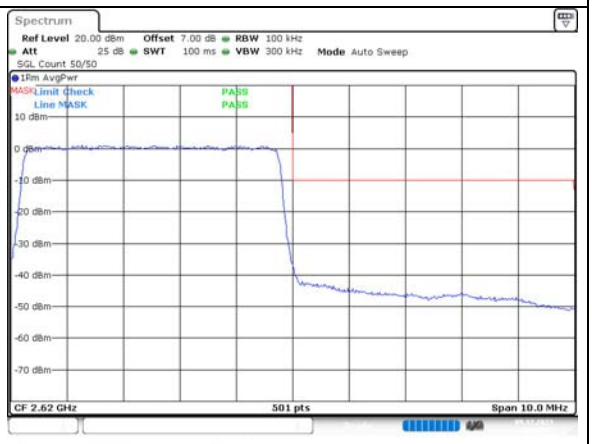
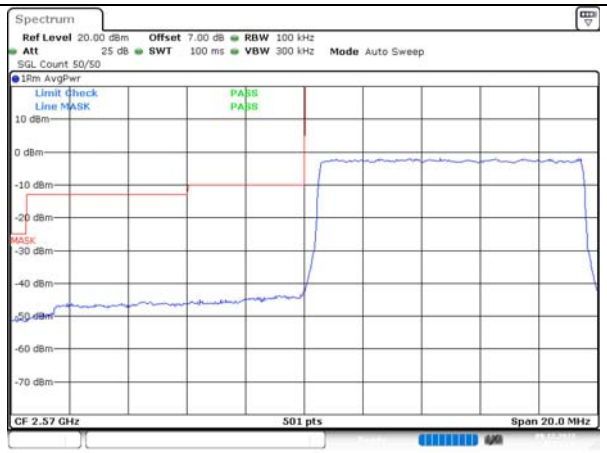
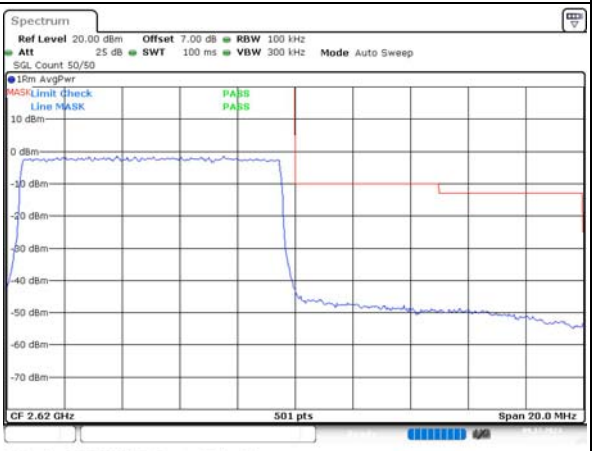
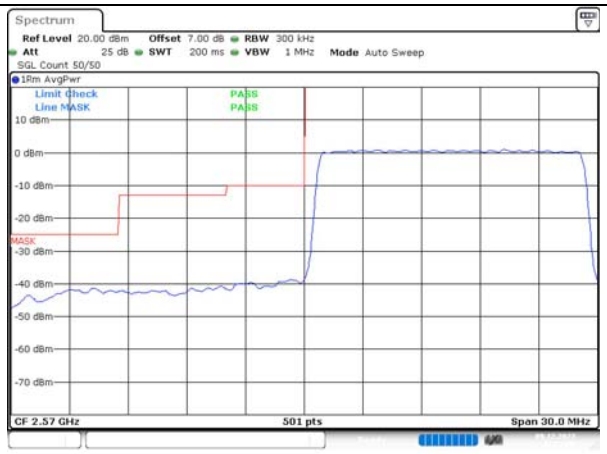
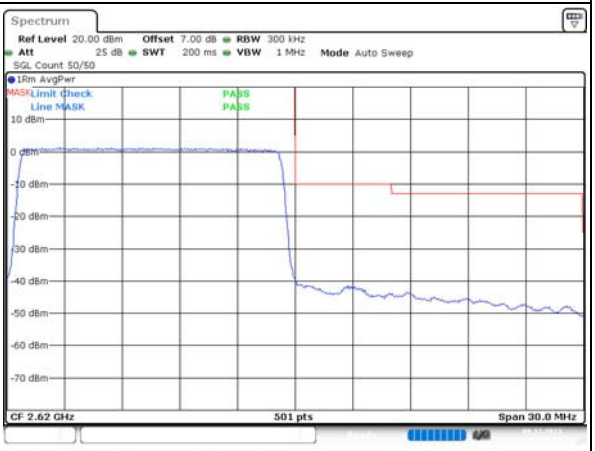
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

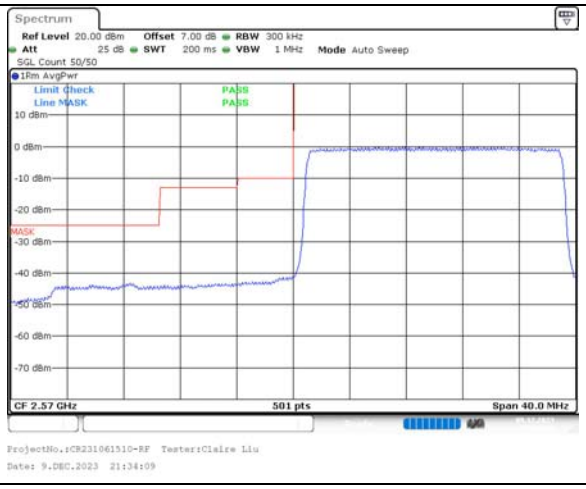
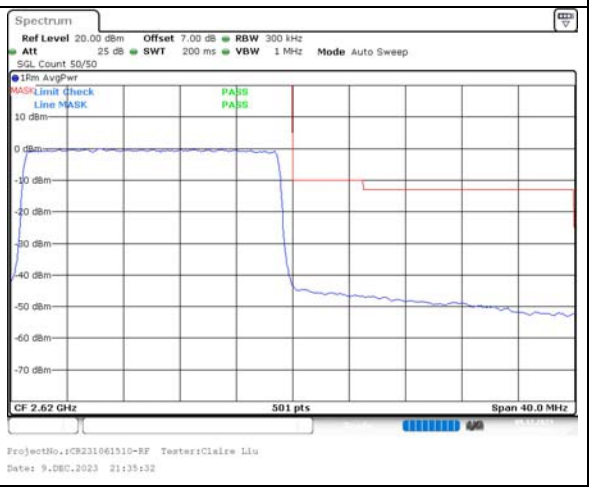
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

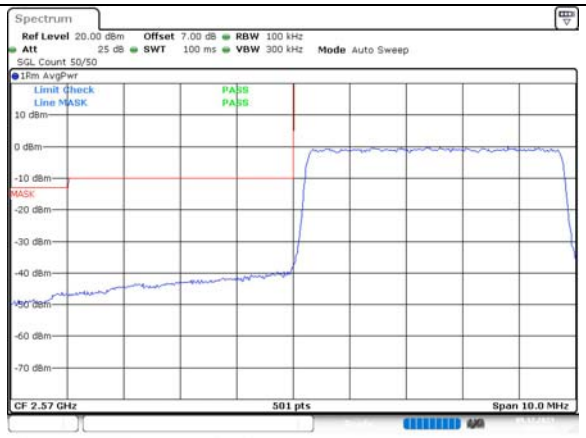
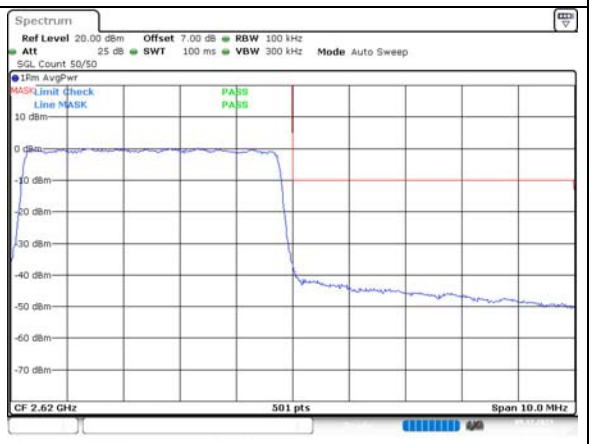
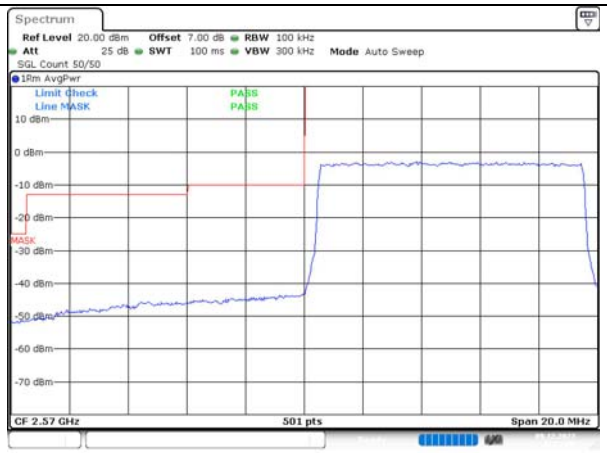
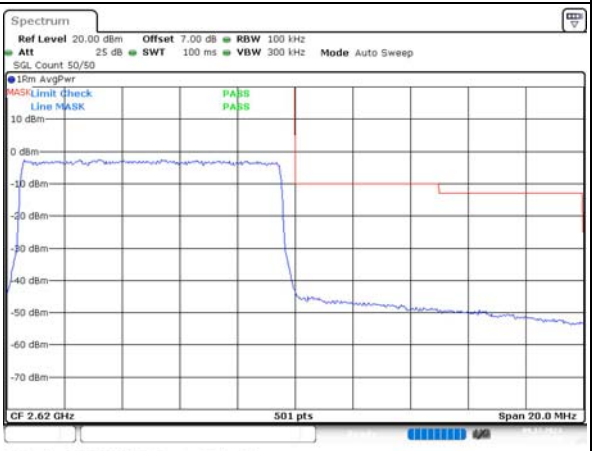
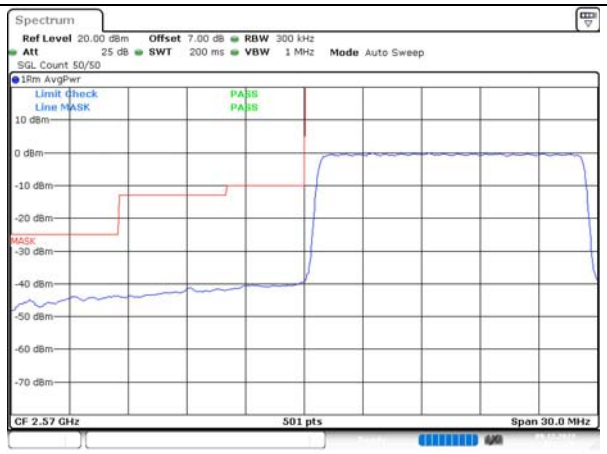
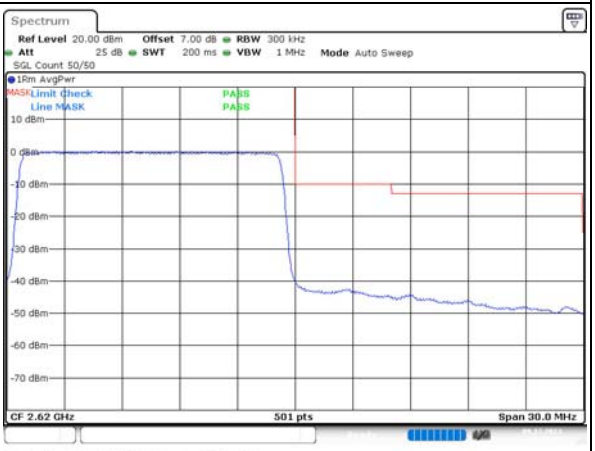
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

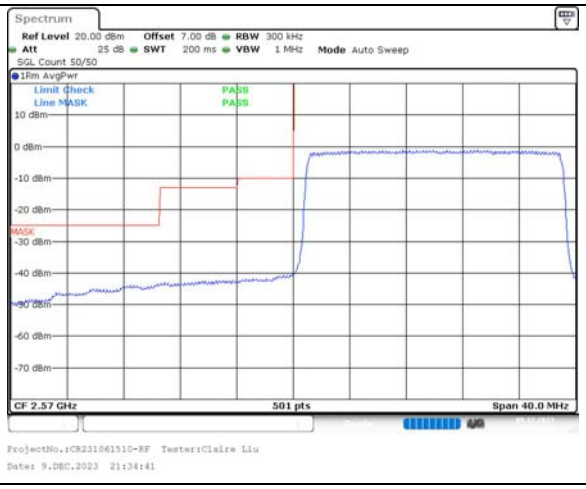
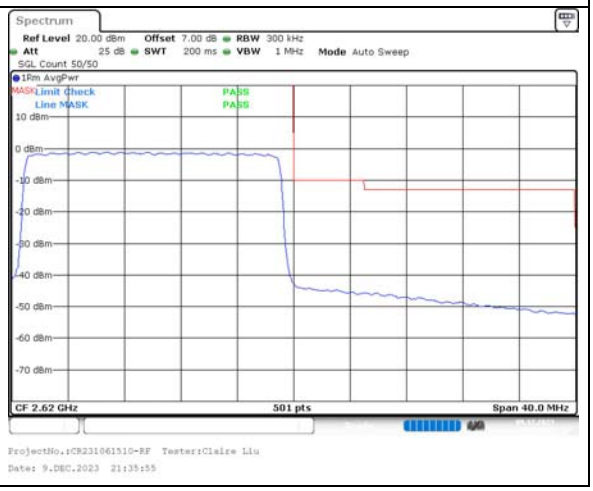
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

4.15 Antenna Port Test Data and Results for LTE Band 40

Serial Number:	2CIM-1	Test Date:	2023/11/12~2023/12/9
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24.7~25.5	Relative Humidity: (%)	53~62	ATM Pressure: (kPa)	100.1~102

