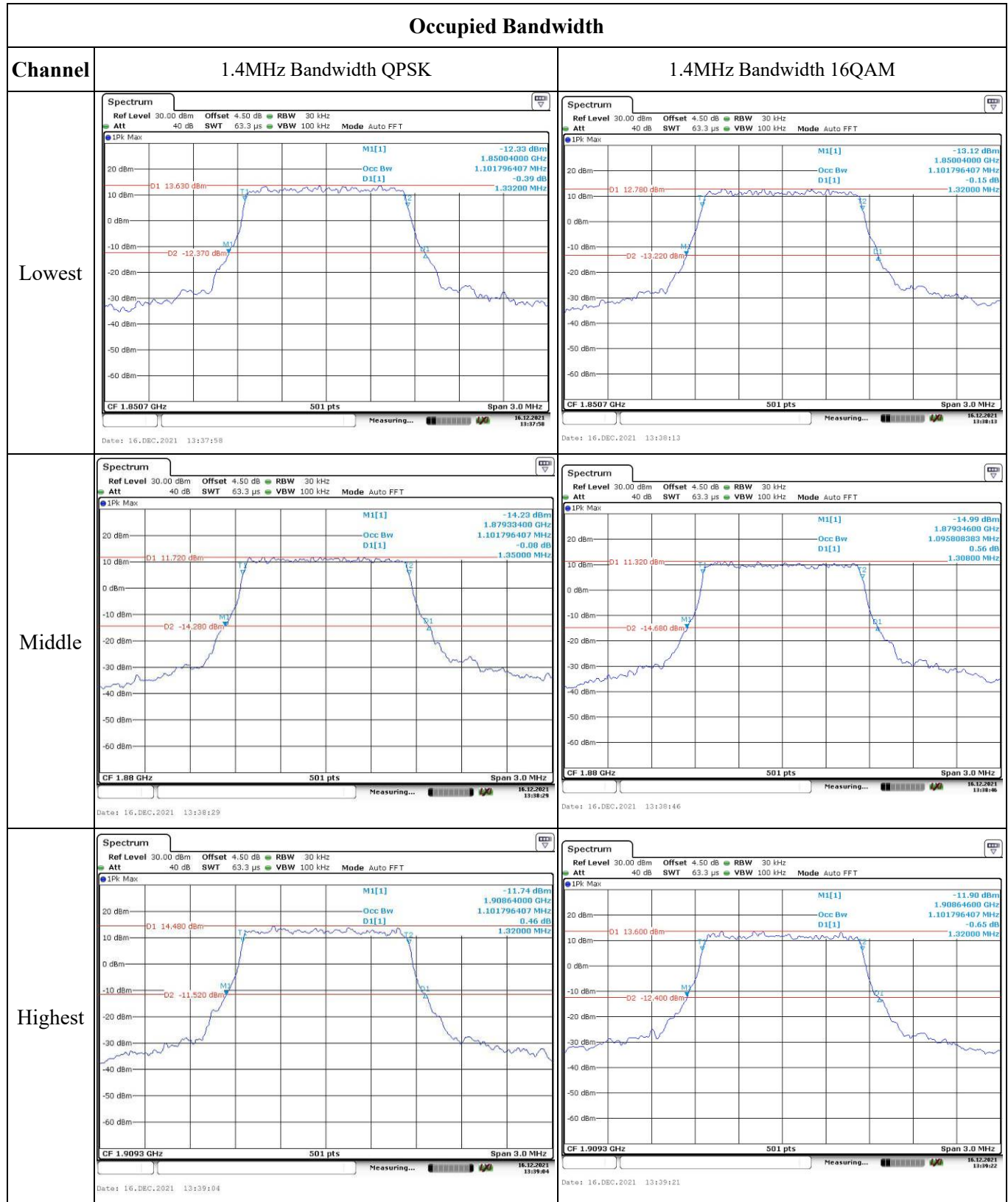
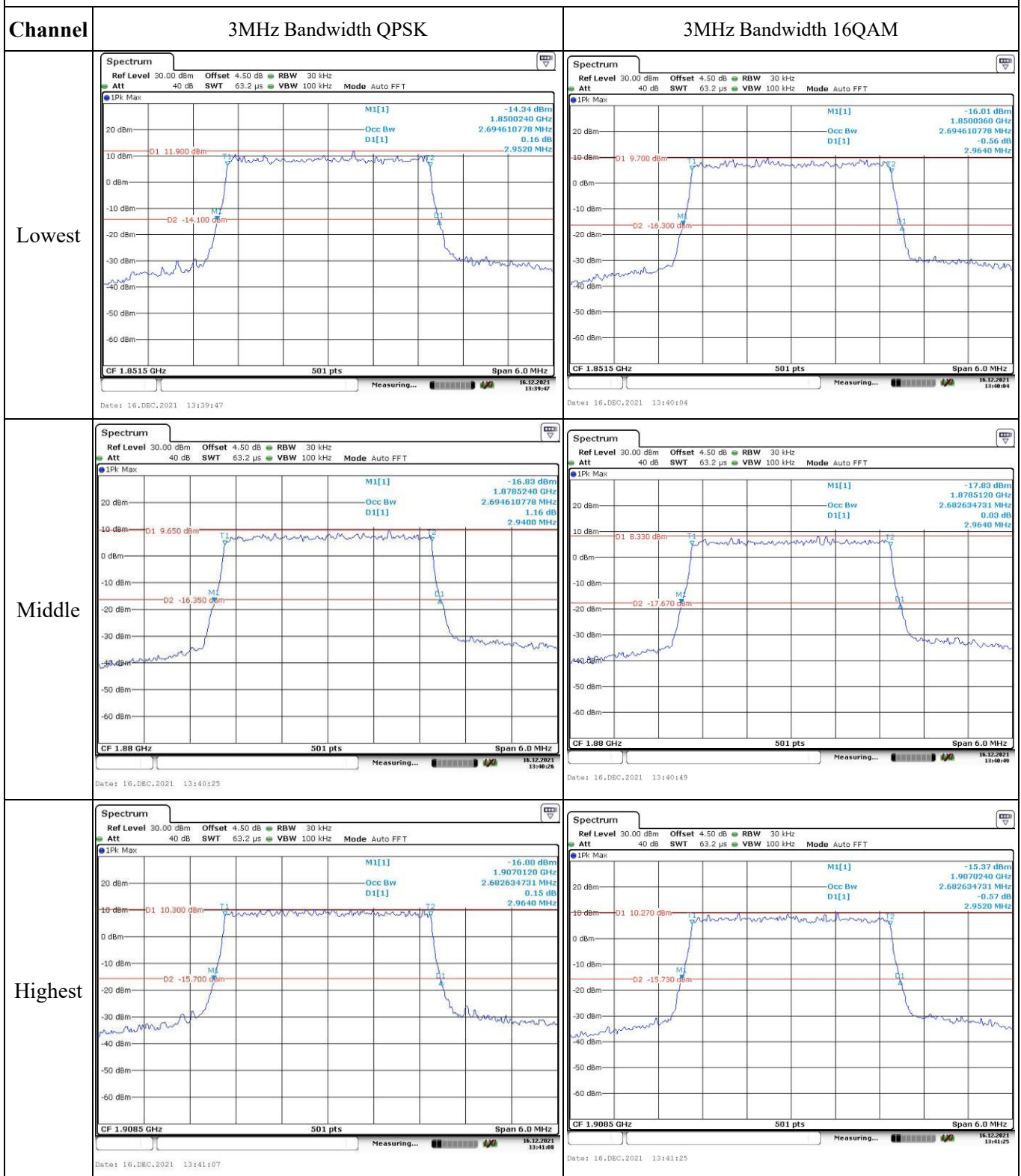


Test Plots:



Occupied Bandwidth



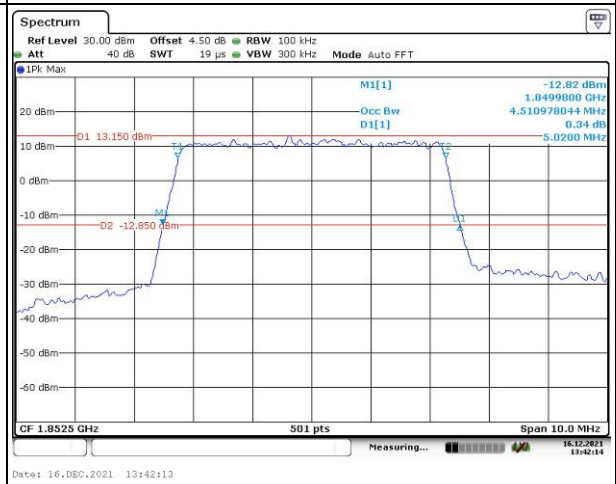
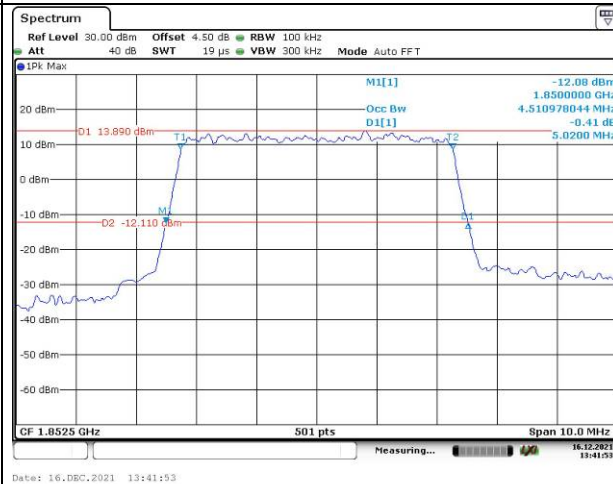
Occupied Bandwidth

Channel

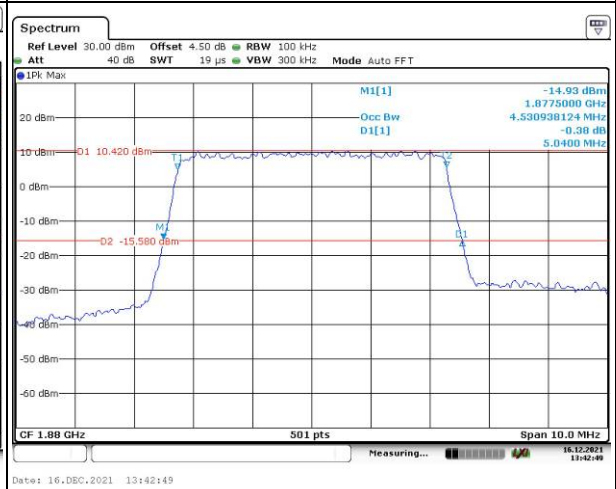
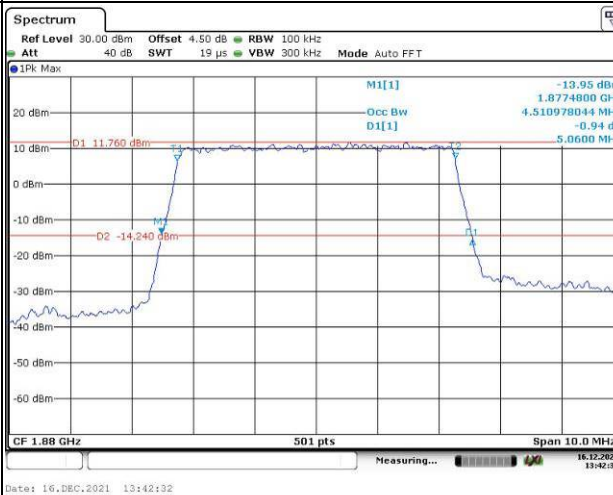
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

