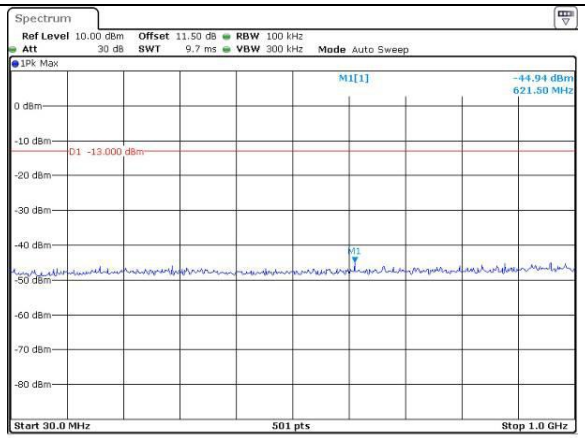
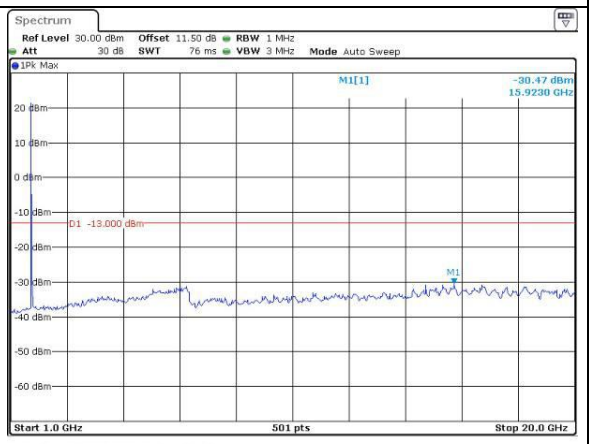
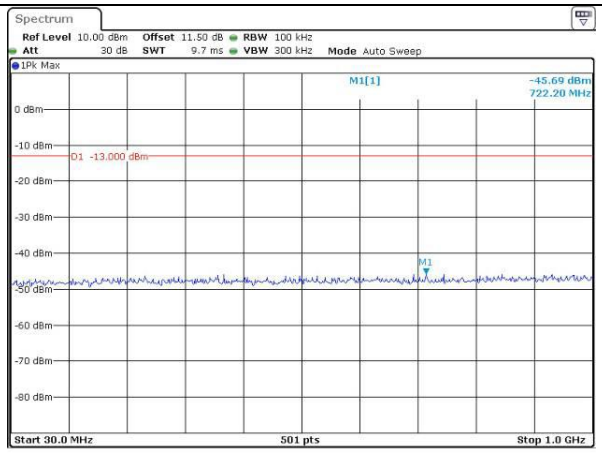
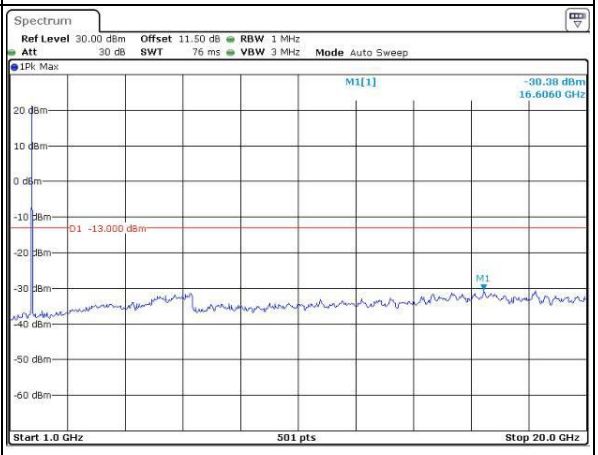
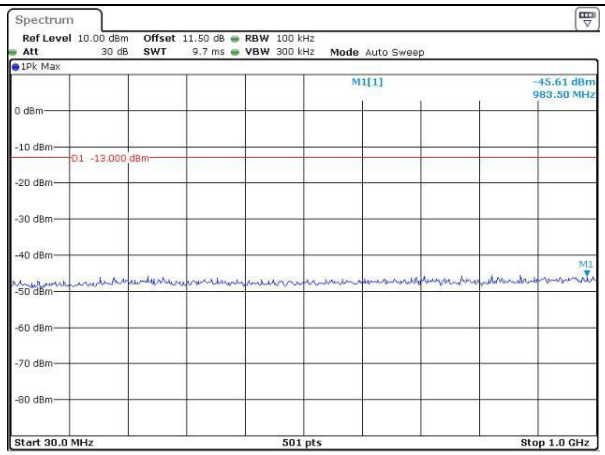
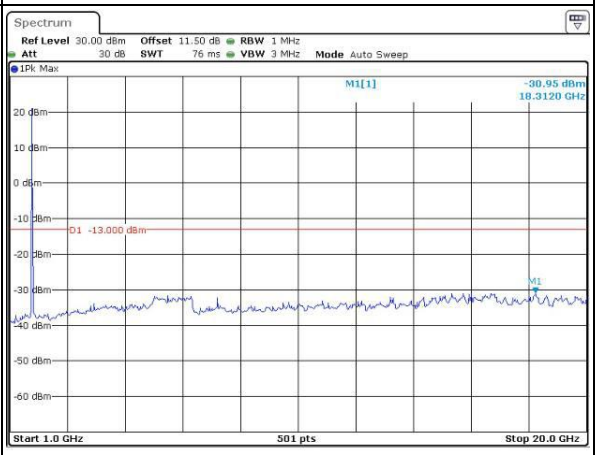
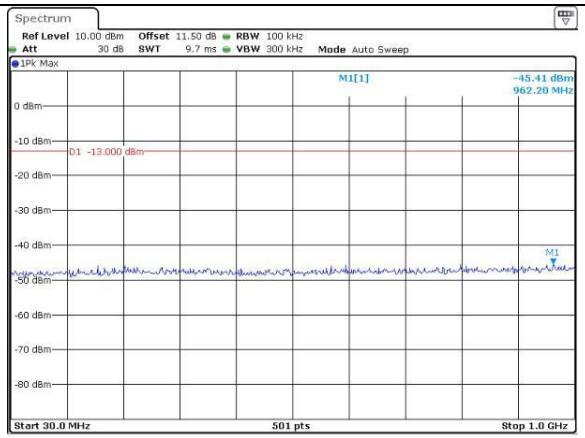
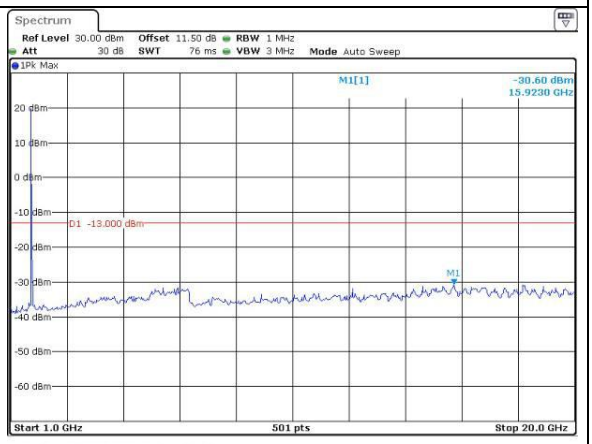
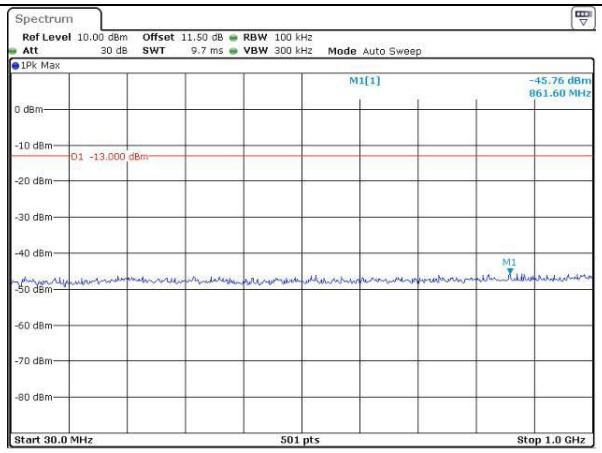
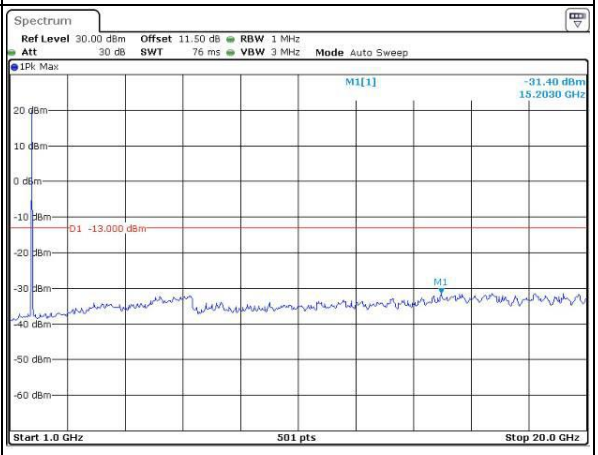
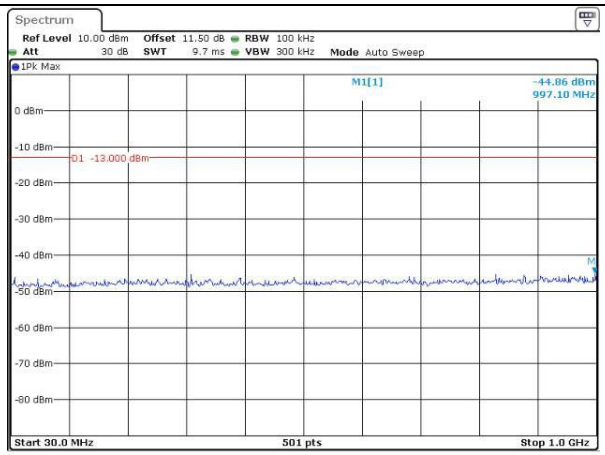
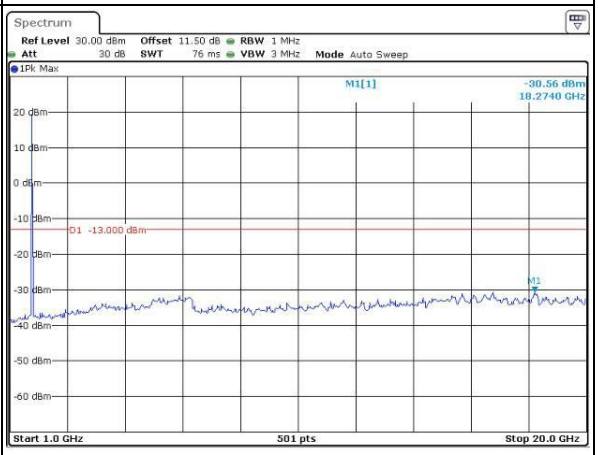
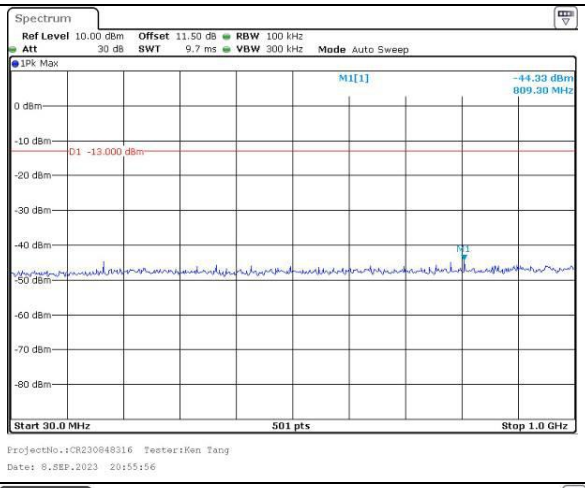
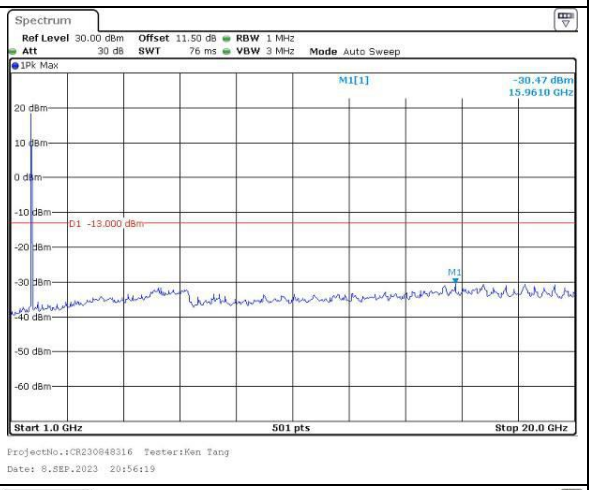
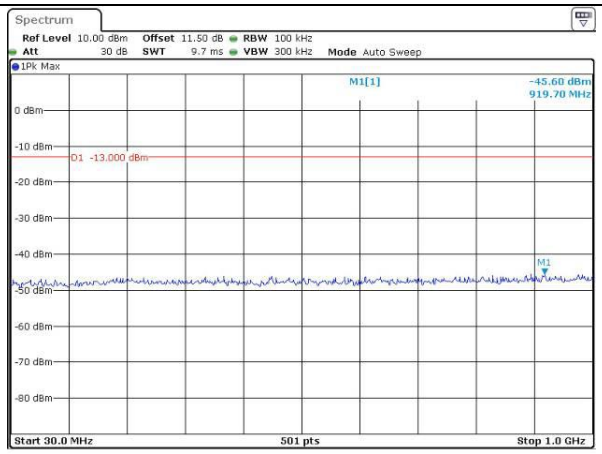
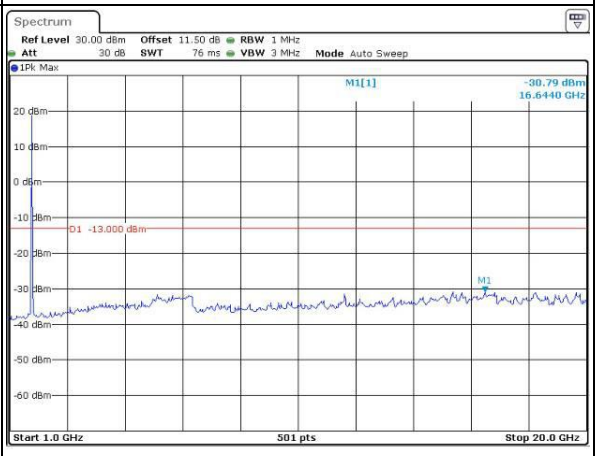
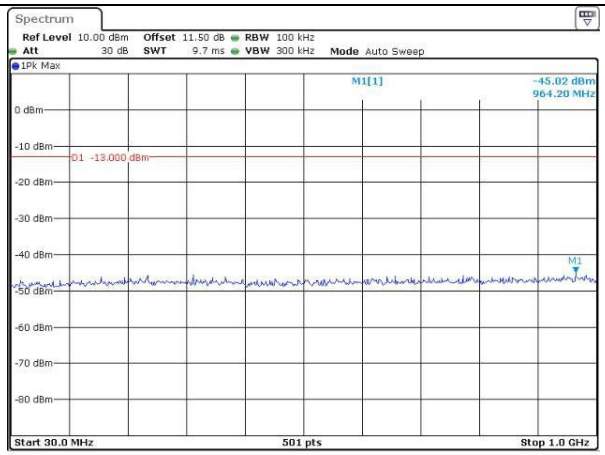
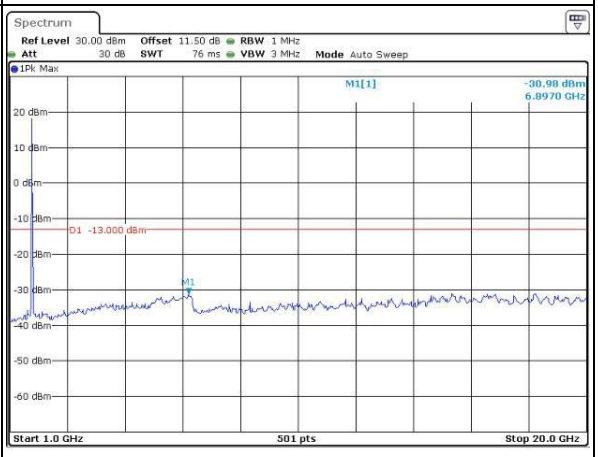
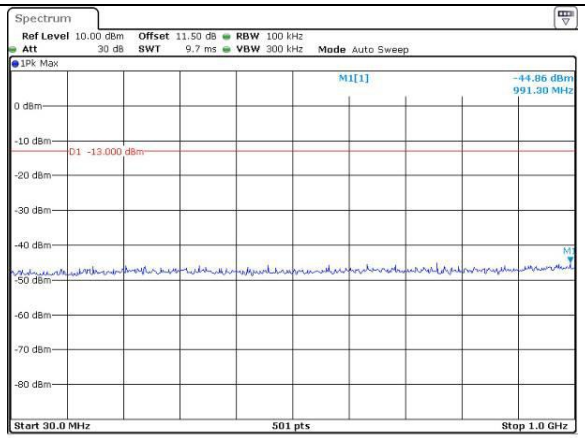
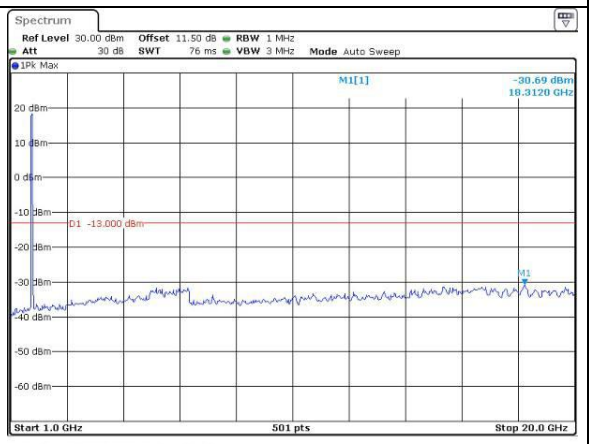
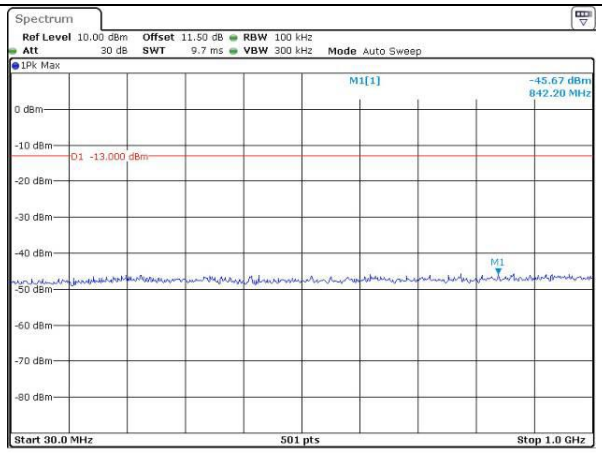
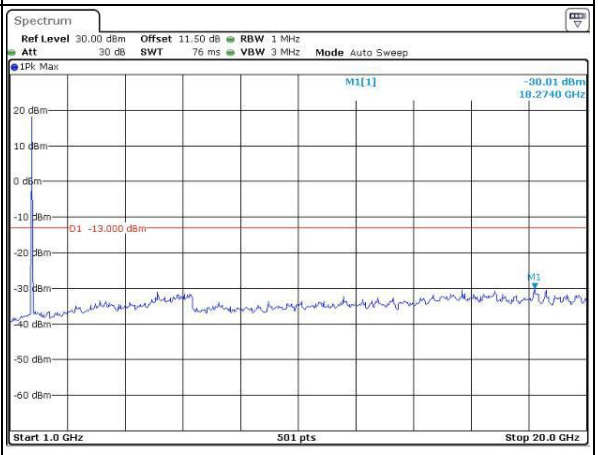
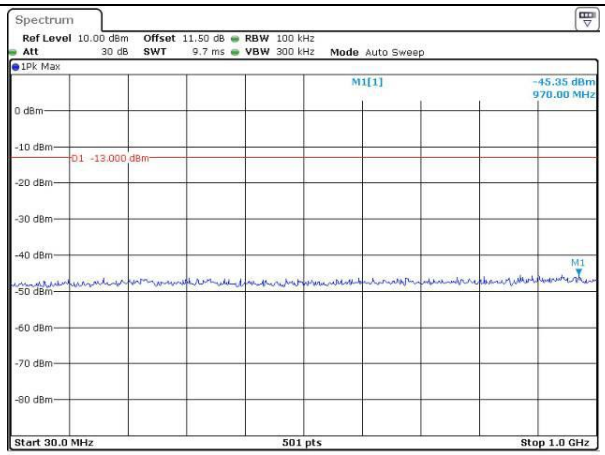
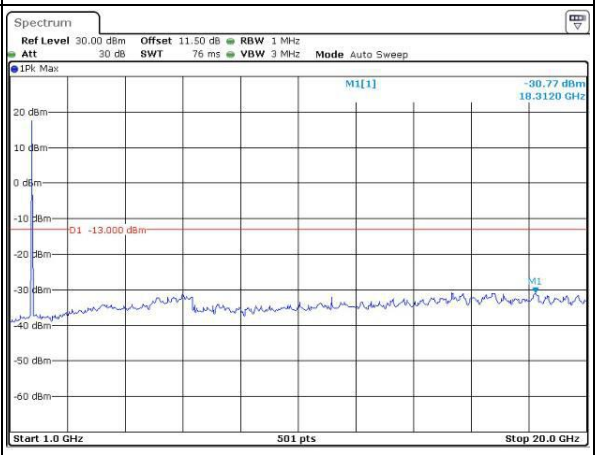
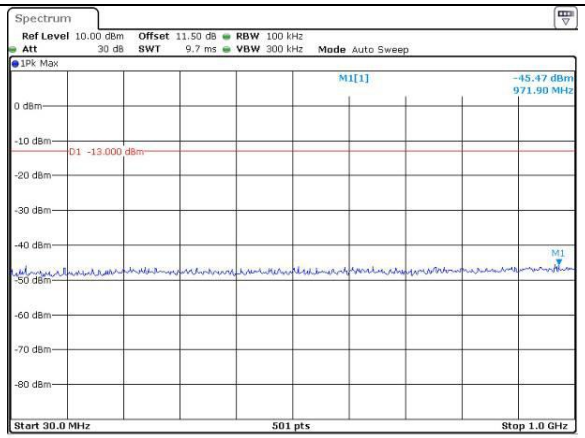
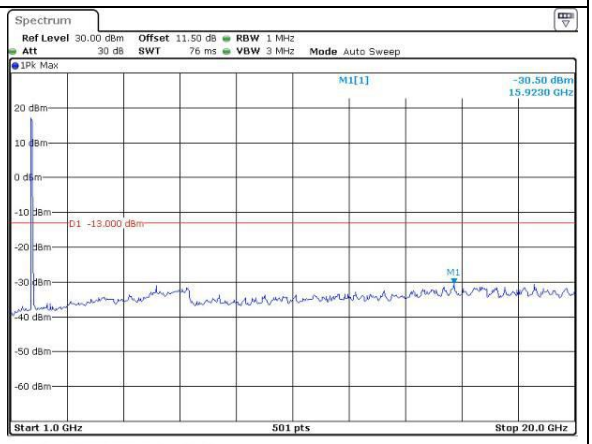
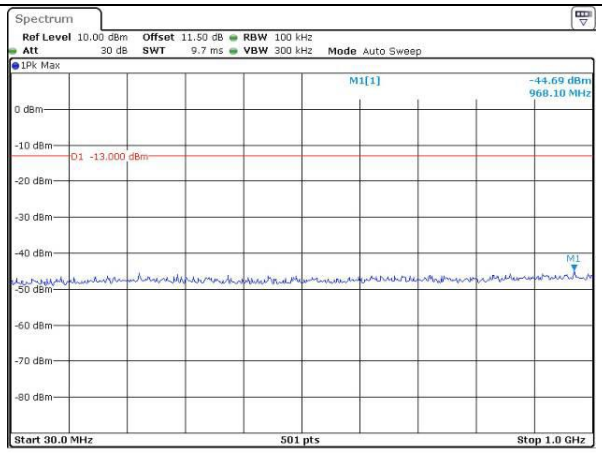
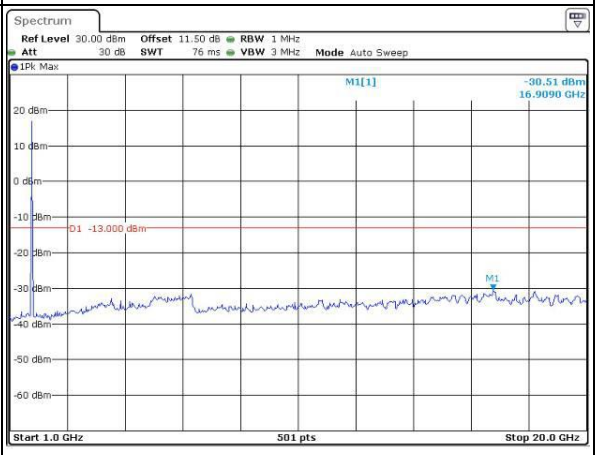
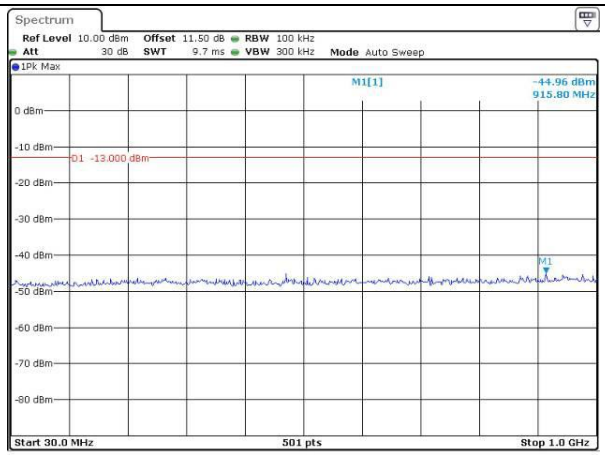
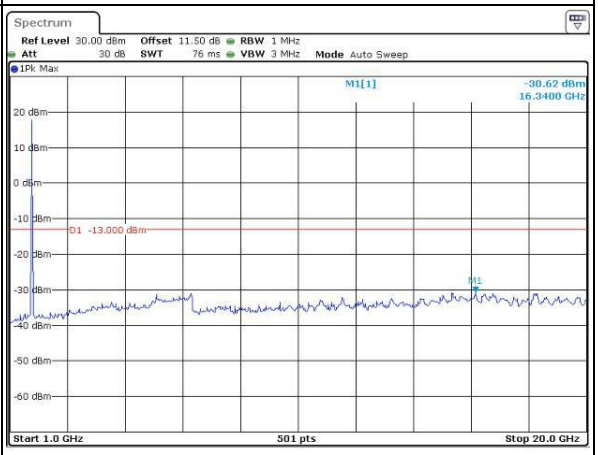
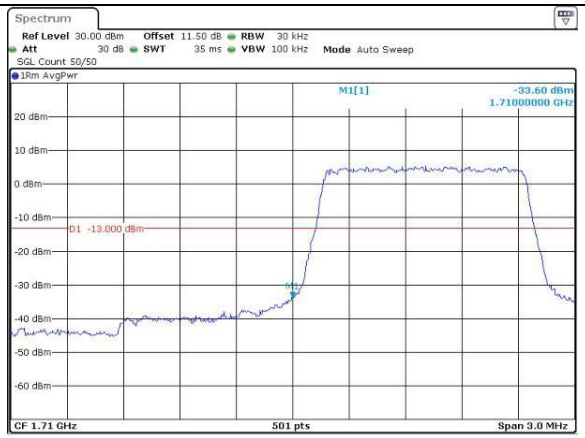
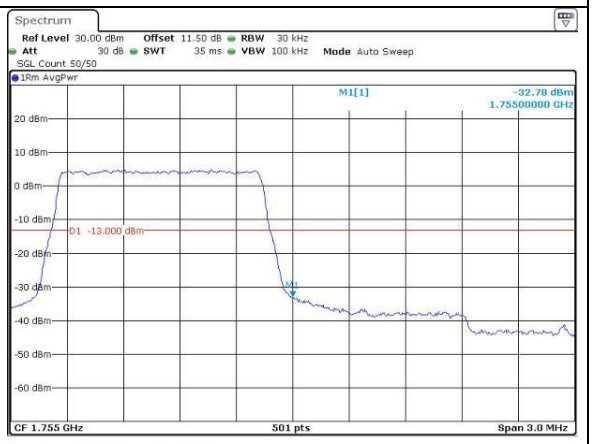
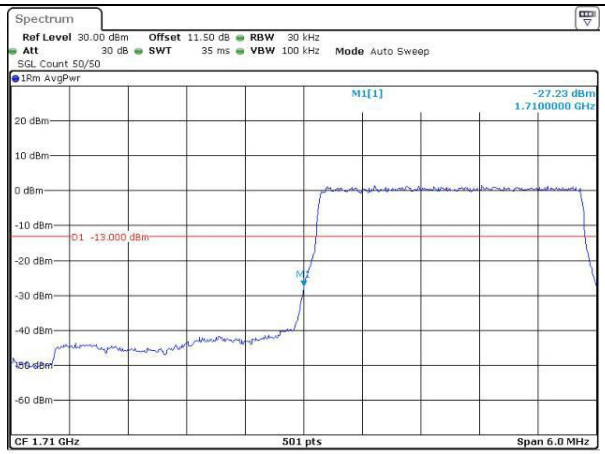
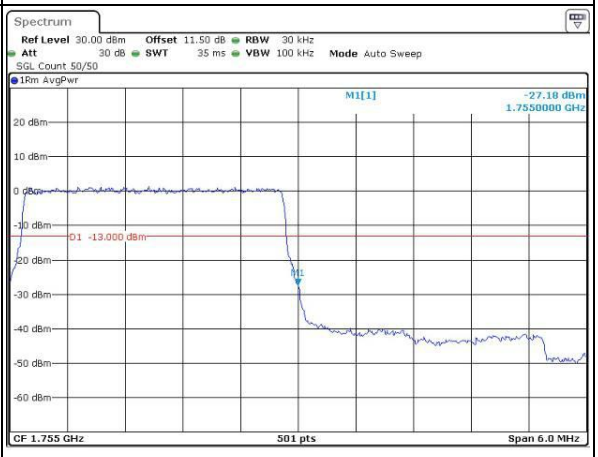
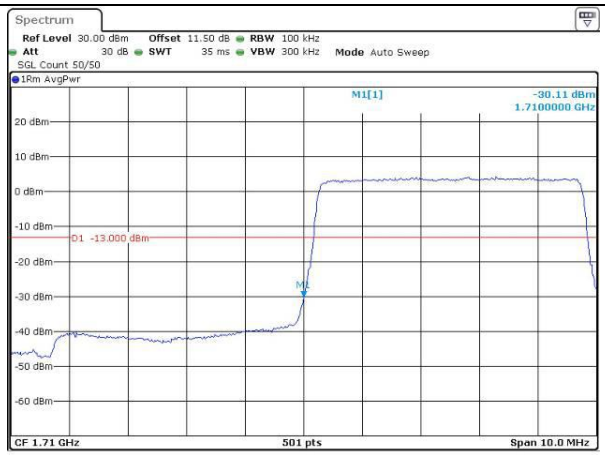
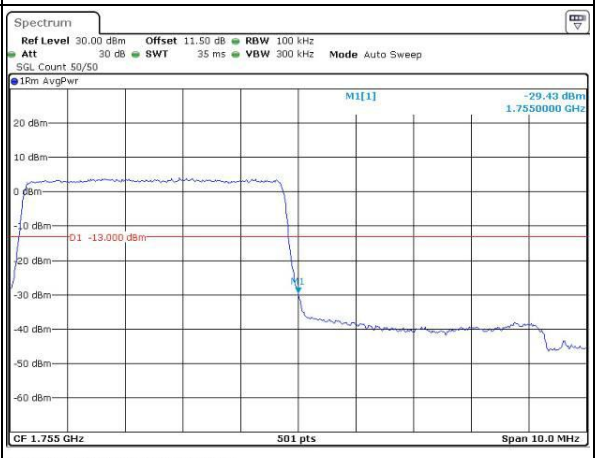
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

