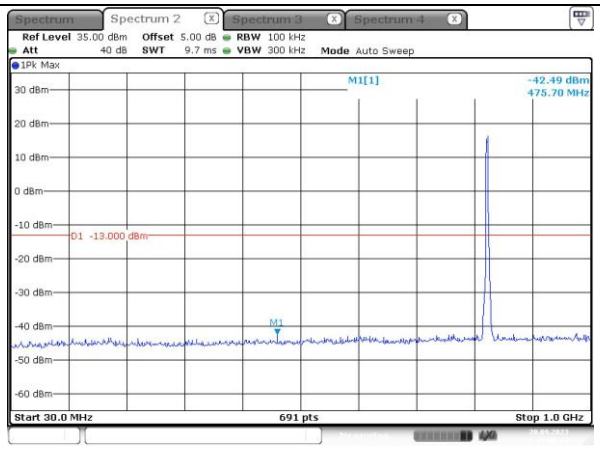
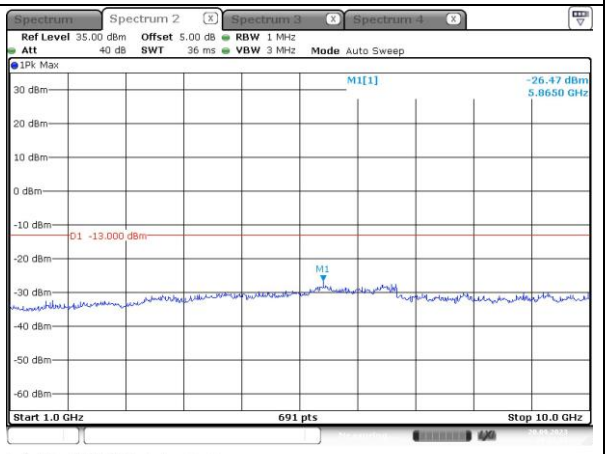
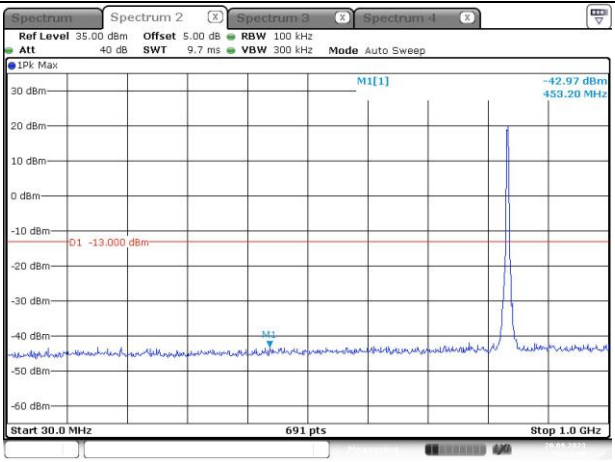
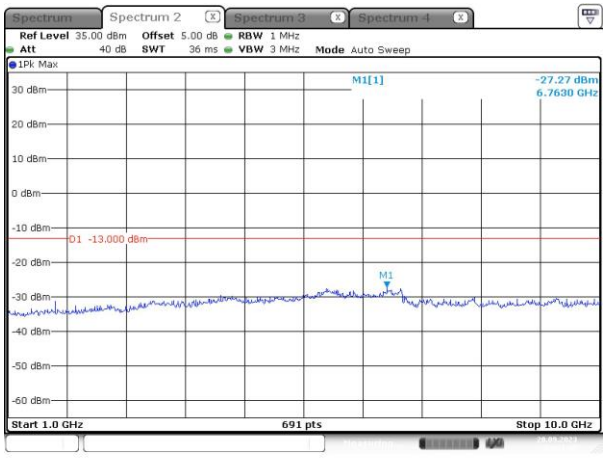
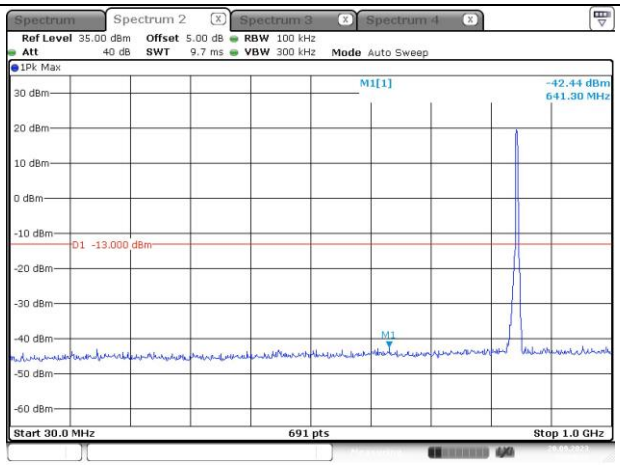
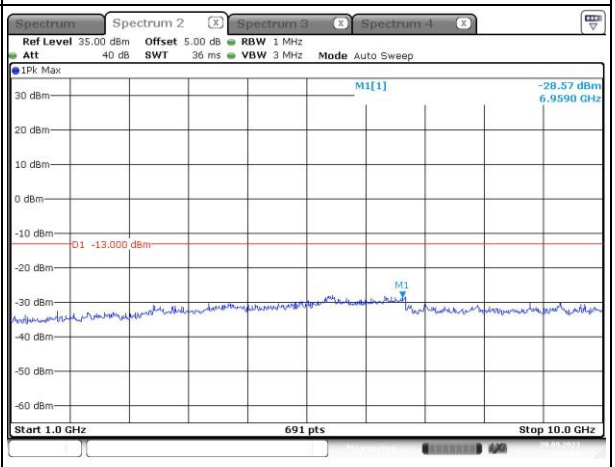
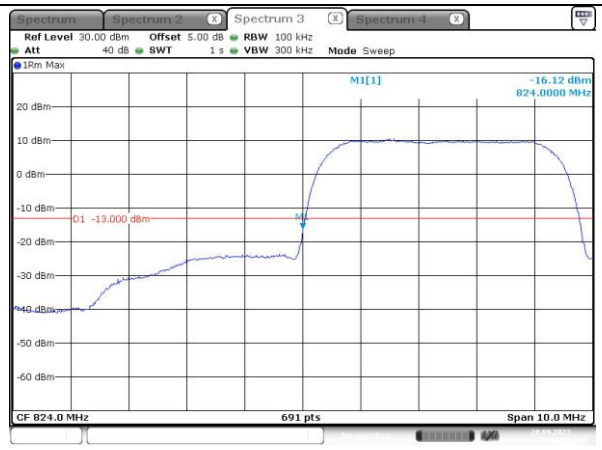
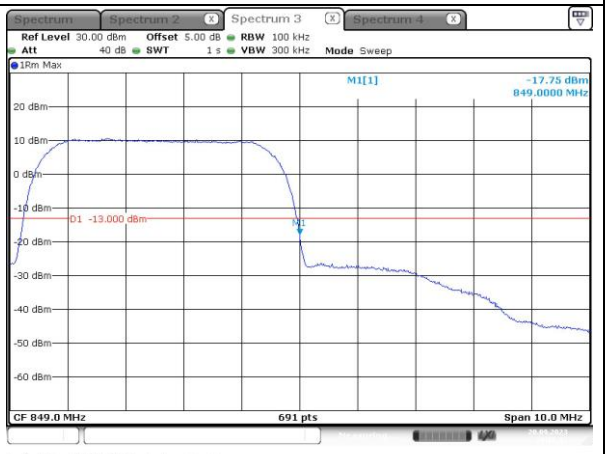
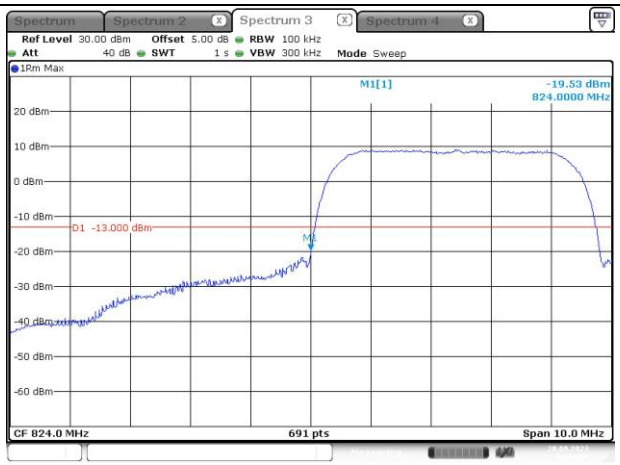
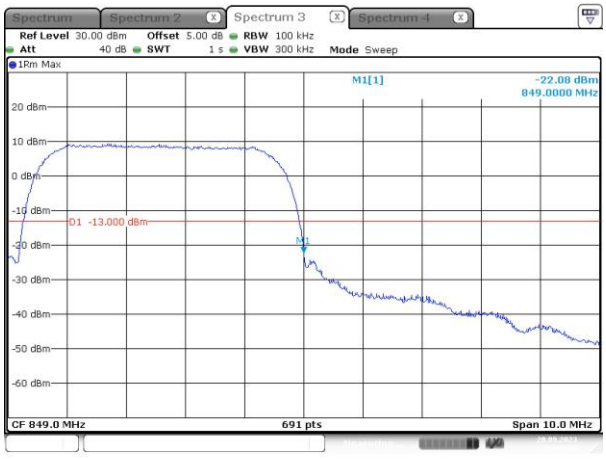
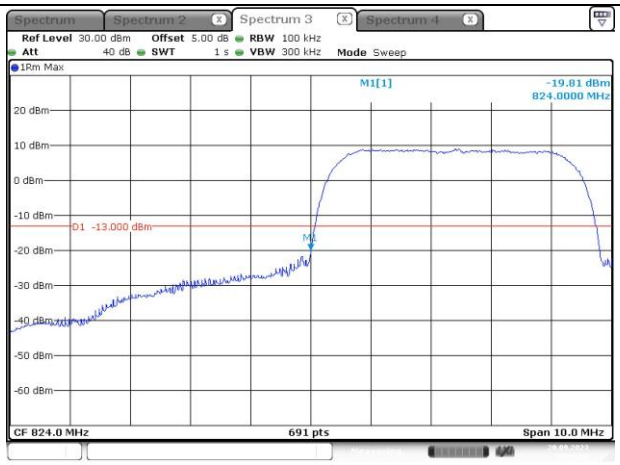
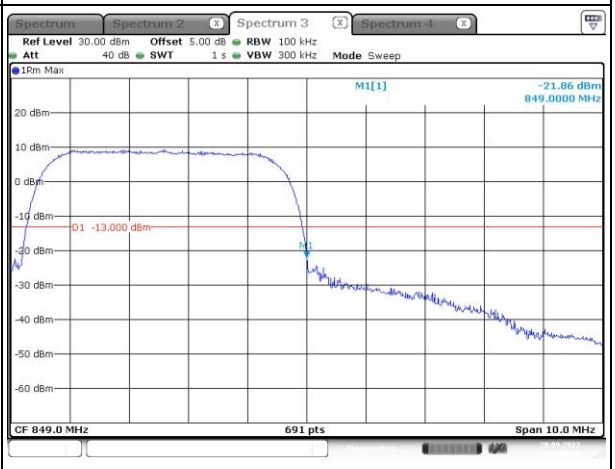
Spurious Emissions at Antenna Terminal		
Channel	WCDMA R99	
Lowest		
Middle		
Highest		

Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
R99		
HSUPA		
HSDPA		

4.5 Antenna Port Test Data and Results for LTE Band 2

Serial Number:	29L3-1	Test Date:	2023/9/7~2023/9/22
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo	Test Result:	**Pass**

Environmental Conditions:					
Temperature: (℃)	26.3~28.2	Relative Humidity: (%)	42~52	ATM Pressure: (kPa)	99.7~100.4

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/7/15	2024/7/14
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2023/7/15	2024/7/14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Power Splitter	1515	RA914	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).*