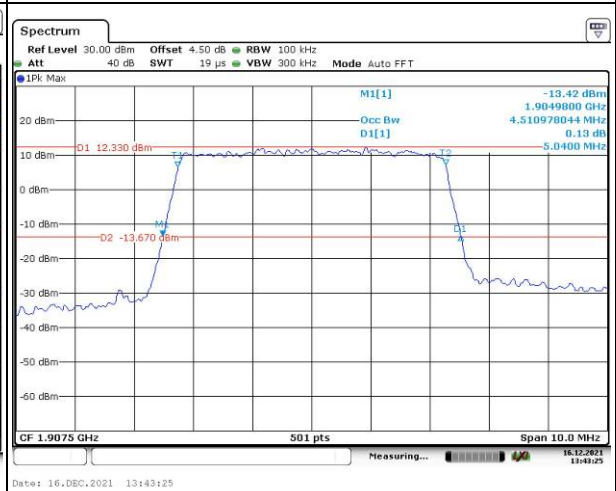
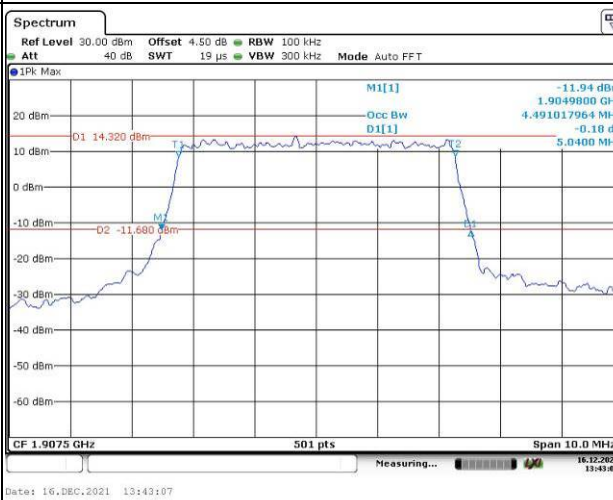
Lowest



Middle



Highest



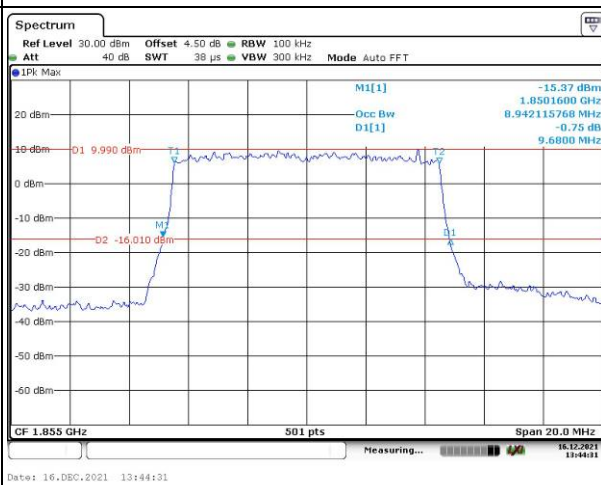
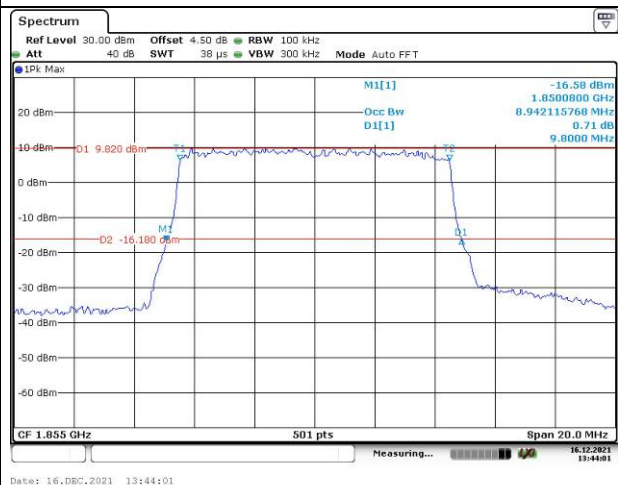
Occupied Bandwidth

Channel

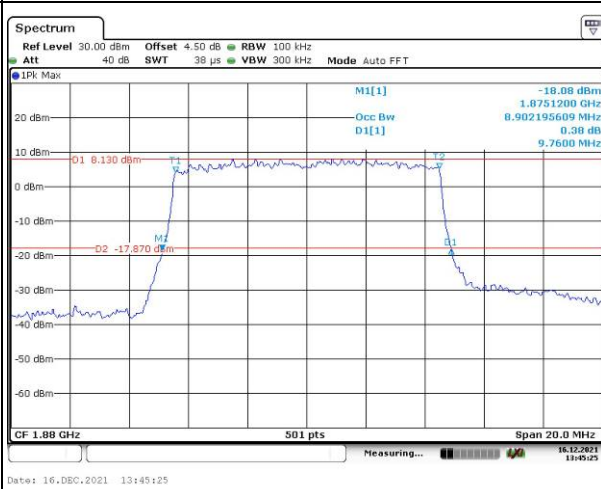
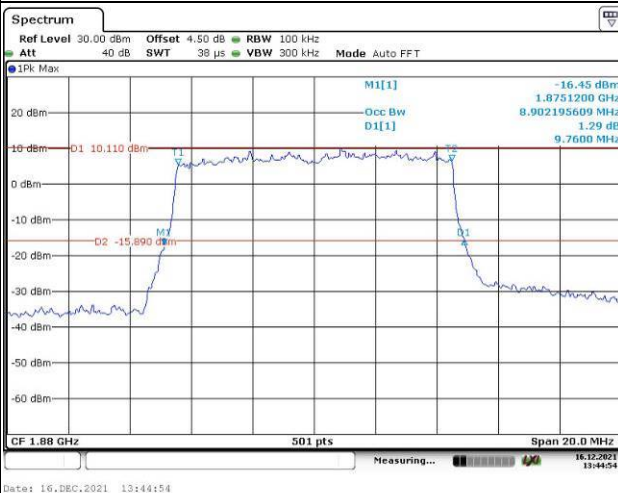
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

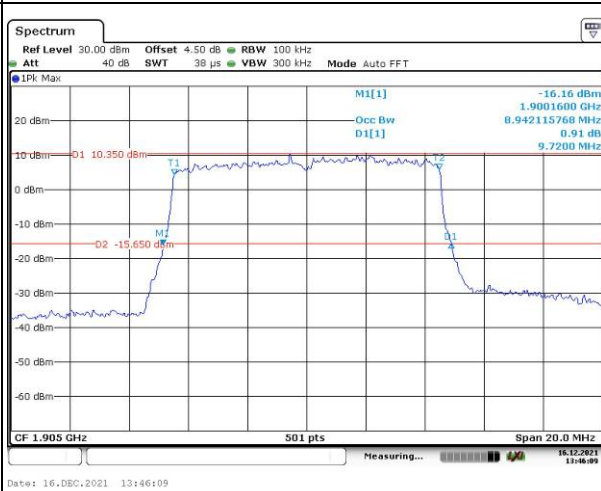
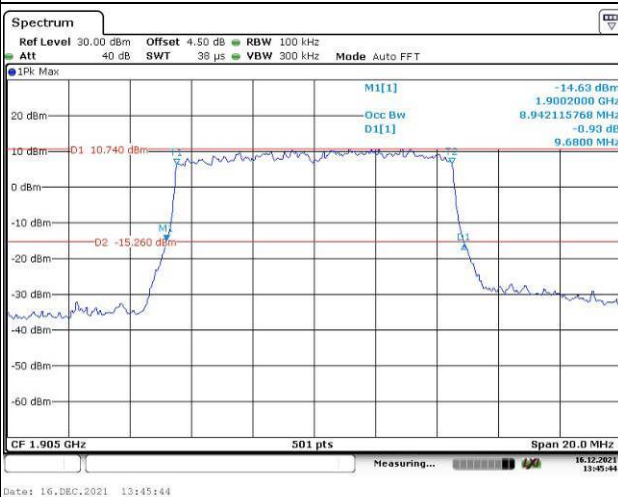
Lowest