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24
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	2023/11/16	2024/11/15

** 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 Band	Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
LTE Band 40 Lower 2305-2315MHz	5MHz	2307.5	/	2312.5
	10MHz	/	2310	/
LTE Band 40 Upper 2350-2360MHz	5MHz	2352.5	/	2357.5
	10MHz	/	2355	/

Test Data:
(Note:Uplink Downlink configuration 3 was tested)

RF Output Power

LTE Band 40 Lower:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.28	/	21.26	20.06	24
	RB1#13	21.4	/	21.39		
	RB1#24	21.29	/	21.27		
	RB15#0	20.28	/	20.29		
	RB15#10	20.29	/	20.32		
	RB25#0	20.3	/	20.3		
5MHz 16QAM	RB1#0	20.54	/	20.36	19.33	24
	RB1#13	20.67	/	20.49		
	RB1#24	20.56	/	20.36		
	RB15#0	19.32	/	19.28		
	RB15#10	19.38	/	19.37		
	RB25#0	19.32		19.36		
10MHz QPSK	RB1#0	/	21.34	/	20.05	24
	RB1#25	/	21.38	/		
	RB1#49	/	21.39	/		
	RB25#0	/	20.22	/		
	RB25#25	/	20.33	/		
	RB50#0	/	20.29	/		
10MHz 16QAM	RB1#0	/	20.26	/	18.99	24
	RB1#25	/	20.33	/		
	RB1#49	/	20.3	/		
	RB25#0	/	19.32	/		
	RB25#25	/	19.41	/		
	RB50#0	/	19.32	/		

EIRP PSD in 5MHz:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted PSD(dBm/5MHz)			Maximum EIRP PSD (dBm/5MHz)	Limit (dBm/5MHz)
		Lowest Channel	Middle Channel	Highest Channel		
10MHz QPSK	RB1#0	/	20.14	/	18.96	24
	RB1#25	/	**20.30**	/		
	RB1#49	/	20.28	/		
	RB25#0	/	18.10	/		
	RB25#25	/	18.20	/		
	RB50#0	/	16.62	/		
10MHz 16QAM	RB1#0	/	20.05	/	18.79	24
	RB1#25	/	20.11	/		
	RB1#49	/	**20.13**	/		

	RB25#0	/	17.30	/		
	RB25#25	/	17.42	/		
	RB50#0	/	15.66	/		

Note:
For 5MHz mode, the channel power is equal to the test result in dBm/5MHz.
EIRP=Conducted Power(dBm) - L_C(dB) + G_T(dBi)
EIRP PSD=Conducted PSD(dBm/5MHz) - L_C(dB) + G_T(dBi)

LTE Band 40 Upper:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.33	/	21.27	20.09	24
	RB1#13	**21.43**	/	21.41		
	RB1#24	21.33	/	21.30		
	RB15#0	20.29	/	20.31		
	RB15#10	20.35	/	20.36		
	RB25#0	20.31	/	20.31		
5MHz 16QAM	RB1#0	20.56	/	20.37	19.37	24
	RB1#13	**20.71**	/	20.54		
	RB1#24	20.62	/	20.40		
	RB15#0	19.37	/	19.33		
	RB15#10	19.38	/	19.38		
	RB25#0	19.34	/	19.42		
10MHz QPSK	RB1#0	/	21.36	/	20.10	24
	RB1#25	/	**21.44**	/		
	RB1#49	/	21.40	/		
	RB25#0	/	20.32	/		
	RB25#25	/	20.41	/		
	RB50#0	/	20.39	/		
10MHz 16QAM	RB1#0	/	20.61	/	19.34	24
	RB1#25	/	20.66	/		
	RB1#49	/	**20.68**	/		
	RB25#0	/	19.34	/		
	RB25#25	/	19.44	/		
	RB50#0	/	19.40	/		

EIRP PSD in 5MHz:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted PSD(dBm/5MHz)			Maximum EIRP PSD (dBm/5MHz)	Limit (dBm/5MHz)
		Lowest Channel	Middle Channel	Highest Channel		
10MHz QPSK	RB1#0	/	**20.21**	/	18.87	24
	RB1#25	/	20.21	/		
	RB1#49	/	20.18	/		
	RB25#0	/	18.10	/		
	RB25#25	/	18.20	/		
	RB50#0	/	16.63	/		

10MHz 16QAM	RB1#0	/	19.76	/	18.54	24
	RB1#25	/	**19.88**	/		
	RB1#49	/	19.79	/		
	RB25#0	/	17.33	/		
	RB25#25	/	17.38	/		
	RB50#0	/	15.76	/		

Note:
For 5MHz mode, the channel power is equal to the test result in dBm/5MHz.
EIRP=Conducted Power(dBm) - L_C(dB) + G_T(dBi)
EIRP PSD=Conducted PSD(dBm/5MHz) - L_C(dB) + G_T(dBi)

Result:	**Pass**

Duty Cycle

Operation Band	Modulation	Bandwidth	Ton (ms)	Ton+off (ms)	Duty Cycle (%)	Limit (%)
LTE Band 40 Lower	QPSK	5M	3	10.05	29.85	38
		10M	3	10.05	29.85	38
	16QAM	5M	3	10.05	29.85	38
		10M	3	10.05	29.85	38
LTE Band 40 Upper	QPSK	5M	3	10.05	29.85	38
		10M	3	10.05	29.85	38
	16QAM	5M	3	10.05	29.85	38
		10M	3	10.05	29.85	38
					Result:	**Pass**

Occupied Bandwidth

LTE Band 40 Lower:

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	5.04	/	5.08
5MHz 16QAM	4.491	/	4.511	4.94	/	4.96
10MHz QPSK	/	8.942	/	/	9.64	/
10MHz 16QAM	/	8.942	/	/	9.56	/

LTE Band 40 Upper:

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	5.12	/	4.94
5MHz 16QAM	4.511	/	4.511	4.94	/	5
10MHz QPSK	/	8.942	/	/	9.68	/
10MHz 16QAM	/	8.942	/	/	9.52	/

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

LTE Band 40 Lower:

Test Mode:	10M 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	2305.172	2305.000	2314.754	2315.000
	-20	3.91	2305.190	2305.000	2314.759	2315.000
	-10	3.91	2305.184	2305.000	2314.792	2315.000
	0	3.91	2305.205	2305.000	2314.708	2315.000
	10	3.91	2305.182	2305.000	2314.797	2315.000
	20	3.91	2305.160	2305.000	2314.800	2315.000
	30	3.91	2305.242	2305.000	2314.724	2315.000
	40	3.91	2305.164	2305.000	2314.722	2315.000
	50	3.91	2305.231	2305.000	2314.779	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.178	2305.000	2314.762	2315.000
	20	4.5	2305.254	2305.000	2314.713	2315.000
					Result:	**Pass**

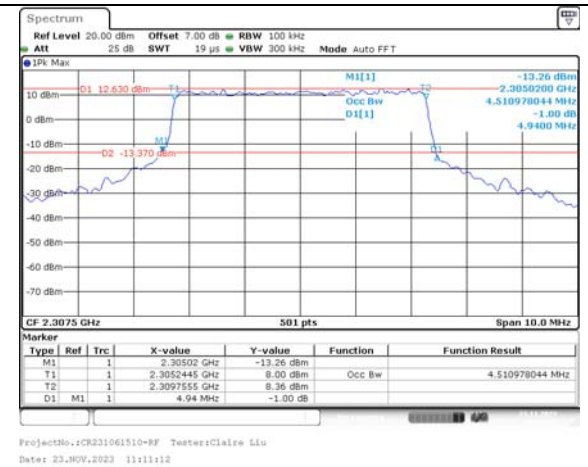
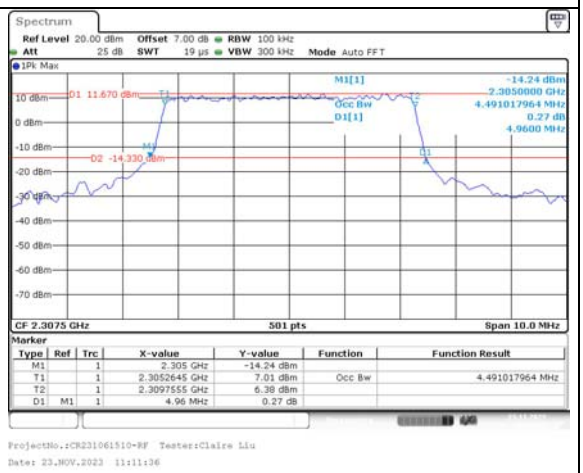
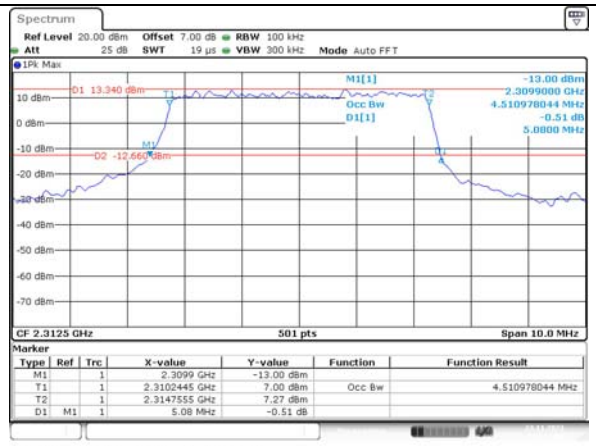
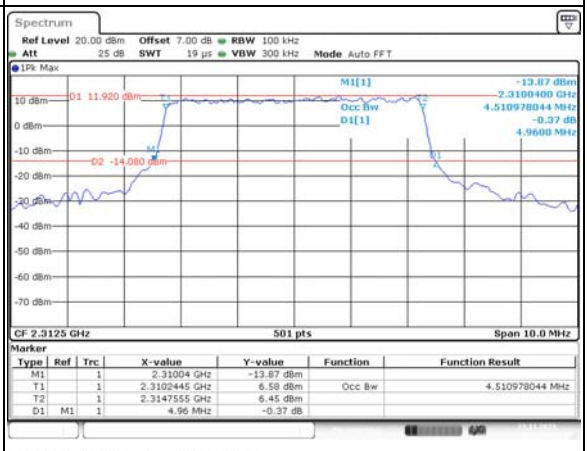
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2305.256	2305.000	2314.749	2315.000
	-20	3.91	2305.246	2305.000	2314.730	2315.000
	-10	3.91	2305.196	2305.000	2314.799	2315.000
	0	3.91	2305.201	2305.000	2314.704	2315.000
	10	3.91	2305.251	2305.000	2314.788	2315.000
	20	3.91	2305.160	2305.000	2314.800	2315.000
	30	3.91	2305.202	2305.000	2314.764	2315.000
	40	3.91	2305.234	2305.000	2314.764	2315.000
	50	3.91	2305.245	2305.000	2314.725	2315.000
Frequency Stability vs. Voltage	20	3.45	2305.188	2305.000	2314.782	2315.000
	20	4.5	2305.207	2305.000	2314.782	2315.000
					Result:	**Pass**

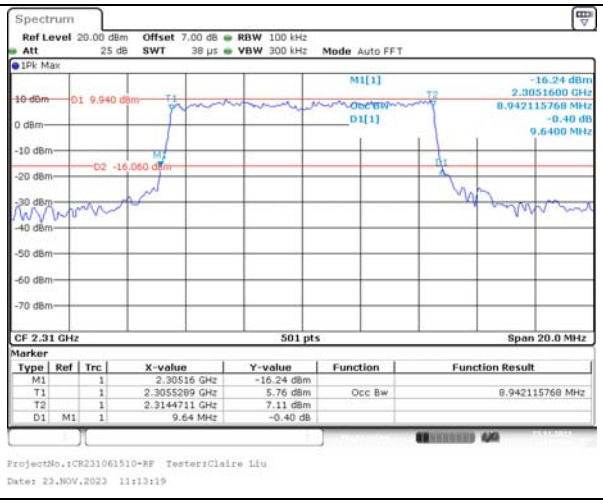
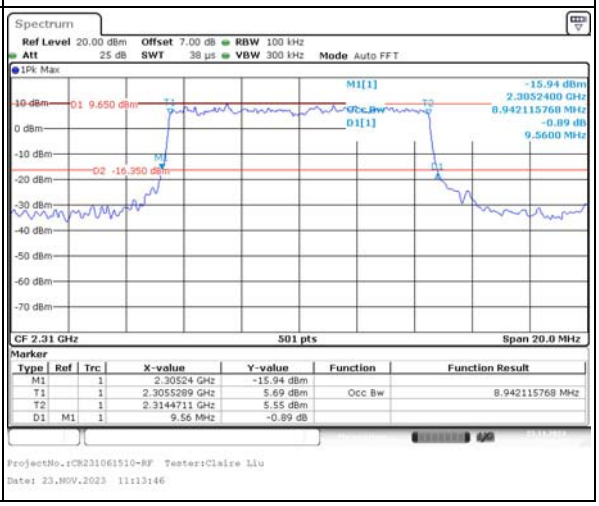
LTE Band 40 Upper:

Test Mode:	10M 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	2350.239	2350.000	2359.735	2360.000
	-20	3.91	2350.189	2350.000	2359.677	2360.000
	-10	3.91	2350.260	2350.000	2359.712	2360.000
	0	3.91	2350.219	2350.000	2359.730	2360.000
	10	3.91	2350.208	2350.000	2359.694	2360.000
	20	3.91	2350.160	2350.000	2359.760	2360.000
	30	3.91	2350.192	2350.000	2359.744	2360.000
	40	3.91	2350.178	2350.000	2359.671	2360.000
	50	3.91	2350.236	2350.000	2359.683	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.216	2350.000	2359.693	2360.000
	20	4.5	2350.241	2350.000	2359.663	2360.000
					Result:	**Pass**

