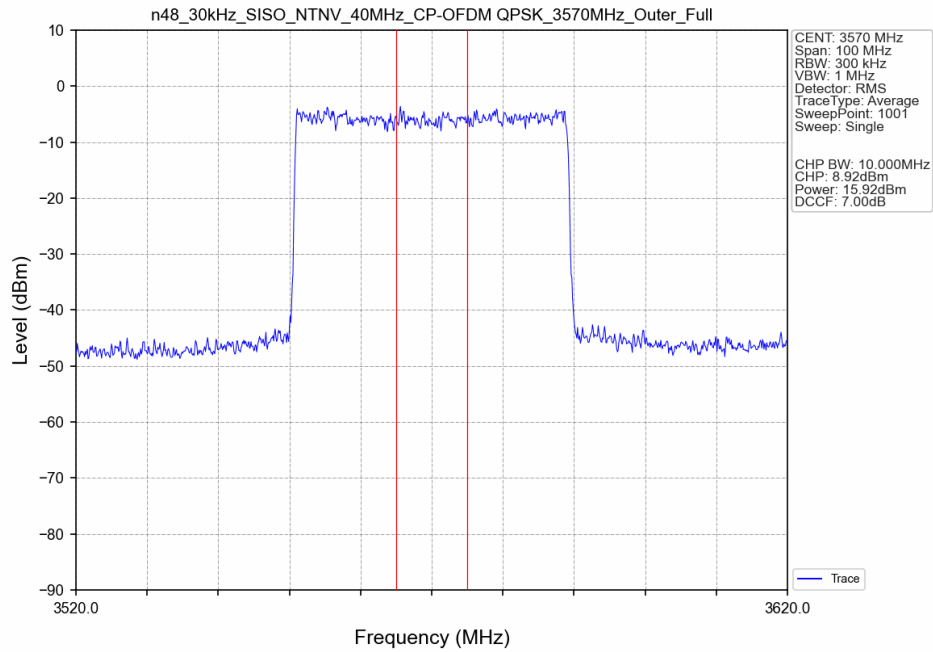
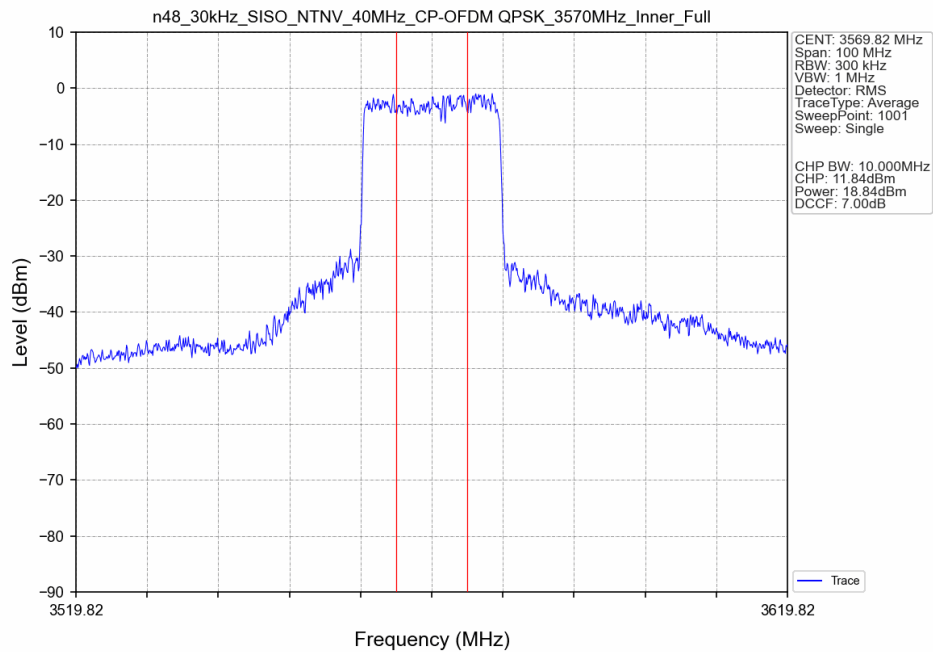