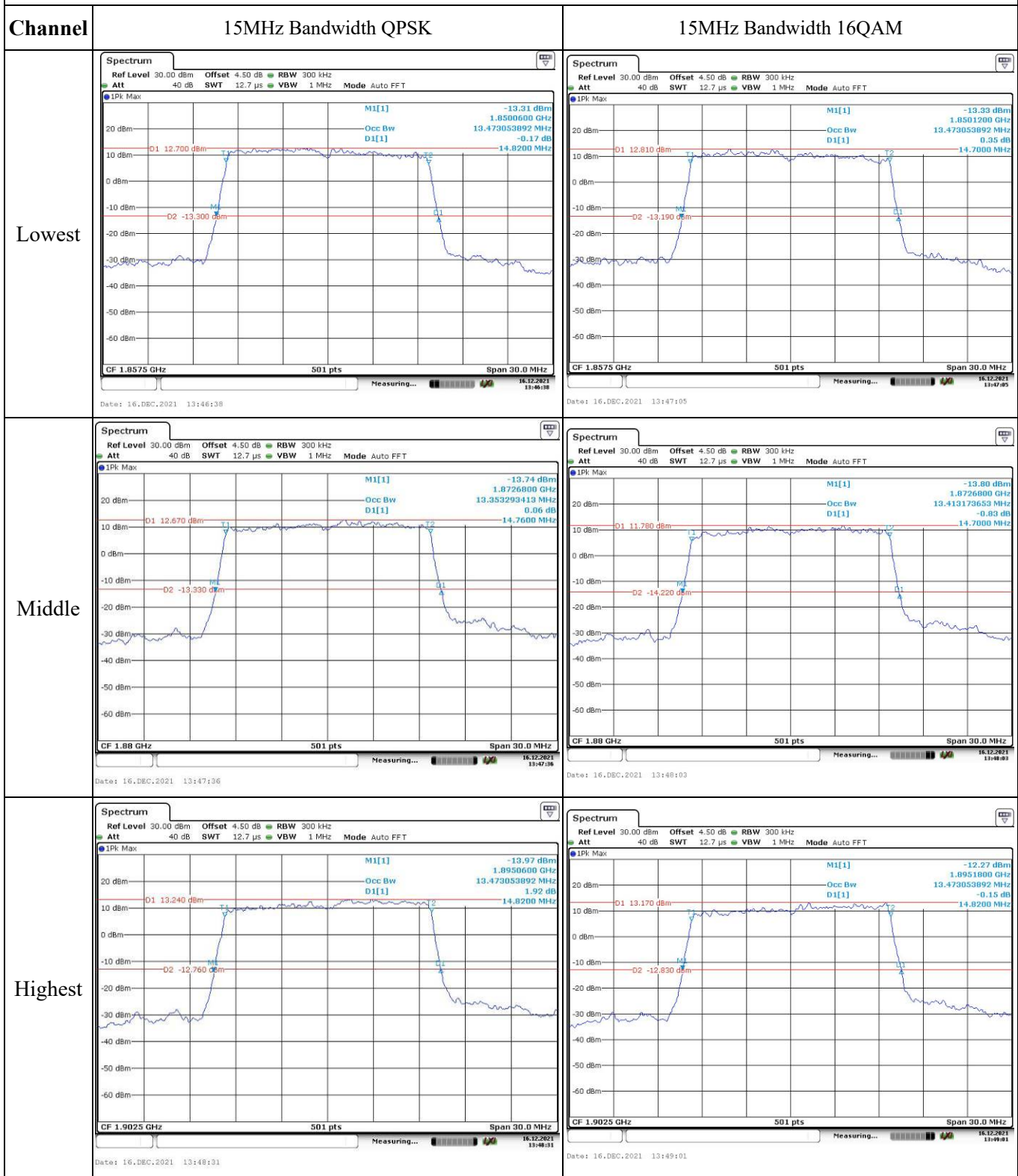
Middle



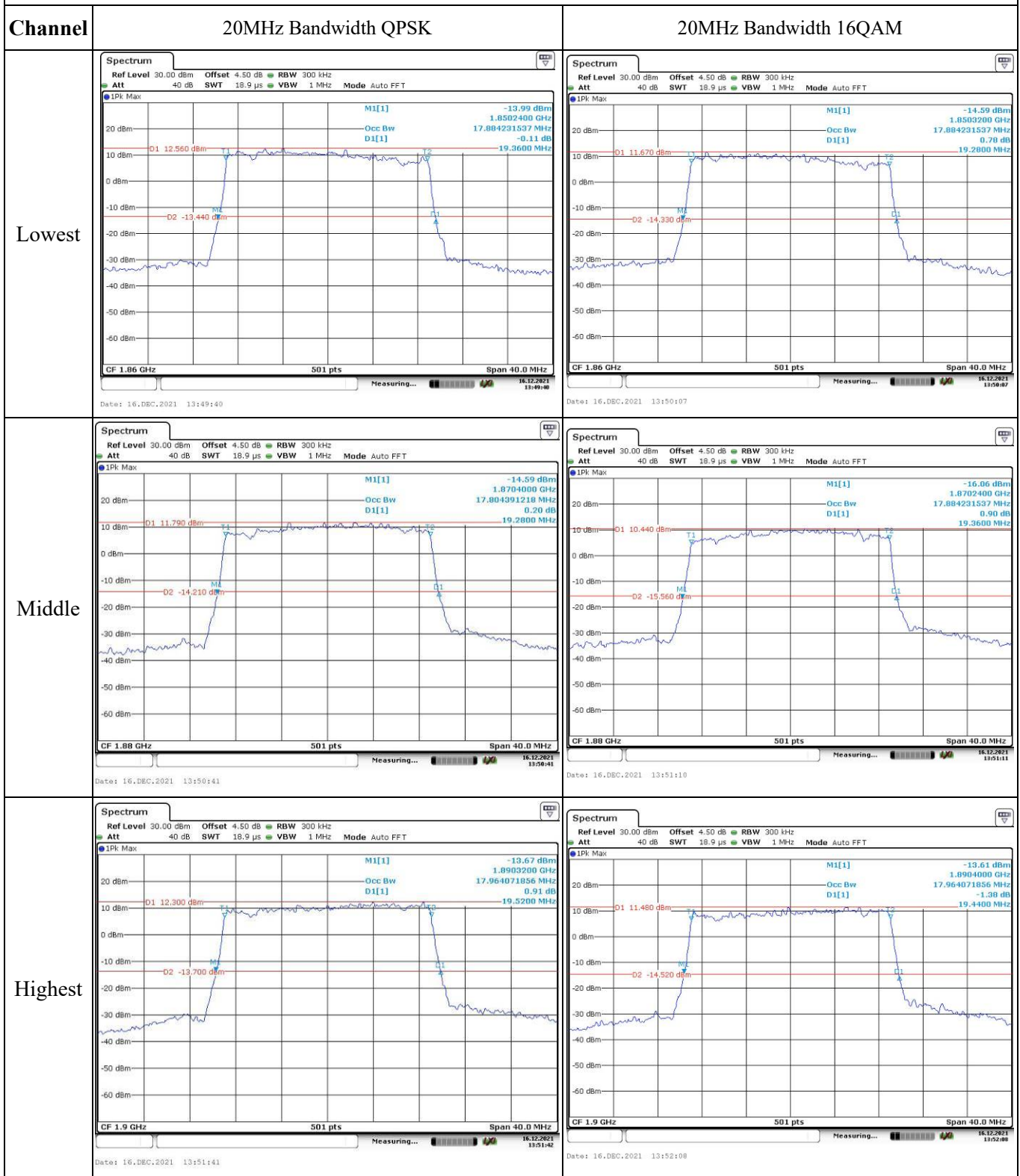
Highest



Occupied Bandwidth



Occupied Bandwidth

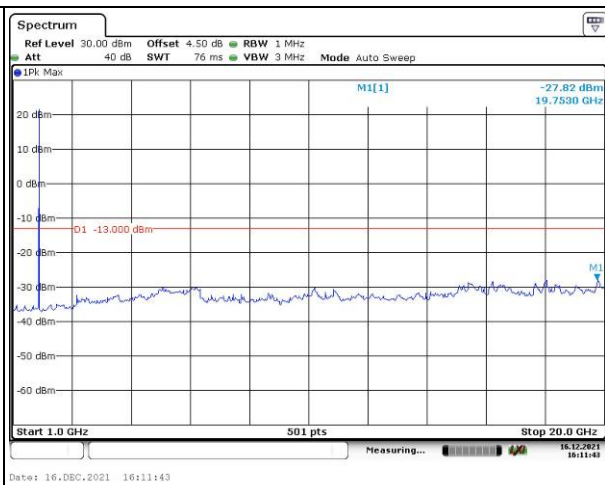
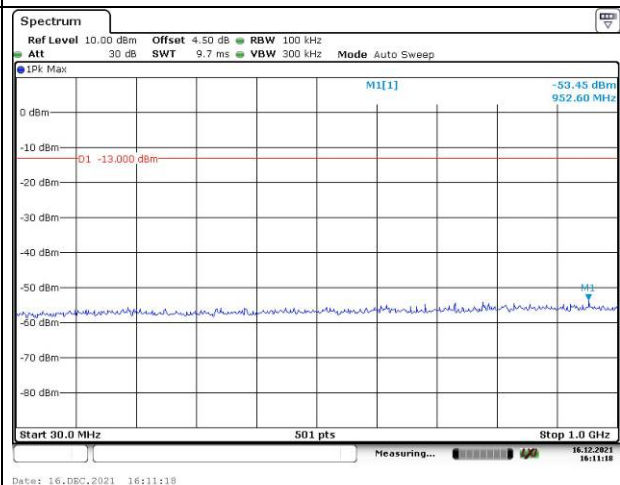


Spurious Emissions at Antenna Terminal

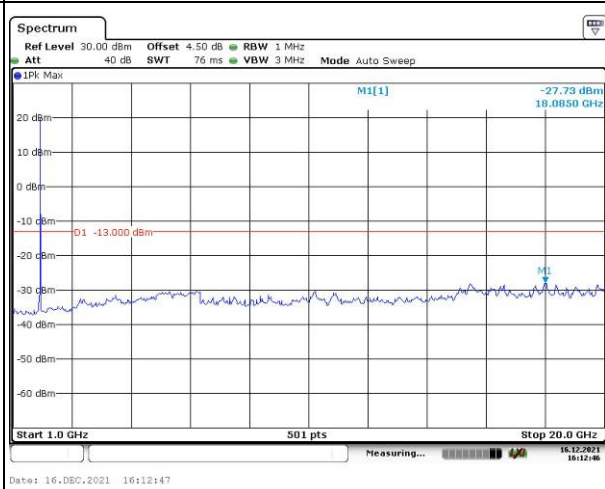
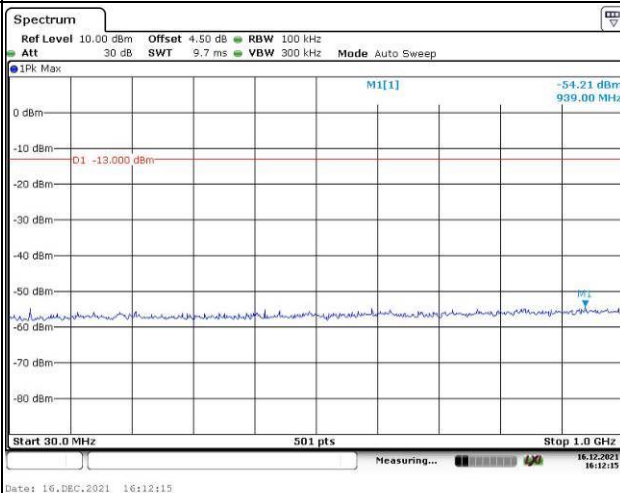
Channel

1.4MHz Bandwidth QPSK

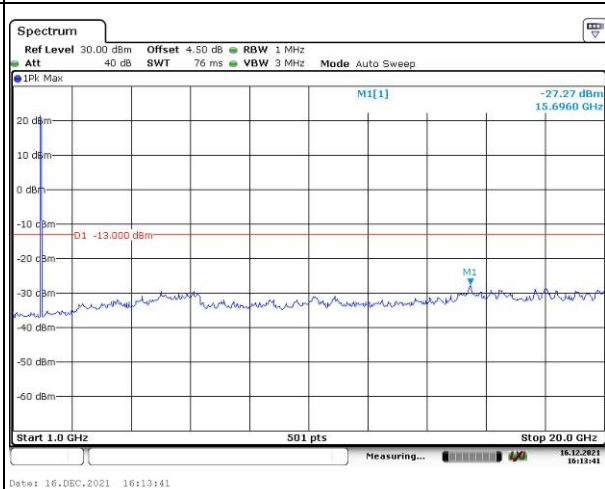
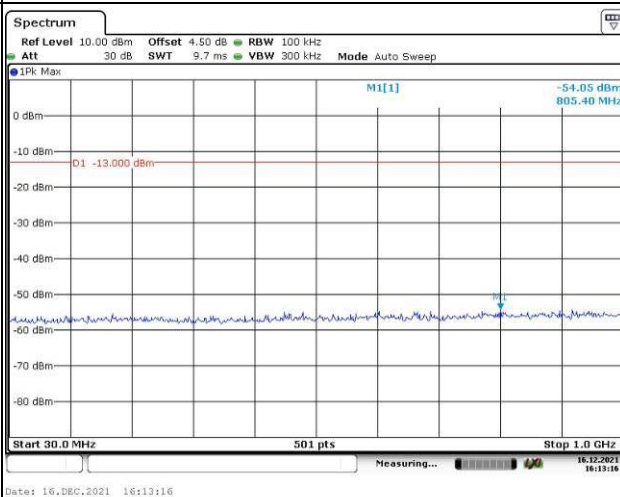
Lowest



Middle



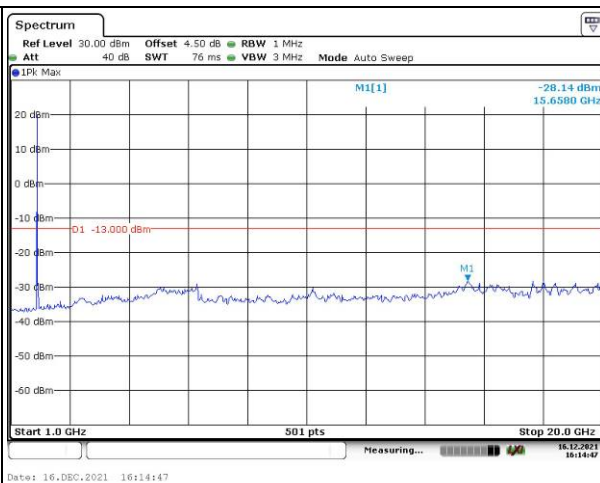
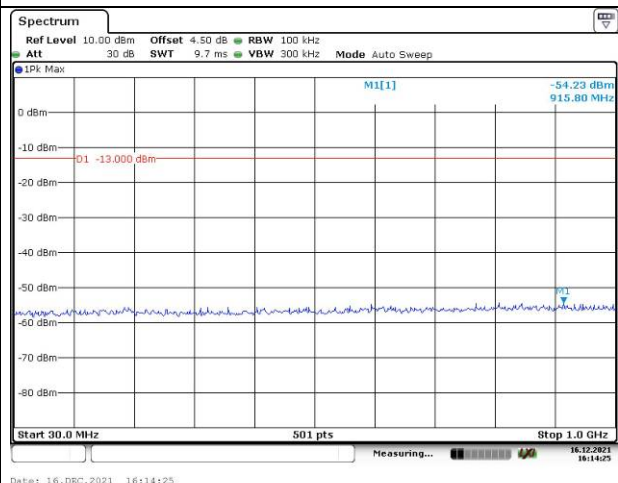
Highest



