FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

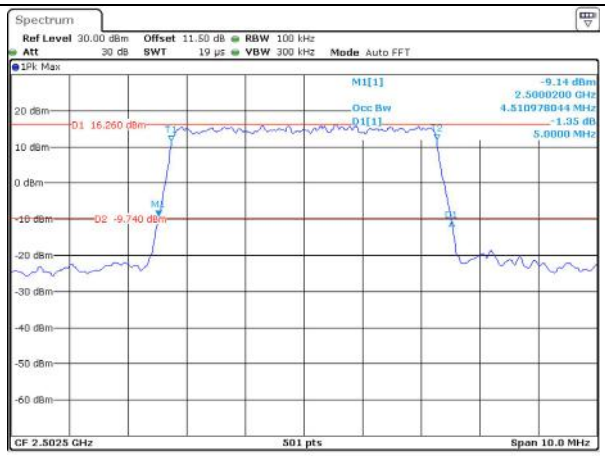
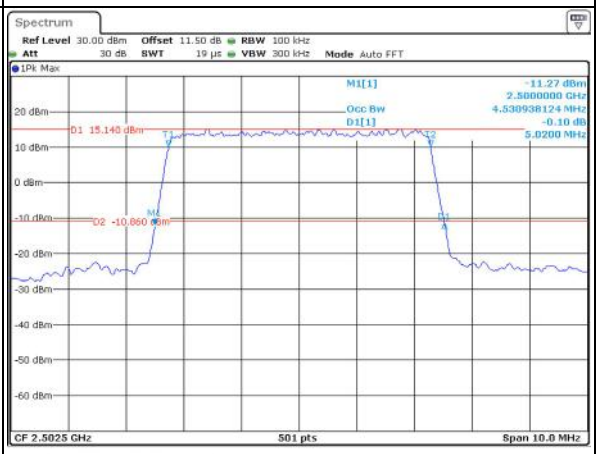
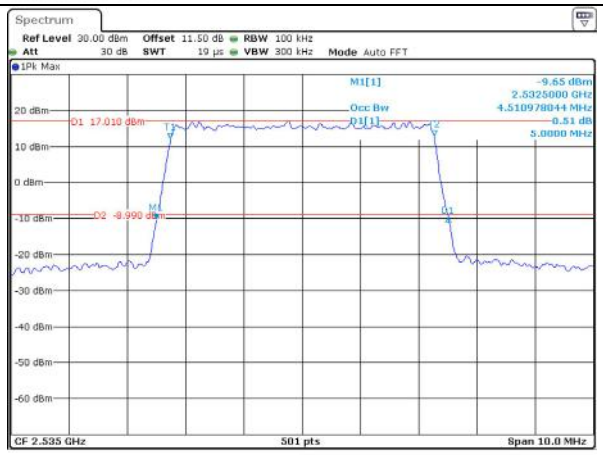
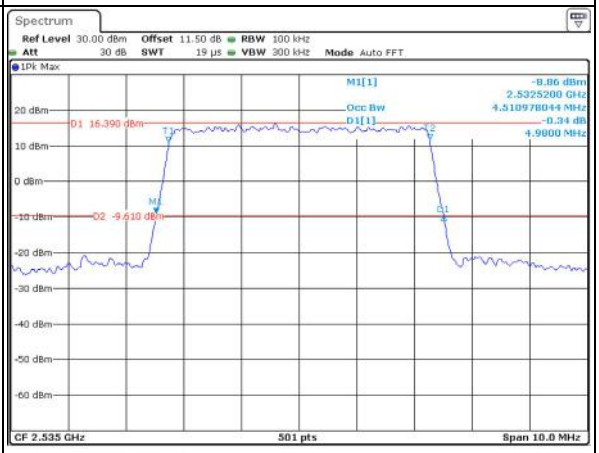
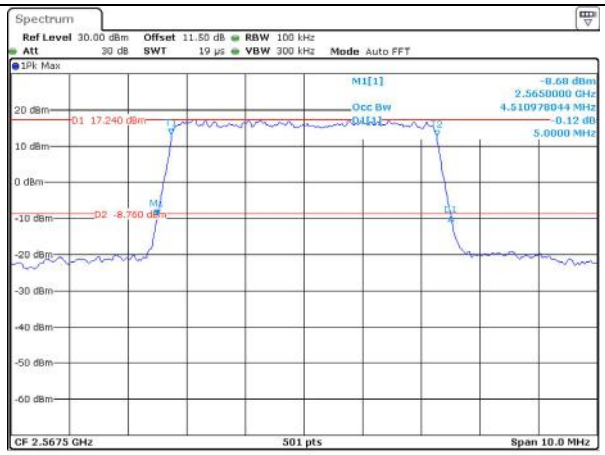
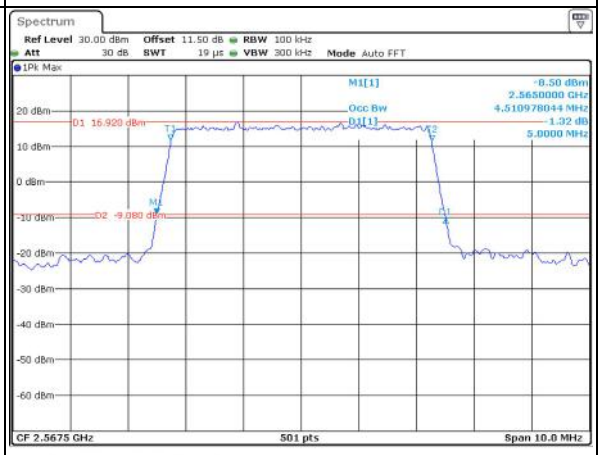
FCC §2.1051, § 27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

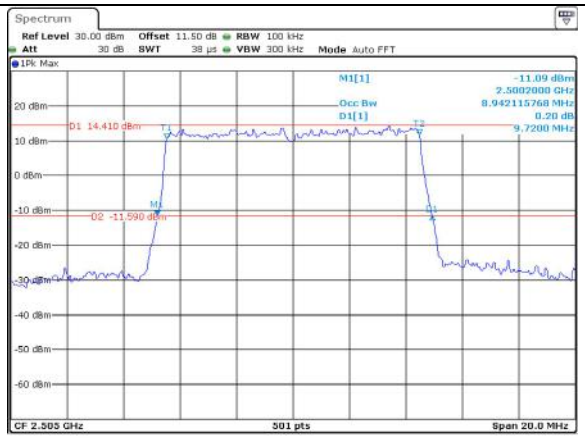
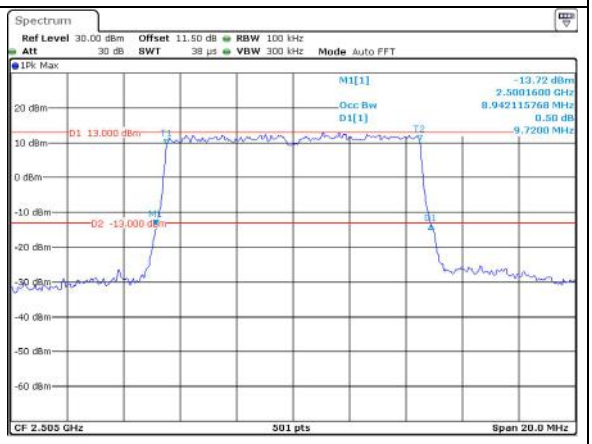
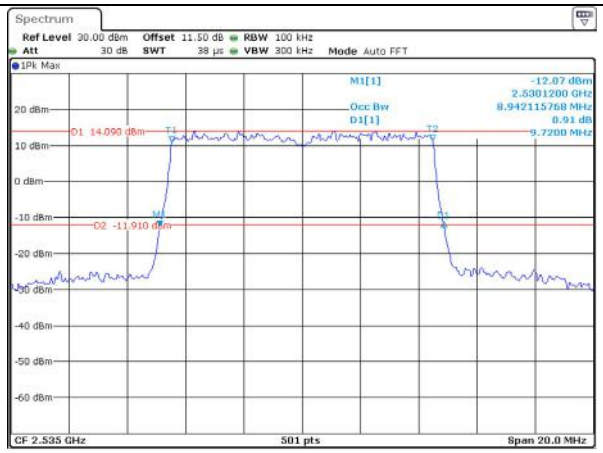
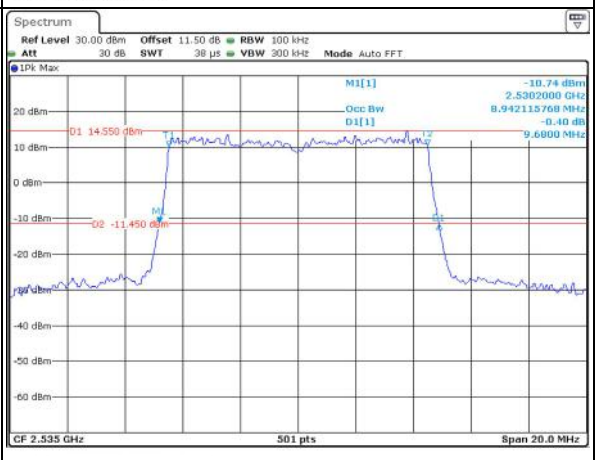
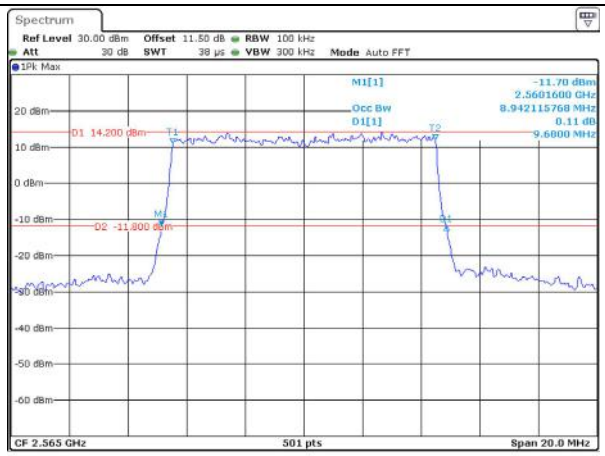
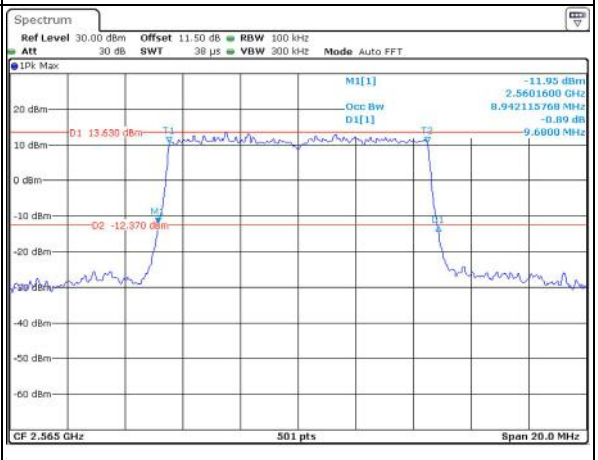
FCC §2.1055, §27.54: Frequency Stability

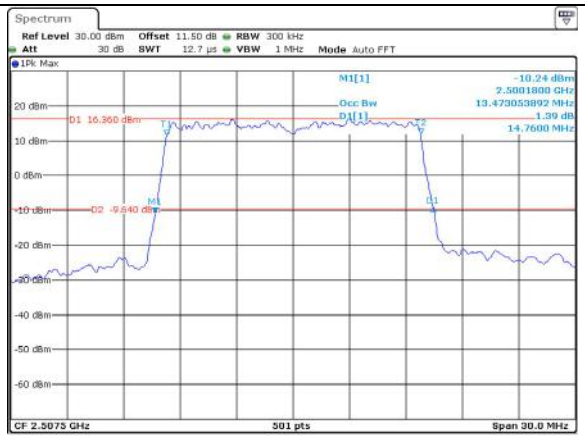
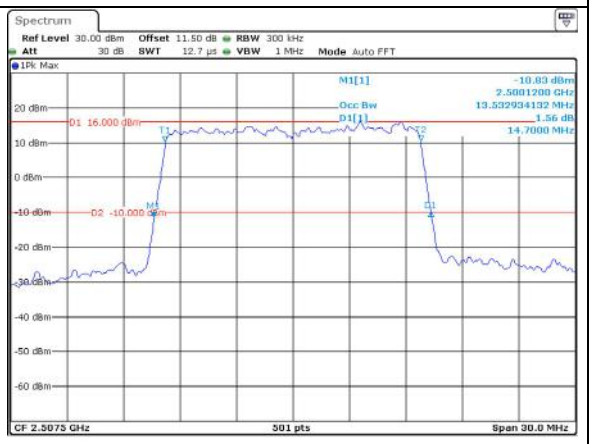
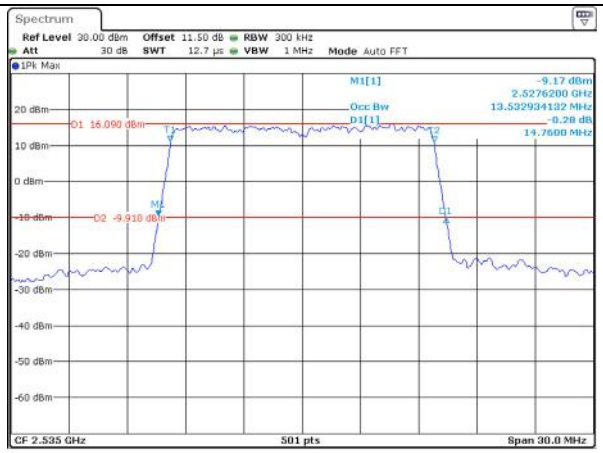
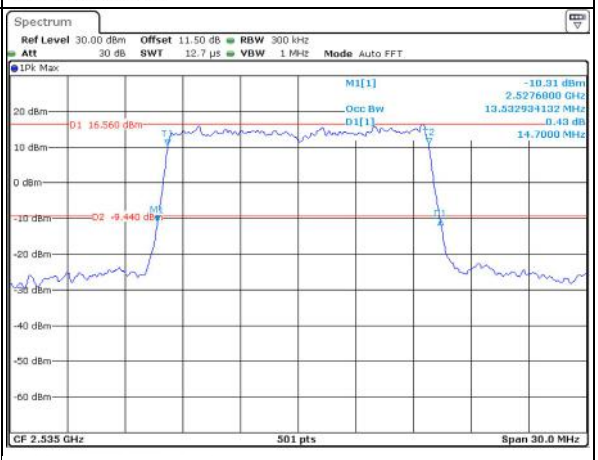
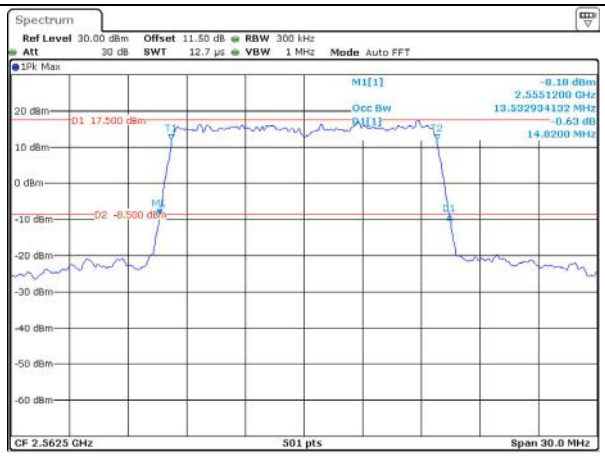
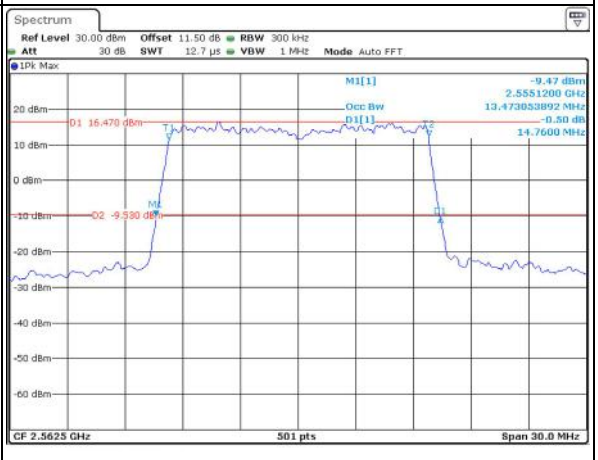
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2500.008	2500.00	2569.982	2570
	-20	3.85	2500.016	2500.00	2569.999	2570
	-10	3.85	2500.027	2500.00	2569.986	2570
	0	3.85	2500.021	2500.00	2569.997	2570
	10	3.85	2500.027	2500.00	2569.986	2570
	20	3.85	2500.003	2500.00	2569.979	2570
	30	3.85	2500.001	2500.00	2569.974	2570
	40	3.85	2500.021	2500.00	2569.972	2570
	50	3.85	2500.017	2500.00	2569.990	2570
Frequency Stability vs. Voltage	20	3.66	2500.021	2500.00	2569.986	2570
	20	4.24	2500.026	2500.00	2569.979	2570
					Result:	**Pass**

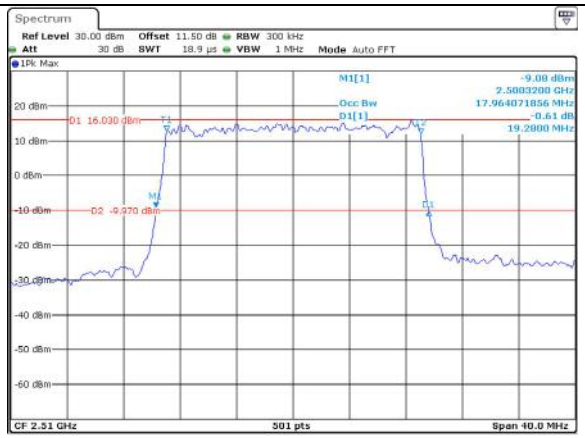
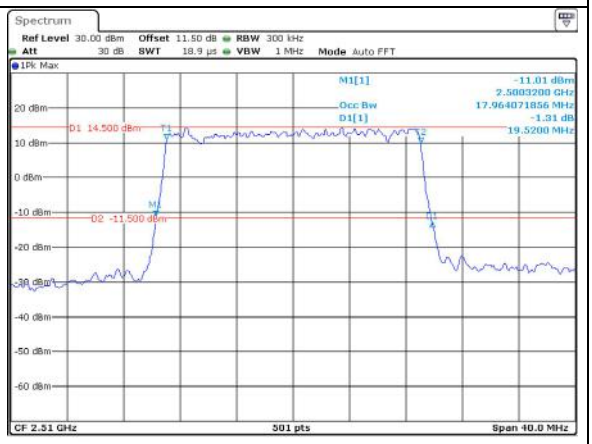
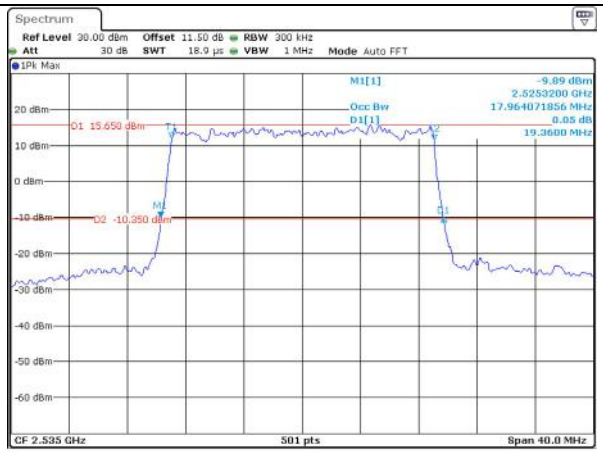
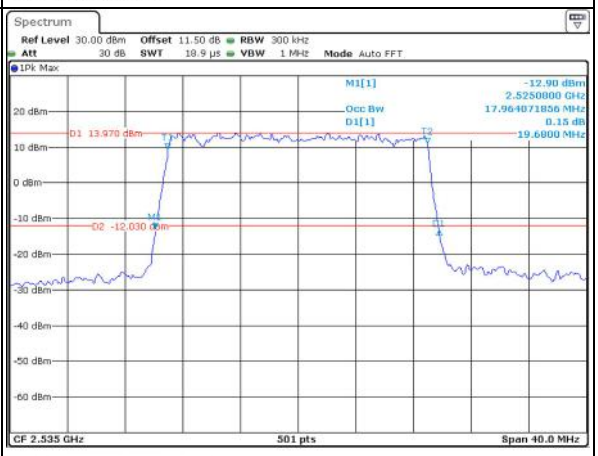
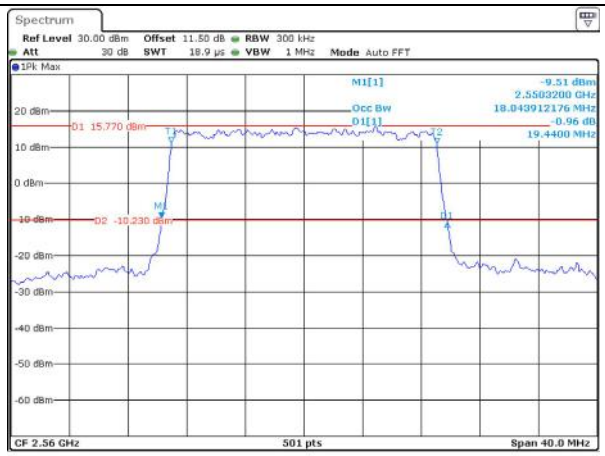
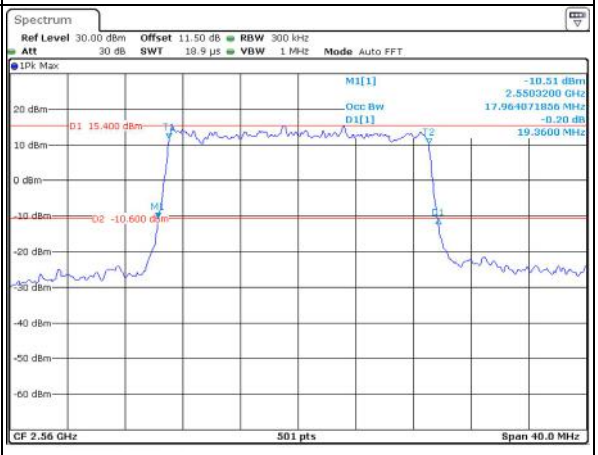
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2500.015	2500.00	2569.993	2570
	-20	3.85	2500.011	2500.00	2569.988	2570
	-10	3.85	2500.021	2500.00	2569.971	2570
	0	3.85	2500.023	2500.00	2569.995	2570
	10	3.85	2500.003	2500.00	2569.974	2570
	20	3.85	2500.005	2500.00	2569.985	2570
	30	3.85	2500.005	2500.00	2569.974	2570
	40	3.85	2500.017	2500.00	2569.993	2570
	50	3.85	2500.011	2500.00	2569.981	2570
Frequency Stability vs. Voltage	20	3.66	2500.004	2500.00	2569.983	2570
	20	4.24	2500.018	2500.00	2569.995	2570
					Result:	**Pass**

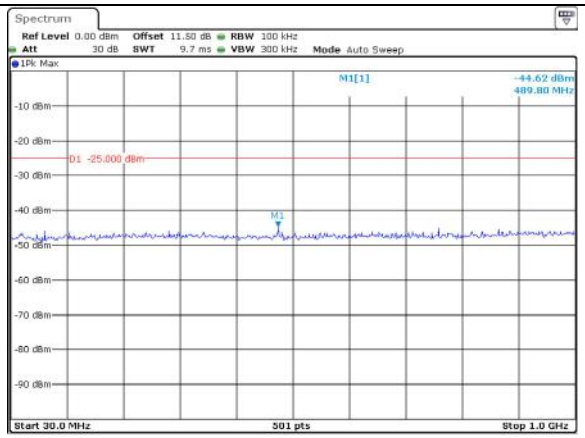
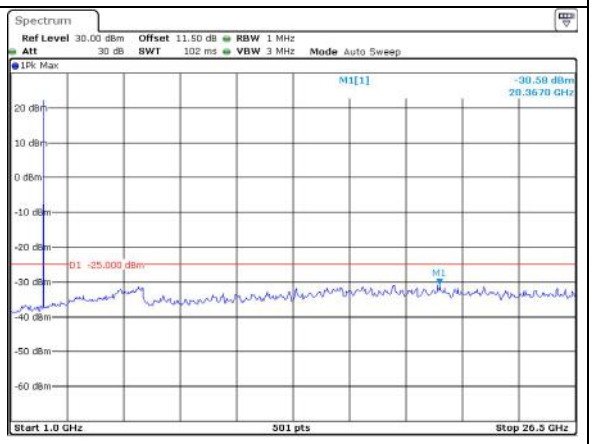
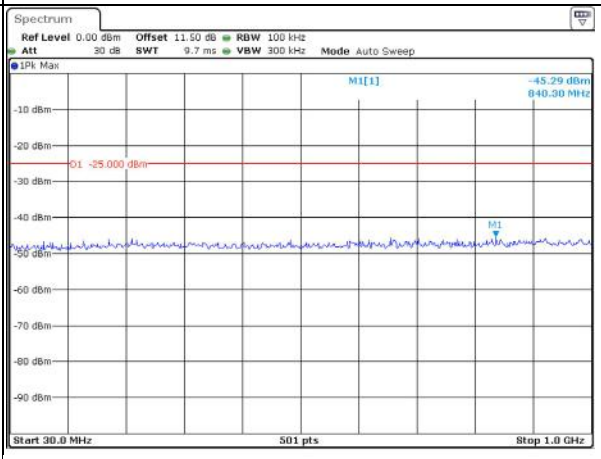
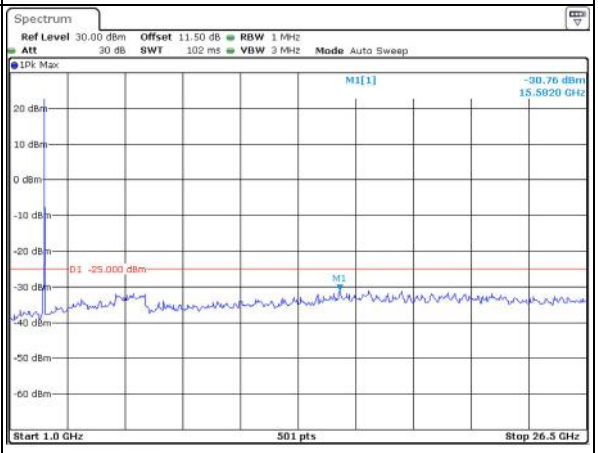
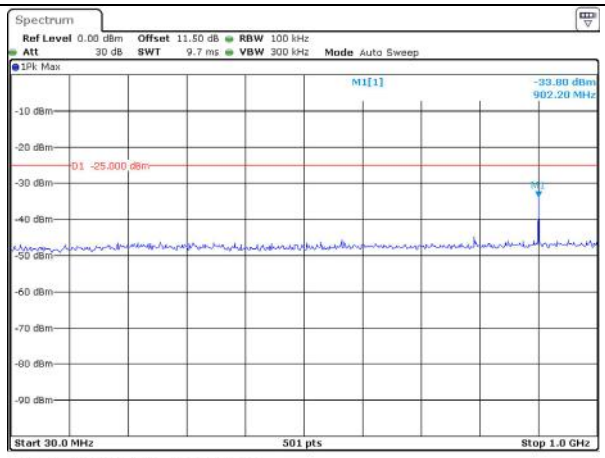
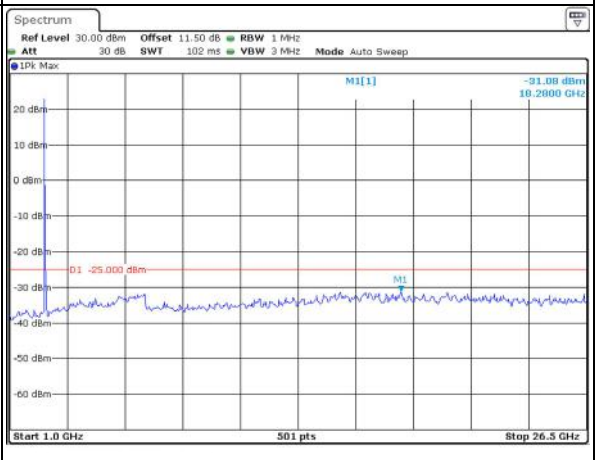
Test Plots(Note: The 11.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

