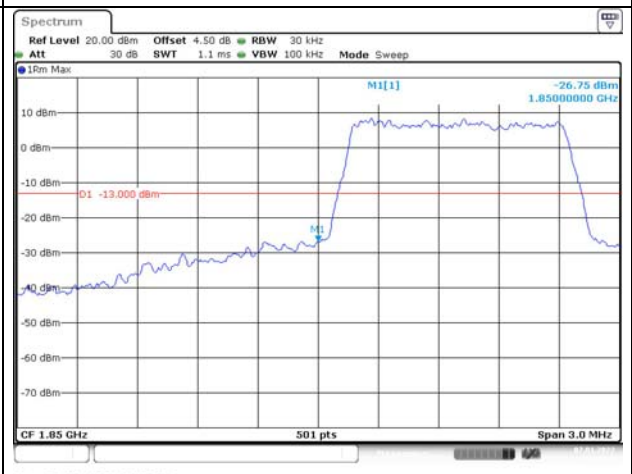
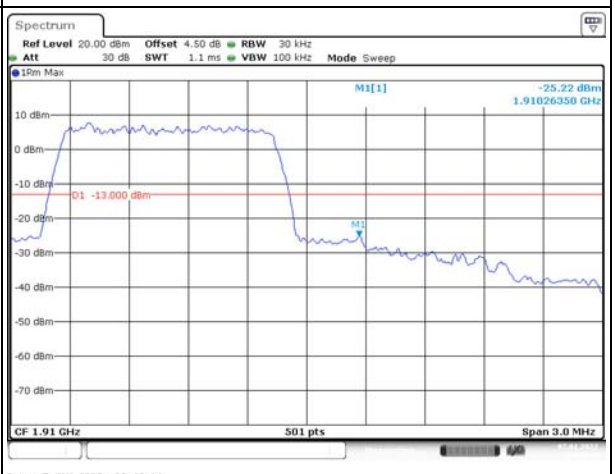
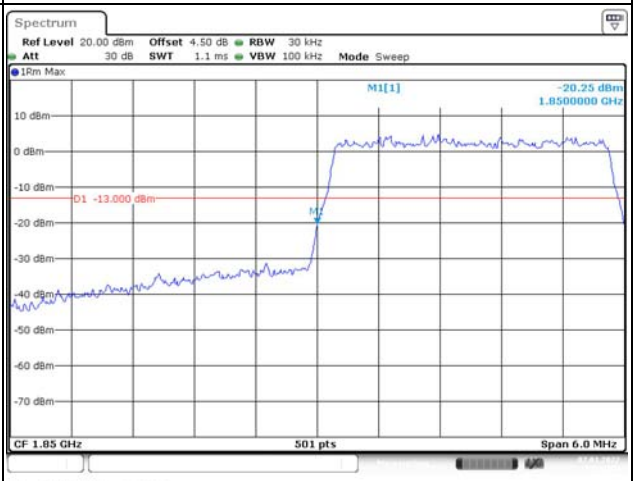
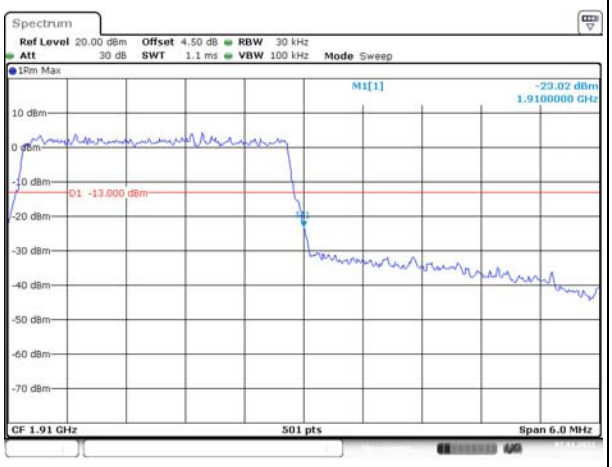
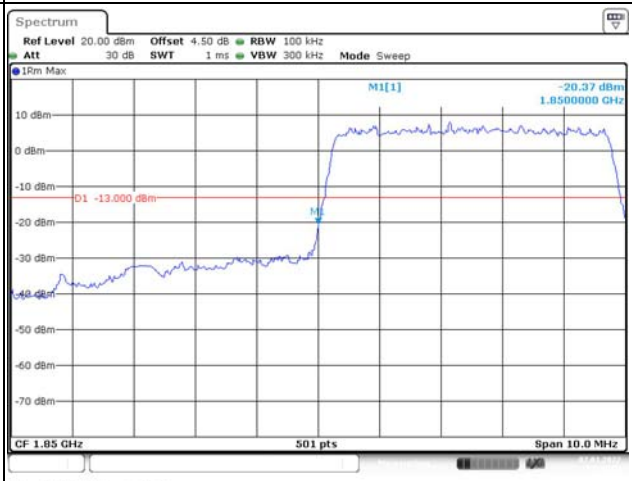
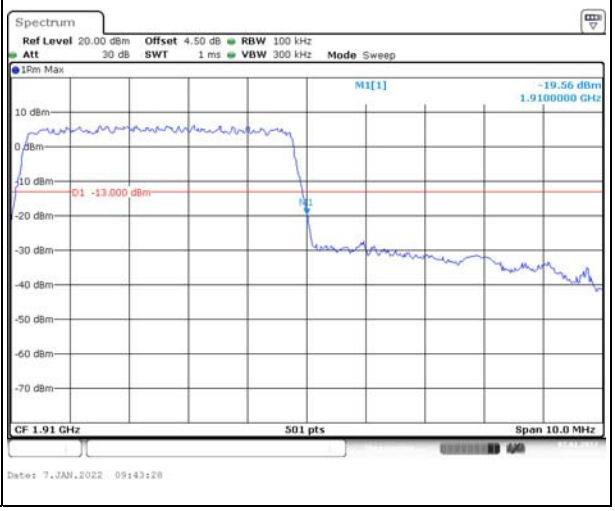
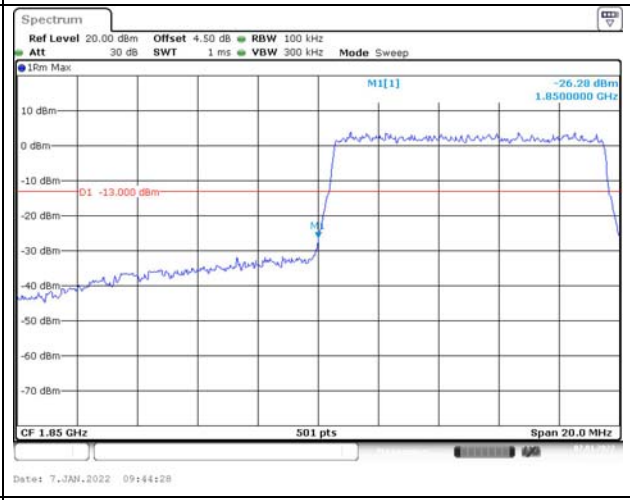
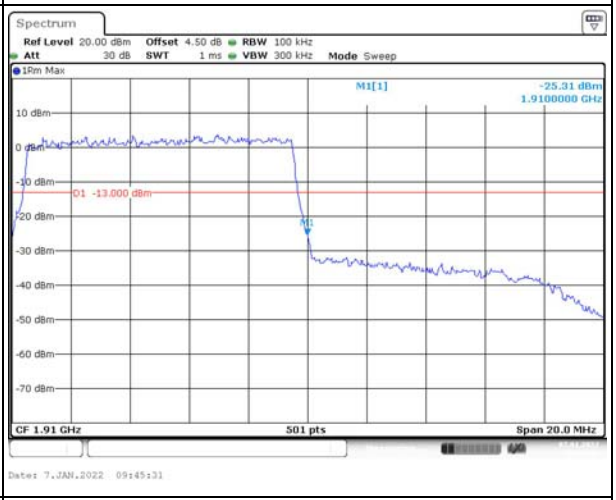
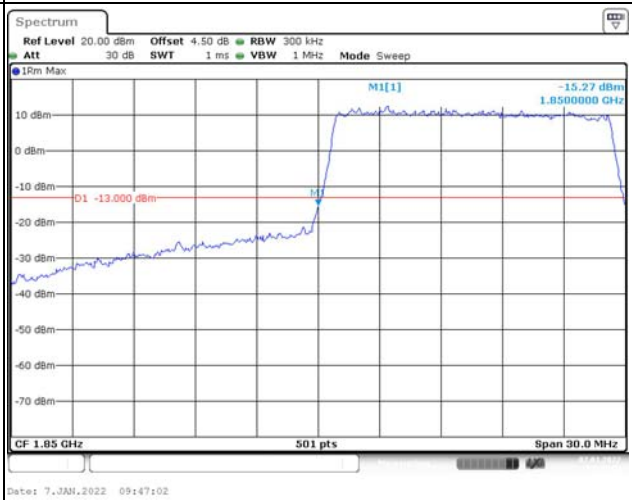
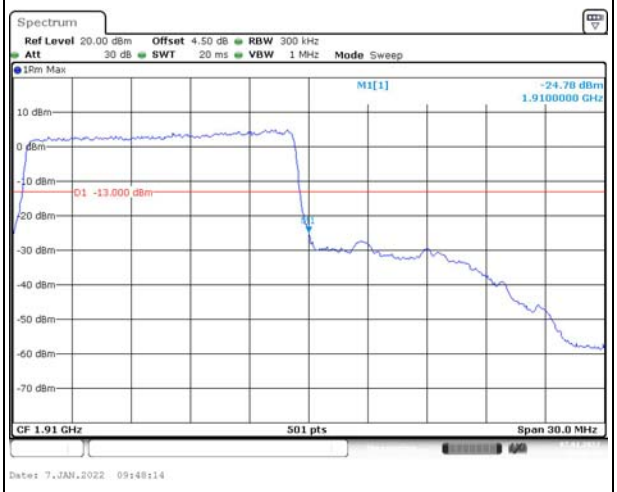
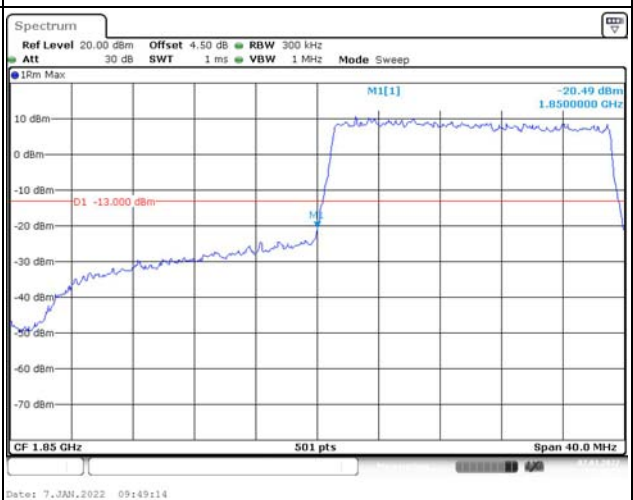
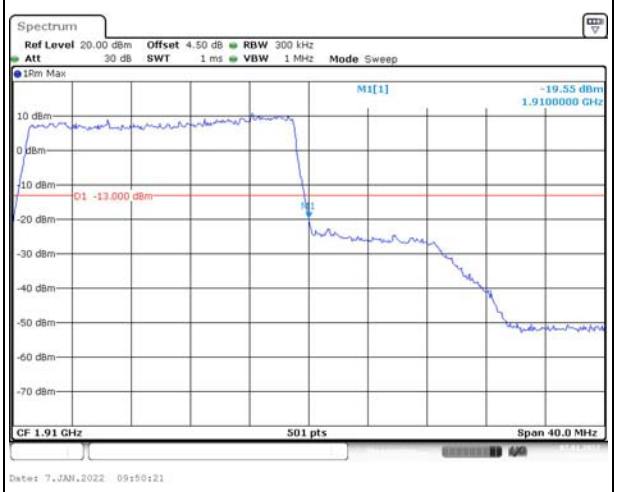
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 1.4MHz		
16QAM 3MHz		
16QAM 5MHz		

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

4.6 Antenna Port Test Data and Results for LTE Band 4:

Serial Number:	CR21120041-RF	Test Date:	2022/01/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	60	ATM Pressure: (kPa)	101.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	Spectrum Analyzer	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
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21
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

** 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 4▲:					
Antenna Gain (dBi):	1			Cable Loss (dB):	0
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	1710.7	1732.5	1754.3
3MHz	1711.5	1732.5	1753.5
5MHz	1712.5	1732.5	1752.5
10MHz	1715	1732.5	1750
15MHz	1717.5	1732.5	1747.5
20MHz	1720	1732.5	1745

Test Data:

FCC§2.1046;§ 27.50(d)(4)

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	22.71	22.62	22.68	23.88	30
	RB1#3	22.74	22.63	22.59		
	RB1#5	22.71	22.65	22.62		
	RB3#0	22.80	22.81	22.88		
	RB3#3	22.81	22.85	22.83		
	RB6#0	21.79	21.80	21.84		
1.4MHz 16QAM	RB1#0	22.50	21.61	22.46	23.55	30
	RB1#3	22.51	21.66	22.52		
	RB1#5	22.55	21.67	22.50		
	RB3#0	21.90	22.03	21.85		
	RB3#3	21.92	22.02	21.86		
	RB6#0	21.09	21.15	20.84		
3MHz QPSK	RB1#0	22.67	22.74	22.94	23.94	30
	RB1#8	22.69	22.77	22.94		
	RB1#14	22.66	22.72	22.94		
	RB6#0	21.74	21.77	21.74		
	RB6#9	21.74	21.88	21.72		
	RB15#0	21.78	21.79	21.77		
3MHz 16QAM	RB1#0	22.19	22.49	21.89	23.56	30
	RB1#8	22.21	22.56	21.84		
	RB1#14	22.15	22.56	21.93		
	RB6#0	20.80	21.02	21.13		
	RB6#9	20.80	21.04	21.18		
	RB15#0	20.94	20.94	20.96		
5MHz QPSK	RB1#0	22.76	22.82	22.64	23.92	30
	RB1#13	22.78	22.84	22.65		
	RB1#24	22.74	22.92	22.60		
	RB15#0	21.83	21.86	21.72		
	RB15#10	21.80	21.78	21.73		
	RB25#0	21.77	21.79	21.70		
5MHz 16QAM	RB1#0	21.00	22.07	21.35	23.11	30
	RB1#13	21.01	22.03	21.35		
	RB1#24	20.95	22.11	21.38		
	RB15#0	20.93	20.83	20.89		
	RB15#10	20.95	20.80	20.86		
	RB25#0	21.01	20.92	20.73		
10MHz QPSK	RB1#0	22.66	22.78	22.89	23.98	30
	RB1#25	22.64	22.85	22.98		
	RB1#49	22.68	22.81	22.92		

	RB25#0	21.74	21.87	21.68		
	RB25#25	21.77	21.73	21.63		
	RB50#0	21.75	21.81	21.90		
10MHz 16QAM	RB1#0	22.02	21.96	21.27	23.03	30
	RB1#25	22.00	22.03	21.39		
	RB1#49	21.97	22.02	21.34		
	RB25#0	20.89	21.02	20.92		
	RB25#25	20.82	21.03	20.97		
	RB50#0	20.94	21.02	20.93		
15MHz QPSK	RB1#0	22.67	22.73	22.86	23.95	30
	RB1#38	22.64	22.82	22.90		
	RB1#74	22.67	22.82	22.95		
	RB36#0	21.75	21.83	21.75		
	RB36#39	21.67	21.84	21.82		
	RB75#0	21.70	21.85	21.74		
15MHz 16QAM	RB1#0	22.01	21.97	22.15	23.23	30
	RB1#38	22.00	21.99	22.23		
	RB1#74	22.04	21.99	22.20		
	RB36#0	21.04	20.97	20.92		
	RB36#39	20.98	21.06	20.97		
	RB75#0	20.92	20.99	20.91		
20MHz QPSK	RB1#0	22.95	22.69	22.77	23.95	30
	RB1#50	22.81	22.72	22.77		
	RB1#99	22.87	22.80	22.91		
	RB50#0	21.68	21.80	21.74		
	RB50#50	21.82	21.81	21.88		
	RB100#0	21.79	21.88	21.79		
20MHz 16QAM	RB1#0	21.81	22.31	22.35	23.51	30
	RB1#50	21.75	22.28	22.39		
	RB1#99	21.88	22.26	22.51		
	RB50#0	20.95	20.99	20.81		
	RB50#50	20.96	21.05	20.93		
	RB100#0	20.87	20.98	20.91		
Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBi)						
					Result:	**Pass**

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.17	5.45	4.72	13
	RB100#0	5.10	5.45	4.55	13
20MHz 16QAM	RB1#0	5.48	6.55	5.71	13
	RB100#0	6.17	6.26	5.57	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	1.102	1.102	1.102	1.260	1.260	1.260
1.4MHz 16QAM	1.108	1.090	1.102	1.266	1.254	1.260
3MHz QPSK	2.707	2.695	2.695	3.000	3.000	3.012
3MHz 16QAM	2.695	2.683	2.695	3.012	3.012	3.024
5MHz QPSK	4.531	4.511	4.491	5.000	5.020	5.000
5MHz 16QAM	4.491	4.531	4.551	4.980	5.020	4.980
10MHz QPSK	8.942	8.981	8.981	9.760	9.760	9.760
10MHz 16QAM	8.942	8.981	8.981	9.840	9.840	9.840
15MHz QPSK	13.533	13.533	13.533	15.120	15.060	15.060
15MHz 16QAM	13.533	13.533	13.533	15.060	15.180	15.000
20MHz QPSK	17.964	17.964	17.964	19.600	19.520	19.600
20MHz 16QAM	18.044	18.044	17.964	19.680	19.760	19.680
Note: The test plots please refer to the Plots of Occupied Bandwidth						

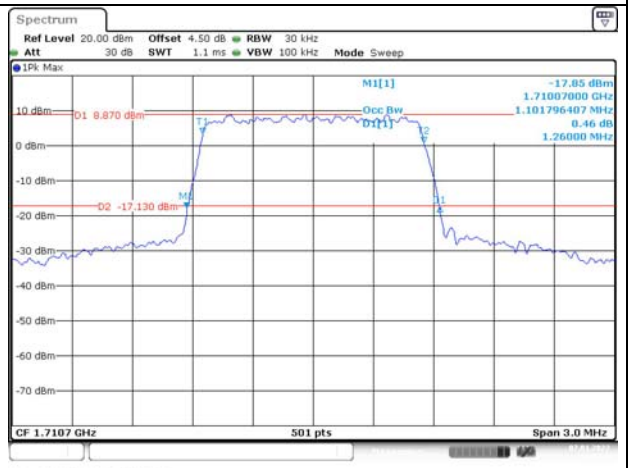
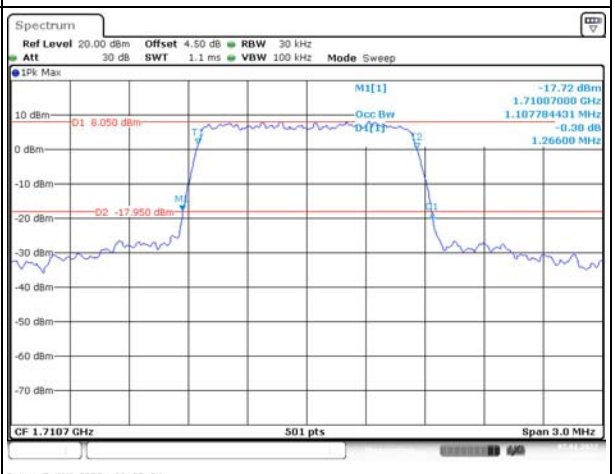
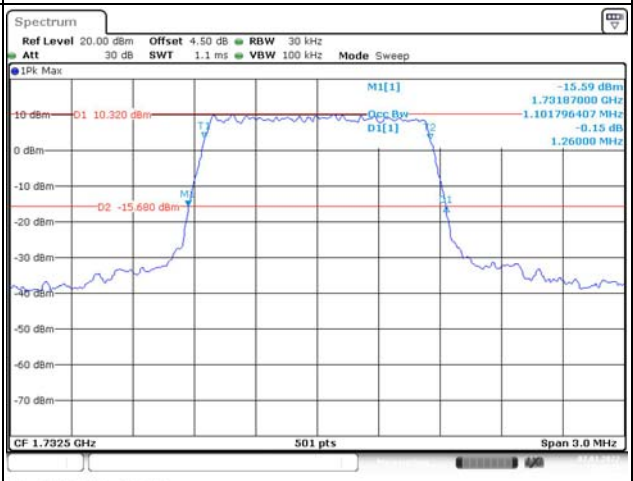
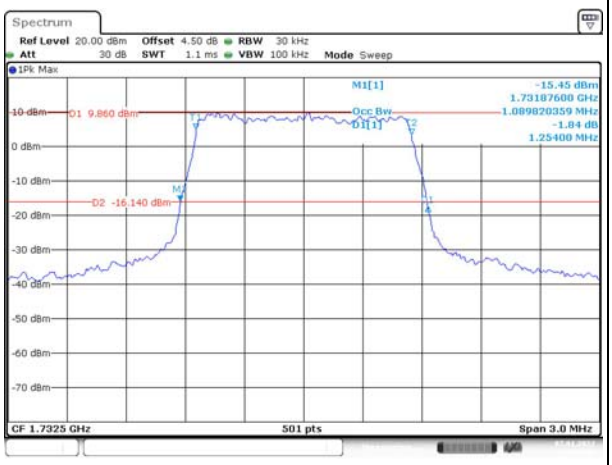
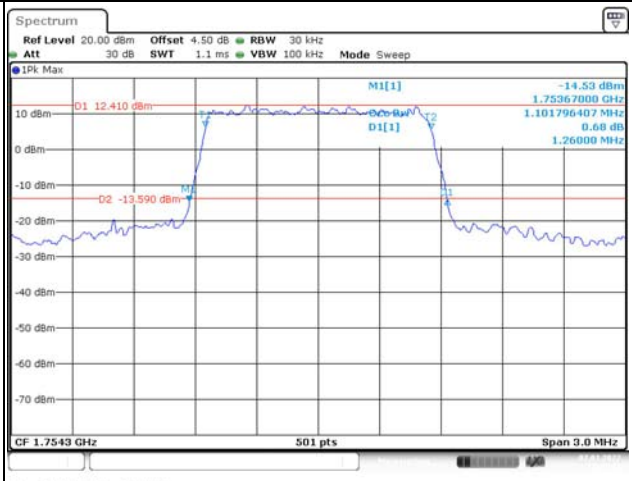
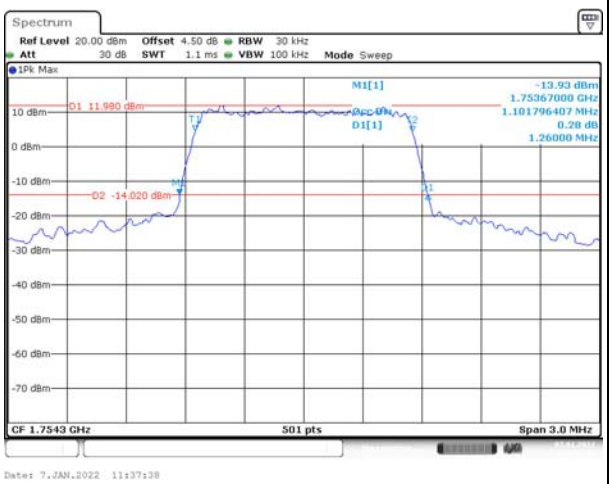
FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