Channel

3MHz Bandwidth QPSK

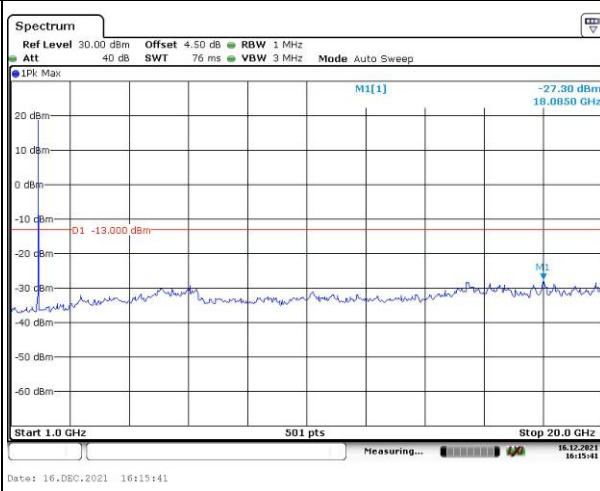
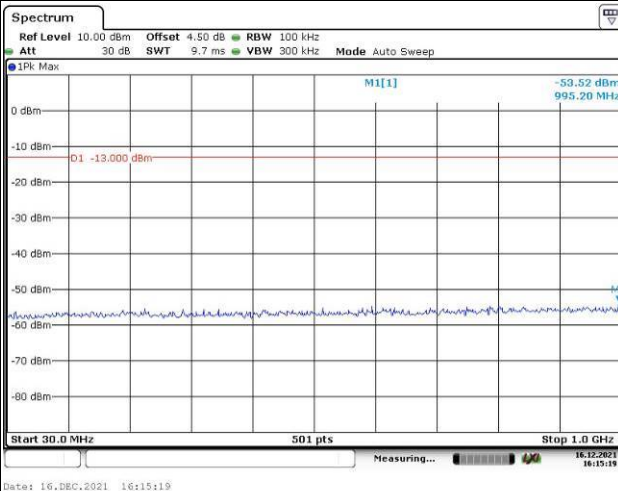
Lowest



Date: 16.DEC.2021 16:14:25

Date: 16.DEC.2021 16:14:47

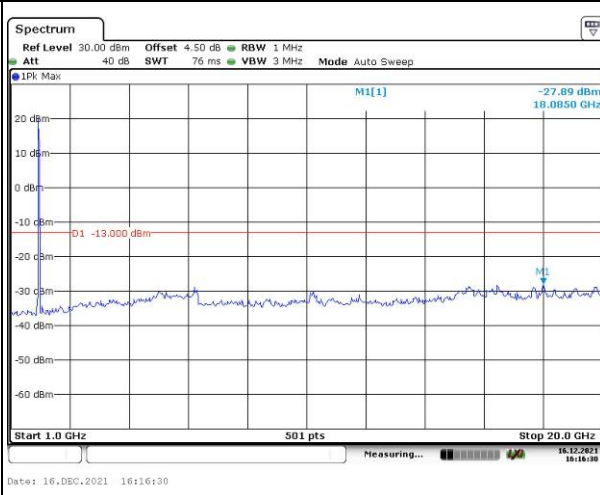
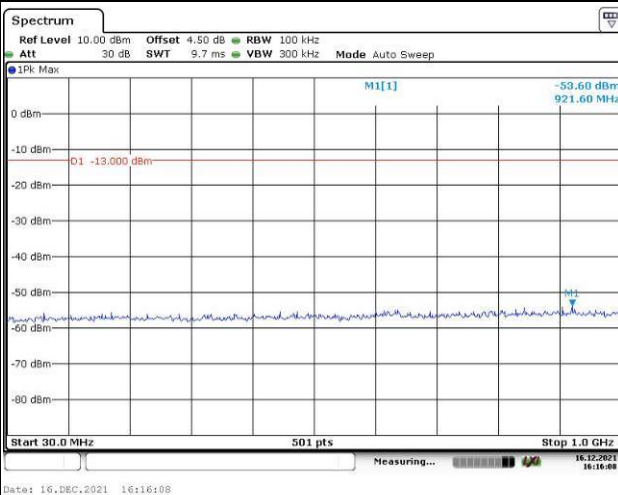
Middle



Date: 16.DEC.2021 16:15:19

Date: 16.DEC.2021 16:15:41

Highest



Date: 16.DEC.2021 16:16:08

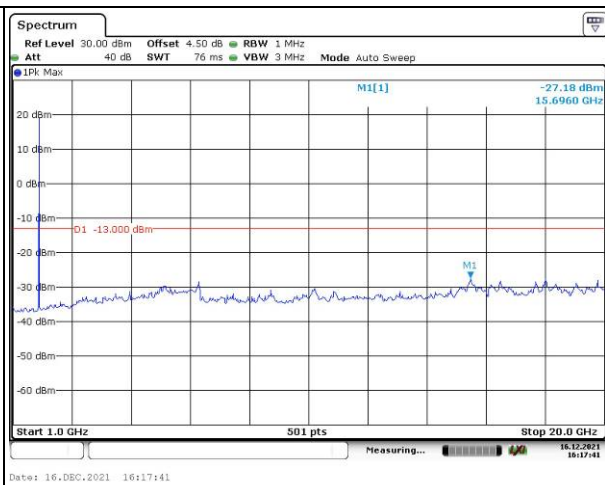
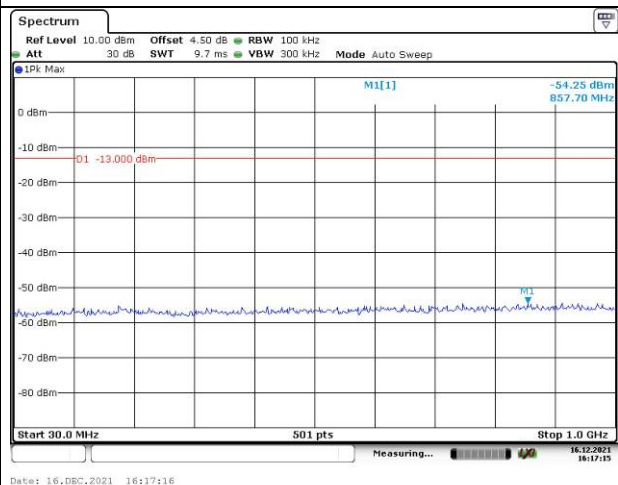
Date: 16.DEC.2021 16:16:30

Spurious Emissions at Antenna Terminal

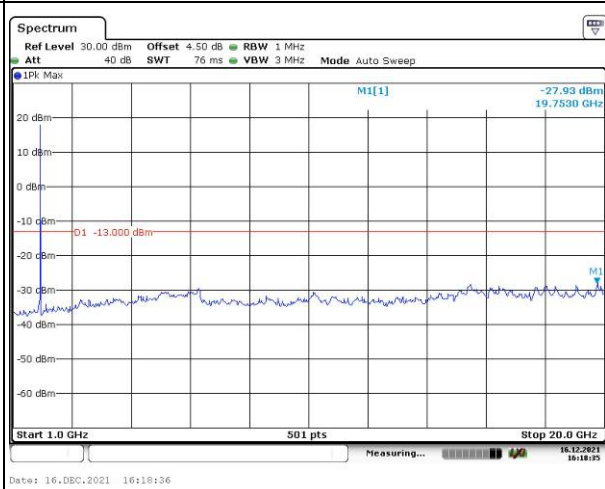
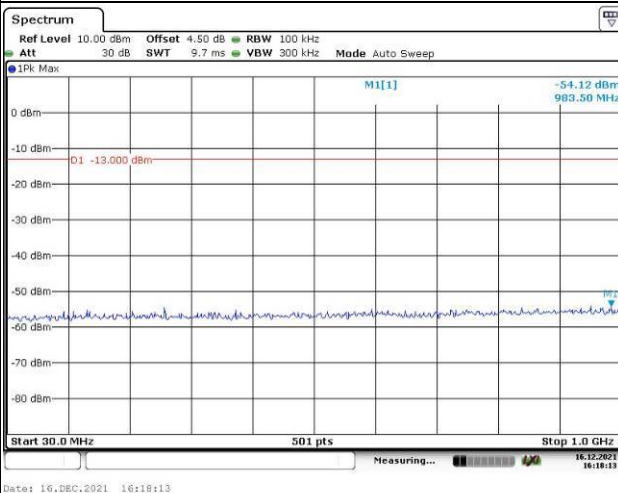
Channel

5MHz Bandwidth QPSK

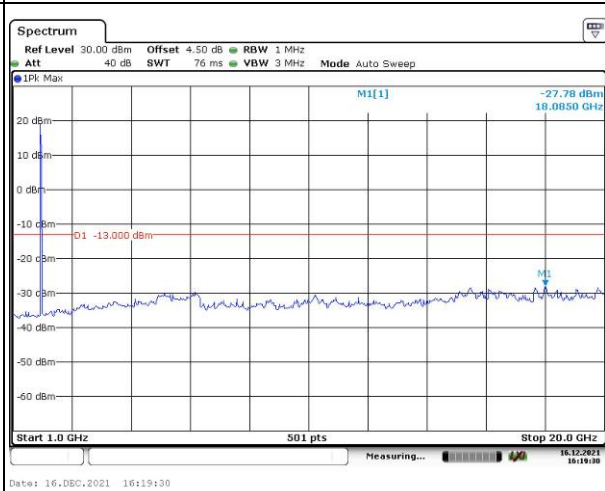
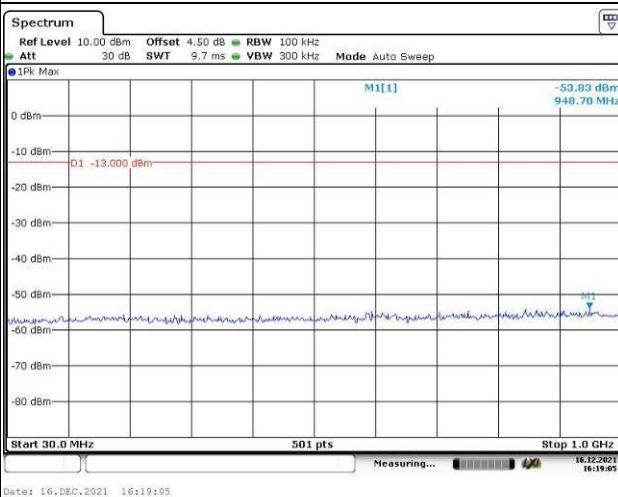
Lowest



