

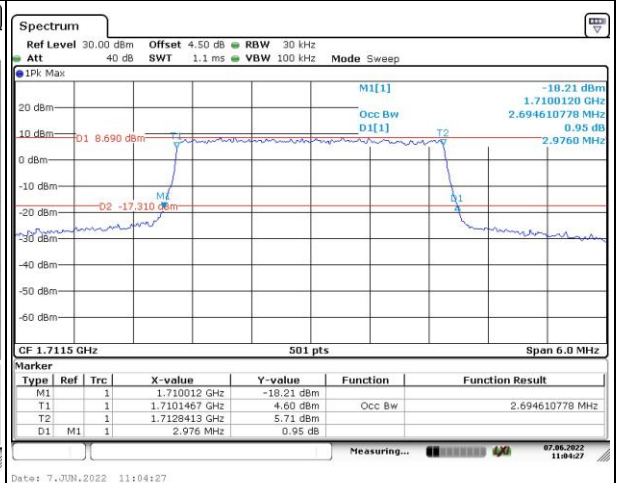
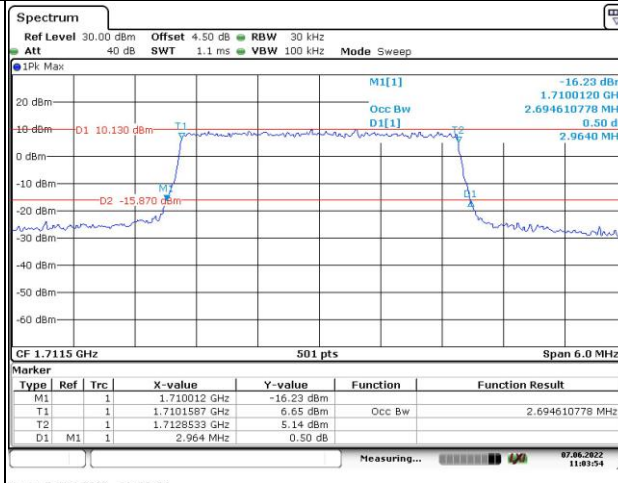
Occupied Bandwidth

Channel

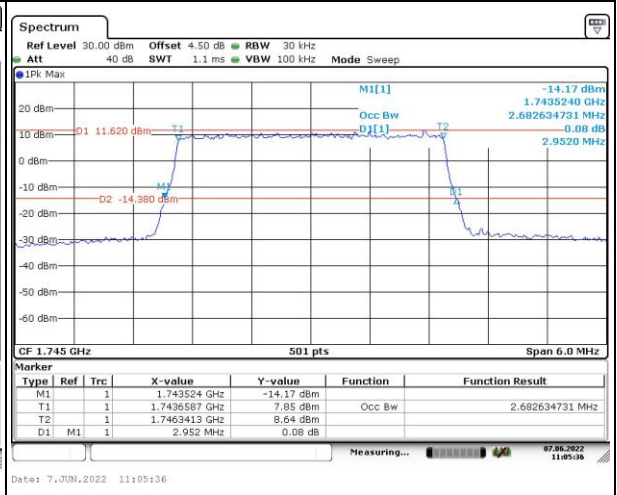
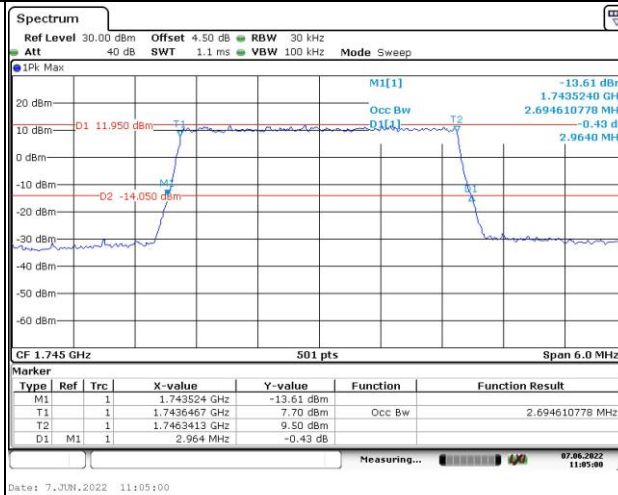
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

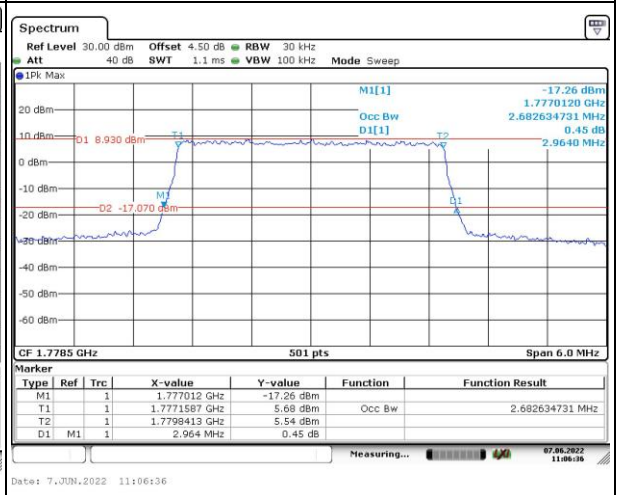
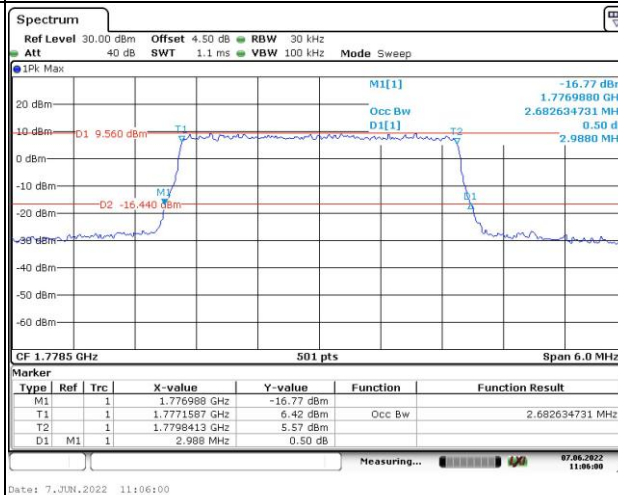
Lowest



Middle



Highest

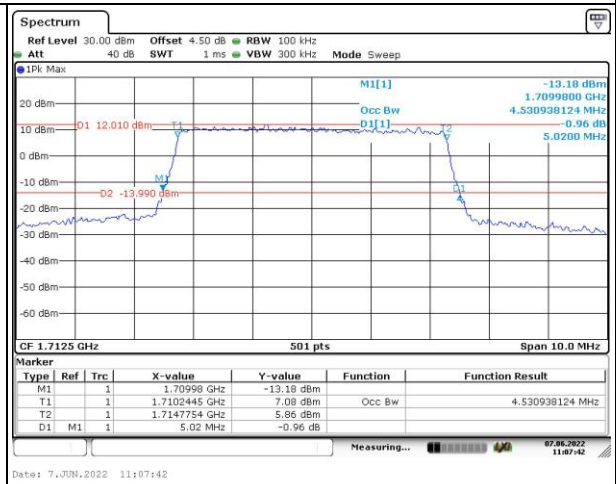
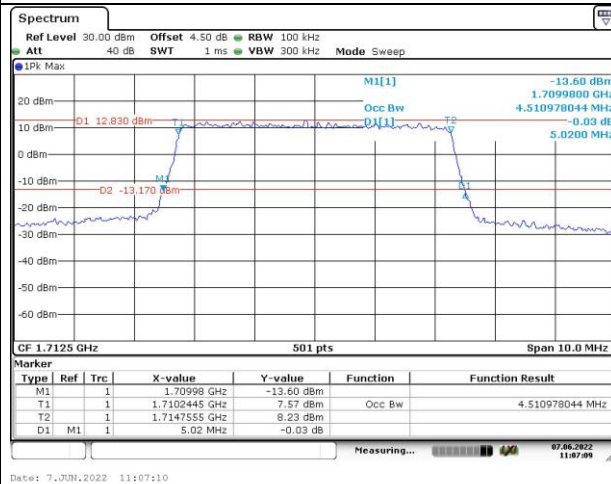


Spurious Emissions at Antenna Terminal

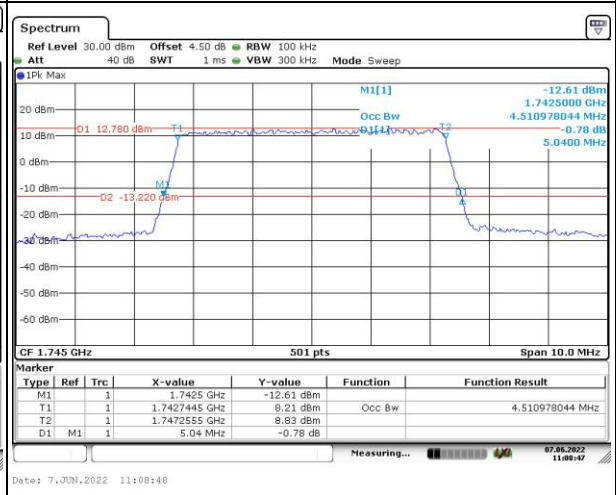
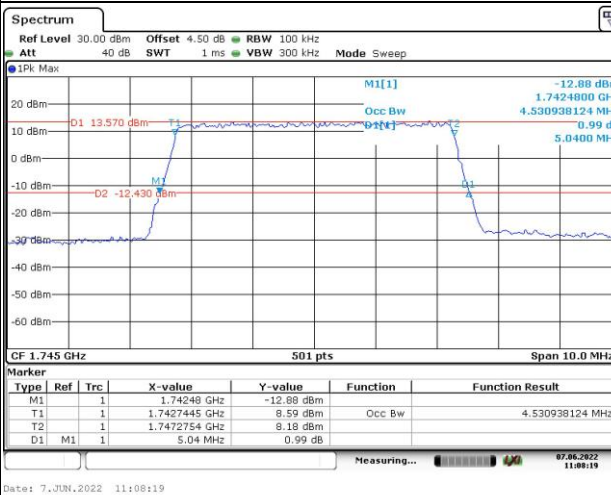
Channel

