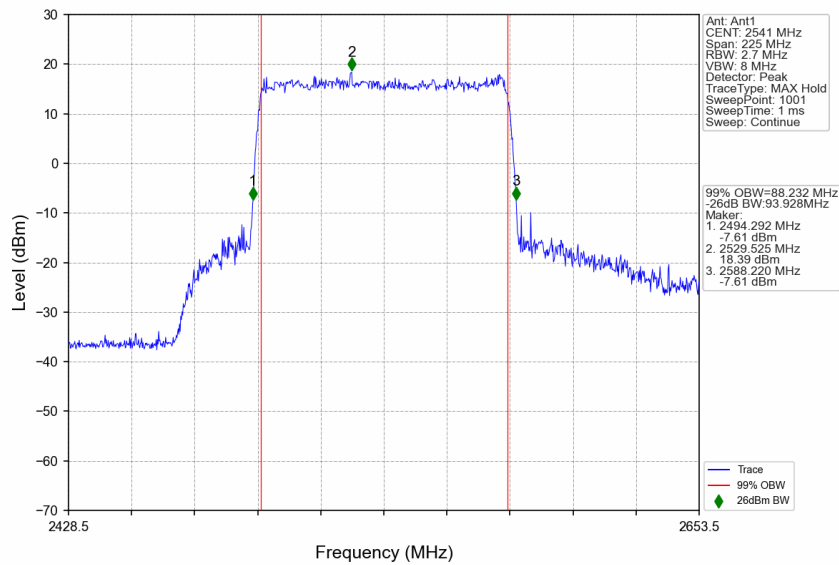
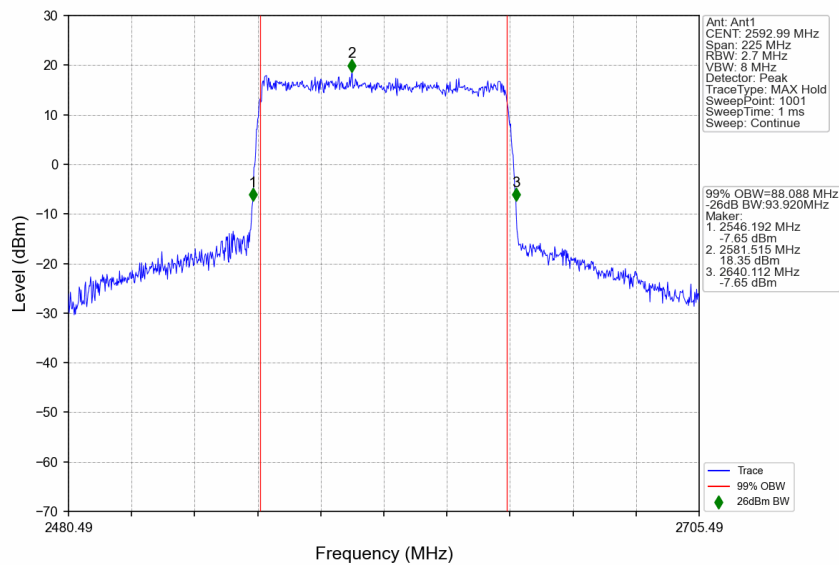


n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 16 QAM_2541MHz_Outer_Full



n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 16 QAM_2592.99MHz_Outer_Full