Middle



Highest

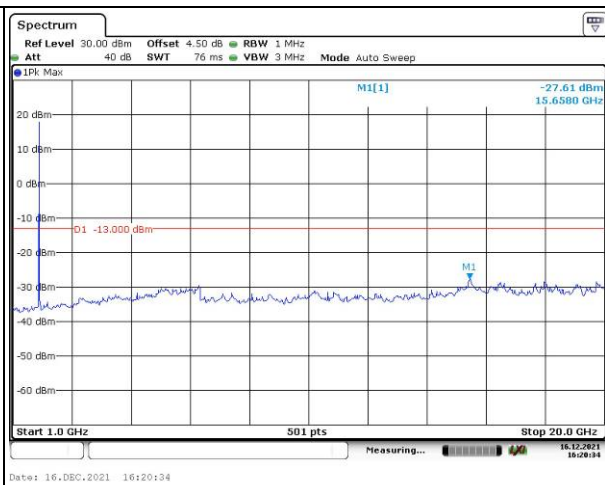
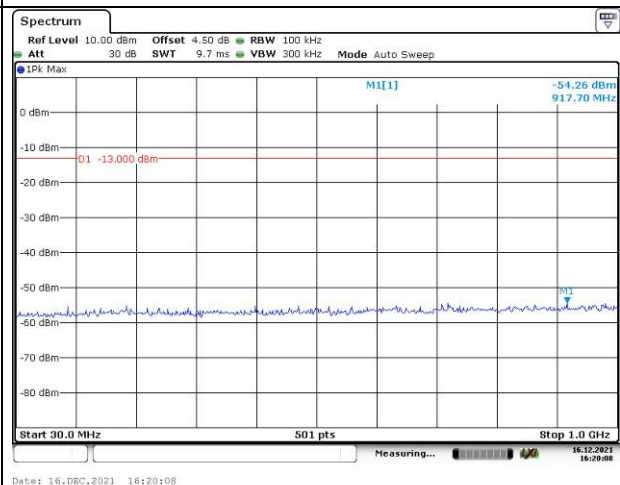


Spurious Emissions at Antenna Terminal

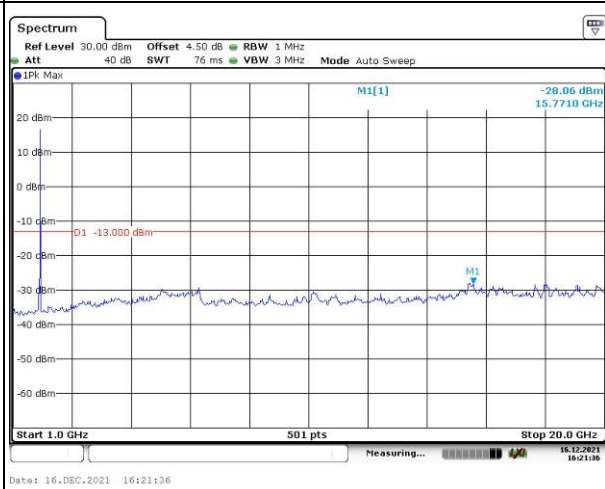
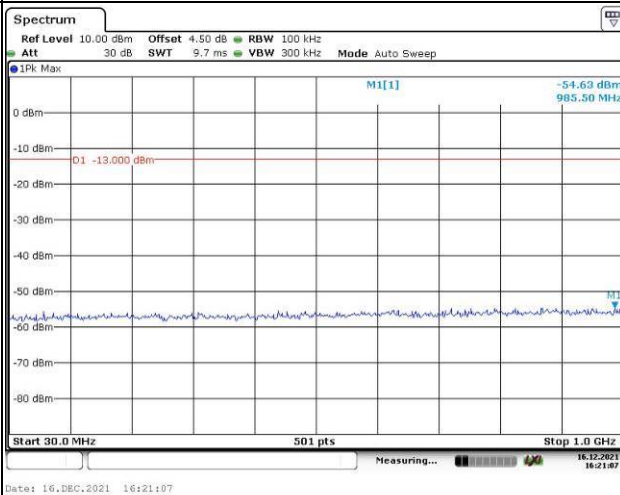
Channel

10MHz Bandwidth QPSK

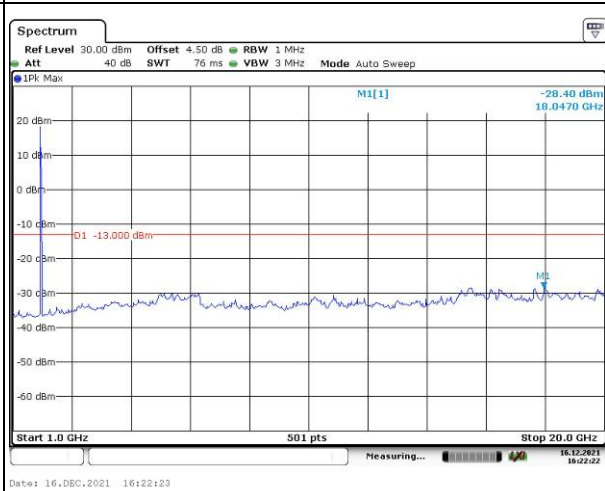
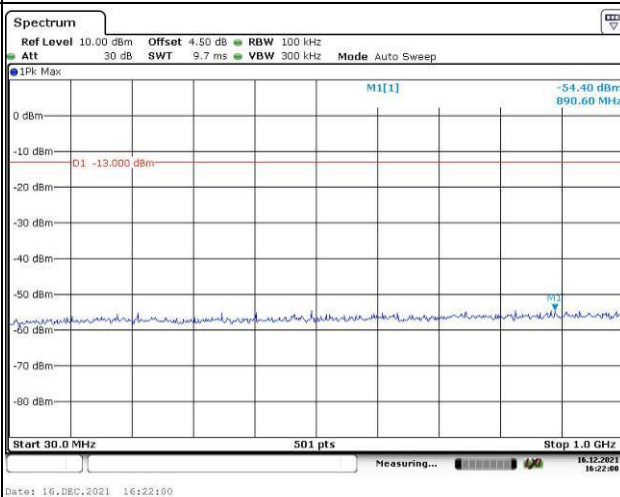
Lowest



Middle



Highest

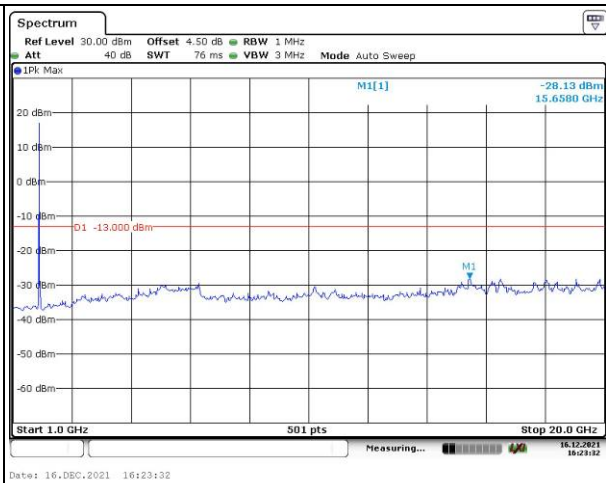
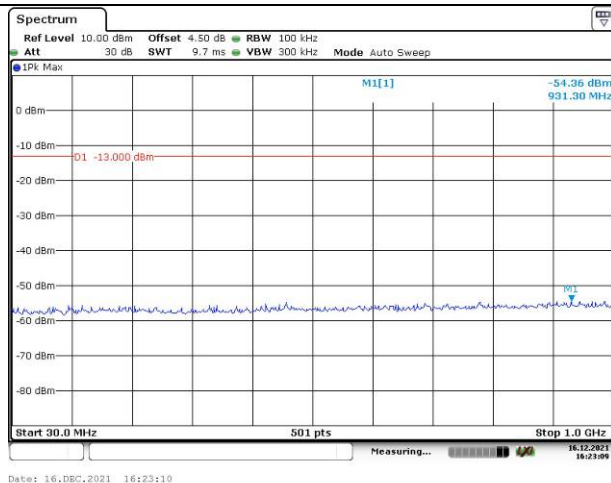


Spurious Emissions at Antenna Terminal

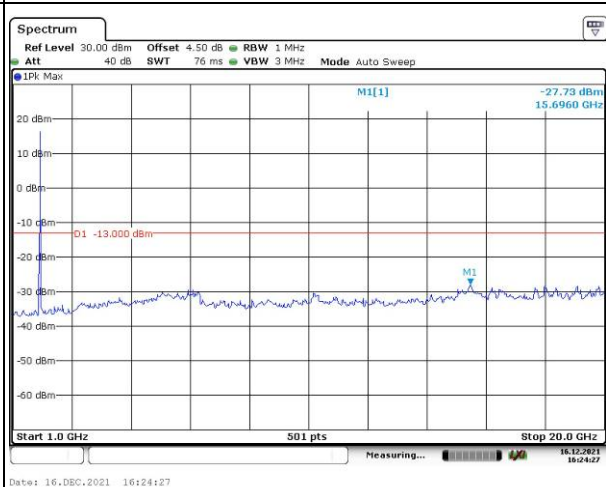
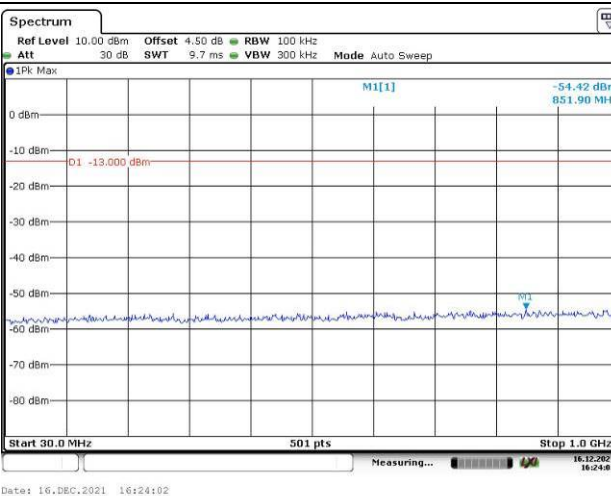
Channel

15MHz Bandwidth QPSK

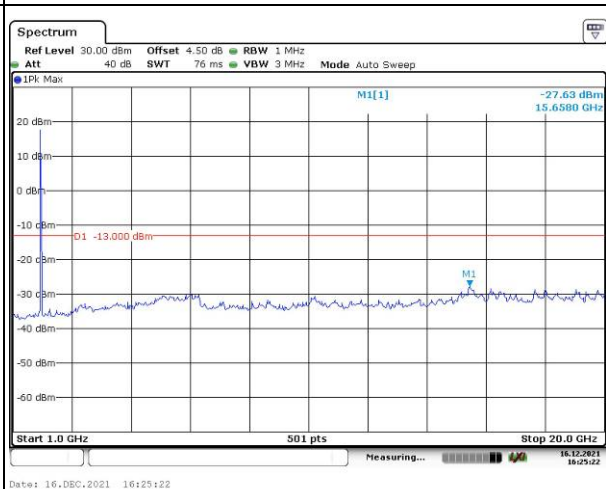
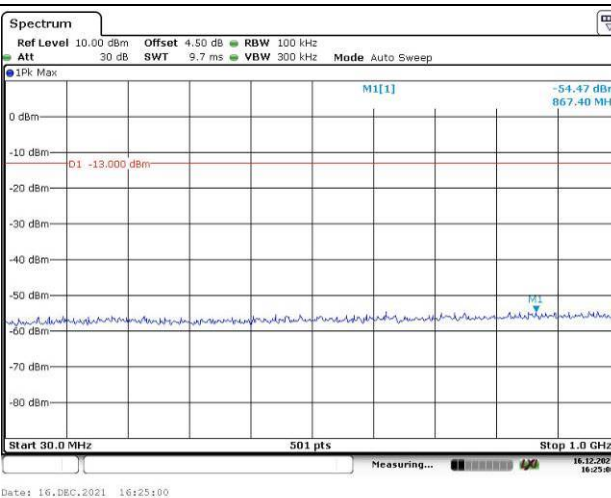
Lowest



