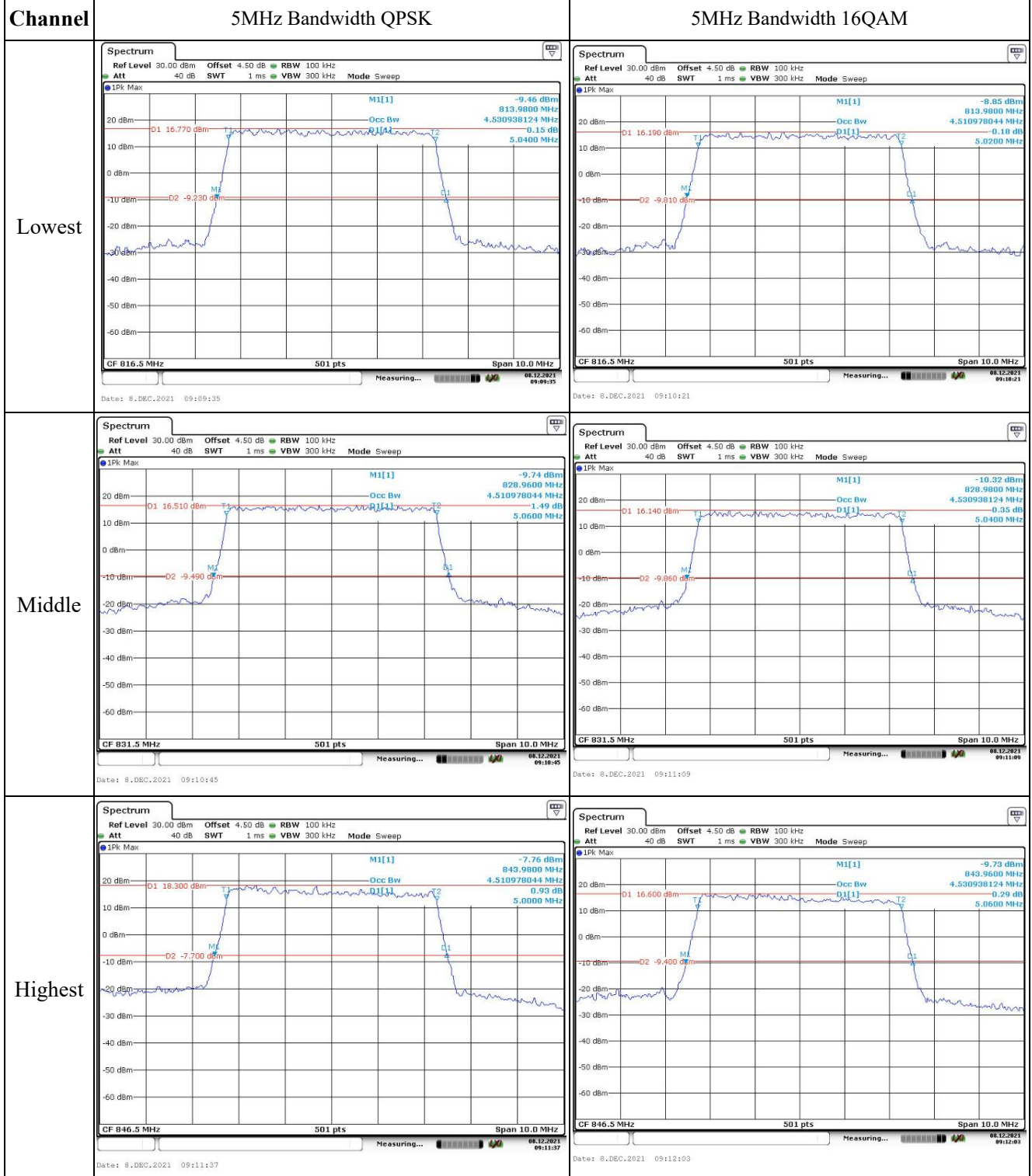
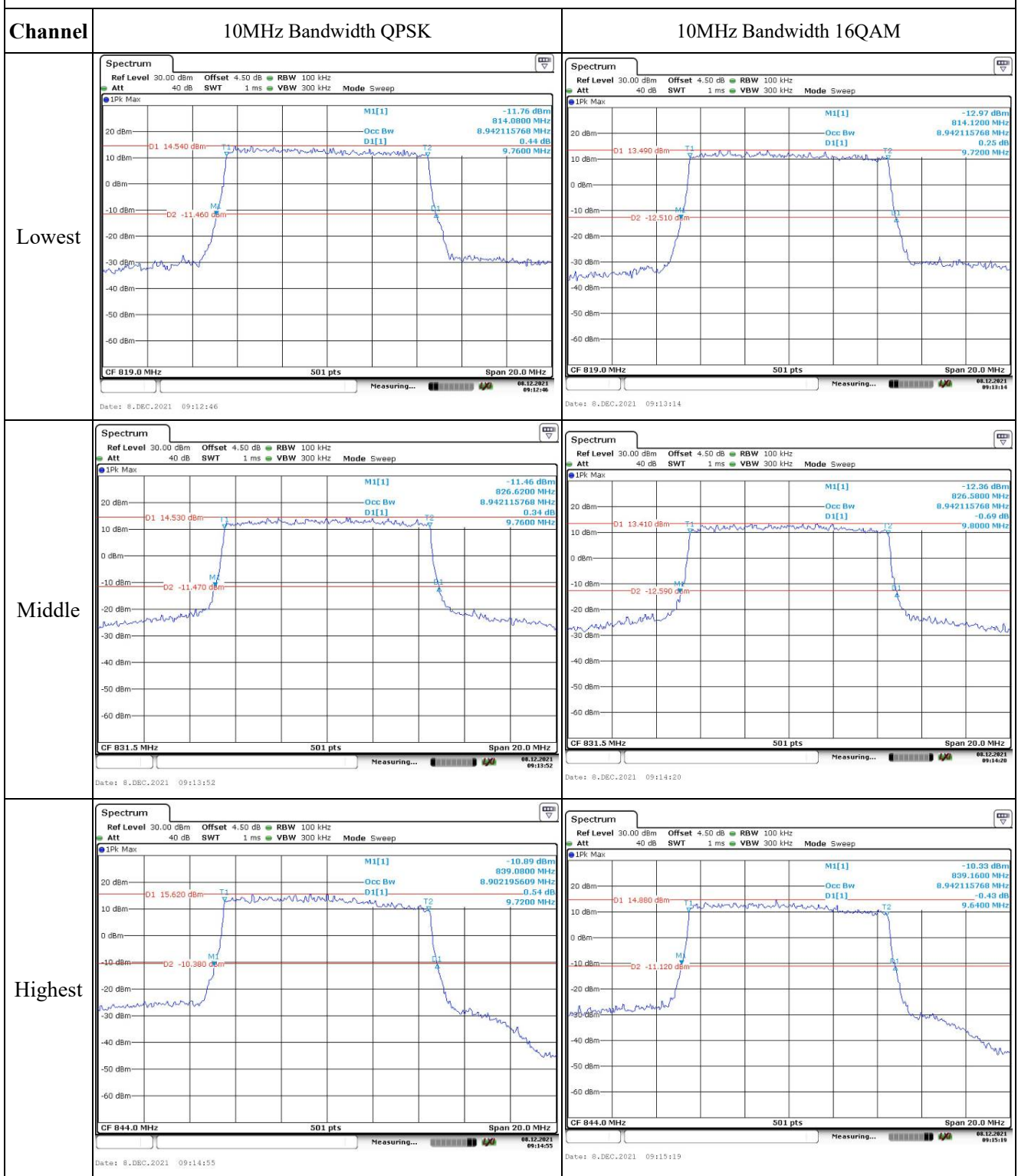


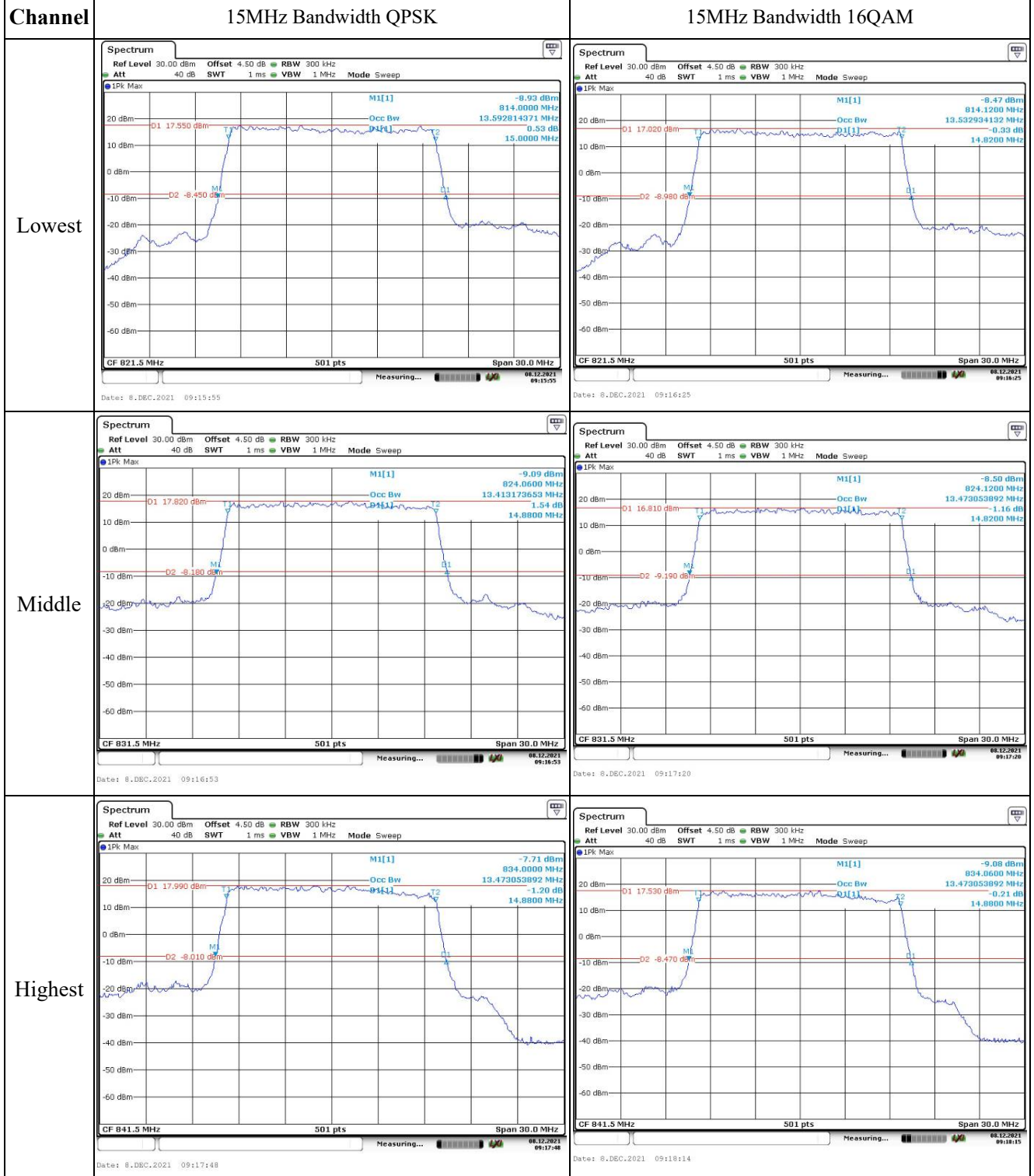
Occupied Bandwidth



Occupied Bandwidth



Occupied Bandwidth

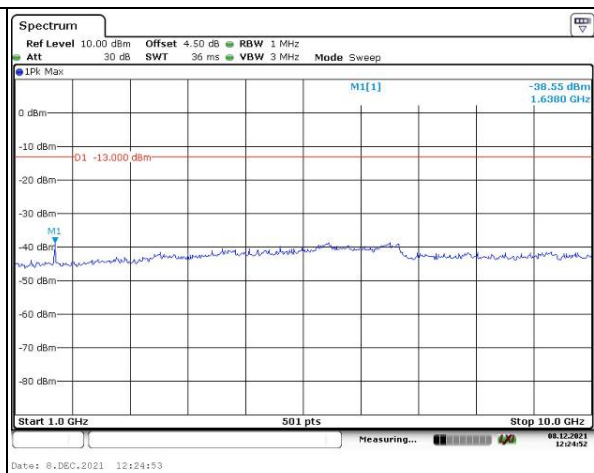
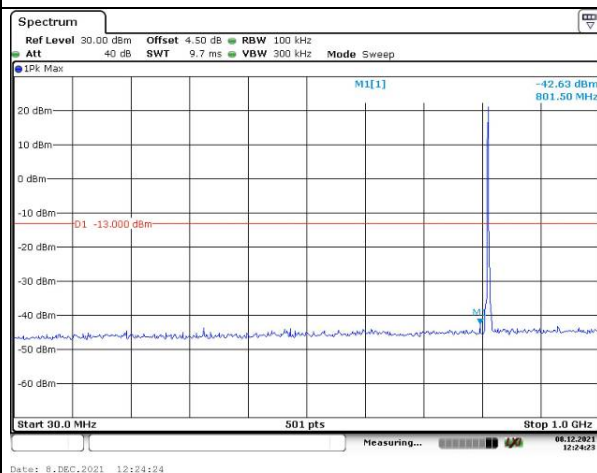