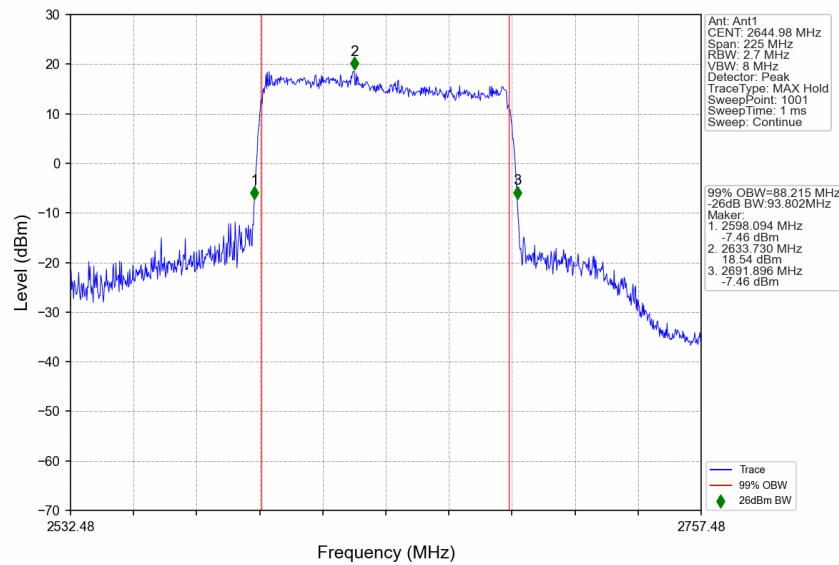


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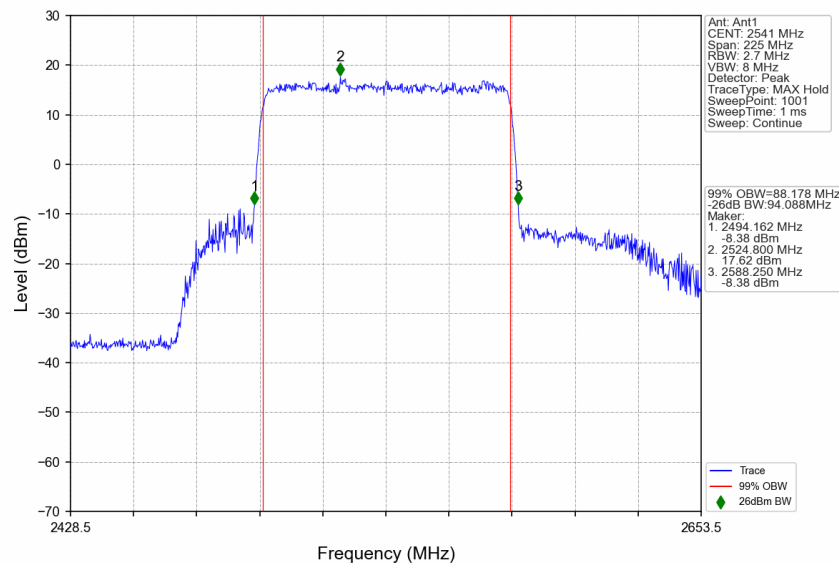
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n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 16 QAM_2644.98MHz_Outer_Full



