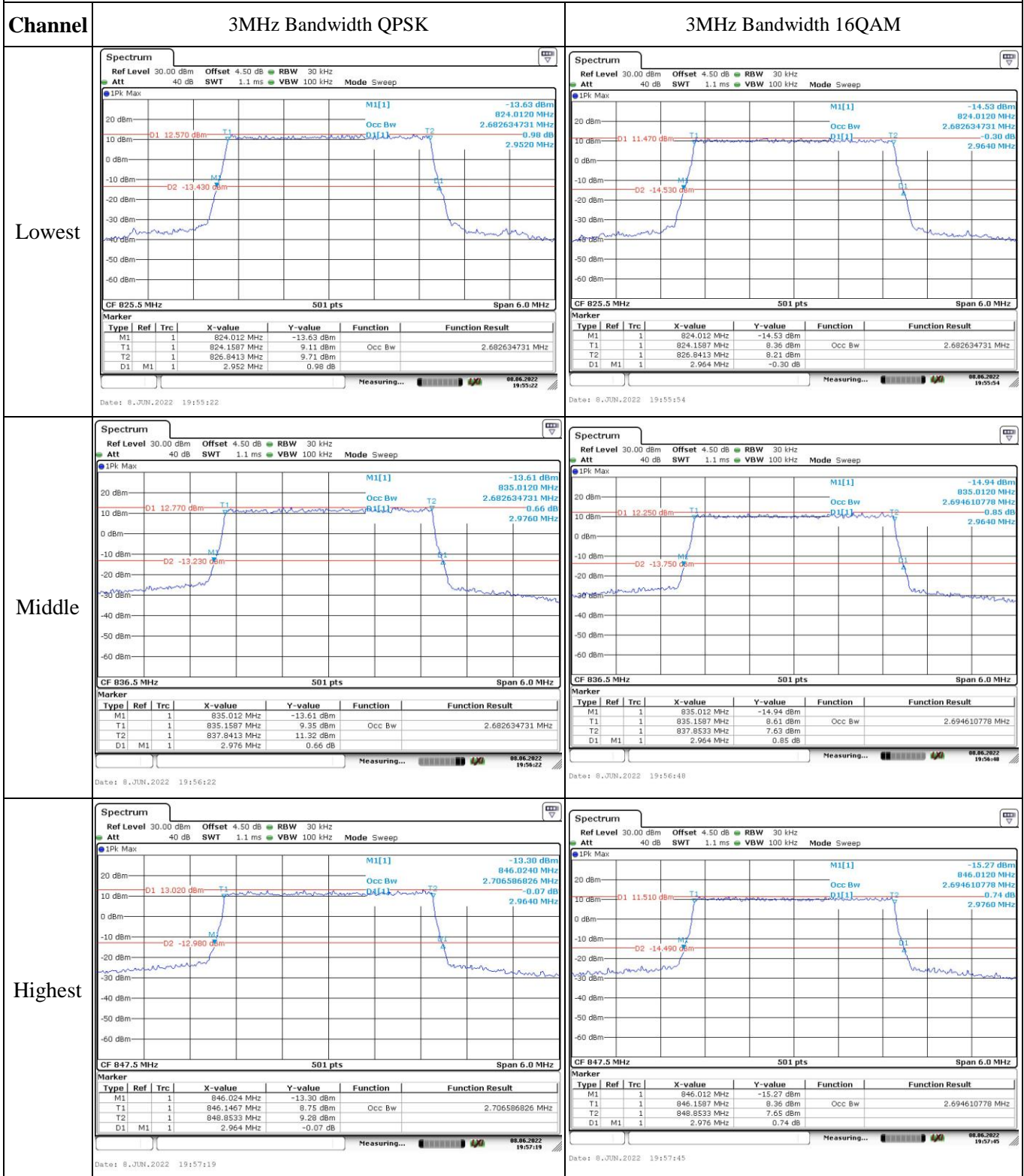


### Occupied Bandwidth



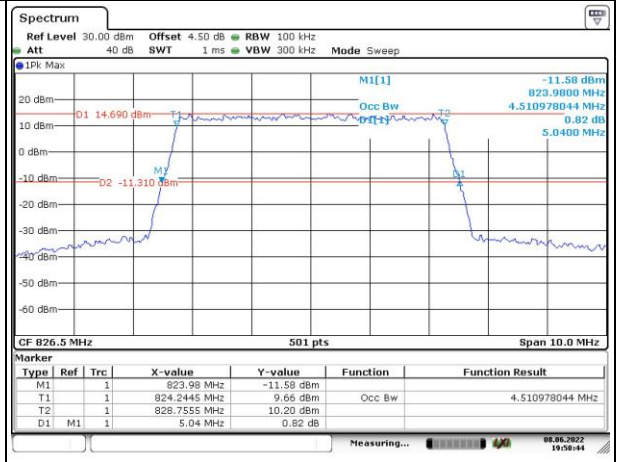
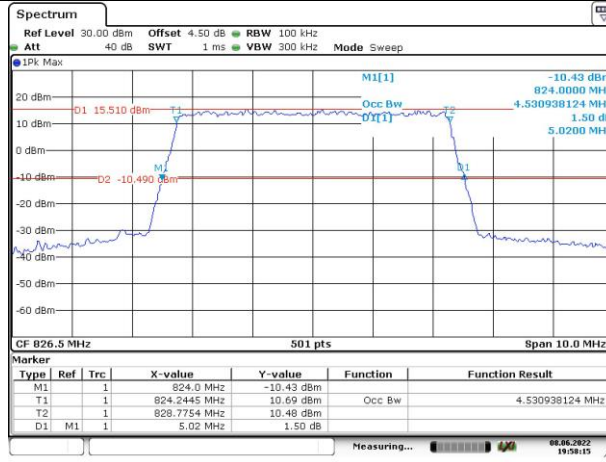
### Occupied Bandwidth

Channel

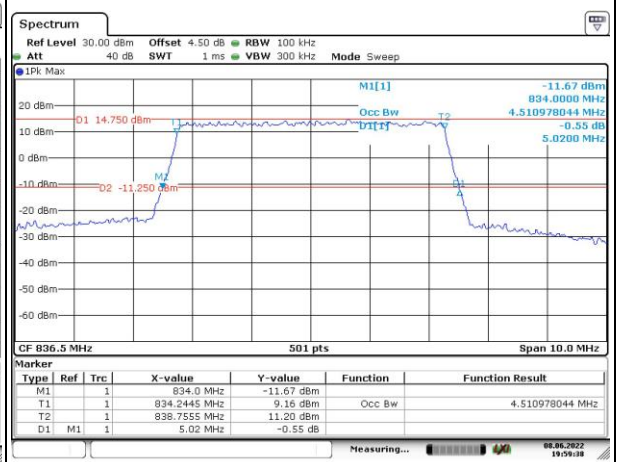
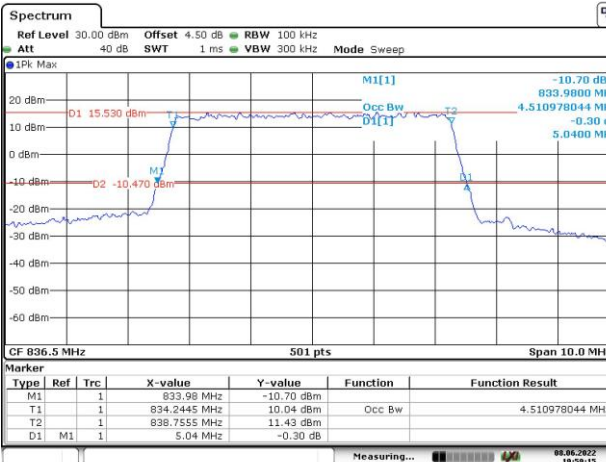
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

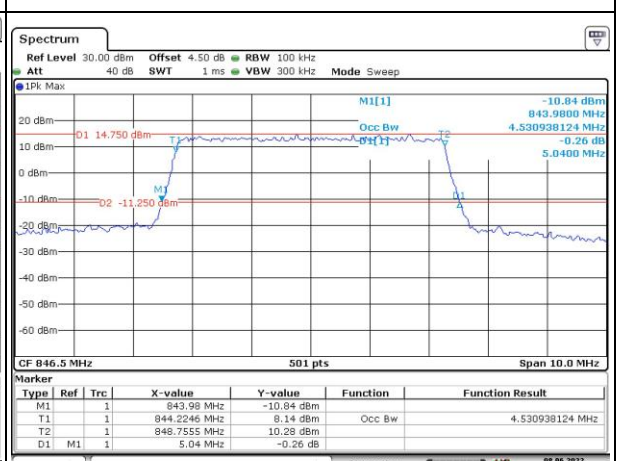
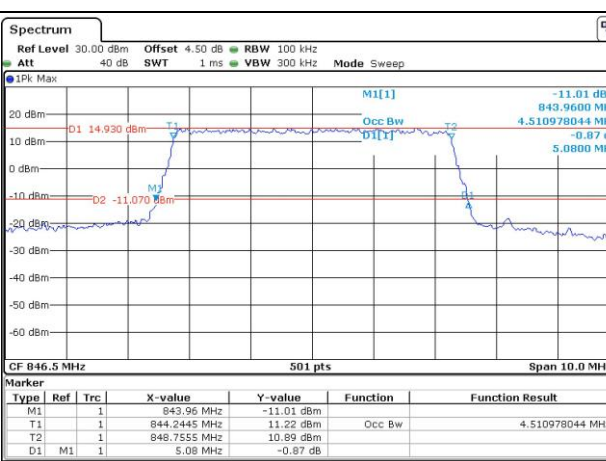
Lowest