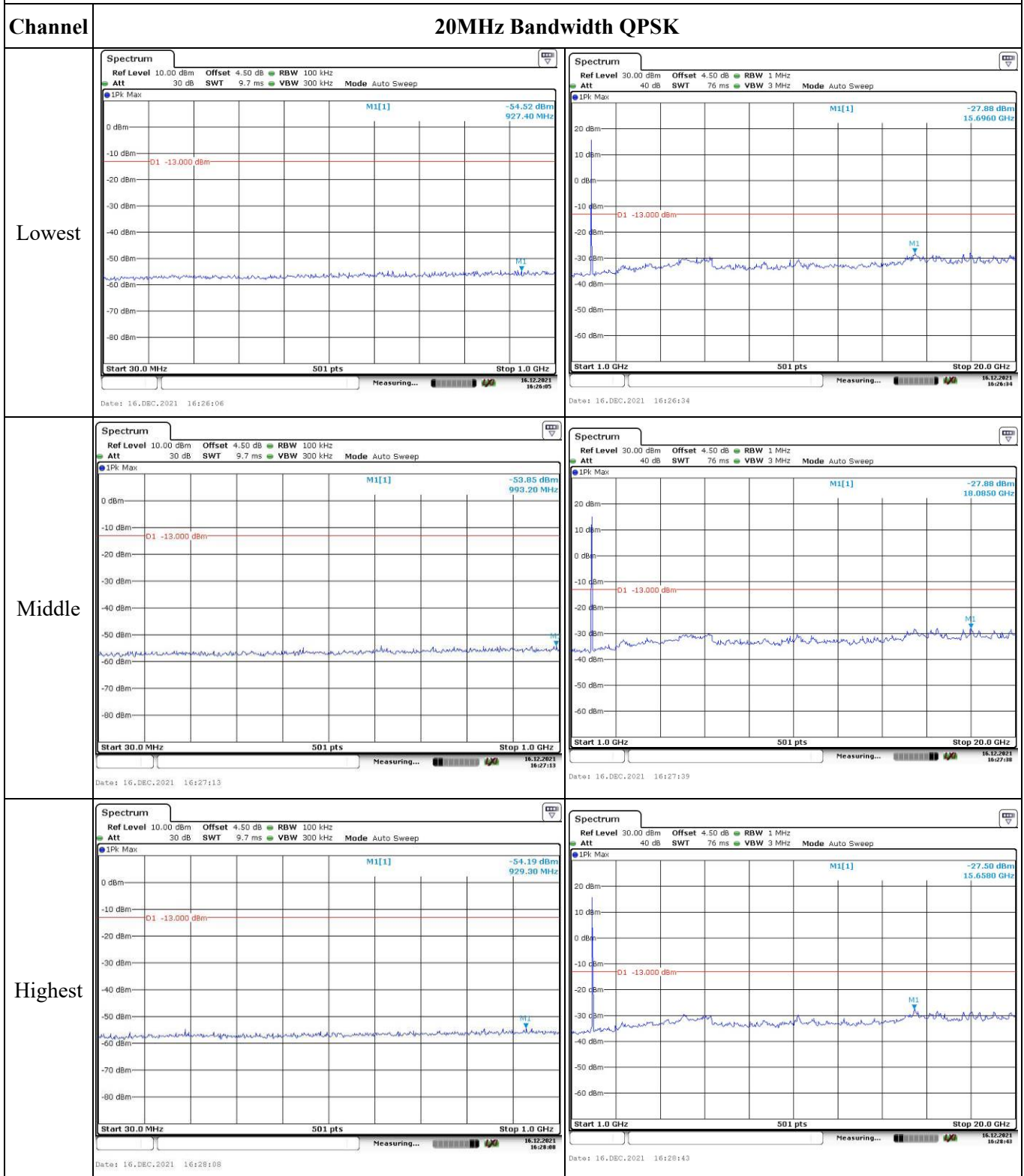
Middle



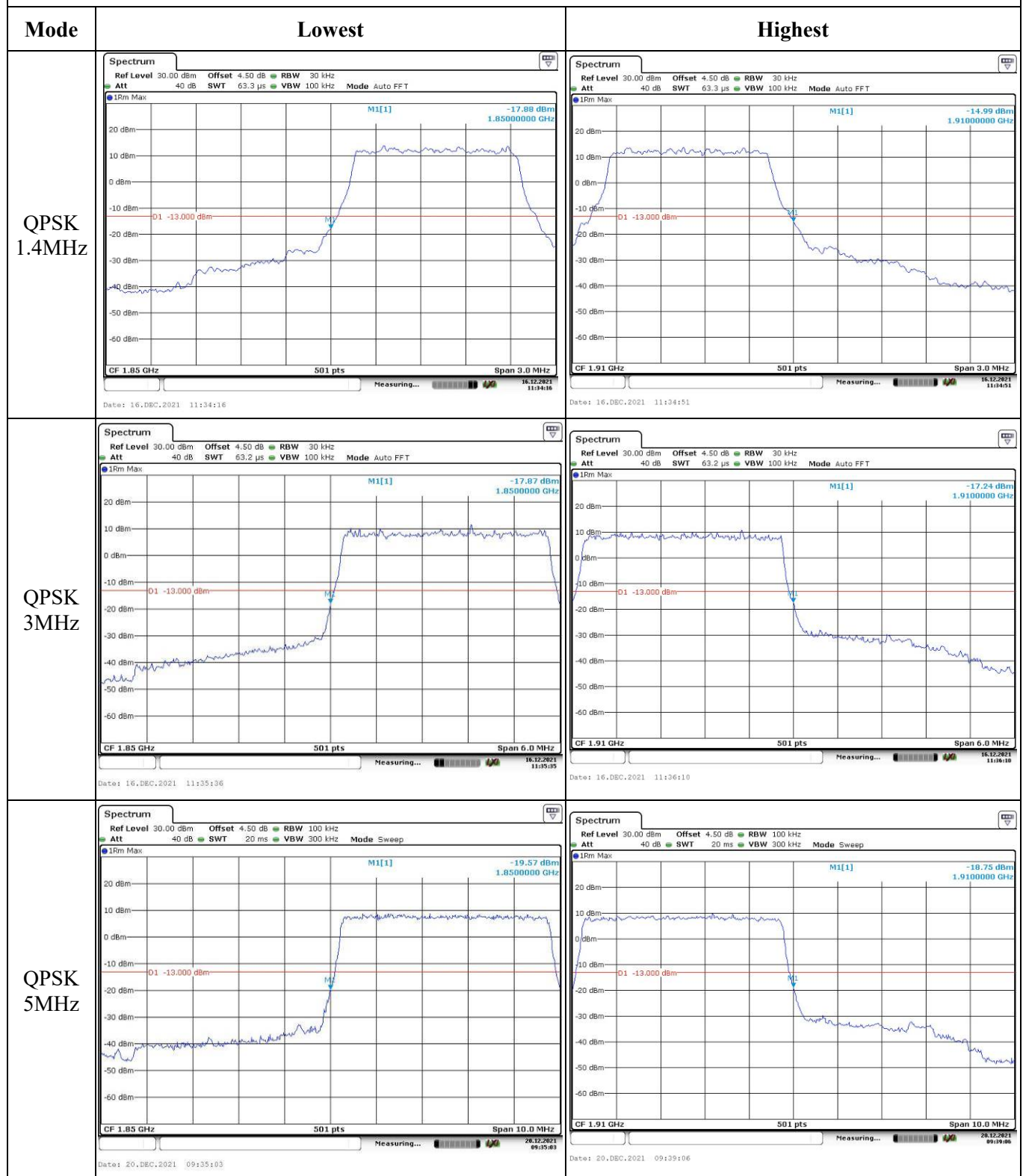
Highest



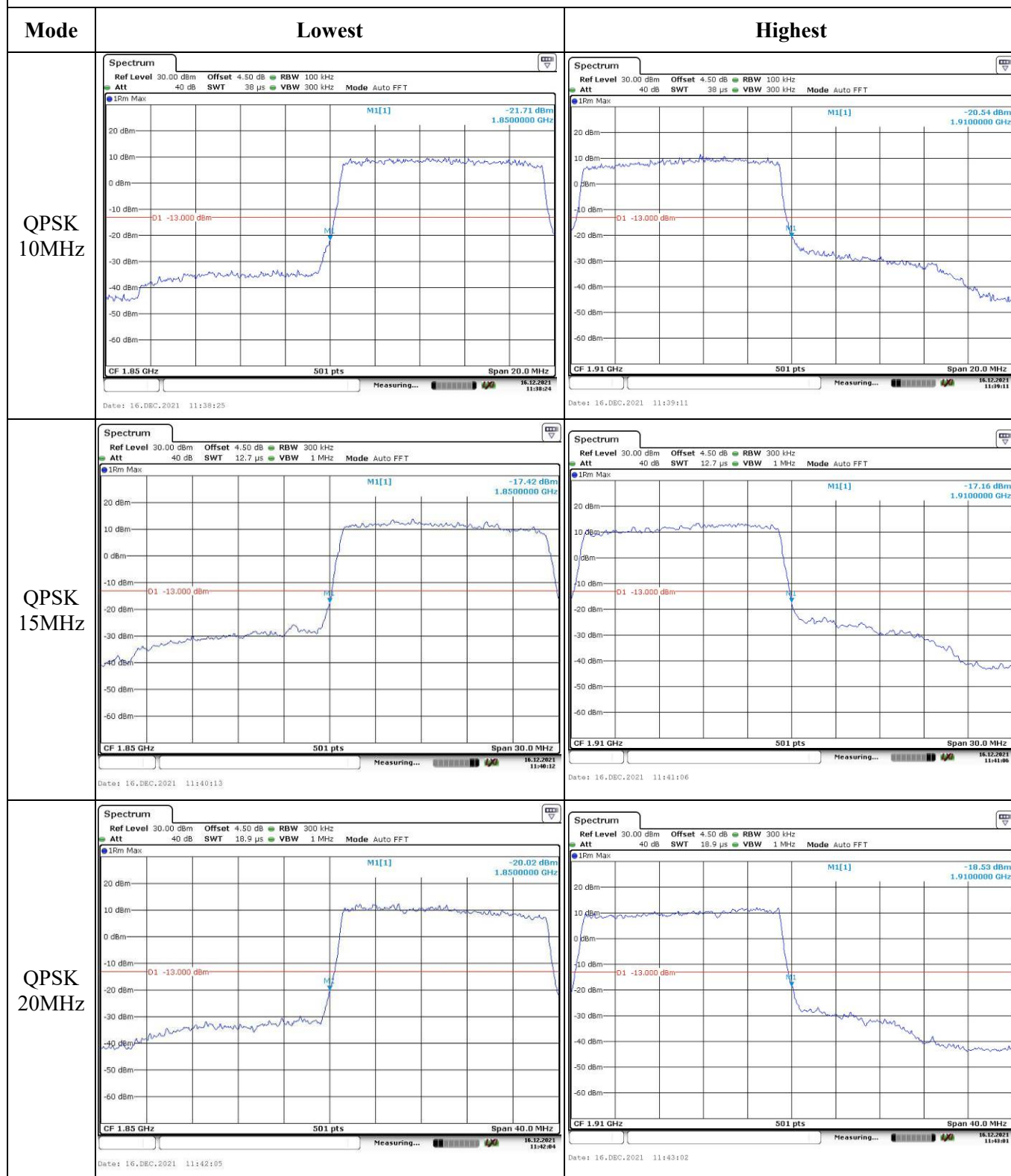
Spurious Emissions at Antenna Terminal



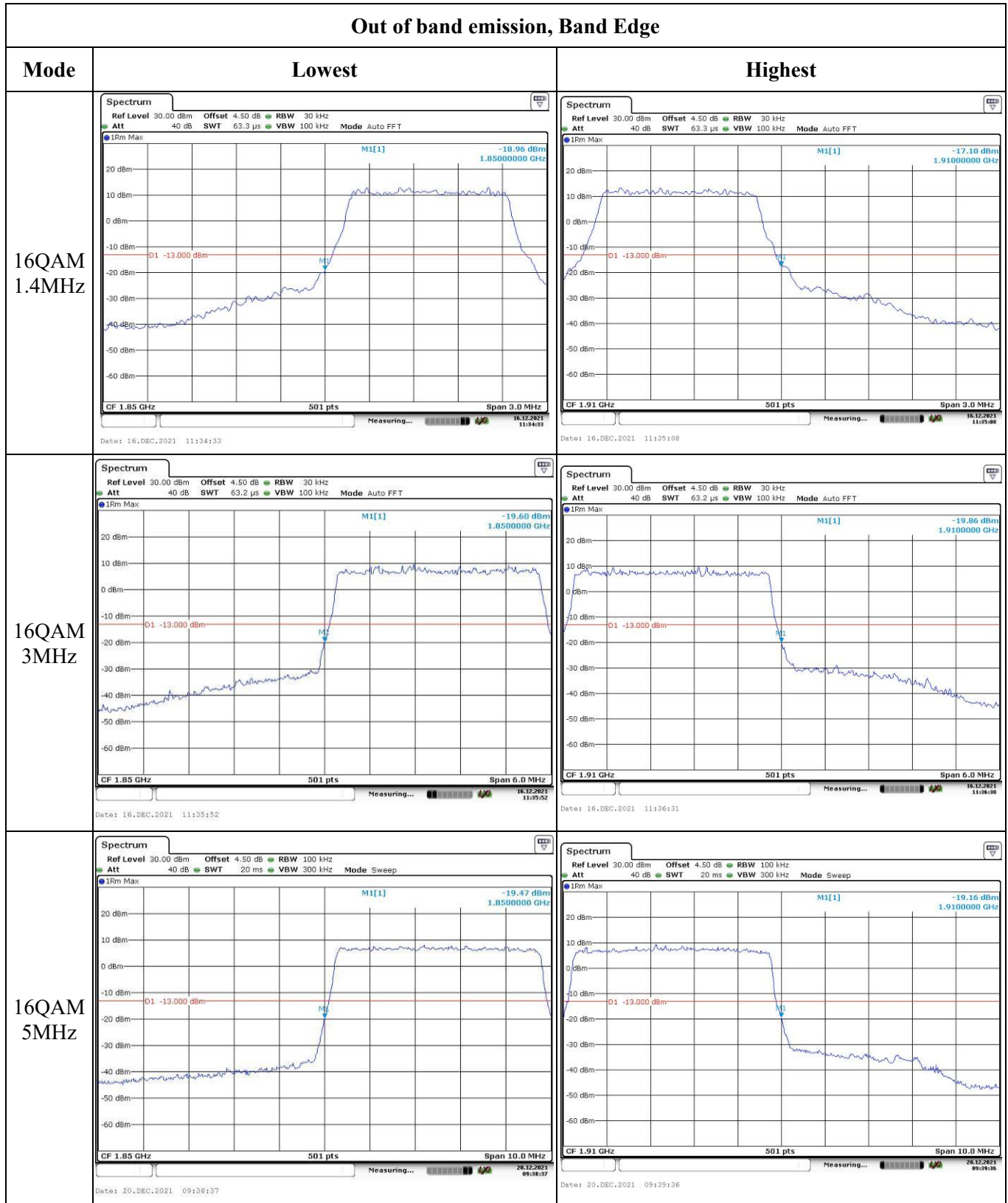
Out of band emission, Band Edge



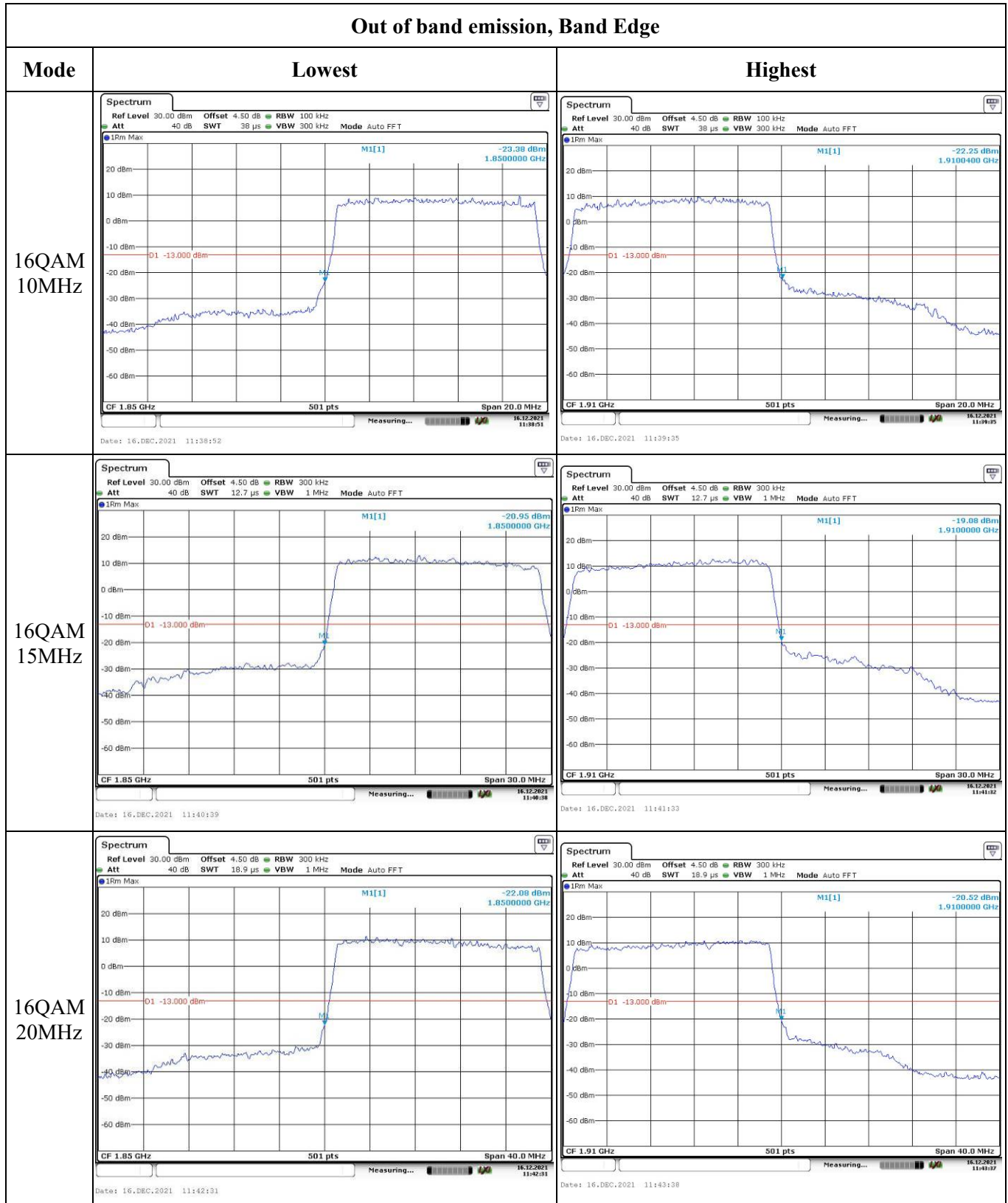
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.7 Antenna Port Test Data and Results for LTE Band 4:

Serial Number:	CR21100097-RF-S1	Test Date:	2021/10/26~2021/12/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	21.7~25.1	Relative Humidity: (%)	37~59	ATM Pressure: (kPa)	101.1~101.3
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	Spectrum Analyzer	101474	2021/7/22	2022/7/21
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021/7/22	2022/7/22
UNI-T	Multimeter	UT39A+	C210582554	2021/9/30	2022/9/30
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 4▲:

Antenna Gain (dBi):	2	Cable Loss (dB):	0
Operation Voltage(V _{DC}):			
Lowest:	3.2	Normal:	3.8
		Highest:	4.4

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	1710.7	1732.5	1754.3
3MHz	1711.5	1732.5	1753.5
5MHz	1712.5	1732.5	1752.5
10MHz	1715	1732.5	1750
15MHz	1717.5	1732.5	1747.5
