

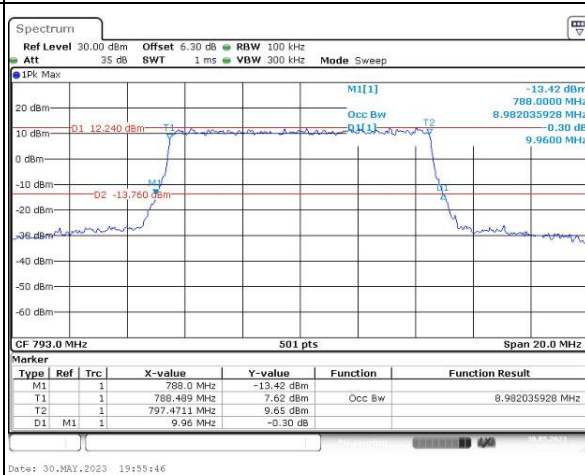
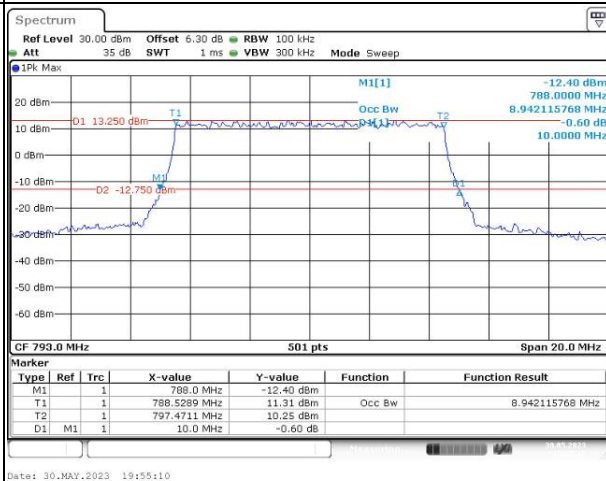
Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

Middle

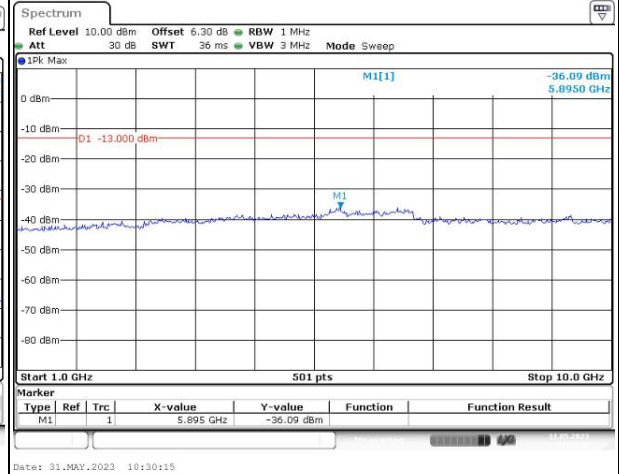
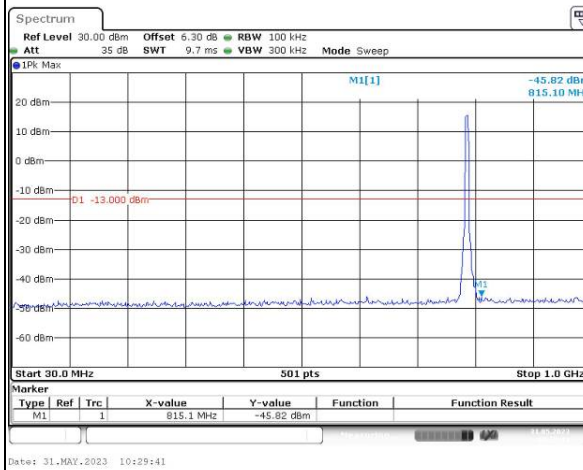


Spurious Emissions at Antenna Terminal

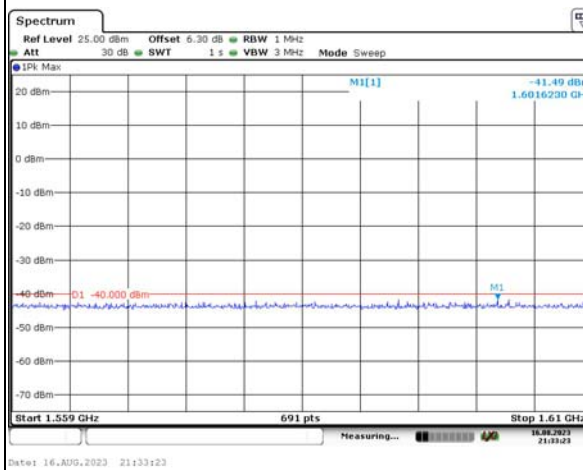
Channel

5MHz Bandwidth QPSK

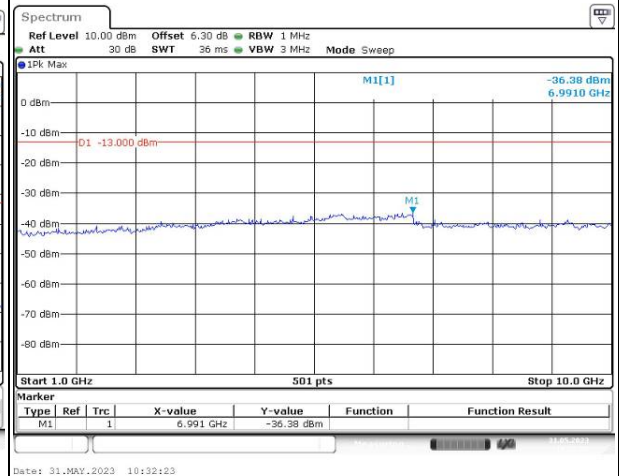
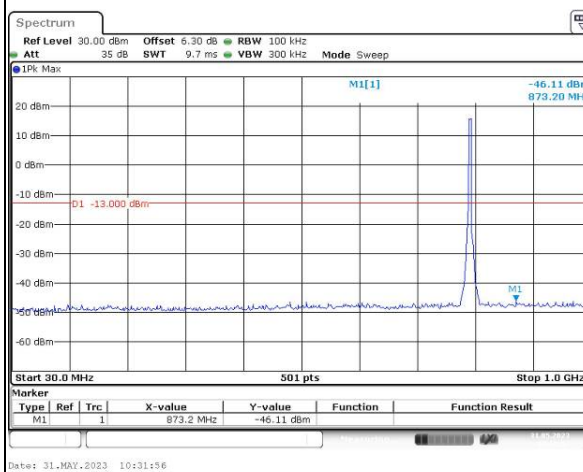
Lowest



