

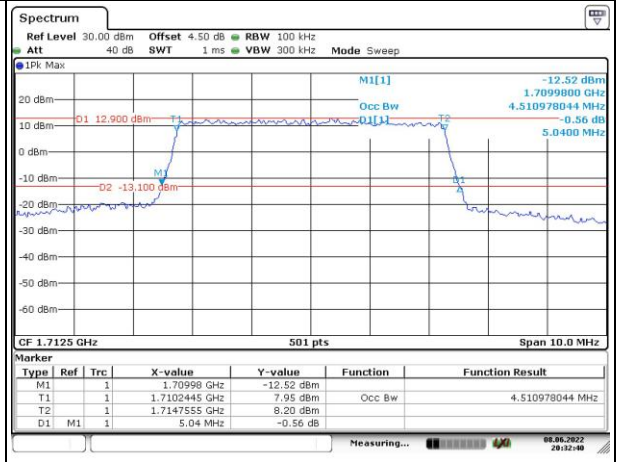
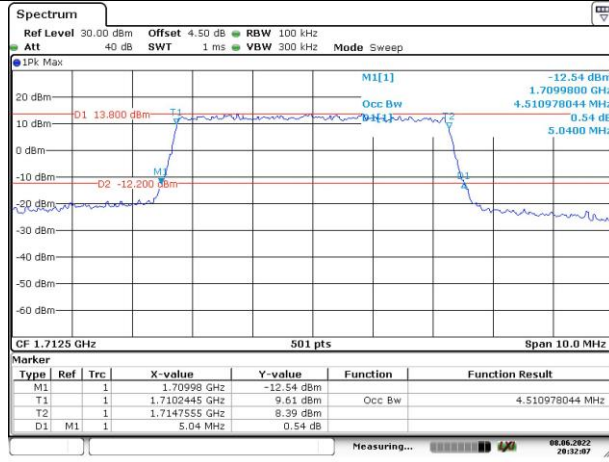
Occupied Bandwidth

Channel

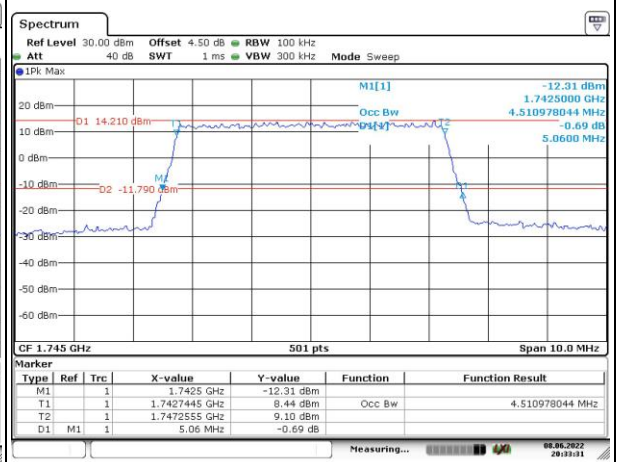
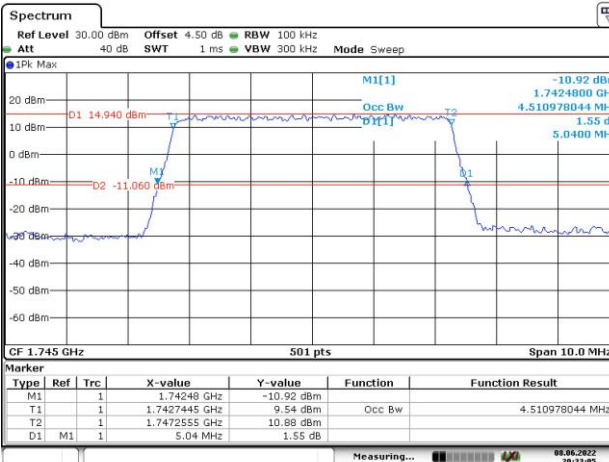
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

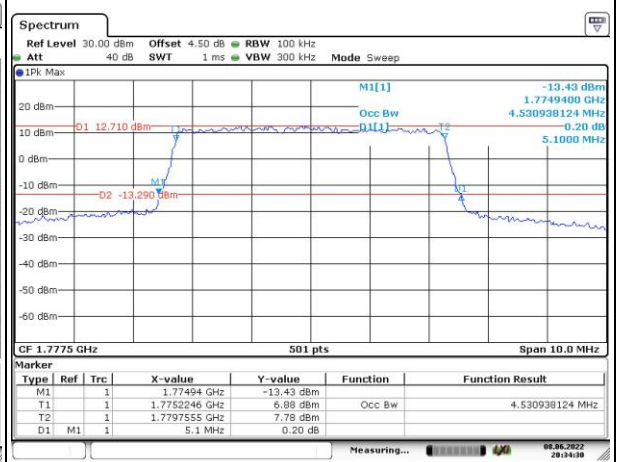
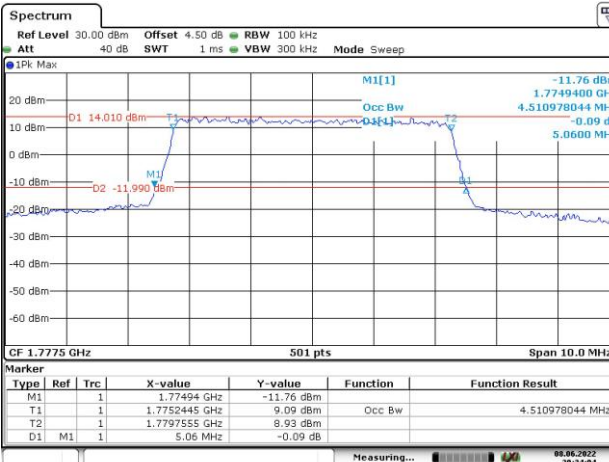
Lowest



Middle



Highest



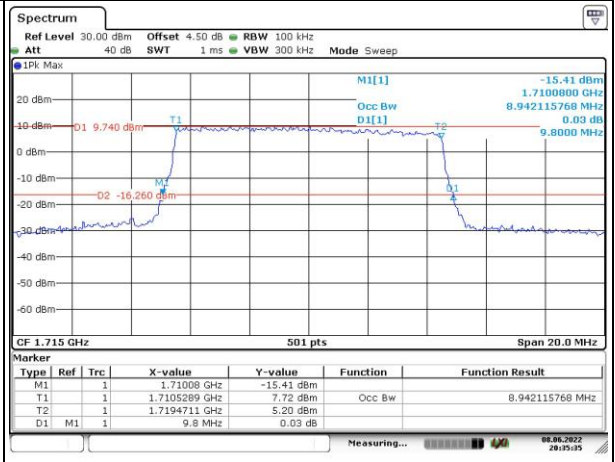
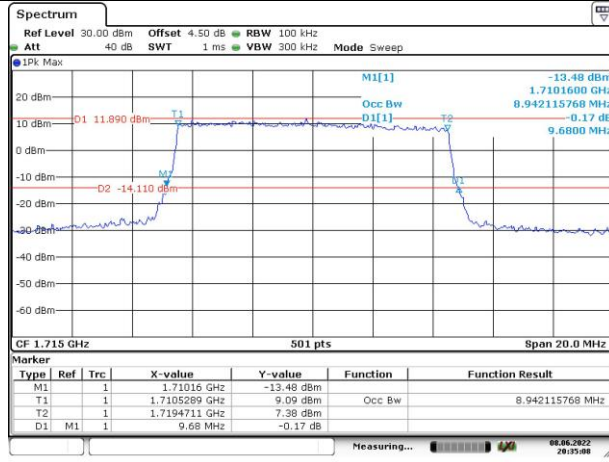
Occupied Bandwidth