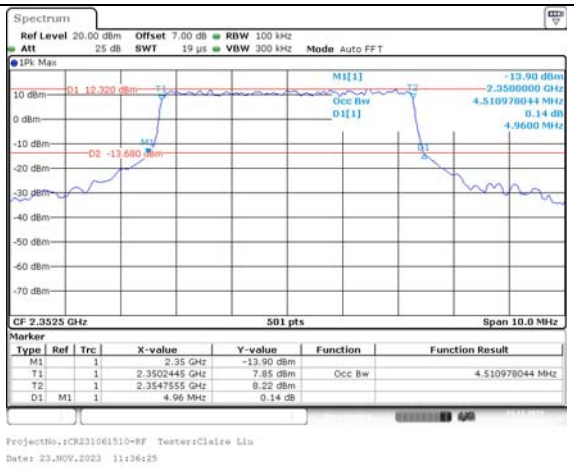
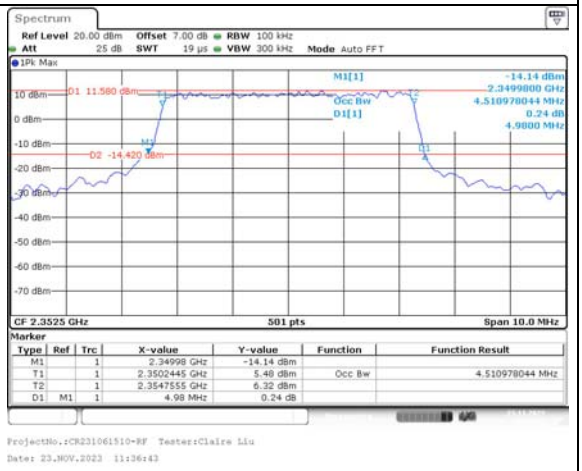
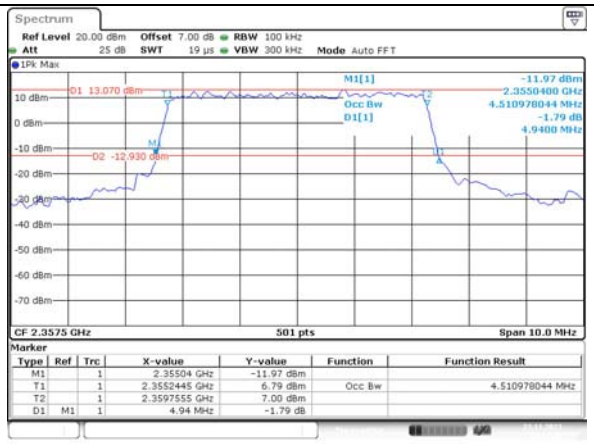
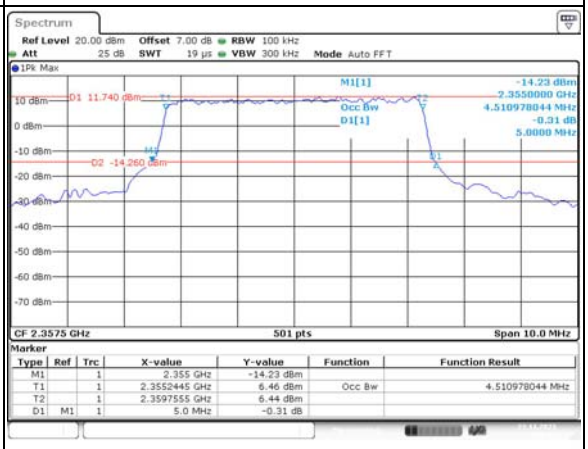
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2350.189	2350.000	2359.707	2360.000
	-20	3.91	2350.229	2350.000	2359.745	2360.000
	-10	3.91	2350.208	2350.000	2359.702	2360.000
	0	3.91	2350.236	2350.000	2359.687	2360.000
	10	3.91	2350.245	2350.000	2359.691	2360.000
	20	3.91	2350.160	2350.000	2359.760	2360.000
	30	3.91	2350.199	2350.000	2359.758	2360.000
	40	3.91	2350.197	2350.000	2359.685	2360.000
	50	3.91	2350.215	2350.000	2359.686	2360.000
Frequency Stability vs. Voltage	20	3.45	2350.185	2350.000	2359.683	2360.000
	20	4.5	2350.197	2350.000	2359.661	2360.000
					Result:	**Pass**

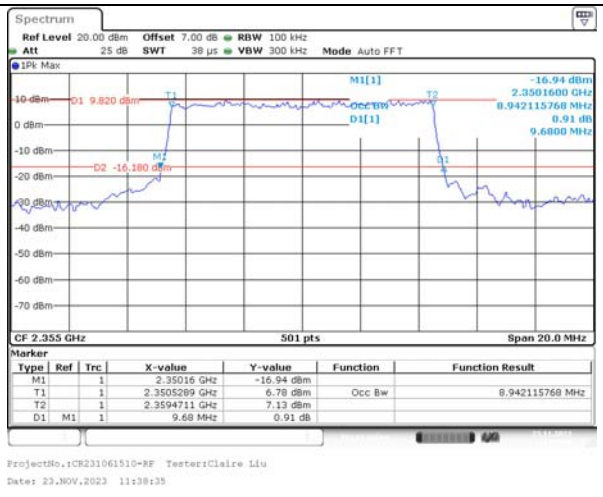
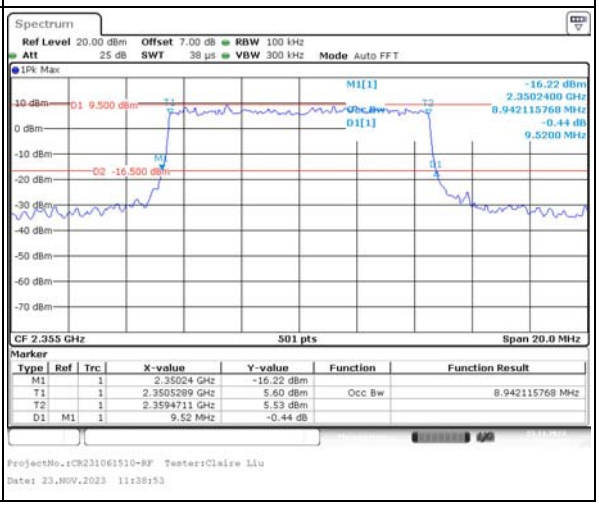
Test Plots (Note: The 7.0 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):
2305-2315 MHz:

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

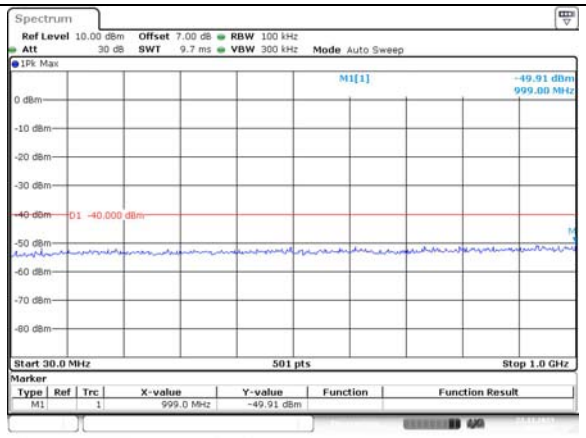
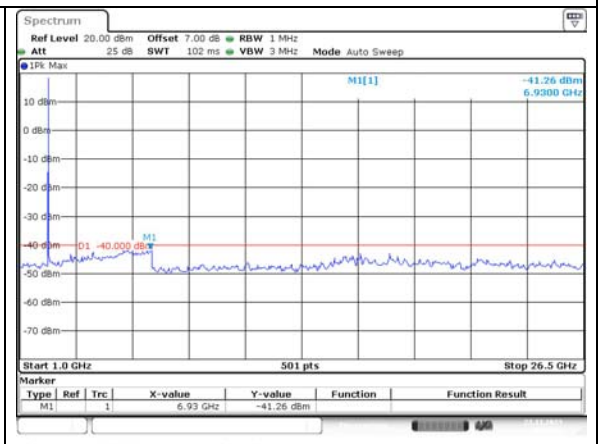
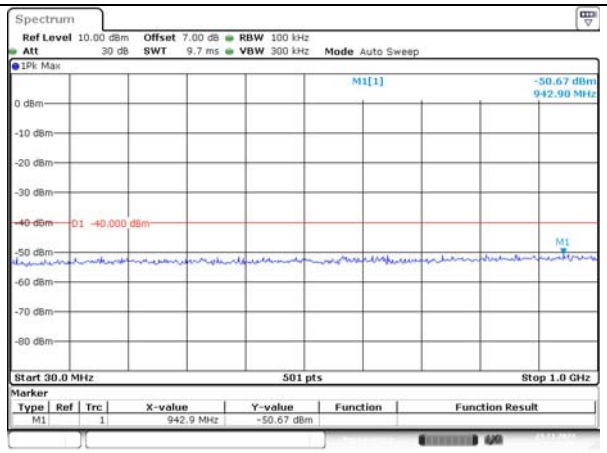
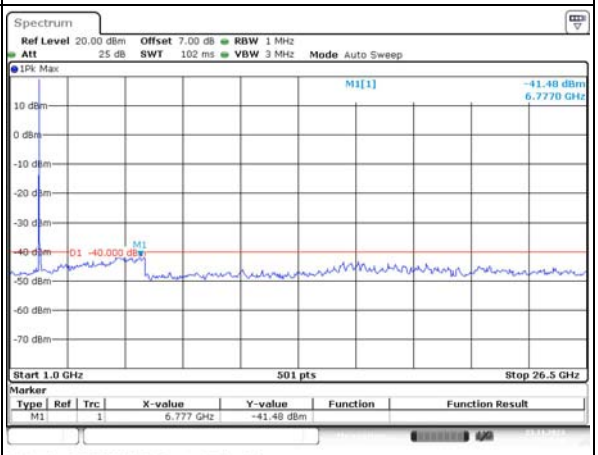
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle		

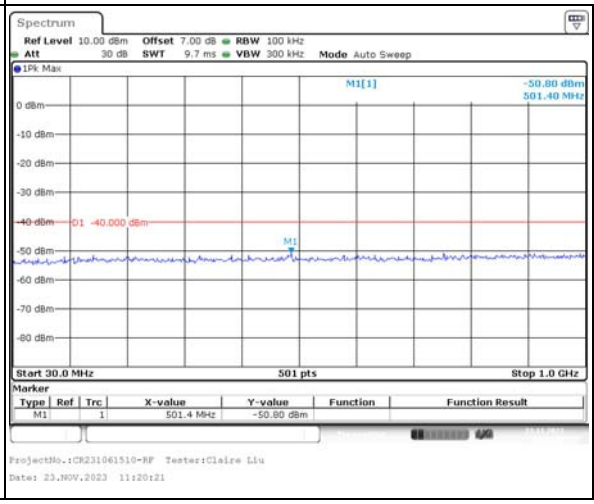
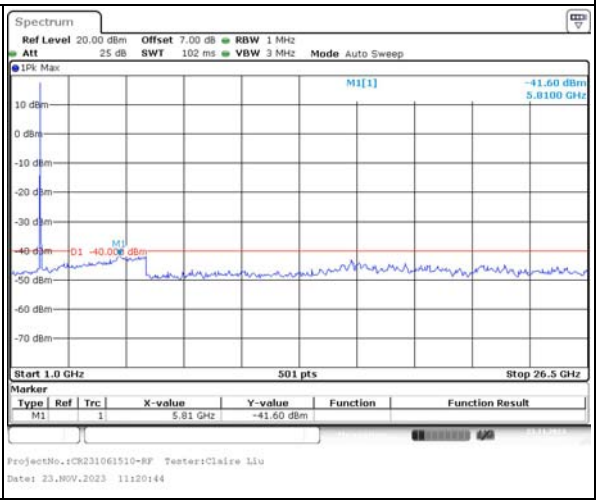
2350-2360 MHz:

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

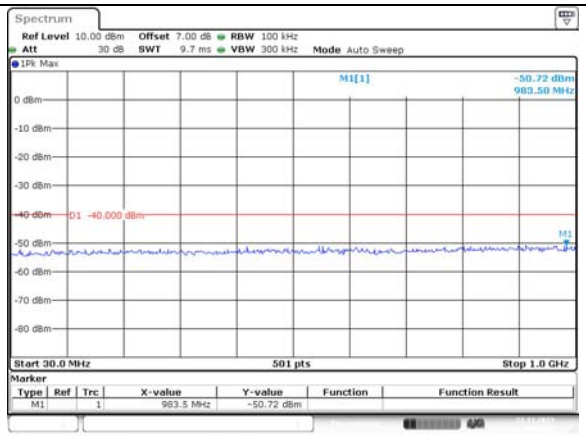
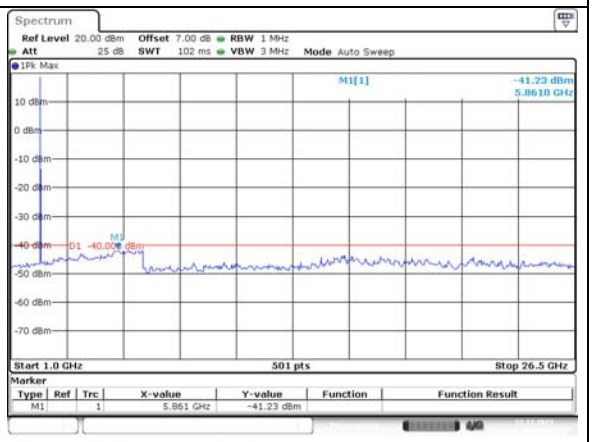
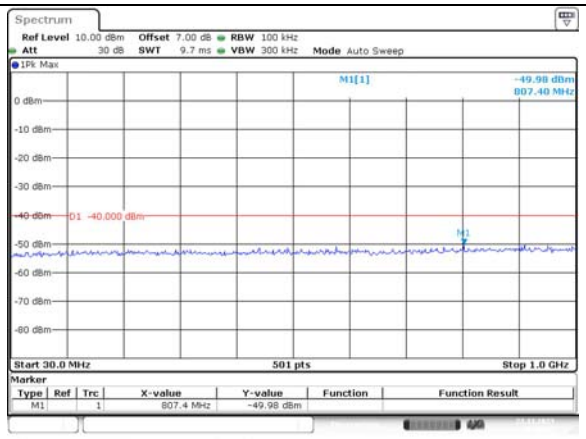
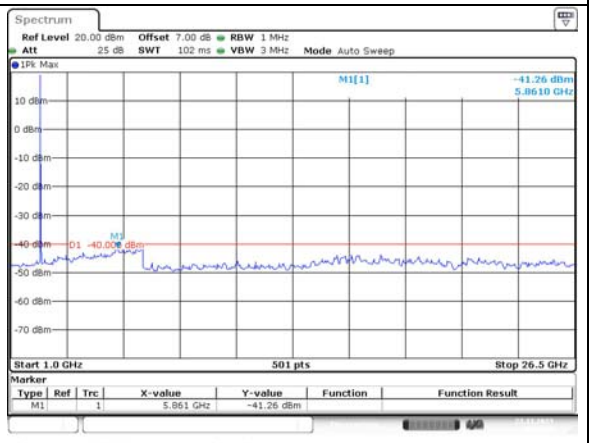
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle		

