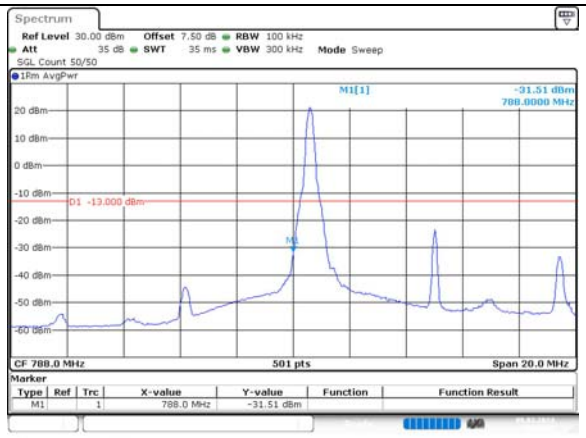
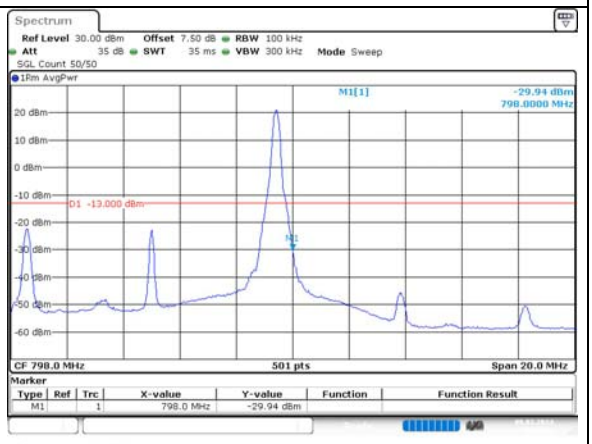
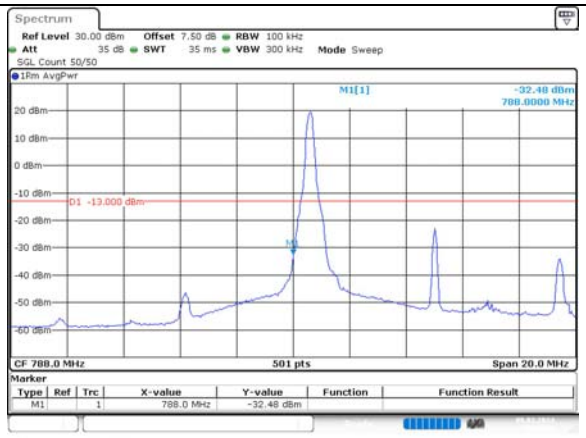
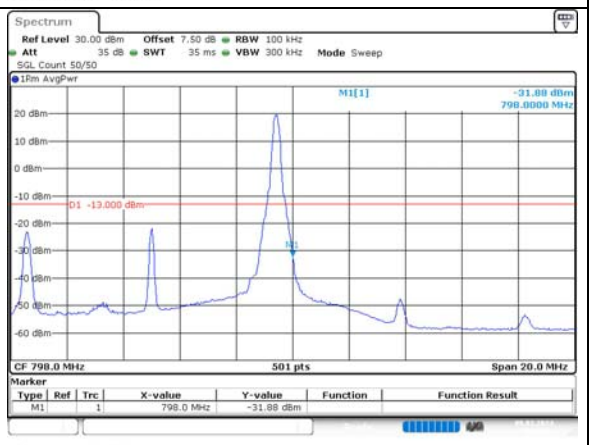
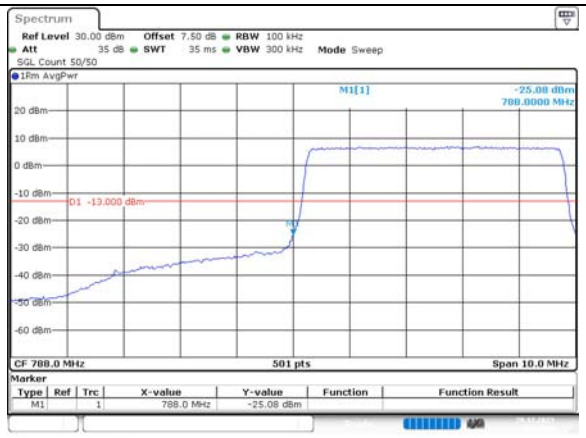
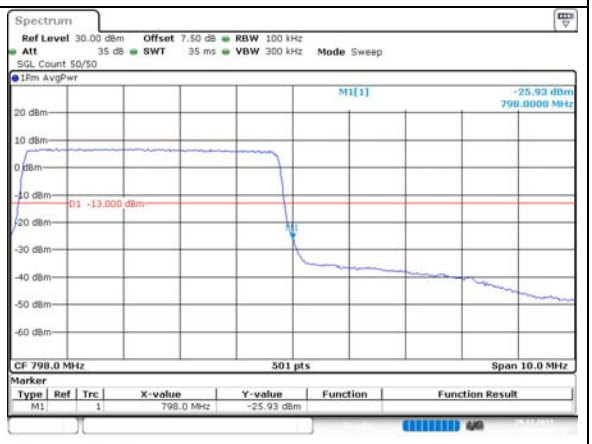
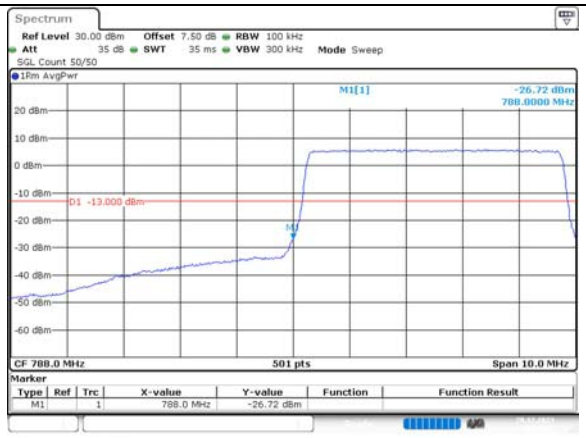
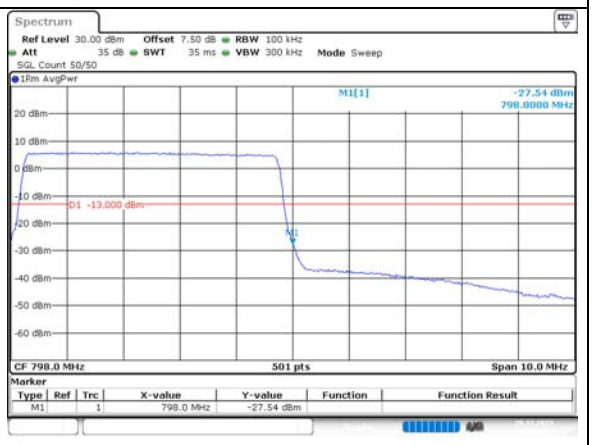
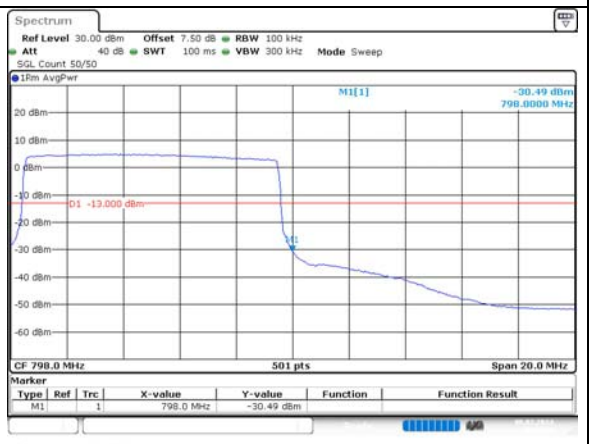
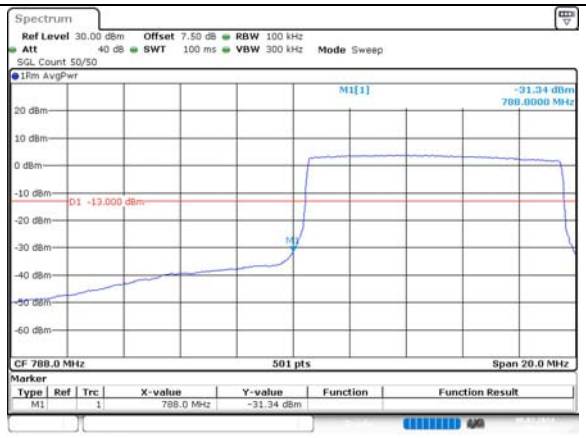
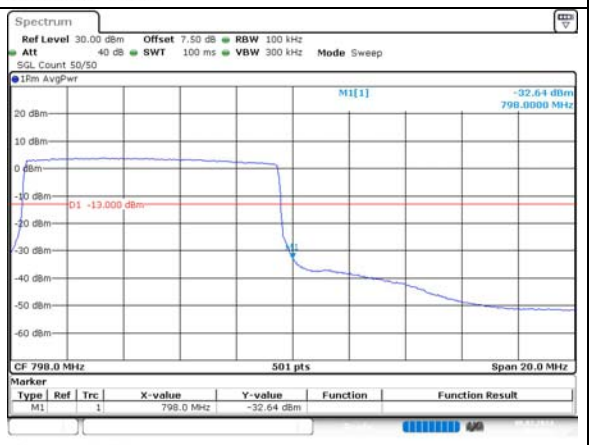
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 10MHz		
16QAM 10MHz		

Full RB:

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

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

4.10 Antenna Port Test Data and Results for LTE Band 66

Serial Number:	2DYI-2	Test Date:	2023/12/29~2024/3/7
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo,Loge Long	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	21.3~25.2	Relative Humidity: (%)	28~65	ATM Pressure: (kPa)	100.9~101.4

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/29	2024/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1745	1779.3
3MHz	1711.5	1745	1778.5
5MHz	1712.5	1745	1777.5
10MHz	1715	1745	1775
15MHz	1717.5	1745	1772.5
20MHz	1720	1745	1770

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	22.77	22.78	23.21	21.85	30
	RB1#3	22.82	22.82	23.27		
	RB1#5	22.81	22.86	23.24		
	RB3#0	22.65	22.78	23.11		
	RB3#3	22.64	22.79	23.2		
	RB6#0	21.6	21.8	22.2		
1.4MHz 16QAM	RB1#0	21.63	21.79	22.3	21.1	30
	RB1#3	21.8	21.84	22.52		
	RB1#5	21.61	21.84	22.44		
	RB3#0	21.58	21.79	22.11		
	RB3#3	21.61	21.68	22.21		
	RB6#0	20.67	20.87	21.23		
3MHz QPSK	RB1#0	22.66	22.65	22.87	21.63	30
	RB1#8	22.55	22.62	23.01		
	RB1#14	22.64	22.64	23.05		
	RB6#0	21.54	21.82	22.22		
	RB6#9	21.59	21.8	22.18		
	RB15#0	21.57	21.78	22.27		
3MHz 16QAM	RB1#0	21.76	21.83	22.49	21.07	30
	RB1#8	21.78	21.63	22.44		
	RB1#14	21.78	21.38	22.42		
	RB6#0	20.94	20.71	21.37		
	RB6#9	20.88	20.85	21.36		
	RB15#0	20.54	20.93	21.34		
5MHz QPSK	RB1#0	22.58	22.71	23.16	21.76	30
	RB1#13	22.61	22.72	23.11		
	RB1#24	22.63	22.63	23.18		
	RB15#0	21.57	21.88	22.21		
	RB15#10	21.62	21.84	22.26		
	RB25#0	21.58	21.72	22.17		
5MHz 16QAM	RB1#0	21.41	21.95	21.99	20.9	30
	RB1#13	21.47	21.86	22.32		
	RB1#24	21.53	21.79	22.11		
	RB15#0	20.64	20.94	21.23		
	RB15#10	20.66	20.89	21.25		
	RB25#0	20.64	20.84	21.27		
10MHz QPSK	RB1#0	22.69	22.81	22.81	21.93	30
	RB1#25	22.91	22.99	23.35		
	RB1#49	22.85	22.76	23.19		
	RB25#0	21.79	21.96	22.16		

	RB25#25	21.74	21.79	22.16		
	RB50#0	21.67	21.82	22.23		
10MHz 16QAM	RB1#0	22.16	21.97	22.18	21.27	30
	RB1#25	22.69	22.26	22.61		
	RB1#49	22.27	21.45	22.22		
	RB25#0	20.71	21.03	21.24		
	RB25#25	20.93	20.96	21.18		
	RB50#0	20.86	20.94	21.15		
15MHz QPSK	RB1#0	22.42	22.66	22.92	21.73	30
	RB1#38	22.83	22.64	23.01		
	RB1#74	22.72	22.66	23.15		
	RB36#0	21.62	21.89	22.08		
	RB36#39	21.78	21.8	22.09		
	RB75#0	21.68	21.78	22.09		
15MHz 16QAM	RB1#0	22.02	21.71	22.31	21.09	30
	RB1#38	22.13	21.82	22.51		
	RB1#74	22.04	20.98	22.14		
	RB36#0	20.79	20.77	21.04		
	RB36#39	20.96	20.71	21.16		
	RB75#0	20.79	20.86	21.08		
20MHz QPSK	RB1#0	22.63	22.91	22.82	21.77	30
	RB1#50	22.71	22.85	22.99		
	RB1#99	22.81	23.02	23.19		
	RB50#0	21.7	21.79	21.98		
	RB50#50	21.69	21.66	22.15		
	RB100#0	21.61	21.8	22.01		
20MHz 16QAM	RB1#0	21.54	21.62	21.85	20.82	30
	RB1#50	21.73	21.67	22.21		
	RB1#99	21.81	21.72	22.24		
	RB50#0	20.7	20.85	20.98		
	RB50#50	20.71	20.81	21.11		
	RB100#0	20.74	20.88	20.95		
Note: EIRP=Conducted Power(dBm) - L_C(dB) + G_T(dBi)						
					Result:	**Pass**

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.03	4.43	4.29	13
	RB100#0	3.91	3.94	3.74	13
20MHz 16QAM	RB1#0	5.25	5.33	5.19	13
	RB100#0	5.62	5.68	5.48	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	1.108	1.108	1.102	1.338	1.314	1.326
1.4MHz 16QAM	1.102	1.102	1.102	1.308	1.308	1.32
3MHz QPSK	2.695	2.695	2.683	2.952	2.952	2.964
3MHz 16QAM	2.695	2.683	2.683	2.976	2.952	2.964
5MHz QPSK	4.511	4.511	4.531	5.04	5.04	5.04
5MHz 16QAM	4.531	4.531	4.511	5.04	5.04	5.04
10MHz QPSK	8.942	8.942	8.942	9.88	9.8	9.72
10MHz 16QAM	8.942	8.942	8.942	9.72	9.72	9.72
15MHz QPSK	13.473	13.413	13.473	14.88	14.82	14.88
15MHz 16QAM	13.473	13.473	13.473	14.82	14.82	14.88
20MHz QPSK	17.964	17.884	17.884	19.92	19.52	19.52
20MHz 16QAM	17.964	17.884	17.884	19.6	19.44	19.44
Note: The test plots please refer to the Plots of Occupied Bandwidth						

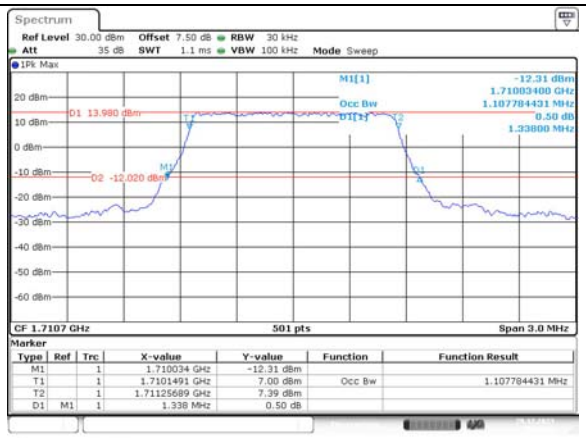
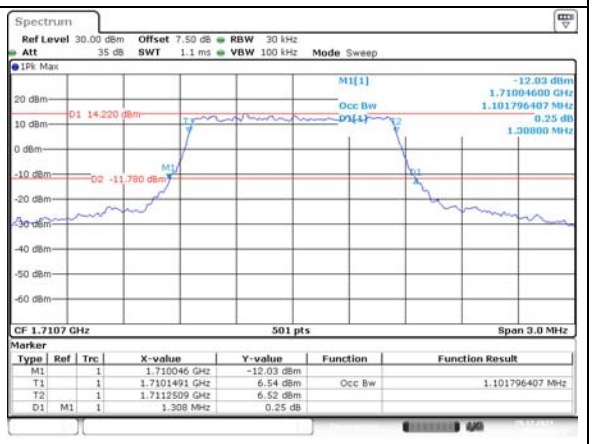
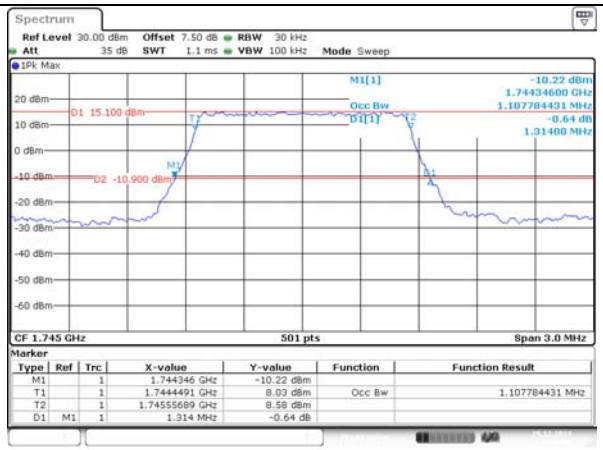
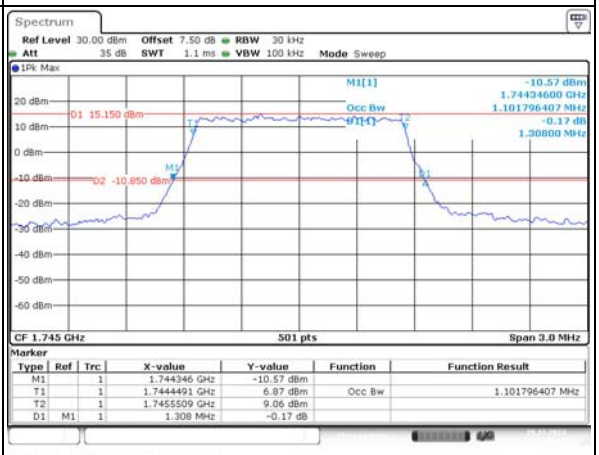
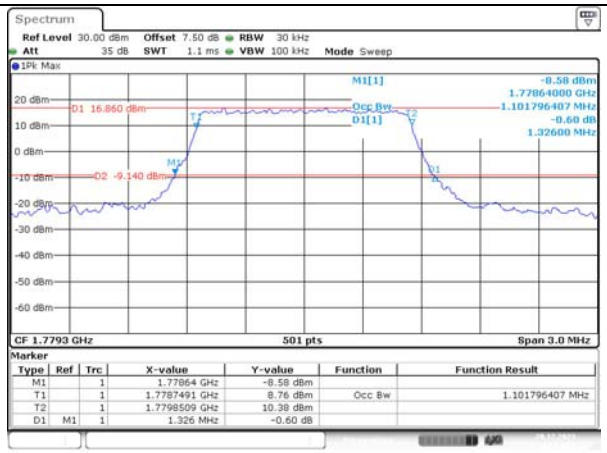
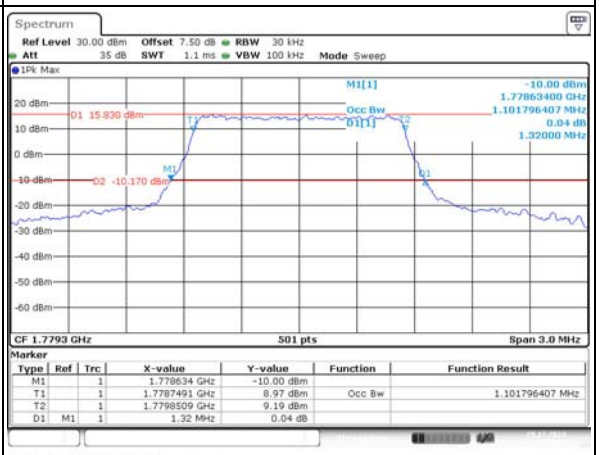
Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