Spurious Emissions at Antenna Terminal

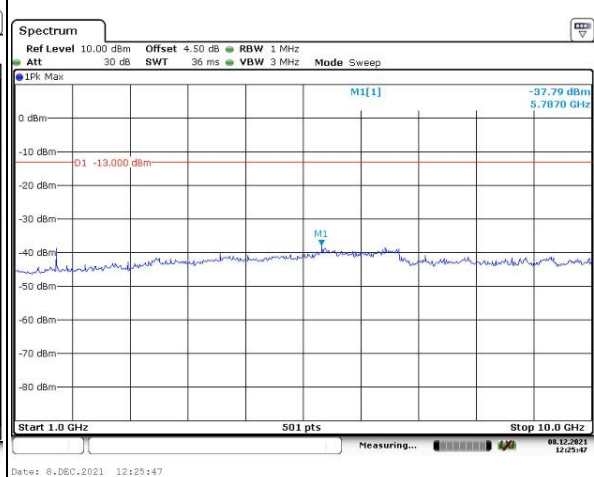
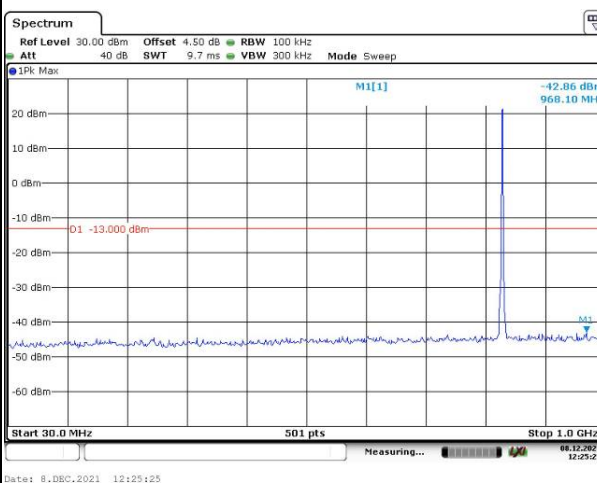
Channel

1.4MHz Bandwidth QPSK

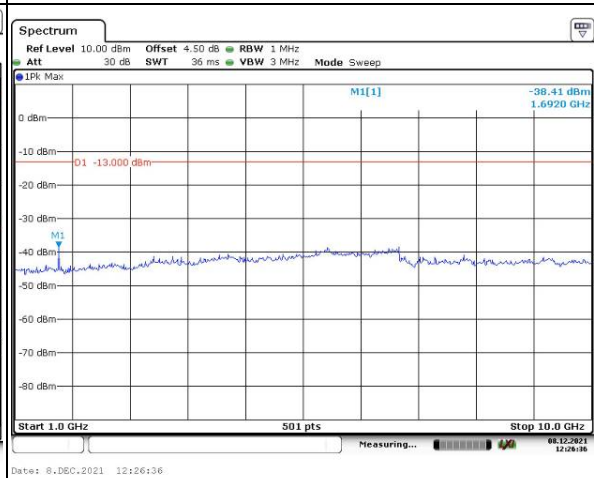
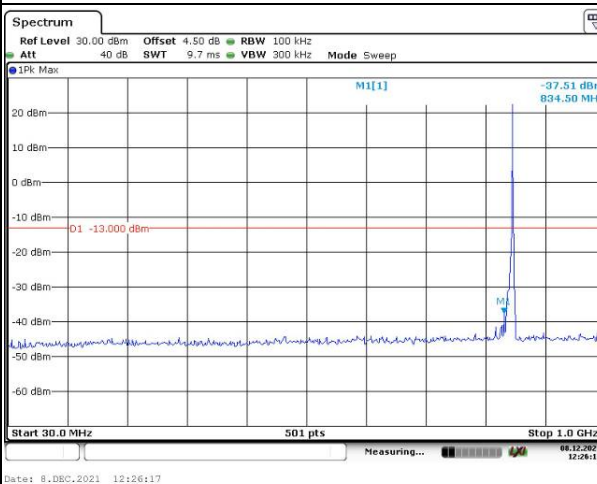
Lowest



Middle



Highest

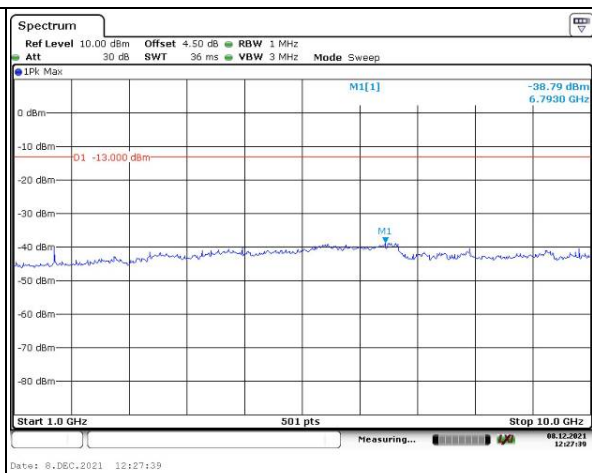
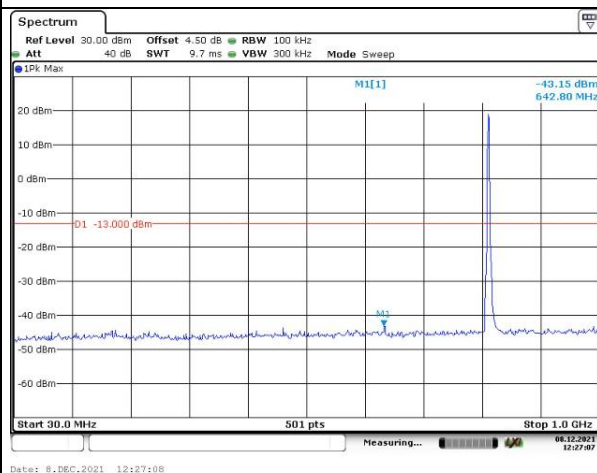


Spurious Emissions at Antenna Terminal

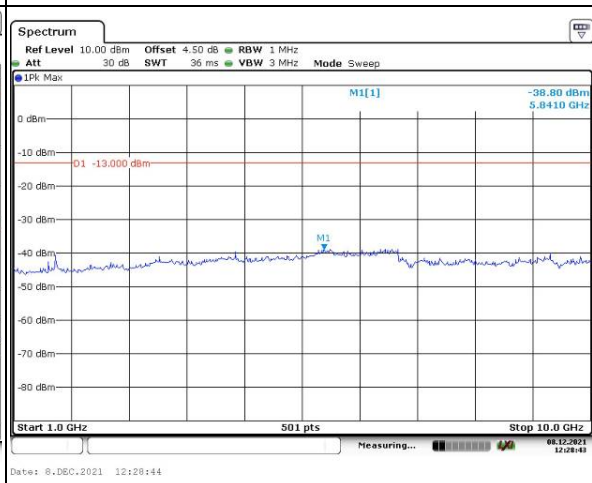
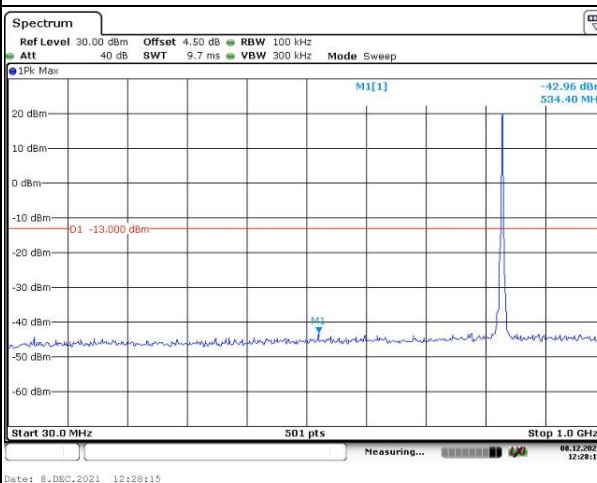
Channel

3MHz Bandwidth QPSK

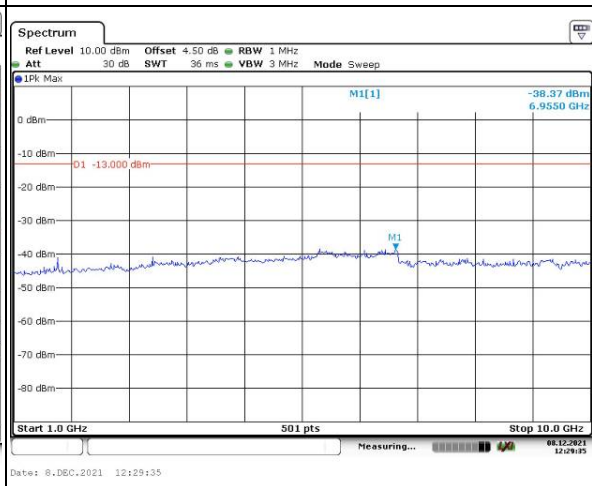
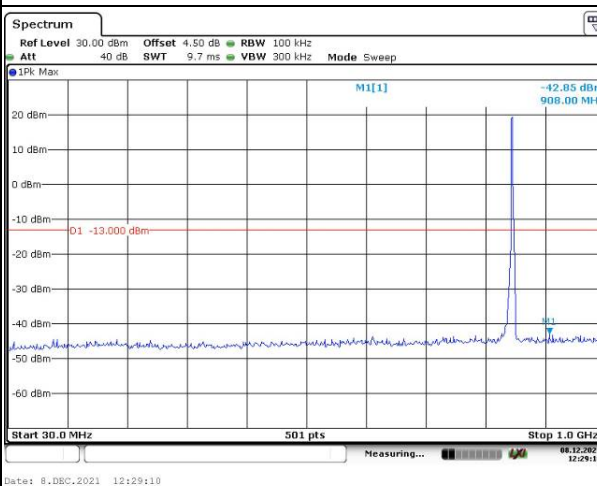
Lowest



Middle



Highest

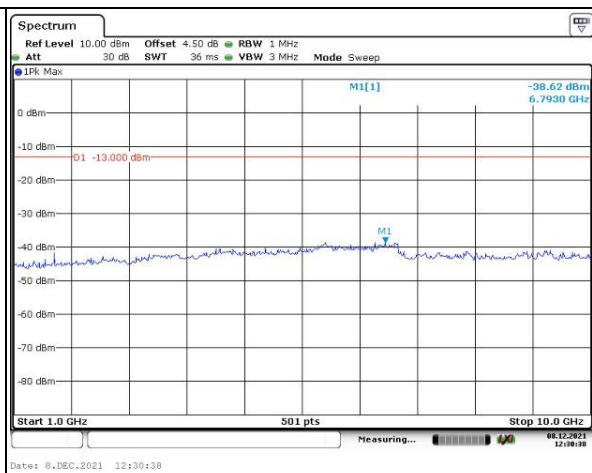
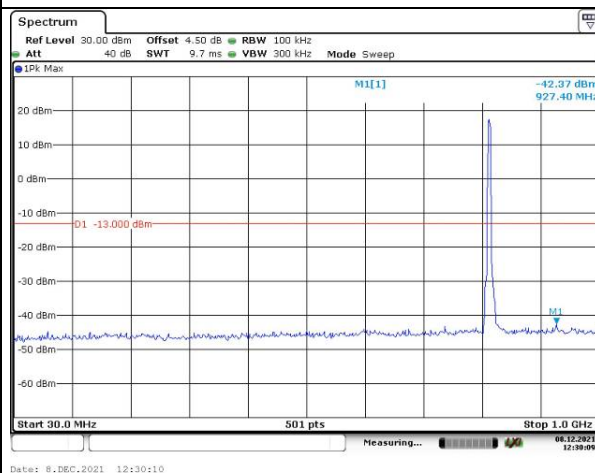