Channel

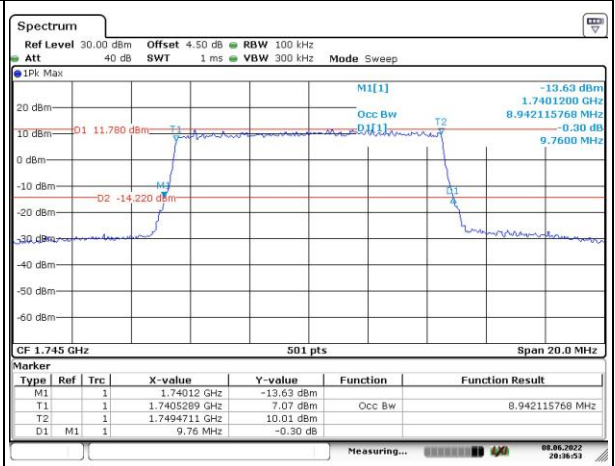
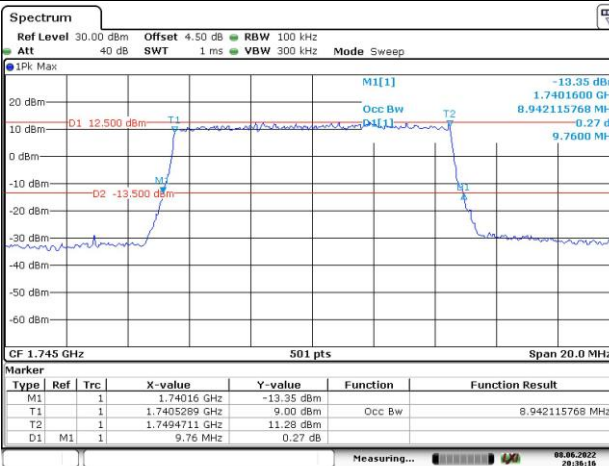
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

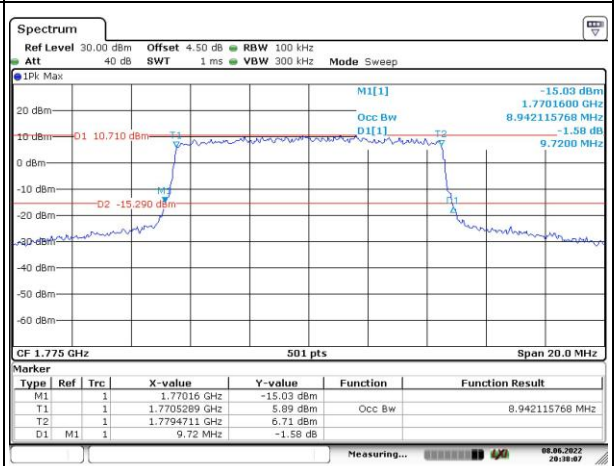
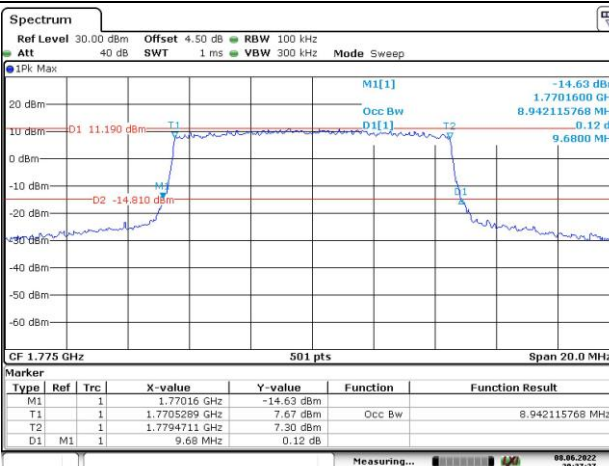
Lowest



Middle



Highest



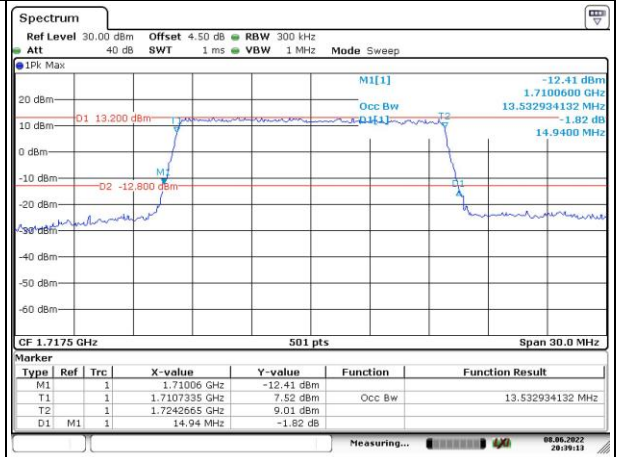
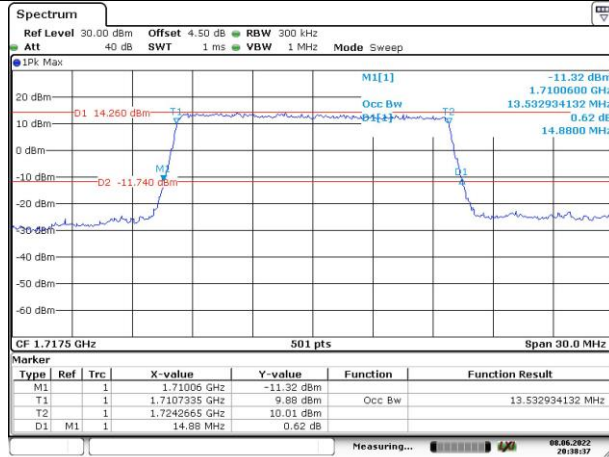
Occupied Bandwidth

Channel

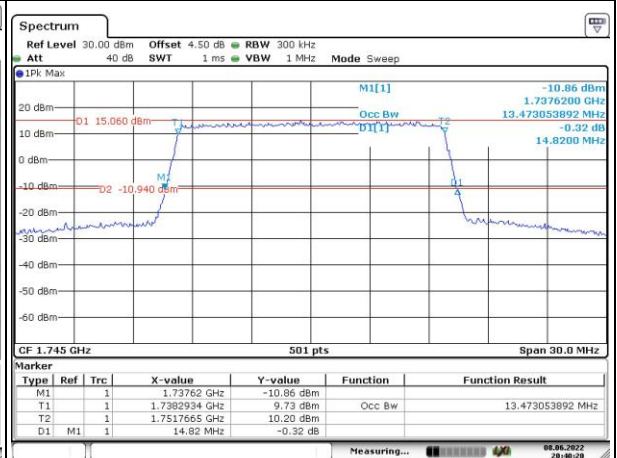
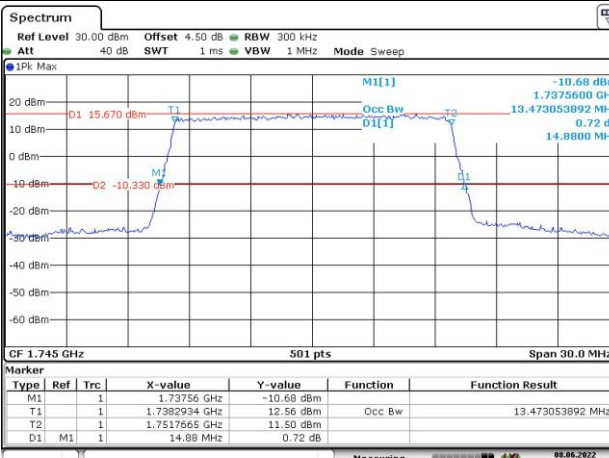
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

