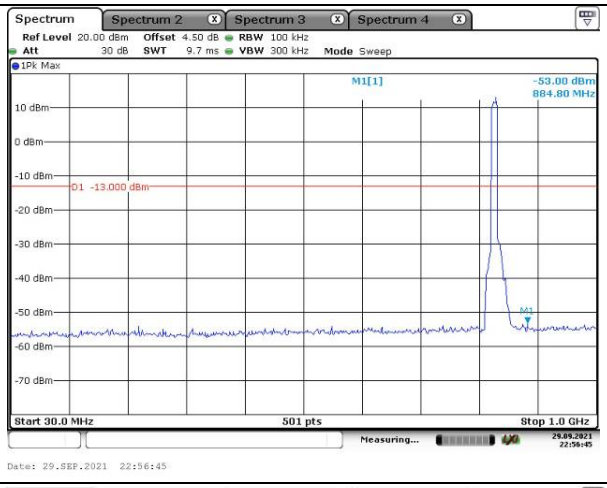
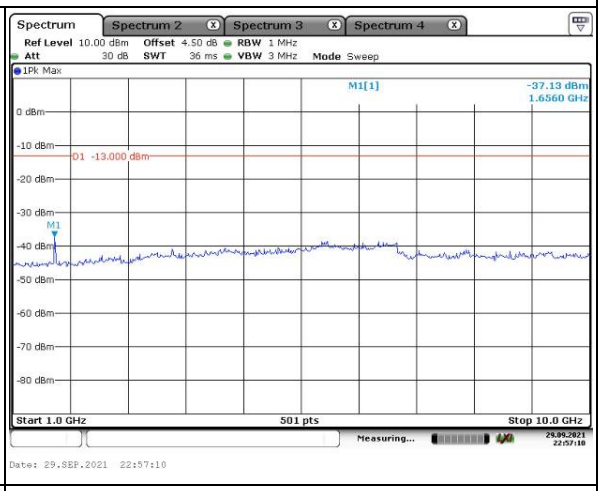
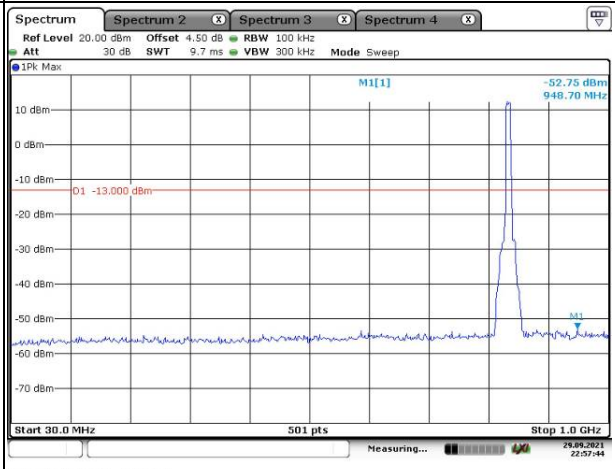
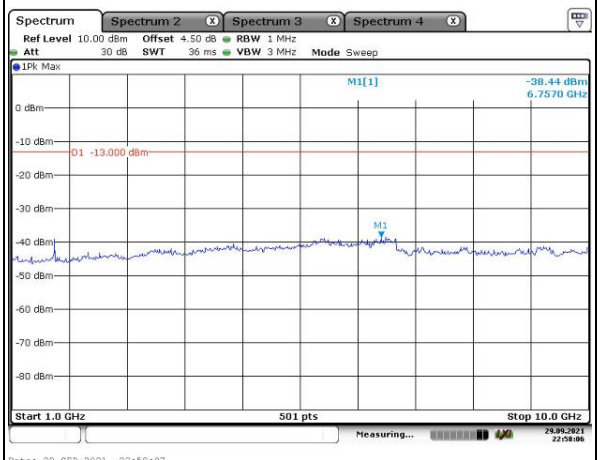
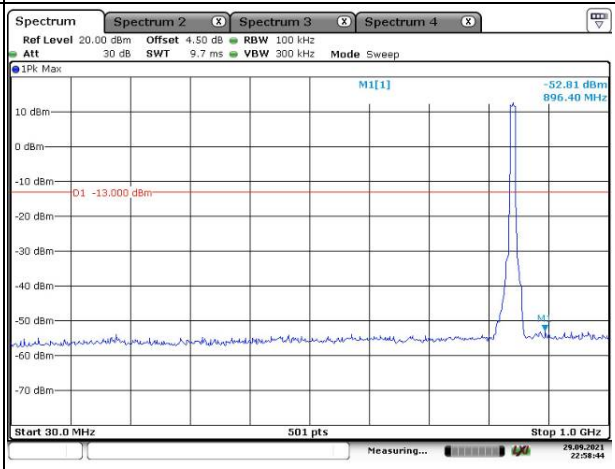
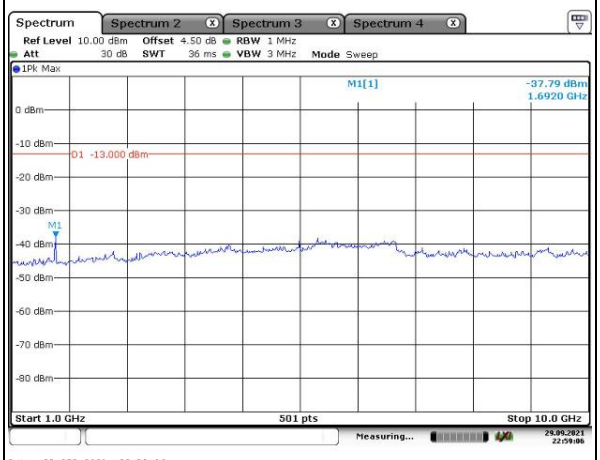
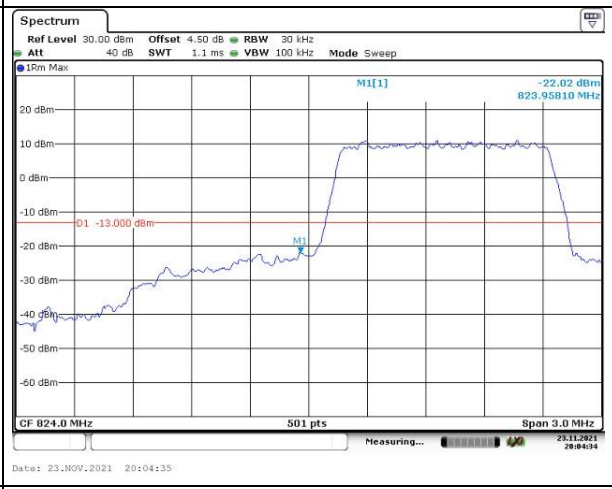
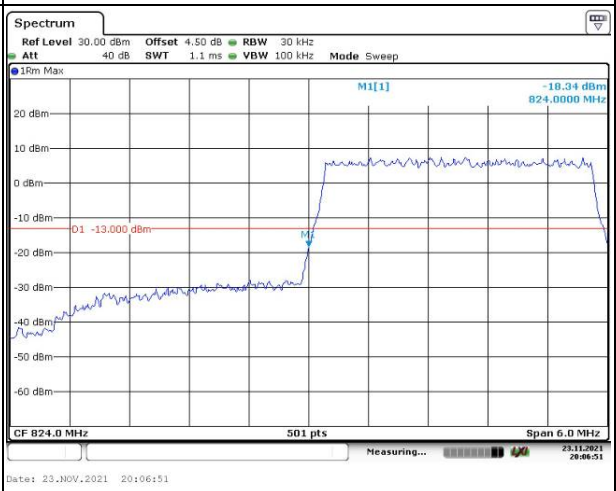
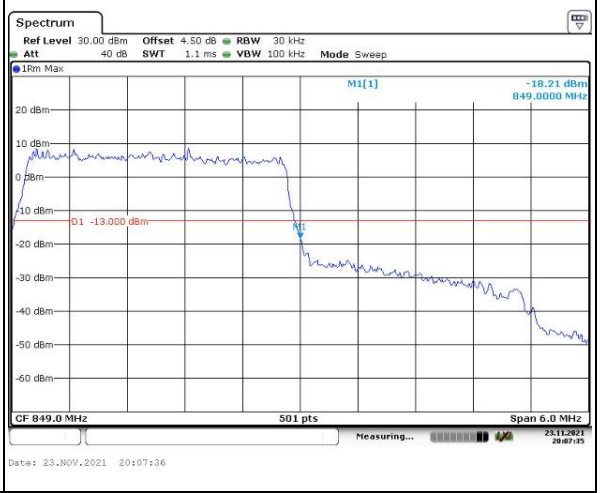
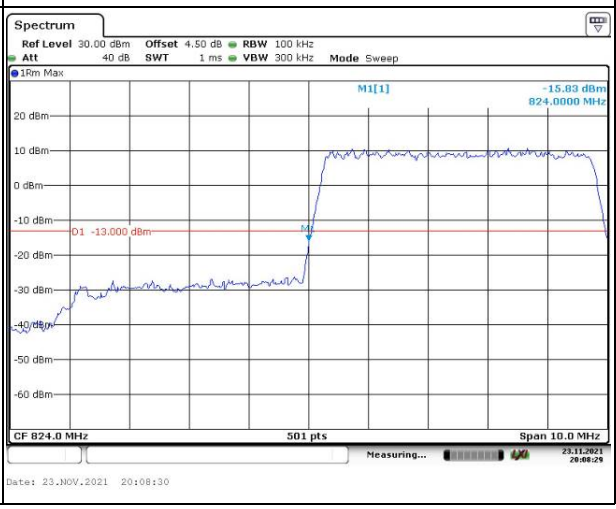
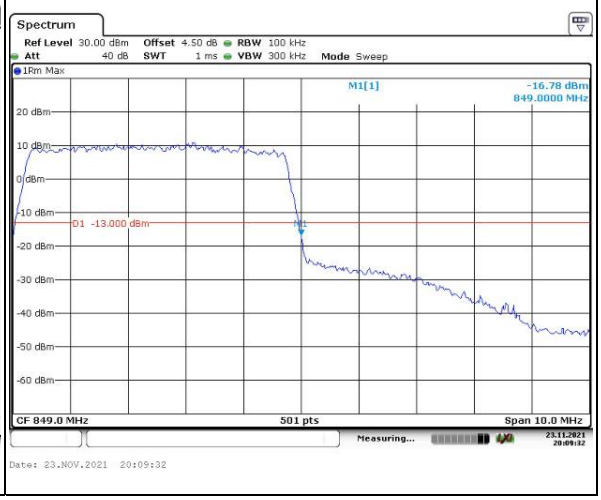
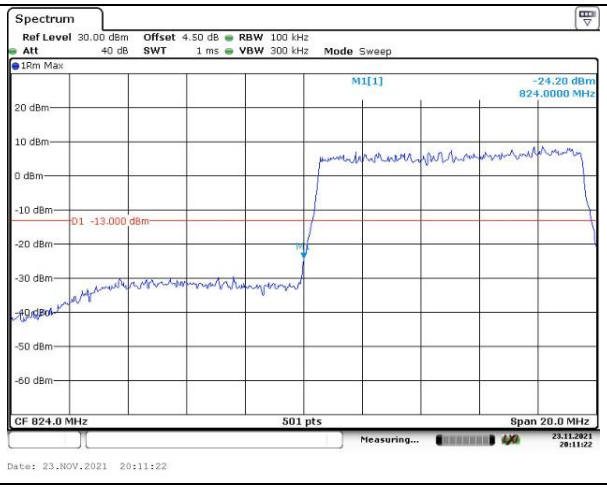
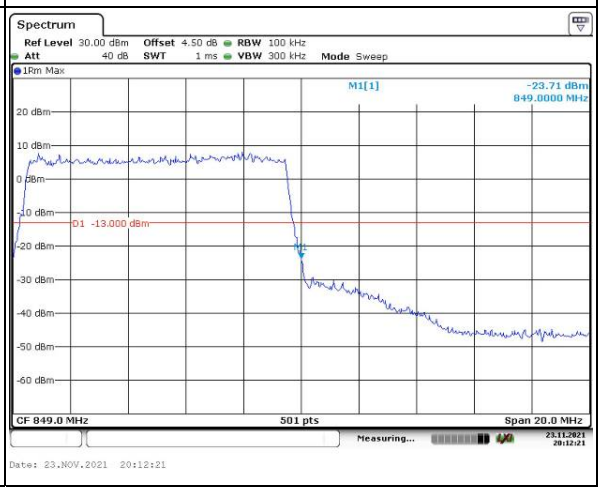
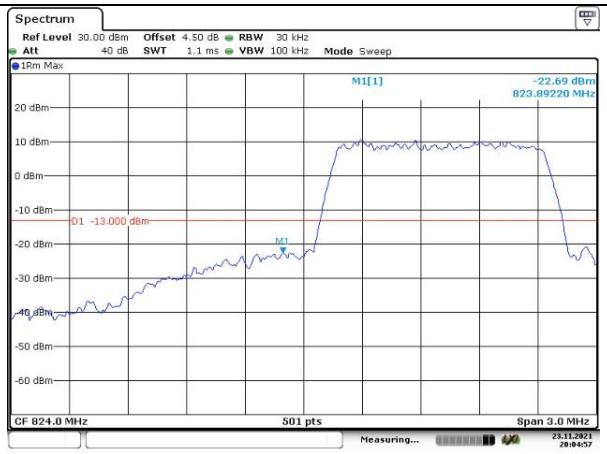
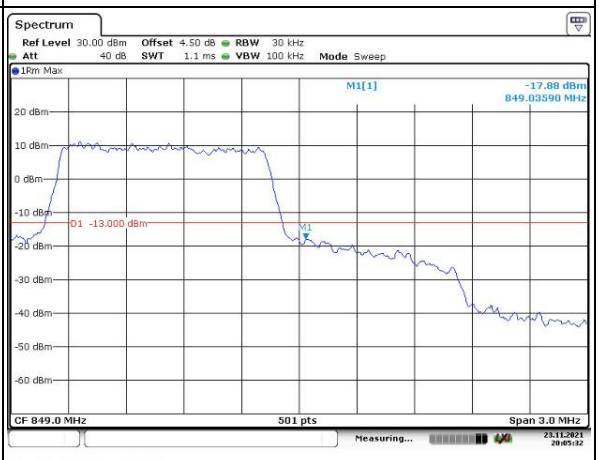
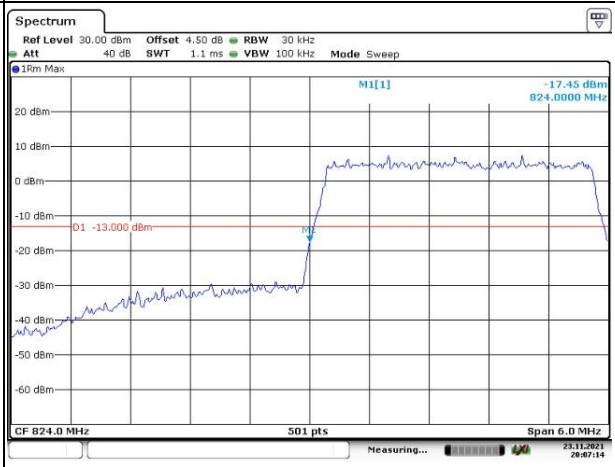
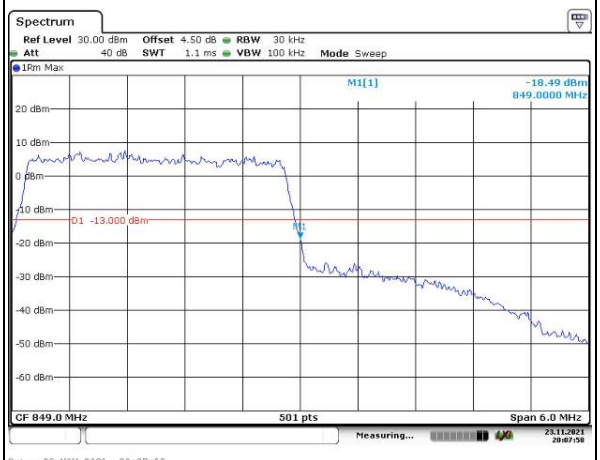
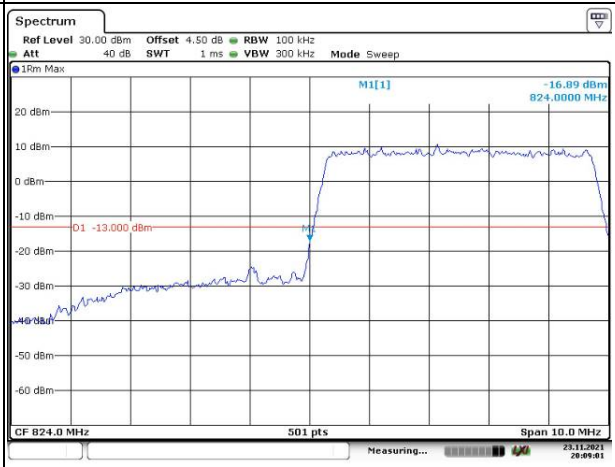
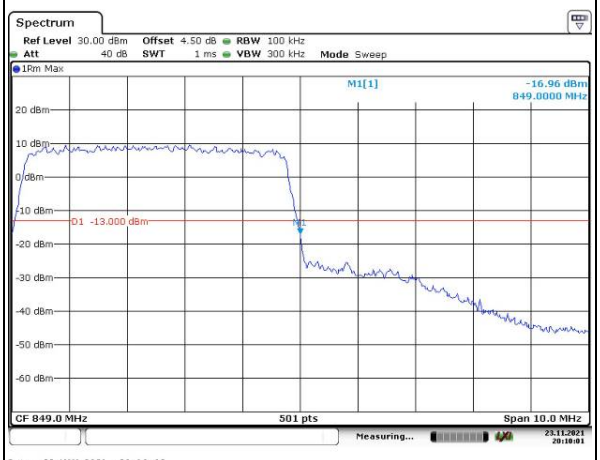
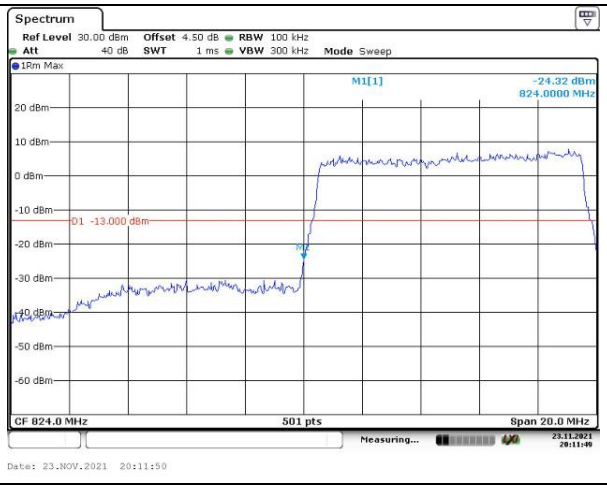
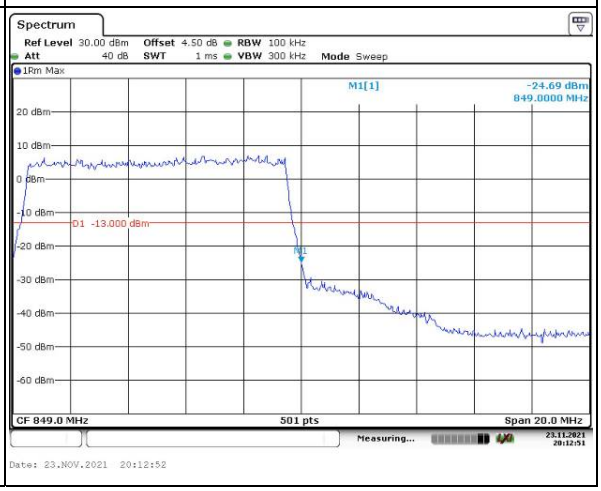
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