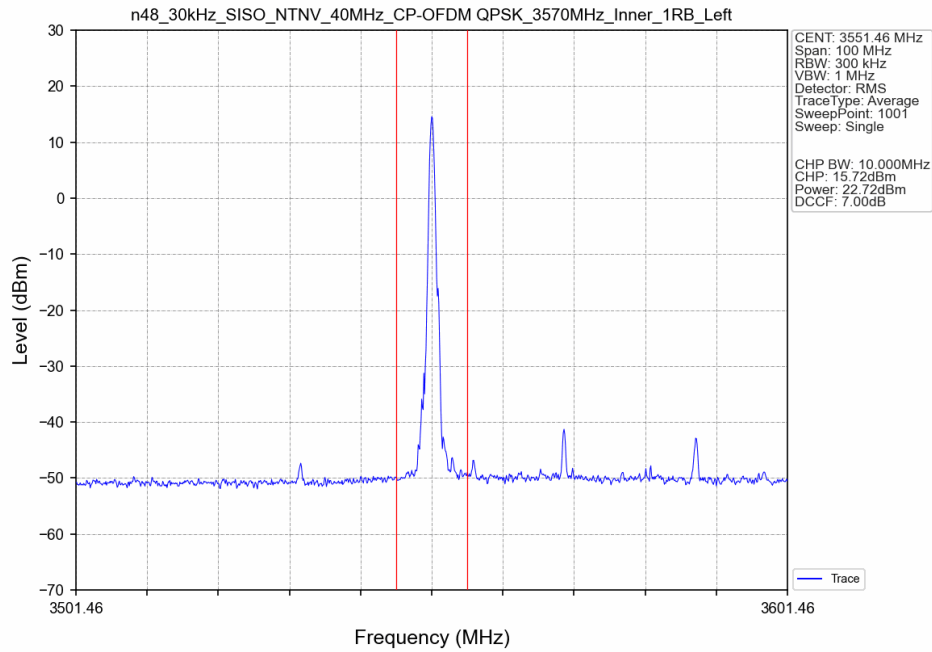
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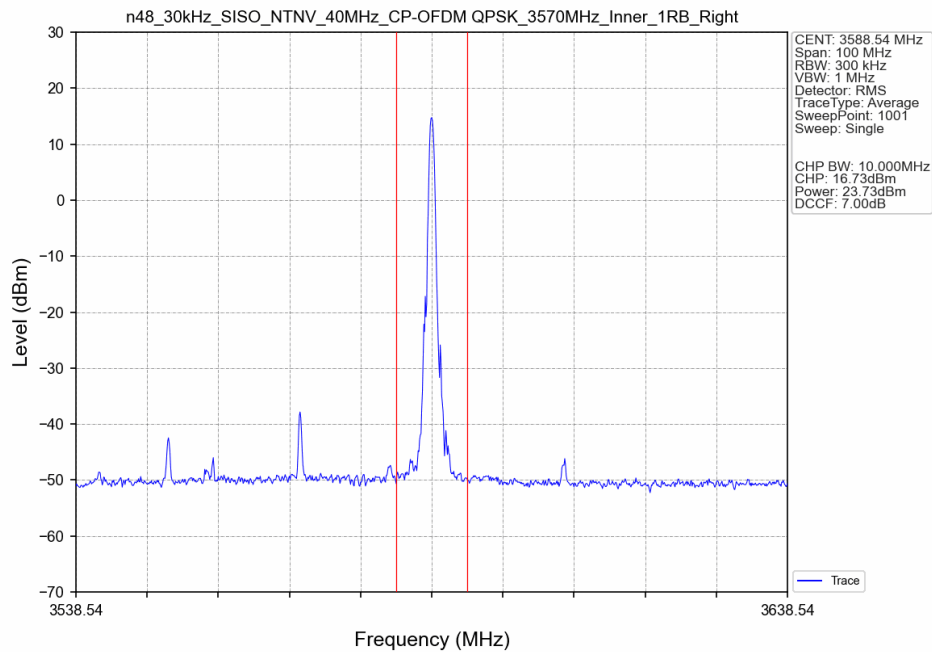
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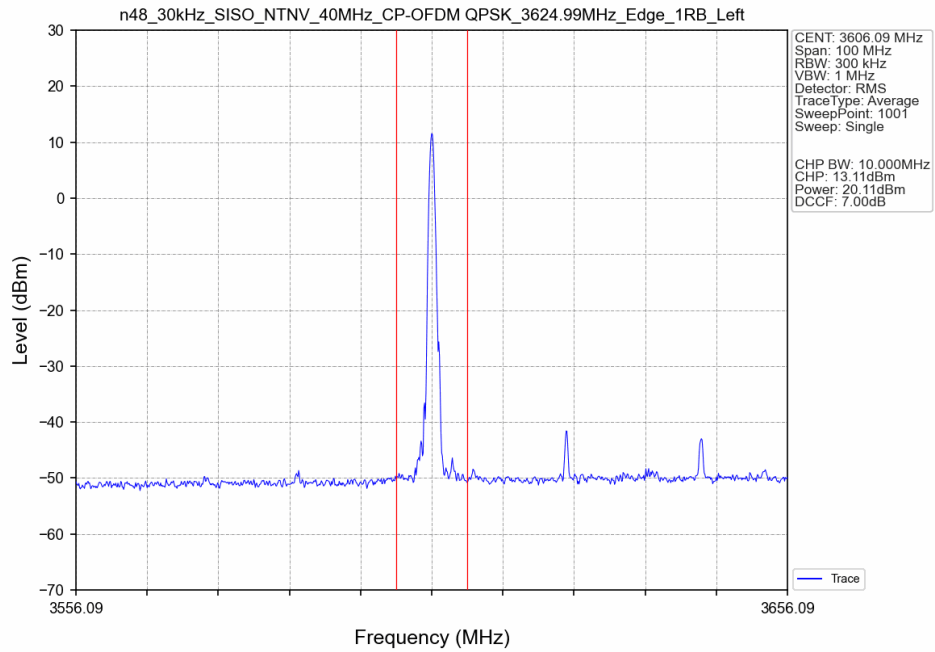
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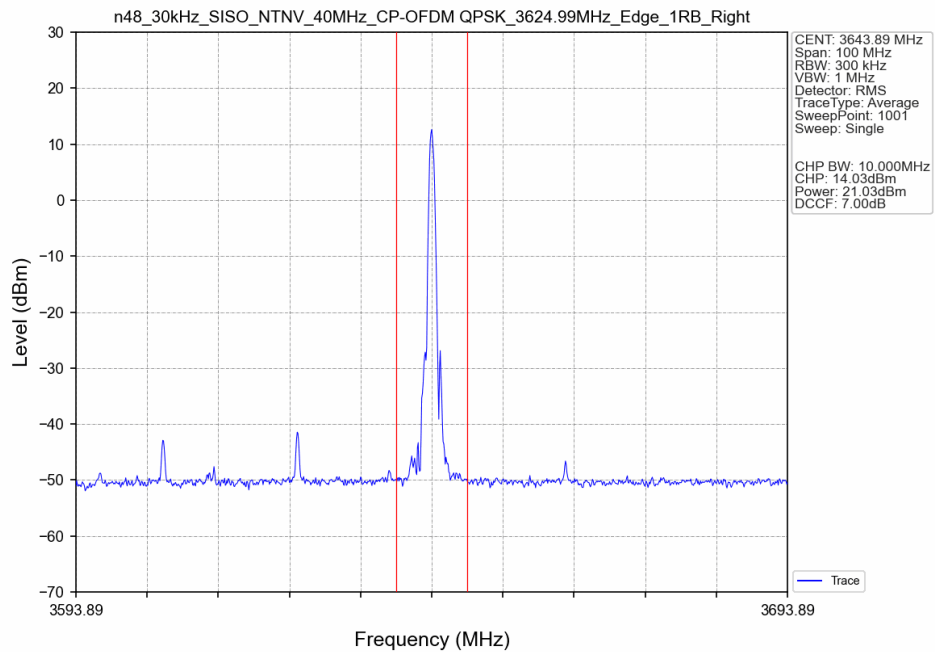
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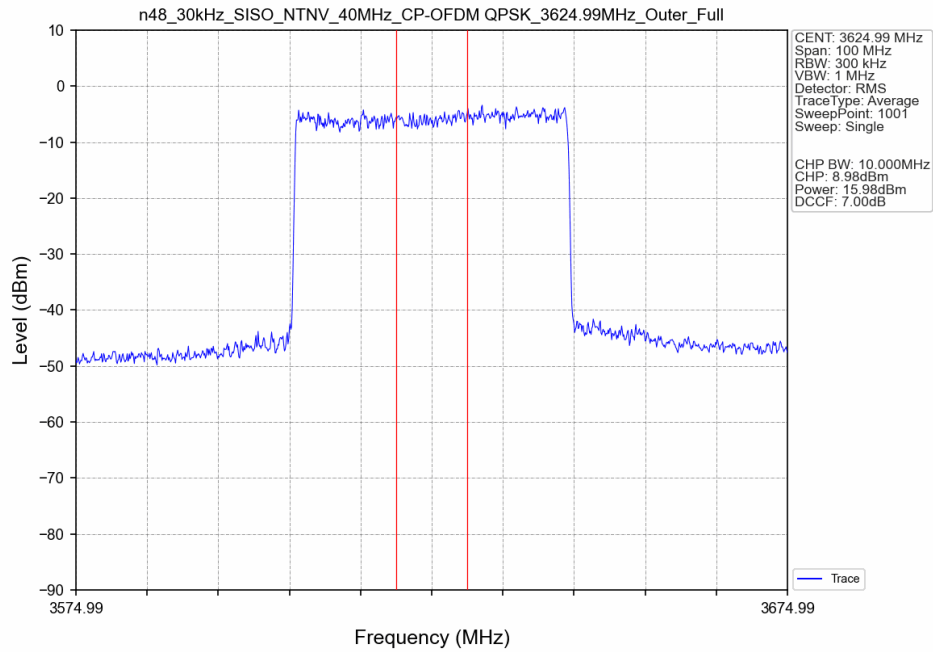
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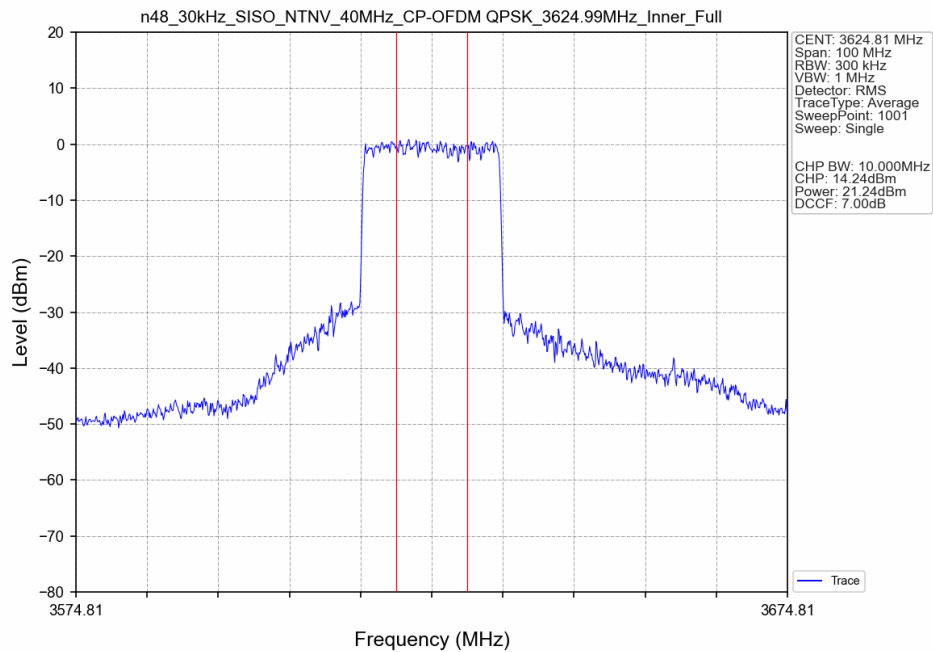
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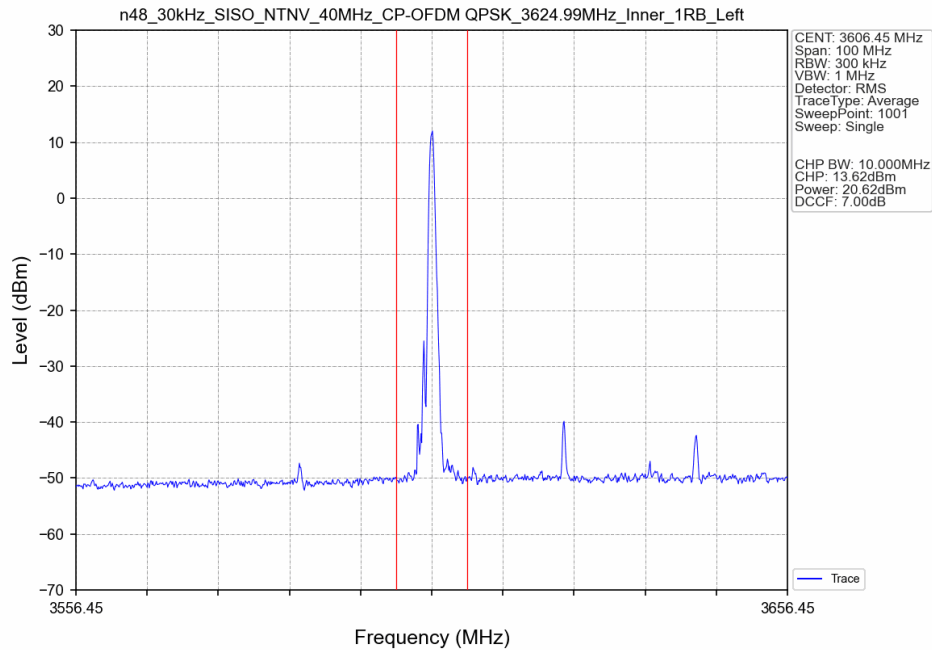
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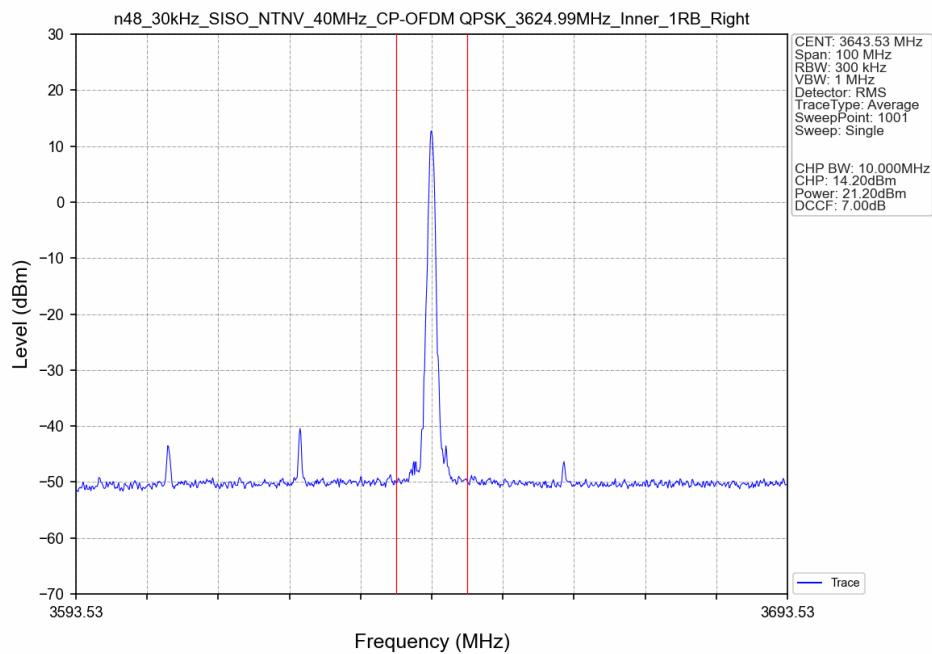
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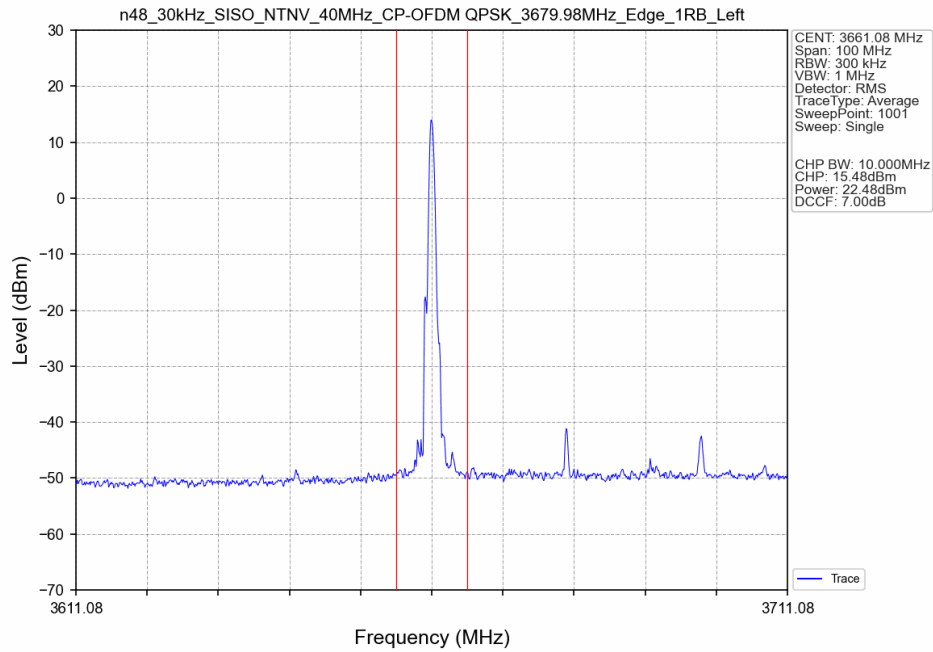
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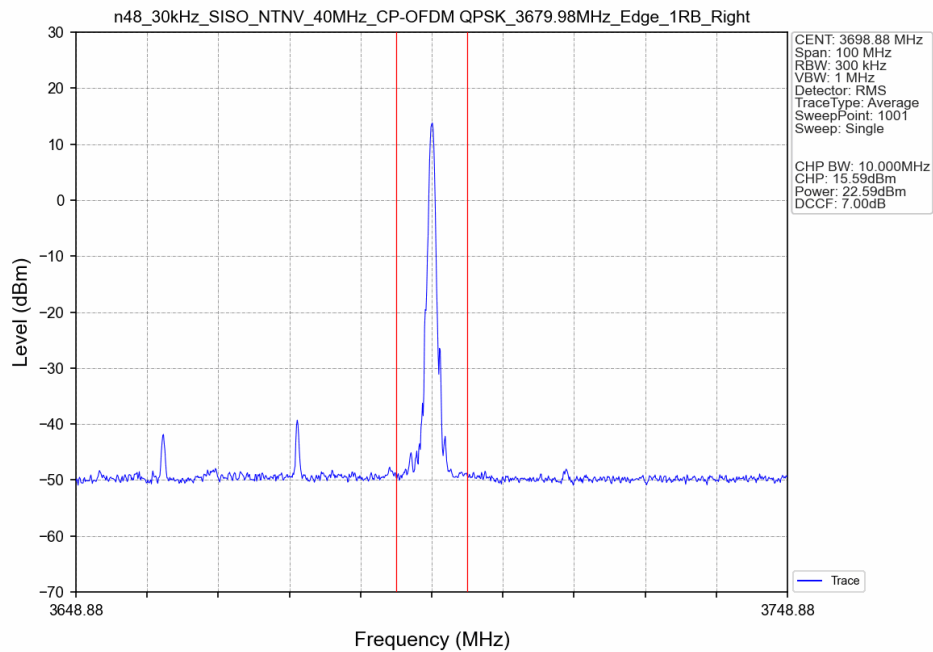
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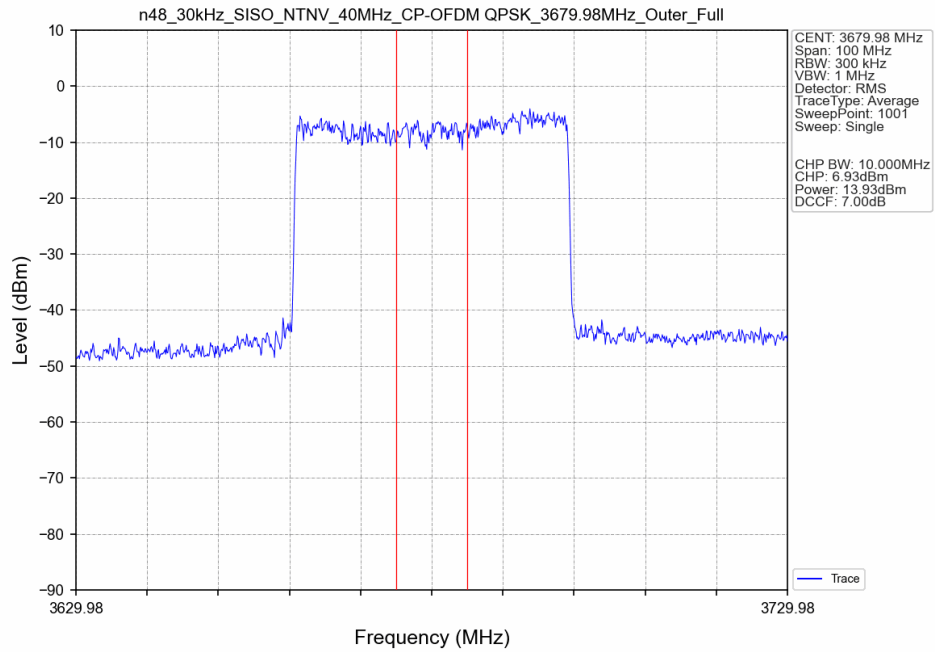
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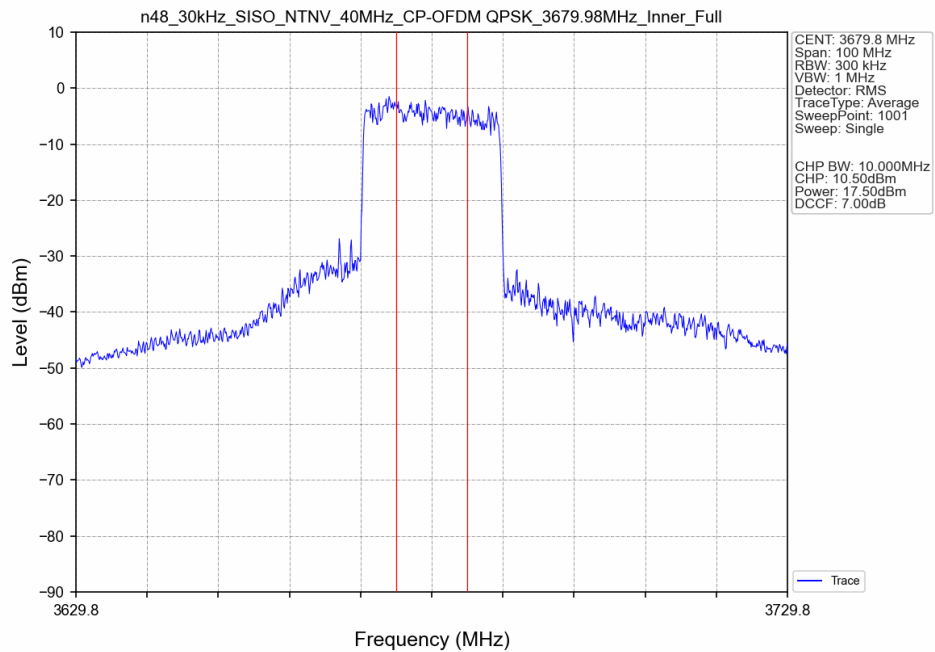
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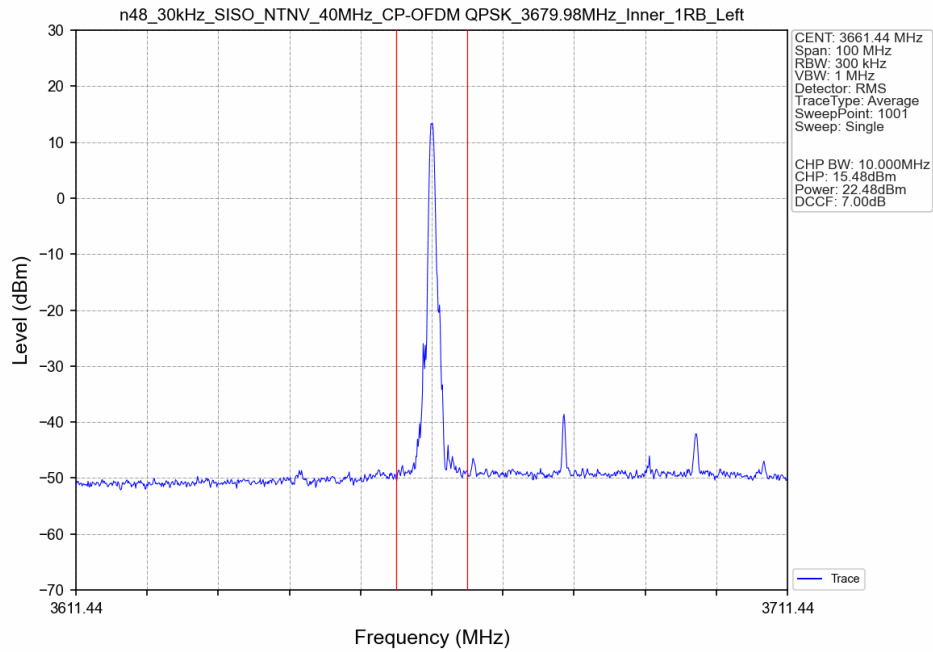
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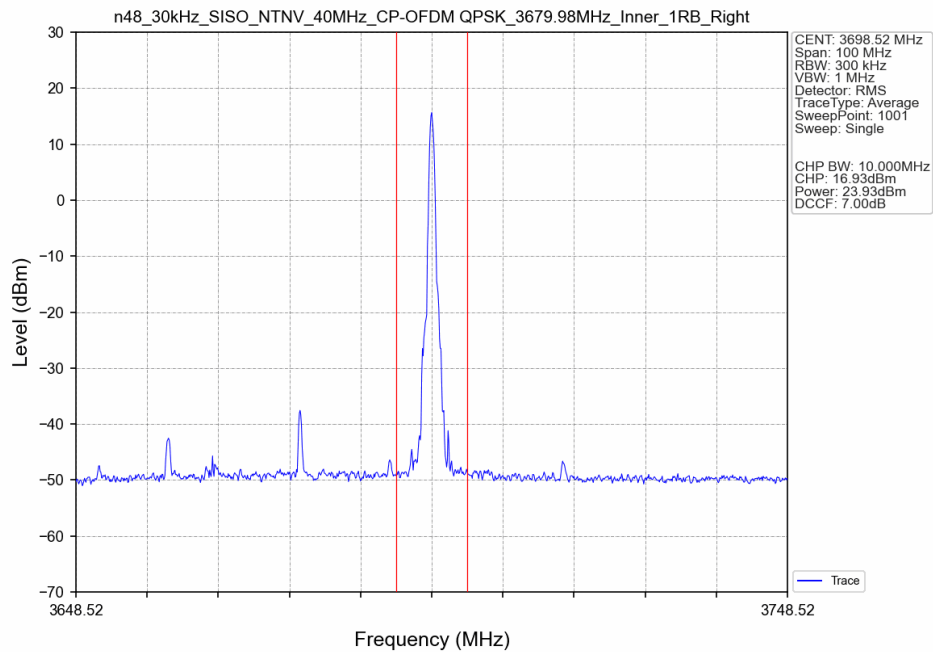
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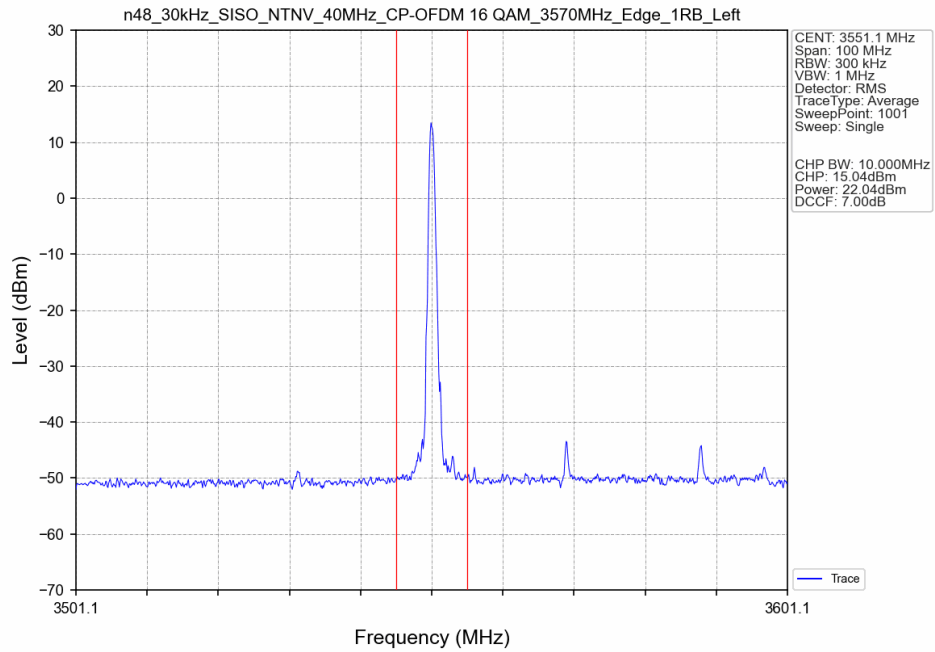
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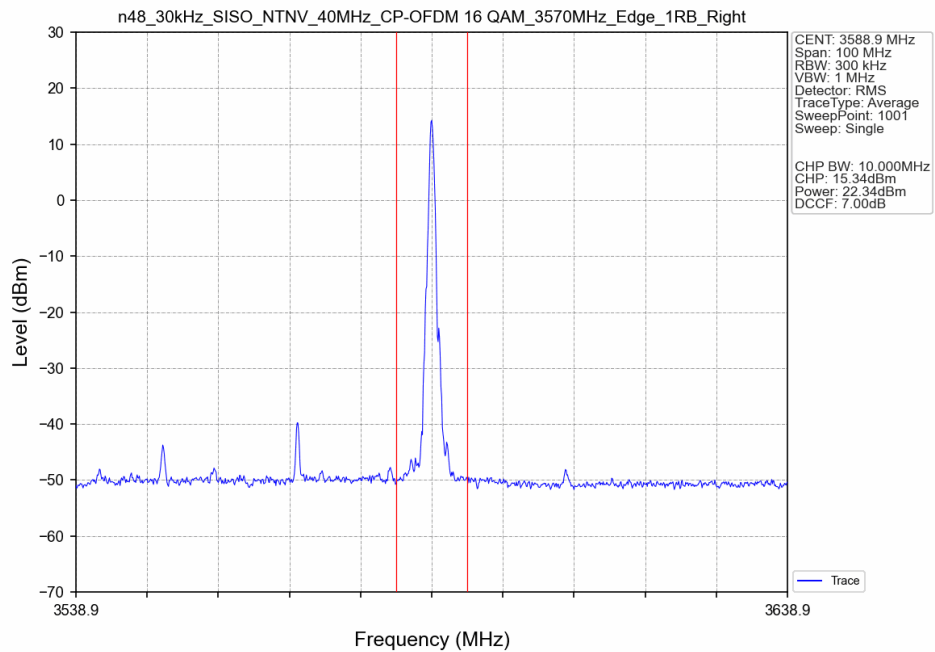
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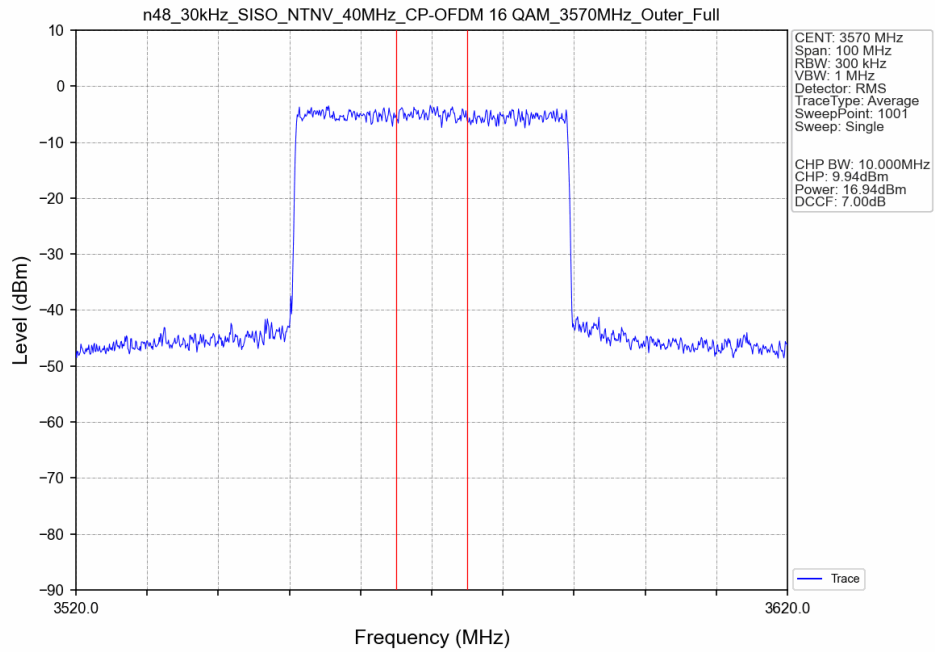
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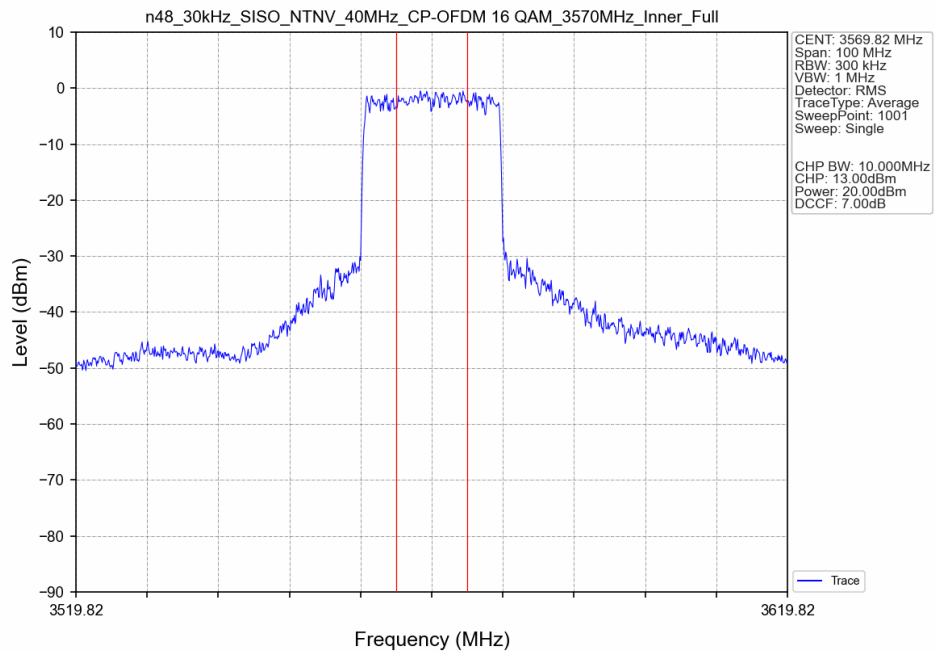