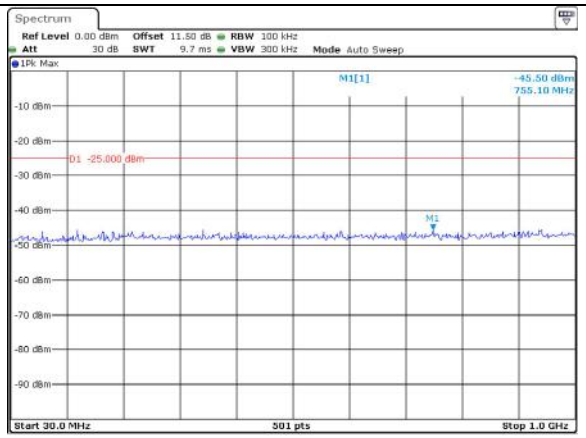
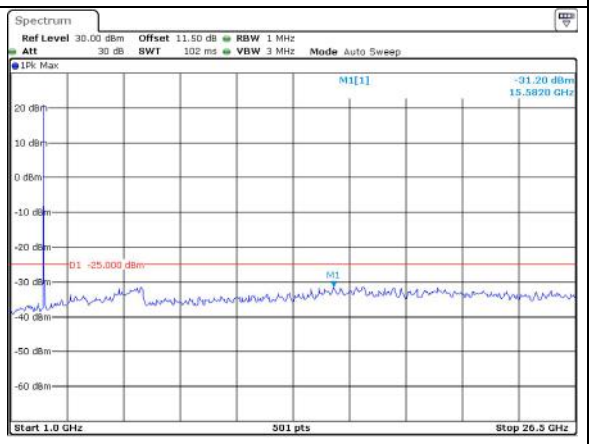
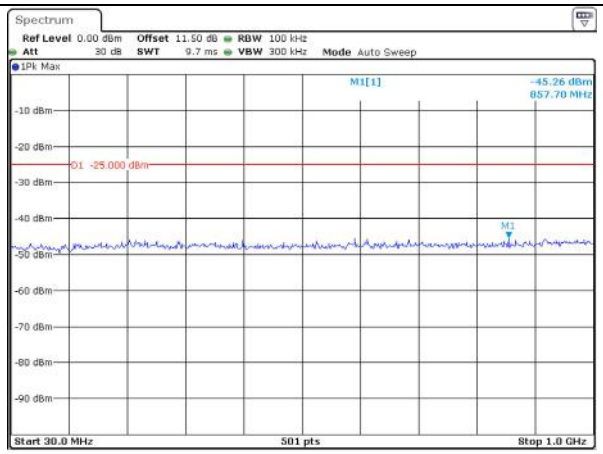
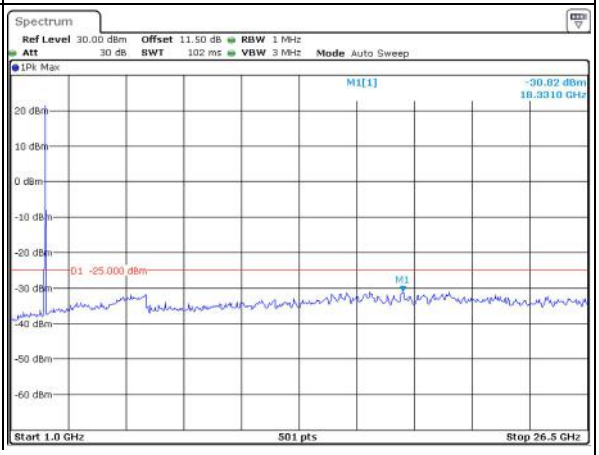
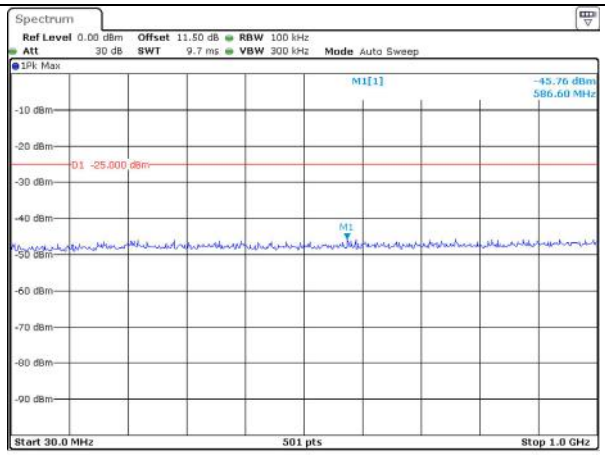
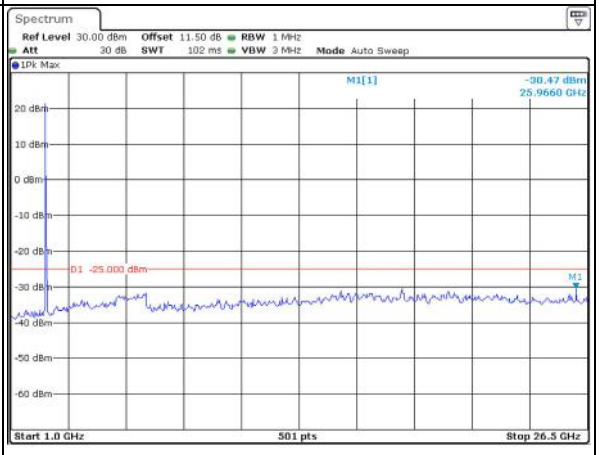
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

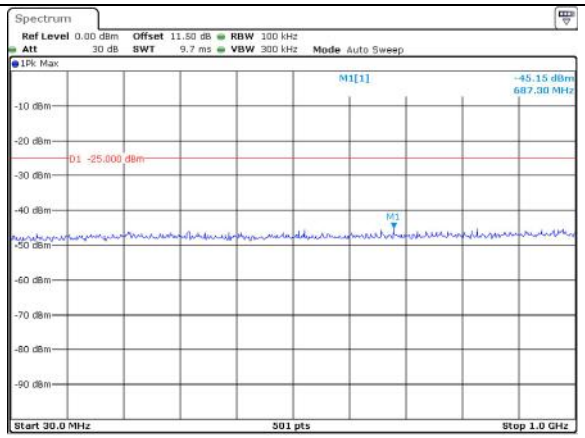
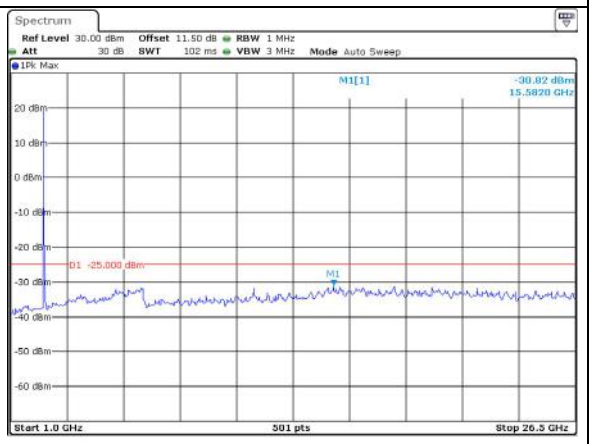
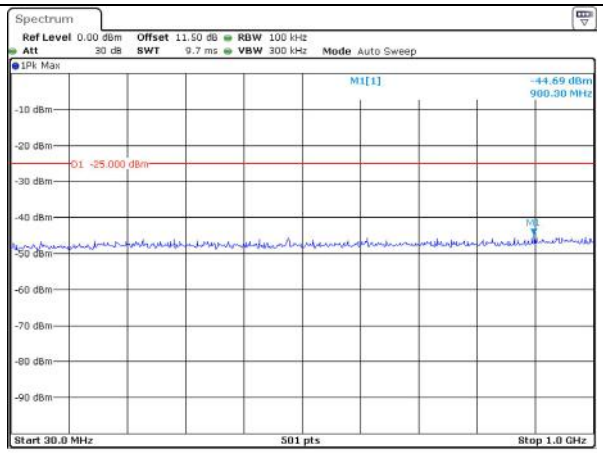
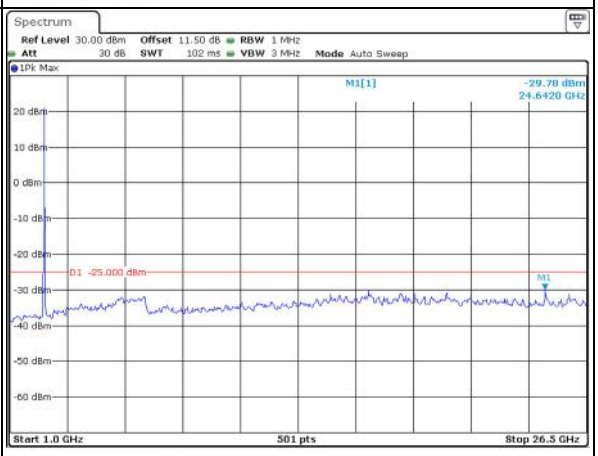
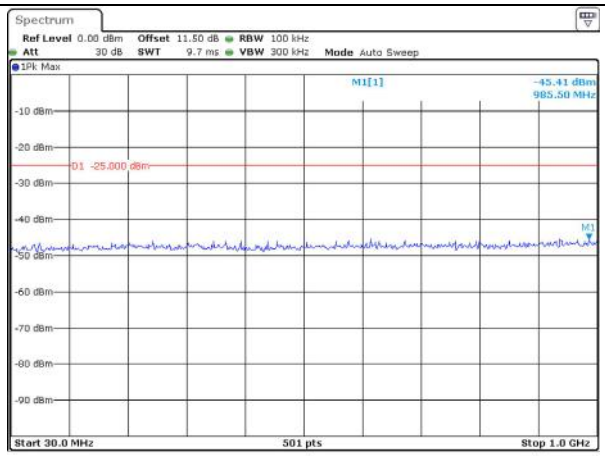
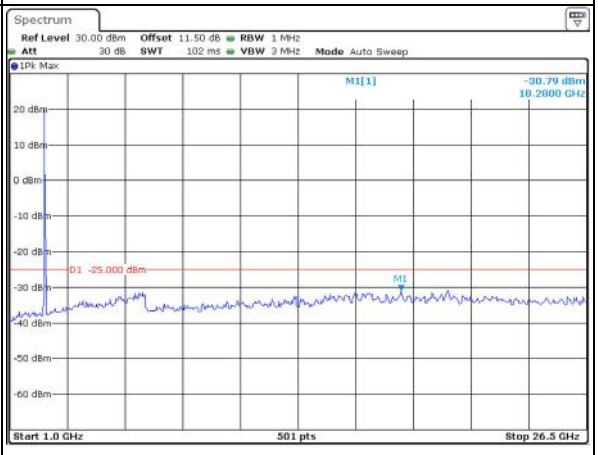
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

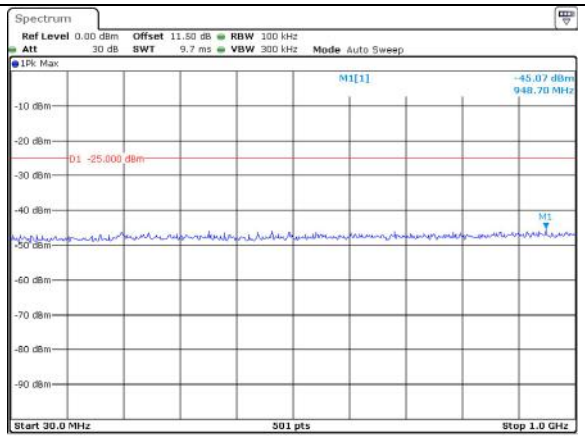
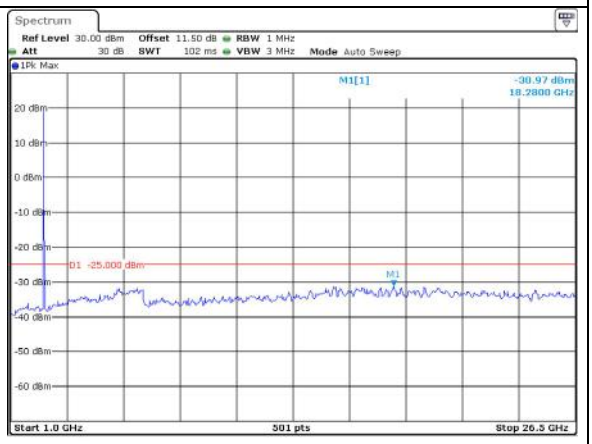
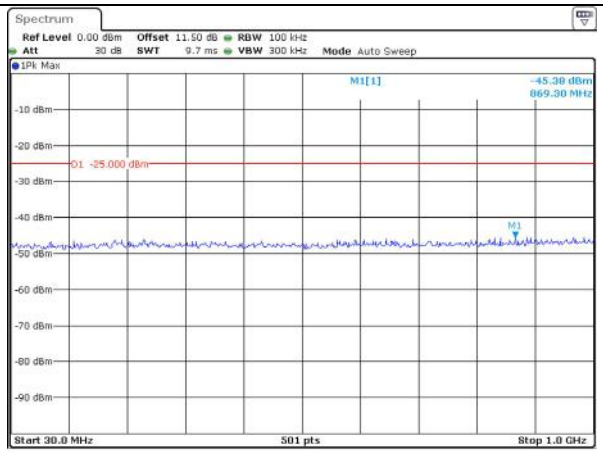
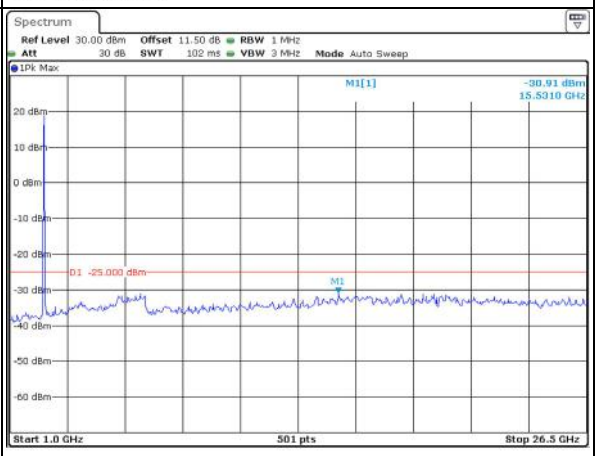
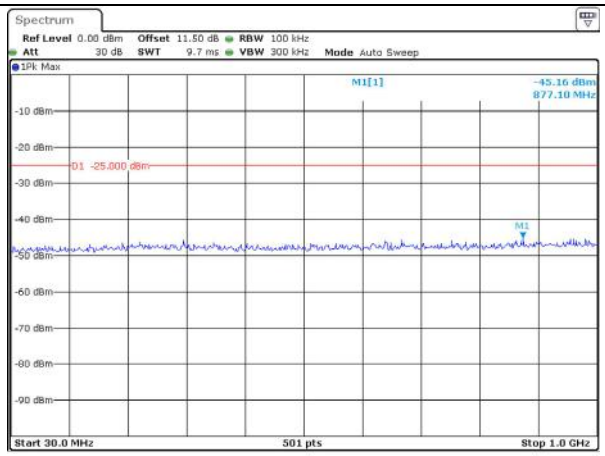
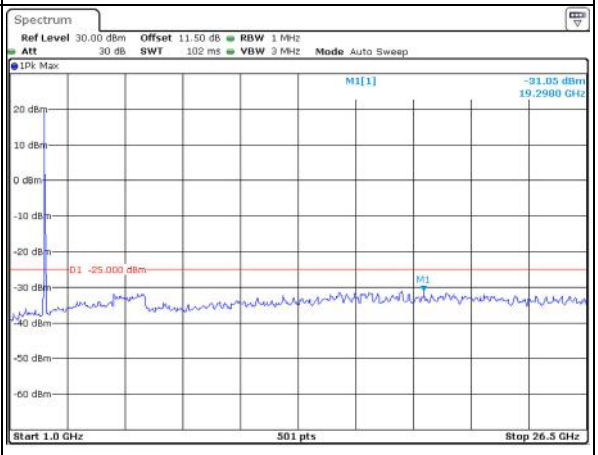
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

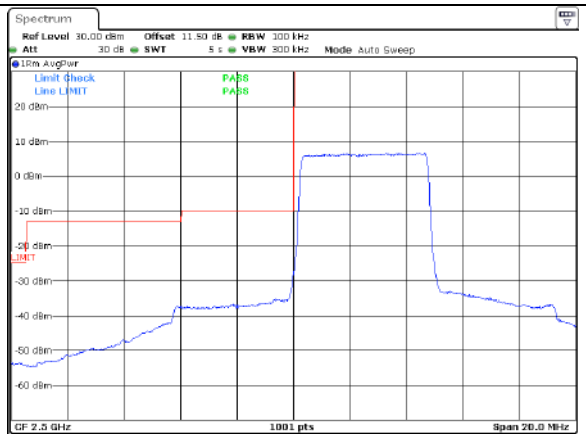
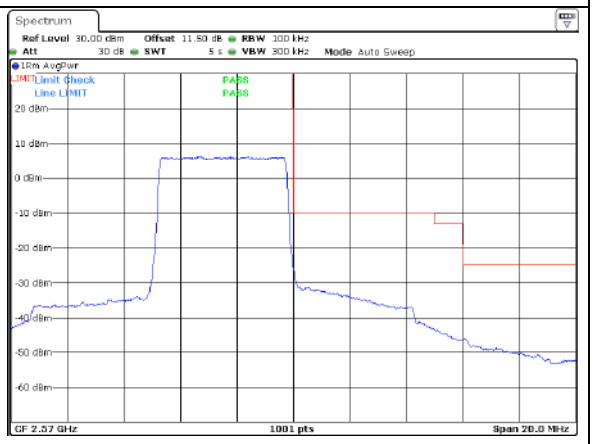
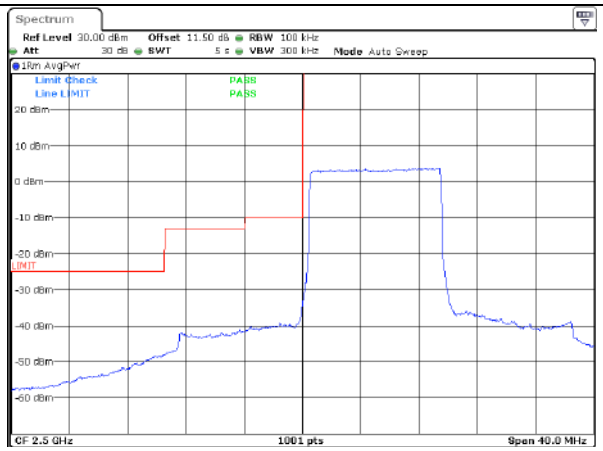
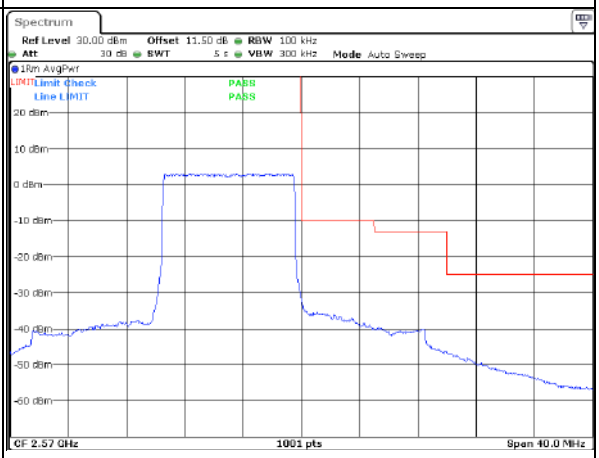
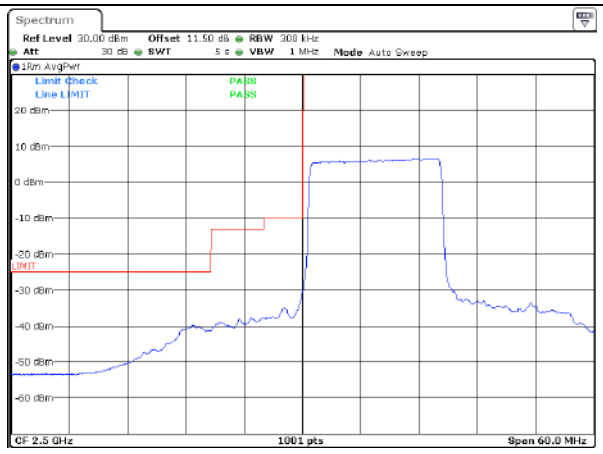
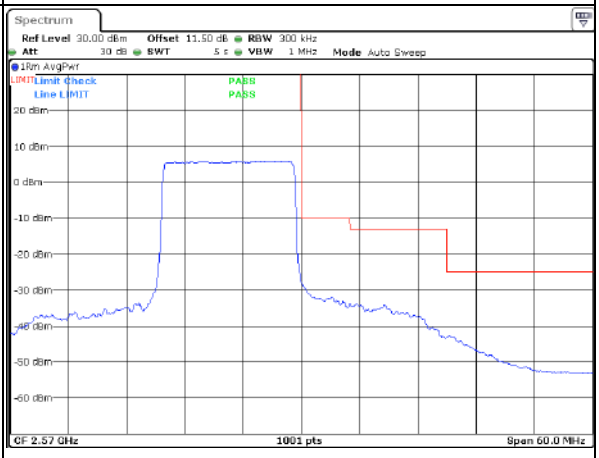
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

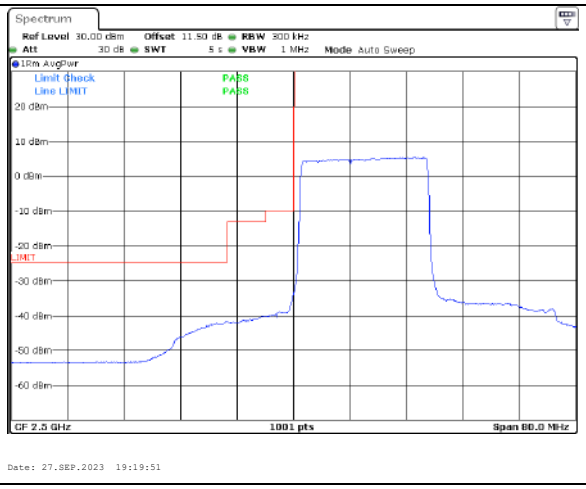
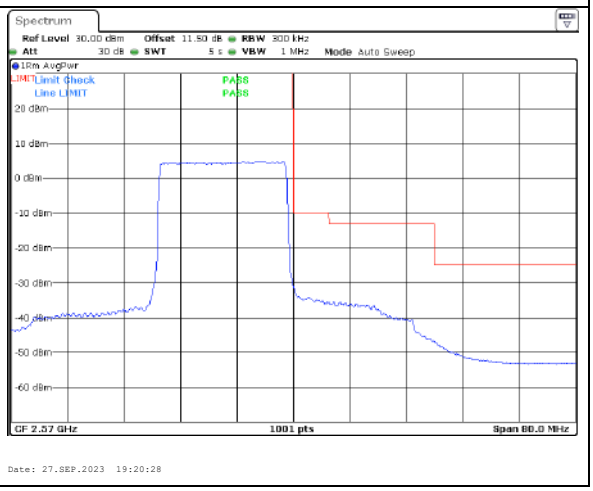
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