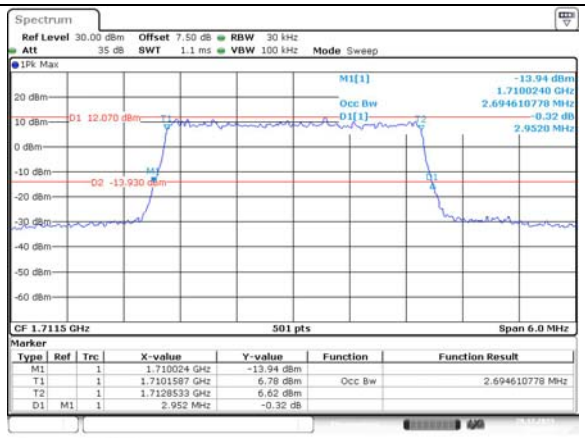
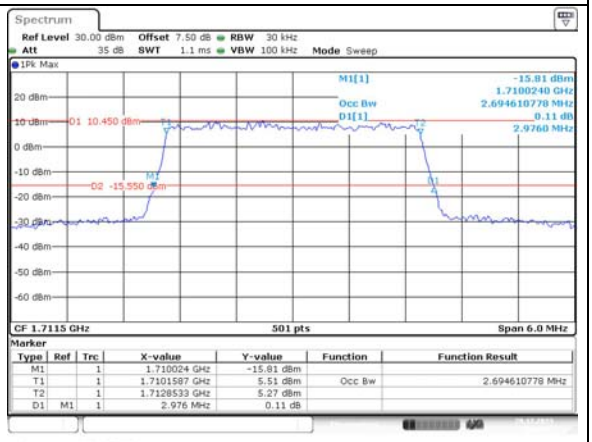
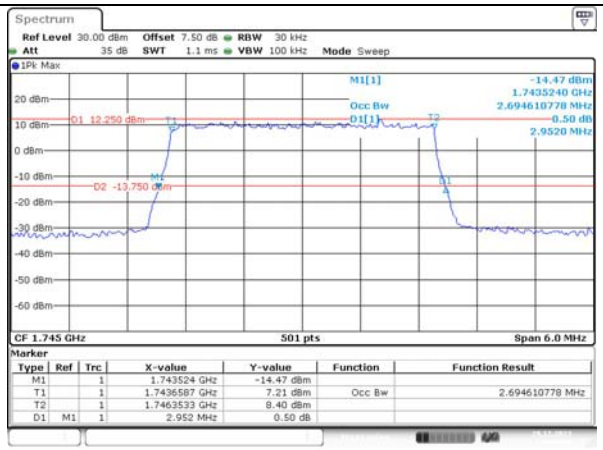
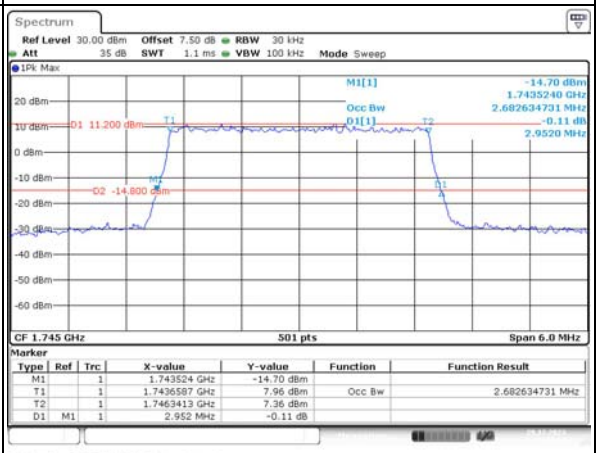
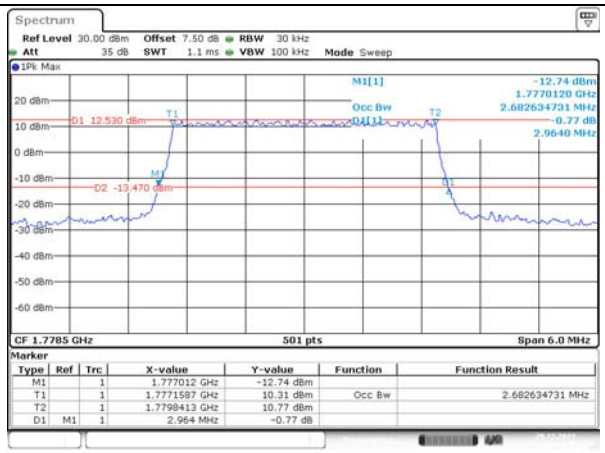
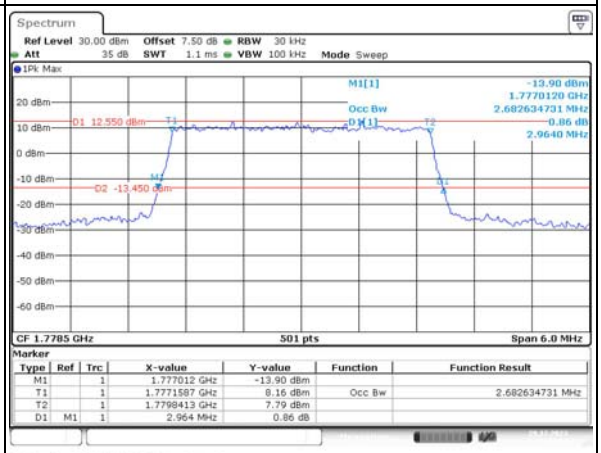
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

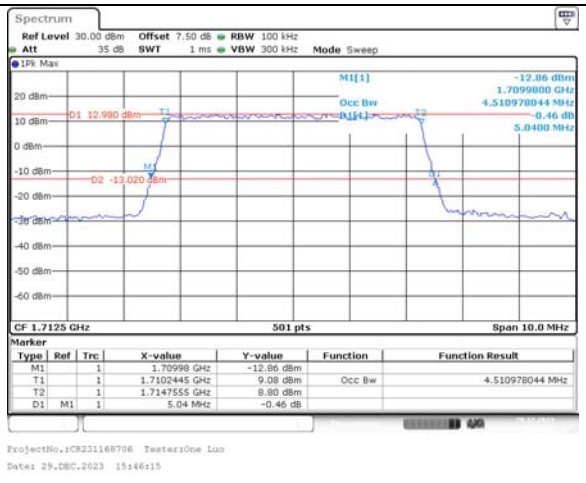
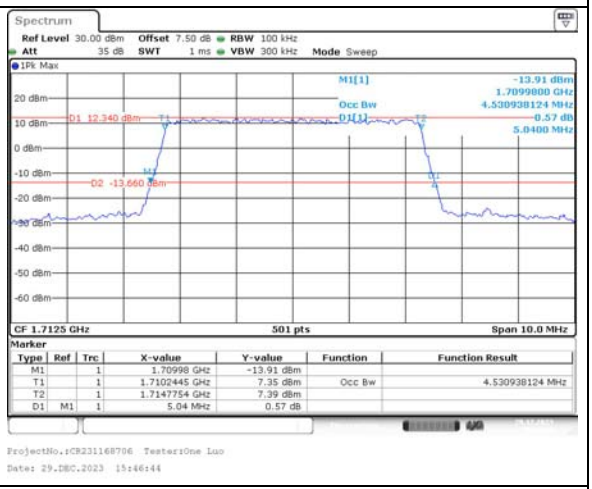
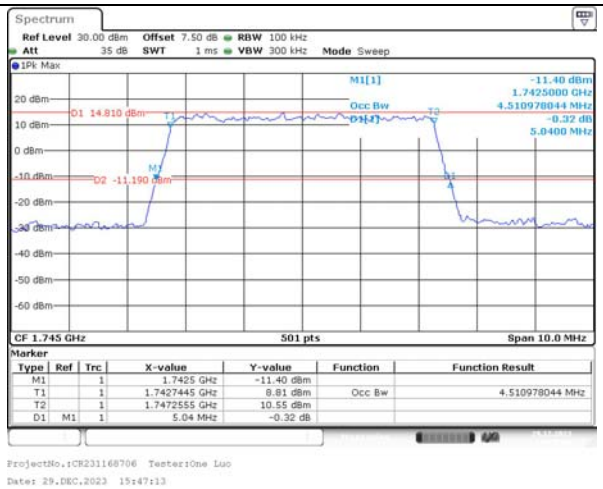
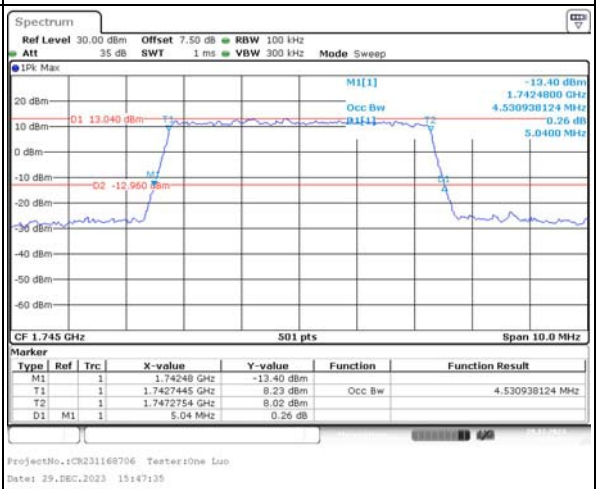
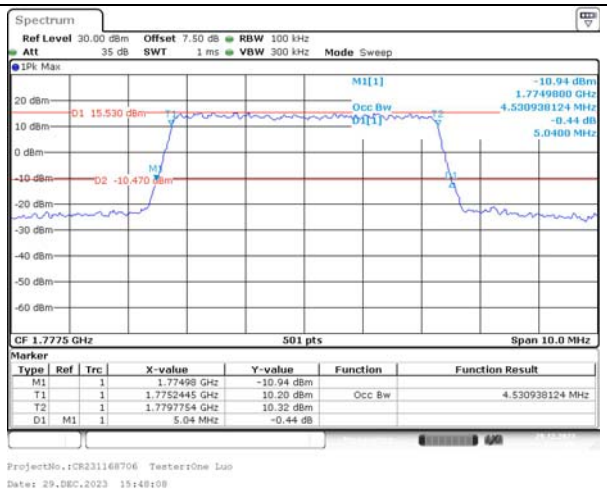
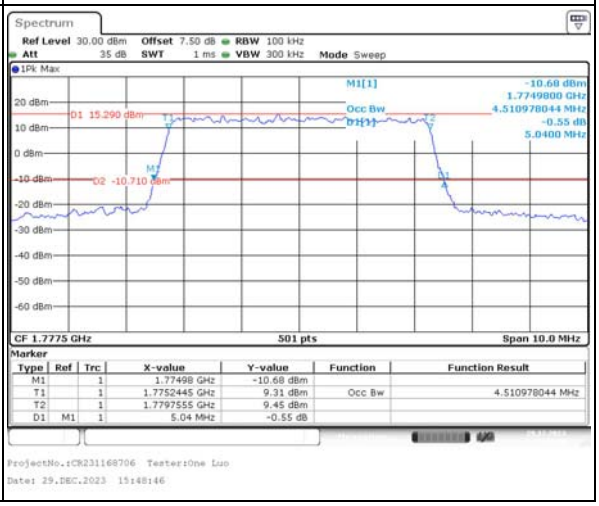
Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.6	1711.055	1710.00	1778.988	1780
	-20	3.6	1711.036	1710.00	1778.941	1780
	-10	3.6	1711.052	1710.00	1778.937	1780
	0	3.6	1711.006	1710.00	1778.922	1780
	10	3.6	1711.027	1710.00	1778.920	1780
	20	3.6	1711.058	1710.00	1778.942	1780
	30	3.6	1711.044	1710.00	1778.940	1780
	40	3.6	1711.054	1710.00	1778.957	1780
	50	3.6	1711.033	1710.00	1778.978	1780
Frequency Stability vs. Voltage	20	3.45	1711.091	1710.00	1778.923	1780
	20	4.12	1711.069	1710.00	1778.967	1780
					Result:	**Pass**

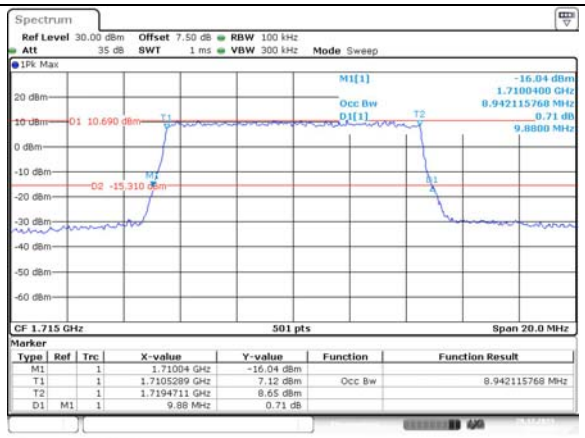
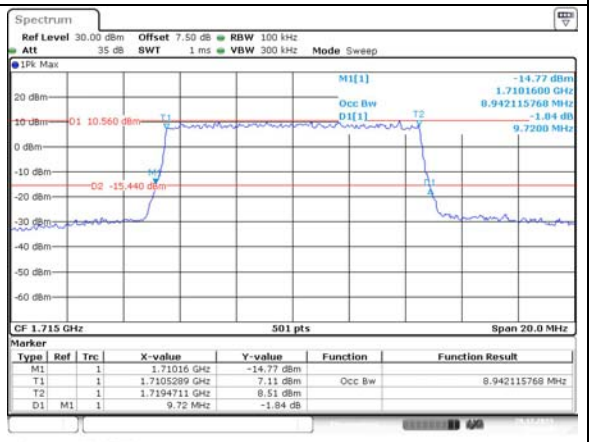
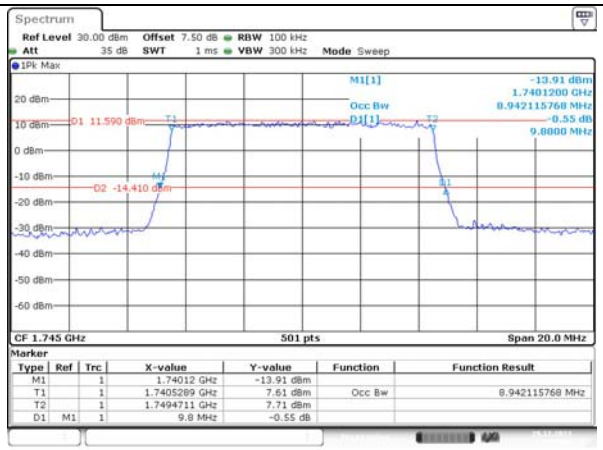
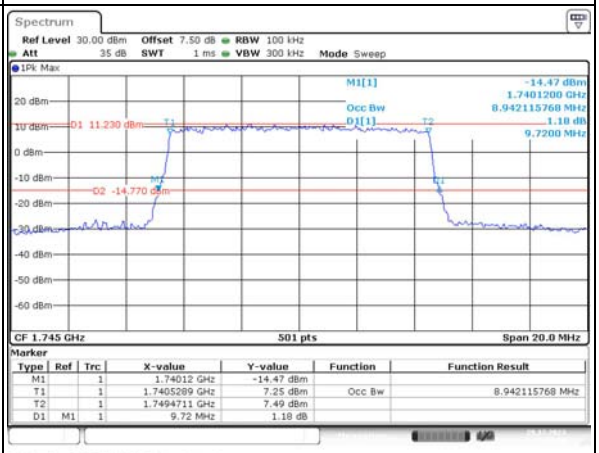
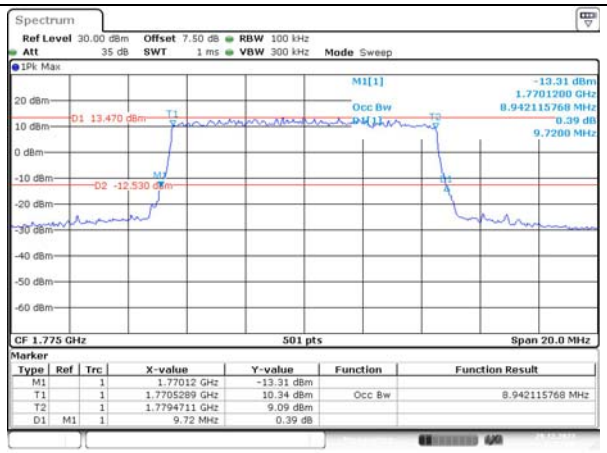
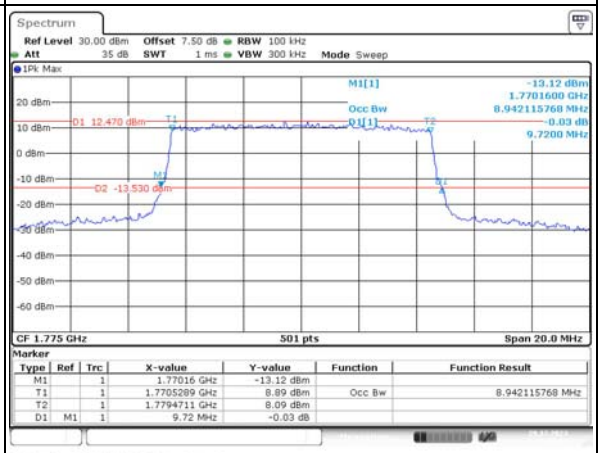
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.6	1711.000	1710.00	1778.970	1780
	-20	3.6	1711.014	1710.00	1778.976	1780
	-10	3.6	1711.044	1710.00	1778.934	1780
	0	3.6	1711.005	1710.00	1778.973	1780
	10	3.6	1711.059	1710.00	1778.942	1780
	20	3.6	1711.058	1710.00	1778.942	1780
	30	3.6	1711.051	1710.00	1778.957	1780
	40	3.6	1711.030	1710.00	1778.925	1780
	50	3.6	1711.034	1710.00	1778.955	1780
Frequency Stability vs. Voltage	20	3.45	1711.081	1710.00	1778.907	1780
	20	4.12	1711.099	1710.00	1778.982	1780
					Result:	**Pass**

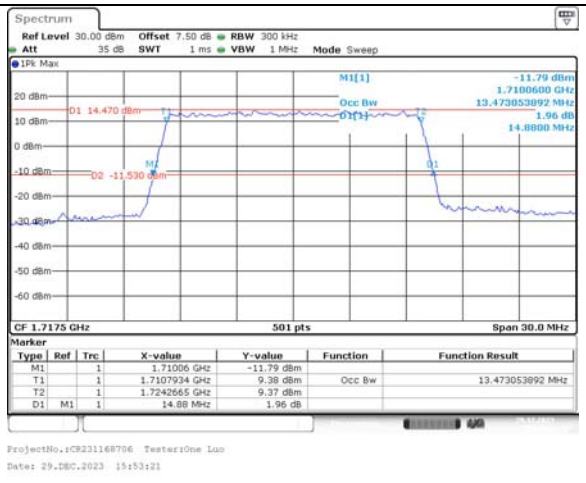
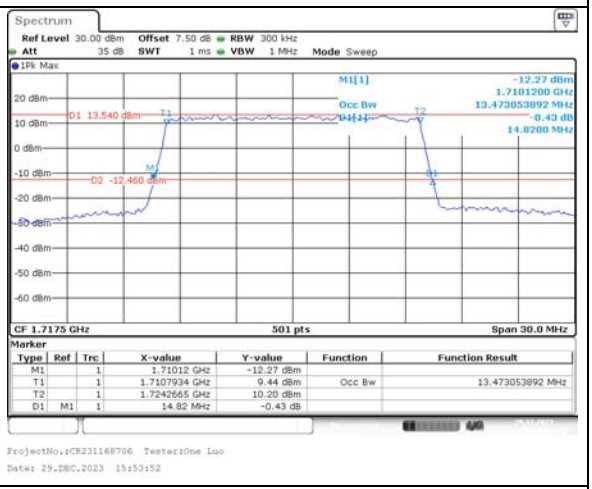
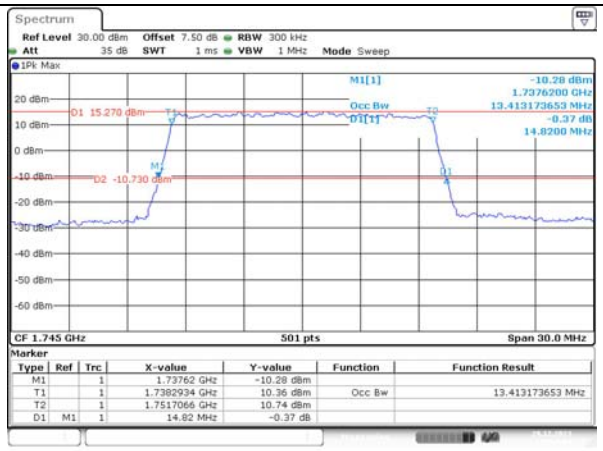
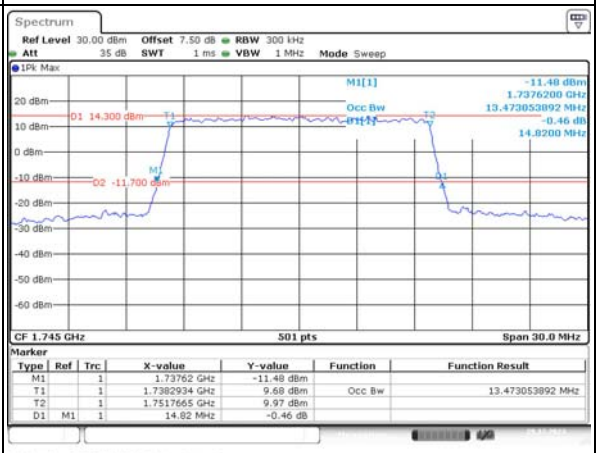
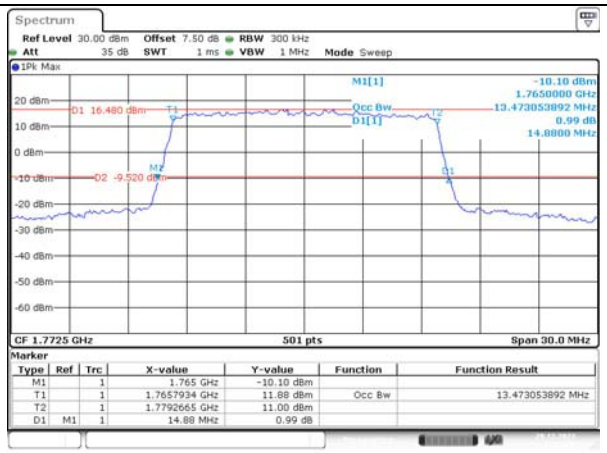
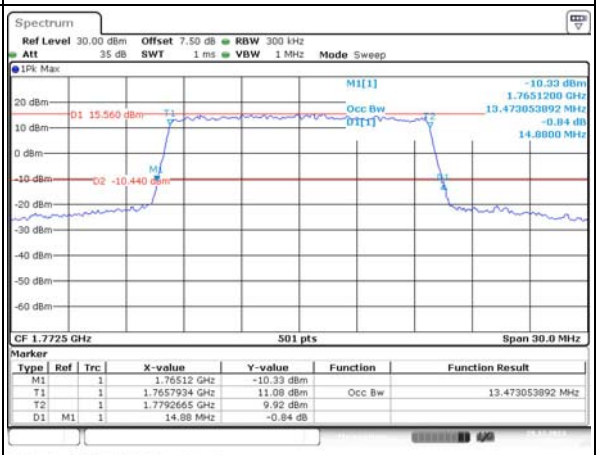
Test Plots(Note: The 7.5dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer)**:**