5MHz Bandwidth QPSK

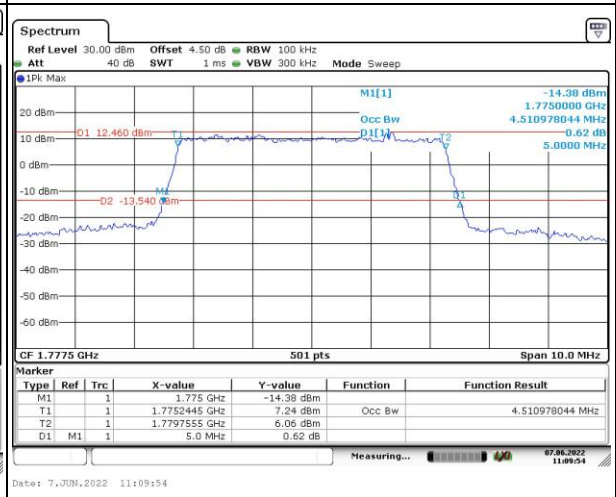
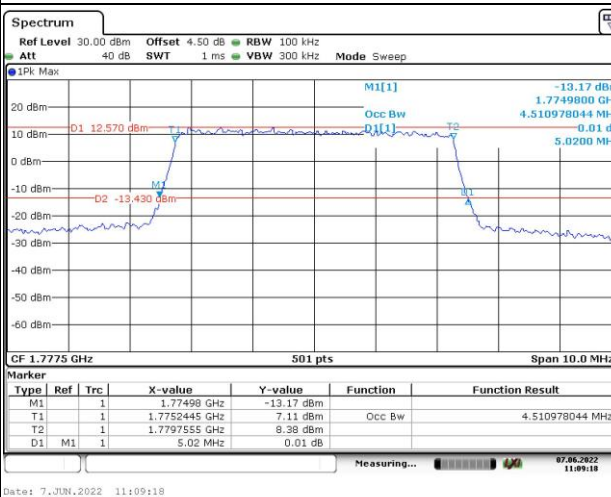
Lowest



Middle



Highest

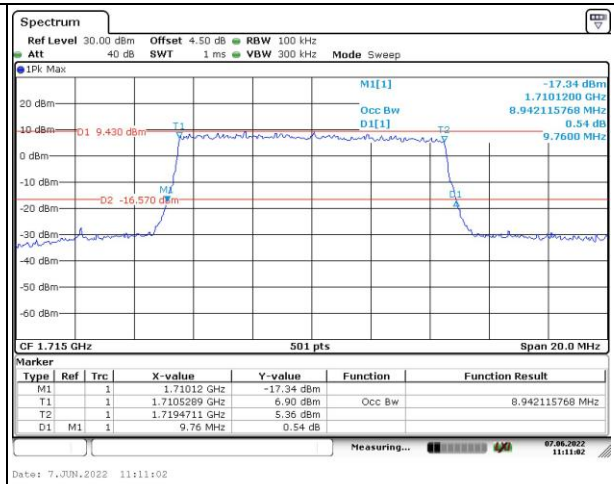
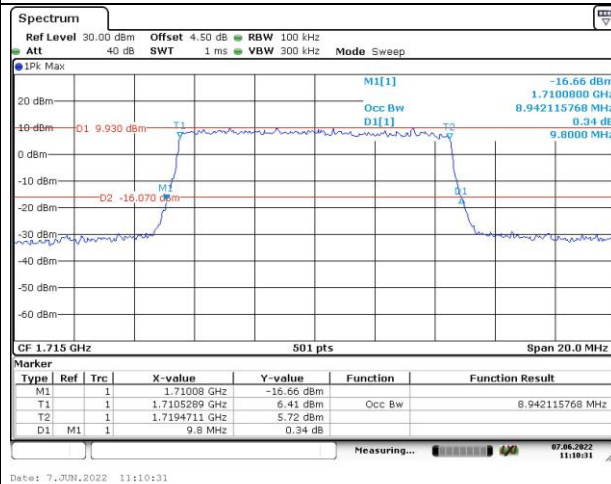


Spurious Emissions at Antenna Terminal

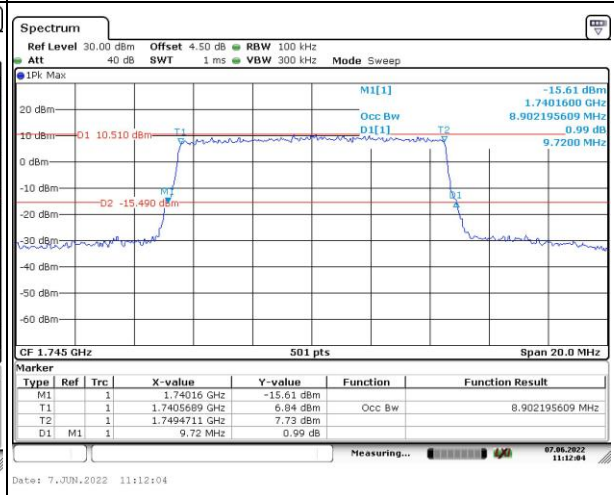
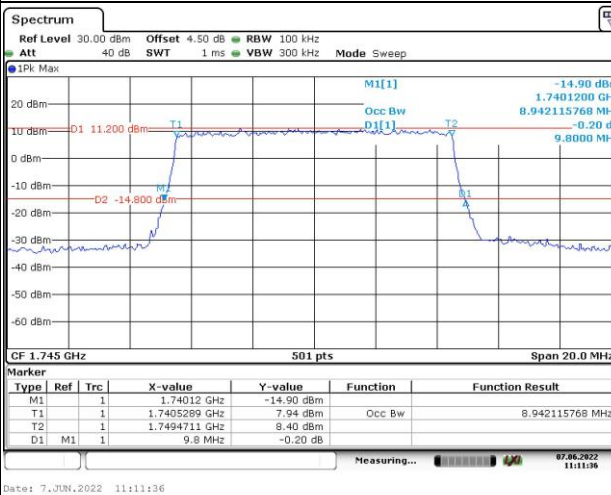
Channel

10MHz Bandwidth QPSK

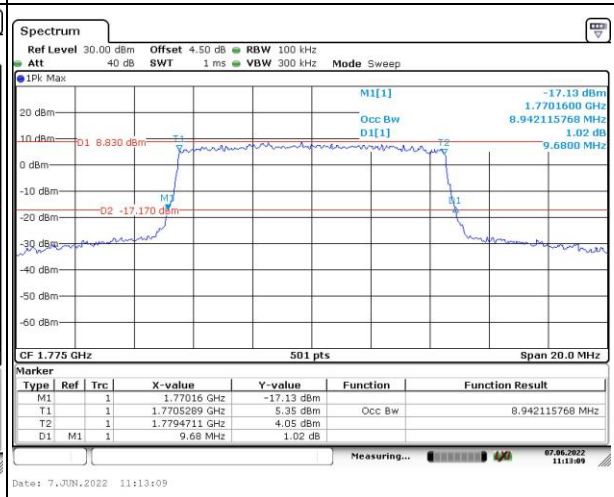
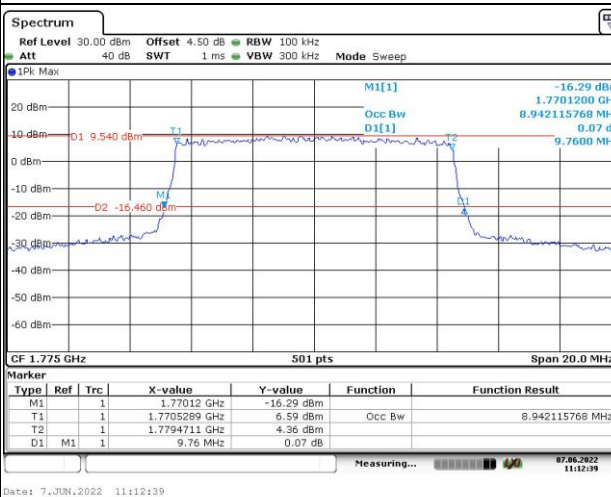
Lowest



Middle



Highest



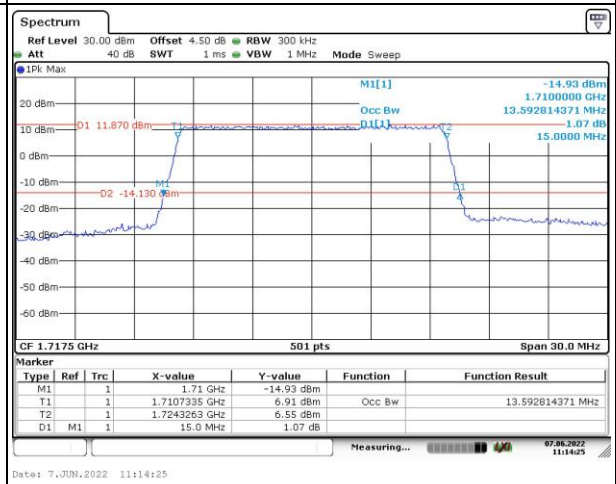
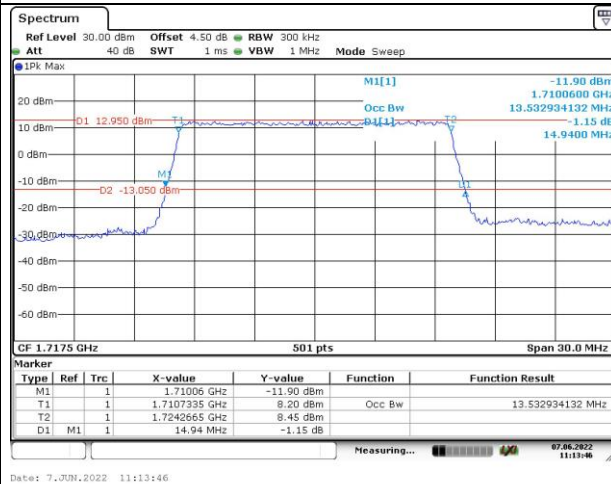
Occupied Bandwidth