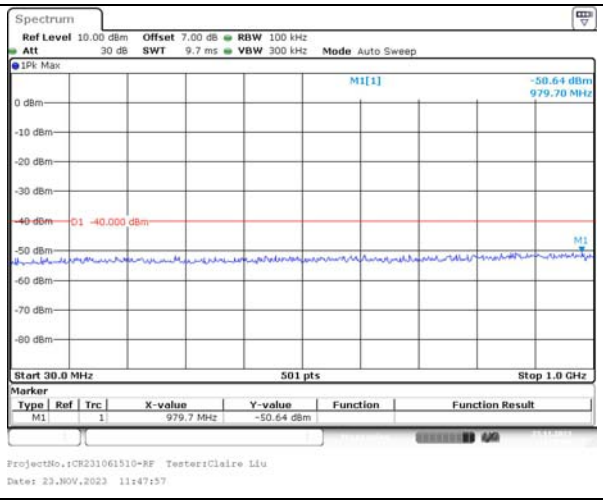
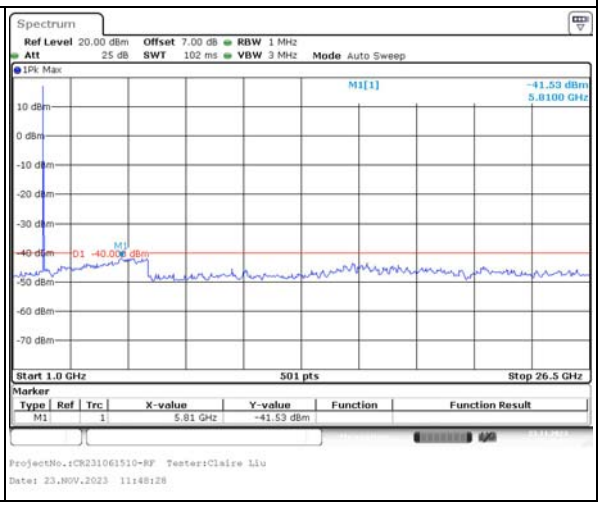
2305-2315 MHz:

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

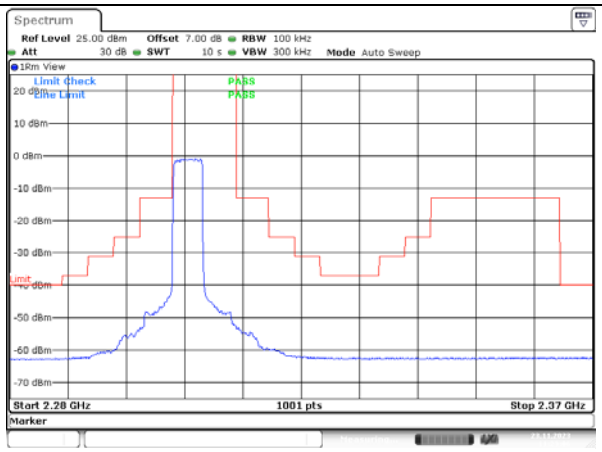
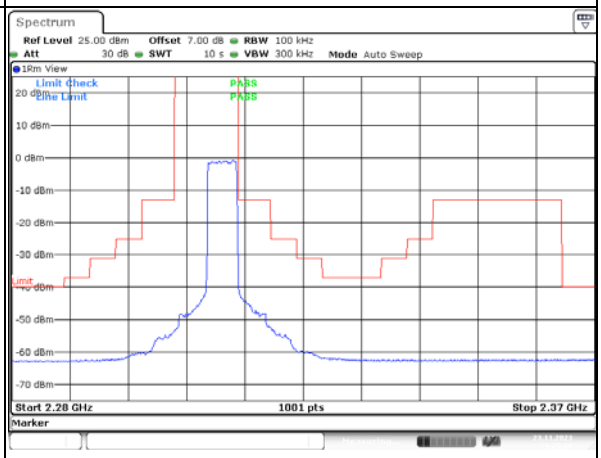
Spurious Emissions at Antenna Terminal	
Channel	**10MHz Bandwidth QPSK**
Middle	 

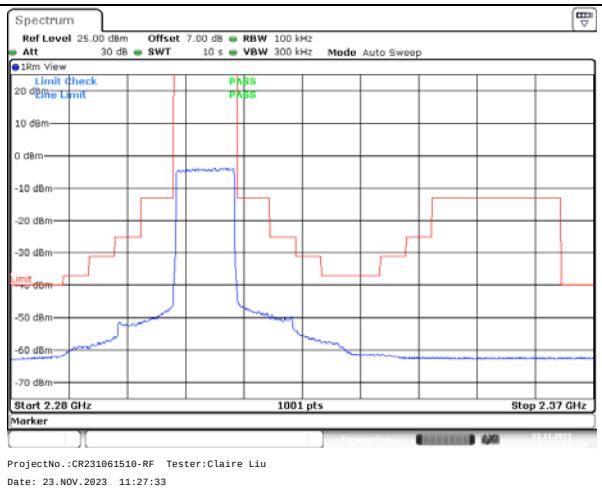
2350-2360 MHz:

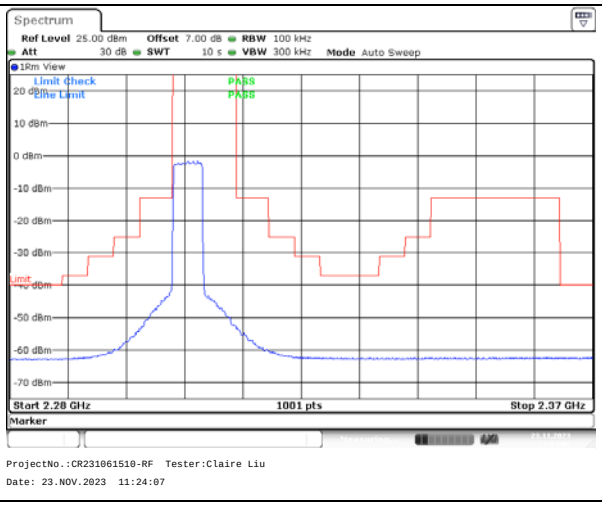
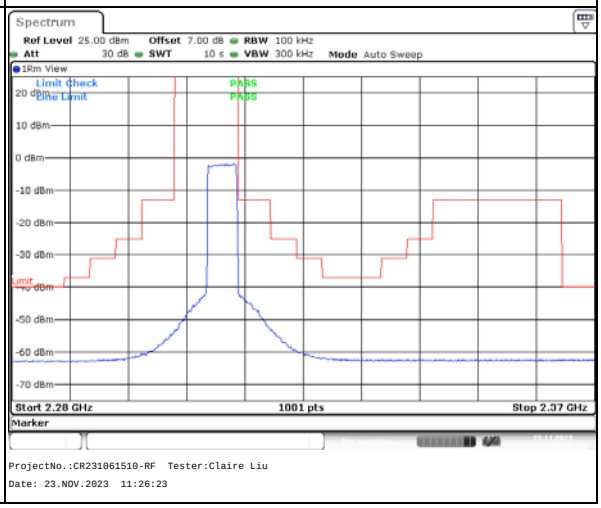
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Highest		

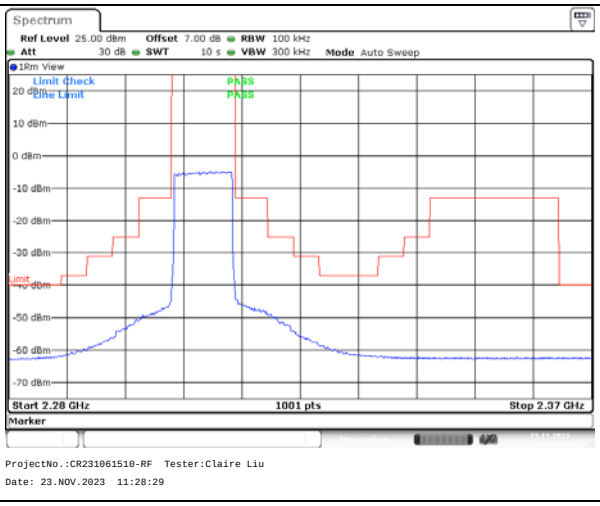
Spurious Emissions at Antenna Terminal	
Channel	**10MHz Bandwidth QPSK**
Middle	 

2305-2315 MHz:

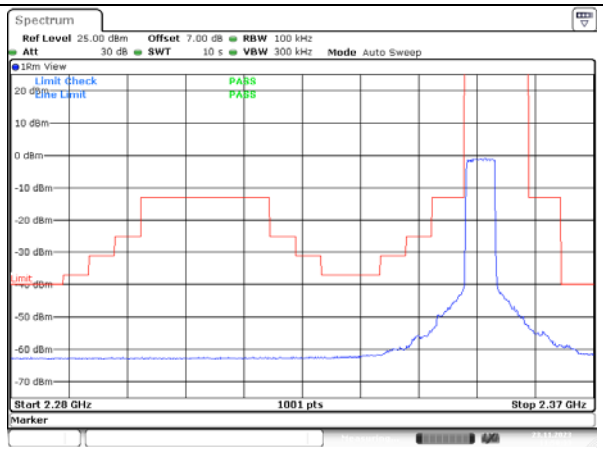
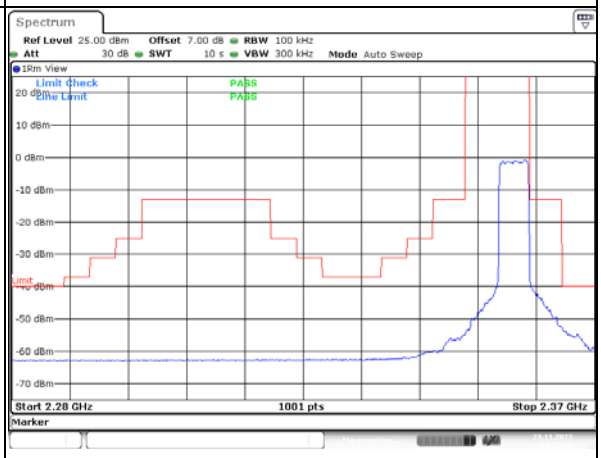
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 5MHz		

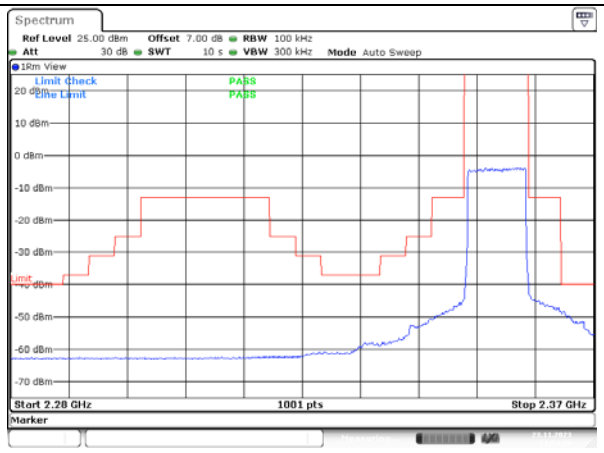
Out of band emission, Band Edge	
Mode	**Middle**
QPSK 10MHz	

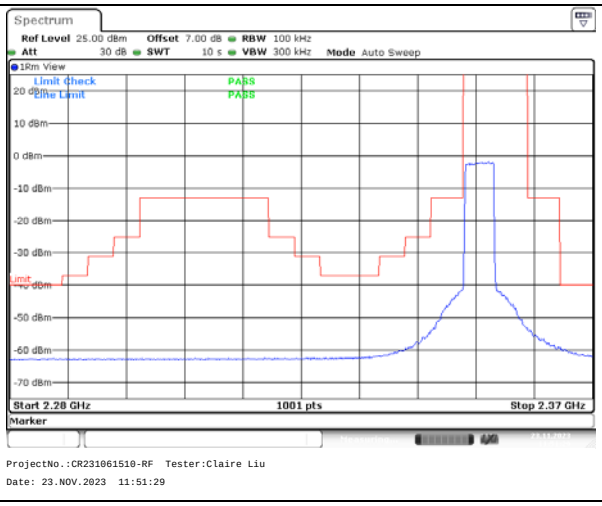
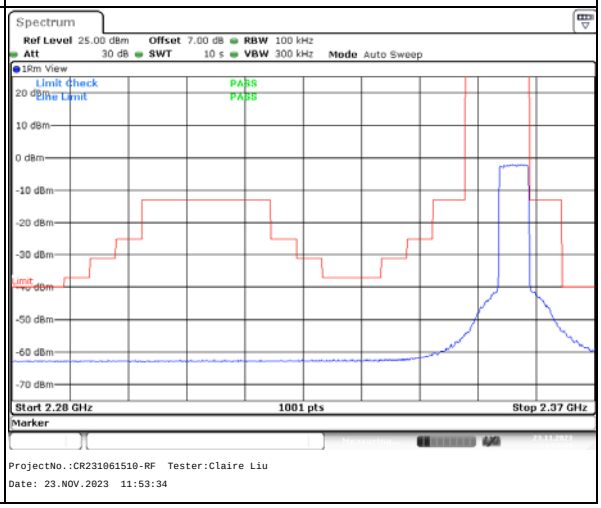
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 5MHz		