Lowest



Highest

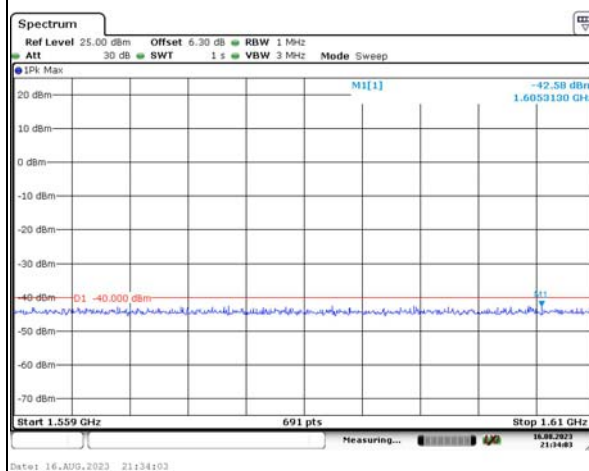


Spurious Emissions at Antenna Terminal

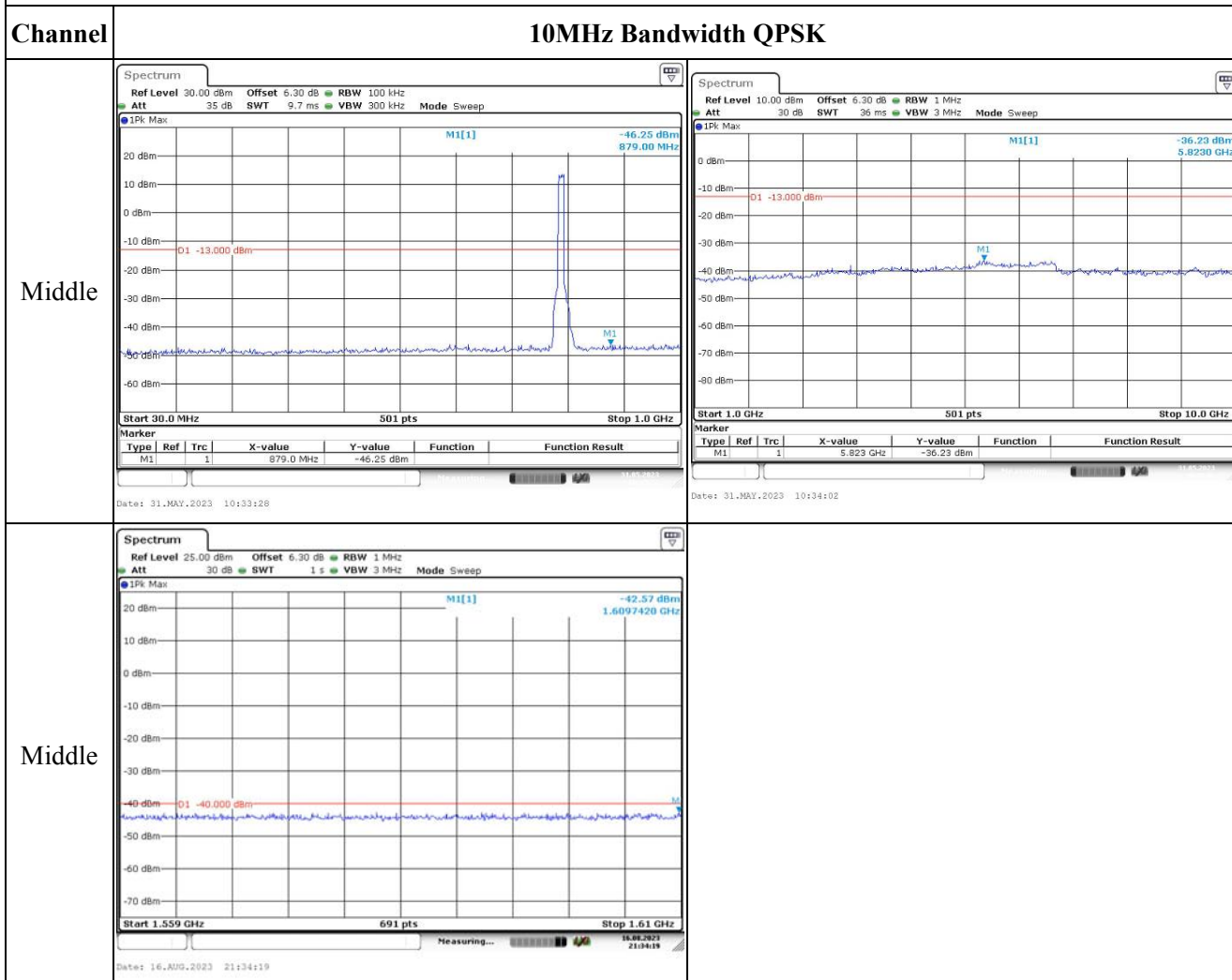
Channel

5MHz Bandwidth QPSK

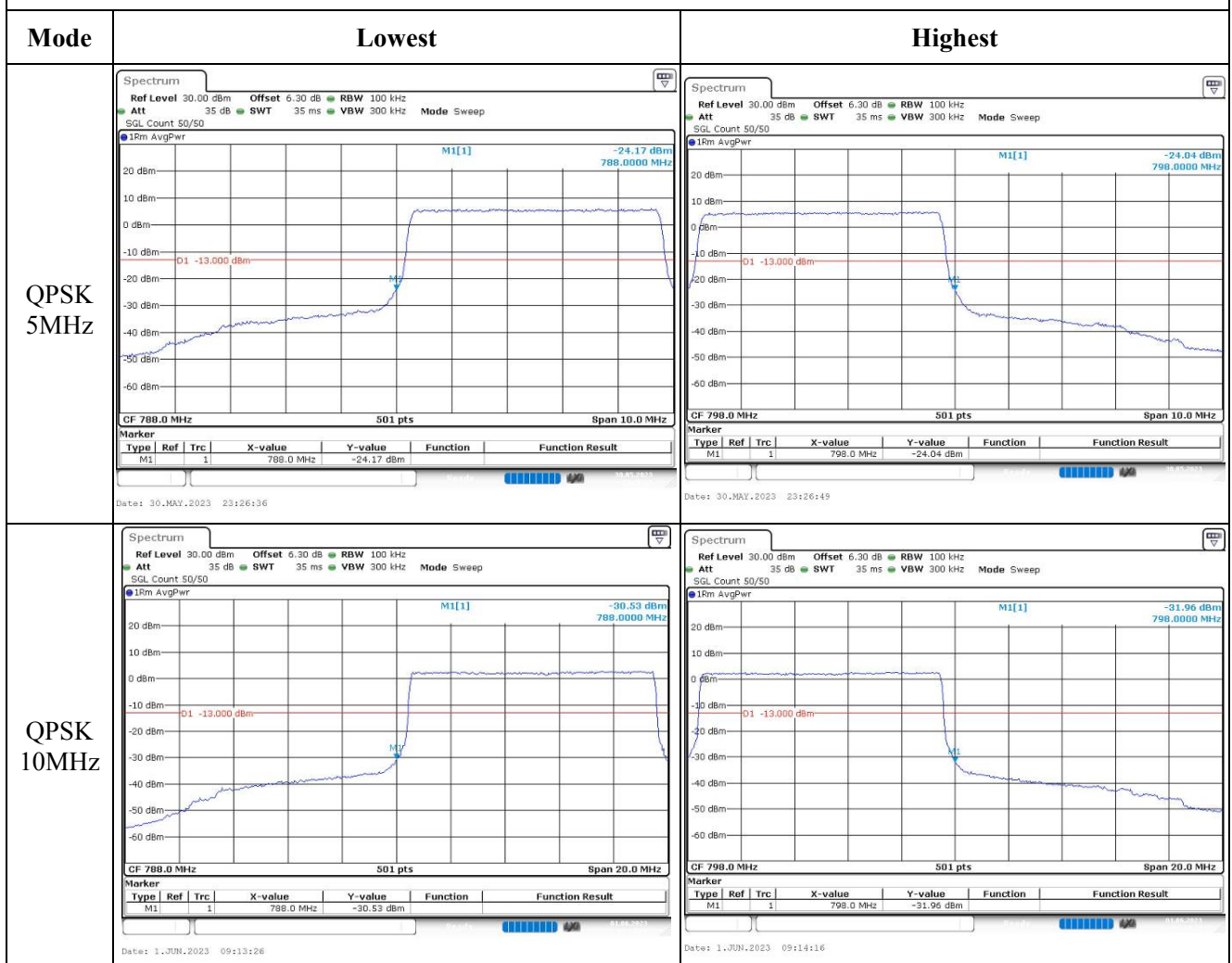
Highest



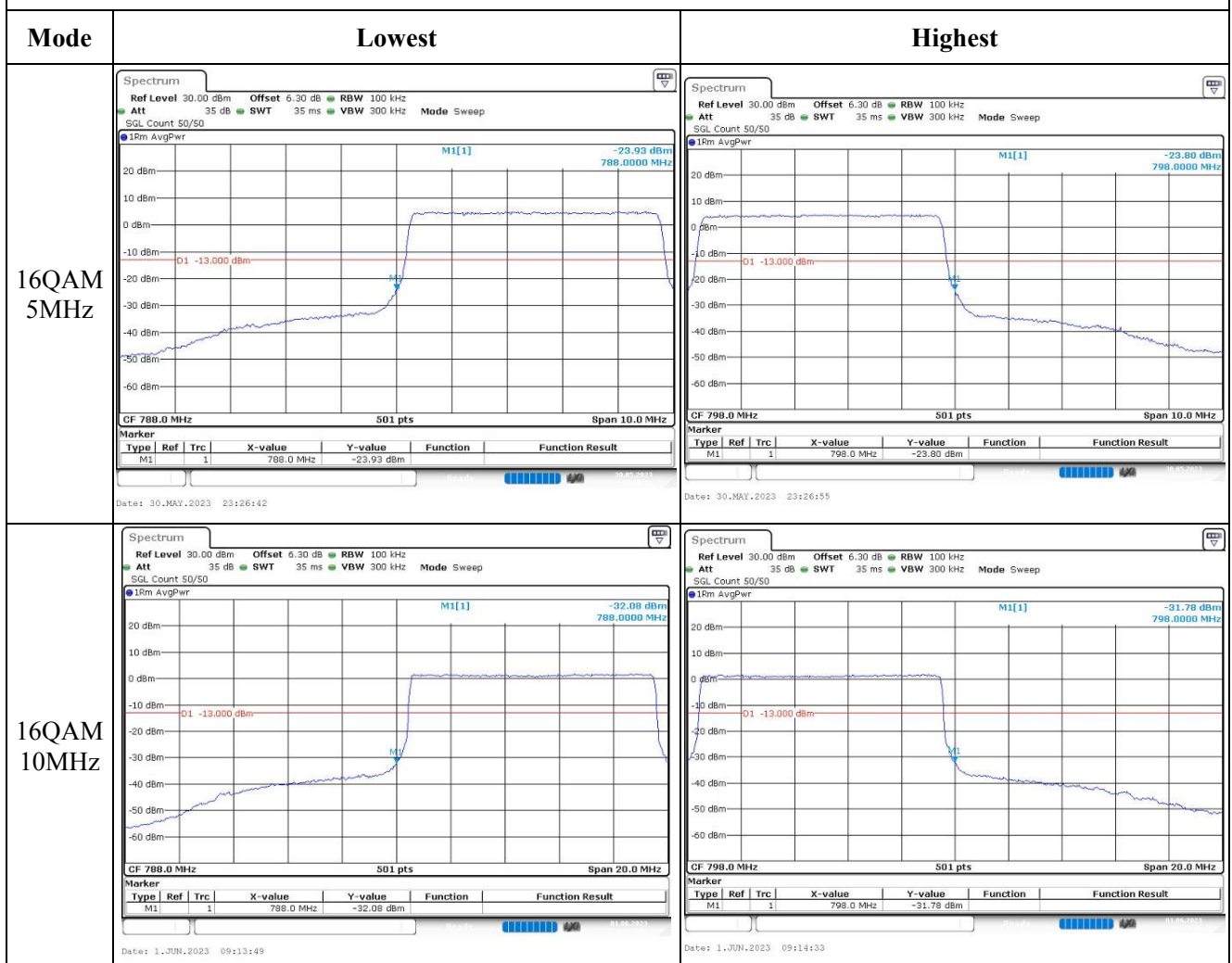
Spurious Emissions at Antenna Terminal



Out of band emission, Band Edge



Out of band emission, Band Edge



4.13 Antenna Port Test Data and Results for LTE Band 17

Serial Number:	25K9-3	Test Date:	2023/05/30~2023/05/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature:	26.7~27.2	Relative Humidity:	49~55	ATM Pressure:	99.6~100.0
--------------	-----------	--------------------	-------	---------------	------------

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
Unknown	Coaxial tee connector	Unknown	2204004	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

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

Test Data:**RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.73	22.68	22.69	16.04	34.77
	RB1#13	22.8	22.82	22.82		
	RB1#24	22.78	22.72	22.79		
	RB15#0	21.76	21.78	21.84		
	RB15#10	21.84	21.83	21.8		
	RB25#0	21.77	21.76	21.8		
5MHz 16QAM	RB1#0	22.02	21.76	21.61	15.29	34.77
	RB1#13	22.07	21.88	21.69		
	RB1#24	22.03	21.76	21.67		
	RB15#0	20.81	20.84	20.9		
	RB15#10	20.86	20.9	20.89		
	RB25#0	20.82	20.9	20.91		
10MHz QPSK	RB1#0	22.81	22.76	22.73	16.18	34.77
	RB1#25	22.96	22.96	22.94		
	RB1#49	22.85	22.79	22.87		
	RB25#0	21.76	21.79	21.79		
	RB25#25	21.83	21.73	21.8		
	RB50#0	21.8	21.78	21.84		
10MHz 16QAM	RB1#0	21.88	21.77	22.28	15.77	34.77
	RB1#25	22.08	21.94	22.55		
	RB1#49	21.96	21.83	22.4		
	RB25#0	20.83	20.93	20.91		
	RB25#25	20.92	20.96	20.89		
	RB50#0	20.82	20.84	20.89		

Note:

ERP= Conducted Power(dBm) - Lc(dB) + G_T(dBd)G_T(dBd)=G_T(dBi)-2.15**Result:****Pass****Peak-to-average Ratio(PAR)**

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
10MHz QPSK	RB1#0	4.87	4.99	4.9	13
	RB50#0	5.16	5.19	5.16	13
10MHz 16QAM	RB1#0	5.59	5.86	5.88	13
	RB50#0	6.09	6.09	6.09	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	5.18	5.16	5.18
5MHz 16QAM	4.551	4.551	4.511	5.18	5.2	5.18
10MHz QPSK	8.942	8.942	9.022	9.88	9.88	9.88
10MHz 16QAM	8.942	8.942	8.942	9.92	9.88	9.72
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.
----------------	---

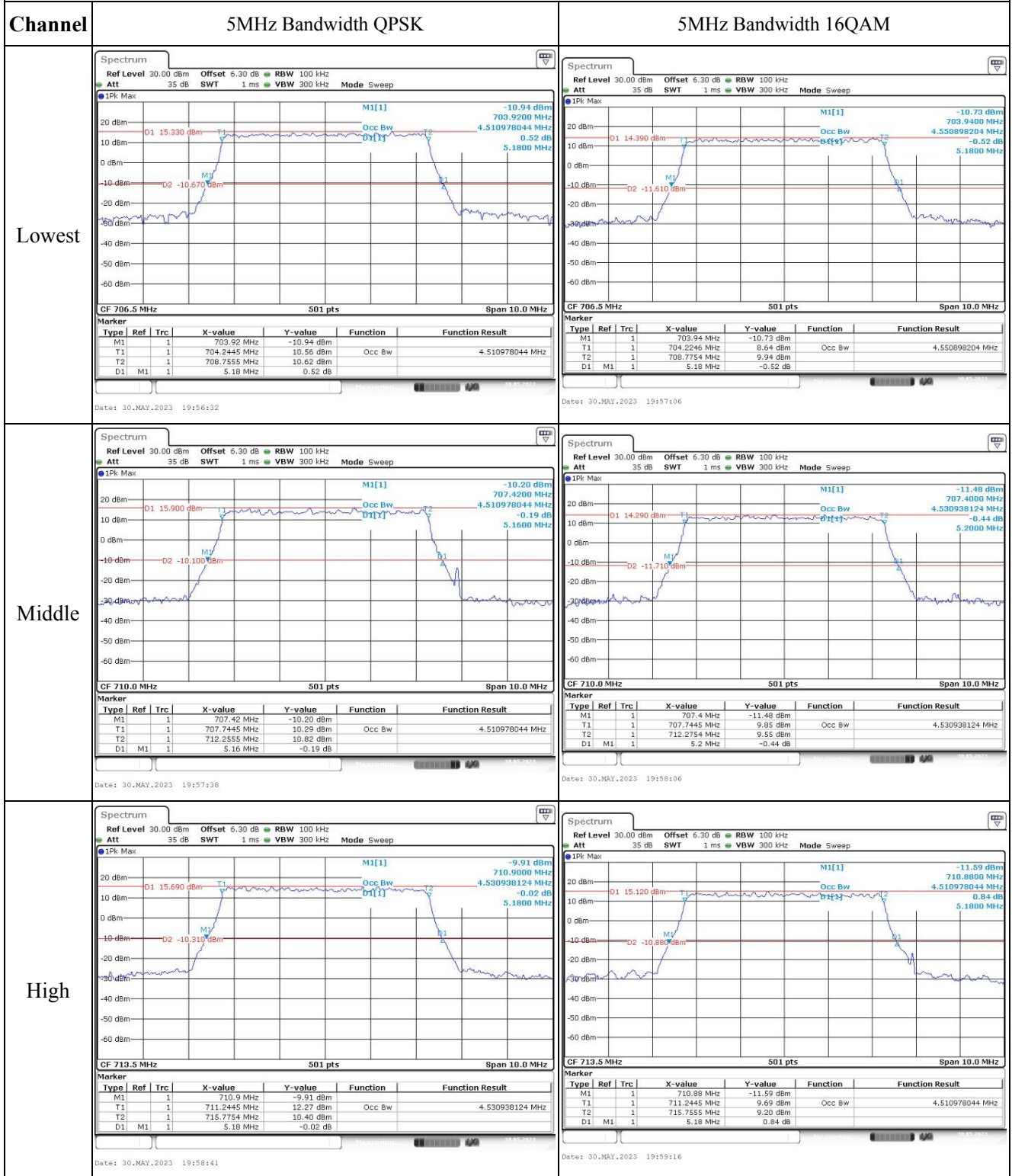
Frequency Stability

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	704.590	704.00	715.541	716.00
	-20	3.87	704.525	704.00	715.514	716.00
	-10	3.87	704.526	704.00	715.597	716.00
	0	3.87	704.540	704.00	715.519	716.00
	10	3.87	704.556	704.00	715.597	716.00
	20	3.87	704.529	704.00	715.511	716.00
	30	3.87	704.501	704.00	715.511	716.00
	40	3.87	704.502	704.00	715.584	716.00
Frequency Stability vs. Voltage	50	3.87	704.509	704.00	715.593	716.00
	20	3.47	704.542	704.00	715.569	716.00
	20	4.45	704.549	704.00	715.530	716.00
Result:					Pass	

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	704.580	704.00	715.408	716.00
	-20	3.87	704.570	704.00	715.490	716.00
	-10	3.87	704.578	704.00	715.466	716.00
	0	3.87	704.554	704.00	715.445	716.00
	10	3.87	704.518	704.00	715.412	716.00
	20	3.87	704.529	704.00	715.471	716.00
	30	3.87	704.548	704.00	715.409	716.00
	40	3.87	704.587	704.00	715.442	716.00
	50	3.87	704.516	704.00	715.480	716.00
Frequency Stability vs. Voltage	20	3.47	704.525	704.00	715.401	716.00
	20	4.45	704.569	704.00	715.418	716.00
					Result:	Pass