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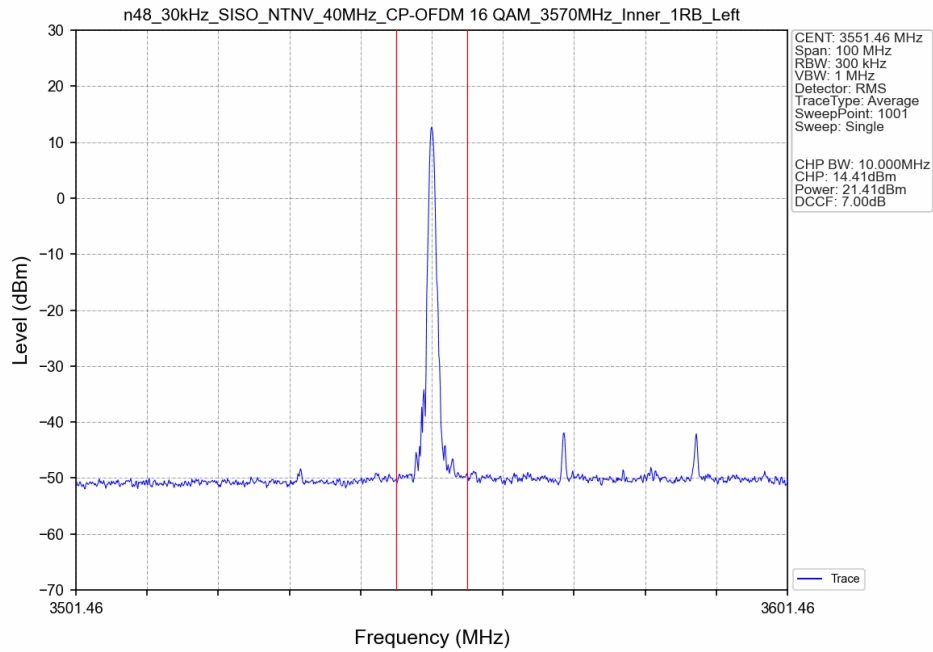
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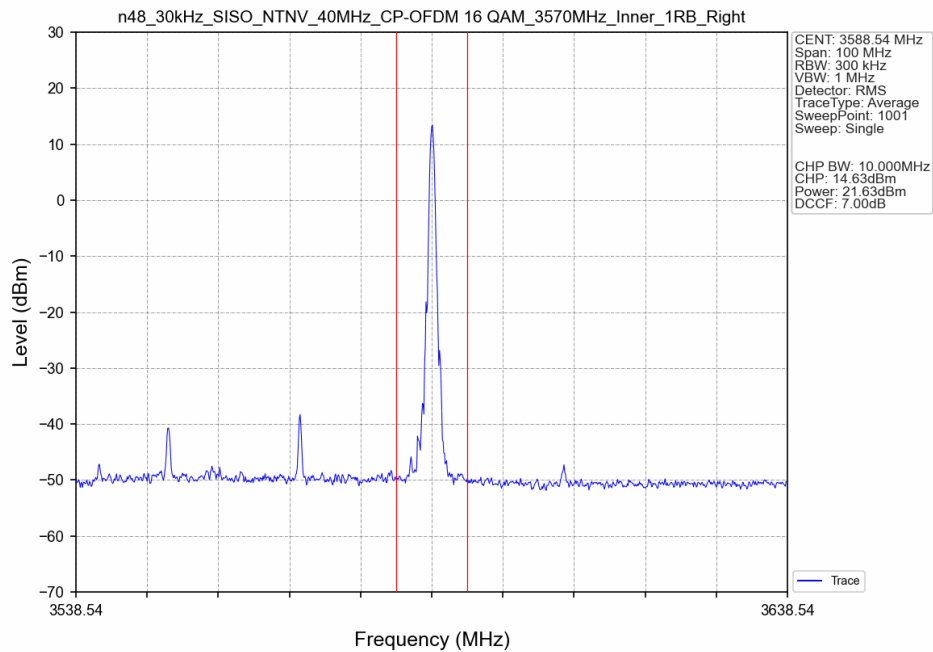
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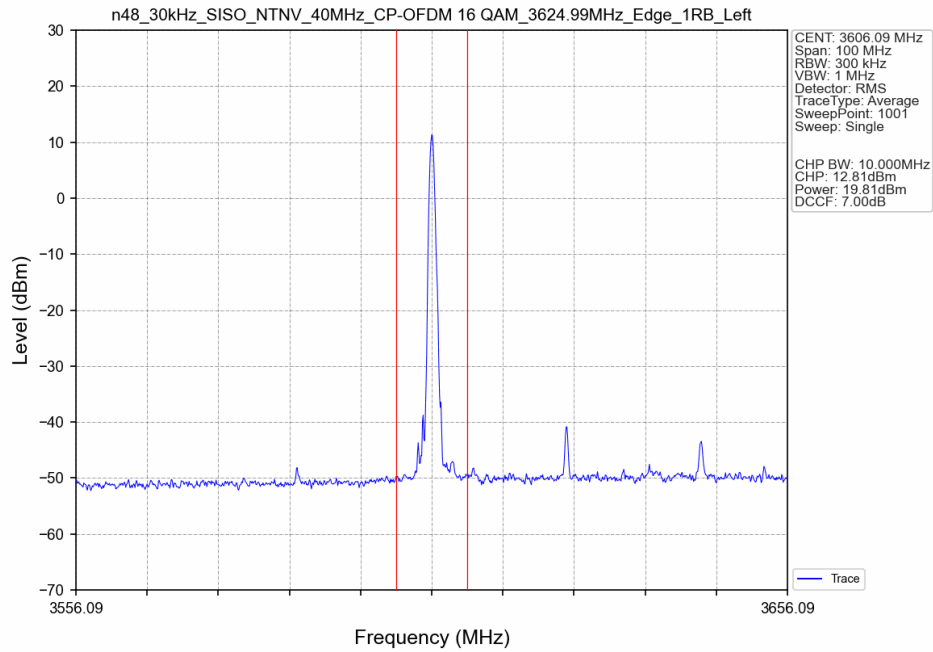
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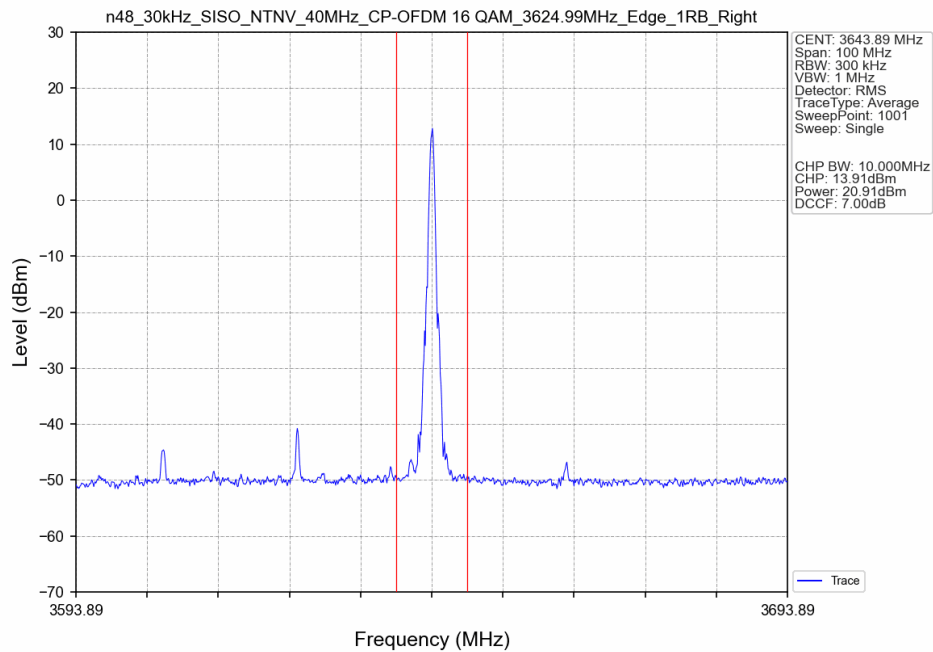
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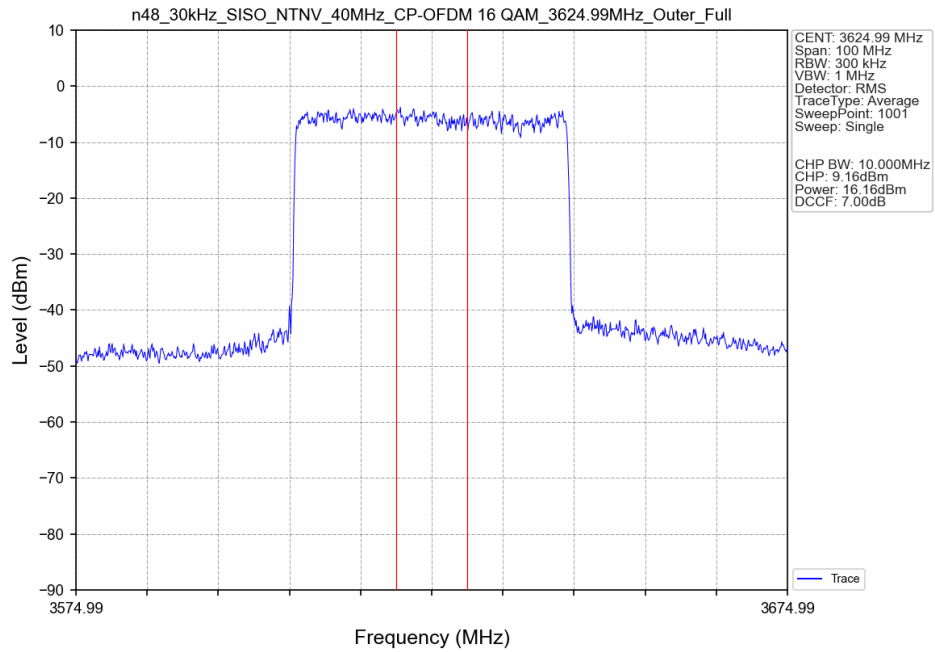
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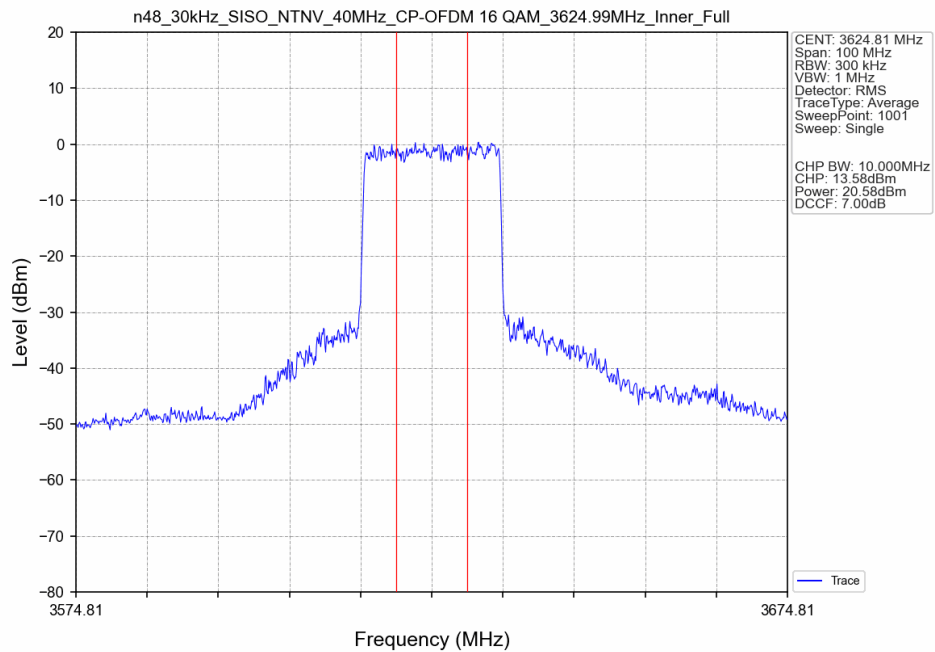
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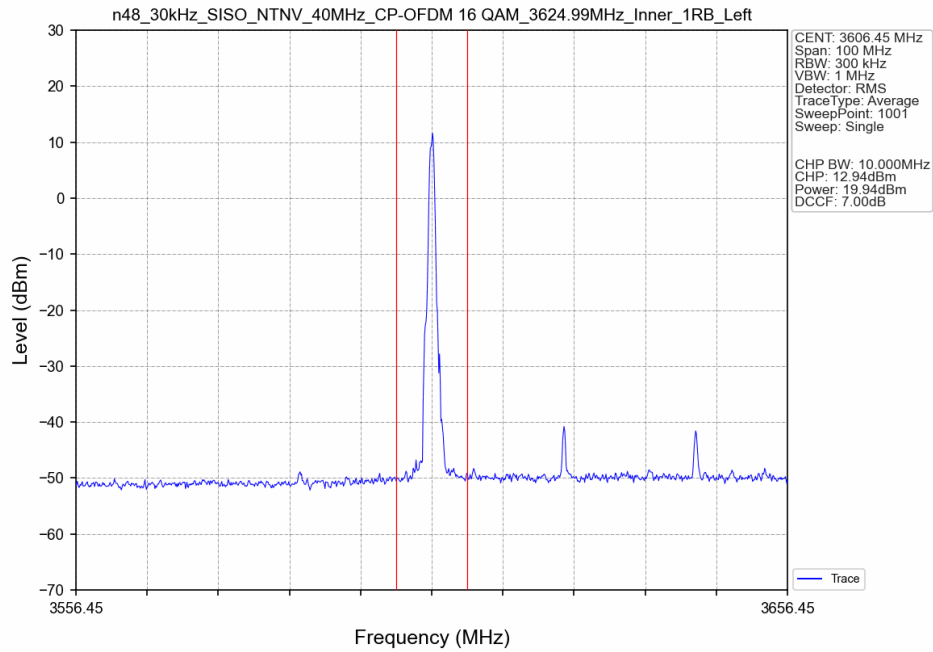
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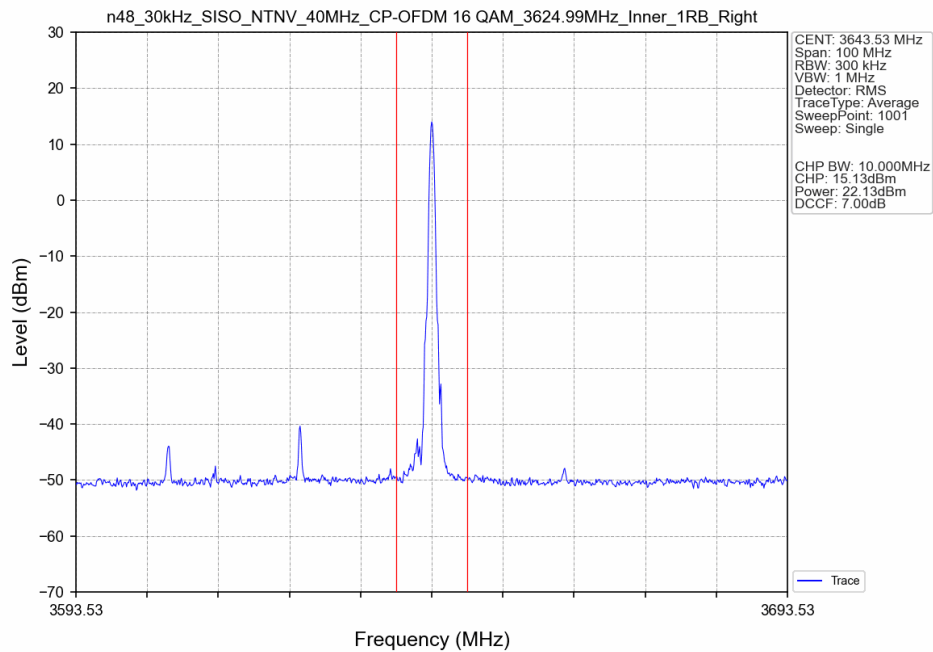
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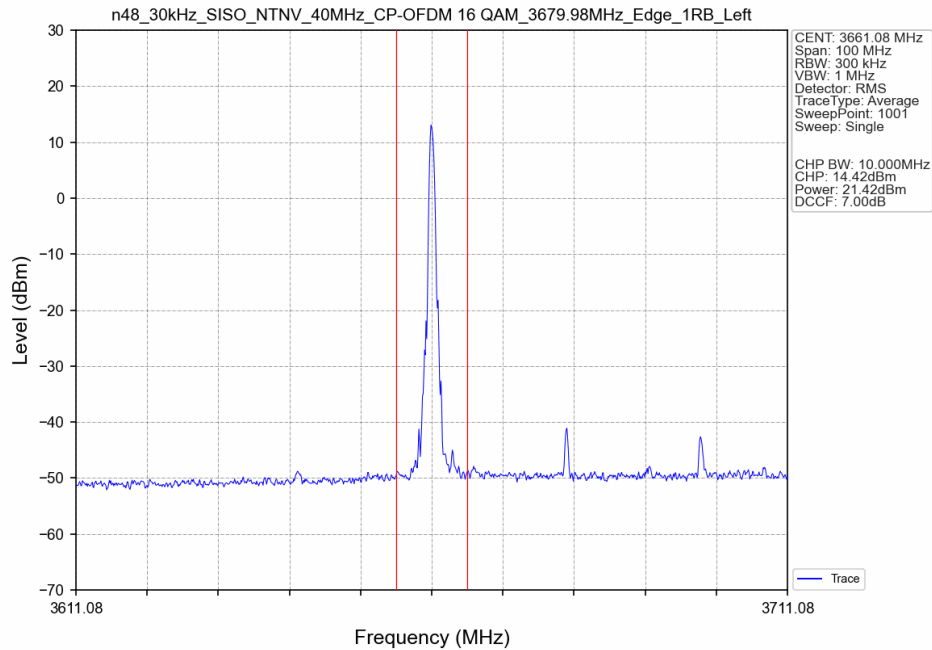
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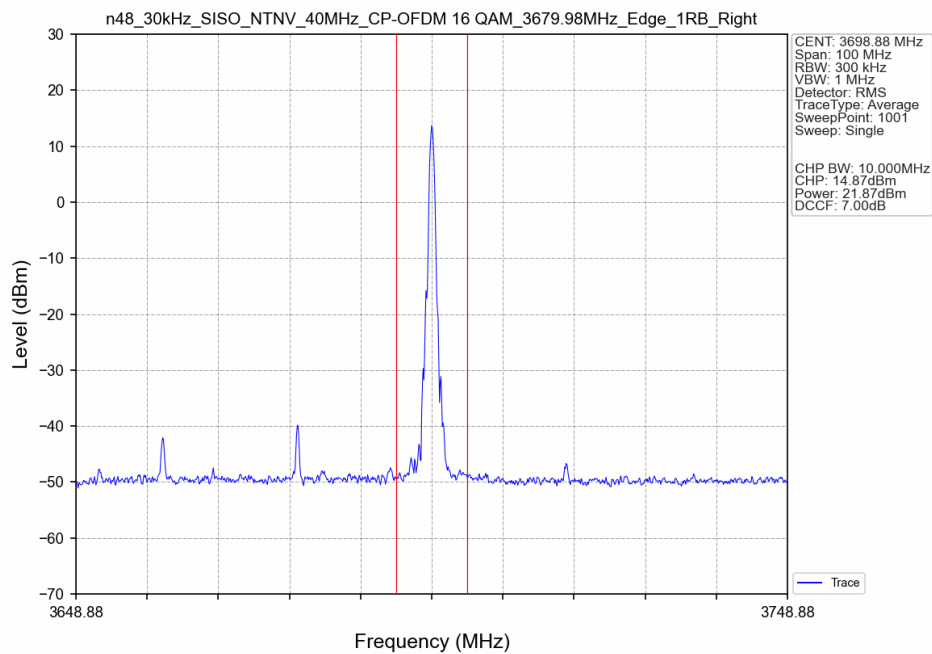
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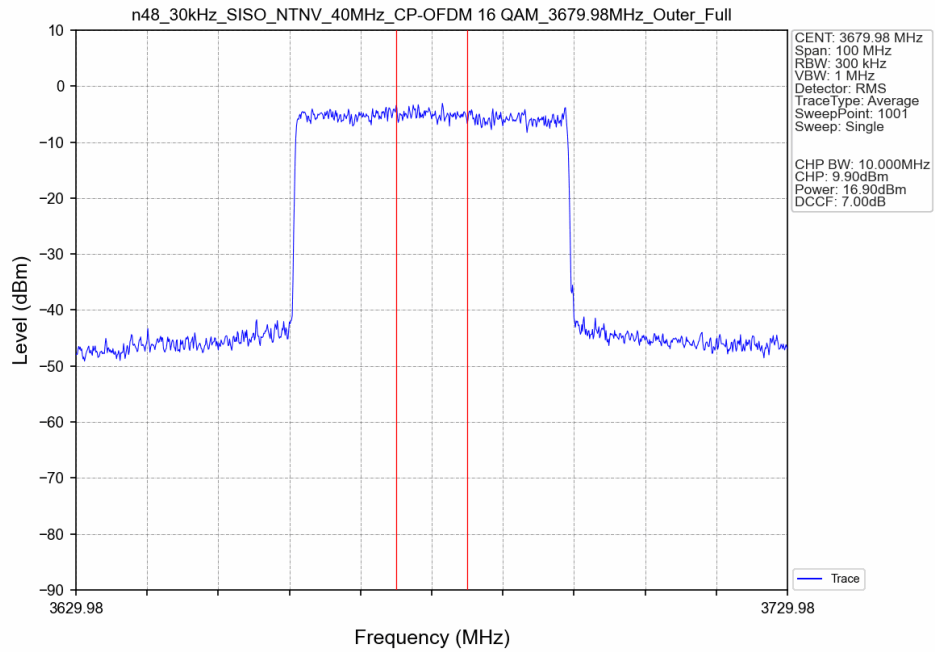
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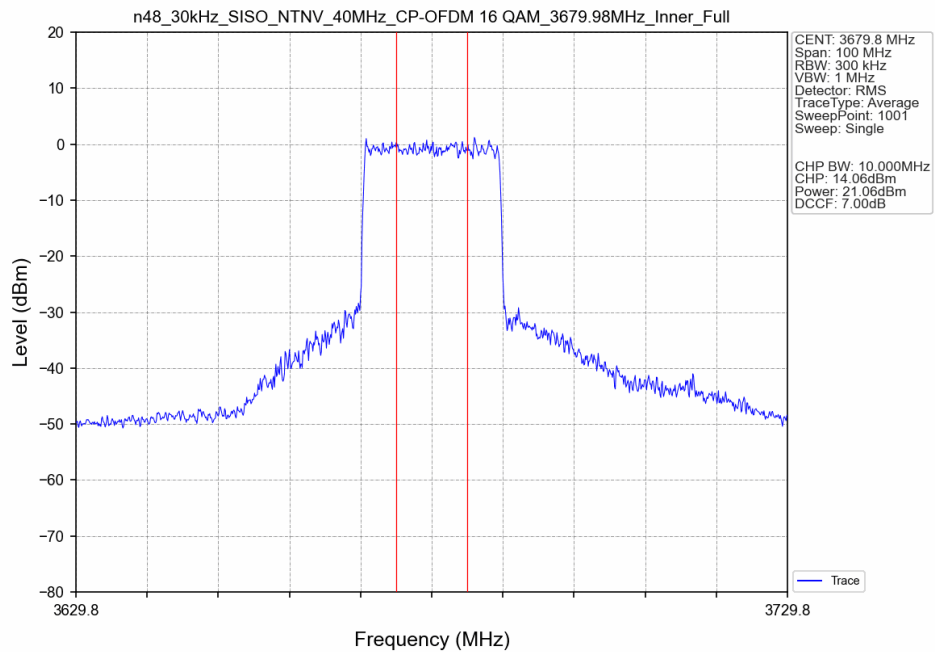
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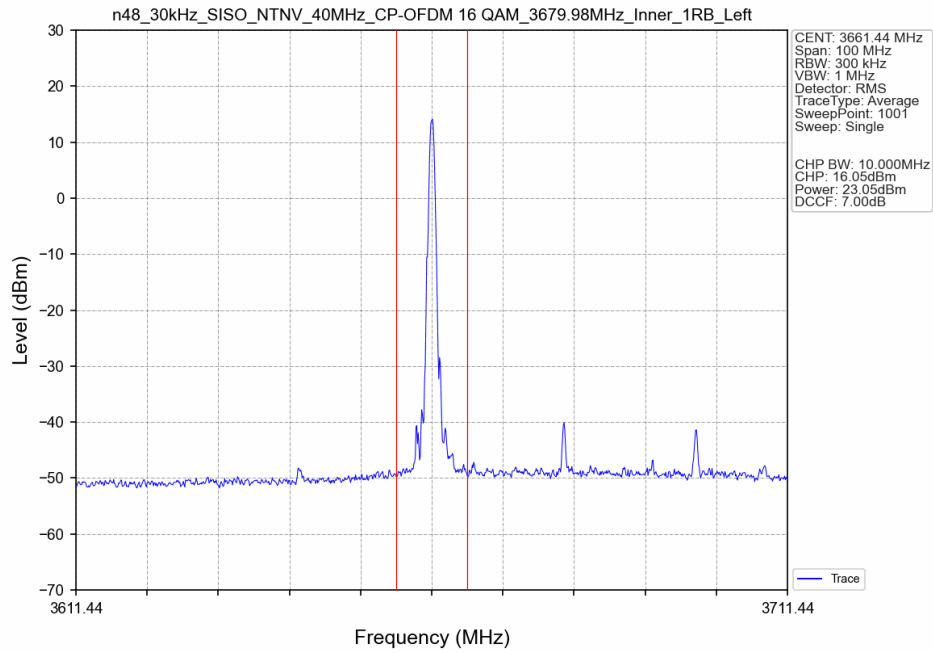
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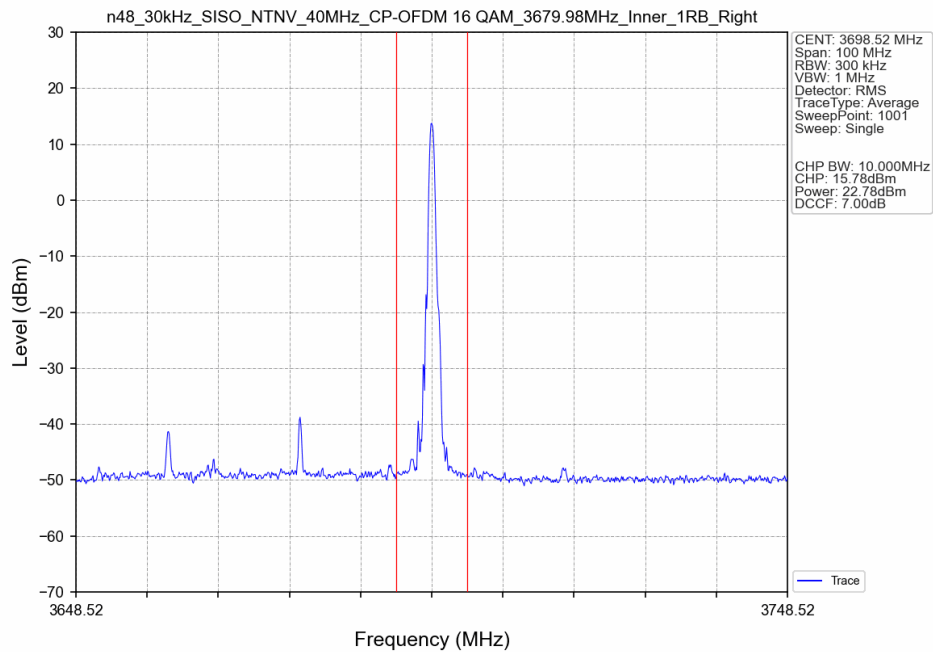
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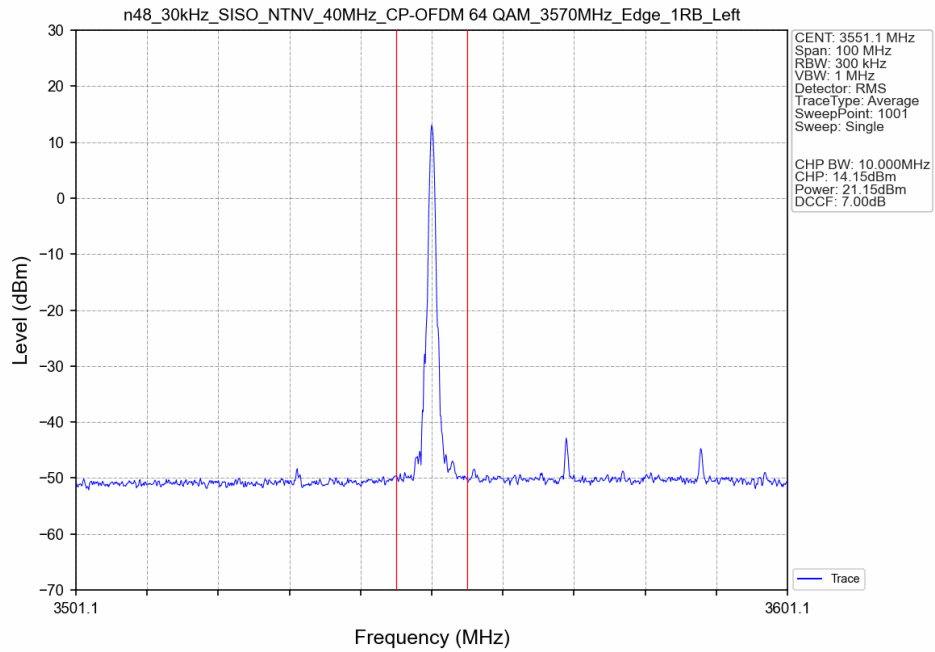
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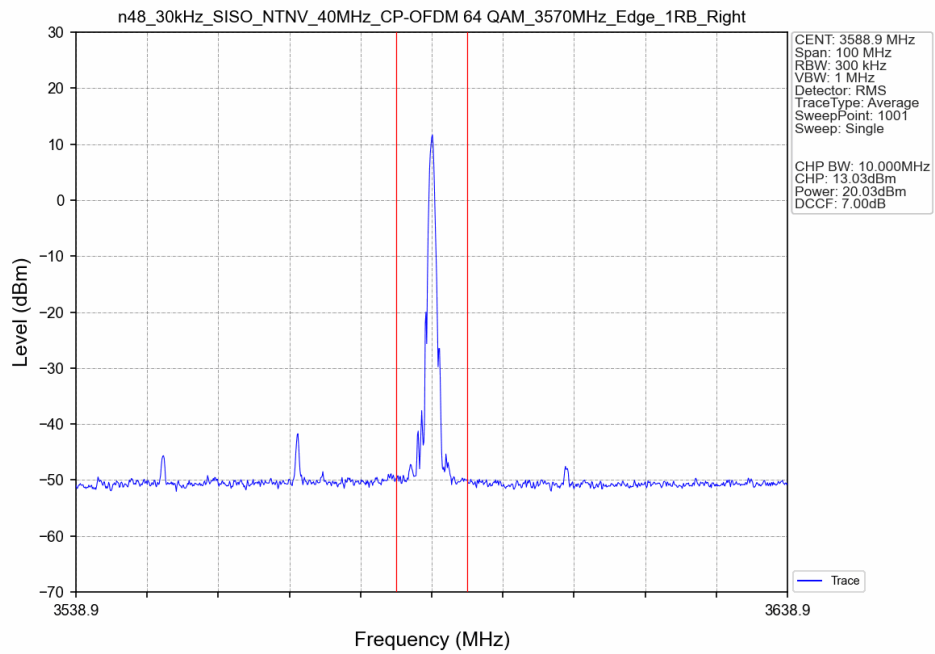
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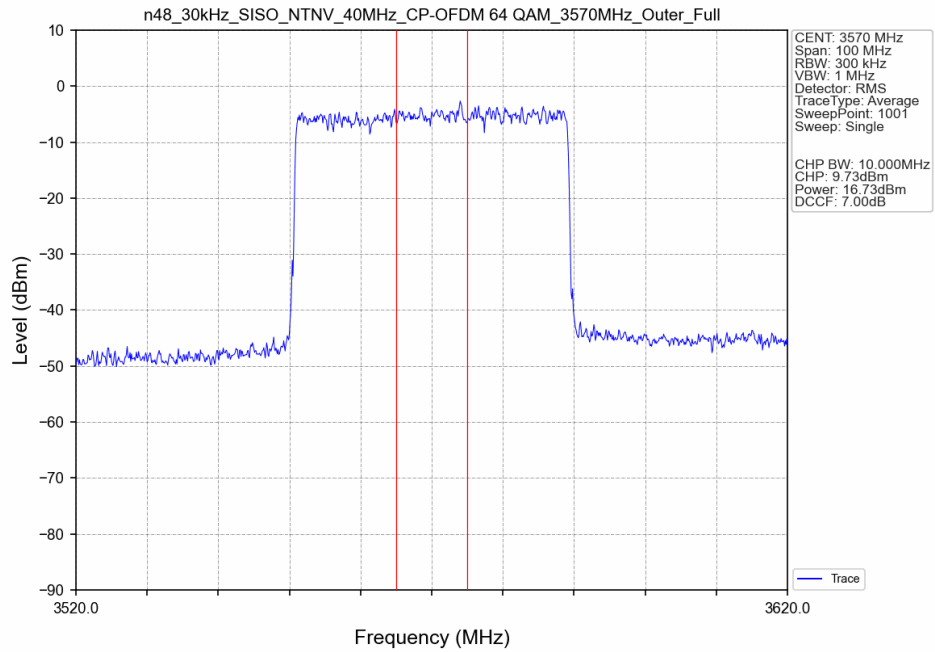