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1850.7	1880	1909.3
3MHz	1851.5	1880	1908.5
5MHz	1852.5	1880	1907.5
10MHz	1855	1880	1905
15MHz	1857.5	1880	1902.5
20MHz	1860	1880	1900

Test Data:

RF Output Power:

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP(dBm)	EIRP Limit(dBm)
		Lowest Channel	Middle Channel	Highest Channel		
1.4MHz QPSK	RB1#0	22.27	22.33	22.11	21.34	33
	RB1#3	22.26	22.32	22.15		
	RB1#5	22.27	22.31	22.13		
	RB3#0	22.48	22.40	22.31		
	RB3#3	22.46	22.41	19.24		
	RB6#0	21.38	21.43	19.20		
1.4MHz 16QAM	RB1#0	21.51	21.59	19.21	20.52	33
	RB1#3	21.56	21.59	19.21		
	RB1#5	21.53	21.55	19.24		
	RB3#0	21.60	21.38	19.24		
	RB3#3	21.66	21.37	19.22		
	RB6#0	20.41	20.46	19.15		
3MHz QPSK	RB1#0	22.33	22.53	22.12	21.39	33
	RB1#8	22.30	22.46	22.10		
	RB1#14	22.33	22.48	22.09		
	RB6#0	21.45	21.44	19.30		
	RB6#9	21.42	21.40	19.24		
	RB15#0	21.43	21.42	21.28		
3MHz 16QAM	RB1#0	21.46	21.90	21.42	20.76	33
	RB1#8	21.40	21.85	21.39		
	RB1#14	21.46	21.86	21.37		
	RB6#0	20.36	20.52	20.33		
	RB6#9	20.36	20.46	20.35		
	RB15#0	20.50	20.50	20.23		
5MHz QPSK	RB1#0	22.59	22.39	22.31	21.47	33
	RB1#13	22.61	22.34	22.24		
	RB1#24	22.61	22.39	22.25		
	RB15#0	21.39	21.37	21.27		
	RB15#10	21.40	21.39	21.27		
	RB25#0	21.33	21.38	21.22		
5MHz 16QAM	RB1#0	21.30	21.71	21.37	20.57	33
	RB1#13	21.31	21.62	21.24		
	RB1#24	21.36	21.64	21.29		
	RB15#0	20.44	20.39	20.26		
	RB15#10	20.45	20.37	20.29		
	RB25#0	20.42	20.42	20.28		
10MHz QPSK	RB1#0	22.49	22.32	22.25	21.37	33

	RB1#25	22.51	22.37	22.23		
	RB1#49	22.51	22.38	22.19		
	RB25#0	21.38	21.34	21.28		
	RB25#25	21.42	21.41	21.34		
	RB50#0	21.43	21.42	21.34		
10MHz 16QAM	RB1#0	21.75	21.52	21.31	20.67	33
	RB1#25	21.78	21.55	21.24		
	RB1#49	21.81	21.57	21.27		
	RB25#0	20.44	20.39	20.40		
	RB25#25	20.46	20.42	20.43		
	RB50#0	20.43	20.37	20.34		
15MHz QPSK	RB1#0	22.42	22.30	22.15	21.38	33
	RB1#38	22.52	22.38	22.12		
	RB1#74	22.48	22.35	22.16		
	RB36#0	21.34	21.37	21.29		
	RB36#39	21.38	21.42	21.27		
	RB75#0	21.41	21.41	21.30		
15MHz 16QAM	RB1#0	21.71	21.49	21.50	20.7	33
	RB1#38	21.82	21.58	21.56		
	RB1#74	21.84	21.53	21.50		
	RB36#0	20.39	20.37	20.32		
	RB36#39	20.41	20.43	20.23		
	RB75#0	20.41	20.43	20.29		
20MHz QPSK	RB1#0	22.21	22.34	22.21	21.29	33
	RB1#50	22.28	22.39	22.24		
	RB1#99	22.43	22.34	22.18		
	RB50#0	21.44	21.40	21.43		
	RB50#50	21.41	21.49	21.26		
	RB100#0	21.42	21.42	21.36		
20MHz 16QAM	RB1#0	21.52	21.60	21.90	20.77	33
	RB1#50	21.61	21.64	21.91		
	RB1#99	21.66	21.65	21.86		
	RB50#0	20.43	20.37	20.44		
	RB50#50	20.42	20.46	20.25		
	RB100#0	20.43	20.41	20.34		
Note: EIRP=Conducted Power(dBm) - L_C(dB) + G_T(dBi)						
					Result:	**Pass**

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	4.32	3.36	4.26	13
	RB50#0	4.90	4.61	4.90	13
10MHz 16QAM	RB1#0	5.16	4.38	5.04	13
	RB50#0	5.83	5.57	5.86	13
				Result:	**Pass**

Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
1.4MHz QPSK	1.102	1.102	1.096	1.296	1.314	1.320
1.4MHz 16QAM	1.096	1.102	1.096	1.290	1.320	1.290
3MHz QPSK	2.683	2.683	2.695	2.880	2.880	2.868
3MHz 16QAM	2.683	2.683	2.683	2.868	2.892	2.868
5MHz QPSK	4.531	4.511	4.491	4.960	4.980	4.900
5MHz 16QAM	4.491	4.531	4.511	4.960	4.940	4.960
10MHz QPSK	8.942	8.942	8.942	9.600	9.720	9.640
10MHz 16QAM	8.942	8.942	8.942	9.640	9.600	9.600
15MHz QPSK	13.473	13.473	13.533	14.820	14.760	14.820
15MHz 16QAM	13.473	13.473	13.533	14.760	14.700	14.760
20MHz QPSK	17.964	17.964	17.964	19.600	19.280	19.280
20MHz 16QAM	17.804	17.964	17.884	19.200	19.680	19.440
Note: The test plots please refer to the Plots of Occupied Bandwidth						

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

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

Frequency Stability For FCC:

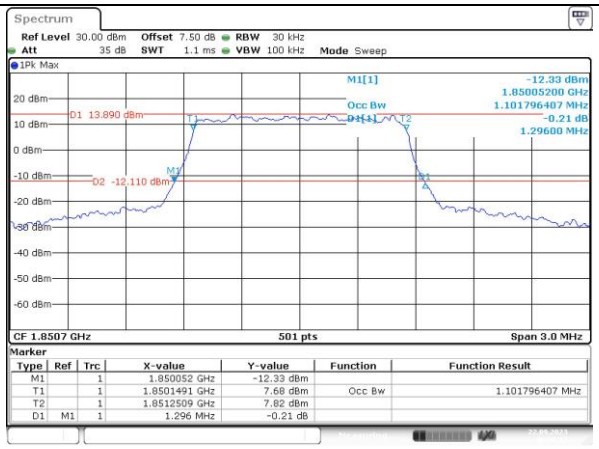
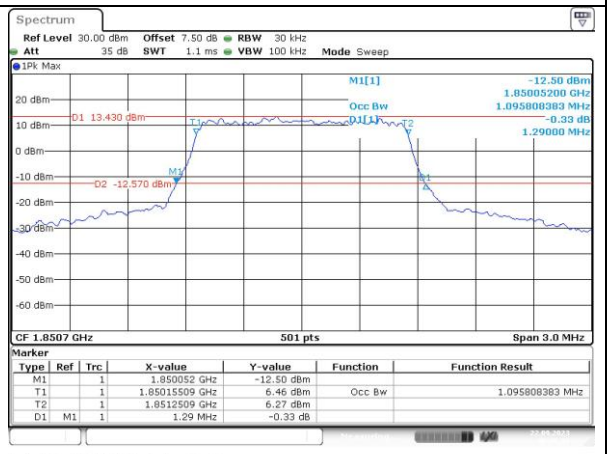
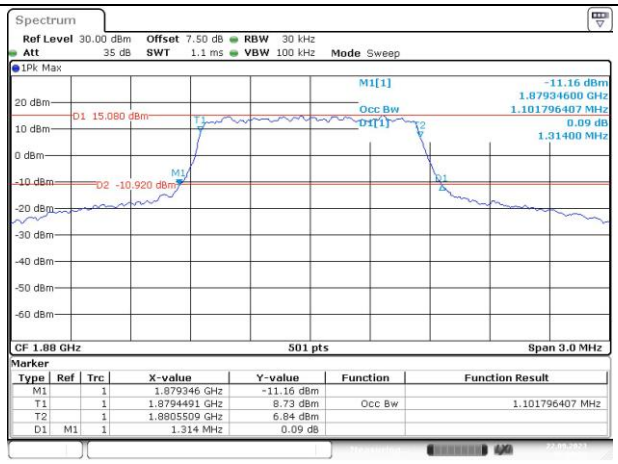
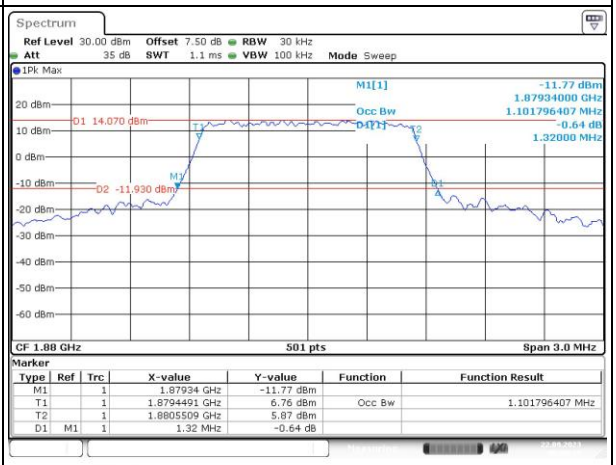
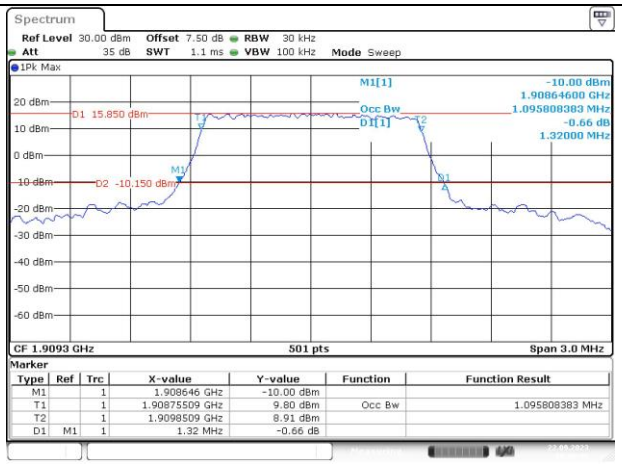
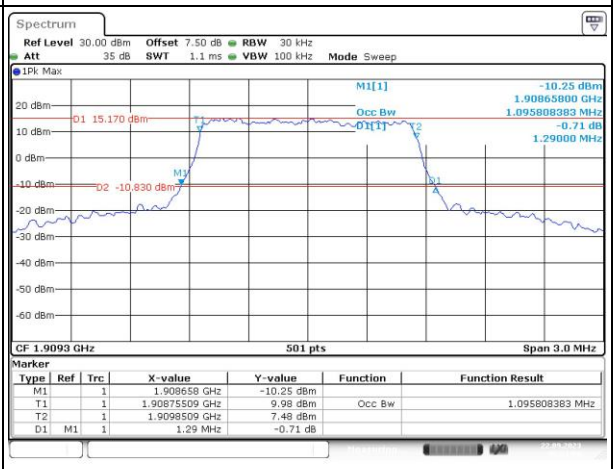
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	1851.018	1850.000	1909.007	1910.000
	-20	3.87	1851.043	1850.000	1909.006	1910.000
	-10	3.87	1851.038	1850.000	1909.093	1910.000
	0	3.87	1851.091	1850.000	1909.035	1910.000
	10	3.87	1851.097	1850.000	1909.038	1910.000
	20	3.87	1851.058	1850.000	1909.022	1910.000
	30	3.87	1851.066	1850.000	1909.048	1910.000
	40	3.87	1851.065	1850.000	1909.092	1910.000
	50	3.87	1851.089	1850.000	1909.087	1910.000
Frequency Stability vs. Voltage	20	3.2	1851.081	1850.000	1909.022	1910.000
	20	4.45	1851.089	1850.000	1909.052	1910.000
					Result:	**Pass**