Test Plots(Note: The 6.3dB is the Insertion loss of the RF cable, Power splitter and DC Block, which was offset into the Spectrum Analyzer):

Occupied Bandwidth



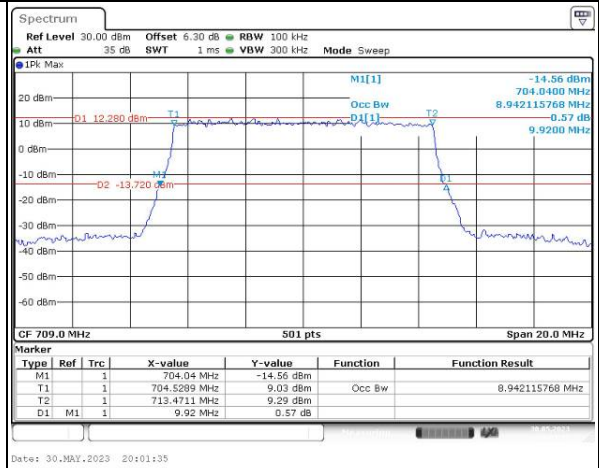
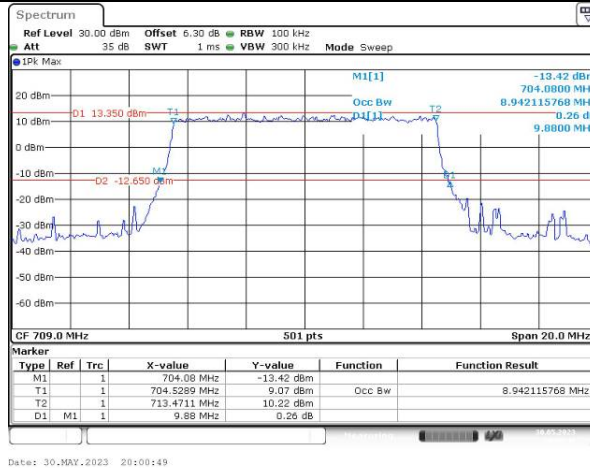
Occupied Bandwidth

Channel

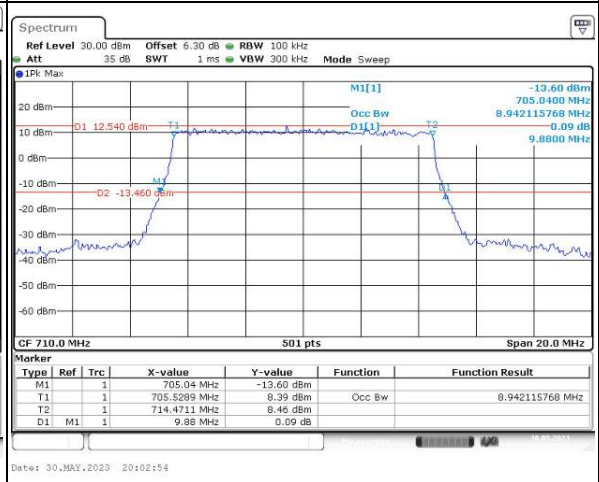
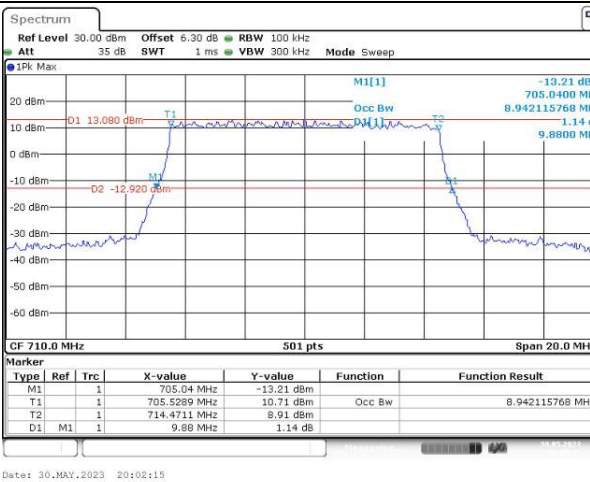
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

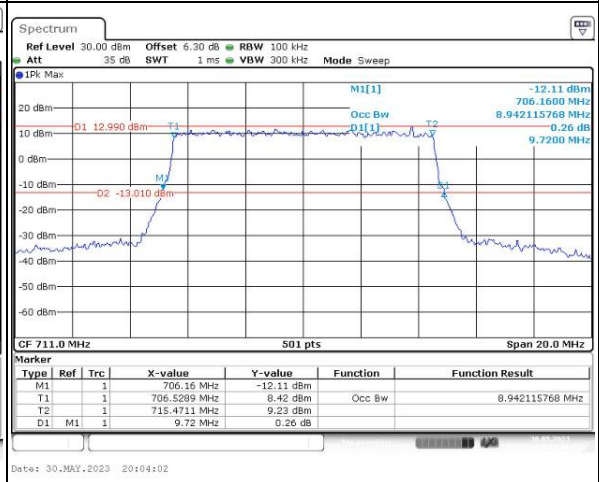
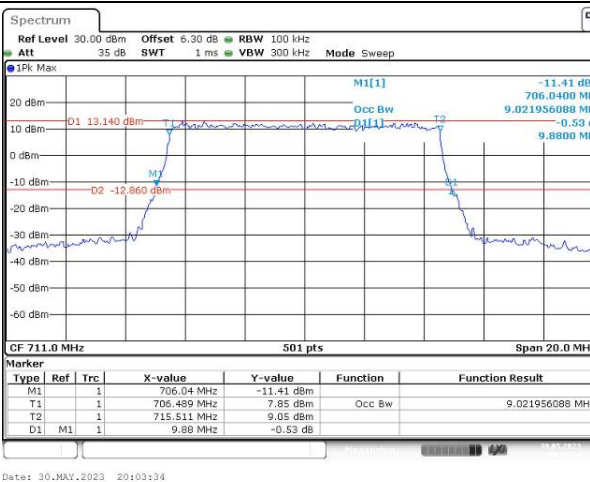
Lowest



Middle



Highest

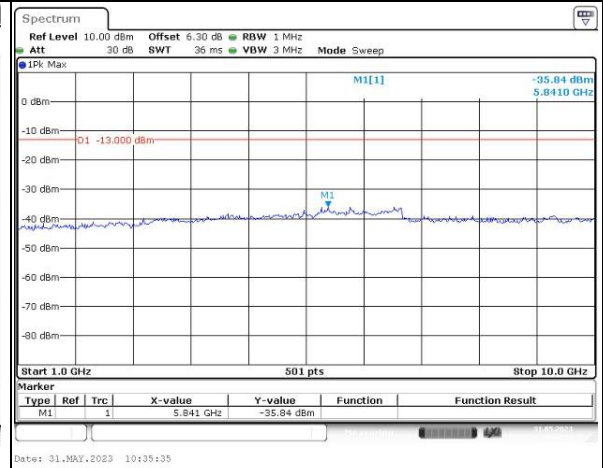
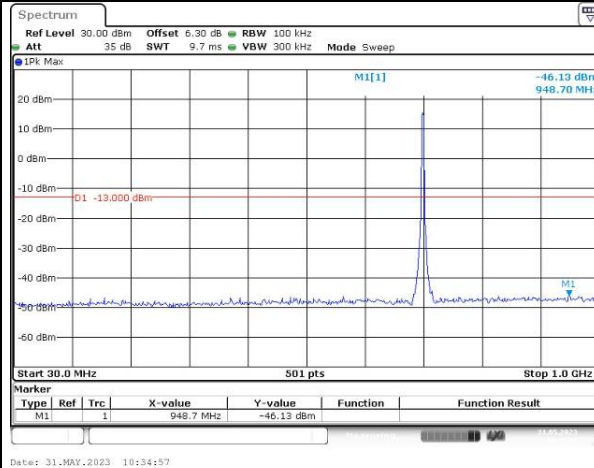


Spurious Emissions at Antenna Terminal

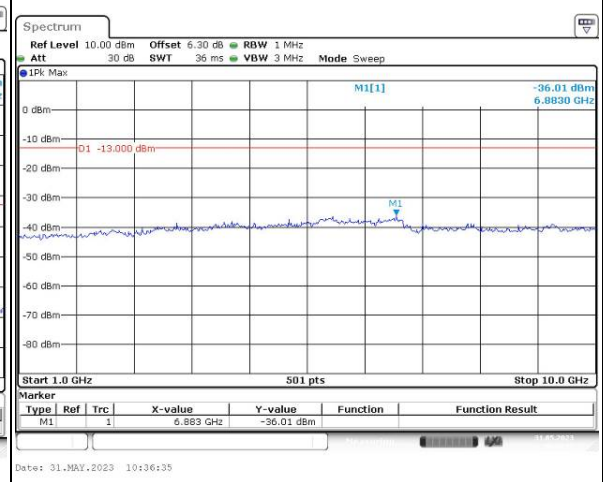
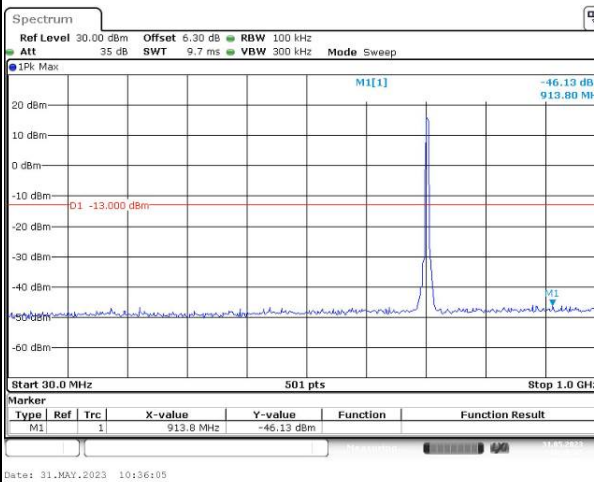
Channel

5MHz Bandwidth QPSK

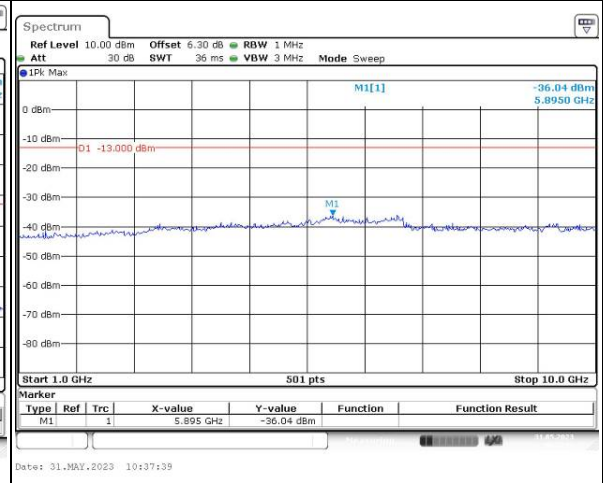
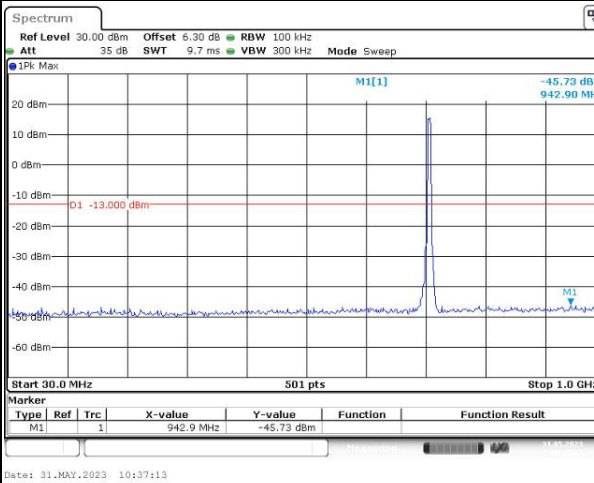
Lowest



Middle



Highest

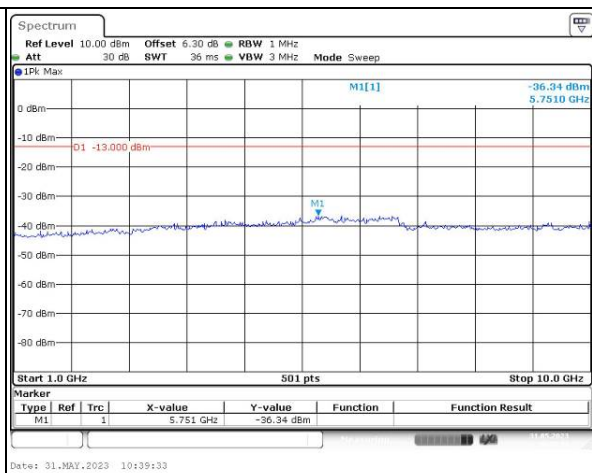
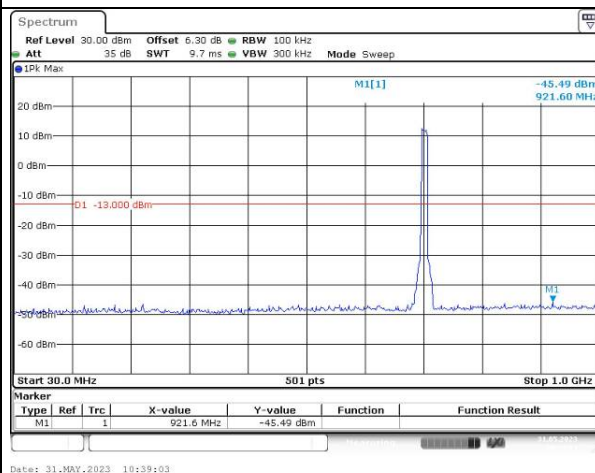