Spurious Emissions at Antenna Terminal

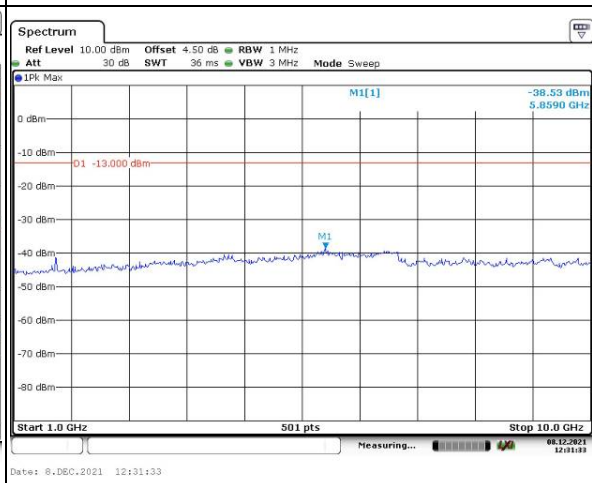
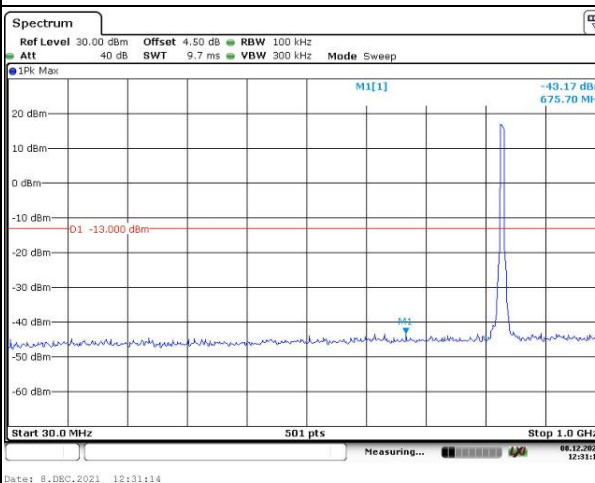
Channel

5MHz Bandwidth QPSK

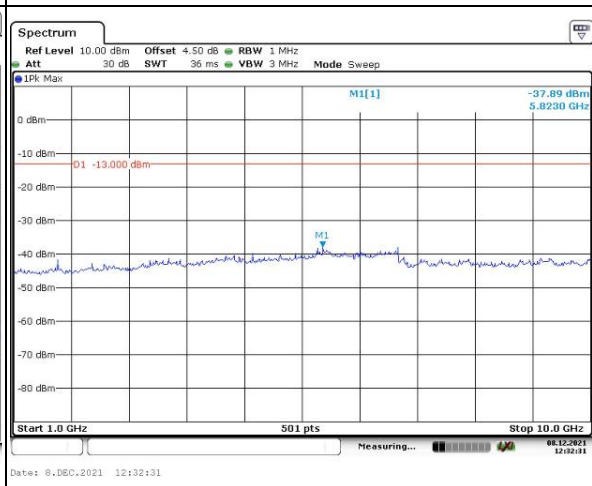
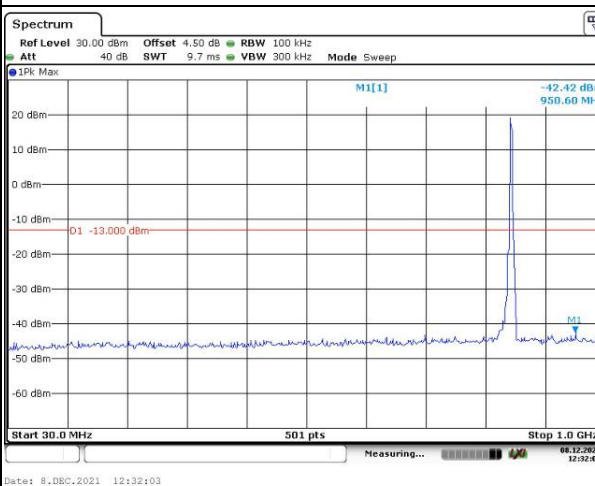
Lowest



Middle



Highest

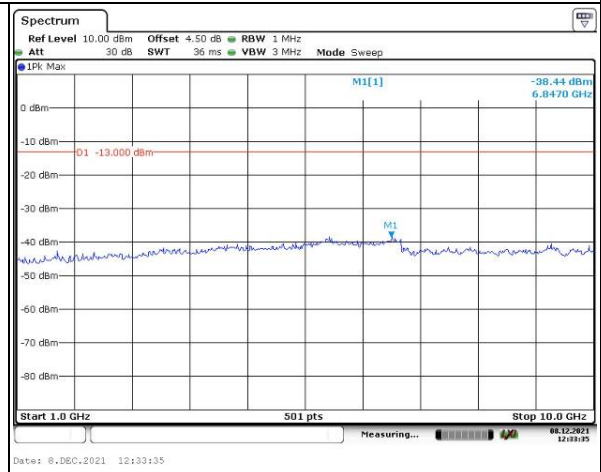
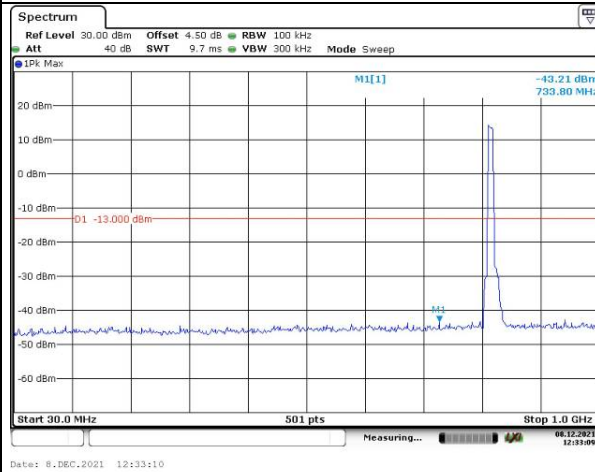


Spurious Emissions at Antenna Terminal

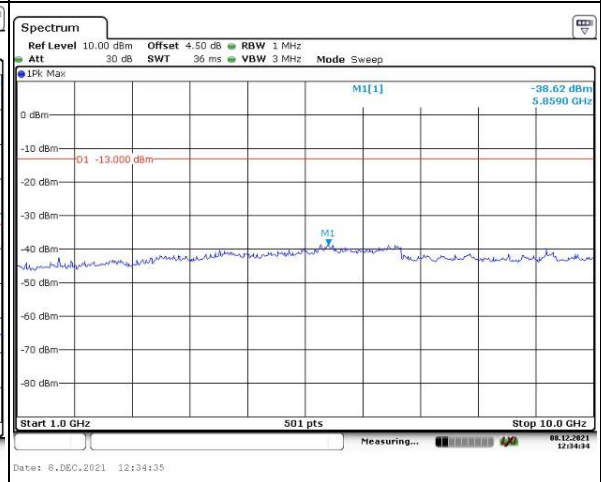
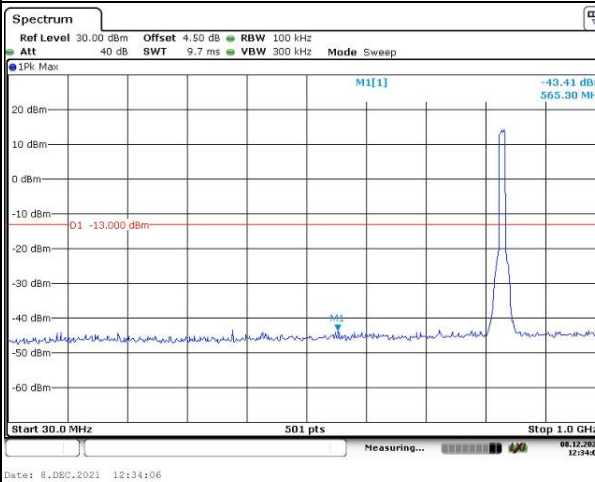
Channel

10MHz Bandwidth QPSK

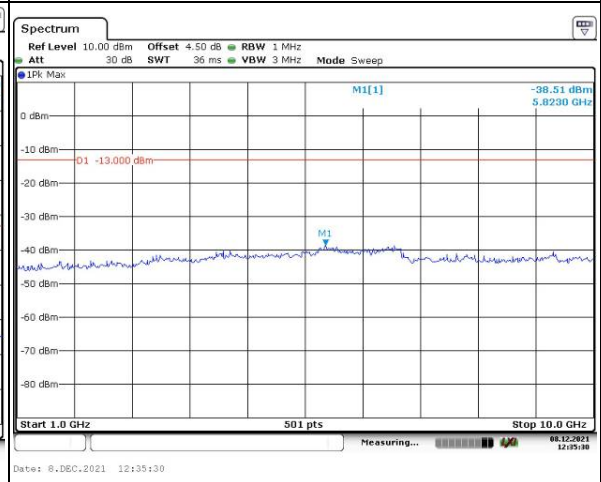
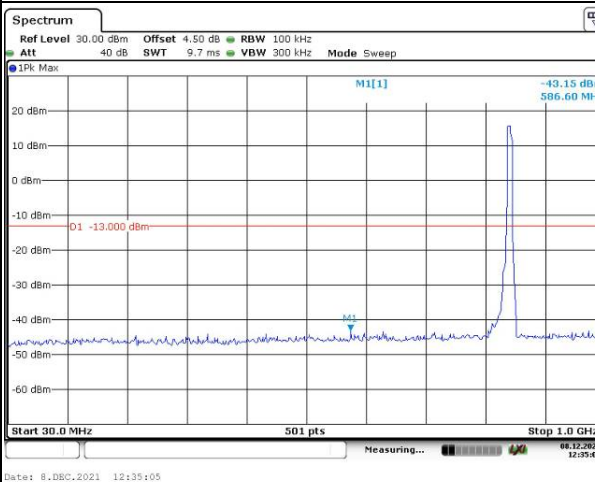
Lowest



Middle



Highest

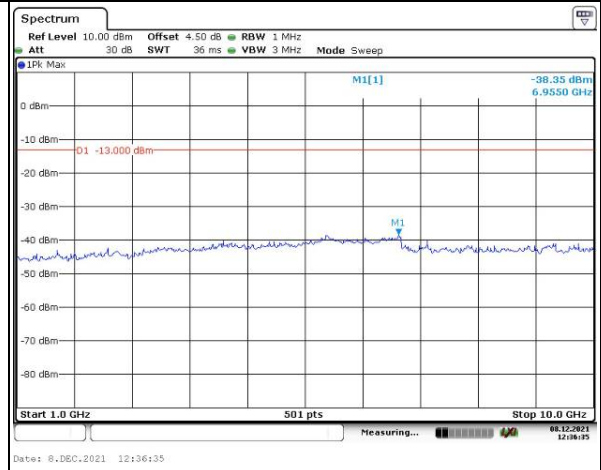
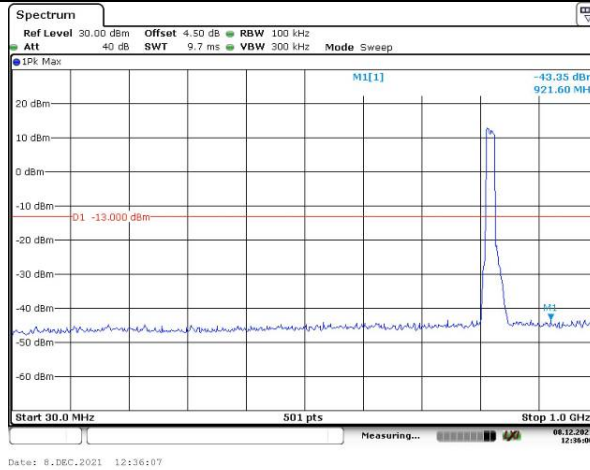