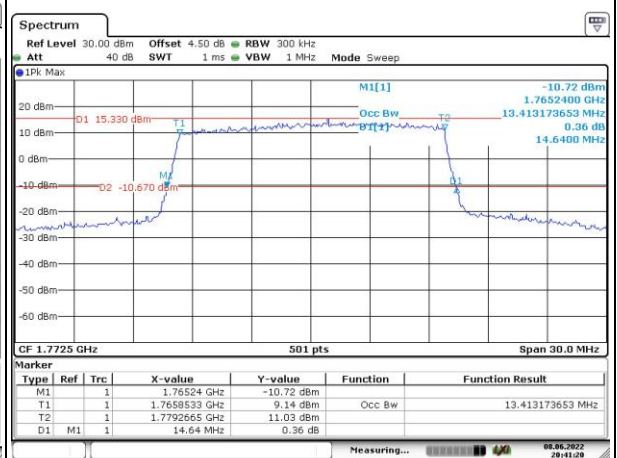
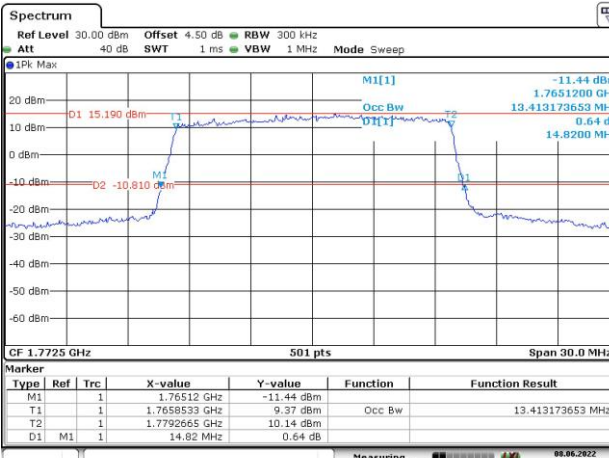
Lowest