Spurious Emissions at Antenna Terminal

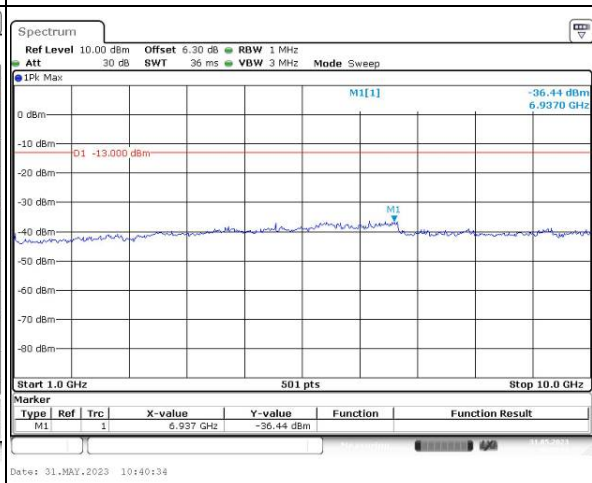
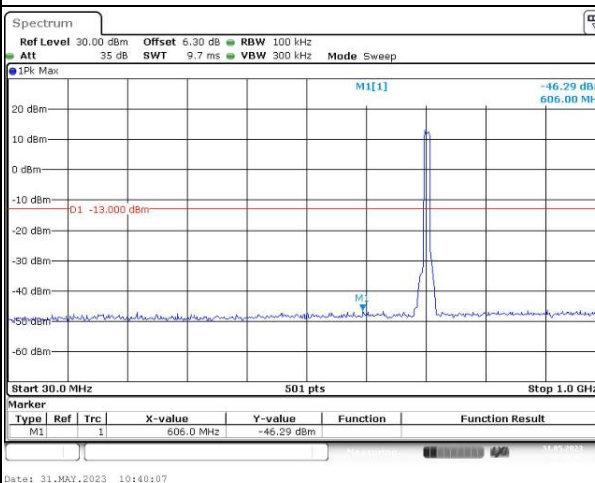
Channel

10MHz Bandwidth QPSK

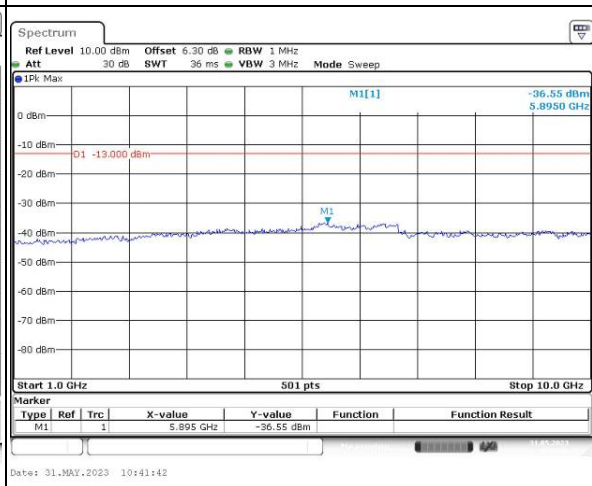
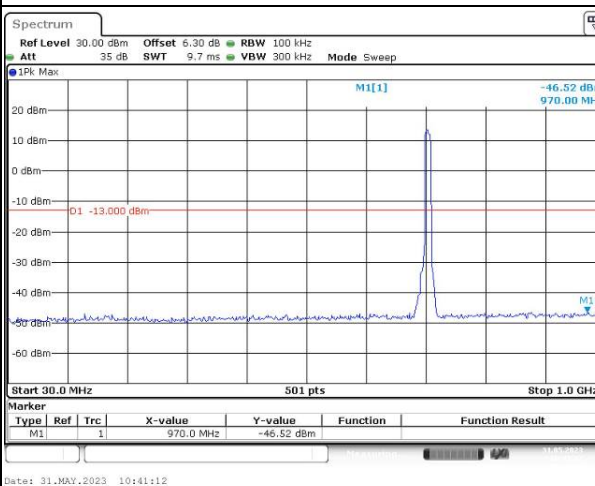
Lowest



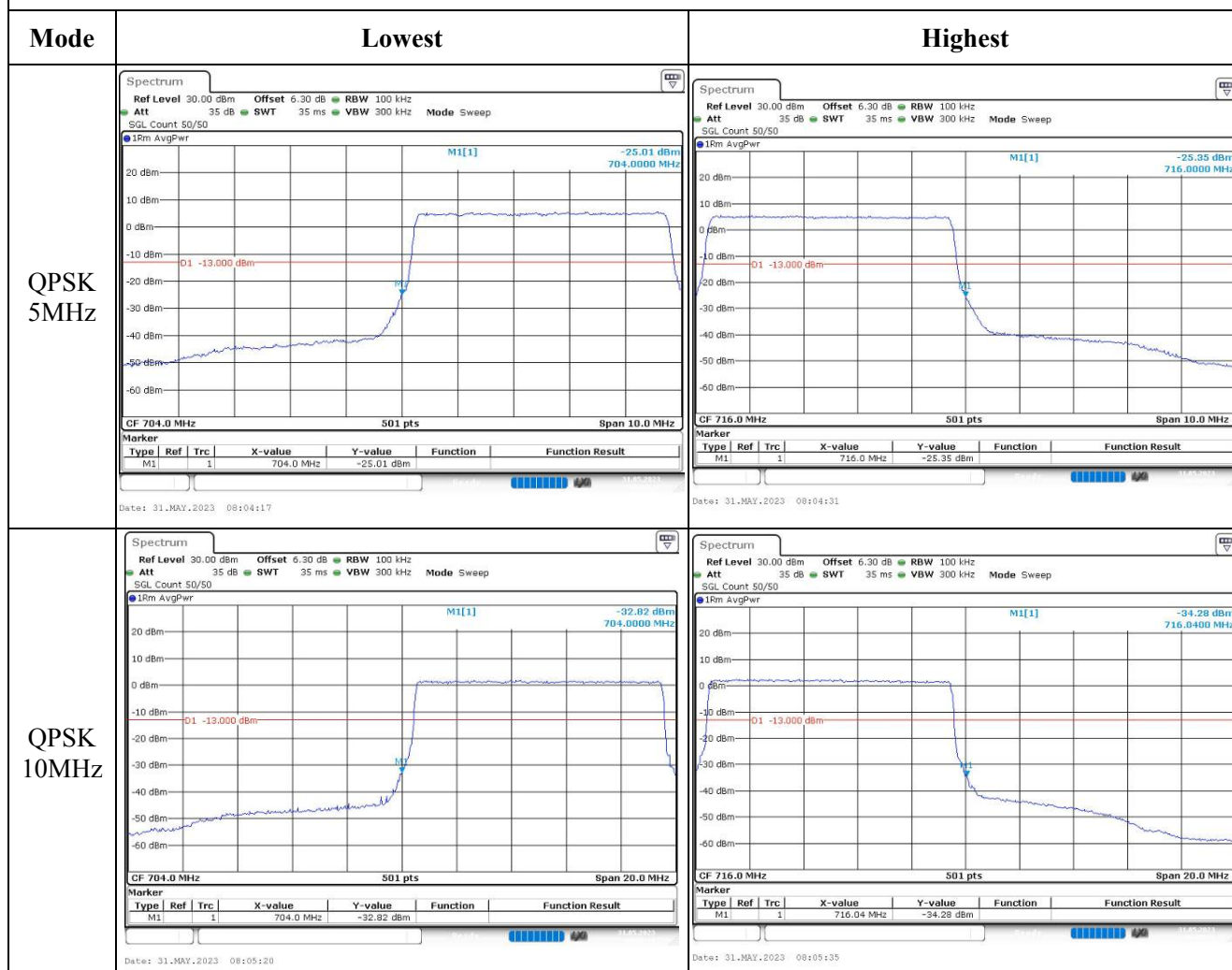
Middle



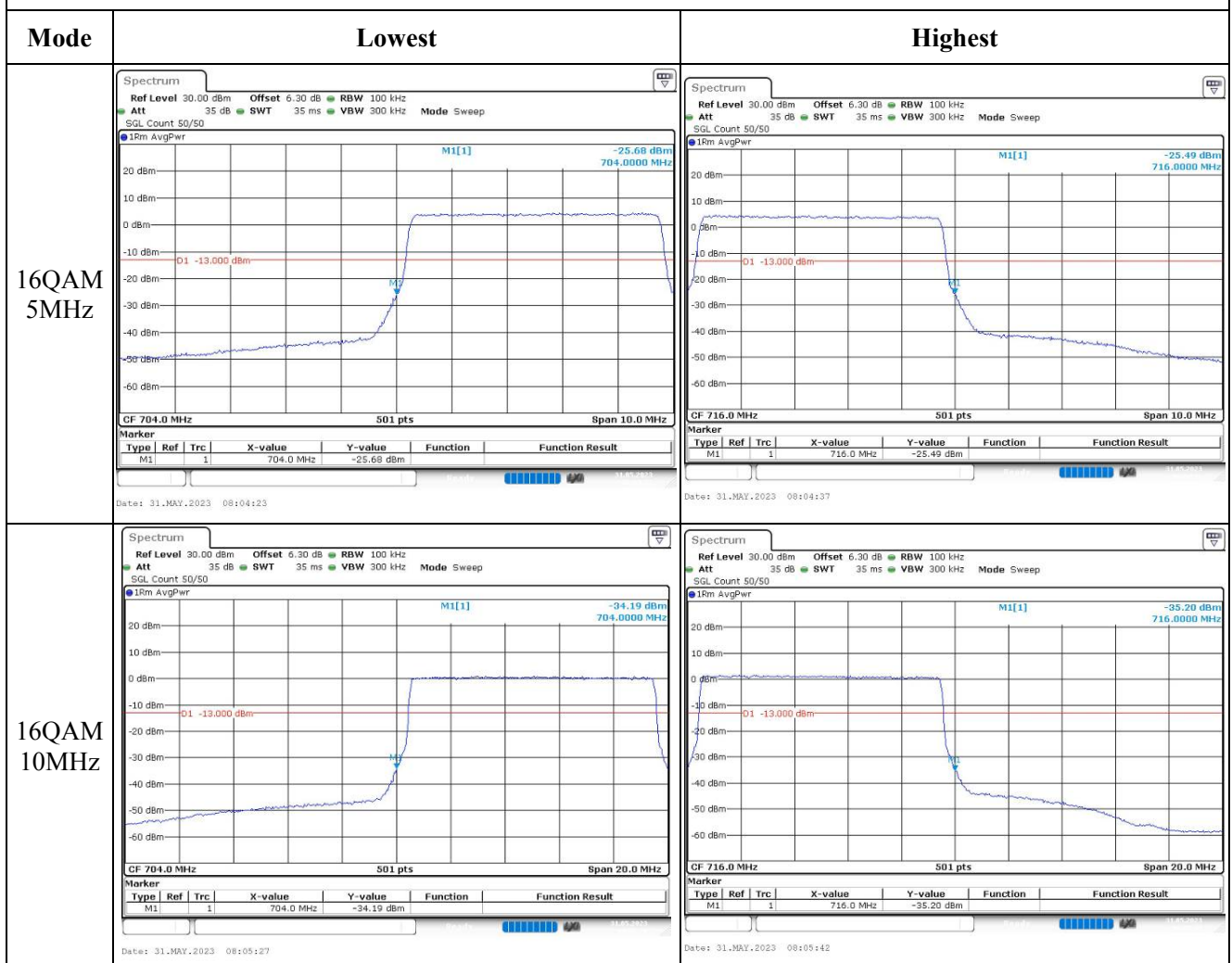
Highest



Out of band emission, Band Edge



Out of band emission, Band Edge



4.14 Antenna Port Test Data and Results for LTE Band 25

Serial Number:	25K9-3	Test Date:	2023/05/30~2023/05/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	George Chen	Test Result:	Pass

Environmental Conditions:

Temperature:	26.7~27.2	Relative Humidity:	49~55	ATM Pressure:	99.6~100.0
--------------	-----------	--------------------	-------	---------------	------------

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
Unknown	Coaxial tee connector	Unknown	2204004	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

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

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1850.7	1882.5	1914.3
3MHz	1851.5	1882.5	1913.5
5MHz	1852.5	1882.5	1912.5
10MHz	1855	1882.5	1910
15MHz	1857.5	1882.5	1907.5
20MHz	1860	1882.5	1905