n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 64 QAM_2541MHz_Outer_Full

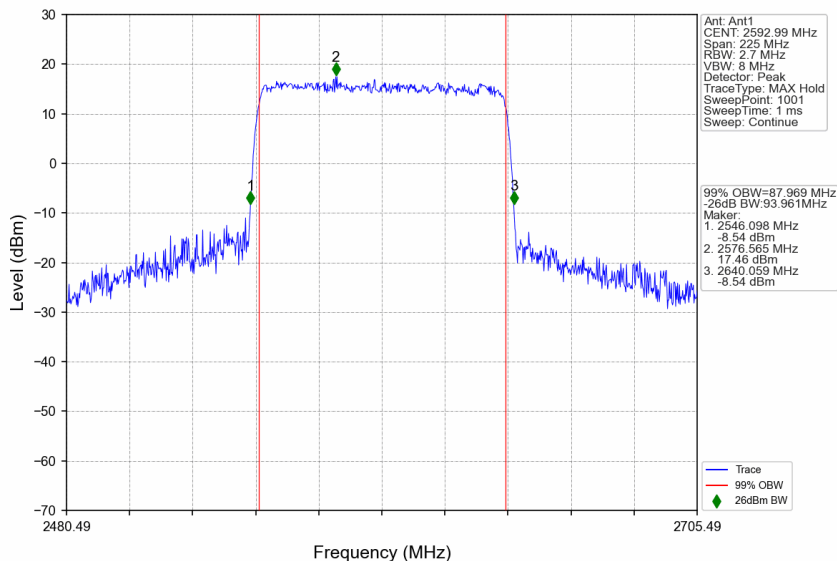


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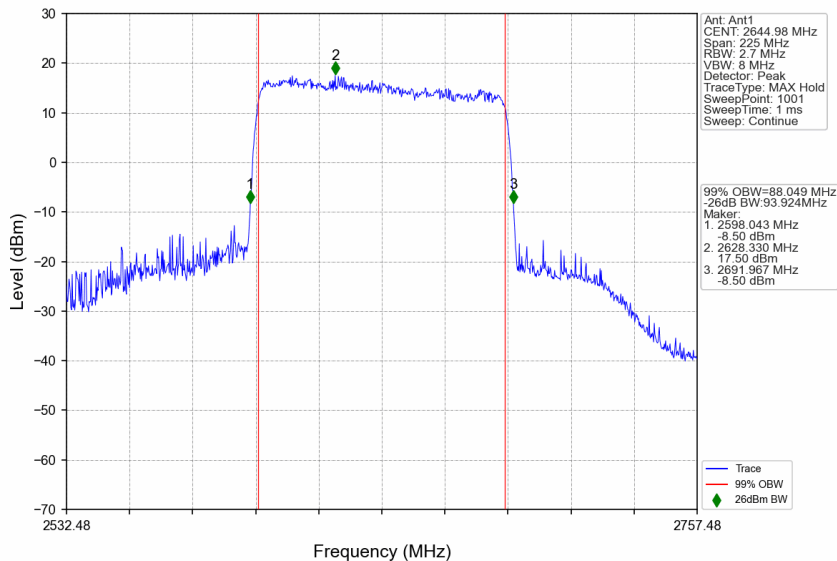
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n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 64 QAM_2592.99MHz_Outer_Full



n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 64 QAM_2644.98MHz_Outer_Full