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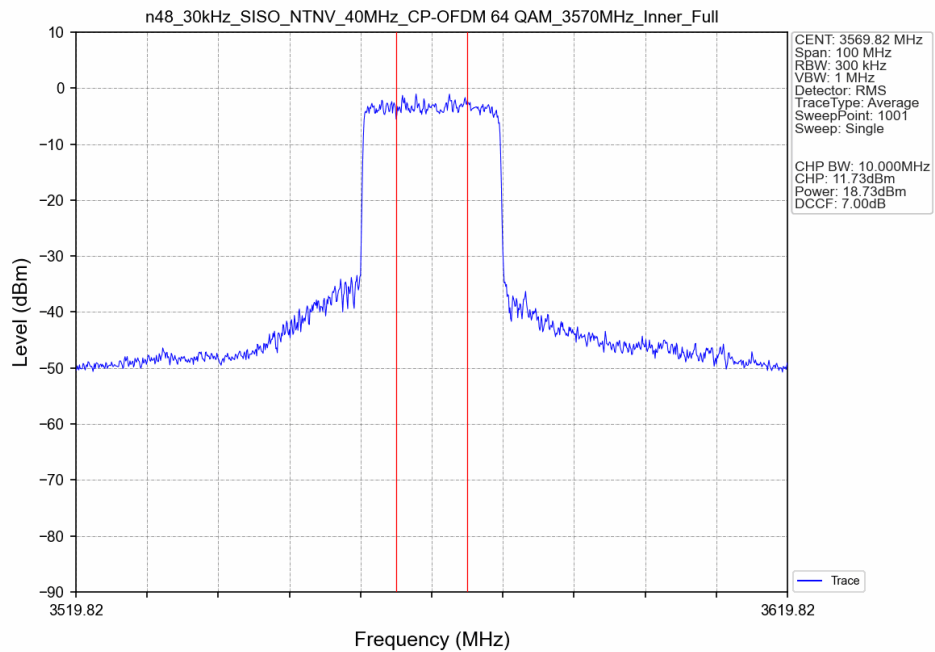
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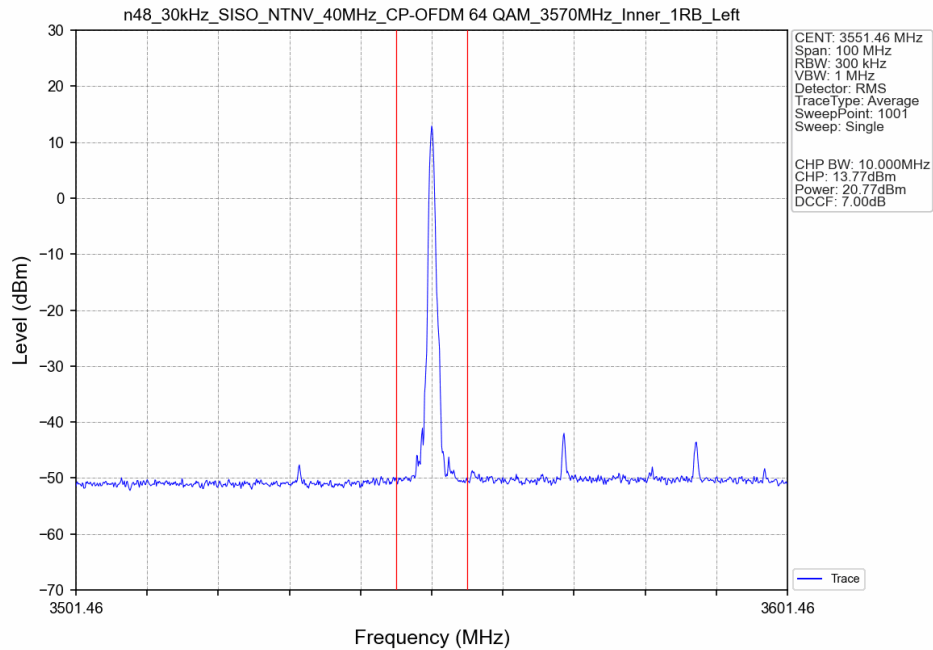
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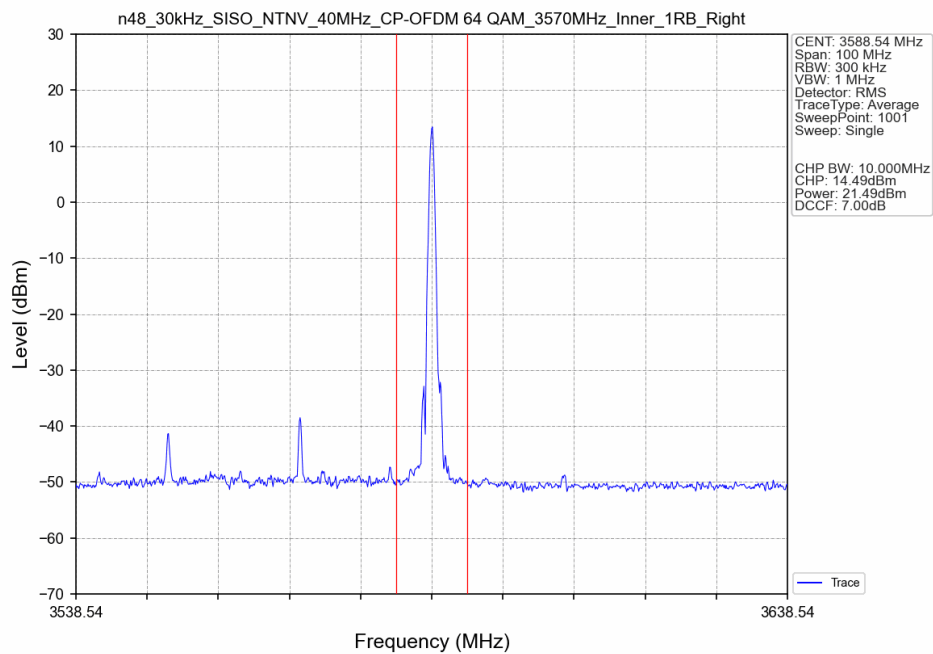
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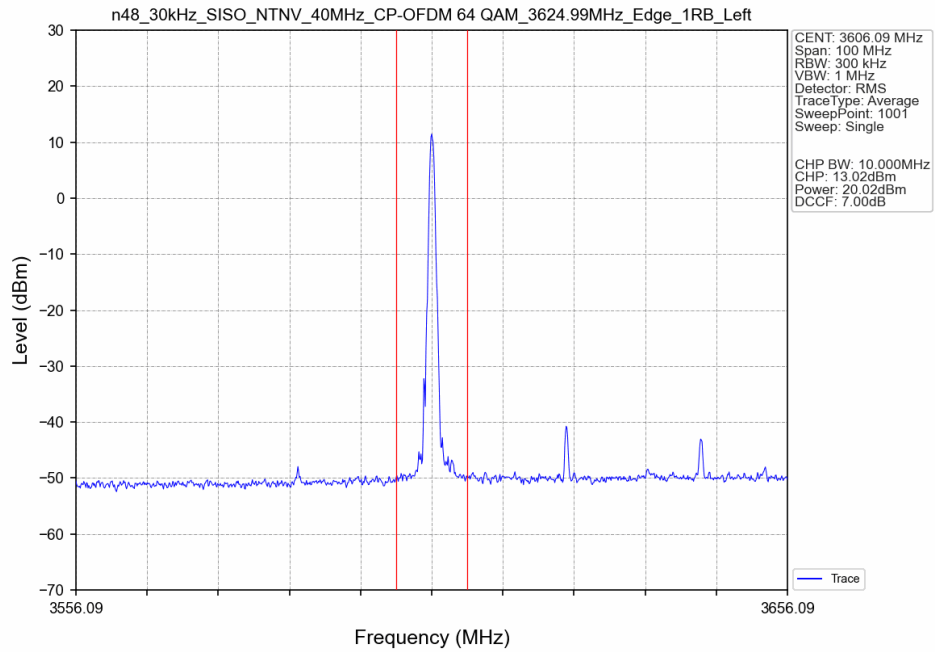
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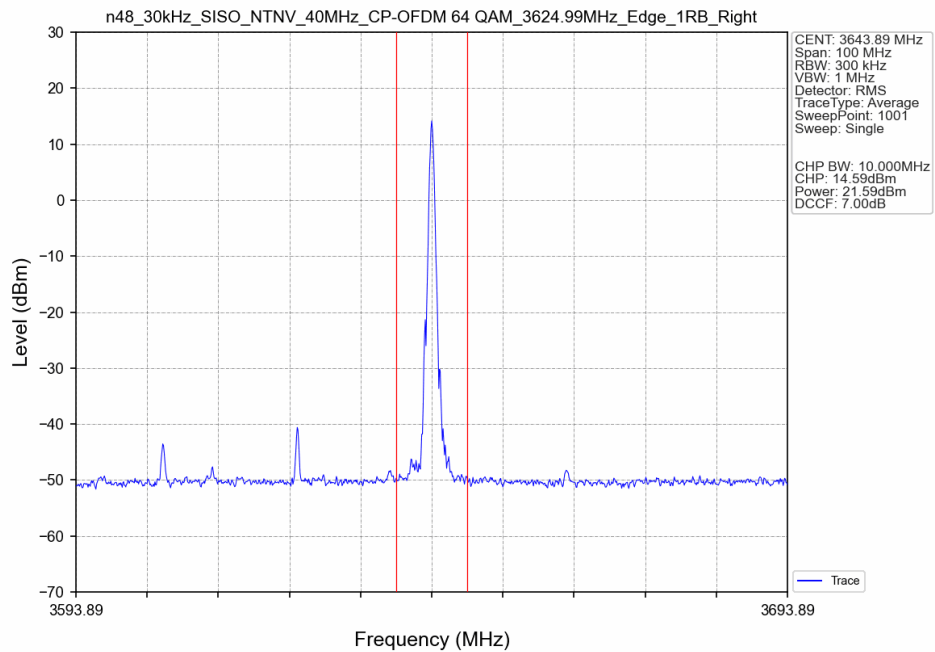
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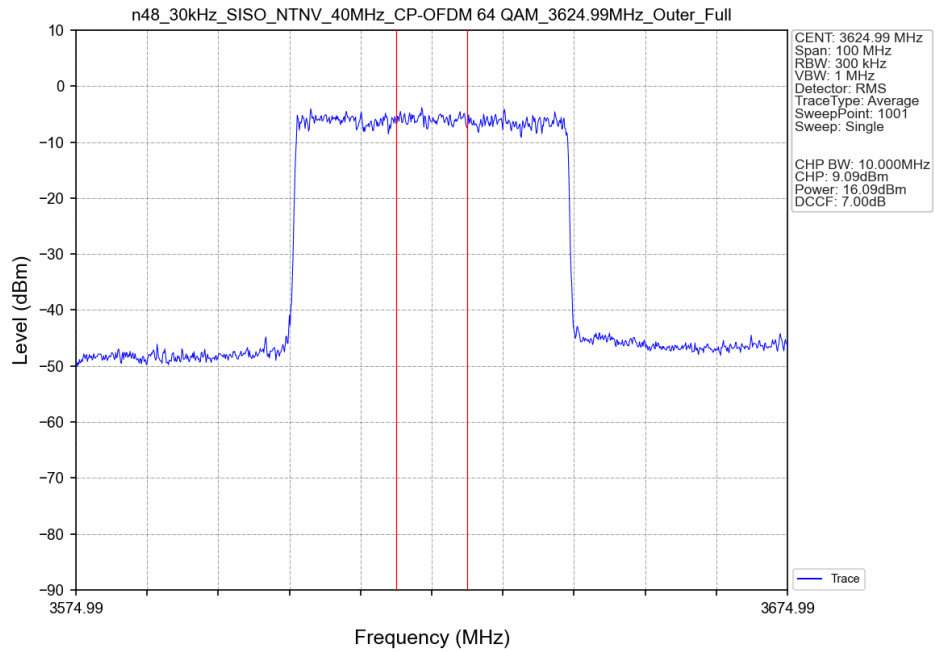
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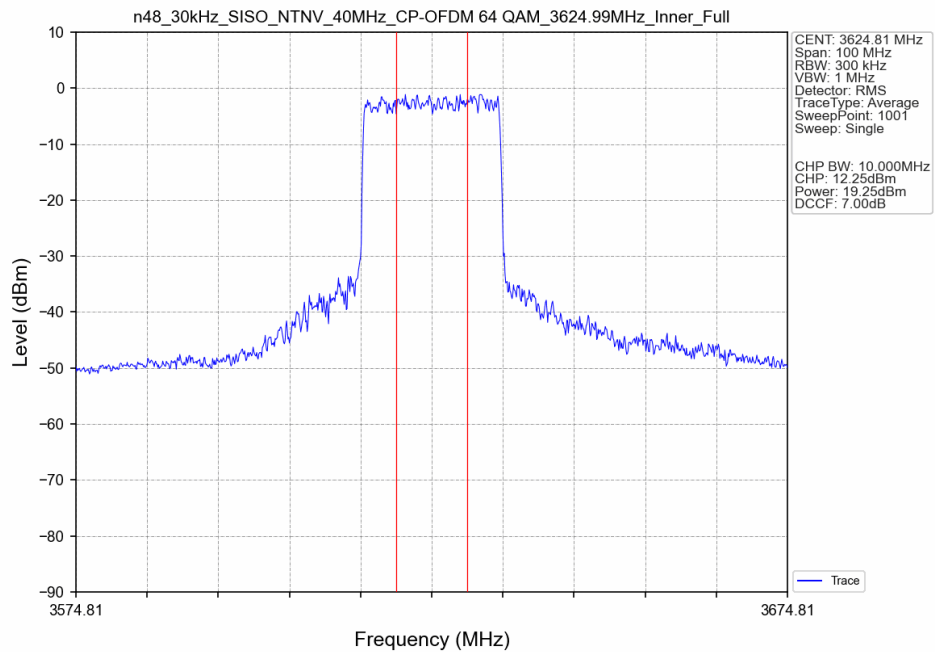
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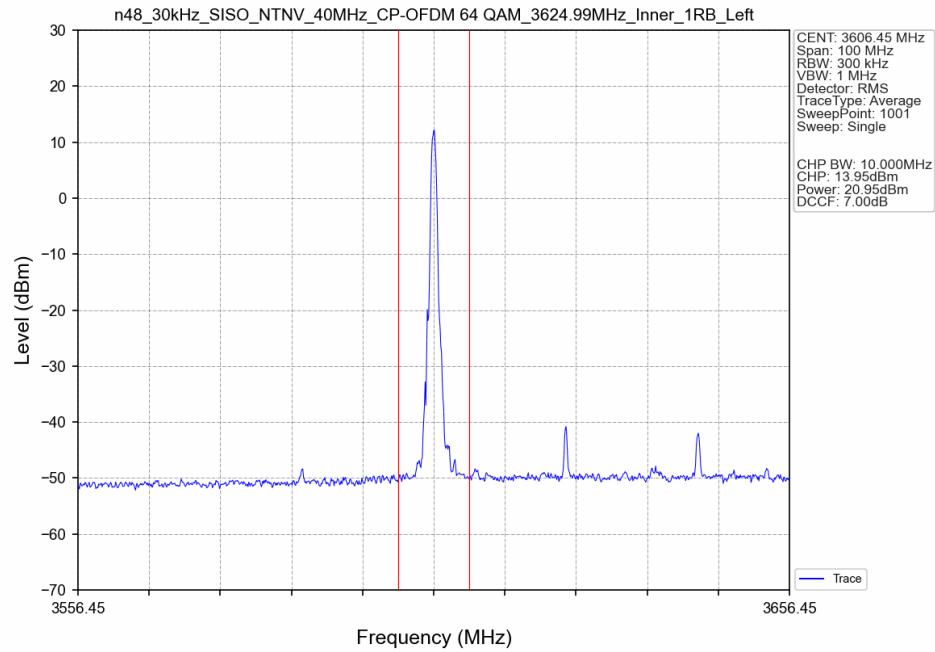
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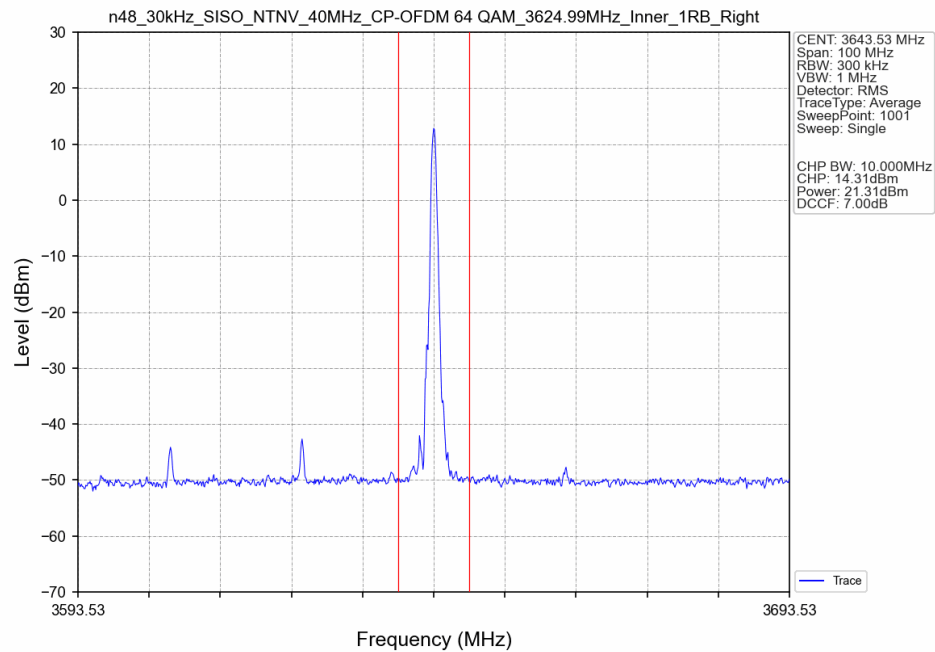
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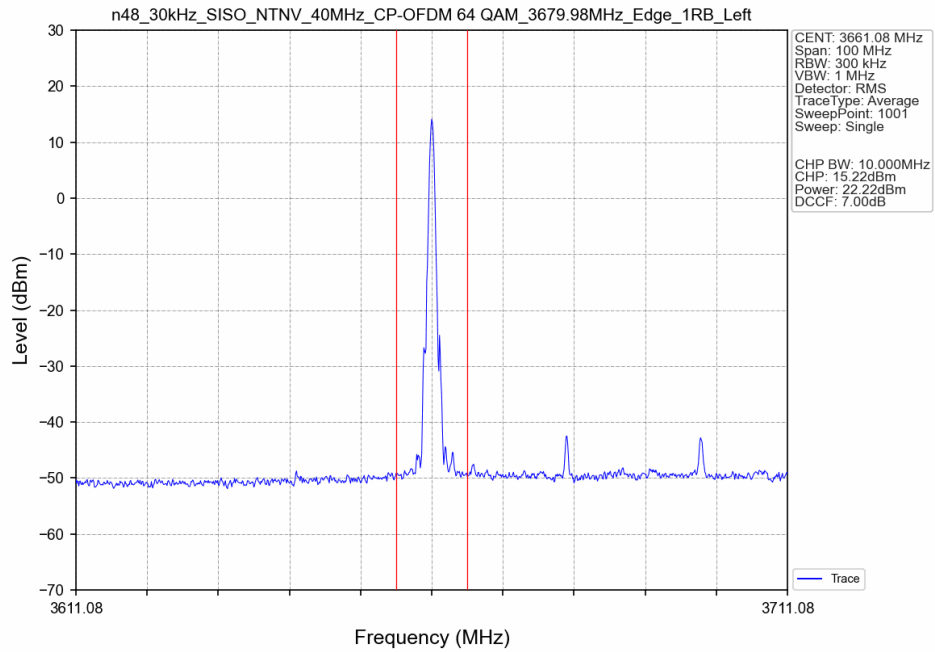
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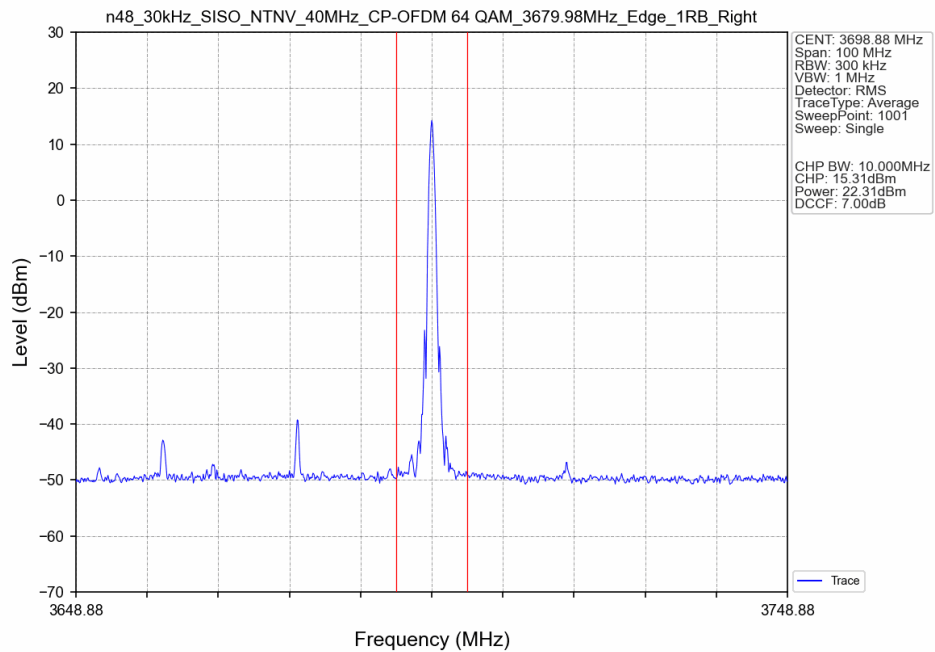
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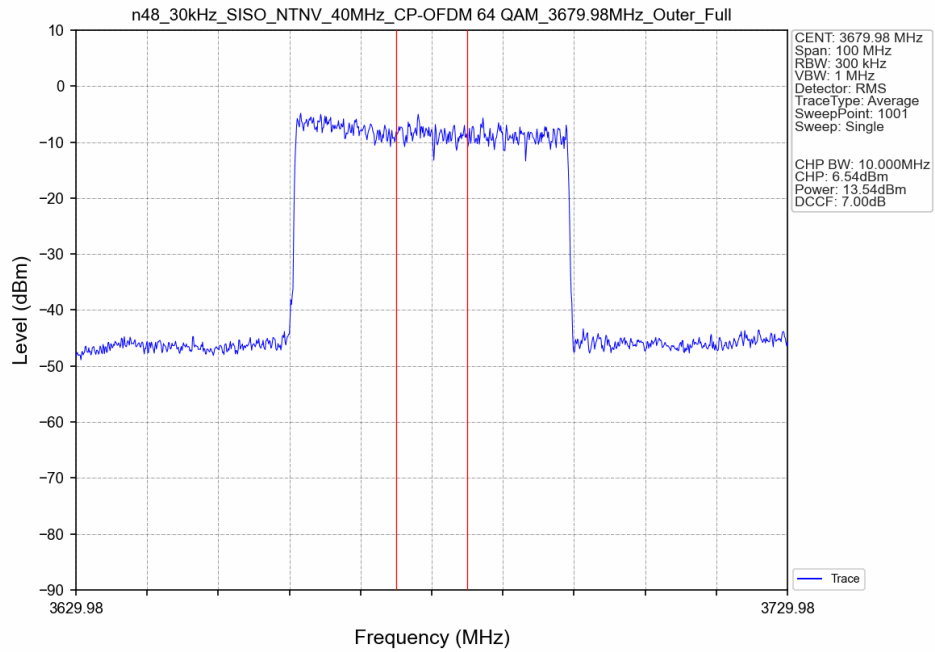
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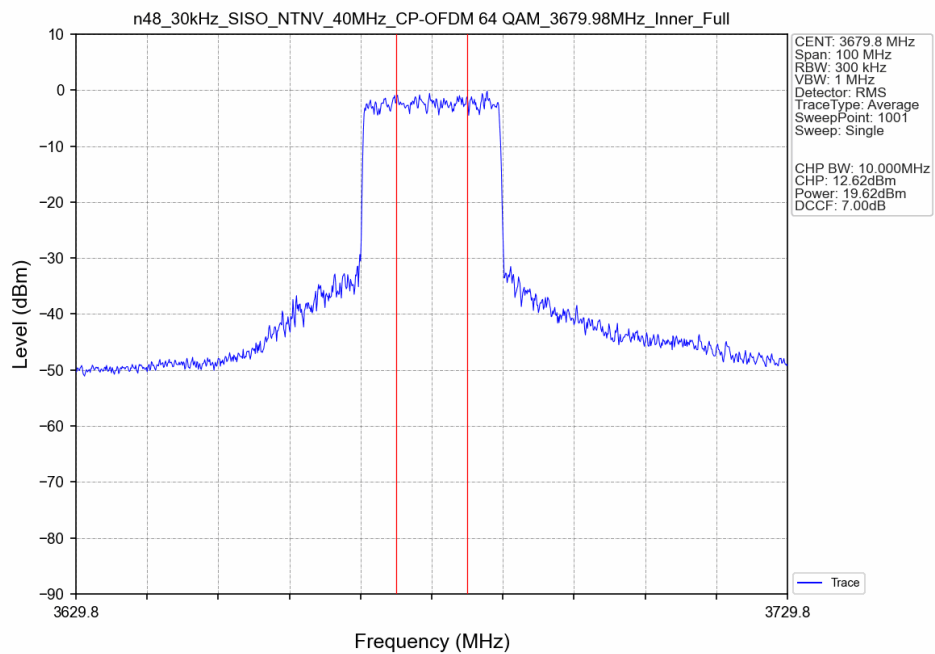
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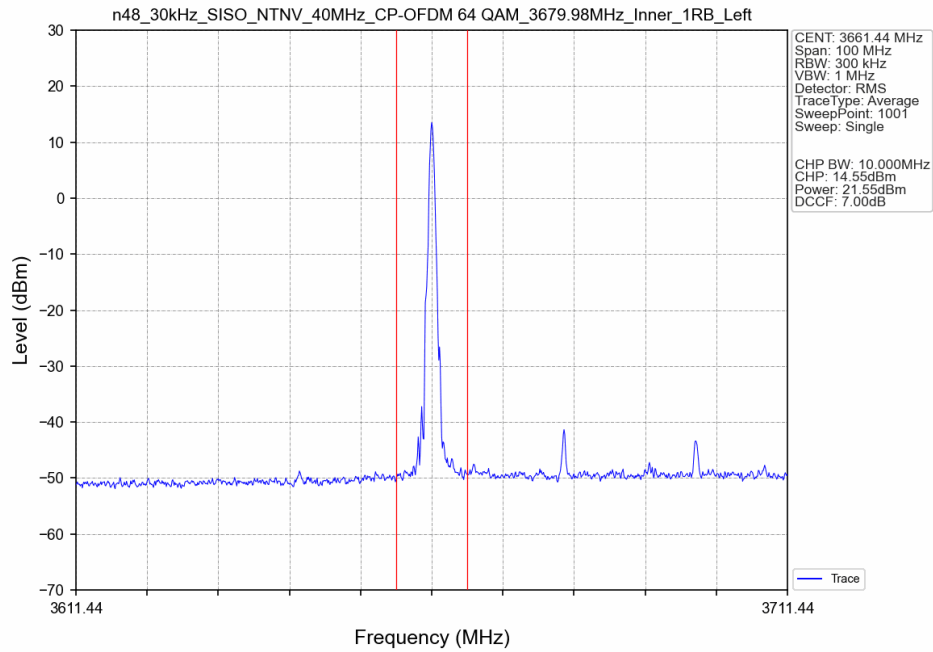
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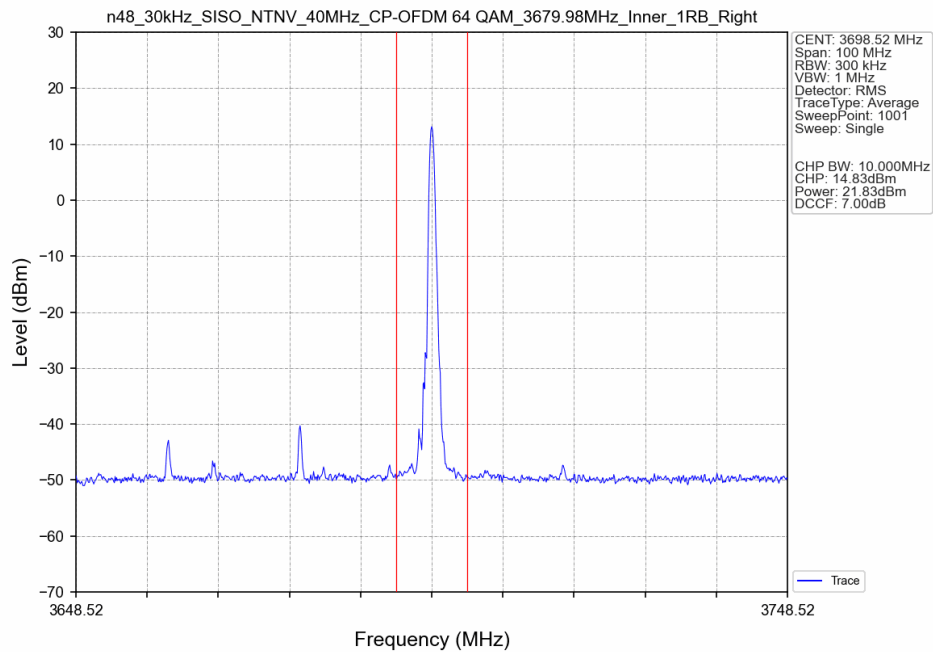
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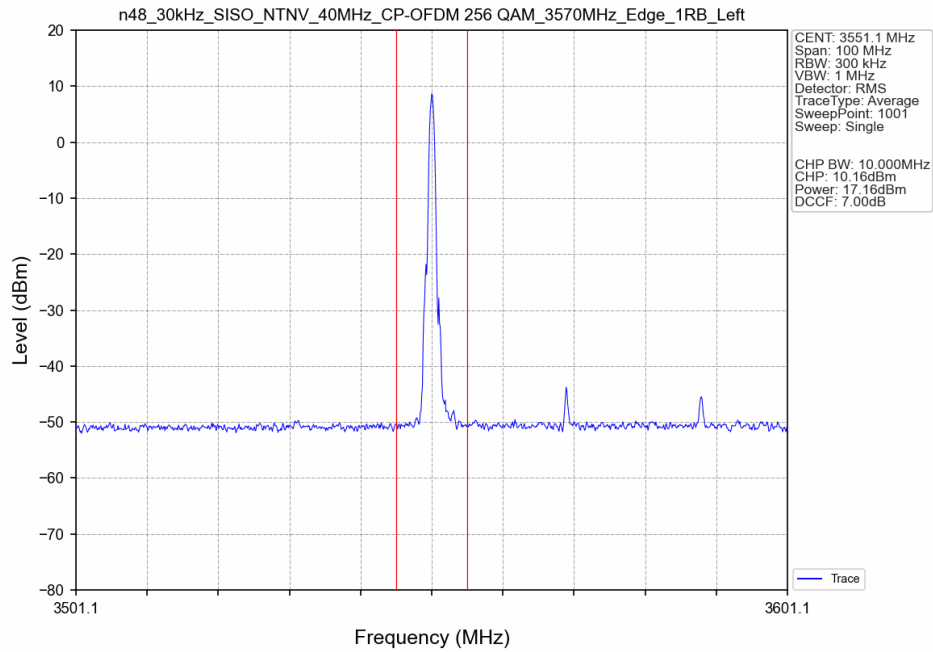
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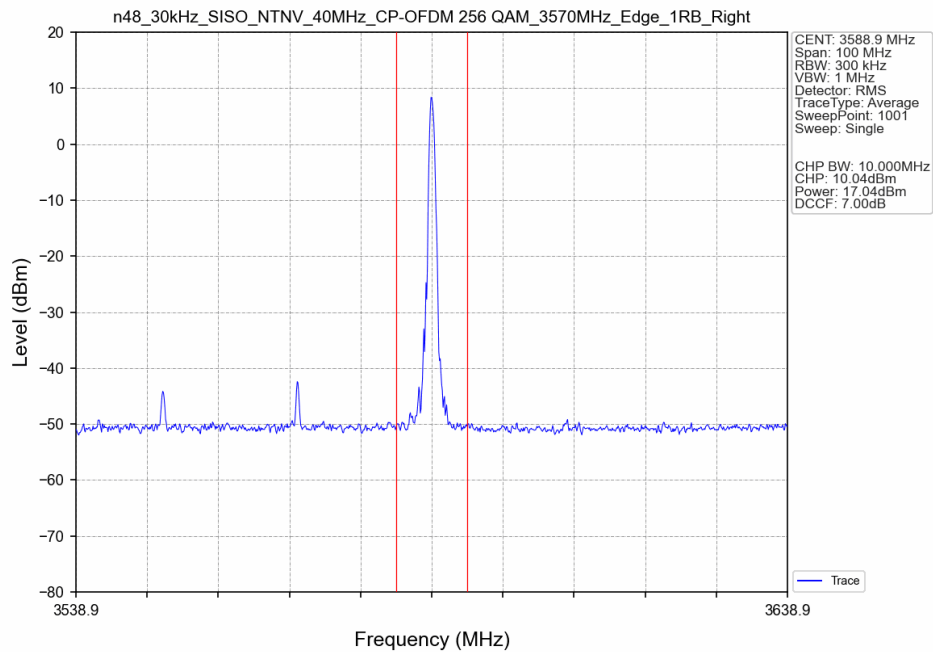