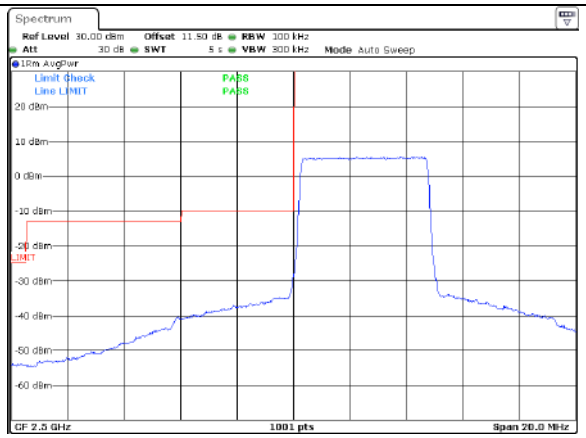
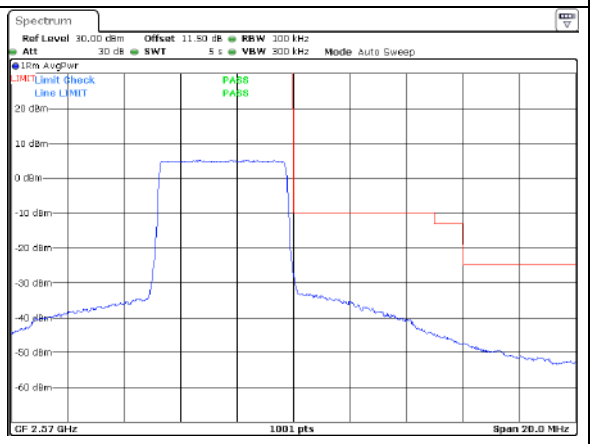
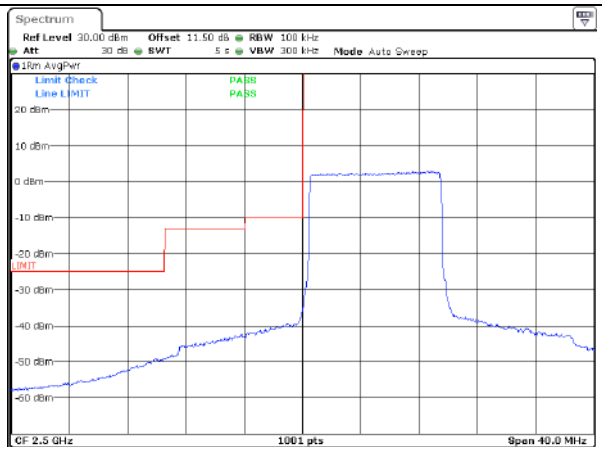
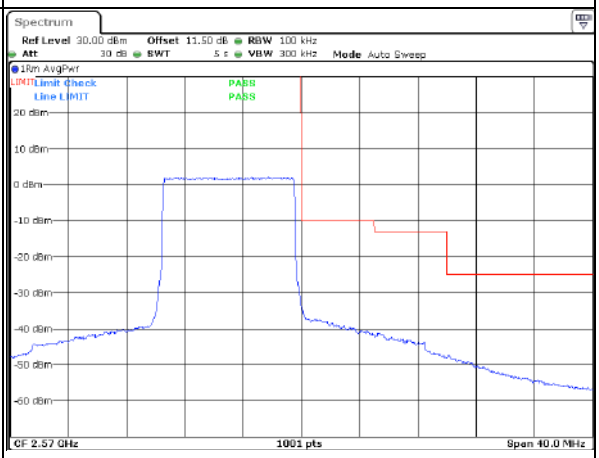
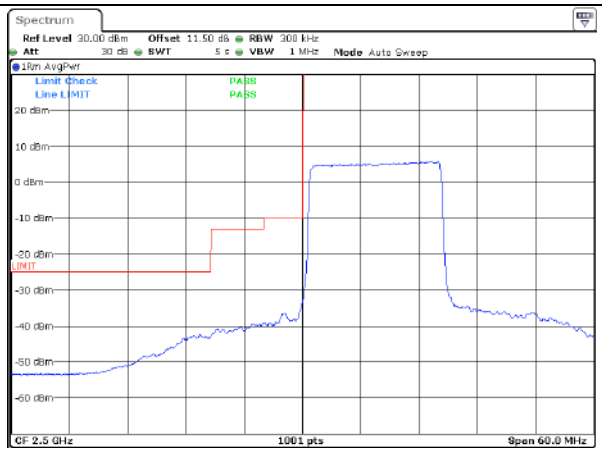
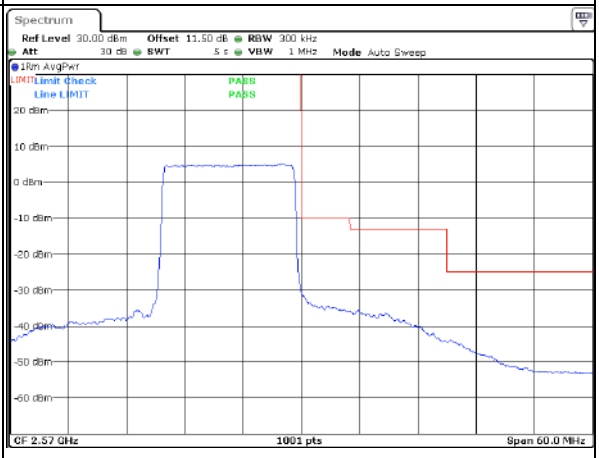
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

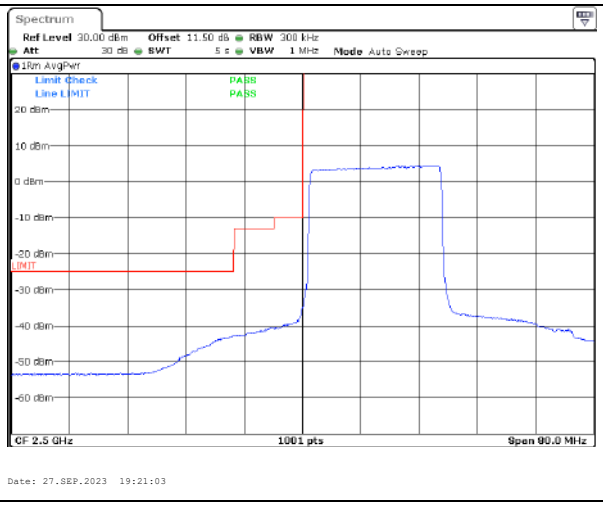
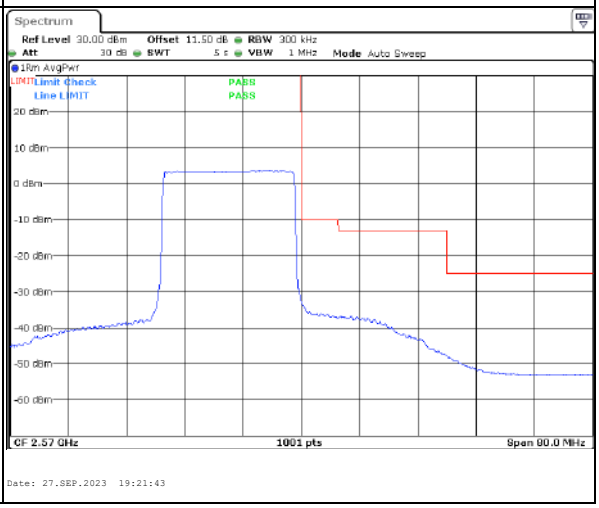
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

4.10 Antenna Port Test Data and Results for LTE Band 12

Serial Number:	294A-2	Test Date:	2023/9/13-2023/9/14
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	25.6~26.7	Relative Humidity: (%)	53~57	ATM Pressure: (kPa)	100.6~101

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211002	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
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	699.7	707.5	715.3
3MHz	700.5	707.5	714.5
5MHz	701.5	707.5	713.5
10MHz	704	707.5	711

Test Data:

FCC§2.1046;§ 27.50(c) (10)

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	23.79	23.78	23.75	18.84	34.77
	RB1#3	23.88	23.89	23.75		
	RB1#5	23.81	23.76	23.65		
	RB3#0	23.86	23.78	23.70		
	RB3#3	23.80	23.77	23.68		
	RB6#0	22.87	22.80	22.79		
1.4MHz 16QAM	RB1#0	23.11	23.01	22.90	18.12	34.77
	RB1#3	23.17	23.02	22.93		
	RB1#5	22.99	23.03	22.76		
	RB3#0	22.89	22.95	22.89		
	RB3#3	22.83	22.92	22.98		
	RB6#0	21.90	21.83	21.88		
3MHz QPSK	RB1#0	23.91	23.93	23.83	18.88	34.77
	RB1#8	23.91	23.87	23.85		
	RB1#14	23.86	23.91	23.79		
	RB6#0	22.96	22.90	22.78		
	RB6#9	22.95	22.90	22.87		
	RB15#0	23.03	22.96	22.79		
3MHz 16QAM	RB1#0	23.47	23.10	22.94	**18.64**	34.77
	RB1#8	23.69	23.07	22.87		
	RB1#14	23.65	23.01	22.92		
	RB6#0	22.05	21.96	21.90		
	RB6#9	22.06	21.93	21.92		
	RB15#0	22.03	21.92	21.86		
5MHz QPSK	RB1#0	23.94	23.89	23.93	18.93	34.77
	RB1#13	23.98	23.91	23.90		
	RB1#24	23.95	23.82	23.74		
	RB15#0	22.95	22.93	22.87		
	RB15#10	22.98	22.96	22.88		
	RB25#0	22.96	22.94	22.85		
5MHz 16QAM	RB1#0	22.97	22.81	23.21	18.20	34.77
	RB1#13	23.20	22.89	23.25		
	RB1#24	23.08	22.77	23.16		
	RB15#0	21.96	21.93	21.83		
	RB15#10	22.03	21.96	21.85		
	RB25#0	22.02	22.04	21.80		
10MHz QPSK	RB1#0	23.99	23.99	23.95	**18.94**	34.77

	RB1#25	23.97	23.78	23.91		
	RB1#49	23.87	23.85	23.80		
	RB25#0	22.90	22.88	22.87		
	RB25#25	22.97	22.97	22.93		
	RB50#0	23.02	22.98	22.86		
10MHz 16QAM	RB1#0	23.63	23.17	23.11	18.60	34.77
	RB1#25	23.65	23.05	22.97		
	RB1#49	23.55	23.07	22.94		
	RB25#0	21.96	21.95	21.99		
	RB25#25	22.02	21.98	21.98		
	RB50#0	21.94	21.97	21.88		

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	9.44	9.70	9.22	13
	RB50#0	9.94	9.93	6.30	13
10MHz 16QAM	RB1#0	6.17	9.76	8.18	13
	RB50#0	7.54	9.87	9.10	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
1.4MHz QPSK	1.084	1.09	1.084	1.212	1.21	1.206
1.4MHz 16QAM	1.084	1.078	1.078	1.200	1.212	1.212
3MHz QPSK	2.695	2.683	2.683	2.952	2.964	2.952
3MHz 16QAM	2.683	2.683	2.683	2.964	2.940	2.976
5MHz QPSK	4.511	4.511	4.511	5.000	5.000	5.000
5MHz 16QAM	4.531	4.511	4.511	5.020	5.020	4.960
10MHz QPSK	8.942	8.942	8.982	9.640	9.680	9.720
10MHz 16QAM	8.942	8.942	8.942	9.680	9.640	9.600
Note: The test plots please refer to the Plots of Occupied Bandwidth						

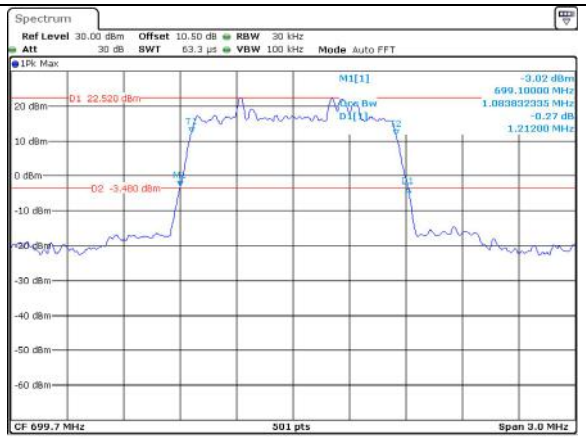
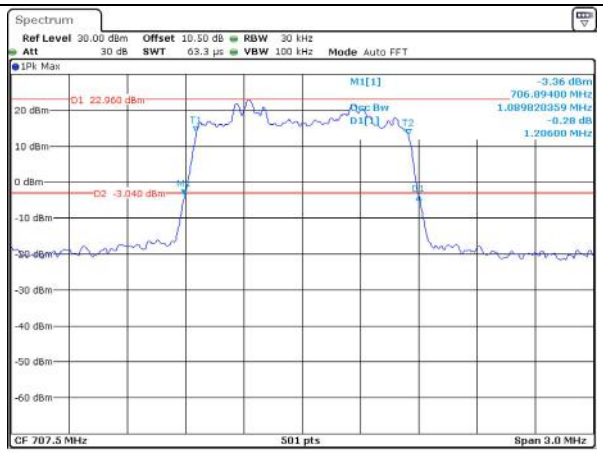
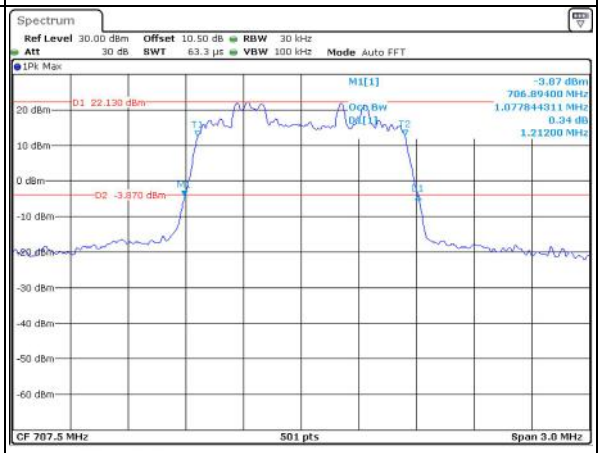
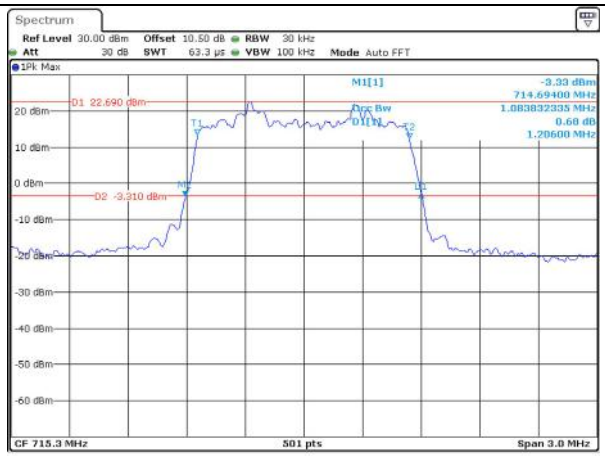
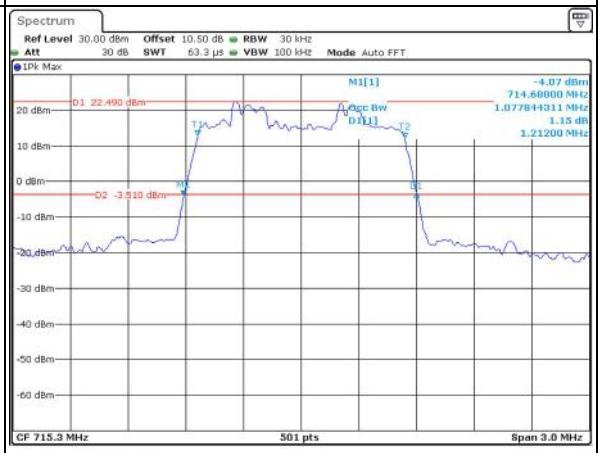
FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

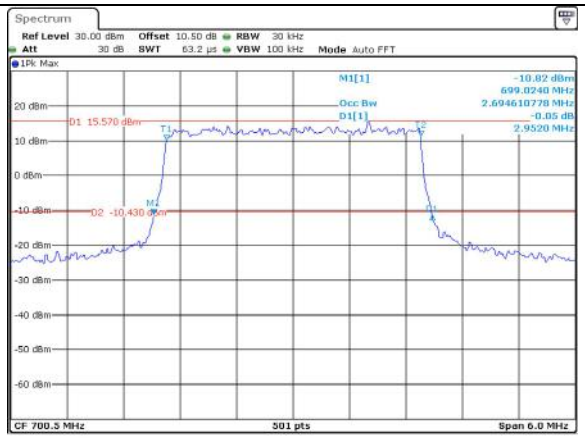
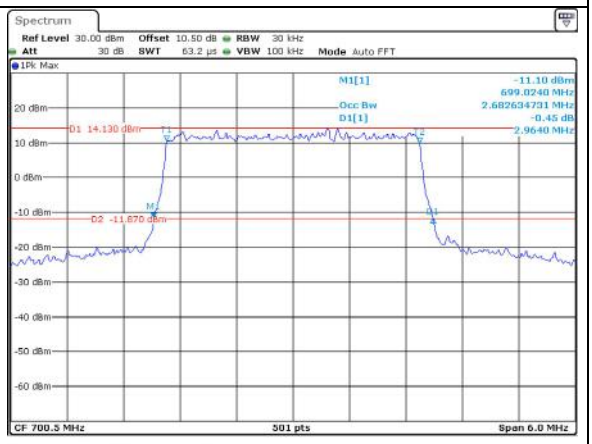
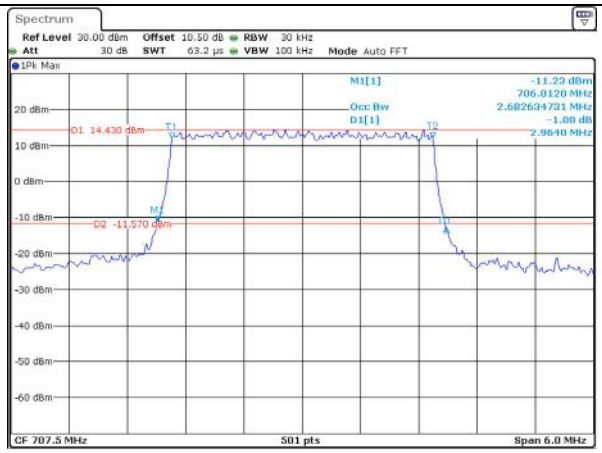
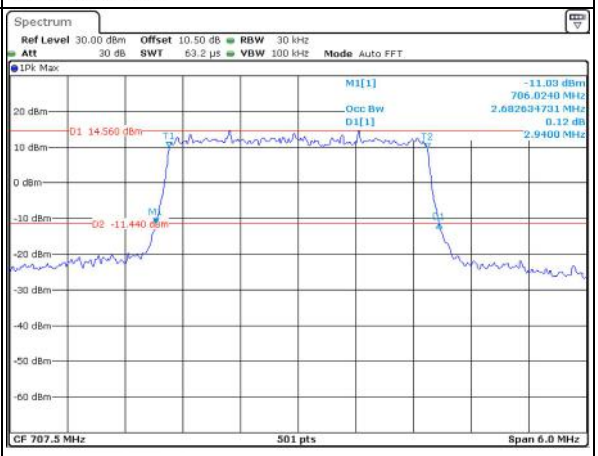
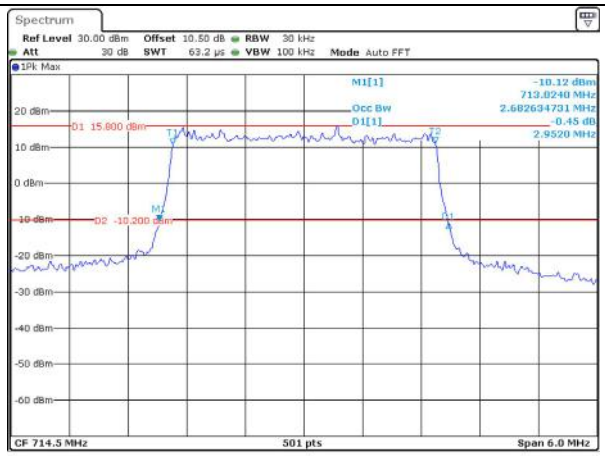
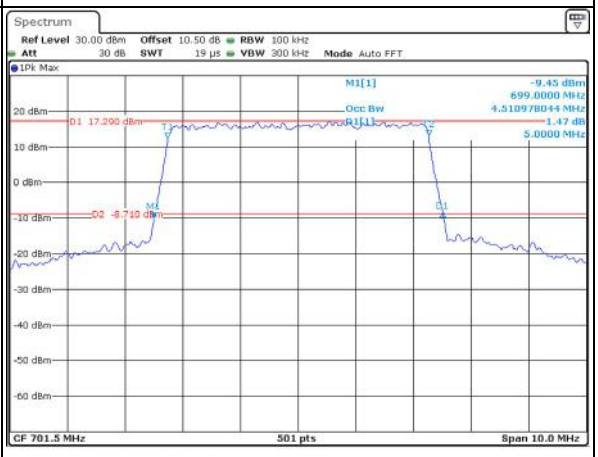
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

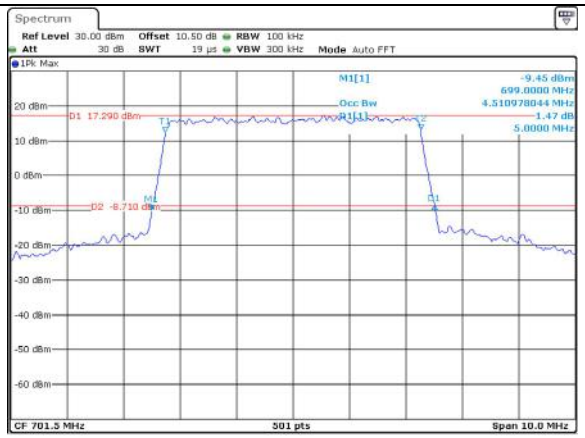
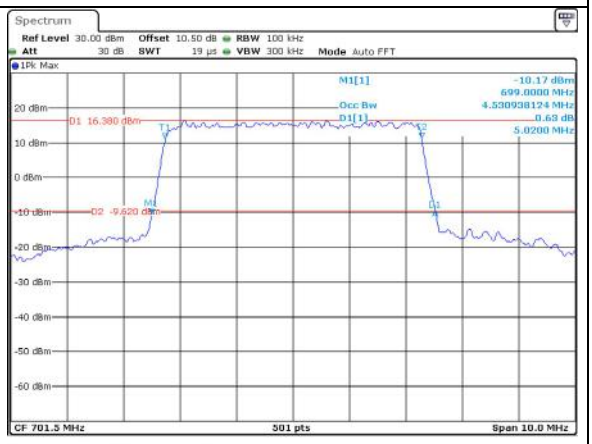
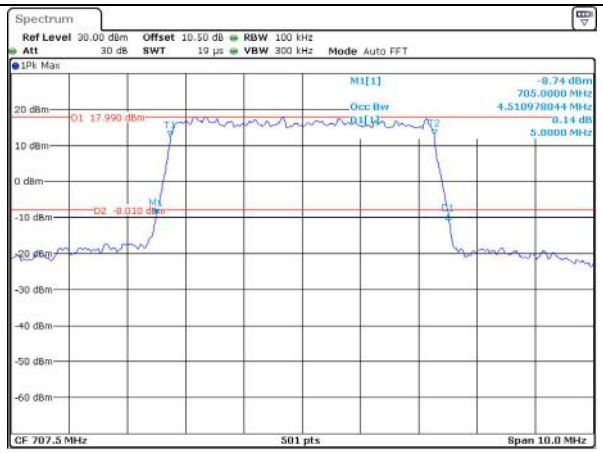
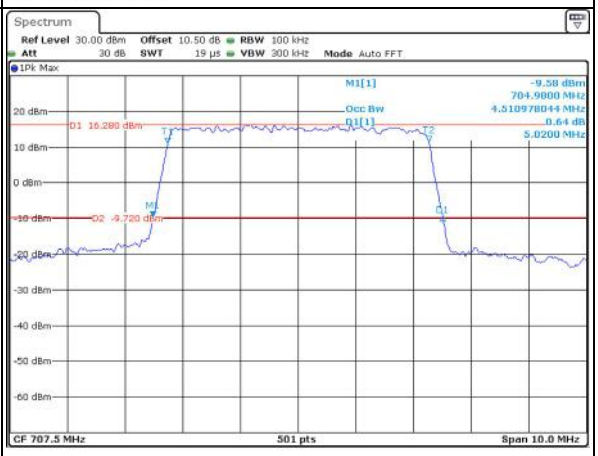
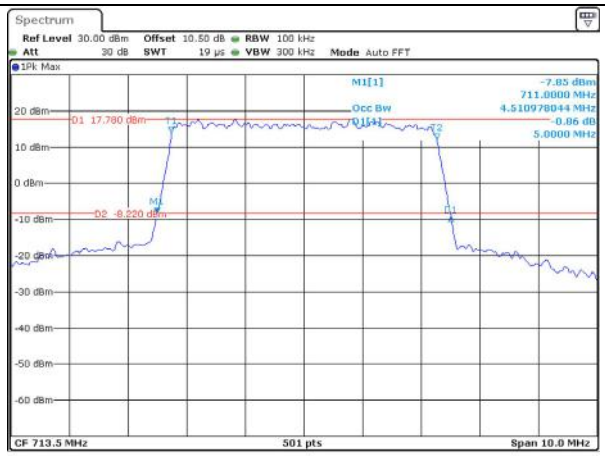
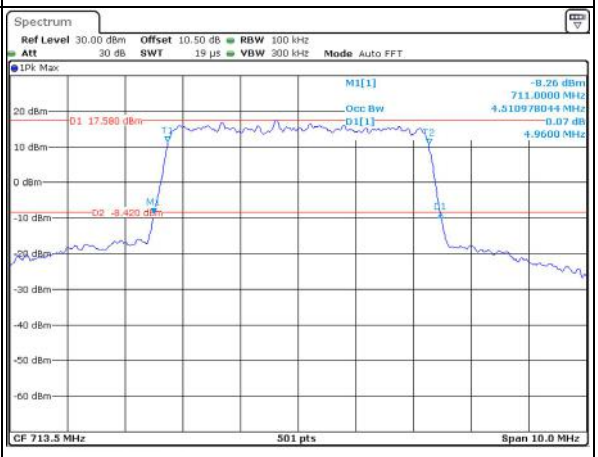
FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	699.009	699.00	715.970	716.00
	-20	3.85	699.008	699.00	715.988	716.00
	-10	3.85	699.012	699.00	715.984	716.00
	0	3.85	699.002	699.00	715.985	716.00
	10	3.85	699.023	699.00	715.985	716.00
	20	3.85	699.013	699.00	715.976	716.00
	30	3.85	699.027	699.00	715.993	716.00
	40	3.85	699.001	699.00	715.999	716.00
	50	3.85	699.006	699.00	715.982	716.00
Frequency Stability vs. Voltage	20	3.66	699.009	699.00	715.988	716.00
	20	4.24	699.008	699.00	715.976	716.00
					Result:	**Pass**