Channel

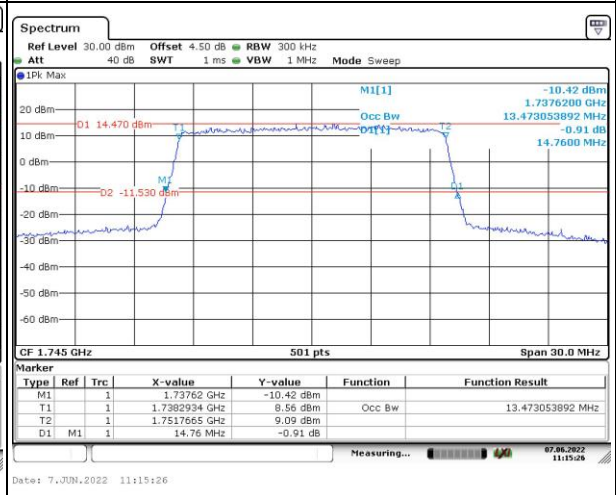
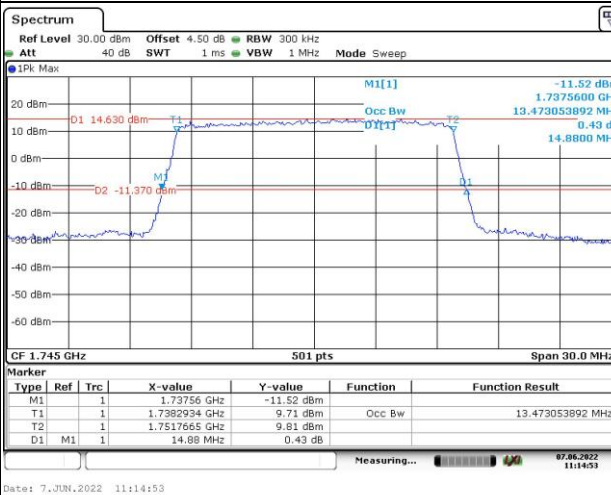
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

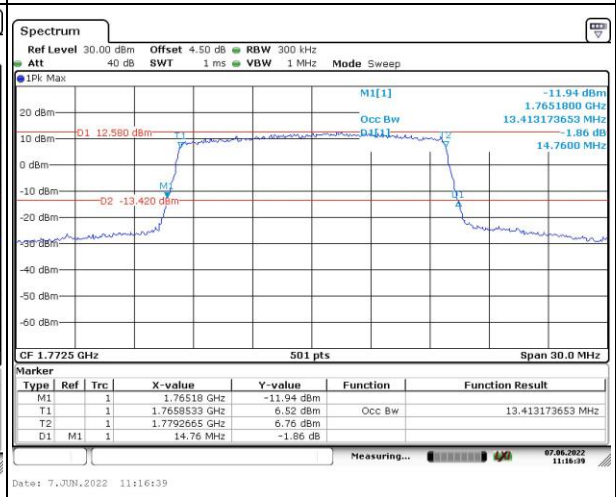
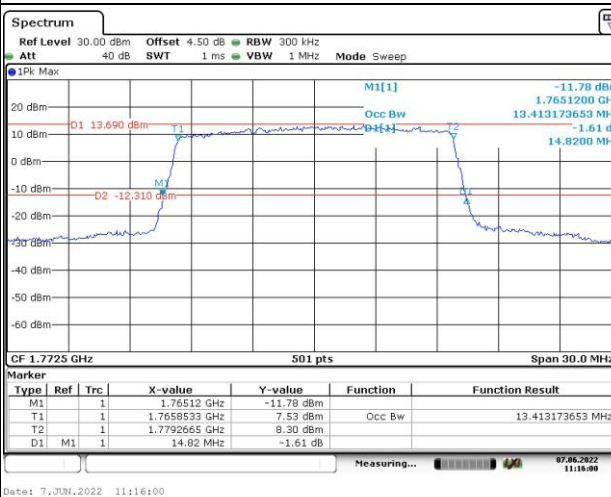
Lowest



Middle



Highest



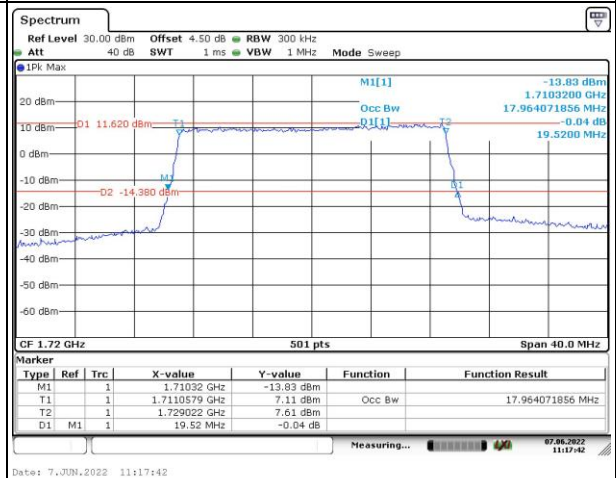
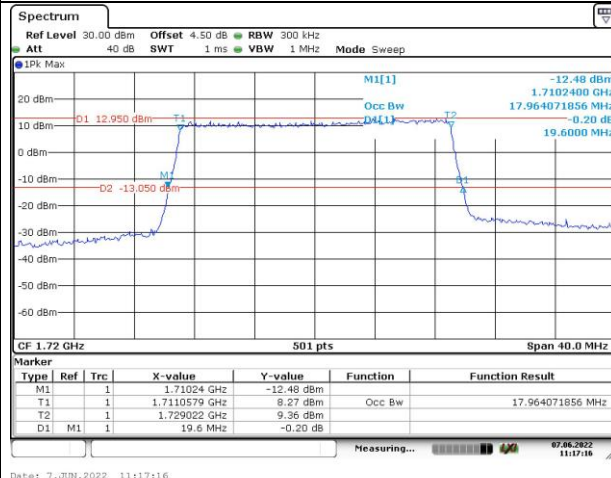
Occupied Bandwidth

Channel

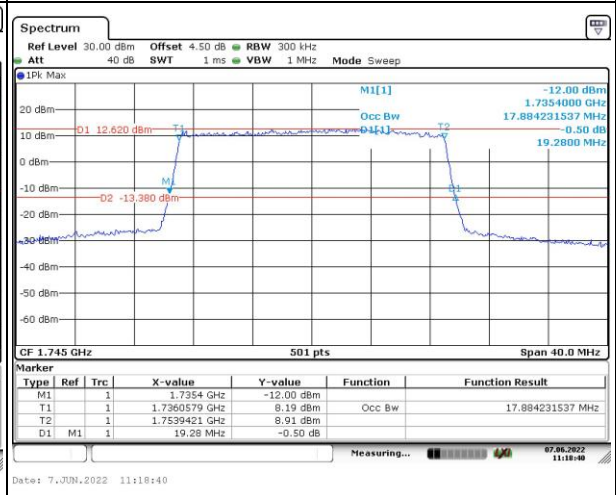
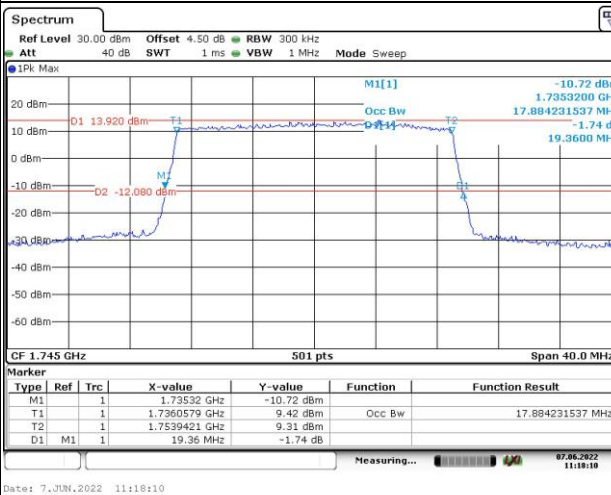
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

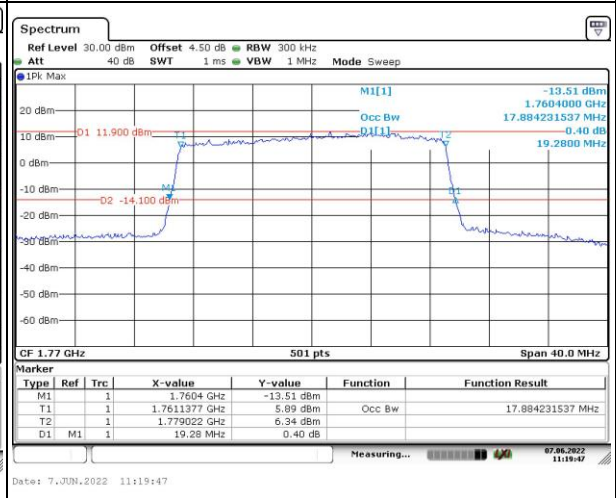
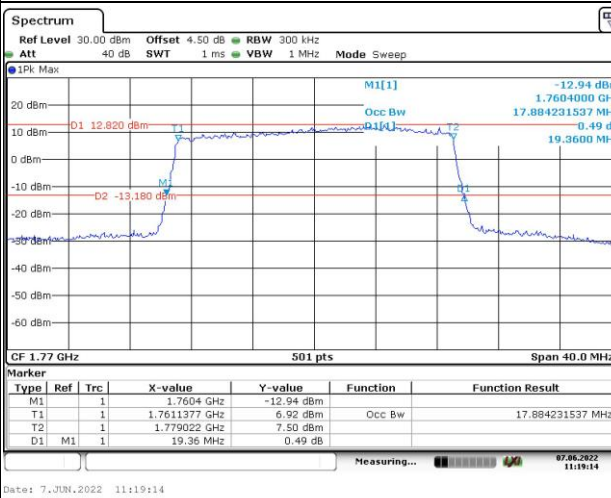
Lowest



Middle



Highest

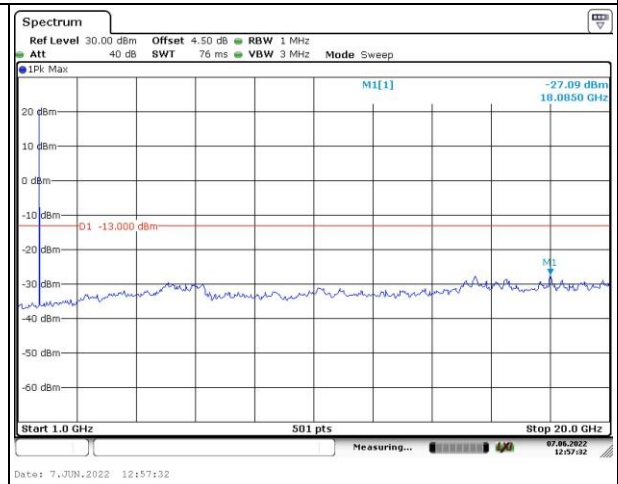
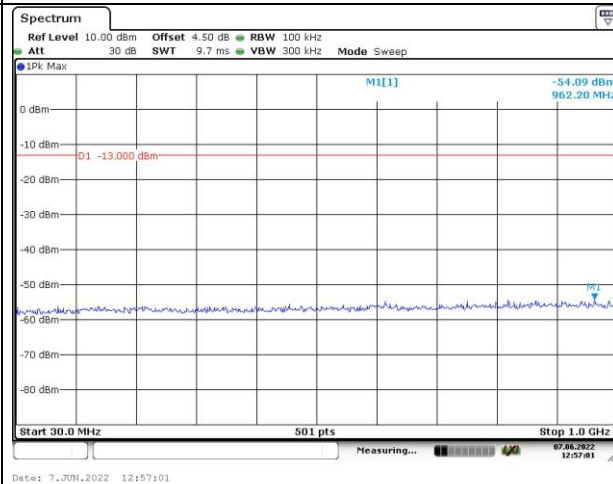