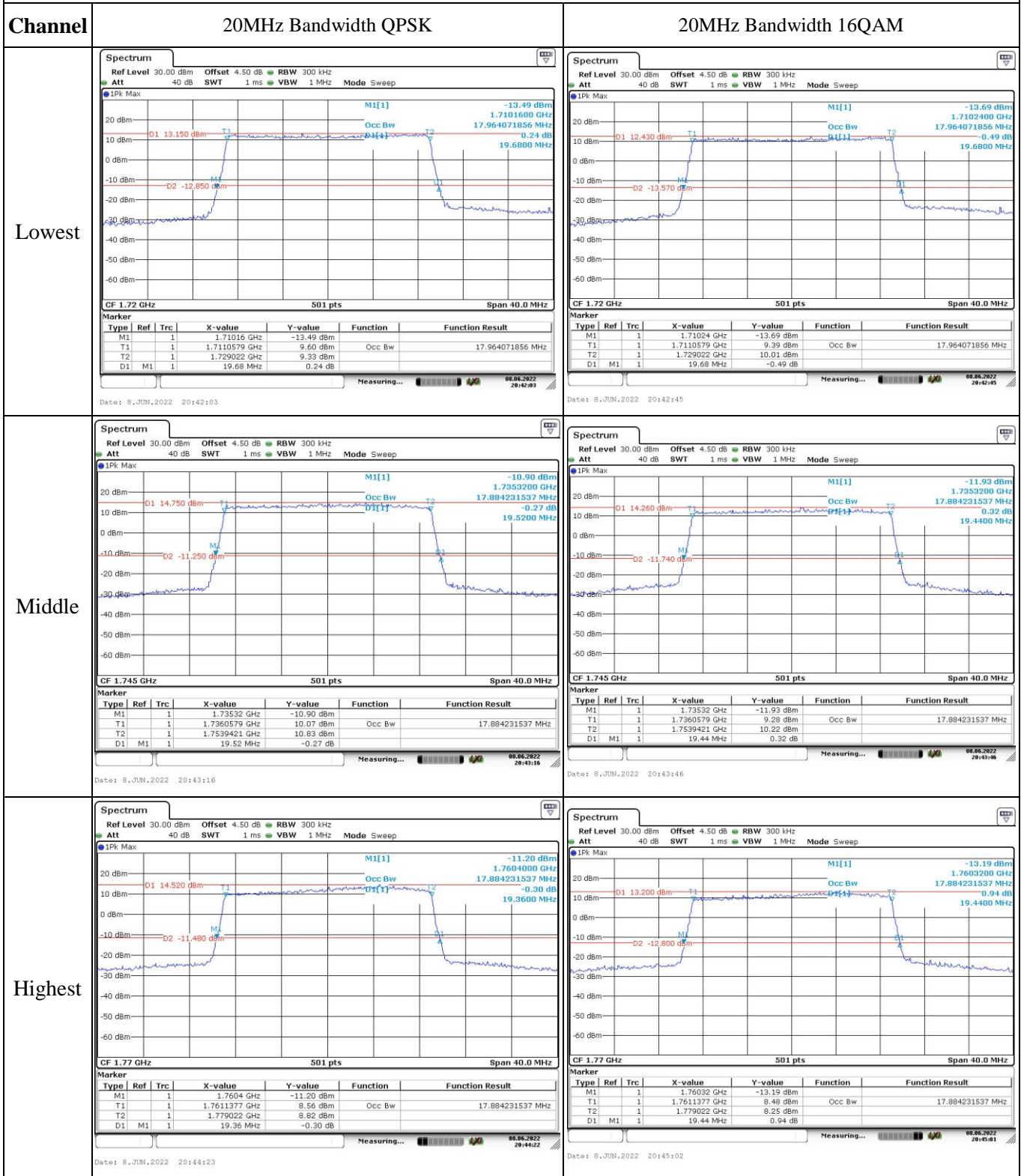
Middle



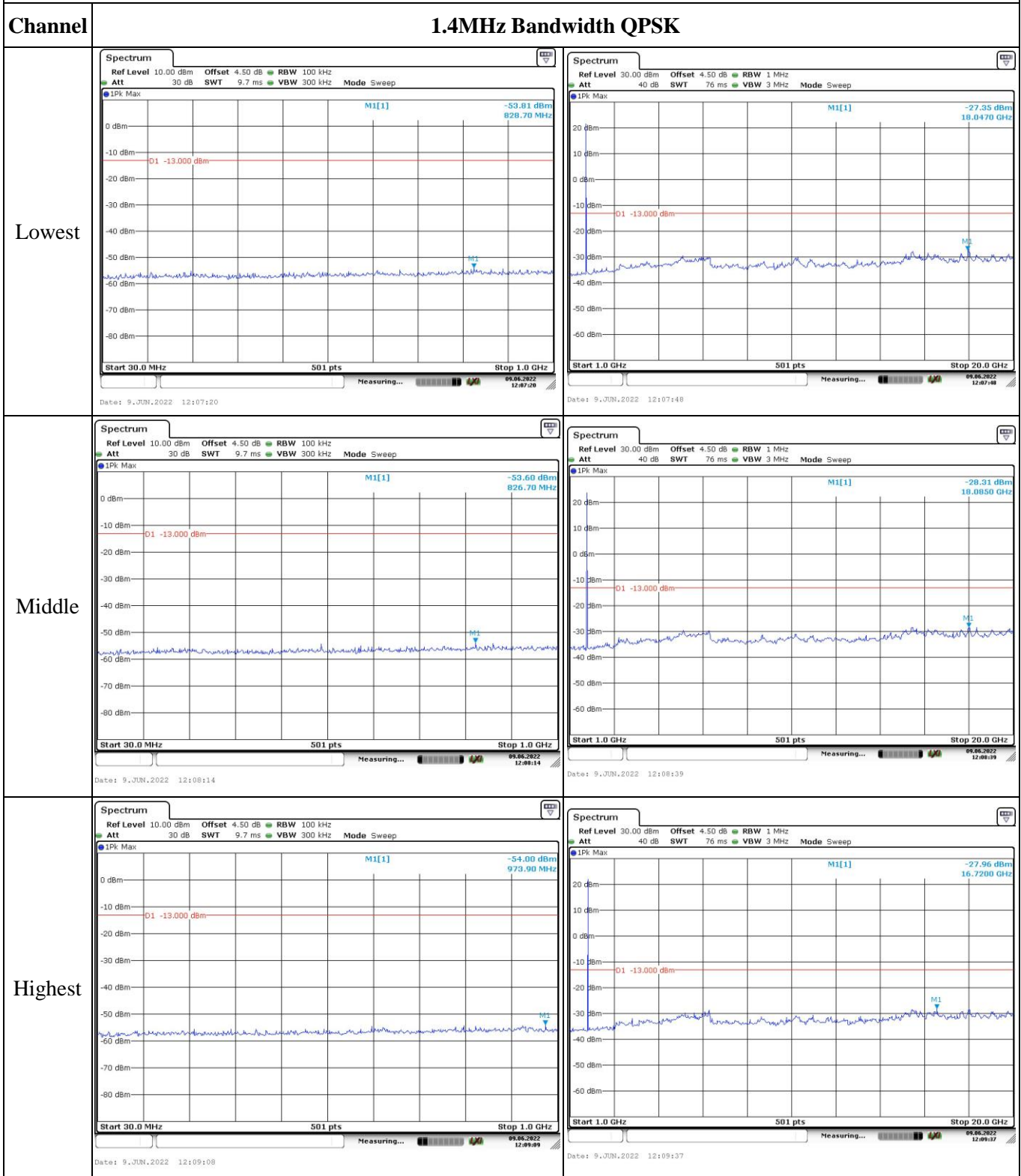
Highest



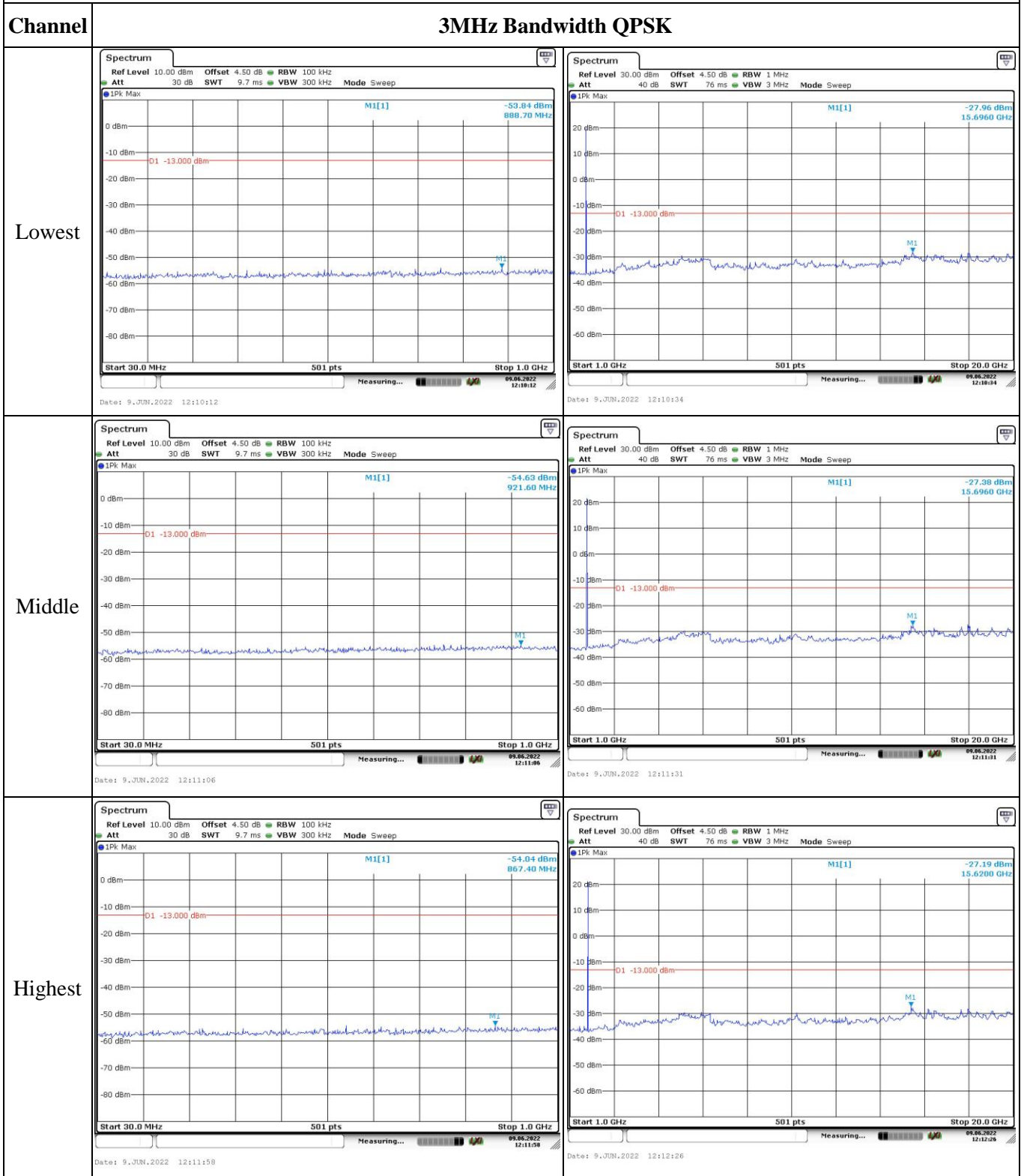
Occupied Bandwidth



Spurious Emissions at Antenna Terminal



Spurious Emissions at Antenna Terminal

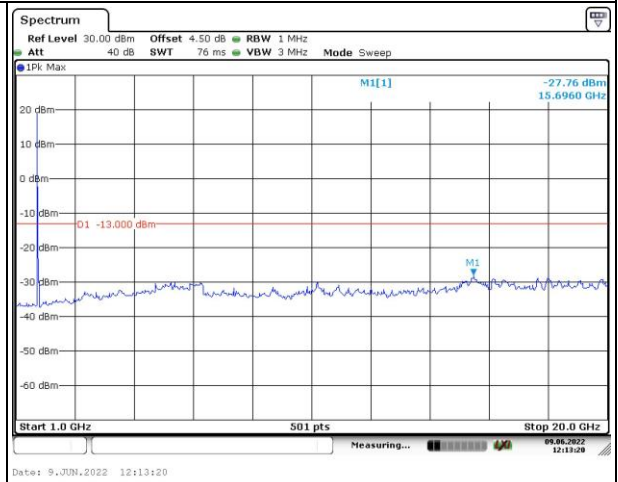
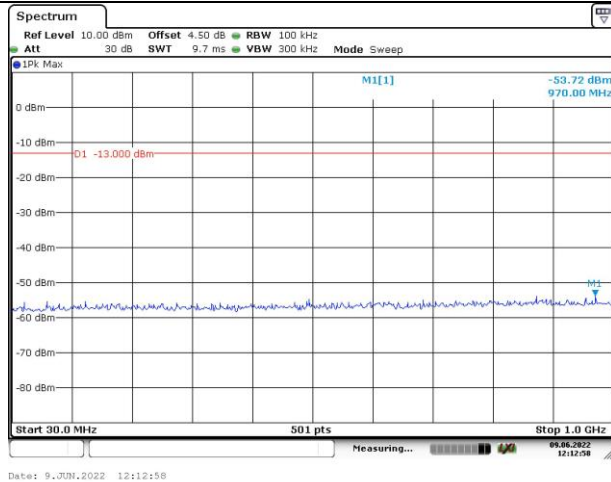