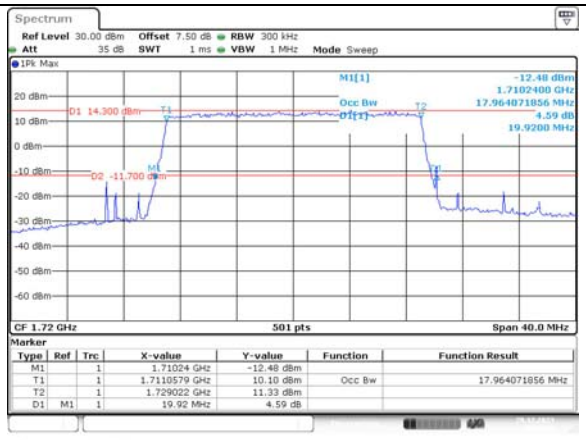
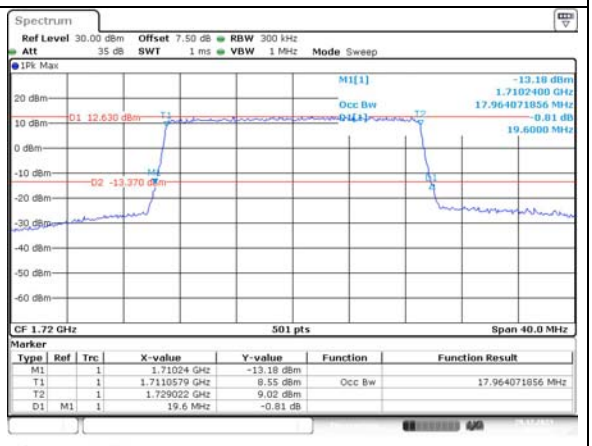
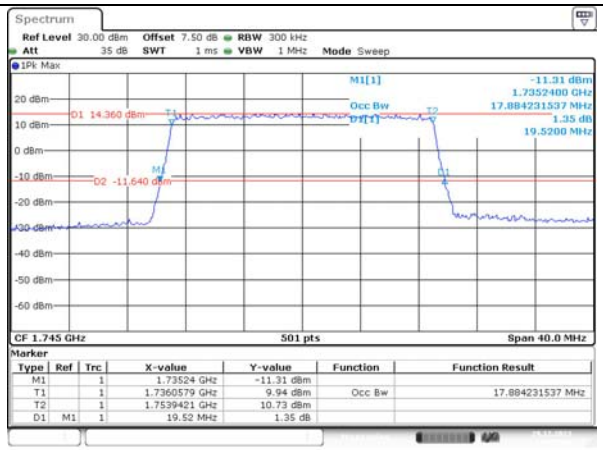
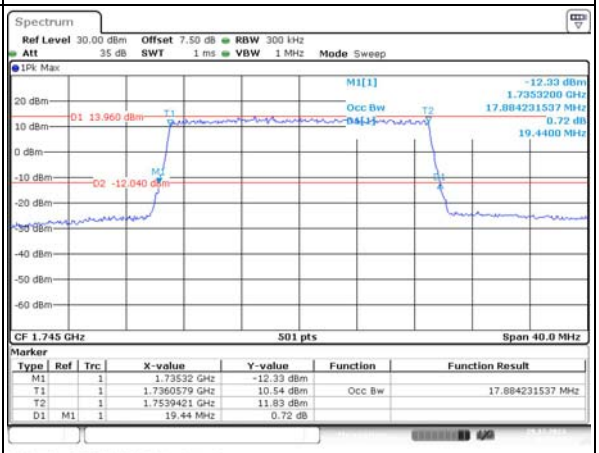
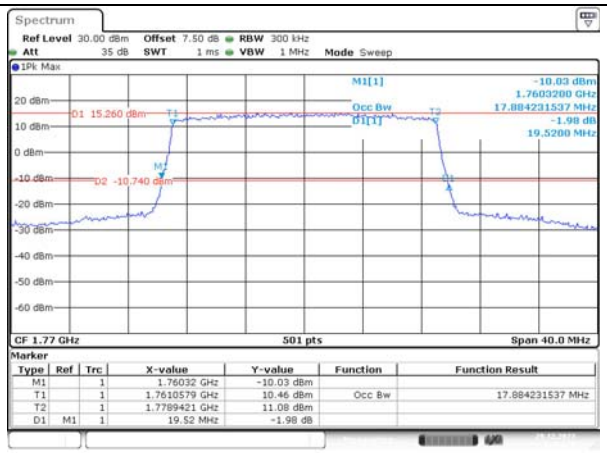
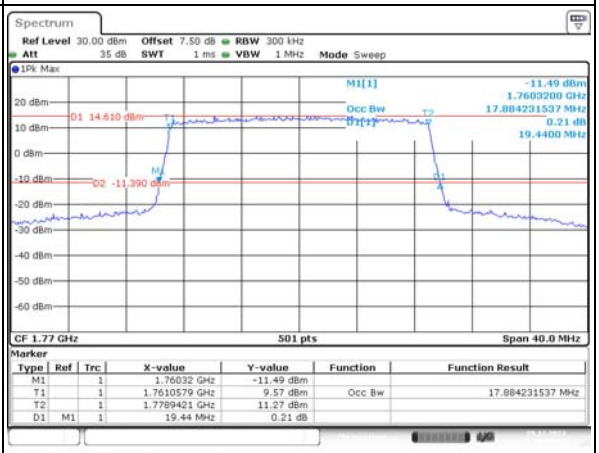
Occupied Bandwidth		
Channel	1.4MHz Bandwidth QPSK	1.4MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

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

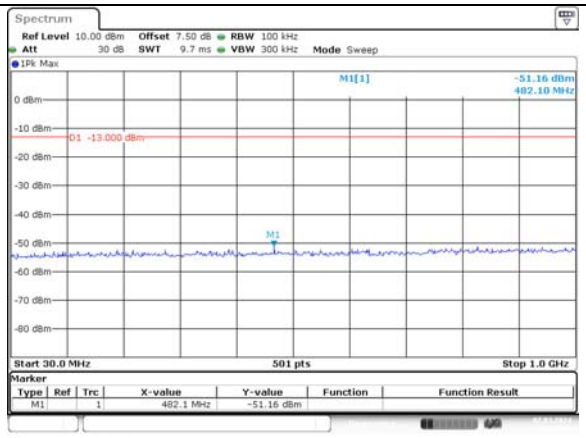
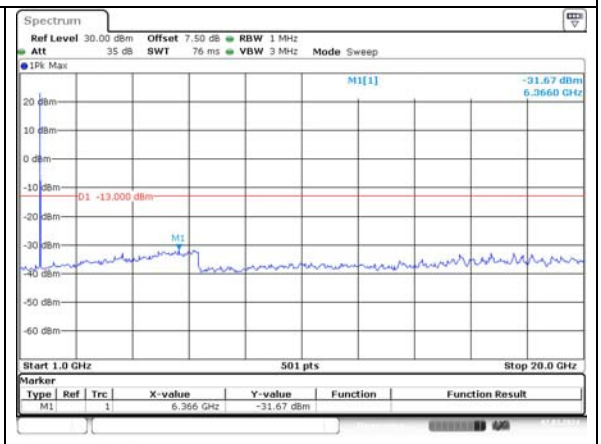
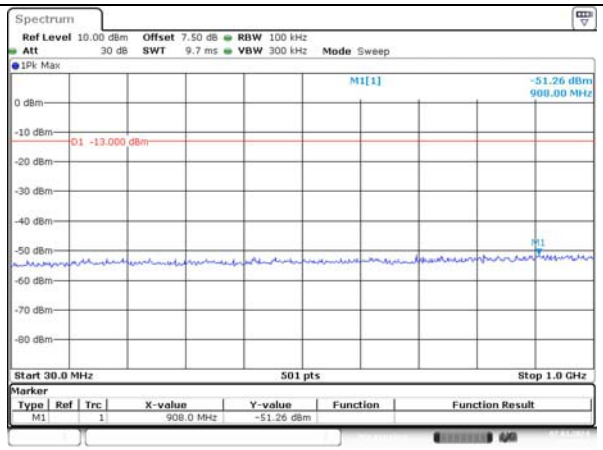
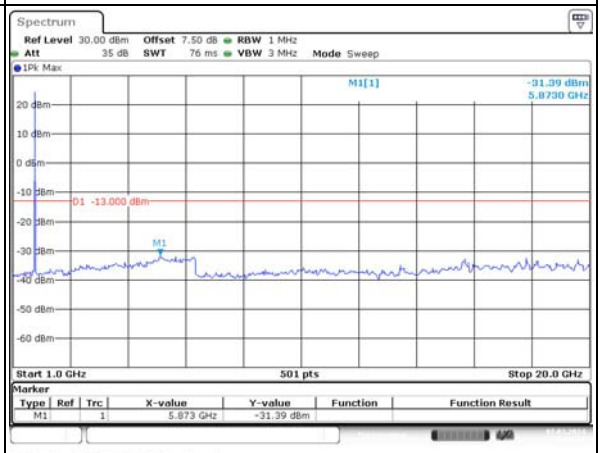
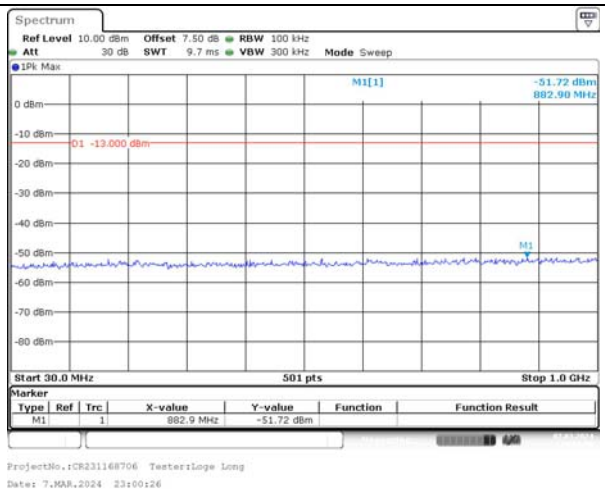
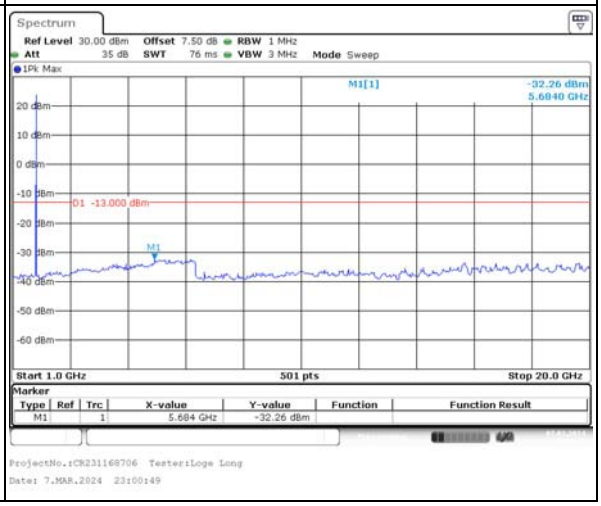
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

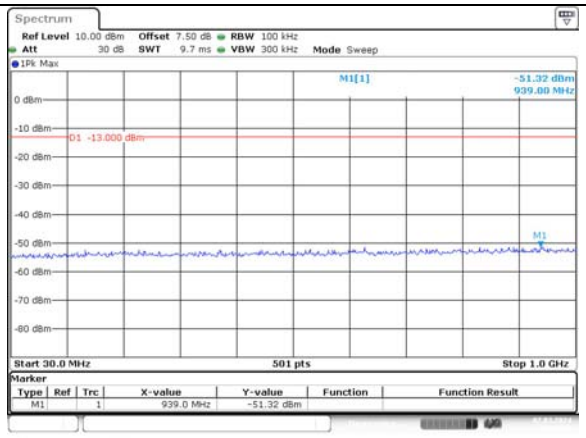
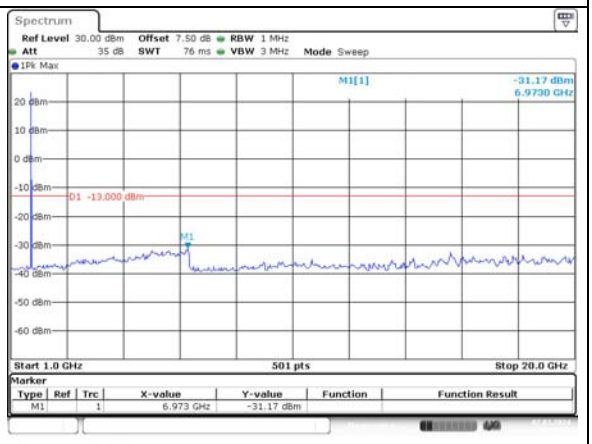
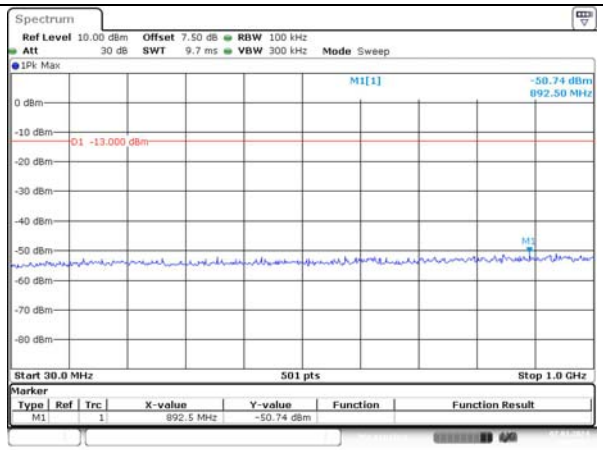
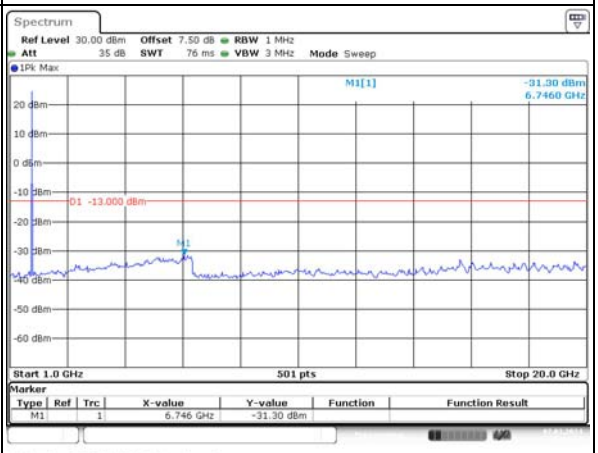
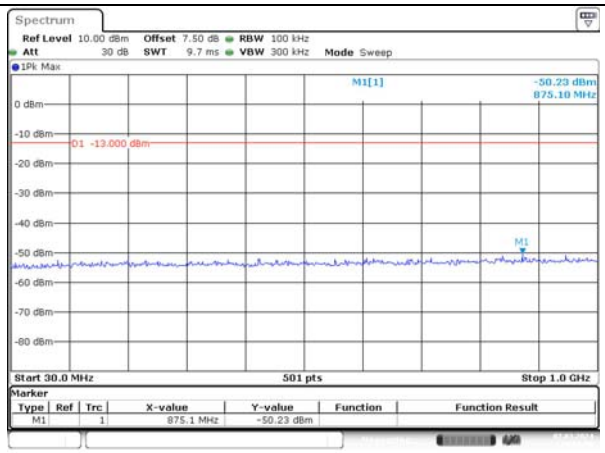
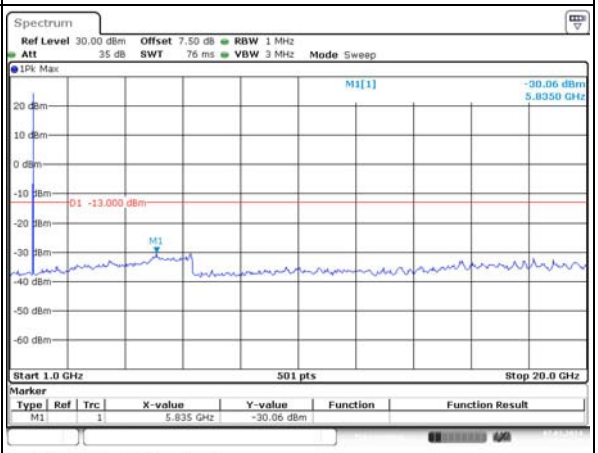
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