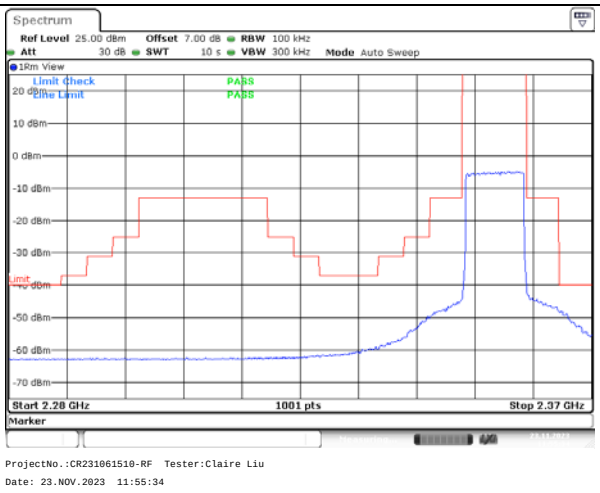
Out of band emission, Band Edge	
Mode	**Middle**
16QAM 10MHz	

2350-2360 MHz:

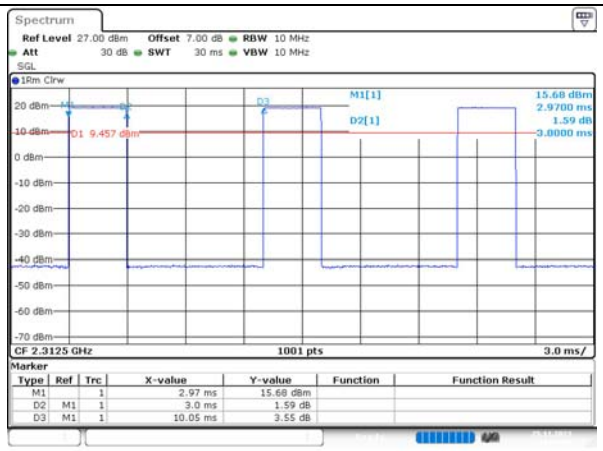
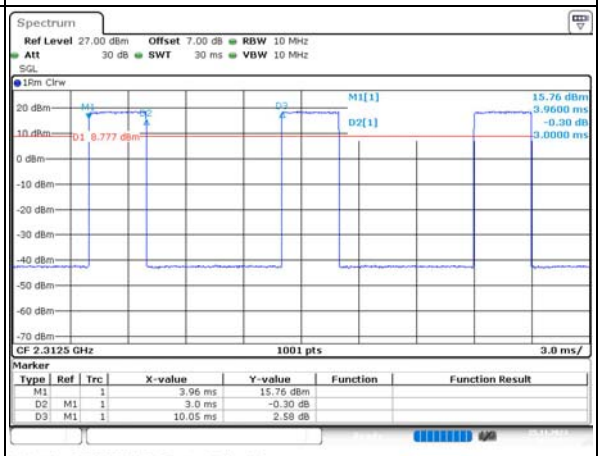
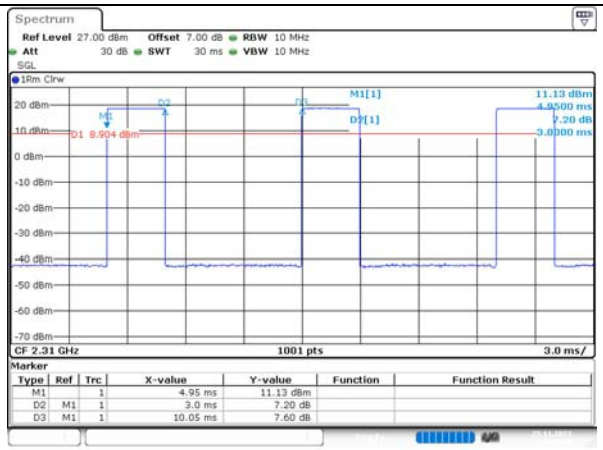
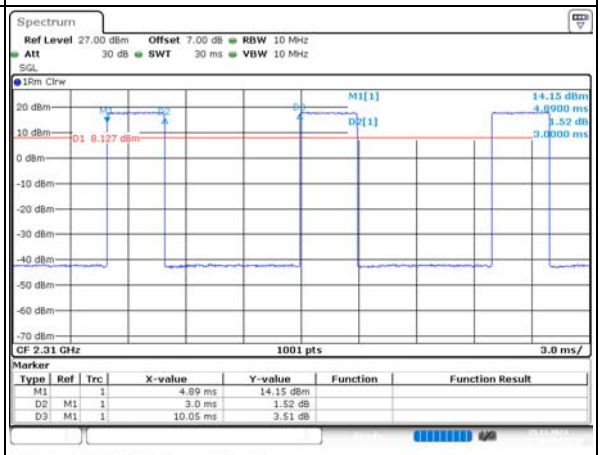
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 5MHz		

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

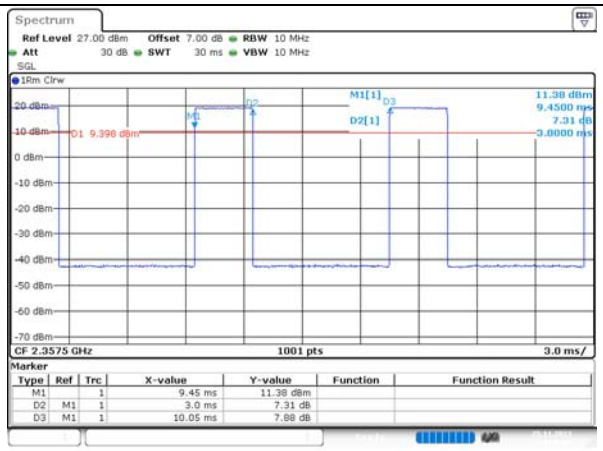
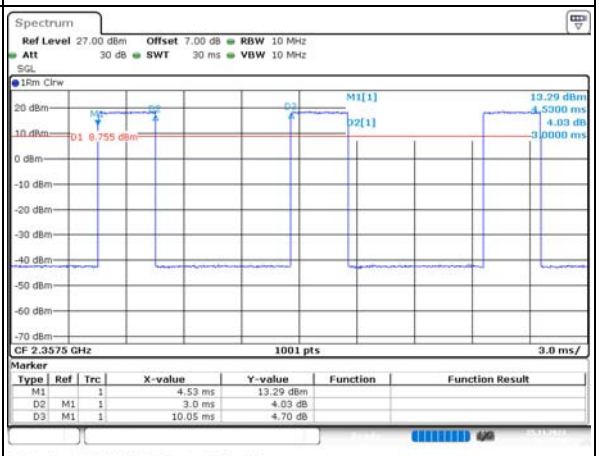
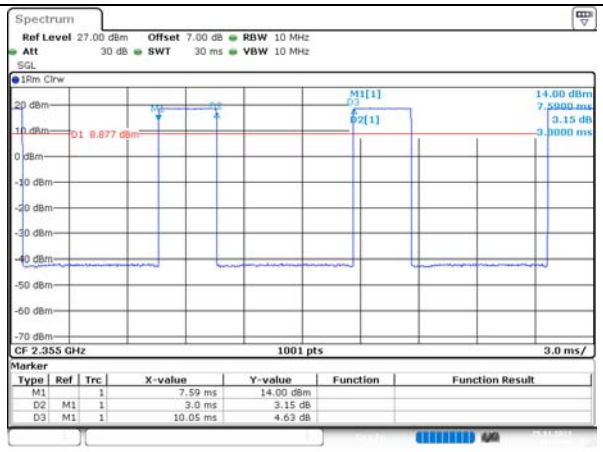
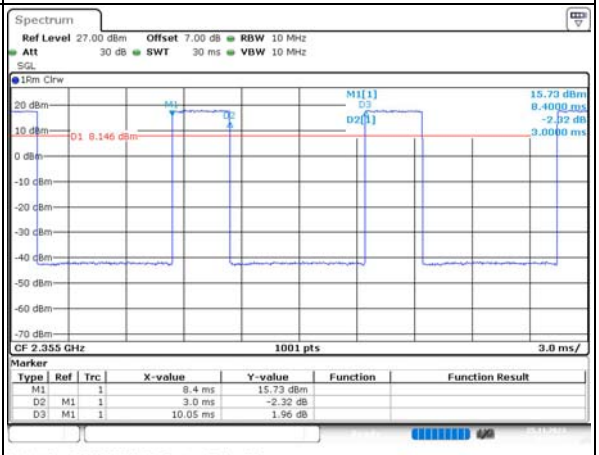
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 5MHz		

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

2305-2315 MHz:

Duty Cycle		
Channel	Bandwidth QPSK	Bandwidth 16QAM
5MHz		
10MHz		

2350-2360 MHz:

Duty Cycle		
Channel	Bandwidth QPSK	Bandwidth 16QAM
5MHz		
10MHz		

4.16 Antenna Port Test Data and Results for LTE Band 41

Serial Number:	2CIM-1	Test Date:	2023/11/12~2024/1/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	Claire Liu	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24.7~25.5	Relative Humidity: (%)	53~62	ATM Pressure: (kPa)	100.1~102

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101590	2022/11/25	2023/11/24
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	2023/11/16	2024/11/15

** 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	19.3	19.09	19.46	18.75	33
	RB1#13	19.42	19.21	19.63		
	RB1#24	19.29	19.1	19.56		
	RB15#0	18.26	18.1	18.57		
	RB15#10	18.3	18.15	18.59		
	RB25#0	18.29	18.12	18.52		
5MHz 16QAM	RB1#0	18.55	18.08	18.55	17.81	33
	RB1#13	18.66	18.22	18.69		
	RB1#24	18.59	18.14	18.62		
	RB15#0	17.34	17.1	17.59		
	RB15#10	17.44	17.13	17.64		
	RB25#0	17.35	17.25	17.65		
10MHz QPSK	RB1#0	19.39	19.1	19.54	18.8	33
	RB1#25	19.42	19.22	19.63		
	RB1#49	19.33	19.21	19.68		
	RB25#0	18.22	18.09	18.51		
	RB25#25	18.34	18.18	18.54		
	RB50#0	18.28	18.15	18.55		
10MHz 16QAM	RB1#0	18.48	18.39	18.45	17.69	33
	RB1#25	18.55	18.45	18.53		
	RB1#49	18.44	18.42	18.57		
	RB25#0	17.33	17.17	17.63		
	RB25#25	17.42	17.21	17.63		
	RB50#0	17.36	17.21	17.61		
15MHz QPSK	RB1#0	19.3	19.09	19.45	18.79	33
	RB1#38	19.39	19.25	19.67		
	RB1#74	19.26	19.2	19.65		
	RB36#0	18.17	18.04	18.42		
	RB36#39	18.21	18.13	18.57		
	RB75#0	18.21	18.1	18.52		
15MHz 16QAM	RB1#0	18.53	18.27	18.34	17.72	33
	RB1#38	18.6	18.45	18.6		
	RB1#74	18.49	18.43	18.56		
	RB36#0	17.33	17.06	17.46		
	RB36#39	17.38	17.18	17.56		
	RB75#0	17.28	17.08	17.57		
20MHz QPSK	RB1#0	19.14	19.08	19.28	18.74	33
	RB1#50	19.31	19.33	19.62		
	RB1#99	19.13	19.23	19.57		
	RB50#0	18.12	18.05	18.45		

	RB50#50	18.27	18.15	18.51		
	RB100#0	18.21	18.13	18.49		
20MHz 16QAM	RB1#0	18.13	18.3	18.33	17.81	33
	RB1#50	18.35	18.54	18.69		
	RB1#99	18.11	18.47	18.62		
	RB50#0	17.22	17.14	17.48		
	RB50#50	17.38	17.22	17.53		
	RB100#0	17.28	17.17	17.48		
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	9.04	9.19	9.62	13
	RB100#0	8.35	8.38	8.26	13
20MHz 16QAM	RB1#0	10	10.29	10.2	13
	RB100#0	9.91	9.88	9.8	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	4.96	4.511	5.04	4.511	4.94
5MHz 16QAM	4.511	5	4.511	4.94	4.511	4.96
10MHz QPSK	8.942	9.64	8.942	9.72	8.942	9.56
10MHz 16QAM	8.942	9.52	8.942	9.56	8.942	9.88
15MHz QPSK	13.473	14.76	13.413	14.7	13.413	14.7
15MHz 16QAM	13.473	14.82	13.473	14.82	13.473	14.7
20MHz QPSK	17.884	19.28	17.964	19.28	17.964	19.2
20MHz 16QAM	17.884	19.12	17.884	19.28	17.884	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.**