Spurious Emissions at Antenna Terminal

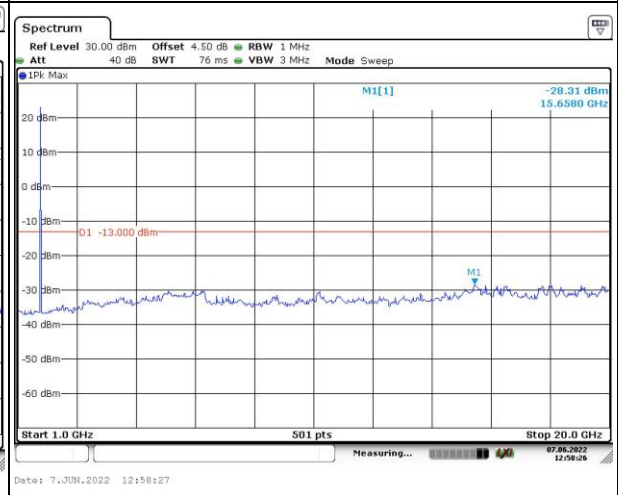
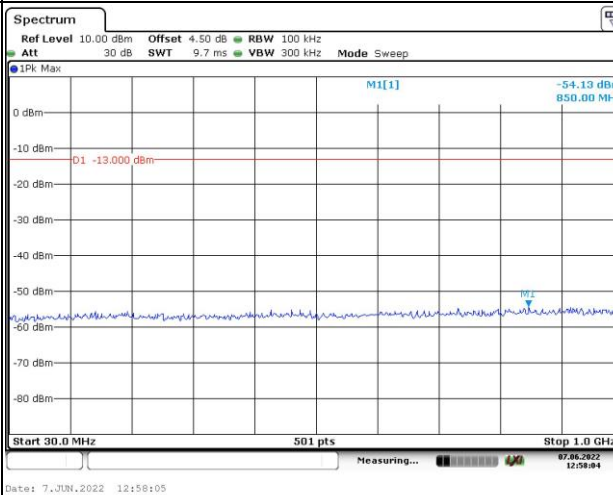
Channel

1.4MHz Bandwidth QPSK

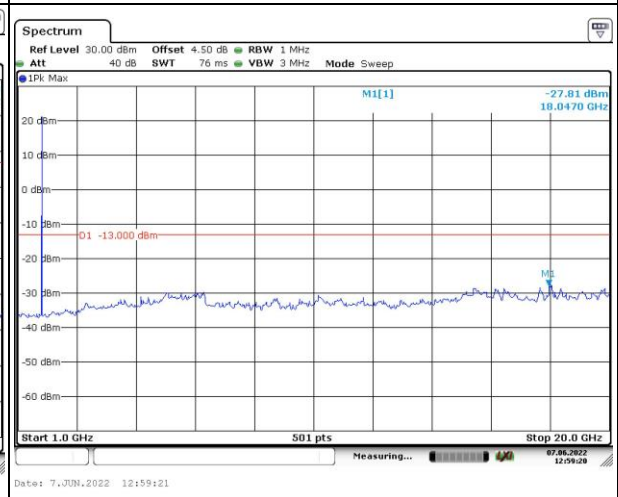
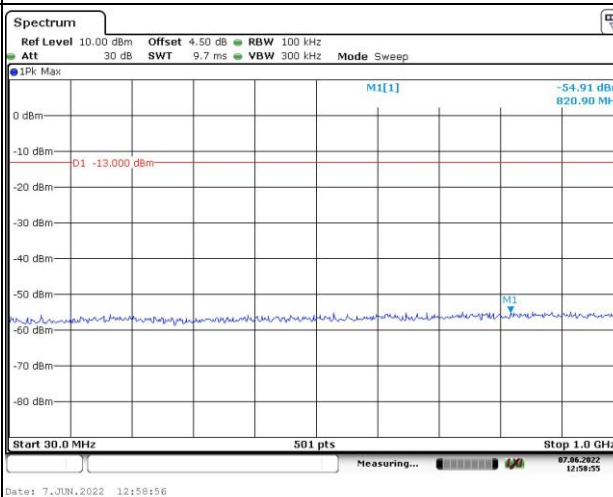
Lowest



Middle



Highest

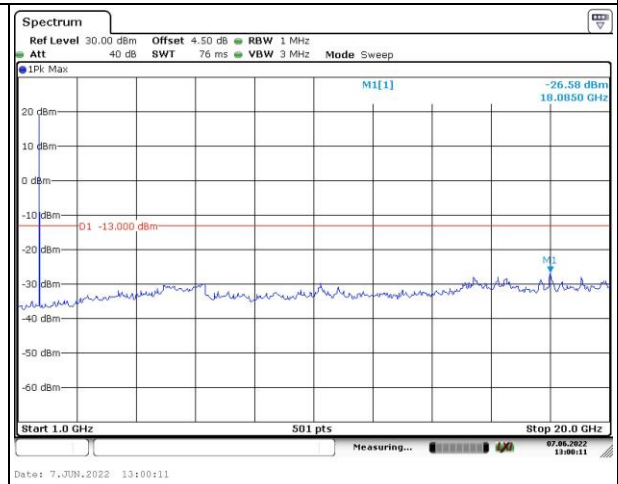
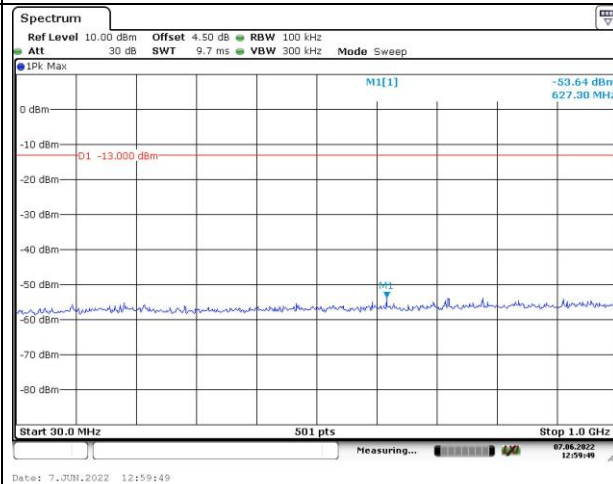


Spurious Emissions at Antenna Terminal

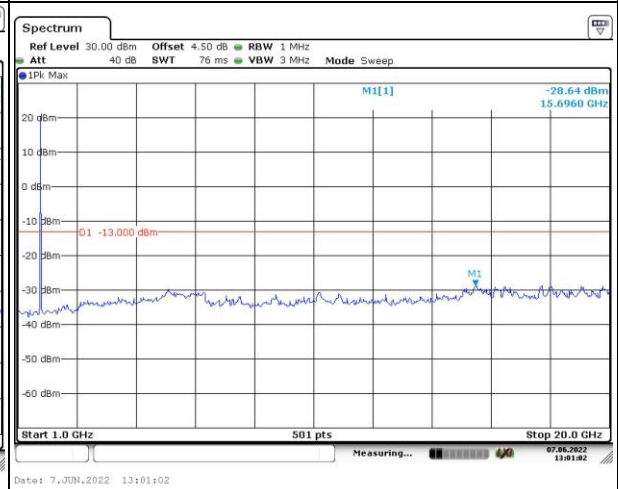
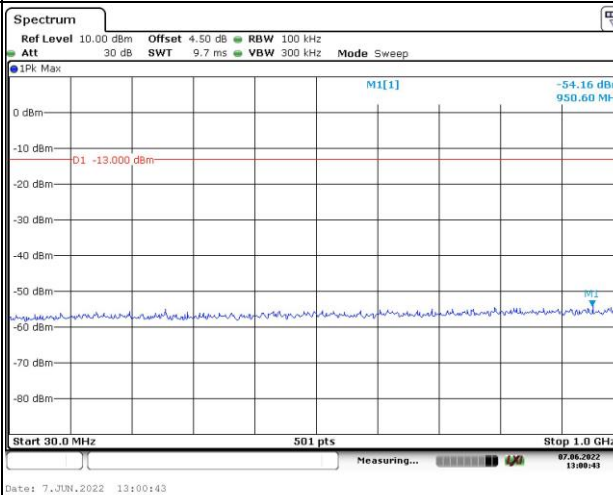
Channel

3MHz Bandwidth QPSK

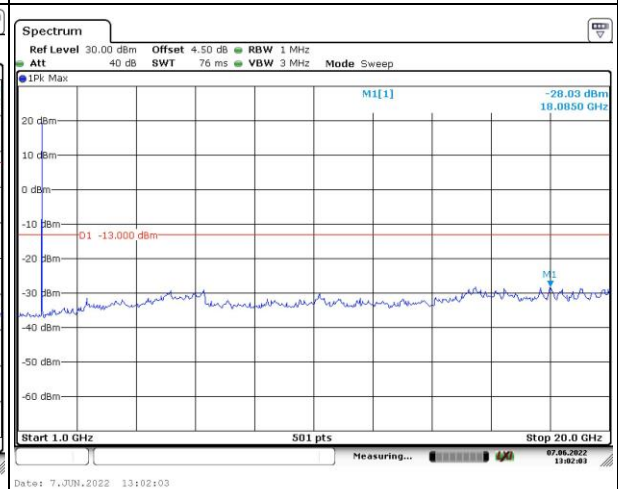
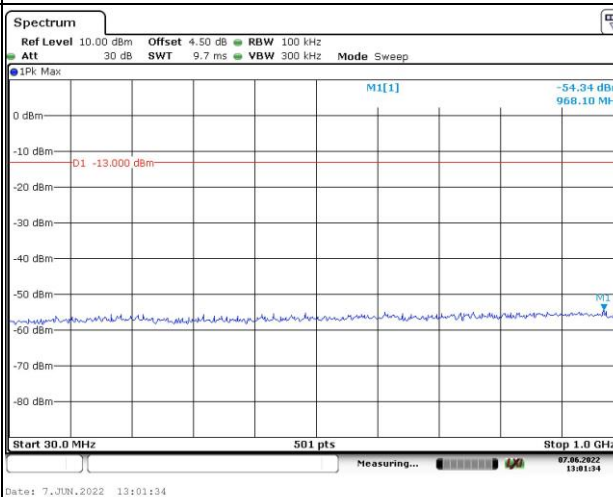
Lowest