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	22.46	22.49	22.57	21.23	33
	RB1#3	22.6	22.67	22.72		
	RB1#5	22.45	22.48	22.54		
	RB3#0	22.49	22.58	22.7		
	RB3#3	22.52	22.58	22.67		
	RB6#0	21.56	21.57	21.6		
1.4MHz 16QAM	RB1#0	21.6	21.54	21.56	20.33	33
	RB1#3	21.81	21.69	21.73		
	RB1#5	21.58	21.56	21.59		
	RB3#0	21.48	21.66	21.78		
	RB3#3	21.55	21.66	21.82		
	RB6#0	20.59	20.6	20.7		
3MHz QPSK	RB1#0	22.5	22.59	22.67	21.18	33
	RB1#8	22.47	22.59	22.63		
	RB1#14	22.53	22.57	22.62		
	RB6#0	21.51	21.58	21.72		
	RB6#9	21.52	21.61	21.64		
	RB15#0	21.57	21.6	21.69		
3MHz 16QAM	RB1#0	21.68	21.67	22.22	20.73	33
	RB1#8	21.67	21.64	22.21		
	RB1#14	21.67	21.63	22.19		
	RB6#0	20.54	20.55	20.78		
	RB6#9	20.57	20.52	20.74		
	RB15#0	20.5	20.63	20.8		
5MHz QPSK	RB1#0	22.41	22.48	22.58	21.23	33
	RB1#13	22.56	22.62	22.72		
	RB1#24	22.53	22.52	22.54		
	RB15#0	21.59	21.61	21.73		
	RB15#10	21.53	21.58	21.65		
	RB25#0	21.52	21.57	21.64		
5MHz 16QAM	RB1#0	21.41	21.83	21.66	20.46	33
	RB1#13	21.48	21.95	21.81		
	RB1#24	21.41	21.85	21.68		
	RB15#0	20.62	20.6	20.8		
	RB15#10	20.57	20.56	20.7		
	RB25#0	20.59	20.56	20.72		

Page 209 of 356

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	4.64	4.78	4.72	13
	RB100#0	5.22	5.1	5.04	13
20MHz 16QAM	RB1#0	5.33	5.59	5.65	13
	RB100#0	6.12	5.97	5.97	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	1.102	1.102	1.332	1.302	1.308
1.4MHz 16QAM	1.096	1.096	1.102	1.296	1.296	1.326
3MHz QPSK	2.683	2.683	2.695	2.88	2.88	2.892
3MHz 16QAM	2.683	2.683	2.683	2.88	2.892	2.88
5MHz QPSK	4.531	4.511	4.511	5.2	5.22	5.22
5MHz 16QAM	4.511	4.531	4.551	5.24	5.26	5.2
10MHz QPSK	8.982	8.942	8.982	9.96	9.84	9.88
10MHz 16QAM	8.982	8.942	8.982	9.8	9.88	9.84
15MHz QPSK	13.593	13.473	13.533	15.66	15.18	15.24
15MHz 16QAM	13.593	13.533	13.533	15.18	15.18	15.12
20MHz QPSK	17.964	17.964	17.964	19.68	19.76	19.92
20MHz 16QAM	18.044	17.964	17.884	19.92	19.84	19.52

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.
----------------	--

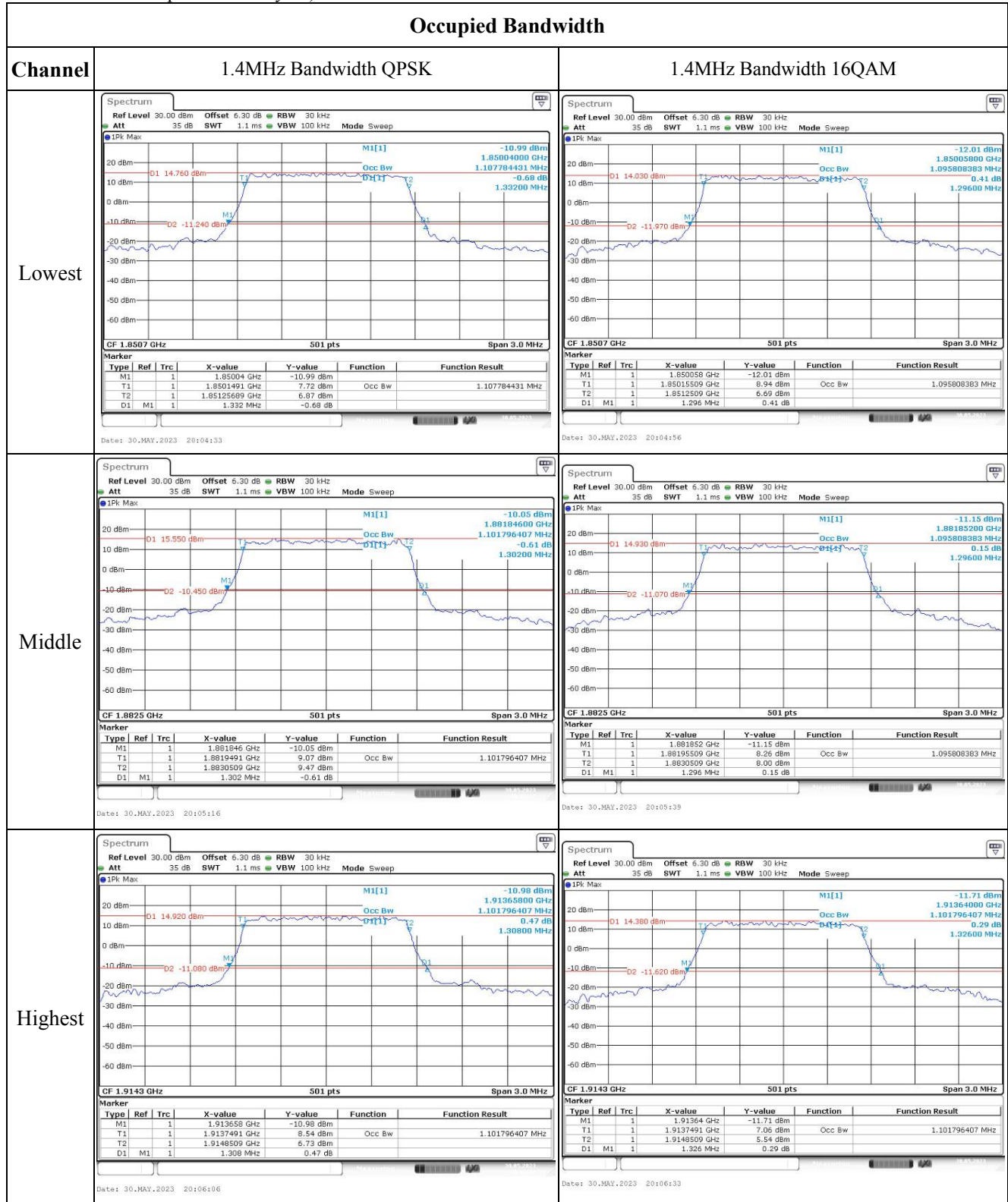
Out of band emission, Band Edge

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 (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	1851.069	1850.000	1913.932	1915.000
	-20	3.87	1851.092	1850.000	1913.953	1915.000
	-10	3.87	1851.092	1850.000	1913.965	1915.000
	0	3.87	1851.056	1850.000	1913.902	1915.000
	10	3.87	1851.053	1850.000	1913.992	1915.000
	20	3.87	1851.058	1850.000	1913.942	1915.000
	30	3.87	1851.054	1850.000	1913.974	1915.000
	40	3.87	1851.064	1850.000	1913.943	1915.000
	50	3.87	1851.066	1850.000	1913.916	1915.000
Frequency Stability vs. Voltage	20	3.47	1851.071	1850.000	1913.901	1915.000
	20	4.45	1851.021	1850.000	1913.939	1915.000
					Result:	Pass

Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.87	1851.084	1850.000	1913.915	1915.000
	-20	3.87	1851.082	1850.000	1913.992	1915.000
	-10	3.87	1851.048	1850.000	1913.929	1915.000
	0	3.87	1851.063	1850.000	1913.962	1915.000
	10	3.87	1851.049	1850.000	1913.917	1915.000
	20	3.87	1851.058	1850.000	1913.942	1915.000
	30	3.87	1851.036	1850.000	1913.924	1915.000
	40	3.87	1851.056	1850.000	1913.989	1915.000
	50	3.87	1851.017	1850.000	1913.969	1915.000
Frequency Stability vs. Voltage	20	3.47	1851.088	1850.000	1913.956	1915.000
	20	4.45	1851.046	1850.000	1913.975	1915.000
					Result:	Pass

Test Plots(Note: The 6.3dB is the Insertion loss of the RF cable, Coaxial tee connector and DC Block, which was offset into the Spectrum Analyzer):



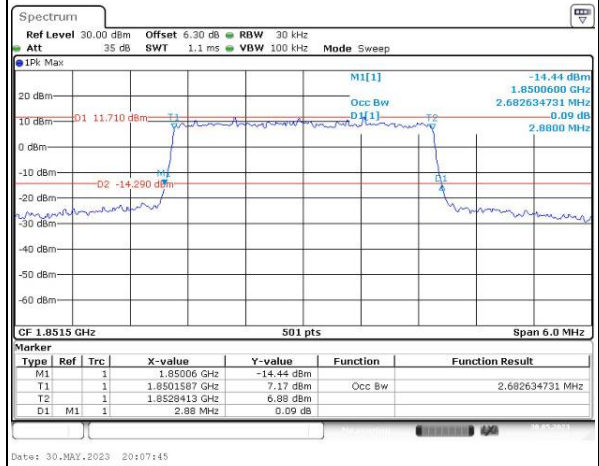
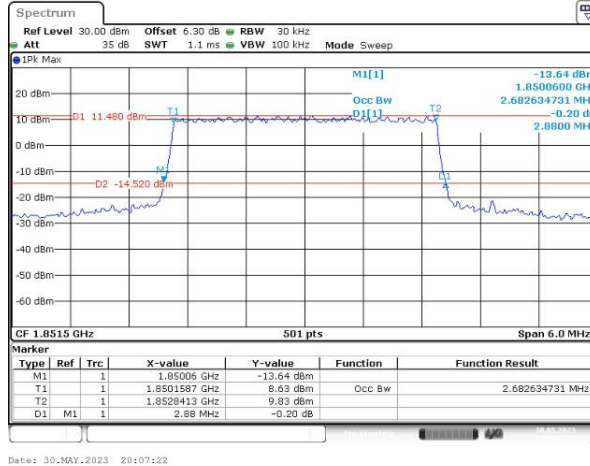
Occupied Bandwidth

Channel

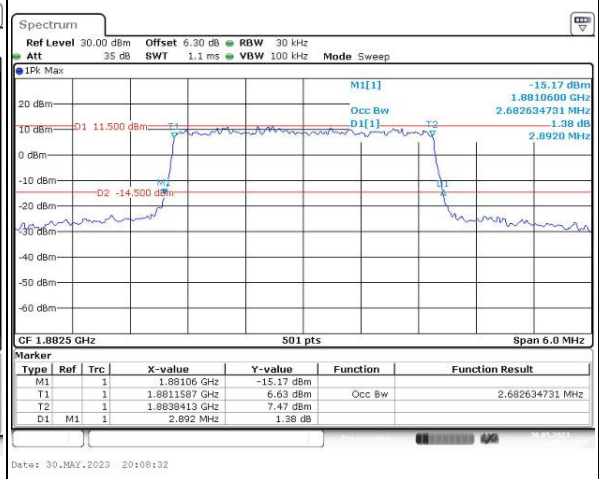
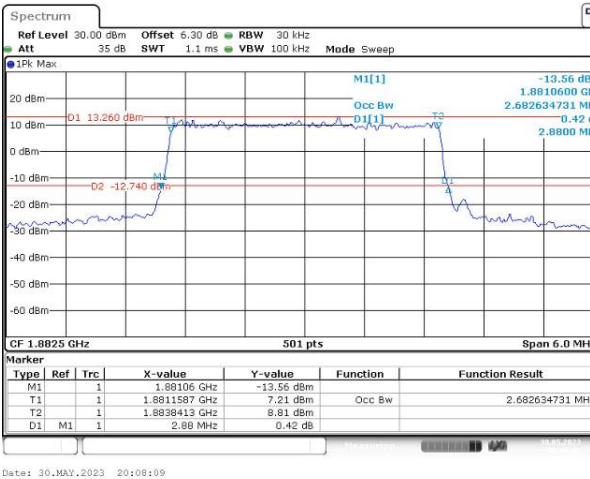
3MHz Bandwidth QPSK

3MHz Bandwidth 16QAM

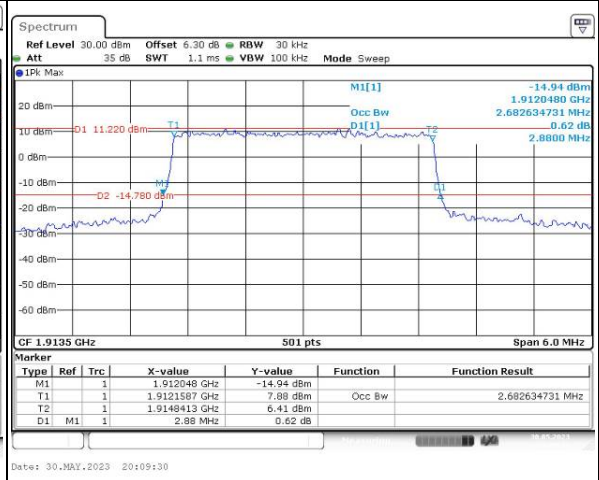
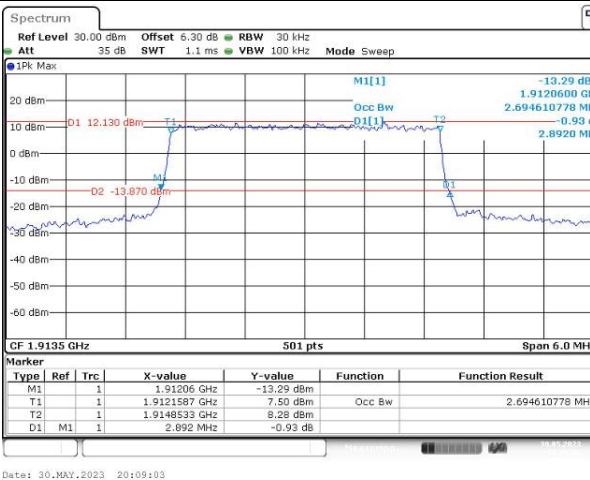
Lowest