Spurious Emissions at Antenna Terminal

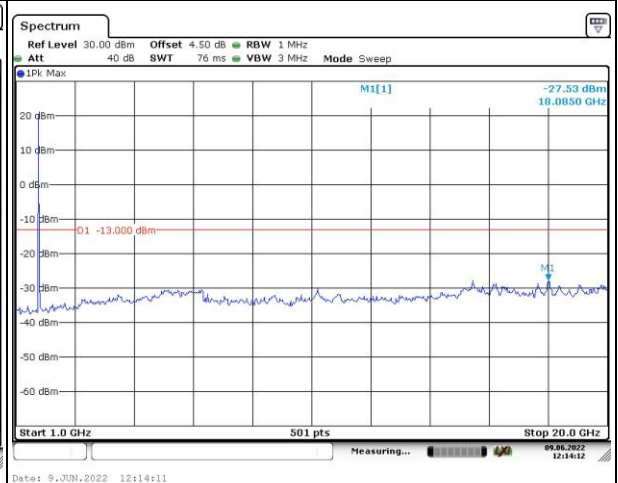
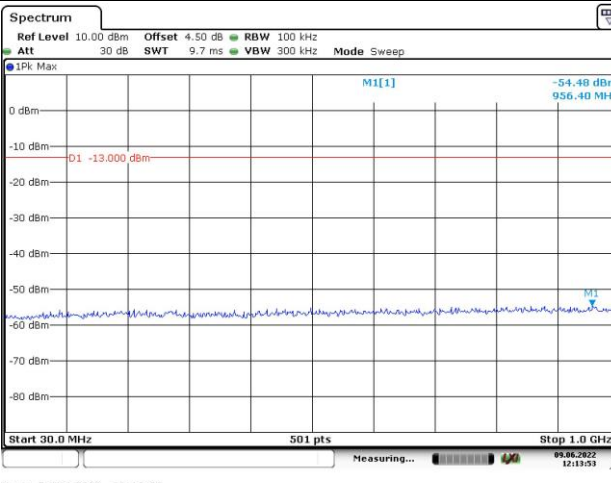
Channel

5MHz Bandwidth QPSK

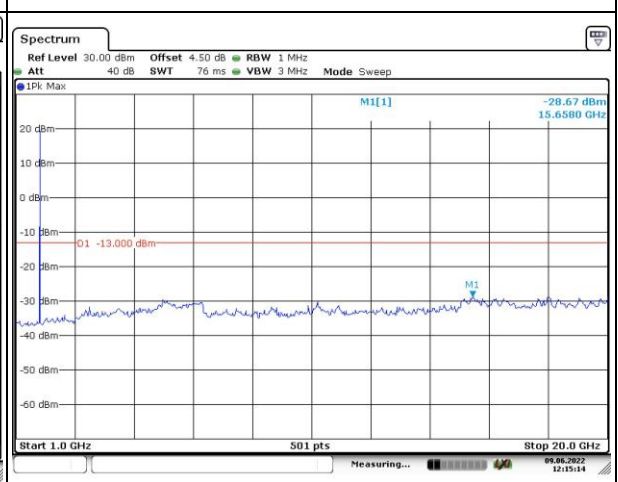
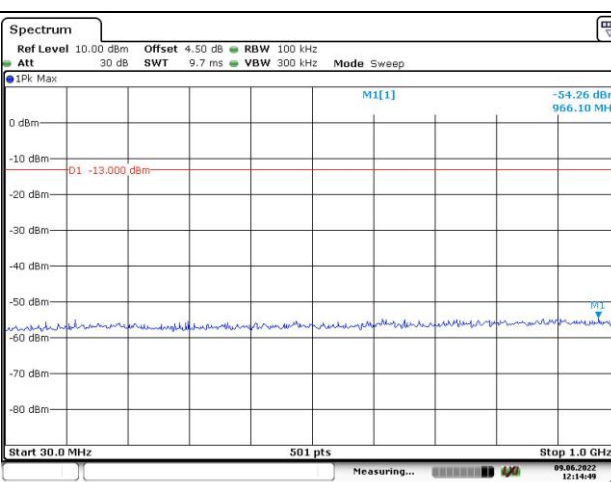
Lowest