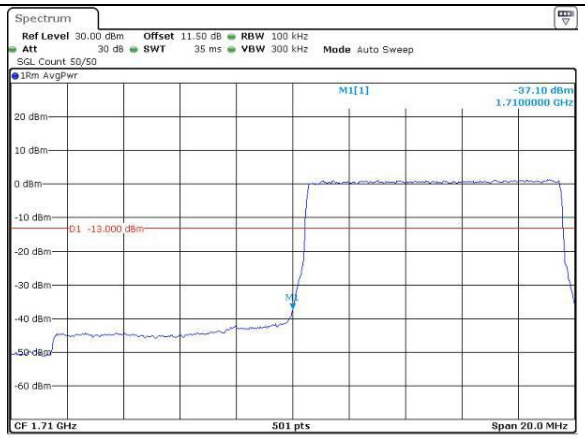
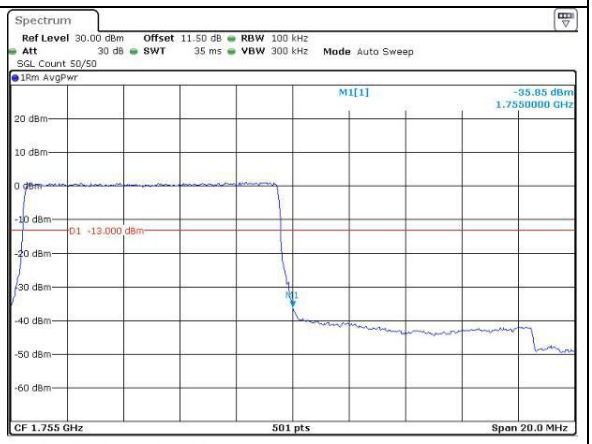
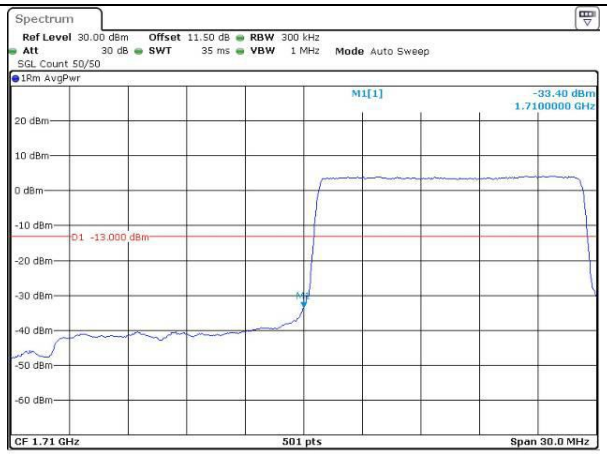
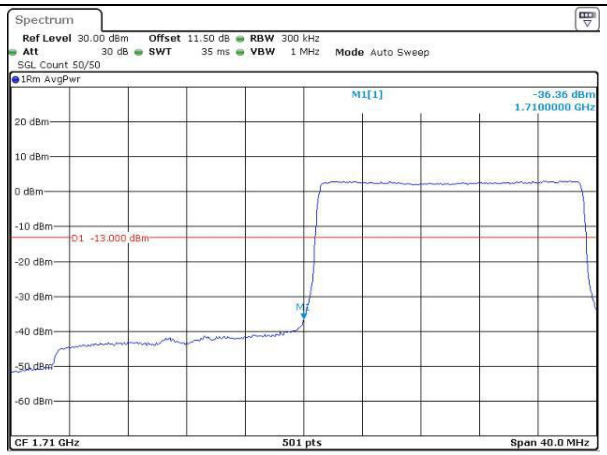
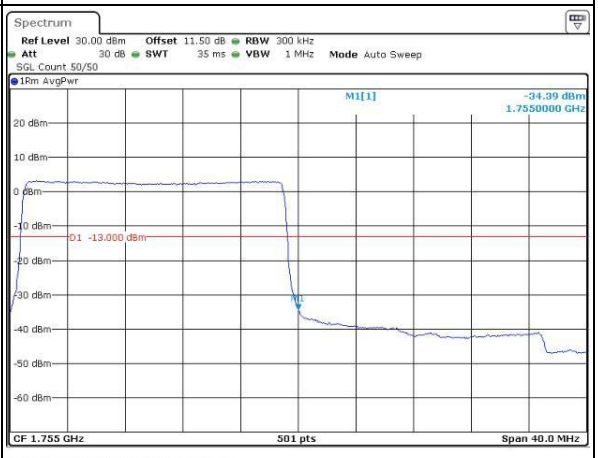
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

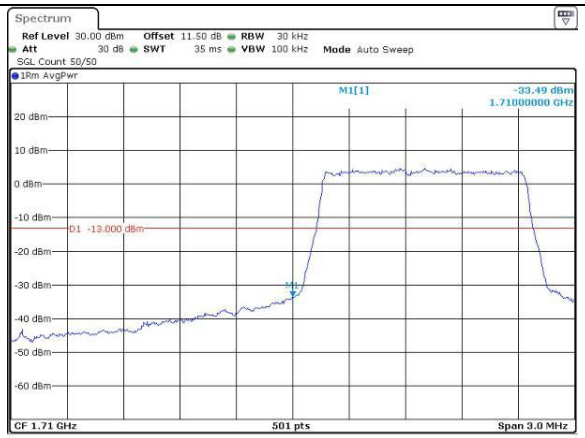
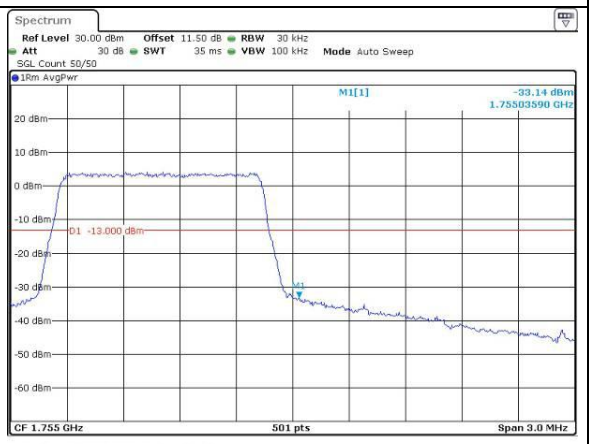
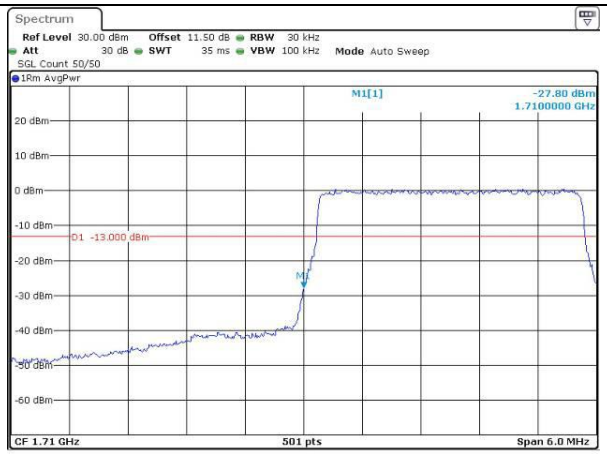
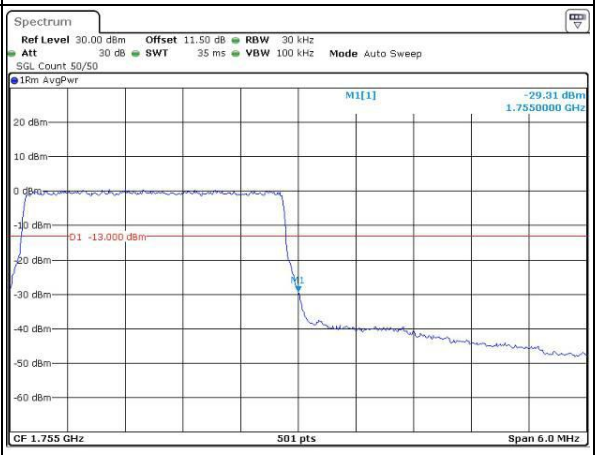
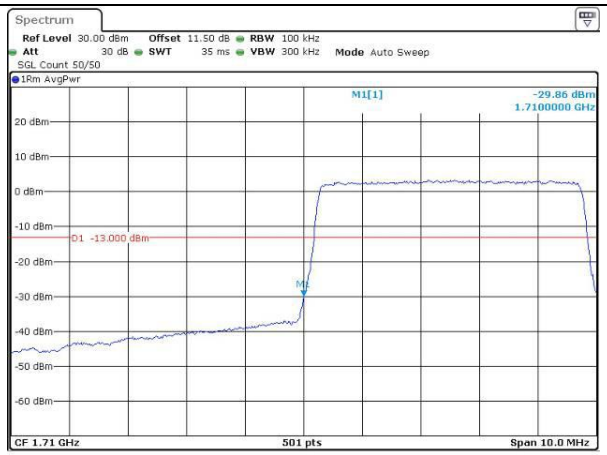
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

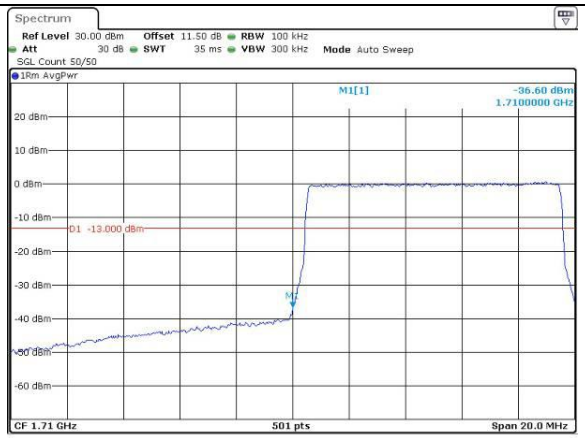
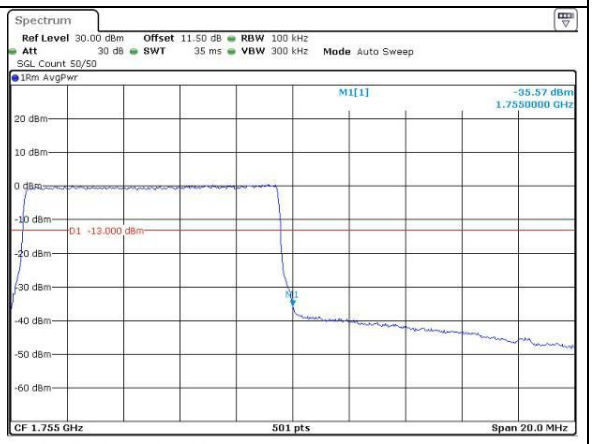
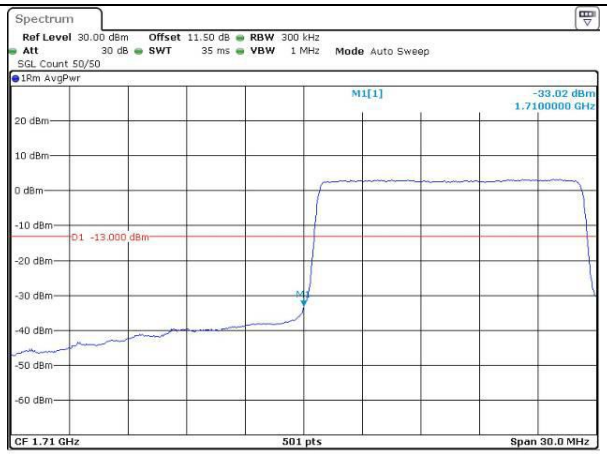
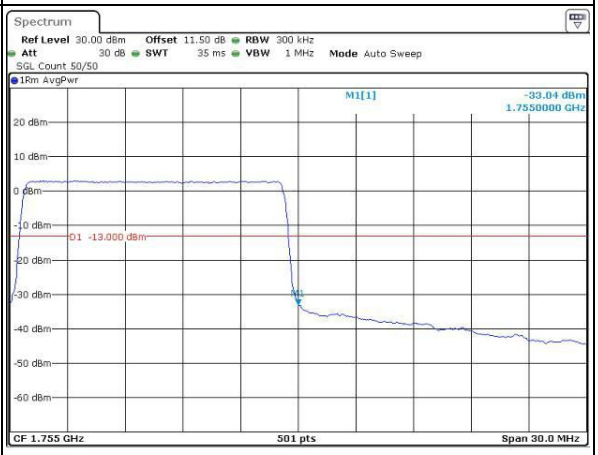
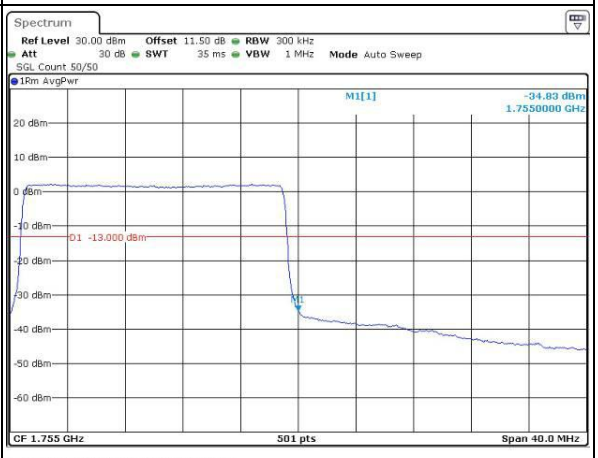
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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:	2A55-4	Test Date:	2023/9/8
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	25.4	Relative Humidity: (%)	58	ATM Pressure: (kPa)	100.5