Middle



Highest

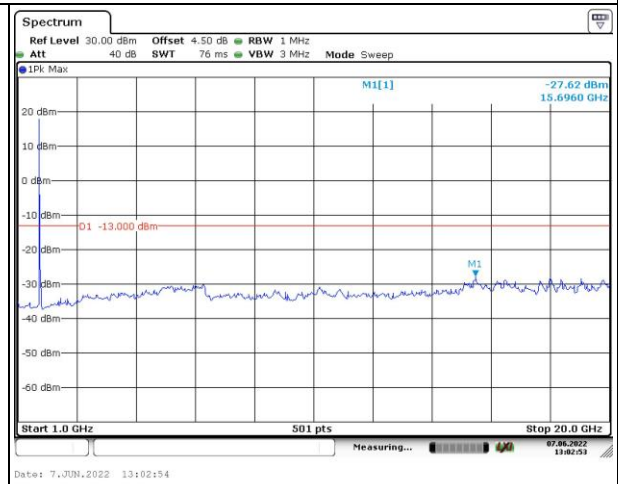
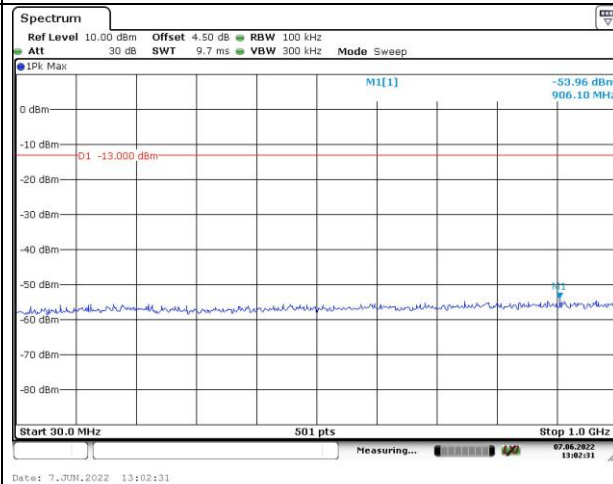


Spurious Emissions at Antenna Terminal

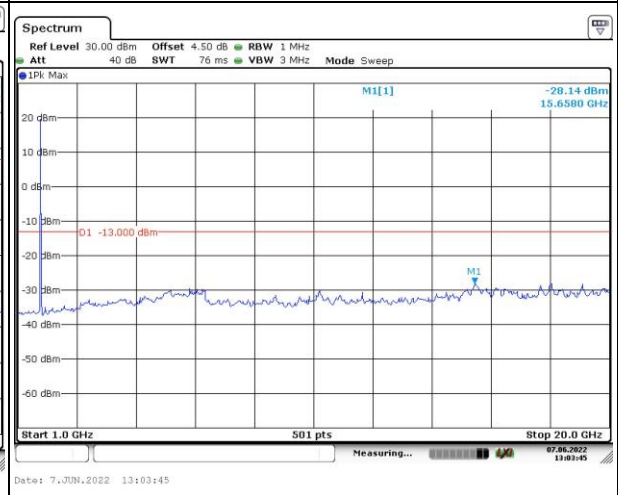
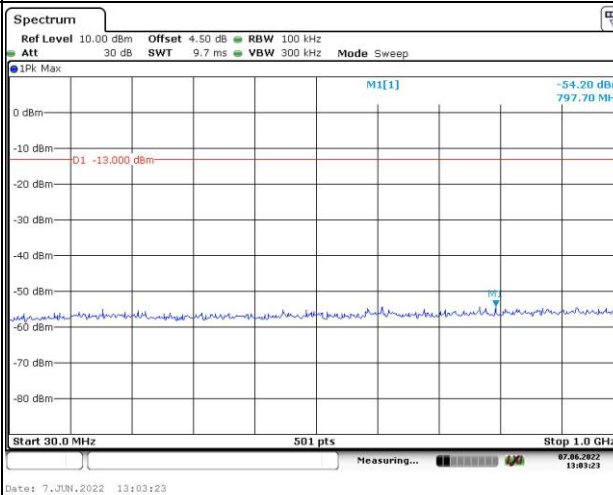
Channel

5MHz Bandwidth QPSK

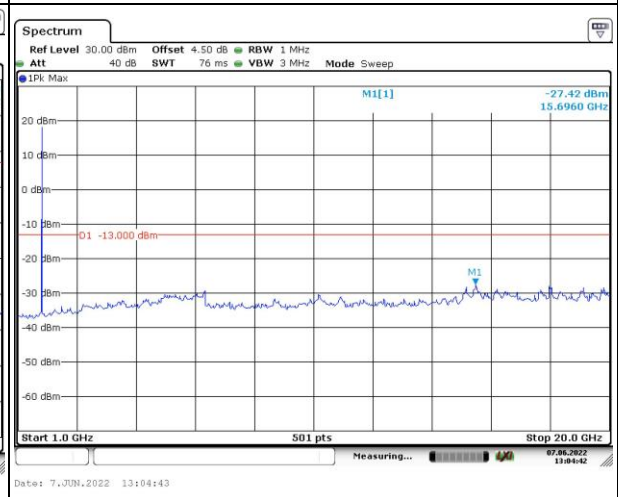
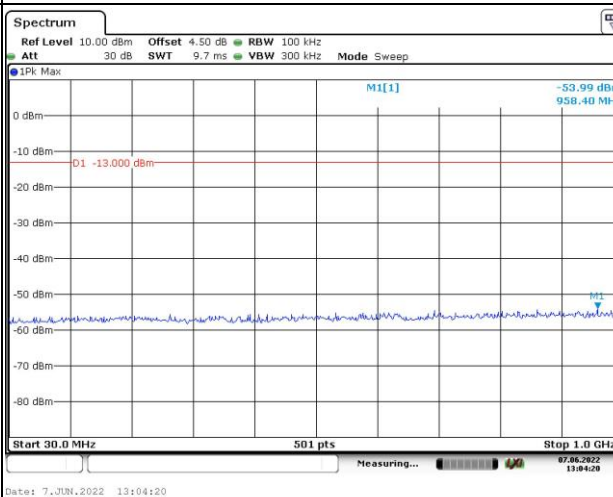
Lowest