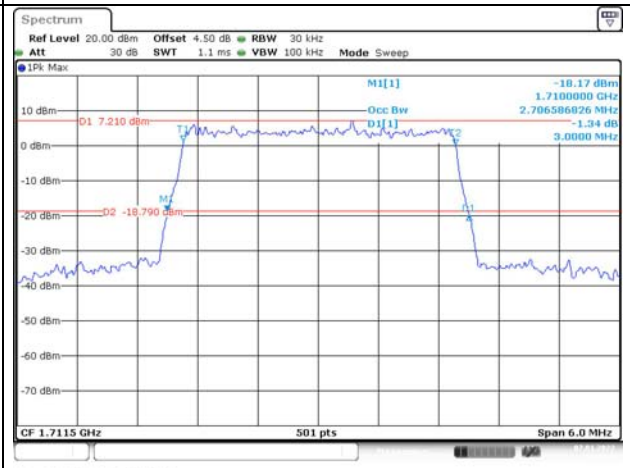
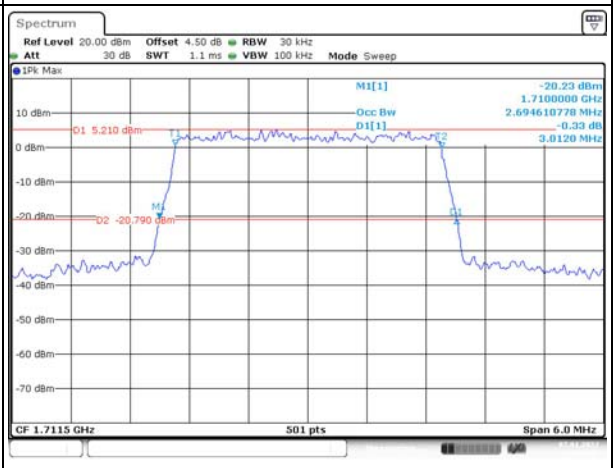
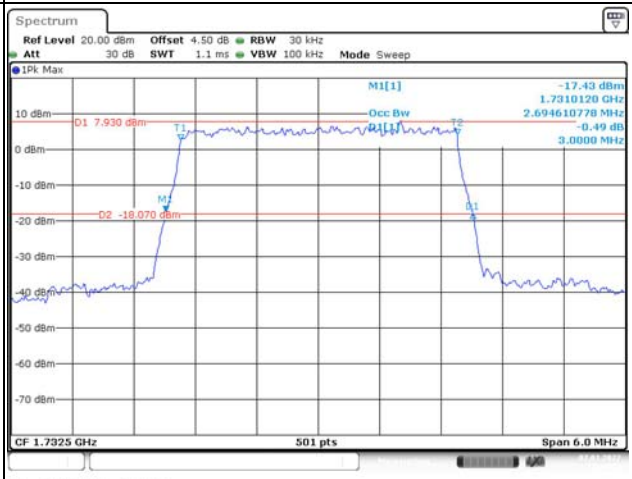
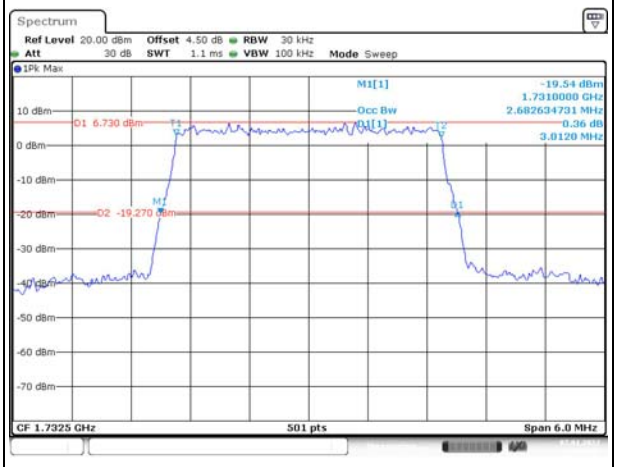
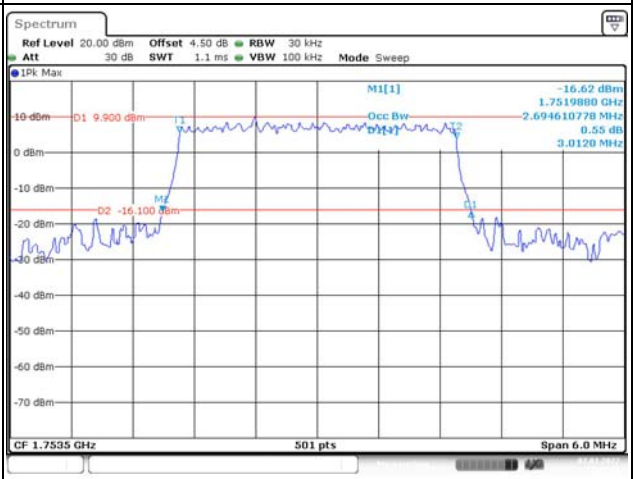
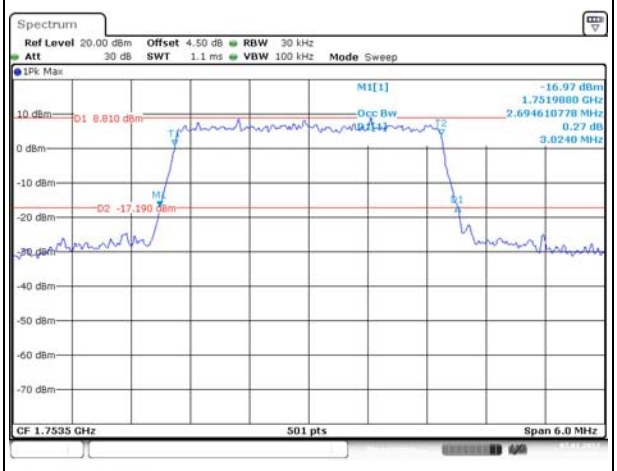
FCC §2.1051, § 27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

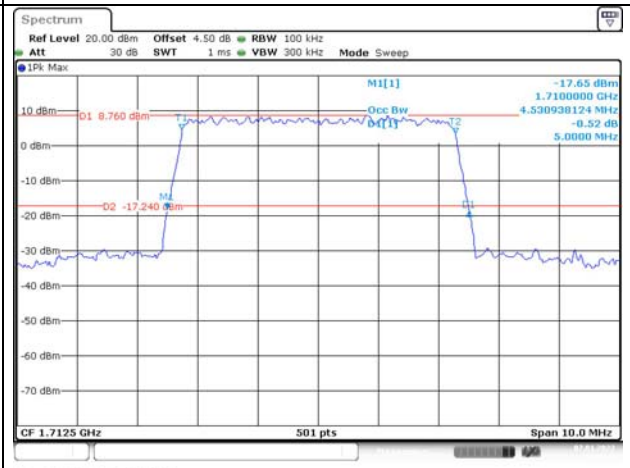
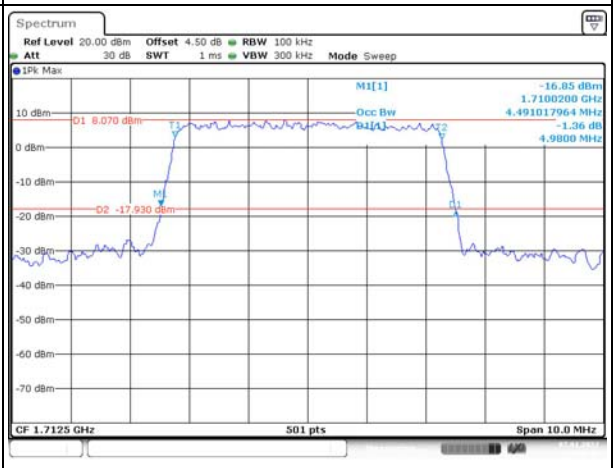
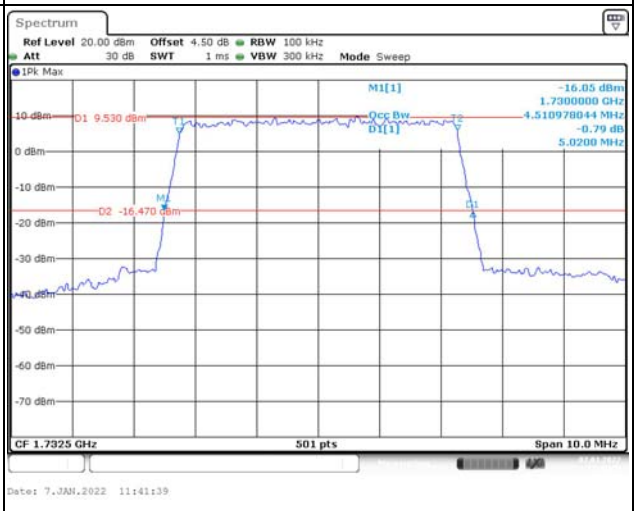
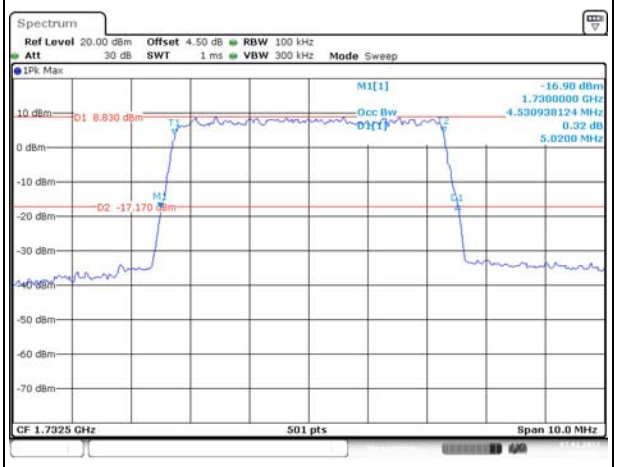
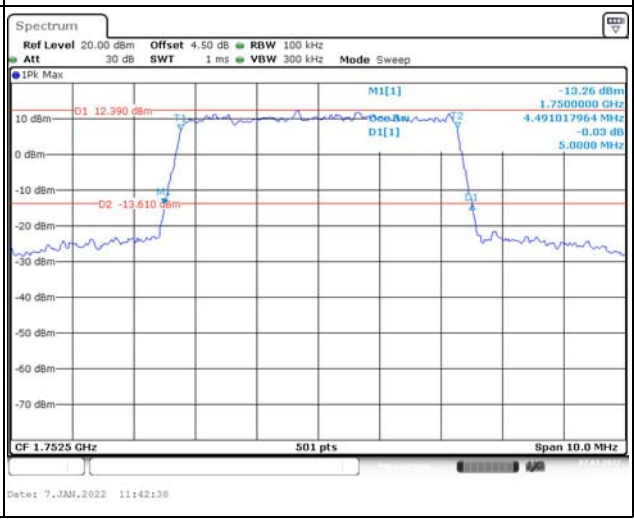
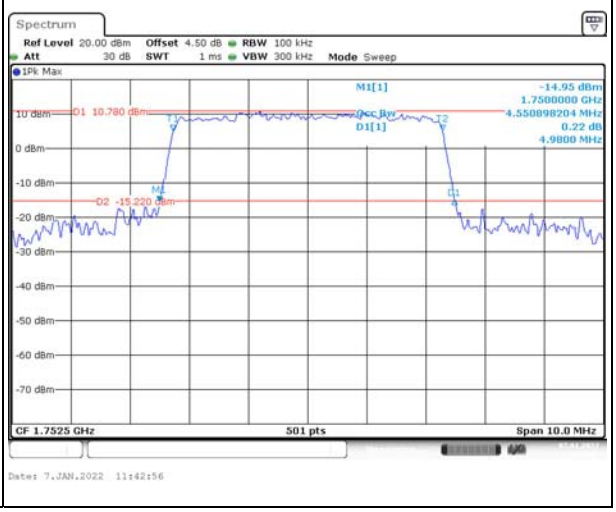
FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	1710.514	1710.00	1754.486	1755
	-20	3.7	1710.517	1710.00	1754.484	1755
	-10	3.7	1710.513	1710.00	1754.482	1755
	0	3.7	1710.517	1710.00	1754.486	1755
	10	3.7	1710.516	1710.00	1754.481	1755
	20	3.7	1710.514	1710.00	1754.486	1755
	30	3.7	1710.515	1710.00	1754.485	1755
	40	3.7	1710.514	1710.00	1754.486	1755
	50	3.7	1710.513	1710.00	1754.487	1755
Frequency Stability vs. Voltage	20	3.5	1710.518	1710.00	1754.486	1755
	20	4.2	1710.514	1710.00	1754.482	1755
					Result:	**Pass**

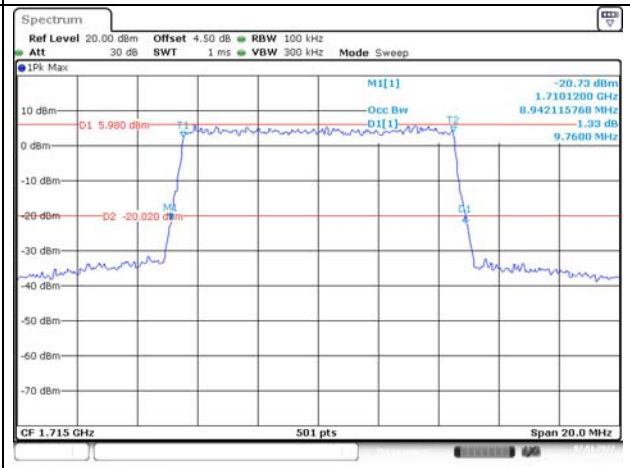
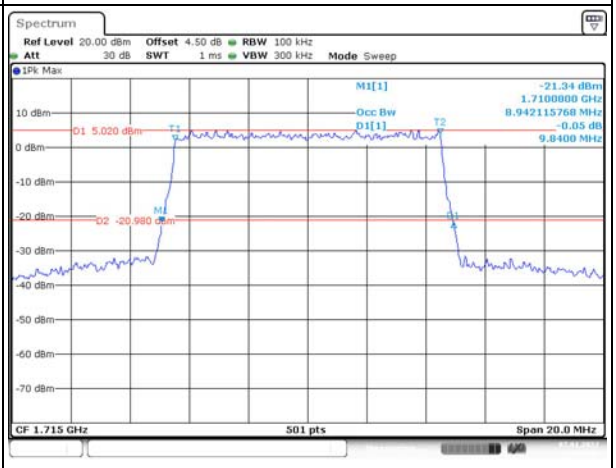
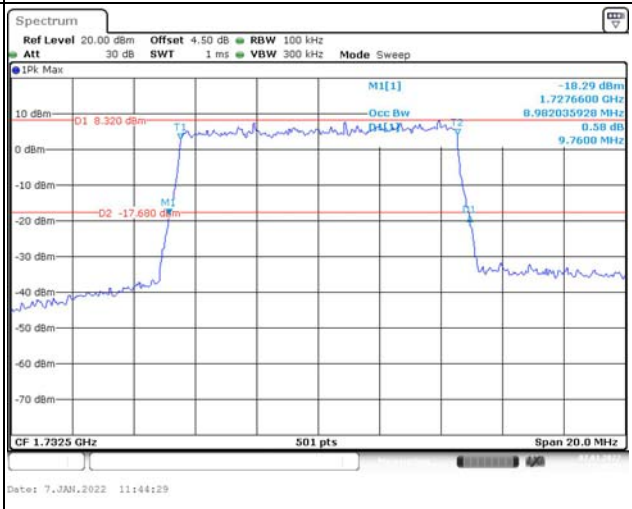
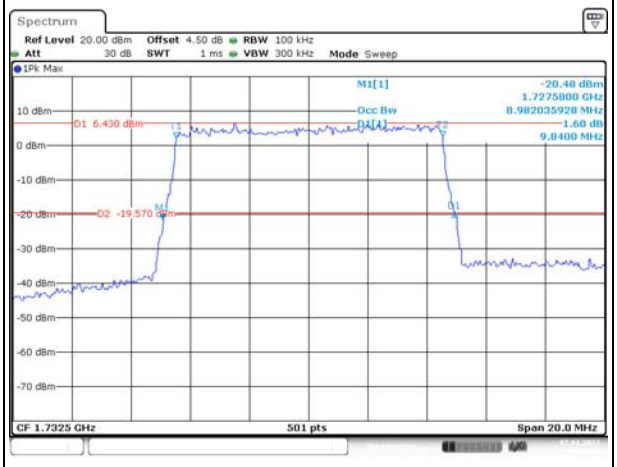
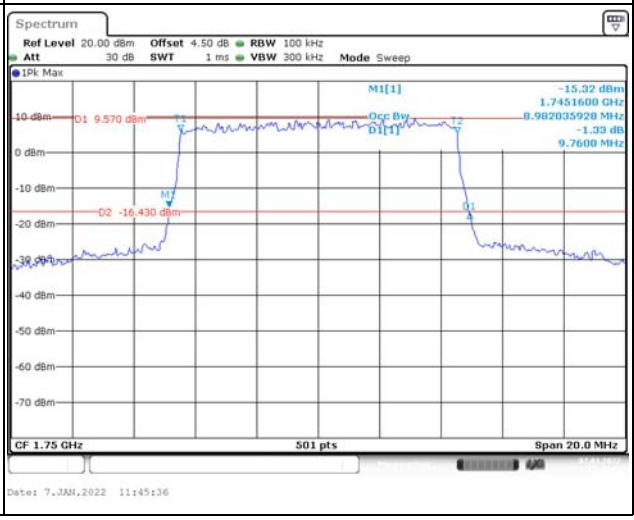
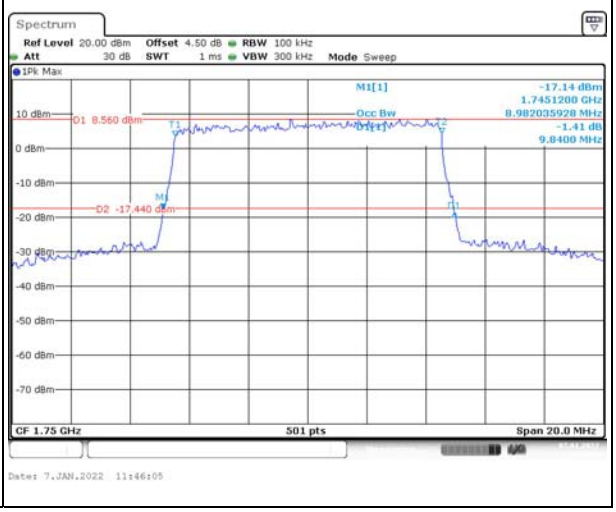
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	1710.511	1710.00	1754.457	1755
	-20	3.7	1710.514	1710.00	1754.455	1755
	-10	3.7	1710.515	1710.00	1754.457	1755
	0	3.7	1710.514	1710.00	1754.453	1755
	10	3.7	1710.517	1710.00	1754.455	1755
	20	3.7	1710.514	1710.00	1754.457	1755
	30	3.7	1710.513	1710.00	1754.458	1755
	40	3.7	1710.514	1710.00	1754.457	1755
	50	3.7	1710.519	1710.00	1754.455	1755
Frequency Stability vs. Voltage	20	3.5	1710.515	1710.00	1754.457	1755
	20	4.2	1710.514	1710.00	1754.453	1755
					Result:	**Pass**

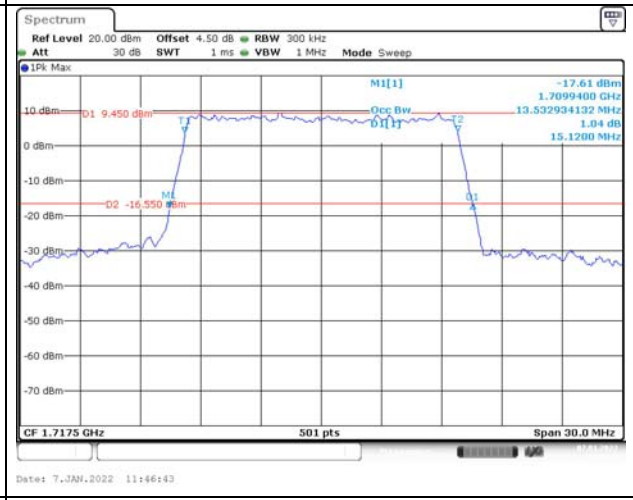
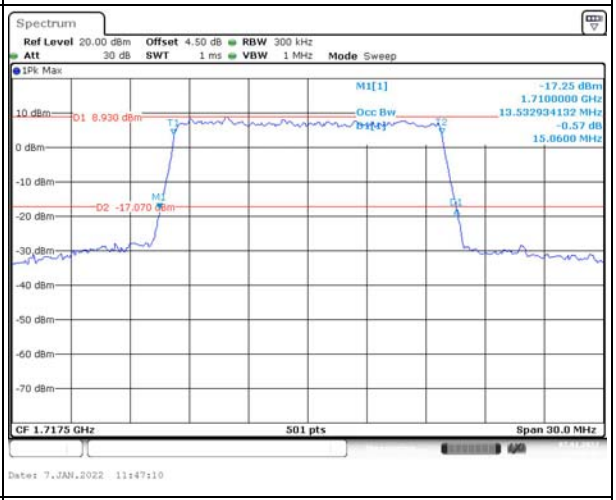
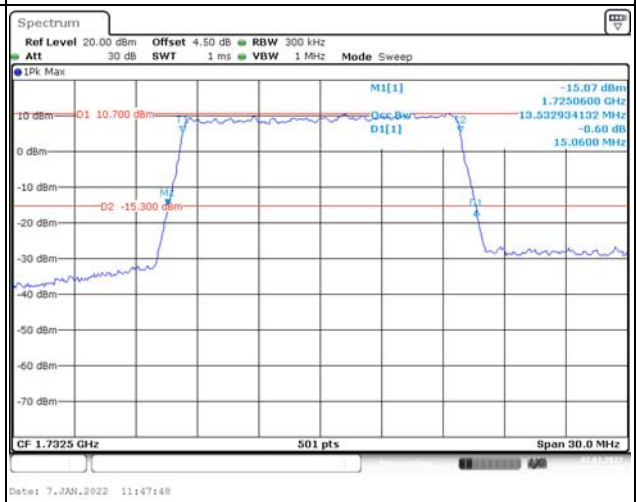
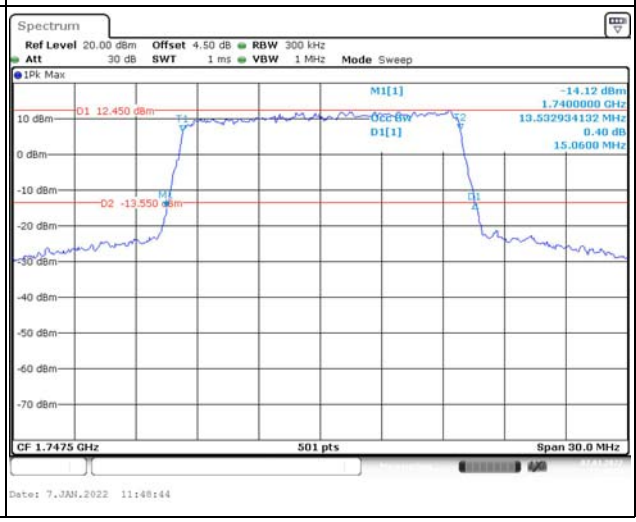
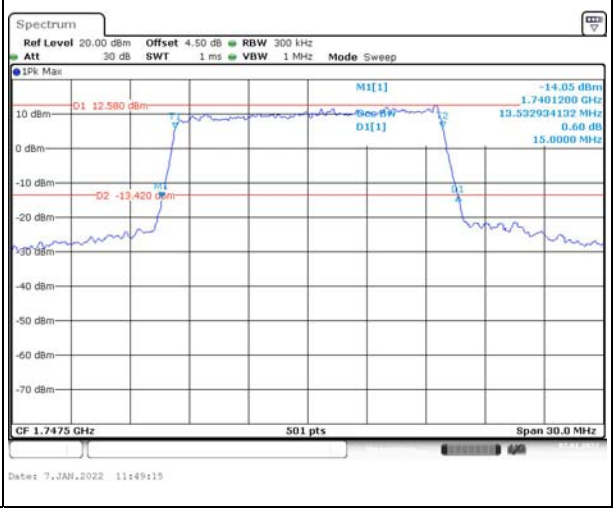
Test Plots:

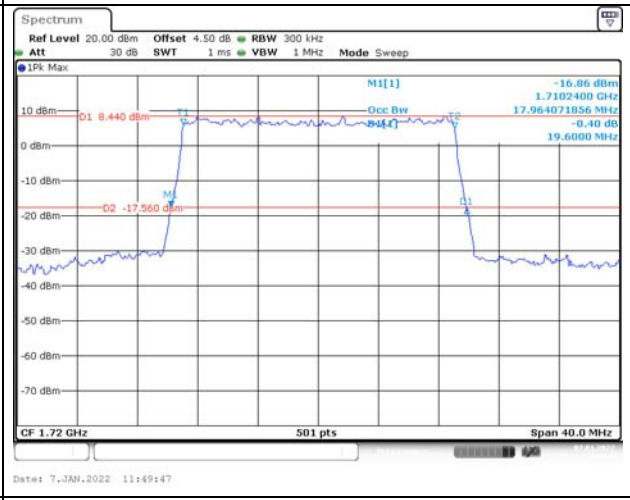
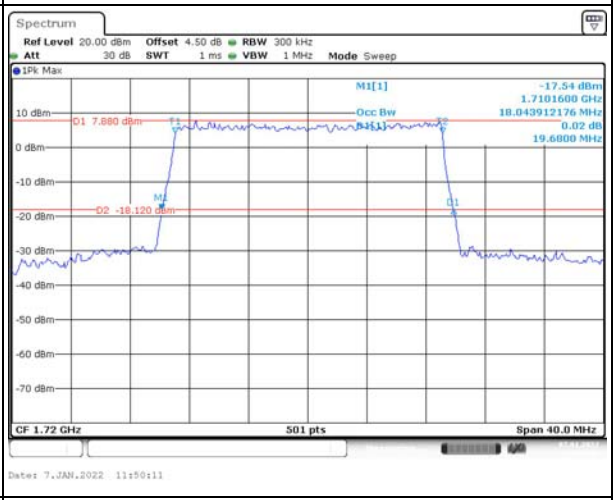
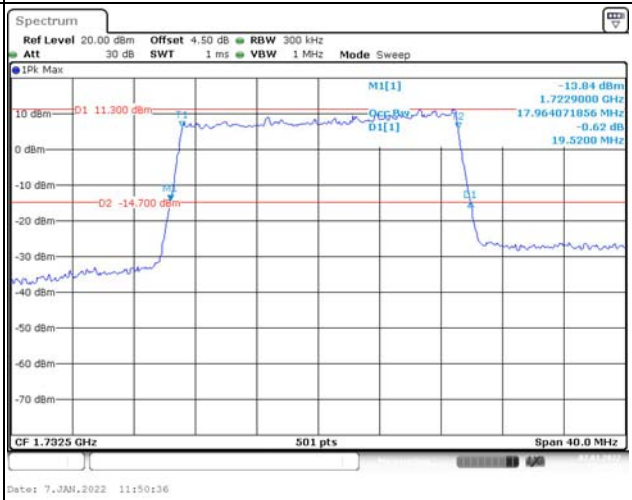
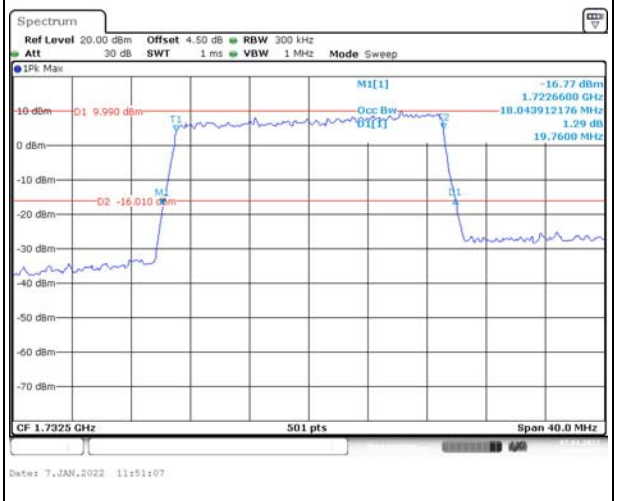
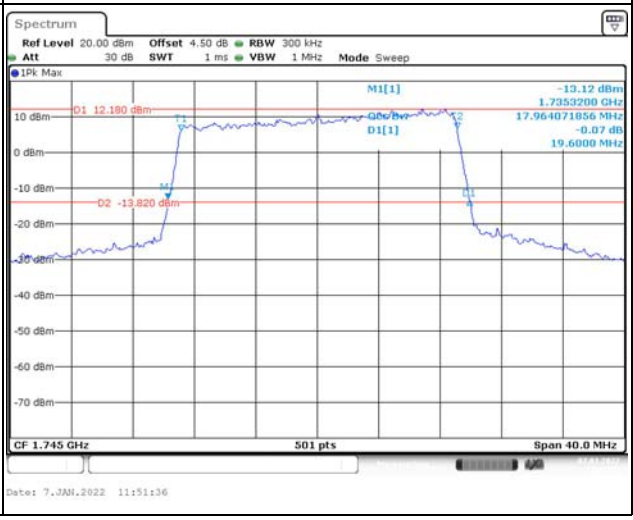
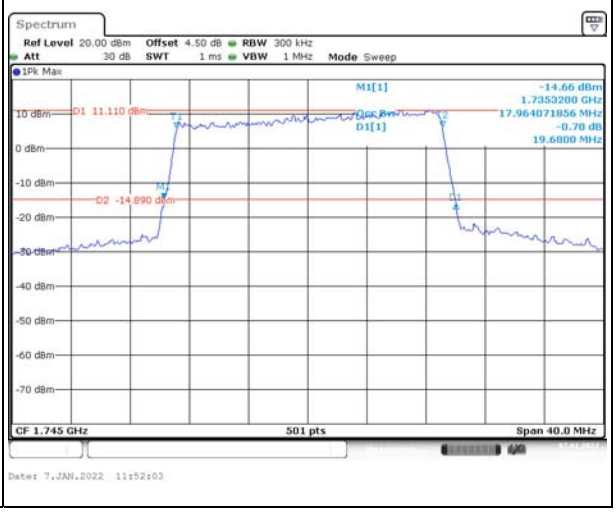
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

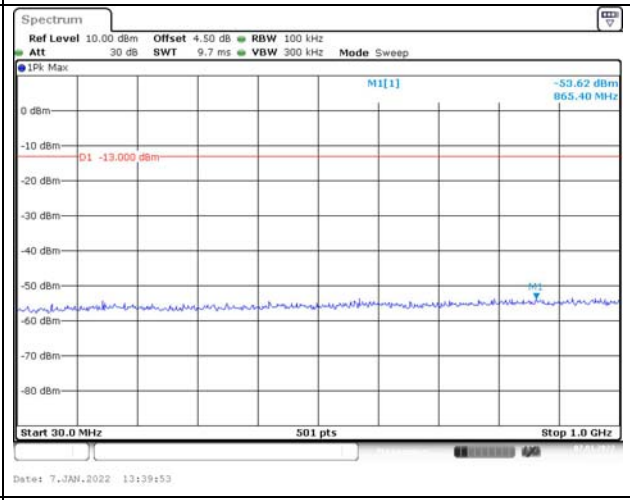
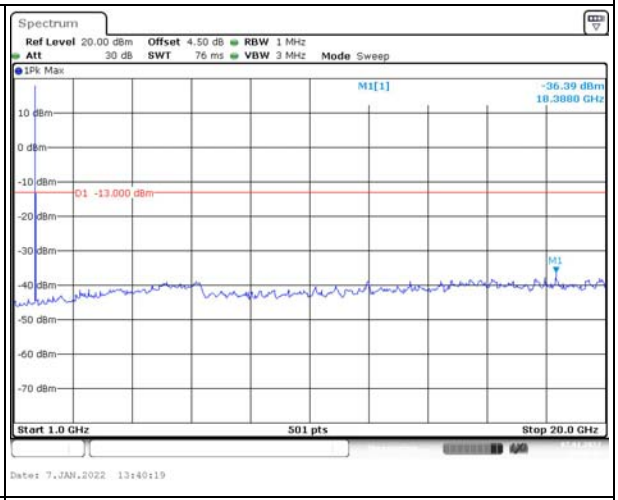
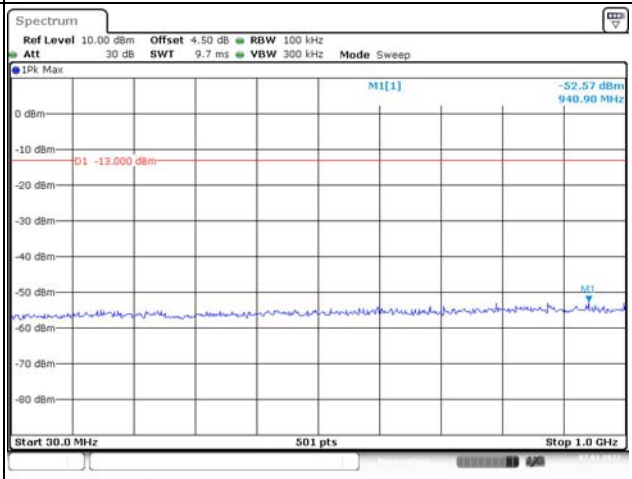
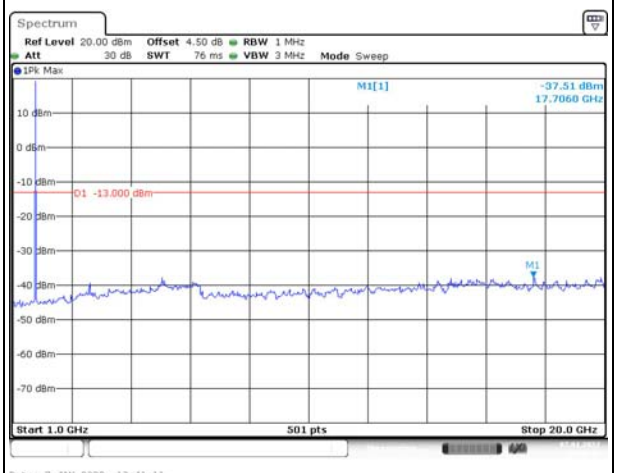
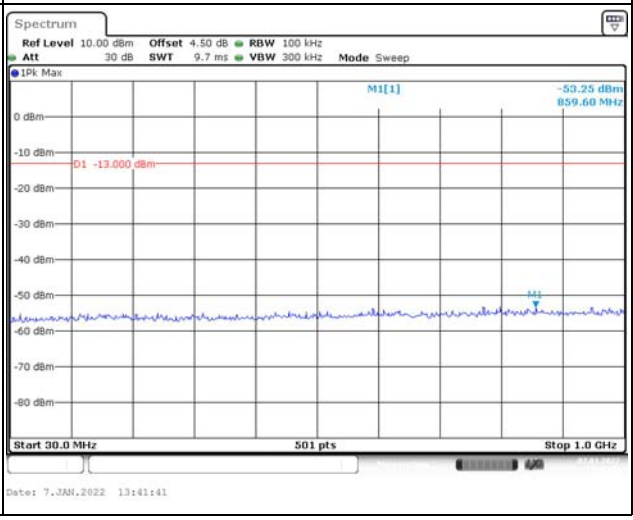
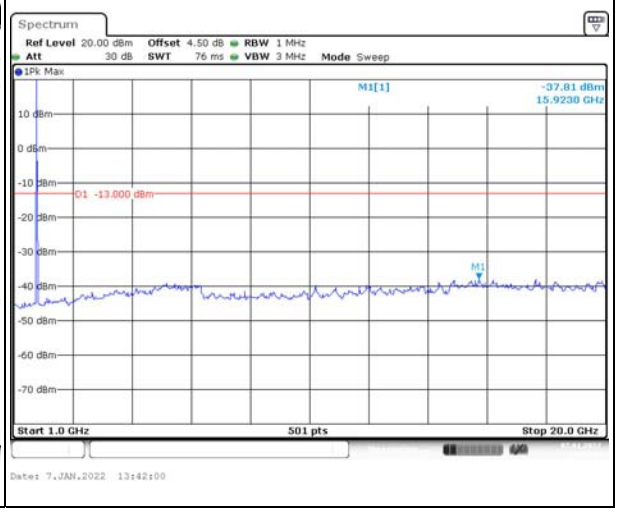
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

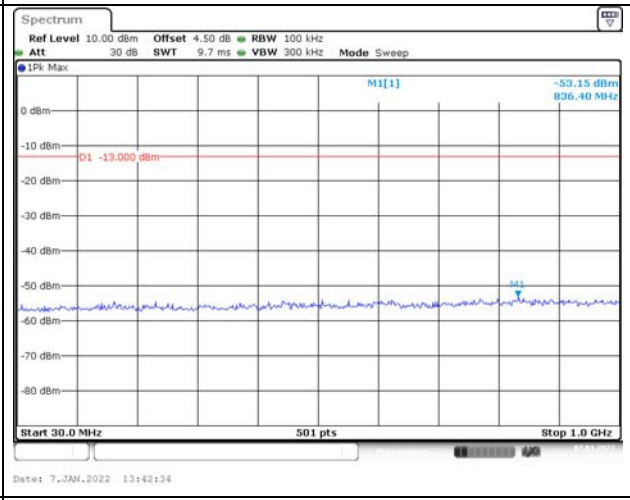
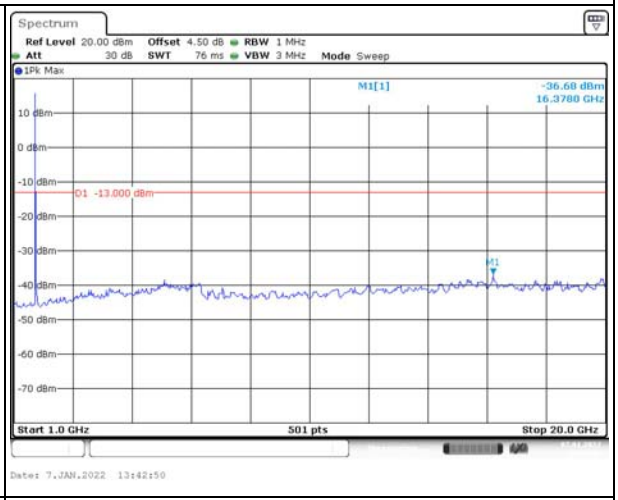
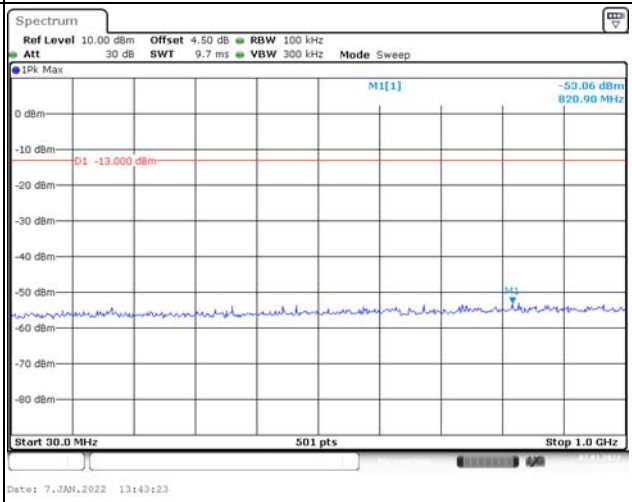
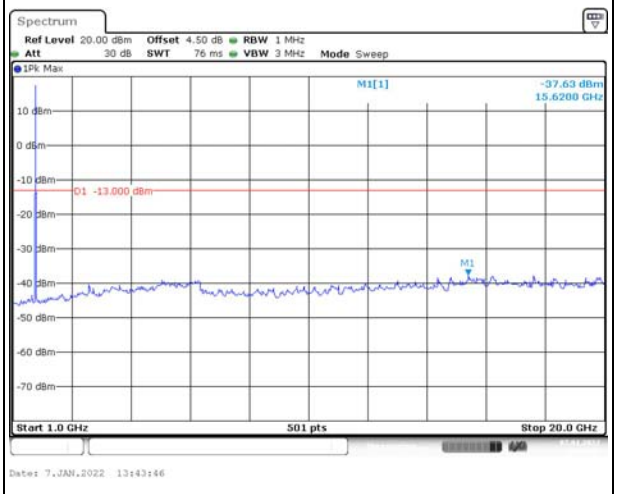
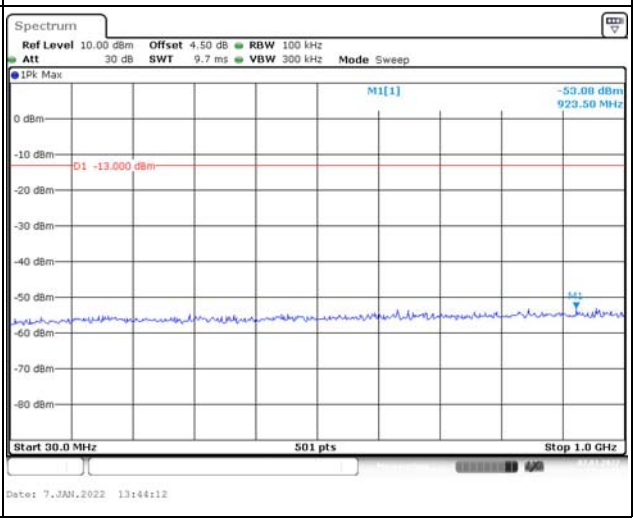
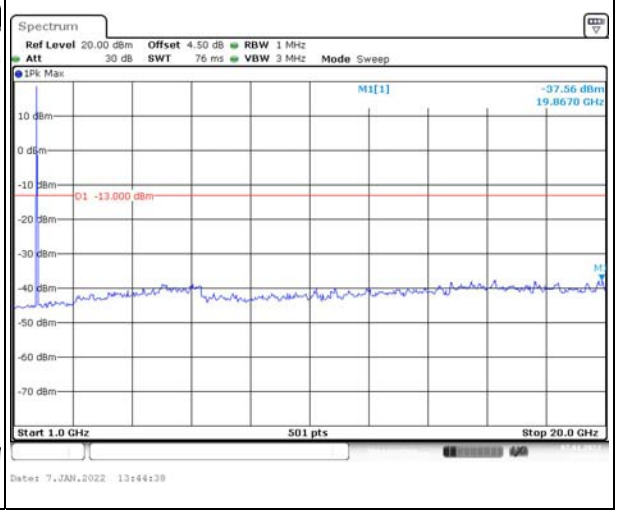
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

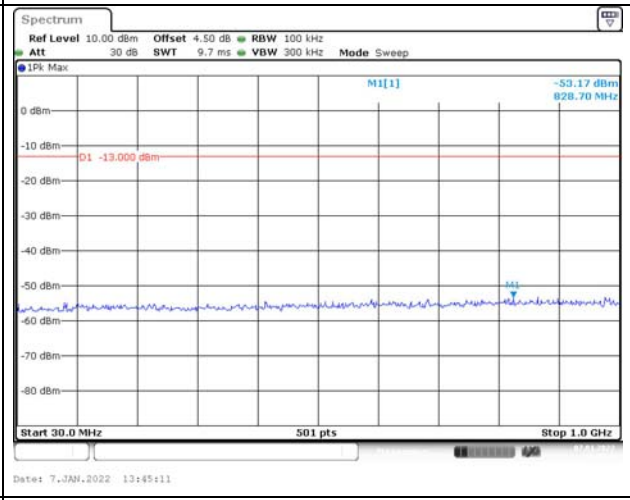
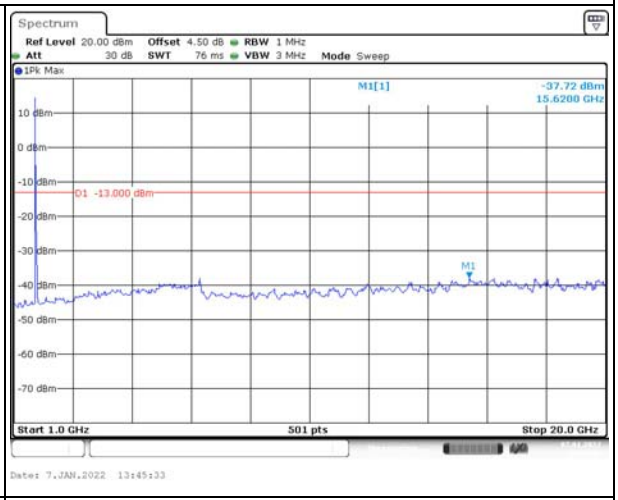
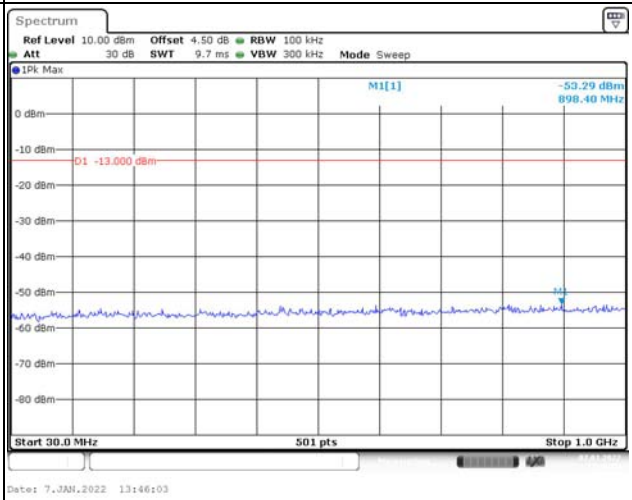
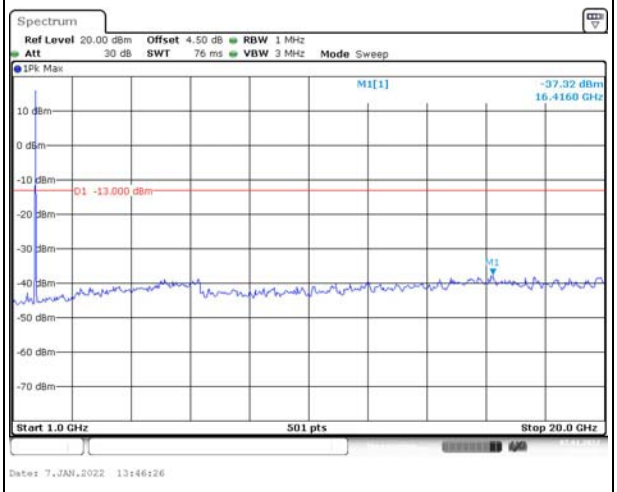
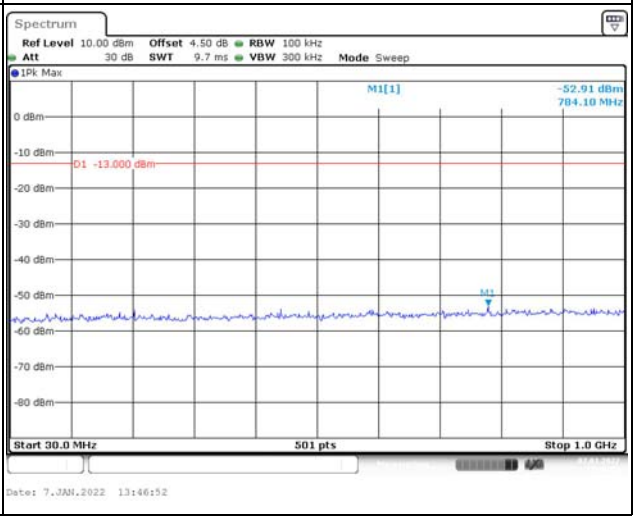
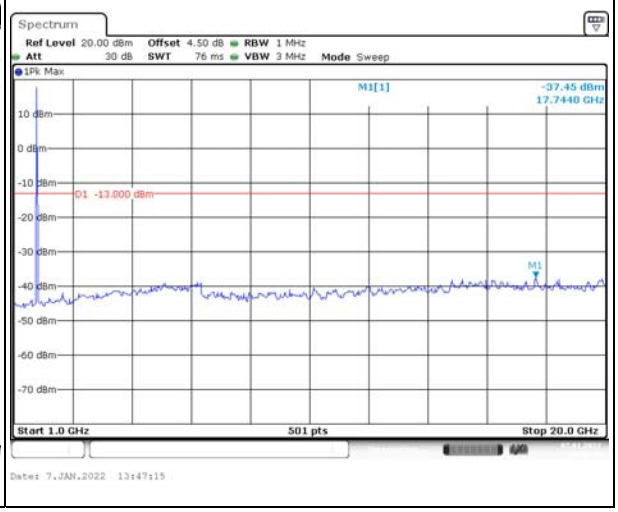
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