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	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
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28

** 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:

FCC§2.1046;§ 22.913 (a)

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	22.84	23.04	22.51	15.95	38.45
	RB1#3	22.82	23.10	22.74		
	RB1#5	22.76	23.02	22.61		
	RB3#0	22.53	22.91	22.39		
	RB3#3	22.50	22.96	22.51		
	RB6#0	21.52	21.98	21.44		
1.4MHz 16QAM	RB1#0	22.53	21.81	21.89	15.38	38.45
	RB1#3	22.50	21.85	22.17		
	RB1#5	22.51	21.89	22.21		
	RB3#0	21.40	22.09	21.34		
	RB3#3	21.44	22.06	21.66		
	RB6#0	20.60	21.14	20.73		
3MHz QPSK	RB1#0	22.79	23.10	22.46	16.02	38.45
	RB1#8	22.76	23.17	22.29		
	RB1#14	22.95	23.06	22.65		
	RB6#0	21.47	21.92	21.23		
	RB6#9	21.49	21.87	21.46		
	RB15#0	21.45	21.93	21.24		
3MHz 16QAM	RB1#0	22.52	21.85	21.80	**15.39**	38.45
	RB1#8	22.43	21.79	21.71		
	RB1#14	22.54	21.84	22.03		
	RB6#0	20.58	21.14	20.64		
	RB6#9	20.59	21.21	20.55		
	RB15#0	20.48	21.07	20.64		
5MHz QPSK	RB1#0	22.82	23.08	22.64	15.99	38.45
	RB1#13	22.68	23.14	22.47		
	RB1#24	22.77	23.04	22.65		
	RB15#0	21.46	21.90	21.46		
	RB15#10	21.56	21.89	21.20		
	RB25#0	21.48	21.89	21.21		
5MHz 16QAM	RB1#0	21.93	21.83	20.69	14.84	38.45
	RB1#13	21.89	21.83	20.50		
	RB1#24	21.99	21.82	20.77		
	RB15#0	20.33	20.98	20.84		
	RB15#10	20.43	21.06	20.64		
	RB25#0	20.54	21.00	20.67		

10MHz QPSK	RB1#0	22.94	22.67	22.89	**16.03**	38.45
	RB1#25	22.88	23.18	22.60		
	RB1#49	22.92	22.84	22.57		
	RB25#0	21.57	21.93	21.55		
	RB25#25	21.57	21.74	21.17		
	RB50#0	21.50	22.03	21.44		
10MHz 16QAM	RB1#0	21.86	21.24	22.26	15.11	38.45
	RB1#25	21.97	21.71	21.88		
	RB1#49	21.98	21.39	21.89		
	RB25#0	20.66	21.05	20.64		
	RB25#25	20.68	21.04	20.66		
	RB50#0	20.73	20.97	20.59		
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	5.19	4.81	5.28	13
	RB50#0	5.48	5.33	5.54	13
10MHz 16QAM	RB1#0	6.41	6.06	6.55	13
	RB50#0	6.52	6.26	6.35	13
				Result:	**Pass**

FCC §2.1049, §22.905:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.096	1.102	1.096	1.248	1.254	1.254
1.4MHz 16QAM	1.102	1.090	1.102	1.254	1.250	1.254
3MHz QPSK	2.695	2.683	2.695	3.012	3.012	2.988
3MHz 16QAM	2.683	2.695	2.695	3.000	3.024	3.000
5MHz QPSK	4.511	4.511	4.531	5.000	5.000	4.980
5MHz 16QAM	4.531	4.531	4.511	5.020	5.020	5.000
10MHz QPSK	8.942	8.942	8.982	9.720	9.760	9.760
10MHz 16QAM	8.982	8.942	8.942	9.800	9.880	9.800
Note: The test plots please refer to the Plots of Occupied Bandwidth						

FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

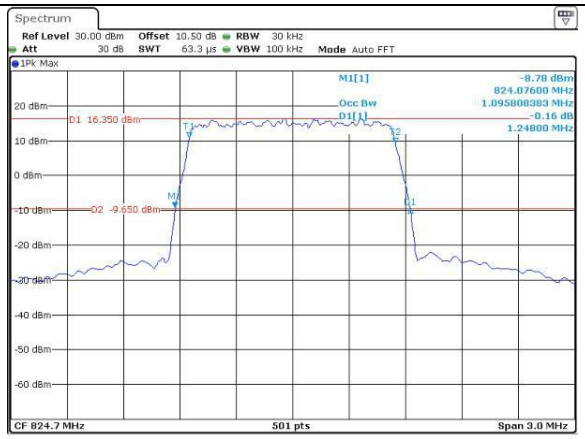
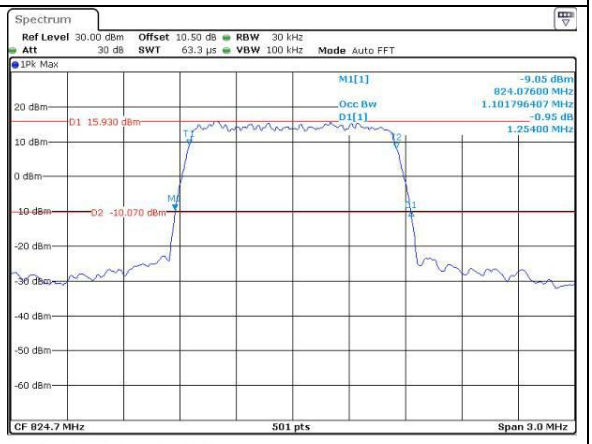
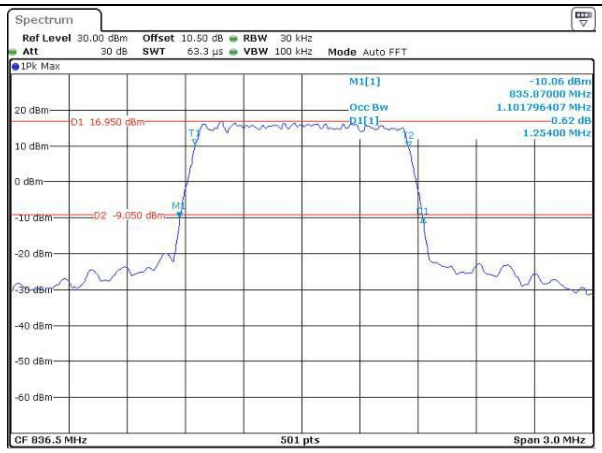
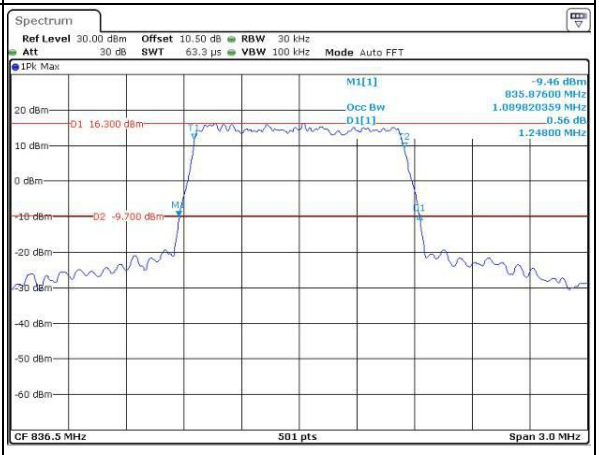
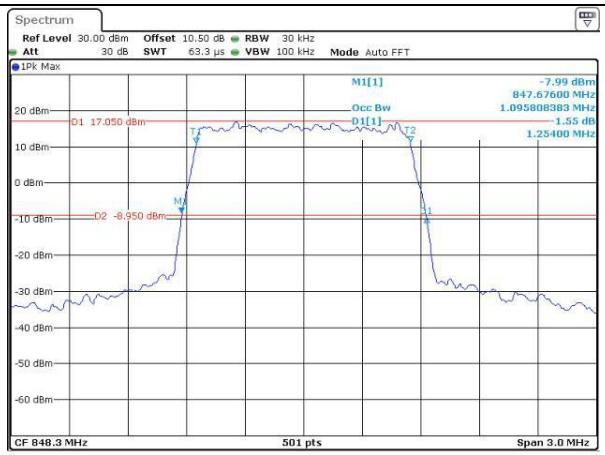
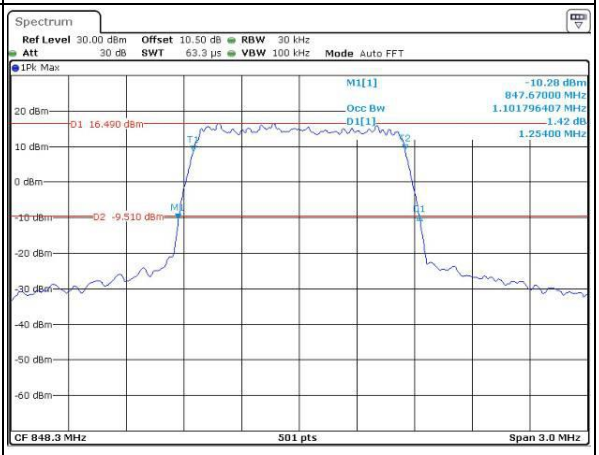
FCC §2.1051, §22.917(a):Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

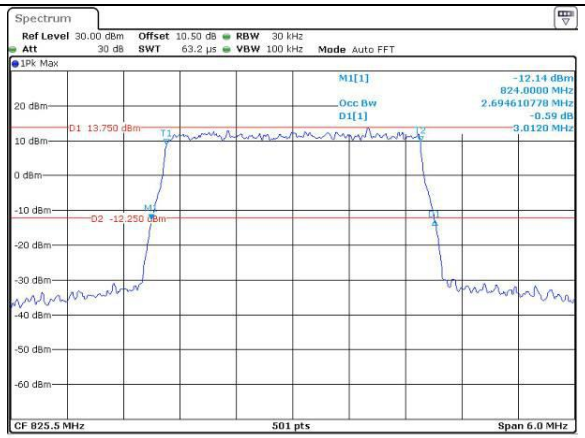
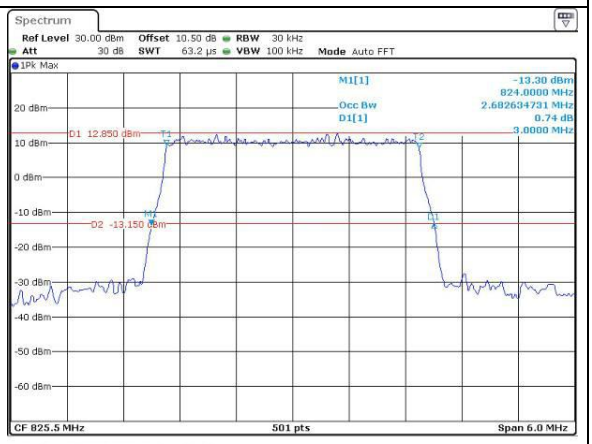
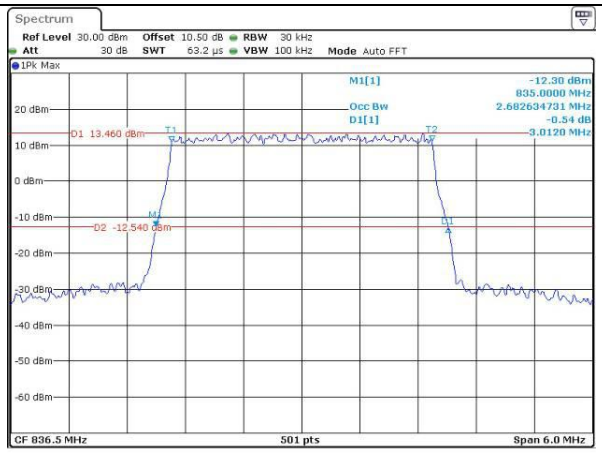
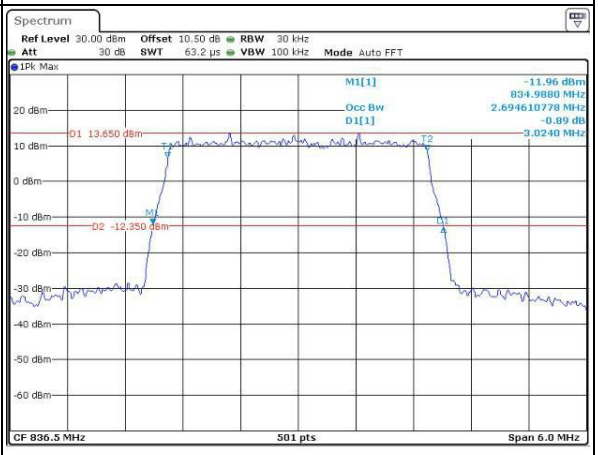
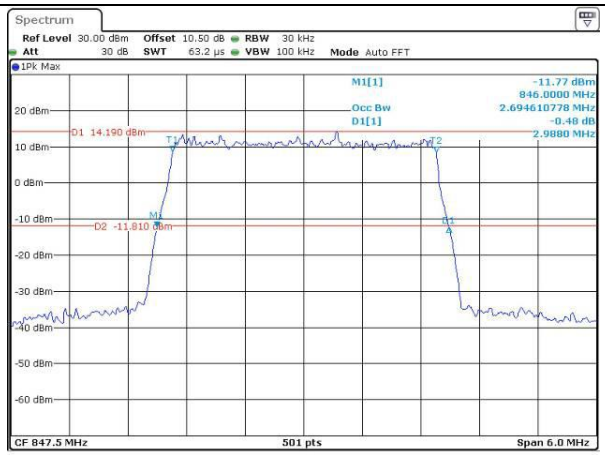
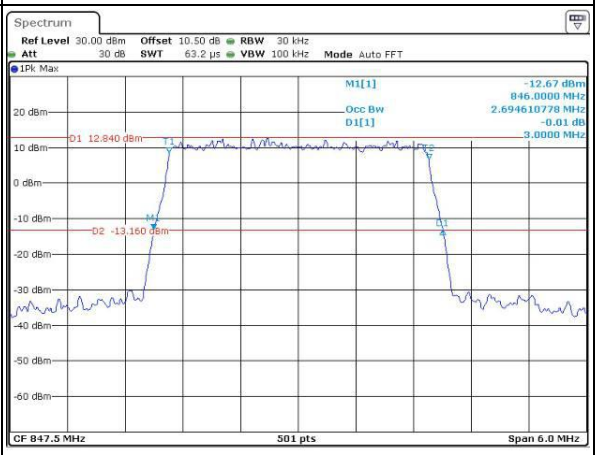
FCC §2.1055, §22.355: Frequency Stability

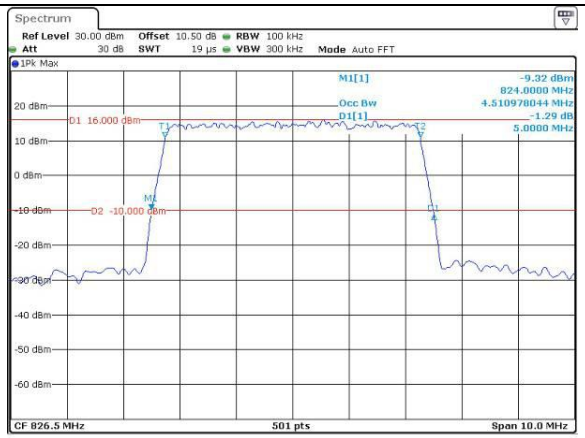
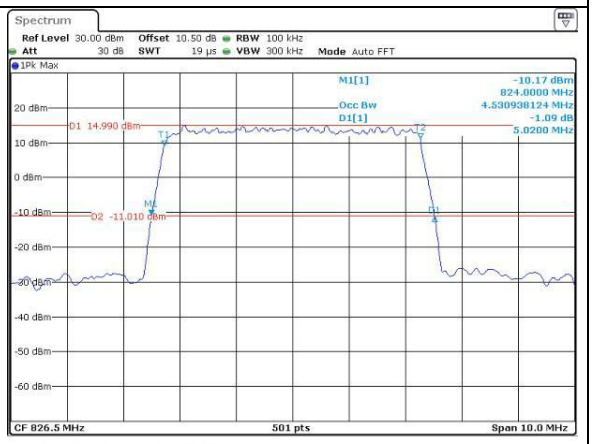
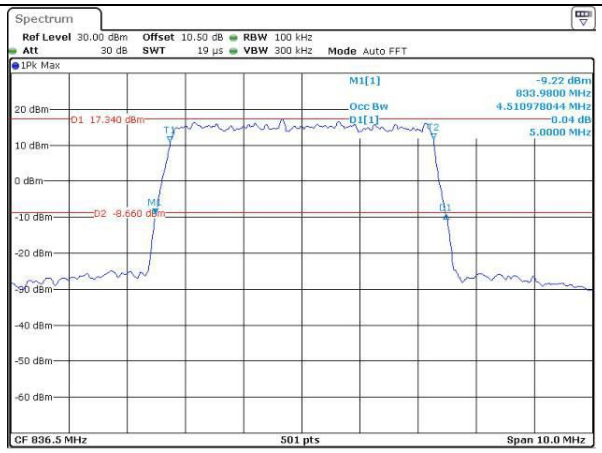
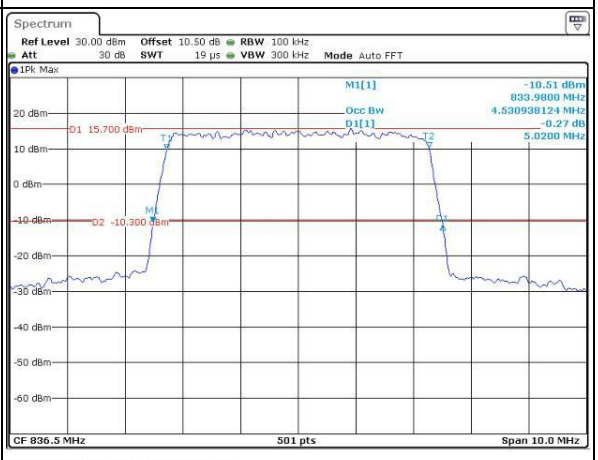
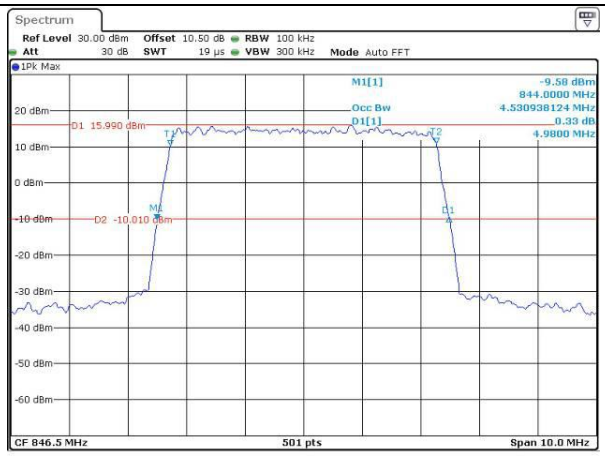
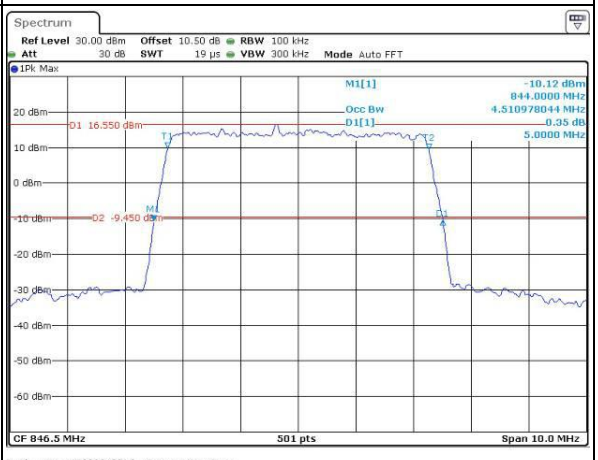
Test Modulation:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	112.191	0.134	2.5
	-20	3.85	110.811	0.132	2.5
	-10	3.85	105.160	0.126	2.5
	0	3.85	116.910	0.140	2.5
	10	3.85	110.294	0.132	2.5
	20	3.85	100.615	0.120	2.5
	30	3.85	104.223	0.125	2.5
	40	3.85	115.859	0.139	2.5
	50	3.85	105.922	0.127	2.5
Frequency Stability vs. Voltage	20	3.45	109.194	0.131	2.5
	20	4.4	109.798	0.131	2.5
				Result:	**Pass**