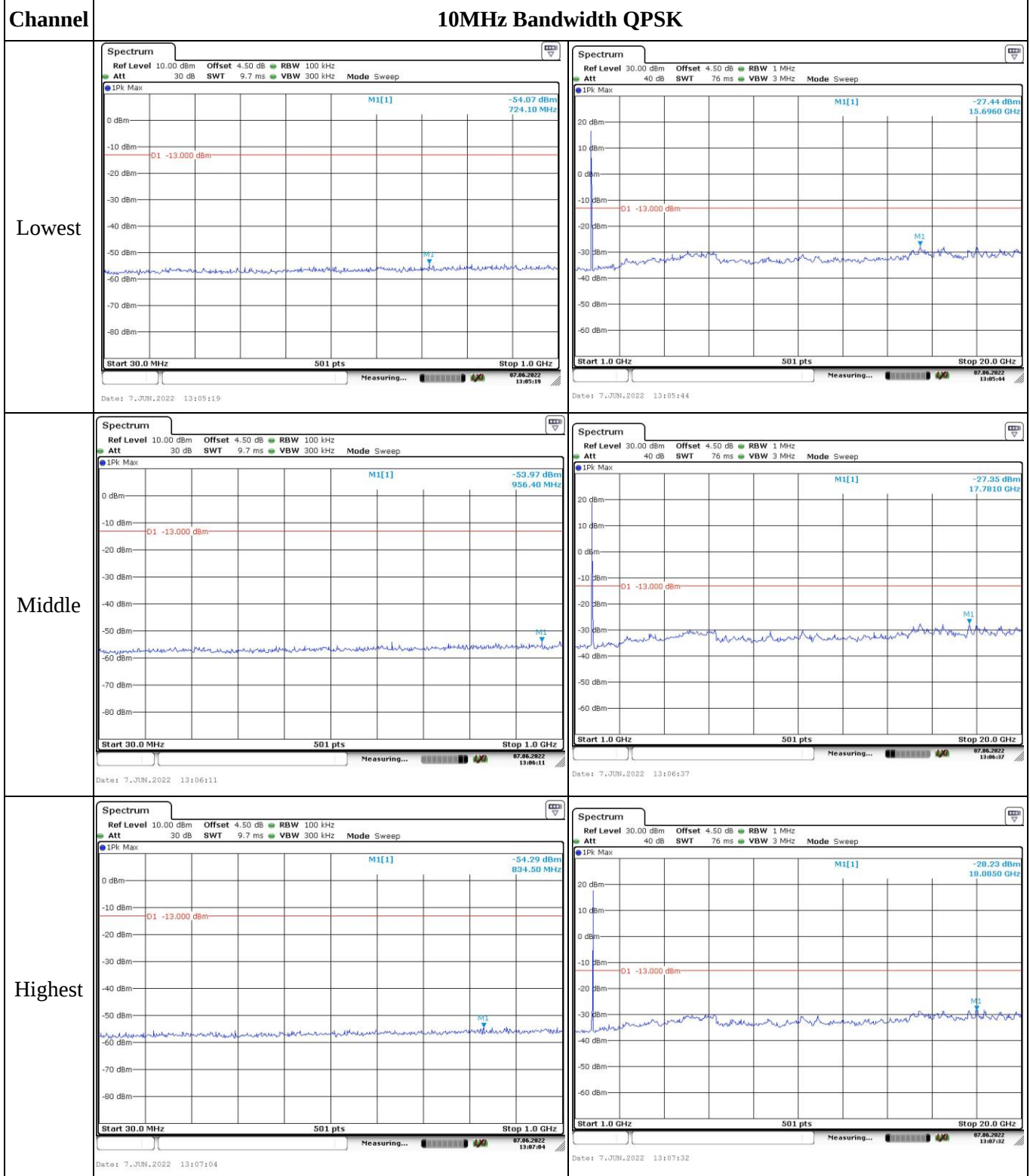
Middle



Highest



Spurious Emissions at Antenna Terminal

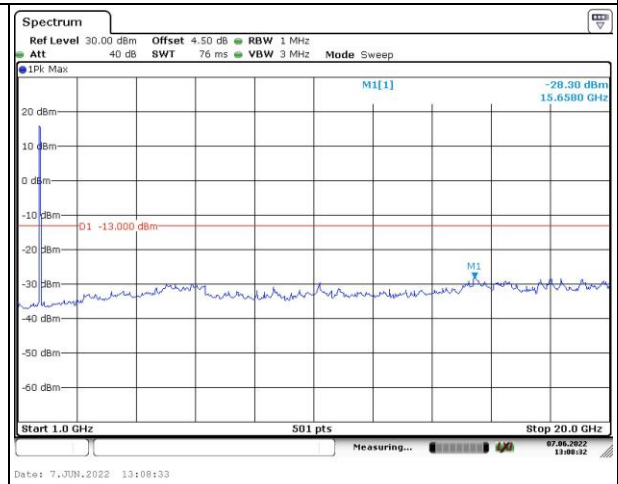
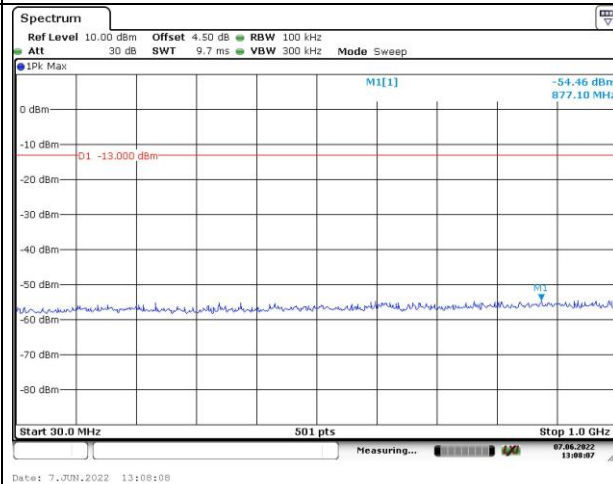


Spurious Emissions at Antenna Terminal

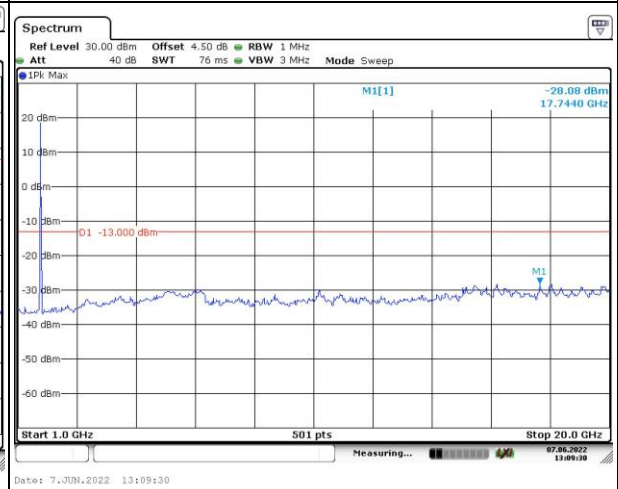
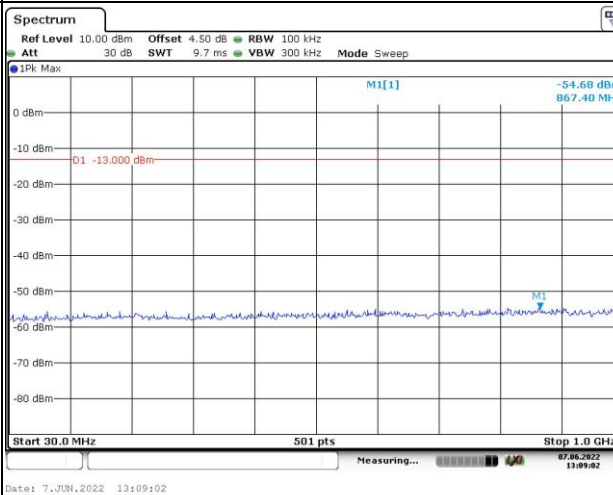
Channel

15MHz Bandwidth QPSK

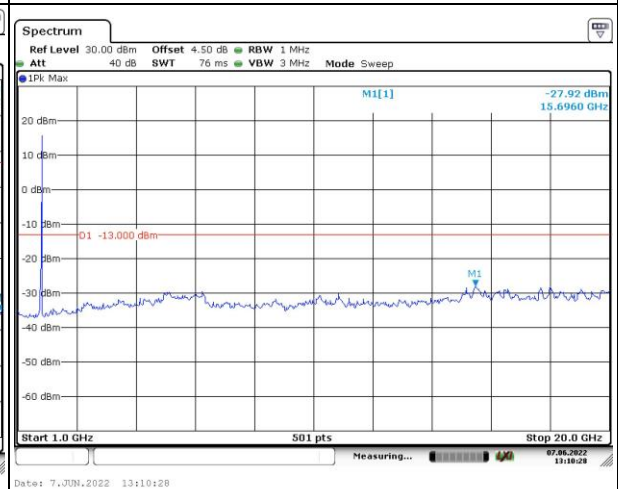
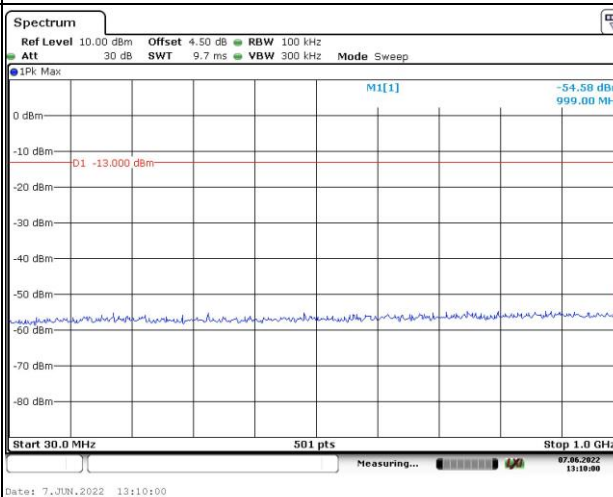
Lowest