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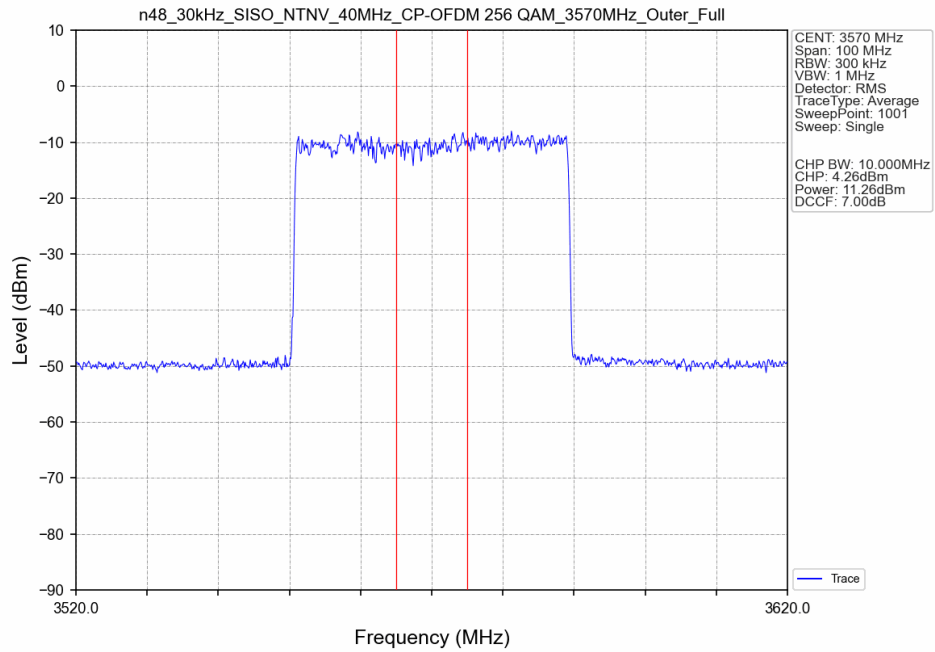
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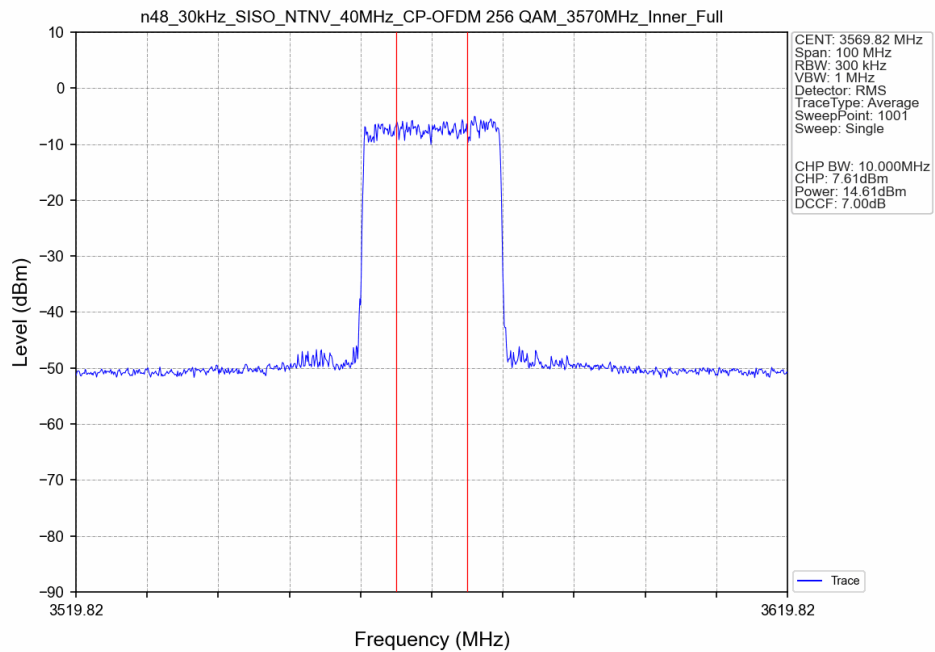
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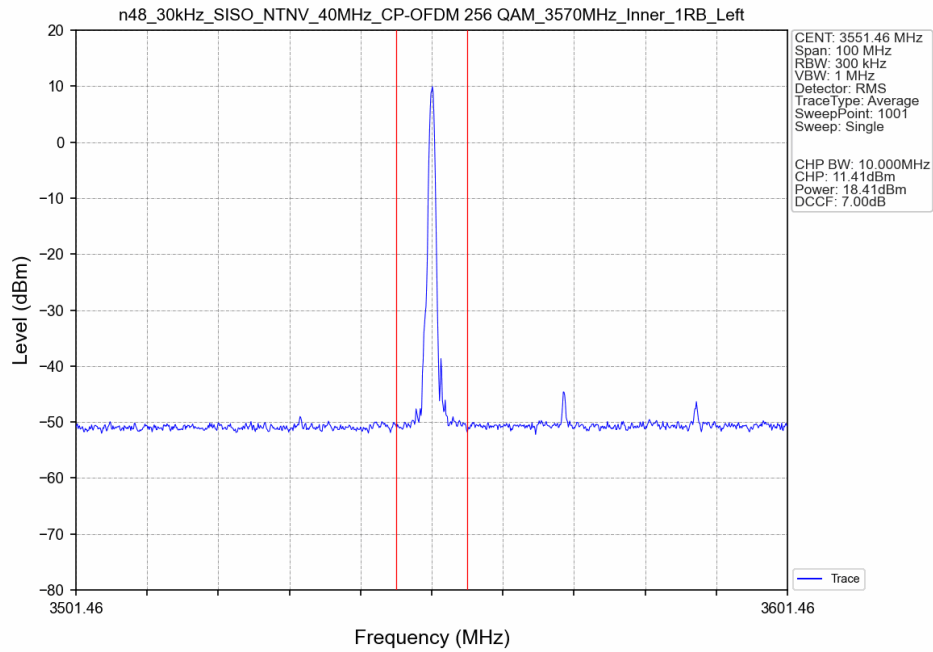
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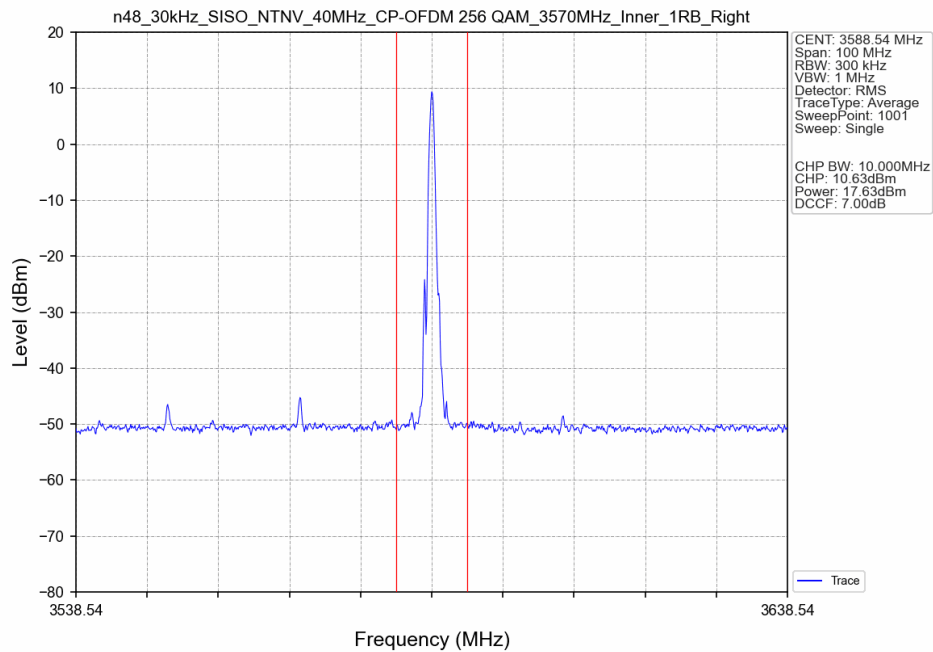
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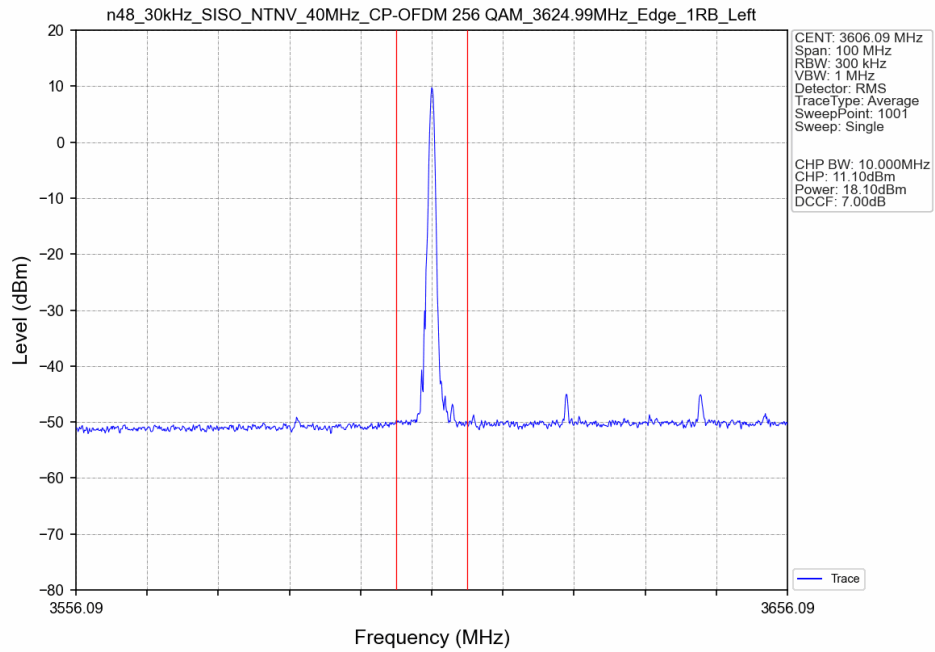
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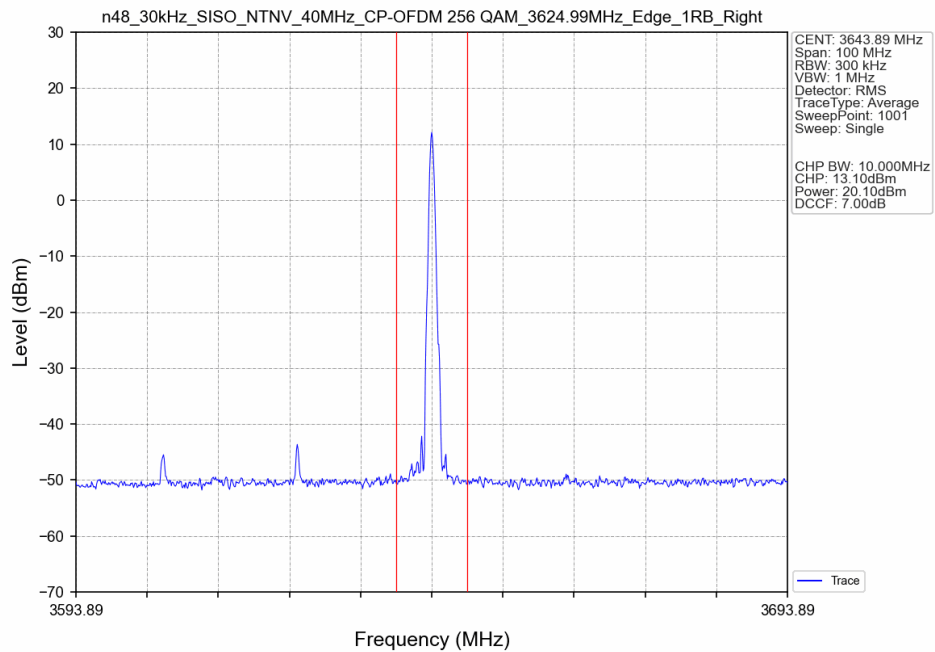
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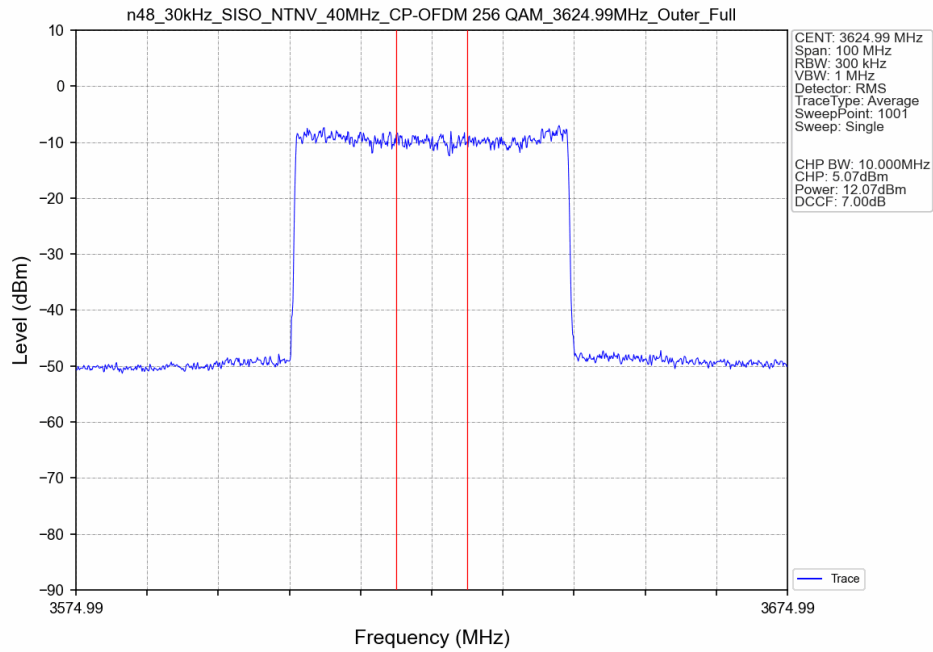
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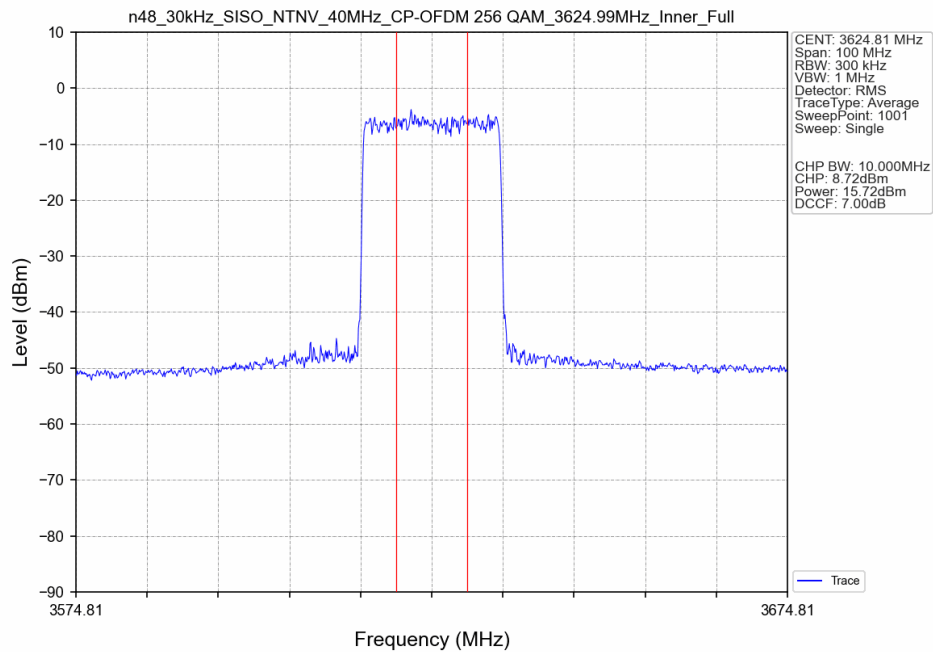
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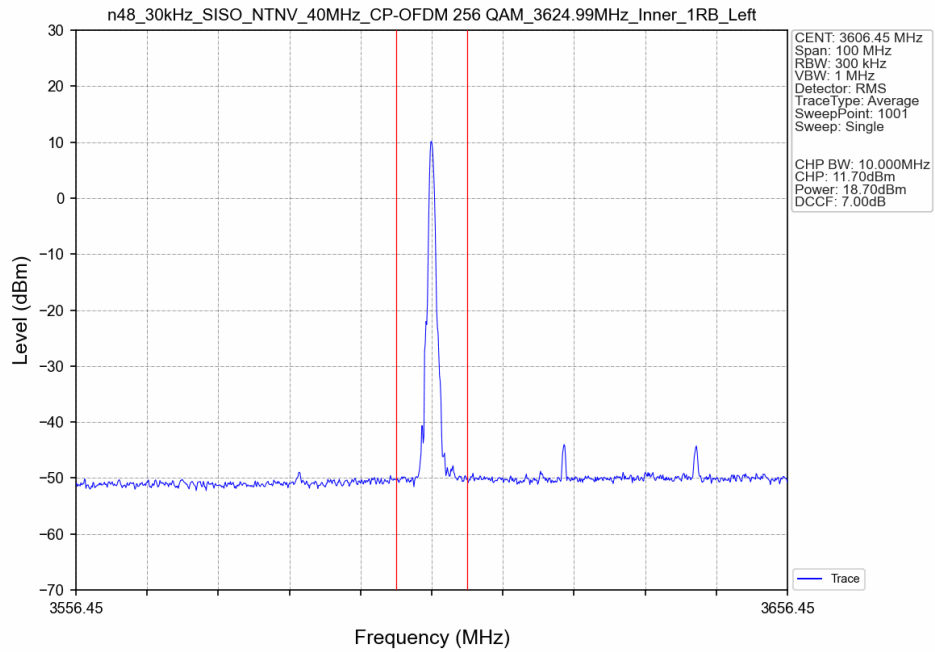
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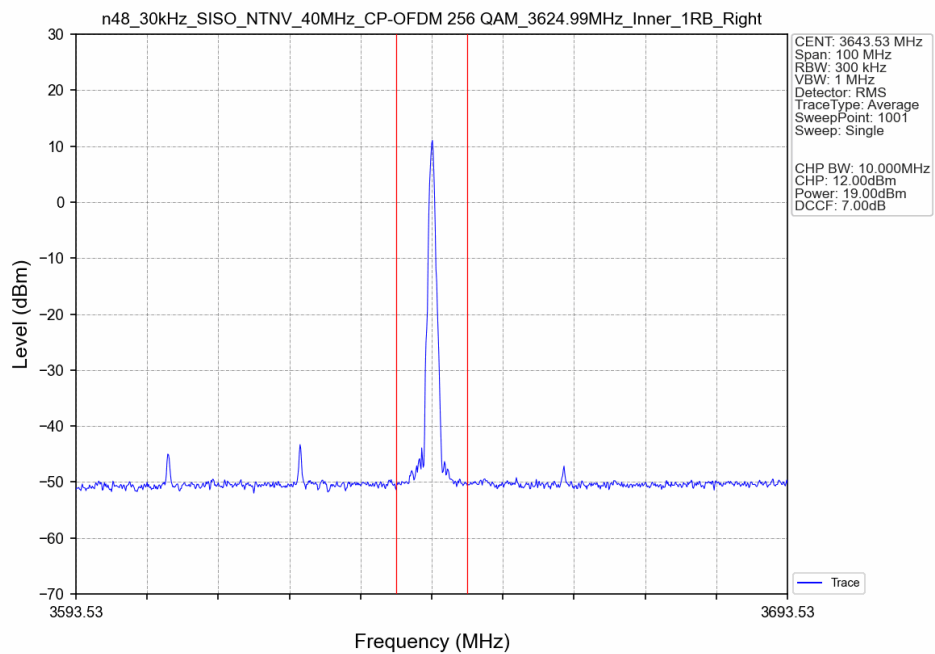
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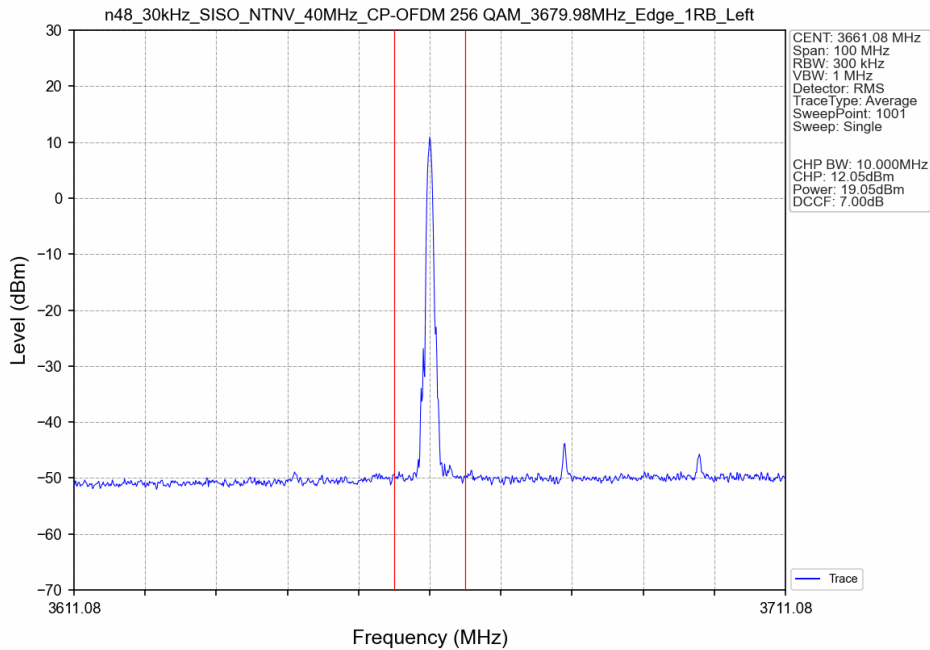
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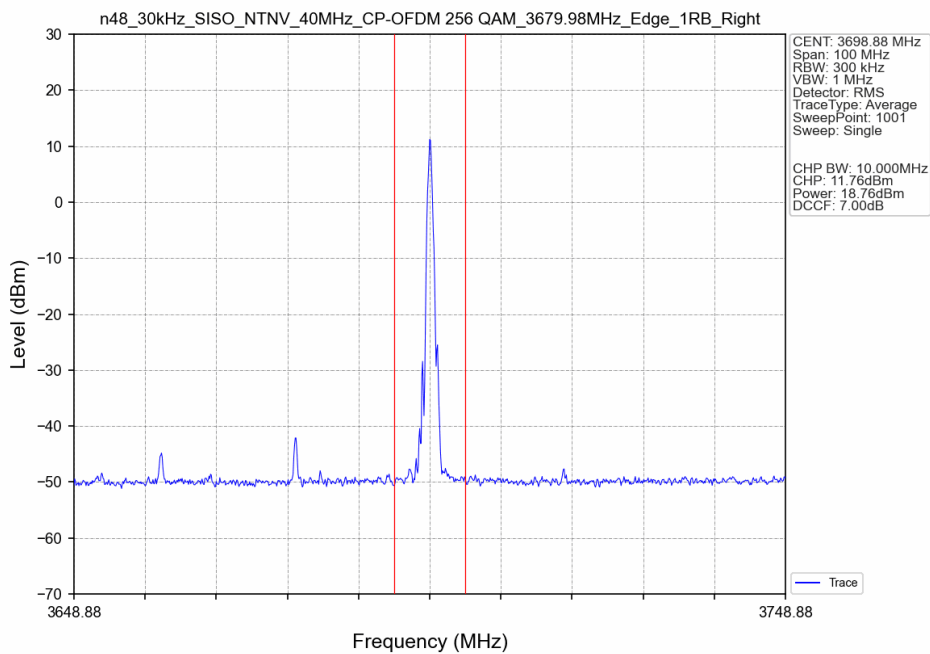
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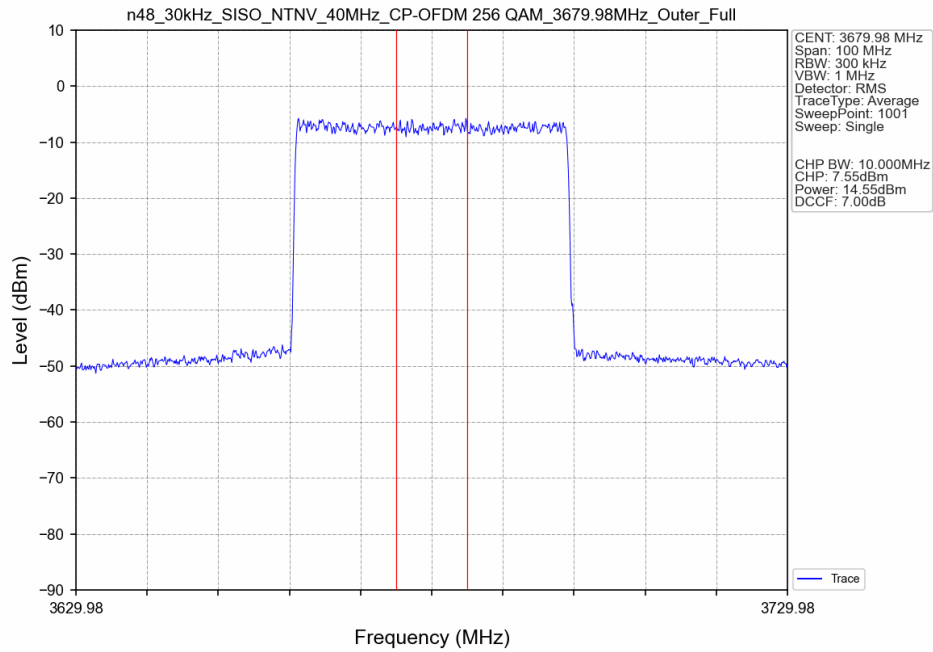
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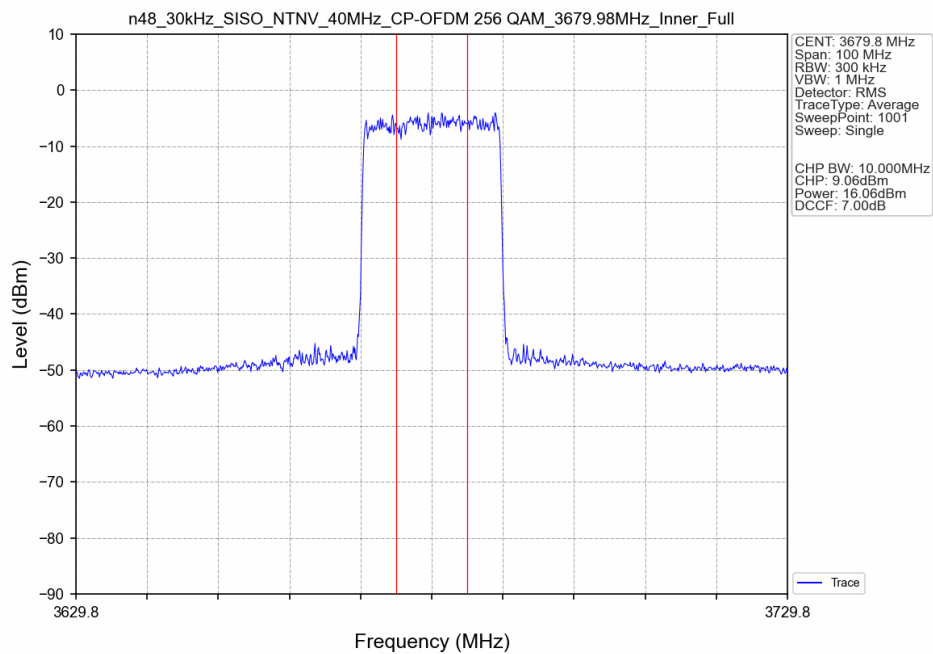
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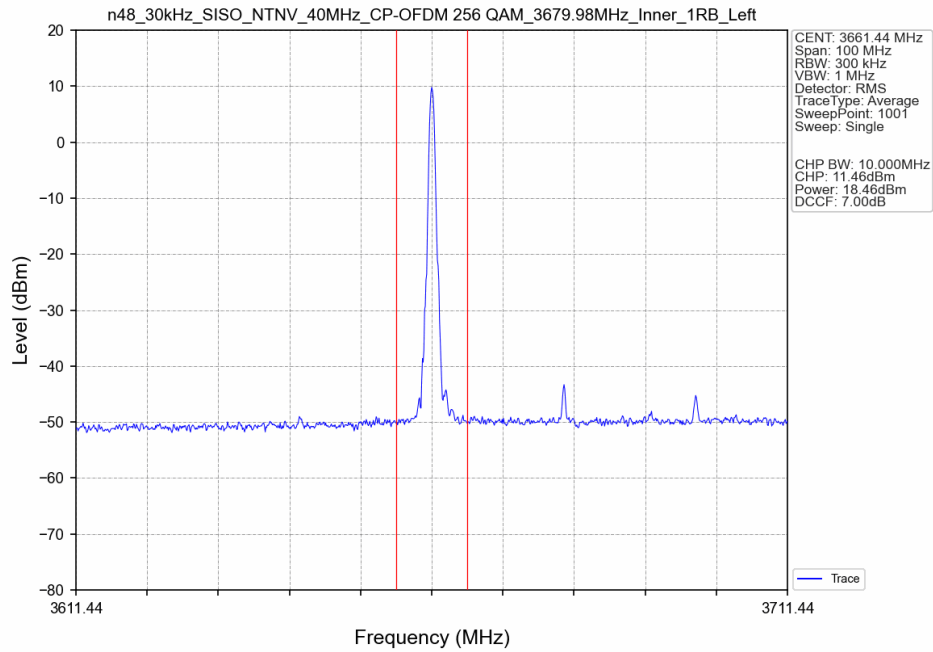
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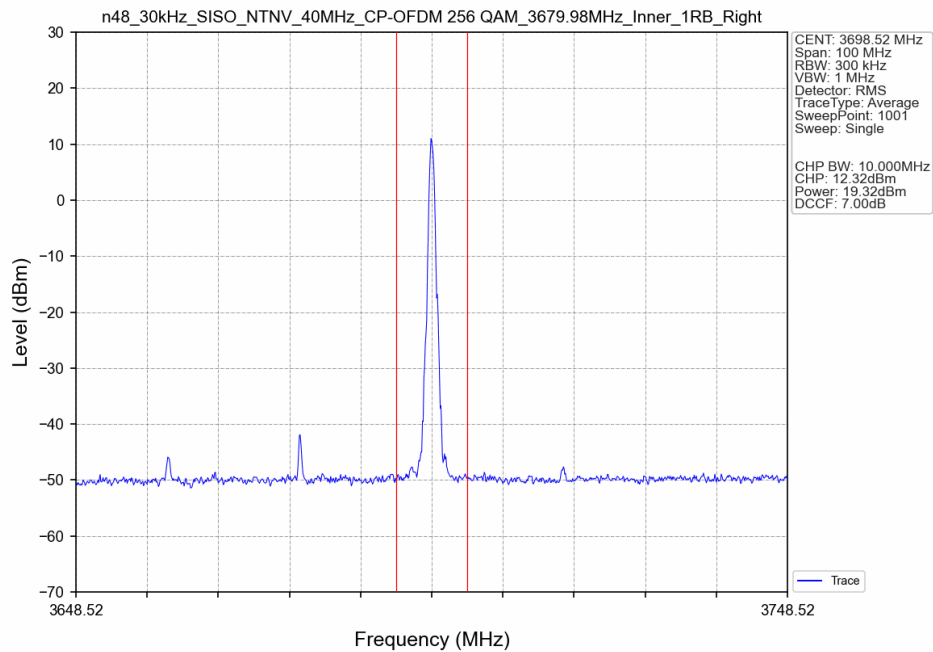
n48_30kHz_SISO_NTNV_40MHz_CP-OFDM 256 QAM_3679.98MHz_Inner_Full_Ant8