20MHz	1720	1732.5	1745

Test Data:

FCC§2.1046;§ 27.50(d)(4)**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	22.55	22.66	22.55	24.66	30
	RB1#3	22.50	22.59	22.39		
	RB1#5	22.26	22.46	22.21		
	RB3#0	22.47	22.33	22.37		
	RB3#3	22.33	22.26	22.21		
	RB6#0	22.15	22.19	21.94		
1.4MHz 16QAM	RB1#0	22.53	22.49	22.34	24.53	30
	RB1#3	22.31	22.49	21.88		
	RB1#5	22.27	22.12	21.56		
	RB3#0	22.36	22.50	22.38		
	RB3#3	22.25	22.33	21.60		
	RB6#0	22.30	21.98	21.57		
3MHz QPSK	RB1#0	22.59	22.78	22.65	24.78	30
	RB1#8	22.63	22.72	22.54		
	RB1#14	22.44	22.64	22.35		
	RB6#0	22.51	22.72	22.48		
	RB6#9	22.34	22.47	22.43		
	RB15#0	22.32	22.41	22.21		
3MHz 16QAM	RB1#0	22.55	22.48	22.53	24.6	30
	RB1#8	22.60	22.40	22.35		
	RB1#14	22.29	22.15	21.69		
	RB6#0	22.58	22.53	22.37		
	RB6#9	22.35	22.42	22.44		
	RB15#0	22.26	22.19	21.68		
5MHz QPSK	RB1#0	22.83	22.85	22.78	24.85	30
	RB1#13	22.65	22.77	22.50		
	RB1#24	22.45	22.63	22.41		
	RB15#0	22.63	22.73	22.70		
	RB15#10	22.38	22.66	22.56		
	RB25#0	22.30	22.45	22.20		
5MHz 16QAM	RB1#0	22.76	22.55	22.55	24.76	30
	RB1#13	22.61	22.50	22.38		
	RB1#24	22.36	22.27	22.30		
	RB15#0	22.71	22.53	22.41		
	RB15#10	22.31	22.47	22.37		
	RB25#0	22.26	22.27	22.34		