Middle



Highest



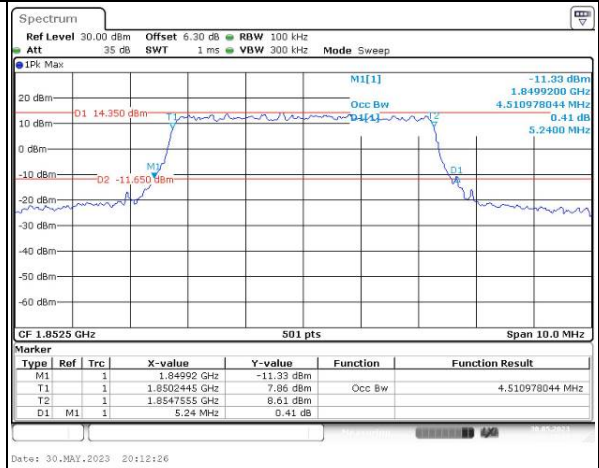
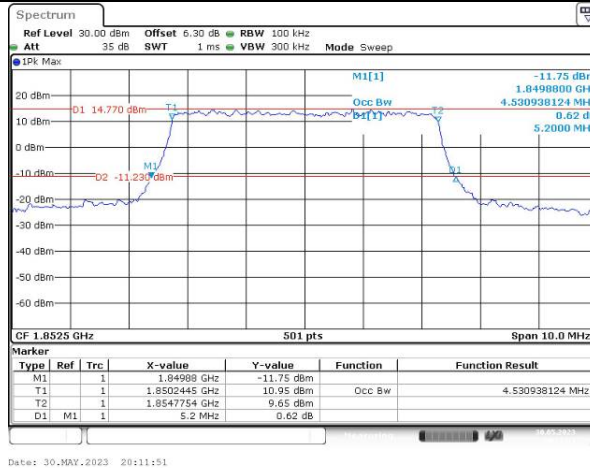
Occupied Bandwidth

Channel

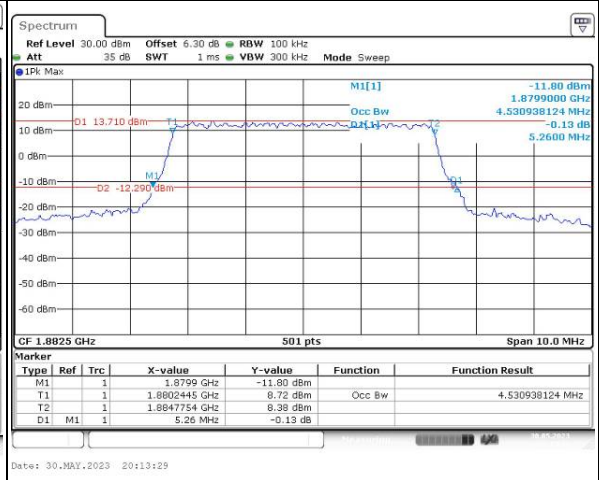
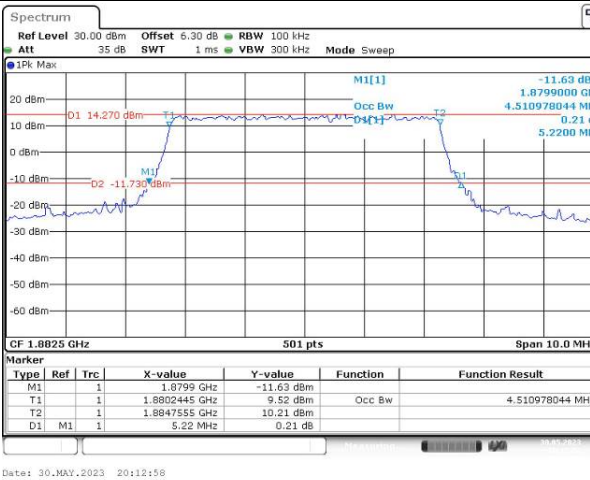
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

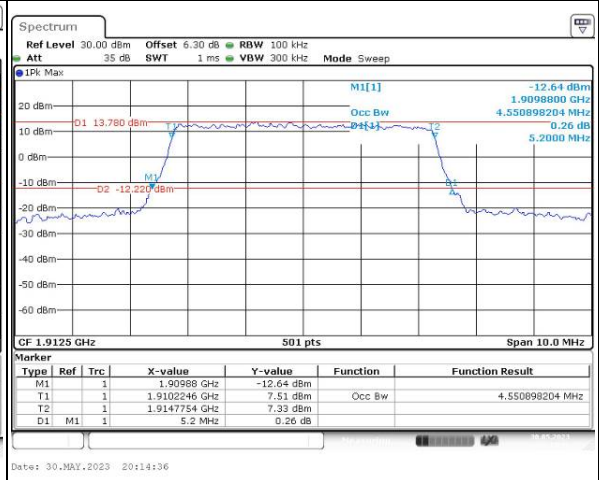
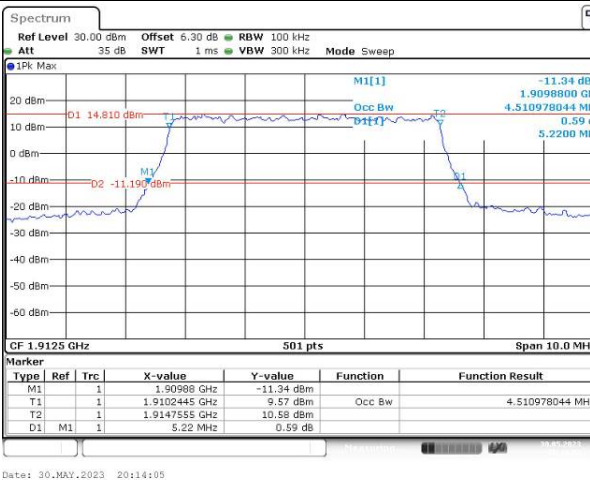
Lowest



Middle



Highest



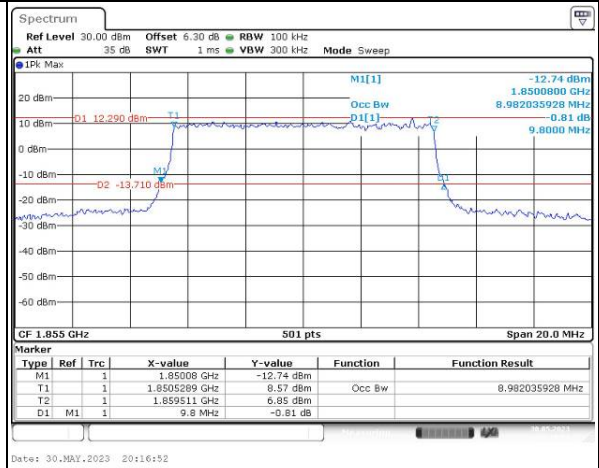
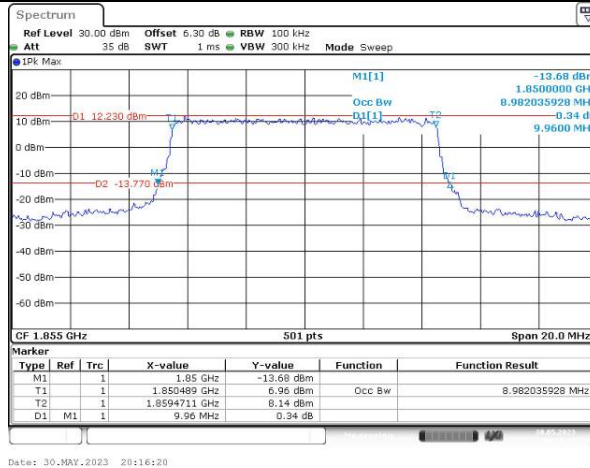
Occupied Bandwidth

Channel

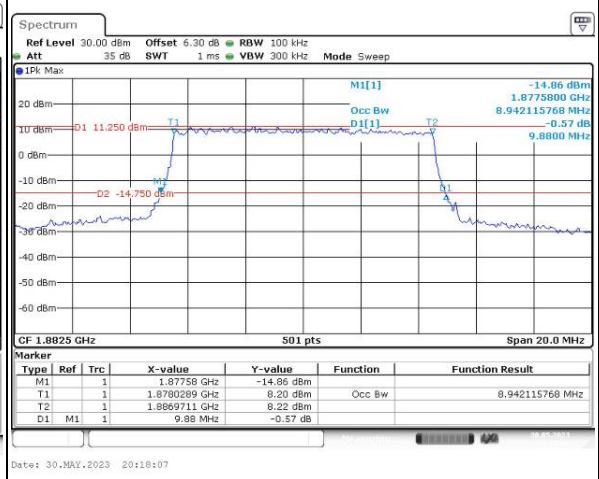
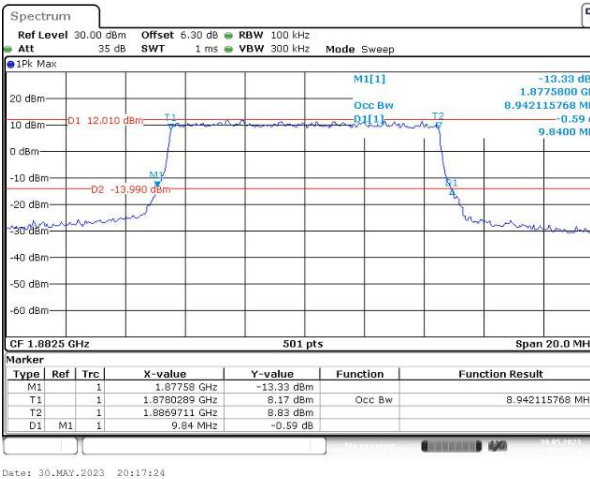
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

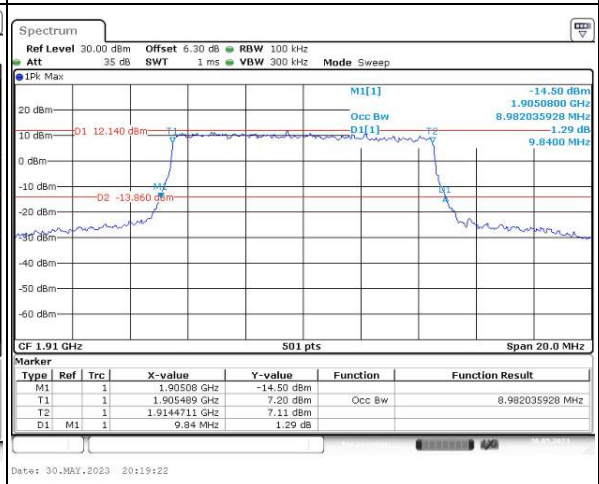
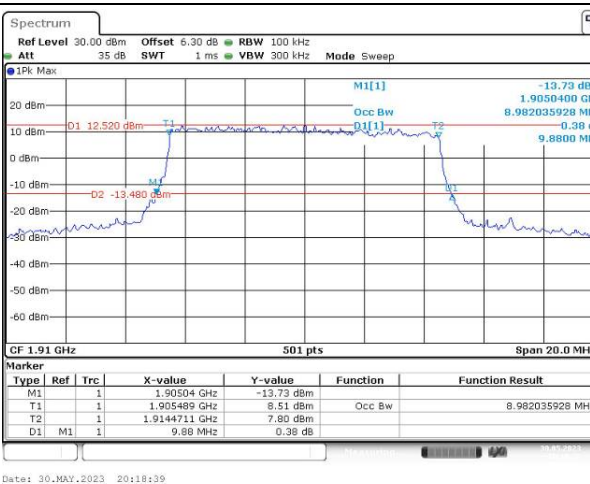
Lowest