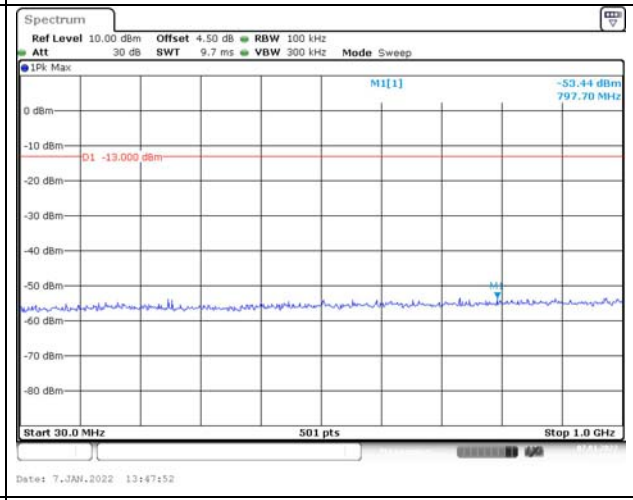
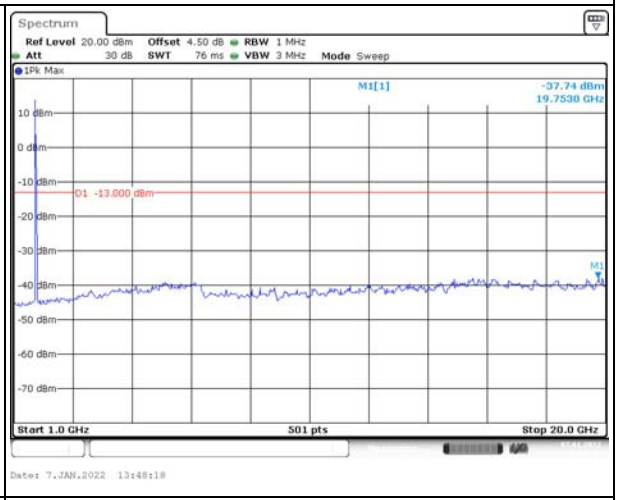
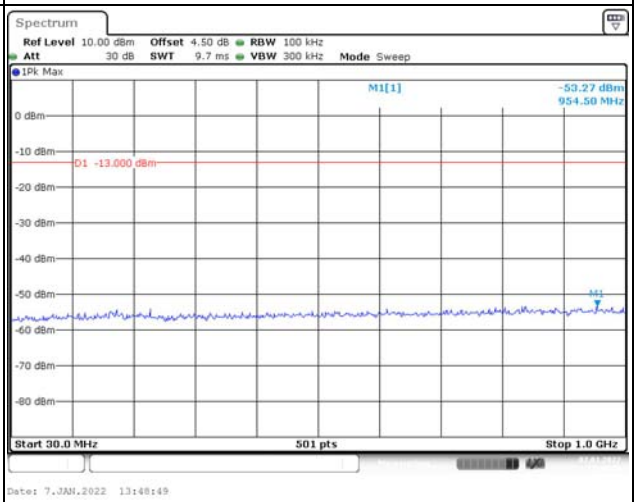
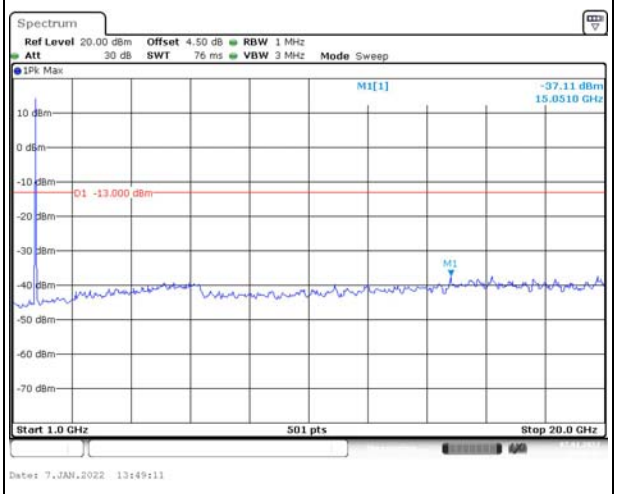
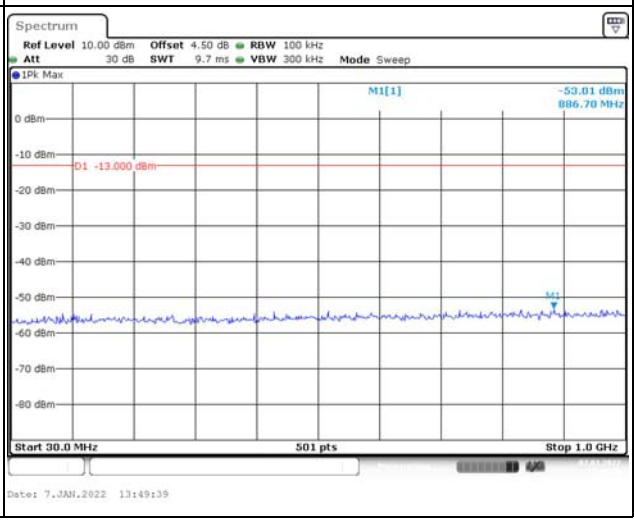
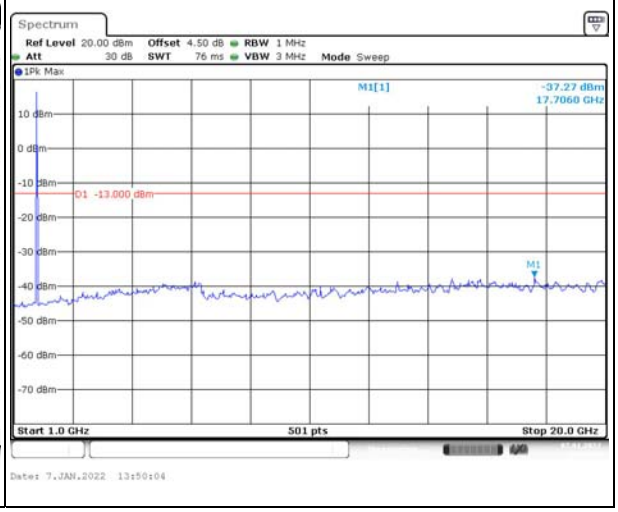
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

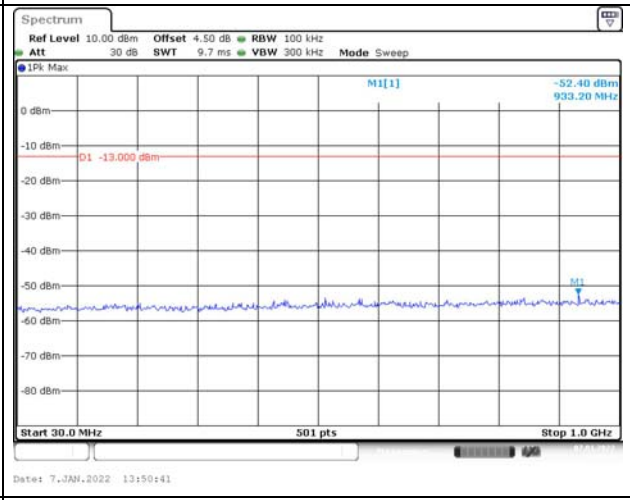
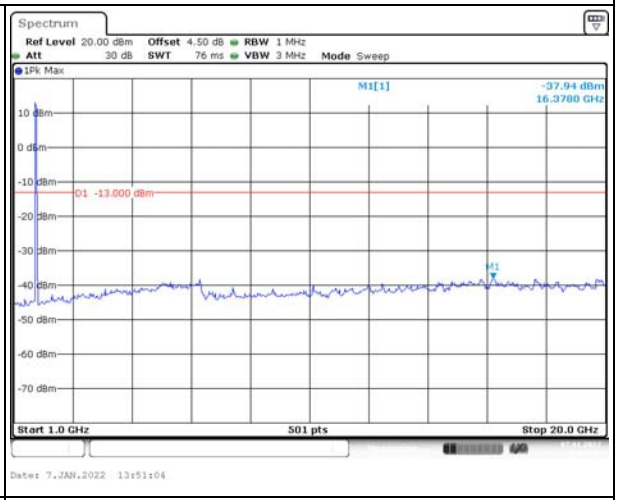
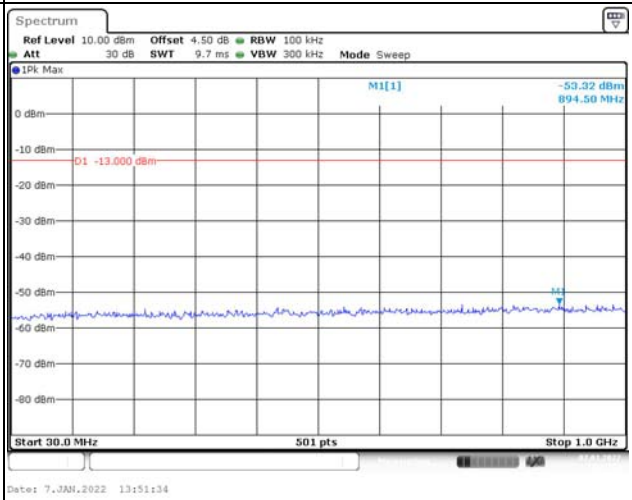
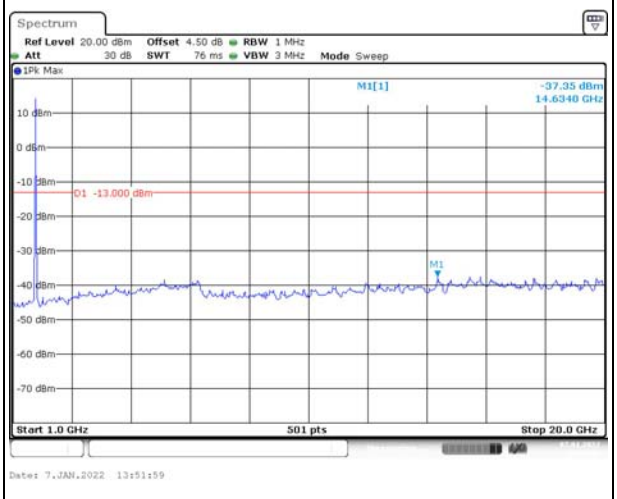
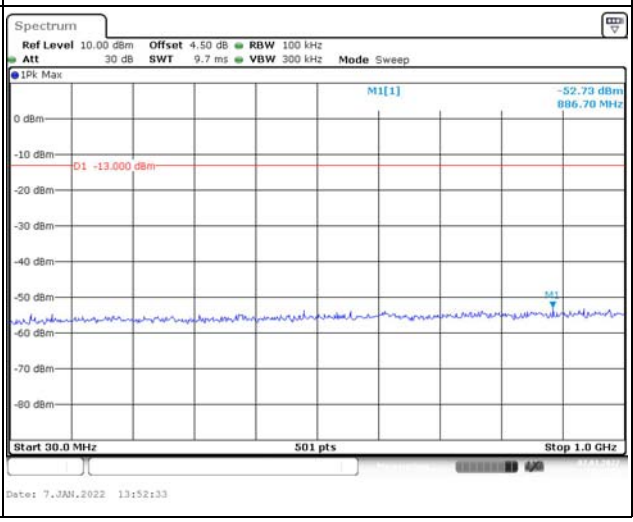
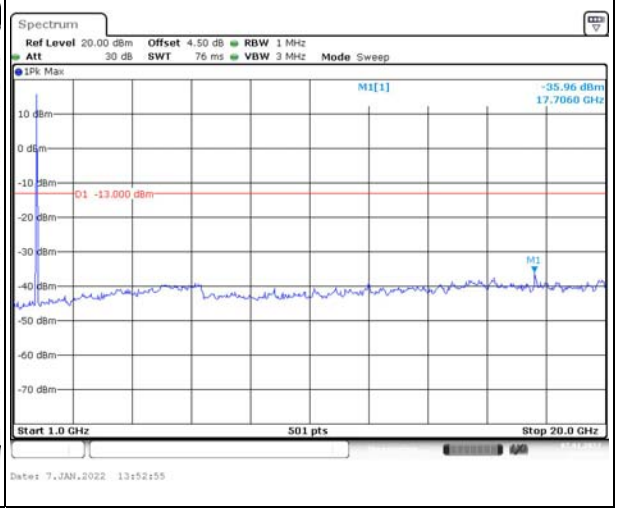
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

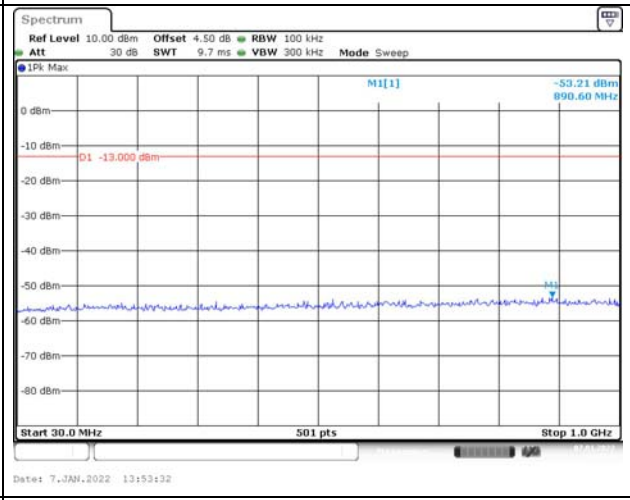
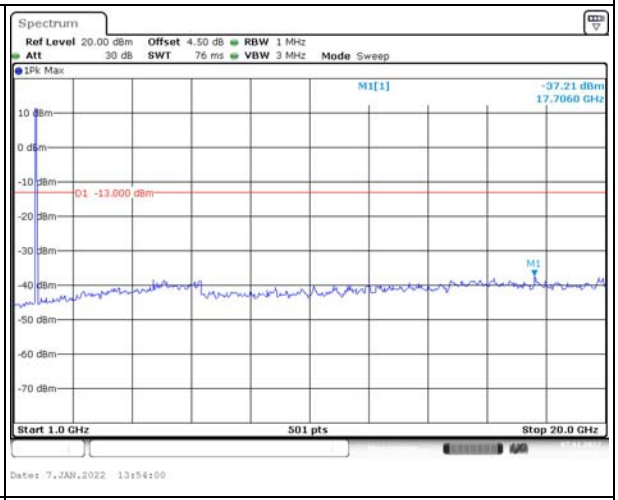
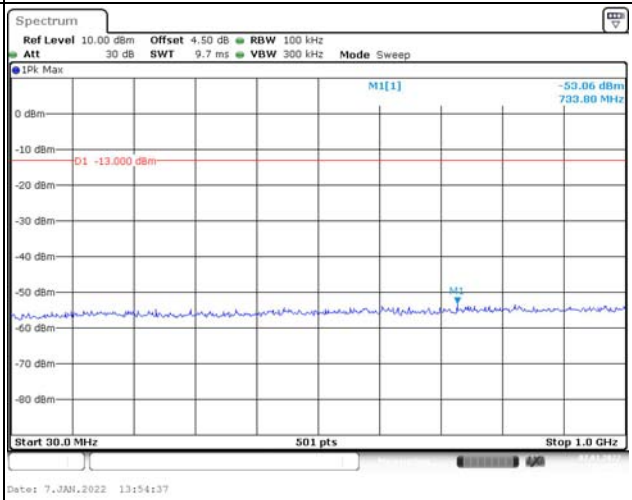
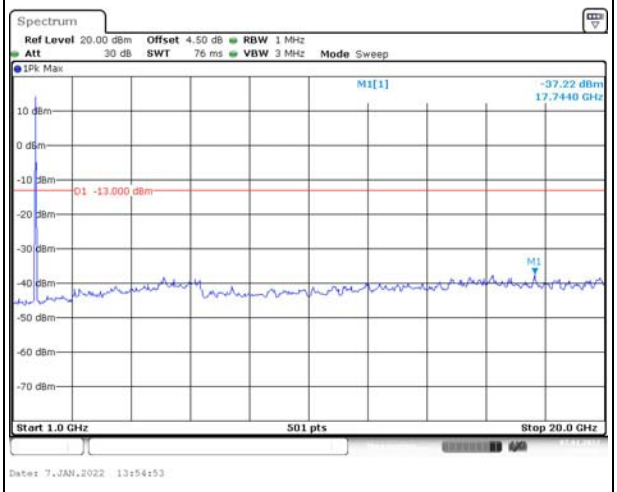
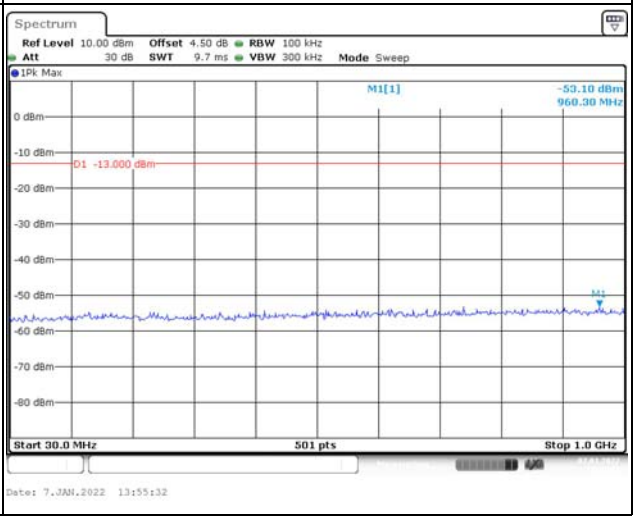
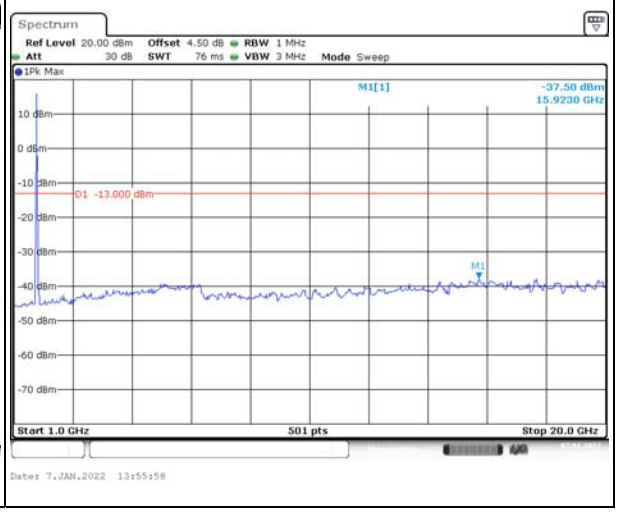
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

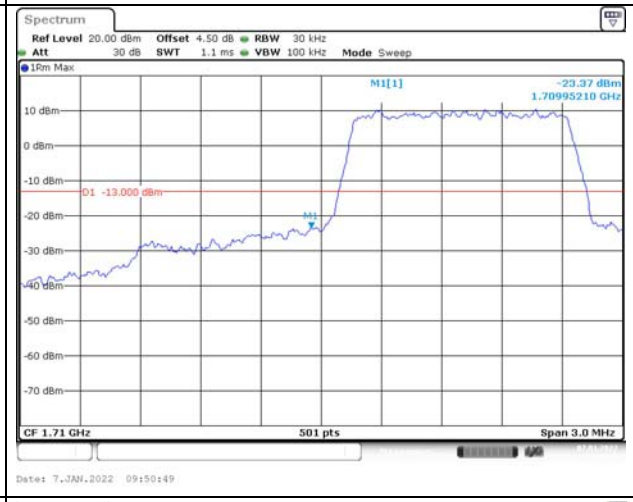
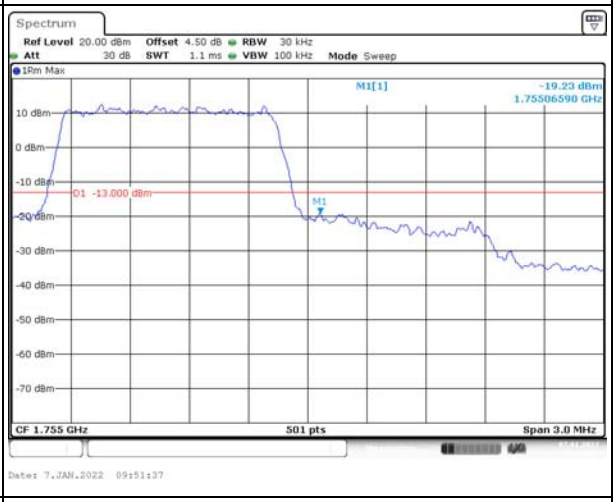
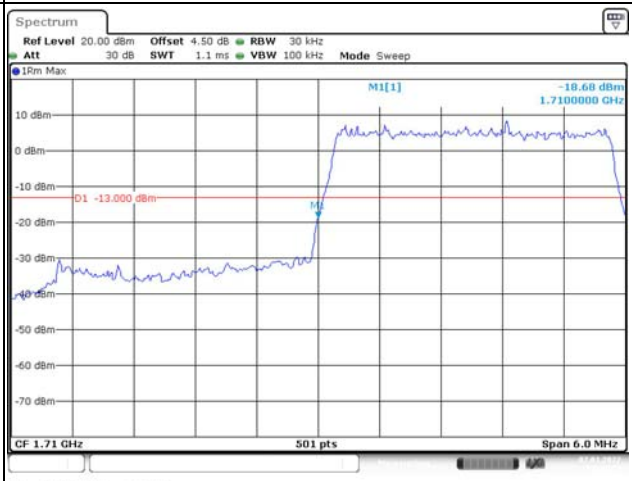
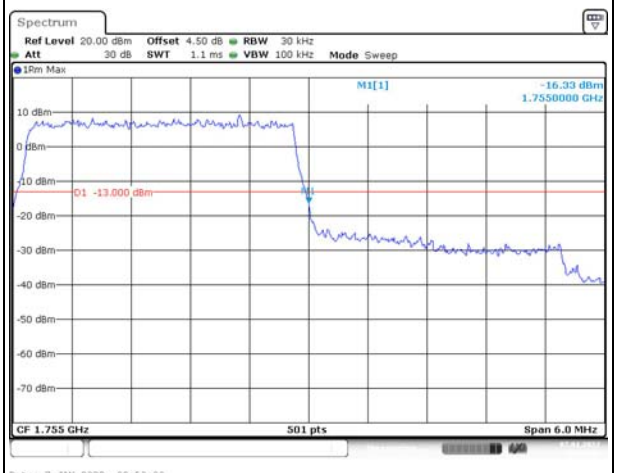
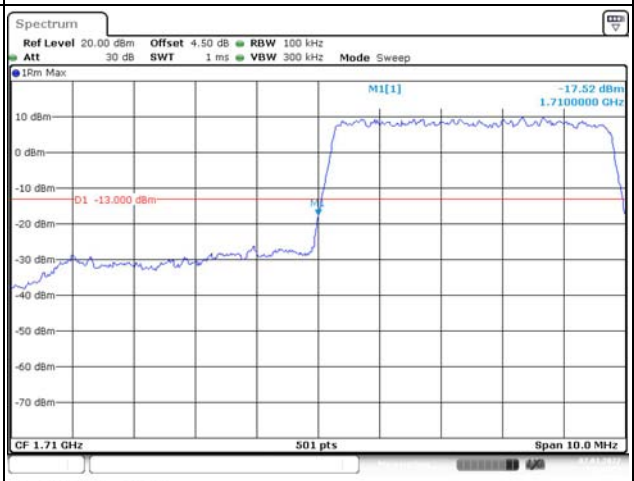
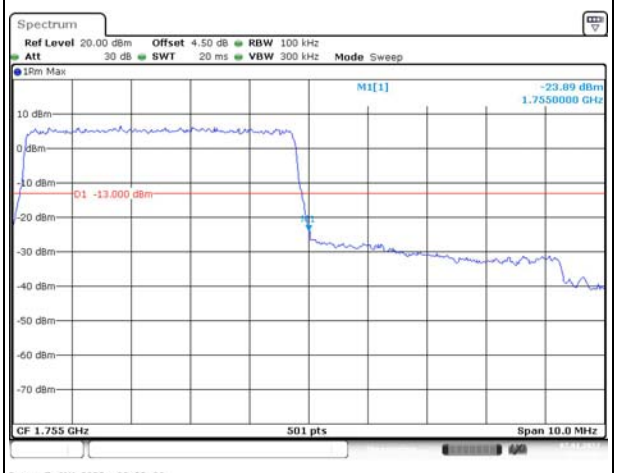
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