Spurious Emissions at Antenna Terminal

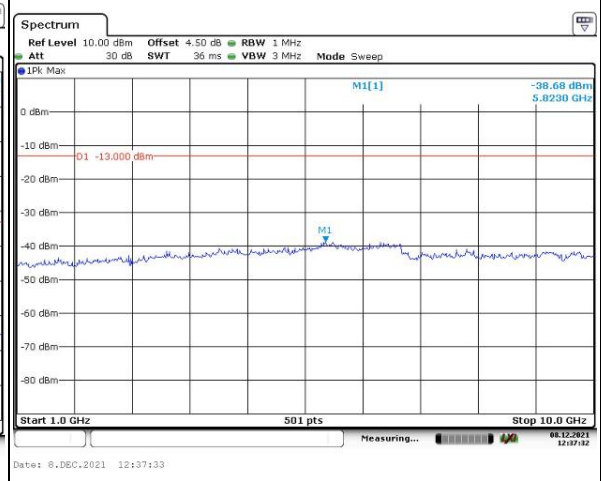
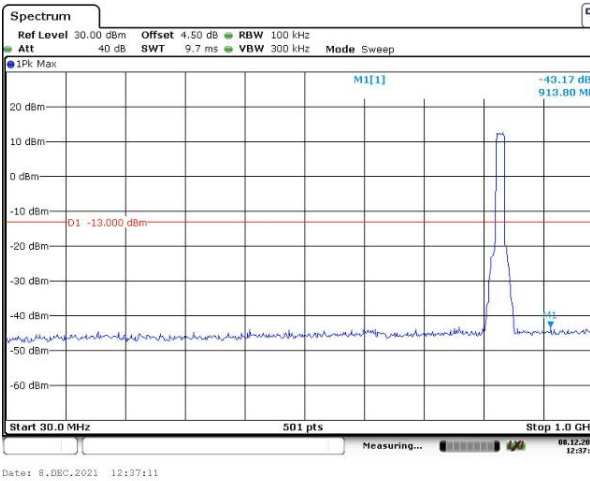
Channel

15MHz Bandwidth QPSK

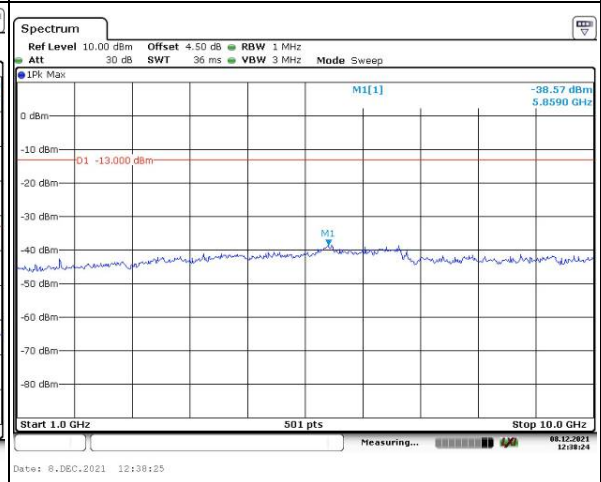
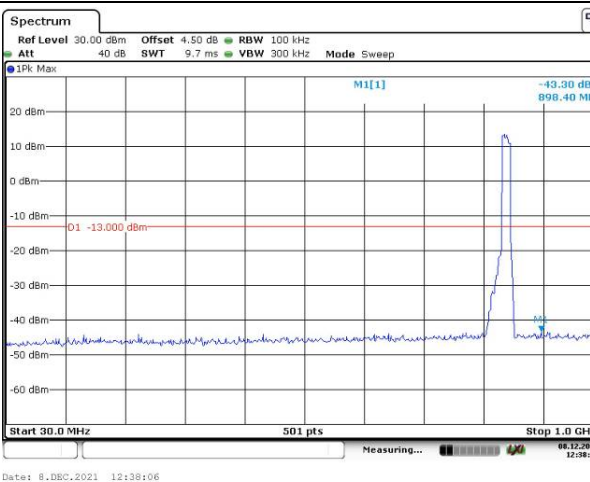
Lowest