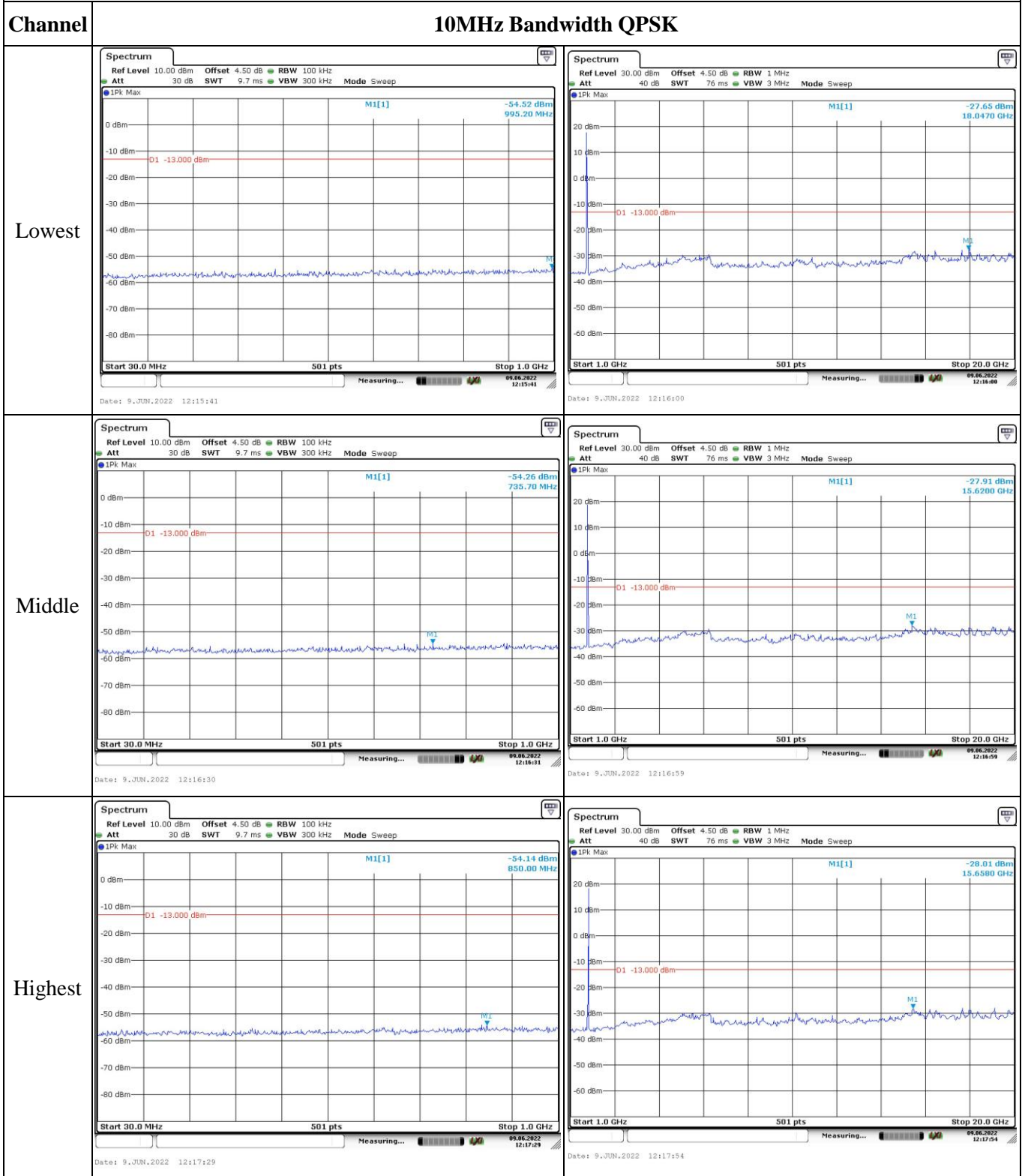
Middle



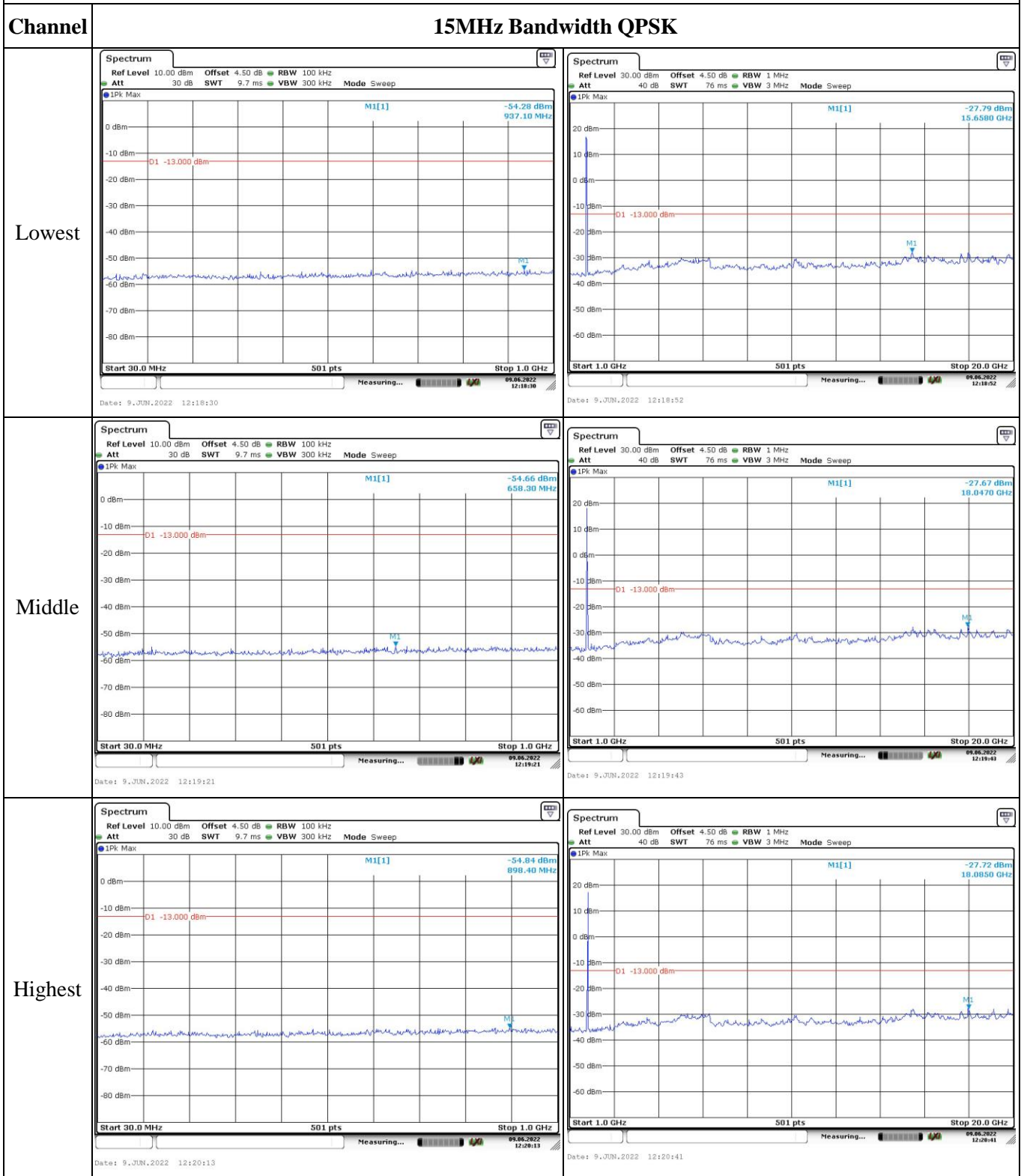
Highest



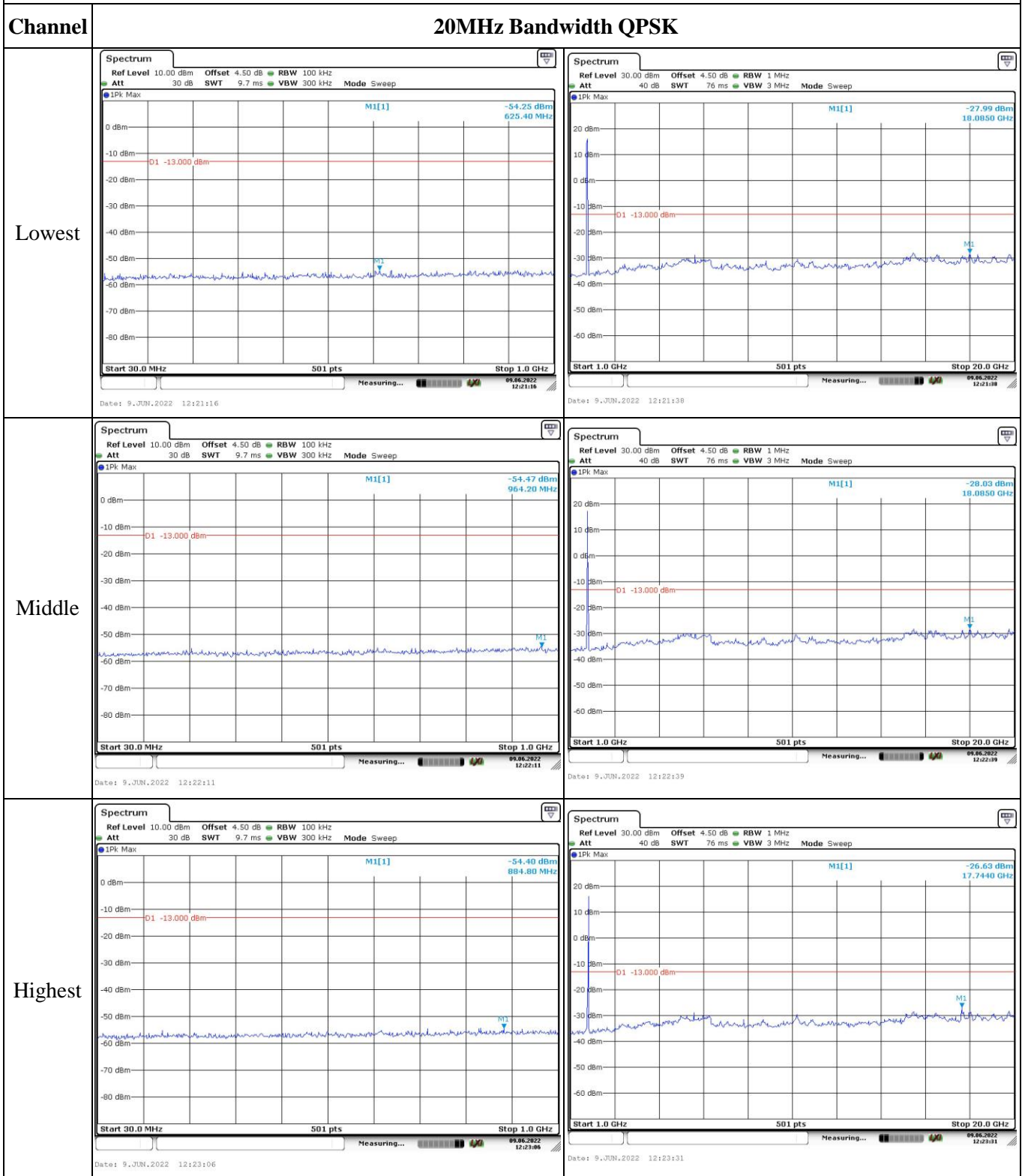
Spurious Emissions at Antenna Terminal



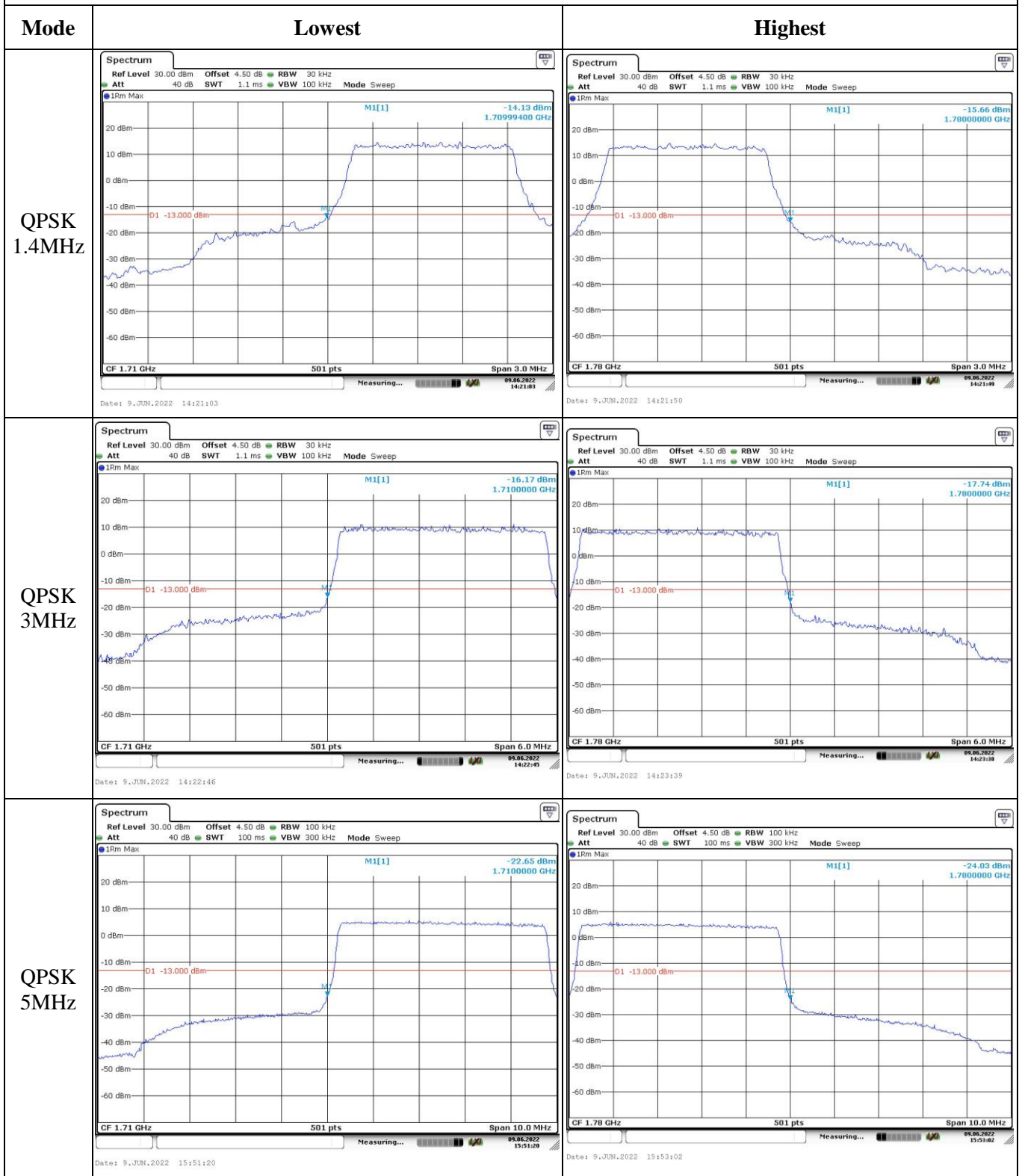
Spurious Emissions at Antenna Terminal



Spurious Emissions at Antenna Terminal



Out of band emission, Band Edge



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:	CR22050039-RF-S1	Test Date:	2022-06-08~2022-06-09
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ada Yan	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.9	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100
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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	211002	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-22	2022-07-21
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each Time	N/A

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

EUT Information@ LTE Band 71▲:

Antenna Gain (dBi):	-2.77	Antenna Gain (dBd):	-4.92	Cable Loss (dB):	0
Operation Voltage(V _{DC}):					