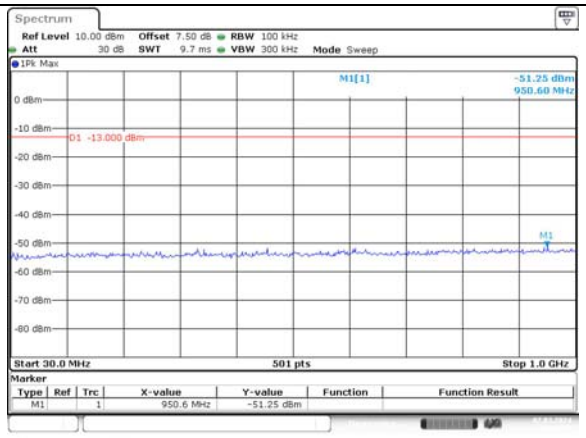
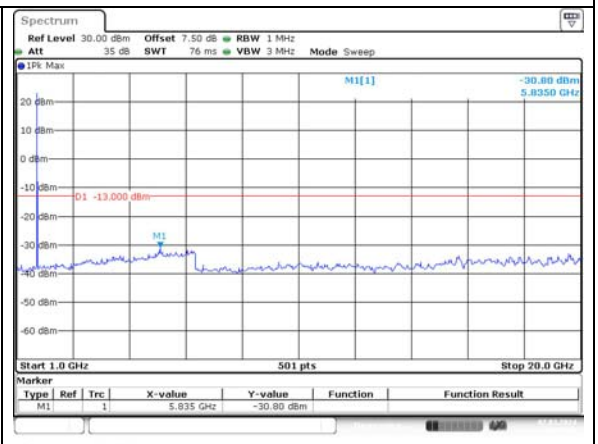
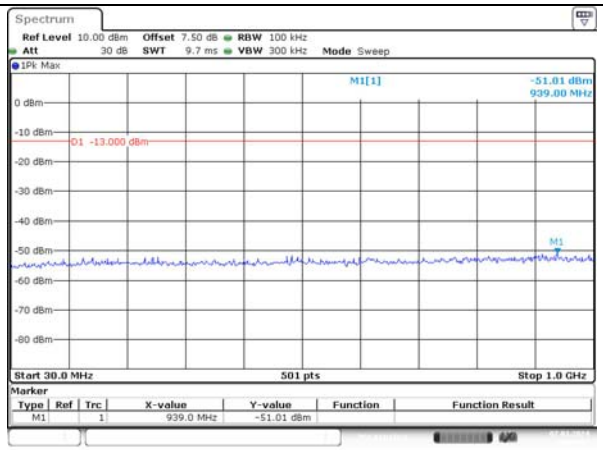
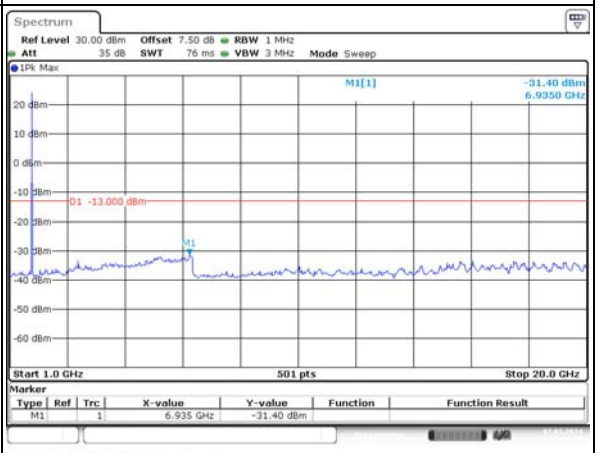
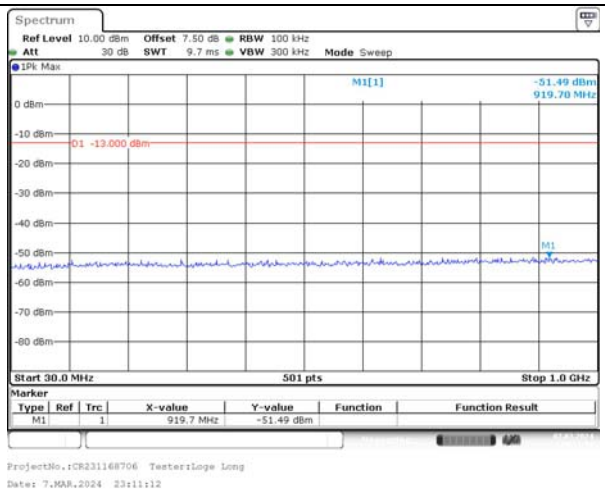
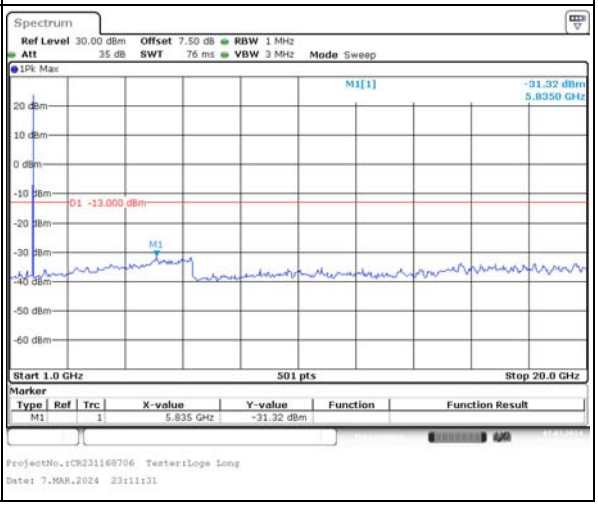
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

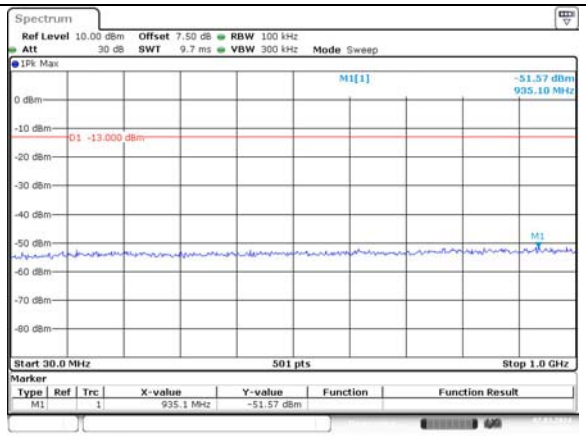
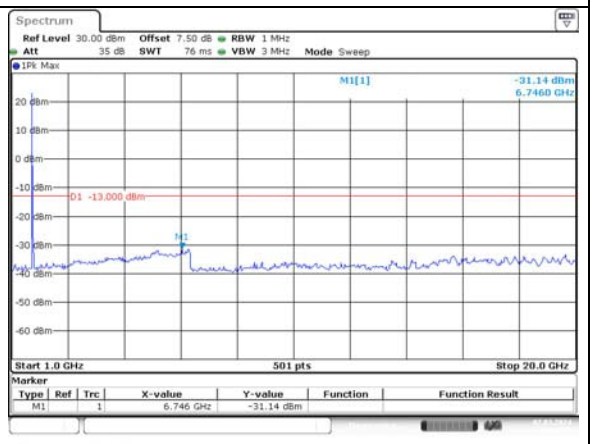
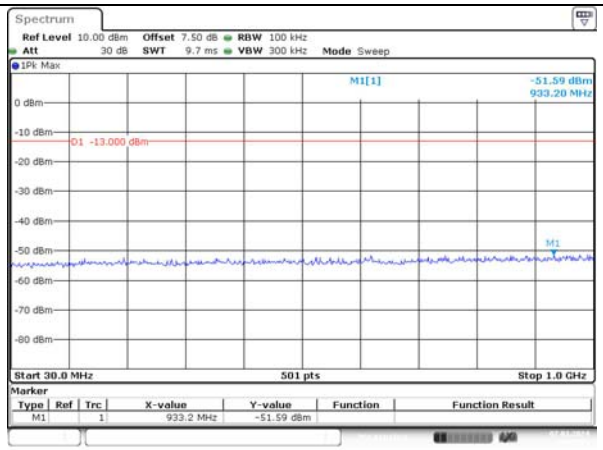
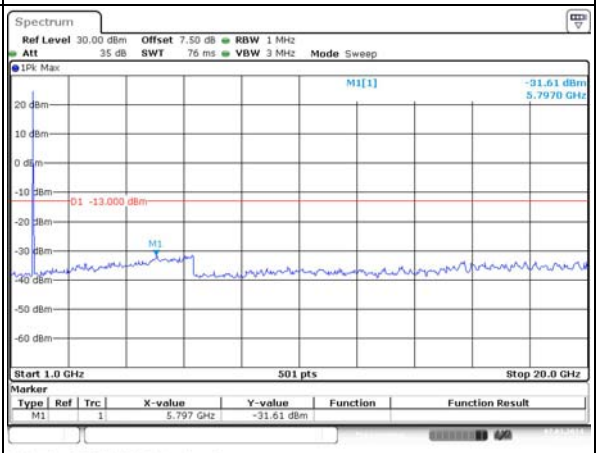
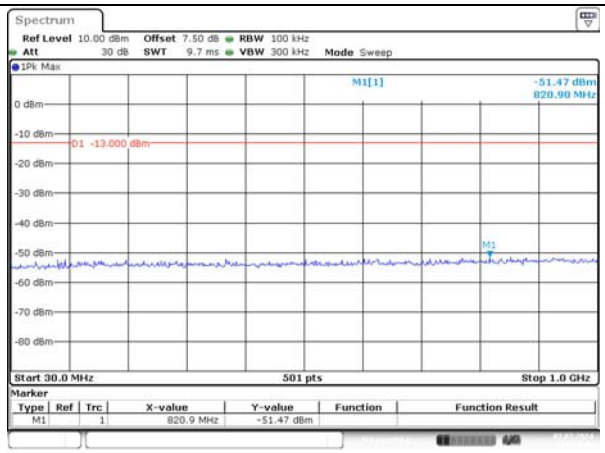
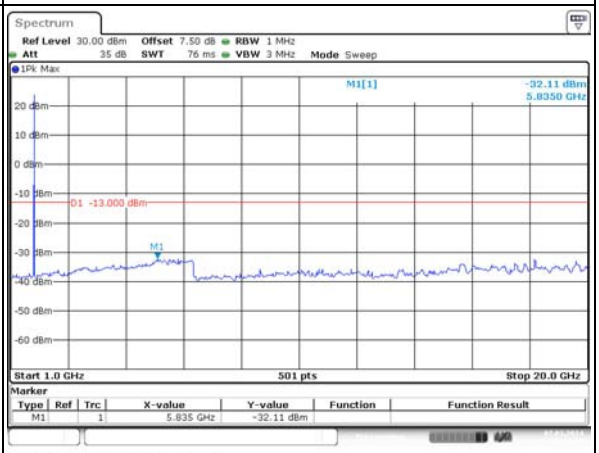
Occupied Bandwidth		
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

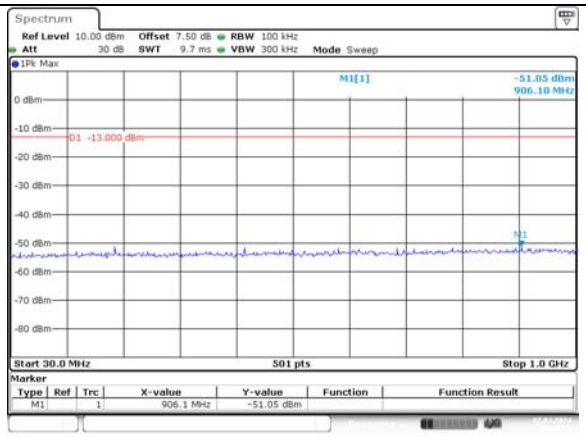
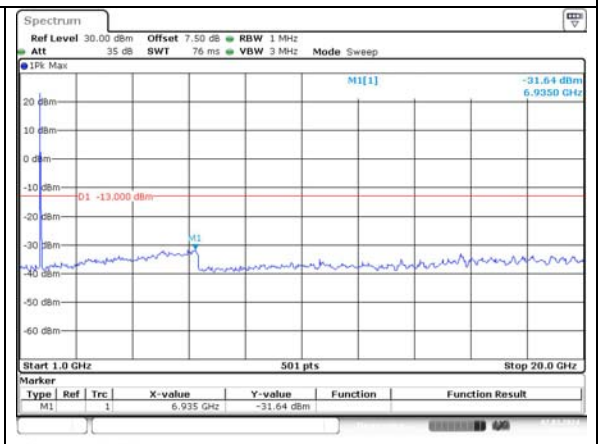
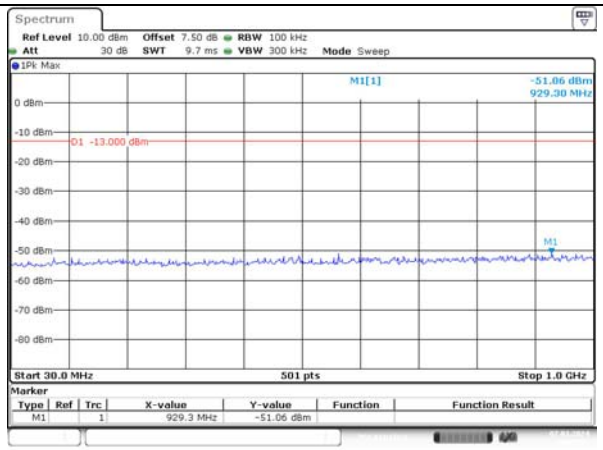
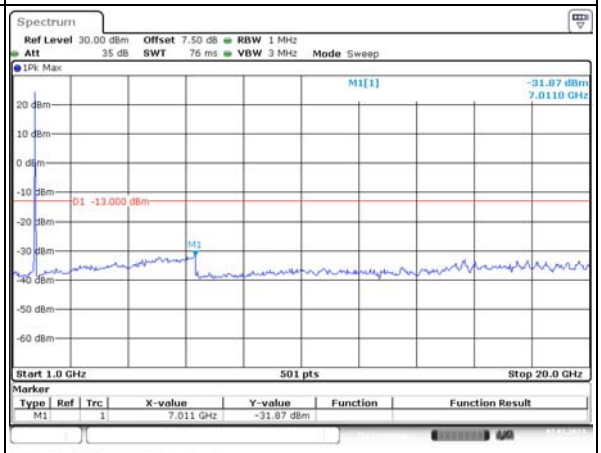
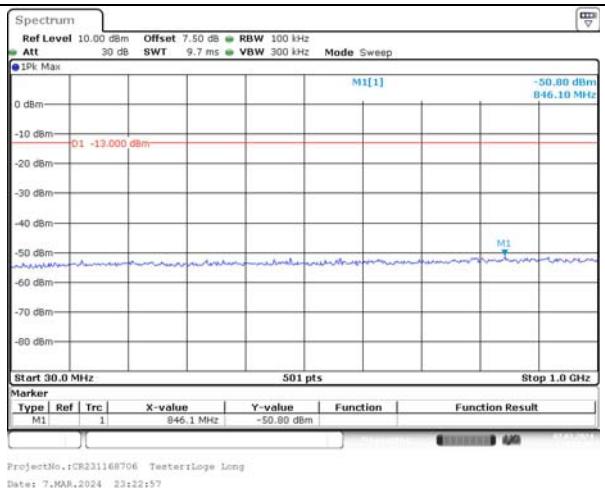
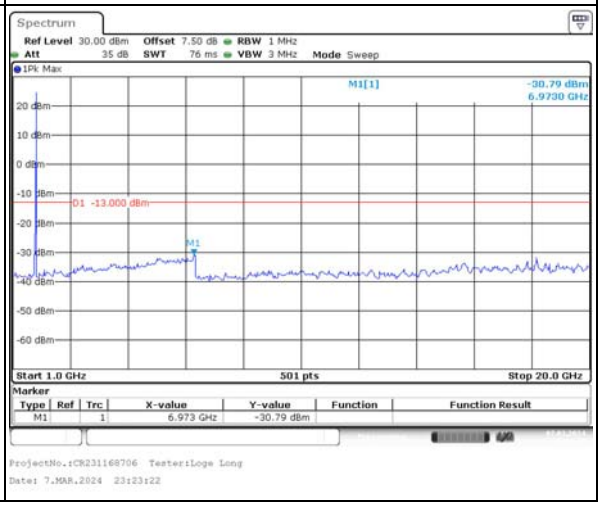
1RB:

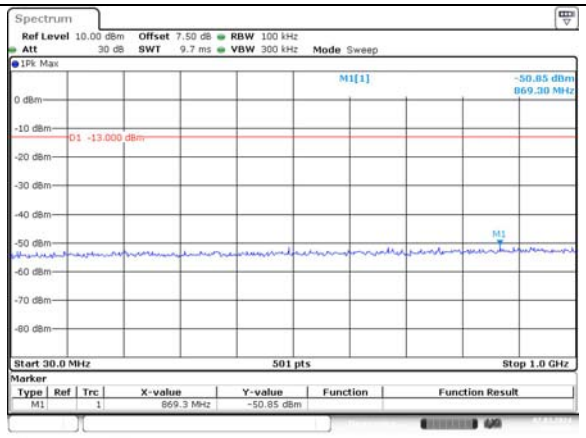
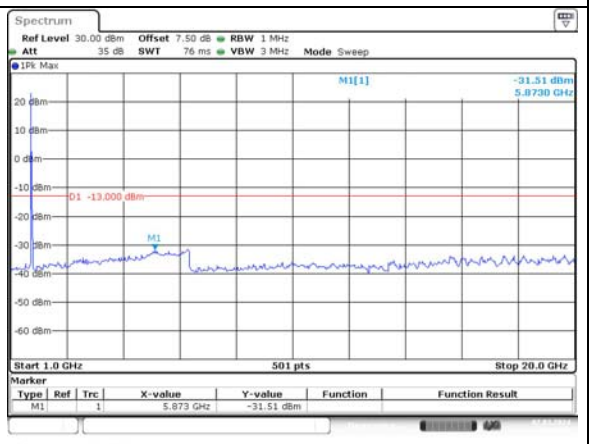
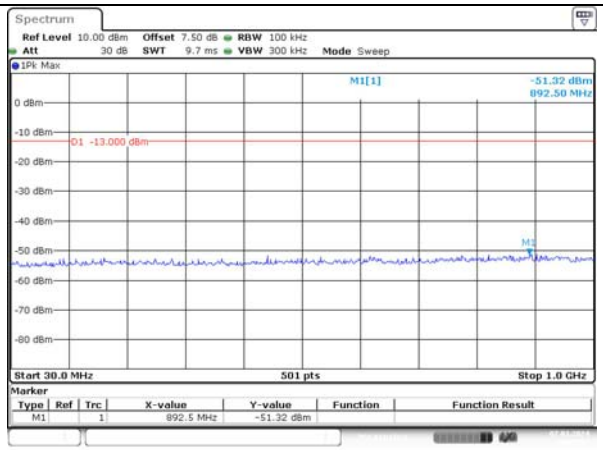
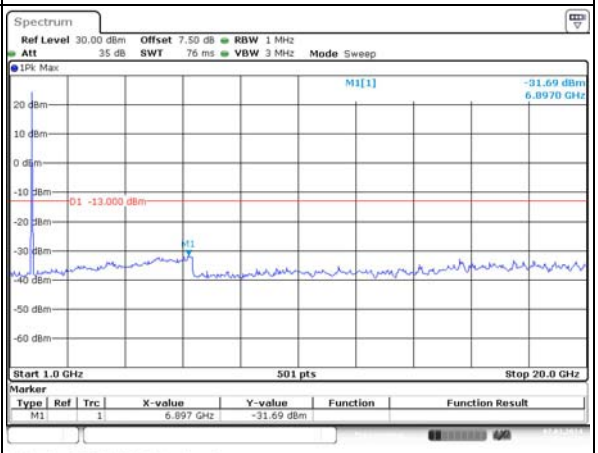
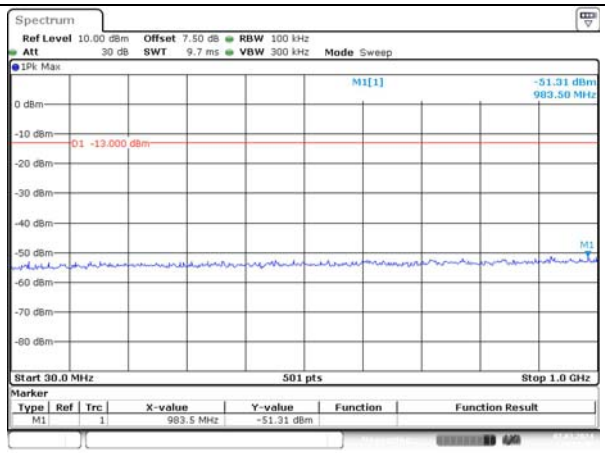
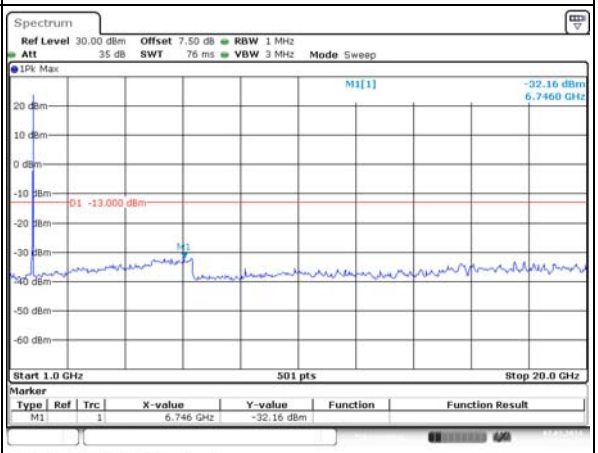
Spurious Emissions at Antenna Terminal		
Channel	**1.4MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