Middle



Highest



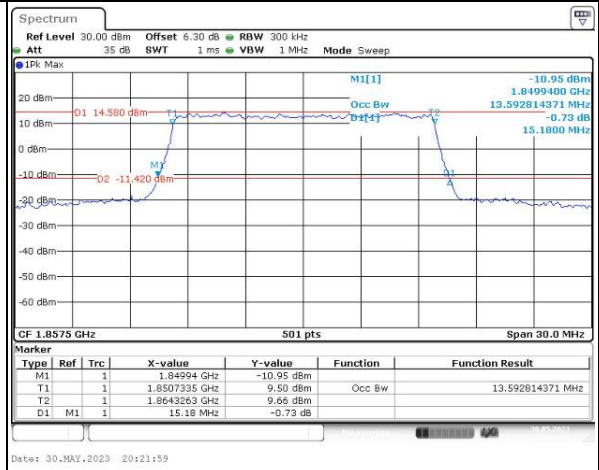
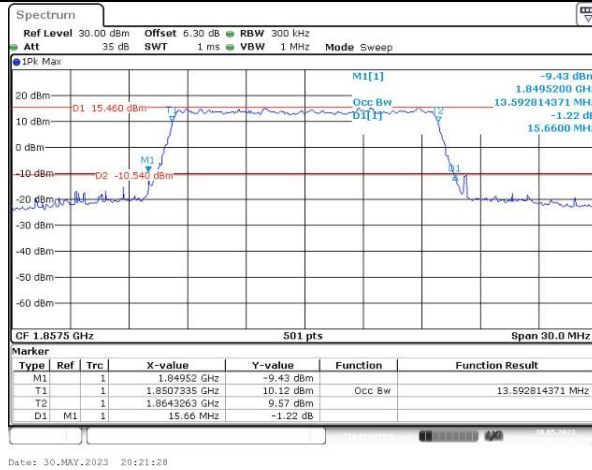
Occupied Bandwidth

Channel

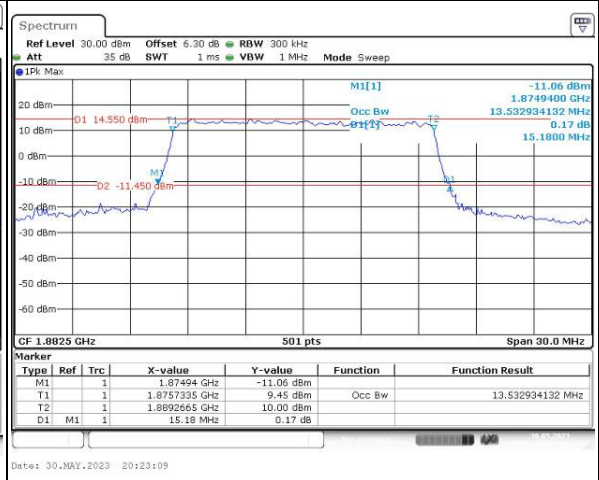
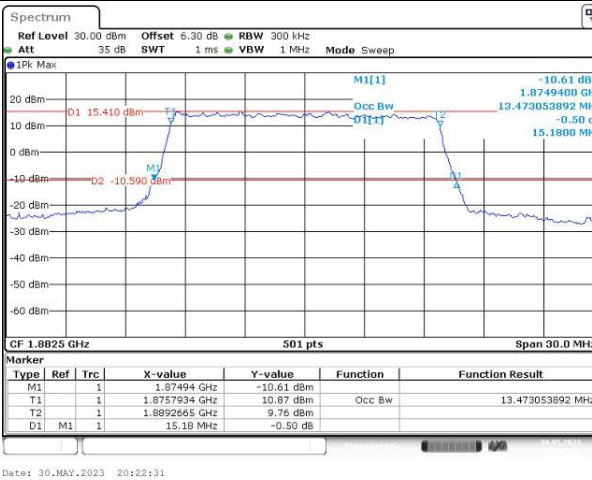
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

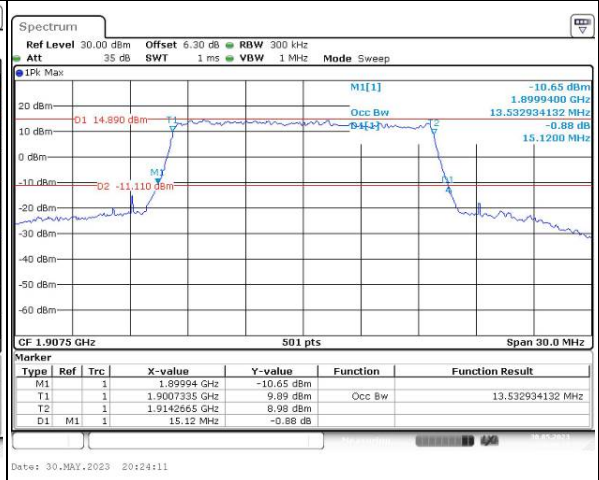
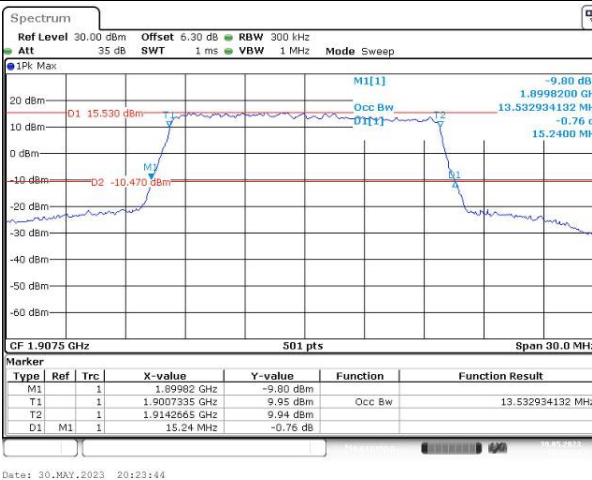
Lowest



Middle



Highest



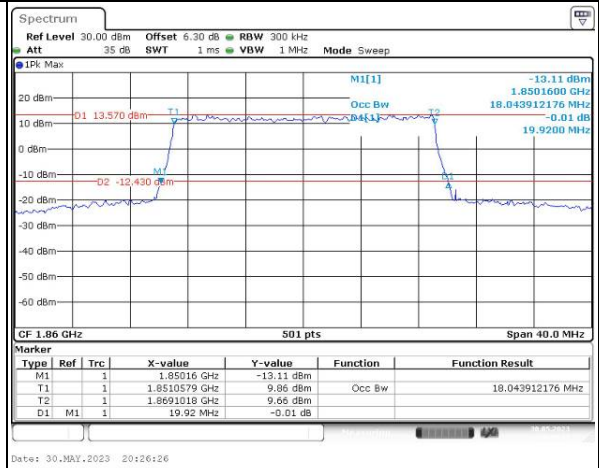
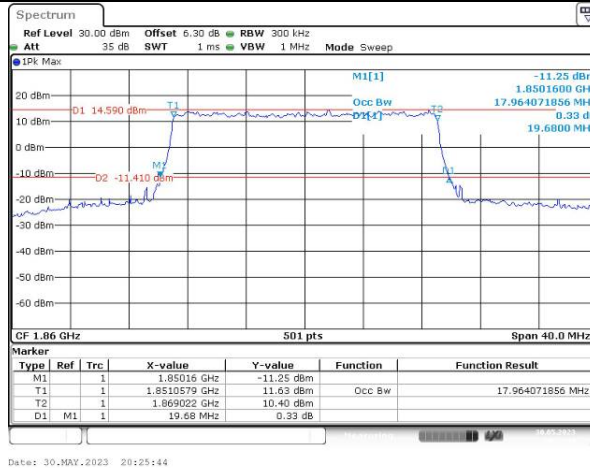
Occupied Bandwidth

Channel

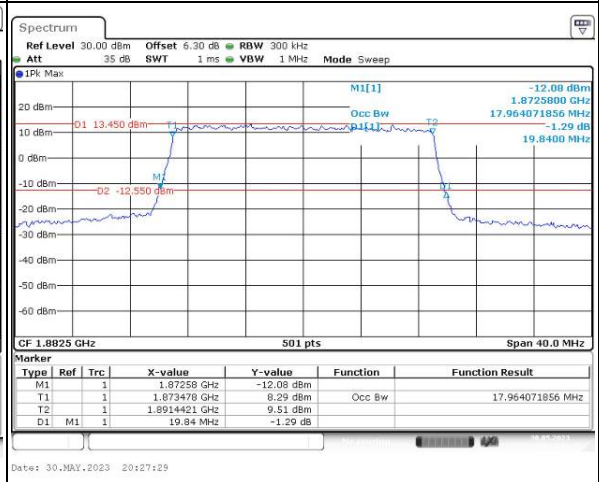
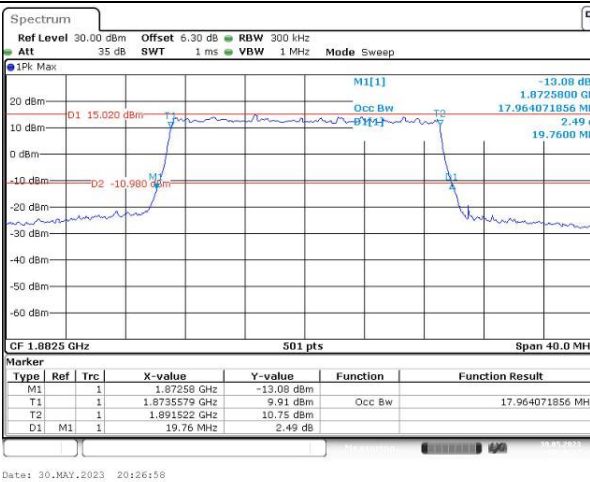
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

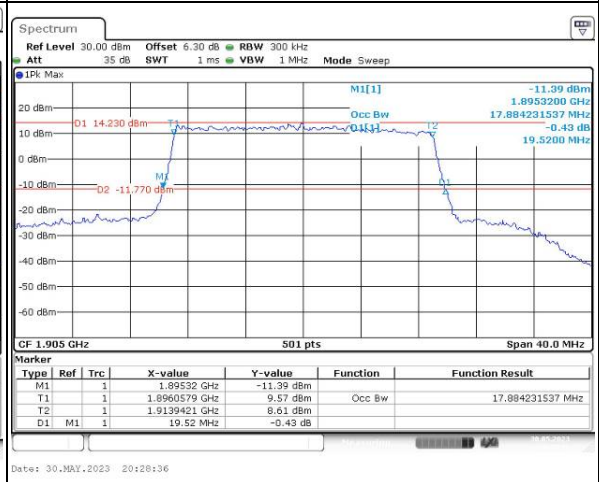
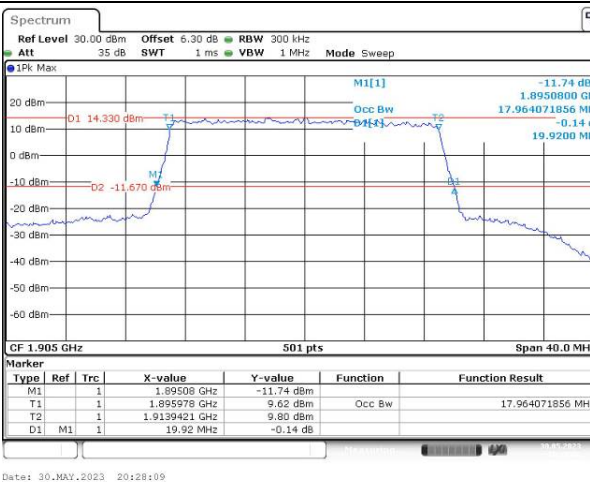
Lowest



Middle



Highest

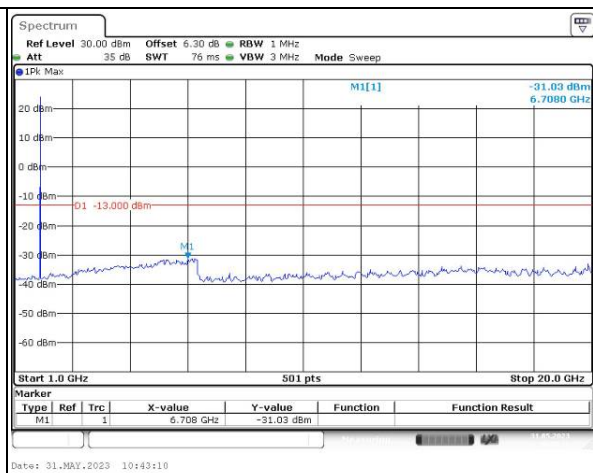
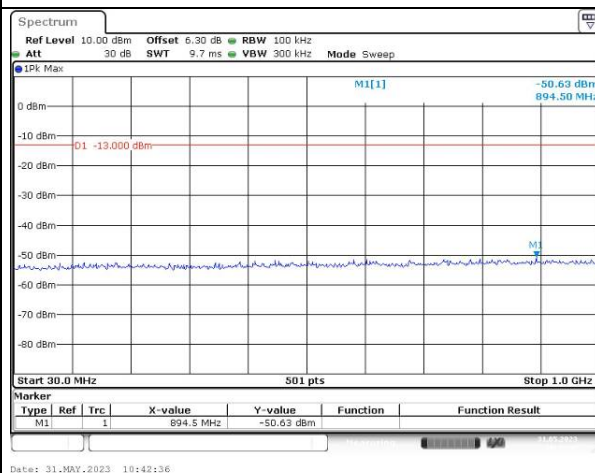