4.8 Antenna Port Test Data and Results for LTE Band 12:

Serial Number:	CR21090101-RF-S3/16	Test Date:	2021/09/29~2021/11/23
Test Site:	RF	Test Mode:	Transmitting
Tester:	Thor Lei	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	22.2~28.3	Relative Humidity: (%)	35~42	Temperature: (℃)	22.2~28.3

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2021/7/22	2022/7/21
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021/7/22	2022/7/22
UNI-T	Multimeter	UT39A+	C210582554	2021/9/30	2022/9/30
E-Microwave	Two-way Spliter	ODP-1-6	OE0120176	Each Time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21

** 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).*

EUT Information@ LTE Band 12▲:					
Antenna Gain (dBi):	3	Antenna Gain (dBd):	0.85	Cable Loss (dB):	0.2
Operation Voltage(V_{DC}):					
Lowest:	3.5	Normal:	3.7	Highest:	4.2

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	22.99	22.76	22.97	23.67	34.77
	RB1#3	22.98	22.78	23.01		
	RB1#5	22.9	22.84	23		
	RB3#0	22.92	23	23.02		
	RB3#3	23.02	22.97	22.95		
	RB6#0	21.93	21.95	21.98		
1.4MHz 16QAM	RB1#0	21.98	22.56	21.62	23.22	34.77
	RB1#3	22.05	22.57	21.59		
	RB1#5	21.99	22.54	21.6		
	RB3#0	21.85	21.76	22.01		
	RB3#3	21.79	21.85	22.05		
	RB6#0	21.09	21.06	21.22		
3MHz QPSK	RB1#0	22.89	22.8	22.96	23.72	34.77
	RB1#8	22.87	22.9	22.96		
	RB1#14	22.88	22.86	23.07		
	RB6#0	21.96	21.95	21.96		
	RB6#9	21.85	21.93	21.94		
	RB15#0	21.93	21.86	21.93		
3MHz 16QAM	RB1#0	22.12	22.62	21.62	23.27	34.77
	RB1#8	22.12	22.61	21.52		
	RB1#14	22.07	22.6	21.66		
	RB6#0	21.19	20.91	21.09		
	RB6#9	21.08	21.03	21.18		
	RB15#0	21.16	21.07	20.96		
5MHz QPSK	RB1#0	22.86	22.87	22.81	23.62	34.77
	RB1#13	22.78	22.92	22.87		
	RB1#24	22.78	22.97	22.9		
	RB15#0	21.96	21.85	22.01		
	RB15#10	21.88	21.8	21.99		
	RB25#0	21.82	21.95	21.99		
5MHz 16QAM	RB1#0	20.99	21.99	21.56	22.72	34.77
	RB1#13	21	21.89	21.6		
	RB1#24	21.12	22.07	21.69		
	RB15#0	21.05	20.79	21.1		
	RB15#10	20.94	20.86	20.93		
	RB25#0	21.05	20.98	20.76		
10MHz QPSK	RB1#0	22.73	22.76	23.06	23.78	34.77
	RB1#25	22.76	22.81	23.04		
	RB1#49	22.83	22.94	23.13		

	RB25#0	21.8	21.97	21.8		
	RB25#25	21.91	21.93	21.93		
	RB50#0	21.91	21.8	22.05		
10MHz 16QAM	RB1#0	22.03	22.08	21.52	22.91	34.77
	RB1#25	22.02	22.17	21.54		
	RB1#49	22	22.26	21.51		
	RB25#0	20.96	20.99	21.02		
	RB25#25	20.84	21.41	21.04		
	RB50#0	21.08	21.06	21.39		
Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)						
					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	5.16	4.84	5.65	13
	RB50#0	5.22	5.39	5.19	13
10MHz 16QAM	RB1#0	6.43	5.68	6.29	13
	RB50#0	6.14	6.26	6.06	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	1.096	1.102	1.102	1.254	1.254	1.254
1.4MHz 16QAM	1.102	1.102	1.096	1.266	1.26	1.248
3MHz QPSK	2.695	2.695	2.695	2.988	3.000	3.012
3MHz 16QAM	2.695	2.683	2.695	3.012	3.000	3.024
5MHz QPSK	4.511	4.511	4.491	5.000	5.000	5.000
5MHz 16QAM	4.511	4.531	4.531	4.960	5.040	5.000
10MHz QPSK	9.022	8.982	8.942	9.840	9.720	9.760
10MHz 16QAM	8.942	8.982	8.942	9.760	9.760	9.800
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.**