10MHz QPSK	RB1#0	22.76	22.91	22.69	24.91	30
	RB1#25	22.75	22.84	22.57		
	RB1#49	22.43	22.81	22.53		
	RB25#0	22.76	22.73	22.64		
	RB25#25	22.51	22.68	22.58		
	RB50#0	22.25	22.55	22.28		
10MHz 16QAM	RB1#0	22.79	22.69	22.63	24.79	30
	RB1#25	22.66	22.45	22.46		
	RB1#49	22.44	22.21	22.49		
	RB25#0	22.73	22.75	22.57		
	RB25#25	22.32	22.54	22.41		
	RB50#0	22.30	22.22	22.31		
15MHz QPSK	RB1#0	22.86	22.98	22.73	24.98	30
	RB1#38	22.80	22.91	22.75		
	RB1#74	22.60	22.74	22.49		
	RB36#0	22.70	22.97	22.73		
	RB36#39	22.46	22.80	22.68		
	RB75#0	22.37	22.51	22.29		
15MHz 16QAM	RB1#0	22.78	22.81	22.65	24.82	30
	RB1#38	22.68	22.77	22.51		
	RB1#74	22.49	22.56	22.47		
	RB36#0	22.82	22.82	22.66		
	RB36#39	22.39	22.44	22.39		
	RB75#0	22.33	22.50	22.39		
20MHz QPSK	RB1#0	22.97	23.14	23.02	25.14	30
	RB1#50	22.89	22.96	22.71		
	RB1#99	22.53	22.83	22.52		
	RB50#0	22.92	23.01	22.98		
	RB50#50	22.64	22.91	22.66		
	RB100#0	22.34	22.64	22.40		
20MHz 16QAM	RB1#0	22.93	23.03	22.79	25.03	30
	RB1#50	22.81	22.86	22.55		
	RB1#99	22.50	22.79	22.48		
	RB50#0	22.97	22.98	22.70		
	RB50#50	22.54	22.78	22.56		
	RB100#0	22.35	22.50	22.50		
Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(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	3.36	3.19	3.30	13
	RB100#0	4.26	4.12	4.14	13
20MHz 16QAM	RB1#0	4.55	4.14	4.17	13
	RB100#0	5.16	5.04	5.10	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
1.4MHz QPSK	1.096	1.102	1.102	1.326	1.326	1.314
1.4MHz 16QAM	1.096	1.096	1.102	1.320	1.302	1.314
3MHz QPSK	2.695	2.695	2.683	2.952	2.940	2.964
3MHz 16QAM	2.695	2.683	2.683	2.964	2.964	2.952
5MHz QPSK	4.511	4.511	4.511	5.040	5.040	5.040
5MHz 16QAM	4.511	4.531	4.511	5.040	5.040	5.060
10MHz QPSK	8.942	8.942	8.942	9.880	9.800	9.760
10MHz 16QAM	8.942	8.942	8.942	9.680	9.720	9.720
15MHz QPSK	13.473	13.413	13.413	14.820	14.760	14.760
15MHz 16QAM	13.473	13.413	13.473	14.820	14.700	14.760
20MHz QPSK	17.964	17.884	17.964	19.360	19.200	19.600
20MHz 16QAM	17.964	17.884	17.884	19.520	19.360	19.440

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.

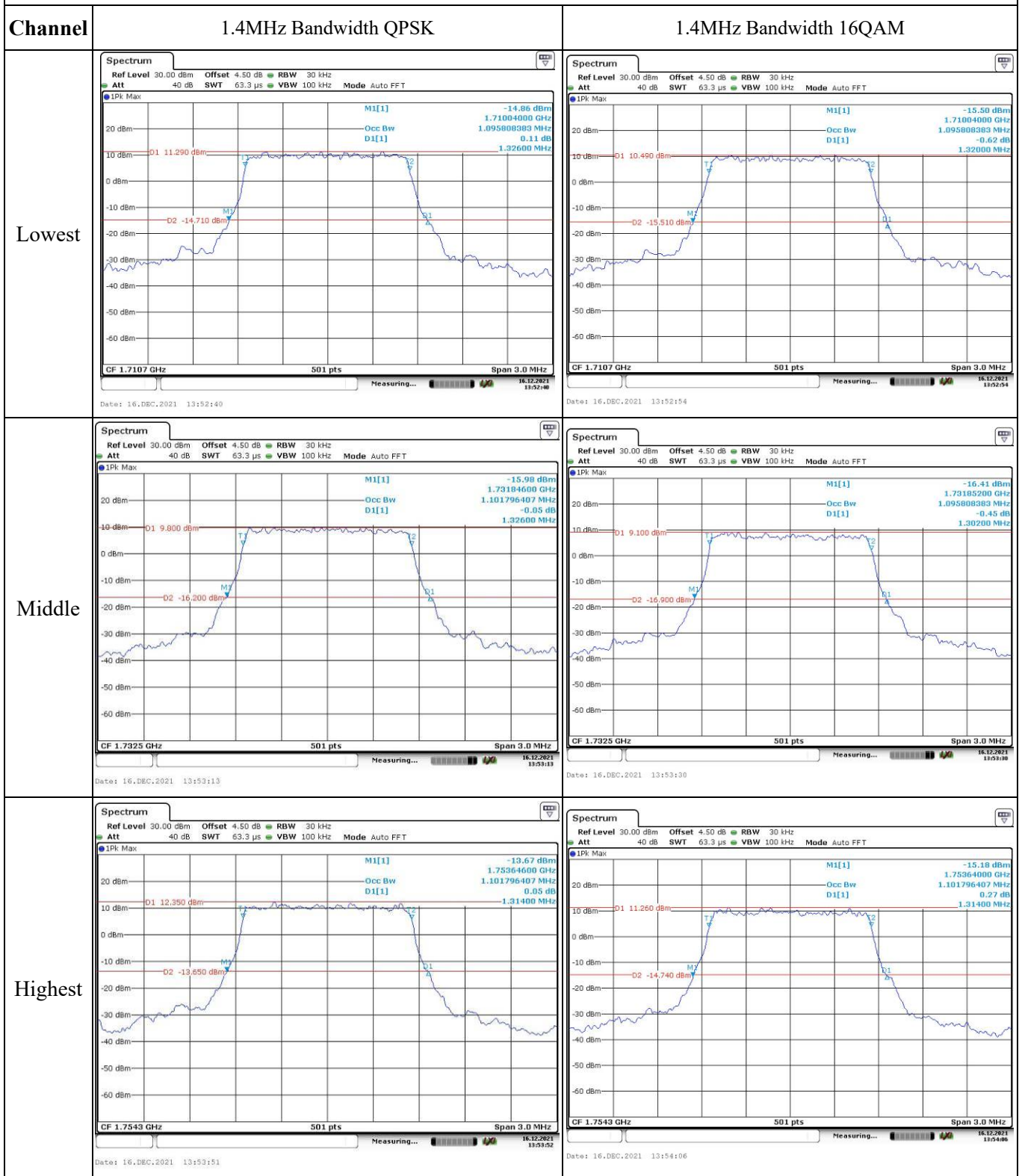
FCC §2.1055, §27.54: Frequency Stability

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	3.8	1710.529	1710.00	1754.471	1755
	-20	3.8	1710.528	1710.00	1754.476	1755
	-10	3.8	1710.525	1710.00	1754.475	1755
	0	3.8	1710.523	1710.00	1754.477	1755
	10	3.8	1710.521	1710.00	1754.474	1755
	20	3.8	1710.529	1710.00	1754.471	1755
	30	3.8	1710.526	1710.00	1754.476	1755
	40	3.8	1710.522	1710.00	1754.474	1755
	50	3.8	1710.523	1710.00	1754.473	1755
Frequency Stability vs. Voltage	20	3.2	1710.526	1710.00	1754.475	1755
	20	4.4	1710.528	1710.00	1754.471	1755
					Result:	Pass

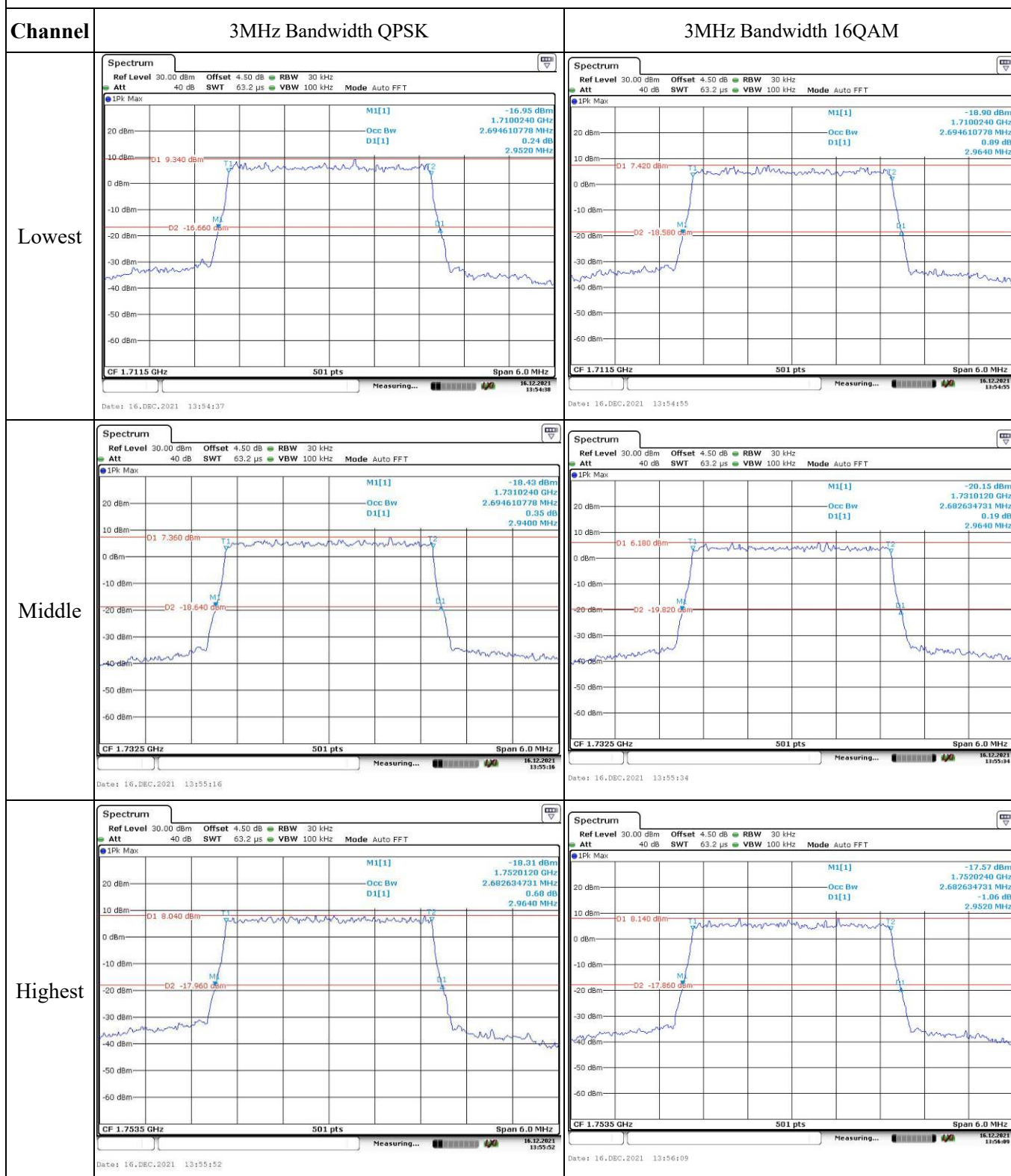
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	1710.522	1710.00	1754.476	1755
	-20	3.8	1710.523	1710.00	1754.474	1755
	-10	3.8	1710.524	1710.00	1754.473	1755
	0	3.8	1710.525	1710.00	1754.475	1755
	10	3.8	1710.526	1710.00	1754.476	1755
	20	3.8	1710.529	1710.00	1754.471	1755
	30	3.8	1710.526	1710.00	1754.476	1755
	40	3.8	1710.528	1710.00	1754.475	1755
	50	3.8	1710.524	1710.00	1754.474	1755
Frequency Stability vs. Voltage	20	3.2	1710.523	1710.00	1754.476	1755
	20	4.4	1710.529	1710.00	1754.471	1755
					Result:	Pass

Test Plots:

Occupied Bandwidth



Occupied Bandwidth



Occupied Bandwidth