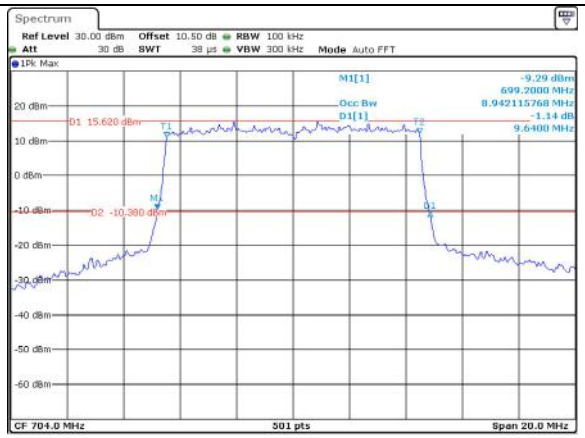
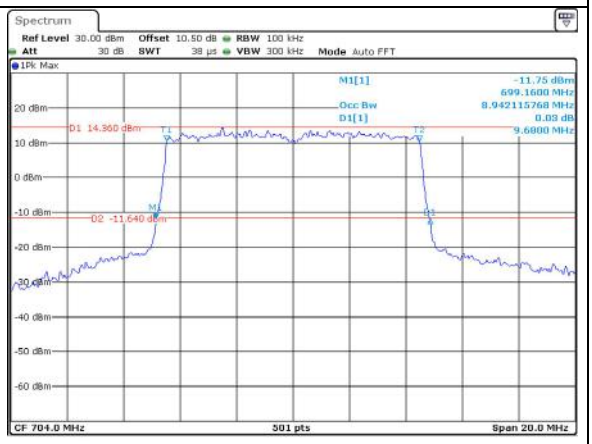
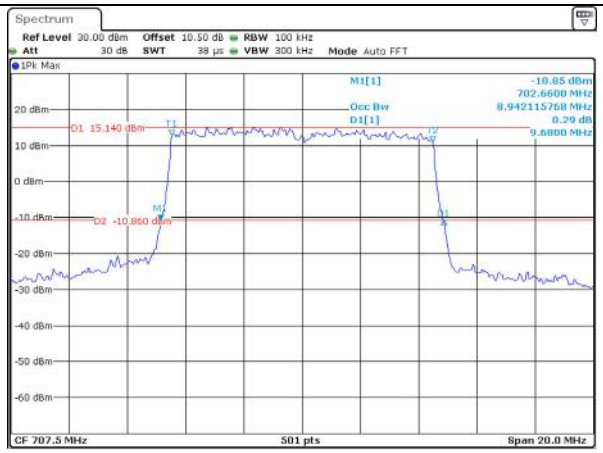
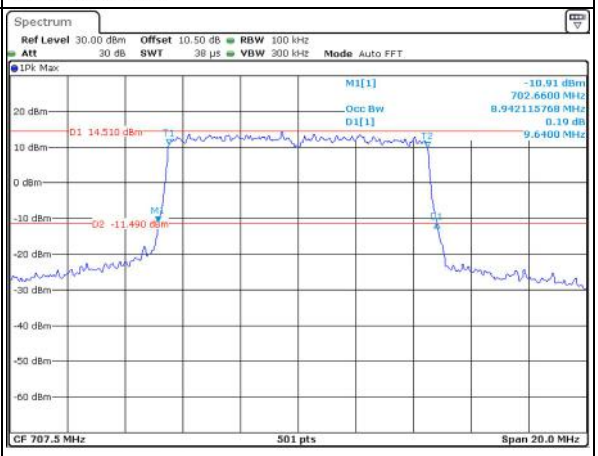
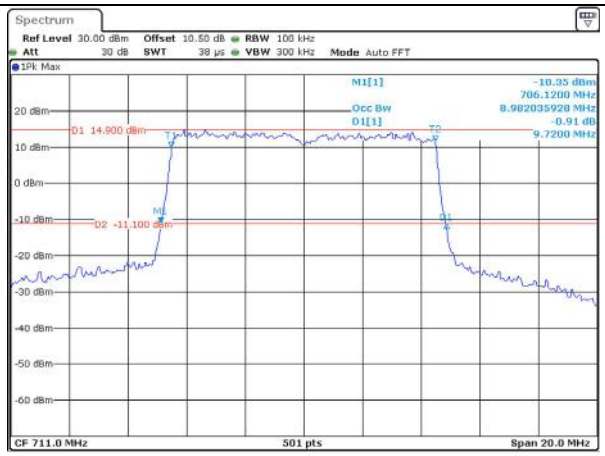
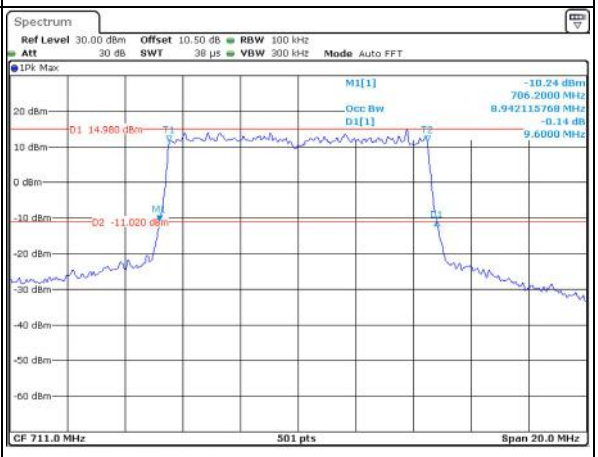
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	699.028	699.00	715.984	716.00
	-20	3.85	699.024	699.00	715.976	716.00
	-10	3.85	699.018	699.00	715.971	716.00
	0	3.85	699.012	699.00	715.991	716.00
	10	3.85	699.009	699.00	715.971	716.00
	20	3.85	699.017	699.00	715.989	716.00
	30	3.85	699.002	699.00	715.992	716.00
	40	3.85	699.020	699.00	715.989	716.00
	50	3.85	699.030	699.00	715.972	716.00
Frequency Stability vs. Voltage	20	3.66	699.003	699.00	715.996	716.00
	20	4.24	699.023	699.00	715.972	716.00
					Result:	**Pass**

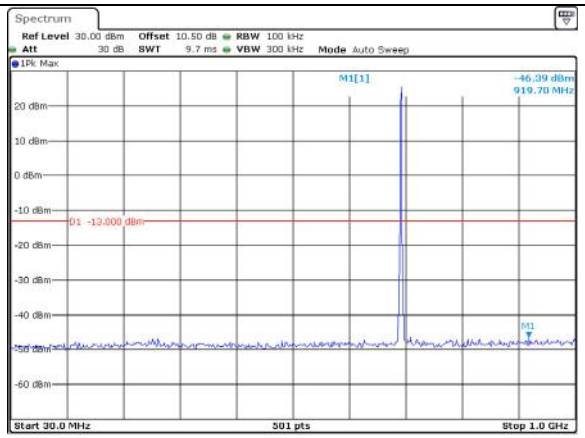
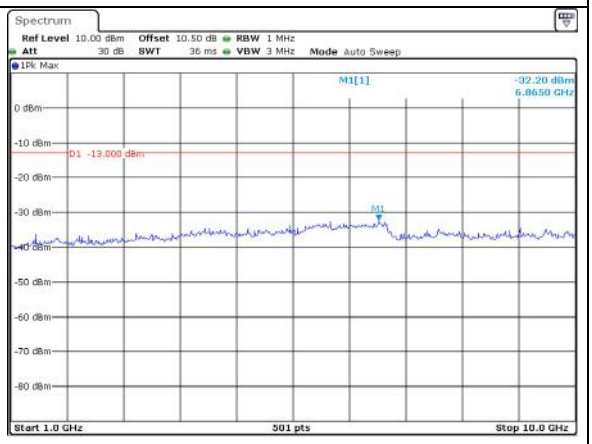
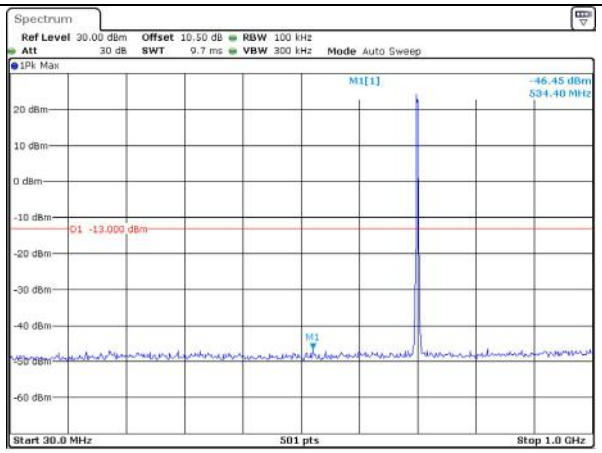
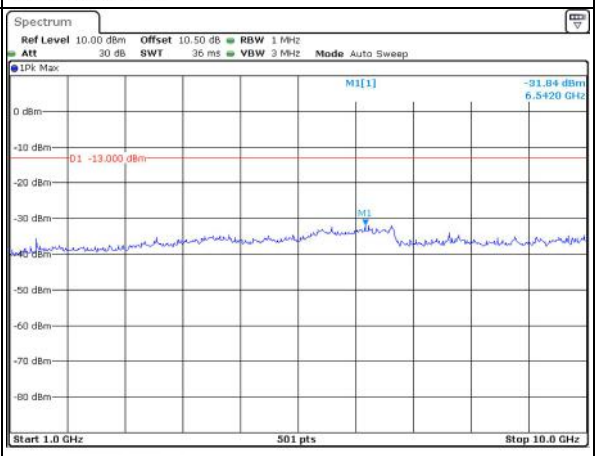
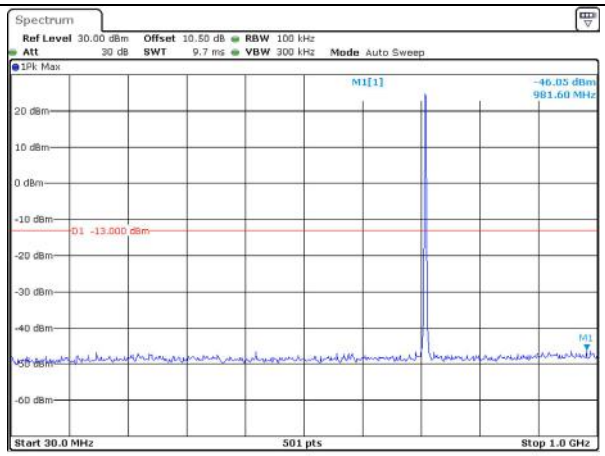
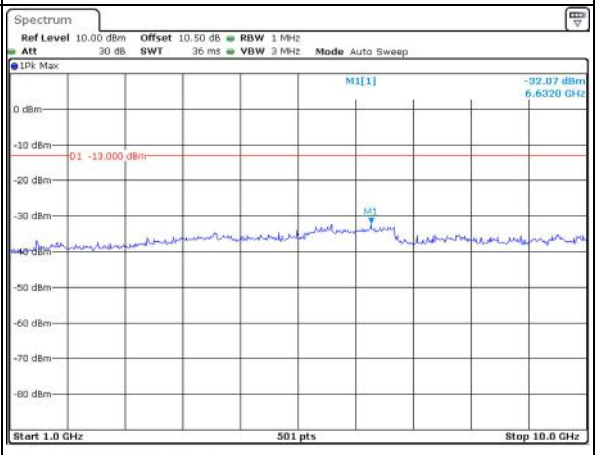
Test Plots (Note: The 10.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

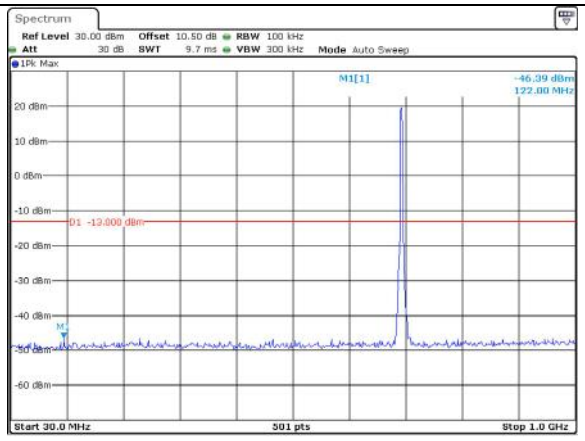
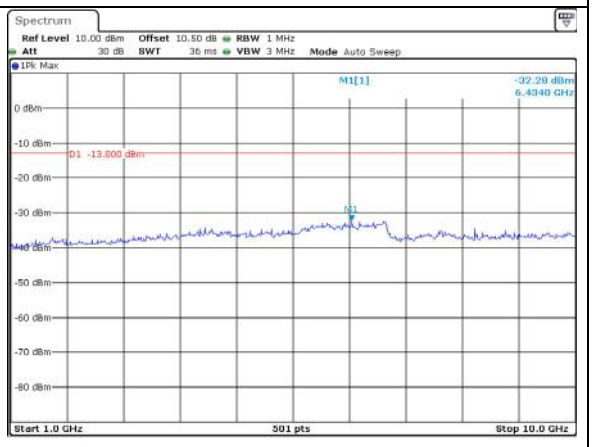
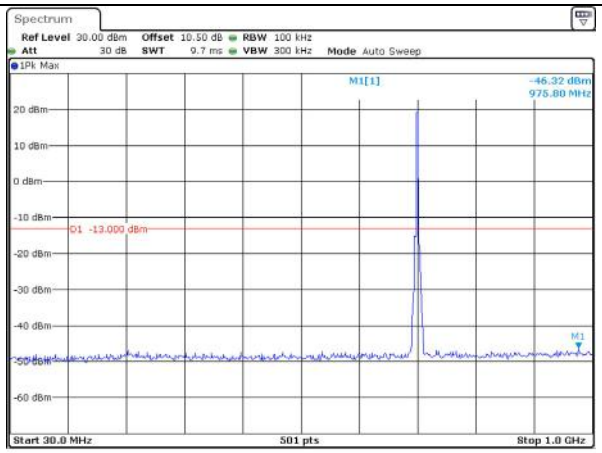
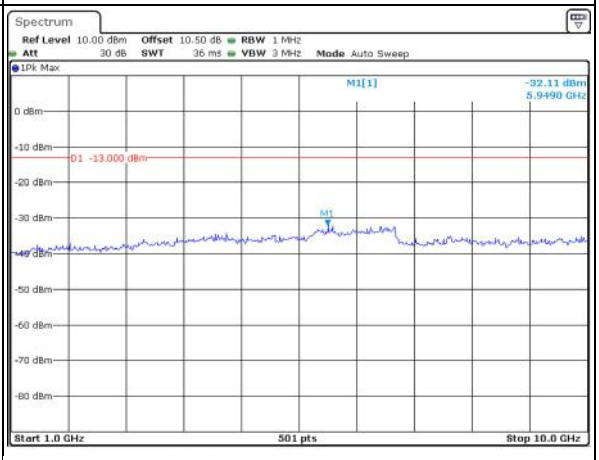
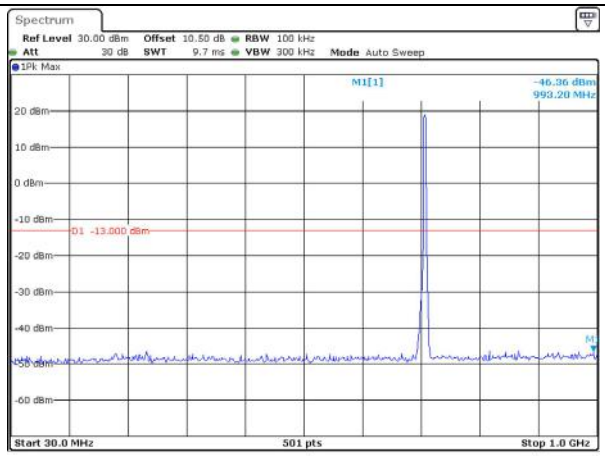
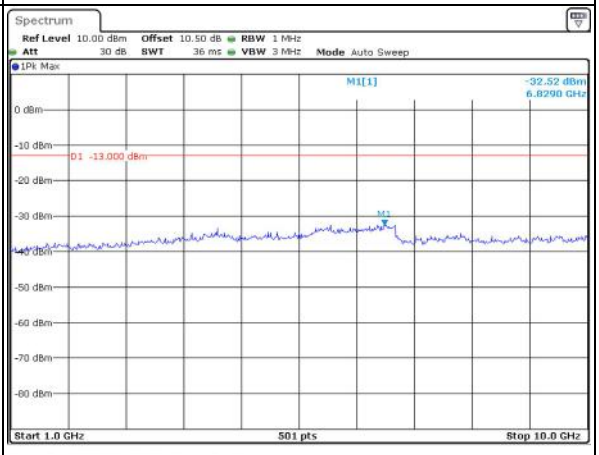
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

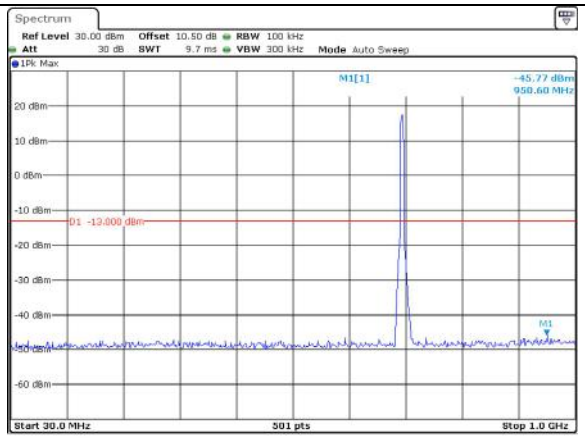
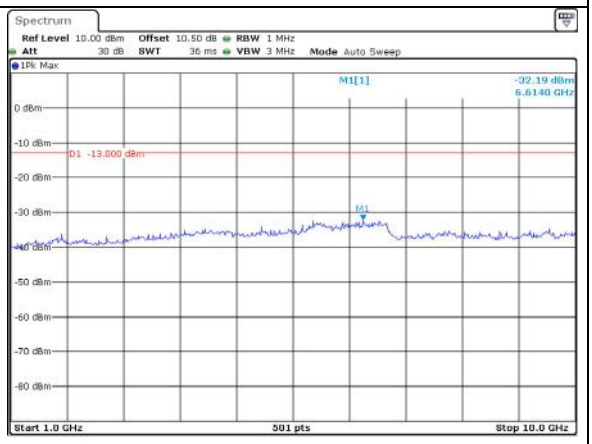
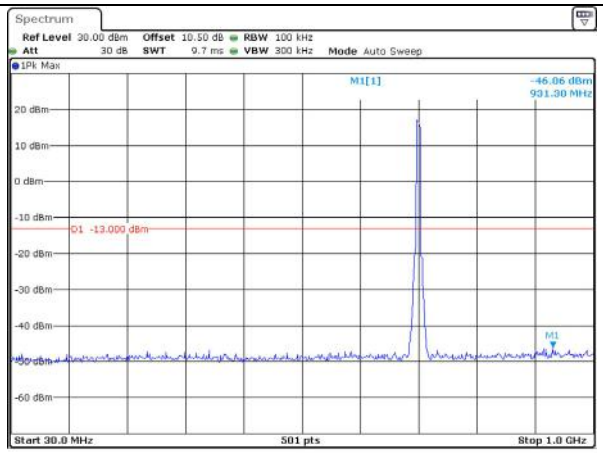
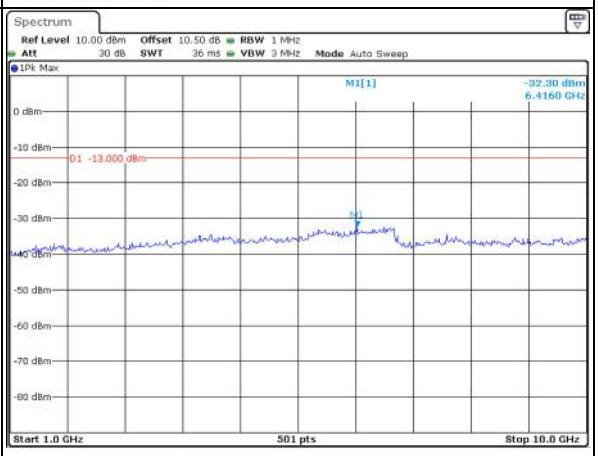
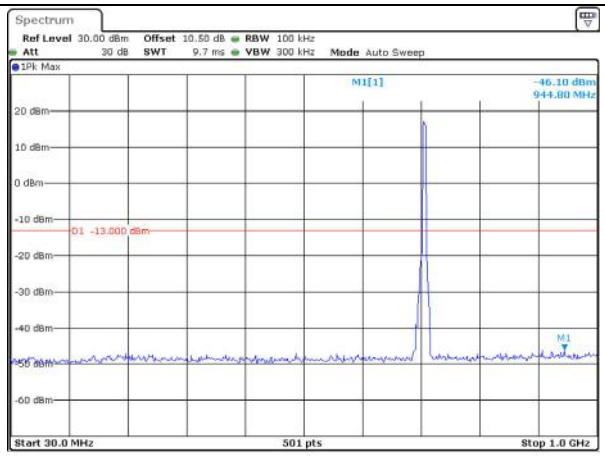
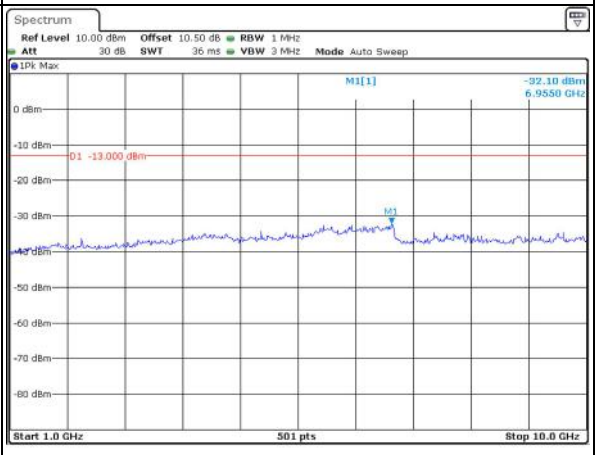
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

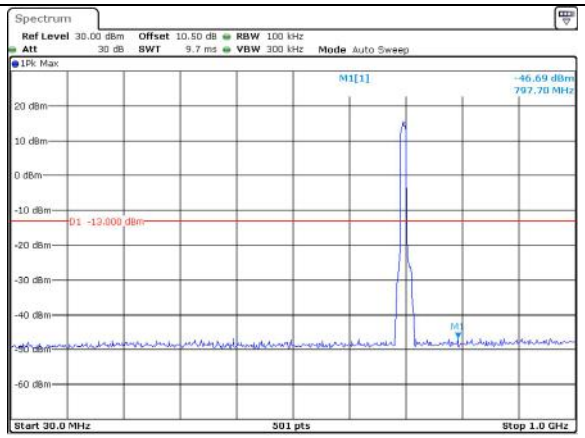
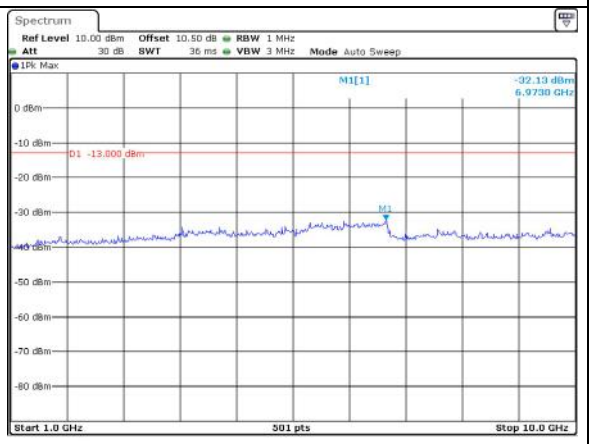
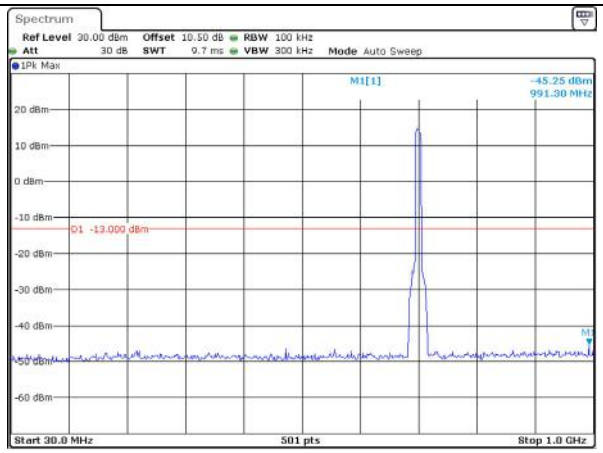
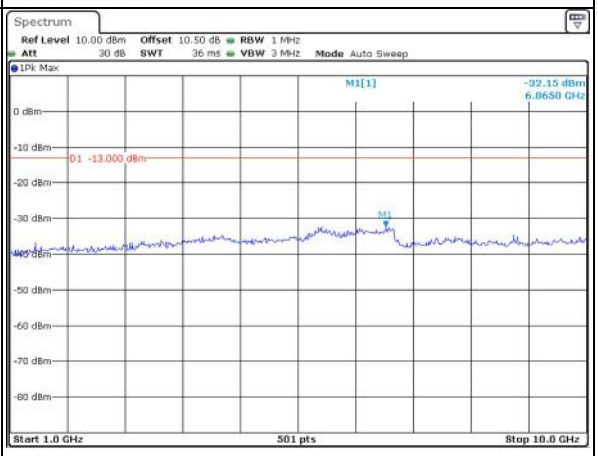
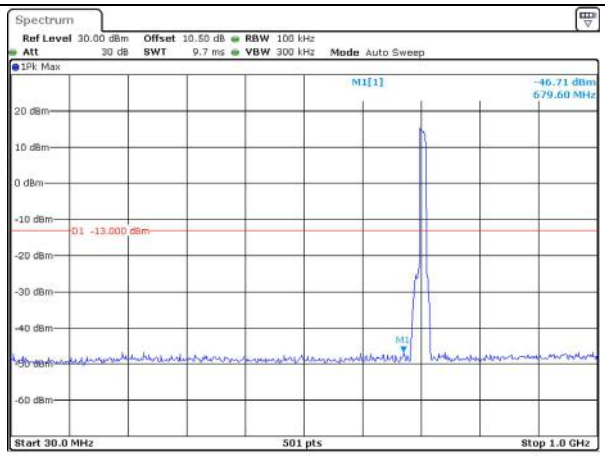
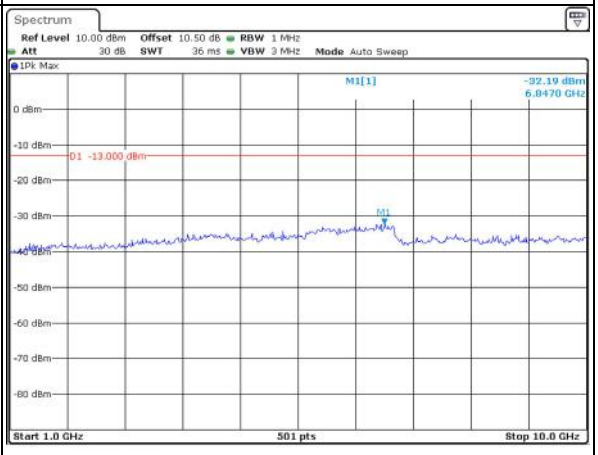
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