Middle



Highest



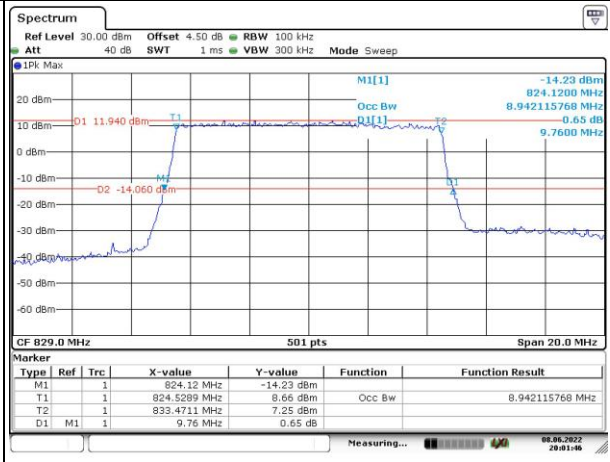
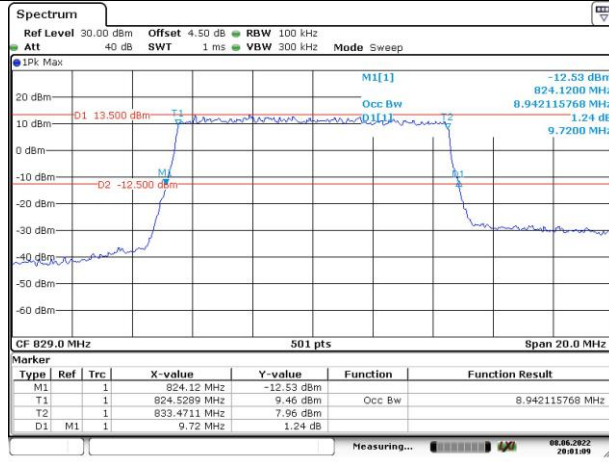
### Occupied Bandwidth

Channel

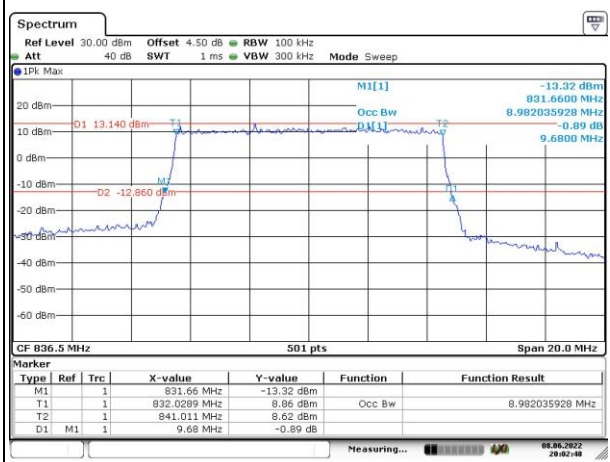
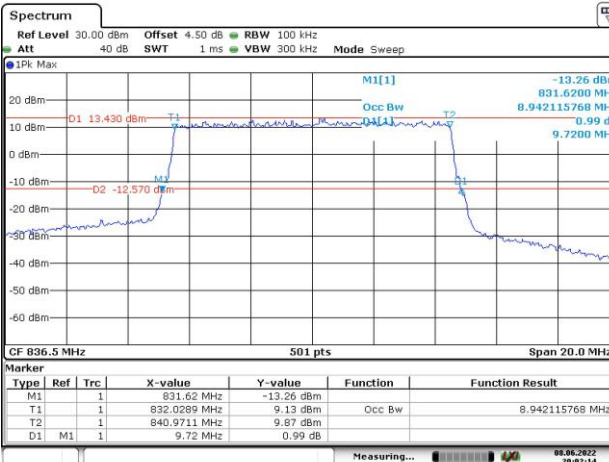
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

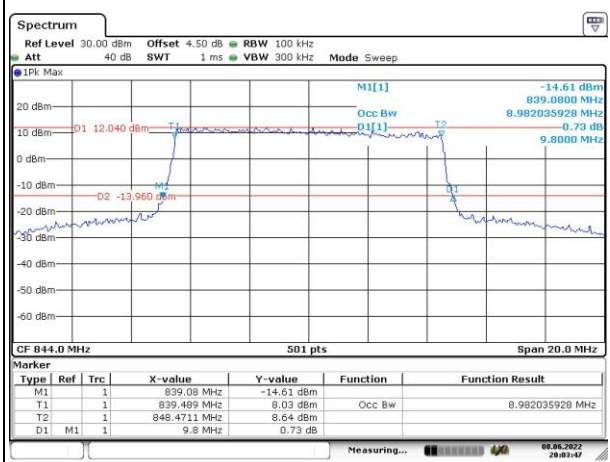
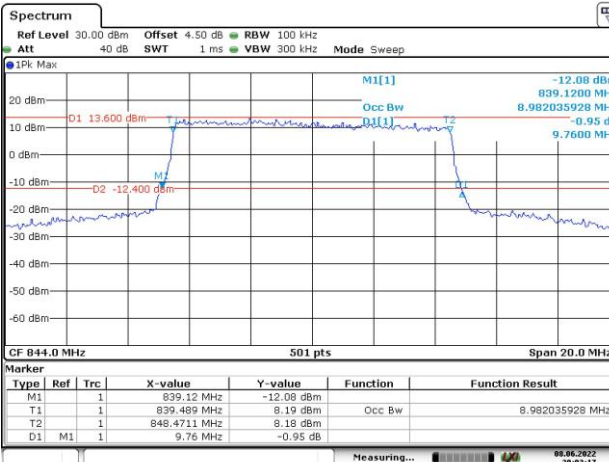
Lowest



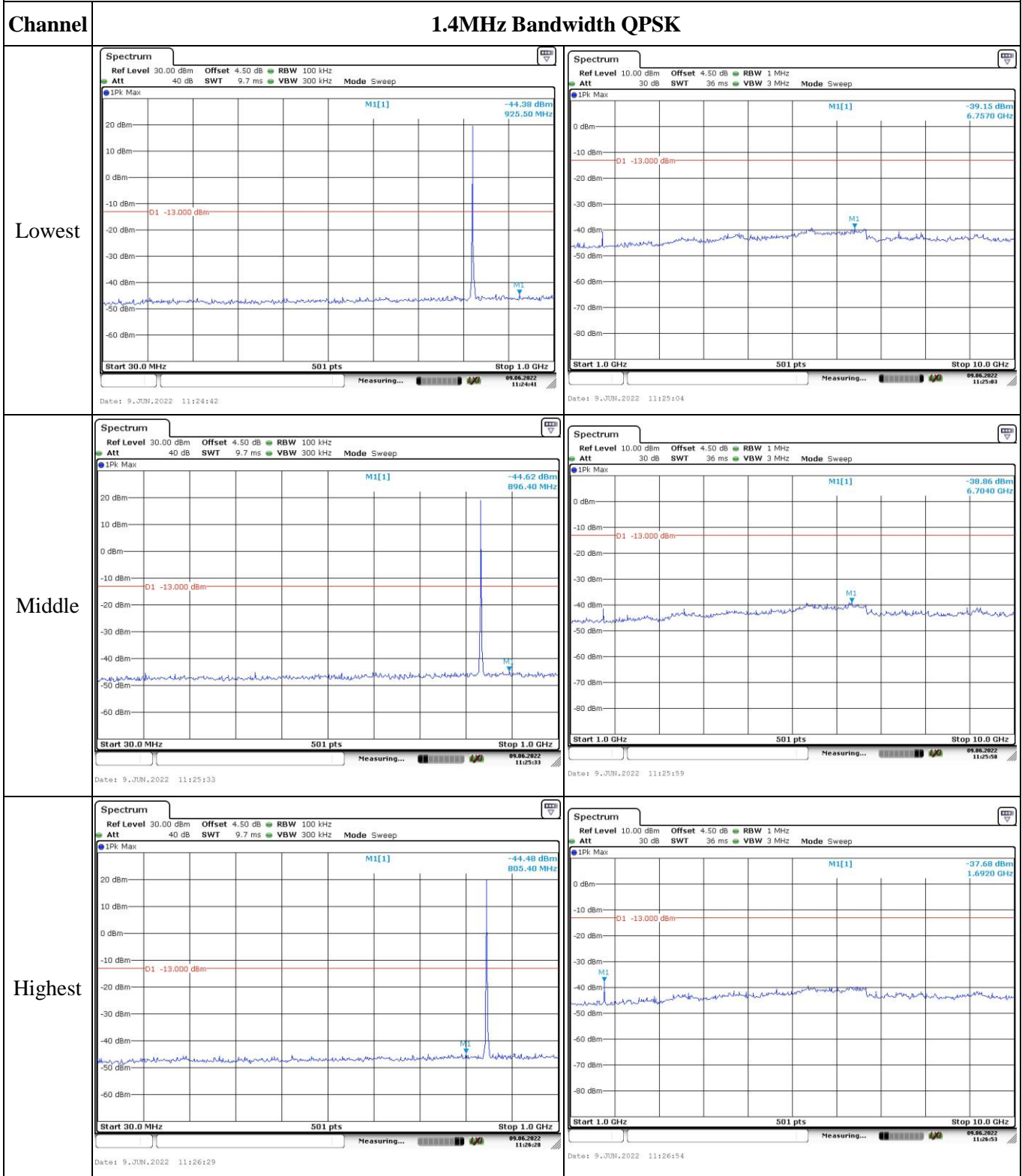
Middle



Highest



### Spurious Emissions at Antenna Terminal

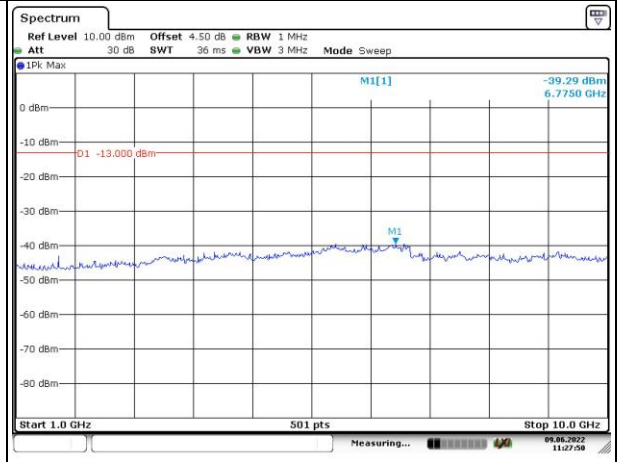
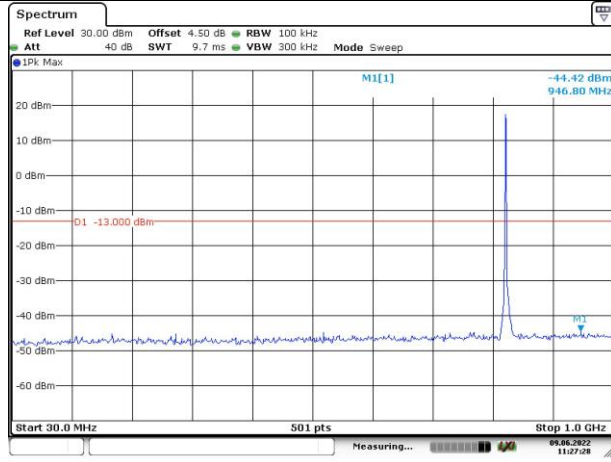