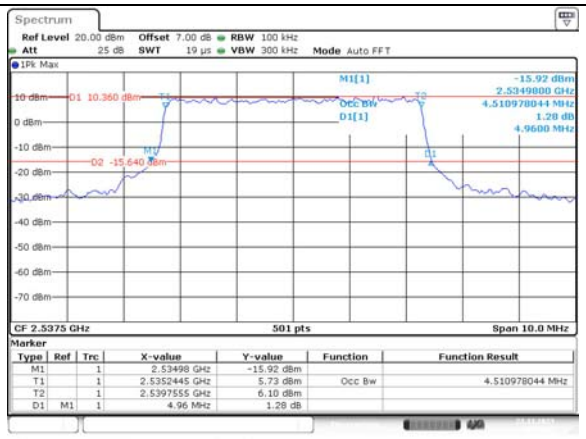
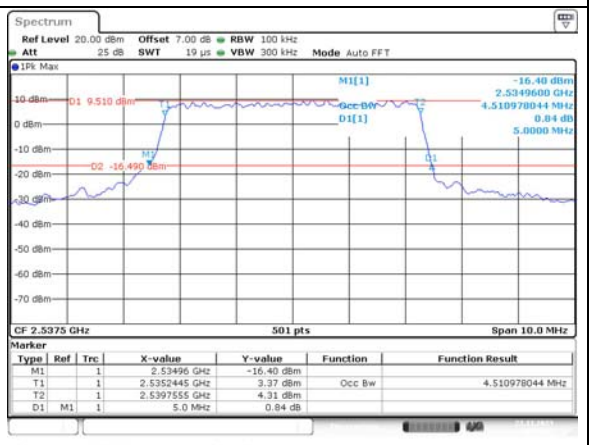
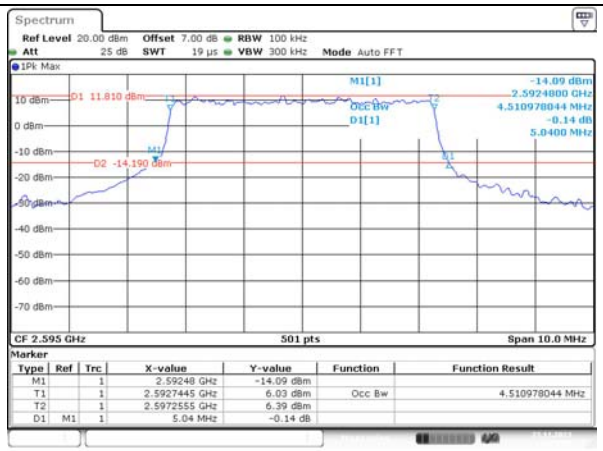
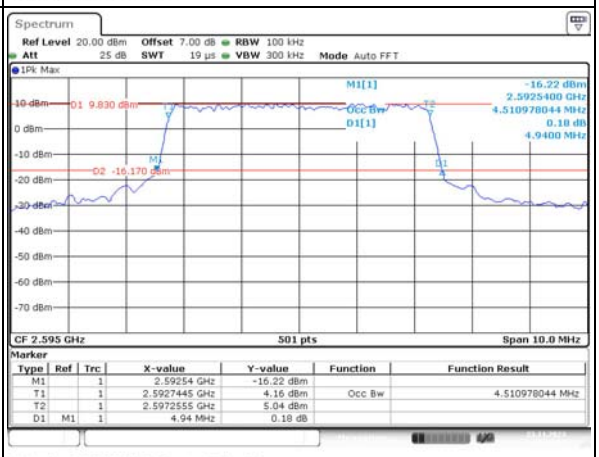
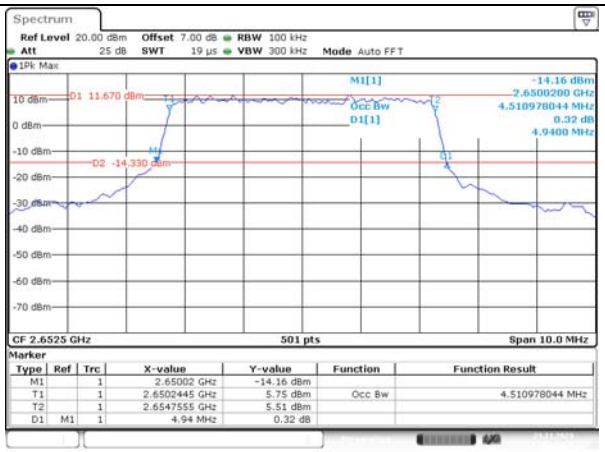
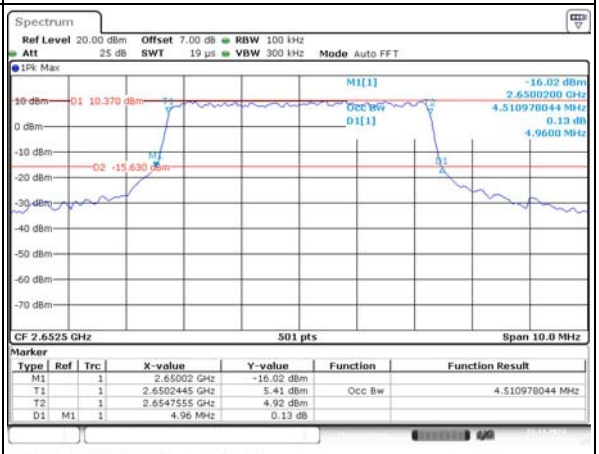
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

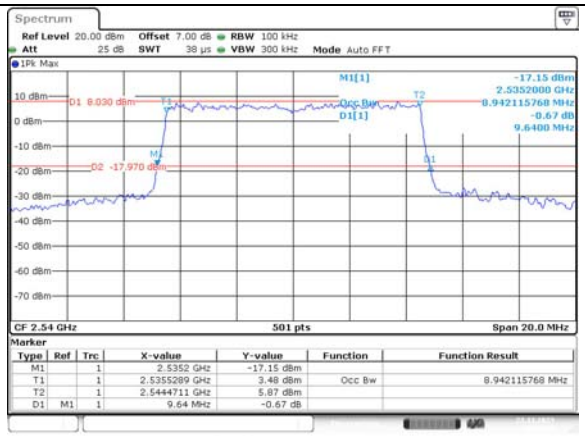
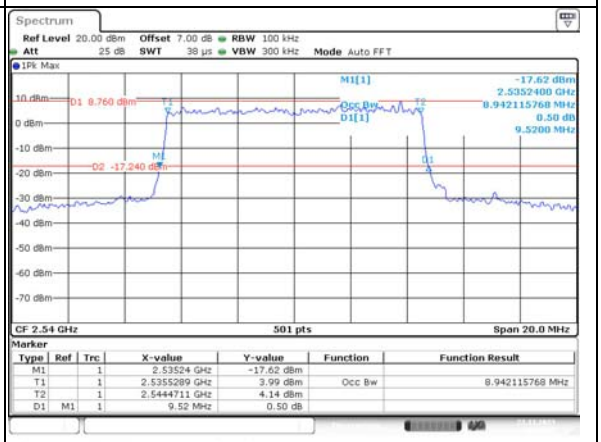
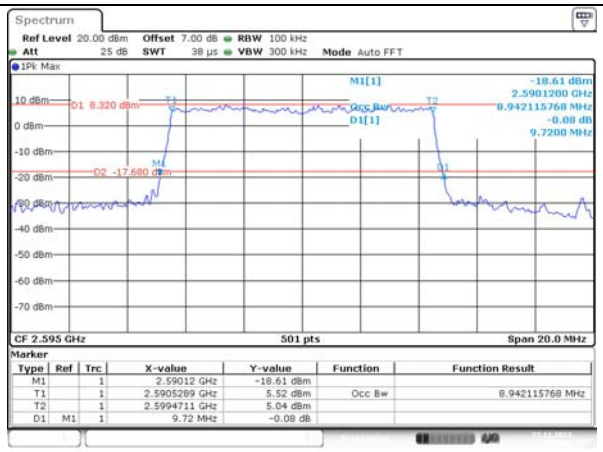
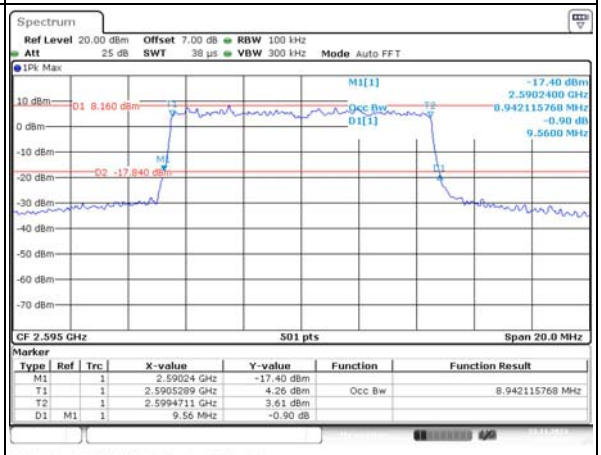
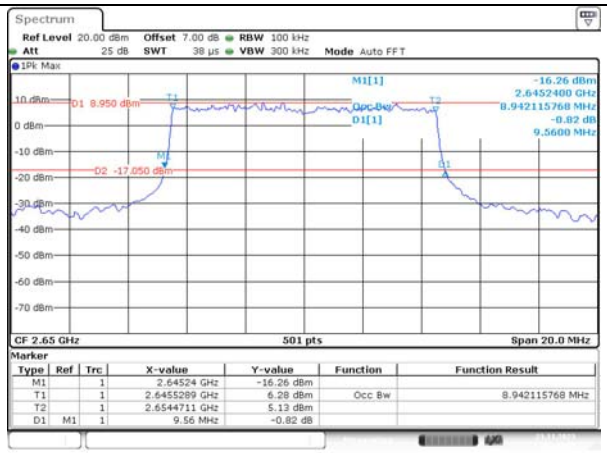
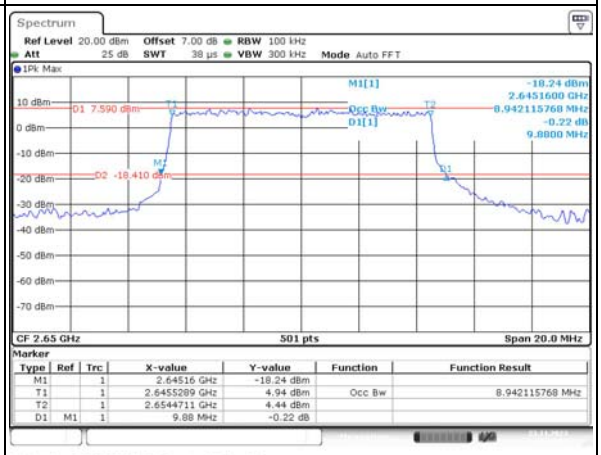
Frequency Stability

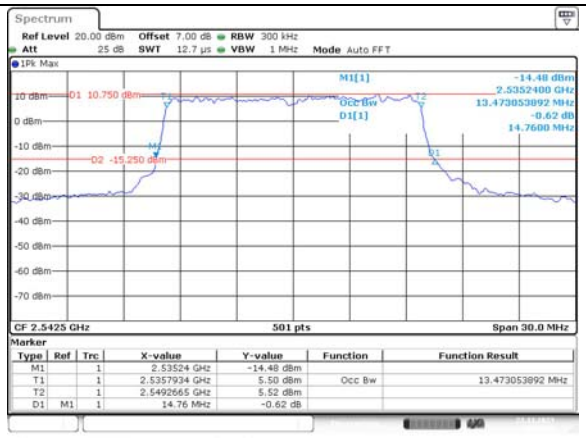
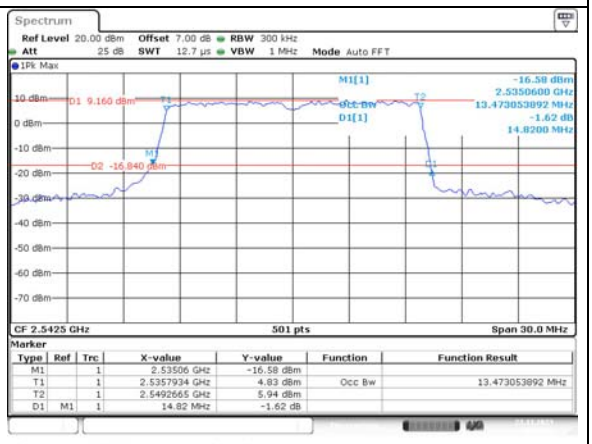
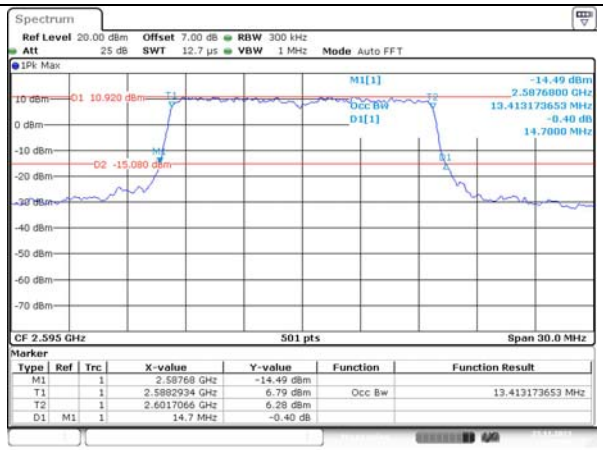
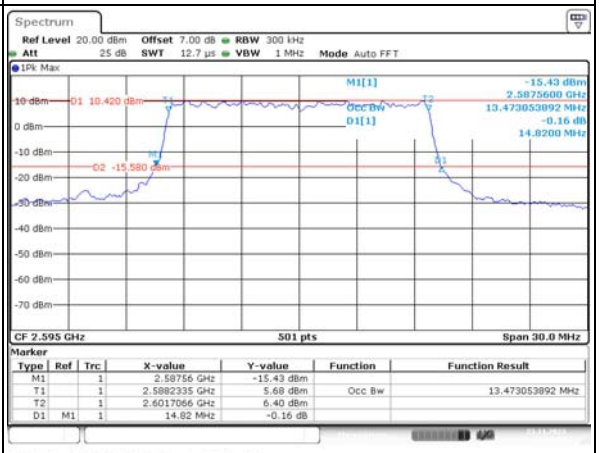
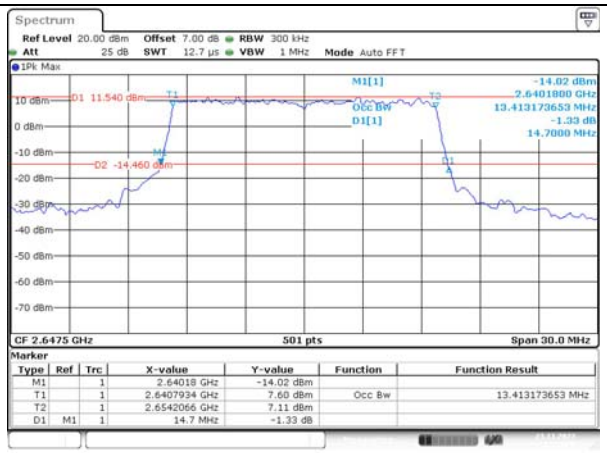
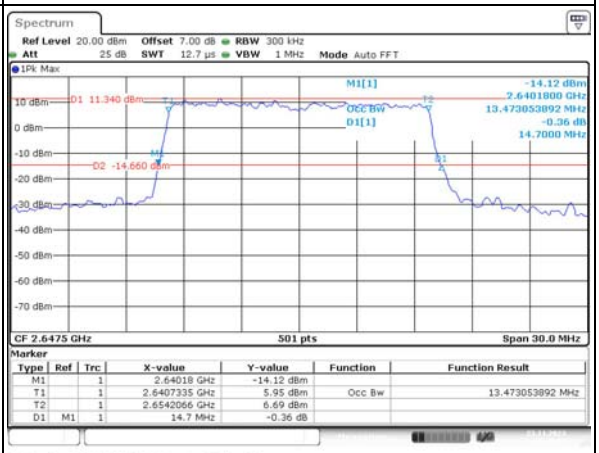
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2535.484	2535.00	2654.532	2655
	-20	3.91	2535.438	2535.00	2654.557	2655
	-10	3.91	2535.450	2535.00	2654.538	2655
	0	3.91	2535.457	2535.00	2654.513	2655
	10	3.91	2535.498	2535.00	2654.572	2655
	20	3.91	2535.400	2535.00	2654.600	2655
	30	3.91	2535.402	2535.00	2654.595	2655
	40	3.91	2535.429	2535.00	2654.521	2655
	50	3.91	2535.418	2535.00	2654.554	2655
Frequency Stability vs. Voltage	20	3.45	2535.481	2535.00	2654.554	2655
	20	4.5	2535.432	2535.00	2654.554	2655
					Result:	**Pass**