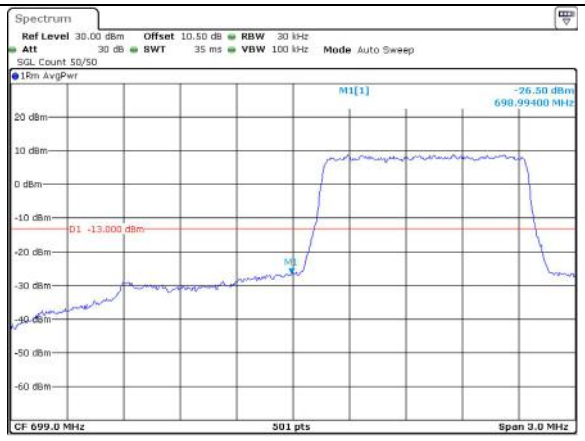
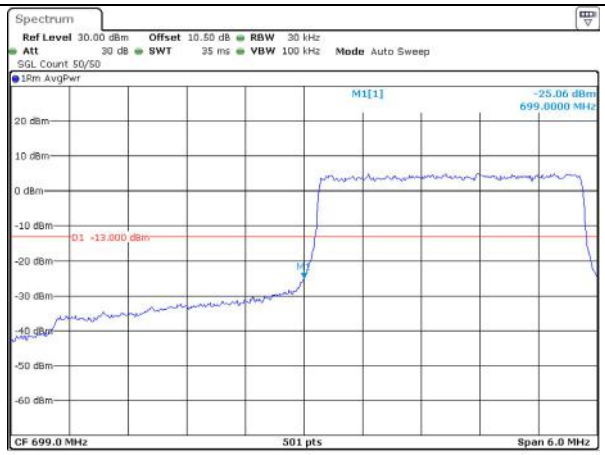
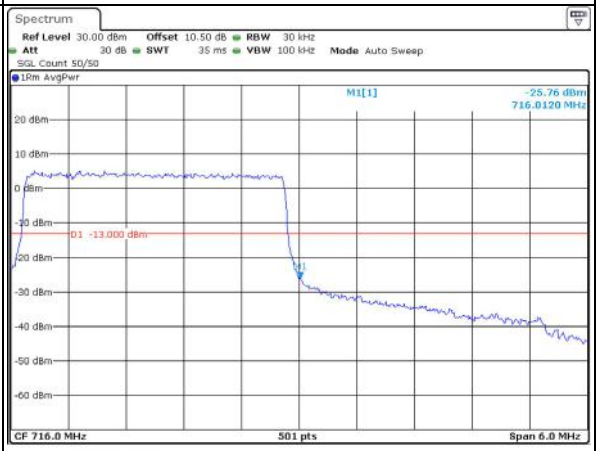
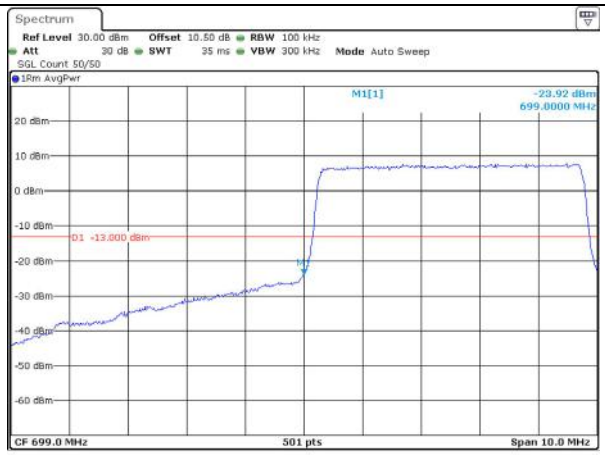
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

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

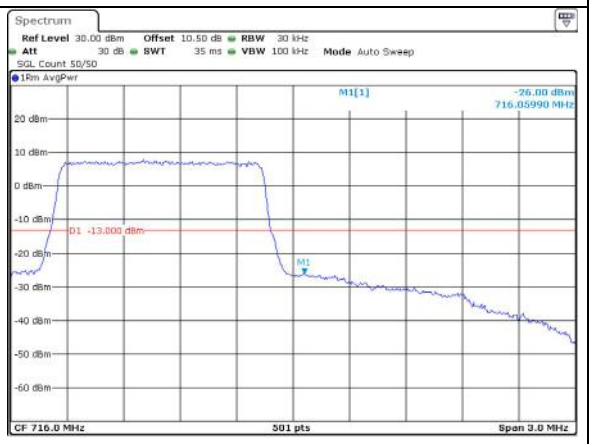
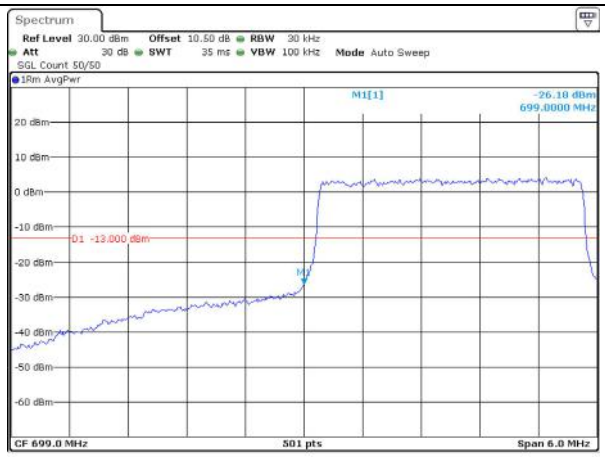
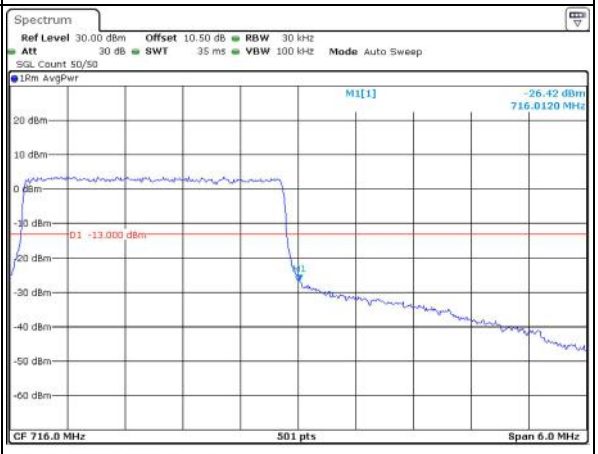
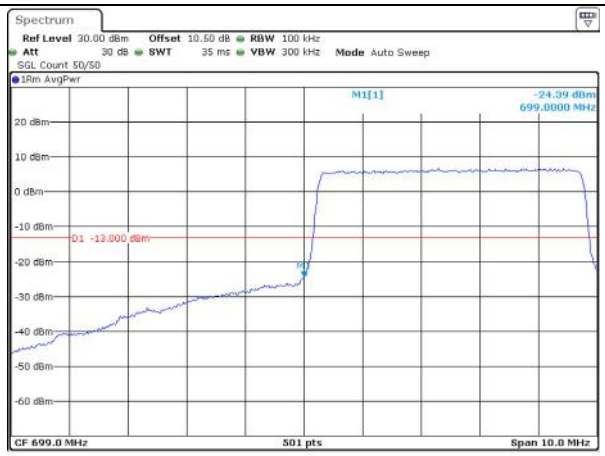
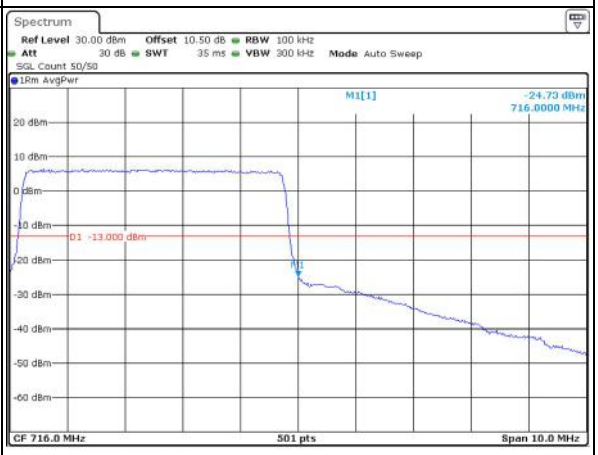
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

4.11 Antenna Port Test Data and Results for LTE Band 13

Serial Number:	294A-2	Test Date:	2023/9/14-2023/12/25
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	

Environmental Conditions:					
Temperature: (℃)	26.7~28.4	Relative Humidity: (%)	53~58	ATM Pressure: (kPa)	100.2~100.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211002	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
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
UNI-T	Multimeter	UT39A+	C210582554	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	779.5	/	784.5
10MHz	/	782	/

Test Data:

FCC§2.1046;§ 27.50(c) (10)

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	23.84	/	23.83	**18.54**	34.77
	RB1#13	23.89	/	23.85		
	RB1#24	23.87	/	23.82		
	RB15#0	22.79	/	22.89		
	RB15#10	22.88	/	22.93		
	RB25#0	22.90	/	22.84		
5MHz 16QAM	RB1#0	23.11	/	22.97	**17.87**	34.77
	RB1#13	23.22	/	22.97		
	RB1#24	23.16	/	22.98		
	RB15#0	21.78	/	21.89		
	RB15#10	21.89	/	21.97		
	RB25#0	21.87	/	21.93		
10MHz QPSK	RB1#0	/	23.81	/	18.49	34.77
	RB1#25	/	23.84	/		
	RB1#49	/	23.78	/		
	RB25#0	/	22.85	/		
	RB25#25	/	22.91	/		
	RB50#0	/	22.92	/		
10MHz 16QAM	RB1#0	/	22.73	/	17.48	34.77
	RB1#25	/	22.78	/		
	RB1#49	/	22.83	/		
	RB25#0	/	21.93	/		
	RB25#25	/	21.92	/		
	RB50#0	/	22.00	/		

Note:
ERP= Conducted Power(dBm) - L_C(dB) + G_T(dBd)
G_T(dBd)=G_T(dBi)-2.15

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	/	9.21	/	13
	RB50#0	/	6.36	/	13
10MHz 16QAM	RB1#0	/	5.22	/	13
	RB50#0	/	6.69	/	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	/	4.531	5	/	5
5MHz 16QAM	4.511	/	4.511	5	/	4.98
10MHz QPSK	/	8.942	/	/	9.72	/
10MHz 16QAM	/	8.942	/	/	9.68	/
Note: The test plots please refer to the Plots of Occupied Bandwidth						

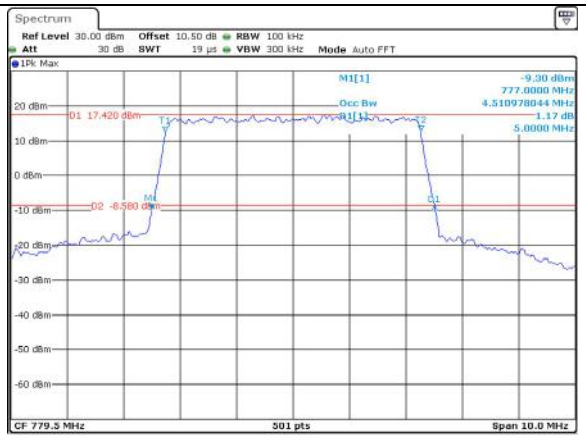
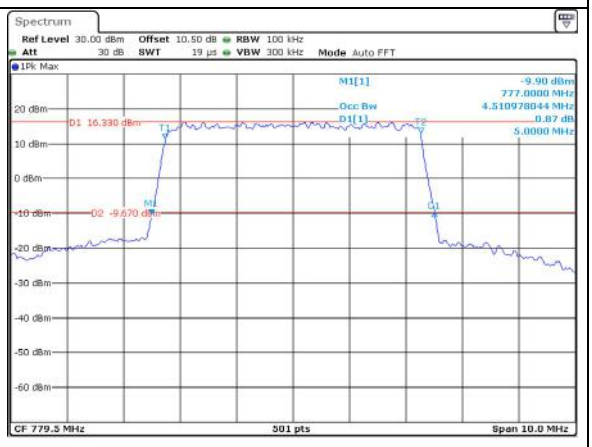
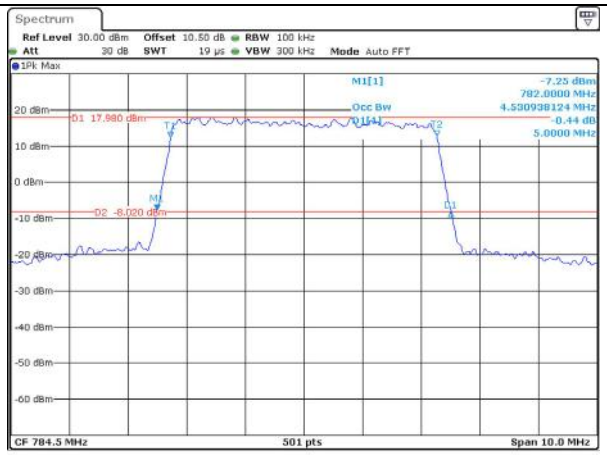
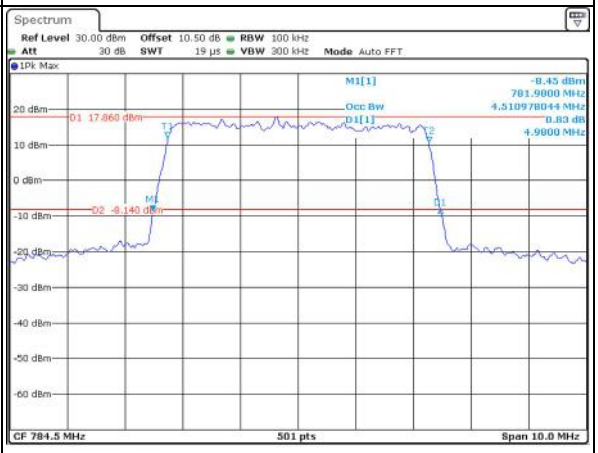
FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

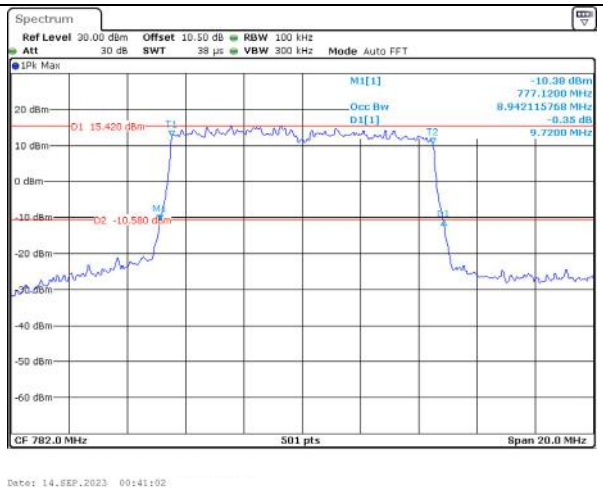
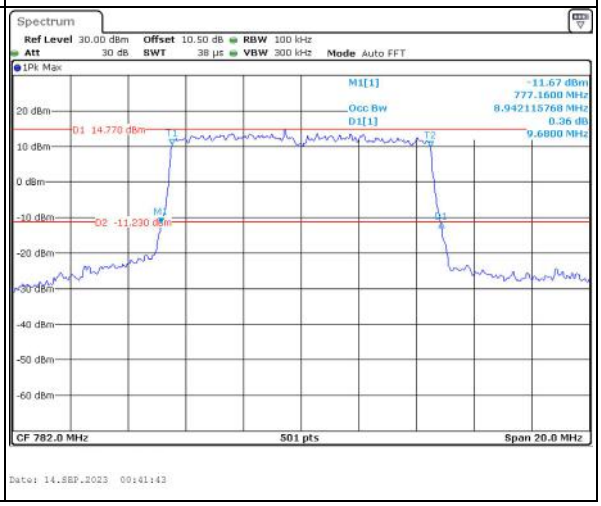
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

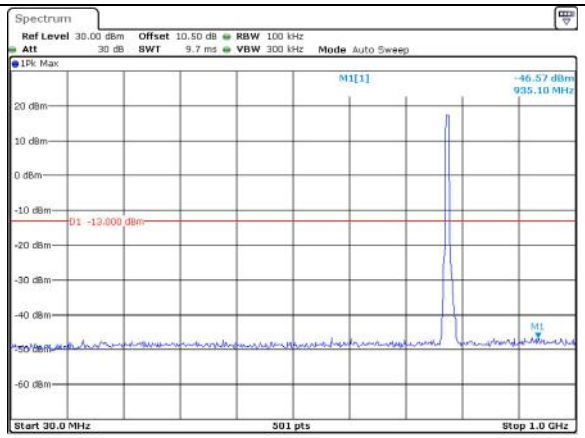
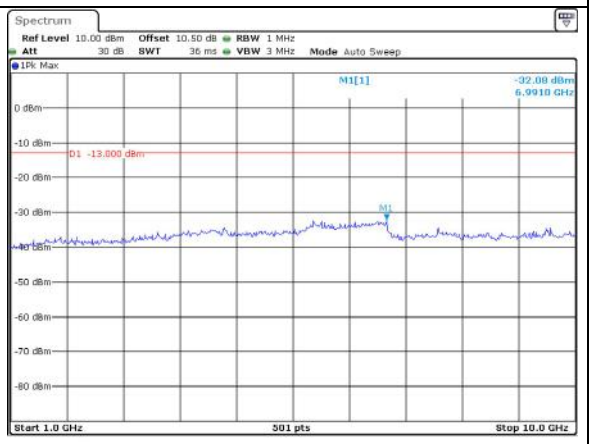
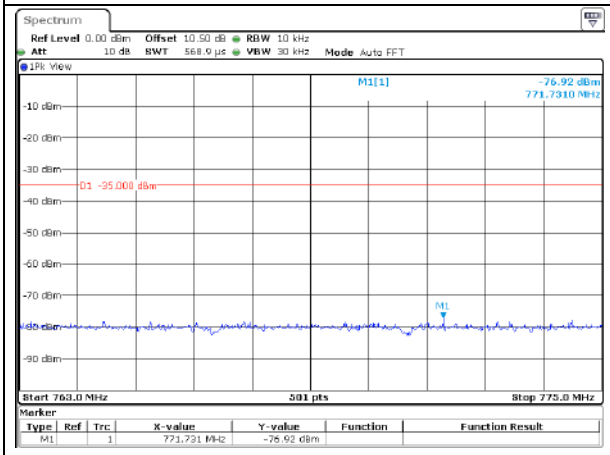
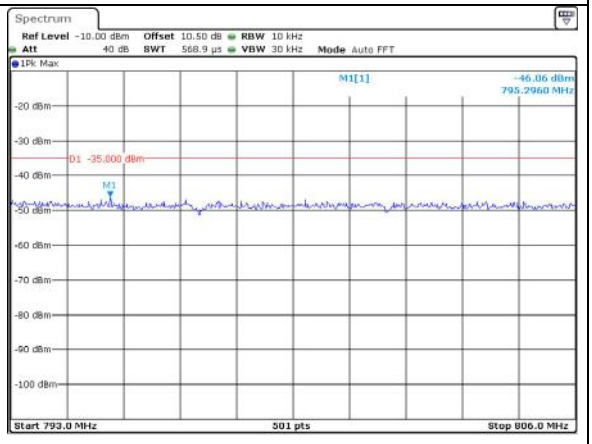
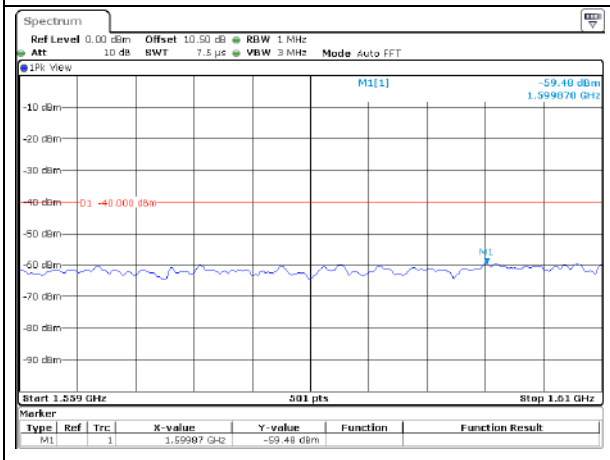
FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	777.018	777.00	786.986	787.00
	-20	3.85	777.028	777.00	786.990	787.00
	-10	3.85	777.014	777.00	786.972	787.00
	0	3.85	777.017	777.00	786.971	787.00
	10	3.85	777.016	777.00	786.993	787.00
	20	3.85	777.025	777.00	786.999	787.00
	30	3.85	777.017	777.00	786.972	787.00
	40	3.85	777.020	777.00	786.978	787.00
	50	3.85	777.008	777.00	786.991	787.00
Frequency Stability vs. Voltage	20	3.66	777.003	777.00	786.998	787.00
	20	4.24	777.027	777.00	786.999	787.00
					Result:	**Pass**

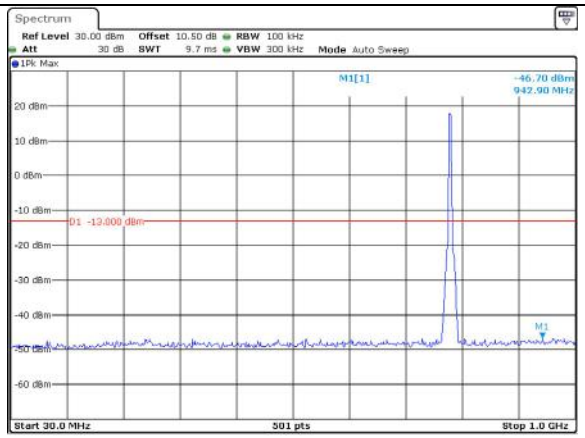
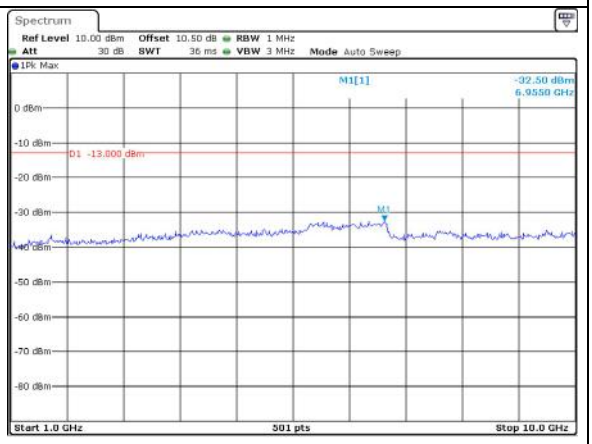
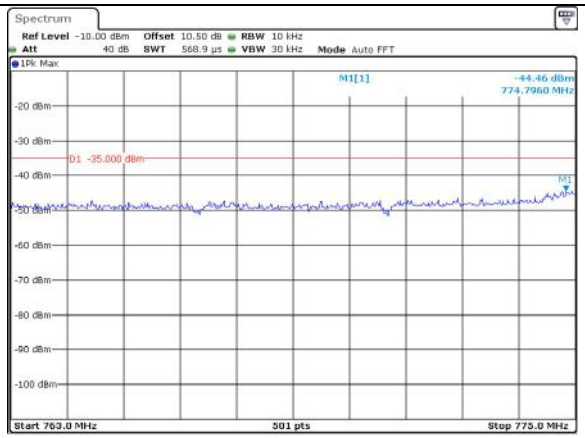
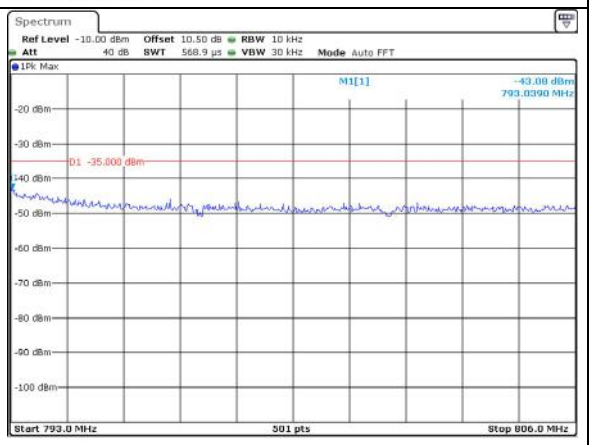
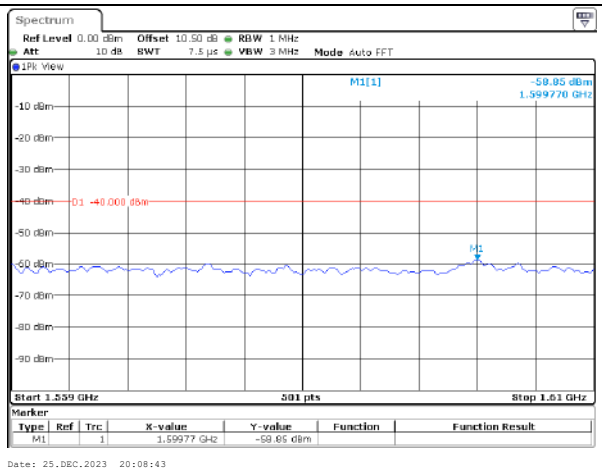
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	777.004	777.00	786.980	787.00
	-20	3.85	777.029	777.00	786.993	787.00
	-10	3.85	777.008	777.00	786.982	787.00
	0	3.85	777.025	777.00	786.977	787.00
	10	3.85	777.008	777.00	786.986	787.00
	20	3.85	777.012	777.00	786.980	787.00
	30	3.85	777.001	777.00	786.979	787.00
	40	3.85	777.019	777.00	786.983	787.00
	50	3.85	777.001	777.00	786.986	787.00
Frequency Stability vs. Voltage	20	3.66	777.001	777.00	786.982	787.00
	20	4.24	777.006	777.00	786.984	787.00
					Result:	**Pass**