### Spurious Emissions at Antenna Terminal

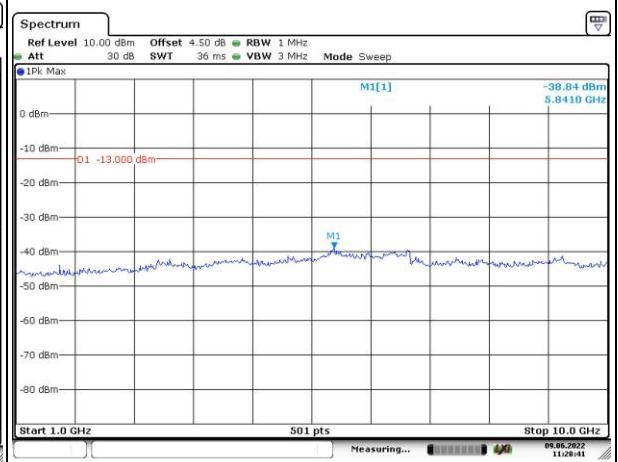
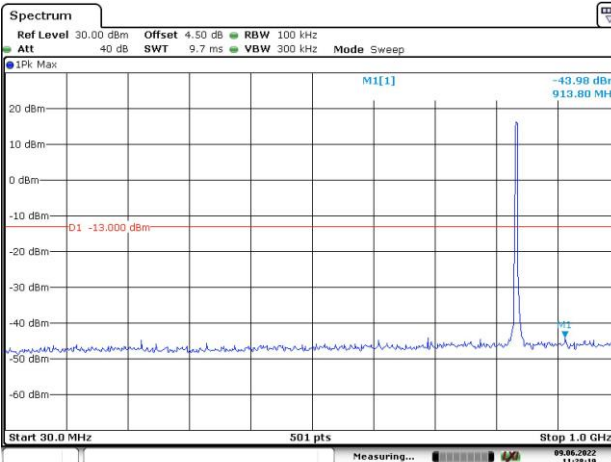
Channel

3MHz Bandwidth QPSK

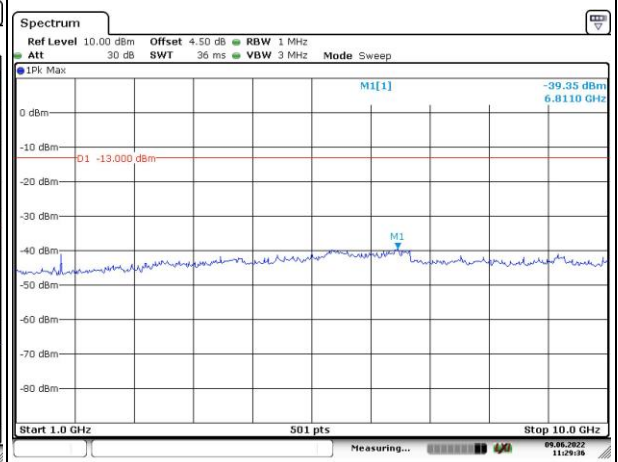
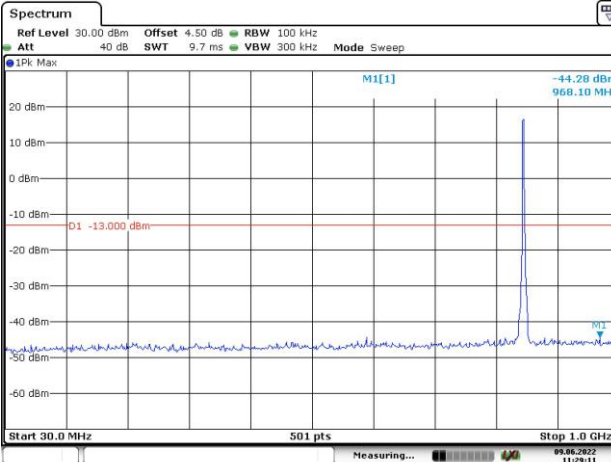
Lowest



Middle



Highest

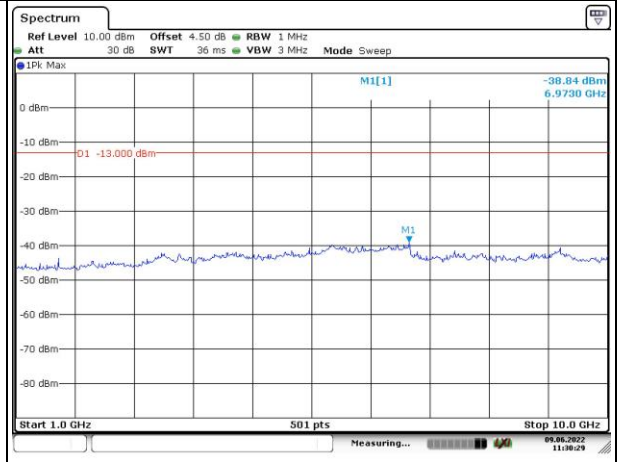
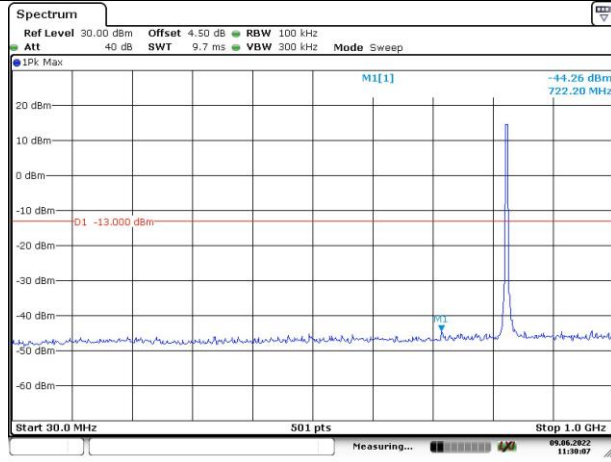


### Spurious Emissions at Antenna Terminal

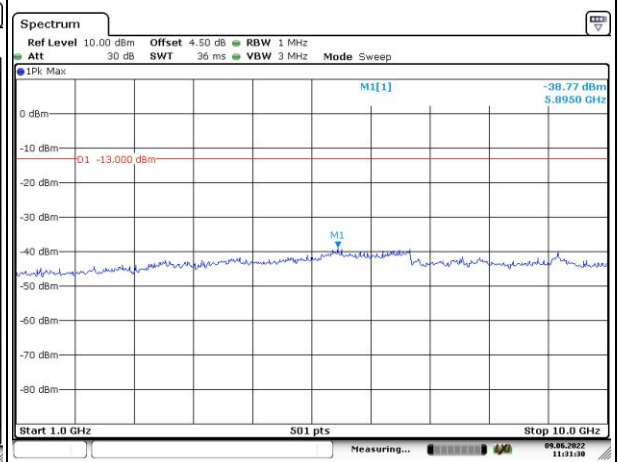
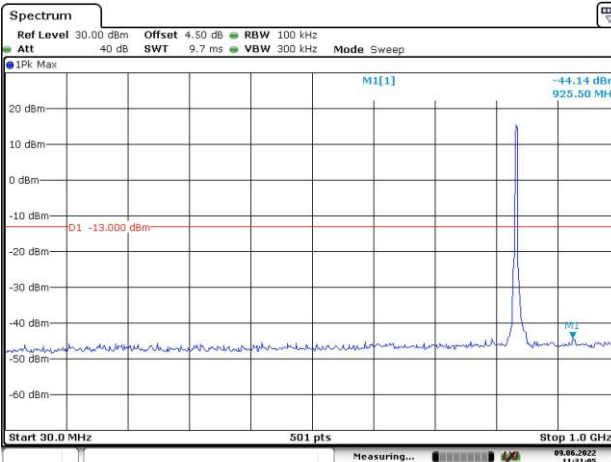
Channel