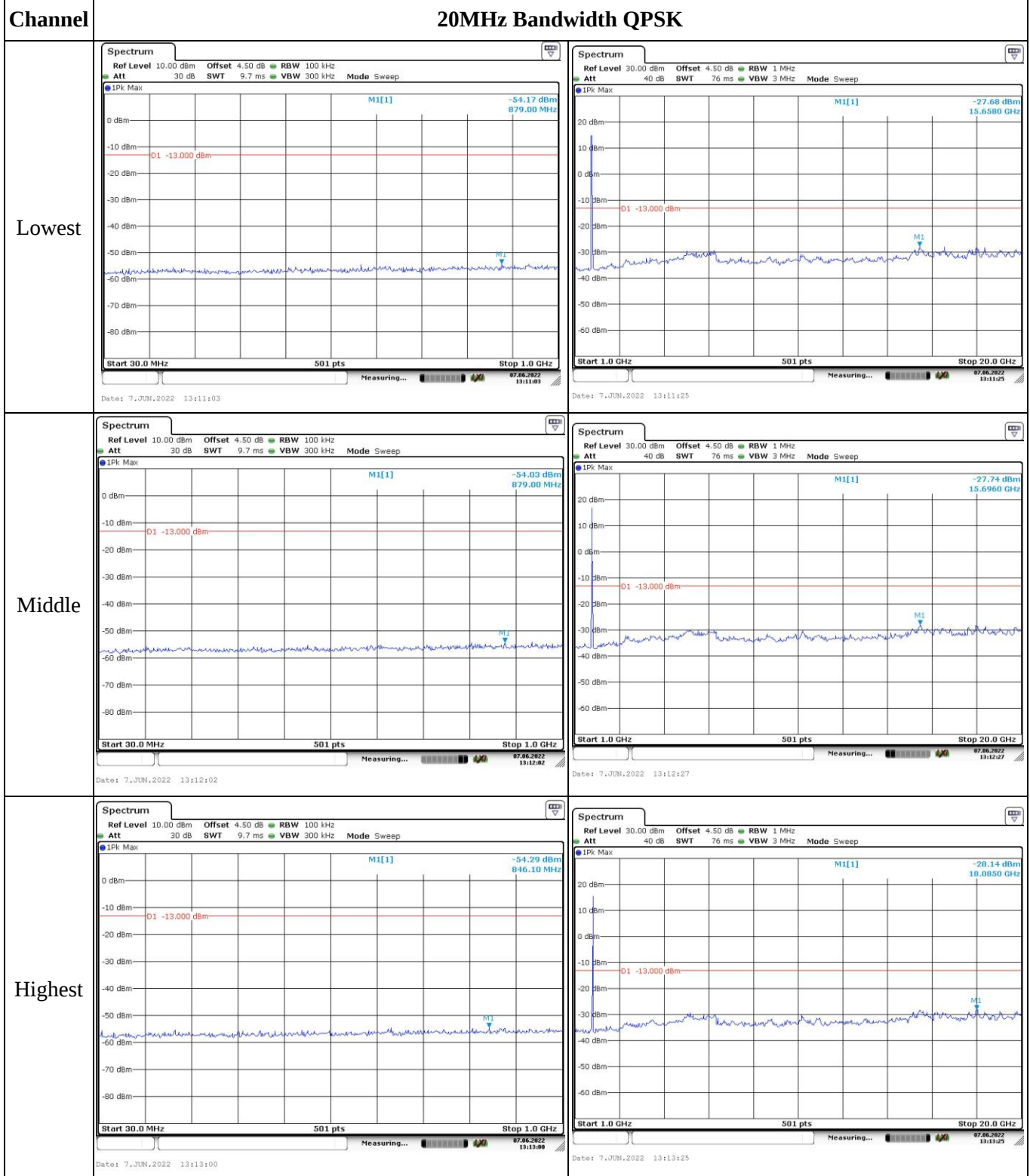
Middle



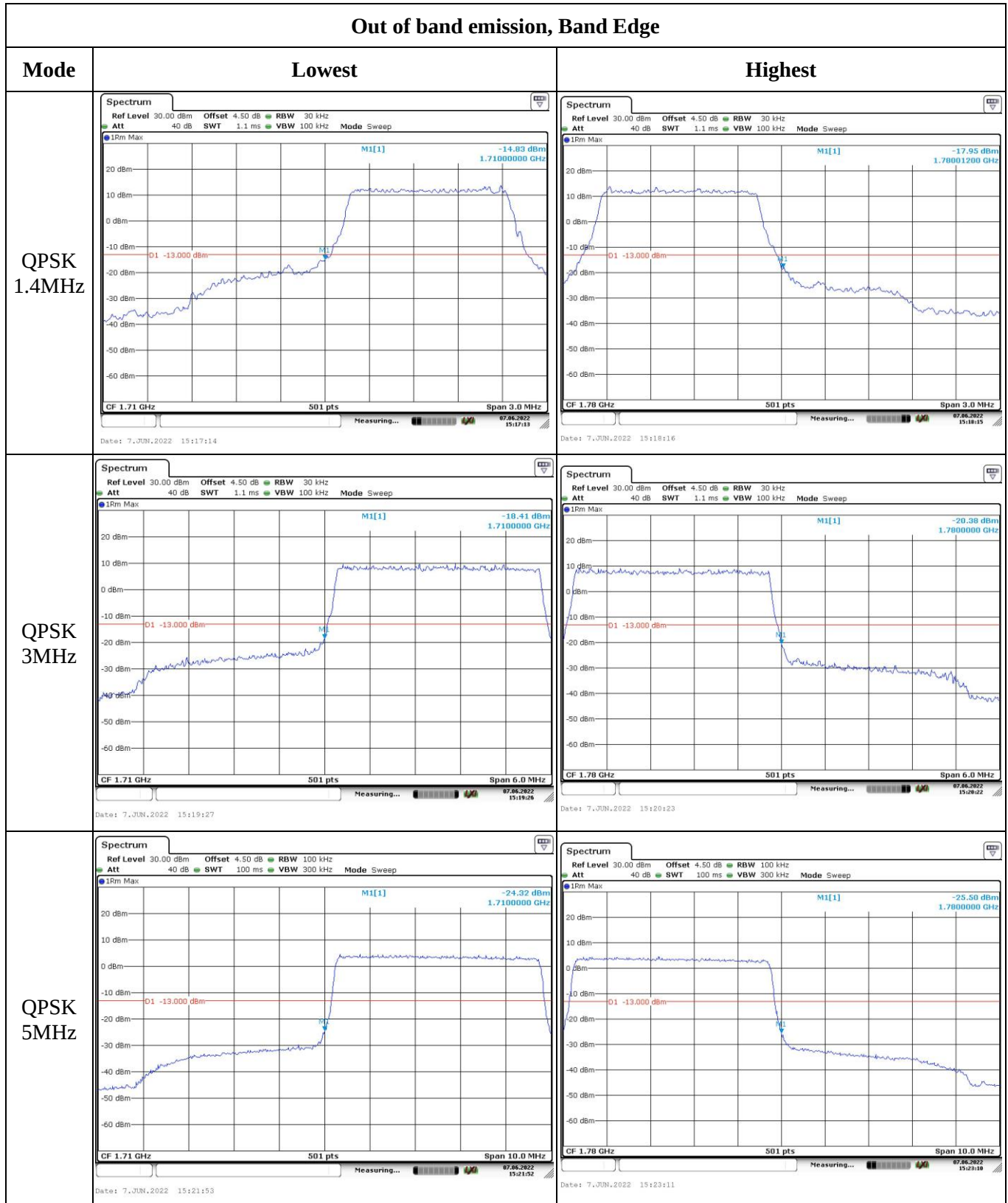
Highest



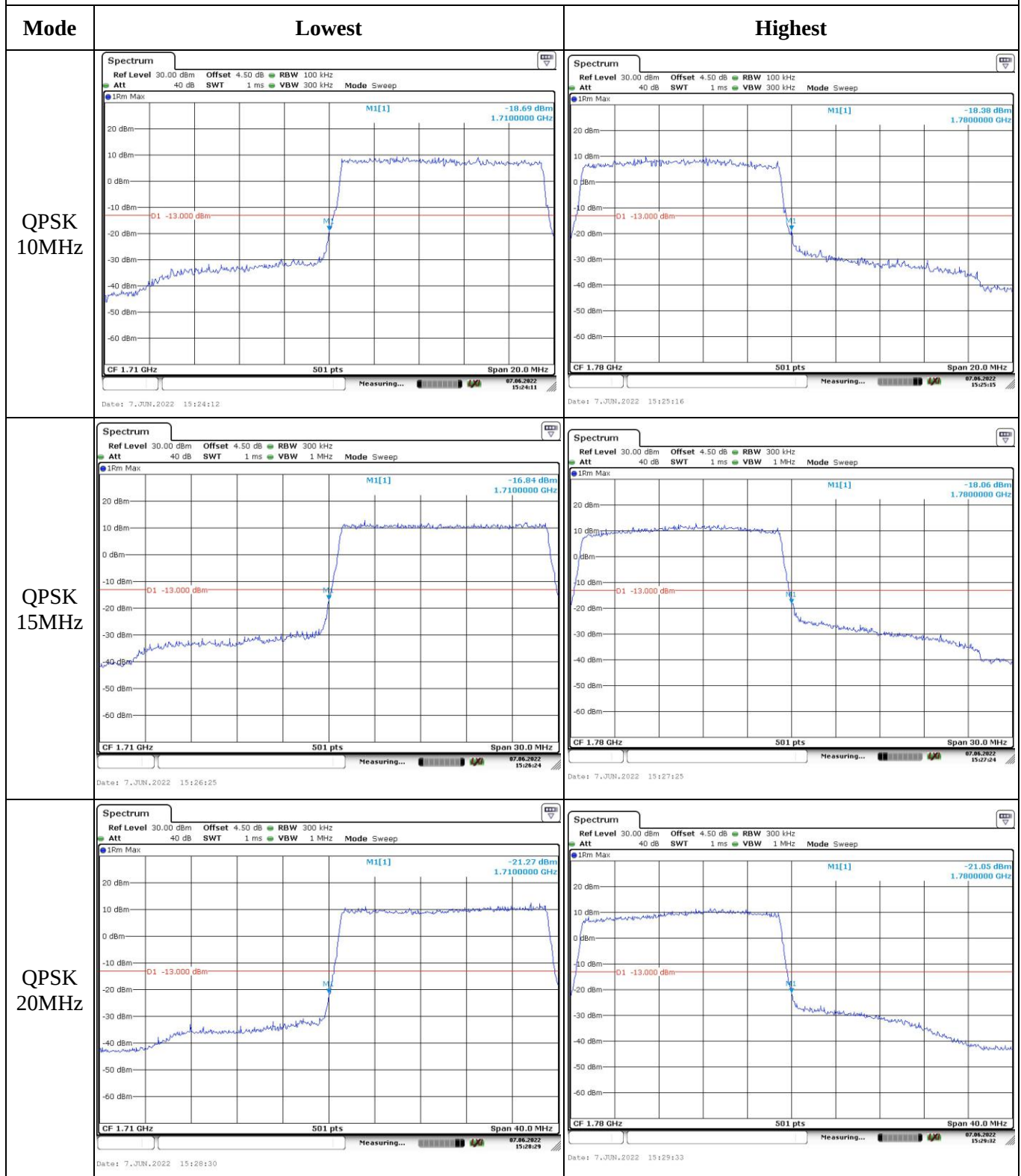
Spurious Emissions at Antenna Terminal



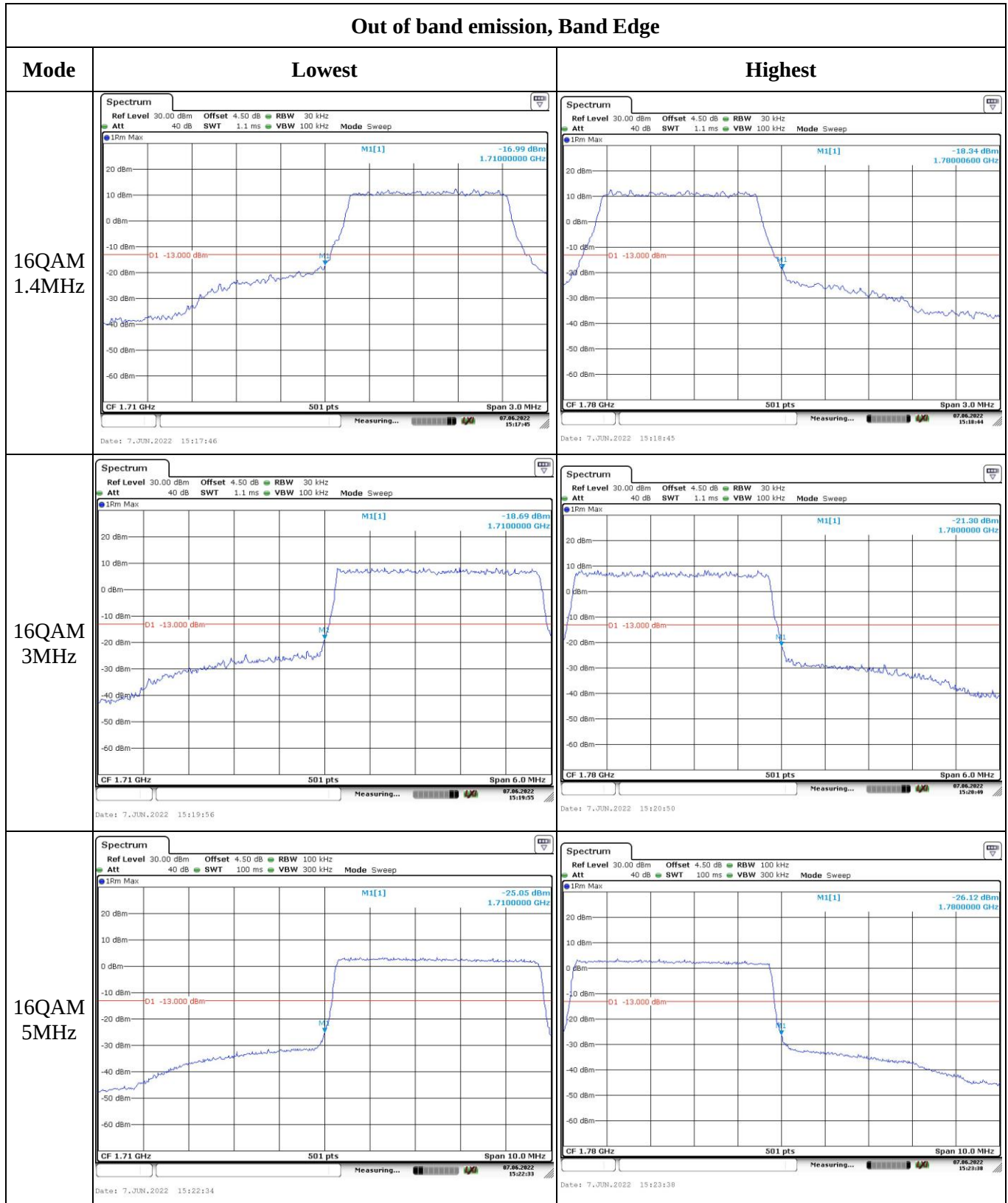
Out of band emission, Band Edge



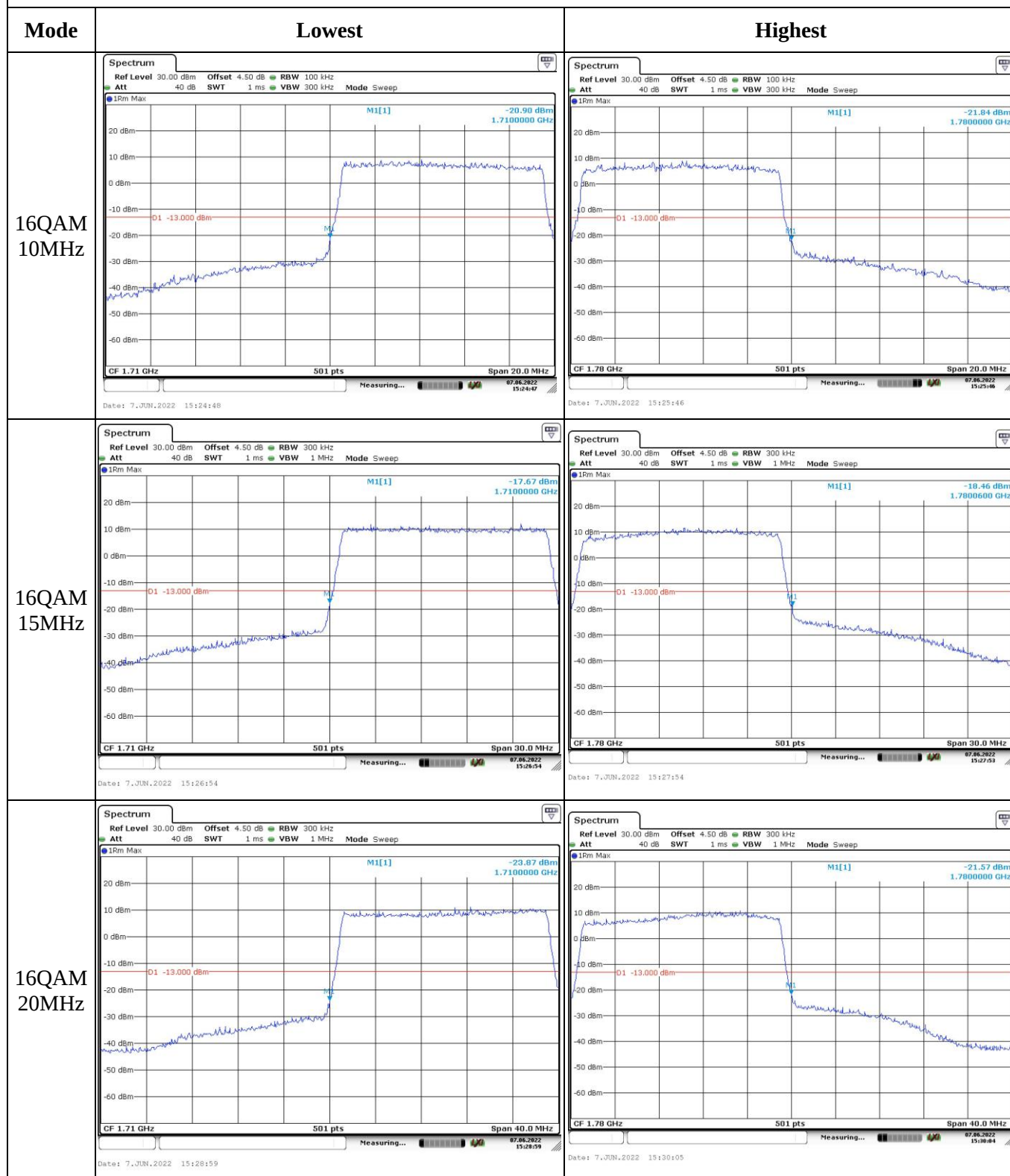
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.11 Antenna Port Test Data and Results for LTE Band 71:

Serial Number:	CR22050038-RF-S1	Test Date:	2022-06-07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ada Yan	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.8	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2021-07-22	2022-07-21
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
Unknown	RF Cable	Unknown	RF Cable 004	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	144976	2021-07-22	2022-07-21
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
Unknown	Coaxial tee connector	Unknown	2204006	Each time	N/A

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

EUT Information@ LTE Band 71▲:

Antenna Gain G_T (dBi):	-2.77	Antenna Gain G_T (dBd):	-4.92	Path Loss L_C (dB):	0
Operation Voltage(V_{DC}):					
Lowest:	3.5	Normal:	3.7	Highest:	4.2

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
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:**FCC §2.1046; § 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	23.46	23.41	23.36	18.56	34.77
	RB1#13	23.31	23.32	23.44		
	RB1#24	23.3	23.21	23.48		
	RB15#0	22.4	22.37	22.44		
	RB15#10	22.46	22.29	22.52		
	RB25#0	22.41	22.37	22.48		
5MHz 16QAM	RB1#0	22.32	22.48	22.57	17.65	34.77
	RB1#13	22.44	22.34	22.47		
	RB1#24	22.32	22.43	22.57		
	RB15#0	21.41	21.39	21.48		
	RB15#10	21.41	21.32	21.47		
	RB25#0	21.36	21.4	21.53		
10MHz QPSK	RB1#0	23.59	23.32	23.49	18.68	34.77
	RB1#25	23.58	23.43	23.54		
	RB1#49	23.6	23.44	23.58		
	RB25#0	22.51	22.42	22.45		
	RB25#25	22.43	22.32	22.56		
	RB50#0	22.51	22.44	22.53		
10MHz 16QAM	RB1#0	22.32	22.3	22.44	17.67	34.77
	RB1#25	22.49	22.45	22.59		
	RB1#49	22.28	22.29	22.54		
	RB25#0	21.49	21.43	21.34		
	RB25#25	21.39	21.29	21.5		
	RB50#0	21.45	21.34	21.45		
15MHz QPSK	RB1#0	23.62	23.27	23.19	18.7	34.77
	RB1#38	23.51	23.16	23.2		
	RB1#74	23.38	23.4	23.39		
	RB36#0	22.37	22.28	22.23		
	RB36#39	22.39	22.36	22.46		
	RB75#0	22.31	22.36	22.28		
15MHz 16QAM	RB1#0	22.06	22.21	22.21	17.51	34.77
	RB1#38	22.12	22.23	22.01		
	RB1#74	22.32	22.37	22.43		
	RB36#0	21.38	21.28	21.26		