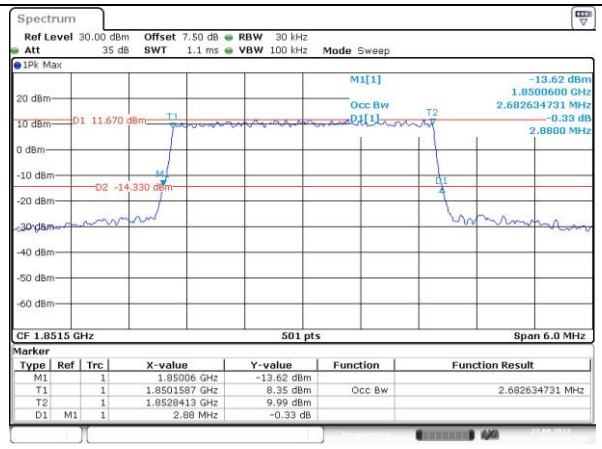
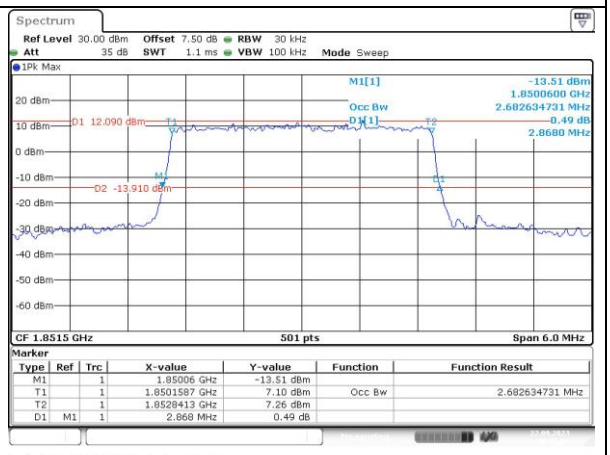
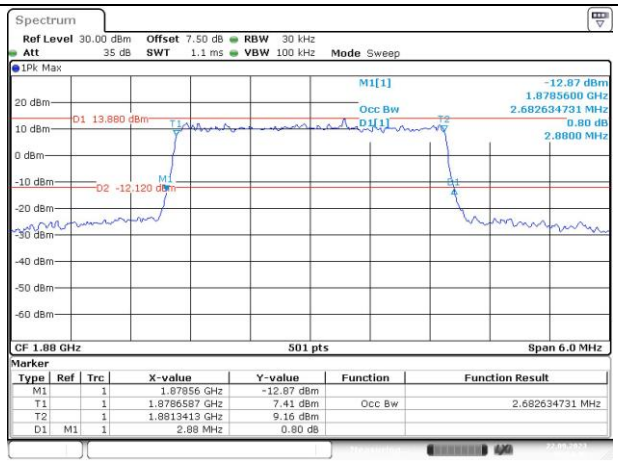
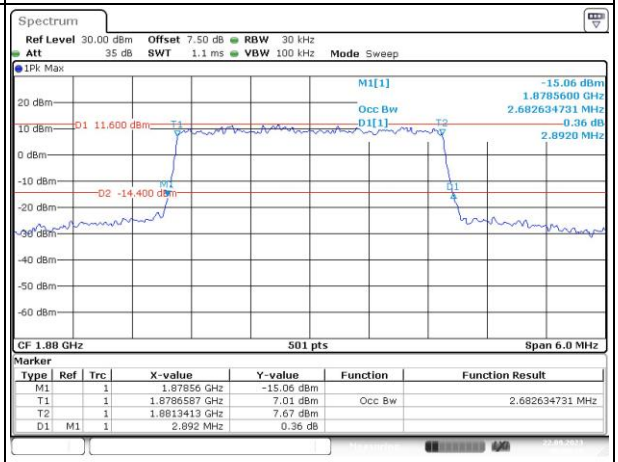
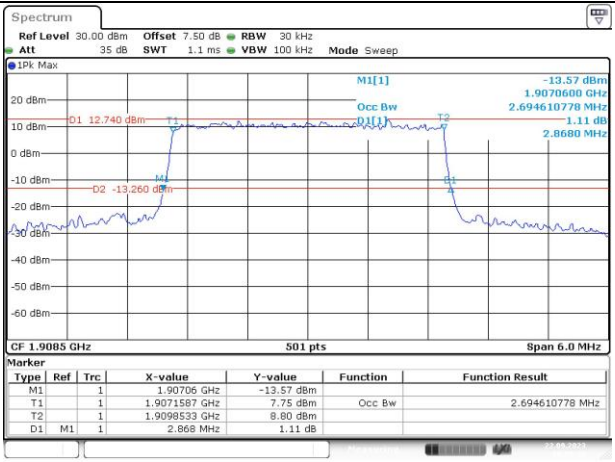
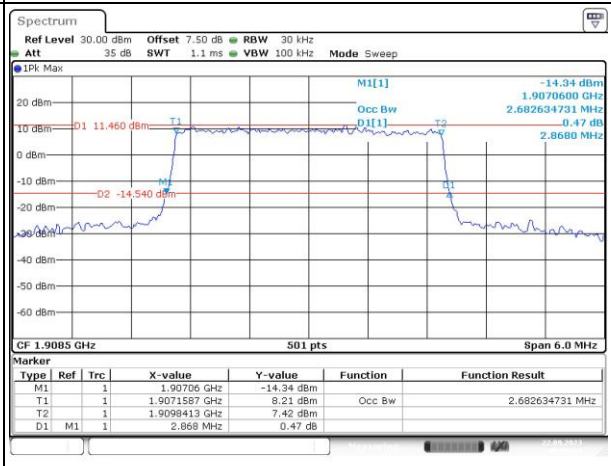
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	1851.194	1850.000	1908.968	1910.000
	-20	3.87	1851.181	1850.000	1908.929	1910.000
	-10	3.87	1851.143	1850.000	1908.917	1910.000
	0	3.87	1851.168	1850.000	1908.908	1910.000
	10	3.87	1851.138	1850.000	1908.932	1910.000
	20	3.87	1851.114	1850.000	1908.942	1910.000
	30	3.87	1851.177	1850.000	1908.978	1910.000
	40	3.87	1851.131	1850.000	1908.907	1910.000
	50	3.87	1851.133	1850.000	1908.995	1910.000
Frequency Stability vs. Voltage	20	3.2	1851.136	1850.000	1908.946	1910.000
	20	4.45	1851.101	1850.000	1908.948	1910.000
					Result:	**Pass**

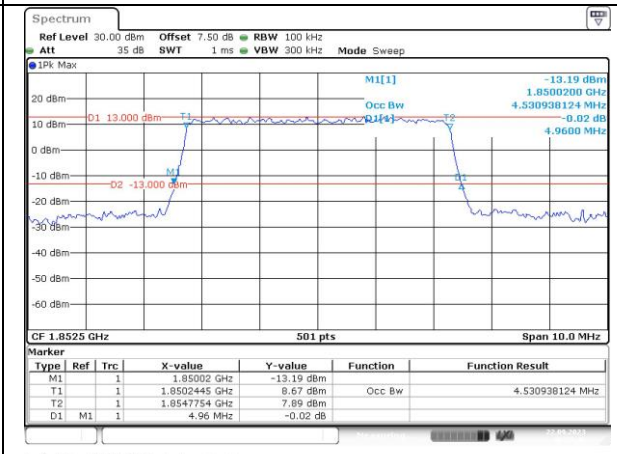
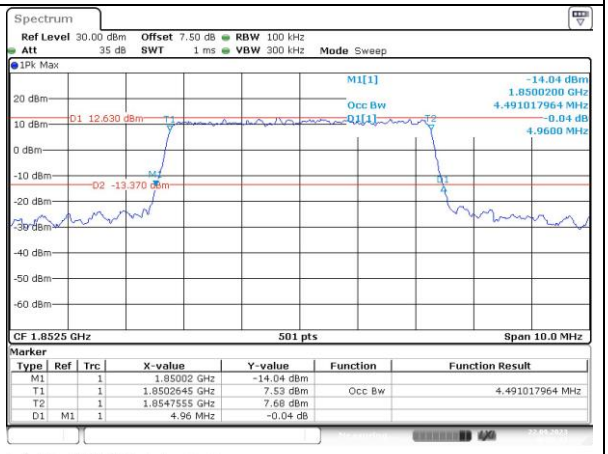
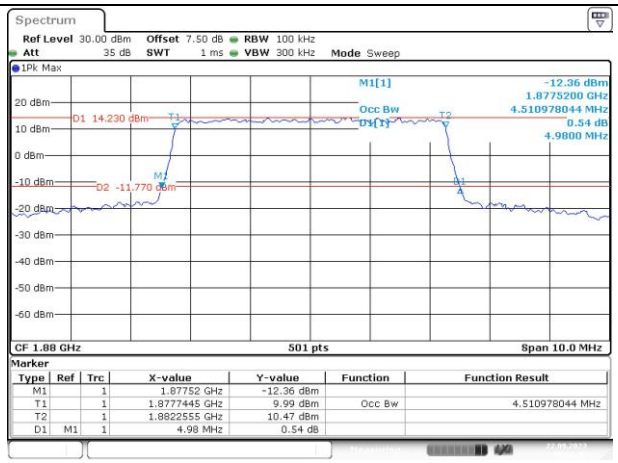
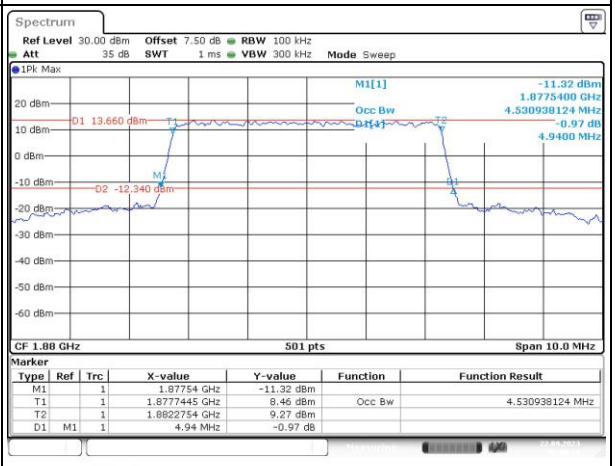
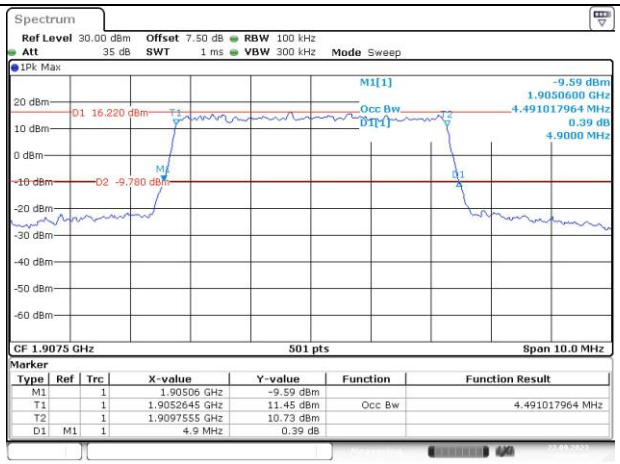
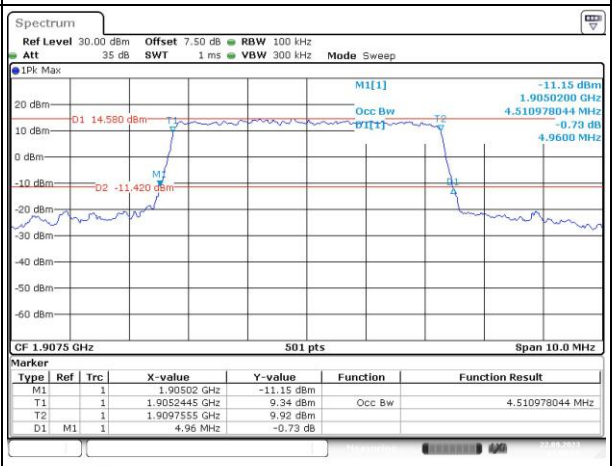
Frequency Stability For RSS-133					
Test Modulation:	20M QPSK		Test Channel:	1880	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.87	-11	-0.0059	2.5
	-20	3.87	-12	-0.0064	2.5
	-10	3.87	-10	-0.0053	2.5
	0	3.87	-8	-0.0043	2.5
	10	3.87	-7.8	-0.0041	2.5
	20	3.87	-7.6	-0.0040	2.5
	30	3.87	-7.1	-0.0038	2.5
	40	3.87	-6.5	-0.0035	2.5
	50	3.87	-5.9	-0.0031	2.5
Frequency Stability vs. Voltage	20	3.2	-5.1	-0.0027	2.5
	20	4.45	-4.5	-0.0024	2.5
				Result:	**Pass**