5MHz Bandwidth QPSK

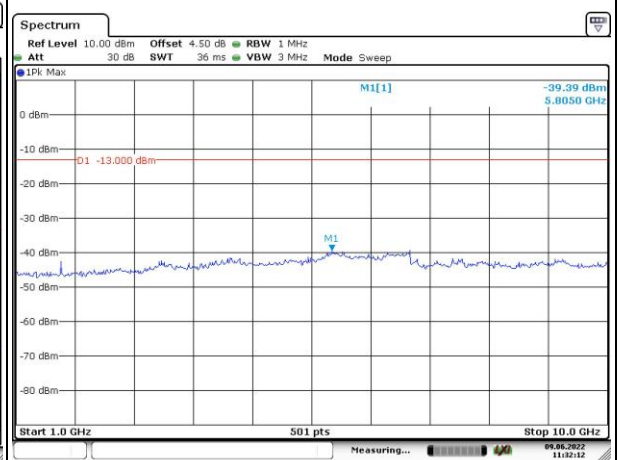
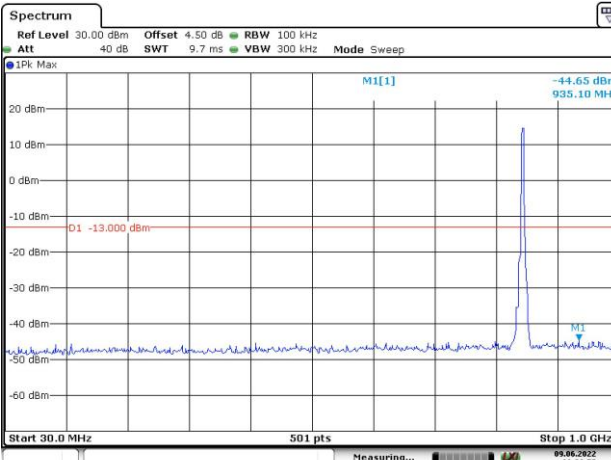
Lowest



Middle



Highest

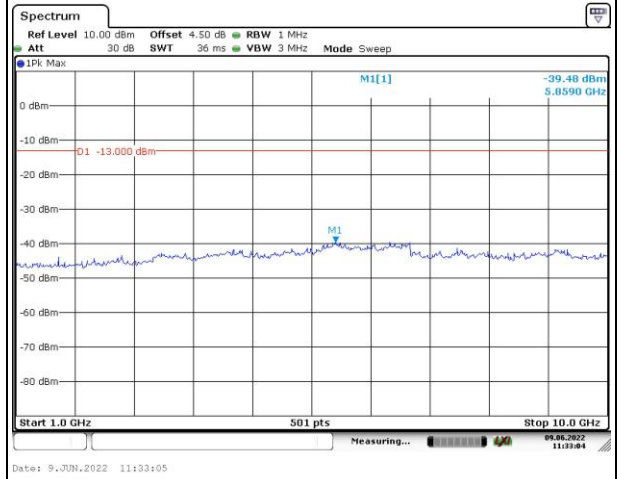
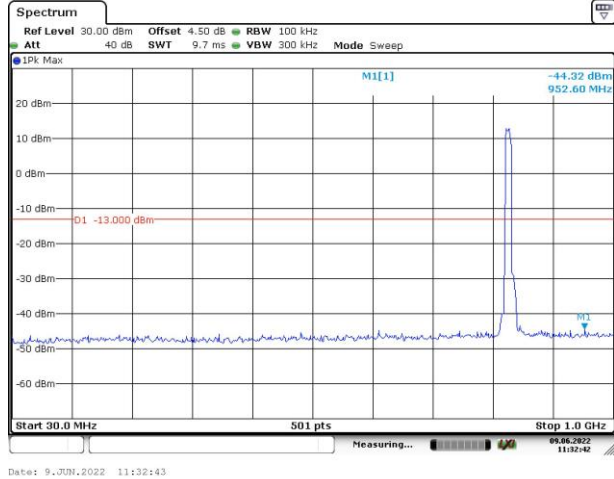


### Spurious Emissions at Antenna Terminal

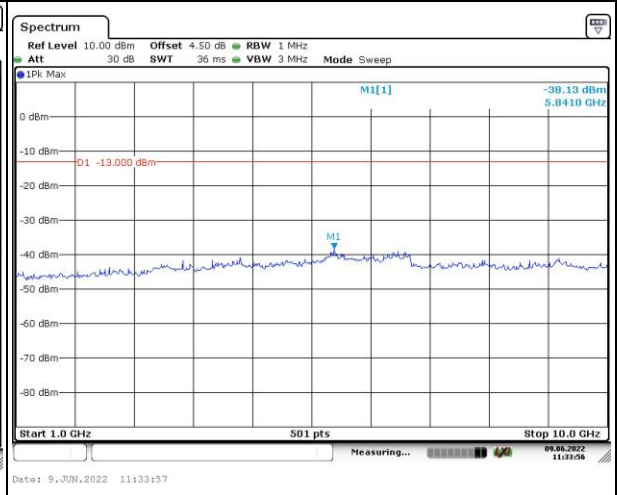
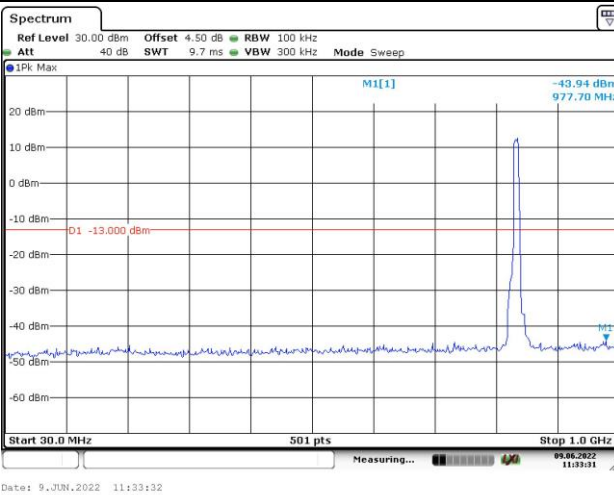
Channel

10MHz Bandwidth QPSK

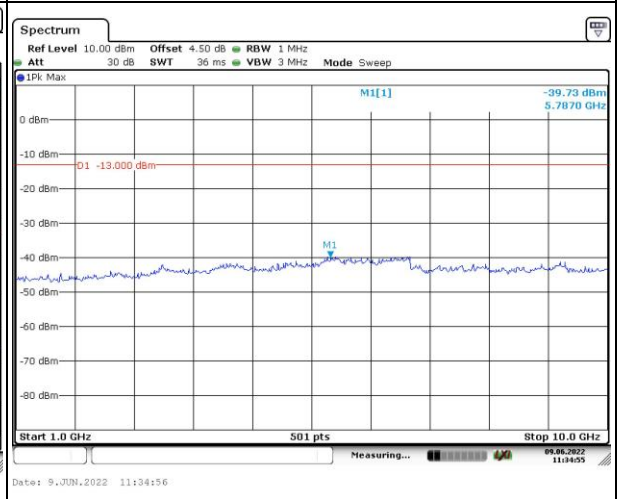
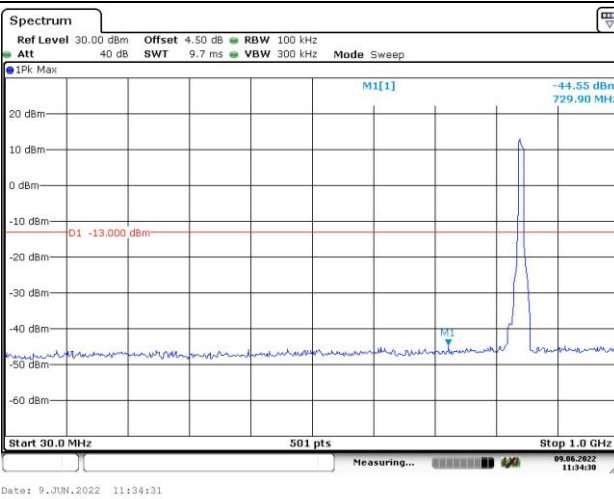
Lowest



Middle



Highest

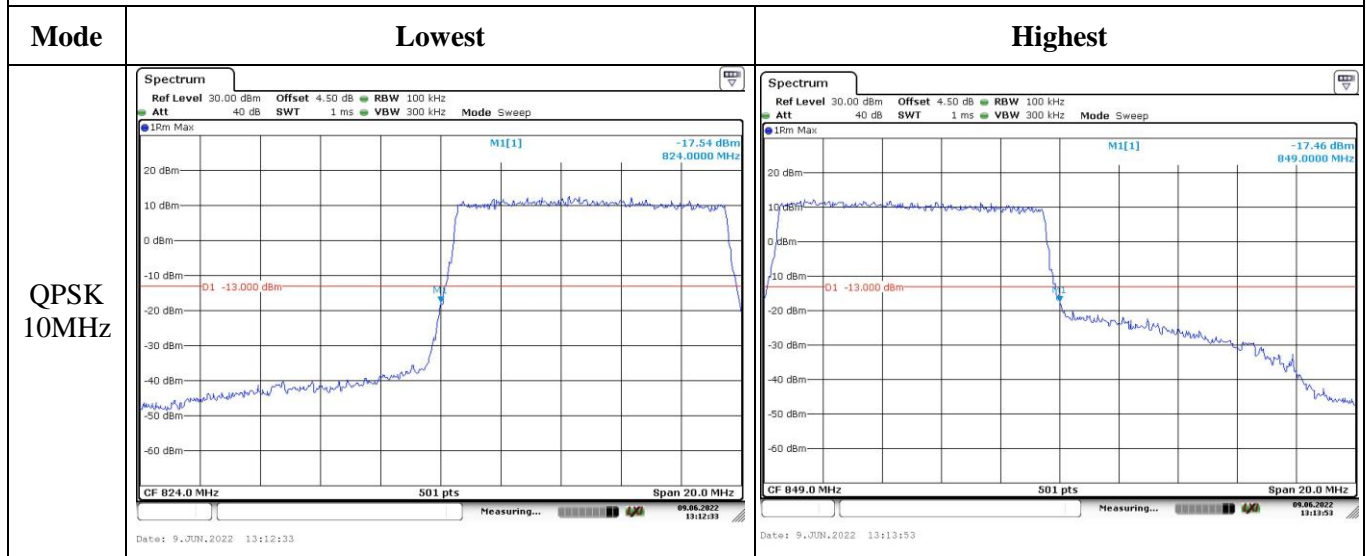


Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>CF 824.0 MHz 501 pts Span 3.0 MHz</p> <p>Date: 9 JUN 2022 13:06:52</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>CF 849.0 MHz 501 pts Span 3.0 MHz</p> <p>Date: 9 JUN 2022 13:07:51</p>
QPSK 3MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>CF 824.0 MHz 501 pts Span 6.0 MHz</p> <p>Date: 9 JUN 2022 13:08:41</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep</p> <p>CF 849.0 MHz 501 pts Span 6.0 MHz</p> <p>Date: 9 JUN 2022 13:09:44</p>
QPSK 5MHz	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 100 ms VBW 300 kHz Mode Sweep</p> <p>CF 824.0 MHz 501 pts Span 10.0 MHz</p> <p>Date: 9 JUN 2022 15:37:10</p>	<p>Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 100 ms VBW 300 kHz Mode Sweep</p> <p>CF 849.0 MHz 501 pts Span 10.0 MHz</p> <p>Date: 9 JUN 2022 15:40:02</p>