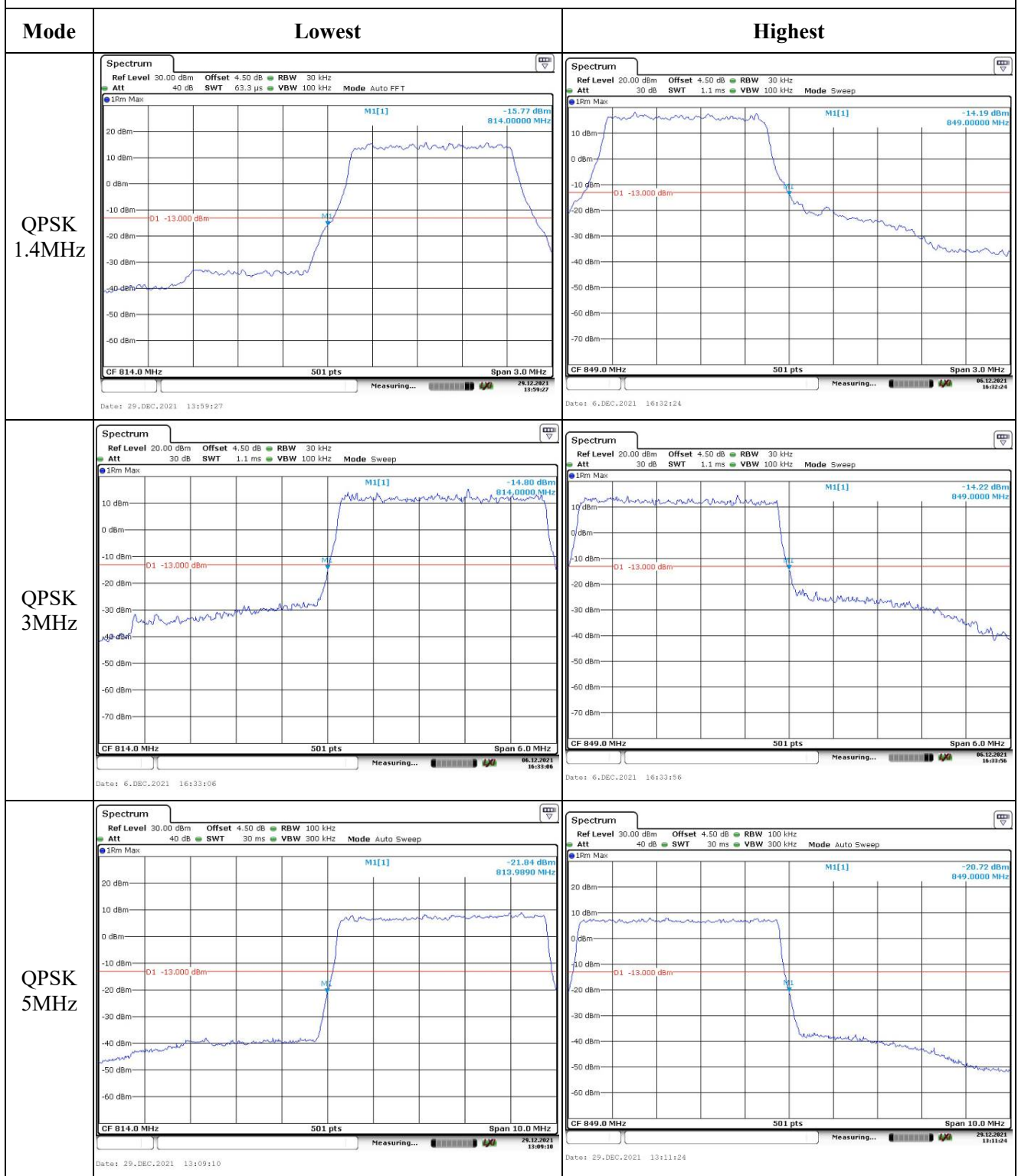
Middle



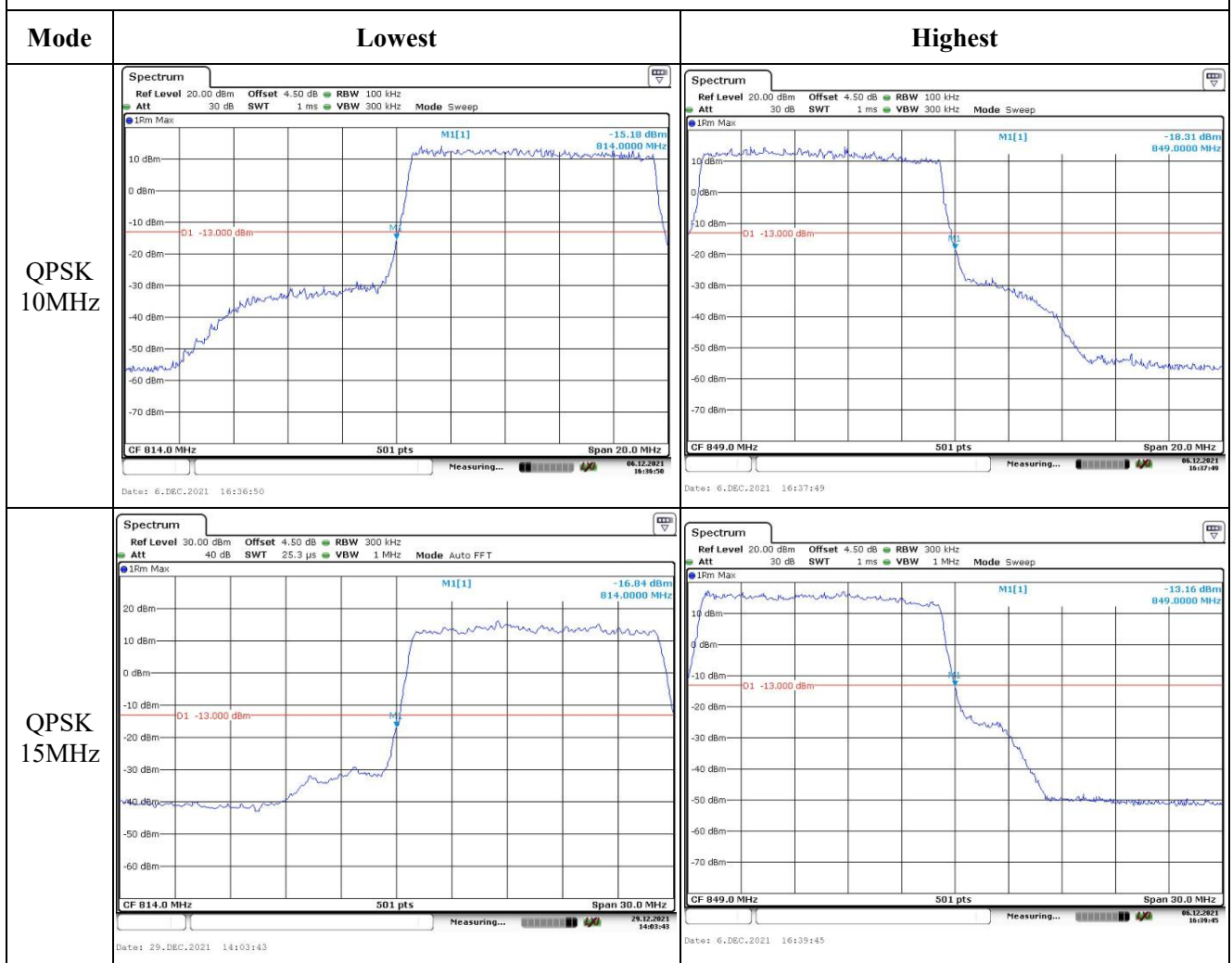
Highest



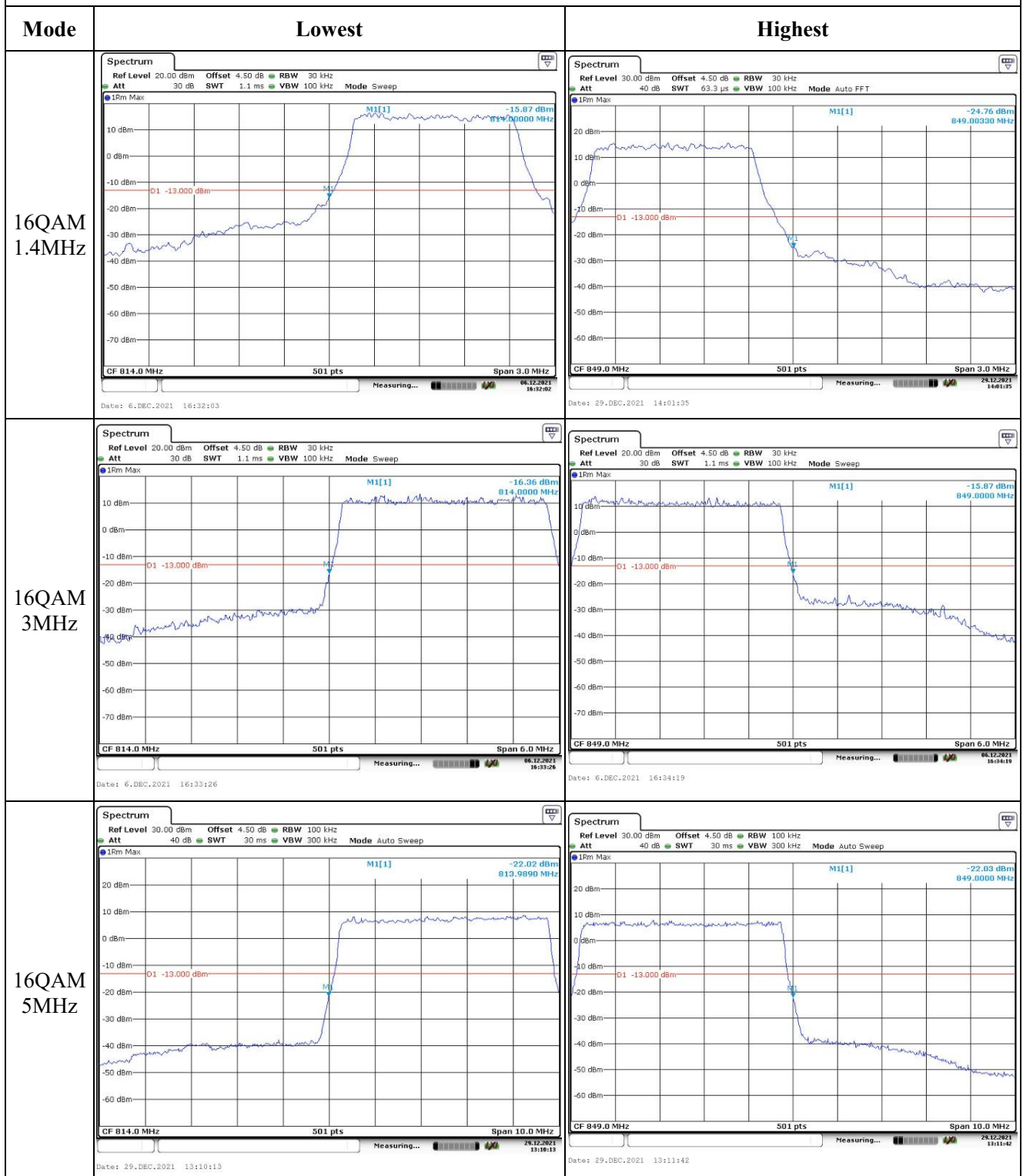
Out of band emission, Band Edge



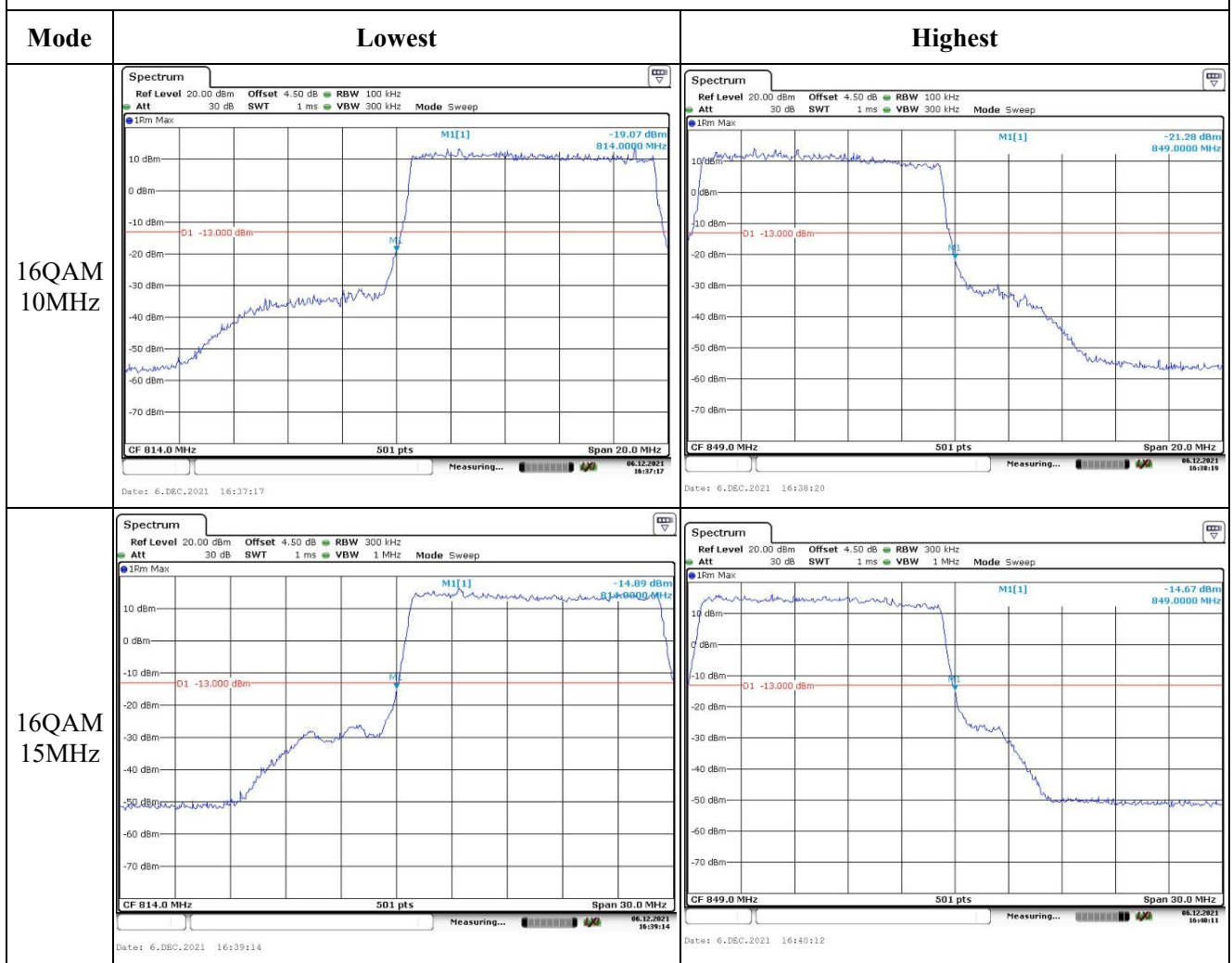
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.14 Antenna Port Test Data and Results for LTE Band 38:

Serial Number:	CR21110036-RF-S1	Test Date:	2021/12/06~2021/12/29
Test Site:	RF	Test Mode:	Transmitting
Tester:	LE Qiao	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	18.4~21.3	Relative Humidity: (%)	32~48	ATM Pressure: (kPa)	101.6~101.8
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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
Weinschel	Coaxial Attenuators	53-20-34	LN751	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 38▲:

Antenna Gain (dBi):	1	Cable Loss (dB):	0
Operation Voltage(V _{DC}):			
Lowest:	3.5	Normal:	3.85
		Highest:	4.4

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

Test Data:**FCC§2.1046;§ 27.50(h)(2)****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		
5MHz QPSK	RB1#0	22.18	22.10	22.09	23.46	33
	RB1#13	22.39	22.03	21.87		
	RB1#24	22.46	22.05	22.12		
	RB15#0	21.57	21.38	21.34		
	RB15#10	21.43	21.36	21.29		
	RB25#0	21.51	21.36	21.27		
5MHz 16QAM	RB1#0	21.84	21.09	21.21	22.84	33
	RB1#13	21.68	20.95	21.18		
	RB1#24	21.71	20.86	21.37		
	RB15#0	20.50	20.09	20.09		
	RB15#10	20.29	20.10	19.99		
	RB25#0	20.18	20.31	20.22		
10MHz QPSK	RB1#0	22.62	22.34	22.64	23.71	33
	RB1#25	22.56	22.50	22.71		
	RB1#49	22.38	22.28	22.64		
	RB25#0	21.64	21.46	21.39		
	RB25#25	21.50	21.44	21.24		
	RB50#0	21.49	21.44	21.25		
10MHz 16QAM	RB1#0	21.70	21.49	21.70	22.77	33
	RB1#25	21.55	21.33	21.77		
	RB1#49	21.09	21.32	21.26		
	RB25#0	20.69	20.31	20.42		
	RB25#25	20.60	20.31	20.26		
	RB50#0	20.40	20.31	20.24		
15MHz QPSK	RB1#0	22.40	22.70	22.29	23.7	33
	RB1#38	22.30	22.46	22.28		
	RB1#74	22.35	22.45	22.26		
	RB36#0	21.48	21.46	21.33		
	RB36#39	21.30	21.25	21.29		
	RB75#0	21.34	21.30	21.24		
15MHz 16QAM	RB1#0	21.19	21.92	21.68	22.92	33
	RB1#38	20.97	21.31	21.48		
	RB1#74	20.86	21.56	21.41		
	RB36#0	20.34	20.58	20.43		
	RB36#39	20.18	20.41	20.32		
	RB75#0	20.34	20.32	20.21		
20MHz QPSK	RB1#0	22.78	22.45	22.36	23.78	33

	RB1#50	22.56	22.53	22.31		
	RB1#99	22.28	22.26	22.60		
	RB50#0	21.56	21.53	21.38		
	RB50#50	21.36	21.34	21.31		
	RB100#0	21.58	21.40	21.37		
20MHz 16QAM	RB1#0	21.96	21.64	21.35	23.09	33
	RB1#50	22.09	21.68	21.35		
	RB1#99	21.70	21.34	21.39		
	RB50#0	20.55	20.64	20.45		
	RB50#50	20.41	20.59	20.36		
	RB100#0	20.48	20.48	20.29		
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	5.07	5.22	5.16	13
	RB100#0	6.41	5.62	5.74	13
20MHz 16QAM	RB1#0	6.29	5.28	5.54	13
	RB100#0	6.38	5.22	6.06	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	4.531	4.511	4.511	5.060	5.000	5.040
5MHz 16QAM	4.511	4.531	4.531	5.020	5.020	5.000
10MHz QPSK	8.942	8.942	8.942	9.760	9.720	9.800
10MHz 16QAM	8.942	8.942	8.942	9.600	9.720	9.600
15MHz QPSK	13.533	13.593	13.473	16.620	16.020	15.060
15MHz 16QAM	13.533	13.533	13.593	15.360	15.540	15.900
20MHz QPSK	17.884	17.964	17.964	20.080	19.440	20.240
20MHz 16QAM	17.964	17.964	17.964	19.680	19.840	21.200
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.
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FCC §2.1051, § 27.53:Out of band emission, Band Edge