Lowest:	3.4	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	22.96	22.83	23.01	18.17	34.77
	RB1#13	23.09	22.86	23.04		
	RB1#24	22.95	22.83	22.97		
	RB15#0	22.05	21.95	22.10		
	RB15#10	22.09	21.90	22.12		
	RB25#0	22.01	21.97	22.07		
5MHz 16QAM	RB1#0	22.06	21.90	22.01	17.31	34.77
	RB1#13	21.95	21.93	22.13		
	RB1#24	21.92	21.79	22.23		
	RB15#0	21.01	21.03	21.07		
	RB15#10	21.03	21.00	21.15		
	RB25#0	21.03	21.00	21.12		
10MHz QPSK	RB1#0	23.09	22.98	23.24	18.37	34.77
	RB1#25	23.26	23.13	23.29		
	RB1#49	23.08	22.96	23.15		
	RB25#0	22.13	22.01	22.03		
	RB25#25	22.05	21.98	22.19		
	RB50#0	22.10	22.02	22.09		
10MHz 16QAM	RB1#0	22.05	21.93	22.14	17.33	34.77
	RB1#25	22.25	22.13	22.14		
	RB1#49	21.85	21.82	22.09		
	RB25#0	21.07	20.95	20.97		
	RB25#25	21.03	21.05	21.12		
	RB50#0	21.07	21.05	21.14		
15MHz QPSK	RB1#0	23.23	22.92	22.89	18.31	34.77
	RB1#38	23.17	22.80	22.99		
	RB1#74	23.20	23.02	23.03		
	RB36#0	22.11	21.97	22.01		
	RB36#39	22.02	21.97	22.17		
	RB75#0	22.03	21.97	22.05		
15MHz 16QAM	RB1#0	21.99	22.00	21.87	17.13	34.77
	RB1#38	21.85	21.83	21.76		
	RB1#74	22.03	22.05	22.03		
	RB36#0	21.03	21.00	20.95		
	RB36#39	21.04	20.97	21.12		