n48_30kHz_SISO_NTNV_40MHz_CP-OFDM 256 QAM 3679.98MHz_Inner_1RB_Left_Ant8



n48_30kHz_SISO_NTNV_40MHz_CP-OFDM 256 QAM 3679.98MHz_Inner_1RB_Right_Ant8



2. Frequency Stability

2.1 Test Result

2.1.1 30_S_40M

5G NR n48 SCS=30kHz SISO 40MHz								
Modulation	Frequency (MHz)	RB Allocation	Temp. (°C)	Volt.	Freq. Error (Hz)	Freq. vs. rated (ppm)		Verdict
						Result	Limit	
DFT-s-OFDM QPSK	3624.99	Outer_Full	20	LV	1.67	0.0005	>=-2.5 & <=2.5	Pass
				HV	2.02	0.0006	>=-2.5 & <=2.5	Pass
			-30	NV	-2.57	-0.0007	>=-2.5 & <=2.5	Pass
			-20	NV	-1.39	-0.0004	>=-2.5 & <=2.5	Pass
			-10	NV	-9.92	-0.0027	>=-2.5 & <=2.5	Pass
			0	NV	-1.69	-0.0005	>=-2.5 & <=2.5	Pass
			10	NV	-5.30	-0.0015	>=-2.5 & <=2.5	Pass
			20	NV	-5.38	-0.0015	>=-2.5 & <=2.5	Pass
			30	NV	-0.69	-0.0002	>=-2.5 & <=2.5	Pass
			40	NV	-4.34	-0.0012	>=-2.5 & <=2.5	Pass
			50	NV	2.09	0.0006	>=-2.5 & <=2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 30_S_10M_NTNV

5G NR n48 SCS=30kHz SISO 10MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	3624.99	Outer_Full	8.62	9.45	/	Pass
DFT-s-OFDM QPSK	3624.99	Outer_Full	8.69	9.43	/	Pass
DFT-s-OFDM 16 QAM	3624.99	Outer_Full	8.68	9.33	/	Pass
DFT-s-OFDM 64 QAM	3624.99	Outer_Full	8.57	9.44	/	Pass
DFT-s-OFDM 256 QAM	3624.99	Outer_Full	8.66	9.48	/	Pass
CP-OFDM QPSK	3624.99	Outer_Full	8.69	9.40	/	Pass
CP-OFDM 16 QAM	3624.99	Outer_Full	8.71	9.38	/	Pass
CP-OFDM 64 QAM	3624.99	Outer_Full	8.64	9.40	/	Pass
CP-OFDM 256 QAM	3624.99	Outer_Full	8.62	9.20	/	Pass

3.1.2 30_S_15M_NTNV

5G NR n48 SCS=30kHz SISO 15MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	3624.99	Outer_Full	13.04	14.09	/	Pass
DFT-s-OFDM QPSK	3624.99	Outer_Full	12.96	13.92	/	Pass
DFT-s-OFDM 16 QAM	3624.99	Outer_Full	13.08	13.99	/	Pass
DFT-s-OFDM 64 QAM	3624.99	Outer_Full	13.12	14.01	/	Pass
DFT-s-OFDM 256 QAM	3624.99	Outer_Full	13.05	13.86	/	Pass
CP-OFDM QPSK	3624.99	Outer_Full	13.73	14.66	/	Pass
CP-OFDM 16 QAM	3624.99	Outer_Full	13.68	14.69	/	Pass
CP-OFDM 64 QAM	3624.99	Outer_Full	13.74	14.85	/	Pass
CP-OFDM 256 QAM	3624.99	Outer_Full	13.77	14.51	/	Pass

3.1.3 30_S_20M_NTNV

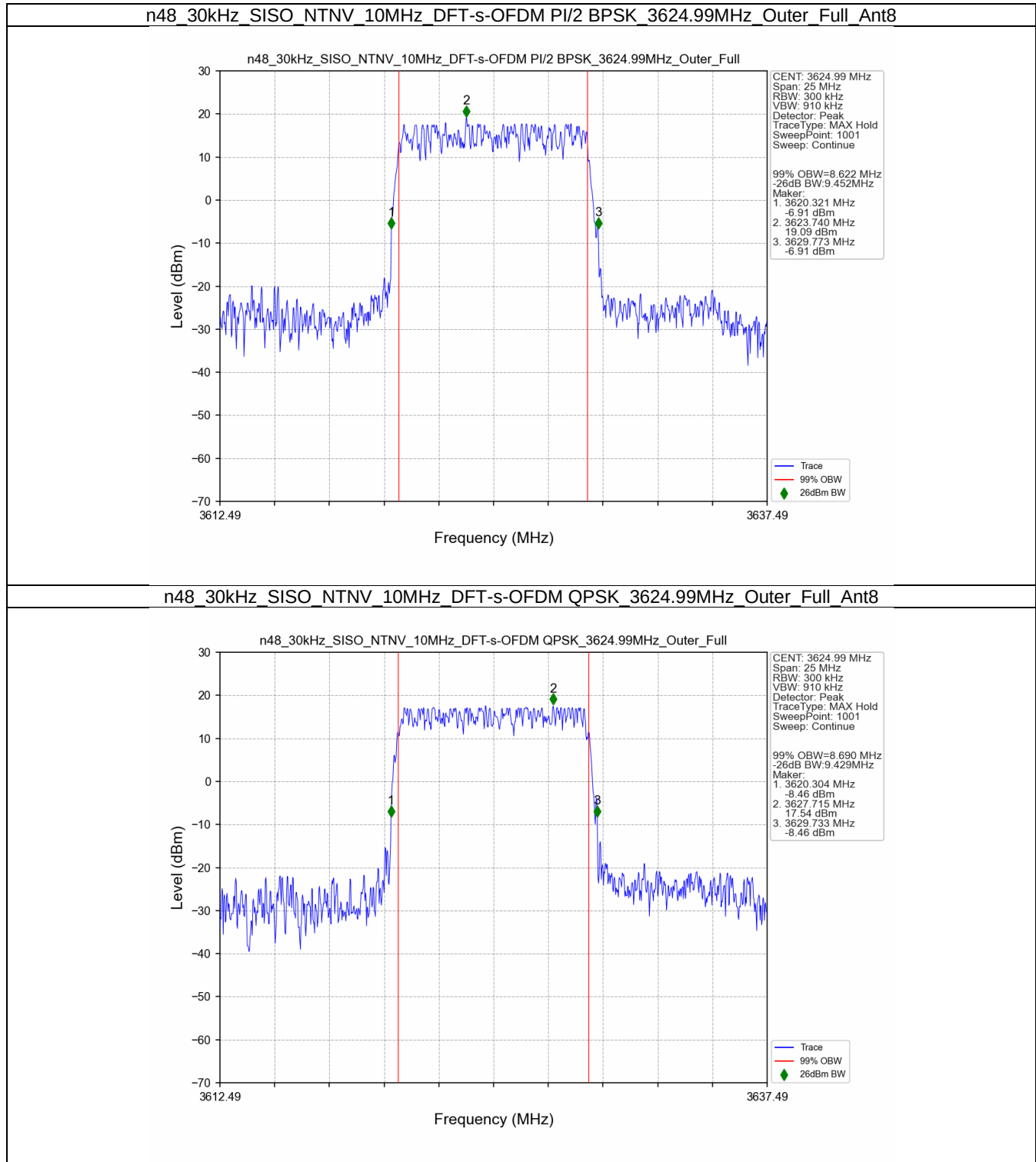
5G NR n48 SCS=30kHz SISO 20MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	3624.99	Outer_Full	17.90	19.33	/	Pass
DFT-s-OFDM QPSK	3624.99	Outer_Full	18.16	19.33	/	Pass
DFT-s-OFDM 16 QAM	3624.99	Outer_Full	18.11	19.46	/	Pass
DFT-s-OFDM 64 QAM	3624.99	Outer_Full	18.05	19.19	/	Pass
DFT-s-OFDM 256 QAM	3624.99	Outer_Full	17.93	19.21	/	Pass
CP-OFDM QPSK	3624.99	Outer_Full	18.44	19.71	/	Pass
CP-OFDM 16 QAM	3624.99	Outer_Full	18.44	19.65	/	Pass
CP-OFDM 64 QAM	3624.99	Outer_Full	18.41	19.65	/	Pass
CP-OFDM 256 QAM	3624.99	Outer_Full	18.28	19.64	/	Pass