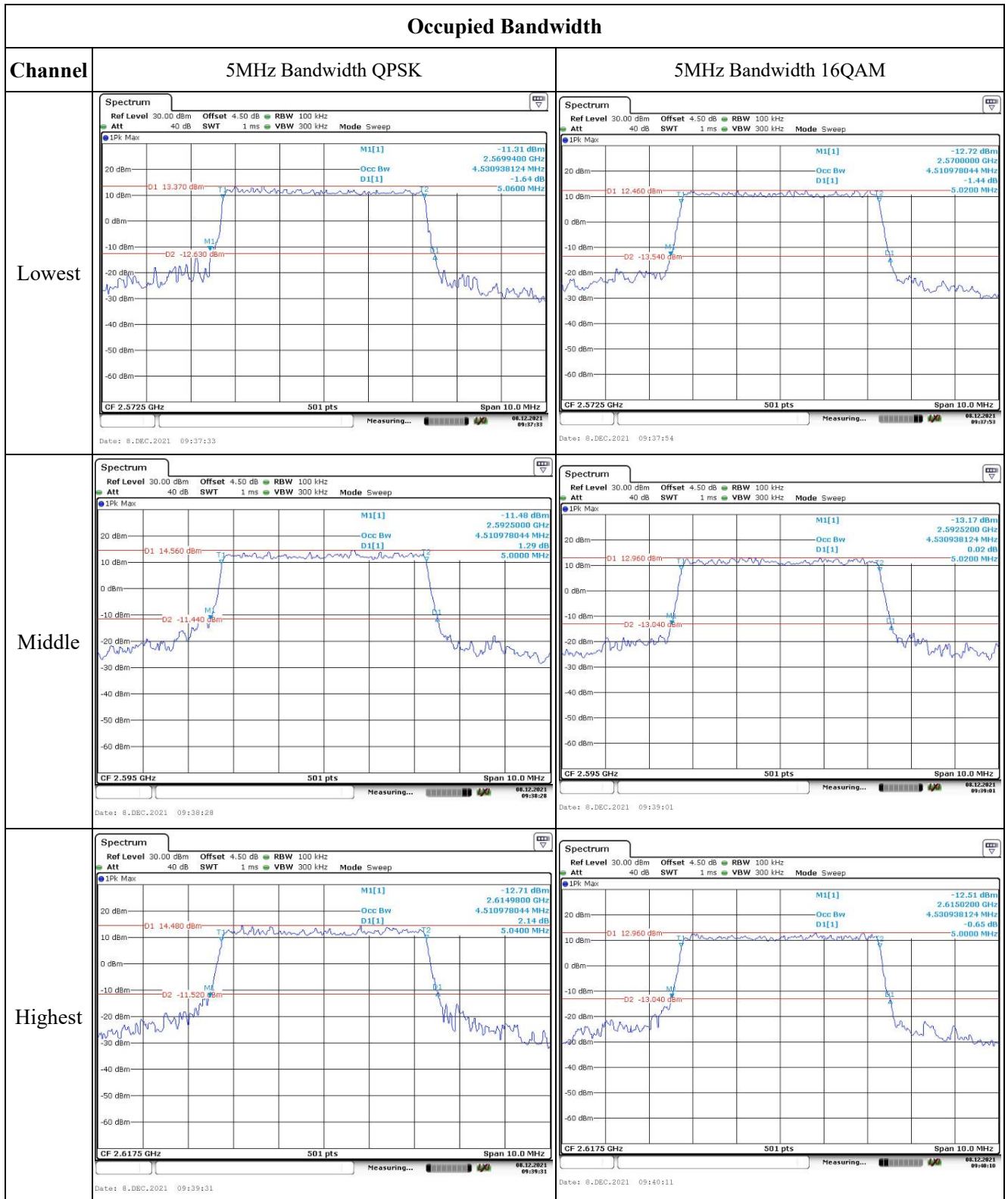
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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FCC §2.1055, §27.54: Frequency Stability

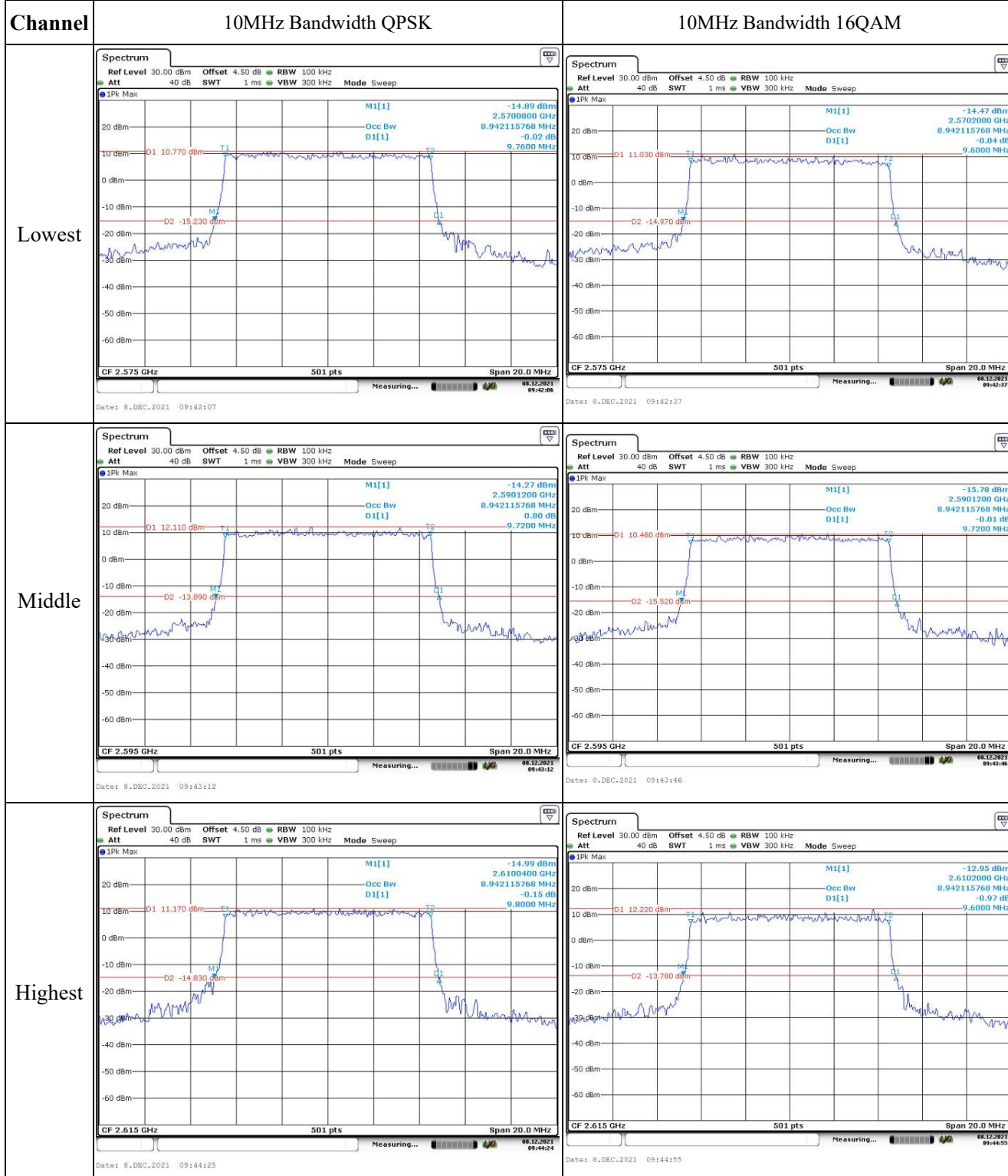
Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.85	2570.529	2570.00	2619.471	2620
	-20	3.85	2570.528	2570.00	2619.472	2620
	-10	3.85	2570.526	2570.00	2619.473	2620
	0	3.85	2570.525	2570.00	2619.474	2620
	10	3.85	2570.524	2570.00	2619.475	2620
	20	3.85	2570.529	2570.00	2619.471	2620
	30	3.85	2570.528	2570.00	2619.476	2620
	40	3.85	2570.525	2570.00	2619.477	2620
	50	3.85	2570.523	2570.00	2619.479	2620
Frequency Stability vs. Voltage	20	3.5	2570.522	2570.00	2619.478	2620
	20	4.4	2570.529	2570.00	2619.471	2620
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	3.85	2570.529	2570.00	2619.472	2620
	-20	3.85	2570.528	2570.00	2619.471	2620
	-10	3.85	2570.529	2570.00	2619.473	2620
	0	3.85	2570.520	2570.00	2619.471	2620
	10	3.85	2570.522	2570.00	2619.474	2620
	20	3.85	2570.529	2570.00	2619.471	2620
	30	3.85	2570.523	2570.00	2619.475	2620
	40	3.85	2570.525	2570.00	2619.476	2620
	50	3.85	2570.526	2570.00	2619.477	2620
Frequency Stability vs. Voltage	20	3.5	2570.524	2570.00	2619.478	2620
	20	4.4	2570.529	2570.00	2619.471	2620
Result:					Pass	

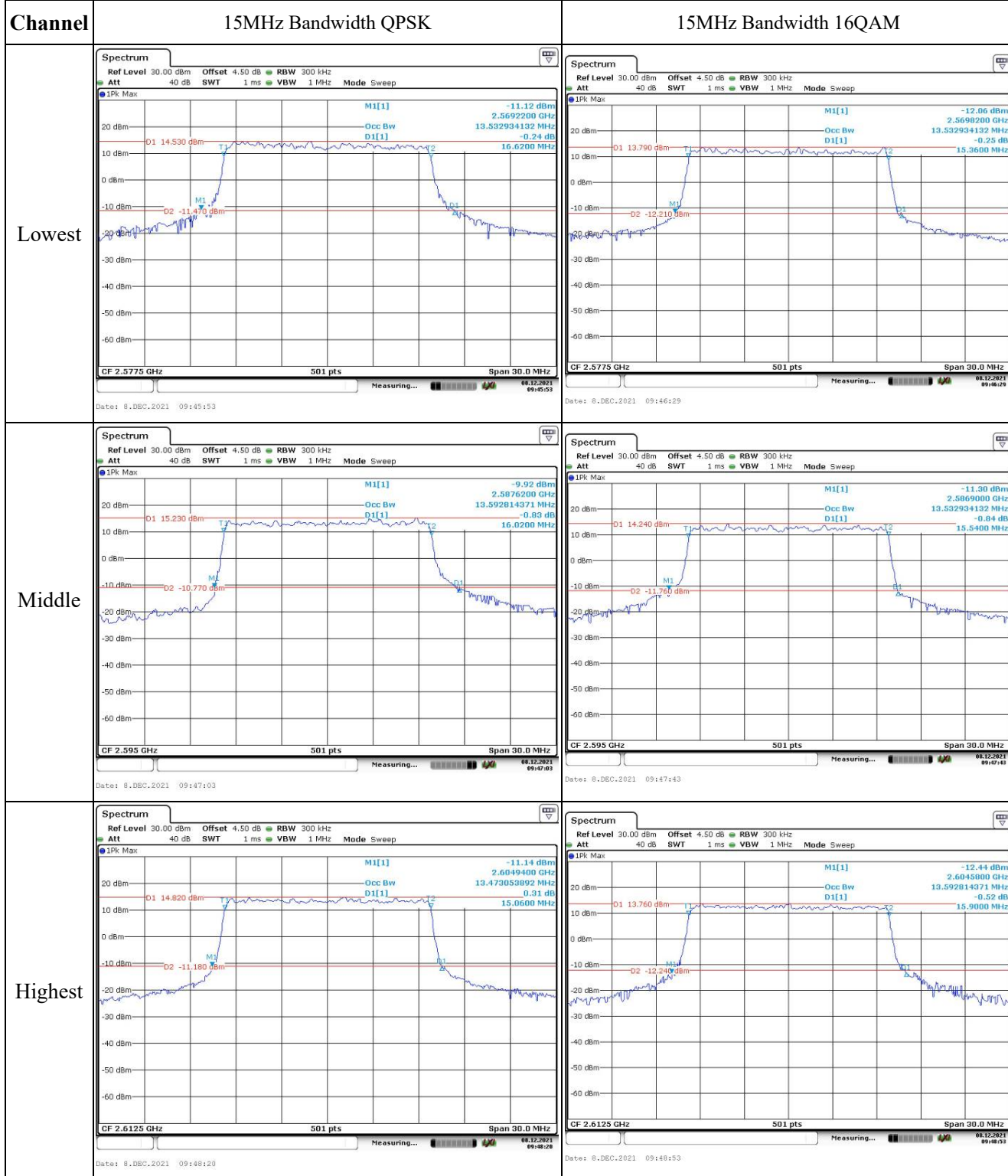
Test Plots:



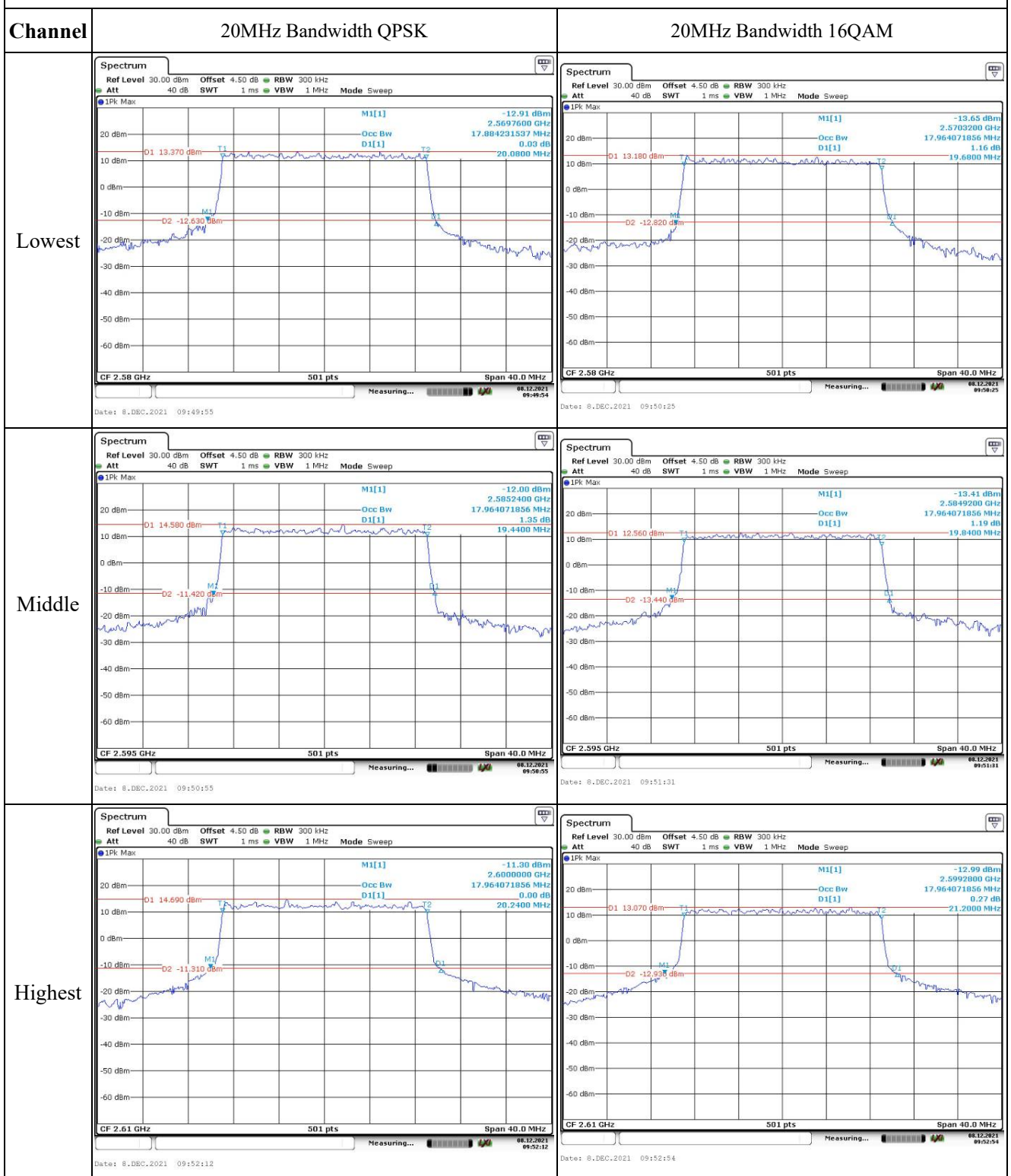
Occupied Bandwidth



Occupied Bandwidth



Occupied Bandwidth

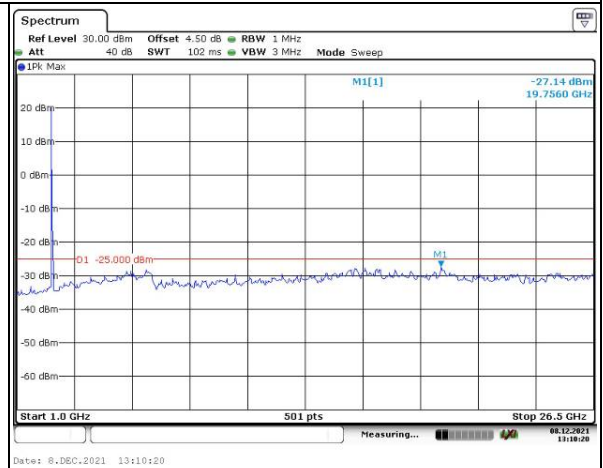
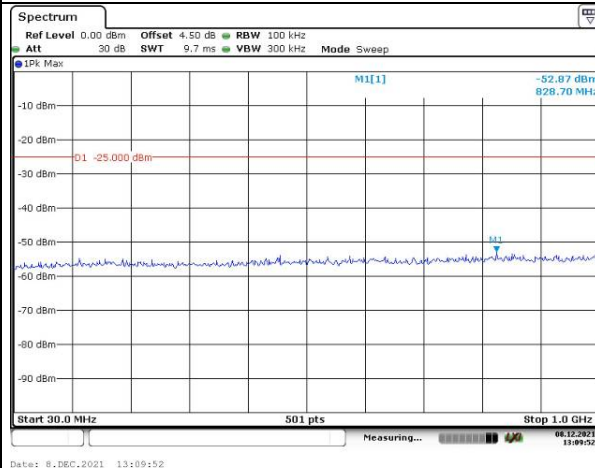


Spurious Emissions at Antenna Terminal

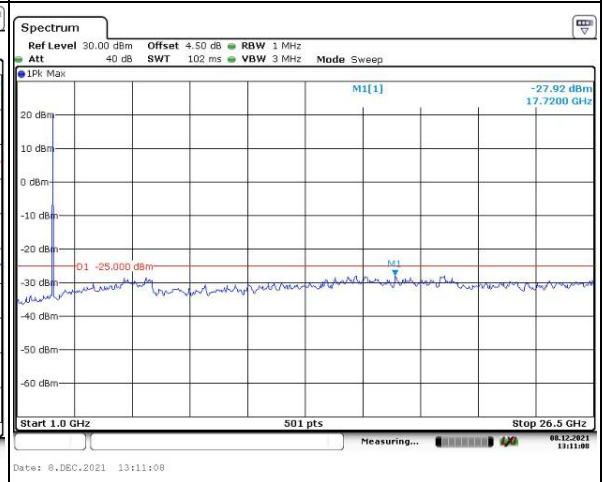
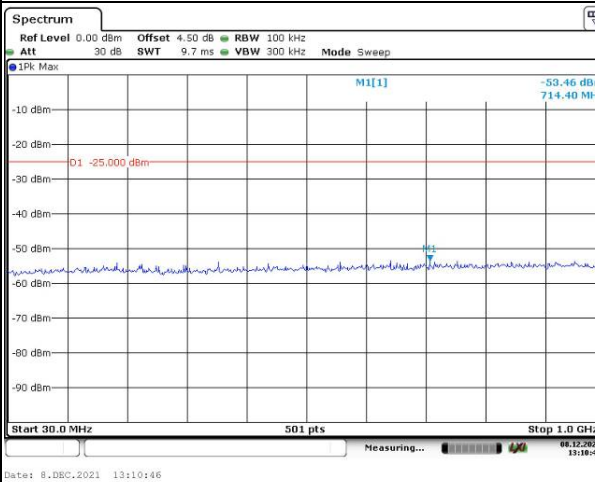
Channel

5MHz Bandwidth QPSK

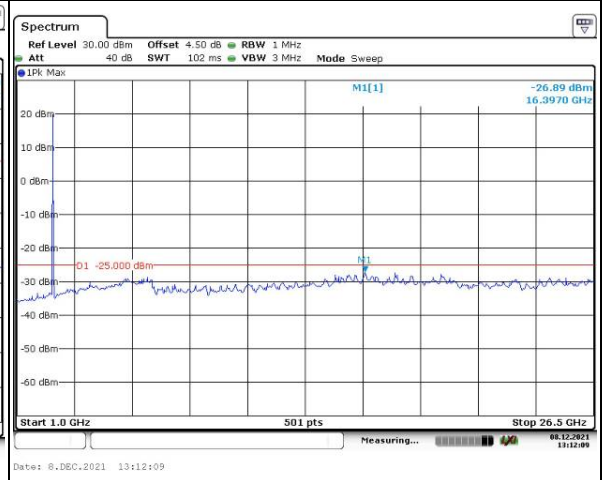
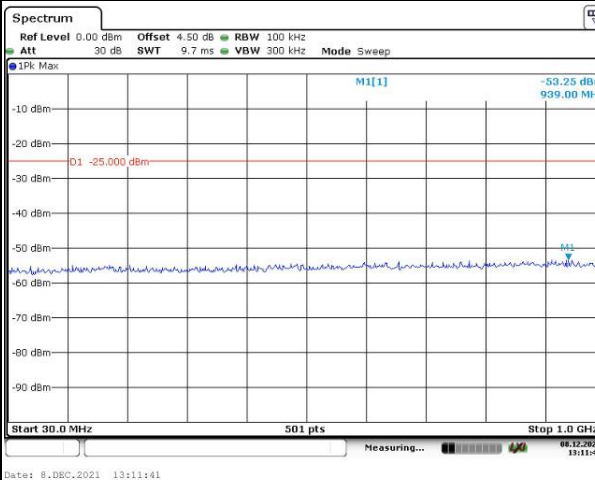
Lowest



Middle



Highest

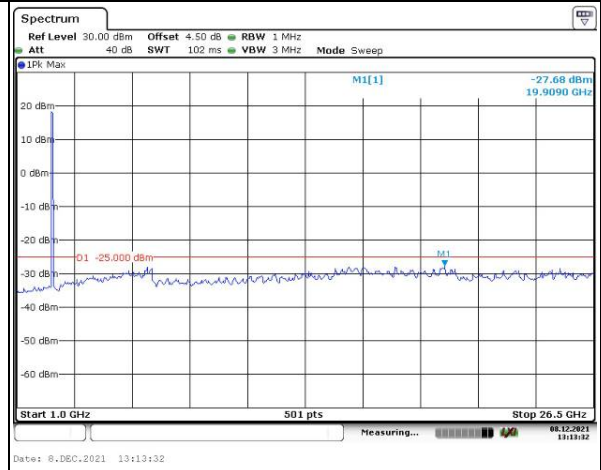
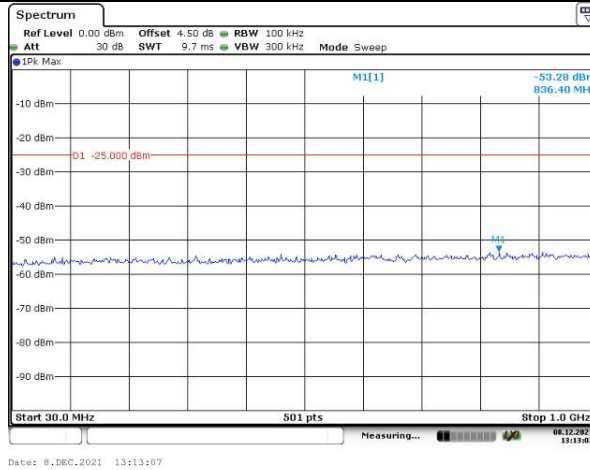


Spurious Emissions at Antenna Terminal

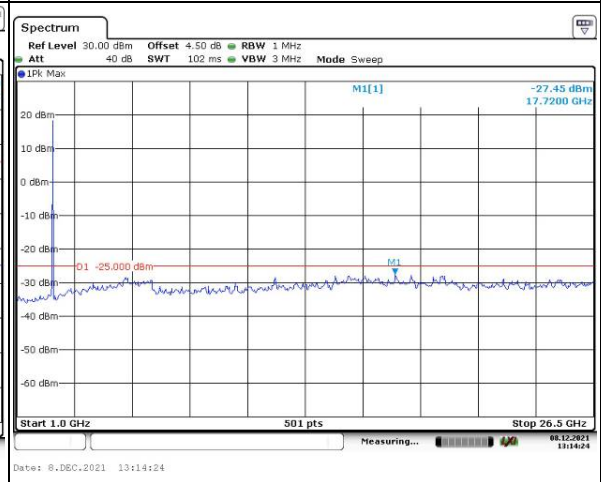
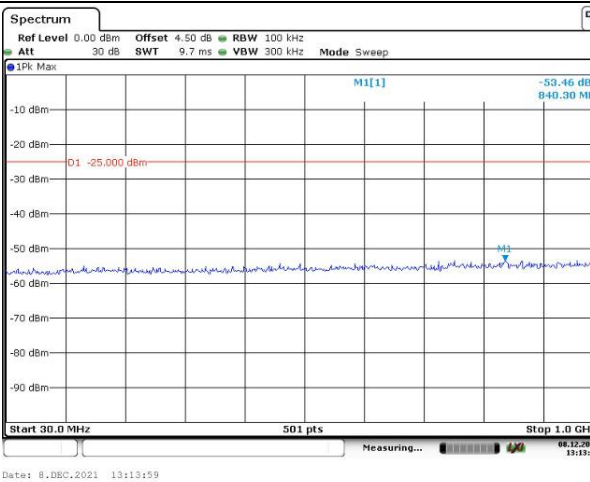
Channel