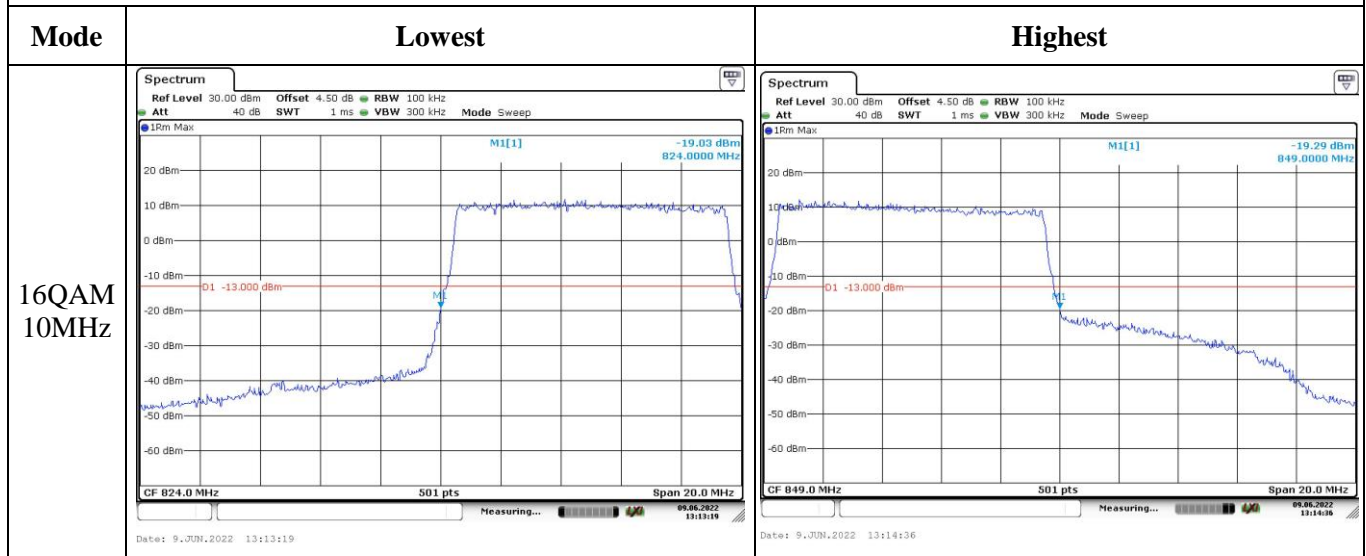
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz		
16QAM 3MHz		
16QAM 5MHz		

Out of band emission, Band Edge



**4.7 Antenna Port Test Data and Results for LTE Band 12:**

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 12▲:**

Antenna Gain (dBi):	-2.01	Antenna Gain (dBd):	-4.16	Cable Loss (dB):	0
Operation Voltage(V <sub>DC</sub> ):					
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)
1.4MHz	699.7	707.5	715.3
3MHz	700.5	707.5	714.5
5MHz	701.5	707.5	713.5
10MHz	704	707.5	711

**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		
1.4MHz QPSK	RB1#0	23.02	22.91	23.14	19.07	34.77
	RB1#3	23.21	23.05	23.23		
	RB1#5	23.08	22.97	23.22		
	RB3#0	22.93	23.04	23.03		
	RB3#3	22.98	23.03	23.05		
	RB6#0	22.02	22.08	22.03		
1.4MHz 16QAM	RB1#0	22.08	21.94	22.02	18.01	34.77
	RB1#3	22.17	21.90	22.16		
	RB1#5	21.88	21.94	22.08		
	RB3#0	21.98	21.92	22.02		
	RB3#3	22.07	22.00	21.91		
	RB6#0	20.95	21.00	20.89		
3MHz QPSK	RB1#0	22.89	23.01	23.12	18.99	34.77
	RB1#8	22.97	23.04	23.08		
	RB1#14	22.94	22.88	23.15		
	RB6#0	21.98	22.04	22.20		
	RB6#9	22.02	22.08	22.07		
	RB15#0	22.00	22.02	22.15		
3MHz 16QAM	RB1#0	21.86	21.93	22.07	18	34.77
	RB1#8	21.92	21.88	22.07		
	RB1#14	21.82	21.96	22.16		
	RB6#0	20.95	20.96	21.00		
	RB6#9	20.90	21.08	21.05		
	RB15#0	20.98	21.04	21.05		
5MHz QPSK	RB1#0	22.89	22.92	22.80	18.9	34.77
	RB1#13	22.88	23.01	23.02		
	RB1#24	22.95	22.81	23.06		
	RB15#0	22.02	22.06	22.04		
	RB15#10	21.92	22.01	22.01		
	RB25#0	22.00	22.03	22.03		
5MHz 16QAM	RB1#0	21.99	21.93	21.87	18.05	34.77
	RB1#13	21.89	22.14	22.21		
	RB1#24	21.89	21.90	22.07		

	RB15#0	20.97	20.96	20.94		
	RB15#10	20.87	20.90	21.06		
	RB25#0	20.95	20.94	20.96		
10MHz QPSK	RB1#0	22.96	22.91	23.02	19.03	34.77
	RB1#25	23.18	23.12	23.19		
	RB1#49	23.06	22.83	23.02		
	RB25#0	21.94	22.03	21.88		
	RB25#25	22.06	21.98	22.06		
	RB50#0	22.05	21.93	22.04		
10MHz 16QAM	RB1#0	21.64	21.76	22.16	18	34.77
	RB1#25	22.03	22.00	22.04		
	RB1#49	21.86	21.79	21.97		
	RB25#0	20.87	20.87	20.95		
	RB25#25	21.00	20.84	20.94		
	RB50#0	20.95	20.89	20.97		
Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)						
					<b>Result:</b>	<b>Pass</b>

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	4.43	4.55	4.58	13
	RB50#0	4.84	4.93	5.07	13
10MHz 16QAM	RB1#0	5.62	5.65	5.68	13
	RB50#0	5.94	5.91	6.14	13
<b>Result:</b>					<b>Pass</b>

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
1.4MHz QPSK	1.102	1.102	1.102	1.314	1.326	1.332
1.4MHz 16QAM	1.102	1.102	1.108	1.308	1.308	1.314
3MHz QPSK	2.683	2.695	2.683	2.964	2.952	2.952
3MHz 16QAM	2.695	2.695	2.695	2.952	2.964	2.964
5MHz QPSK	4.531	4.511	4.511	5.020	5.000	4.960
5MHz 16QAM	4.511	4.511	4.511	5.080	5.000	5.020
10MHz QPSK	8.942	8.902	8.942	9.640	9.760	9.720

10MHz 16QAM	8.942	8.942	8.942	9.720	9.840	9.720
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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.

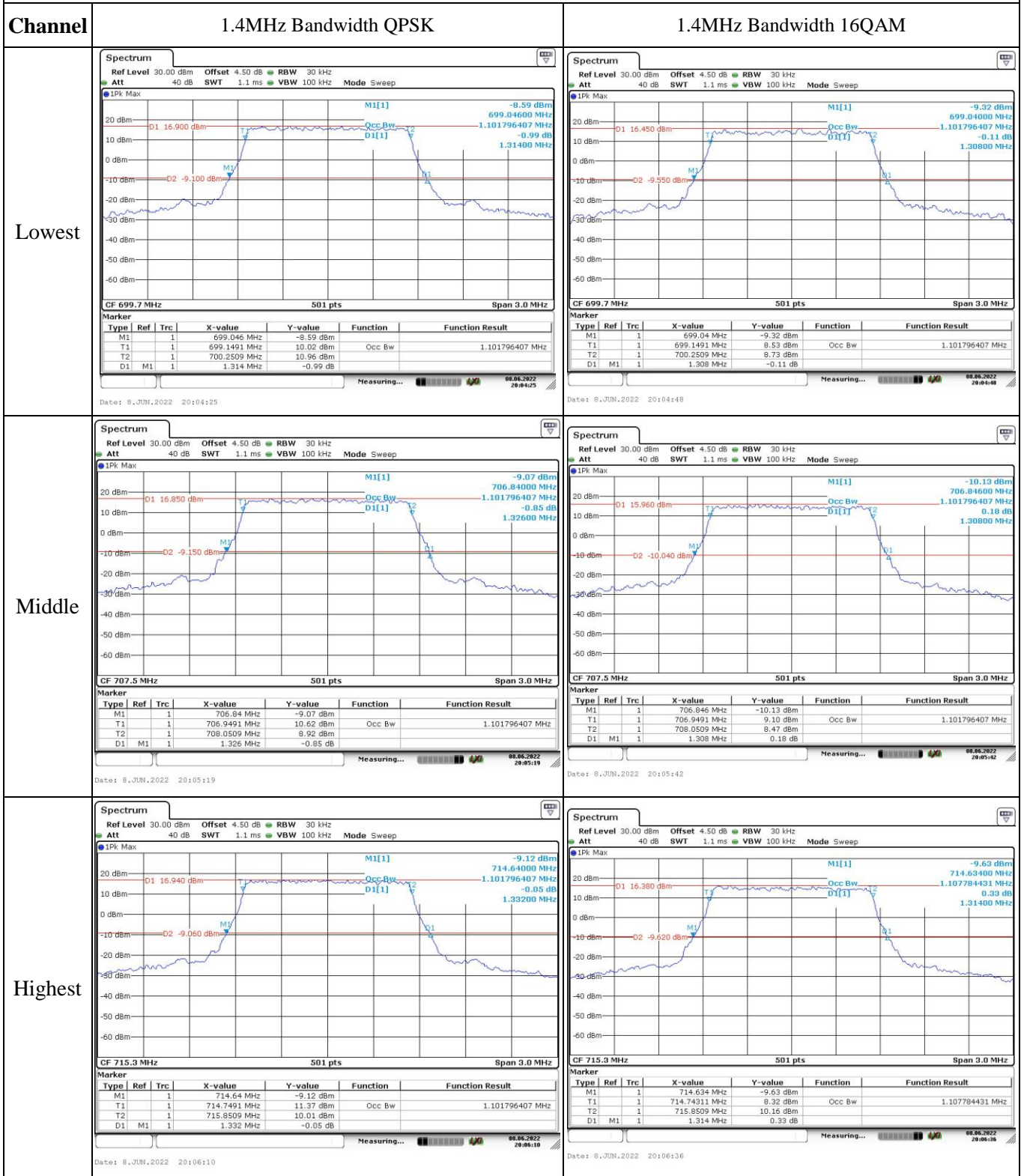
### FCC §2.1055, §27.54: Frequency Stability