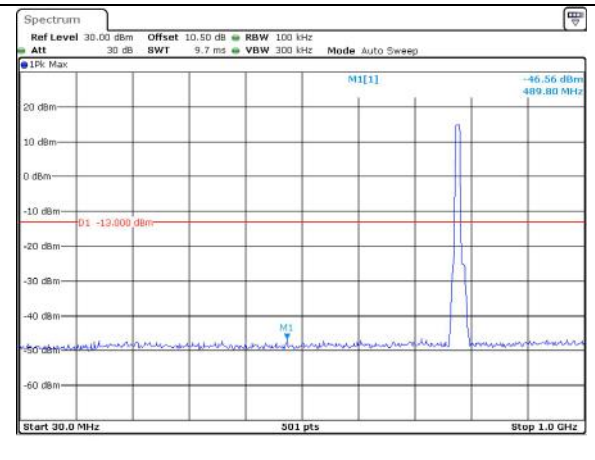
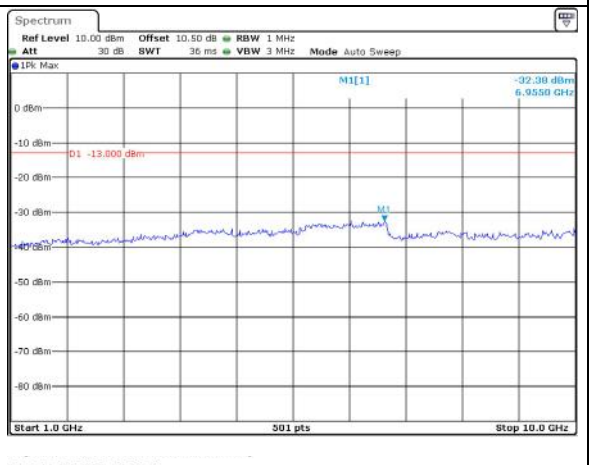
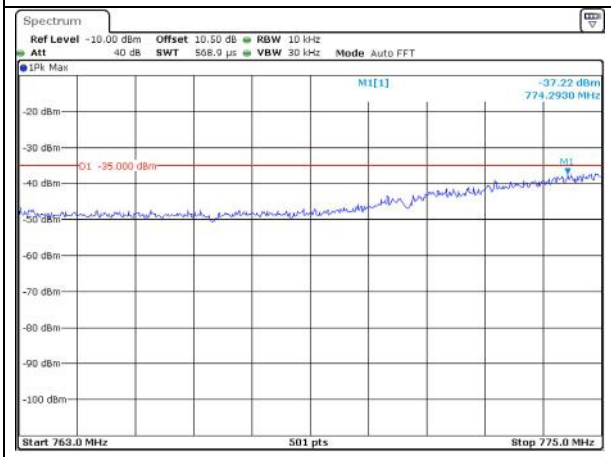
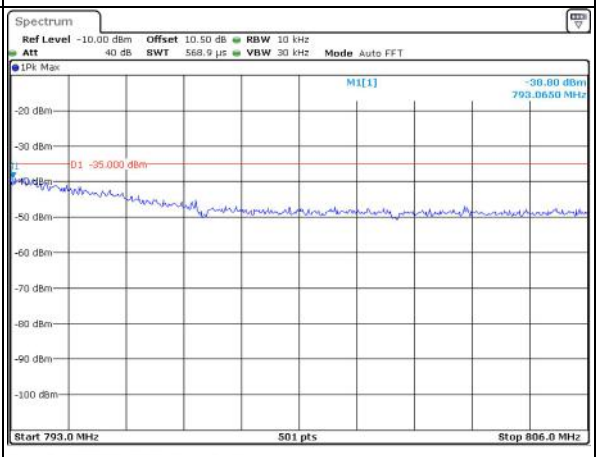
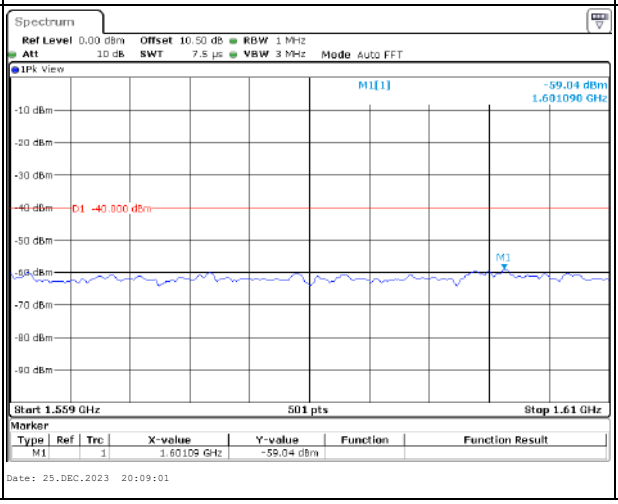
Test Plots(Note: The 10.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

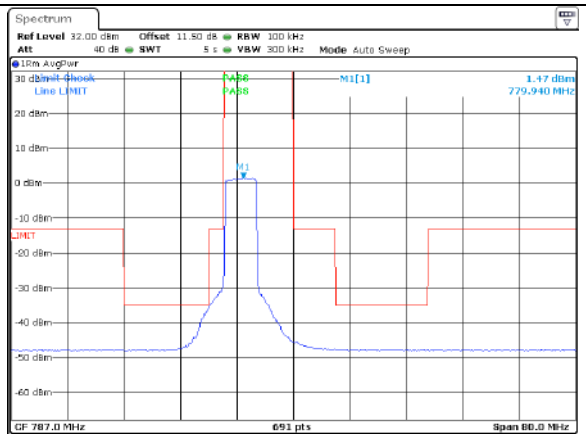
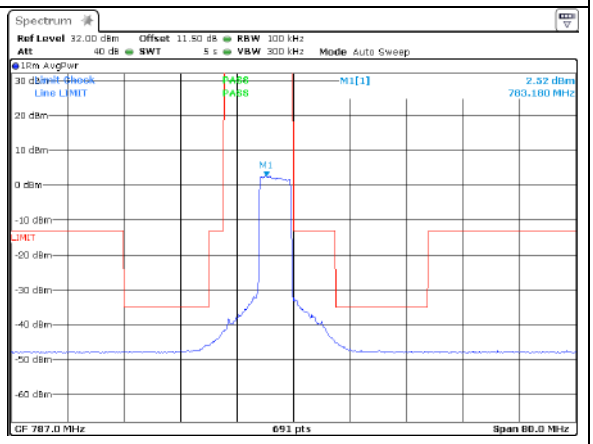
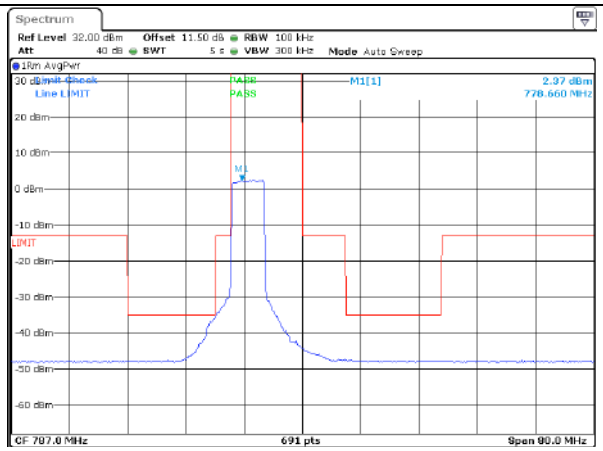
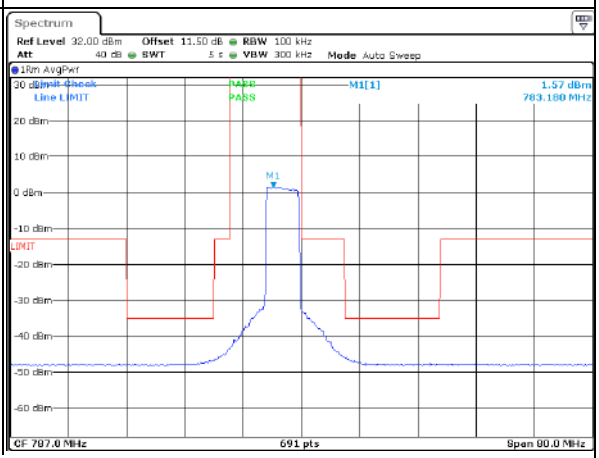
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Highest		

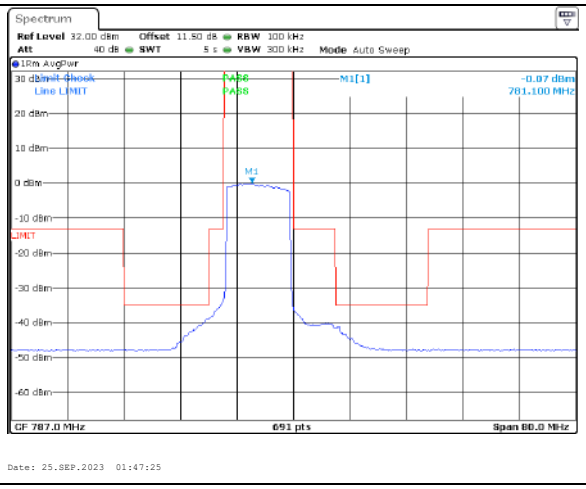
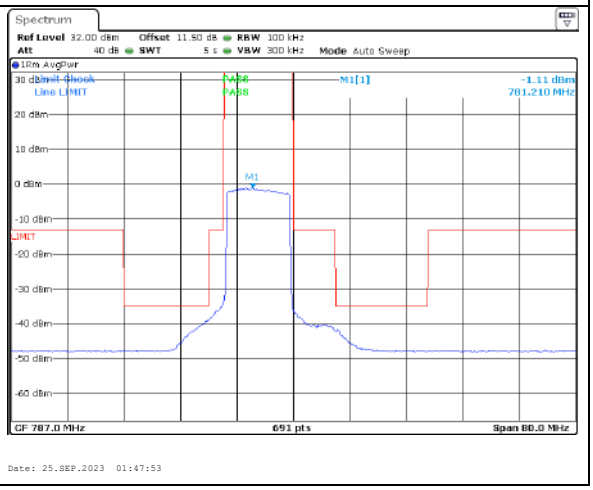
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Middle		

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

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

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

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

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

4.12 Antenna Port Test Data and Results for LTE Band 17

Serial Number:	294A-2	Test Date:	2023/9/13-2023/9/14
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	

Environmental Conditions:					
Temperature: (℃)	25.6~26.7	Relative Humidity: (%)	53~57	ATM Pressure: (kPa)	100.6~101

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211002	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
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	706.5	710	713.5
10MHz	709	710	711

Test Data:

FCC§2.1046;§ 27.50(c) (10)

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	24.04	24.05	24.09	**19.04**	34.77
	RB1#13	23.94	24.02	24.02		
	RB1#24	23.90	23.98	23.84		
	RB15#0	23.03	23.09	23.06		
	RB15#10	23.00	23.02	23.02		
	RB25#0	23.08	22.99	23.05		
5MHz 16QAM	RB1#0	23.36	23.13	23.00	18.31	34.77
	RB1#13	23.32	23.15	23.07		
	RB1#24	23.19	23.08	22.79		
	RB15#0	22.02	22.10	22.10		
	RB15#10	22.05	22.06	22.06		
	RB25#0	22.06	22.09	22.15		
10MHz QPSK	RB1#0	23.97	23.99	24.07	19.02	34.77
	RB1#25	23.91	23.97	23.96		
	RB1#49	23.95	23.89	23.91		
	RB25#0	23.06	23.03	23.06		
	RB25#25	23.01	23.04	23.02		
	RB50#0	23.01	23.01	23.04		
10MHz 16QAM	RB1#0	23.20	23.22	23.79	**18.74**	34.77
	RB1#25	23.10	23.02	23.76		
	RB1#49	23.17	22.91	23.65		
	RB25#0	22.10	22.18	22.14		
	RB25#25	22.08	22.13	22.08		
	RB50#0	22.00	22.05	22.04		

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	7.44	9.42	9.84	13
	RB50#0	7.66	9.98	7.77	13
10MHz 16QAM	RB1#0	7.59	7.08	7.11	13
	RB50#0	8.87	9.16	7.66	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	4.980	5.020
5MHz 16QAM	4.511	4.511	4.511	5.000	5.040	5.000
10MHz QPSK	8.942	8.942	8.942	9.680	9.720	9.680
10MHz 16QAM	8.982	8.942	8.942	9.720	9.600	9.640
Note: The test plots please refer to the Plots of Occupied Bandwidth						

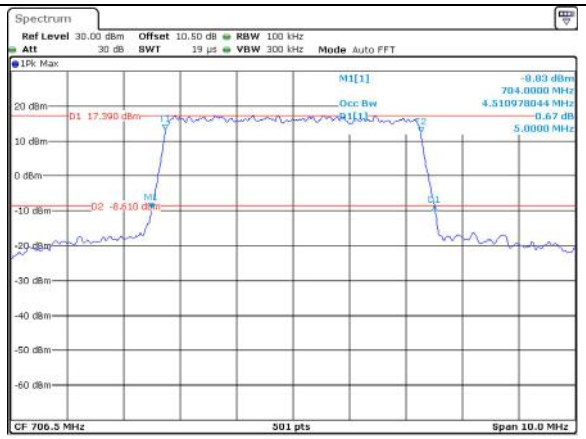
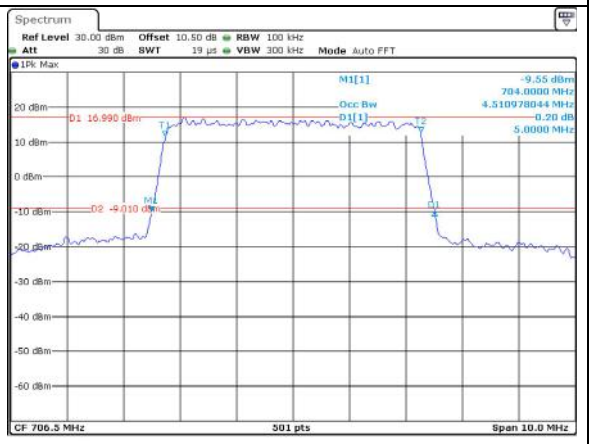
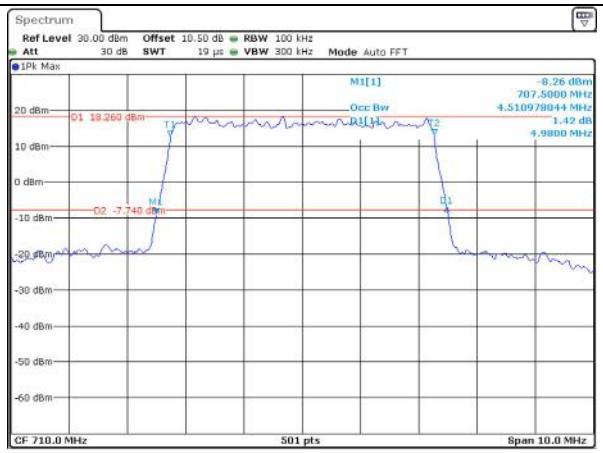
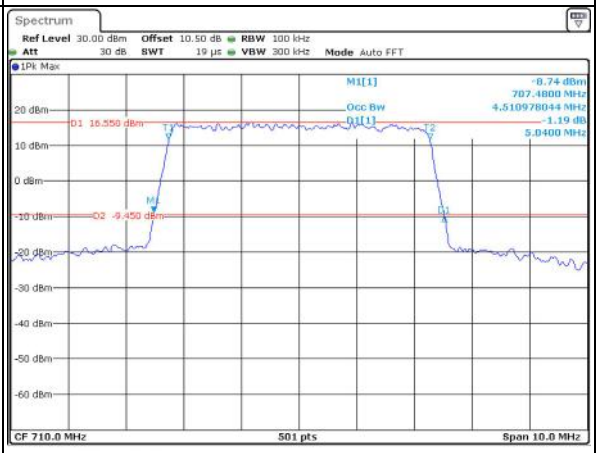
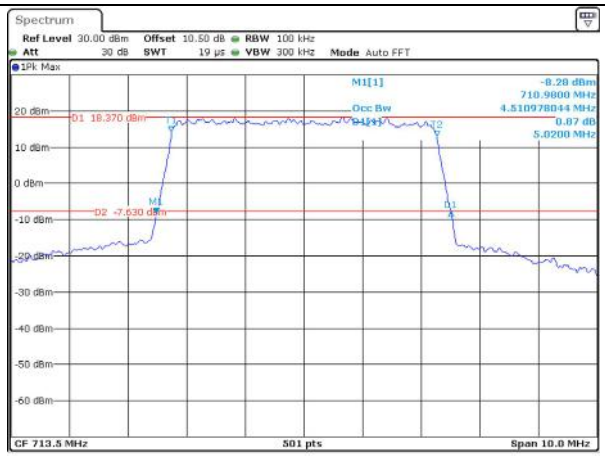
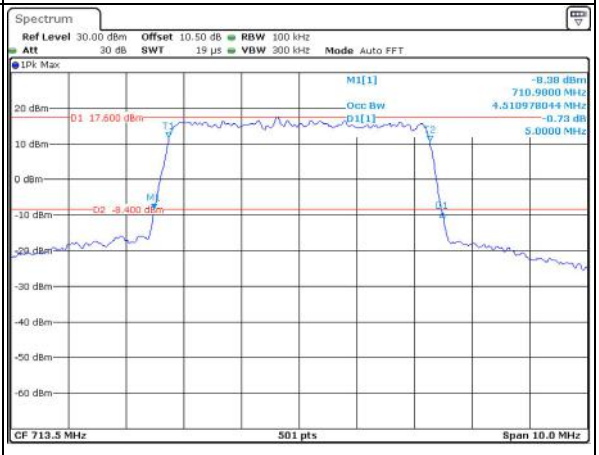
FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

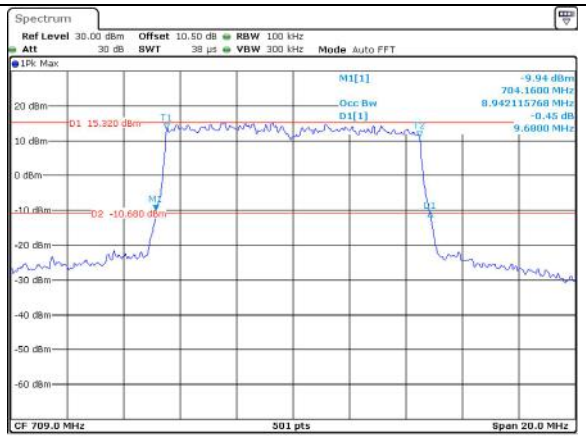
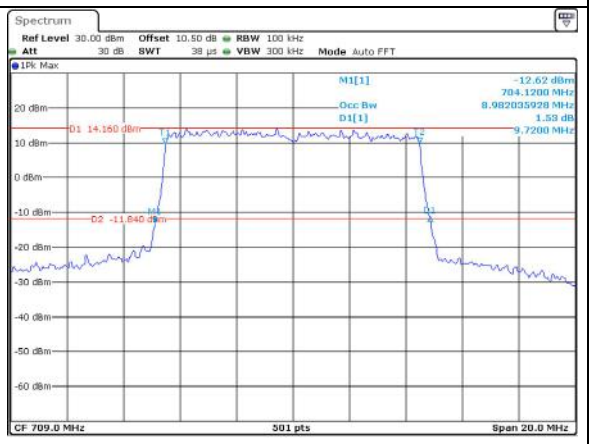
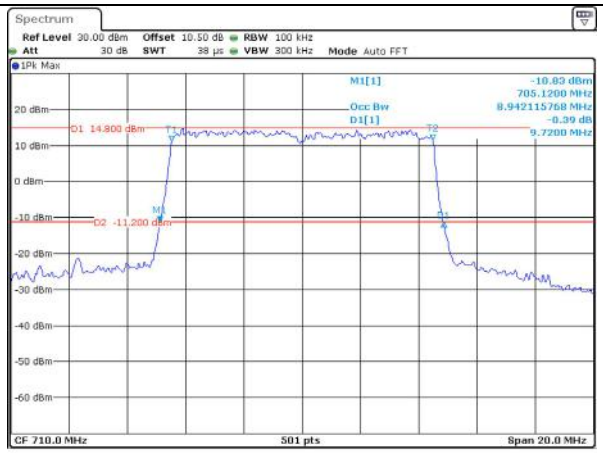
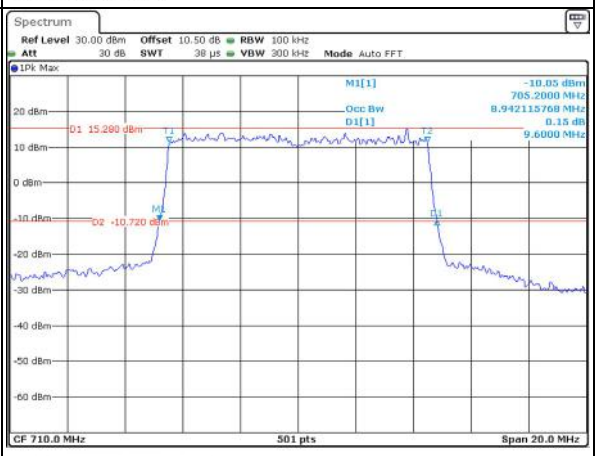
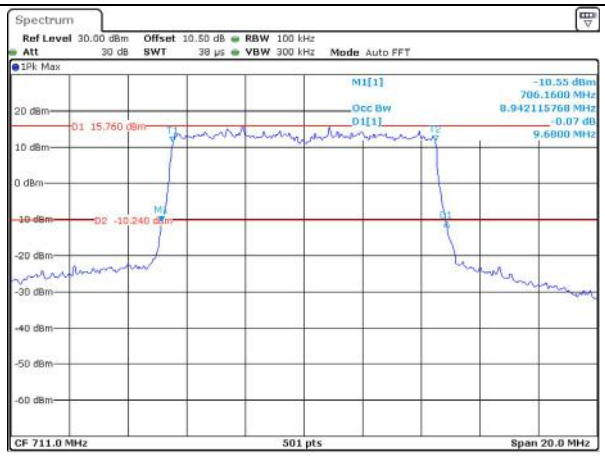
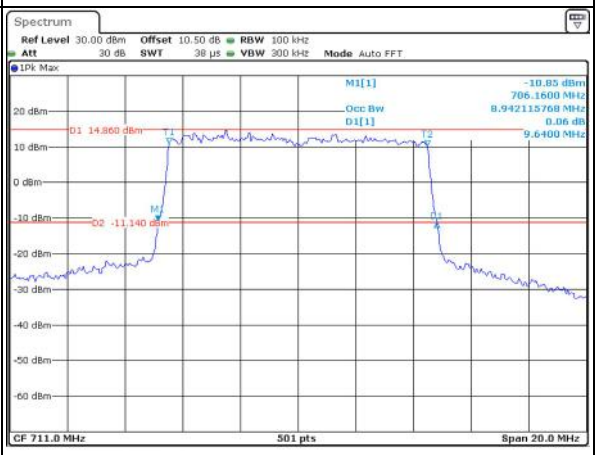
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