Test Modulation:	20M 16QAM		Test Channel:	1880	MHz
Test Item	Temperature (℃)	Voltage (V_{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.87	-9.7	-0.0052	2.5
	-20	3.87	-7.4	-0.0039	2.5
	-10	3.87	-4.9	-0.0026	2.5
	0	3.87	-7.6	-0.0040	2.5
	10	3.87	-7.8	-0.0041	2.5
	20	3.87	-7.2	-0.0038	2.5
	30	3.87	-8.9	-0.0047	2.5
	40	3.87	-8.4	-0.0045	2.5
	50	3.87	-4	-0.0021	2.5
Frequency Stability vs. Voltage	20	3.2	-3.6	-0.0019	2.5
	20	4.45	-2.9	-0.0015	2.5
				Result:	**Pass**

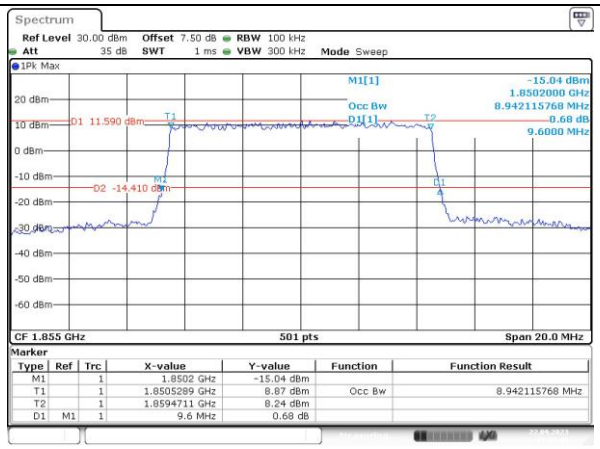
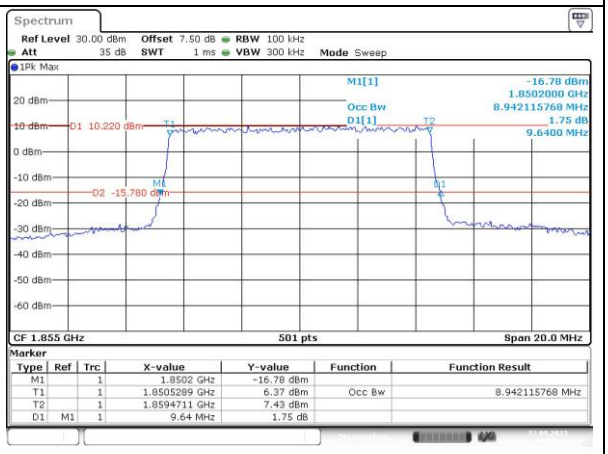
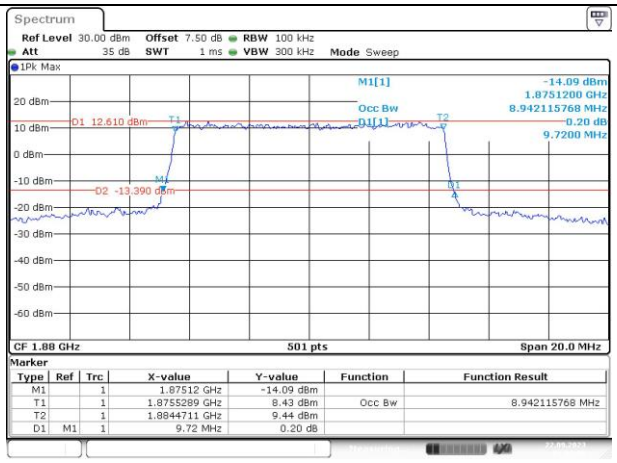
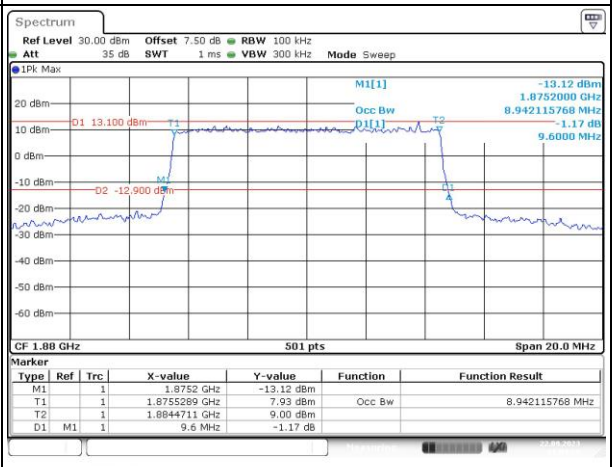
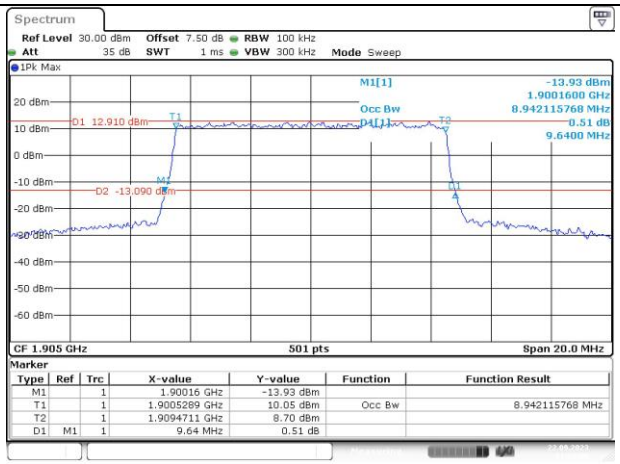
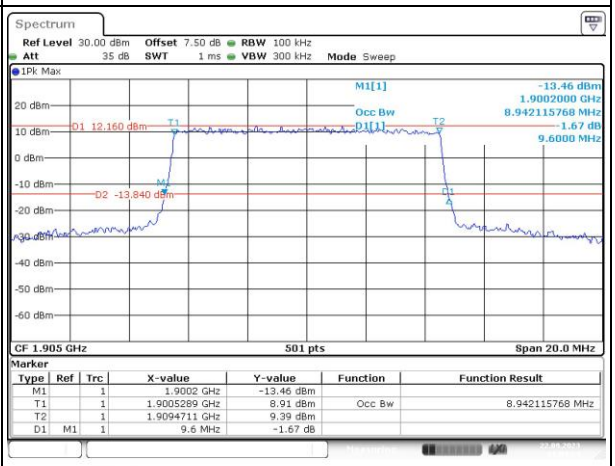
Test Plots(Note: The 7.5dB is the Insertion loss of the RF cable, Coaxial tee connector and DC Block, which was offset into the Spectrum Analyzer)**:**

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

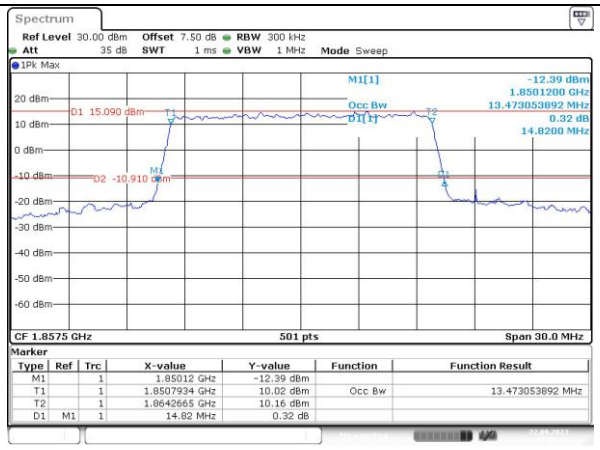
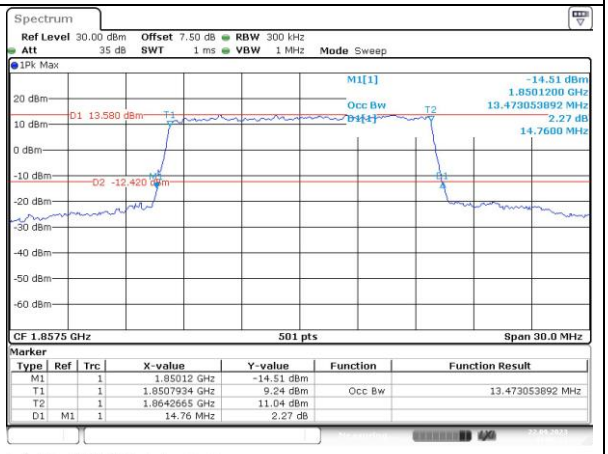
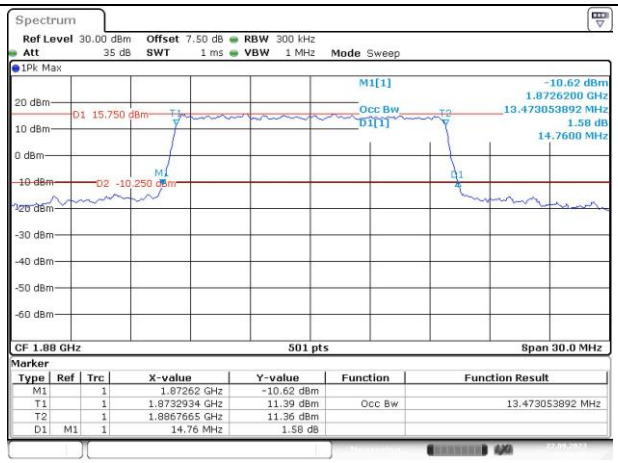
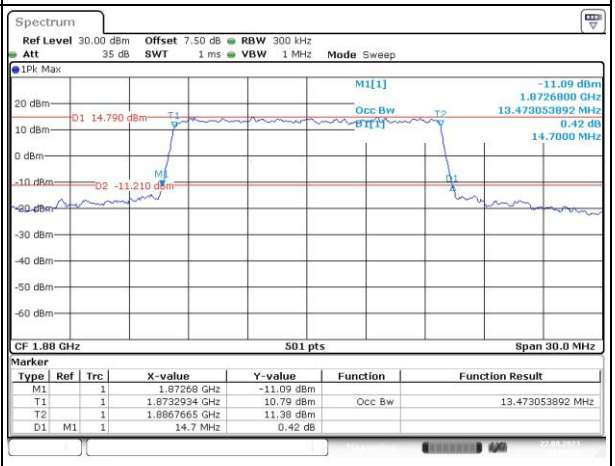
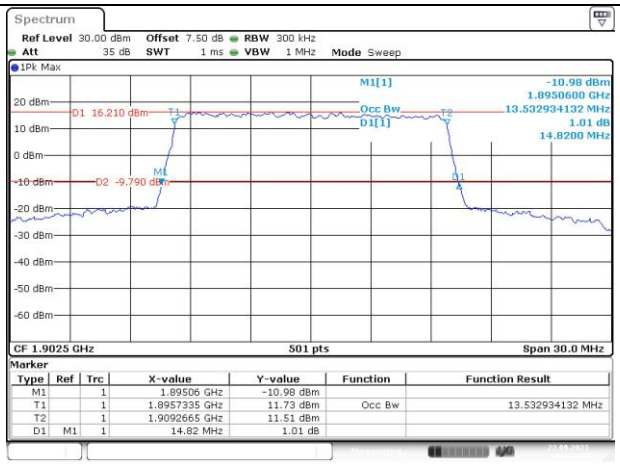
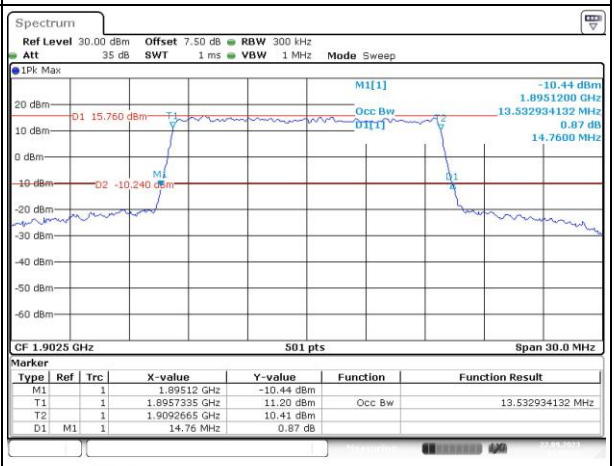
Occupied Bandwidth		
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