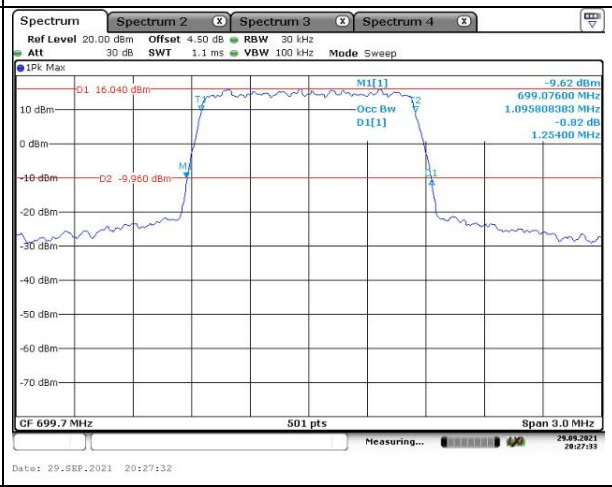
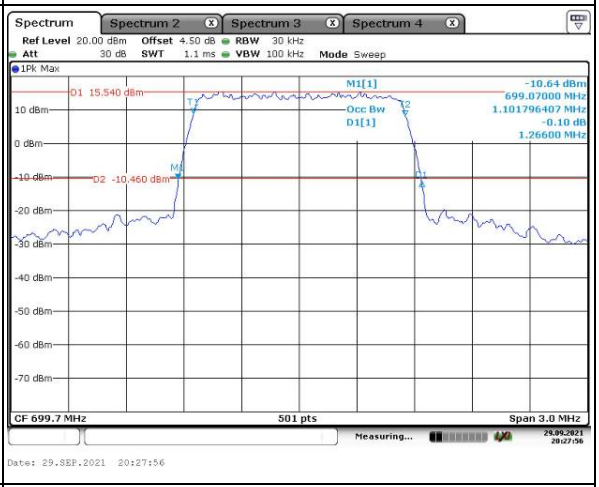
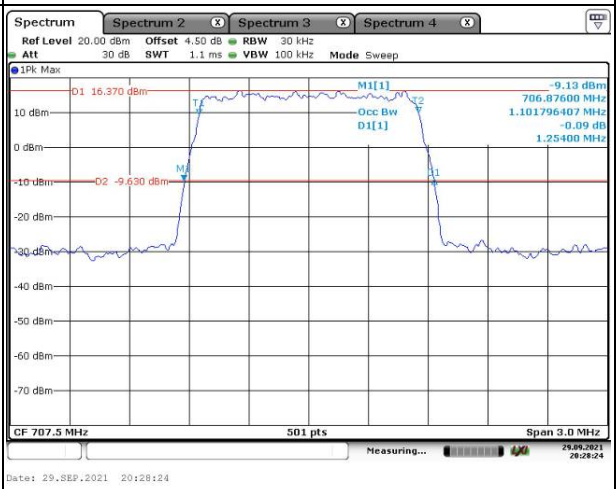
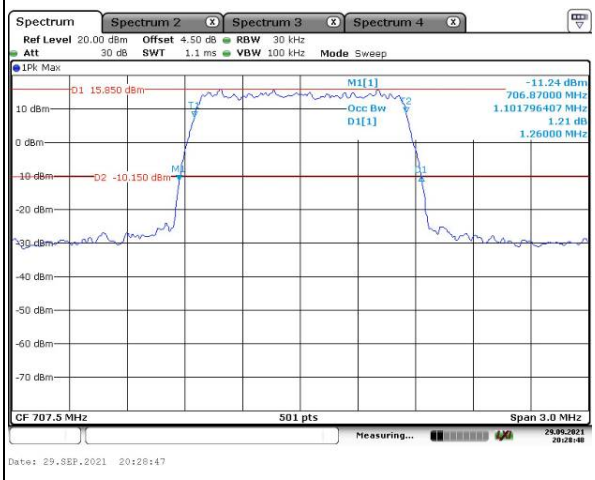
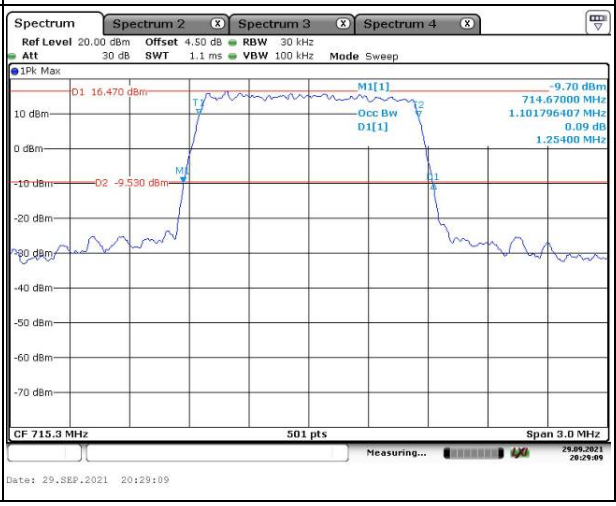
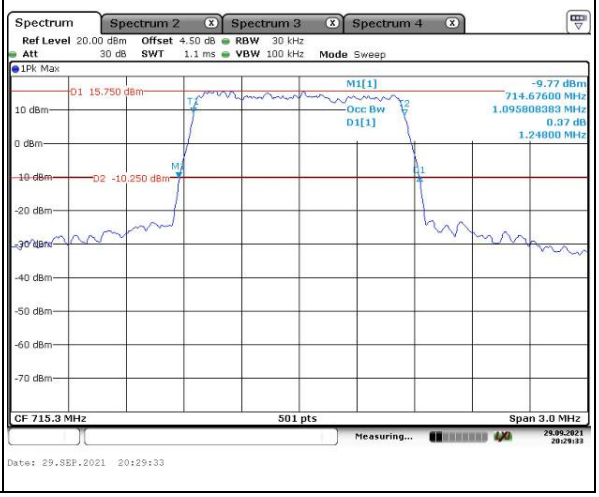
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

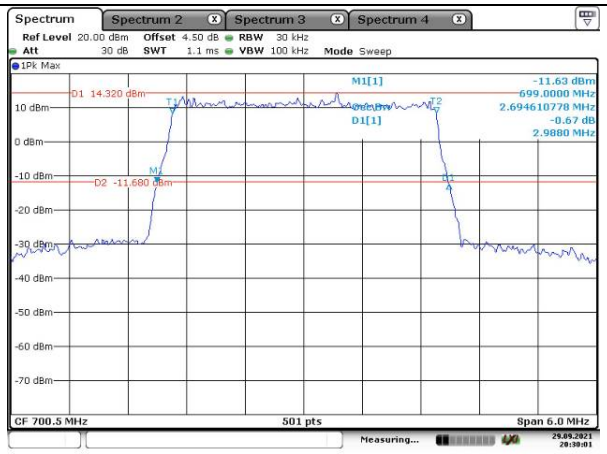
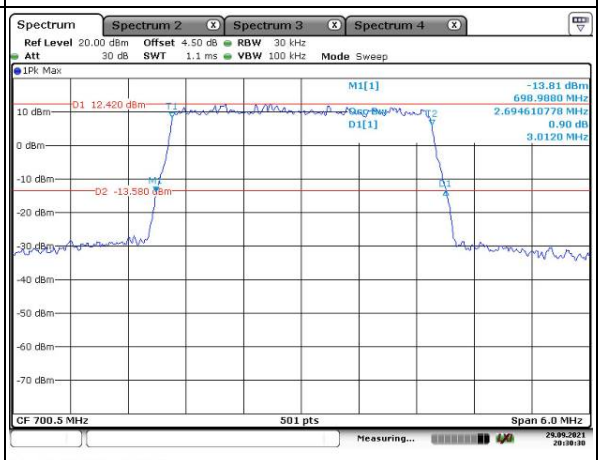
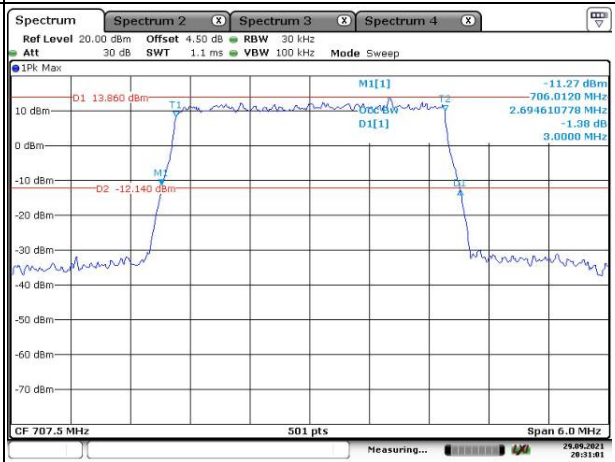
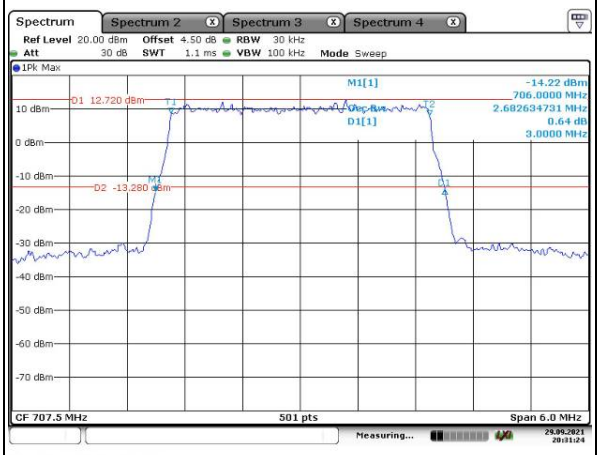
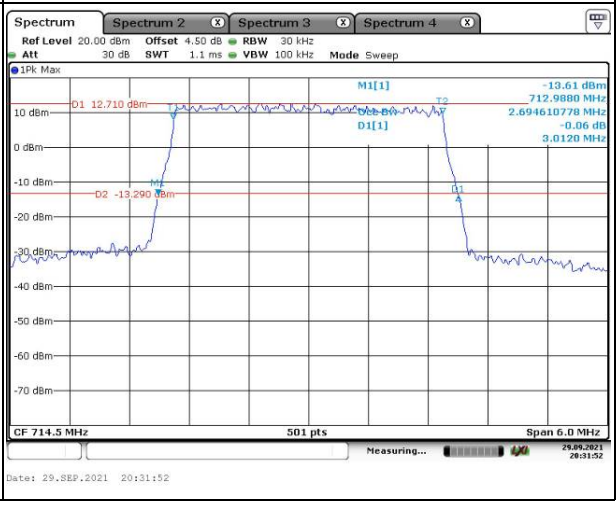
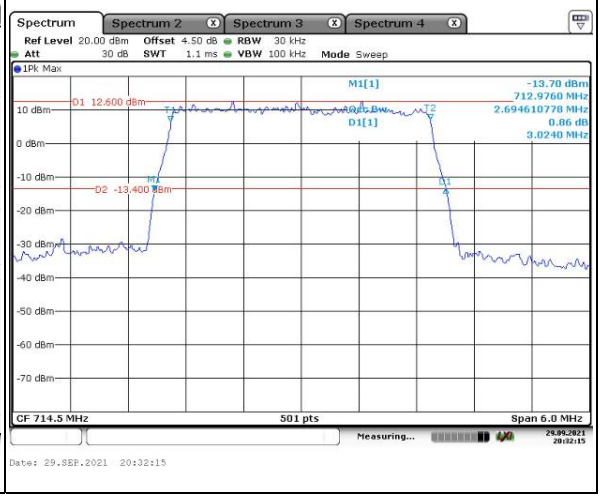
FCC §2.1055, §27.54: Frequency Stability

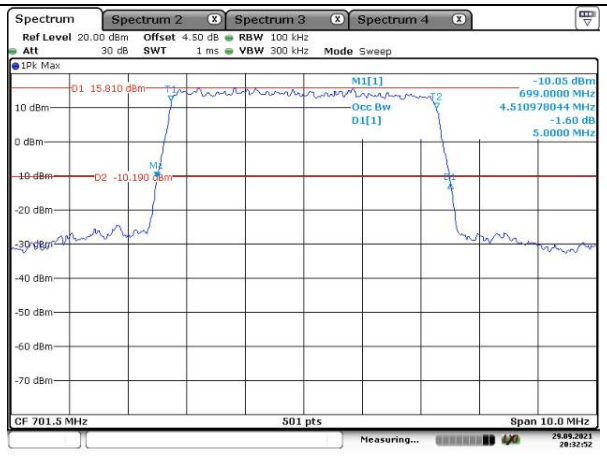
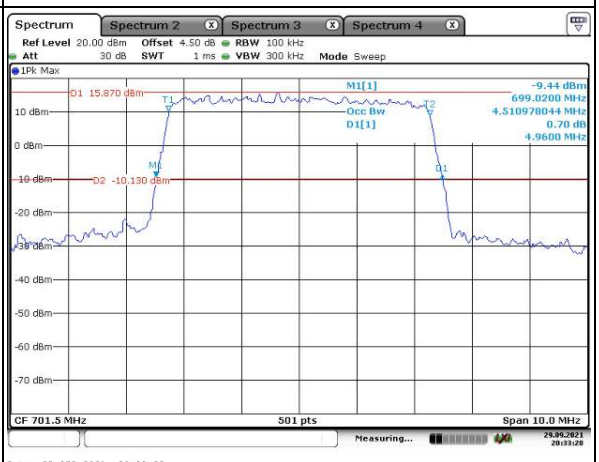
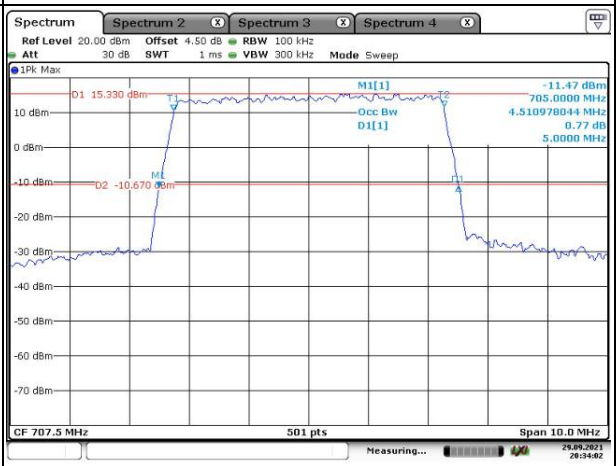
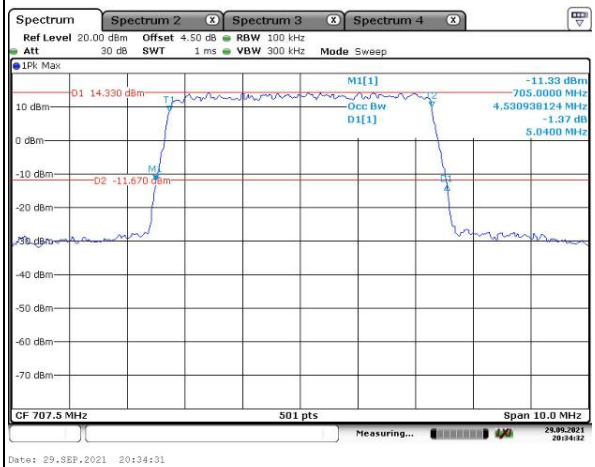
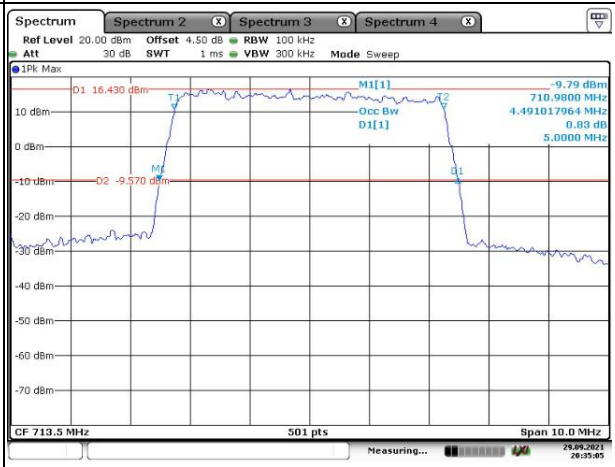
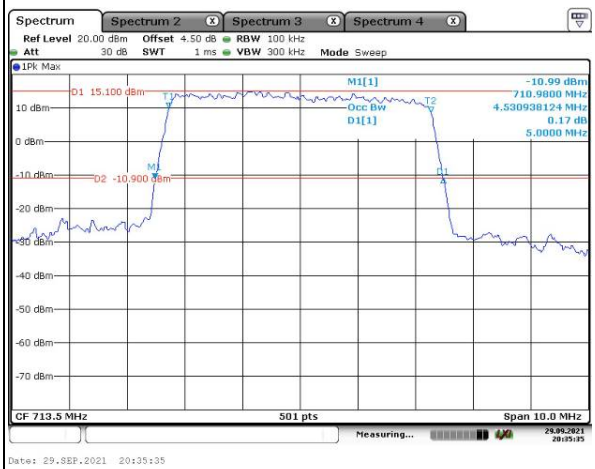
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	699.3366	699.00	715.6216	716.00
	-20	3.7	699.5289	699.00	715.4711	716.00
	-10	3.7	699.3366	699.00	715.9054	716.00
	0	3.7	699.2992	699.00	715.8108	716.00
	10	3.7	699.0374	699.00	715.8581	716.00
	20	3.7	699.3366	699.00	715.8581	716.00
	30	3.7	699.1122	699.00	715.6216	716.00
	40	3.7	699.1496	699.00	715.9527	716.00
	50	3.7	699.2618	699.00	715.7162	716.00
Frequency Stability vs. Voltage	20	3.5	699.0374	699.00	715.8108	716.00
	20	4.2	699.1122	699.00	715.6216	716.00
					Result:	**Pass**