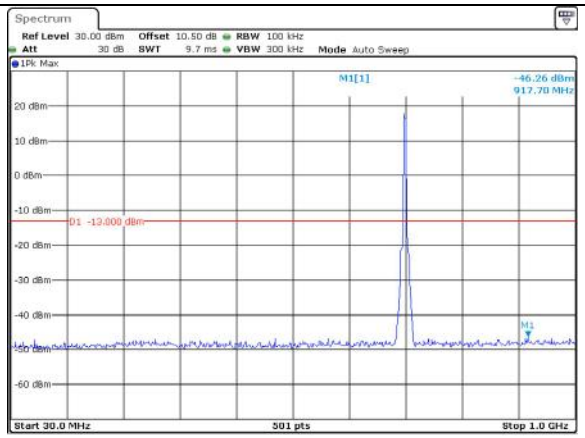
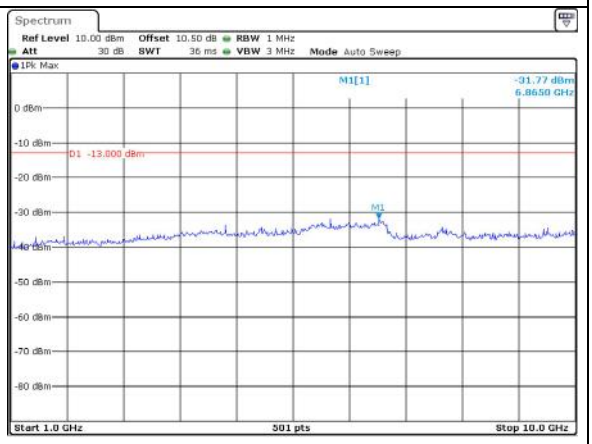
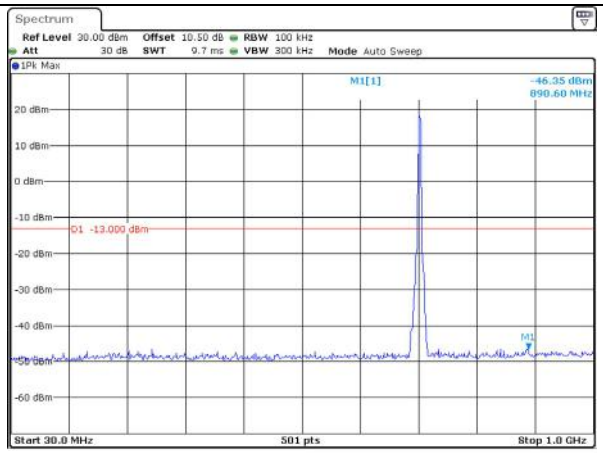
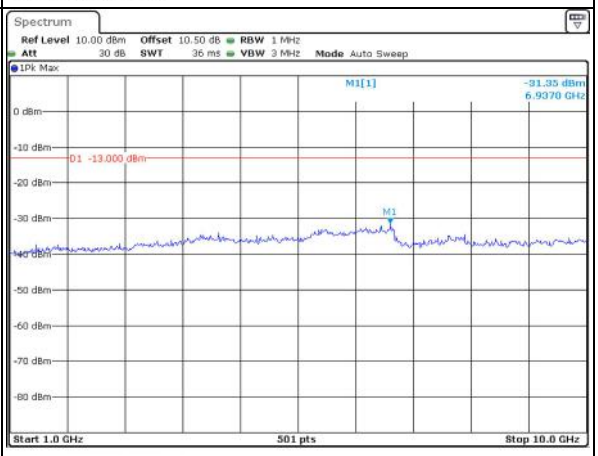
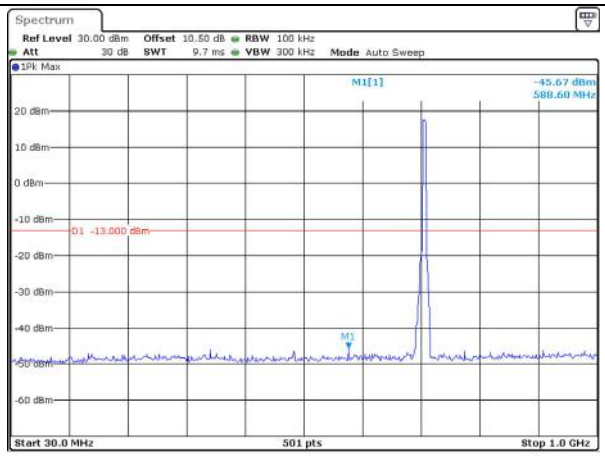
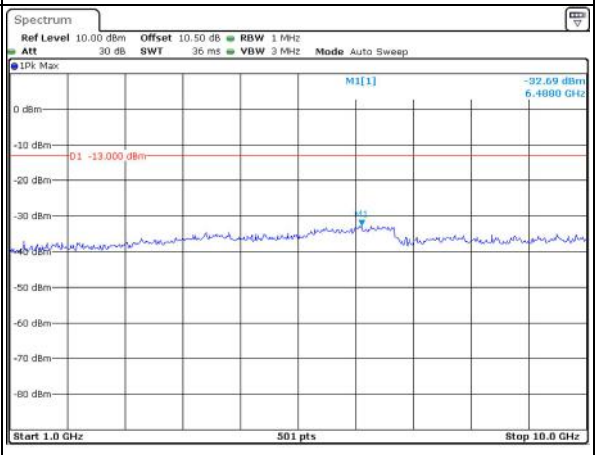
FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	704.022	704.00	715.997	716.00
	-20	3.85	704.029	704.00	715.975	716.00
	-10	3.85	704.007	704.00	715.972	716.00
	0	3.85	704.024	704.00	715.986	716.00
	10	3.85	704.021	704.00	715.973	716.00
	20	3.85	704.023	704.00	715.983	716.00
	30	3.85	704.026	704.00	715.979	716.00
	40	3.85	704.013	704.00	715.999	716.00
	50	3.85	704.006	704.00	715.994	716.00
Frequency Stability vs. Voltage	20	3.66	704.018	704.00	715.986	716.00
	20	4.24	704.004	704.00	715.999	716.00
					Result:	**Pass**

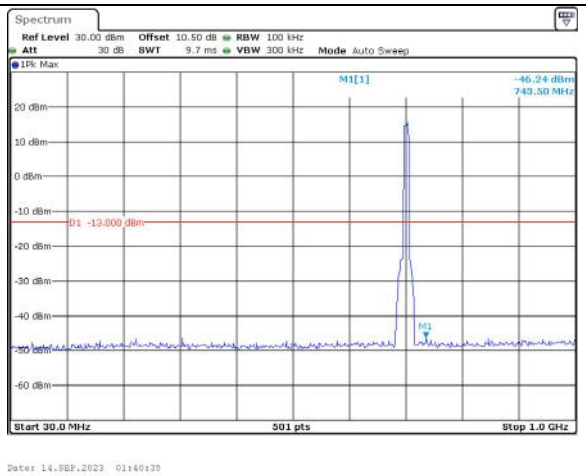
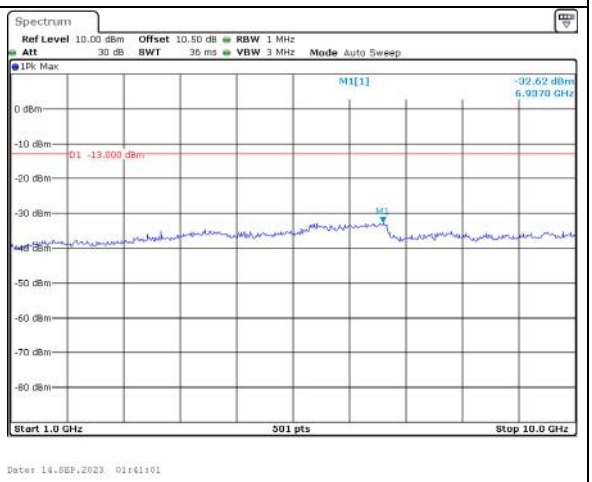
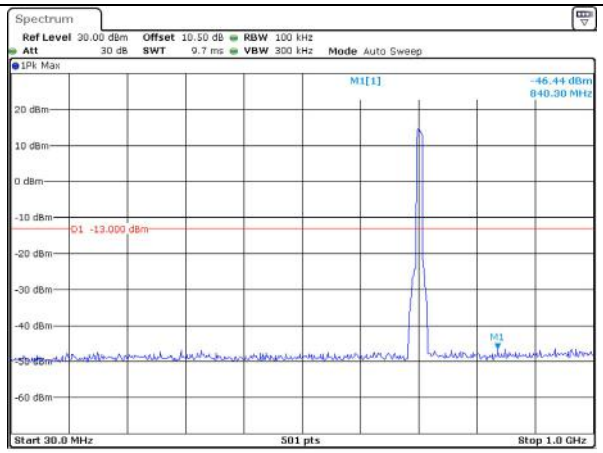
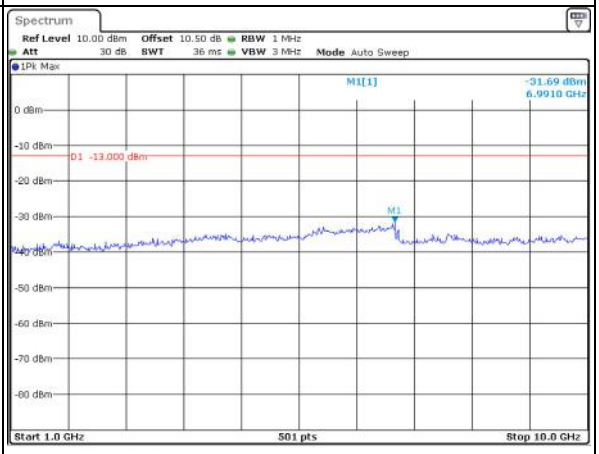
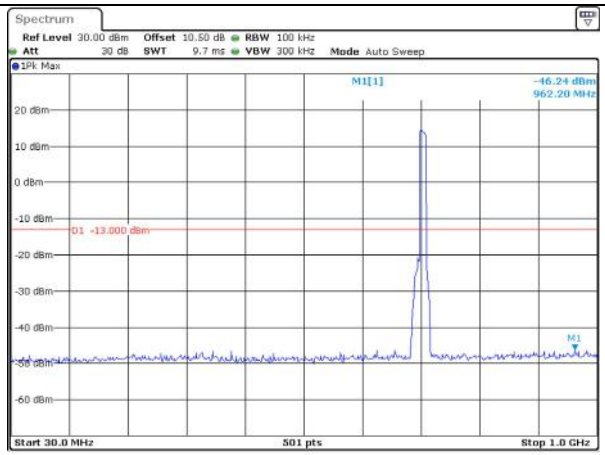
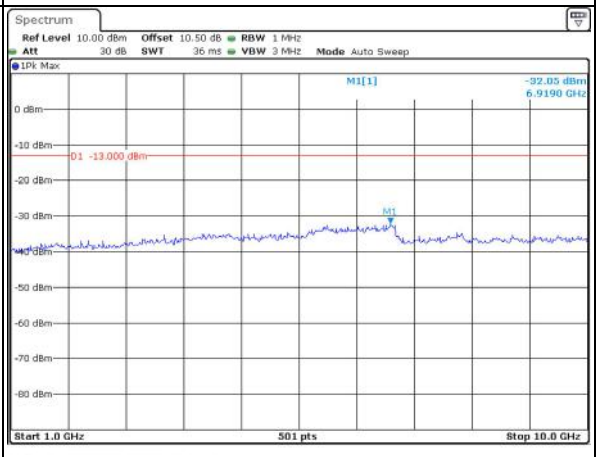
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	704.011	704.00	715.993	716.00
	-20	3.85	704.008	704.00	715.982	716.00
	-10	3.85	704.014	704.00	715.995	716.00
	0	3.85	704.020	704.00	715.984	716.00
	10	3.85	704.019	704.00	715.982	716.00
	20	3.85	704.003	704.00	715.998	716.00
	30	3.85	704.016	704.00	715.998	716.00
	40	3.85	704.027	704.00	715.993	716.00
	50	3.85	704.007	704.00	715.991	716.00
Frequency Stability vs. Voltage	20	3.66	704.026	704.00	715.980	716.00
	20	4.24	704.014	704.00	715.980	716.00
					Result:	**Pass**

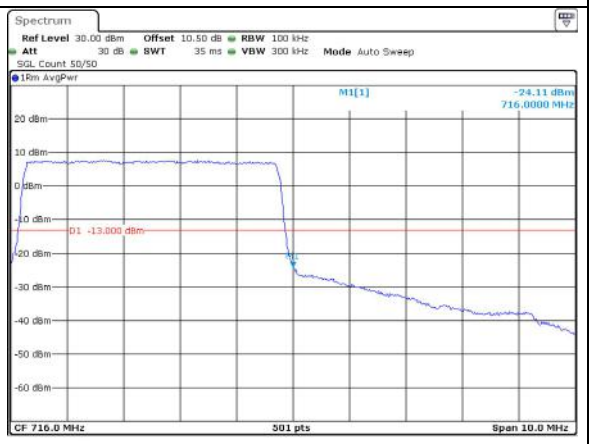
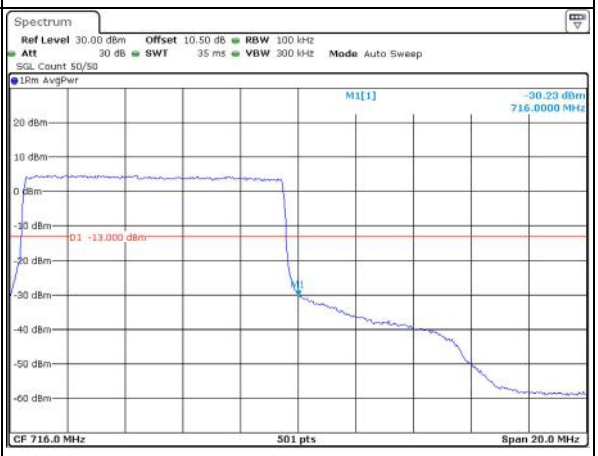
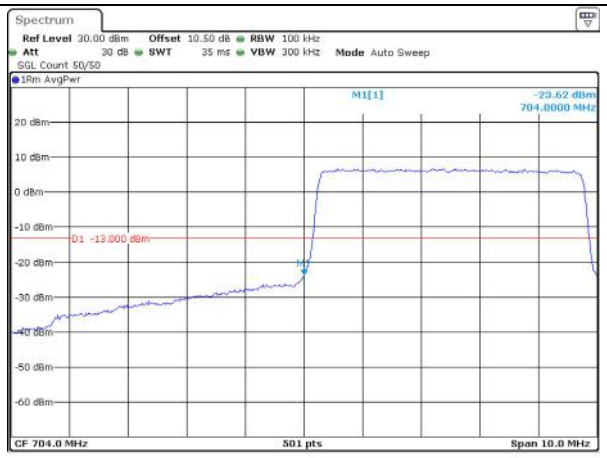
Test Plots (Note: The 10.5 dB is the Insertion loss of the RF cable and Power Splitter, which was offset into the Spectrum Analyzer):

Occupied Bandwidth		
Channel	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	**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 5MHz		
QPSK 10MHz		
16QAM 5MHz		

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

4.14 Antenna Port Test Data and Results for LTE Band 26

Serial Number:	294A-2	Test Date:	2023/9/14-2024/01/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	26.7~28.4	Relative Humidity: (%)	53~58	ATM Pressure: (kPa)	100.2~100.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211002	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
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
UNI-T	Multimeter	UT39A+	C210582554	2023/9/28	2024/9/27
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency for Each Mode:

Operation Bandwidth	Lowest Frequency For 90S (MHz)	Highest Frequency For 90S (MHz)	Channel Cross 90S and 22H	Lowest Frequency For 22H (MHz)	Middle Frequency For 22H (MHz)	Highest Frequency For 22H (MHz)
1.4MHz	814.7	823.3	824	824.7	831.5	848.3
3MHz	815.5	822.5	824	825.5	831.5	847.5
5MHz	816.5	821.5	824	826.5	831.5	846.5
10MHz	819	/	824	829	831.5	844
15MHz	821.5	/	824	831.5	836.5	841.5

Note: 15MHz bandwidth 821.5MHz cross Rules 90S and 22H.

4.14.1 Test Data for Part 90S:

FCC§2.1046; § 90.635

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel For 90S	Highest Channel For 90S	Cross Channel		
1.4MHz QPSK	RB1#0	23.96	23.85	23.75	18.02	50
	RB1#3	23.93	23.97	23.84		
	RB1#5	23.89	23.88	23.78		
	RB3#0	23.89	23.85	23.68		
	RB3#3	23.88	23.85	23.76		
	RB6#0	22.92	22.83	22.77		
1.4MHz 16QAM	RB1#0	23.15	23.08	22.82	17.29	50
	RB1#3	23.16	23.24	22.85		
	RB1#5	23.18	23.03	22.92		
	RB3#0	23.10	22.86	22.87		
	RB3#3	23.10	22.87	22.87		
	RB6#0	21.99	21.91	21.82		
3MHz QPSK	RB1#0	24.02	23.90	23.84	18.11	50
	RB1#8	24.06	23.97	23.84		
	RB1#14	23.98	23.90	23.70		
	RB6#0	23.03	22.93	22.93		
	RB6#9	23.01	22.99	22.88		
	RB15#0	23.05	22.93	22.89		
3MHz 16QAM	RB1#0	23.13	23.02	23.47	17.66	50
	RB1#8	23.23	22.98	23.61		
	RB1#14	23.16	22.96	23.40		
	RB6#0	22.12	21.89	22.01		
	RB6#9	22.15	22.05	21.97		
	RB15#0	21.95	21.97	22.01		
5MHz QPSK	RB1#0	24.04	23.96	23.89	18.09	50
	RB1#13	24.03	23.98	23.88		
	RB1#24	23.96	23.99	23.78		
	RB15#0	23.05	22.94	22.95		
	RB15#10	23.01	23.02	22.92		
	RB25#0	23.02	22.92	22.92		
5MHz 16QAM	RB1#0	23.29	23.12	22.84	17.34	50
	RB1#13	23.25	23.17	22.96		
	RB1#24	23.27	23.11	22.78		
	RB15#0	21.99	21.94	21.98		
	RB15#10	21.98	22.06	21.94		
	RB25#0	21.99	22.00	22.02		
10MHz QPSK	RB1#0	23.78	/	23.79	17.84	50

	RB1#25	23.77	/	23.67		
	RB1#49	23.68	/	23.78		
	RB25#0	22.95	/	22.97		
	RB25#25	23.26	/	23.21		
	RB50#0	22.94	/	23.22		
10MHz 16QAM	RB1#0	23.27	/	23.23	17.49	50
	RB1#25	23.44	/	23.31		
	RB1#49	23.13	/	23.25		
	RB25#0	22.20	/	22.07		
	RB25#25	22.06	/	22.22		
	RB50#0	22.11	/	22.24		
15MHz QPSK	RB1#0	23.76	/	23.64	17.94	50
	RB1#38	23.68	/	23.69		
	RB1#74	23.83	/	23.89		
	RB36#0	23.15	/	22.95		
	RB36#39	23.04	/	23.21		
	RB75#0	23.13	/	23.08		
15MHz 16QAM	RB1#0	23.21	/	23.23	17.47	50
	RB1#38	23.42	/	23.40		
	RB1#74	23.20	/	23.31		
	RB36#0	21.98	/	22.22		
	RB36#39	22.34	/	22.33		
	RB75#0	22.24	/	22.18		

Note:
ERP= Conducted Power(dBm) - L_C(dB) + G_T(dBd)
G_T(dBd)=G_T(dBi)-2.15

Result:	**Pass**

FCC §2.1049, §90.209: Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Lowest For 90S	Highest For 90S	Cross	Lowest For 90S	Highest For 90S	Cross
1.4MHz QPSK	1.102	1.084	1.084	1.242	1.218	1.204
1.4MHz 16QAM	1.09	1.078	1.096	1.21	1.188	1.252
3MHz QPSK	2.695	2.695	2.695	2.952	2.952	2.946
3MHz 16QAM	2.683	2.695	2.683	2.964	2.976	2.982
5MHz QPSK	4.511	4.511	4.511	5.000	5.000	5.010
5MHz 16QAM	4.511	4.511	4.511	5.020	4.980	4.990
10MHz QPSK	8.942	/	8.942	9.720	/	9.701
10MHz 16QAM	8.942	/	8.942	9.680	/	9.621
15MHz QPSK	13.487	/	13.533	14.356	/	14.85
15MHz 16QAM	13.487	/	13.533	14.416	/	14.671

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

FCC §2.1051, §90.691: Spurious Emissions at Antenna Terminal	
Result:	**Pass, please refer to the test plots of Spurious Emissions at Antenna Terminal.**

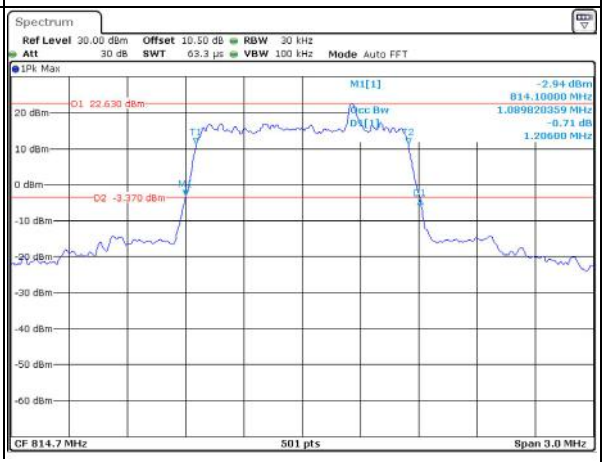
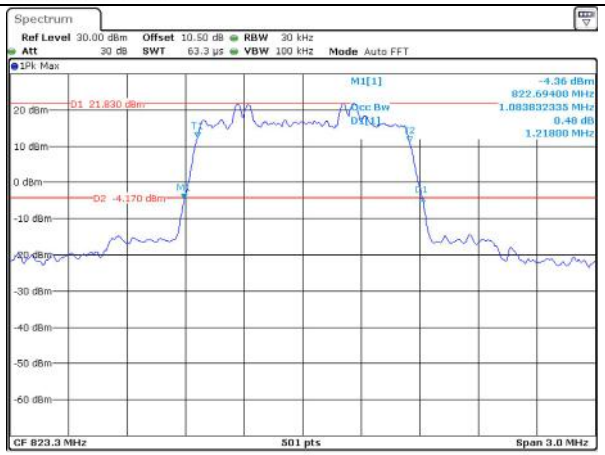
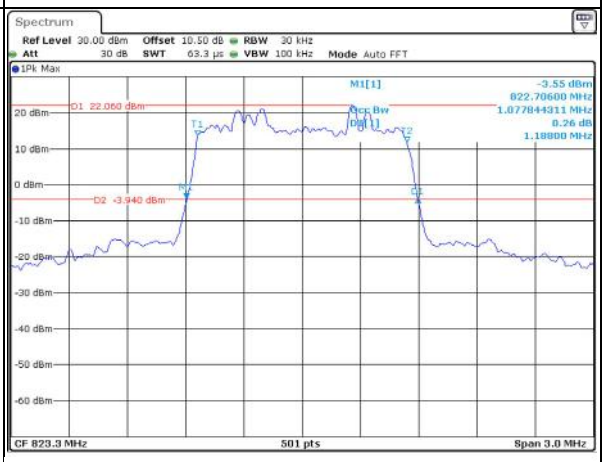
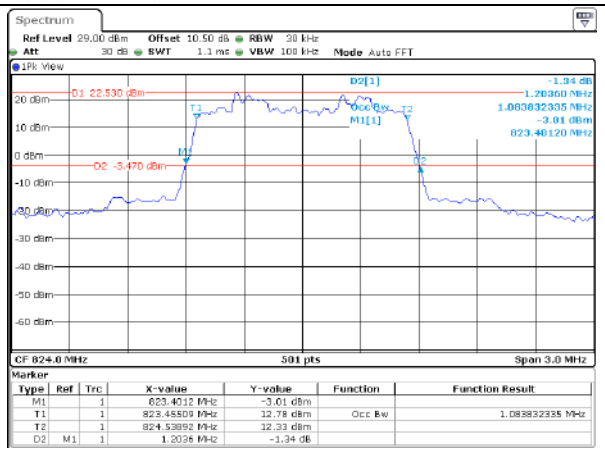
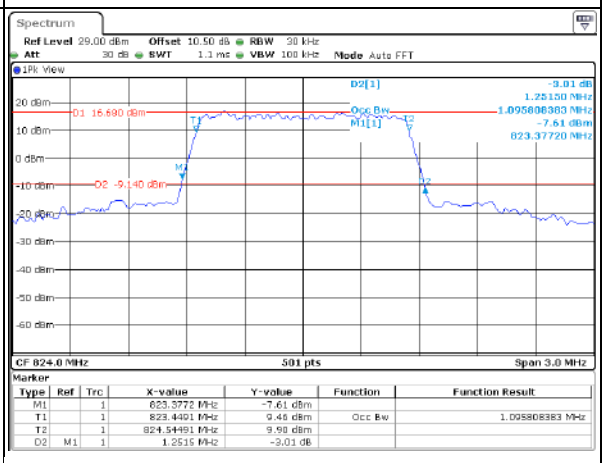
FCC §2.1051, §90.691: Out of band emission, Band Edge	
Result:	**Pass, please refer to the test plots of Out of band emission, Band Edge.**