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

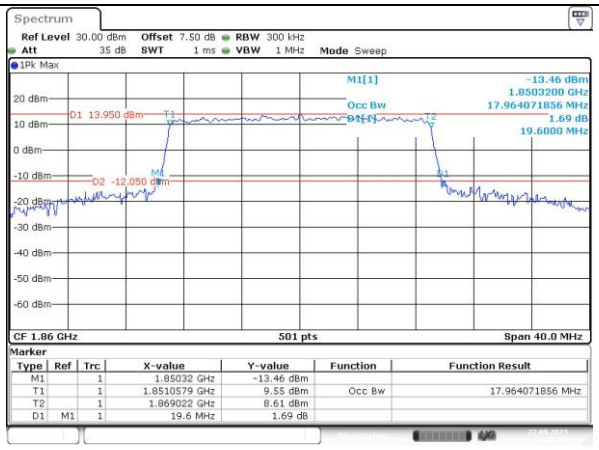
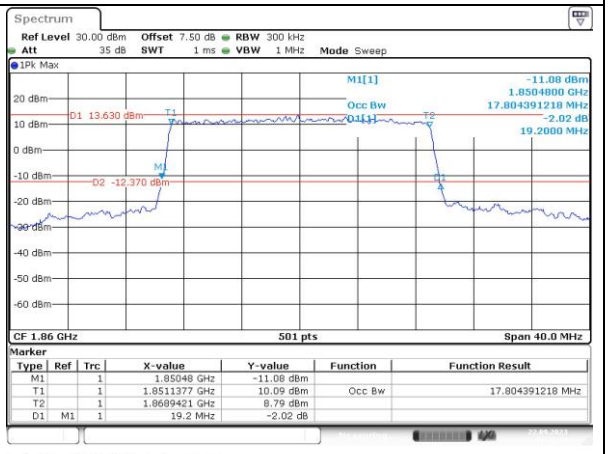
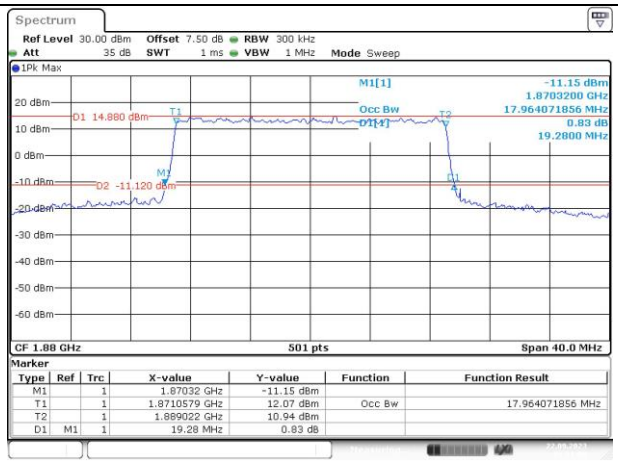
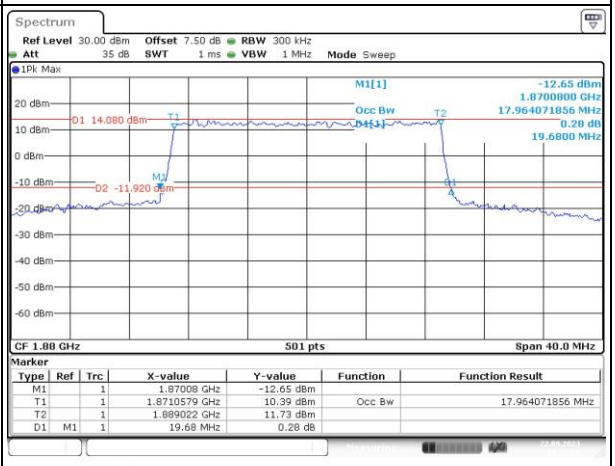
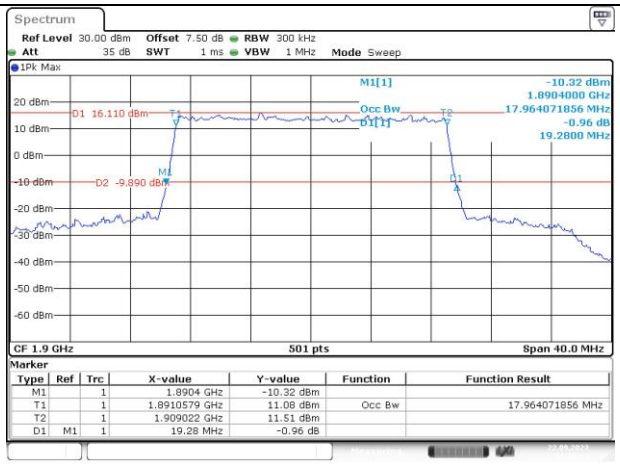
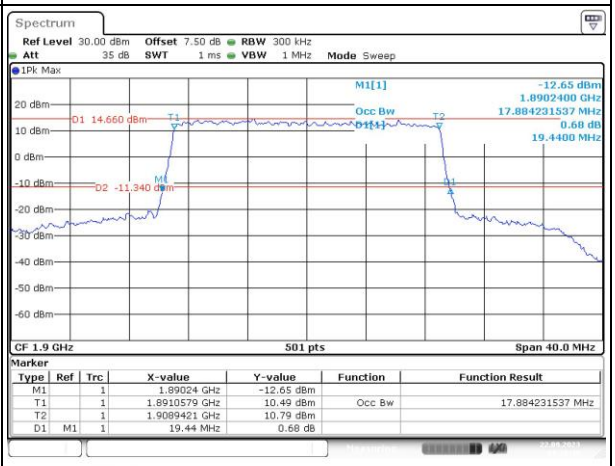
Occupied Bandwidth

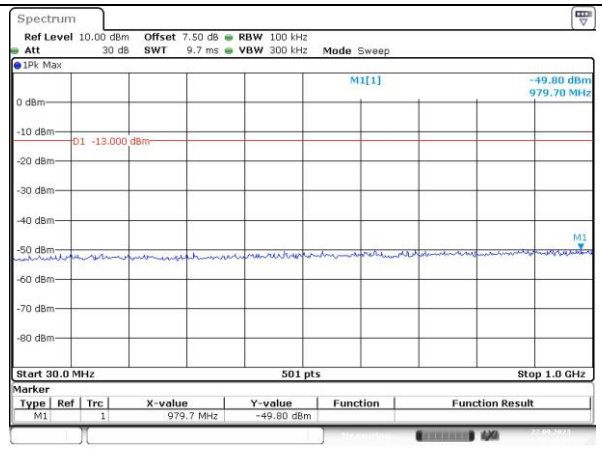
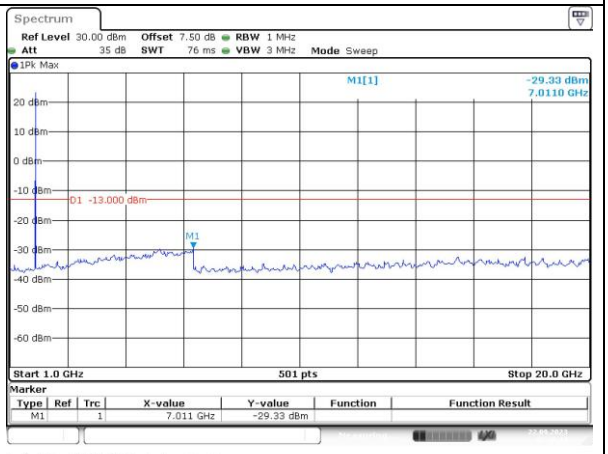
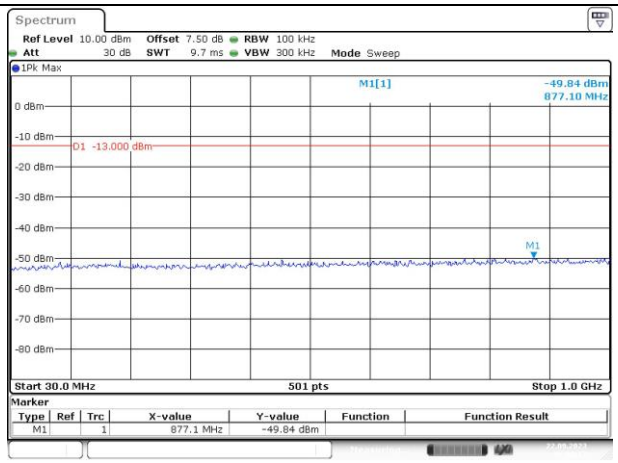
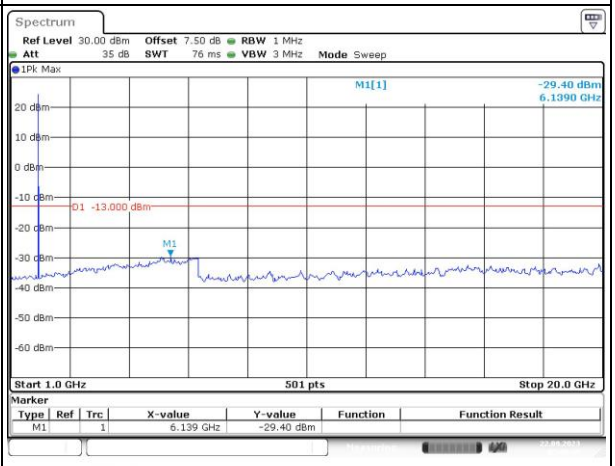
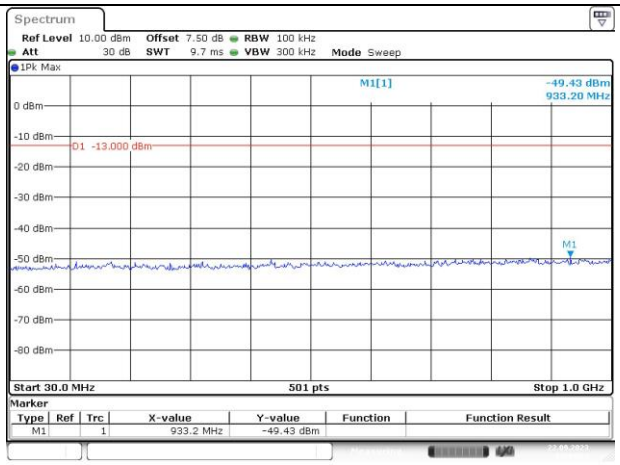
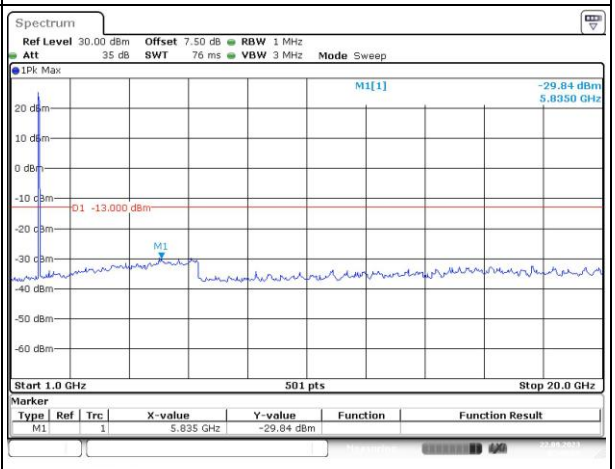
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