10MHz Bandwidth QPSK

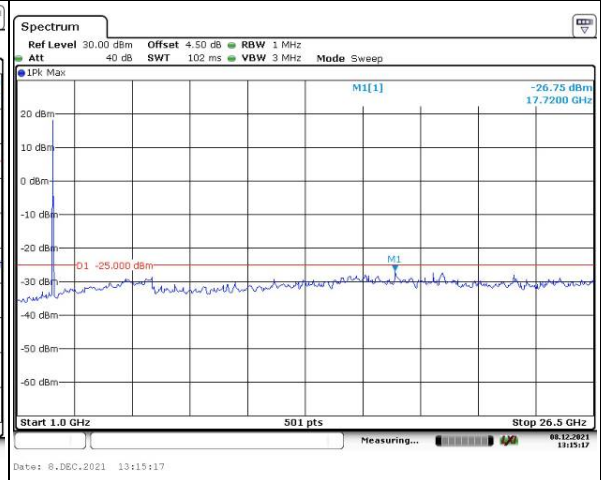
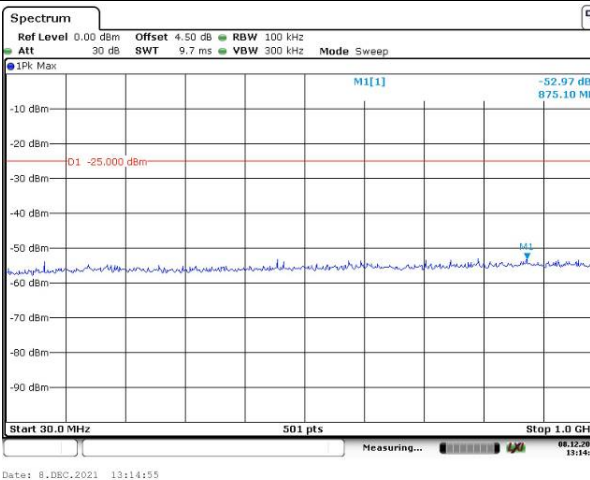
Lowest



Middle



Highest

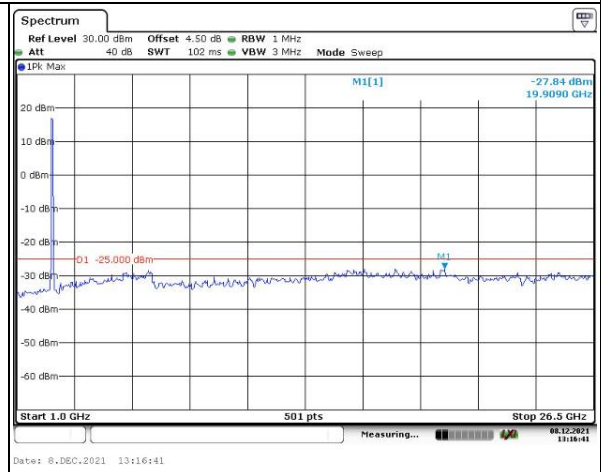
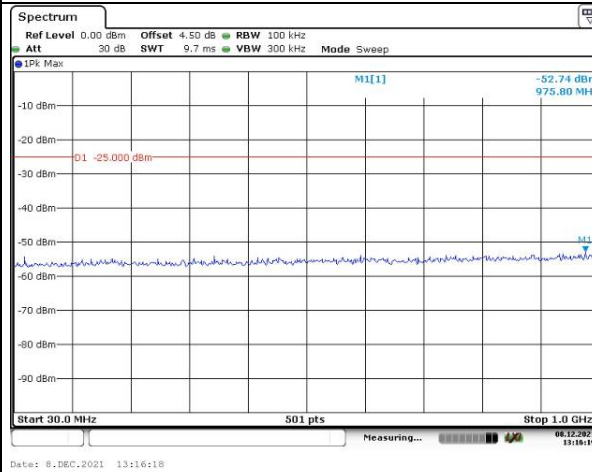


Spurious Emissions at Antenna Terminal

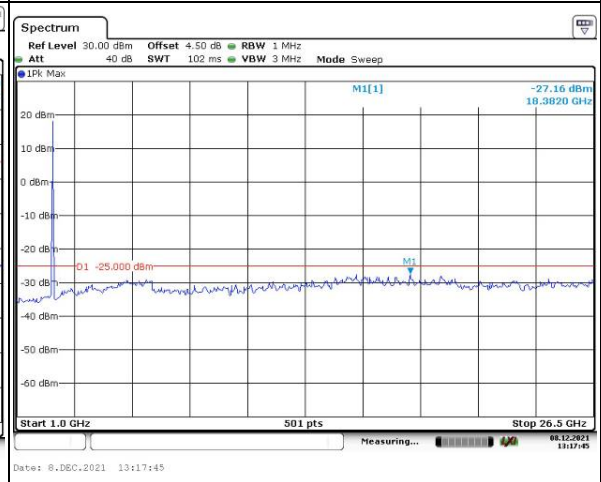
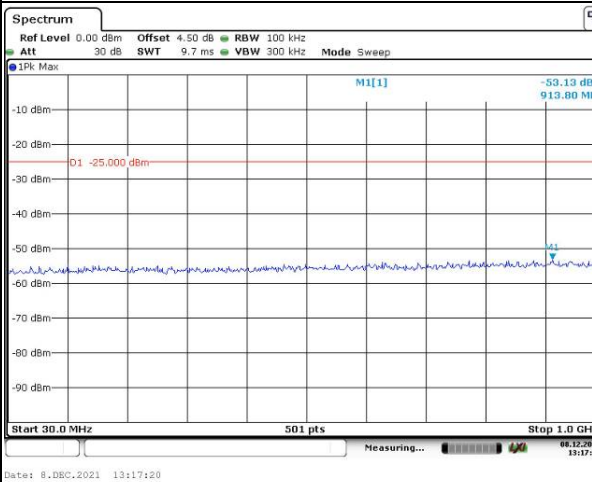
Channel

15MHz Bandwidth QPSK

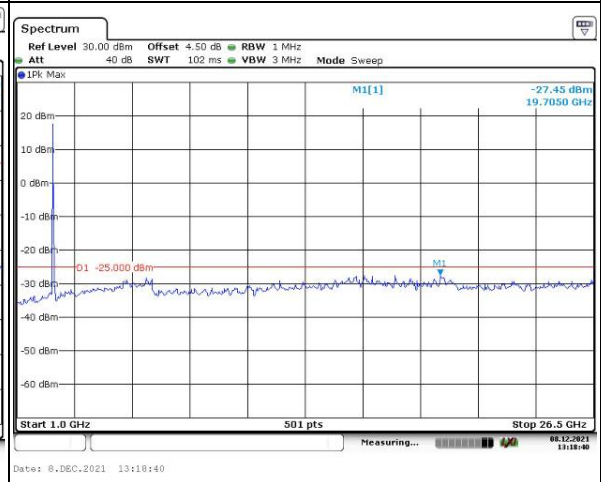
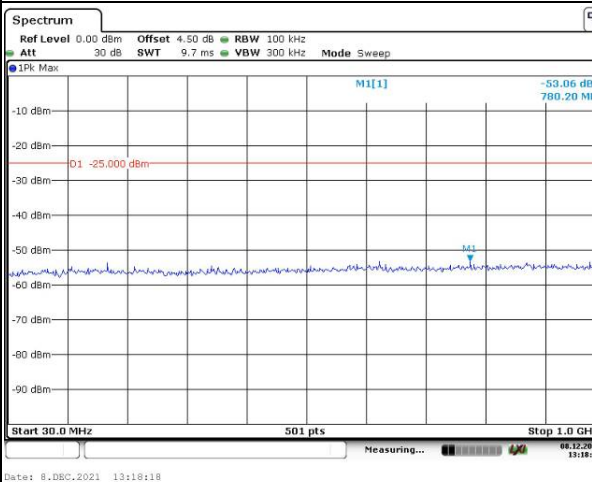
Lowest



Middle



Highest

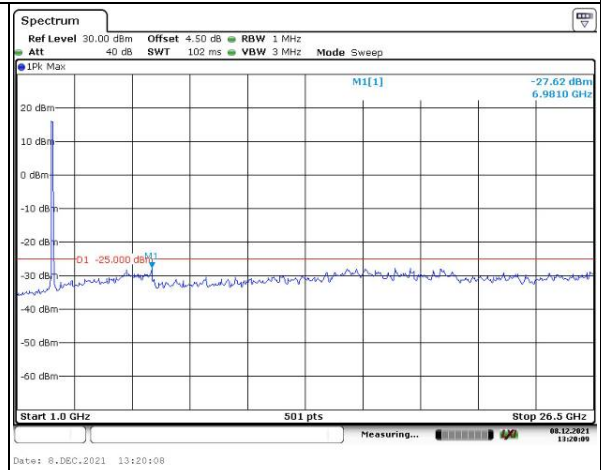
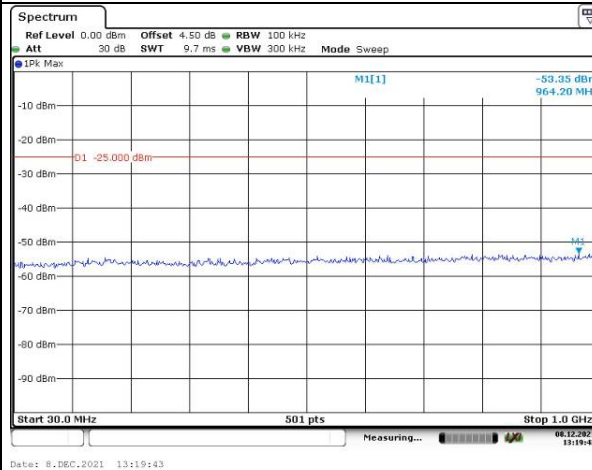


Spurious Emissions at Antenna Terminal

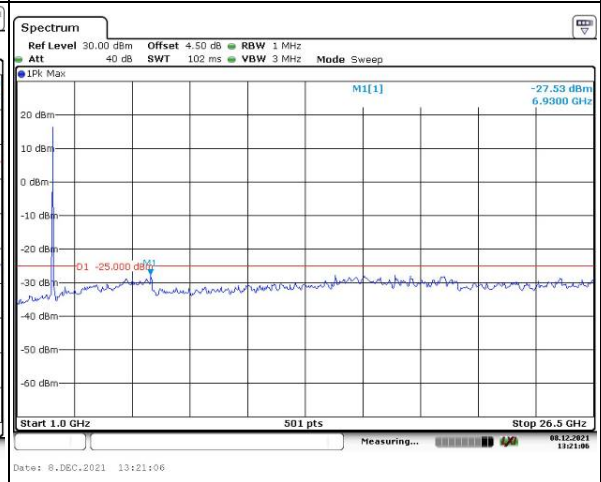
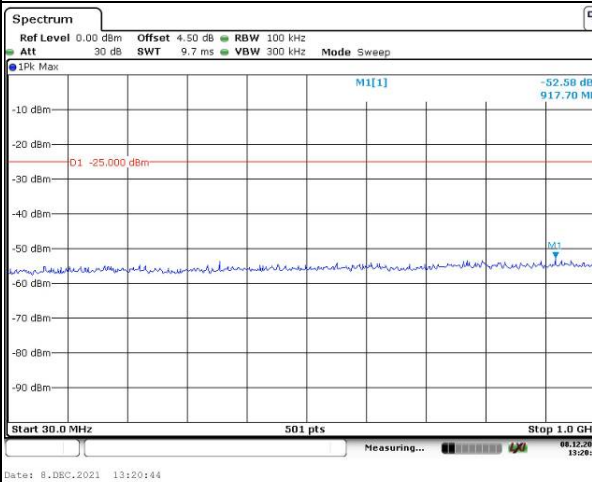
Channel

20MHz Bandwidth QPSK

Lowest



Middle



Highest