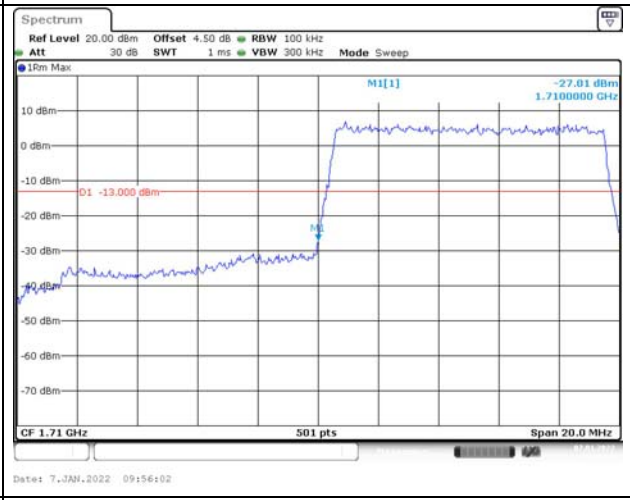
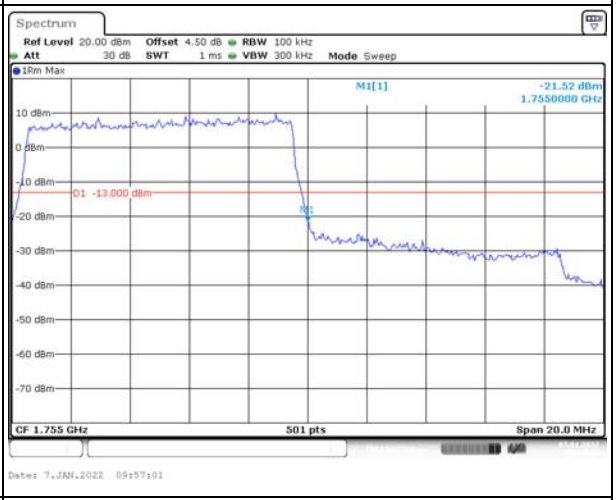
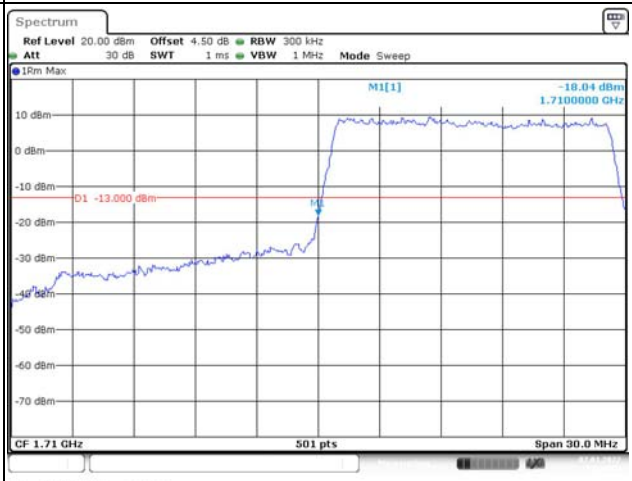
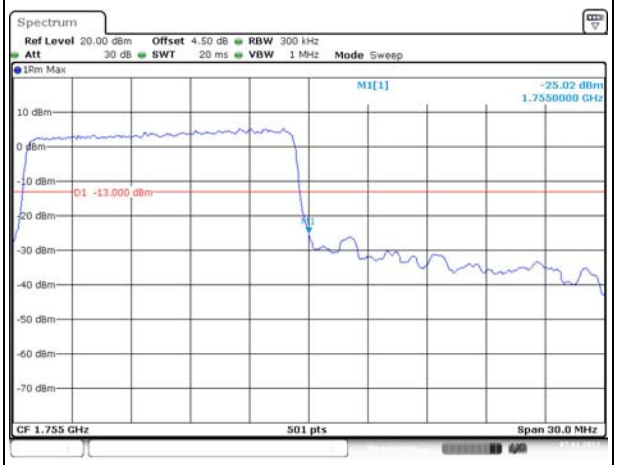
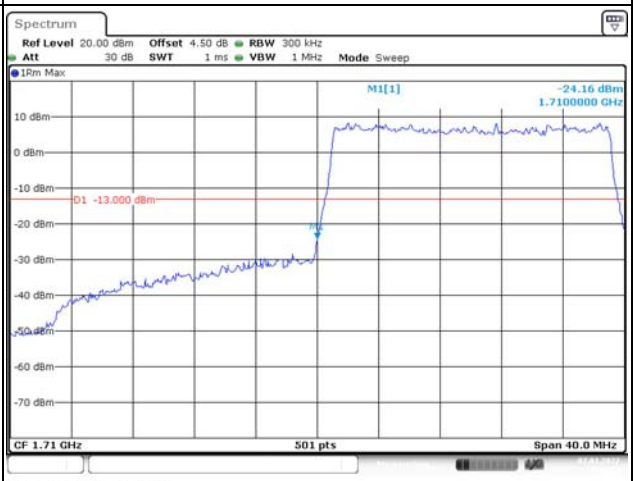
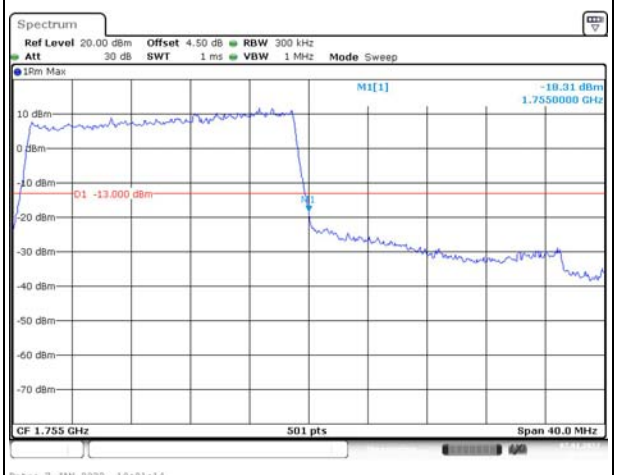
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

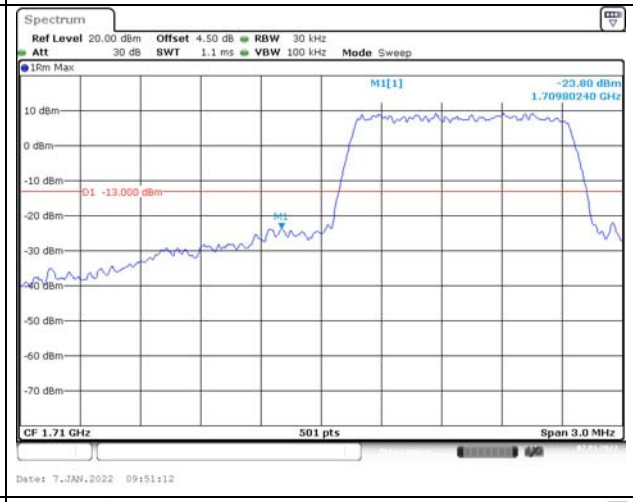
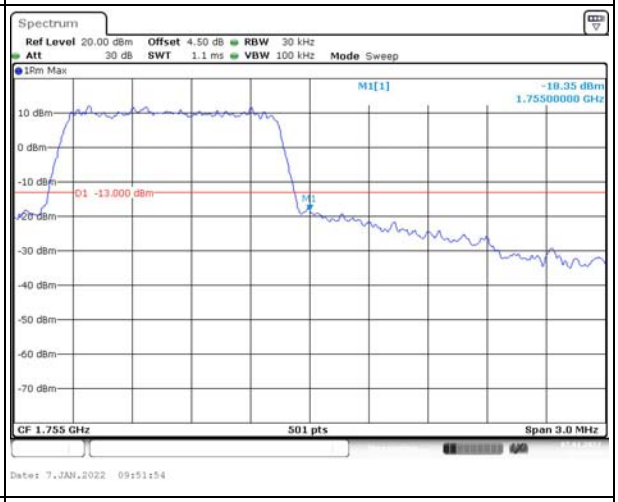
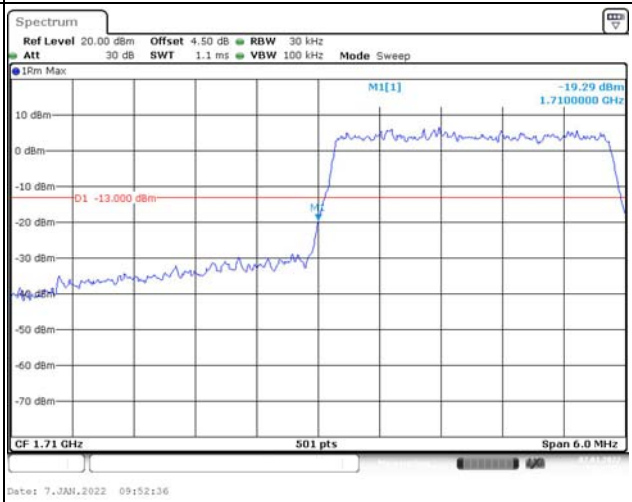
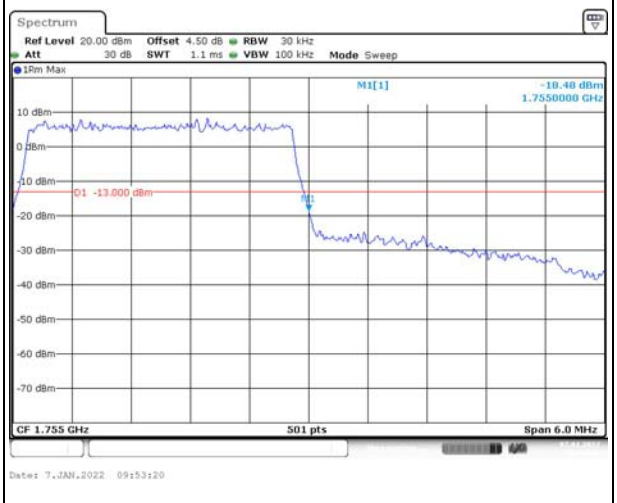
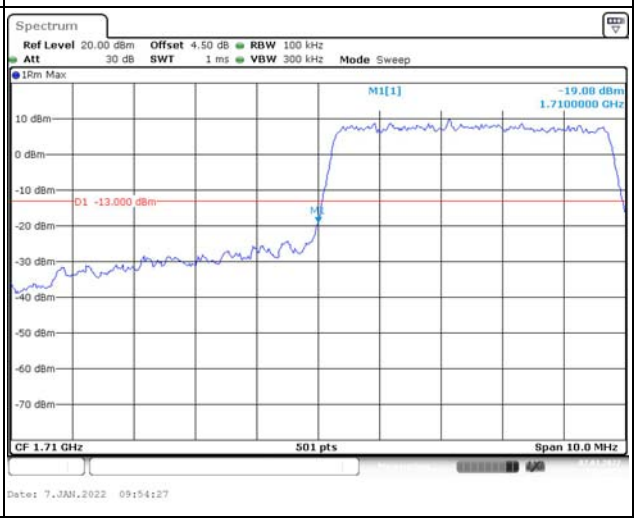
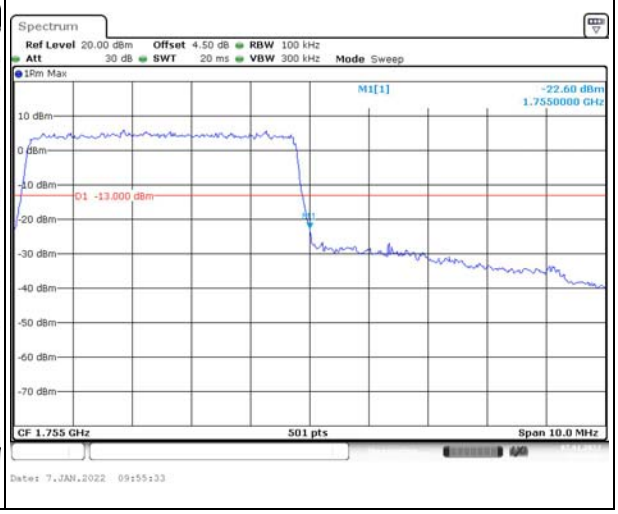
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

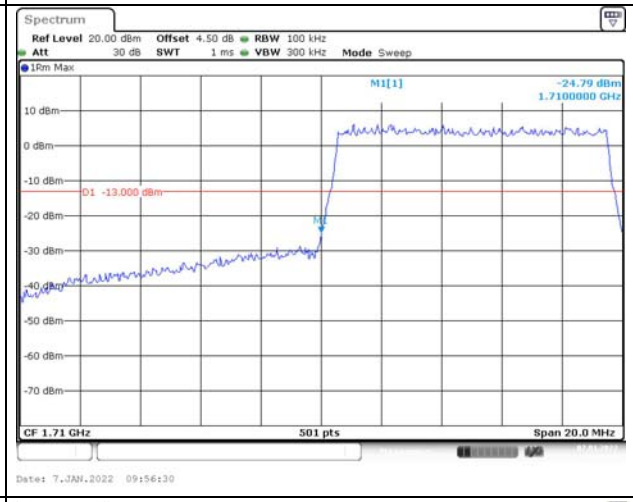
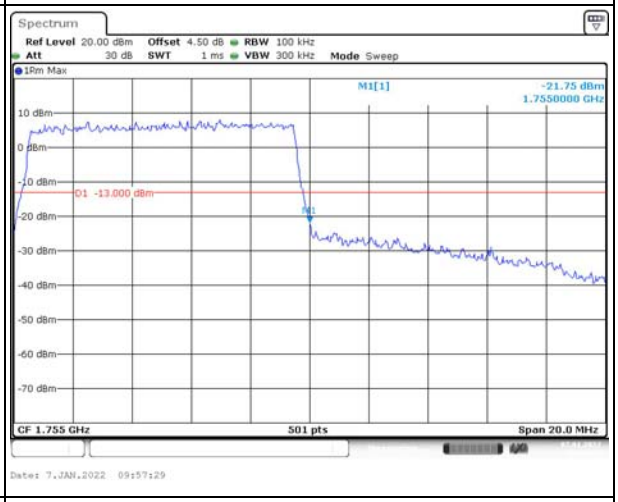
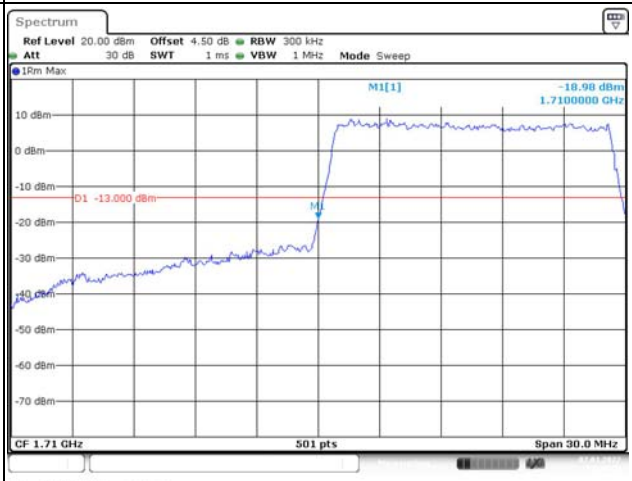
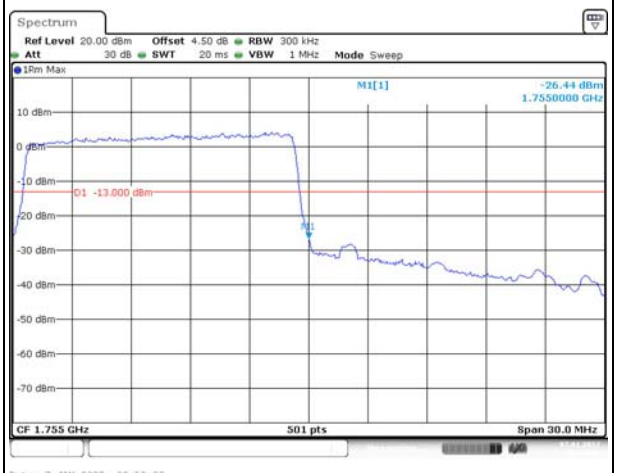
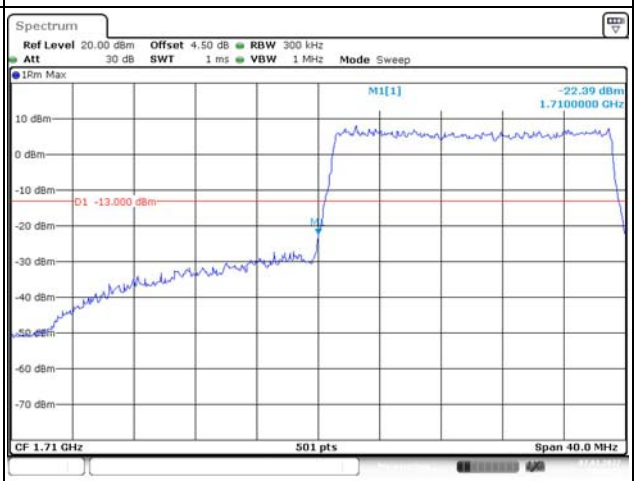
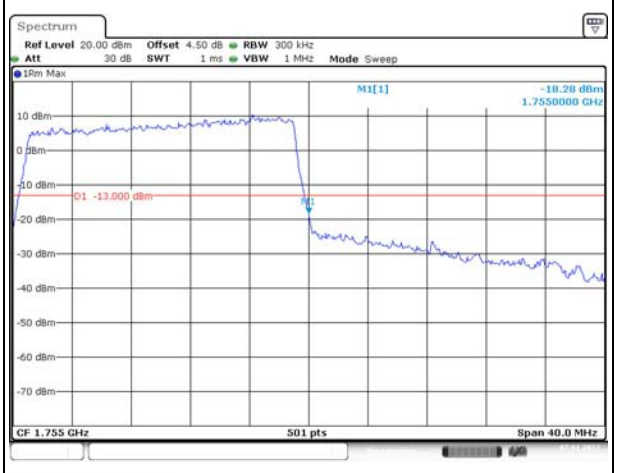
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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

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

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

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

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

4.7 Antenna Port Test Data and Results for LTE Band 5:

Serial Number:	CR21120041-RF	Test Date:	2022/01/07~2022/01/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	22.6~23.1	Relative Humidity: (%)	27~41	ATM Pressure: (kPa)	101.2~101.8

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	Spectrum Analyzer	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
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21
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

** 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 5▲:					
Antenna Gain (dBi):	3.15	Antenna Gain (dBd):	1	Cable Loss (dB):	0
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	824.7	836.5	848.3
3MHz	825.5	836.5	847.5
5MHz	826.5	836.5	846.5
10MHz	829	836.5	844

Test Data:

FCC§2.1046;§ 22.913 (a)

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	22.84	22.94	22.79	24.01	38.45
	RB1#3	22.87	22.86	22.82		
	RB1#5	22.90	22.91	22.89		
	RB3#0	22.96	22.94	22.84		
	RB3#3	23.01	22.90	22.84		
	RB6#0	21.89	21.90	21.73		
1.4MHz 16QAM	RB1#0	22.40	21.53	22.40	23.4	38.45
	RB1#3	22.38	21.54	22.39		
	RB1#5	22.40	21.54	22.39		
	RB3#0	21.98	22.03	21.86		
	RB3#3	22.05	21.99	21.91		
	RB6#0	21.42	21.14	21.04		
3MHz QPSK	RB1#0	22.96	22.74	22.81	23.96	38.45
	RB1#8	22.83	22.74	22.85		
	RB1#14	22.84	22.72	22.87		
	RB6#0	21.75	21.72	21.90		
	RB6#9	21.92	21.80	21.89		
	RB15#0	21.86	21.92	21.83		
3MHz 16QAM	RB1#0	21.49	22.16	22.68	23.68	38.45
	RB1#8	21.46	22.10	22.61		
	RB1#14	21.45	22.14	22.67		
	RB6#0	21.41	20.78	20.87		
	RB6#9	21.15	20.81	20.90		
	RB15#0	21.21	20.90	20.93		
5MHz QPSK	RB1#0	22.76	22.87	22.74	23.93	38.45
	RB1#13	22.75	22.80	22.79		
	RB1#24	22.63	22.93	22.74		
	RB15#0	21.73	21.85	21.80		
	RB15#10	21.90	21.77	21.90		
	RB25#0	21.78	21.80	21.83		
5MHz 16QAM	RB1#0	21.02	21.85	21.40	23.01	38.45
	RB1#13	21.07	22.01	21.44		
	RB1#24	21.06	21.96	21.50		
	RB15#0	21.22	20.73	20.95		
	RB15#10	20.98	20.82	20.83		
	RB25#0	20.99	20.89	20.70		
10MHz QPSK	RB1#0	22.69	22.92	22.76	23.94	38.45

	RB1#25	22.72	22.88	22.81		
	RB1#49	22.80	22.94	22.83		
	RB25#0	21.89	21.86	21.83		
	RB25#25	21.80	21.93	21.83		
	RB50#0	21.89	21.77	21.79		
10MHz 16QAM	RB1#0	22.01	21.90	21.34	23.03	38.45
	RB1#25	22.03	21.97	21.29		
	RB1#49	22.03	22.01	21.28		
	RB25#0	20.88	20.97	20.93		
	RB25#25	20.92	21.04	20.87		
	RB50#0	20.88	21.02	20.88		
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	5.42	5.19	5.54	13
	RB50#0	5.36	5.25	5.19	13
10MHz 16QAM	RB1#0	6.67	6.00	6.93	13
	RB50#0	6.38	6.17	6.09	13
				Result:	**Pass**

FCC §2.1049, §22.905:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.102	1.102	1.096	1.254	1.254	1.260
1.4MHz 16QAM	1.102	1.102	1.102	1.266	1.254	1.260
3MHz QPSK	2.695	2.695	2.707	3.012	3.000	3.000
3MHz 16QAM	2.683	2.695	2.695	3.012	3.024	3.012
5MHz QPSK	4.531	4.511	4.511	5.000	5.020	5.020
5MHz 16QAM	4.531	4.511	4.531	4.980	5.020	5.000
10MHz QPSK	8.942	8.942	8.942	9.720	9.760	9.720
10MHz 16QAM	8.981	8.981	8.942	9.760	9.800	9.760
Note: The test plots please refer to the Plots of Occupied Bandwidth						

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

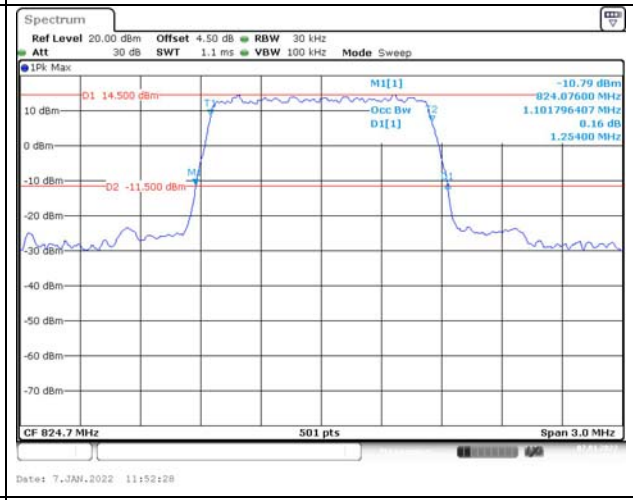
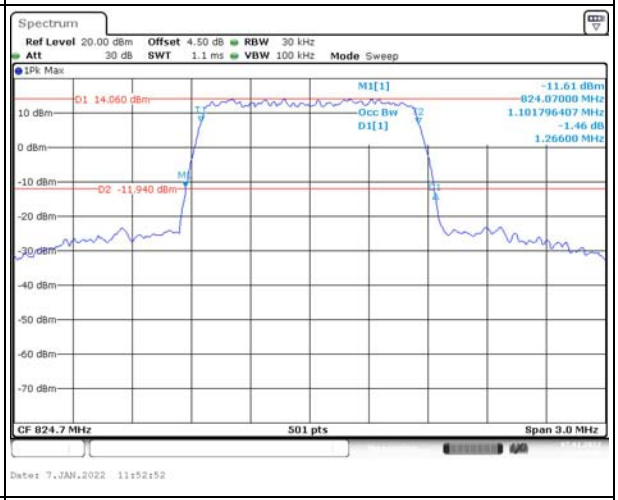
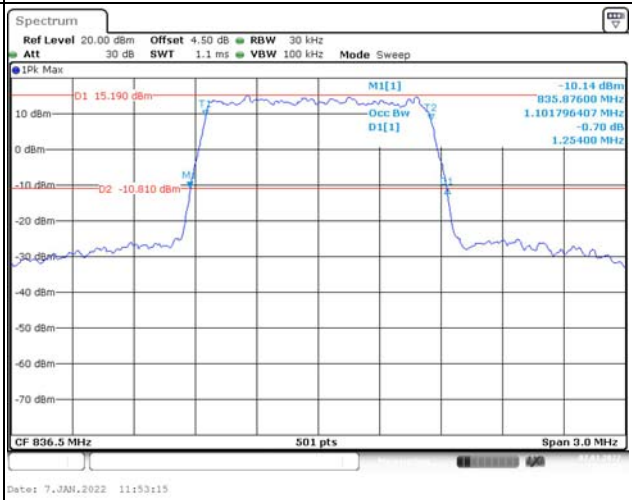
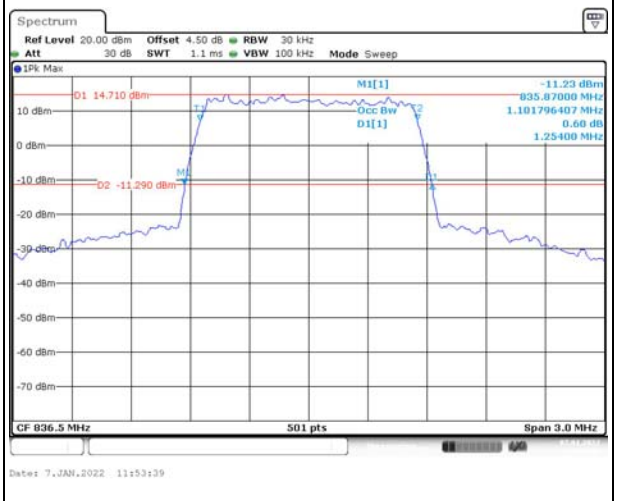
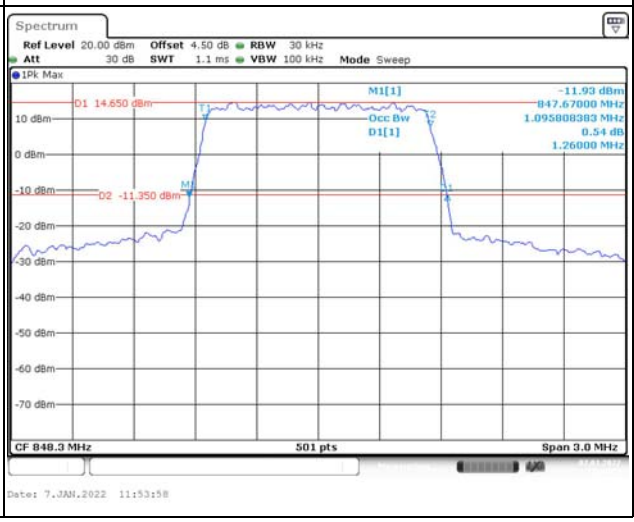
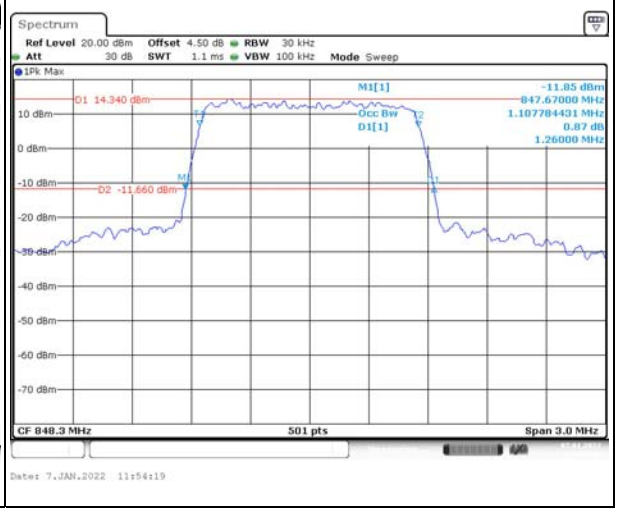
FCC §2.1051, §22.917(a):Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