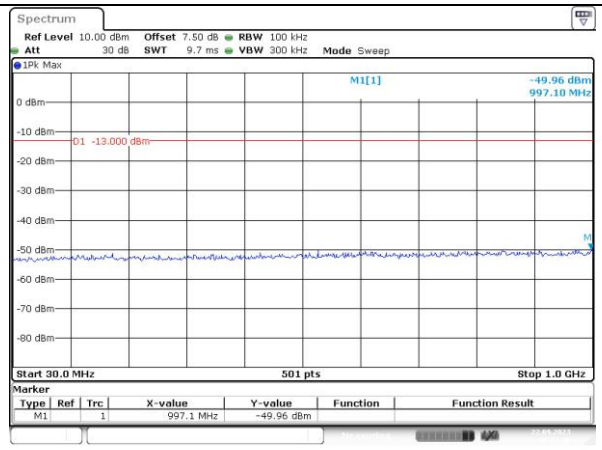
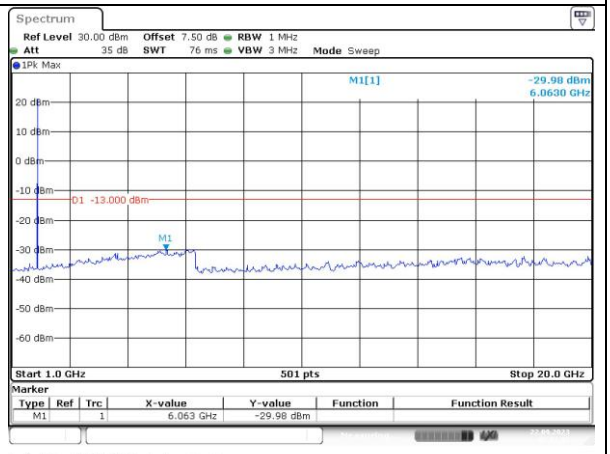
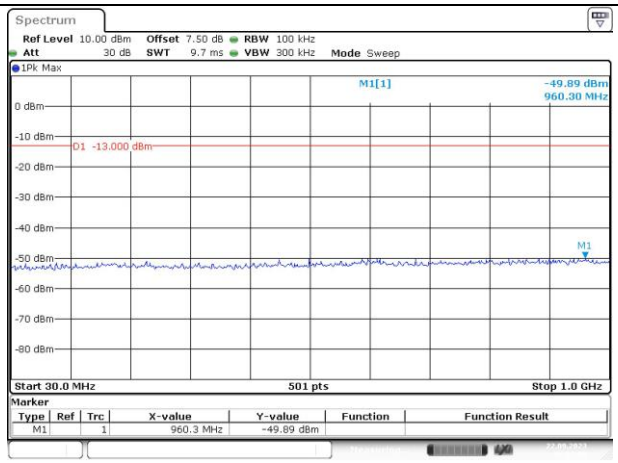
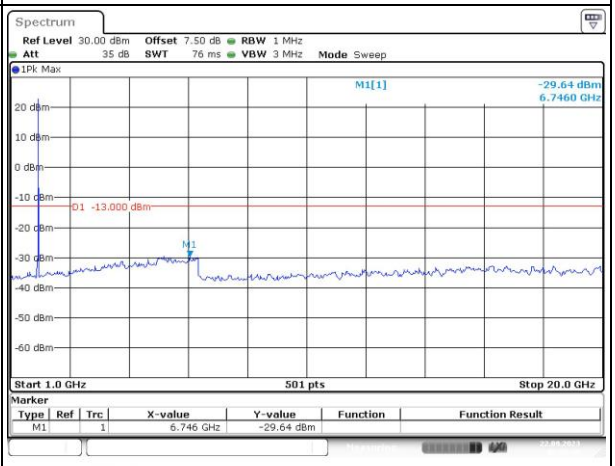
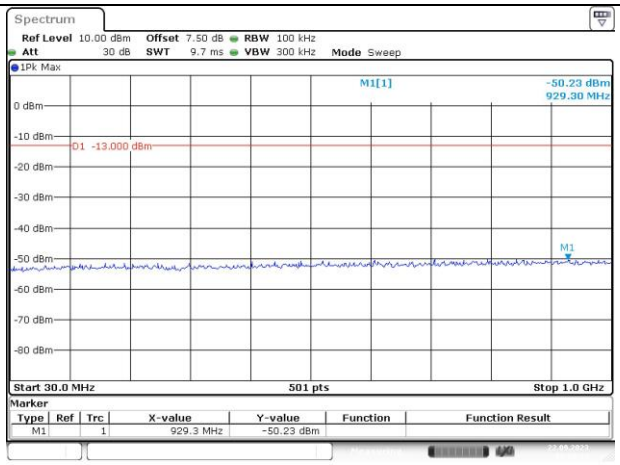
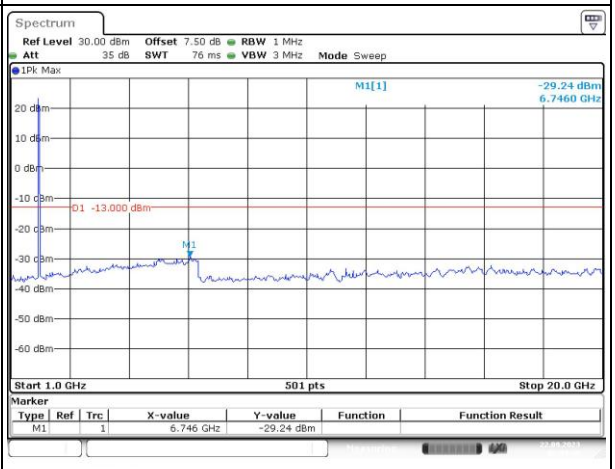
Occupied Bandwidth

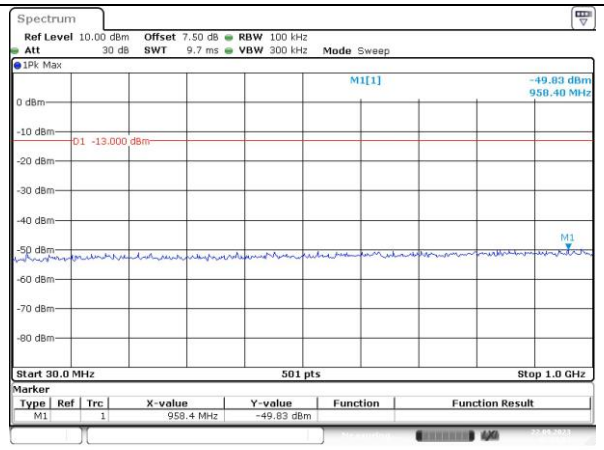
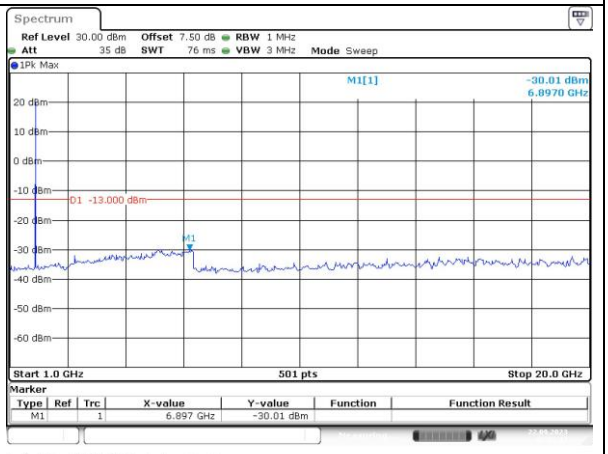
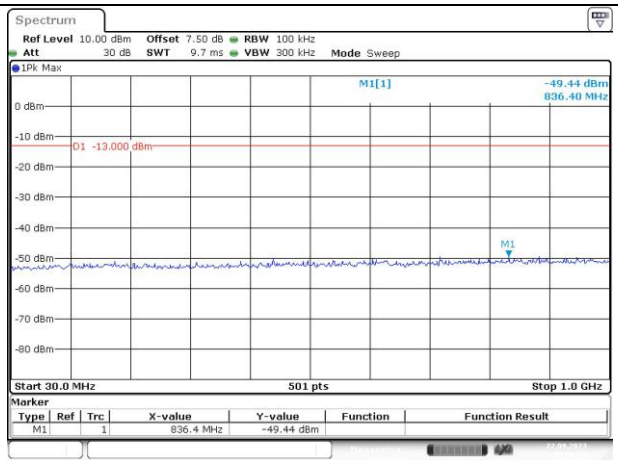
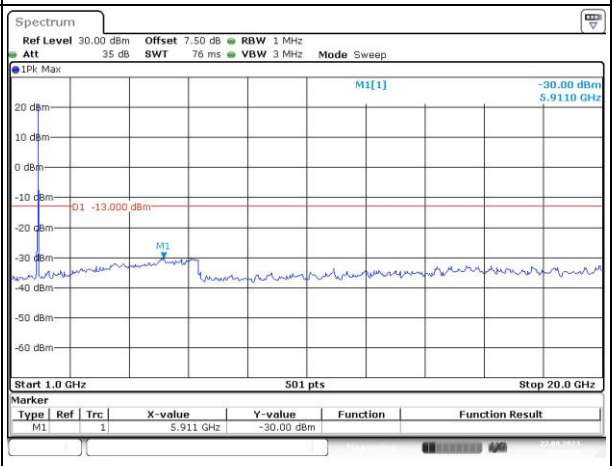
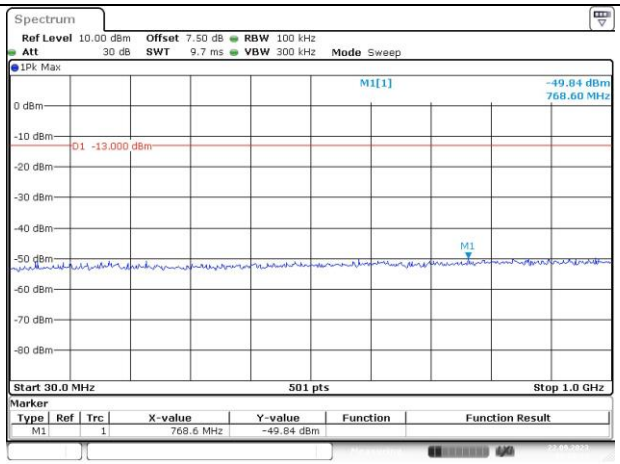
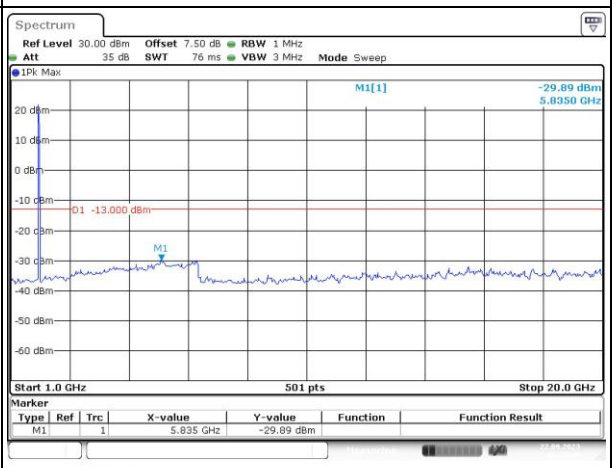
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