Test Mode:	10M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	699.571	699.00	715.515	716.00
	-20	3.7	699.576	699.00	715.516	716.00
	-10	3.7	699.570	699.00	715.517	716.00
	0	3.7	699.573	699.00	715.512	716.00
	10	3.7	699.569	699.00	715.514	716.00
	20	3.7	699.569	699.00	715.511	716.00
	30	3.7	699.565	699.00	715.510	716.00
	40	3.7	699.562	699.00	715.507	716.00
Frequency Stability vs. Voltage	20	3.4	699.563	699.00	715.503	716.00
	20	4.2	699.565	699.00	715.505	716.00
<b>Result:</b>					<b>Pass</b>	

Test Mode:	10M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V <sub>DC</sub> )	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.7	699.530	699.00	715.516	716.00
	-20	3.7	699.533	699.00	715.517	716.00
	-10	3.7	699.531	699.00	715.512	716.00
	0	3.7	699.534	699.00	715.514	716.00
	10	3.7	699.530	699.00	715.516	716.00
	20	3.7	699.529	699.00	715.511	716.00
	30	3.7	699.525	699.00	715.508	716.00
	40	3.7	699.526	699.00	715.507	716.00
Frequency Stability vs. Voltage	20	3.4	699.525	699.00	715.506	716.00
	20	4.2	699.524	699.00	715.508	716.00
<b>Result:</b>					<b>Pass</b>	

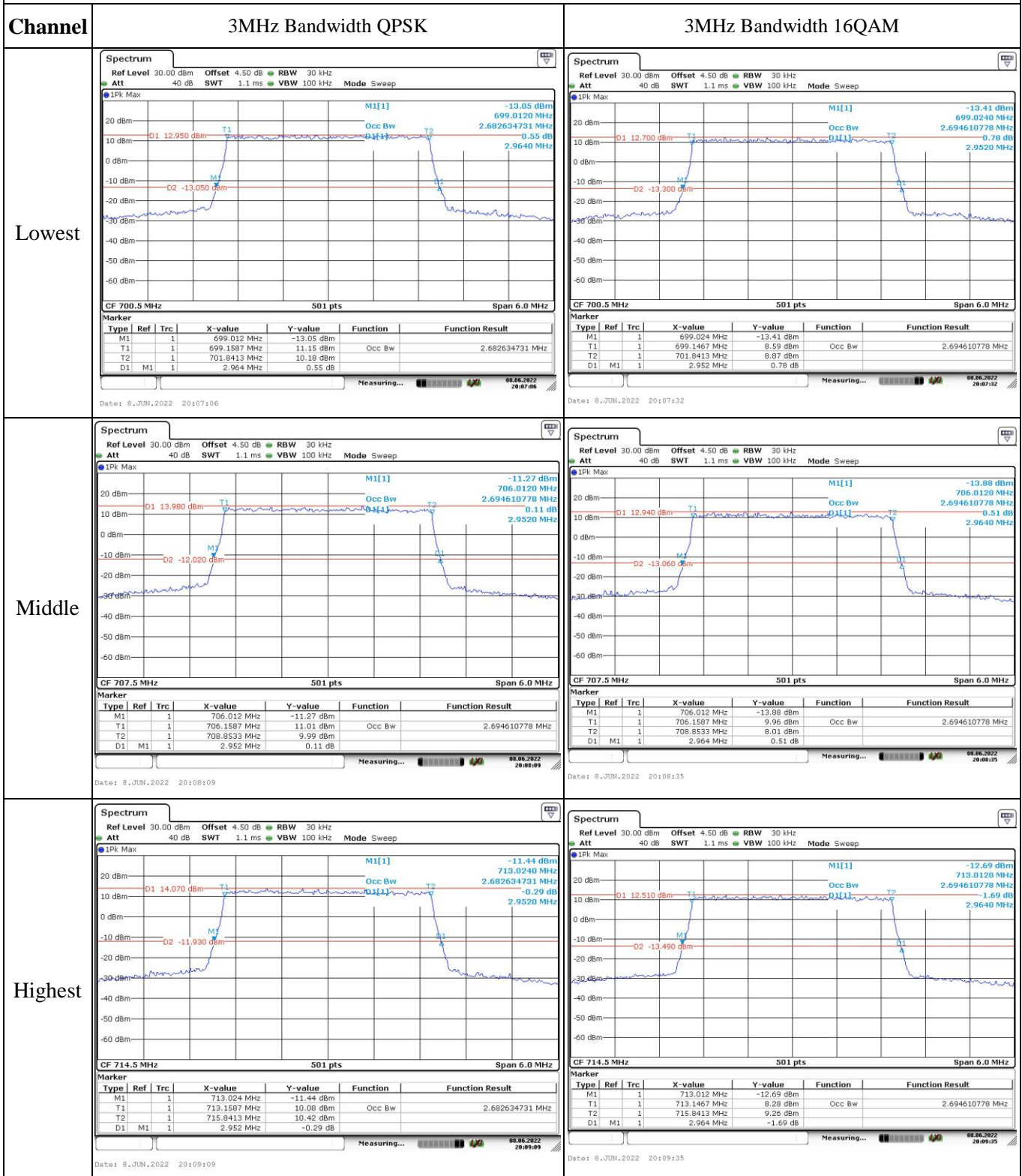
Test Plots:

Occupied Bandwidth





### Occupied Bandwidth



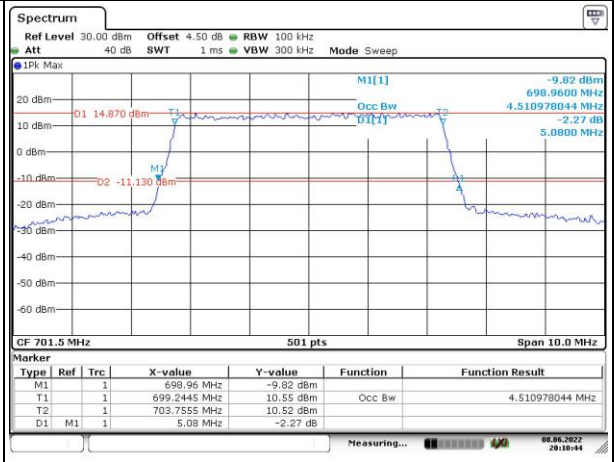
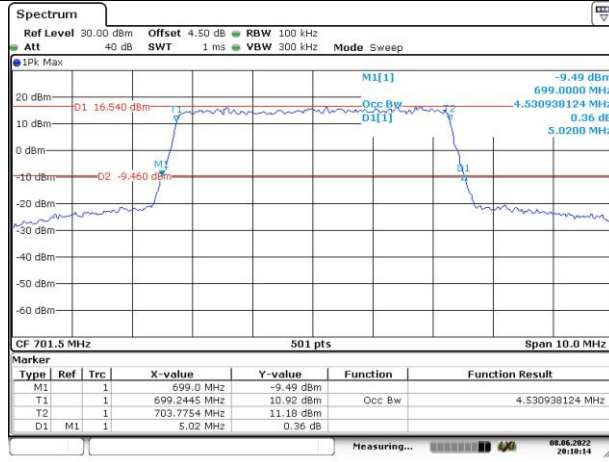
### Occupied Bandwidth

Channel

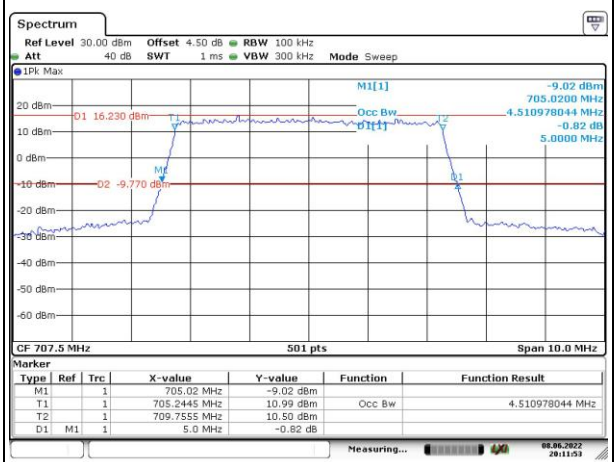
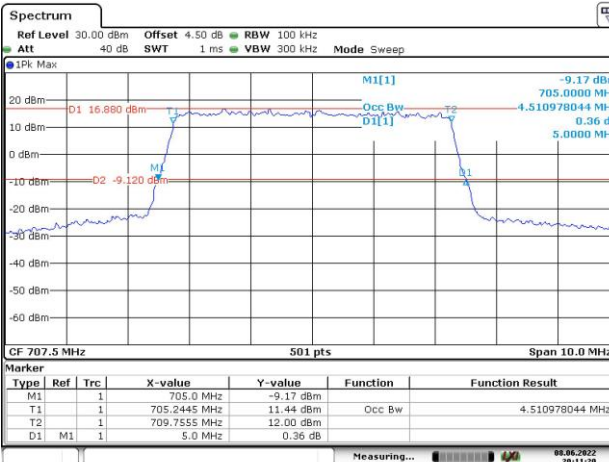
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