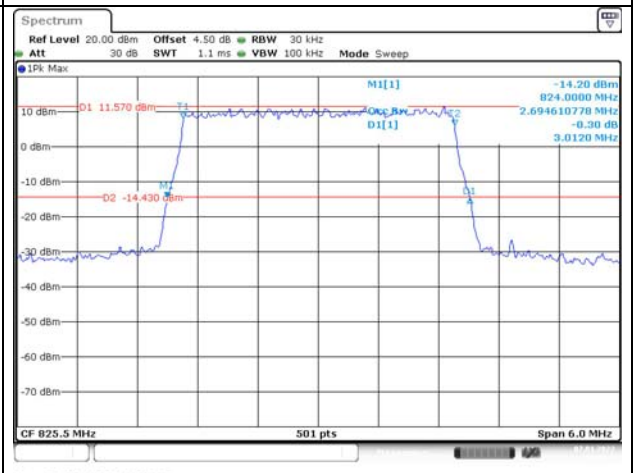
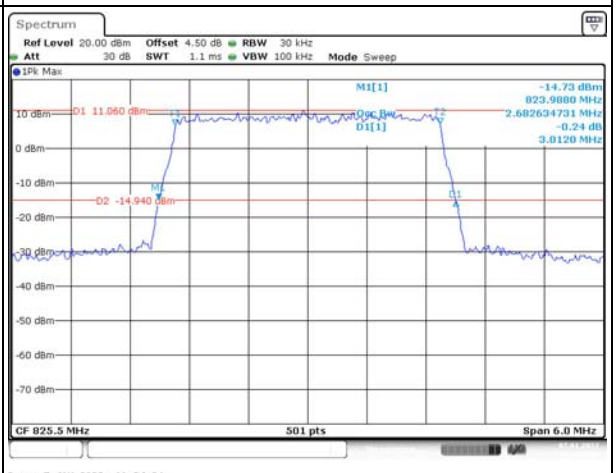
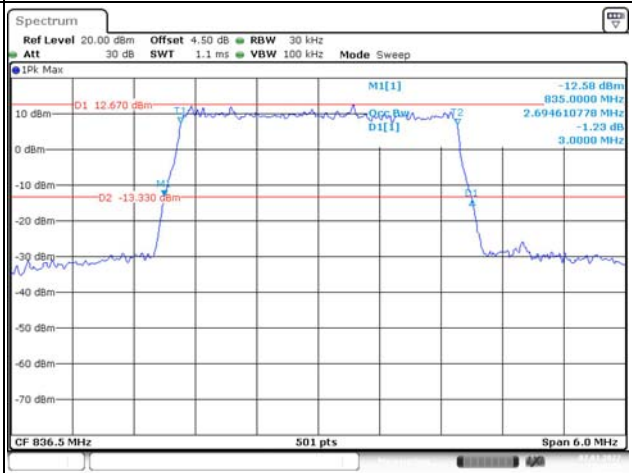
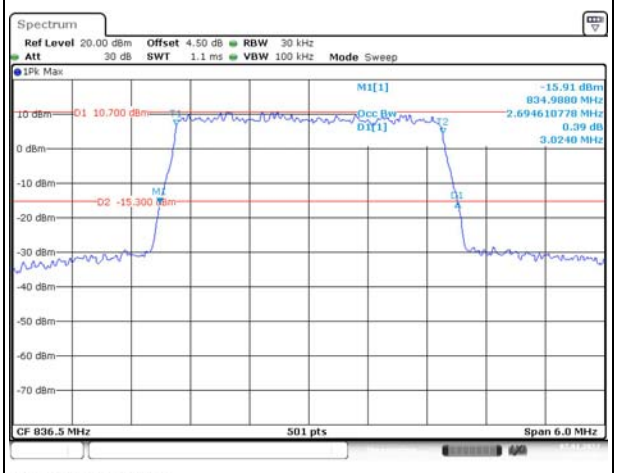
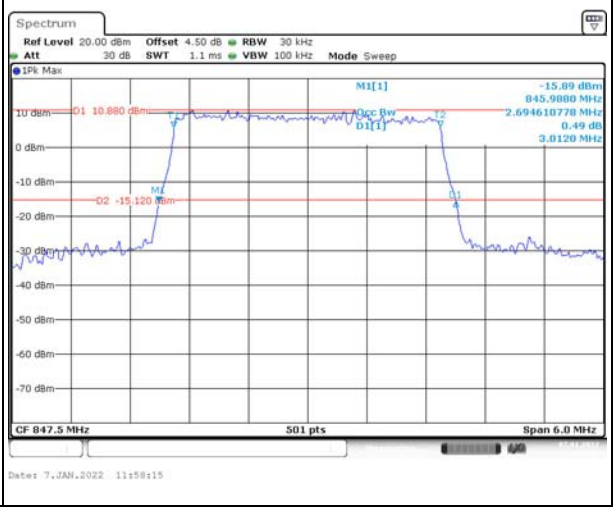
FCC §2.1055, §22.355: Frequency Stability

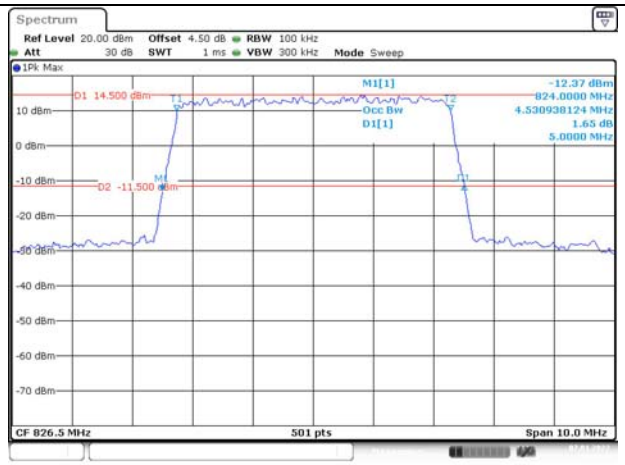
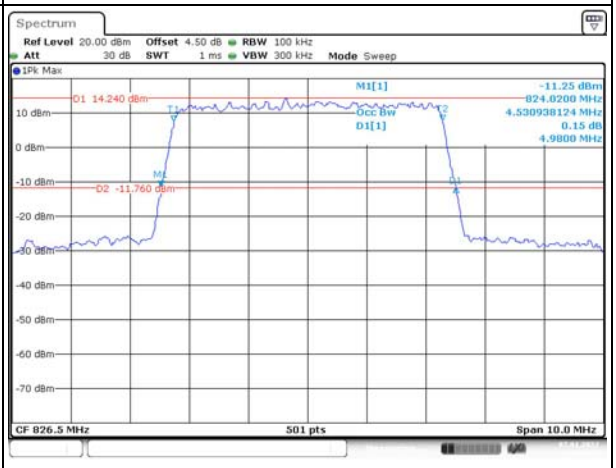
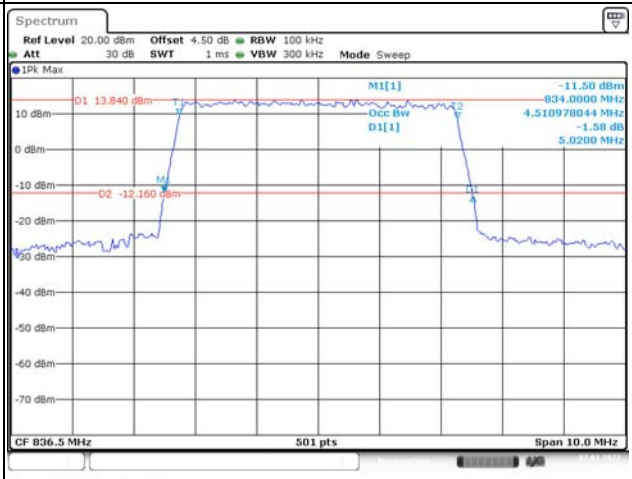
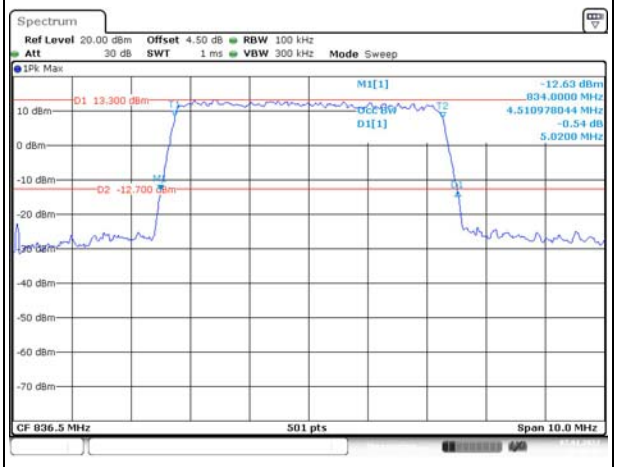
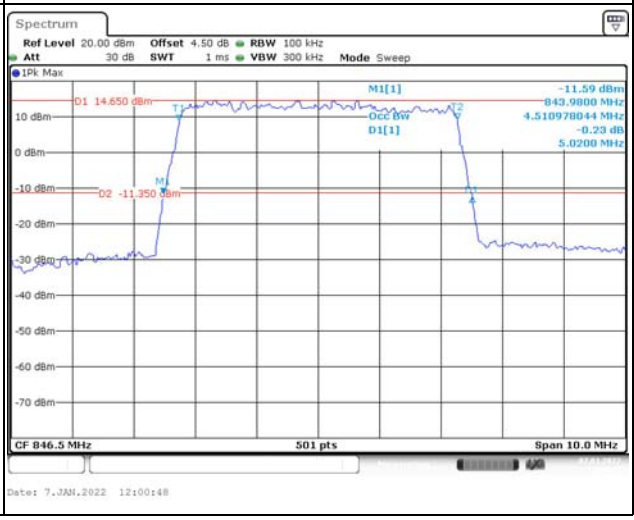
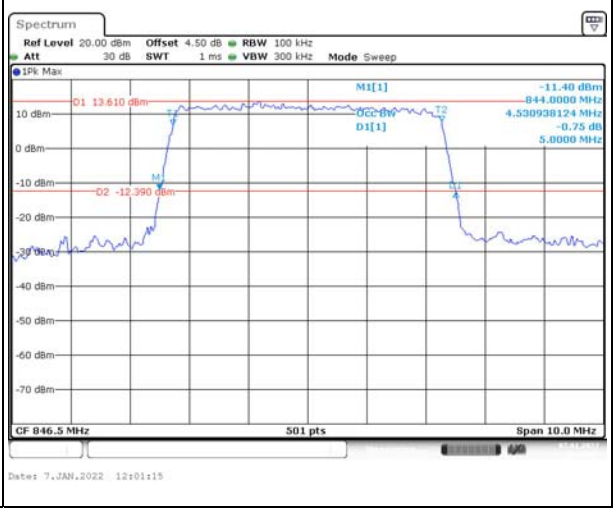
Test Mode:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.7	-12.60	-0.015	2.5
	-20	3.7	8.90	0.011	2.5
	-10	3.7	-7.11	-0.008	2.5
	0	3.7	-5.48	-0.007	2.5
	10	3.7	7.71	0.009	2.5
	20	3.7	-5.03	-0.006	2.5
	30	3.7	5.70	0.007	2.5
	40	3.7	-5.50	-0.007	2.5
	50	3.7	8.58	0.010	2.5
Frequency Stability vs. Voltage	20	3.5	9.31	0.011	2.5
	20	4.2	-5.01	-0.006	2.5
				Result:	**Pass**

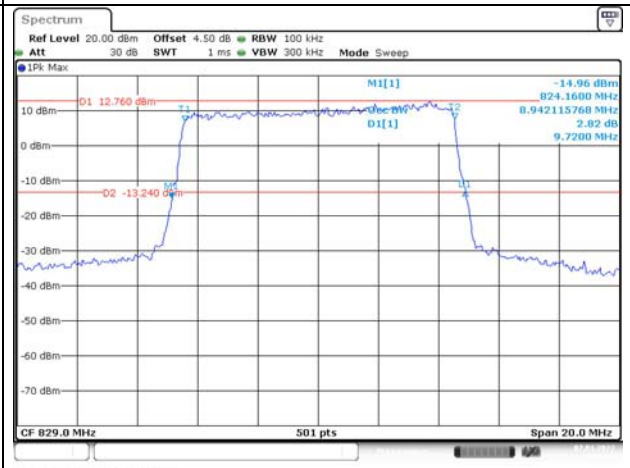
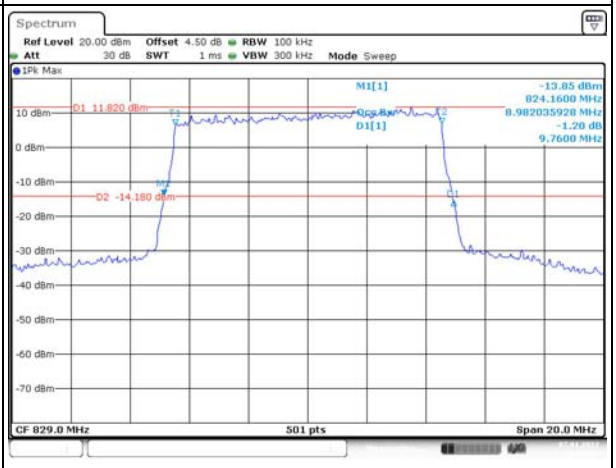
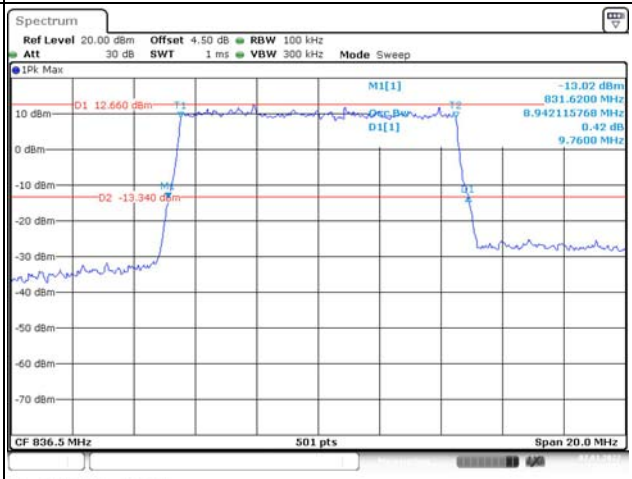
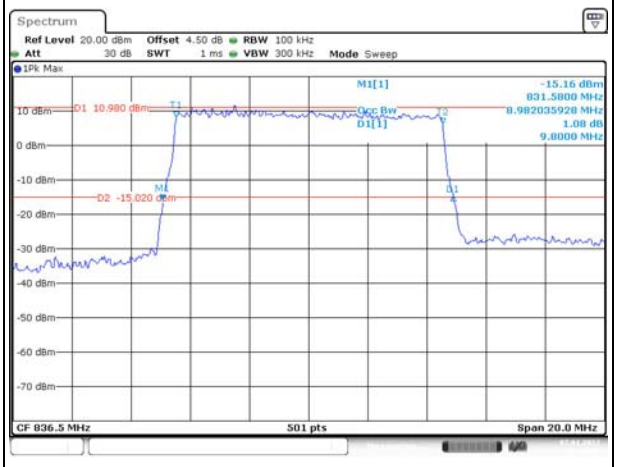
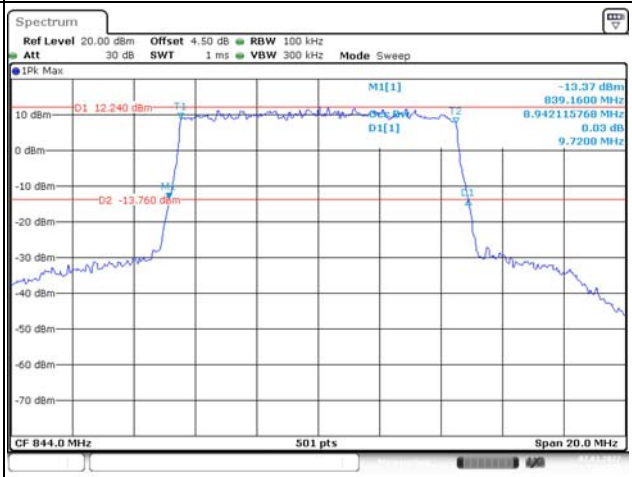
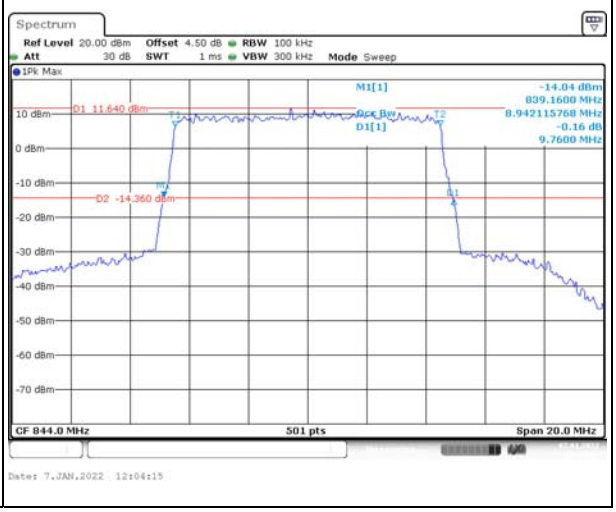
Test Mode:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.7	-33.52	-0.040	2.5
	-20	3.7	7.85	0.009	2.5
	-10	3.7	9.09	0.011	2.5
	0	3.7	7.47	0.009	2.5
	10	3.7	-8.60	-0.010	2.5
	20	3.7	5.54	0.007	2.5
	30	3.7	5.80	0.007	2.5
	40	3.7	9.10	0.011	2.5
	50	3.7	-9.73	-0.012	2.5
Frequency Stability vs. Voltage	20	3.5	-9.98	-0.012	2.5
	20	4.2	-8.77	-0.010	2.5
				Result:	**Pass**

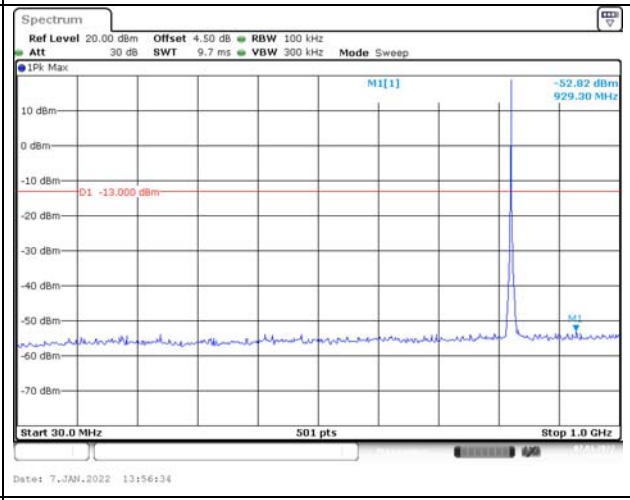
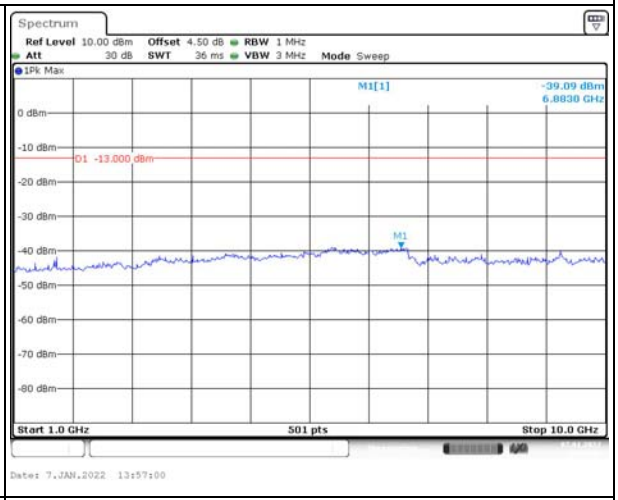
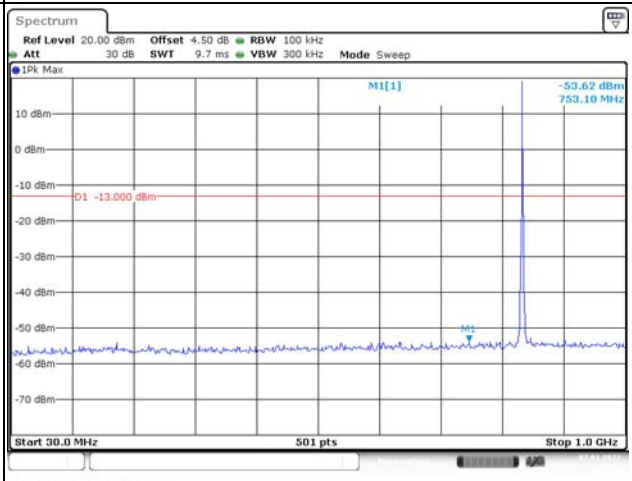
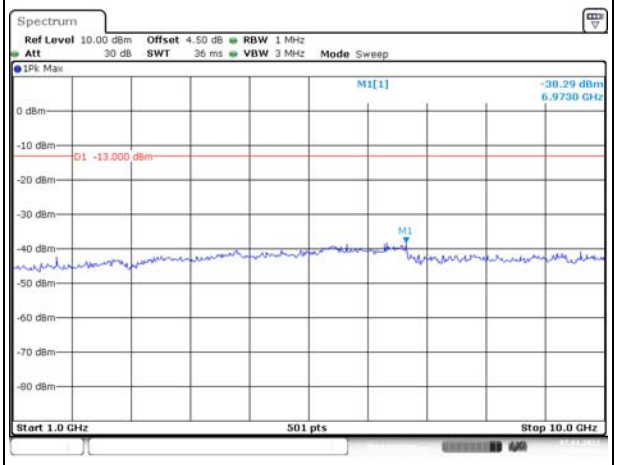
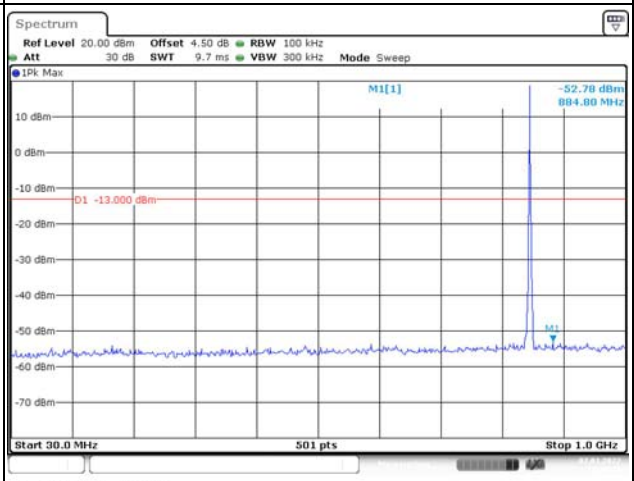
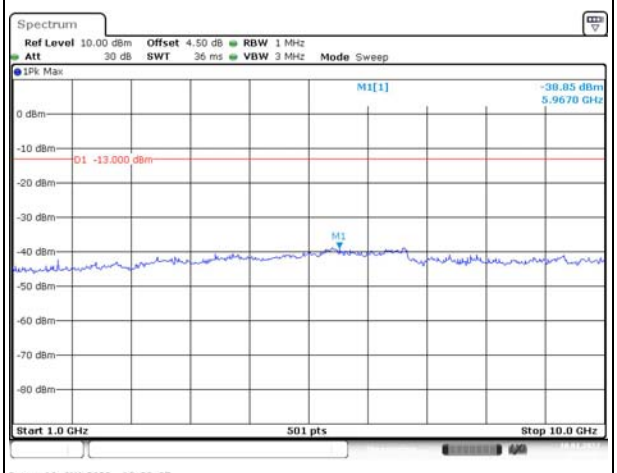
Test Plots:

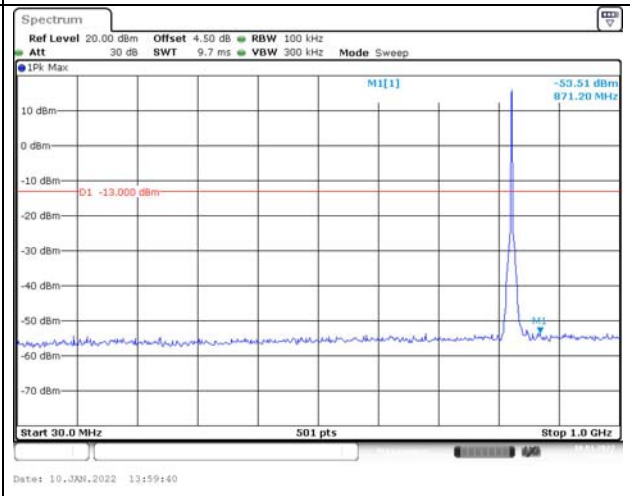
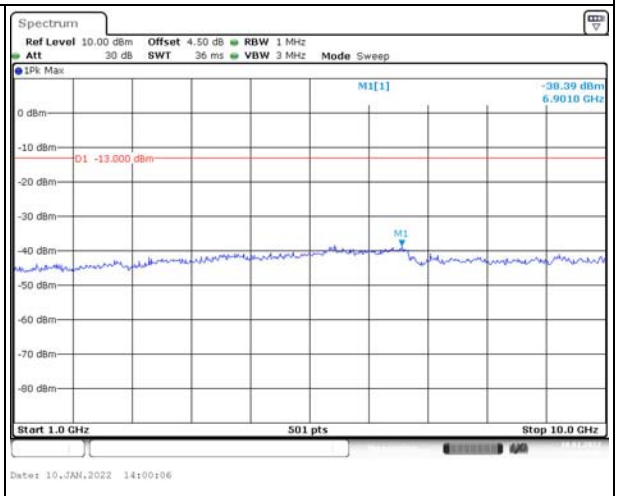
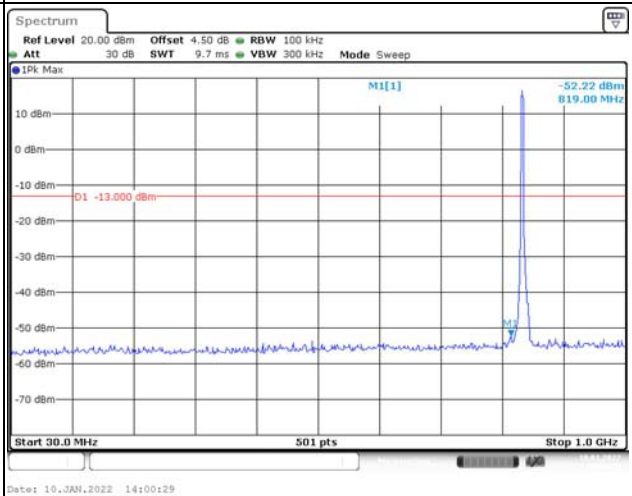
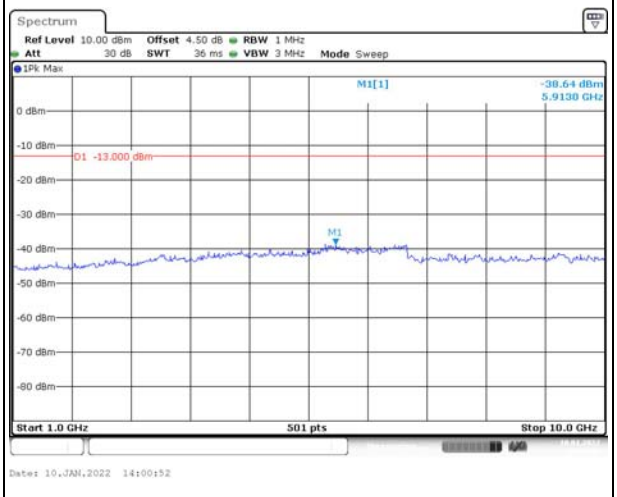
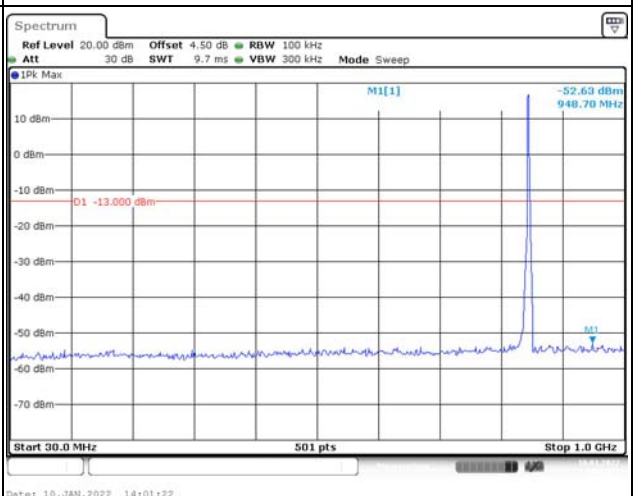
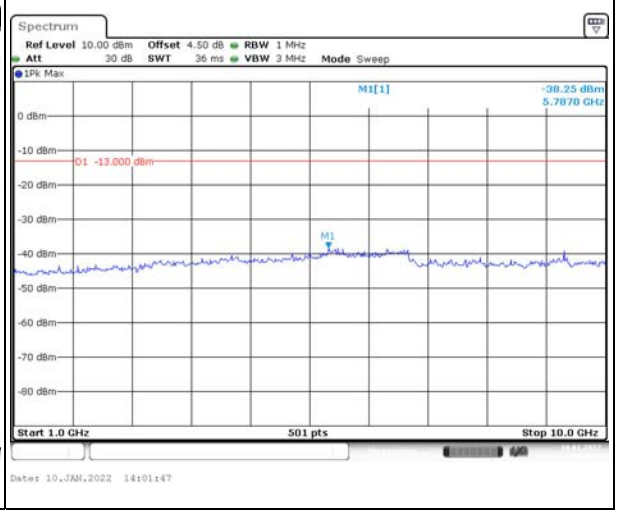
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

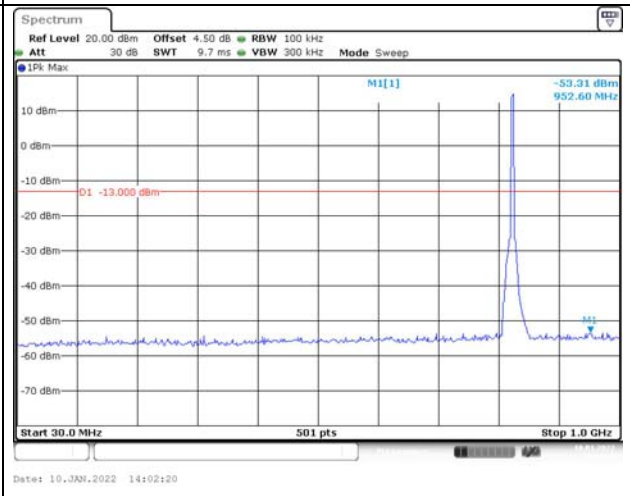
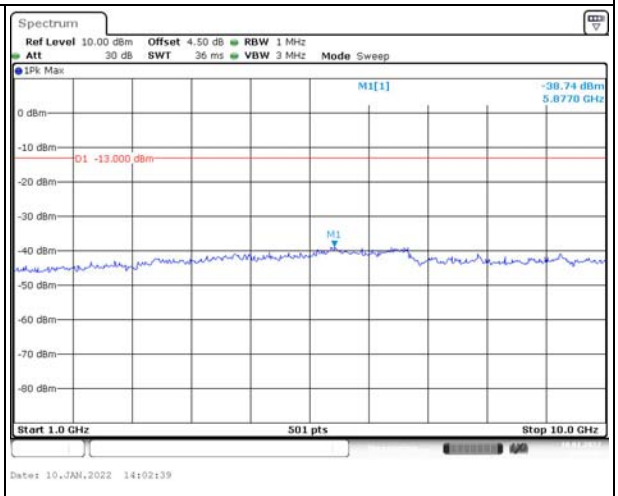
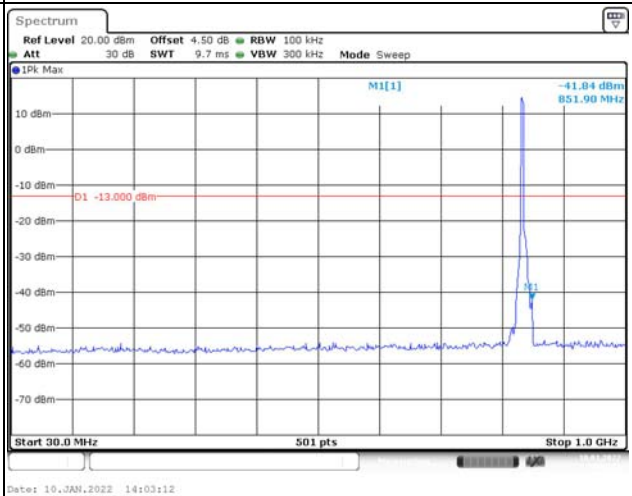
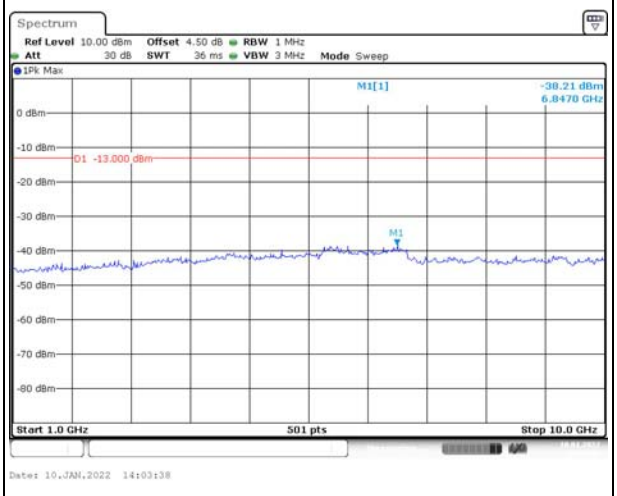
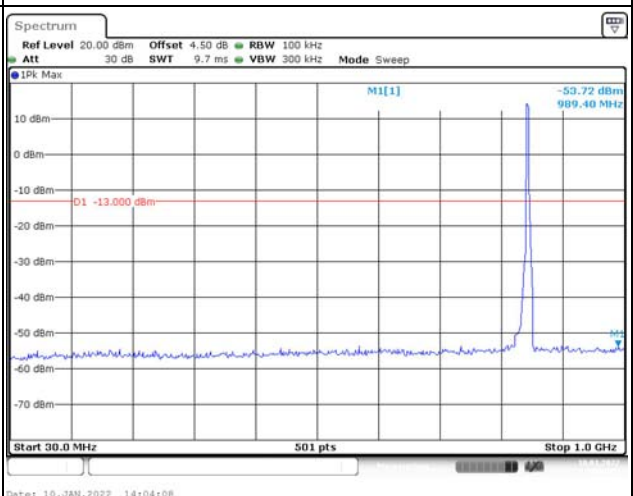
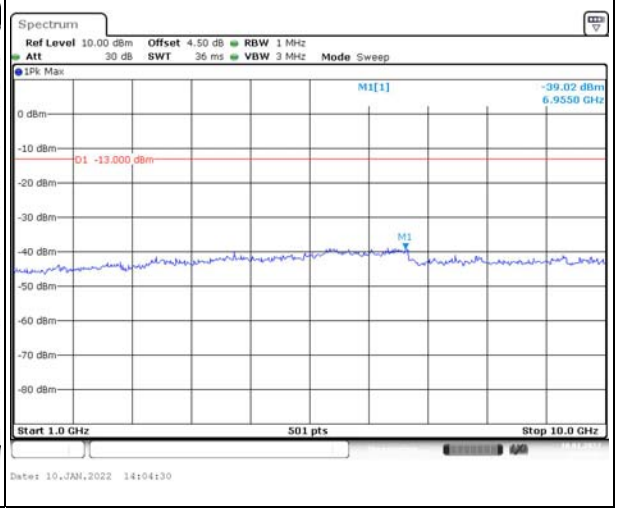
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

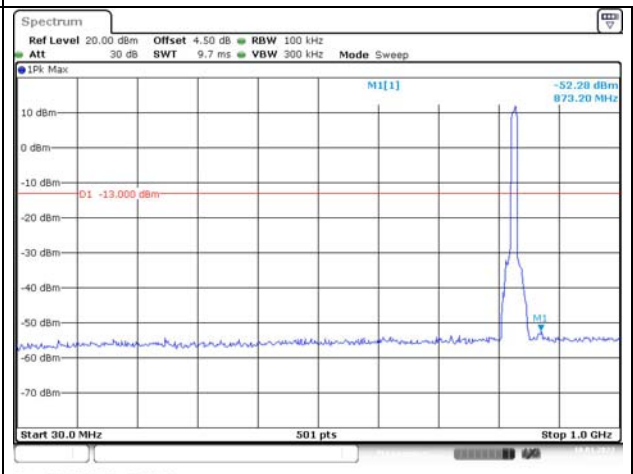
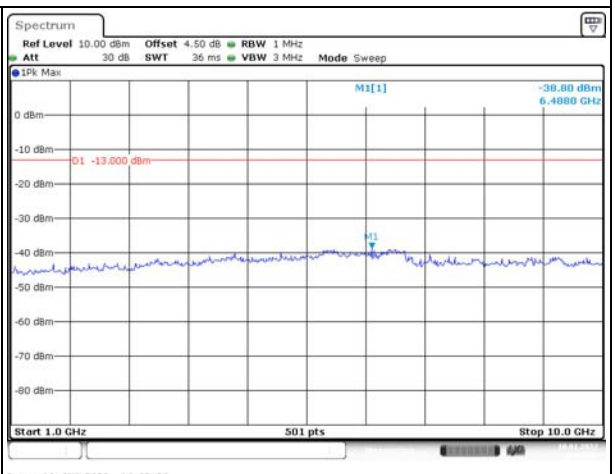
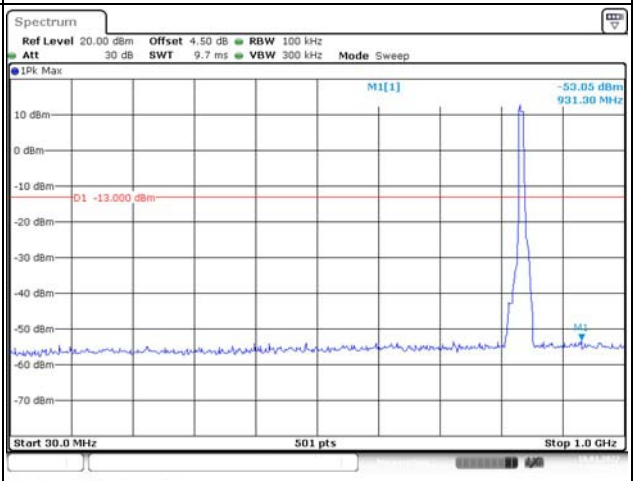
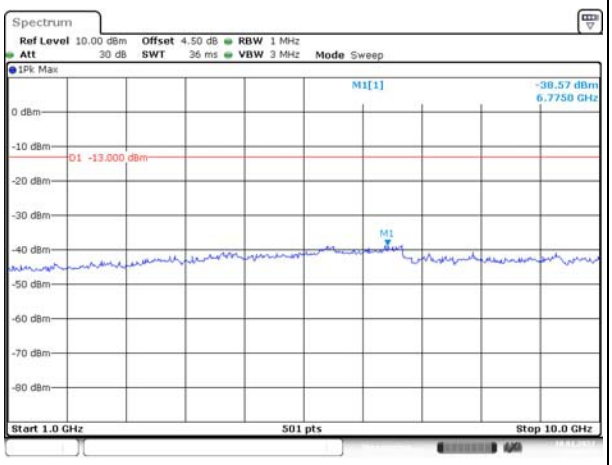
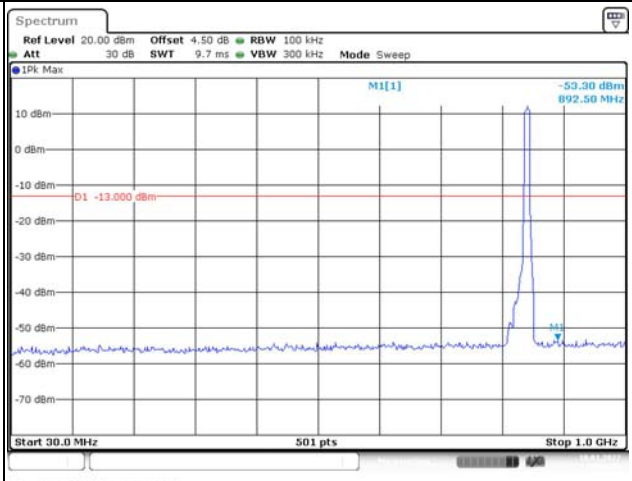
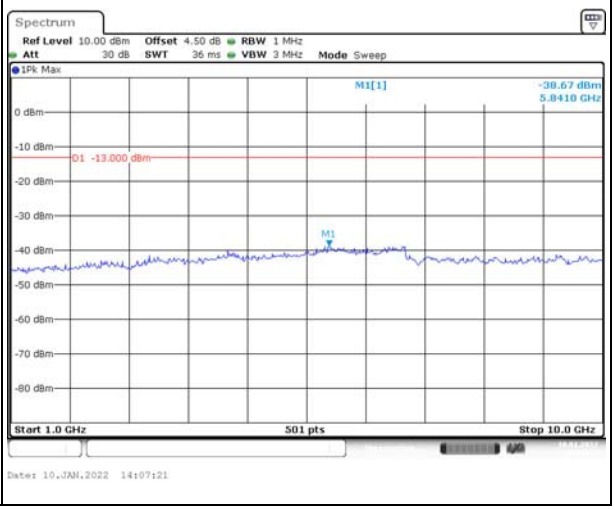
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

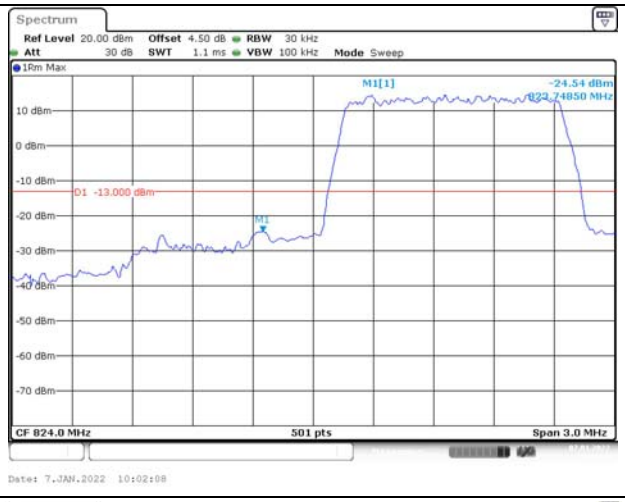
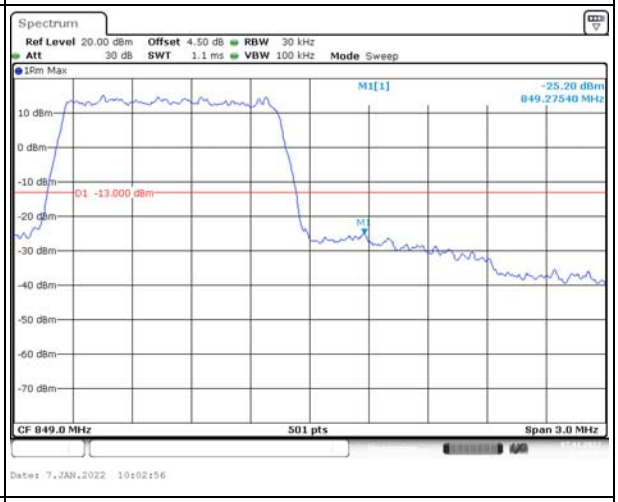
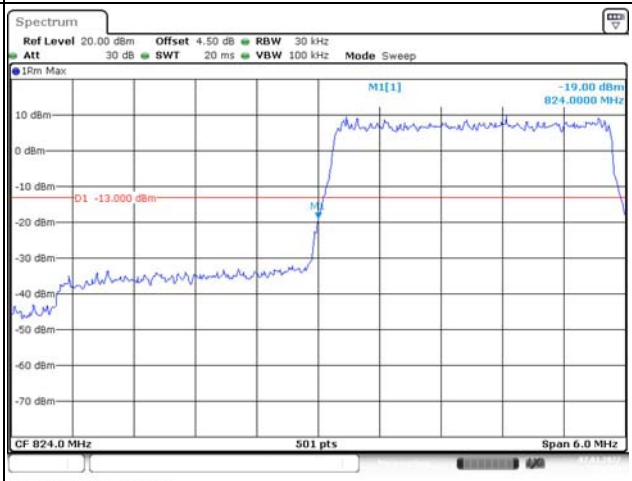
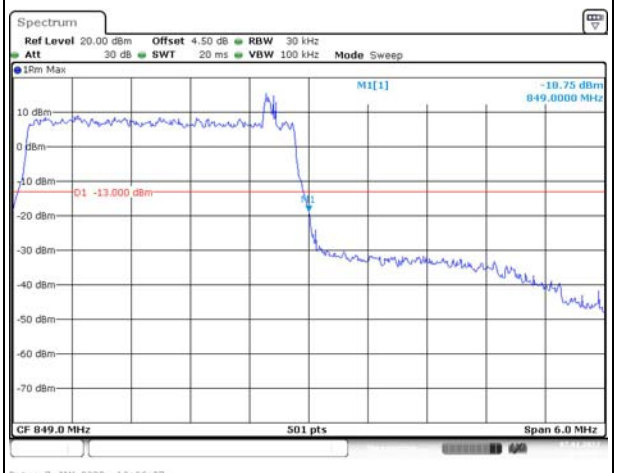
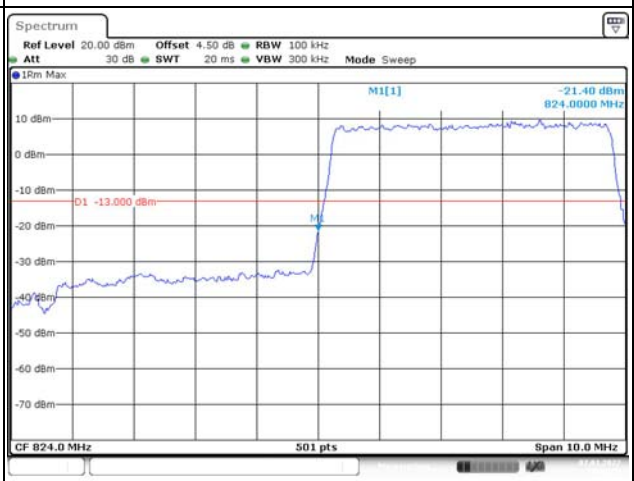
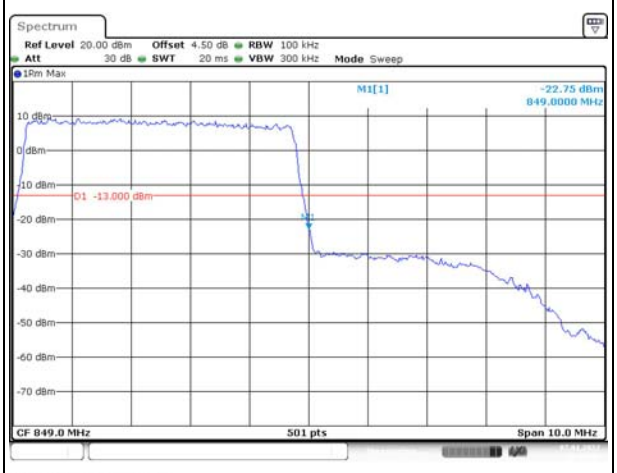
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