Spurious Emissions at Antenna Terminal

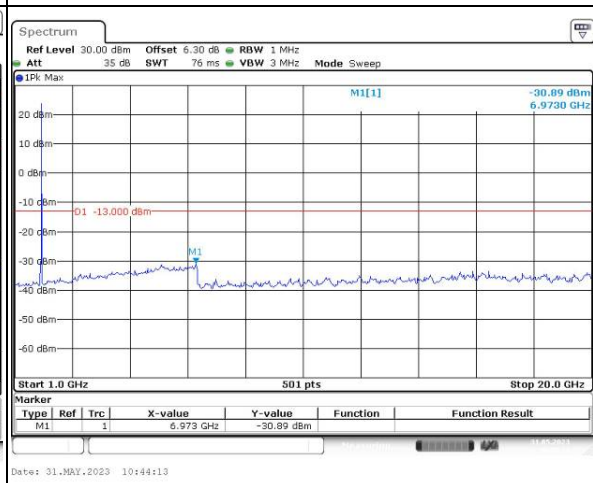
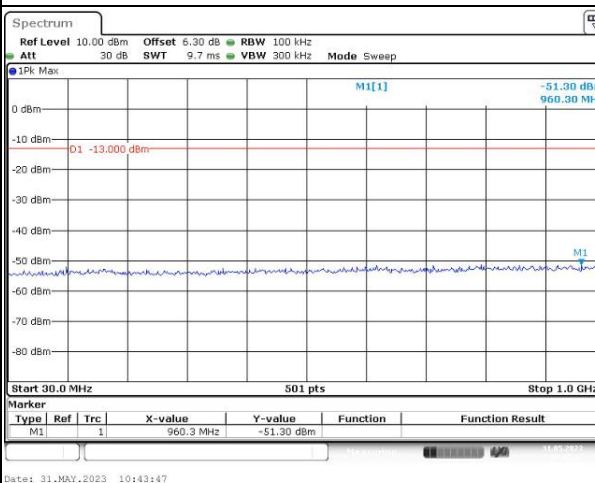
Channel

1.4MHz Bandwidth QPSK

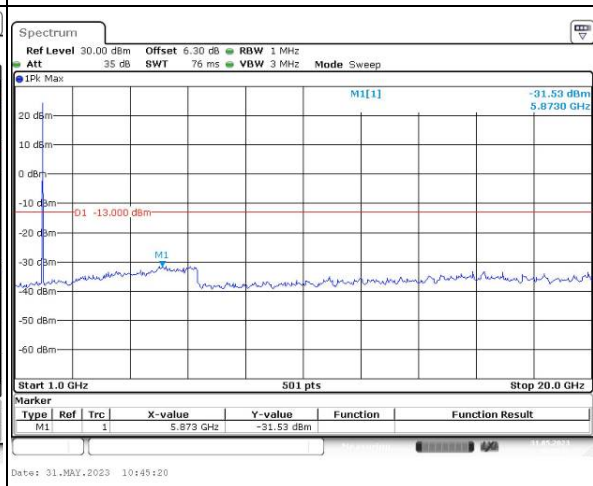
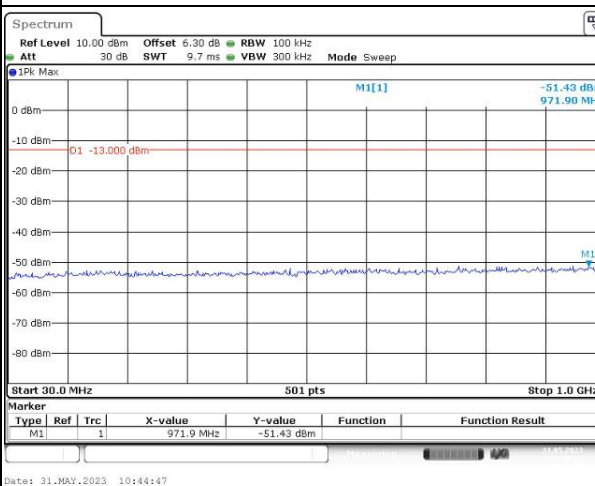
Lowest



Middle



Highest

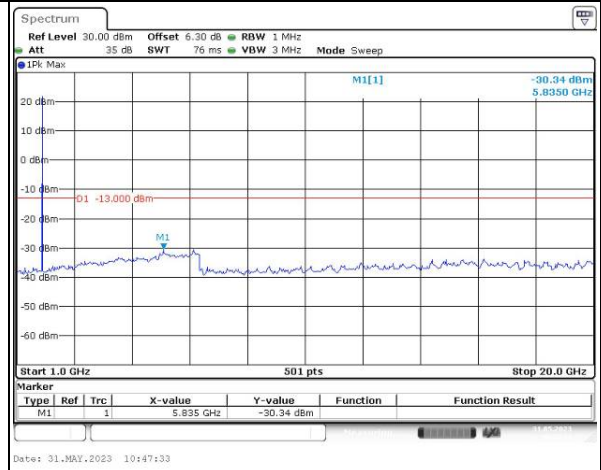
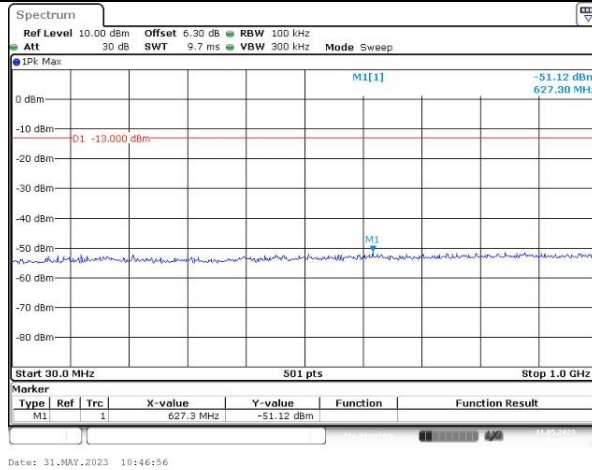


Spurious Emissions at Antenna Terminal

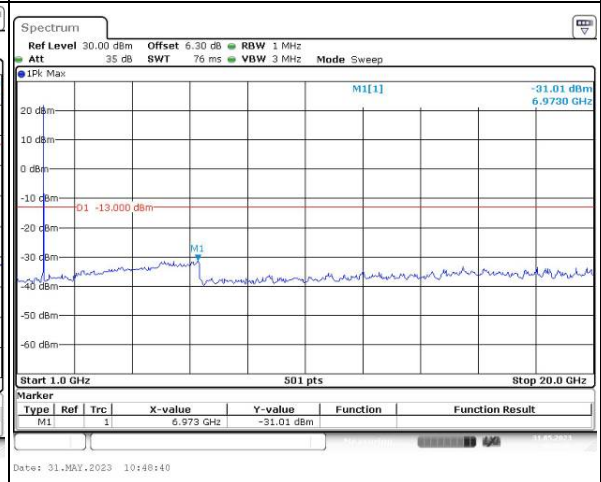
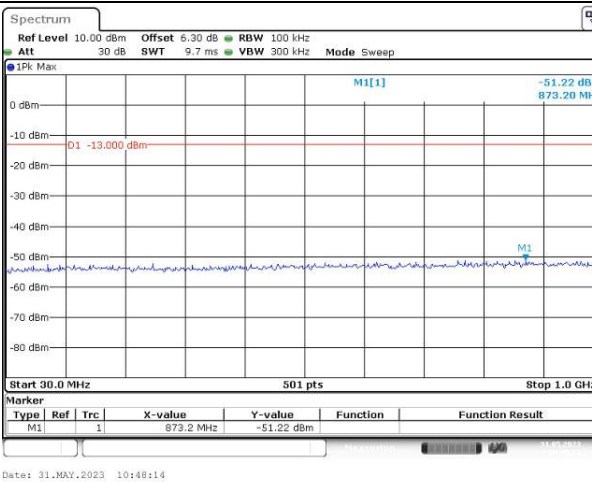
Channel

3MHz Bandwidth QPSK

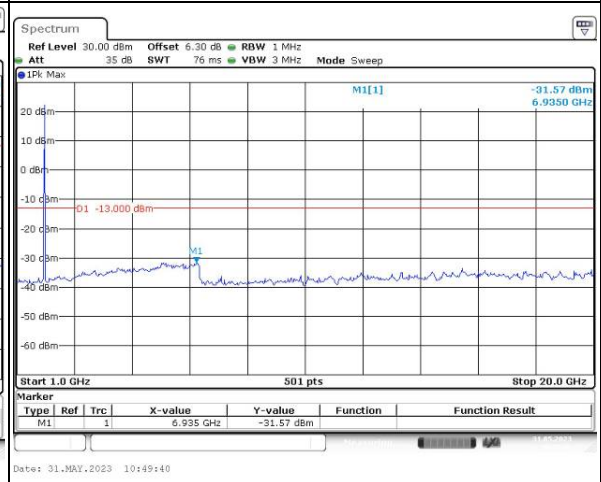
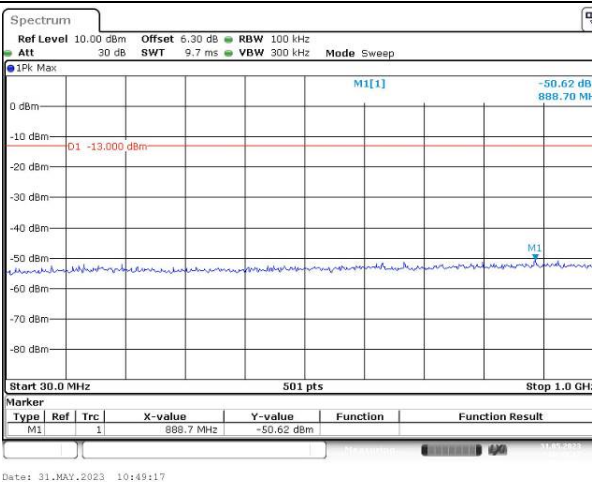
Lowest



Middle



Highest

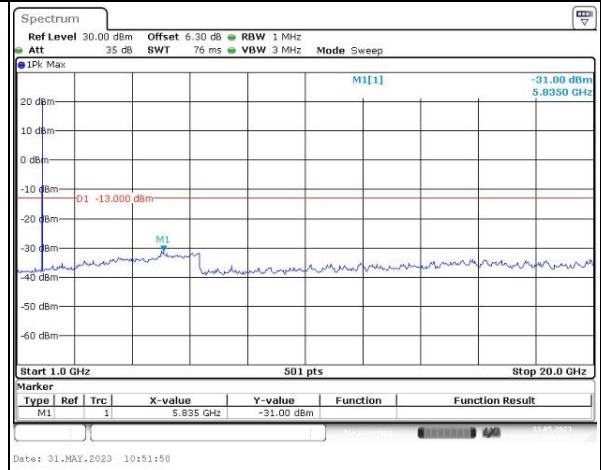
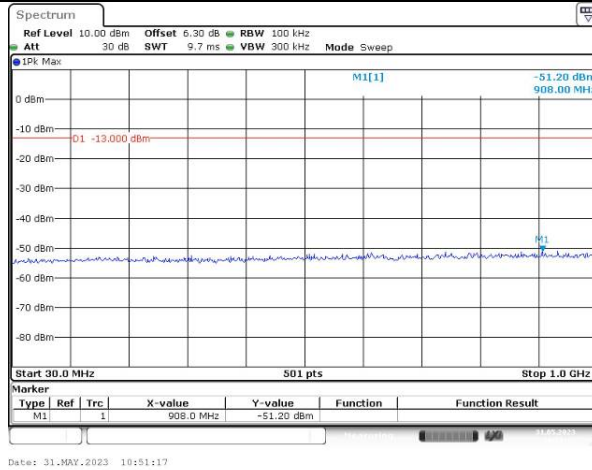


Spurious Emissions at Antenna Terminal

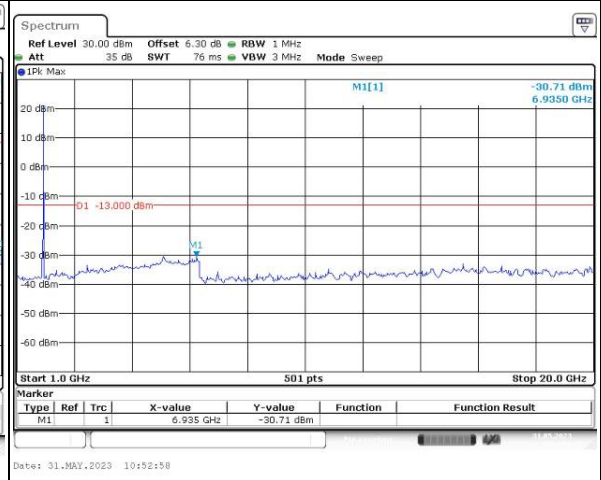
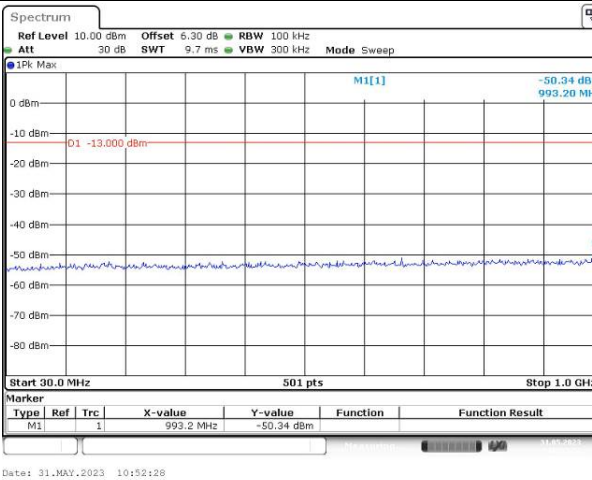
Channel

5MHz Bandwidth QPSK

Lowest



Middle



Highest