3.1.4 30_S_40M_NTNV

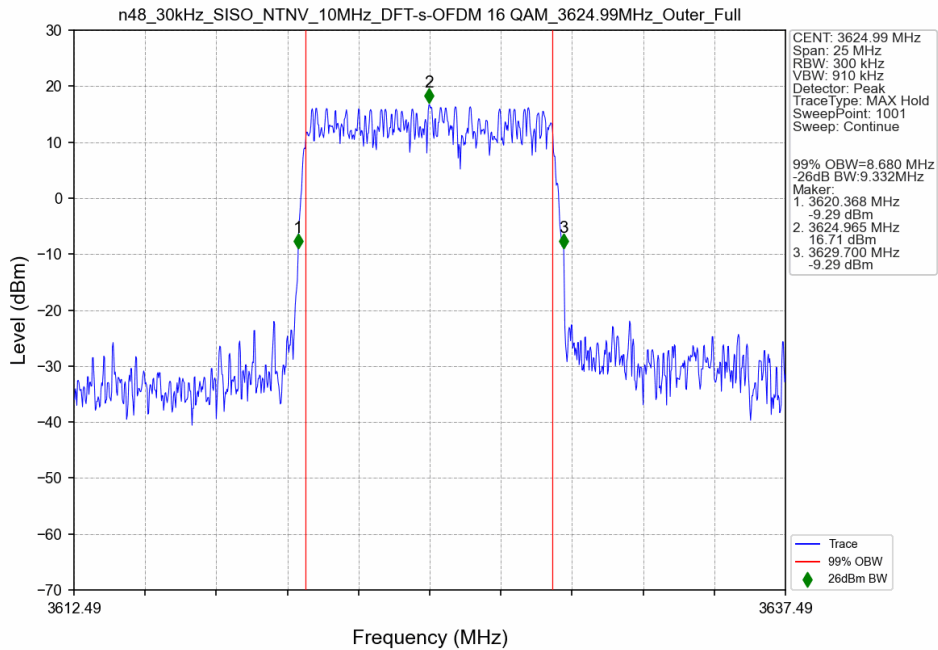
5G NR n48 SCS=30kHz SISO 40MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	3624.99	Outer_Full	35.82	38.43	/	Pass
DFT-s-OFDM QPSK	3624.99	Outer_Full	35.93	38.22	/	Pass
DFT-s-OFDM 16 QAM	3624.99	Outer_Full	36.03	38.58	/	Pass
DFT-s-OFDM 64 QAM	3624.99	Outer_Full	36.09	38.40	/	Pass
DFT-s-OFDM 256 QAM	3624.99	Outer_Full	36.21	38.73	/	Pass
CP-OFDM QPSK	3624.99	Outer_Full	38.17	40.66	/	Pass
CP-OFDM 16 QAM	3624.99	Outer_Full	38.03	40.65	/	Pass
CP-OFDM 64 QAM	3624.99	Outer_Full	38.02	40.62	/	Pass
CP-OFDM 256 QAM	3624.99	Outer_Full	37.98	40.52	/	Pass

3.2 Test Graph

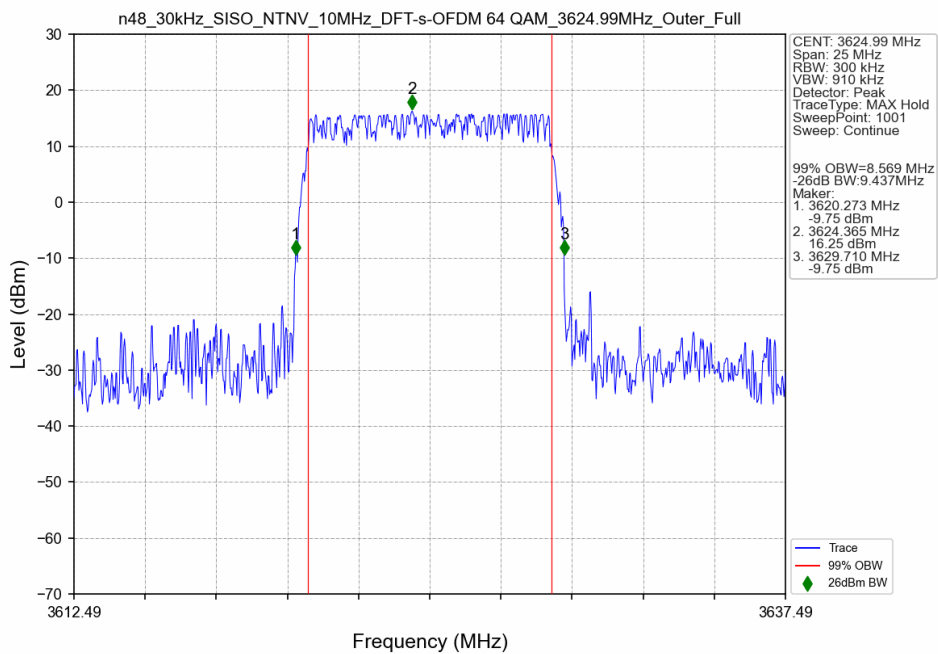
3.2.1 30_S_10M_NTNV



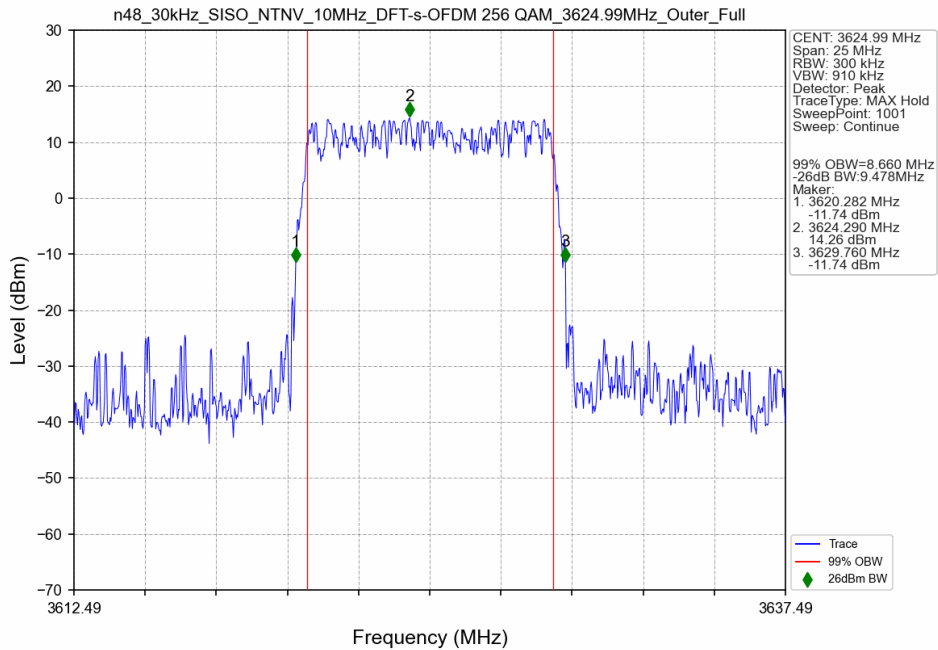
n48_30kHz_SISO_NTNV_10MHz_DFT-s-OFDM 16 QAM_3624.99MHz_Outer_Full_Ant8



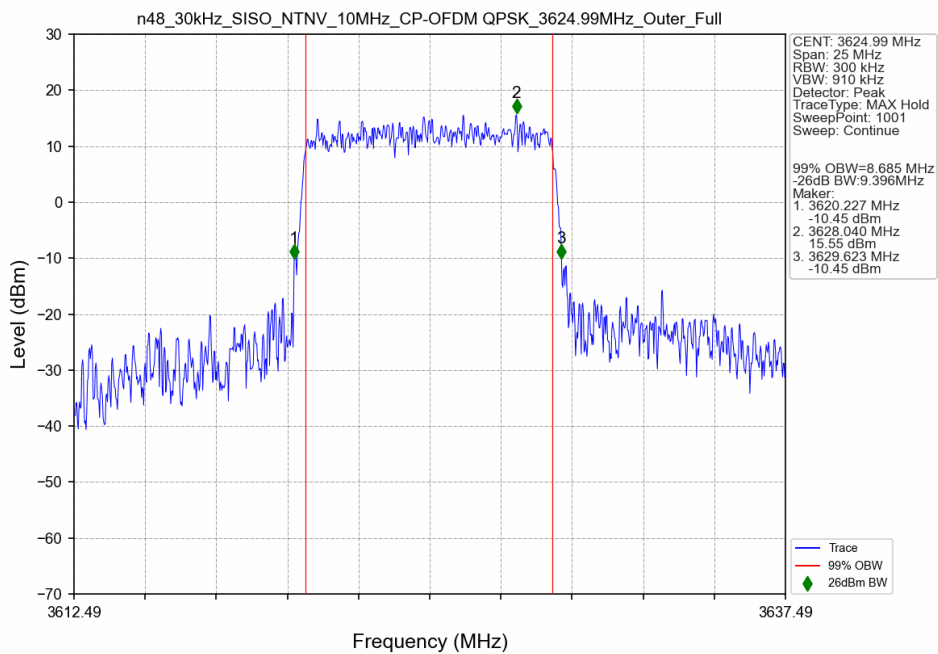
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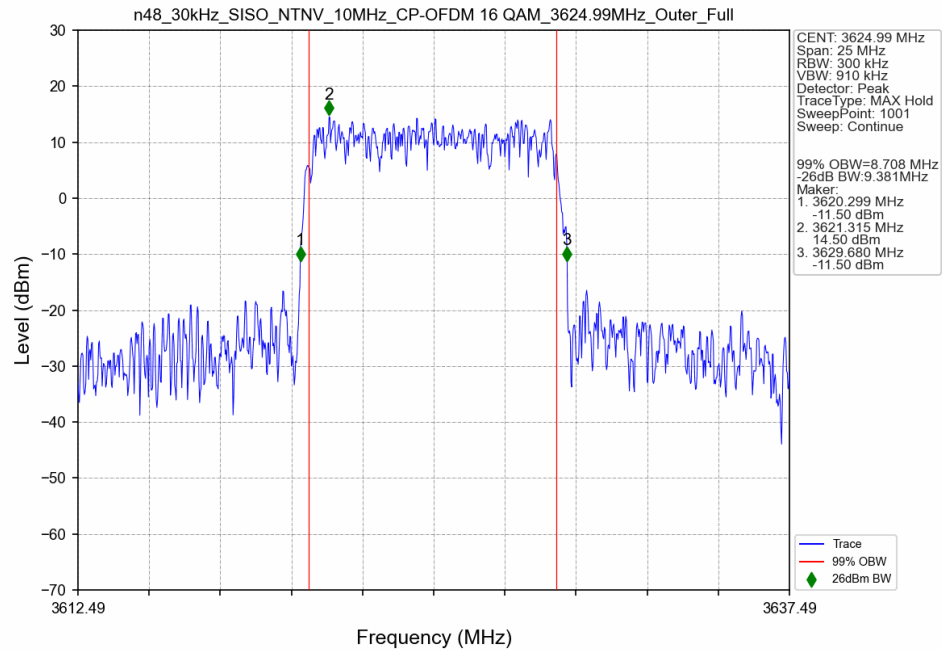
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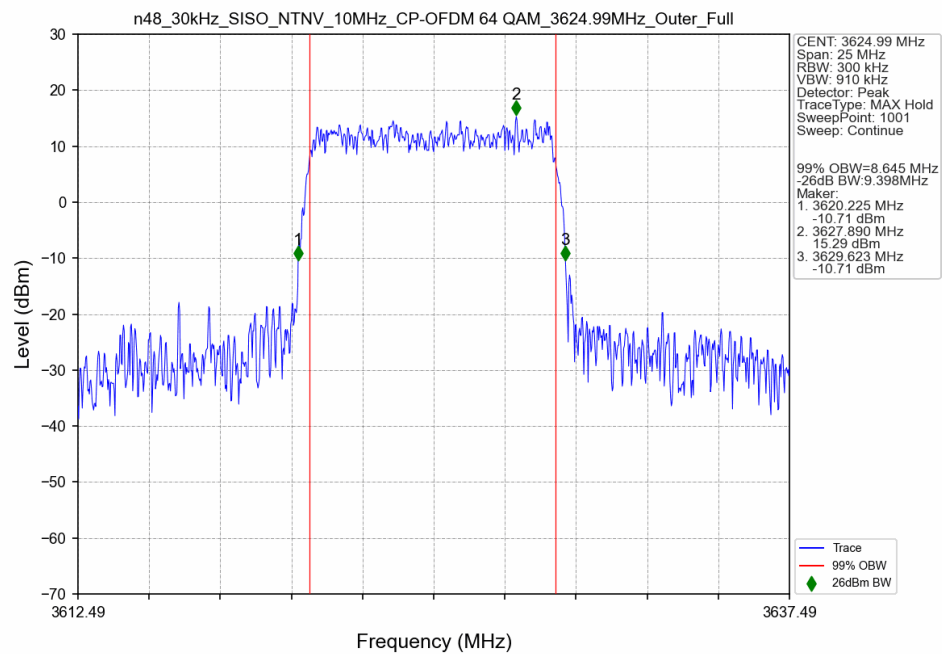
n48_30kHz_SISO_NTNV_10MHz_CP-OFDM QPSK_3624.99MHz_Outer_Full_Ant8



n48_30kHz_SISO_NTNV_10MHz_CP-OFDM 16 QAM 3624.99MHz_Outer_Full_Ant8



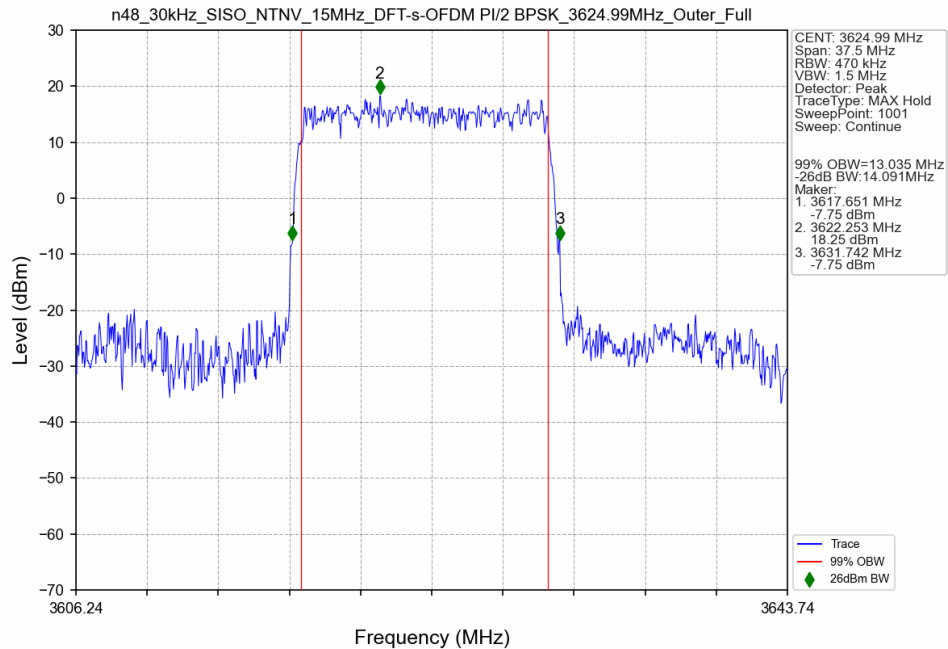
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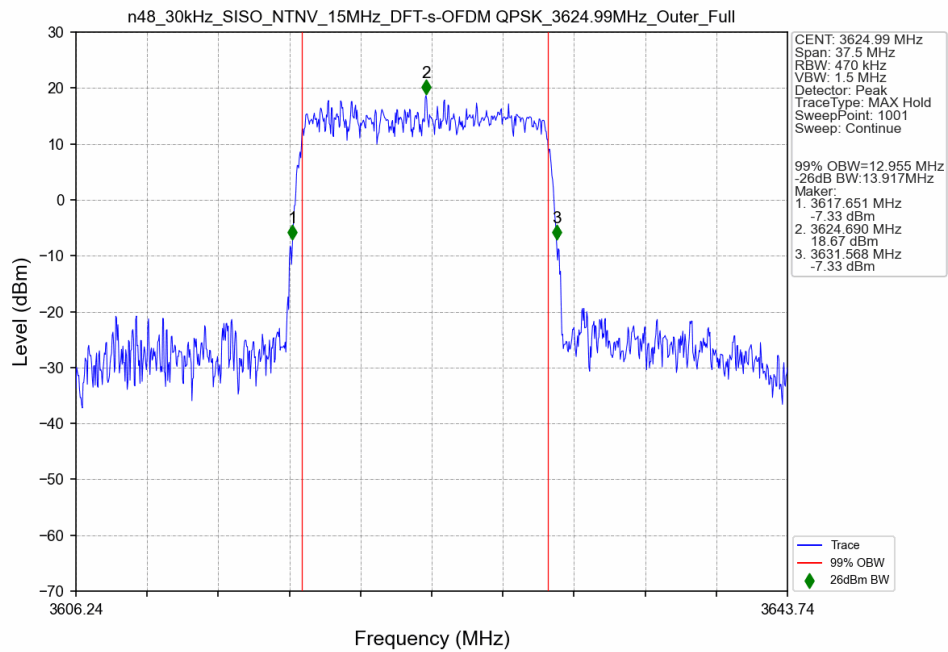


3.2.2 30_S_15M_NTNV

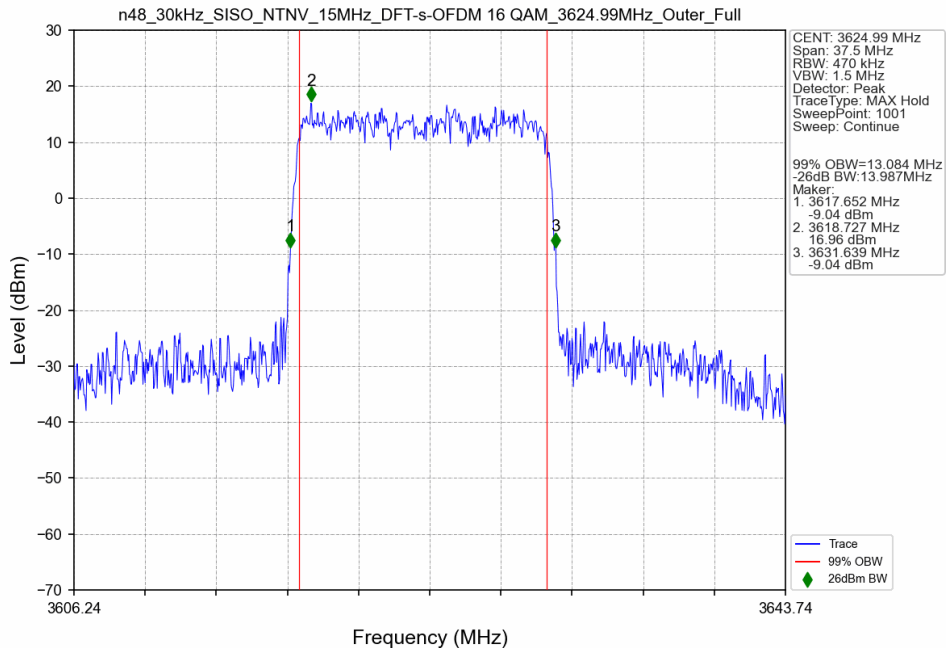
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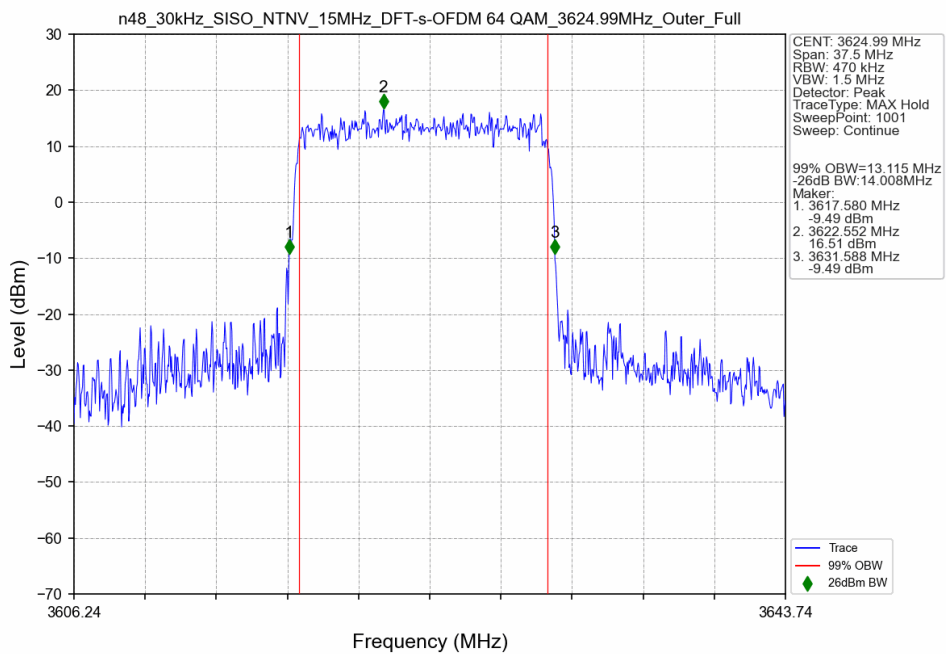
n48_30kHz_SISO_NTNV_15MHz_DFT-s-OFDM QPSK_3624.99MHz_Outer_Full_Ant8