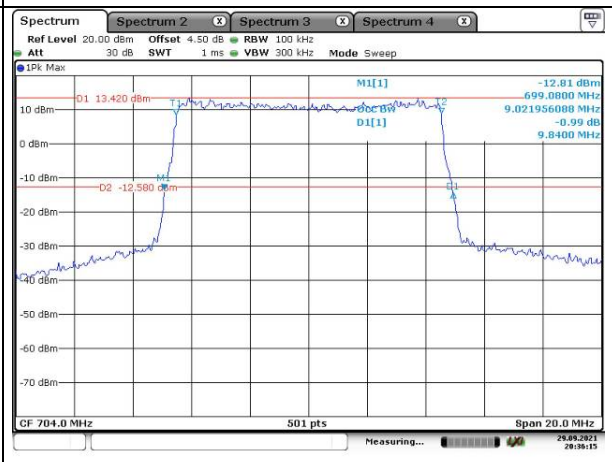
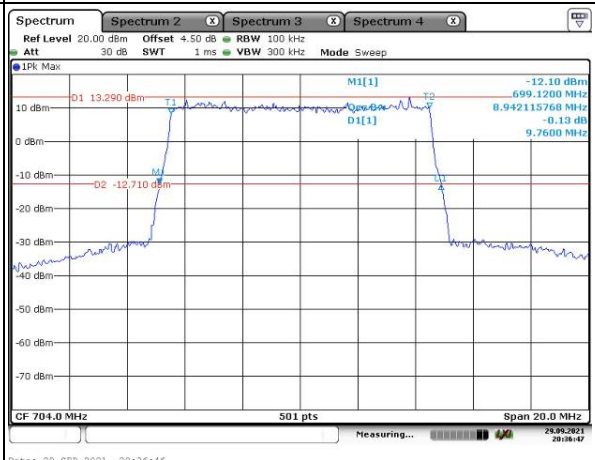
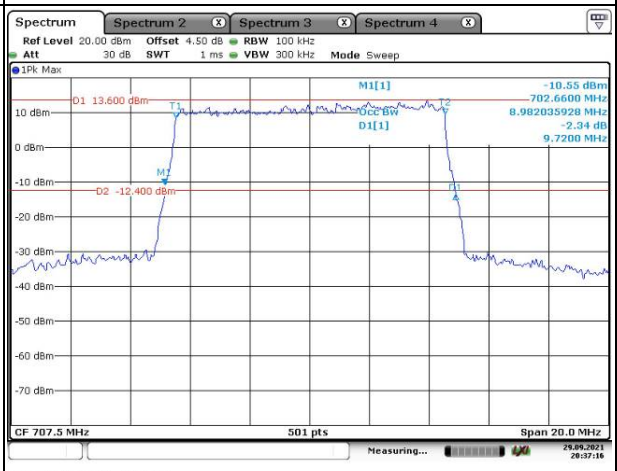
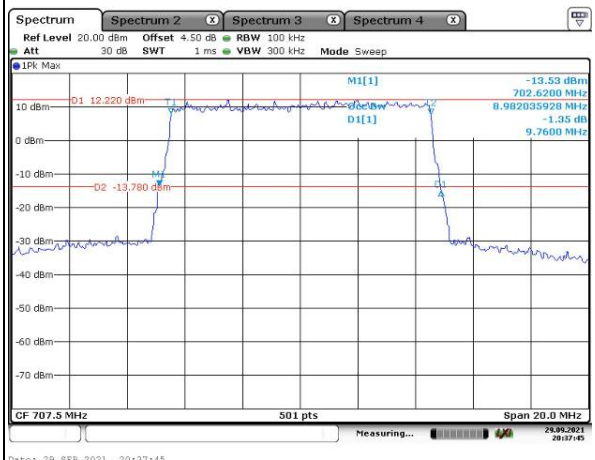
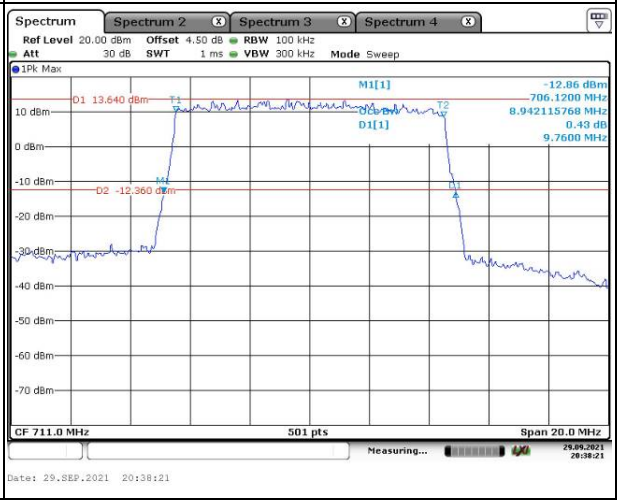
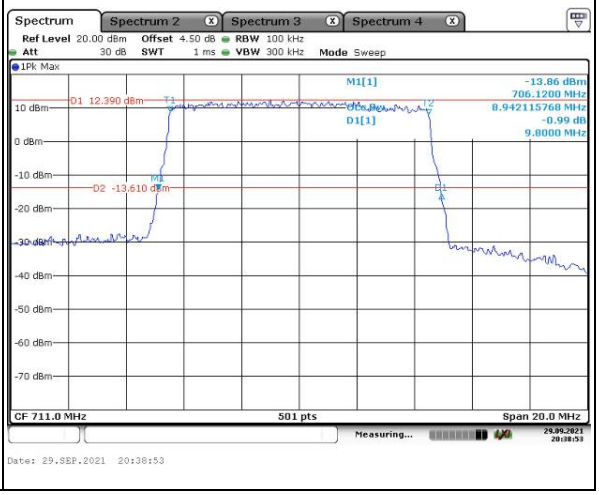
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	699.1496	699.00	715.9054	716.00
	-20	3.7	699.5289	699.00	715.4711	716.00
	-10	3.7	699.3366	699.00	715.8108	716.00
	0	3.7	699.2992	699.00	715.5743	716.00
	10	3.7	699.1496	699.00	715.9527	716.00
	20	3.7	699.0374	699.00	715.9527	716.00
	30	3.7	699.2244	699.00	715.8581	716.00
	40	3.7	699.0374	699.00	715.5743	716.00
	50	3.7	699.1496	699.00	715.9527	716.00
Frequency Stability vs. Voltage	20	3.5	699.0748	699.00	715.6689	716.00
	20	4.2	699.2992	699.00	715.5743	716.00
					Result:	**Pass**

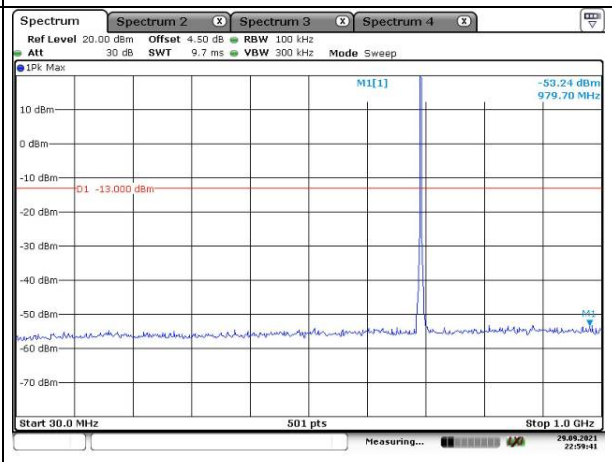
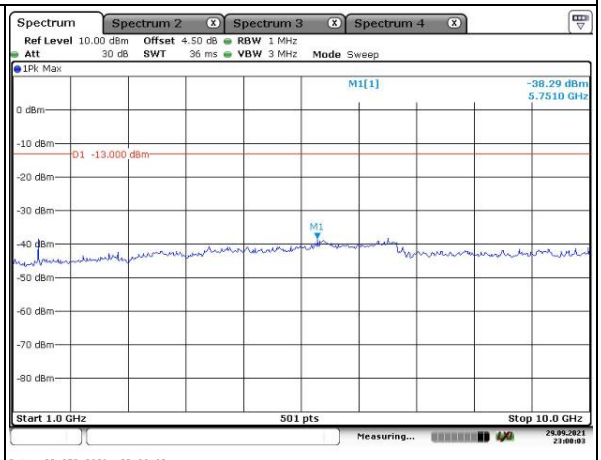
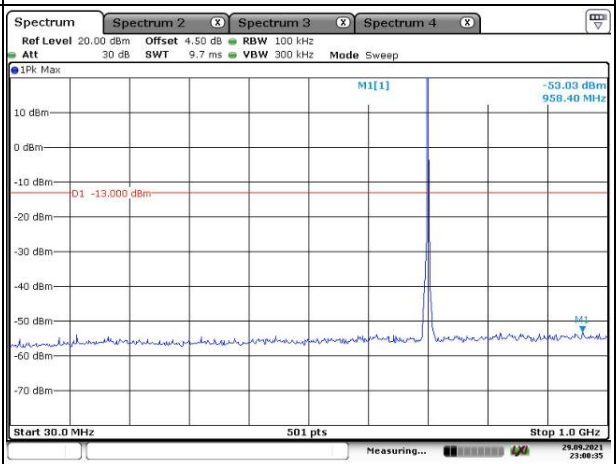
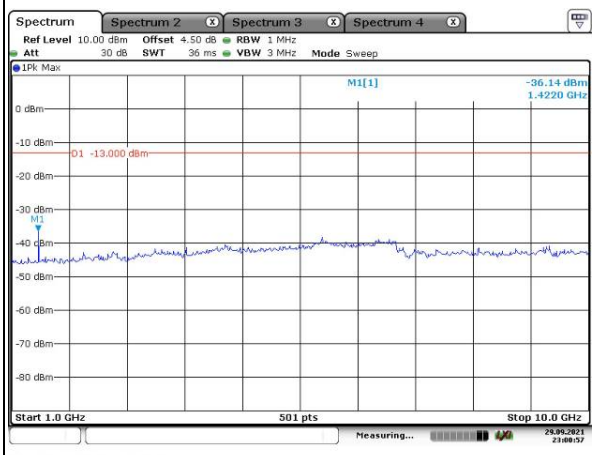
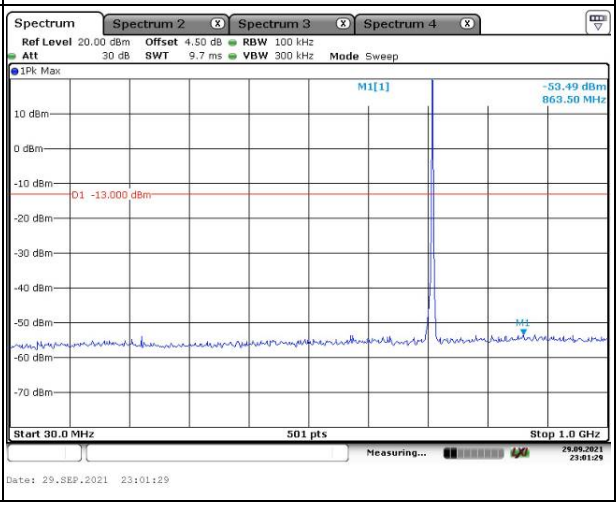
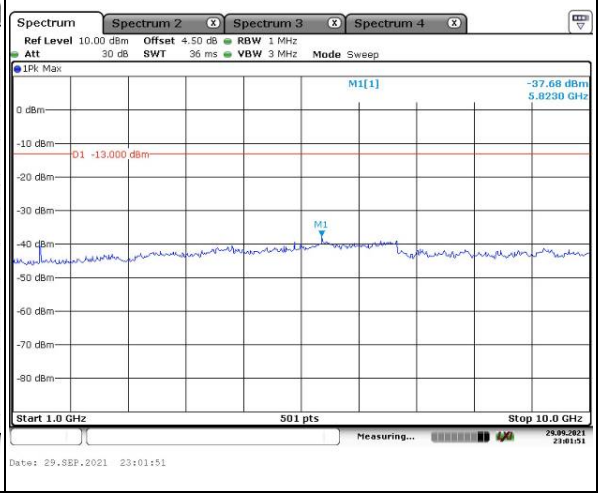
Test Plots:

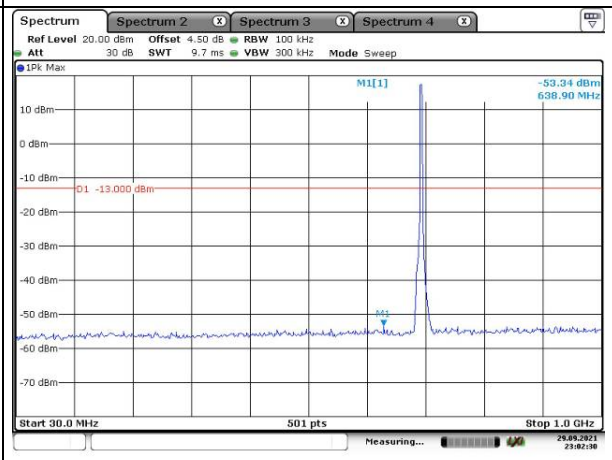
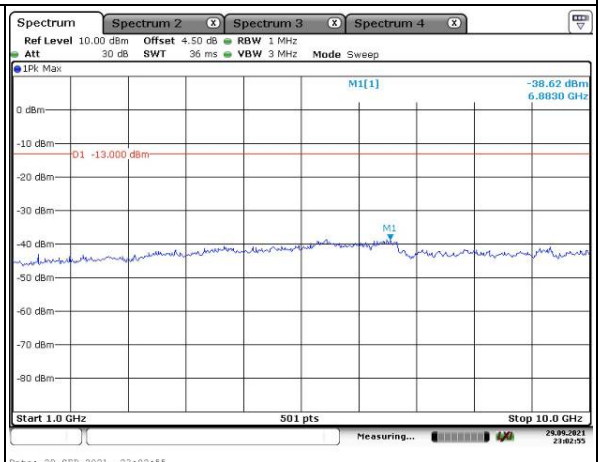
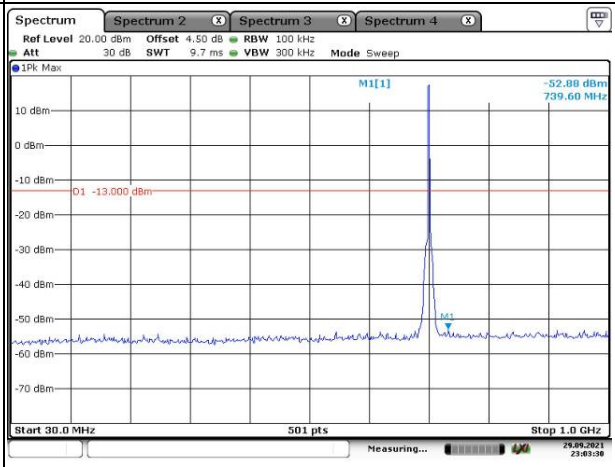
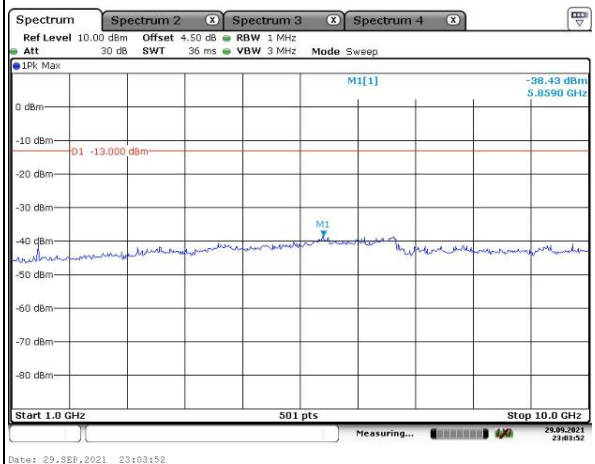
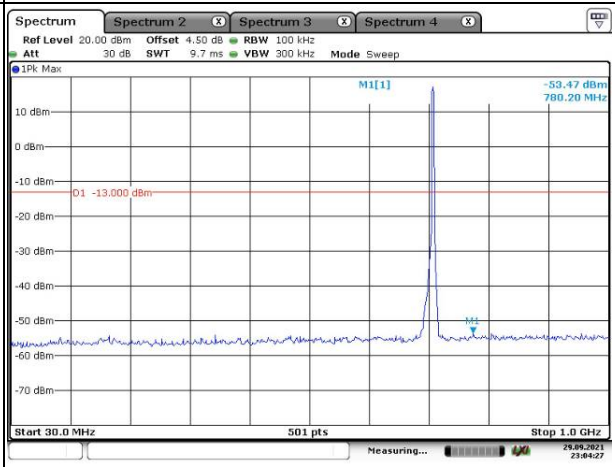
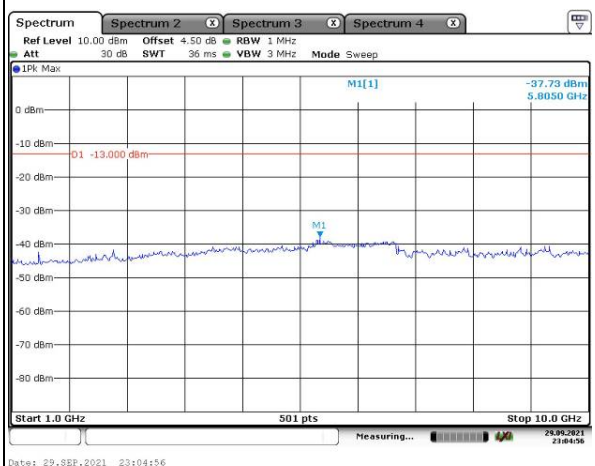
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

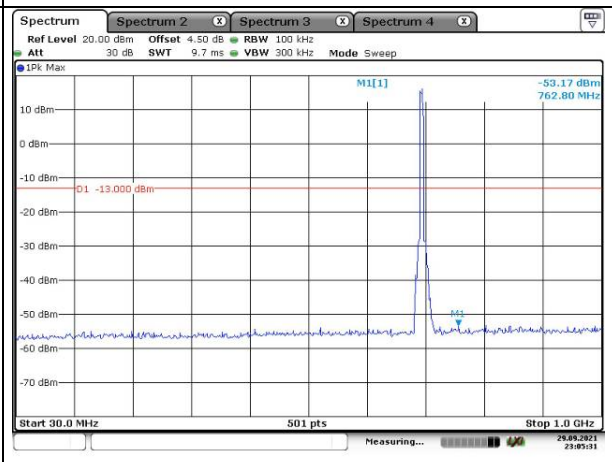
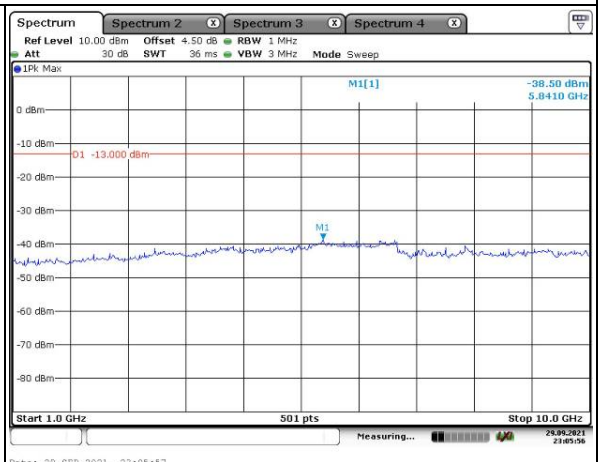
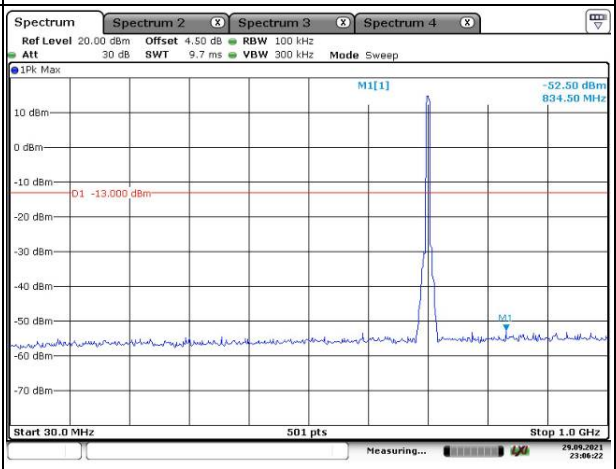
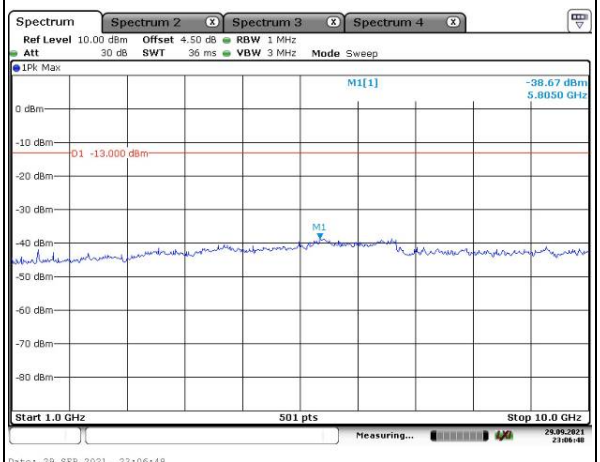
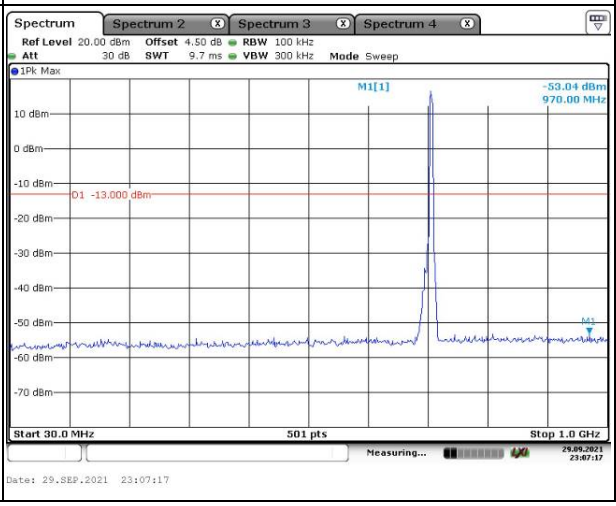
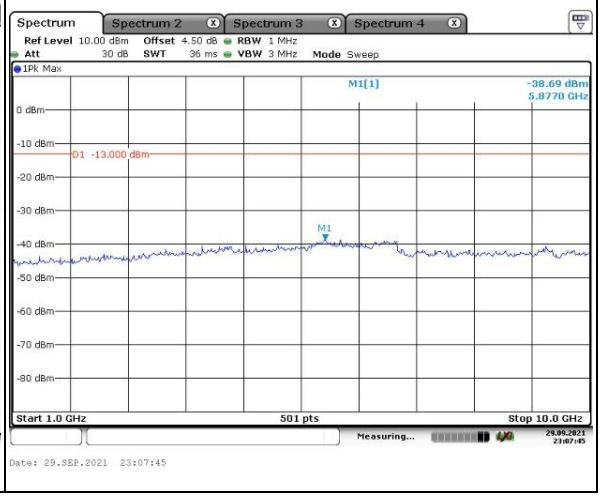
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