	RB75#0	21.04	20.96	21.05		
20MHz QPSK	RB1#0	22.84	23.00	22.77	18.29	34.77
	RB1#50	23.09	23.17	23.12		
	RB1#99	22.88	23.21	23.05		
	RB50#0	22.01	22.03	21.91		
	RB50#50	22.03	22.06	22.20		
	RB100#0	22.03	21.91	22.04		
20MHz 16QAM	RB1#0	21.98	21.60	21.83	17.32	34.77
	RB1#50	22.18	21.86	22.24		
	RB1#99	22.04	21.80	22.13		
	RB50#0	21.02	20.97	20.90		
	RB50#50	21.02	21.04	21.10		
	RB100#0	21.03	20.93	20.98		

Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)

Result:

Pass

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.23	4.58	4.55	13
	RB100#0	4.55	4.61	4.61	13
20MHz 16QAM	RB1#0	5.59	5.54	5.54	13
	RB100#0	5.59	5.71	5.77	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	4.511	4.511	5.000	5.000	5.000
5MHz 16QAM	4.511	4.531	4.511	5.000	5.000	5.040
10MHz QPSK	8.902	8.902	8.942	9.600	9.600	9.680
10MHz 16QAM	8.942	8.901	8.902	9.720	9.640	9.640
15MHz QPSK	13.533	13.473	13.413	14.940	14.700	14.700
15MHz 16QAM	13.533	13.353	13.473	14.880	14.700	14.700
20MHz QPSK	17.884	17.804	17.964	19.200	19.280	19.440
20MHz 16QAM	17.884	17.804	17.964	19.360	19.440	19.520

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.

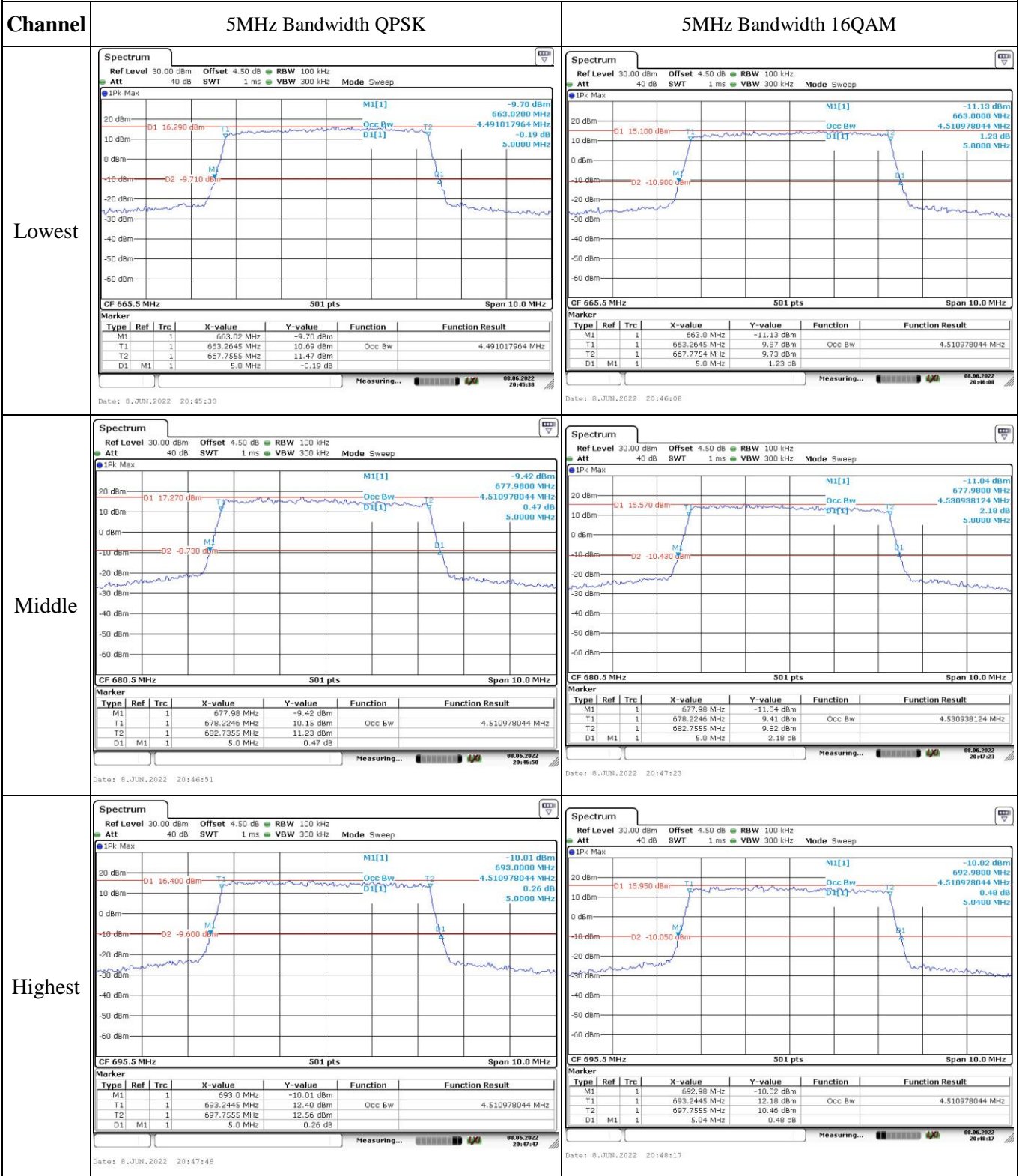
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.

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	663.143	663.00	697.948	698.00
	-20	3.7	663.145	663.00	697.946	698.00
	-10	3.7	663.138	663.00	697.943	698.00
	0	3.7	663.139	663.00	697.942	698.00
	10	3.7	663.139	663.00	697.945	698.00
	20	3.7	663.138	663.00	697.942	698.00
	30	3.7	663.132	663.00	697.940	698.00
	40	3.7	663.135	663.00	697.941	698.00
Frequency Stability vs. Voltage	20	3.4	663.138	663.00	697.937	698.00
	20	4.2	663.137	663.00	697.939	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	663.139	663.00	697.945	698.00
	-20	3.7	663.142	663.00	697.947	698.00
	-10	3.7	663.139	663.00	697.942	698.00
	0	3.7	663.144	663.00	697.943	698.00
	10	3.7	663.138	663.00	697.945	698.00
	20	3.7	663.138	663.00	697.942	698.00
	30	3.7	663.132	663.00	697.942	698.00
	40	3.7	663.137	663.00	697.940	698.00
Frequency Stability vs. Voltage	20	3.4	663.135	663.00	697.937	698.00
	20	4.2	663.136	663.00	697.936	698.00
					Result:	Pass

Test Plots:

Occupied Bandwidth



Occupied Bandwidth