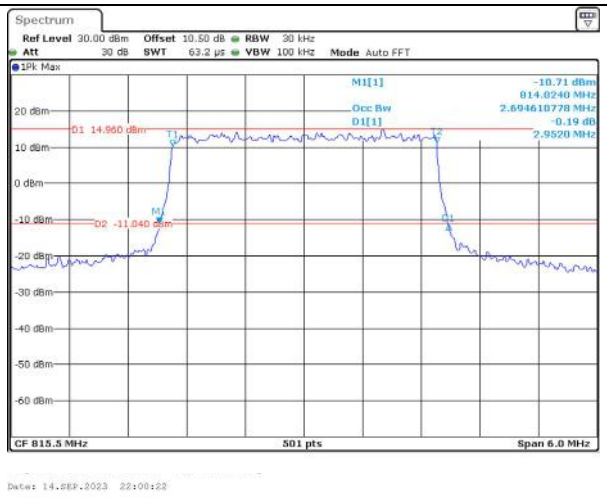
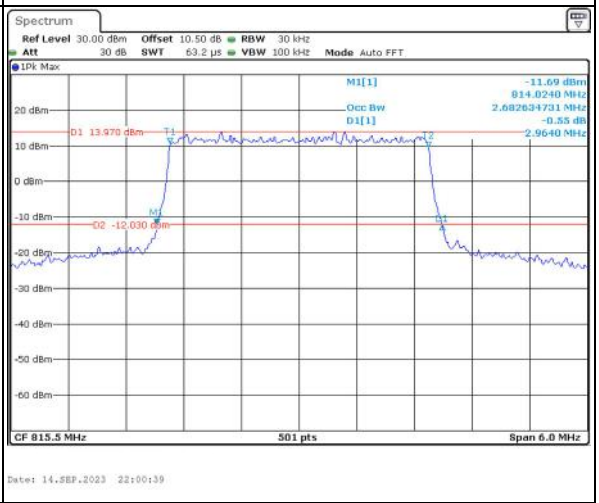
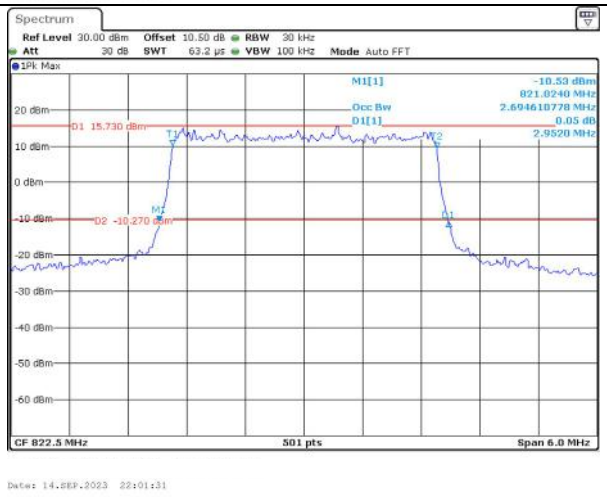
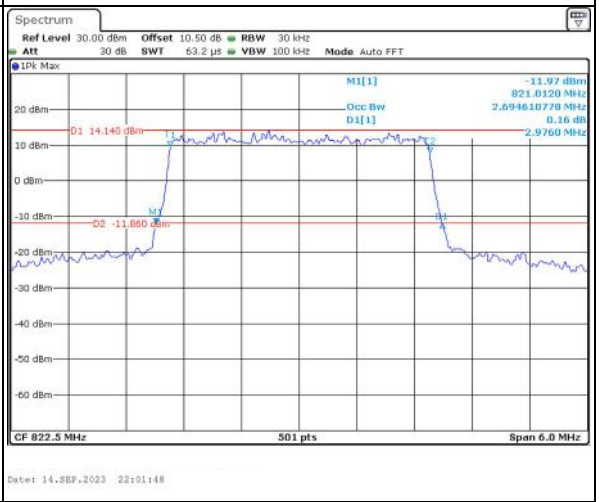
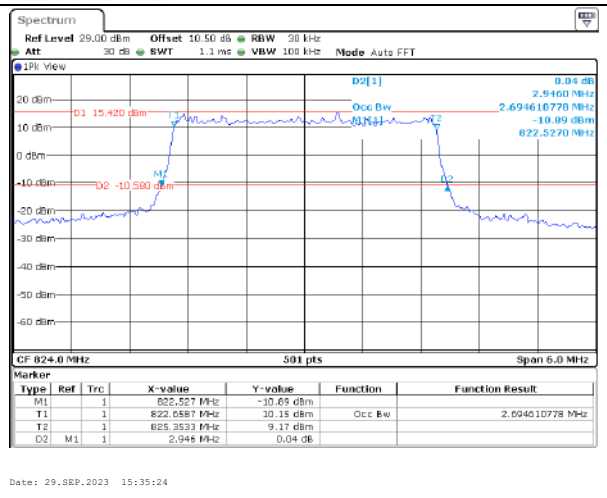
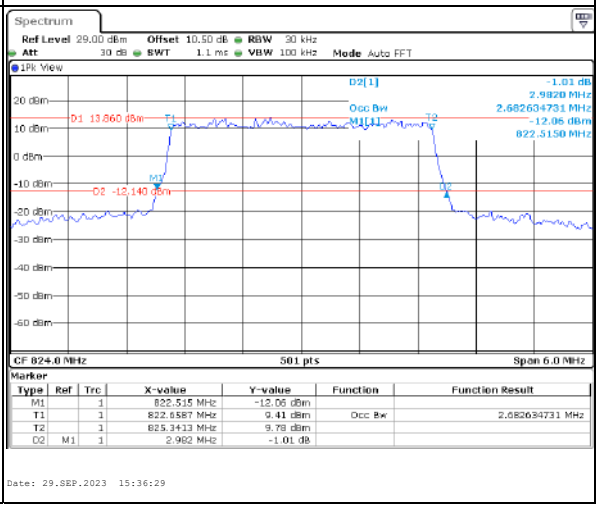
FCC §2.1055, §90.213: Frequency Stability					
Test Modulation:	15 MHz QPSK		Test Channel:	821.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	115.38	0.139	2.5
	-20	3.85	112.419	0.135	2.5
	-10	3.85	110.699	0.133	2.5
	0	3.85	114.758	0.138	2.5
	10	3.85	116.488	0.140	2.5
	20	3.85	116.159	0.140	2.5
	30	3.85	115.338	0.139	2.5
	40	3.85	100.135	0.120	2.5
	50	3.85	116.179	0.140	2.5
Frequency Stability vs. Voltage	20	3.66	110.681	0.133	2.5
	20	4.24	108.039	0.130	2.5
				Result:	**Pass**

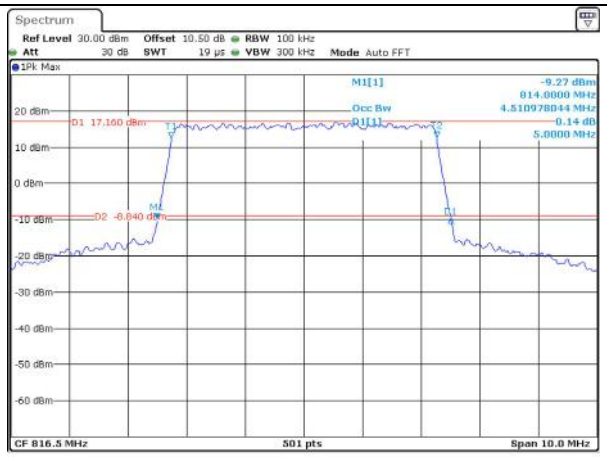
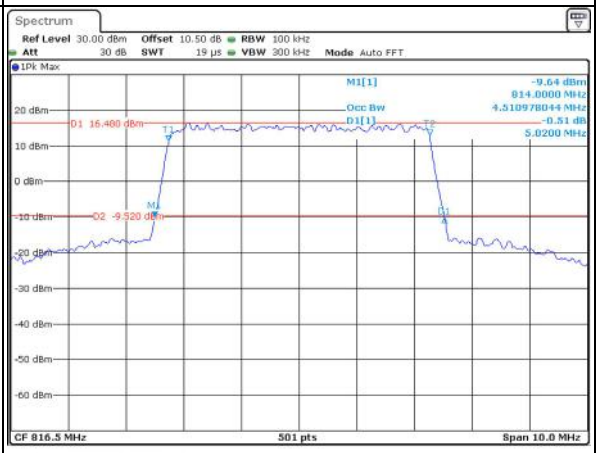
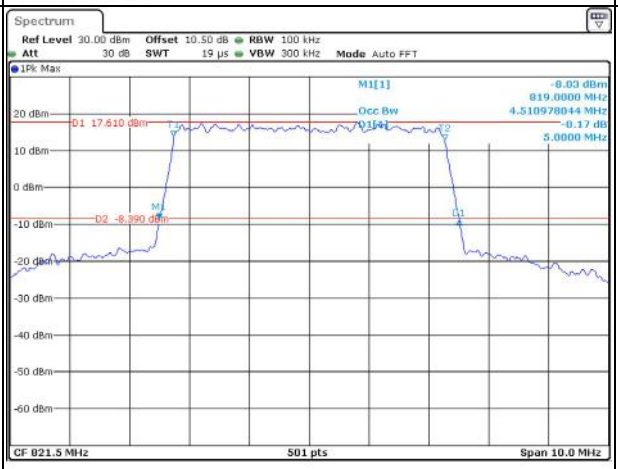
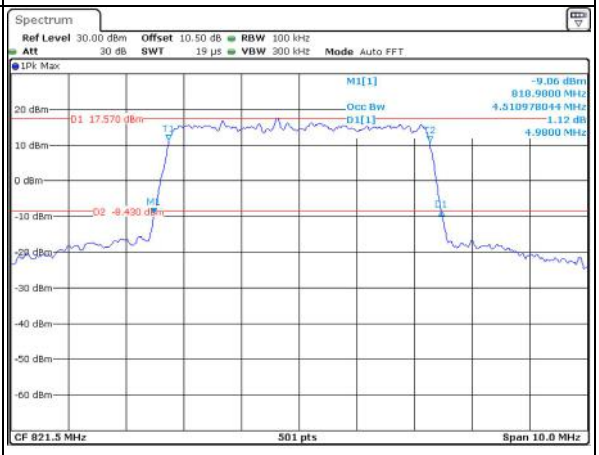
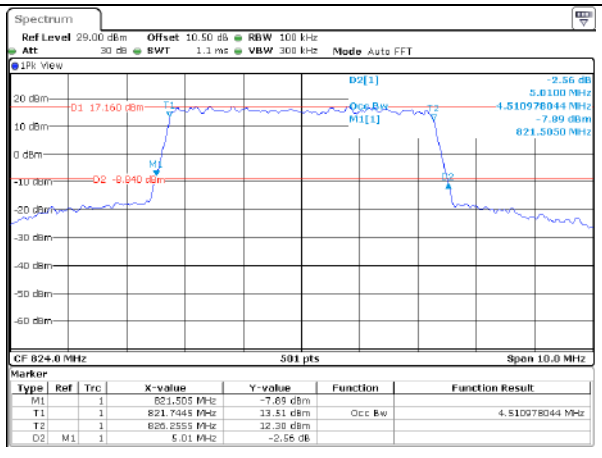
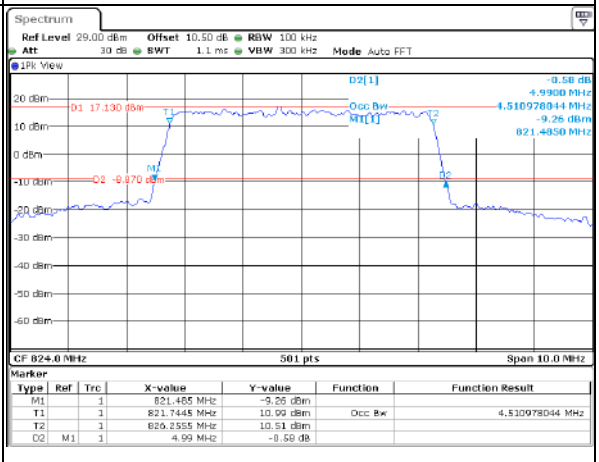
FCC §2.1055, §90.213: Frequency Stability					
Test Modulation:	15 MHz 16QAM		Test Channel:	821.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.85	100.829	0.121	2.5
	-20	3.85	118.642	0.143	2.5
	-10	3.85	105.235	0.127	2.5
	0	3.85	115.138	0.138	2.5
	10	3.85	101.542	0.122	2.5
	20	3.85	107.249	0.129	2.5
	30	3.85	102.629	0.123	2.5
	40	3.85	105.595	0.127	2.5
	50	3.85	104.717	0.126	2.5
Frequency Stability vs. Voltage	20	3.66	115.176	0.139	2.5
	20	4.24	119.772	0.144	2.5
				Result:	**Pass**

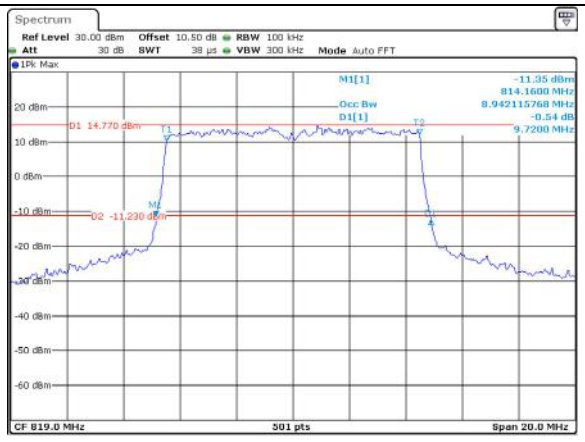
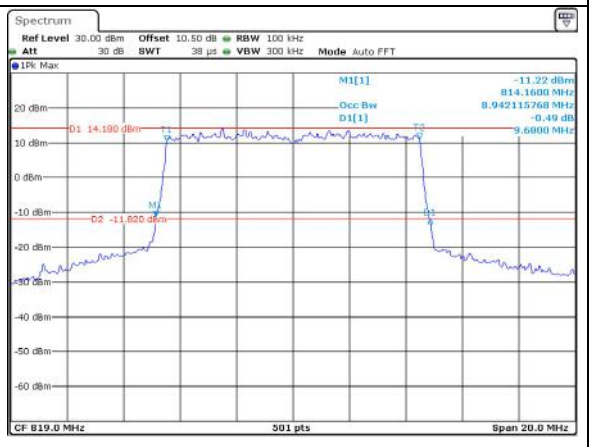
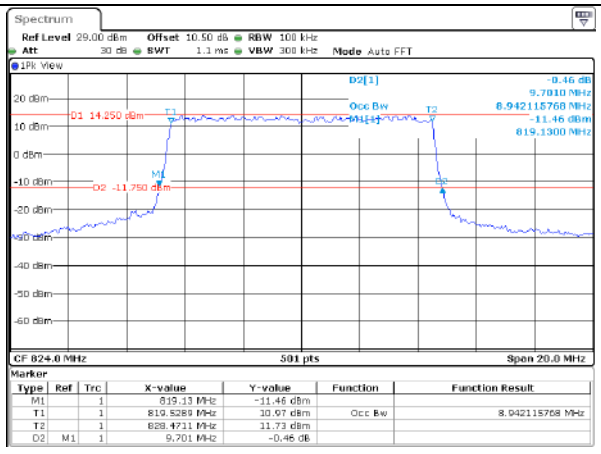
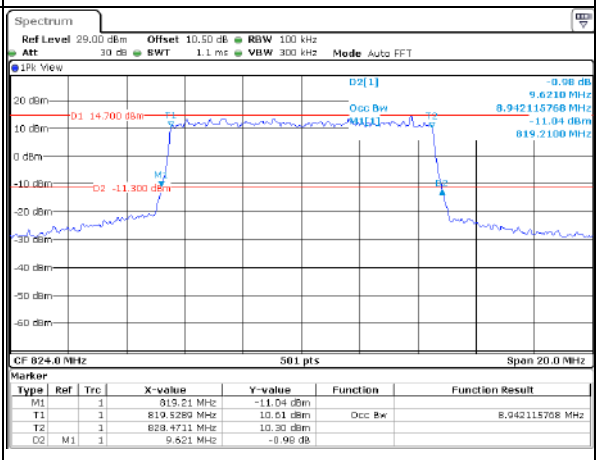
4.14.2 Test Plots for Part 90S:

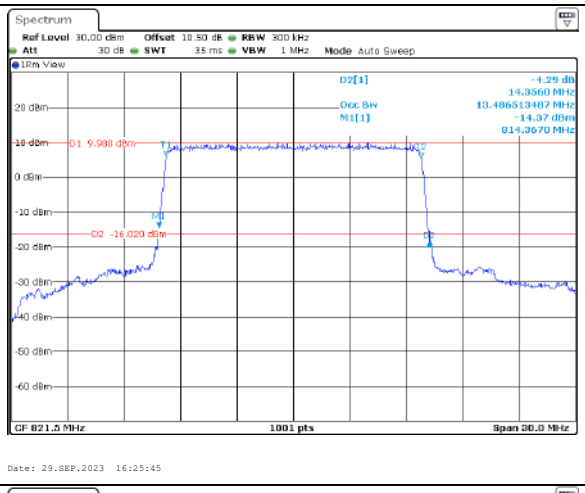
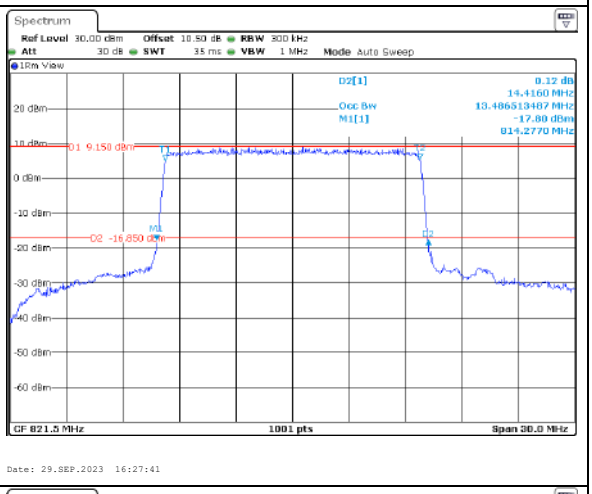
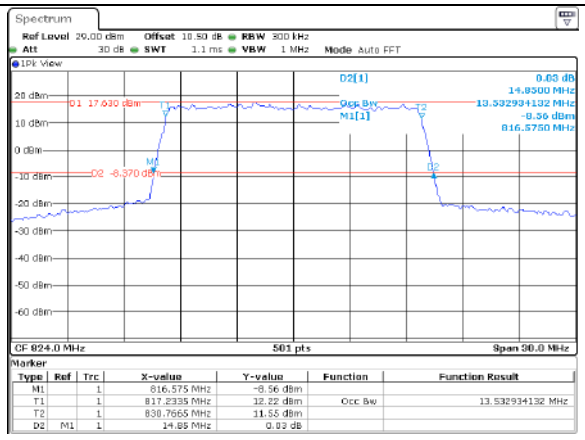
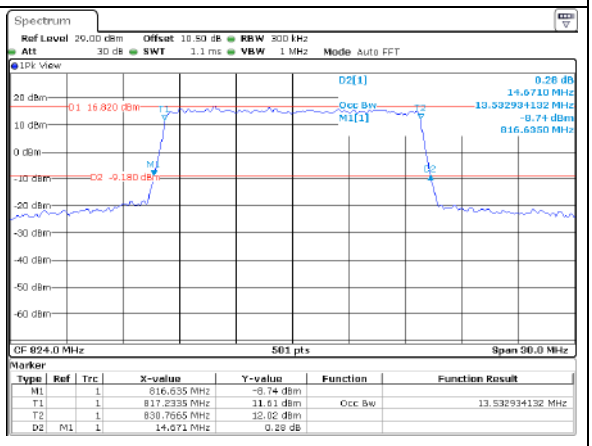
(Note: The 10.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

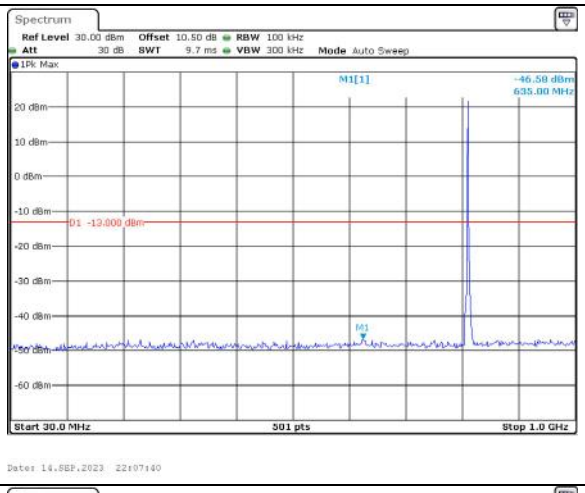
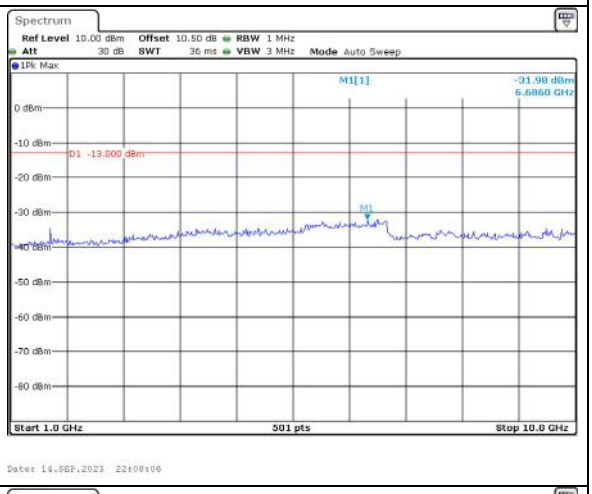
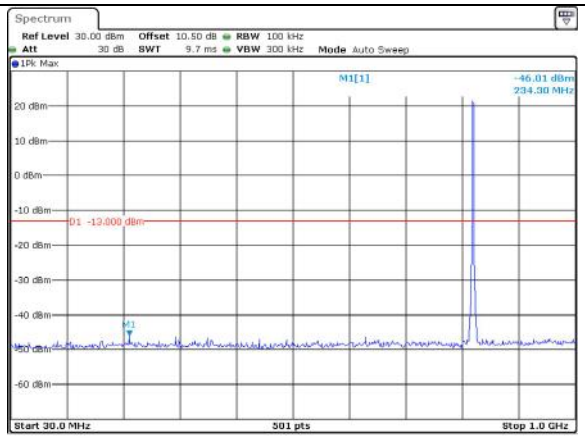
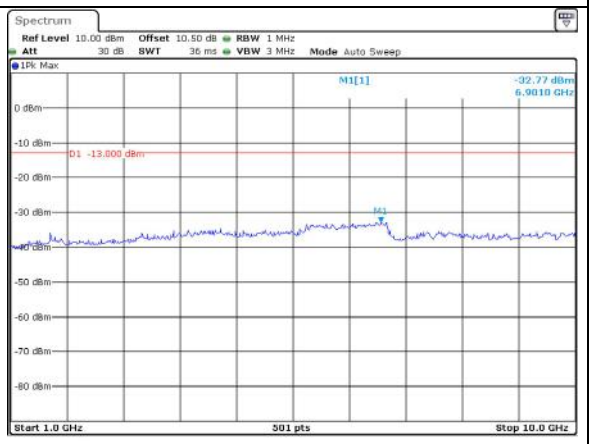
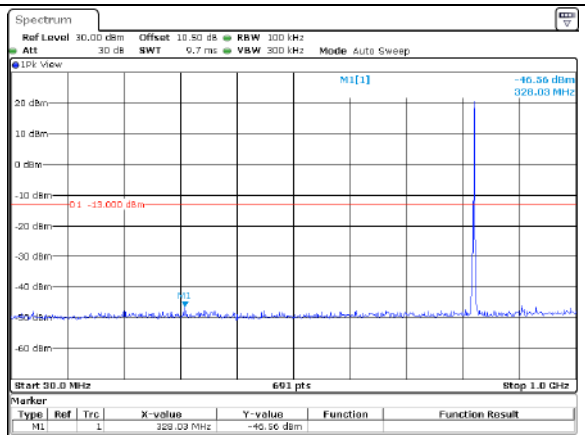
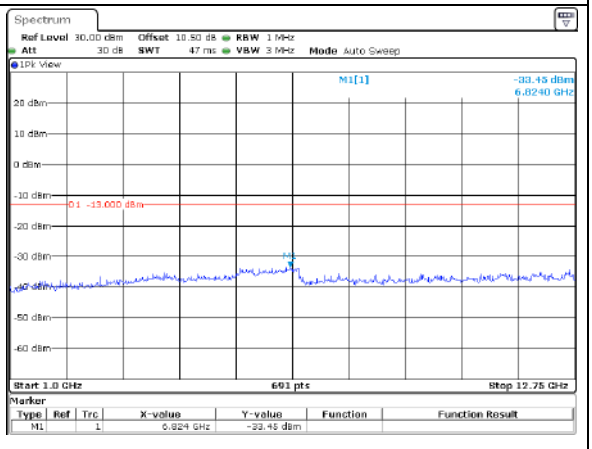
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest For 90S		
Highest For 90S		
Cross Channel		

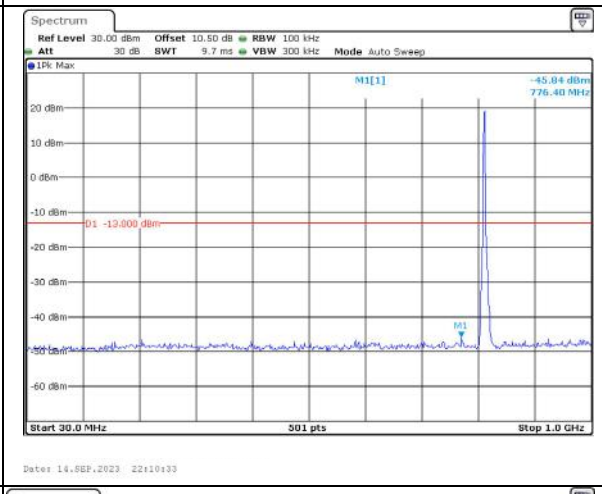
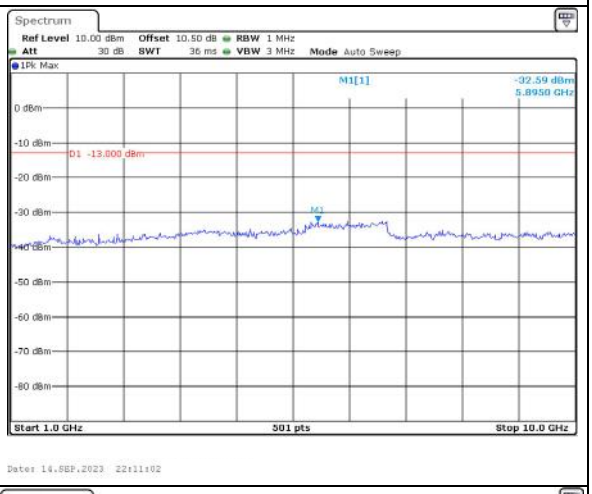
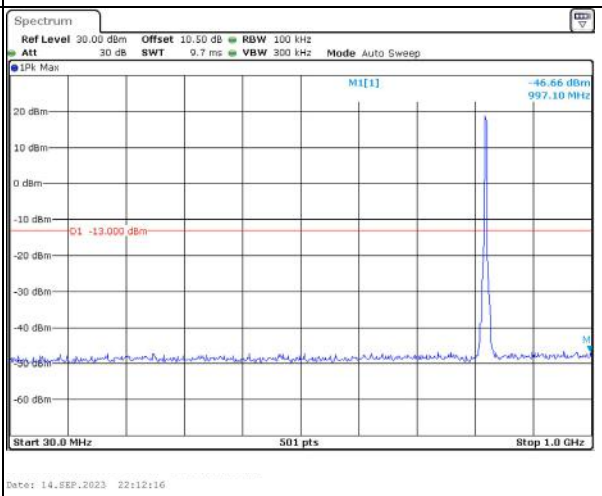
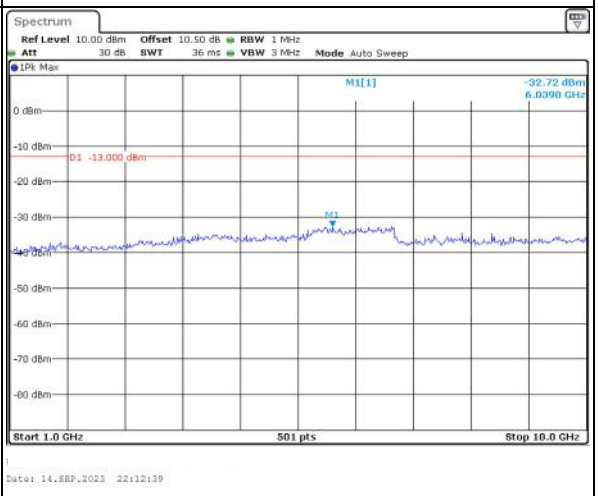
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest For 90S		
Highest For 90S		
Cross Channel		

Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest For 90S		
Highest For 90S		
Cross Channel		

Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest For 90S		
Cross Channel		

Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Middle For 90S		
Cross Channel		

Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest For 90S		
Highest For 90S		
Cross Channel		

Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest For 90S		
Highest For 90S		
Cross Channel