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

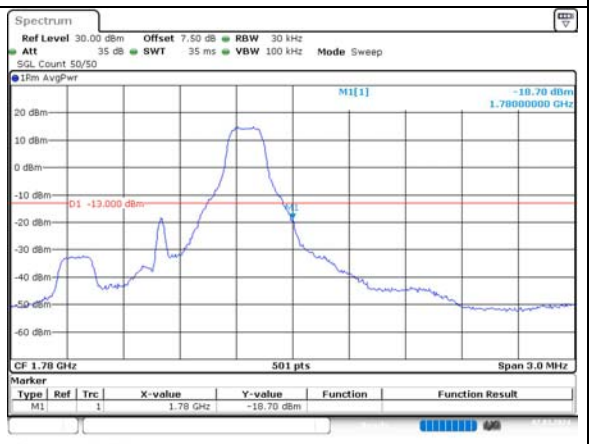
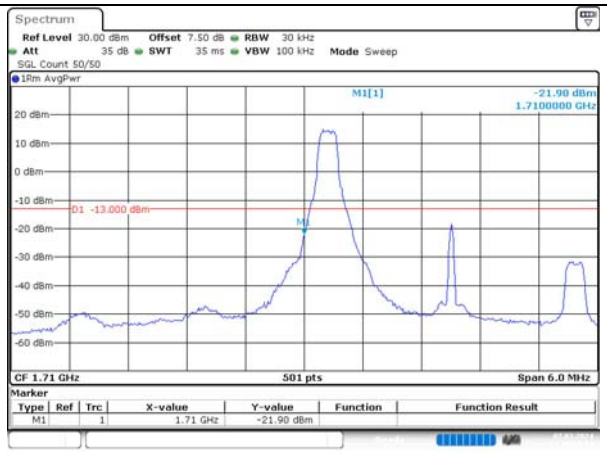
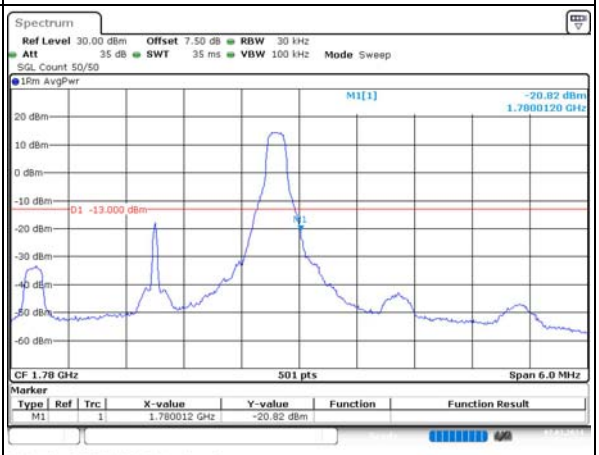
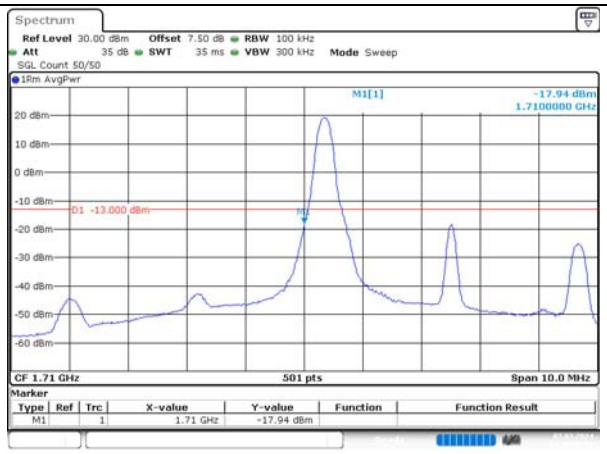
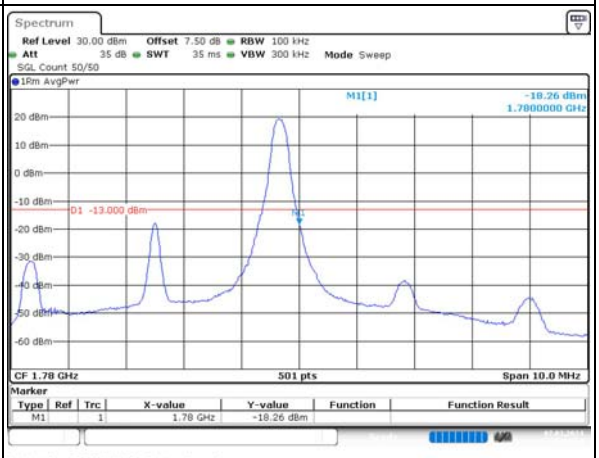
Spurious Emissions at Antenna Terminal		
Channel	**5MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

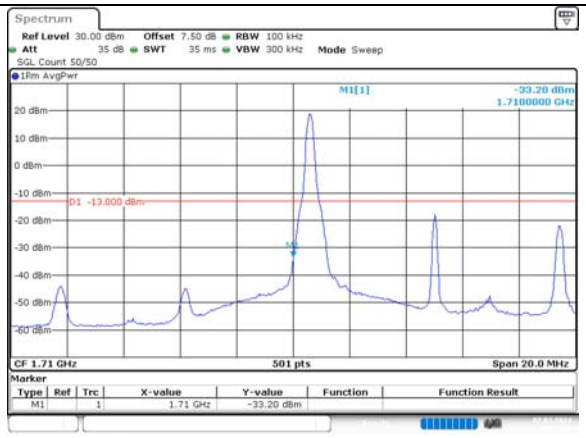
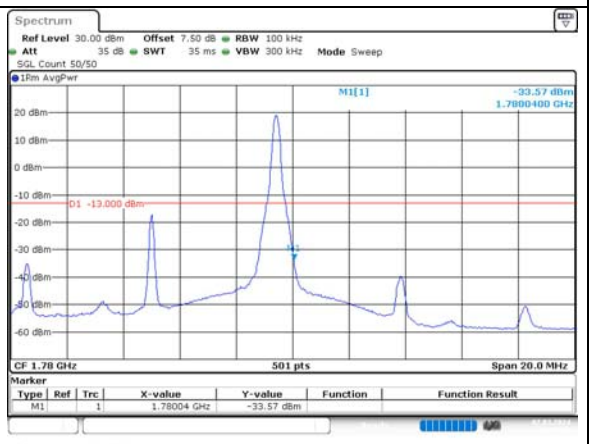
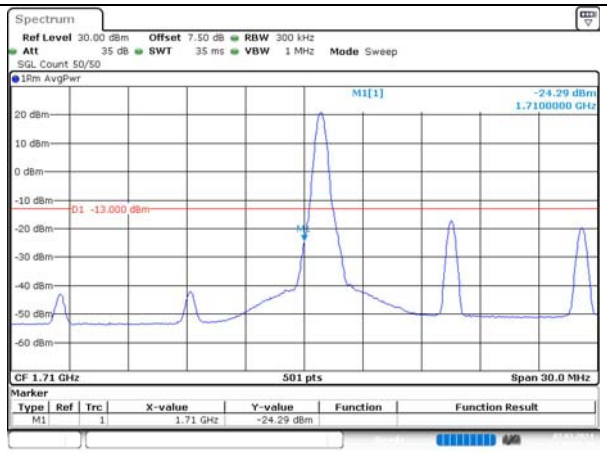
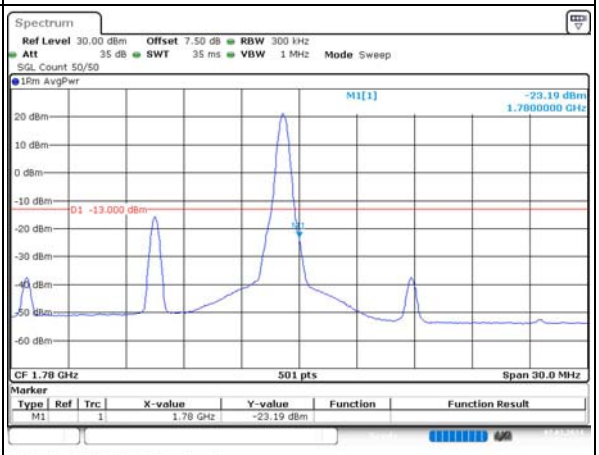
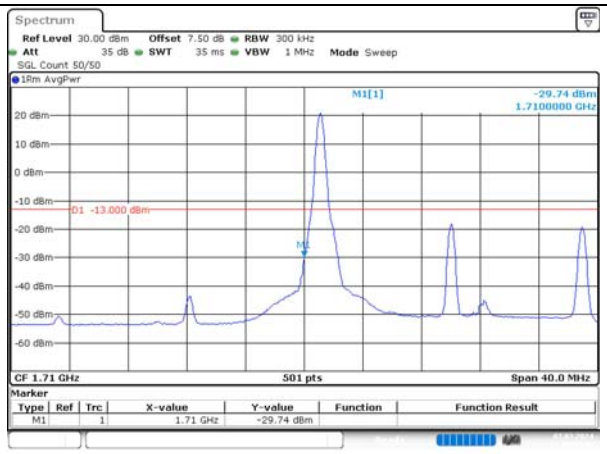
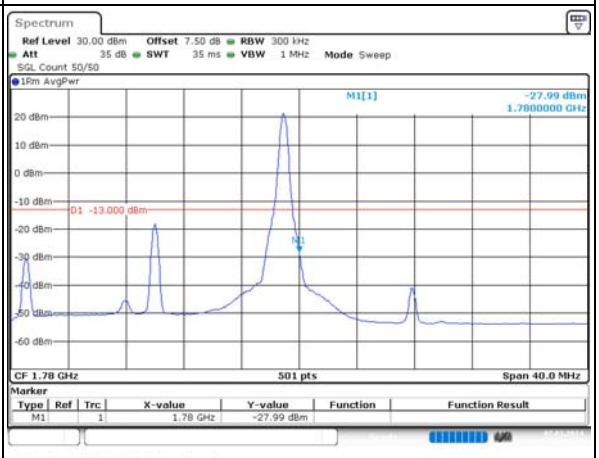
Spurious Emissions at Antenna Terminal		
Channel	**10MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

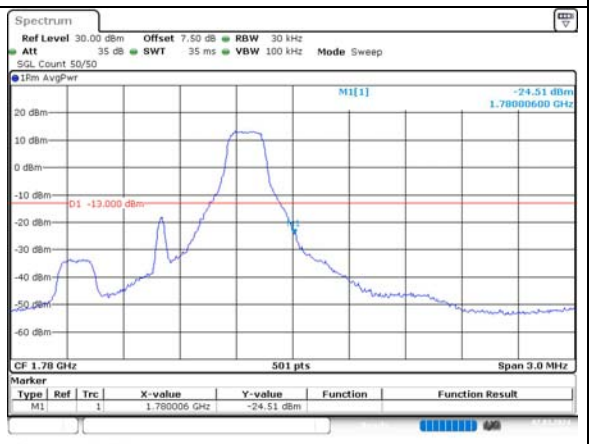
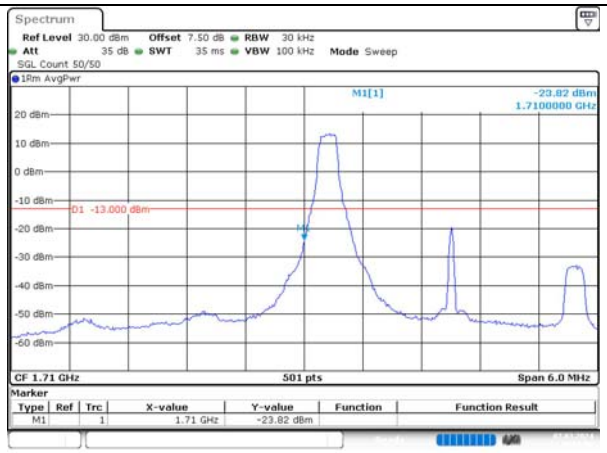
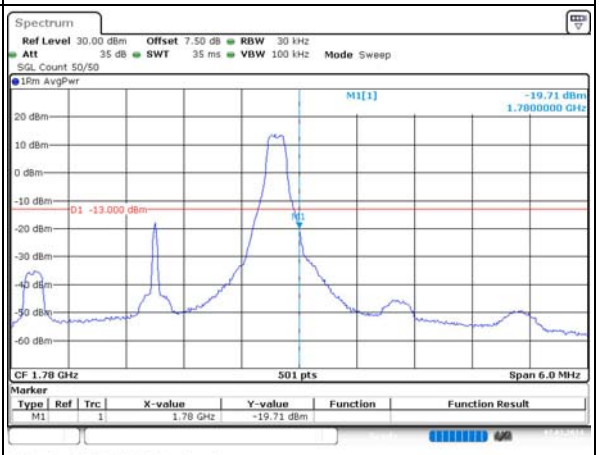
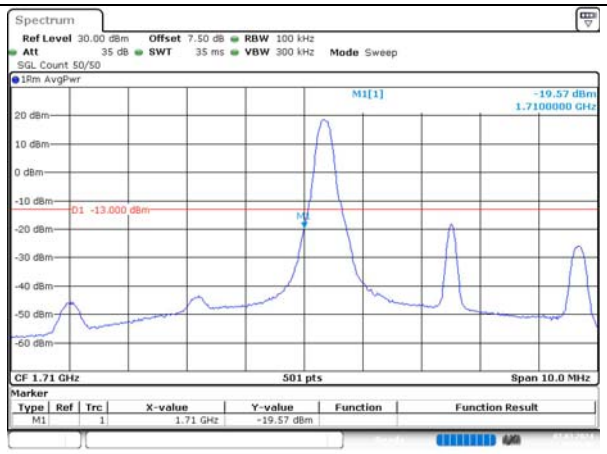
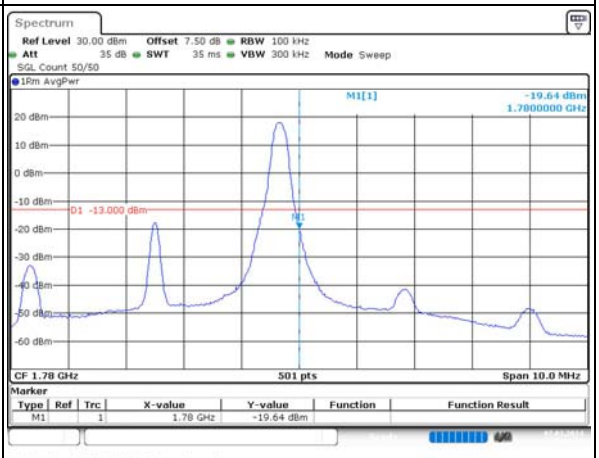
Spurious Emissions at Antenna Terminal		
Channel	**15MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

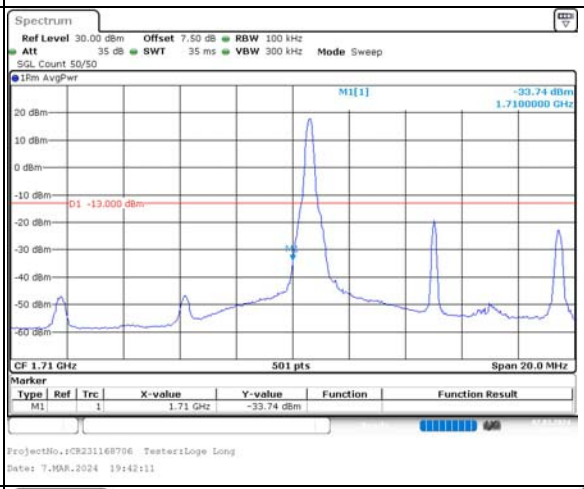
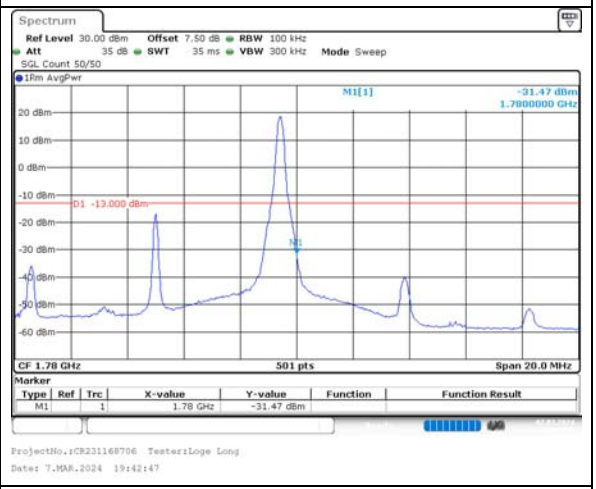
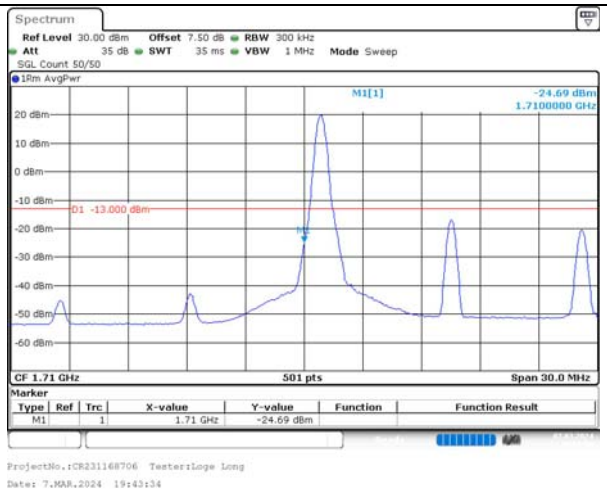
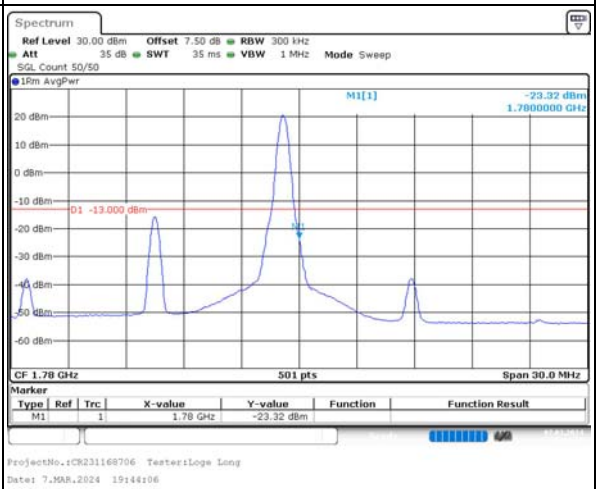
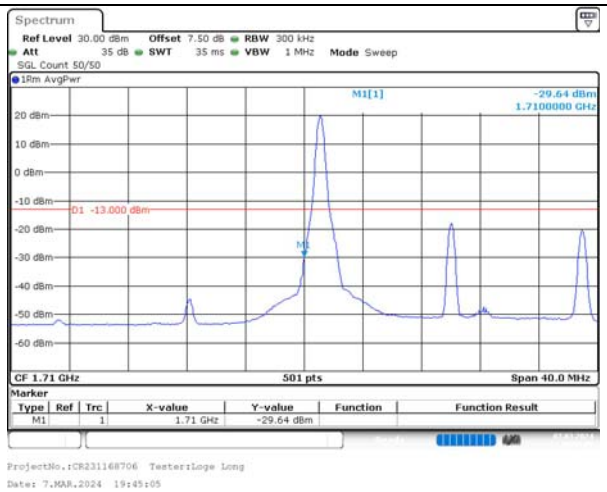
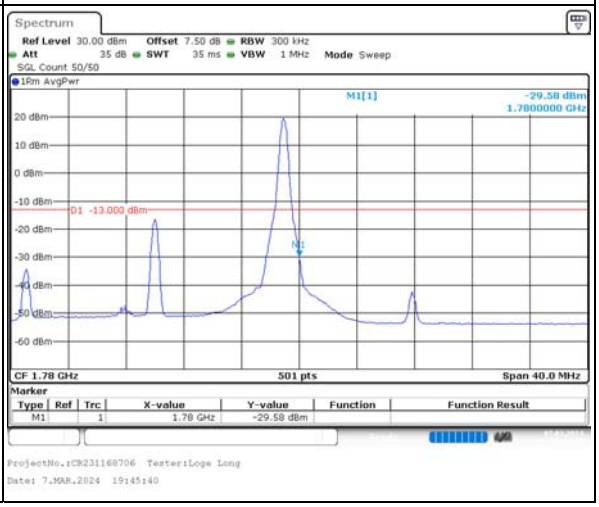
Spurious Emissions at Antenna Terminal		
Channel	**20MHz Bandwidth QPSK**	
Lowest		
Middle		
Highest		

1RB:

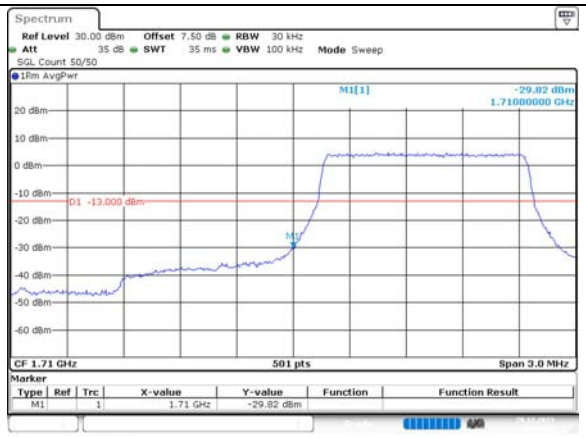
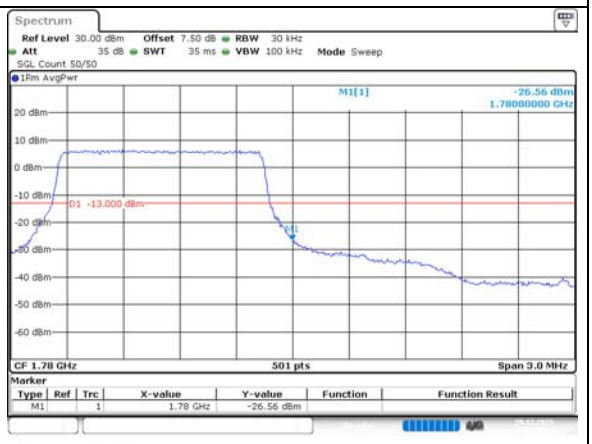
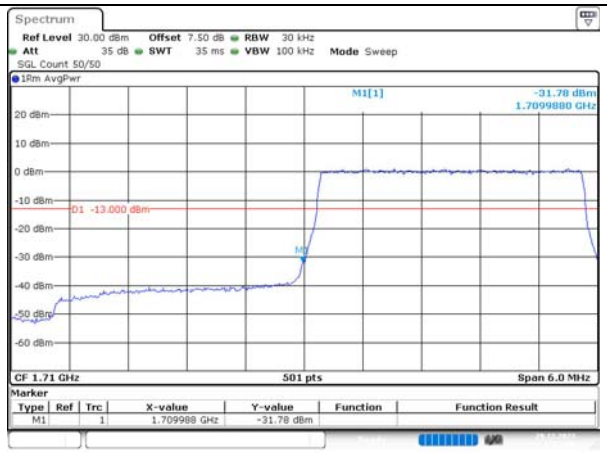
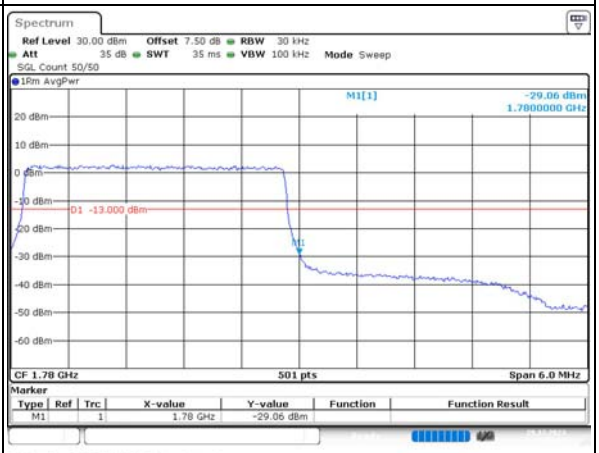
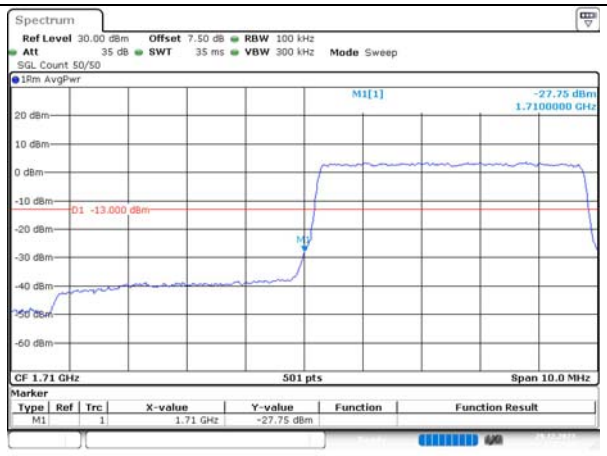
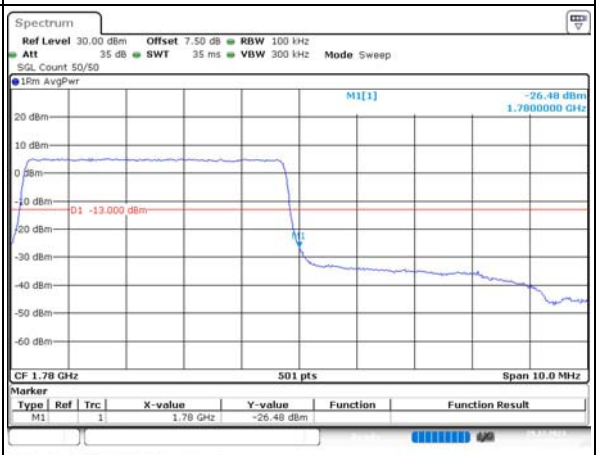
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 1.4MHz		
QPSK 3MHz		
QPSK 5MHz		

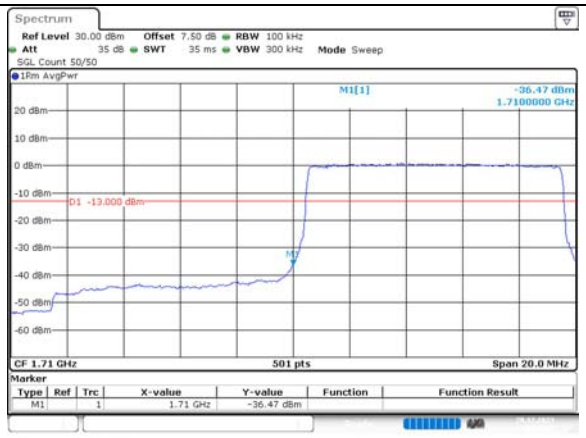
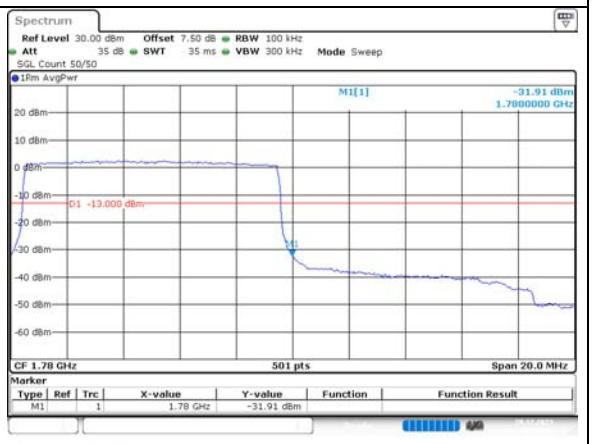
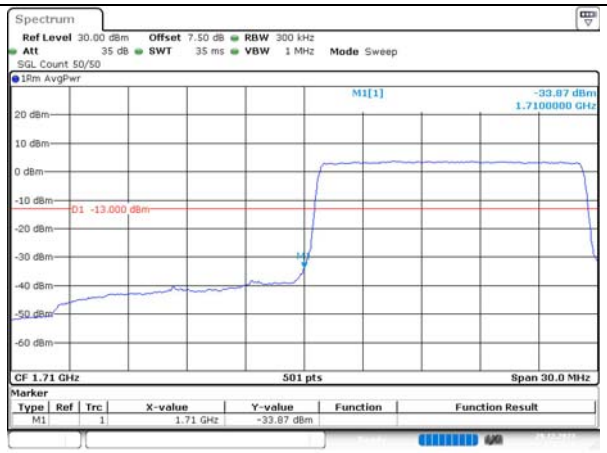
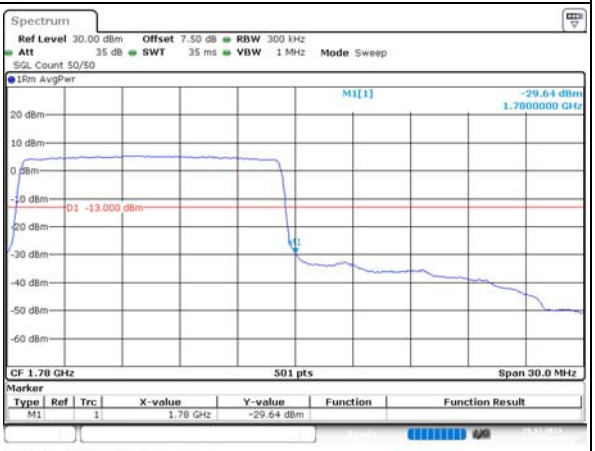
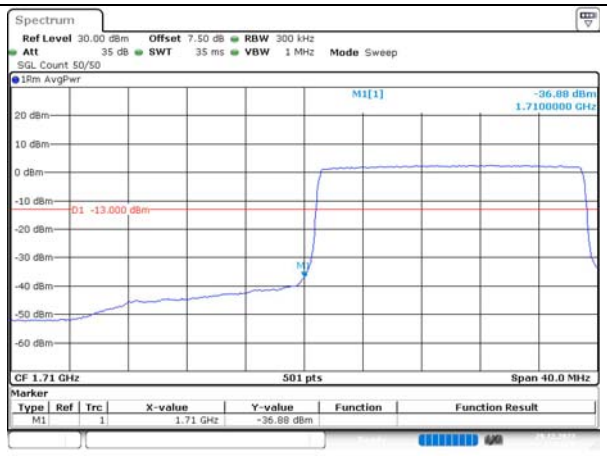
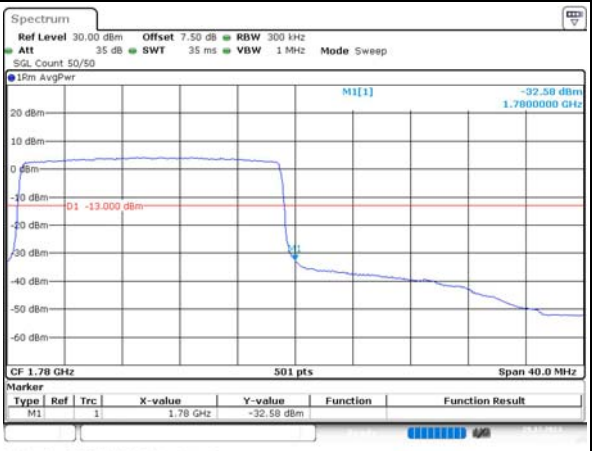
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
QPSK 10MHz		
QPSK 15MHz		
QPSK 20MHz		

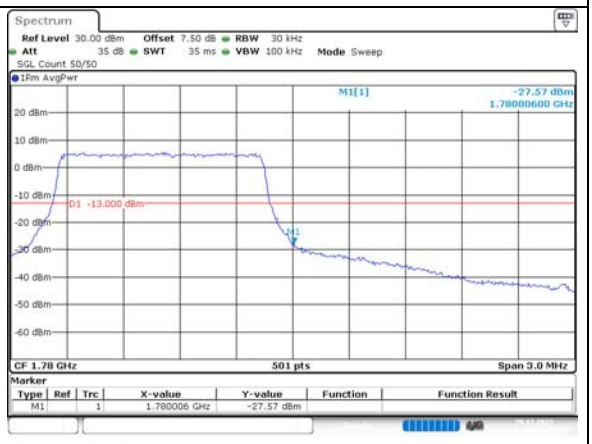
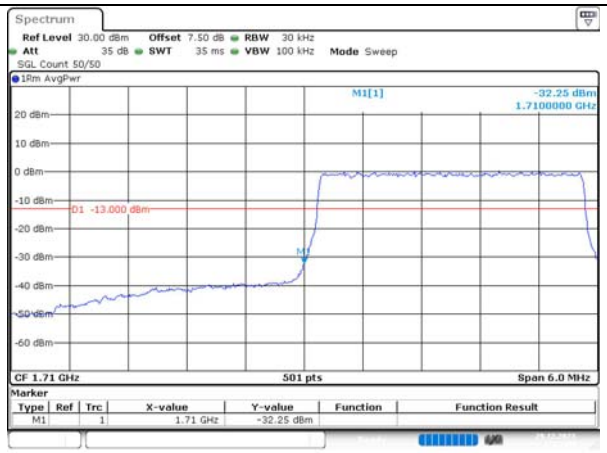
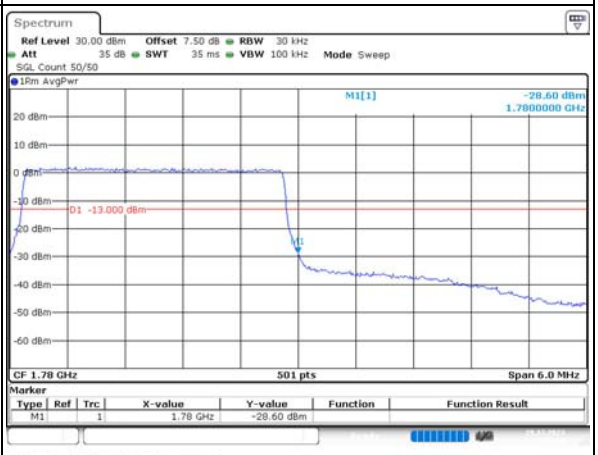
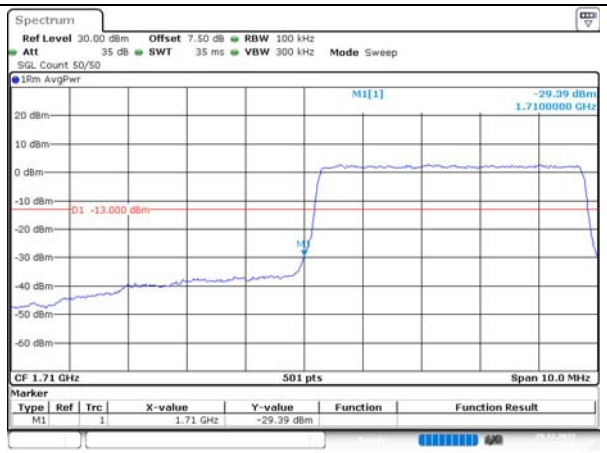
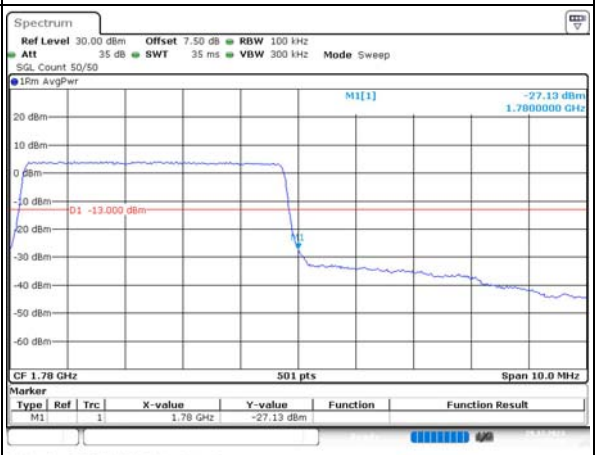
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 1.4MHz		
16QAM 3MHz		
16QAM 5MHz		

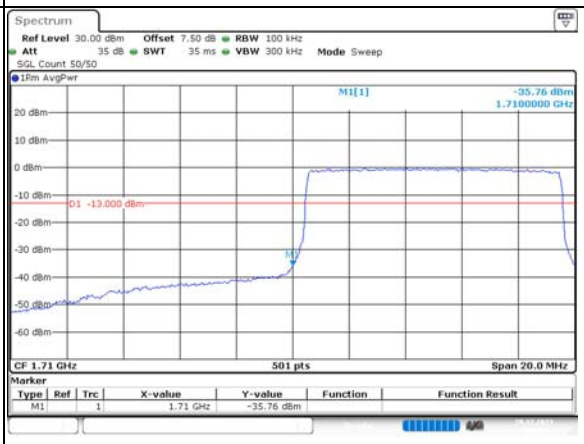
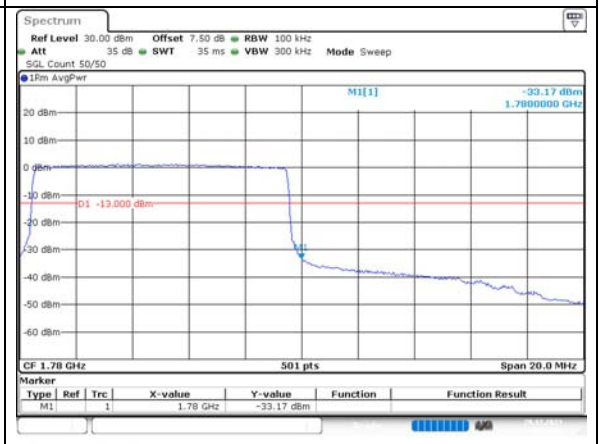
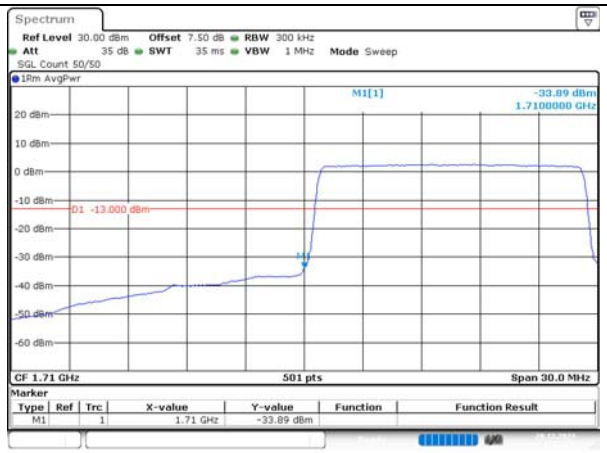
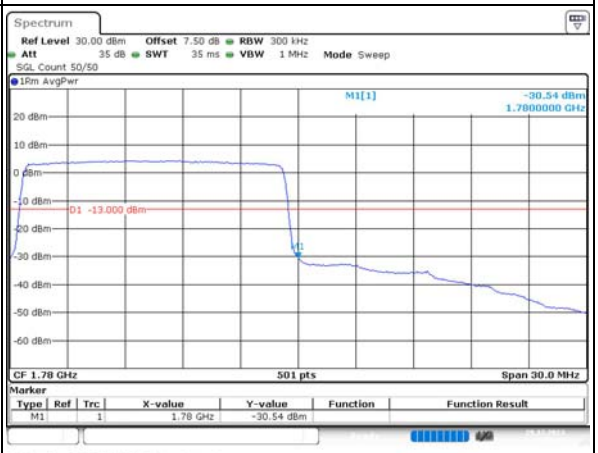
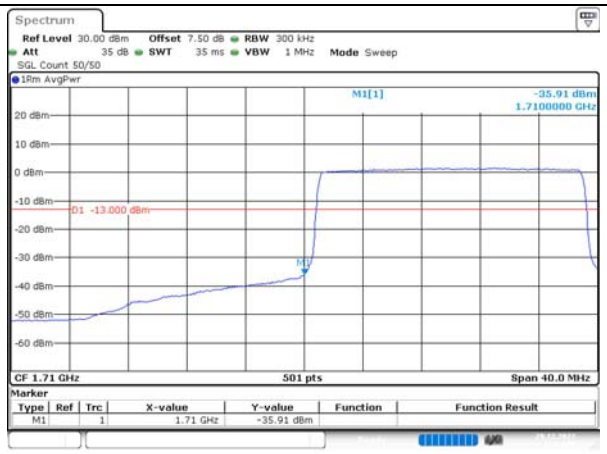
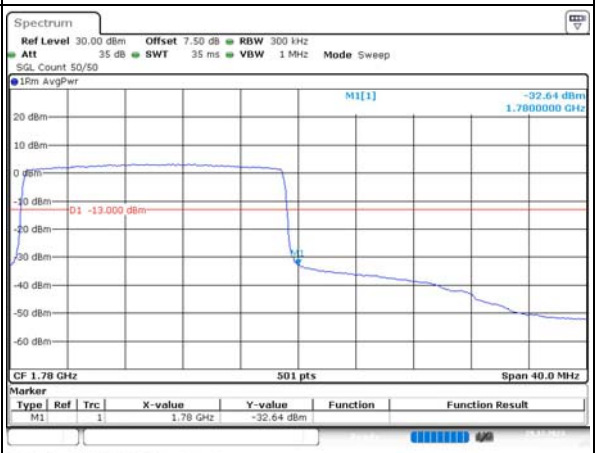
Out of band emission, Band Edge		
Mode	**Lowest**	**Highest**
16QAM 10MHz		
16QAM 15MHz		
16QAM 20MHz		

Full RB:

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		

4.11 Antenna Port Test Data and Results for LTE Band 71

Serial Number:	2DYI-2	Test Date:	2023/12/29~2024/3/8
Test Site:	RF	Test Mode:	Transmitting
Tester:	One Luo,Loge Long	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	21.3~25.2	Relative Humidity: (%)	28~56	ATM Pressure: (kPa)	100.9~101.4