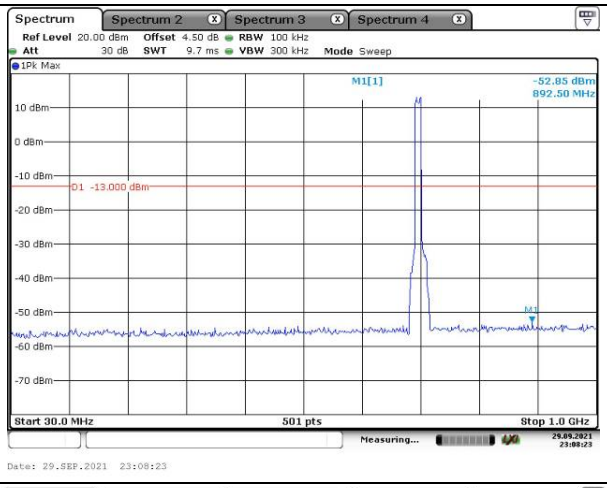
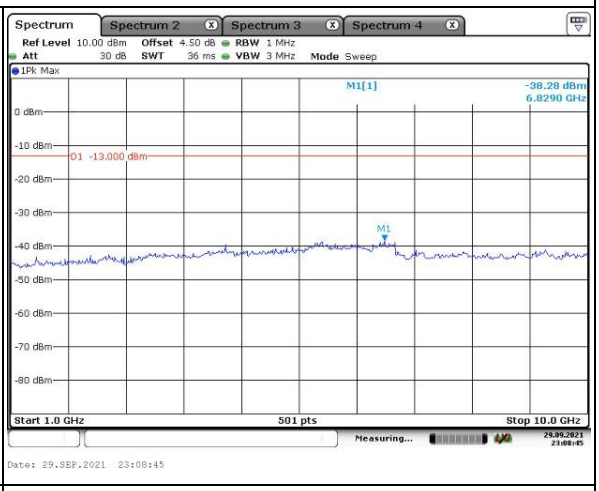
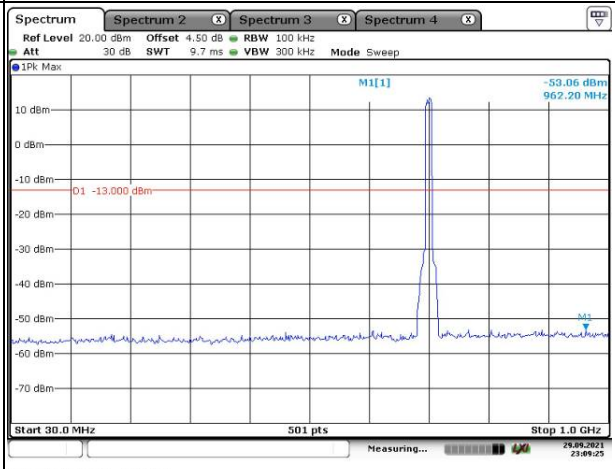
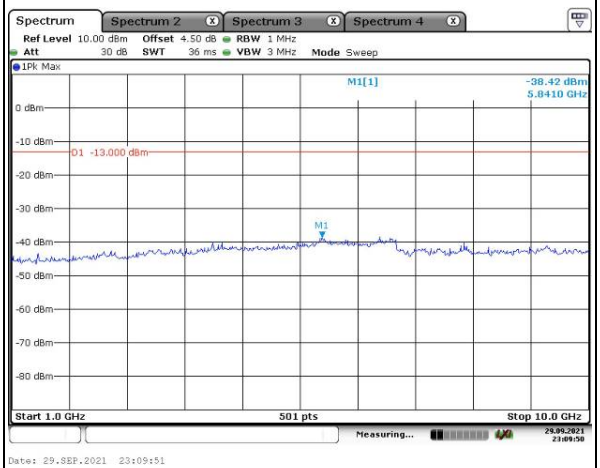
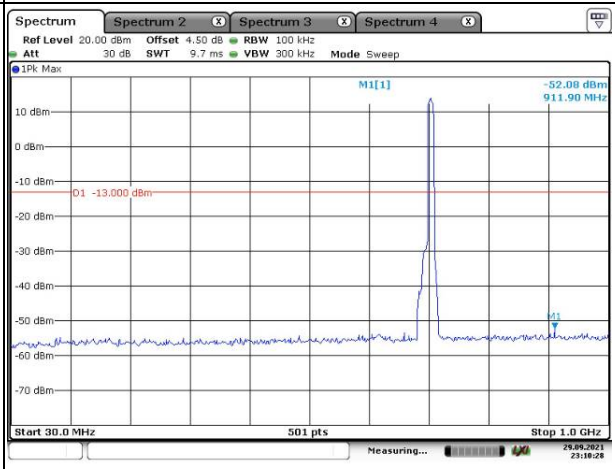
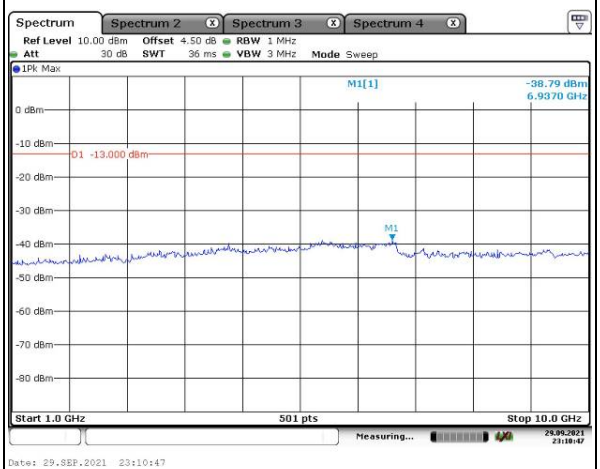
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

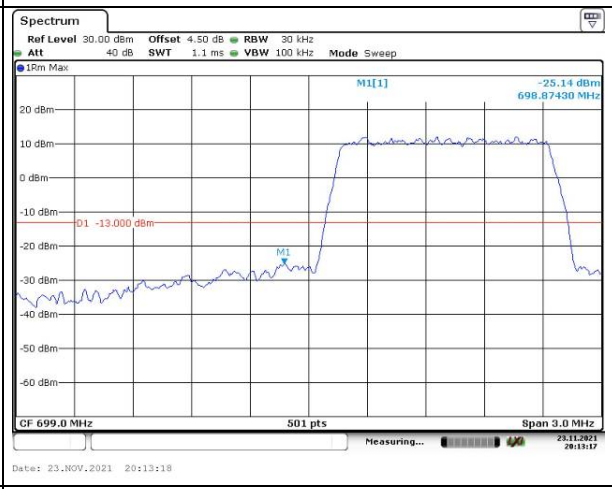
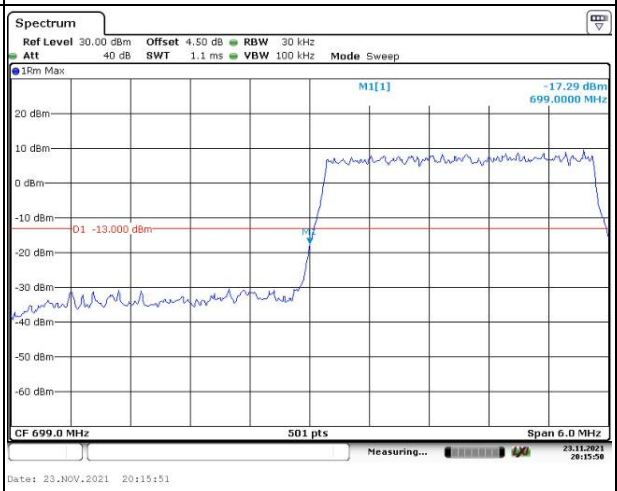
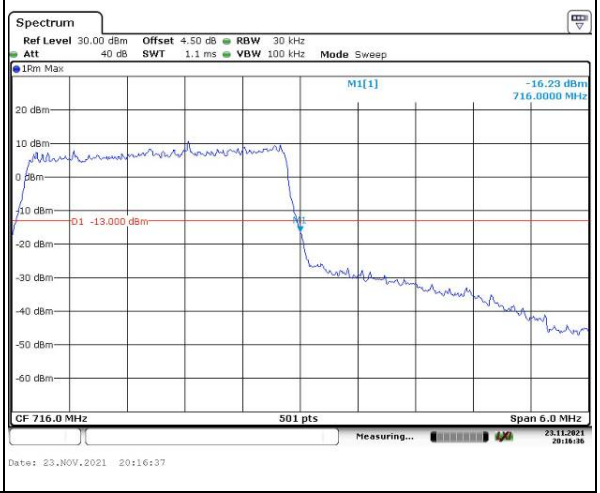
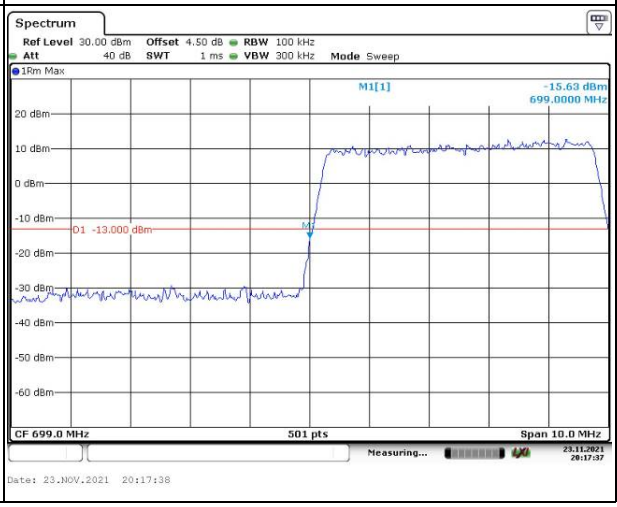
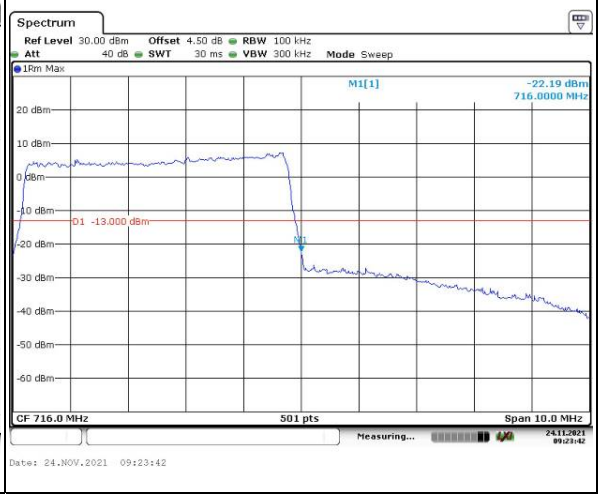
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

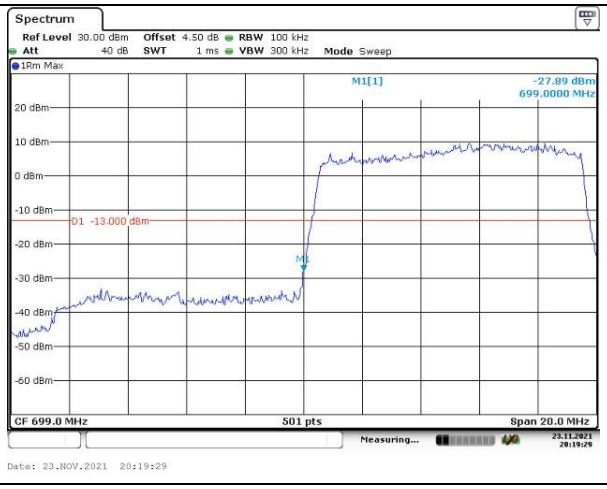
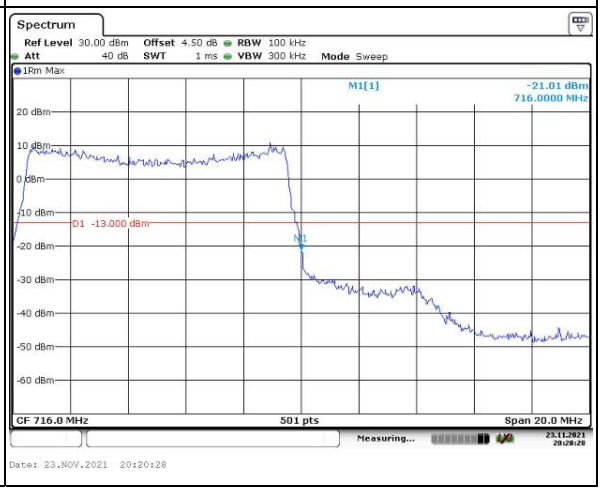
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

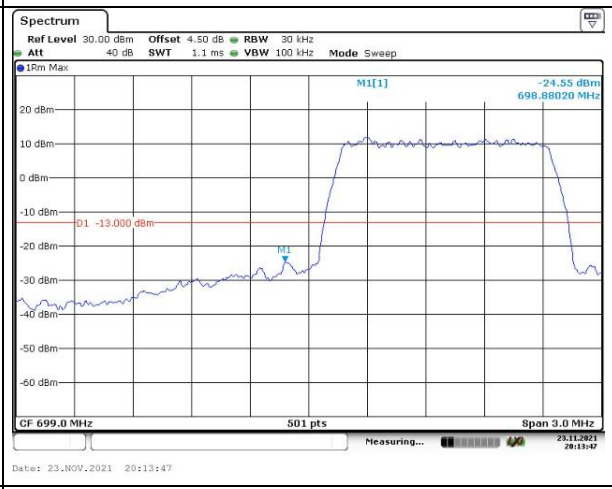
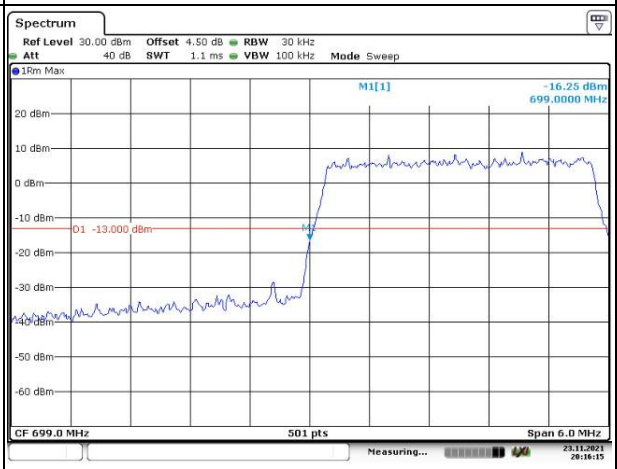
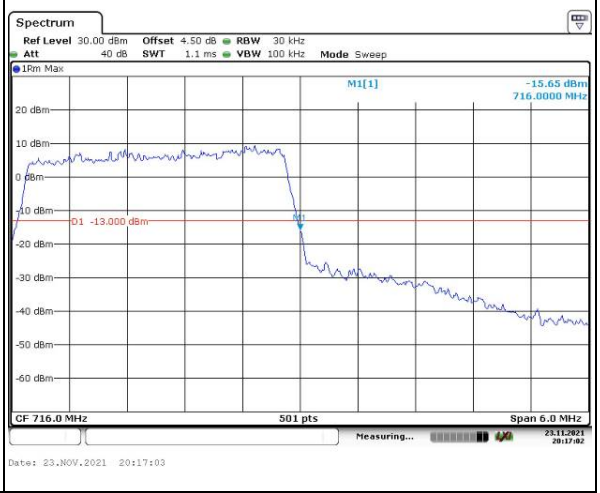
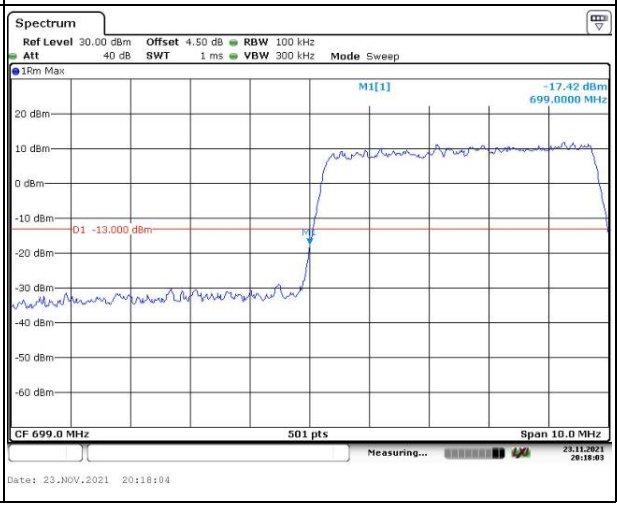
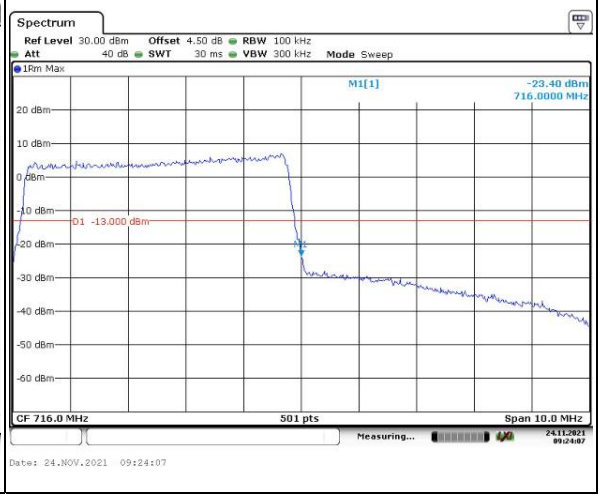
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