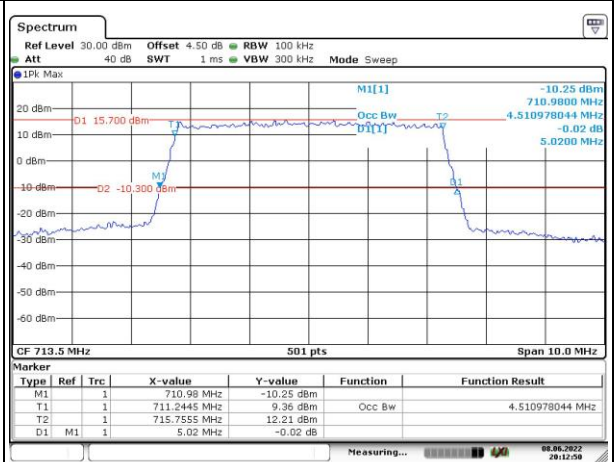
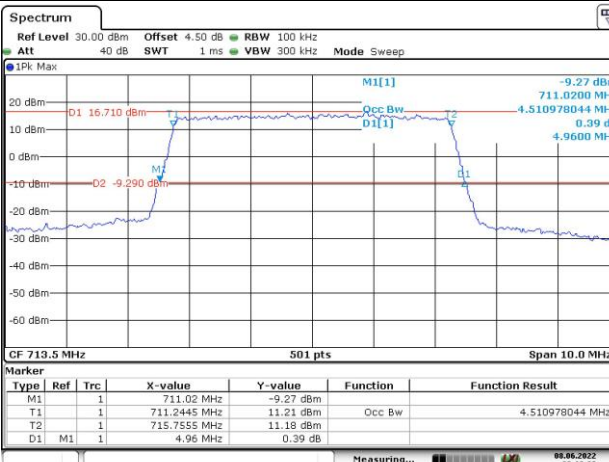
Lowest



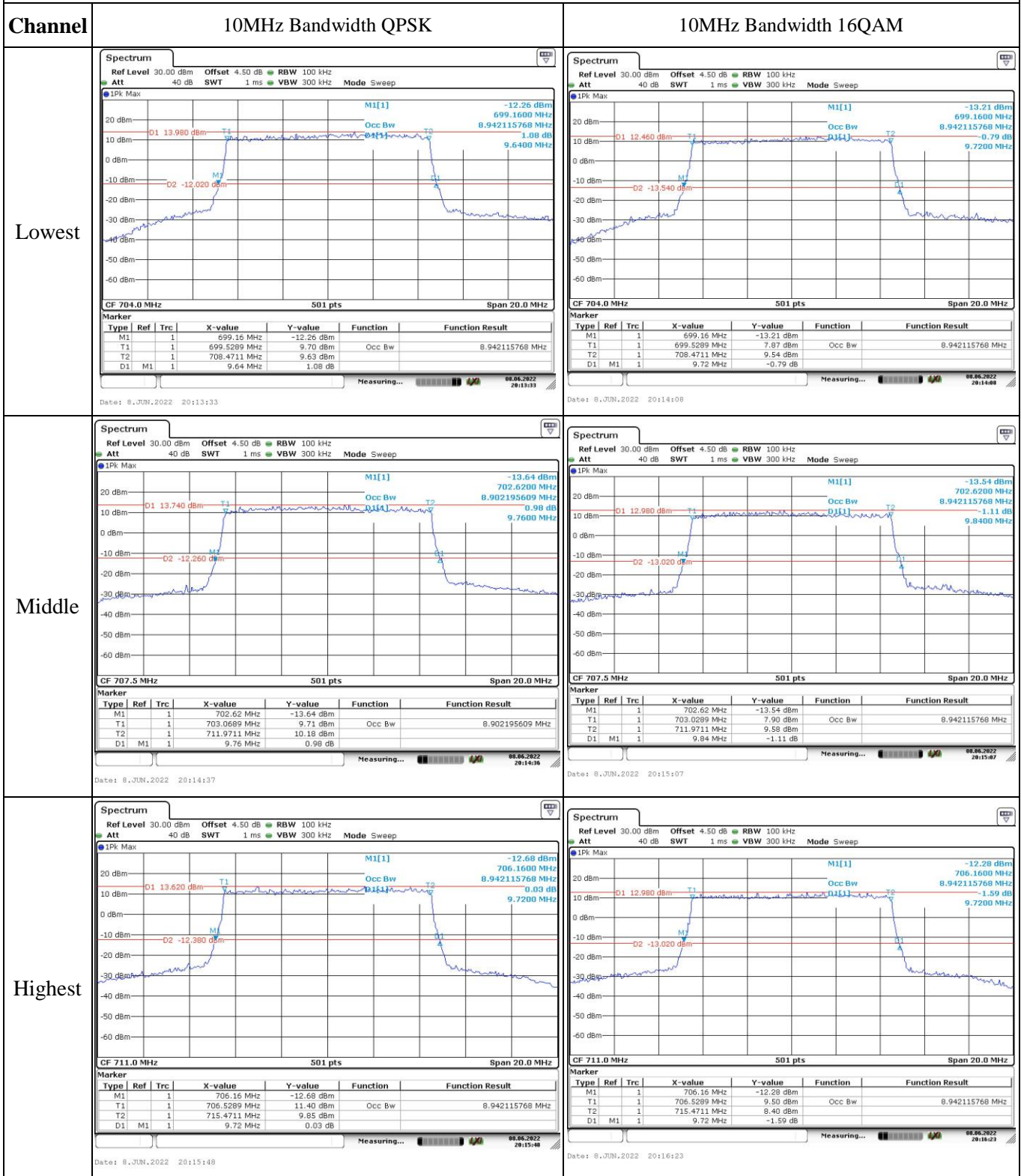
Middle



Highest



### Occupied Bandwidth

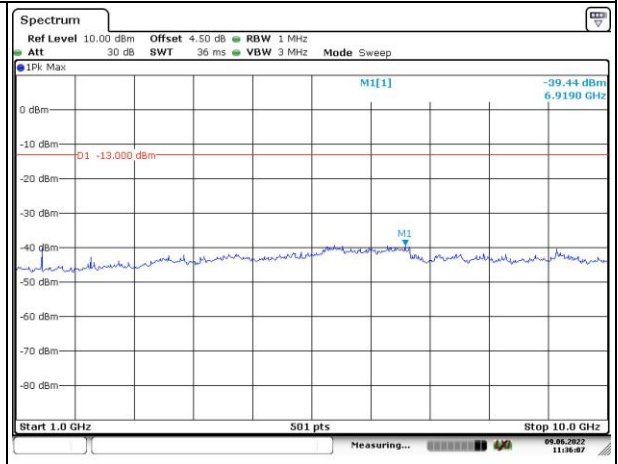
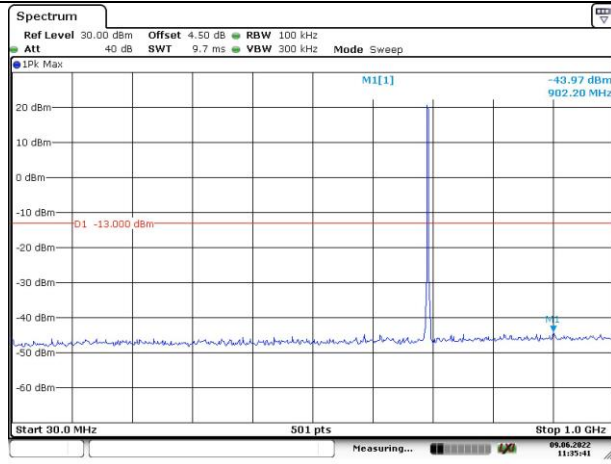


### Spurious Emissions at Antenna Terminal

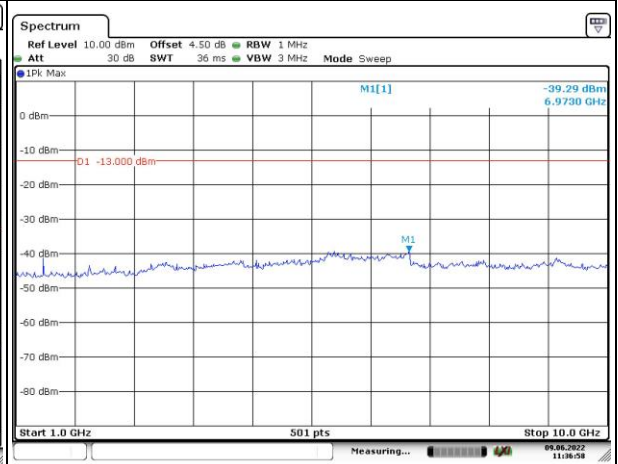
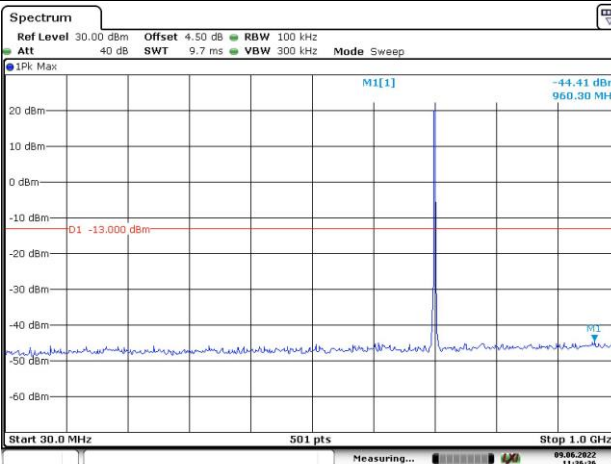
Channel