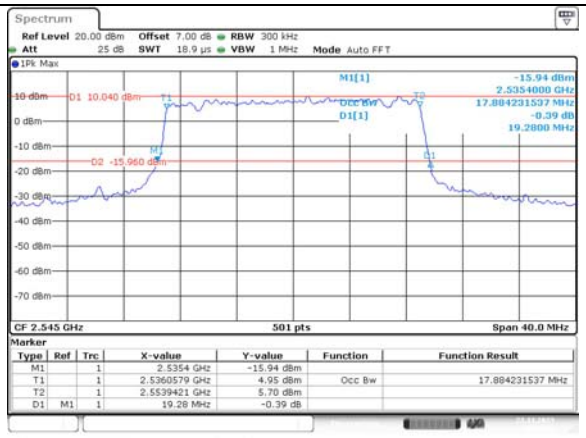
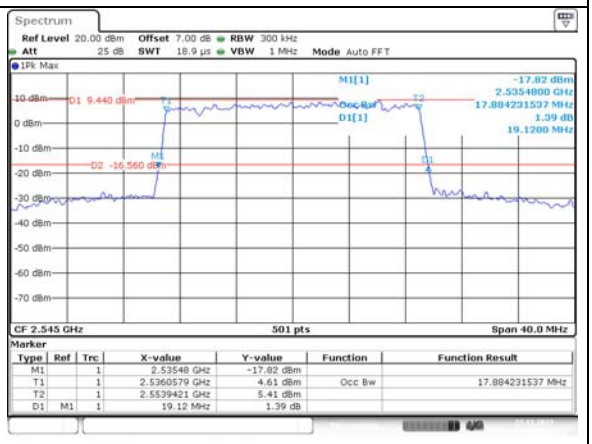
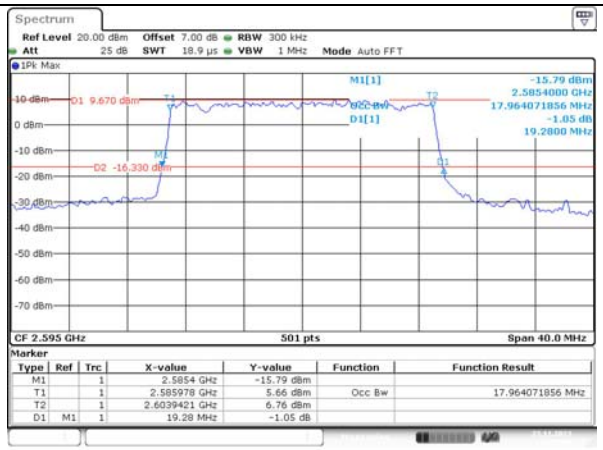
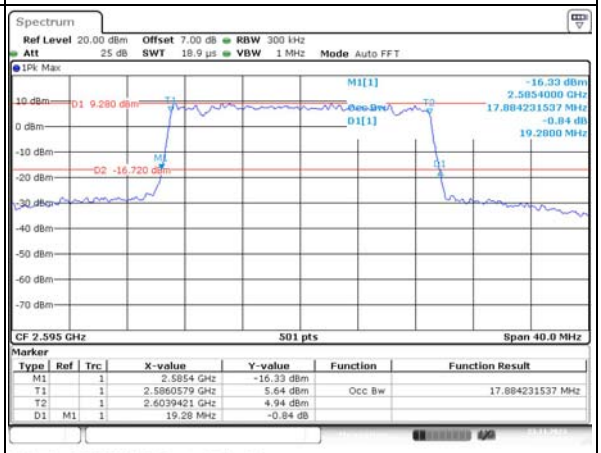
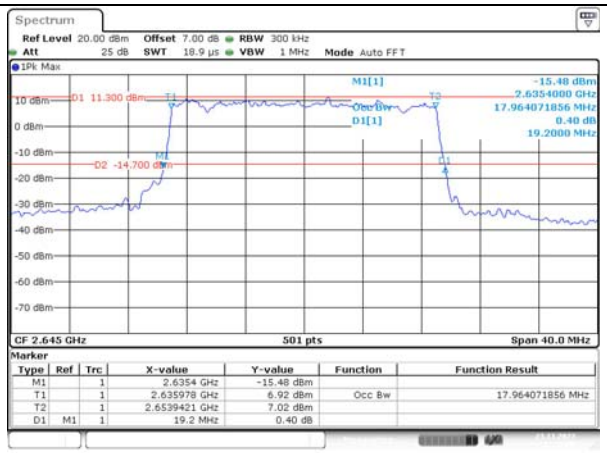
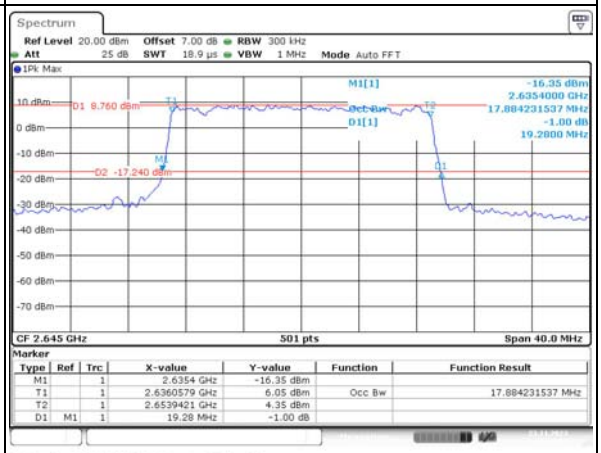
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.91	2535.530	2535.00	2654.642	2655
	-20	3.91	2535.521	2535.00	2654.603	2655
	-10	3.91	2535.565	2535.00	2654.583	2655
	0	3.91	2535.510	2535.00	2654.642	2655
	10	3.91	2535.553	2535.00	2654.654	2655
	20	3.91	2535.480	2535.00	2654.680	2655
	30	3.91	2535.568	2535.00	2654.674	2655
	40	3.91	2535.509	2535.00	2654.623	2655
	50	3.91	2535.533	2535.00	2654.665	2655
Frequency Stability vs. Voltage	20	3.45	2535.578	2535.00	2654.635	2655
	20	4.5	2535.550	2535.00	2654.622	2655
					Result:	**Pass**

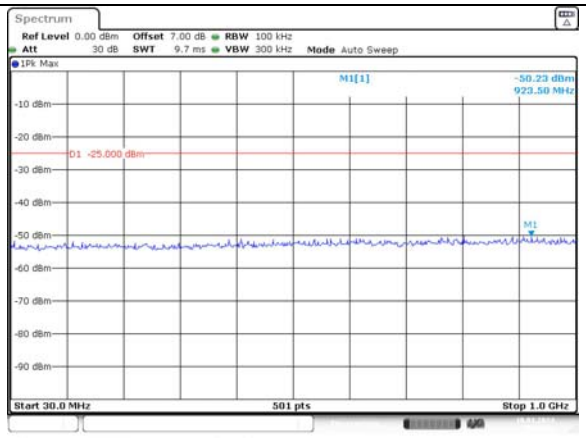
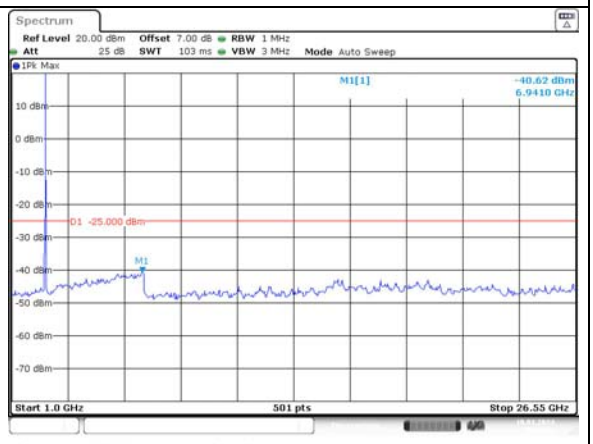
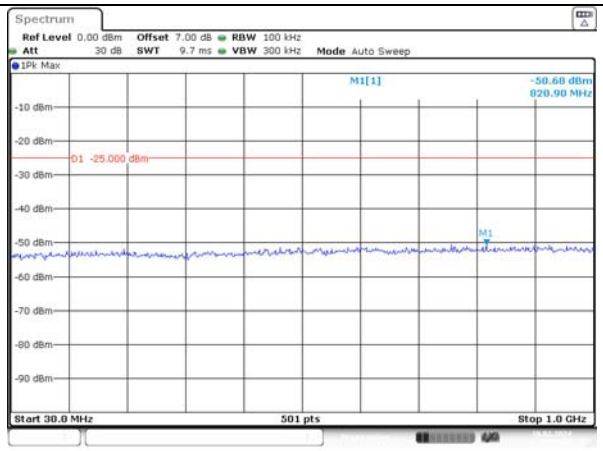
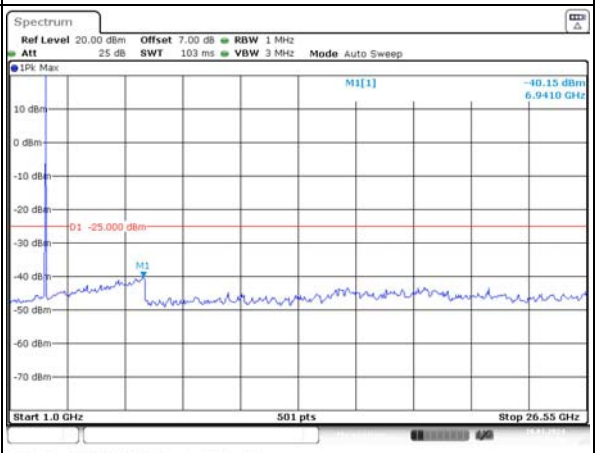
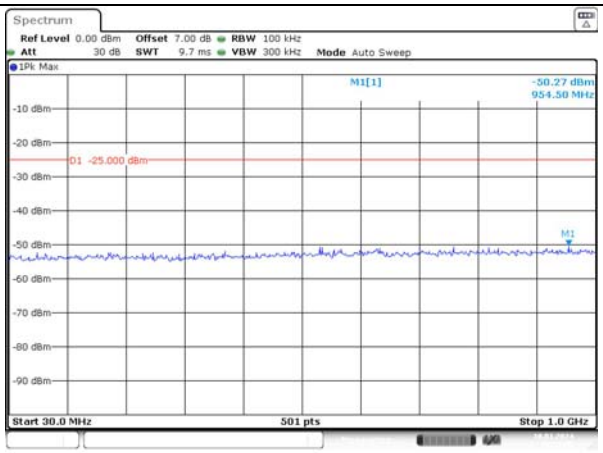
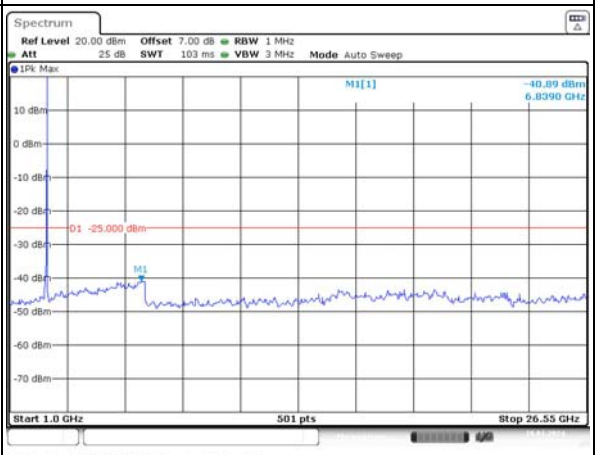
Test Plots(Note: The 7.0dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