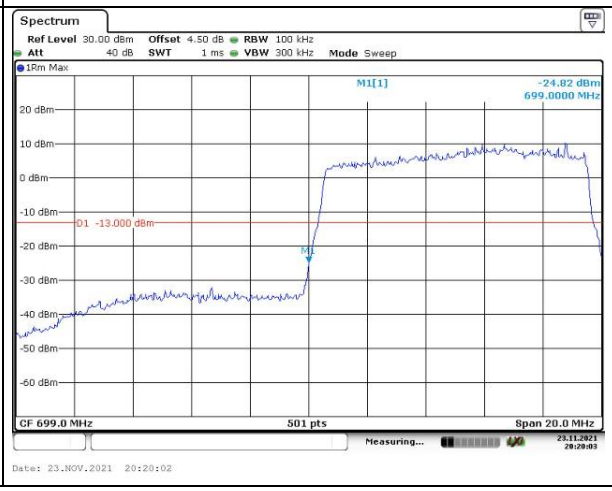
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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 17:

Serial Number:	CR21090101-RF-S3/16	Test Date:	2021/09/29~2021/11/23
Test Site:	RF	Test Mode:	Transmitting
Tester:	Thor Lei	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	22.2~28.3	Relative Humidity: (%)	35~42	Temperature: (℃)	22.2~28.3

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2021/7/22	2022/7/21
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021/7/22	2022/7/22
UNI-T	Multimeter	UT39A+	C210582554	2021/9/30	2022/9/30
E-Microwave	Two-way Spliter	ODP-1-6	OE0120176	Each Time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21

** 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).*

EUT Information@LTE Band 17▲:					
Antenna Gain (dBi):	3	Antenna Gain (dBd):	0.85	Cable Loss (dB):	0.2
Operation Voltage(V_{DC}):					
Lowest:	3.5	Normal:	3.7	Highest:	4.2

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	22.88	22.92	22.86	23.62	34.77
	RB1#13	22.95	22.96	22.84		
	RB1#24	22.93	22.97	22.92		
	RB15#0	22.01	22.01	21.93		
	RB15#10	21.97	21.96	21.9		
	RB25#0	21.88	21.99	21.91		
5MHz 16QAM	RB1#0	21.16	21.79	21.64	22.63	34.77
	RB1#13	21.12	21.98	21.56		
	RB1#24	21.12	21.91	21.71		
	RB15#0	20.99	21.24	21.08		
	RB15#10	21	21.27	21.03		
	RB25#0	21	21.4	20.76		
10MHz QPSK	RB1#0	22.81	22.87	23.09	23.87	34.77
	RB1#25	22.87	22.86	23.2		
	RB1#49	22.96	23.01	23.22		
	RB25#0	21.97	21.89	21.87		
	RB25#25	22.05	21.97	22.01		
	RB50#0	21.93	22.02	22.13		
10MHz 16QAM	RB1#0	22.01	22.23	21.55	22.95	34.77
	RB1#25	22.01	22.3	21.63		
	RB1#49	22.15	22.22	21.65		
	RB25#0	20.89	21.01	21.06		
	RB25#25	21.17	21.12	21.1		
	RB50#0	20.98	21.45	21.43		
Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)						
					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	5.01	5.25	4.9	13
	RB50#0	5.36	5.19	5.07	13
10MHz 16QAM	RB1#0	6.7	5.59	5.88	13
	RB50#0	6.2	6.2	6.09	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	4.531	4.511	4.511	4.980	5.000	5.000
5MHz 16QAM	4.511	4.531	4.531	4.980	5.020	5.000
10MHz QPSK	8.942	8.942	8.942	9.760	9.720	9.760
10MHz 16QAM	8.942	8.942	8.942	9.760	9.800	9.720
Note: The test plots please refer to the Plots of Occupied Bandwidth						

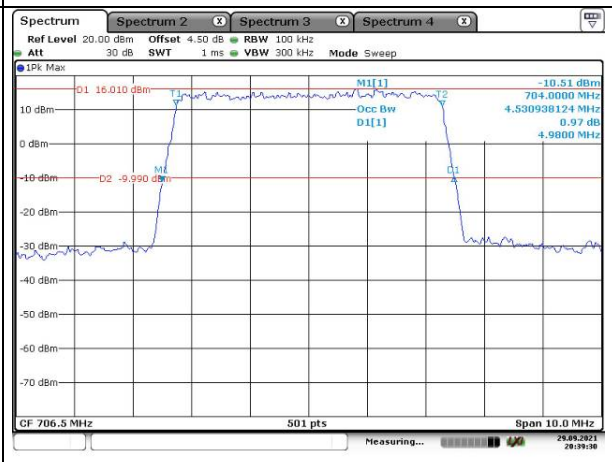
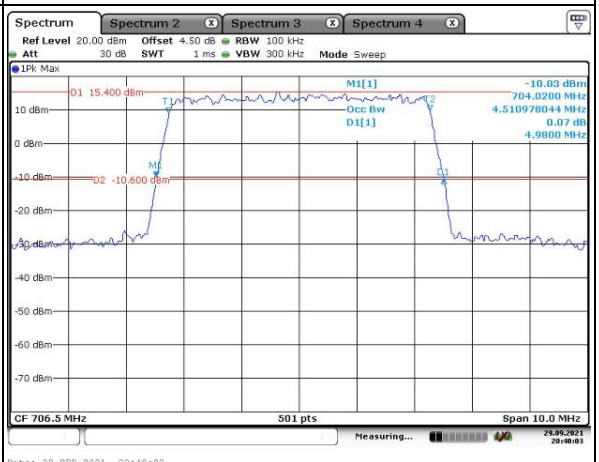
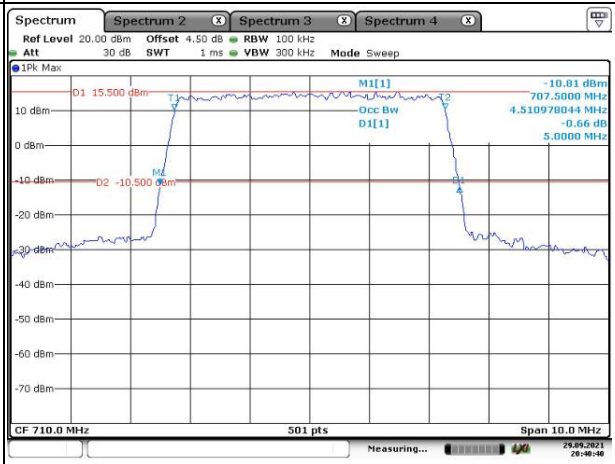
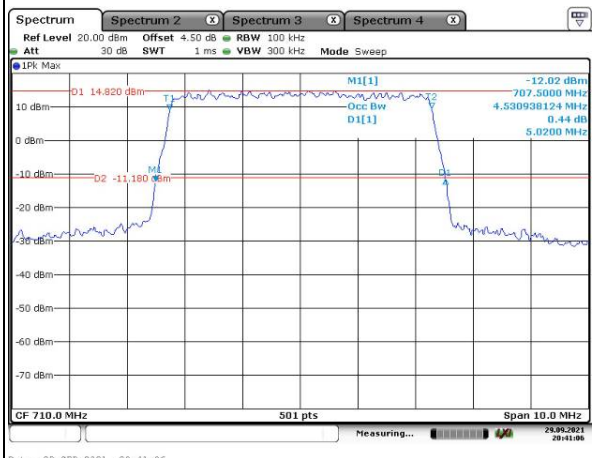
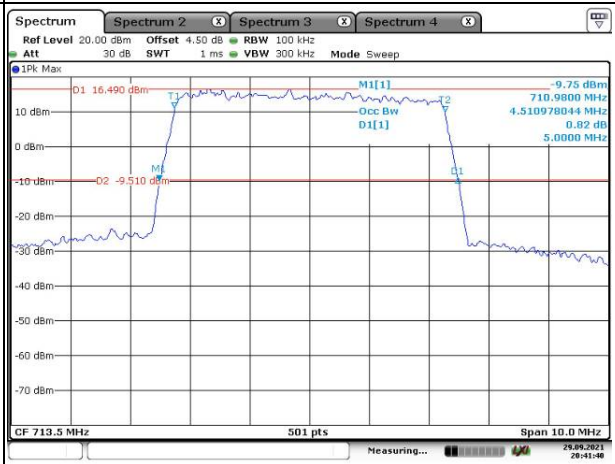
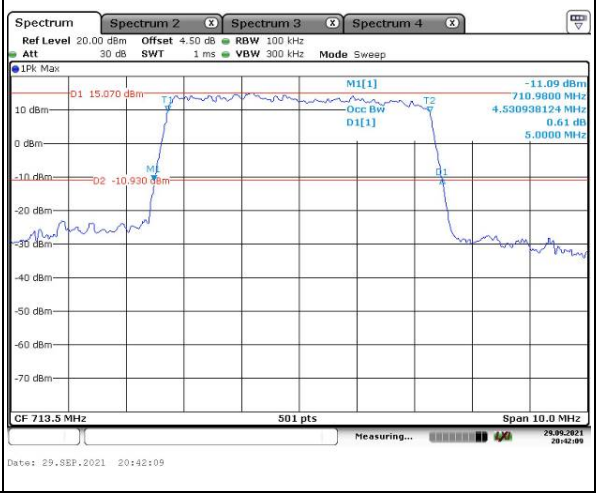
FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

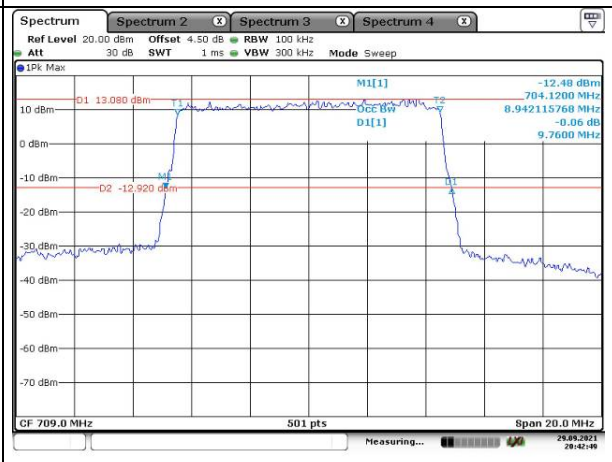
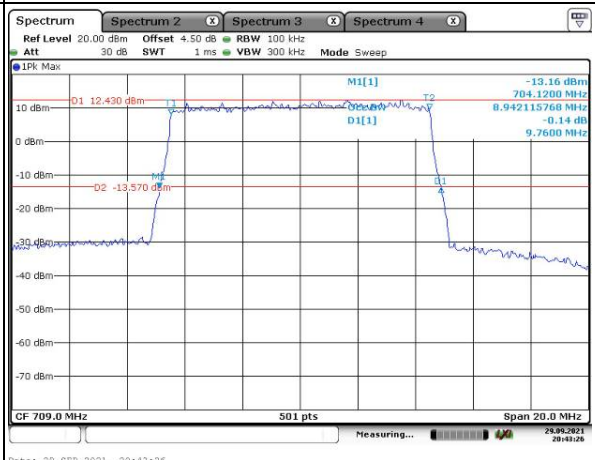
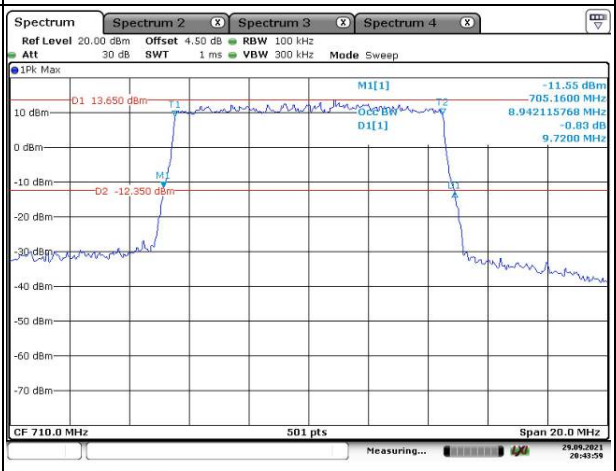
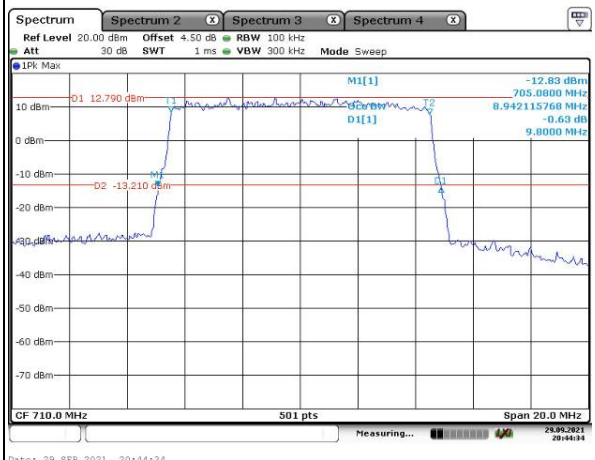
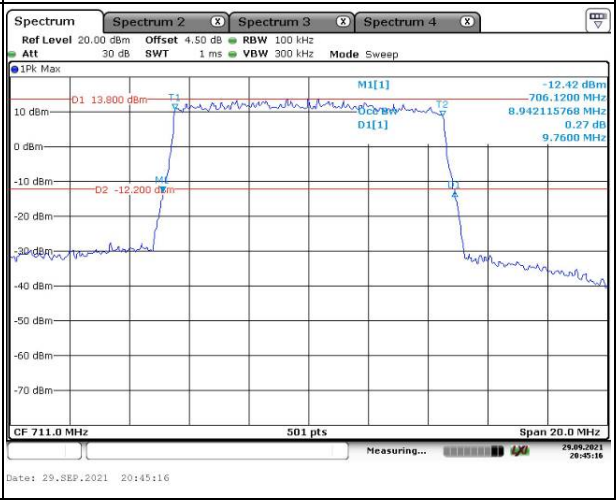
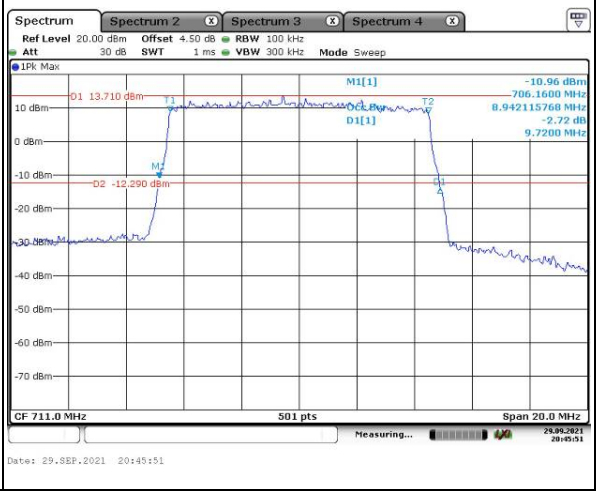
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