	RB36#39	21.35	21.27	21.47		
	RB75#0	21.41	21.33	21.37		
20MHz QPSK	RB1#0	23.34	23.29	23.05	18.53	34.77
	RB1#50	23.32	23.41	23.33		
	RB1#99	23.18	23.45	23.32		

	RB50#0	22.21	22.21	22.27		
	RB50#50	22.34	22.36	22.42		
	RB100#0	22.31	22.28	22.27		
20MHz 16QAM	RB1#0	22.27	21.93	22.14	17.64	34.77
	RB1#50	22.56	22.12	22.31		
	RB1#99	22.28	22.26	22.29		
	RB50#0	21.31	21.23	21.17		
	RB50#50	21.28	21.31	21.41		
	RB100#0	21.3	21.21	21.27		
Note: ERP=Conducted Power(dBm) - L _C (dB) + G _T (dBd)						
				Result:	Pass	

Peak-to-average Ratio(PAR)					
Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.23	4.58	4.43	13
	RB100#0	4.55	4.58	4.58	13
20MHz 16QAM	RB1#0	5.3	5.83	5.45	13
	RB100#0	5.57	5.62	5.74	13
				Result:	Pass

FCC §2.1049, §27.53:Occupied Bandwidth						
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.491	4.531	4.511	5.02	5	5
5MHz 16QAM	4.491	4.531	4.531	5	5.02	5.02
10MHz QPSK	8.942	8.901	8.901	9.72	9.68	9.64
10MHz 16QAM	8.942	8.901	8.901	9.68	9.72	9.6
15MHz QPSK	13.533	13.413	13.413	14.88	14.7	14.82
15MHz 16QAM	13.533	13.413	13.413	14.94	14.7	14.64
20MHz QPSK	17.884	17.884	17.964	19.36	19.36	19.52
20MHz 16QAM	17.804	17.725	17.884	19.36	19.36	19.52
Note: The test plots please refer to the Plots of Occupied Bandwidth						

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

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

FCC §2.1055, §27.54: Frequency Stability						
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	663.439	663.00	697.645	698.00
	-20	3.7	663.442	663.00	697.646	698.00
	-10	3.7	663.444	663.00	697.643	698.00
	0	3.7	663.439	663.00	697.644	698.00
	10	3.7	663.438	663.00	697.642	698.00
	20	3.7	663.438	663.00	697.642	698.00
	30	3.7	663.435	663.00	697.640	698.00
	40	3.7	663.436	663.00	697.637	698.00
Frequency Stability vs. Voltage	20	3.4	663.438	663.00	697.642	698.00
	20	4.2	663.437	663.00	697.639	698.00
					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	3.7	663.444	663.00	697.647	698.00
	-20	3.7	663.439	663.00	697.644	698.00
	-10	3.7	663.442	663.00	697.645	698.00
	0	3.7	663.445	663.00	697.644	698.00
	10	3.7	663.439	663.00	697.647	698.00
	20	3.7	663.438	663.00	697.642	698.00
	30	3.7	663.435	663.00	697.641	698.00
	40	3.7	663.432	663.00	697.642	698.00
Frequency Stability vs. Voltage	20	3.4	663.431	663.00	697.636	698.00
	20	4.2	663.436	663.00	697.638	698.00
					Result:	Pass

Test Plots:

Occupied Bandwidth