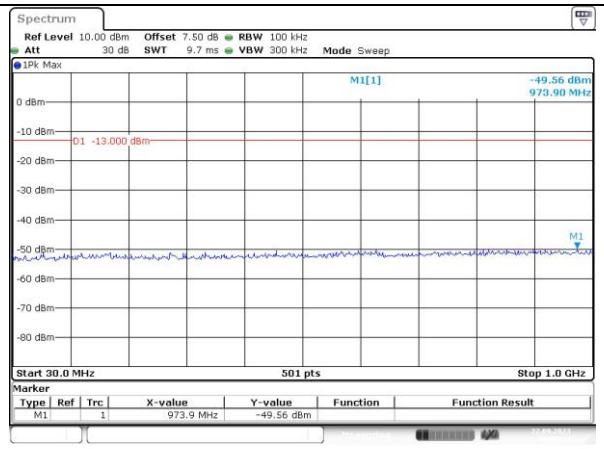
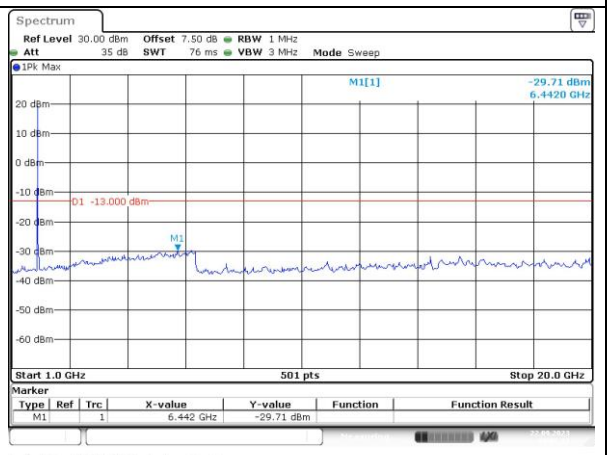
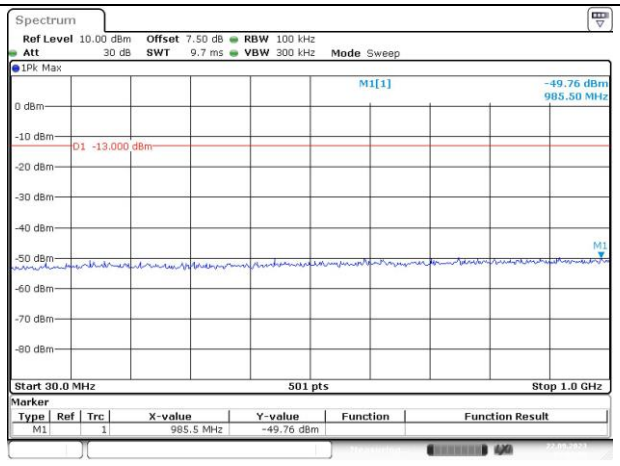
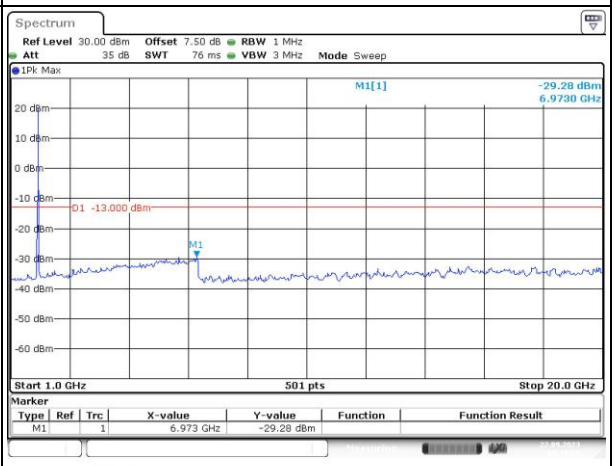
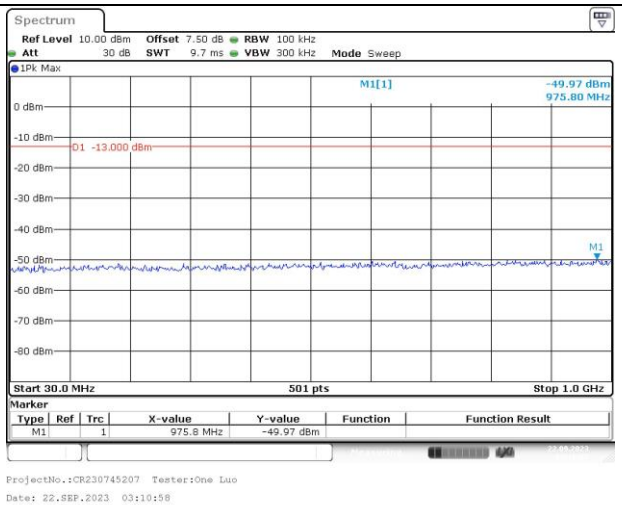
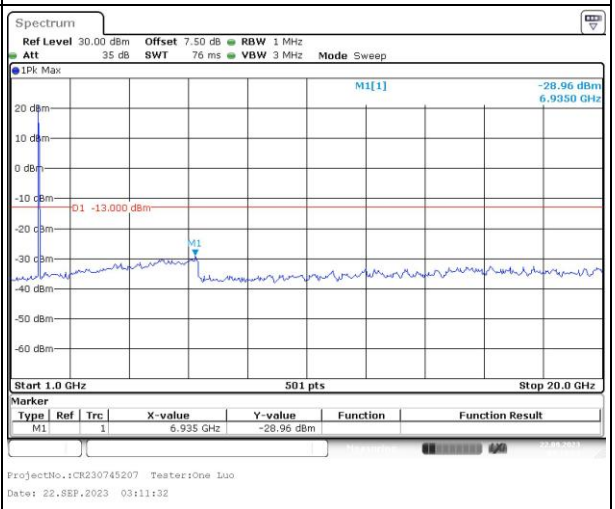
Occupied Bandwidth

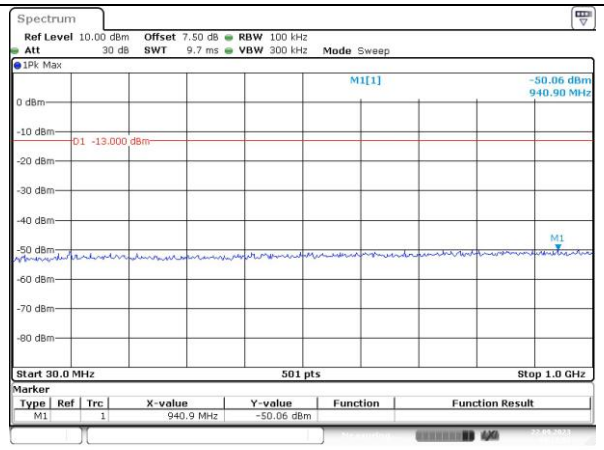
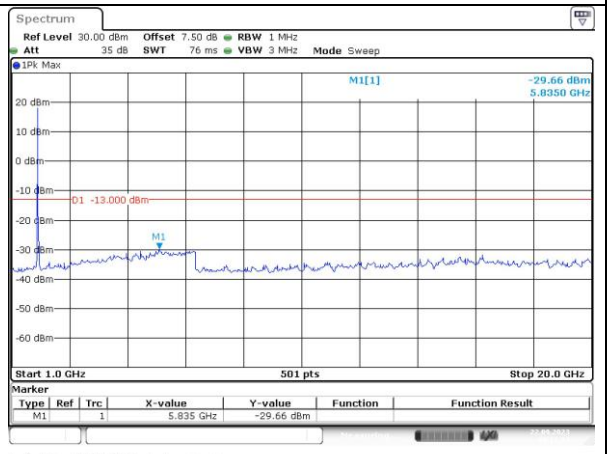
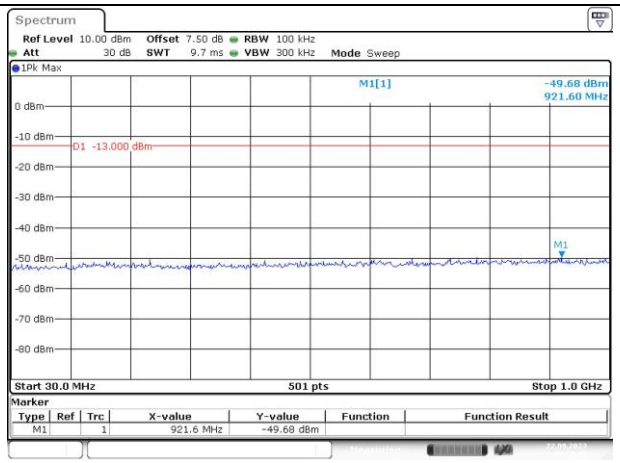
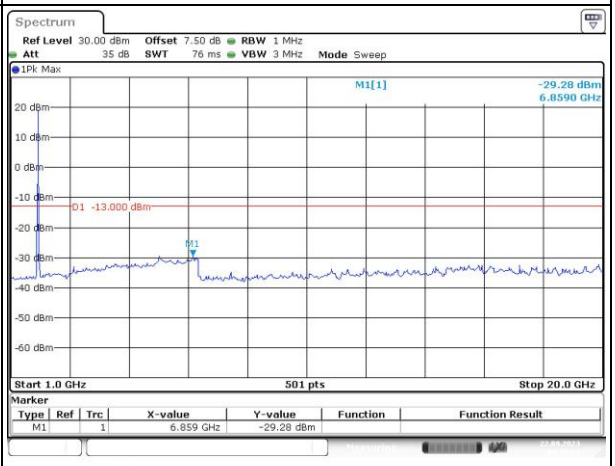
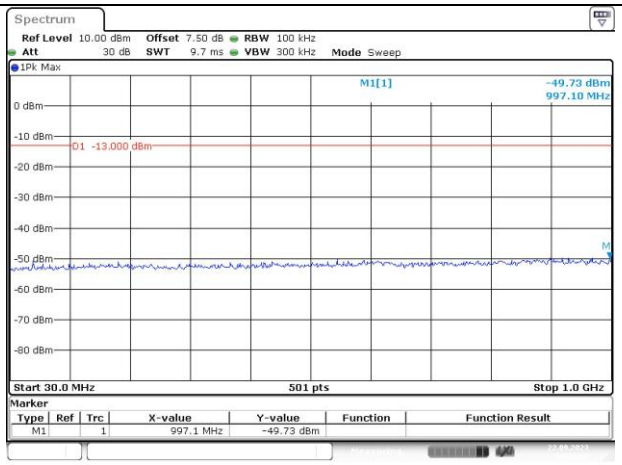
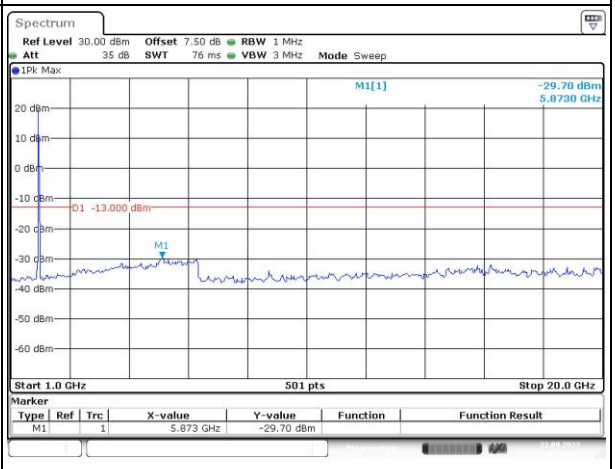
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