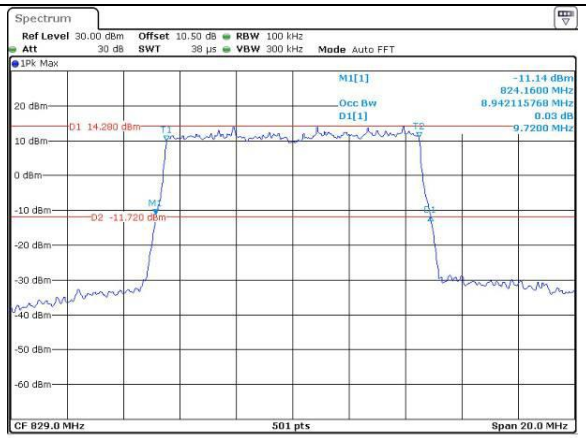
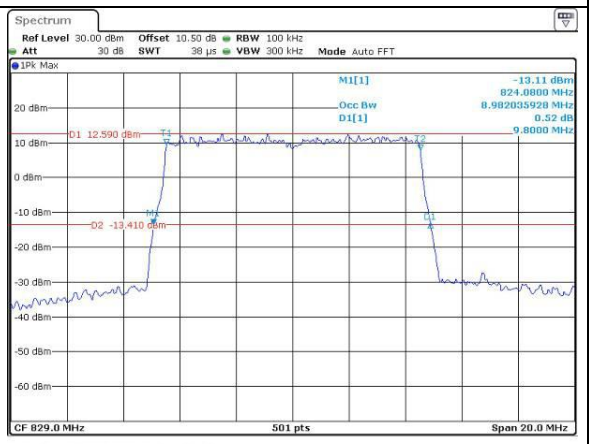
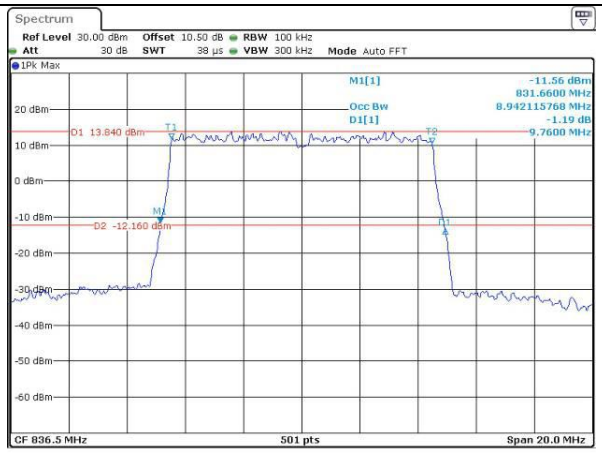
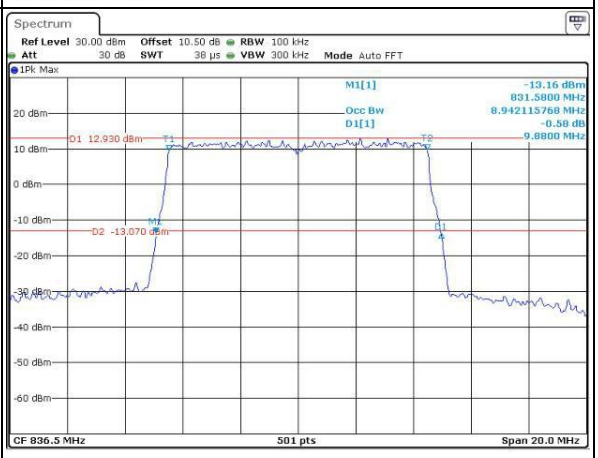
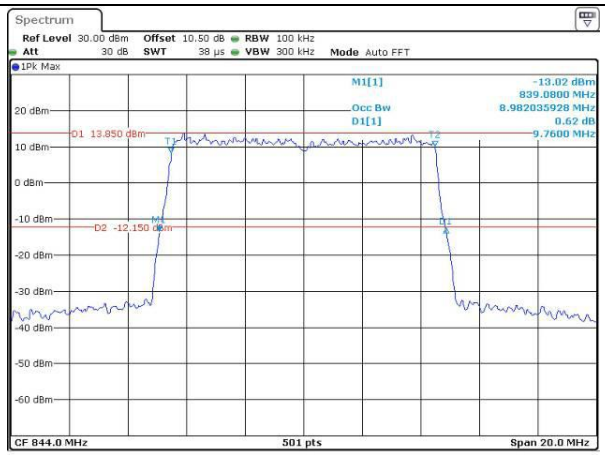
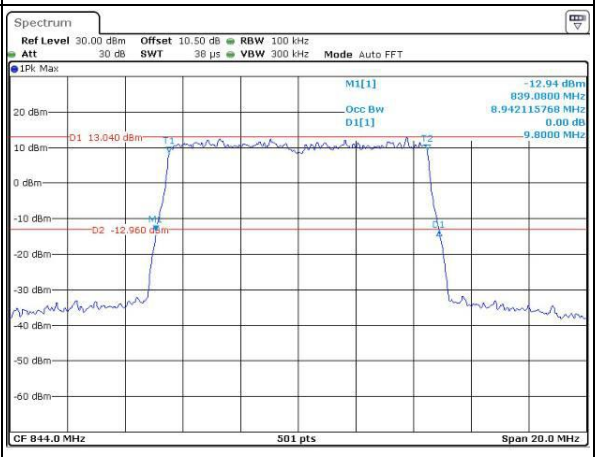
Test Modulation:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	113.370	0.136	2.5
	-20	3.85	106.128	0.127	2.5
	-10	3.85	119.067	0.142	2.5
	0	3.85	111.233	0.133	2.5
	10	3.85	111.526	0.133	2.5
	20	3.85	103.200	0.123	2.5
	30	3.85	115.181	0.138	2.5
	40	3.85	113.303	0.135	2.5
	50	3.85	103.327	0.124	2.5
Frequency Stability vs. Voltage	20	3.45	107.805	0.129	2.5
	20	4.4	107.666	0.129	2.5
				Result:	**Pass**

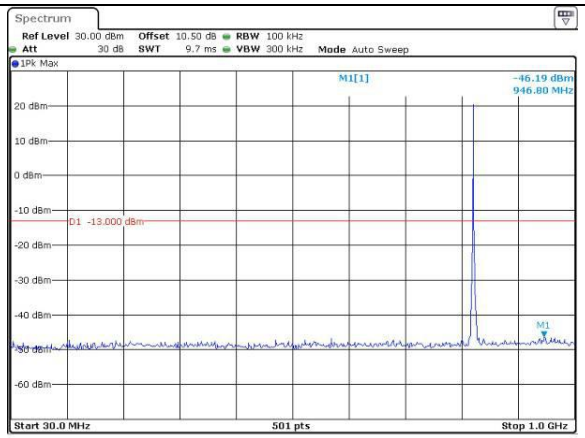
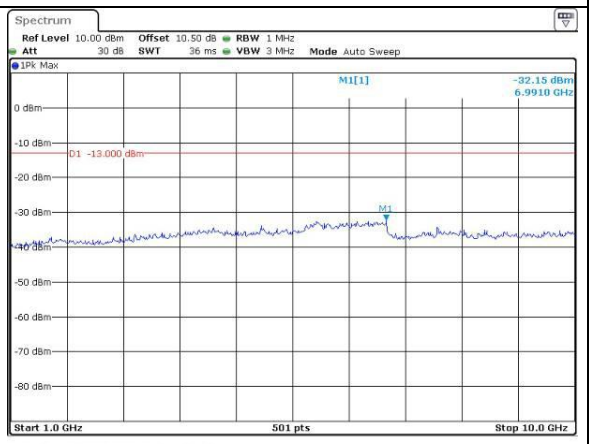
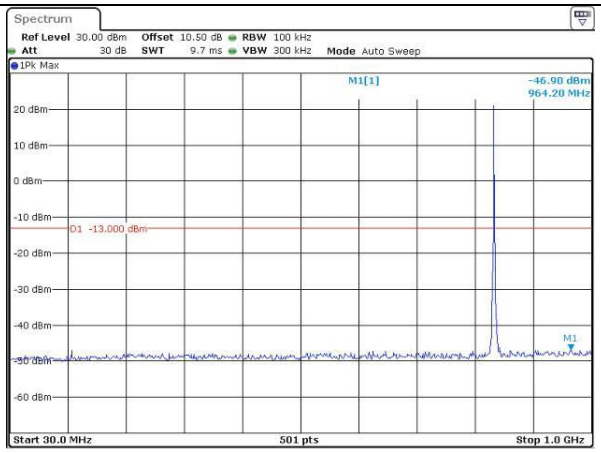
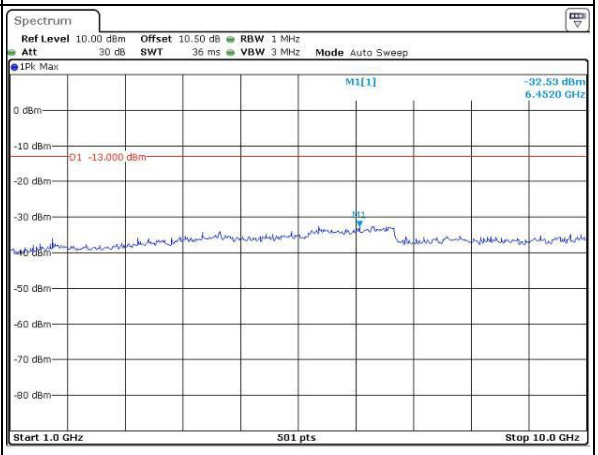
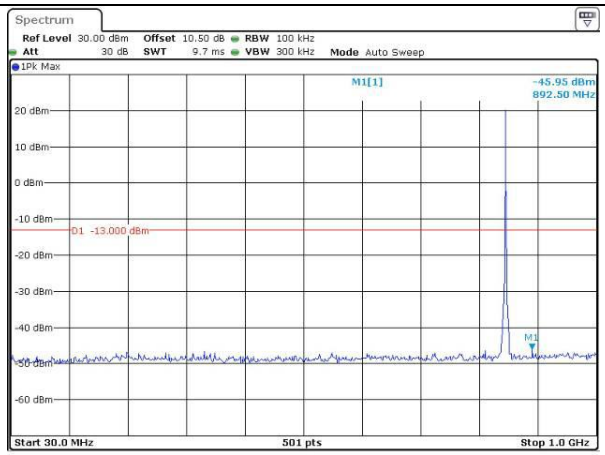
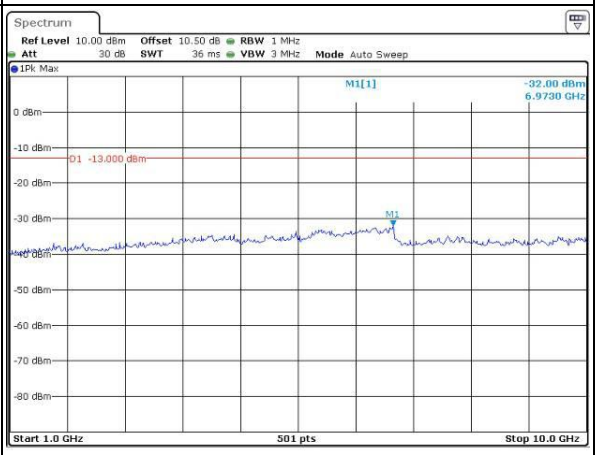
Test Plots(Note: The 10.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

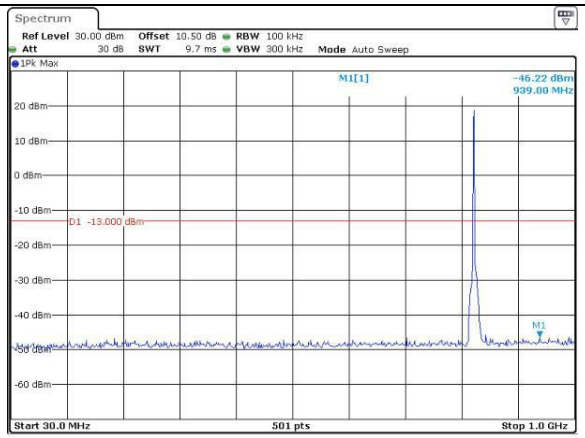
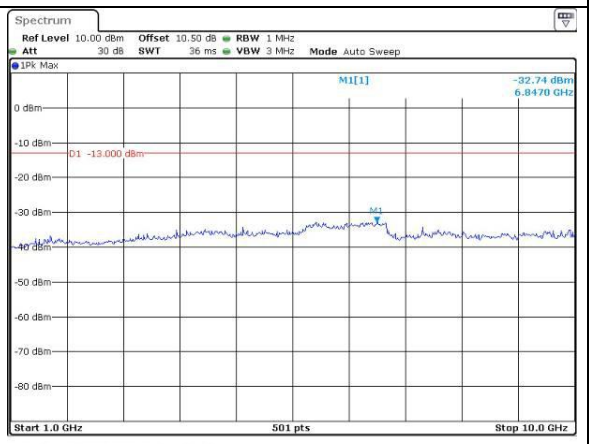
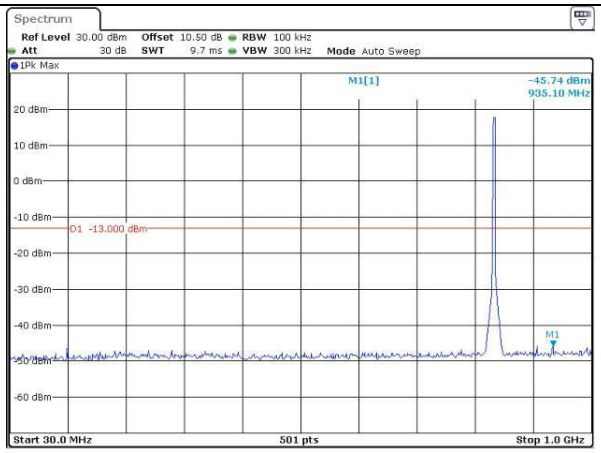
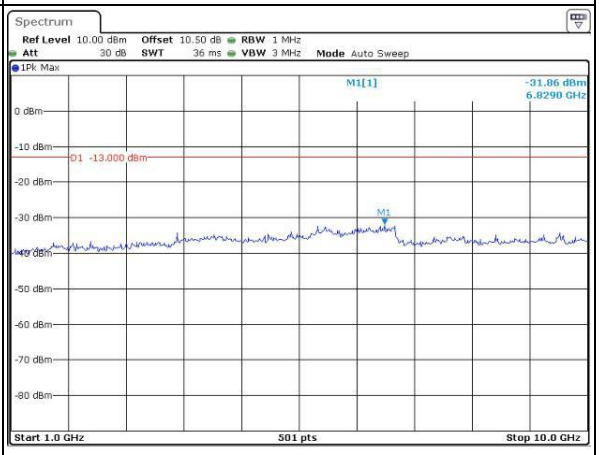
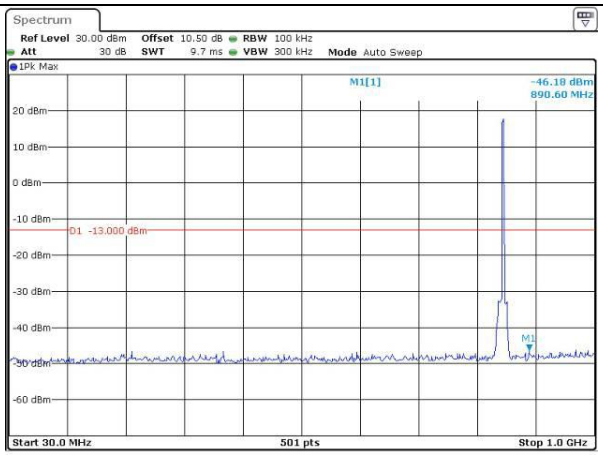
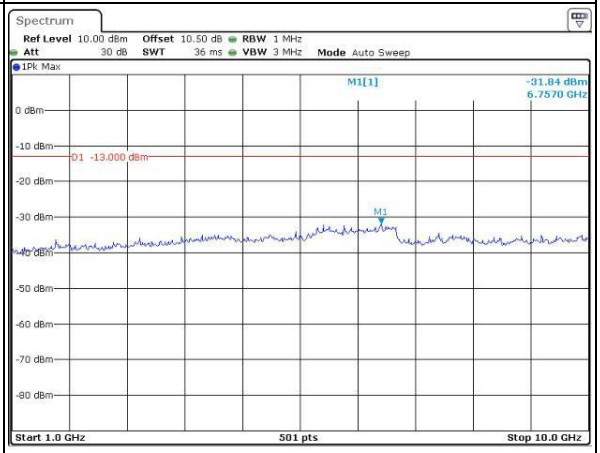
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

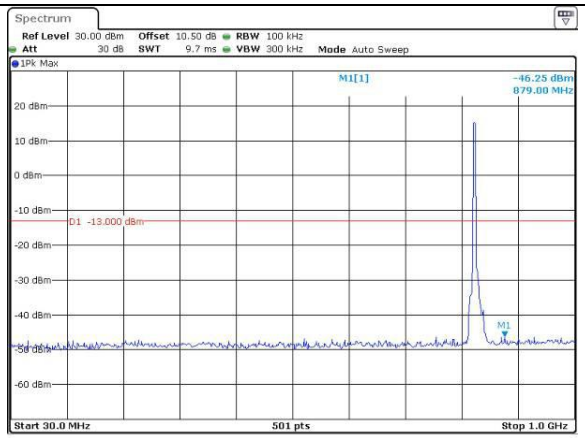
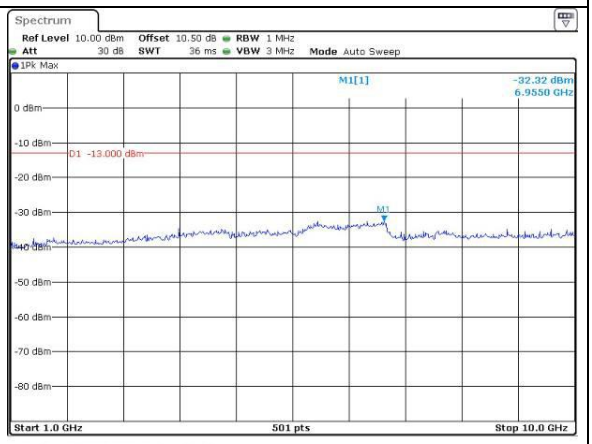
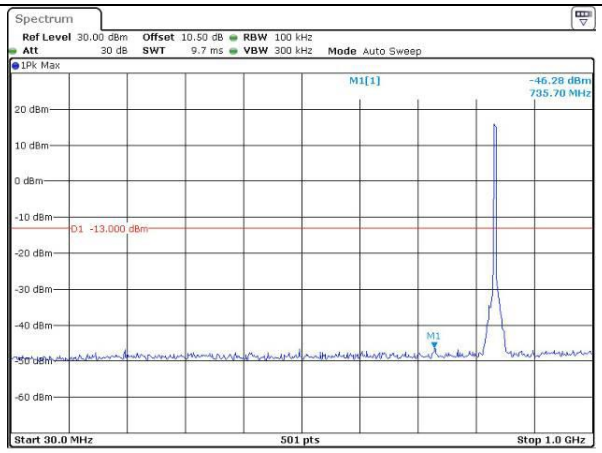
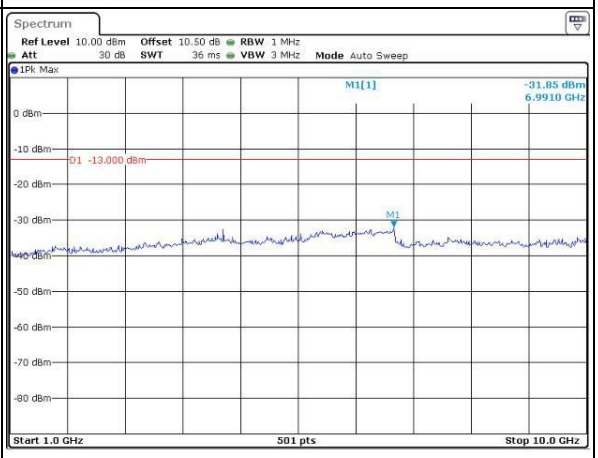
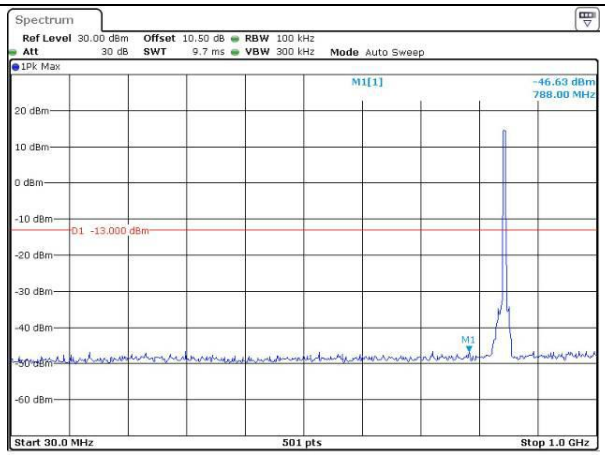
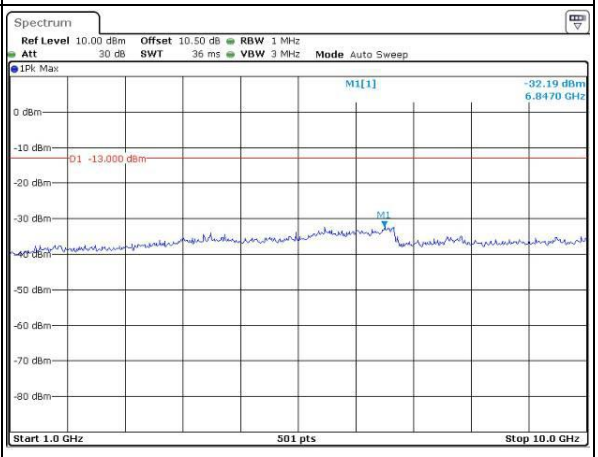
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