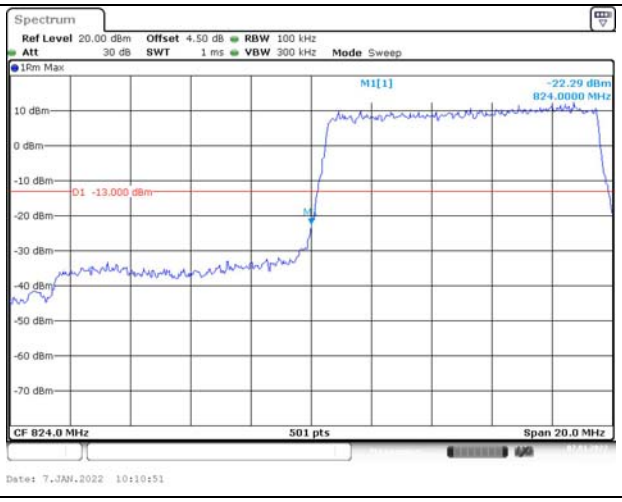
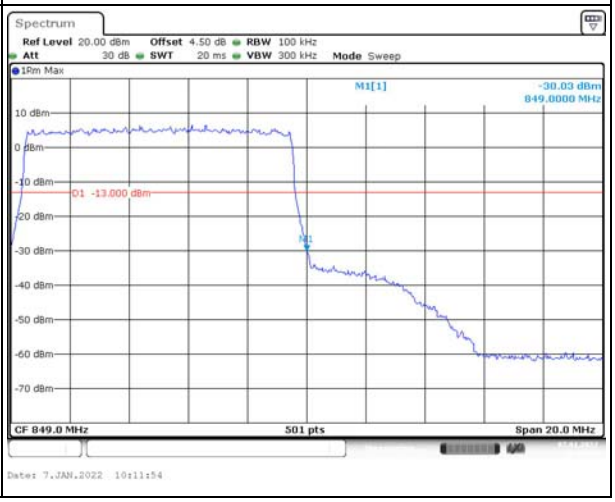
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

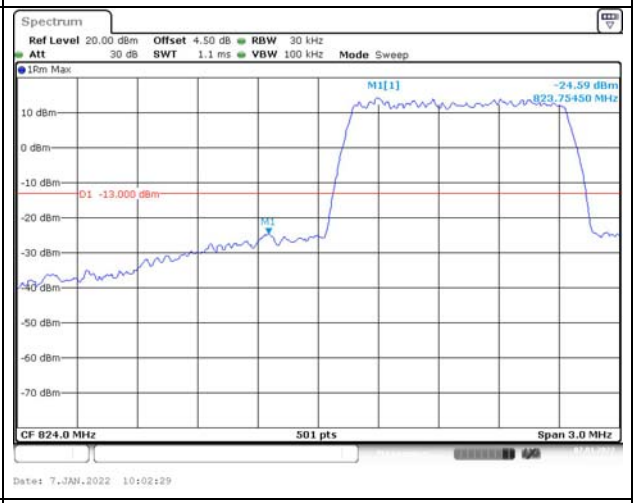
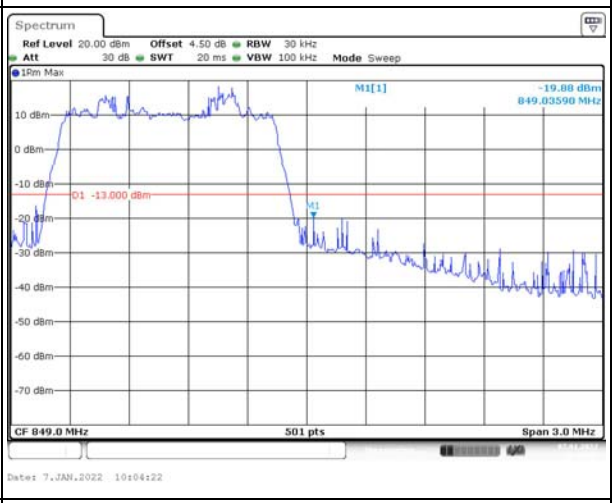
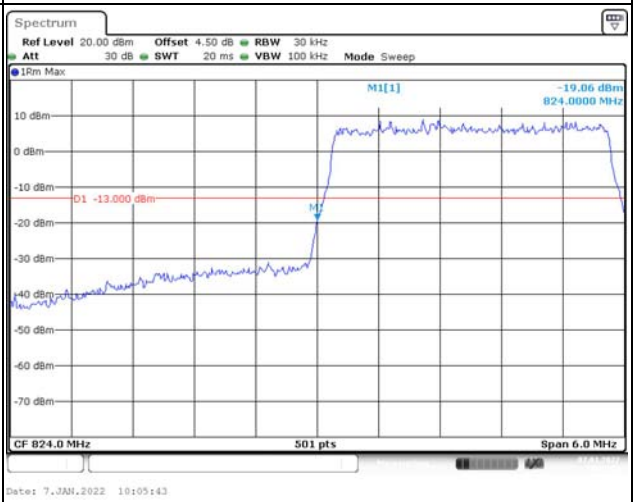
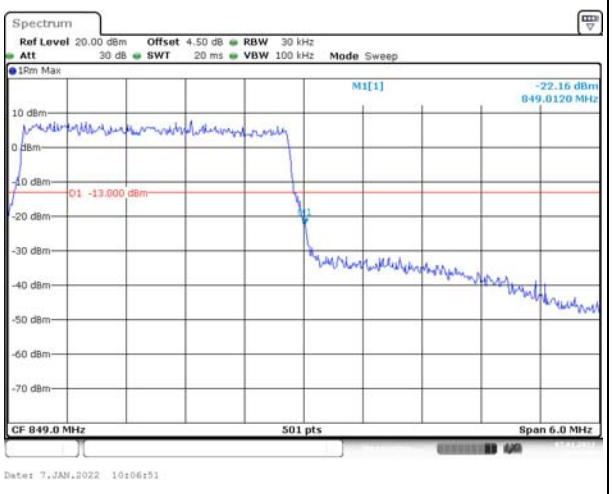
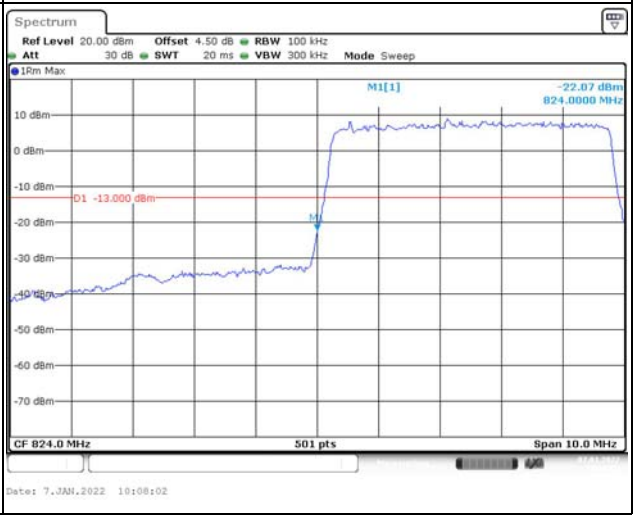
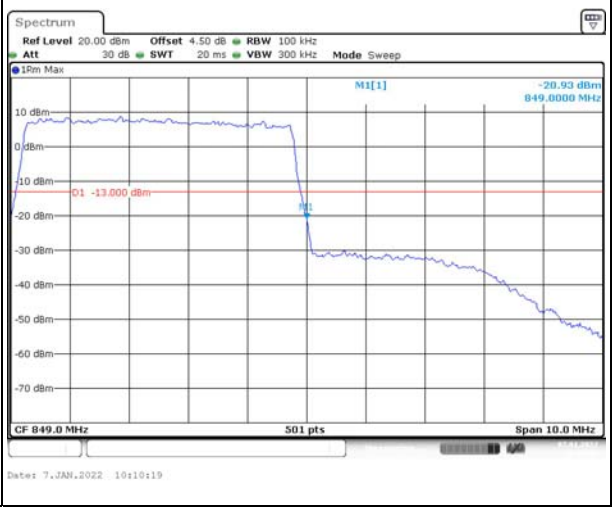
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

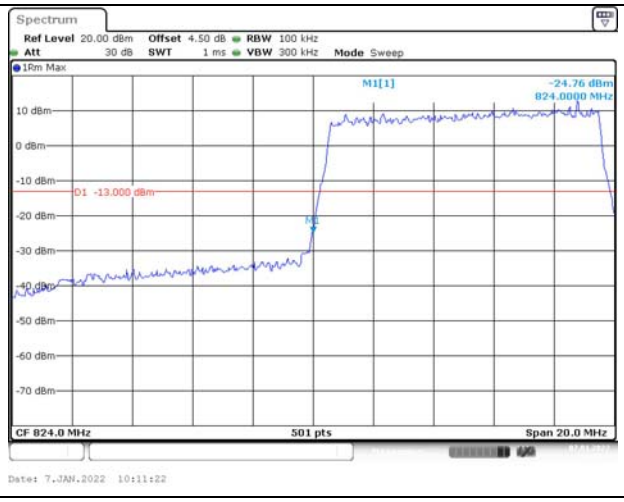
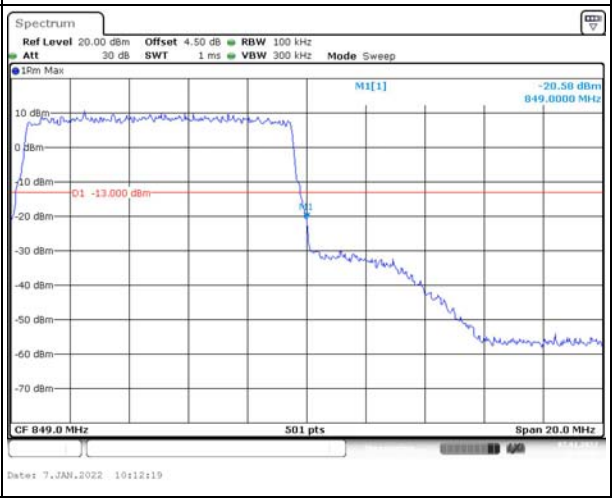
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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		

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

Serial Number:	CR21120041-RF	Test Date:	2022/01/07~2022/01/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	22.6~23.1	Relative Humidity: (%)	27~41	ATM Pressure: (kPa)	101.2~101.8

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	Spectrum Analyzer	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
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21
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

** 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
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	22.47	22.80	22.76	23.75	34.77
	RB1#3	22.53	22.81	22.64		
	RB1#5	22.48	22.85	22.72		
	RB3#0	22.52	22.86	22.76		
	RB3#3	22.37	22.90	22.65		
	RB6#0	21.25	21.83	21.66		
1.4MHz 16QAM	RB1#0	21.53	21.40	22.17	23.02	34.77
	RB1#3	21.54	21.38	22.16		
	RB1#5	21.53	21.46	22.05		
	RB3#0	21.23	21.89	21.86		
	RB3#3	21.31	21.91	21.83		
	RB6#0	20.45	20.98	20.83		
3MHz QPSK	RB1#0	22.39	22.74	22.83	23.68	34.77
	RB1#8	22.44	22.75	22.81		
	RB1#14	22.77	22.70	22.81		
	RB6#0	21.39	21.79	21.77		
	RB6#9	21.72	21.77	21.72		
	RB15#0	21.42	21.76	21.81		
3MHz 16QAM	RB1#0	21.72	22.43	21.51	23.28	34.77
	RB1#8	21.71	22.41	21.47		
	RB1#14	22.12	22.35	21.41		
	RB6#0	20.38	20.85	21.04		
	RB6#9	20.78	20.81	20.95		
	RB15#0	20.54	20.78	20.87		
5MHz QPSK	RB1#0	22.43	22.77	22.66	23.69	34.77
	RB1#13	22.81	22.81	22.73		
	RB1#24	22.84	22.73	22.67		
	RB15#0	21.55	21.80	21.77		
	RB15#10	21.74	21.77	21.86		
	RB25#0	21.78	21.74	21.88		
5MHz 16QAM	RB1#0	20.57	21.71	21.36	22.7	34.77
	RB1#13	20.96	21.73	21.42		
	RB1#24	20.96	21.85	21.44		
	RB15#0	20.54	20.68	20.86		
	RB15#10	20.88	20.71	20.93		

	RB25#0	20.96	20.79	20.74		
10MHz QPSK	RB1#0	22.31	22.65	22.89	23.86	34.77
	RB1#25	22.72	22.76	22.89		
	RB1#49	22.74	22.71	23.01		
	RB25#0	21.69	21.73	21.81		
	RB25#25	21.73	21.79	21.97		
	RB50#0	21.85	21.83	21.76		
10MHz 16QAM	RB1#0	21.46	21.97	21.32	22.84	34.77
	RB1#25	21.89	21.99	21.36		
	RB1#49	21.84	21.98	21.34		
	RB25#0	20.81	20.84	20.93		
	RB25#25	20.82	20.89	21.01		
	RB50#0	21.14	20.97	20.77		
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	6.09	4.90	4.49	13
	RB50#0	4.90	5.28	5.51	13
10MHz 16QAM	RB1#0	7.30	6.12	5.59	13
	RB50#0	5.80	6.14	6.35	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	1.102	1.102	1.102	1.254	1.254	1.254
1.4MHz 16QAM	1.102	1.096	1.102	1.260	1.248	1.266
3MHz QPSK	2.695	2.707	2.695	2.988	3.000	2.988
3MHz 16QAM	2.695	2.695	2.683	3.012	3.012	2.988
5MHz QPSK	4.511	4.511	4.511	4.960	5.000	5.020
5MHz 16QAM	4.511	4.531	4.511	5.000	4.980	4.980
10MHz QPSK	8.901	8.942	9.022	9.760	9.680	9.800
10MHz 16QAM	8.901	8.942	8.981	9.720	9.760	9.880
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.**

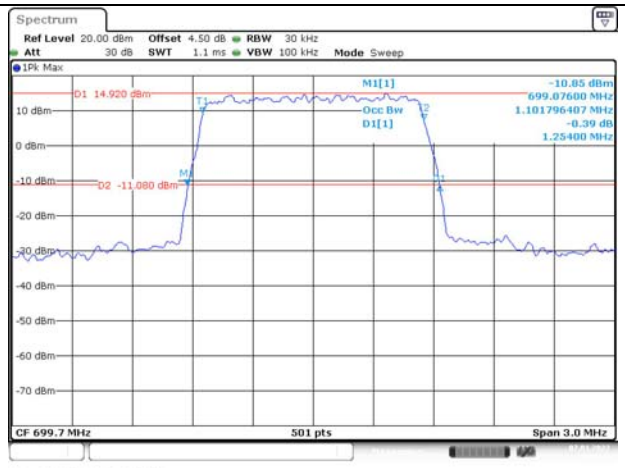
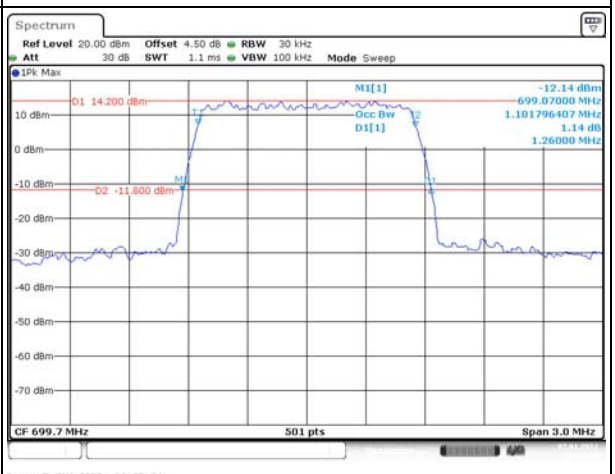
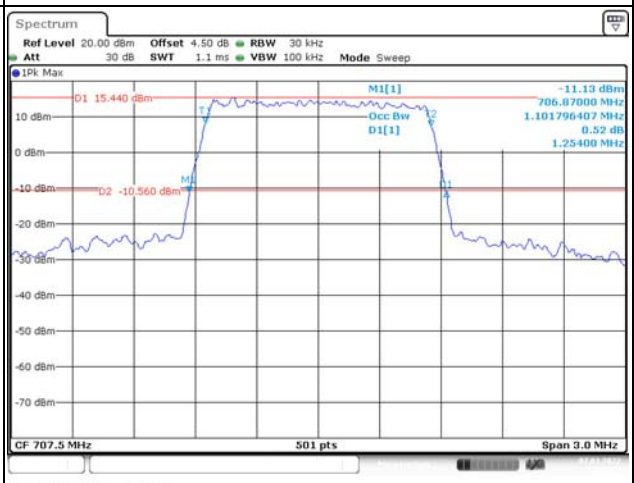
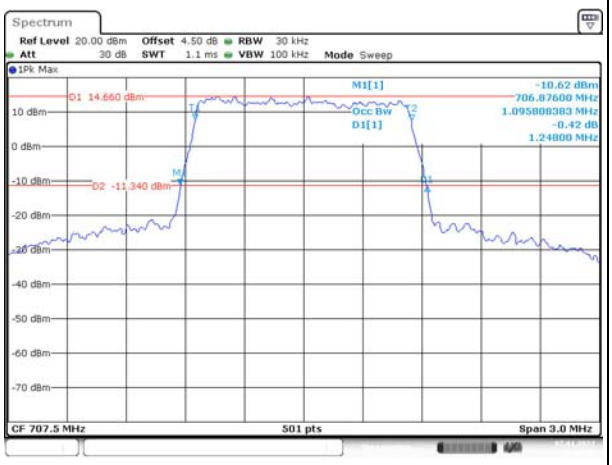
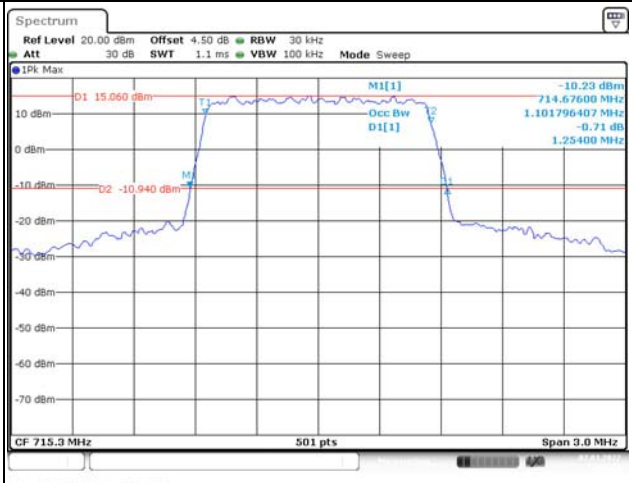
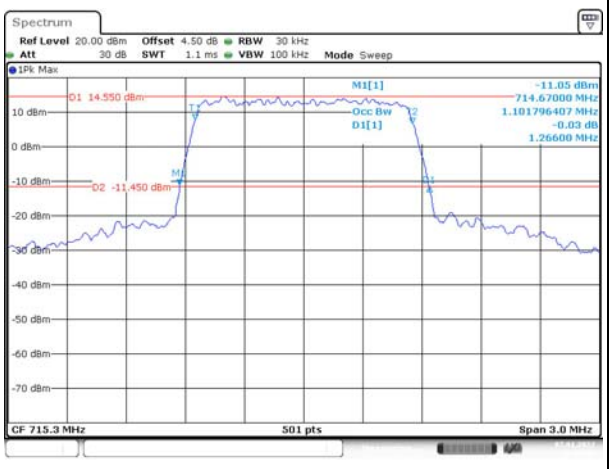
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

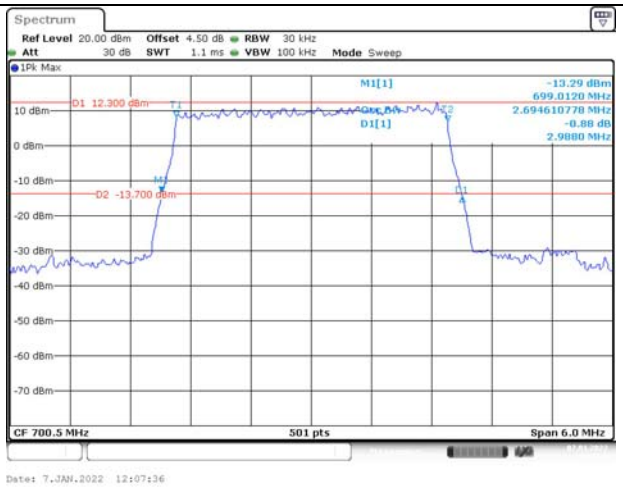
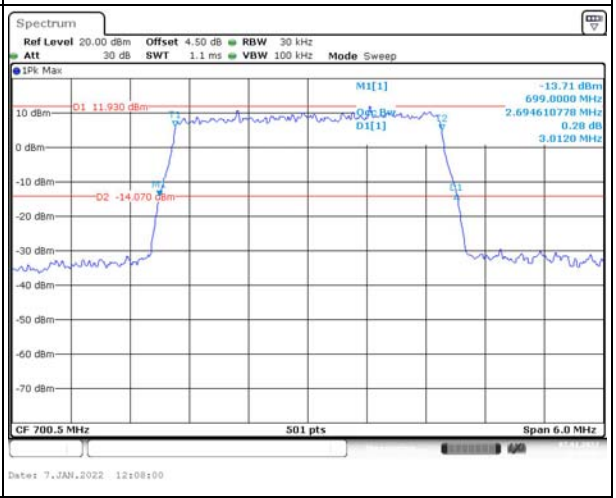
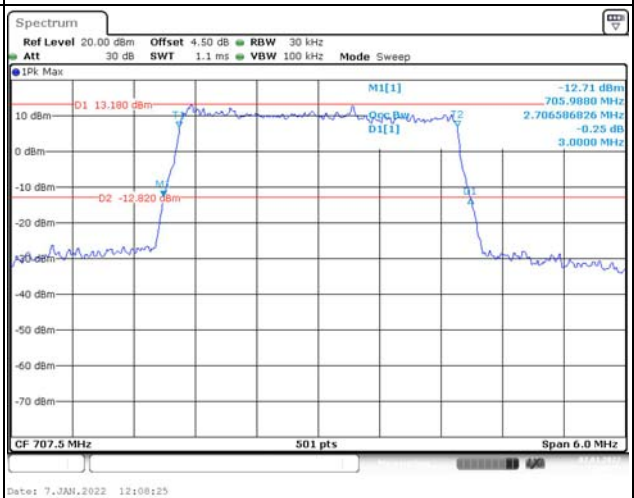
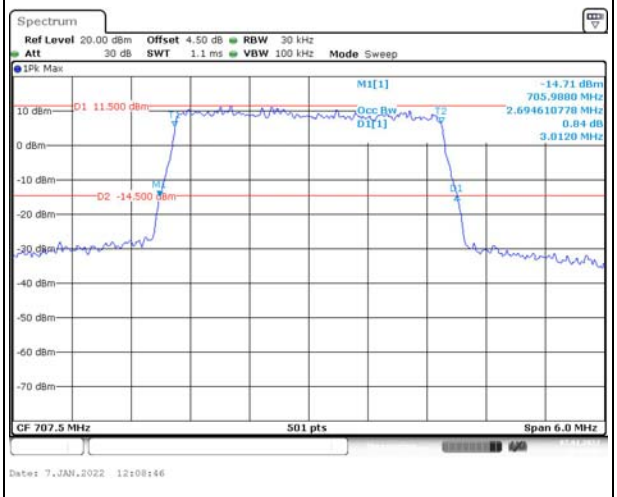
FCC §2.1055, §27.54: Frequency Stability

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	699.544	699.00	715.487	716.00
	-20	3.7	699.543	699.00	715.484	716.00
	-10	3.7	699.546	699.00	715.486	716.00
	0	3.7	699.541	699.00	715.485	716.00
	10	3.7	699.542	699.00	715.483	716.00
	20	3.7	699.543	699.00	715.486	716.00
	30	3.7	699.541	699.00	715.488	716.00
	40	3.7	699.547	699.00	715.484	716.00
	50	3.7	699.544	699.00	715.486	716.00
Frequency Stability vs. Voltage	20	3.5	699.545	699.00	715.484	716.00
	20	4.2	699.543	699.00	715.486	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	699.542	699.00	715.482	716.00
	-20	3.7	699.545	699.00	715.483	716.00
	-10	3.7	699.541	699.00	715.484	716.00
	0	3.7	699.548	699.00	715.485	716.00
	10	3.7	699.547	699.00	715.487	716.00
	20	3.7	699.543	699.00	715.486	716.00
	30	3.7	699.546	699.00	715.488	716.00
	40	3.7	699.547	699.00	715.489	716.00
	50	3.7	699.549	699.00	715.486	716.00
Frequency Stability vs. Voltage	20	3.5	699.541	699.00	715.487	716.00
	20	4.2	699.543	699.00	715.486	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