1.4MHz Bandwidth QPSK

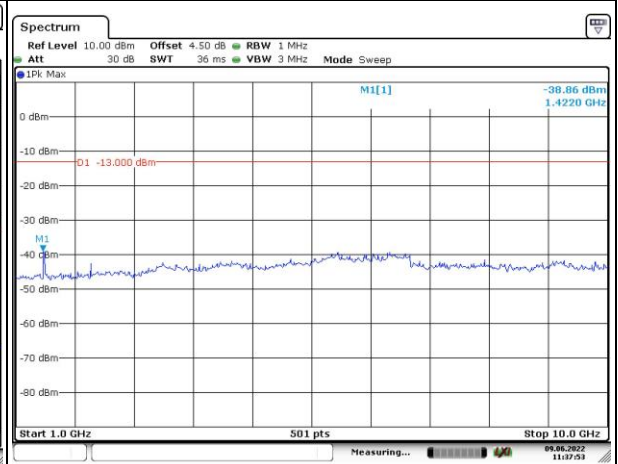
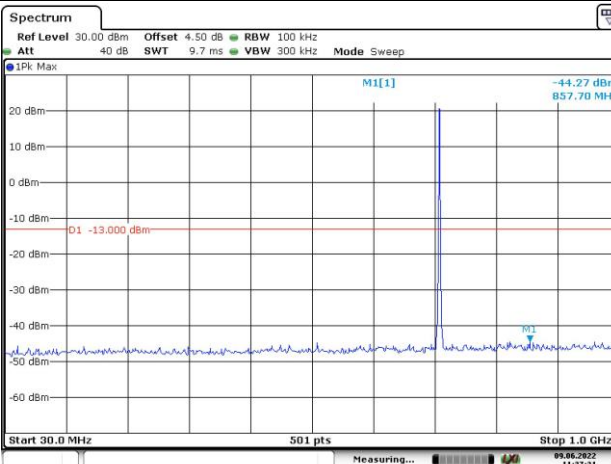
Lowest



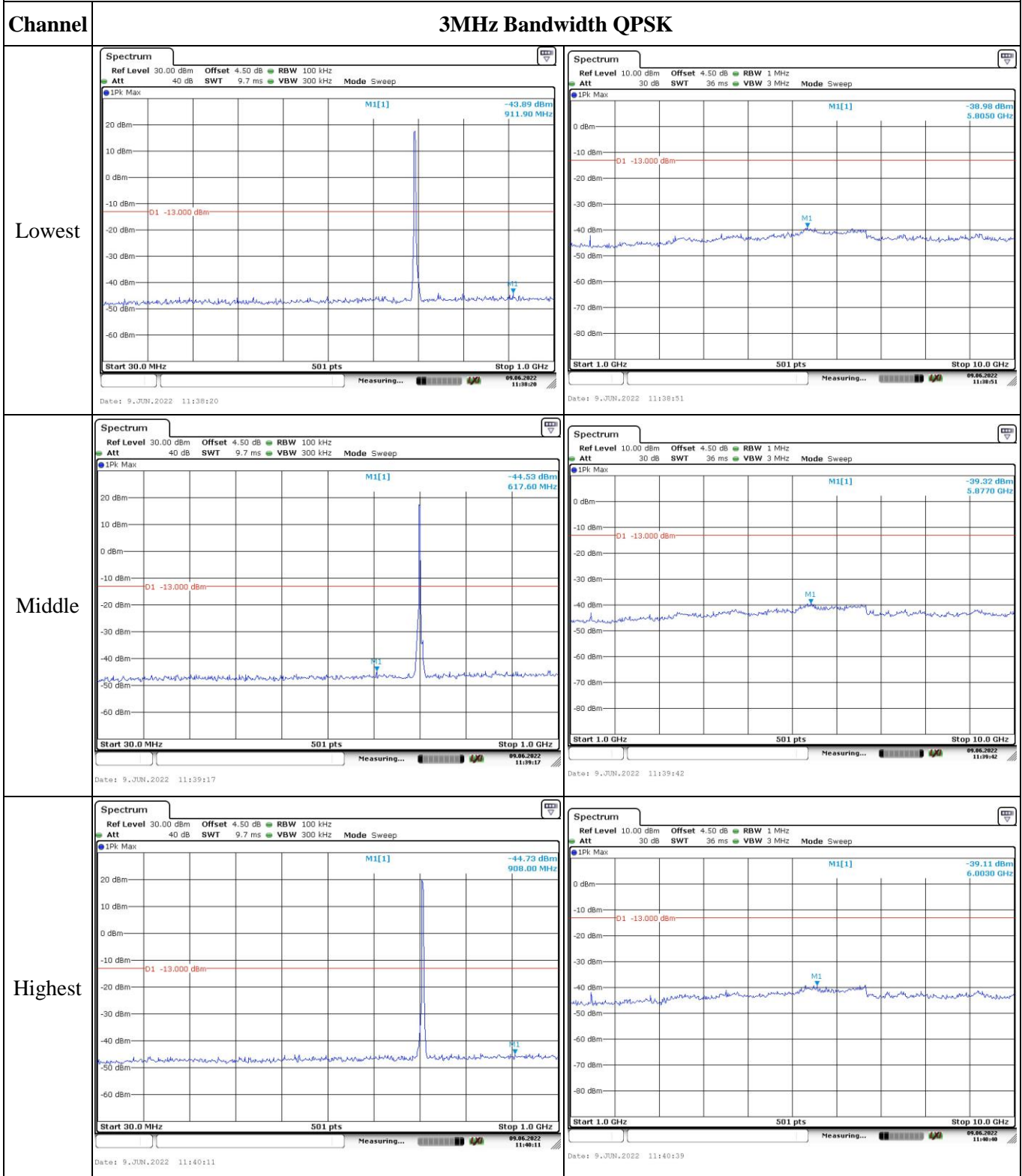
Middle



Highest



### Spurious Emissions at Antenna Terminal

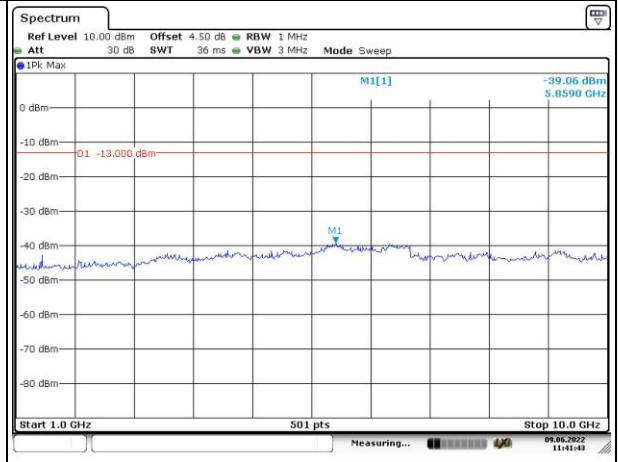
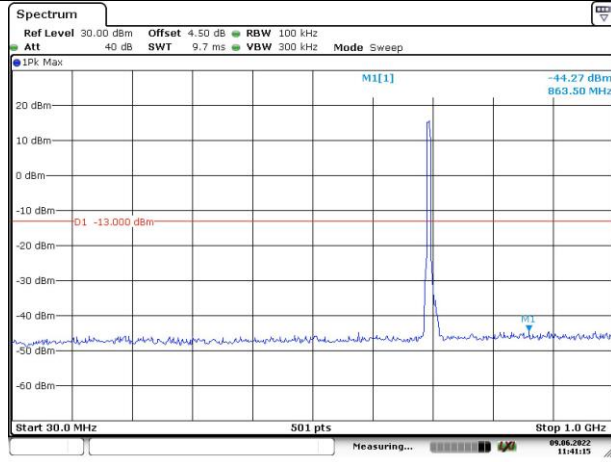


### Spurious Emissions at Antenna Terminal

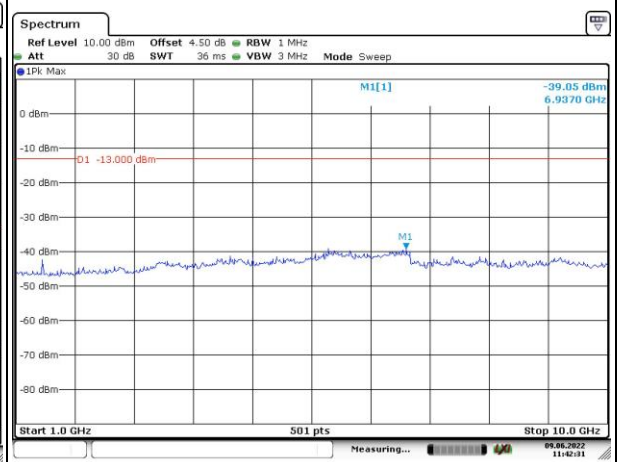
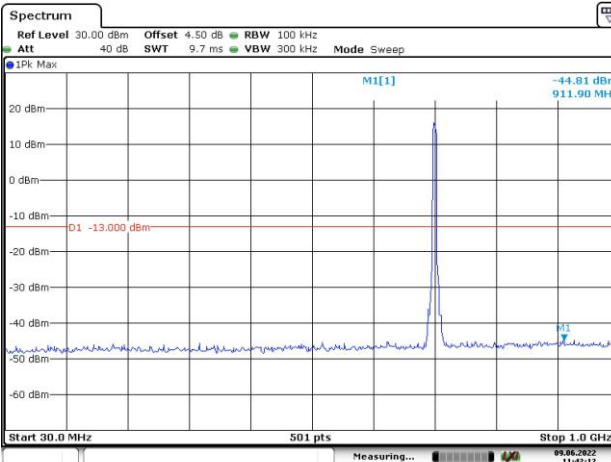
Channel

5MHz Bandwidth QPSK

Lowest



Middle



Highest