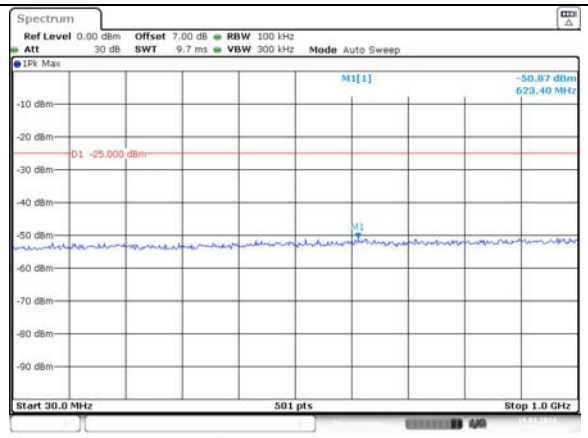
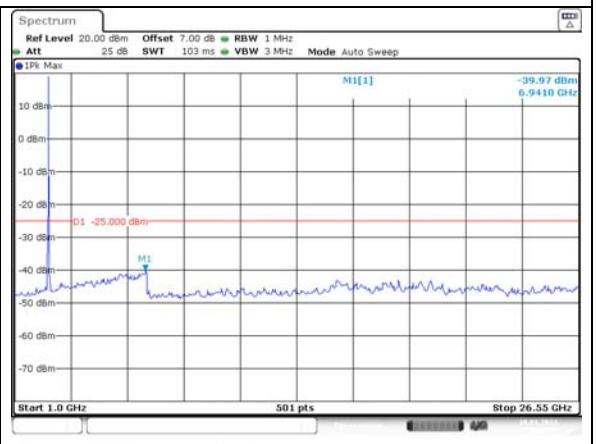
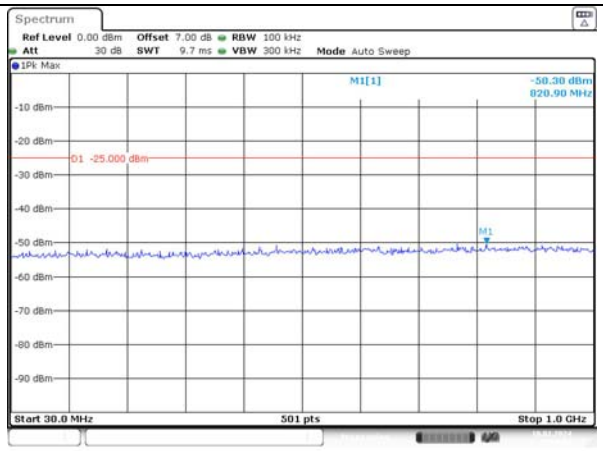
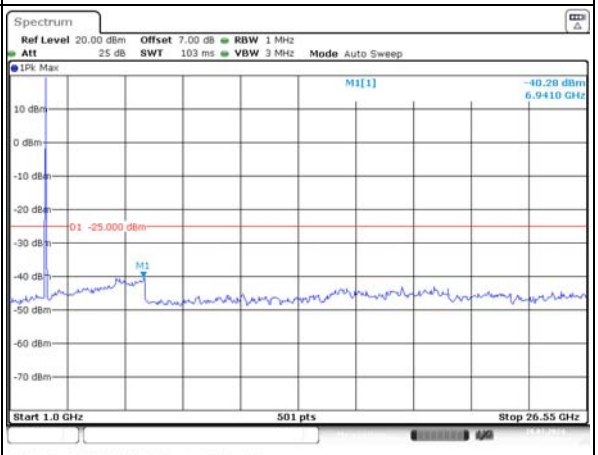
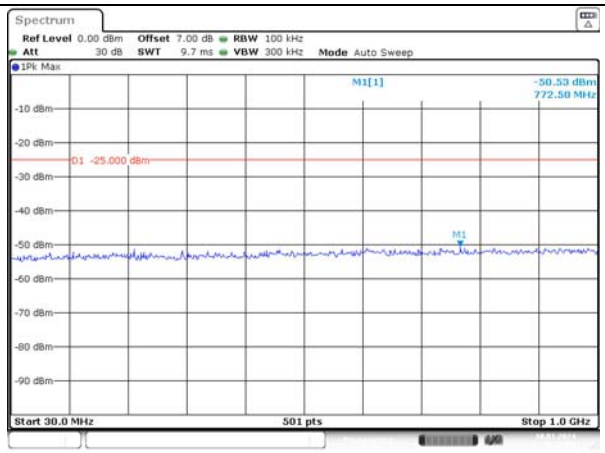
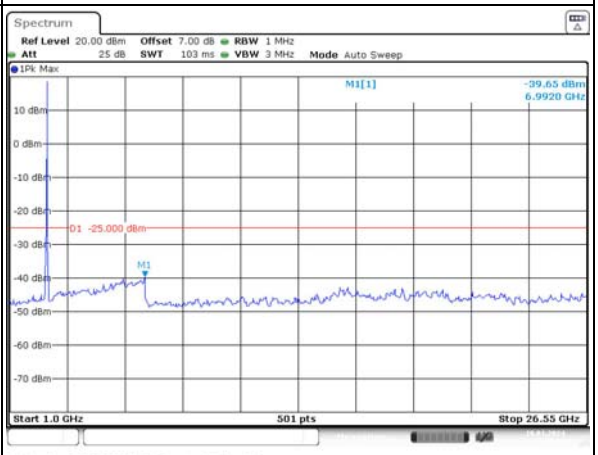
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

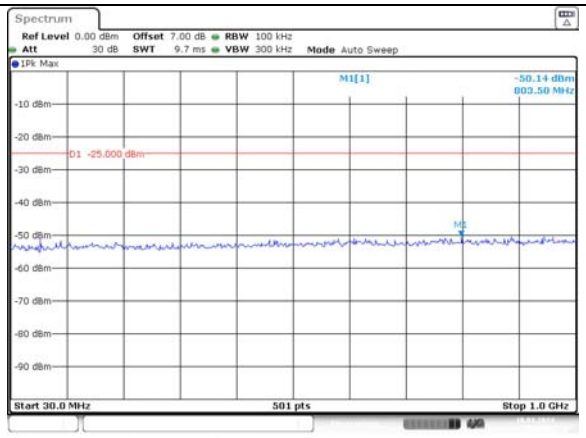
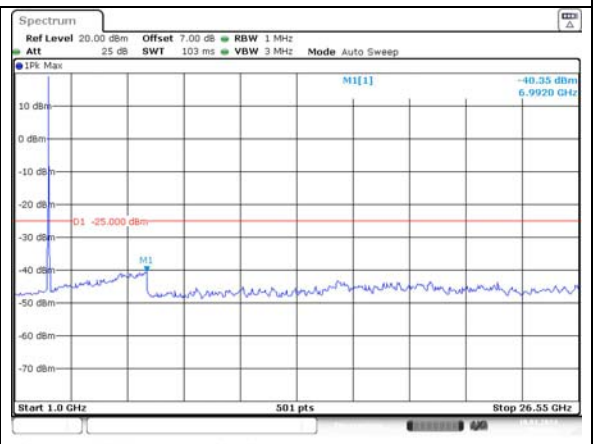
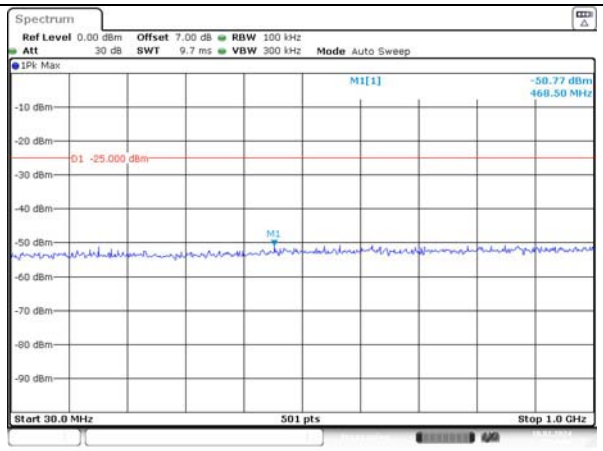
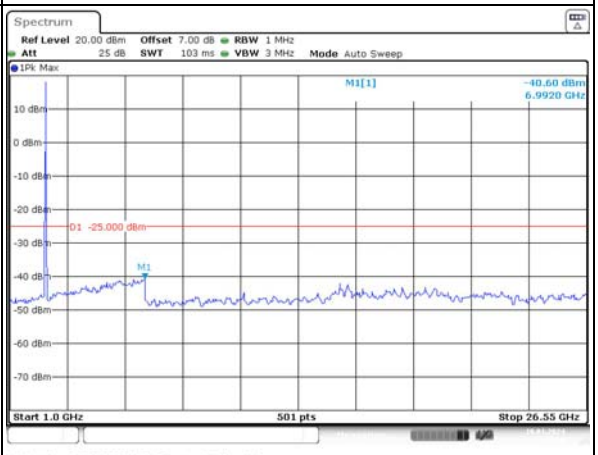
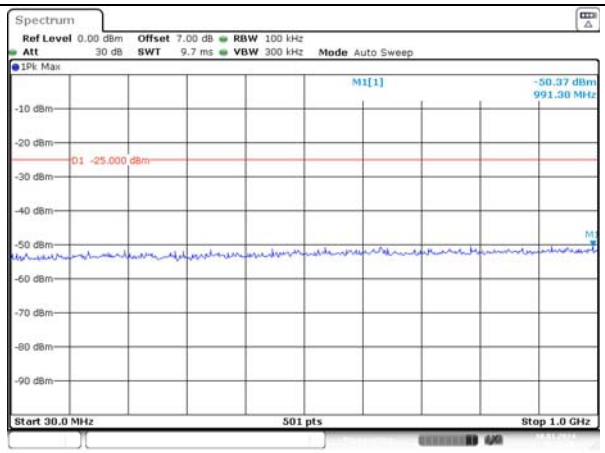
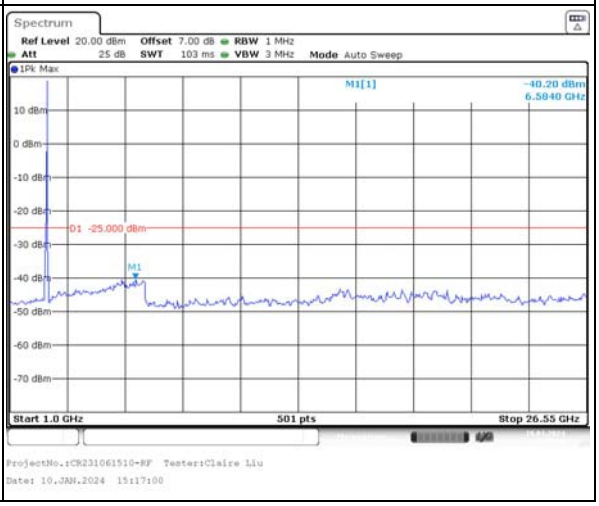
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

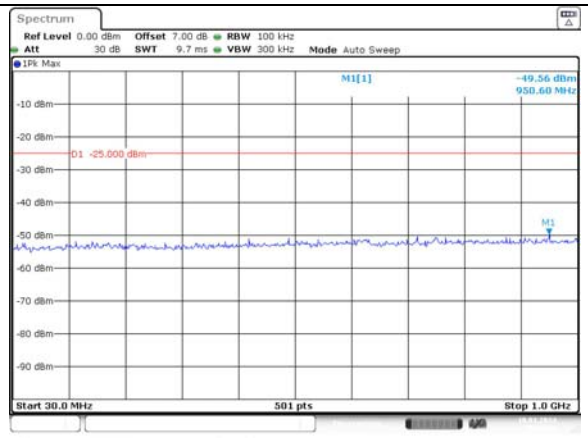
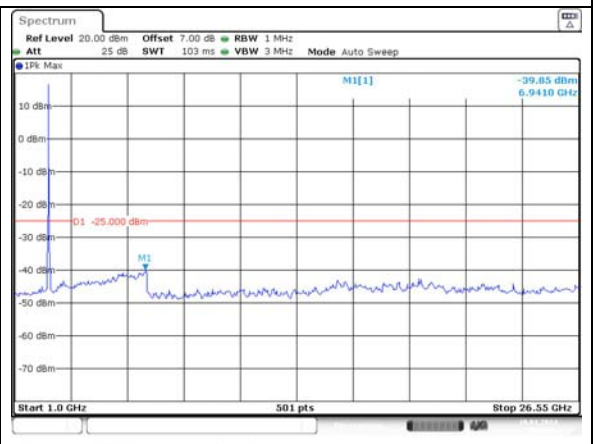
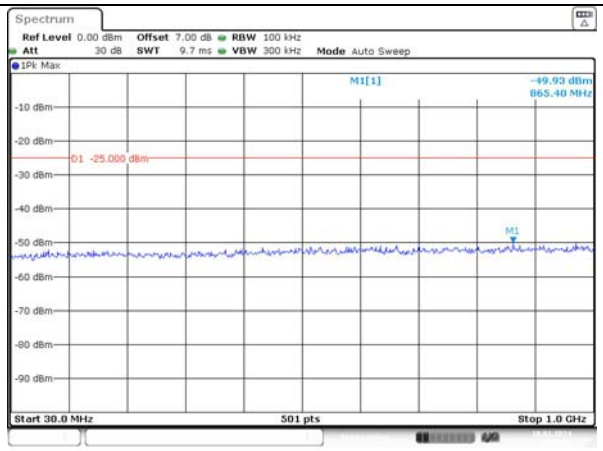
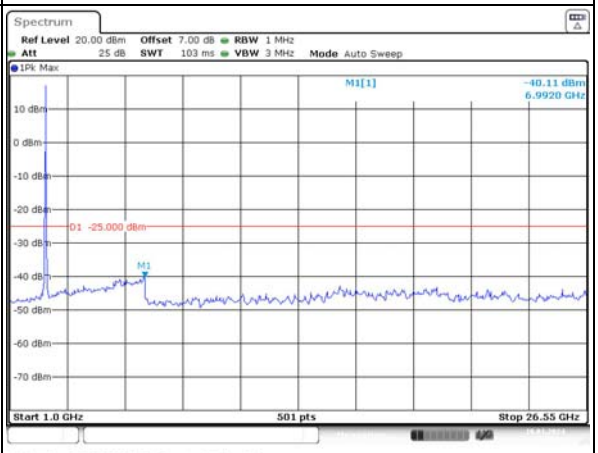
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

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