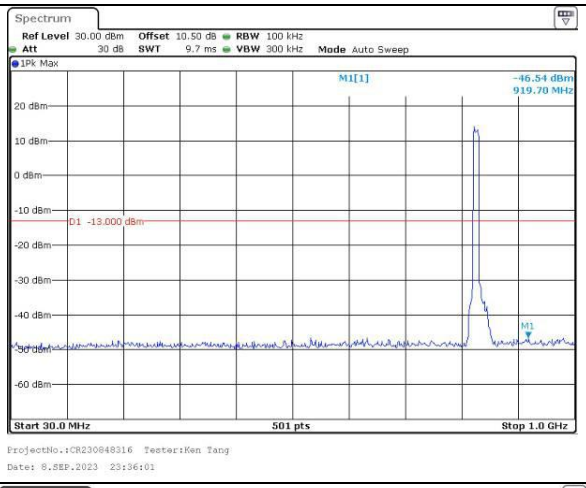
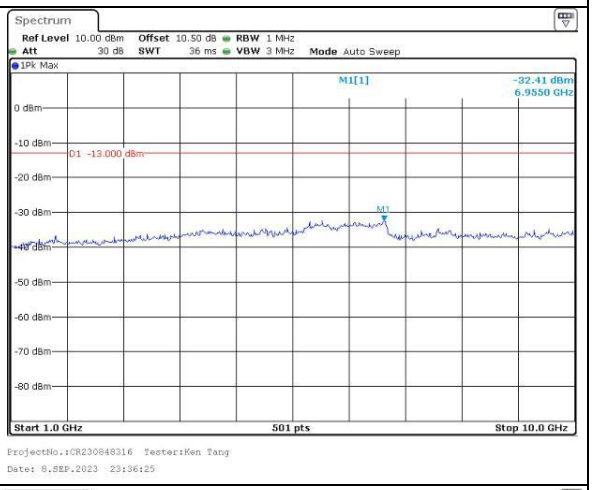
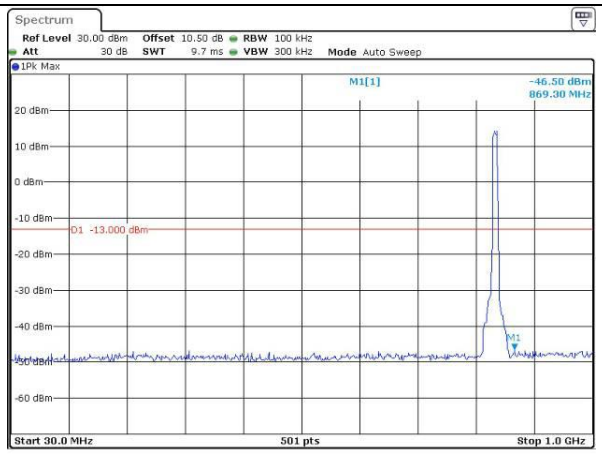
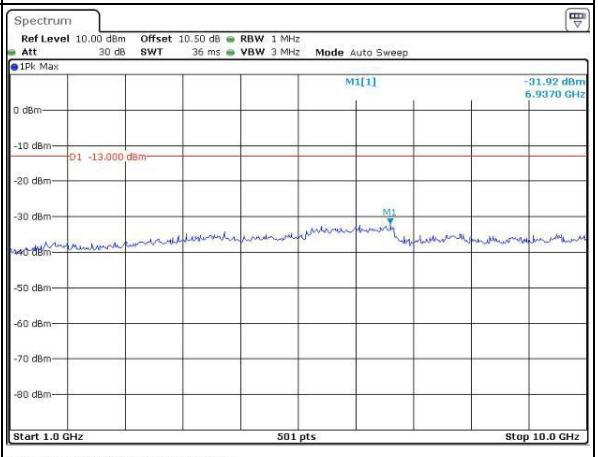
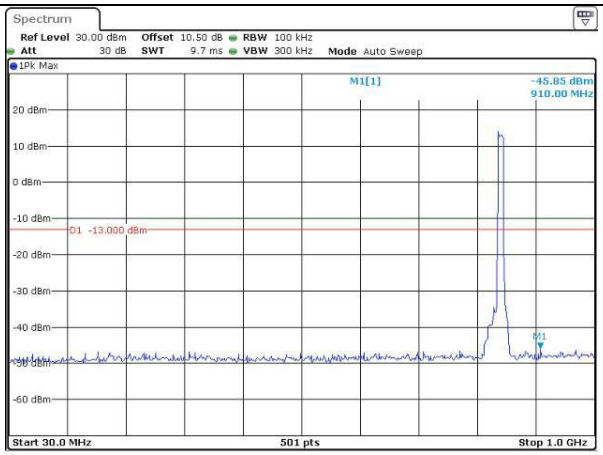
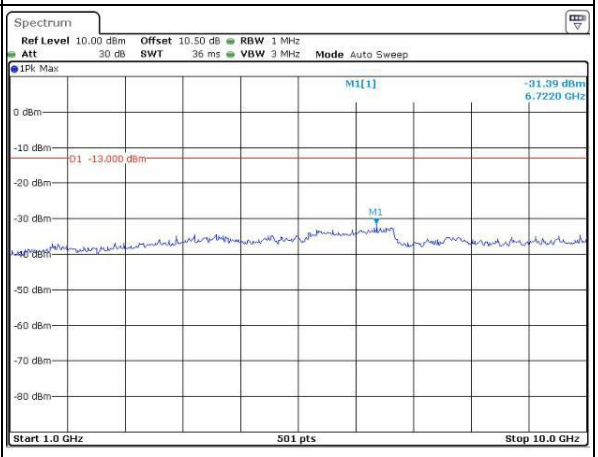
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

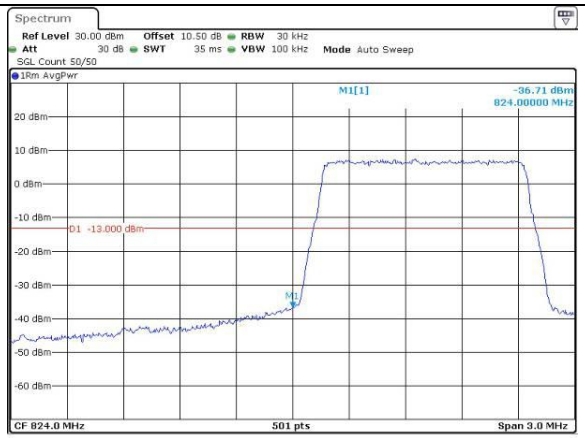
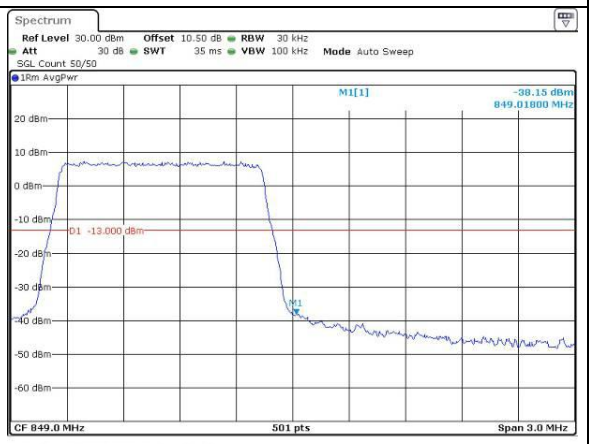
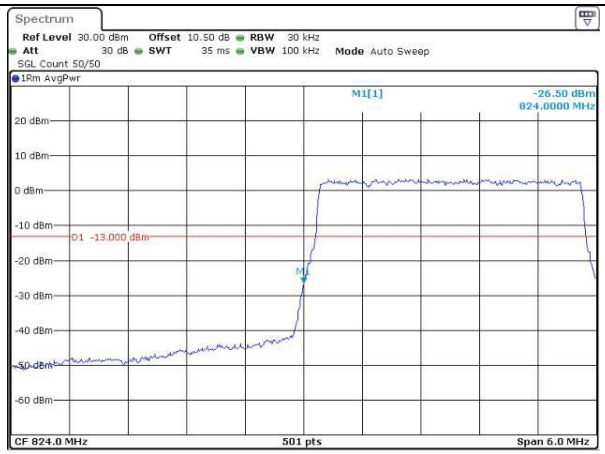
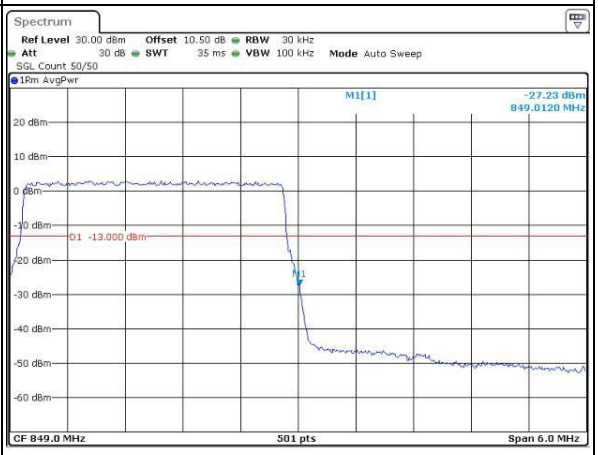
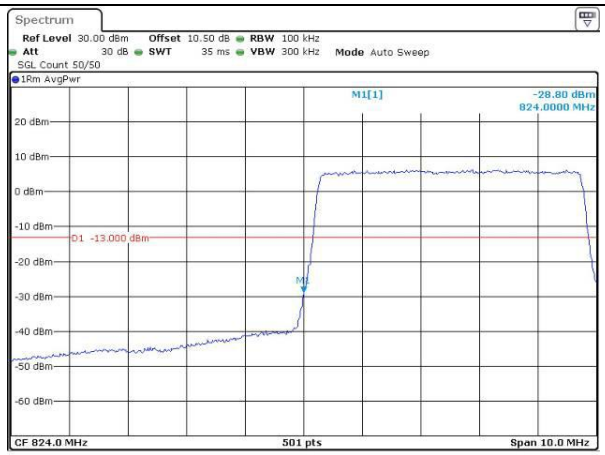
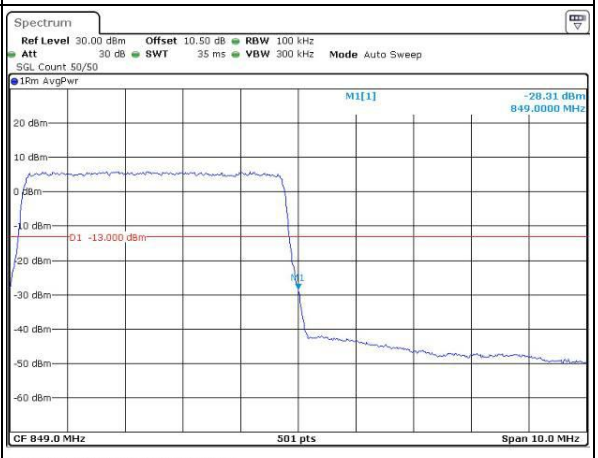
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

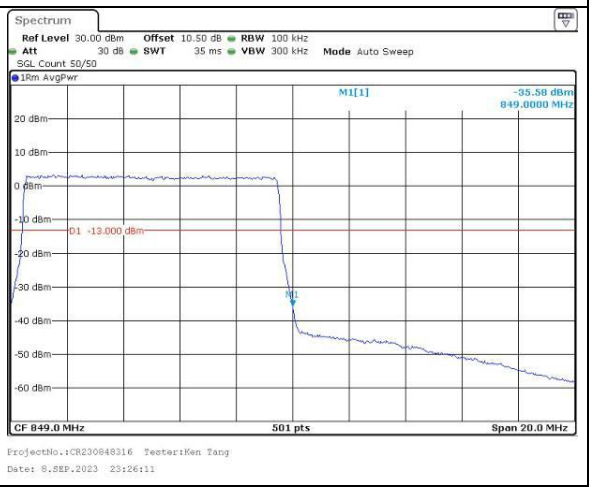
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

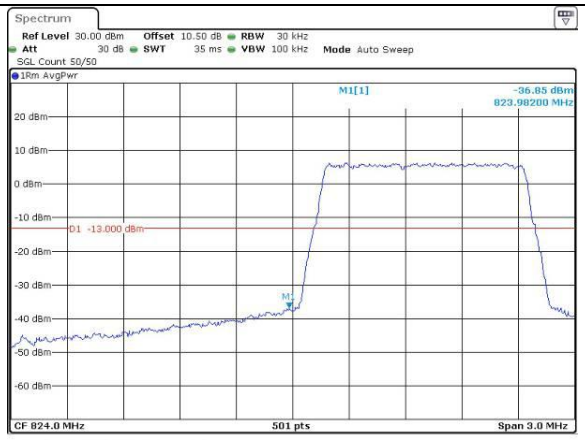
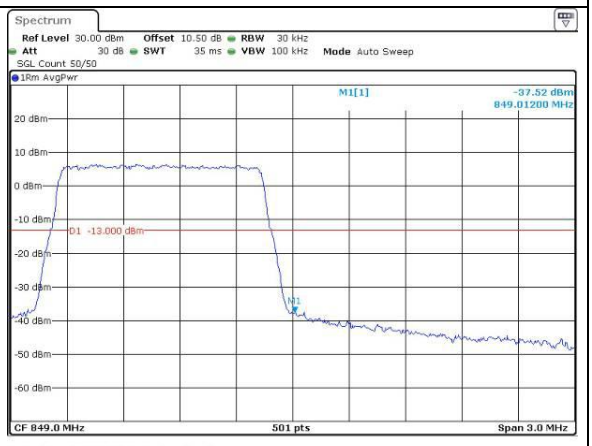
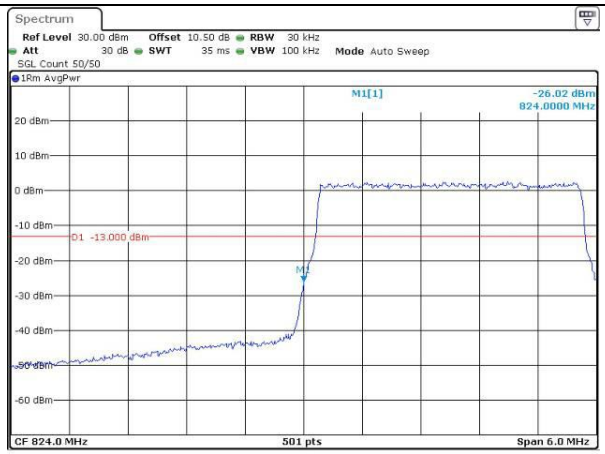
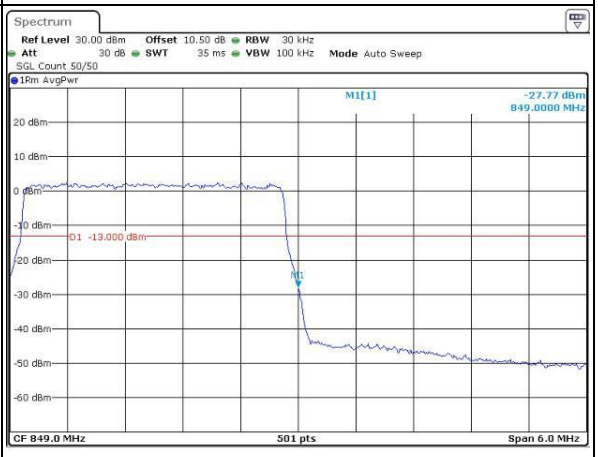
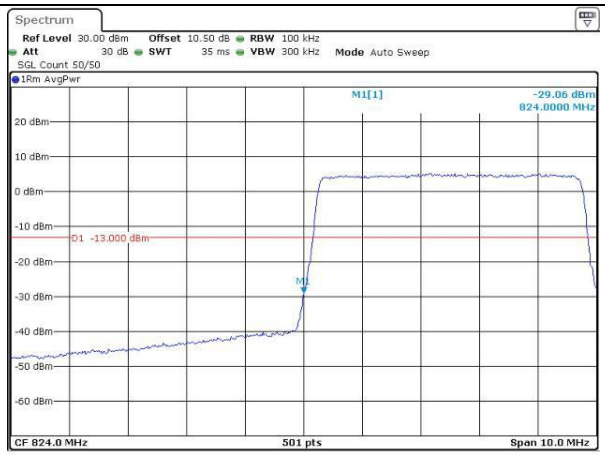
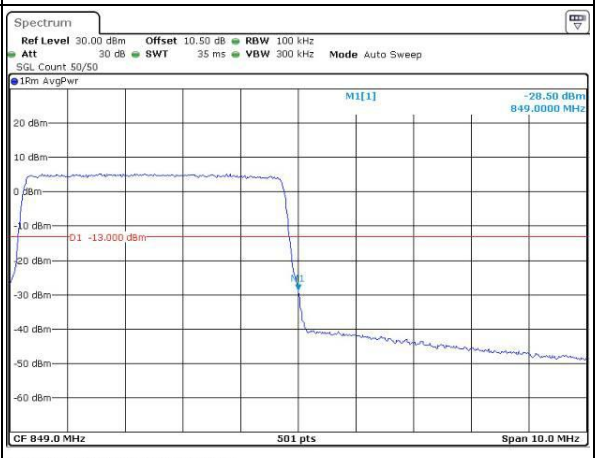
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

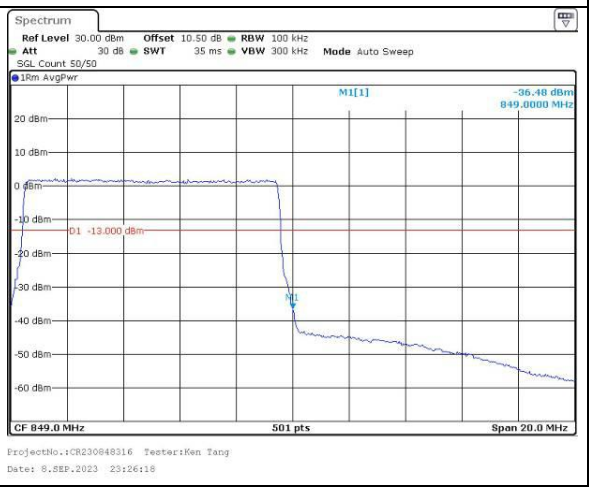
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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:	2A55-4	Test Date:	2023/9/8~ 2023/9/25
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	25.4~ 26	Relative Humidity: (%)	58	ATM Pressure: (kPa)	100.5~100.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	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
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28

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

Test Frequency For Each Mode:

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

Test Data:

FCC§2.1046;§ 27.50(h)(2)						
RF Output Power:						
Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	19.06	18.47	18.29	18.88	33
	RB1#13	19.08	18.46	18.25		
	RB1#24	19.06	18.47	18.19		
	RB15#0	18.57	18.29	17.77		
	RB15#10	18.61	18.12	17.80		
	RB25#0	18.56	18.16	17.74		
5MHz 16QAM	RB1#0	18.67	17.98	17.45	19.02	33
	RB1#13	19.22	18.23	17.94		
	RB1#24	18.78	17.59	17.53		
	RB15#0	16.52	16.84	16.83		
	RB15#10	16.60	16.71	16.86		
	RB25#0	16.58	16.78	16.84		
10MHz QPSK	RB1#0	19.17	18.72	18.39	**19.00**	33
	RB1#25	19.15	18.67	18.36		
	RB1#49	19.20	18.64	18.35		
	RB25#0	17.81	18.02	17.15		
	RB25#25	18.22	17.88	17.41		
	RB50#0	18.06	17.95	17.28		
10MHz 16QAM	RB1#0	18.58	18.02	18.22	**19.19**	33
	RB1#25	18.89	17.79	18.43		
	RB1#49	19.39	17.80	18.79		
	RB25#0	16.42	17.15	16.93		
	RB25#25	16.87	17.04	17.20		
	RB50#0	16.61	16.93	17.03		
15MHz QPSK	RB1#0	19.14	18.70	18.42	18.94	33
	RB1#38	19.00	18.61	18.27		
	RB1#74	19.04	18.54	18.17		
	RB36#0	18.02	18.69	17.36		
	RB36#39	18.34	18.10	17.46		
	RB75#0	18.17	18.39	17.38		
15MHz 16QAM	RB1#0	18.34	18.22	18.32	18.71	33
	RB1#38	18.53	17.50	18.45		
	RB1#74	18.91	17.18	18.59		
	RB36#0	16.59	17.27	16.77		
	RB36#39	16.88	16.69	16.83		
	RB75#0	16.73	16.90	16.71		

20MHz QPSK	RB1#0	19.04	18.78	18.47	18.88	33
	RB1#50	19.08	18.71	18.38		
	RB1#99	18.91	18.65	18.41		
	RB50#0	17.67	18.66	16.81		
	RB50#50	18.02	17.89	16.99		
	RB100#0	17.83	18.27	16.87		
20MHz 16QAM	RB1#0	18.38	18.74	17.78	18.66	33
	RB1#50	18.23	17.31	17.81		
	RB1#99	18.86	17.31	18.29		
	RB50#0	16.64	17.70	16.80		
	RB50#50	16.99	16.80	16.91		
	RB100#0	16.82	17.18	16.83		
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	6.26	6.2	6.29	13
	RB100#0	4.35	4.41	4.35	13
20MHz 16QAM	RB1#0	7.36	6.32	5.74	13
	RB100#0	5.94	5.91	5.91	13
				Result:	**Pass**

FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.511	4.511	4.511	5.000	5.020	5.000
5MHz 16QAM	4.511	4.531	4.511	5.020	5.020	5.000
10MHz QPSK	8.942	8.942	8.982	9.760	9.760	9.800
10MHz 16QAM	8.942	8.982	8.942	9.840	9.840	9.720
15MHz QPSK	13.473	13.473	13.473	14.880	15.000	14.820
15MHz 16QAM	13.533	13.533	13.533	15.060	14.880	15.000
20MHz QPSK	17.964	17.964	18.044	19.600	19.760	19.600
20MHz 16QAM	17.964	18.044	18.044	19.760	19.680	19.760
Note: The test plots please refer to the Plots of Occupied Bandwidth						

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

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

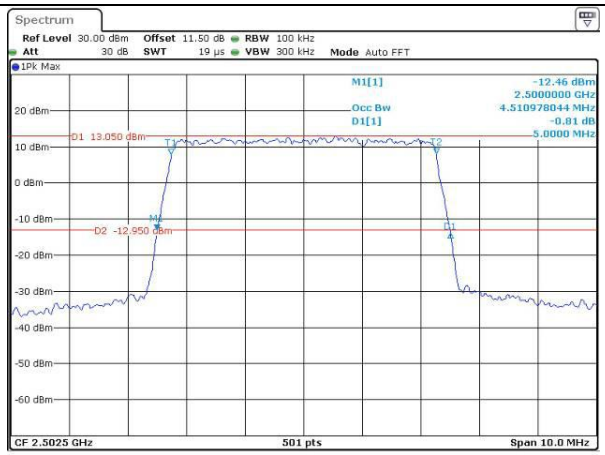
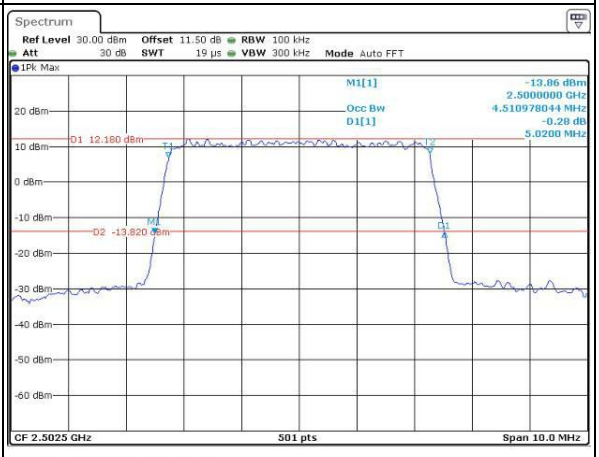
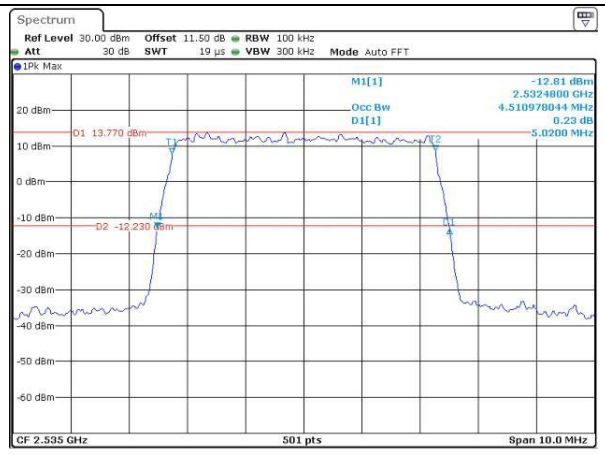
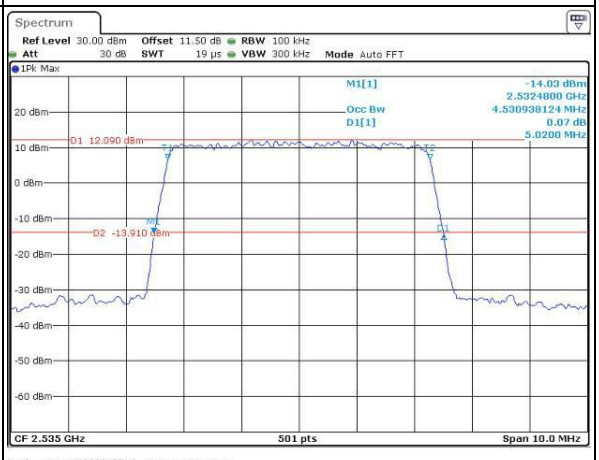
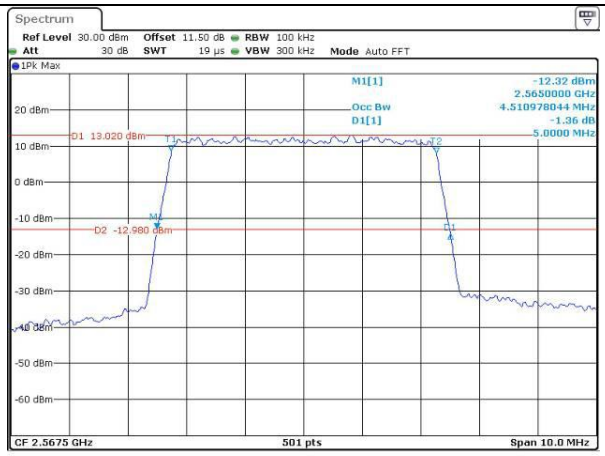
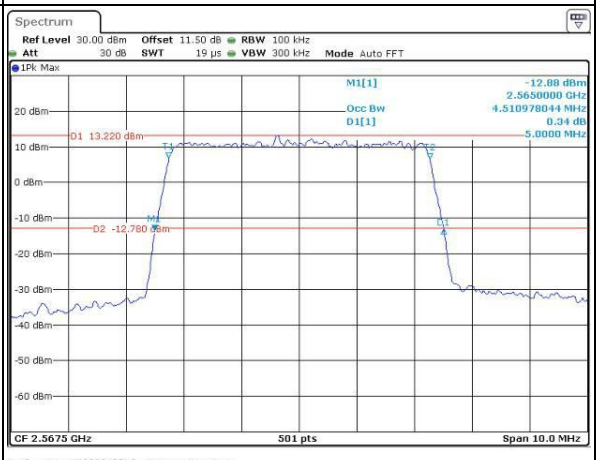
FCC §2.1051, § 27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

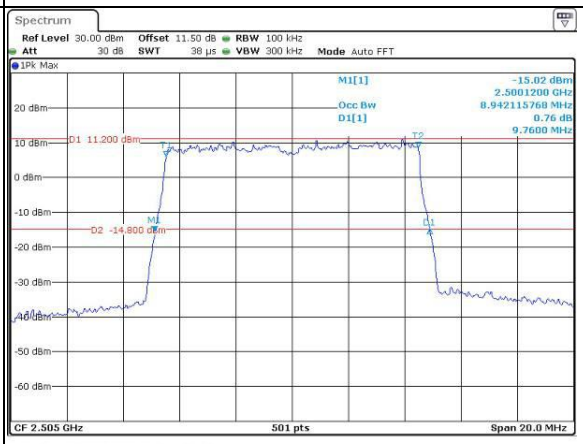
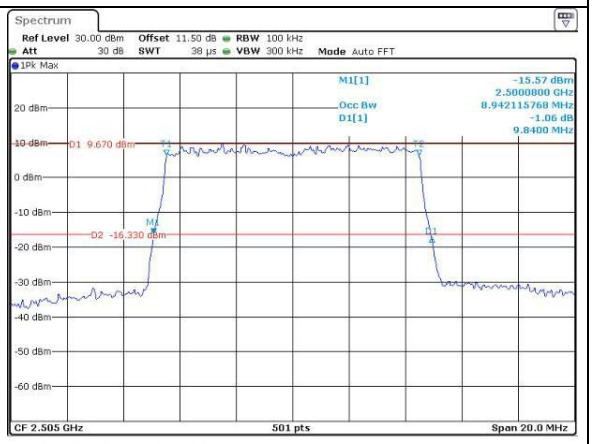
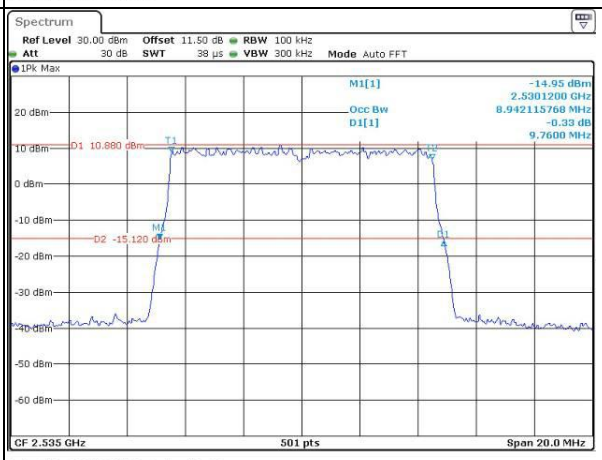
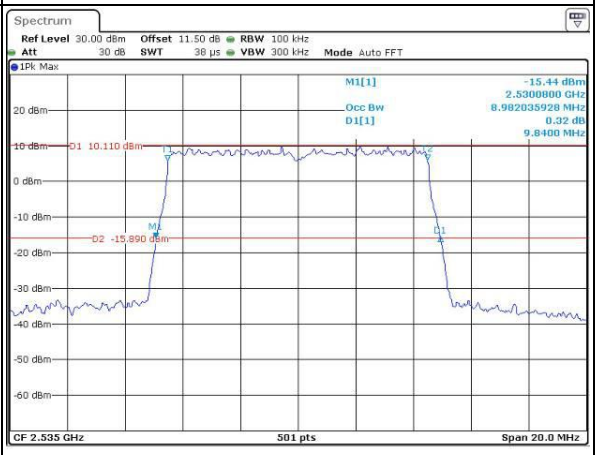
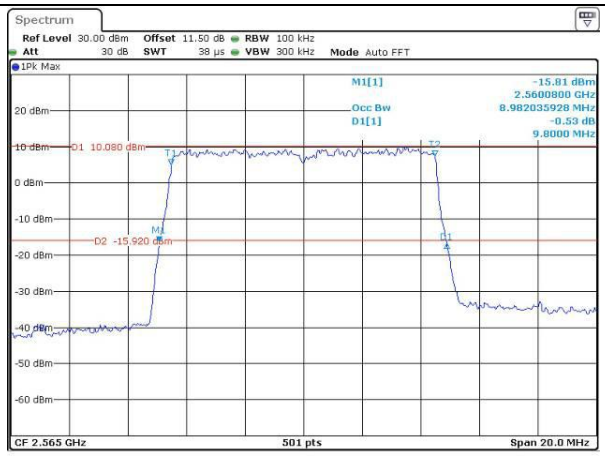
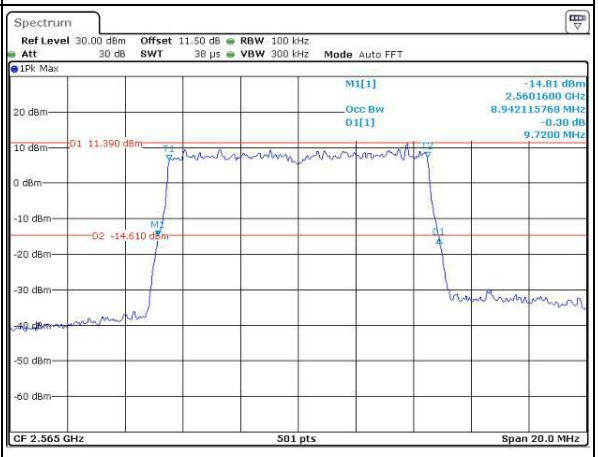
FCC §2.1055, §27.54: Frequency Stability

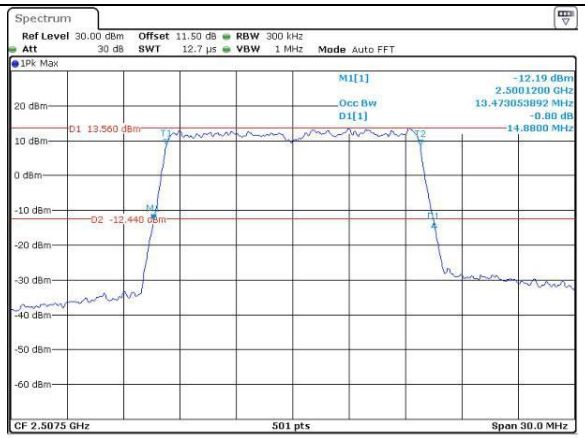
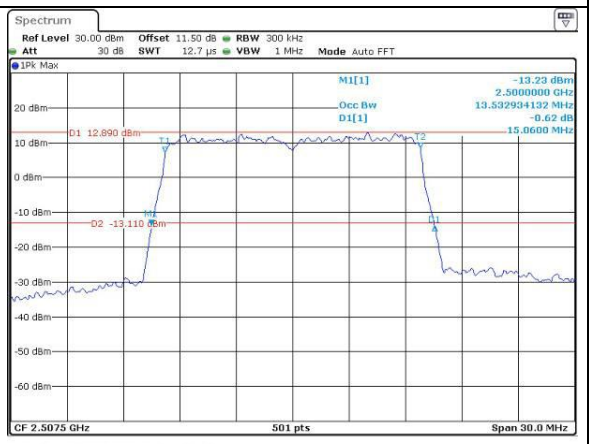
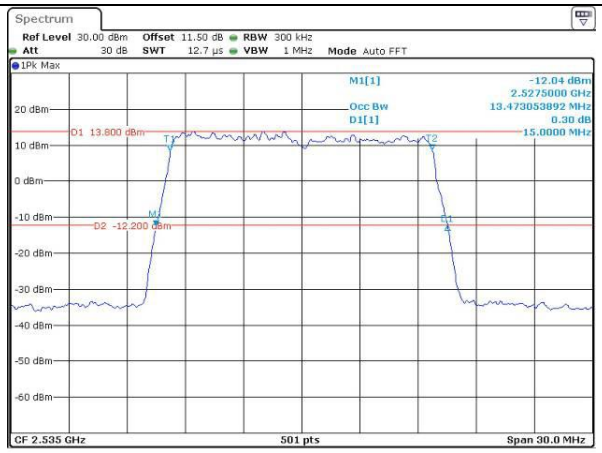
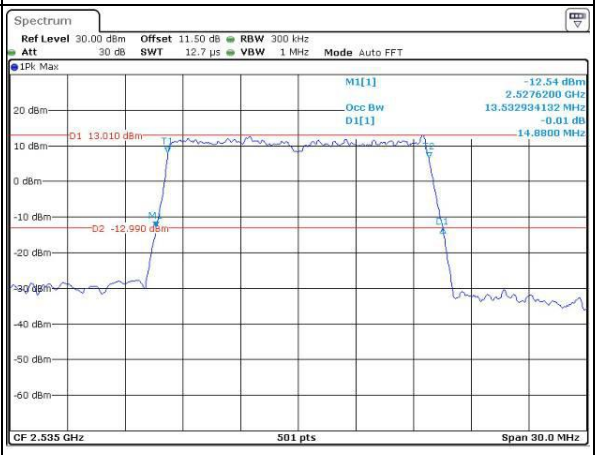
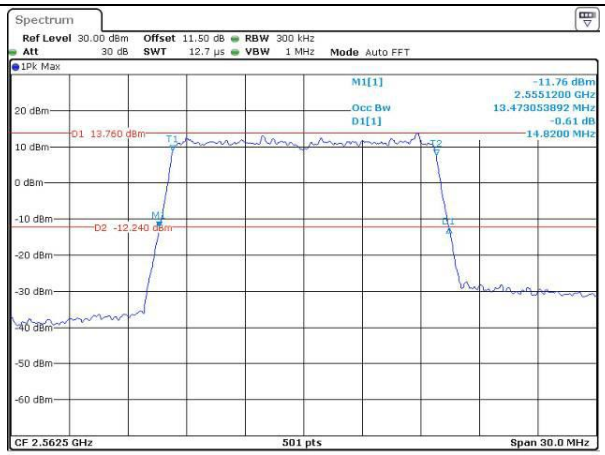
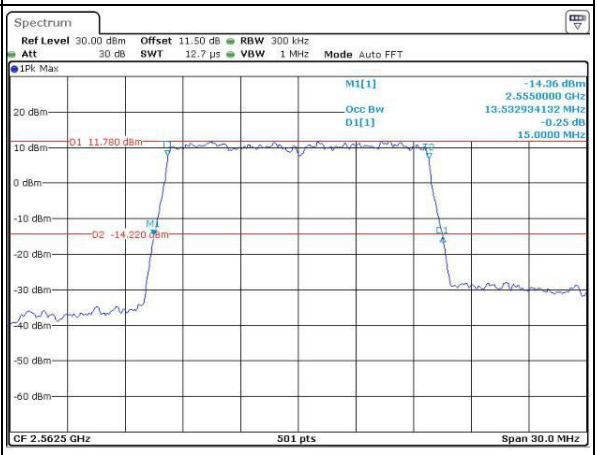
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2500.004	2500.00	2569.996	2570
	-20	3.85	2500.015	2500.00	2569.994	2570
	-10	3.85	2500.008	2500.00	2569.984	2570
	0	3.85	2500.006	2500.00	2569.992	2570
	10	3.85	2500.005	2500.00	2569.984	2570
	20	3.85	2500.018	2500.00	2569.997	2570
	30	3.85	2500.004	2500.00	2569.998	2570
	40	3.85	2500.002	2500.00	2569.991	2570
	50	3.85	2500.003	2500.00	2569.994	2570
Frequency Stability vs. Voltage	20	3.45	2500.014	2500.00	2569.984	2570
	20	4.4	2500.019	2500.00	2569.990	2570
					Result:	**Pass**

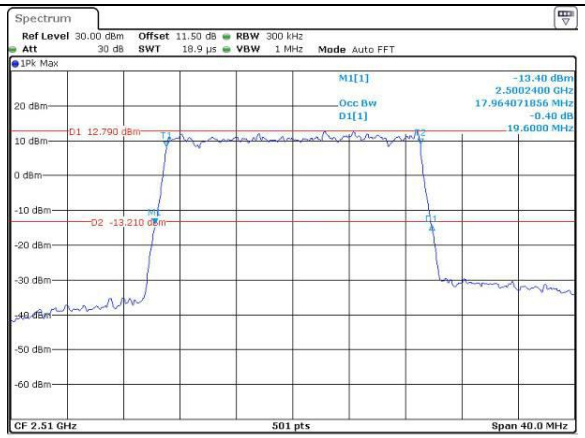
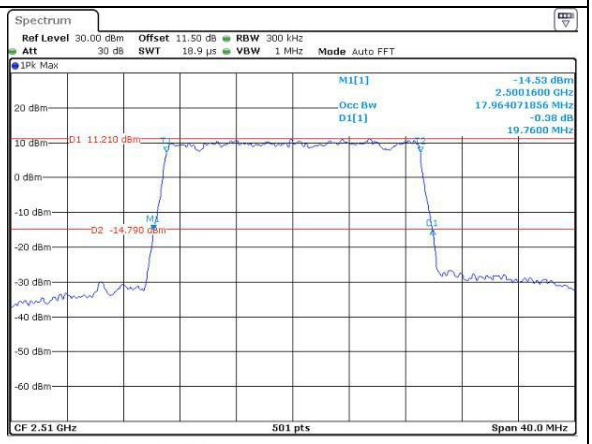
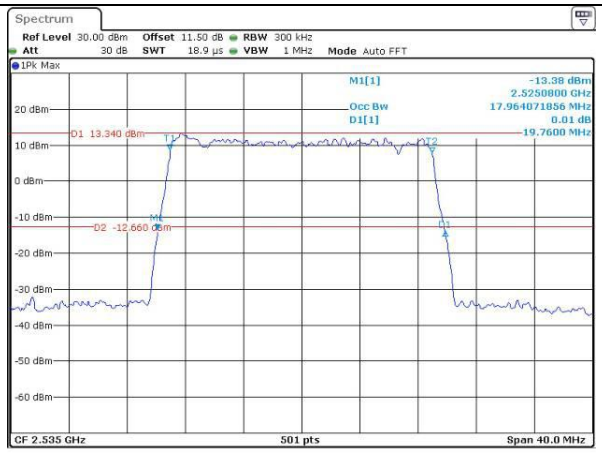
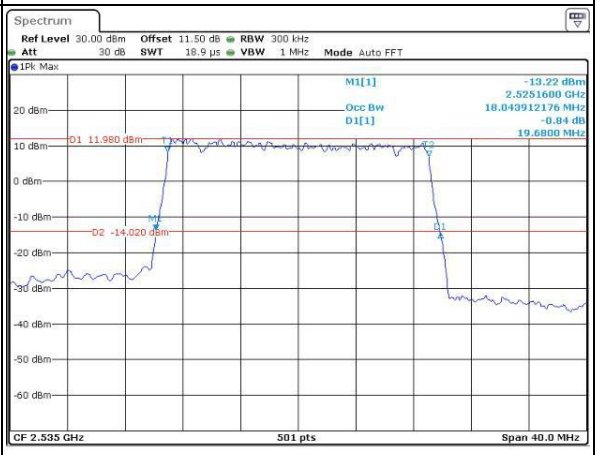
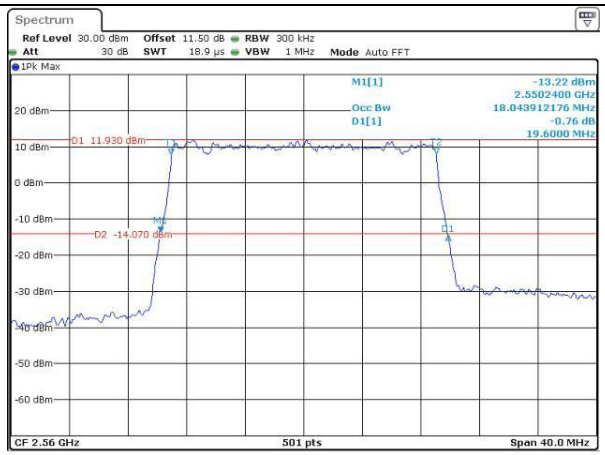
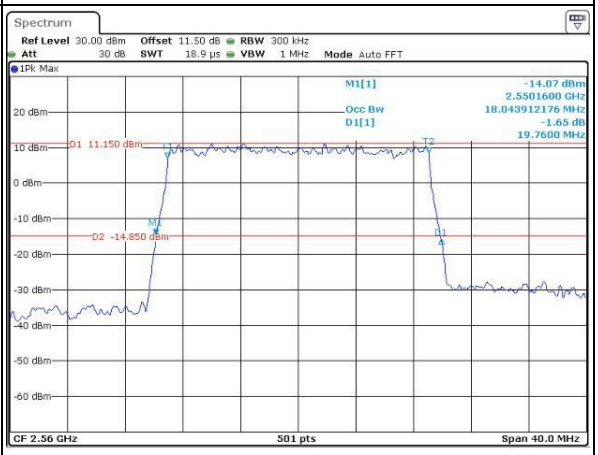
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2500.011	2500.00	2569.995	2570
	-20	3.85	2500.005	2500.00	2569.982	2570
	-10	3.85	2500.007	2500.00	2569.995	2570
	0	3.85	2500.008	2500.00	2569.995	2570
	10	3.85	2500.001	2500.00	2569.988	2570
	20	3.85	2500.018	2500.00	2569.989	2570
	30	3.85	2500.006	2500.00	2569.982	2570
	40	3.85	2500.017	2500.00	2569.983	2570
	50	3.85	2500.002	2500.00	2569.997	2570
Frequency Stability vs. Voltage	20	3.45	2500.019	2500.00	2569.989	2570
	20	4.4	2500.007	2500.00	2569.985	2570
					Result:	**Pass**