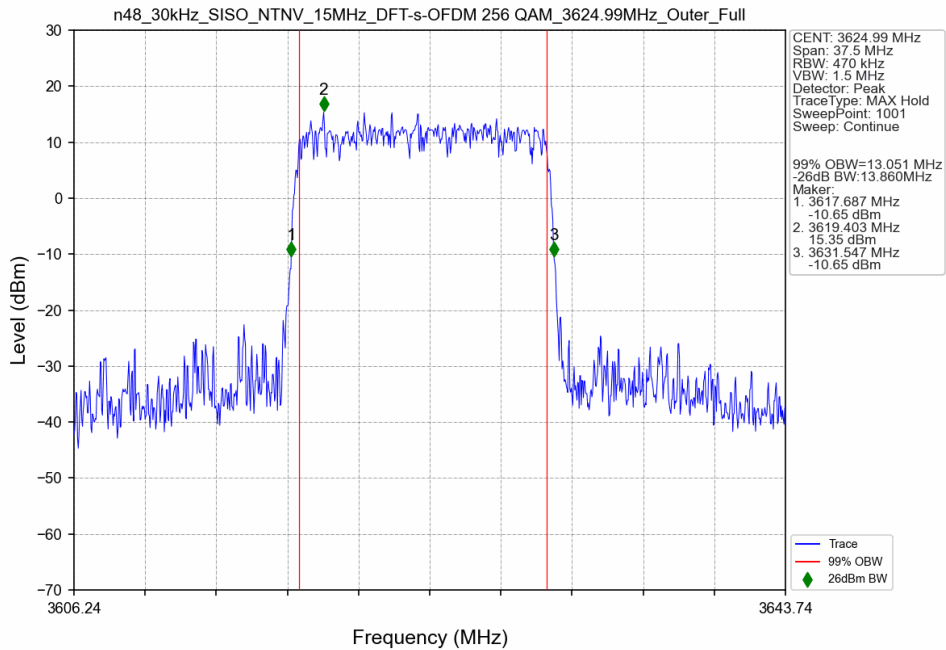
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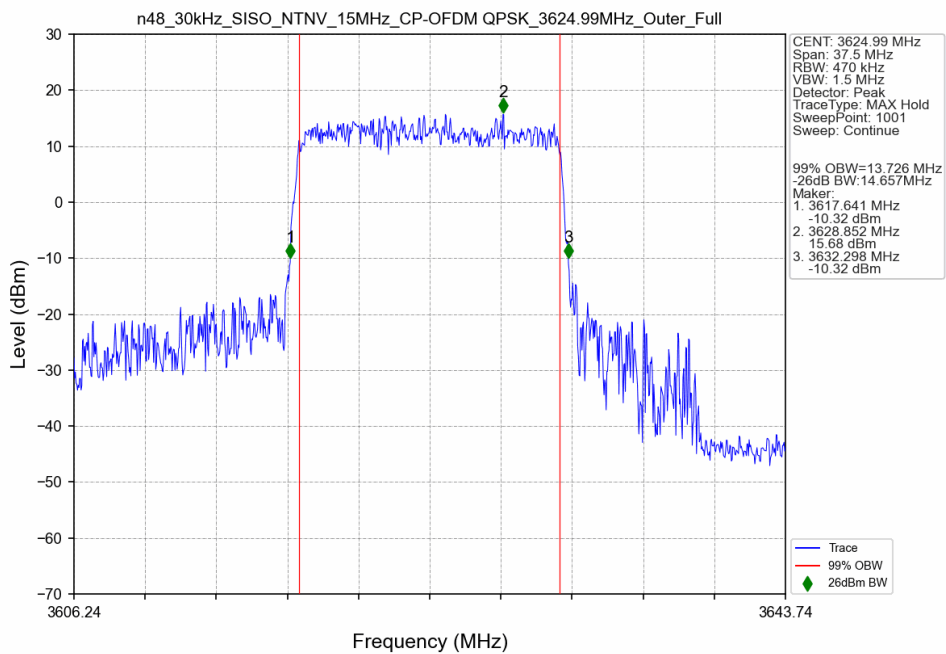
n48_30kHz_SISO_NTNV_15MHz_DFT-s-OFDM 64 QAM_3624.99MHz_Outer_Full_Ant8



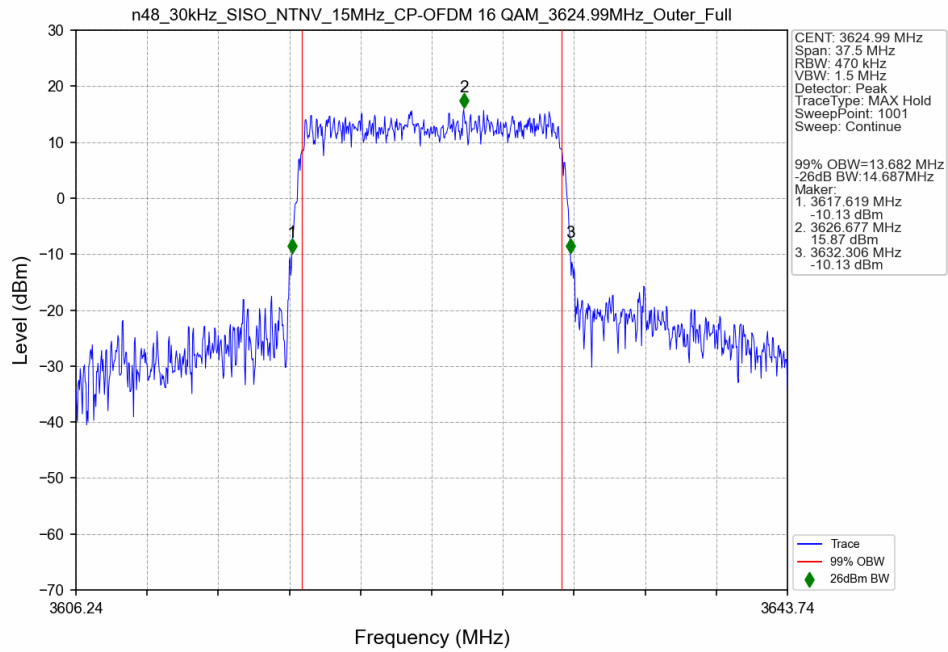
n48_30kHz_SISO_NTNV_15MHz_DFT-s-OFDM 256 QAM_3624.99MHz_Outer_Full_Ant8



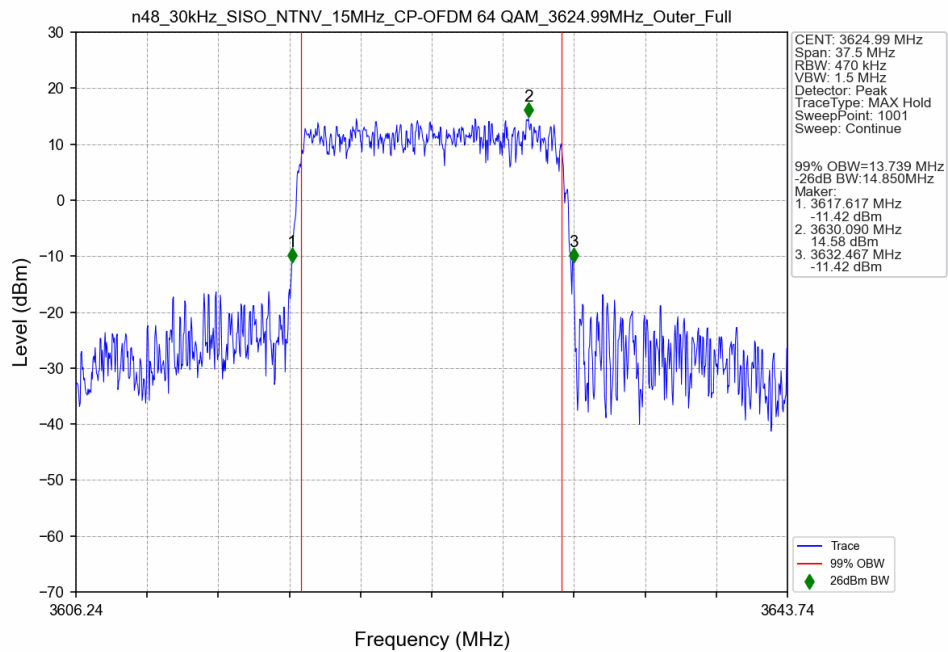
n48_30kHz_SISO_NTNV_15MHz_CP-OFDM QPSK_3624.99MHz_Outer_Full_Ant8

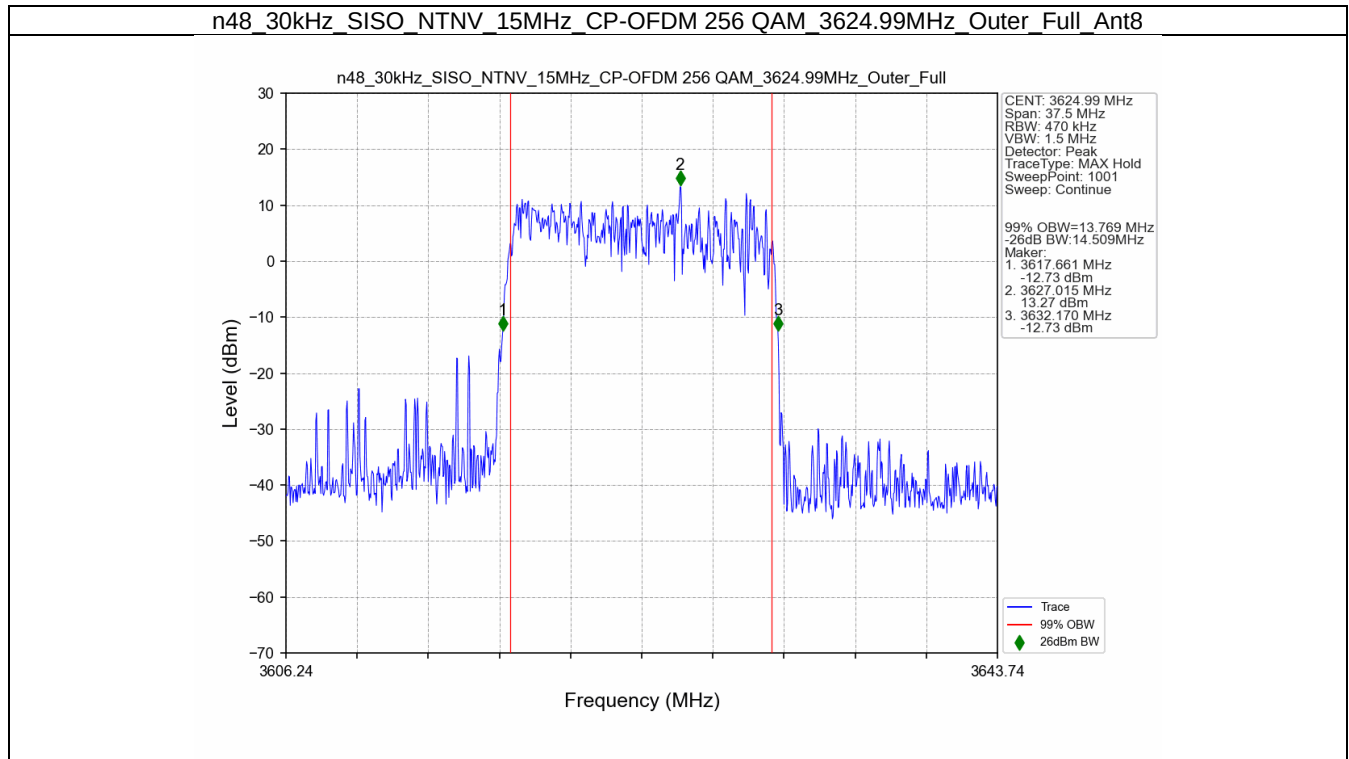


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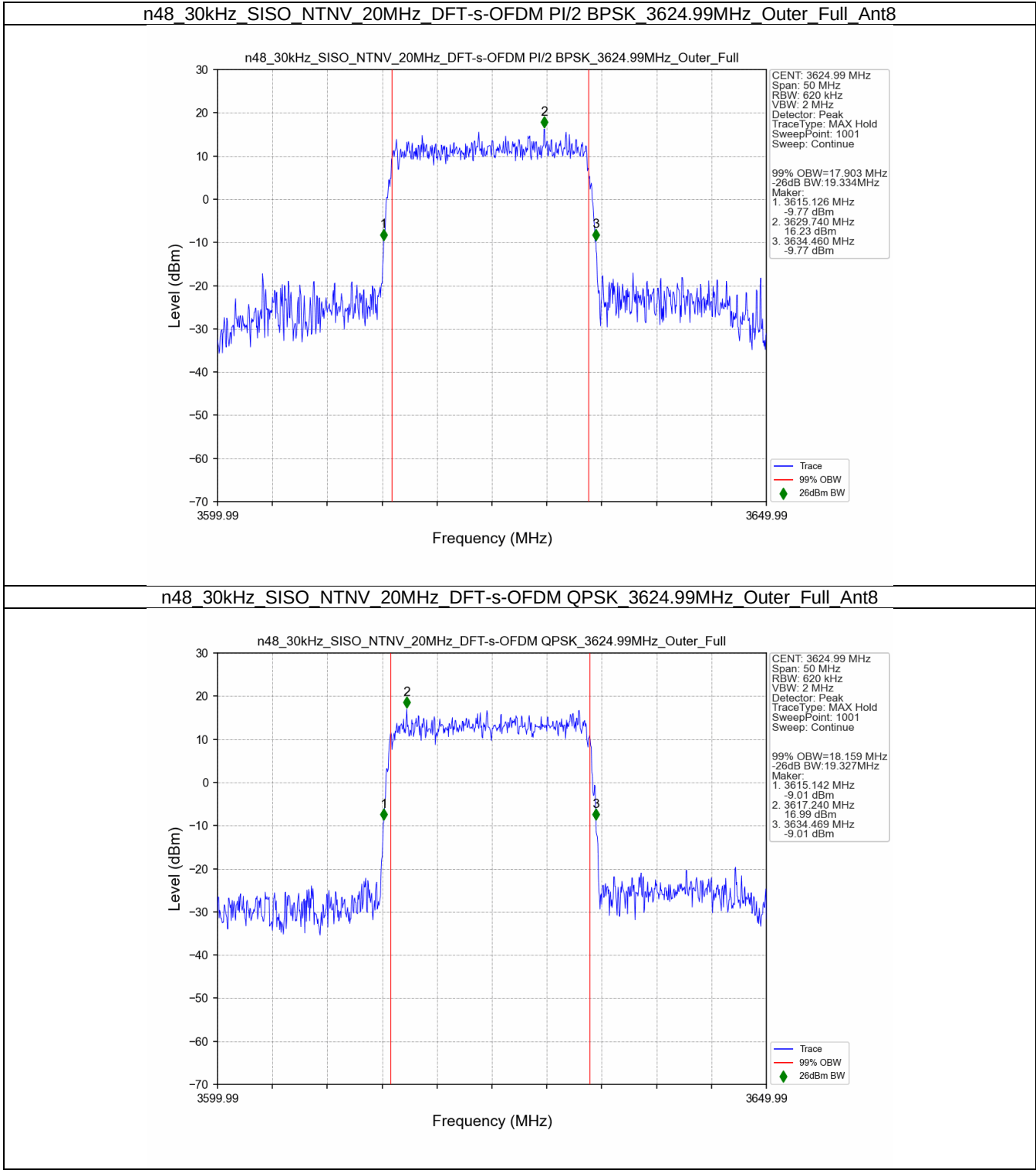


n48_30kHz_SISO_NTNV_15MHz_CP-OFDM 64 QAM_3624.99MHz_Outer_Full_Ant8

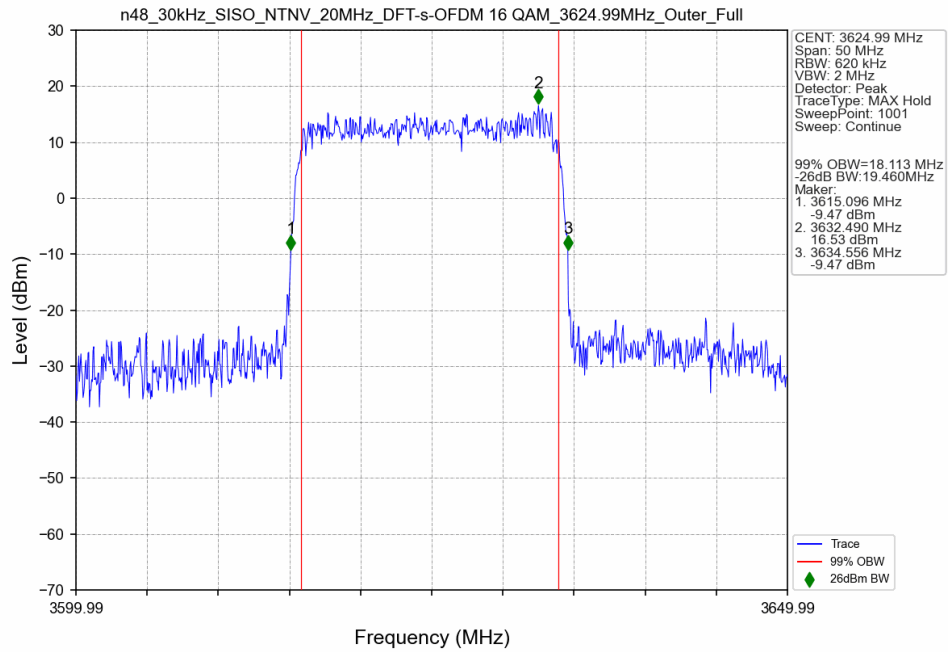




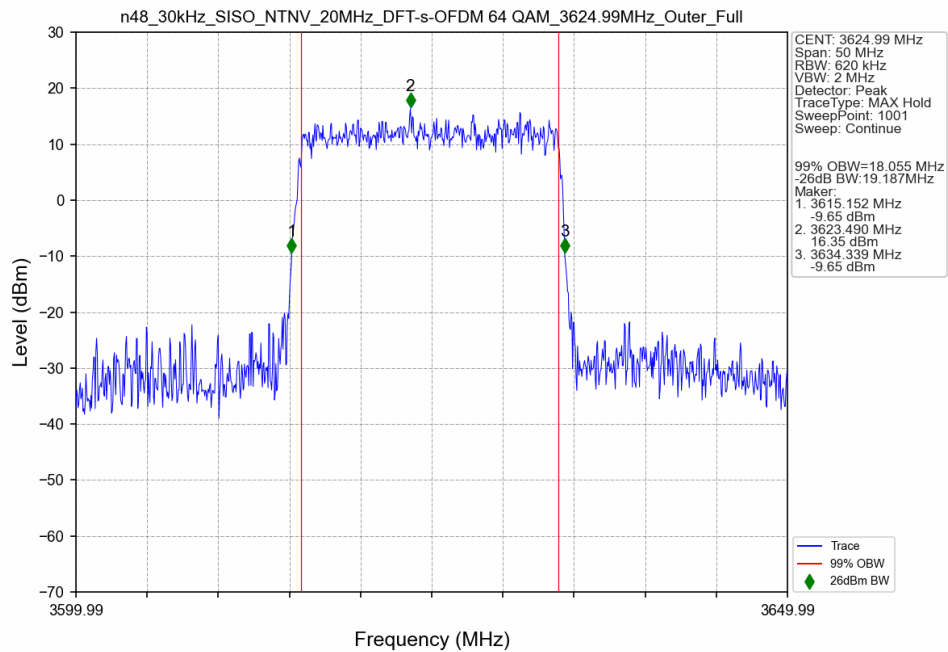
3.2.3 30_S_20M_NTNV



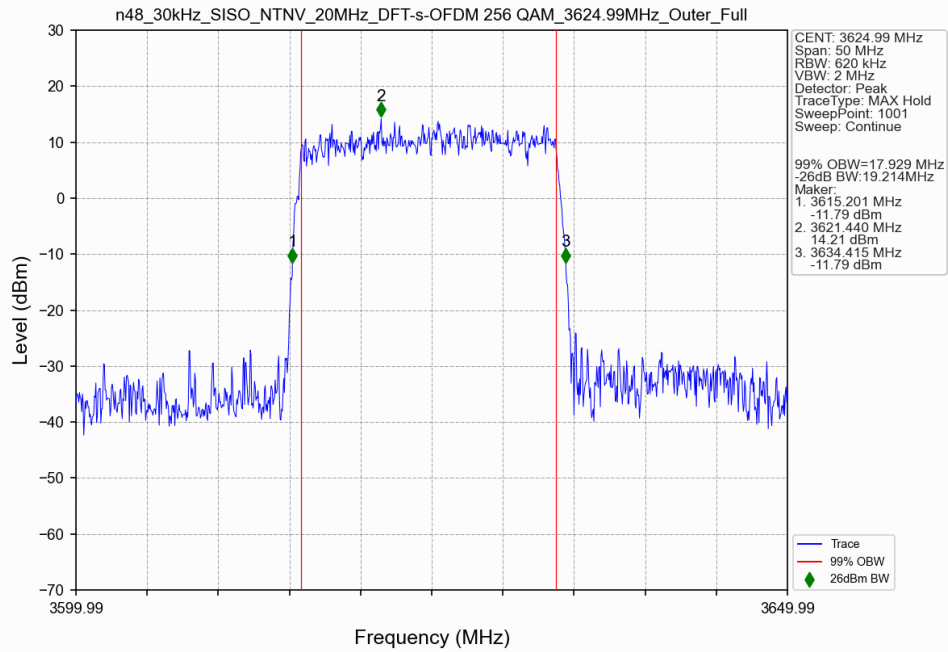
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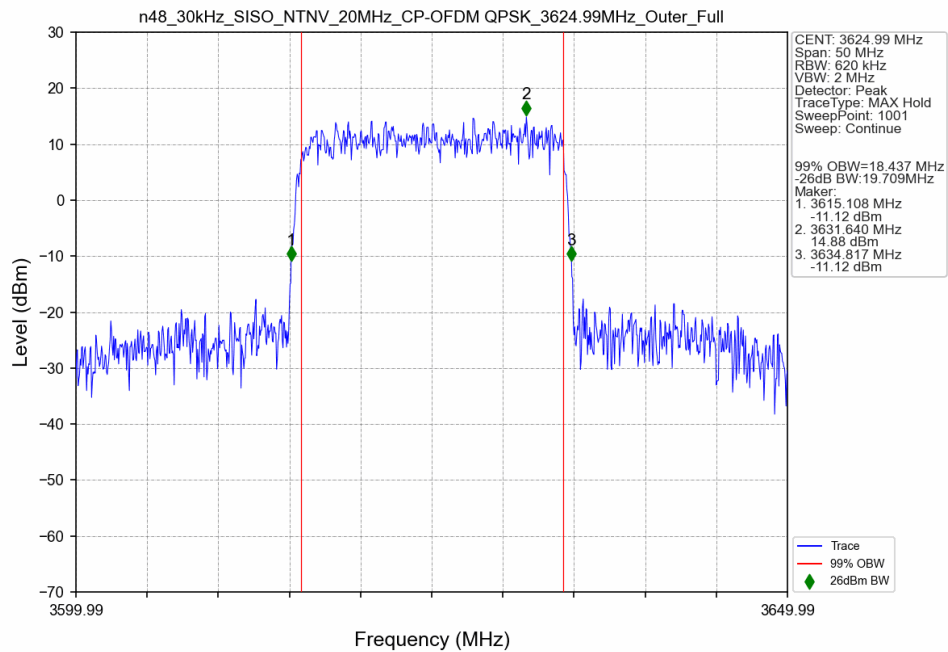
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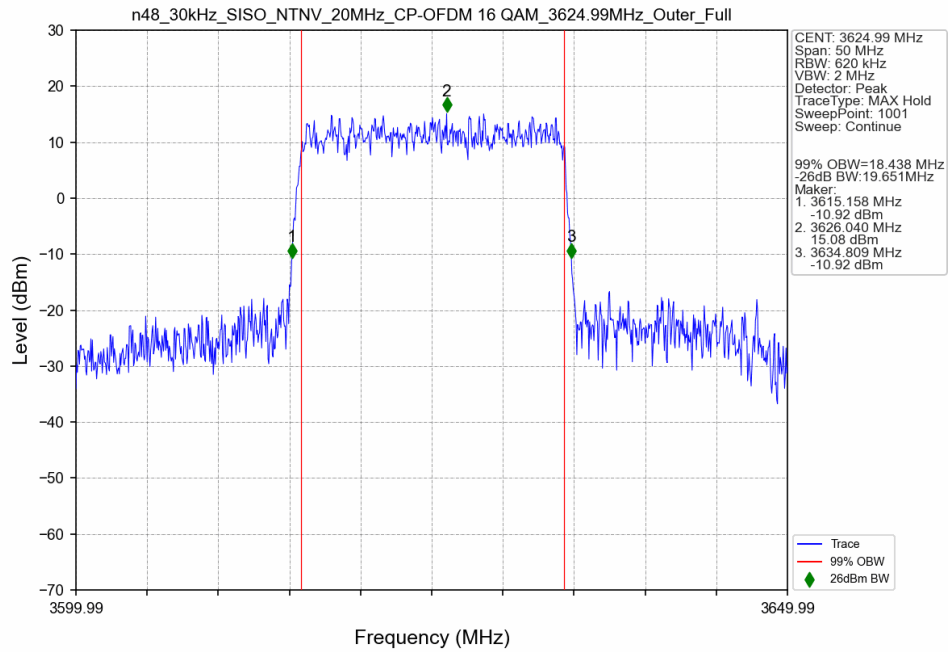
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n48_30kHz_SISO_NTNV_20MHz_CP-OFDM QPSK_3624.99MHz_Outer_Full_Ant8



n48_30kHz_SISO_NTNV_20MHz_CP-OFDM 16 QAM_3624.99MHz_Outer_Full_Ant8



n48_30kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_3624.99MHz_Outer_Full_Ant8