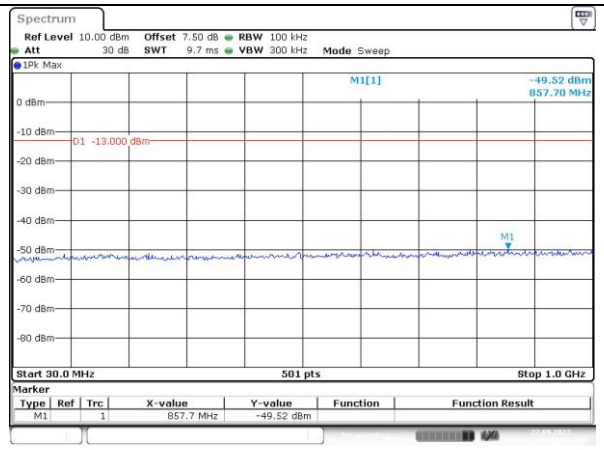
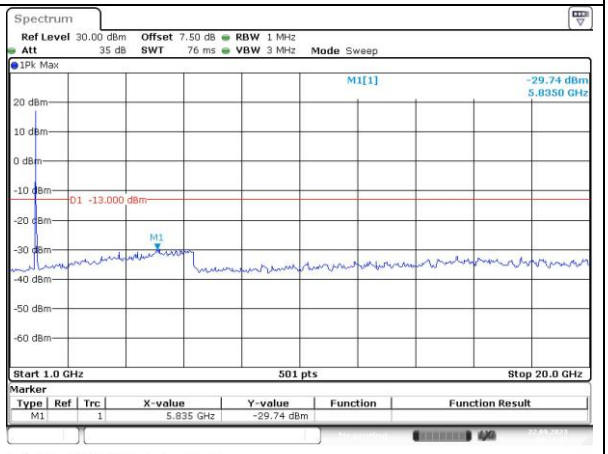
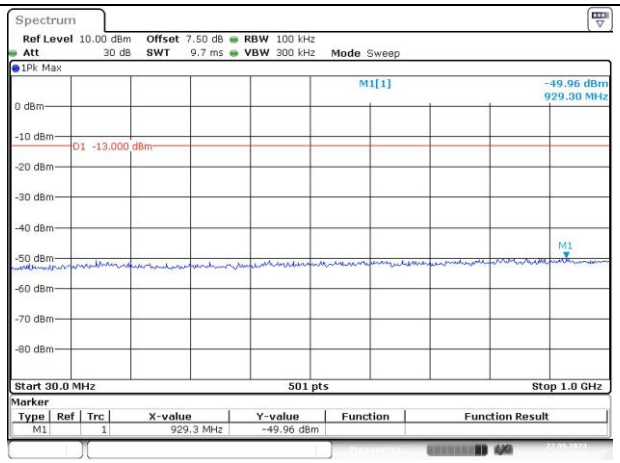
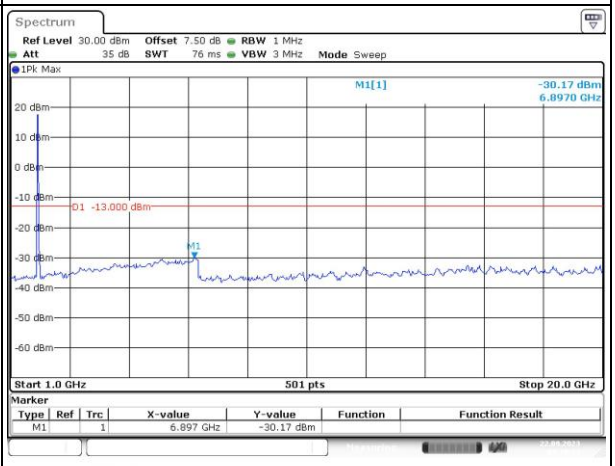
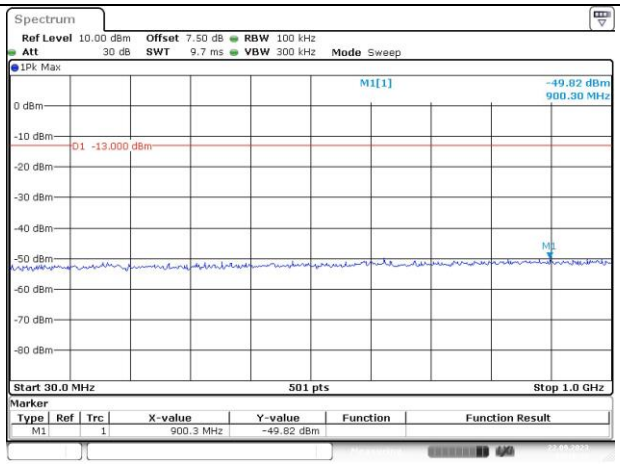
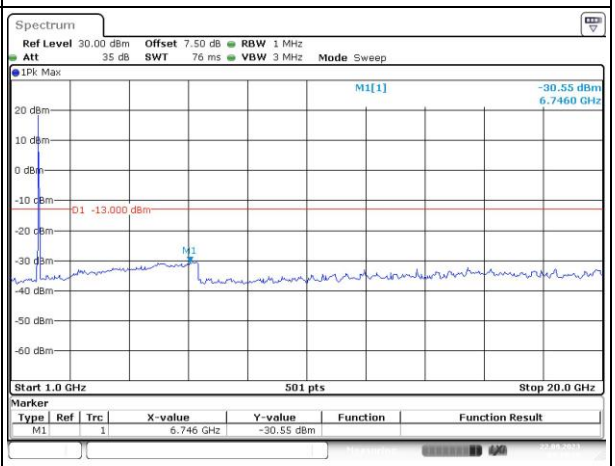
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

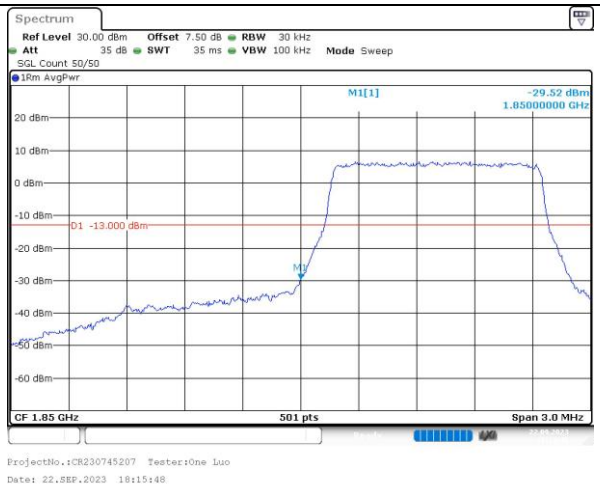
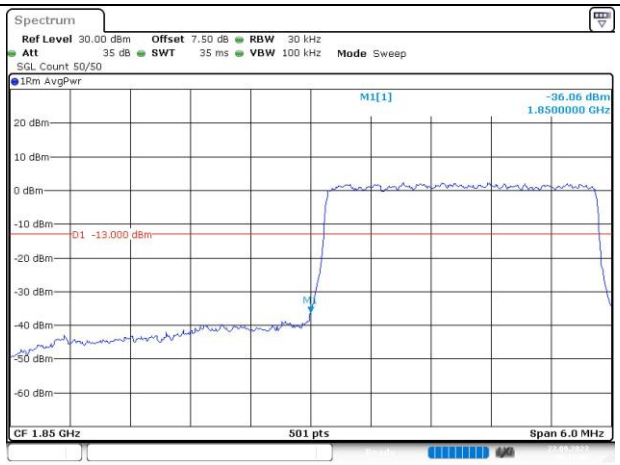
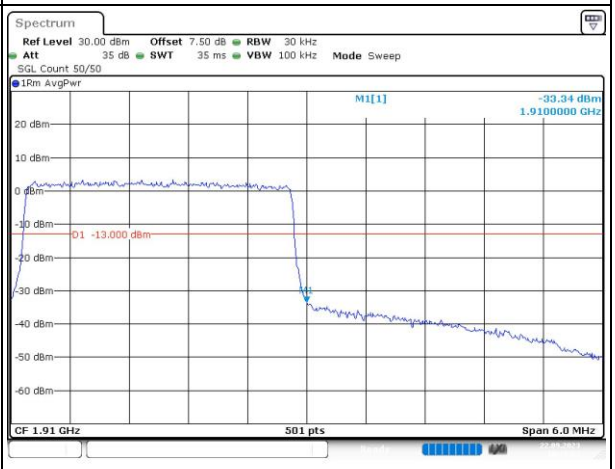
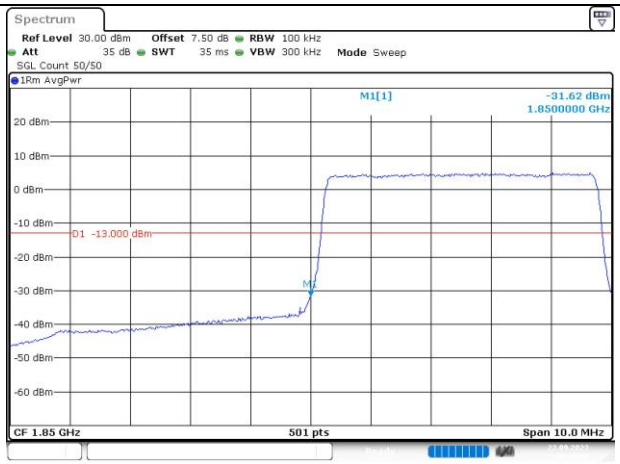
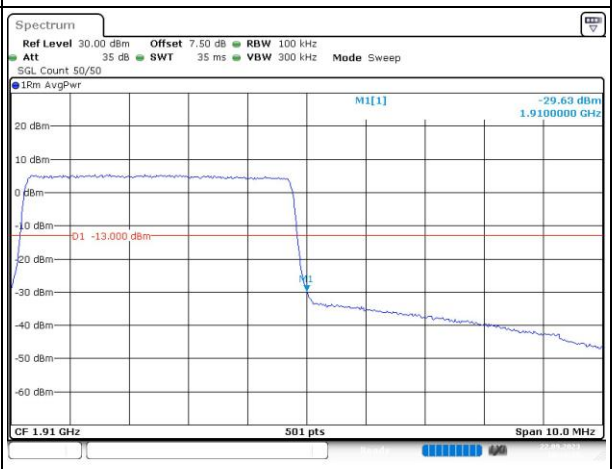
Spurious Emissions at Antenna Terminal		
Channel	**3MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

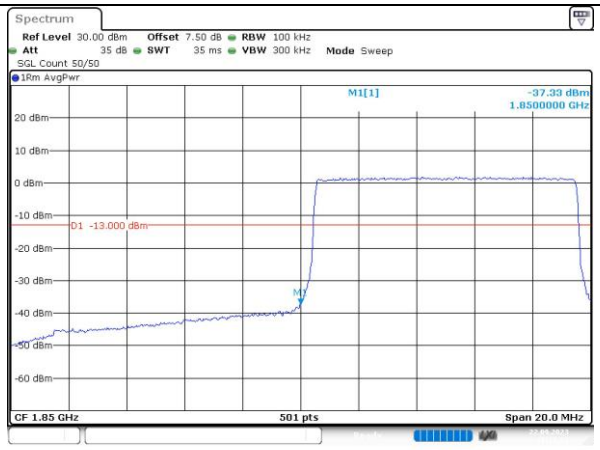
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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