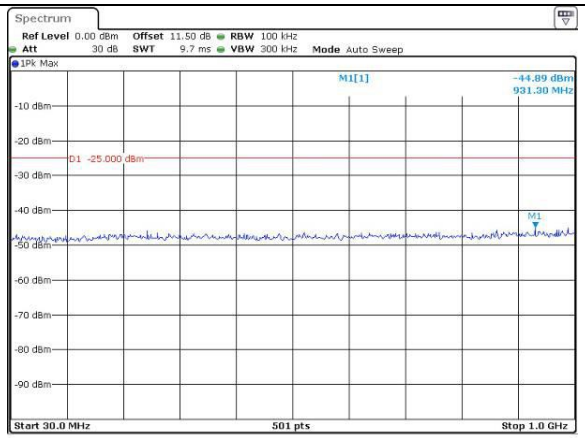
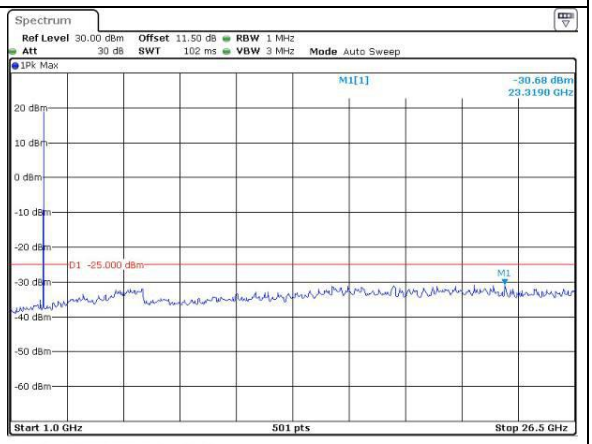
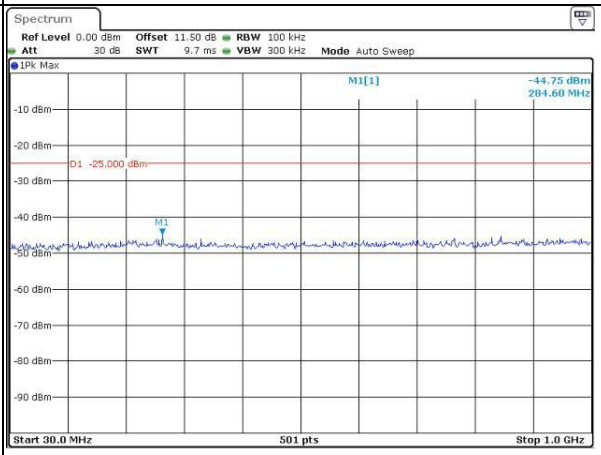
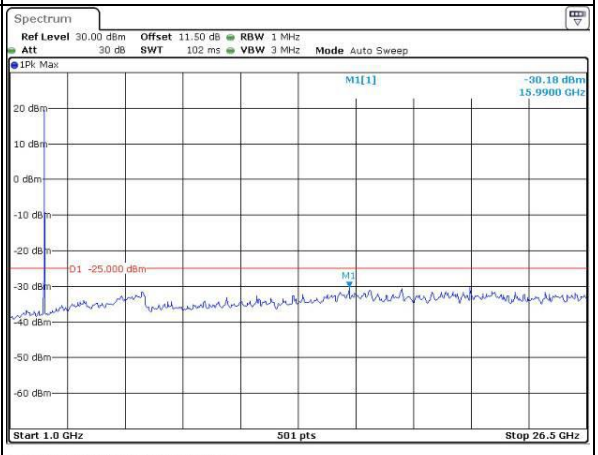
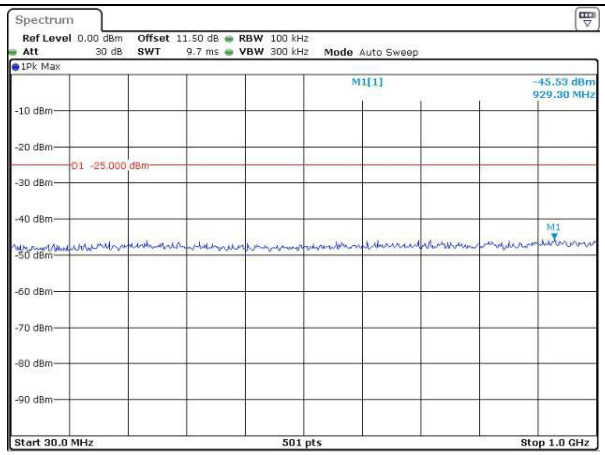
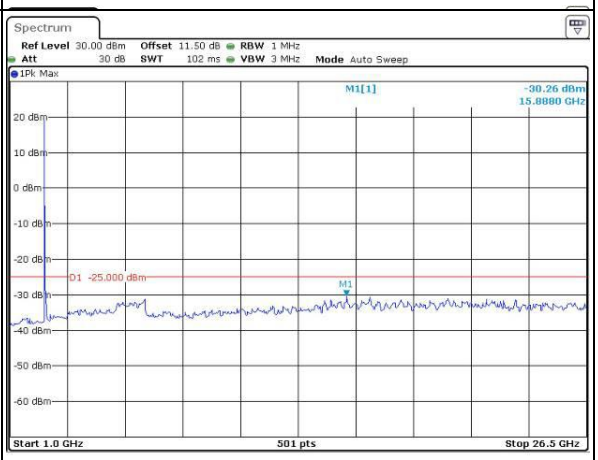
Test Plots(Note: The 11.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

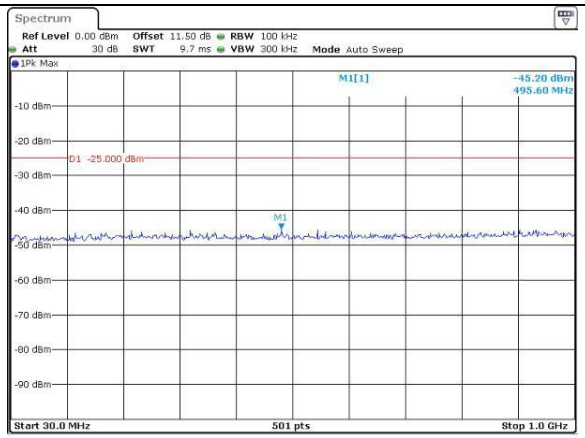
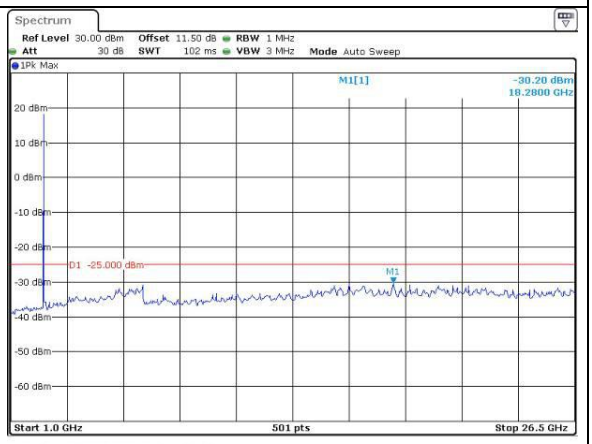
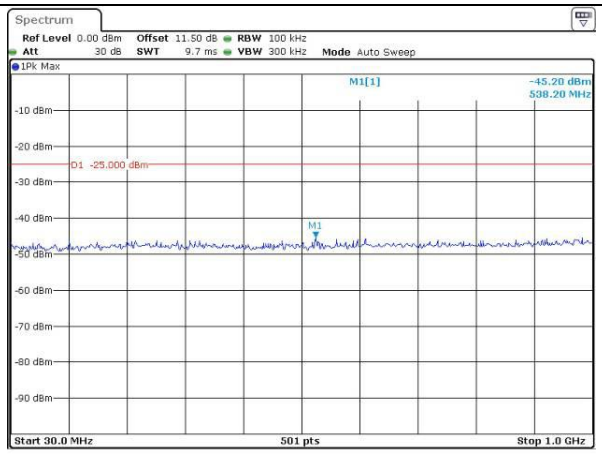
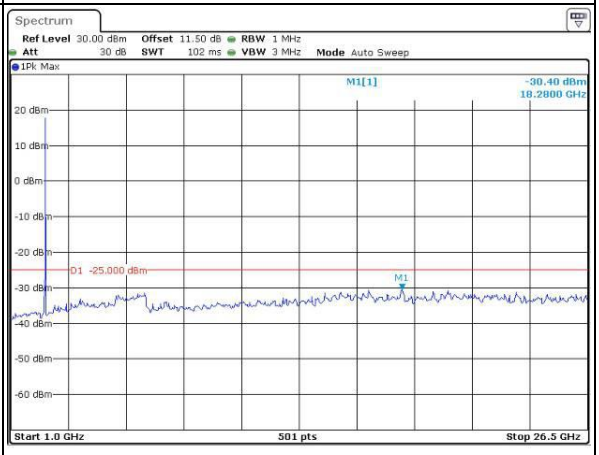
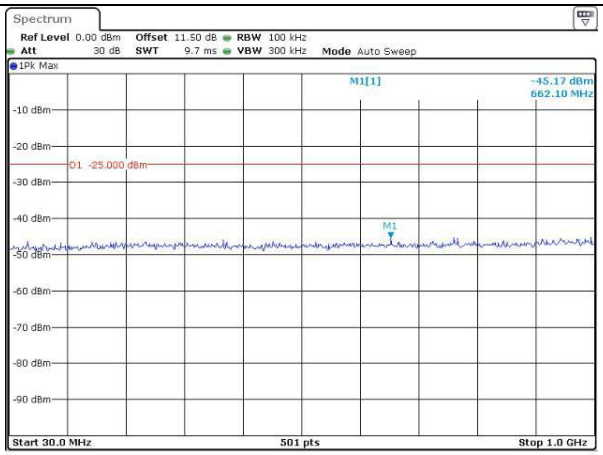
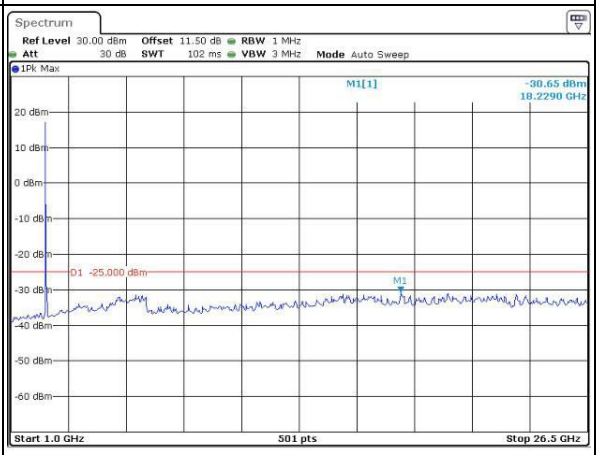
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

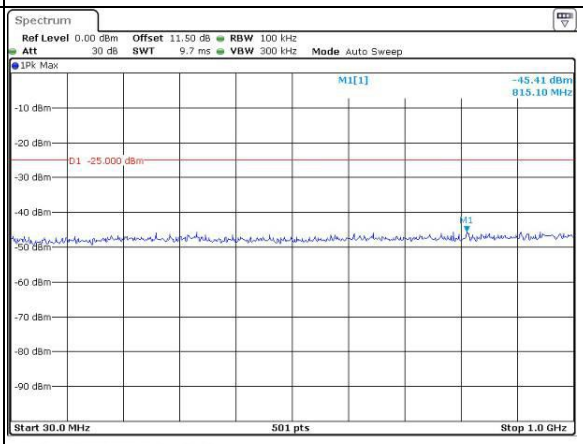
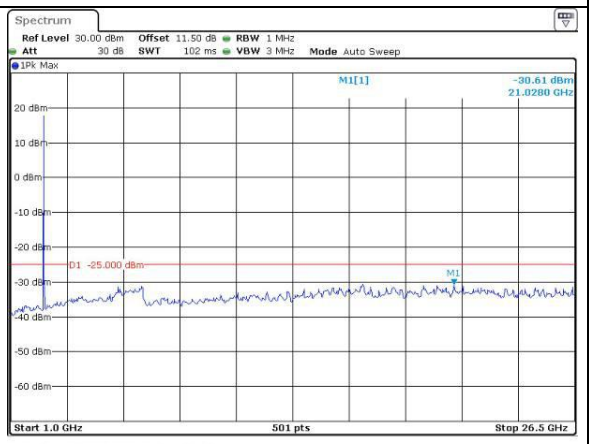
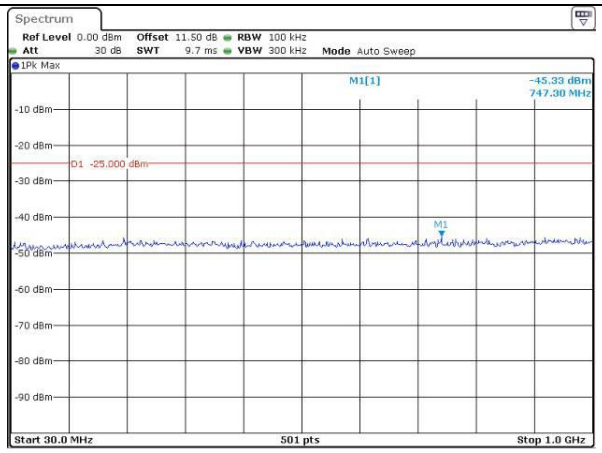
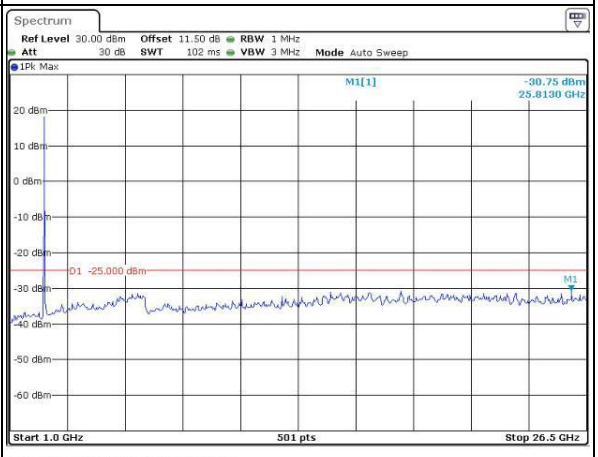
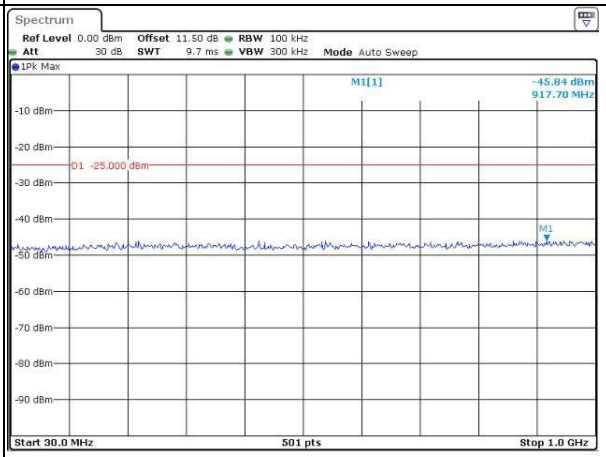
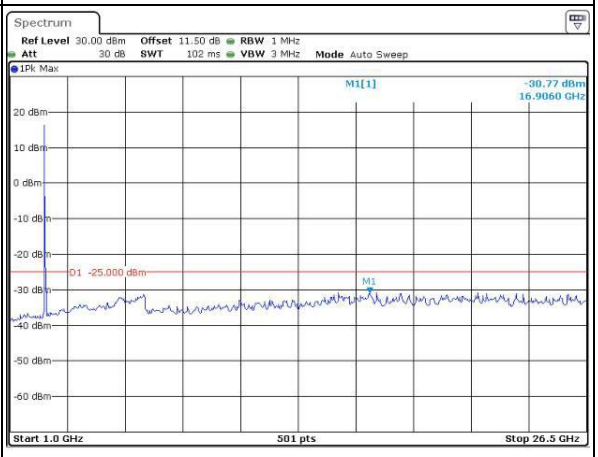
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

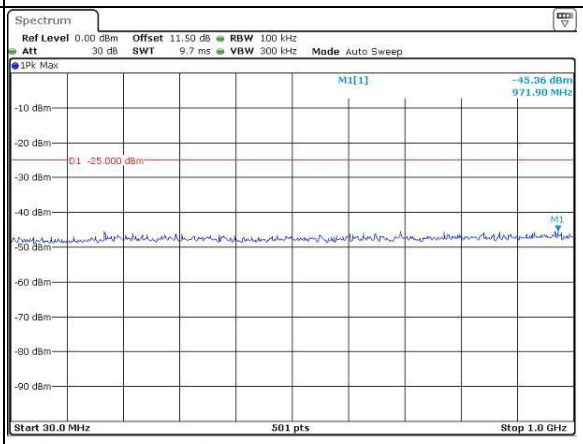
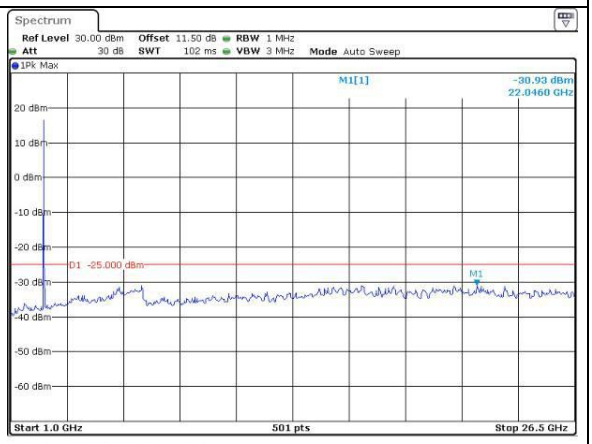
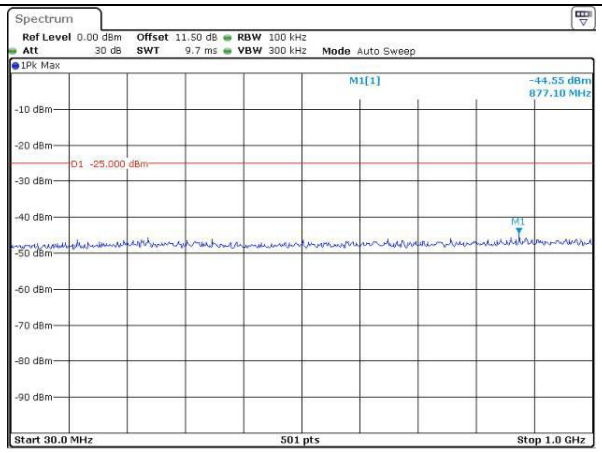
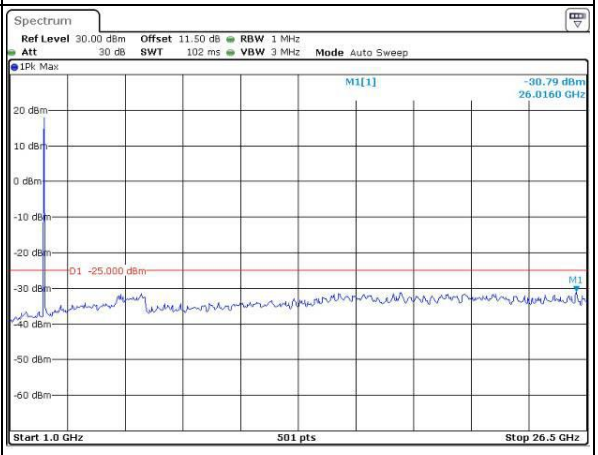
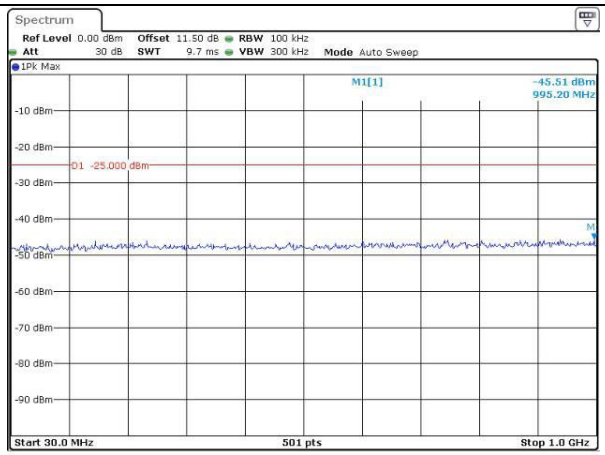
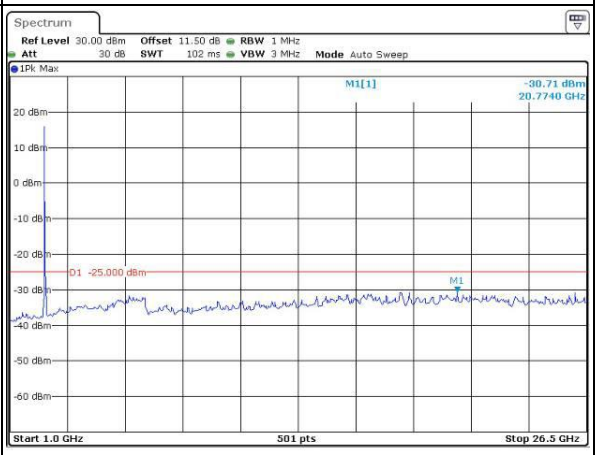
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