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2023/3/31	2024/3/30
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
Weinschel	Power Splitter	1515	RA914	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	143458	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2023/9/29	2024/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	665.5	680.5	695.5
10MHz	668	680.5	693
15MHz	670.5	680.5	690.5
20MHz	673	680.5	688

Test Data:

RF Output Power

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	23.01	22.73	22.85	18.03	34.77
	RB1#13	23	22.75	22.83		
	RB1#24	22.82	22.83	22.81		
	RB15#0	22.03	21.77	21.93		
	RB15#10	21.91	21.74	21.98		
	RB25#0	21.89	21.77	21.88		
5MHz 16QAM	RB1#0	21.85	21.88	21.89	16.97	34.77
	RB1#13	21.89	21.7	21.95		
	RB1#24	21.72	21.76	21.87		
	RB15#0	20.95	20.74	20.87		
	RB15#10	20.97	20.75	20.91		
	RB25#0	20.95	20.78	20.84		
10MHz QPSK	RB1#0	23.07	23	22.96	18.16	34.77
	RB1#25	23.04	22.91	23.14		
	RB1#49	23.14	23.11	23.08		
	RB25#0	22.01	21.79	22.03		
	RB25#25	21.94	21.83	22.03		
	RB50#0	21.85	21.75	21.95		
10MHz 16QAM	RB1#0	21.81	21.71	21.72	17.03	34.77
	RB1#25	21.75	21.7	22.01		
	RB1#49	21.85	21.91	21.92		
	RB25#0	20.94	20.8	20.93		
	RB25#25	20.94	20.89	20.96		
	RB50#0	20.93	20.79	20.92		
15MHz QPSK	RB1#0	23.13	22.91	22.82	18.15	34.77
	RB1#38	23.05	22.8	22.84		
	RB1#74	23.13	23.07	22.96		
	RB36#0	21.93	21.86	21.87		
	RB36#39	21.97	22.07	22.06		
	RB75#0	21.84	21.96	22.07		
15MHz 16QAM	RB1#0	21.63	21.8	21.78	17.09	34.77
	RB1#38	21.62	21.76	21.97		
	RB1#74	21.83	22.03	22.07		
	RB36#0	20.85	20.87	21.01		
	RB36#39	20.9	21.11	21.12		
	RB75#0	20.89	21.01	21.1		
20MHz QPSK	RB1#0	22.84	22.8	22.59	18.08	34.77
	RB1#50	23.06	22.88	22.89		
	RB1#99	22.97	23.04	22.94		
	RB50#0	21.92	21.87	21.75		

	RB50#50	21.97	22.03	22.08		
	RB100#0	21.89	21.96	21.91		
20MHz 16QAM	RB1#0	21.93	21.76	21.58	17.43	34.77
	RB1#50	22.41	21.92	21.89		
	RB1#99	22.14	22.04	22.04		
	RB50#0	20.98	20.93	20.85		
	RB50#50	21	21.12	20.99		
	RB100#0	21	21	20.92		
Note: ERP= Conducted Power(dBm) - L_C(dB) + G_T(dBd) G_T(dBd)=G_T(dBi)-2.15						
					Result:	**Pass**

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	8.52	8.55	8.49	13
	RB100#0	8.52	8.46	8.52	13
20MHz 16QAM	RB1#0	8.55	8.49	8.49	13
	RB100#0	8.49	8.52	8.52	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
5MHz QPSK	4.511	4.511	4.531	5	5	5.02
5MHz 16QAM	4.531	4.491	4.531	5.02	4.98	5.02
10MHz QPSK	8.942	8.942	8.982	9.72	9.72	9.68
10MHz 16QAM	8.942	8.942	8.982	9.8	9.72	9.72
15MHz QPSK	13.533	13.473	13.473	14.82	14.82	14.82
15MHz 16QAM	13.533	13.473	13.473	14.88	14.76	14.82
20MHz QPSK	17.964	17.804	17.884	19.36	19.36	19.44
20MHz 16QAM	17.884	17.804	17.964	19.36	19.36	19.44
Note: The test plots please refer to the Plots of Occupied Bandwidth						

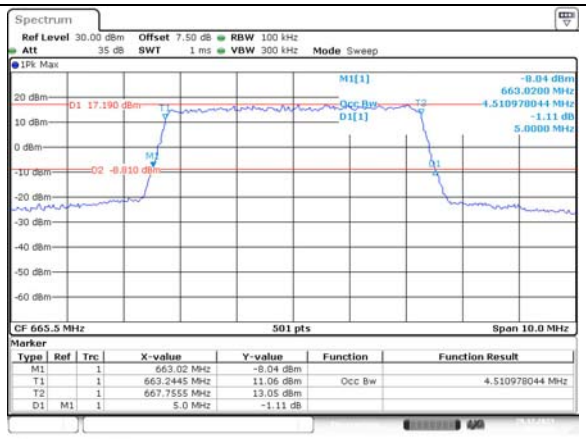
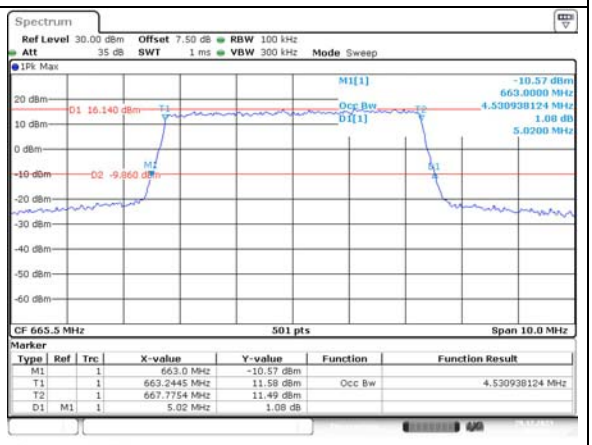
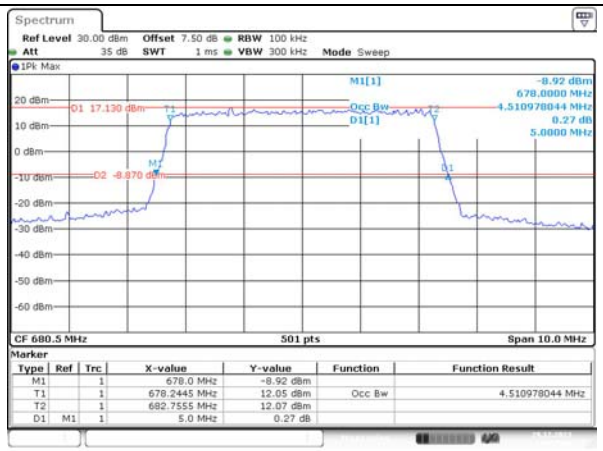
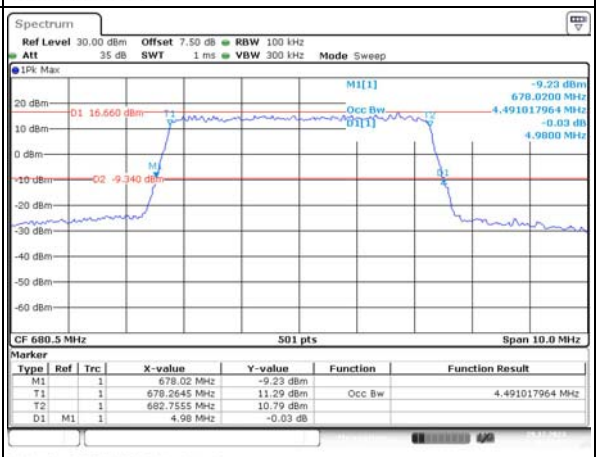
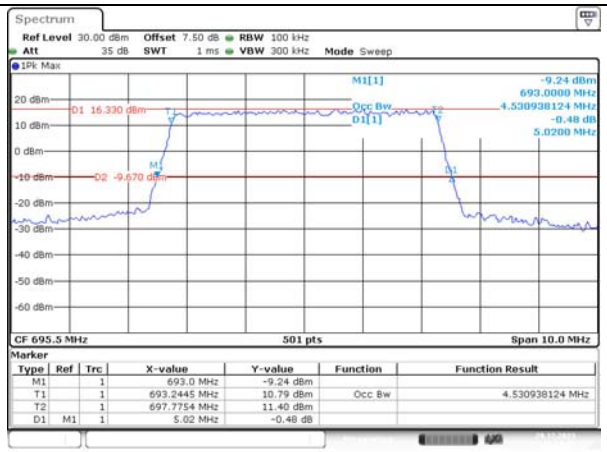
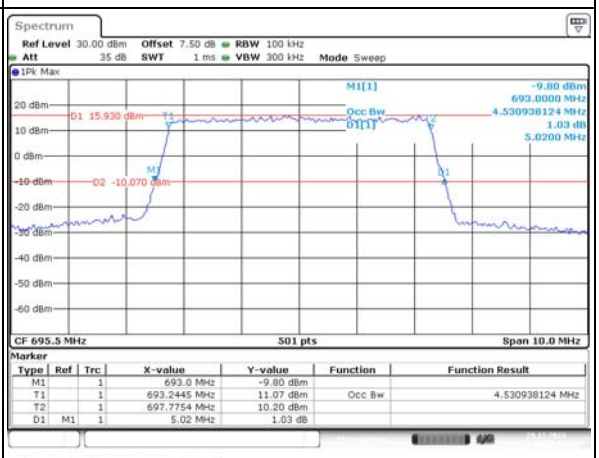
Spurious Emissions at Antenna Terminal	
Result:	**Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**

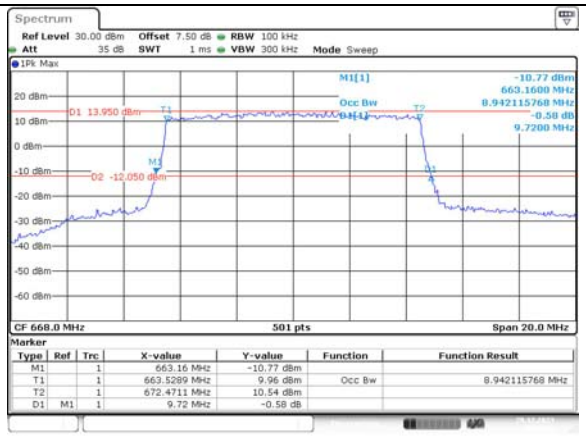
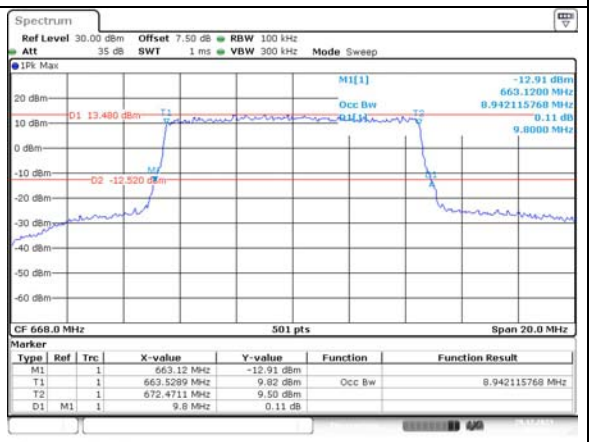
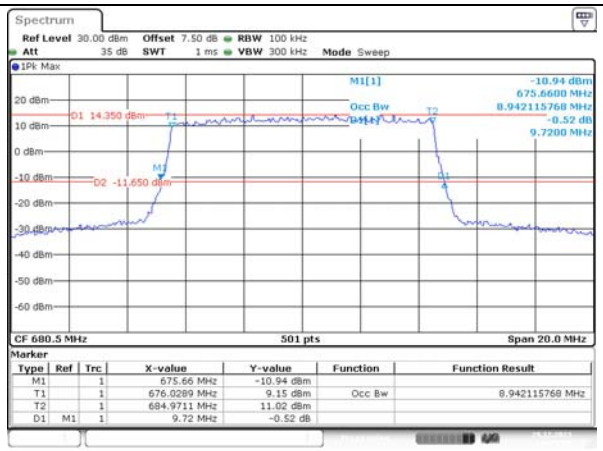
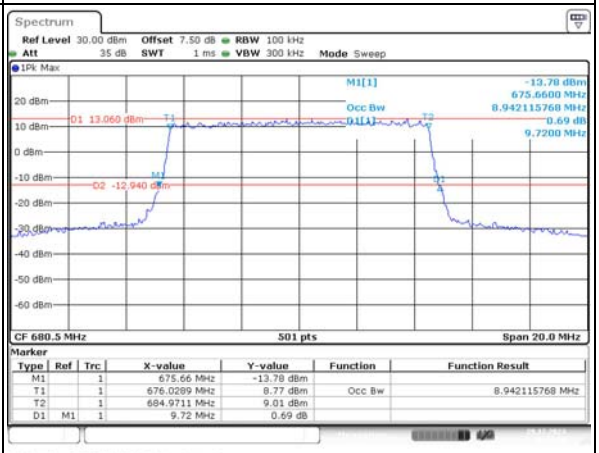
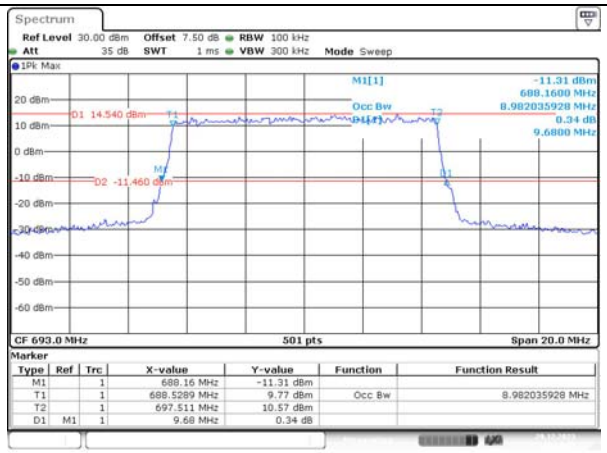
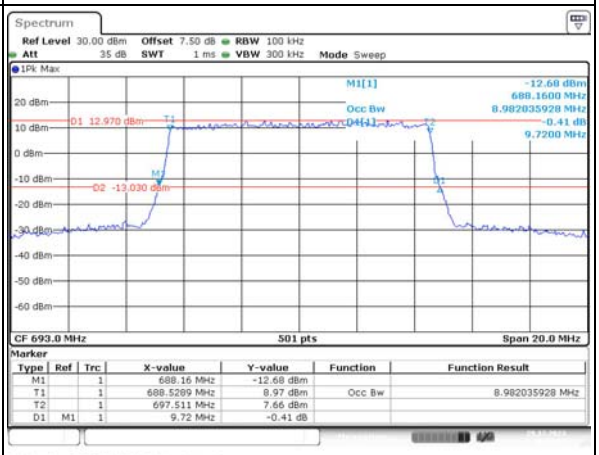
Out of band emission, Band Edge	
Result:	**Pass, Please refer to the test plots of Out of band emission, Band Edge.**

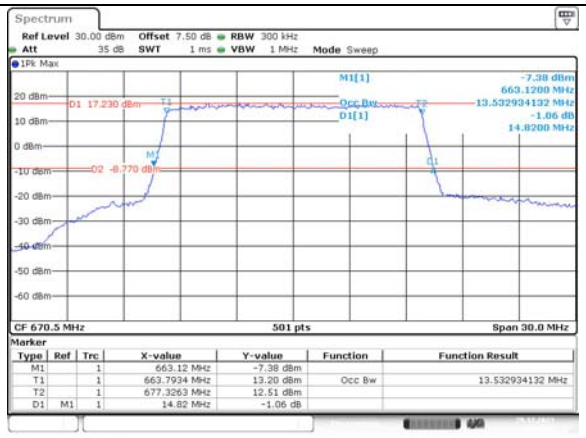
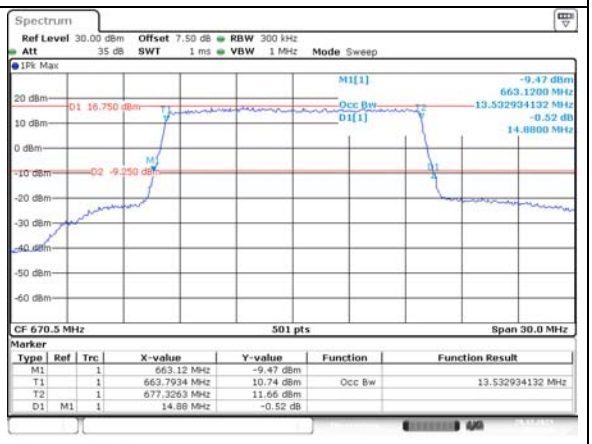
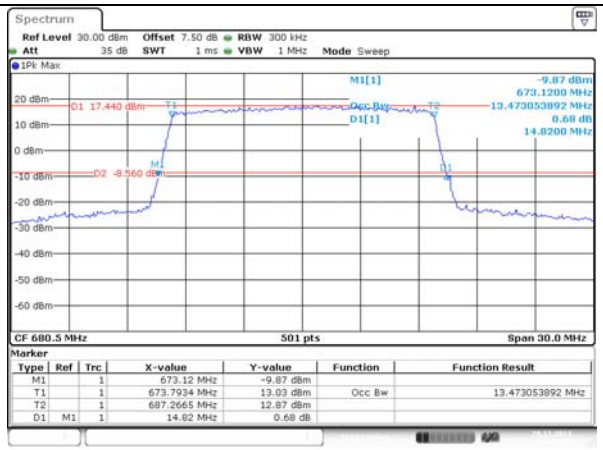
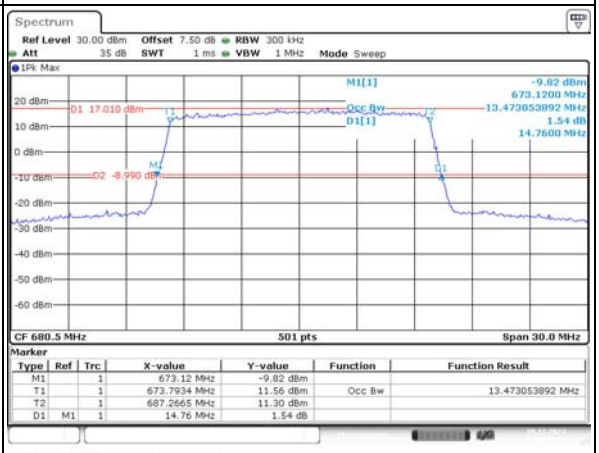
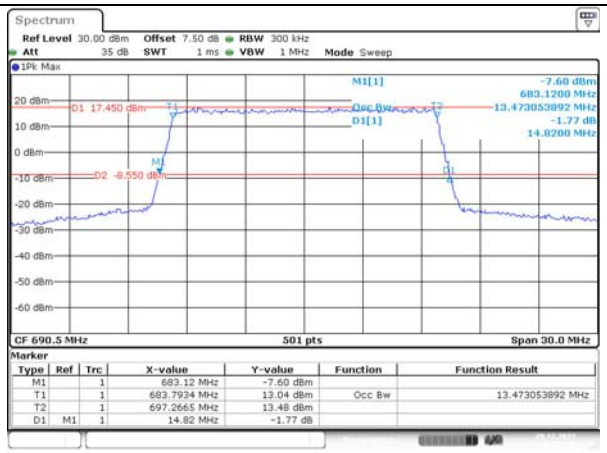
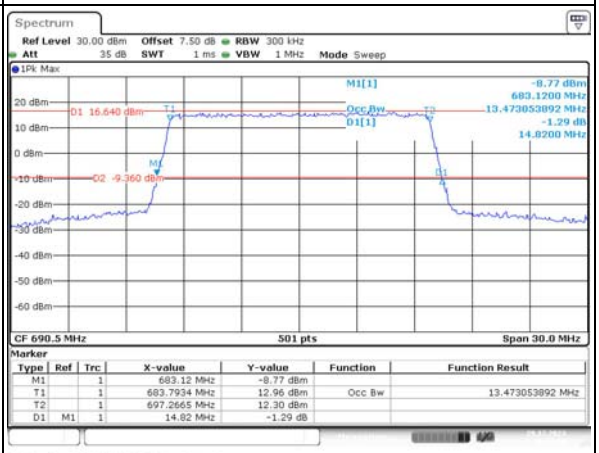
Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.6	664.080	663.00	697.055	698.00
	-20	3.6	664.092	663.00	697.094	698.00
	-10	3.6	664.015	663.00	697.039	698.00
	0	3.6	664.030	663.00	697.081	698.00
	10	3.6	664.060	663.00	697.002	698.00
	20	3.6	664.058	663.00	697.058	698.00
	30	3.6	664.072	663.00	697.007	698.00
	40	3.6	664.058	663.00	697.033	698.00
	50	3.6	664.070	663.00	697.083	698.00
Frequency Stability vs. Voltage	20	3.45	664.045	663.00	697.092	698.00
	20	4.12	664.035	663.00	697.010	698.00
					Result:	**Pass**