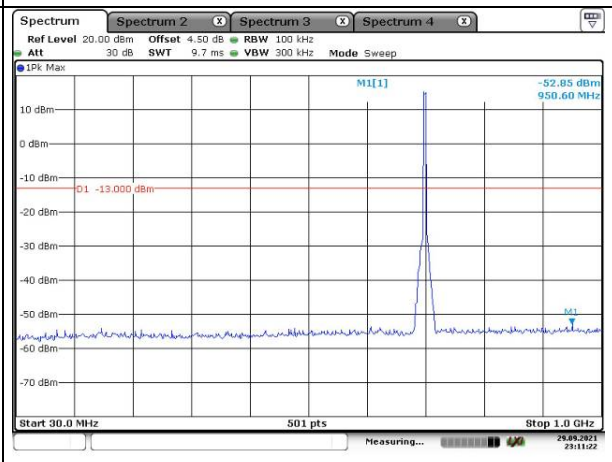
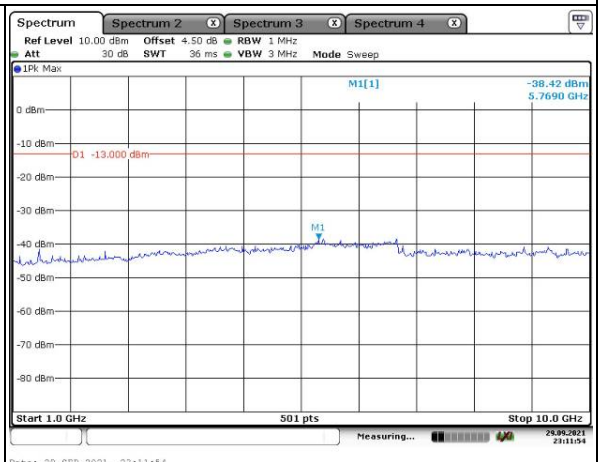
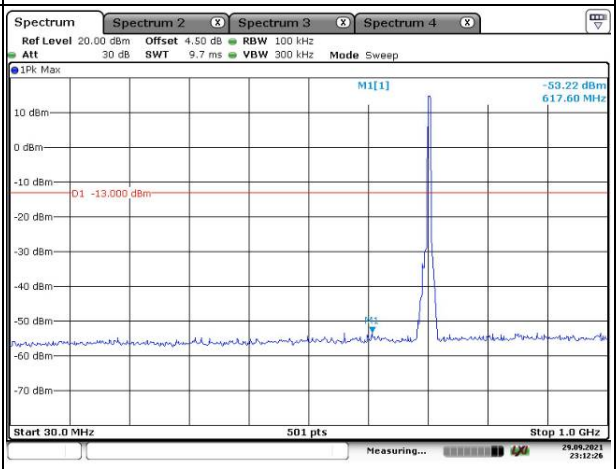
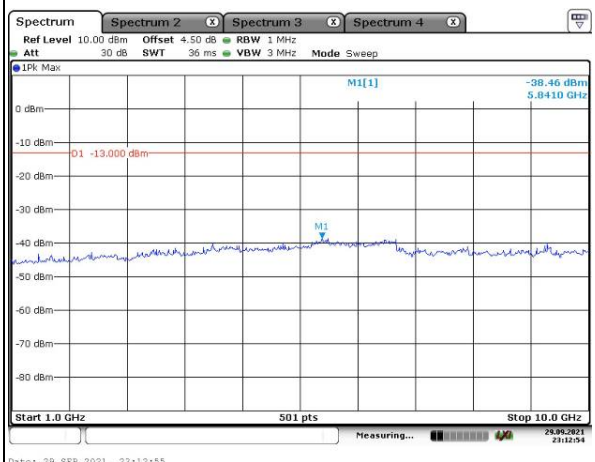
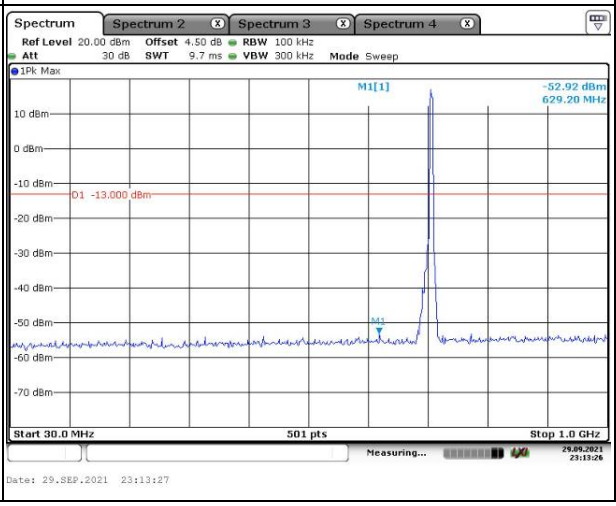
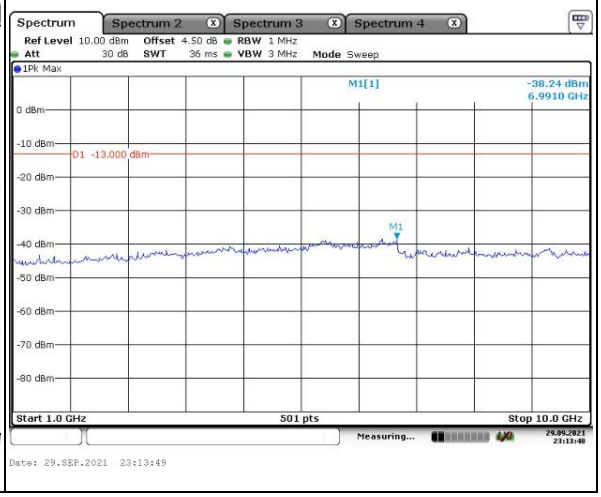
FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	704.187	704.00	715.7635	716.00
	-20	3.7	704.5289	704.00	715.4711	716.00
	-10	3.7	704.187	704.00	715.8581	716.00
	0	3.7	704.2618	704.00	715.9527	716.00
	10	3.7	704.1122	704.00	715.8108	716.00
	20	3.7	704.0374	704.00	715.7162	716.00
	30	3.7	704.2618	704.00	715.8581	716.00
	40	3.7	704.1122	704.00	715.8581	716.00
	50	3.7	704.0374	704.00	715.7162	716.00
Frequency Stability vs. Voltage	20	3.5	704.0374	704.00	715.6216	716.00
	20	4.2	704.2244	704.00	715.7162	716.00
					Result:	**Pass**

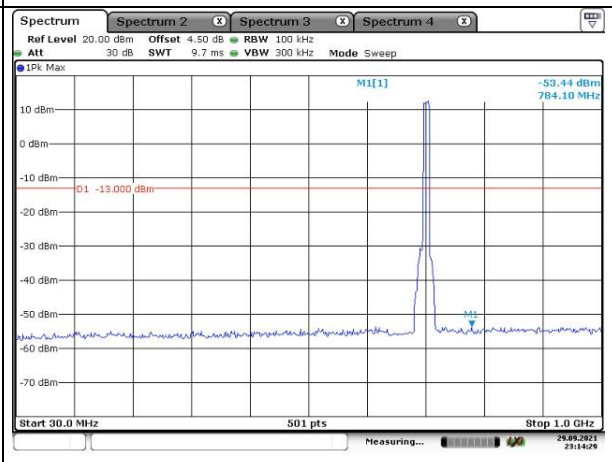
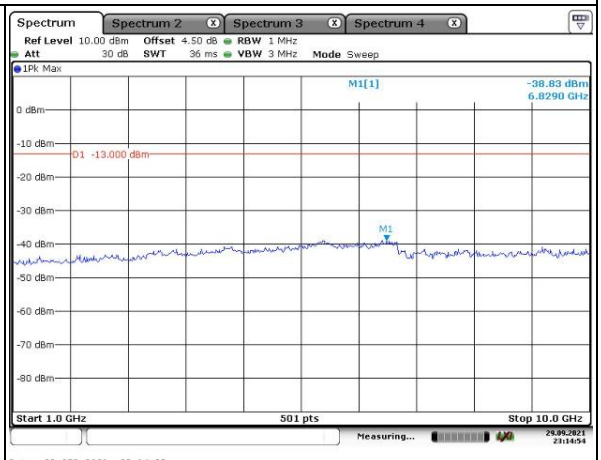
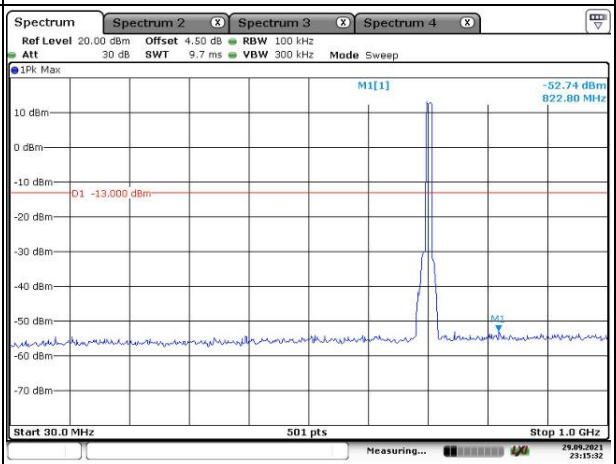
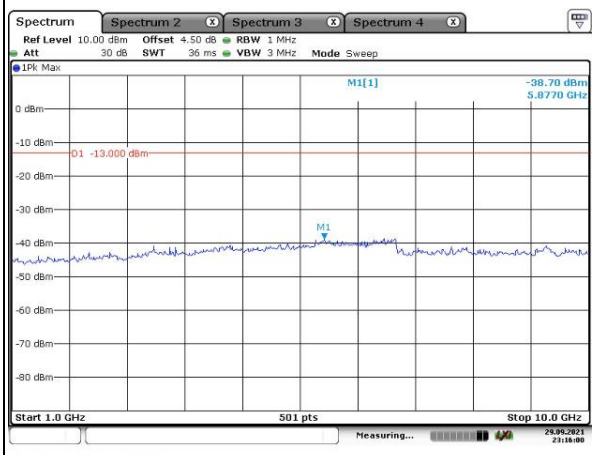
Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	704.0374	704.00	715.5743	716.00
	-20	3.7	704.5289	704.00	715.4711	716.00
	-10	3.7	704.0748	704.00	715.7635	716.00
	0	3.7	704.187	704.00	715.7635	716.00
	10	3.7	704.0374	704.00	715.9054	716.00
	20	3.7	704.1496	704.00	715.9527	716.00
	30	3.7	704.0374	704.00	715.8581	716.00
	40	3.7	704.3366	704.00	715.6216	716.00
	50	3.7	704.187	704.00	715.7635	716.00
Frequency Stability vs. Voltage	20	3.5	704.2244	704.00	715.7162	716.00
	20	4.2	704.1122	704.00	715.9527	716.00
					Result:	**Pass**

Test Plots:

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