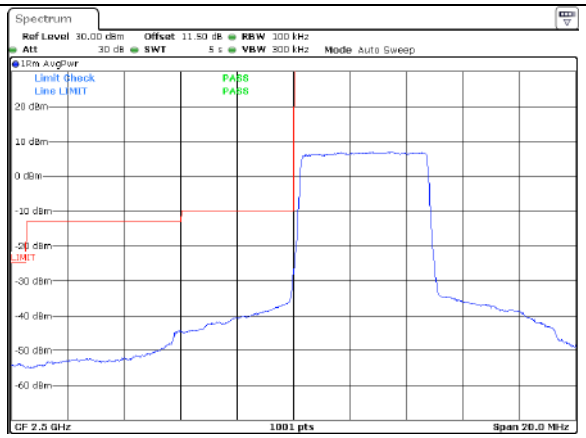
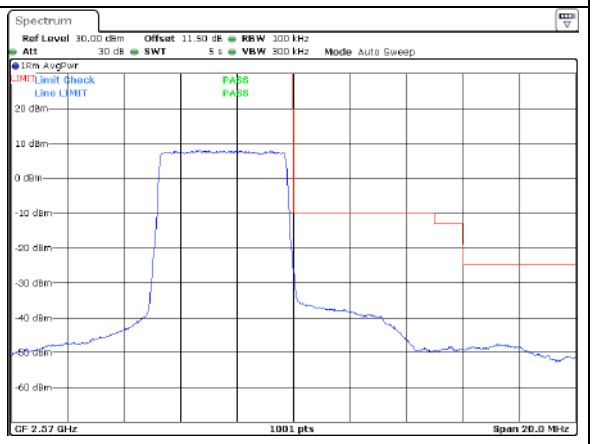
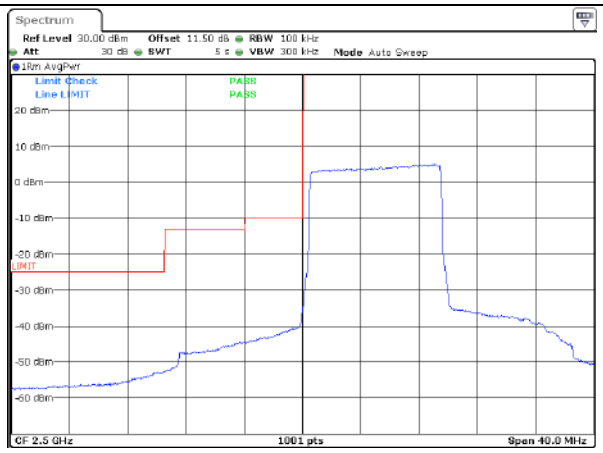
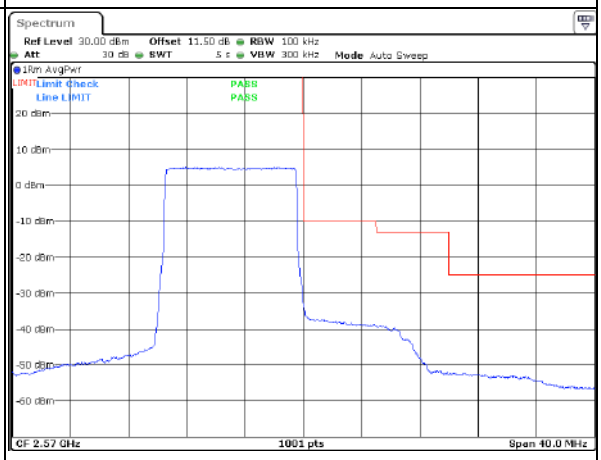
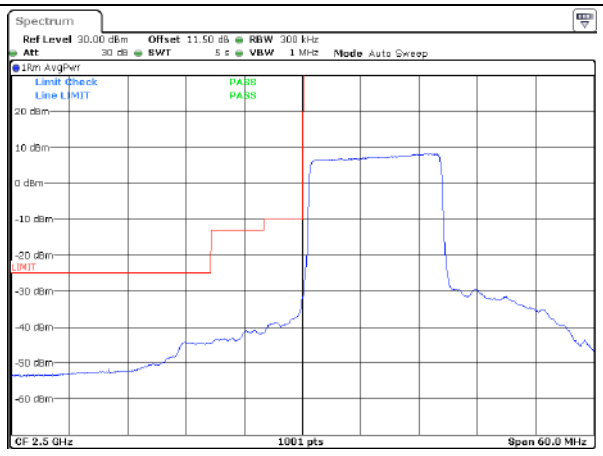
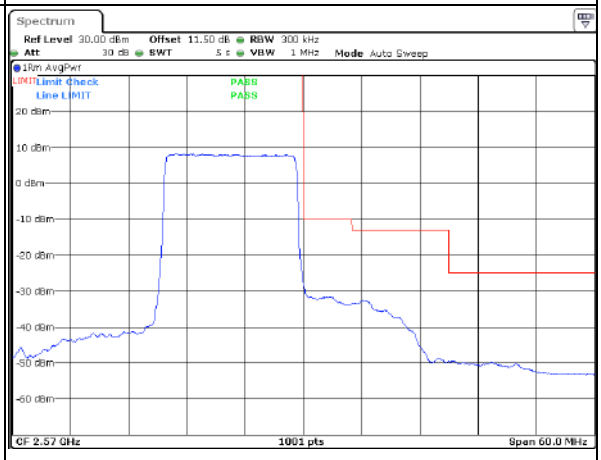
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

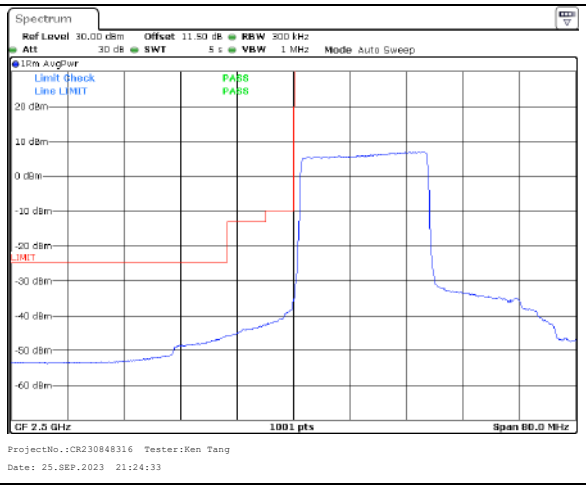
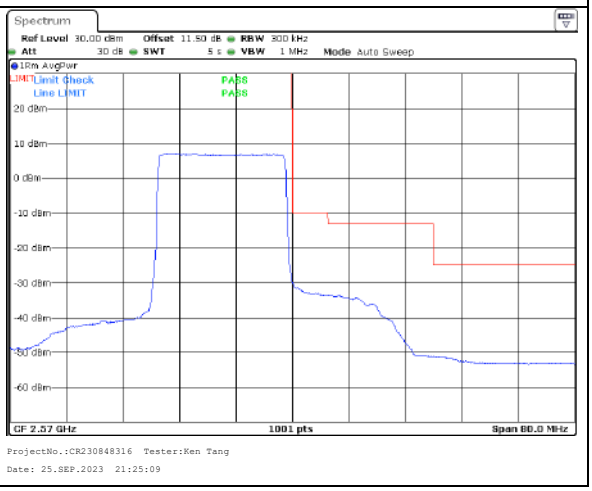
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

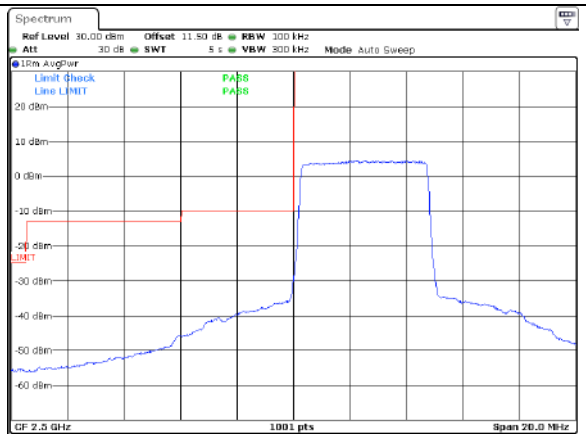
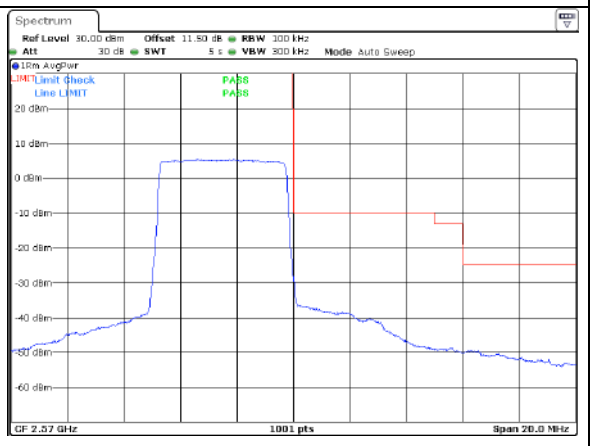
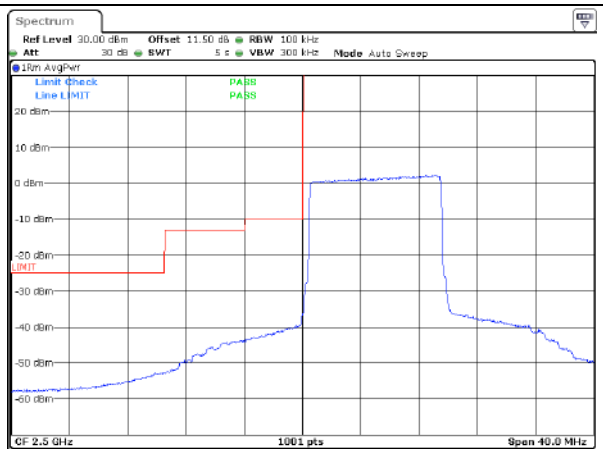
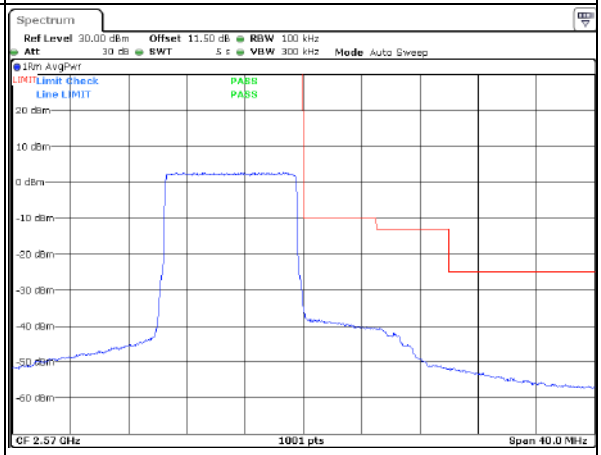
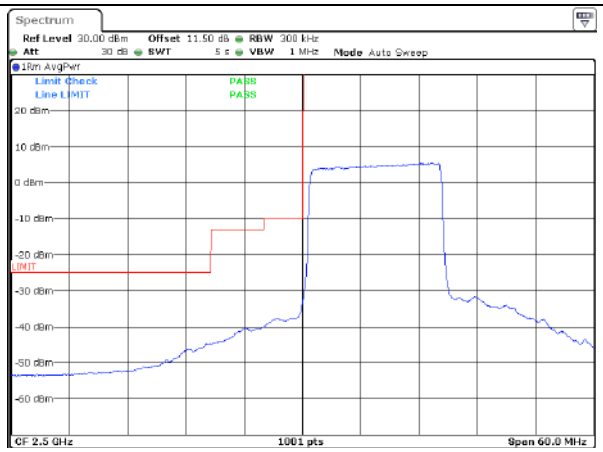
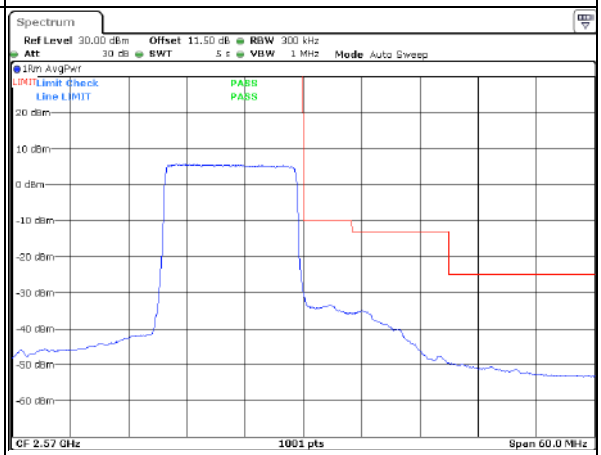
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

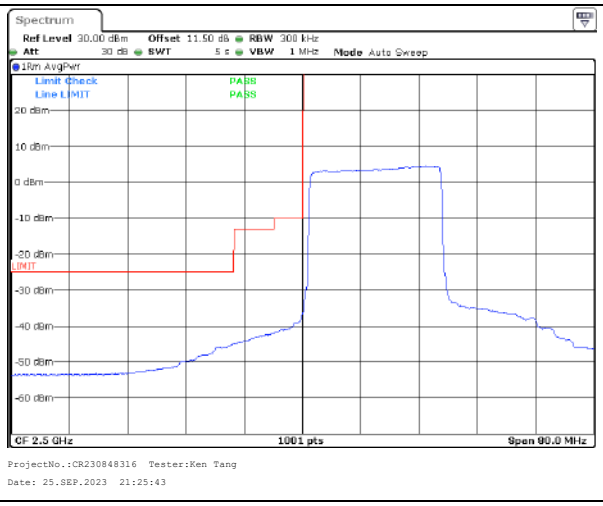
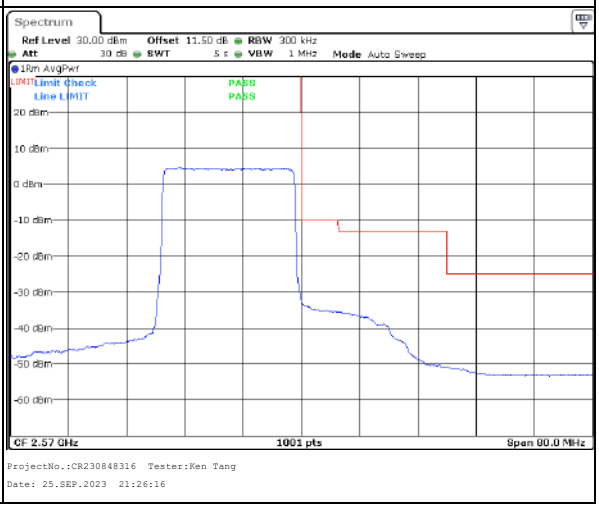
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

4.12 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2A55-4	Test Date:	2023/9/8~ 2023/9/25
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	25.4~ 26	Relative Humidity: (%)	58	ATM Pressure: (kPa)	100.5~100.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	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
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28

** 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:

FCC§2.1046;§ 27.50(h)(2)

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.22	20.93	20.95	21.13	33
	RB1#13	21.23	20.93	20.98		
	RB1#24	21.33	20.91	21.07		
	RB15#0	20.08	20.13	20.06		
	RB15#10	20.16	20.14	19.98		
	RB25#0	20.18	20.11	19.99		
5MHz 16QAM	RB1#0	19.93	19.86	19.99	19.96	33
	RB1#13	20.13	19.90	19.84		
	RB1#24	20.16	19.69	19.94		
	RB15#0	19.32	19.23	19.39		
	RB15#10	19.24	19.17	19.30		
	RB25#0	19.26	19.32	18.96		
10MHz QPSK	RB1#0	21.39	21.15	21.25	21.24	33
	RB1#25	21.39	21.10	21.24		
	RB1#49	21.44	21.13	21.32		
	RB25#0	20.10	20.14	20.08		
	RB25#25	20.24	20.21	20.17		
	RB50#0	20.04	20.09	20.12		
10MHz 16QAM	RB1#0	20.99	20.12	20.29	**20.79**	33
	RB1#25	20.80	20.08	20.32		
	RB1#49	20.98	20.12	20.15		
	RB25#0	19.34	19.62	19.14		
	RB25#25	19.42	19.69	19.10		
	RB50#0	19.36	19.25	19.18		
15MHz QPSK	RB1#0	21.40	20.98	21.27	21.26	33
	RB1#38	21.36	21.10	21.32		
	RB1#74	21.46	21.03	21.20		
	RB36#0	20.18	20.16	20.10		
	RB36#39	20.16	20.12	20.22		
	RB75#0	20.08	20.13	20.09		
15MHz 16QAM	RB1#0	20.95	20.16	20.20	20.75	33
	RB1#38	20.87	20.21	20.33		
	RB1#74	20.82	20.36	20.26		
	RB36#0	19.12	19.50	19.22		
	RB36#39	19.25	19.47	19.16		
	RB75#0	19.38	19.26	19.18		

20MHz QPSK	RB1#0	21.04	21.52	20.92	**21.32**	33
	RB1#50	21.10	21.42	20.93		
	RB1#99	21.07	21.47	20.93		
	RB50#0	20.15	20.15	20.10		
	RB50#50	20.27	20.07	20.16		
	RB100#0	20.19	20.09	20.18		
20MHz 16QAM	RB1#0	20.14	20.76	20.57	20.56	33
	RB1#50	20.15	20.58	20.60		
	RB1#99	20.02	20.60	20.68		
	RB50#0	19.31	19.31	19.32		
	RB50#50	19.44	19.33	19.29		
	RB100#0	19.17	19.21	19.25		
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	5.00	7.66	3.66	13
	RB100#0	6.33	6.43	4.52	13
20MHz 16QAM	RB1#0	5.91	8.36	6.36	13
	RB100#0	6.26	8.36	8.44	13
				Result:	**Pass**

FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.511	4.511	4.511	5.080	5.020	5.100
5MHz 16QAM	4.511	4.531	4.511	5.160	5.140	5.220
10MHz QPSK	8.942	8.942	8.942	9.840	9.800	9.720
10MHz 16QAM	8.942	8.942	8.942	9.720	10.120	9.840
15MHz QPSK	13.533	13.533	13.533	14.940	15.180	15.480
15MHz 16QAM	13.533	13.533	13.533	14.940	15.000	15.000
20MHz QPSK	17.884	18.044	18.044	19.520	19.760	19.520
20MHz 16QAM	17.964	17.964	17.964	19.360	19.520	19.600
Note: The test plots please refer to the Plots of Occupied Bandwidth						

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

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

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

FCC §2.1055, §27.54: 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	3.85	2570.016	2570.00	2619.982	2620
	-20	3.85	2570.015	2570.00	2619.981	2620
	-10	3.85	2570.019	2570.00	2619.989	2620
	0	3.85	2570.019	2570.00	2619.983	2620
	10	3.85	2570.013	2570.00	2619.987	2620
	20	3.85	2570.010	2570.00	2619.991	2620
	30	3.85	2570.003	2570.00	2619.998	2620
	40	3.85	2570.011	2570.00	2619.980	2620
	50	3.85	2570.009	2570.00	2619.999	2620
Frequency Stability vs. Voltage	20	3.45	2570.013	2570.00	2619.995	2620
	20	4.4	2570.001	2570.00	2619.982	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	3.85	2570.005	2570.00	2619.995	2620
	-20	3.85	2570.006	2570.00	2619.994	2620
	-10	3.85	2570.018	2570.00	2619.991	2620
	0	3.85	2570.008	2570.00	2619.996	2620
	10	3.85	2570.015	2570.00	2619.999	2620
	20	3.85	2570.020	2570.00	2619.985	2620
	30	3.85	2570.006	2570.00	2619.995	2620
	40	3.85	2570.019	2570.00	2619.989	2620
	50	3.85	2570.015	2570.00	2619.984	2620
Frequency Stability vs. Voltage	20	3.45	2570.003	2570.00	2619.985	2620
	20	4.4	2570.013	2570.00	2619.997	2620
					Result:	**Pass**