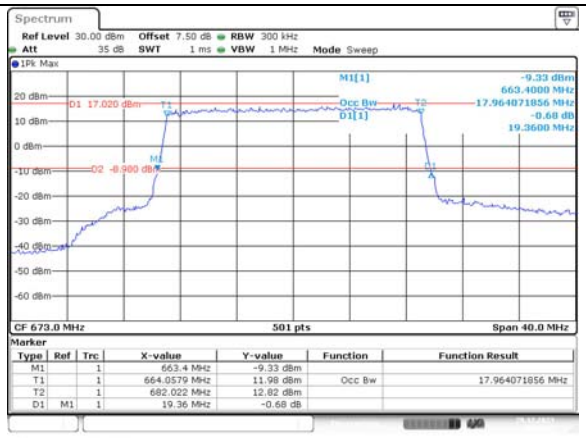
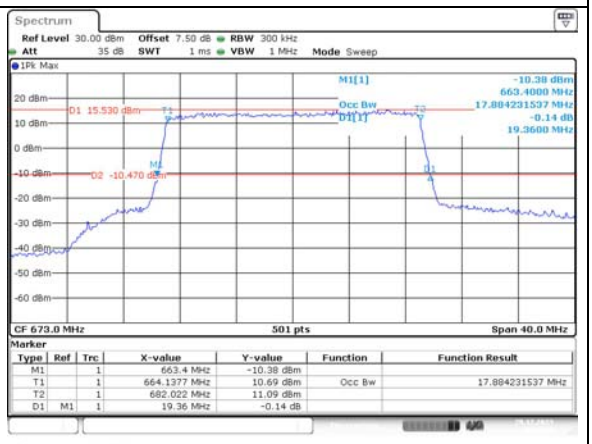
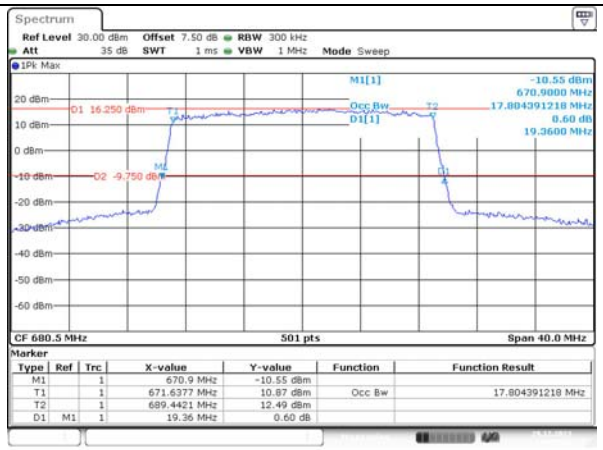
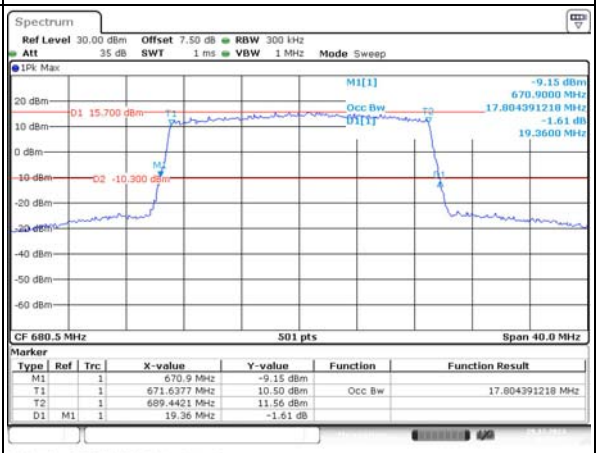
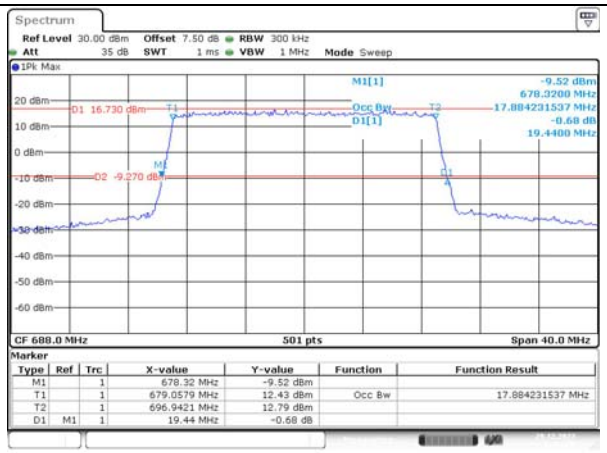
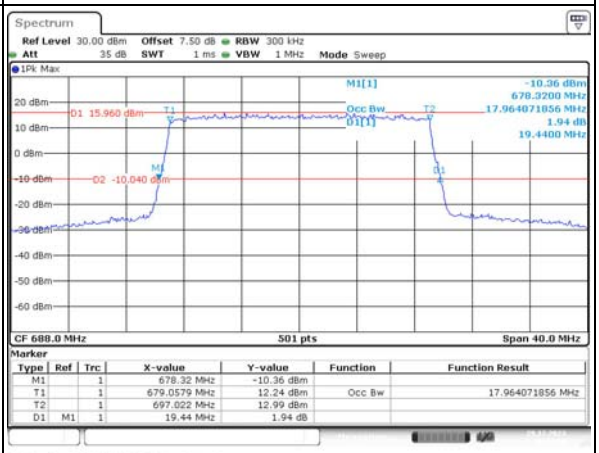
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (℃)	Voltage (V_{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.6	664.113	663.00	697.047	698.00
	-20	3.6	664.191	663.00	697.083	698.00
	-10	3.6	664.127	663.00	697.069	698.00
	0	3.6	664.193	663.00	697.039	698.00
	10	3.6	664.131	663.00	697.057	698.00
	20	3.6	664.138	663.00	697.058	698.00
	30	3.6	664.127	663.00	697.041	698.00
	40	3.6	664.170	663.00	697.064	698.00
	50	3.6	664.112	663.00	697.044	698.00
Frequency Stability vs. Voltage	20	3.45	664.199	663.00	697.005	698.00
	20	4.12	664.100	663.00	697.055	698.00
					Result:	**Pass**

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

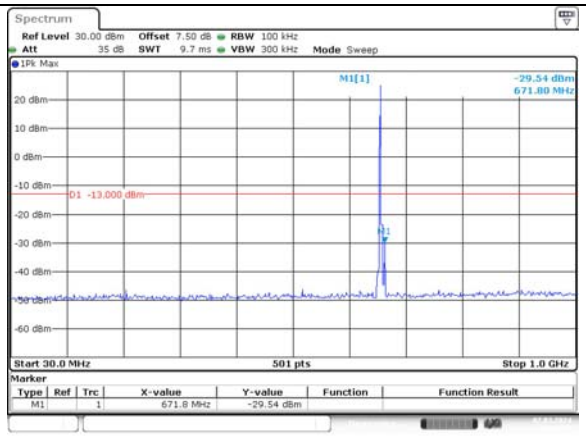
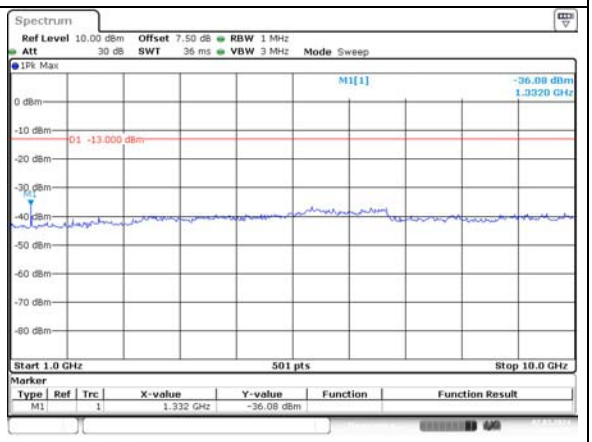
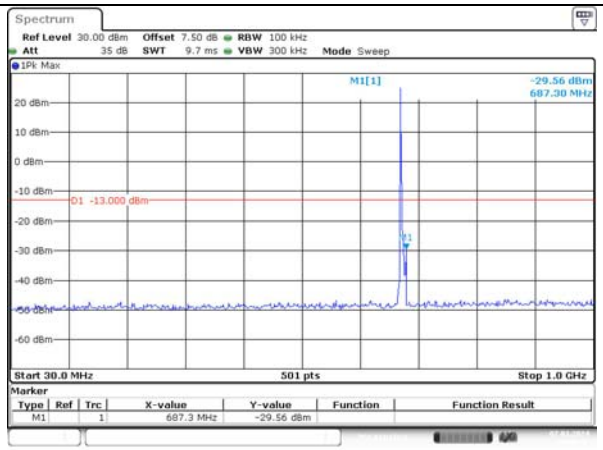
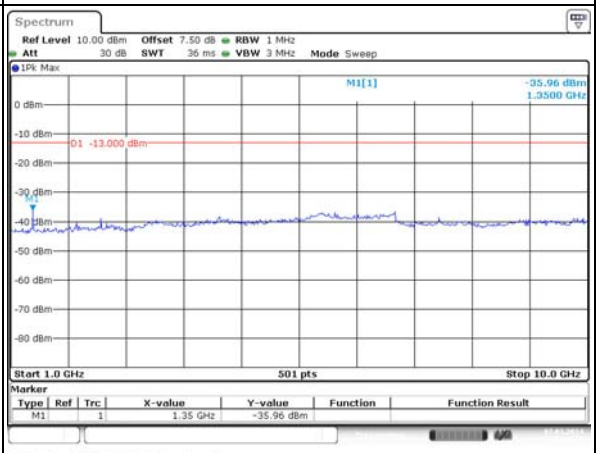
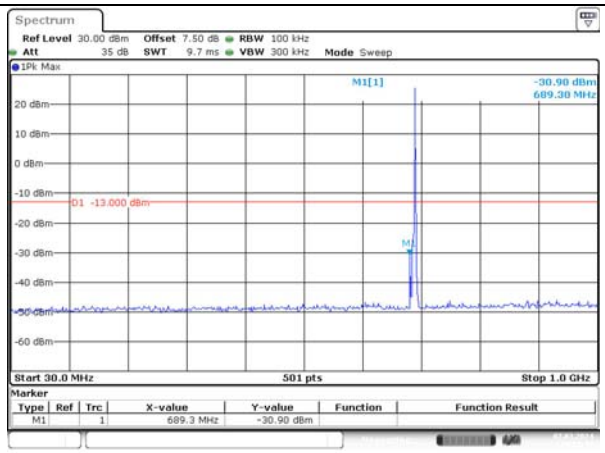
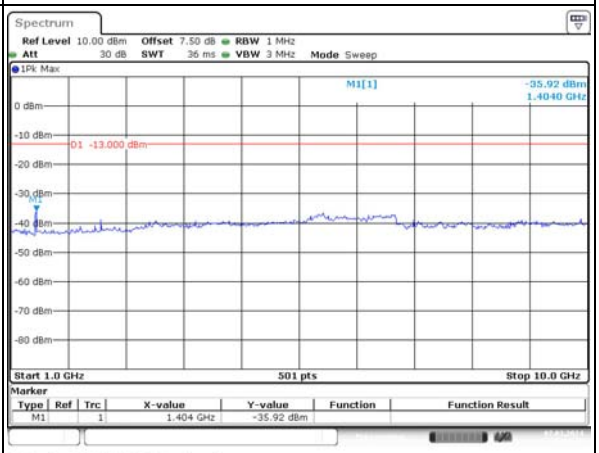
Occupied Bandwidth		
Channel	5MHz Bandwidth QPSK	5MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

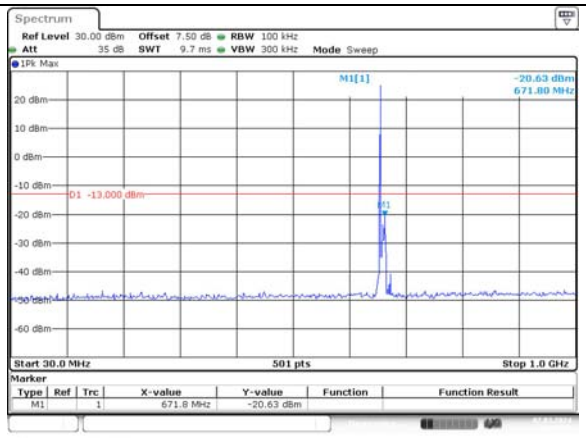
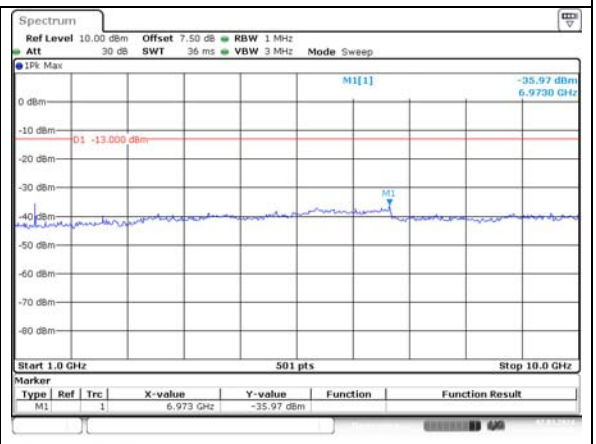
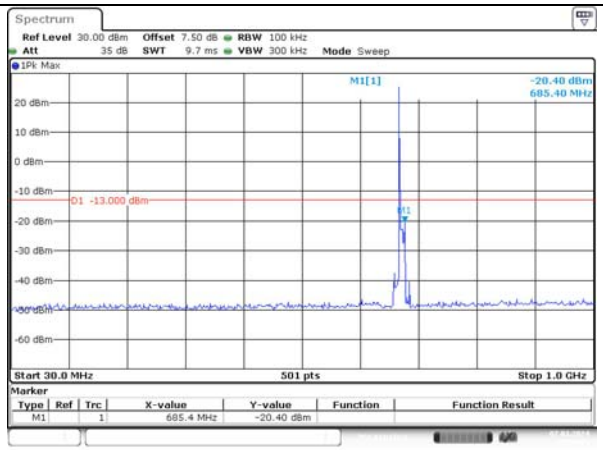
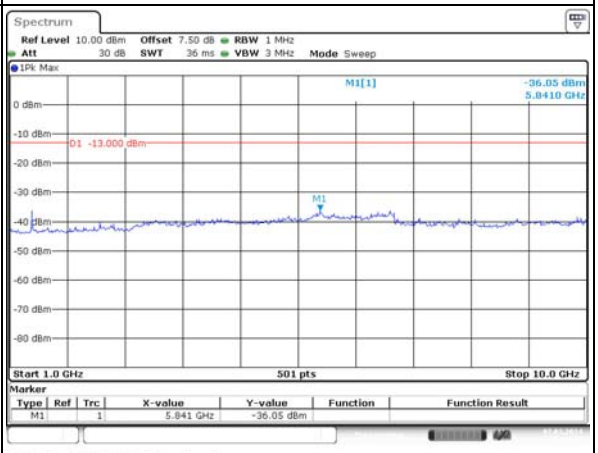
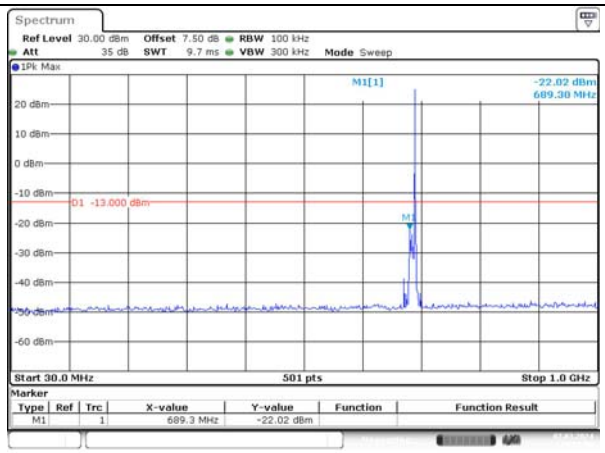
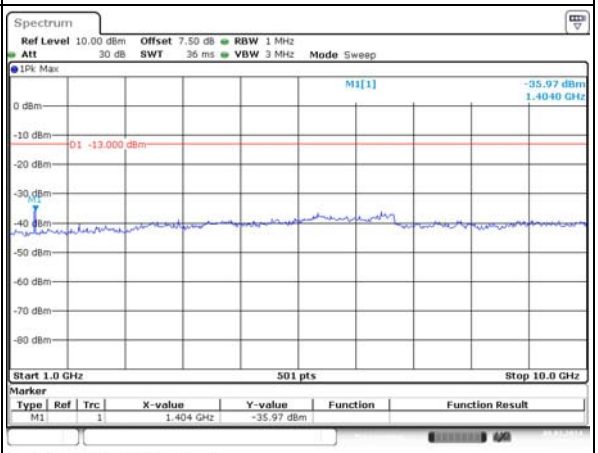
Occupied Bandwidth		
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

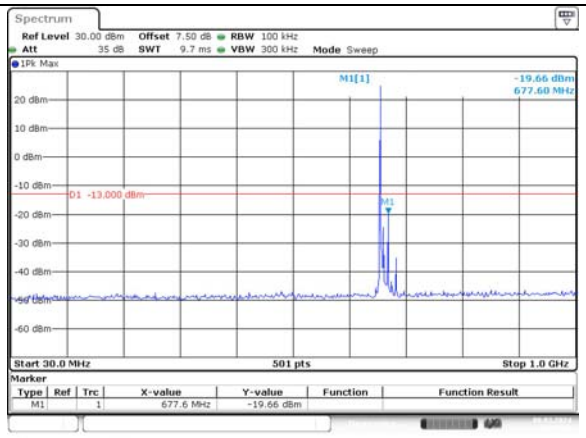
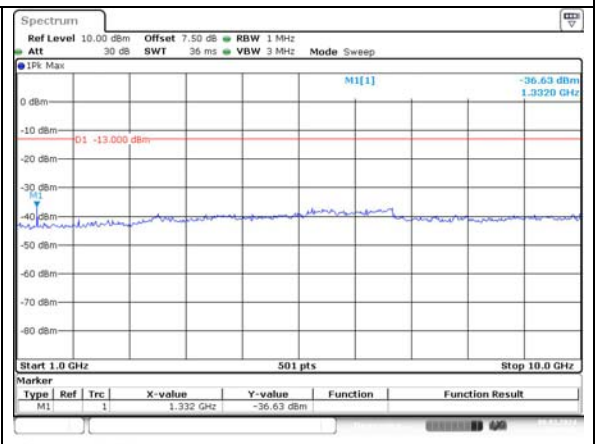
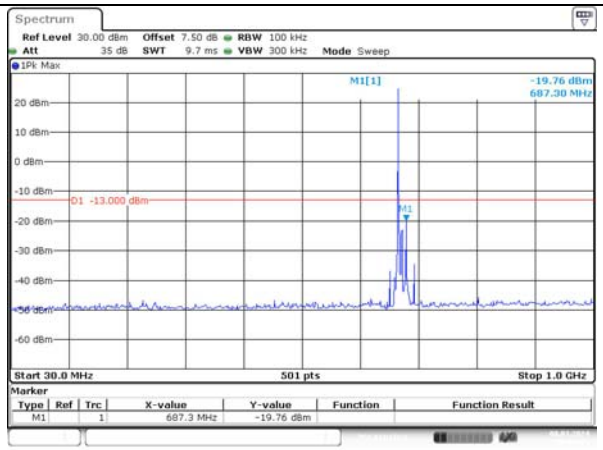
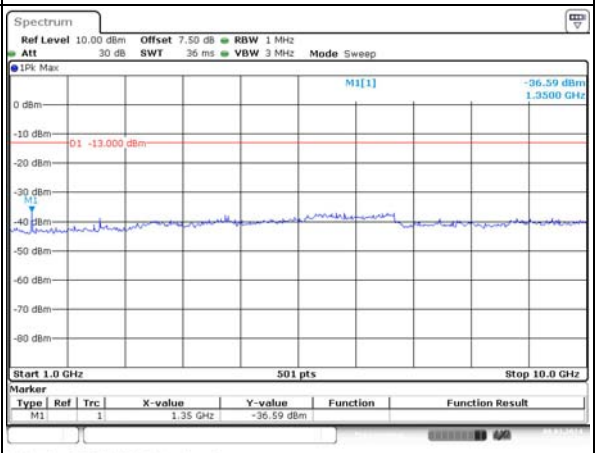
Occupied Bandwidth		
Channel	15MHz Bandwidth QPSK	15MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

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

1RB:

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