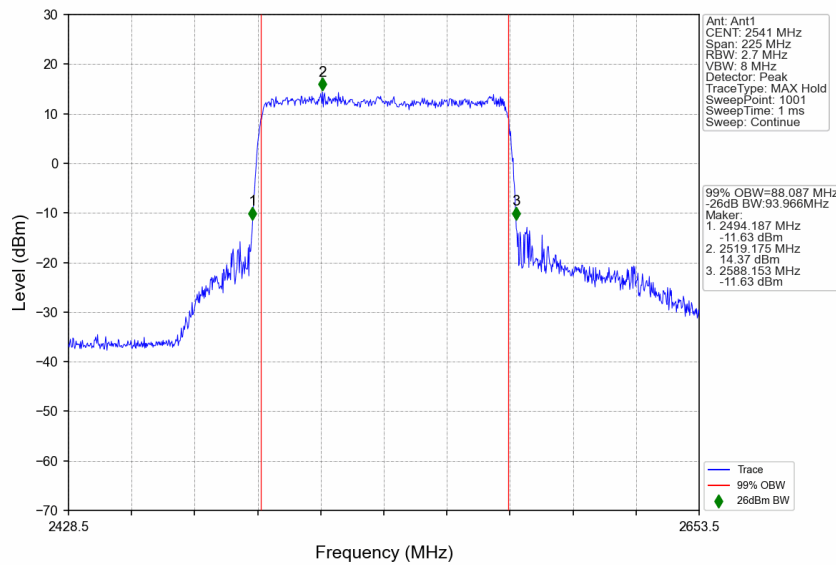


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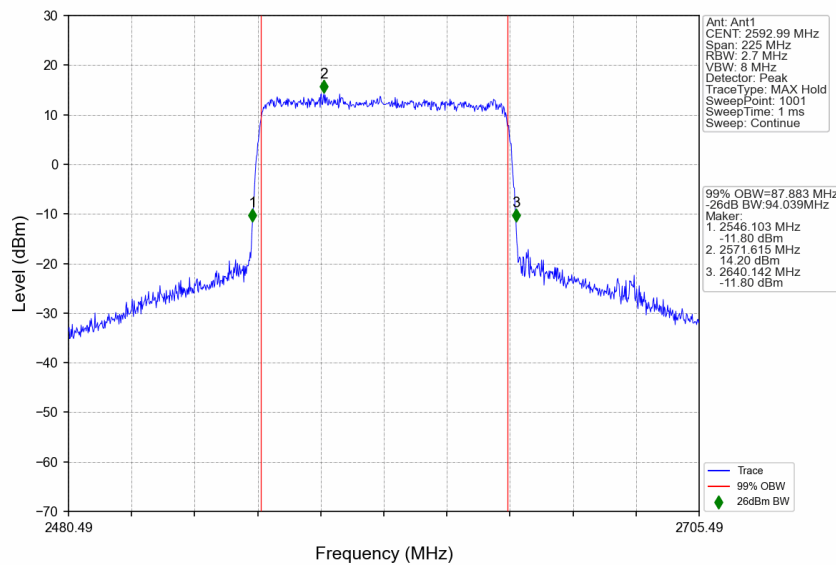
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n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 256 QAM_2541MHz_Outer_Full



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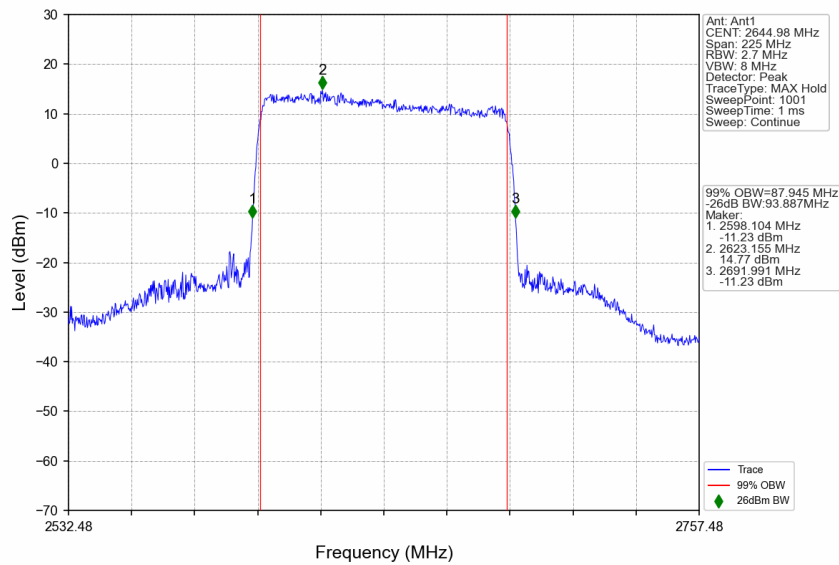


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n41_30kHz_SISO_NTNV_90MHz_CP-OFDM 256 QAM_2644.98MHz_Outer_Full



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4.19 30k_SISO_100MHz_NTNV

4.19.1 Test Result

5G NR n41 SCS=30kHz SISO 100MHz NTV						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	2546.01	Outer_Full	98.30	103.49	/	Pass
	2592.99	Outer_Full	97.16	103.71	/	Pass
	2640	Outer_Full	97.20	103.75	/	Pass
DFT-s-OFDM QPSK	2546.01	Outer_Full	97.25	103.87	/	Pass
	2592.99	Outer_Full	97.09	103.84	/	Pass
	2640	Outer_Full	97.12	103.52	/	Pass
DFT-s-OFDM 16 QAM	2546.01	Outer_Full	97.02	103.41	/	Pass
	2592.99	Outer_Full	96.94	103.51	/	Pass
	2640	Outer_Full	96.98	103.43	/	Pass
DFT-s-OFDM 64 QAM	2546.01	Outer_Full	97.33	103.80	/	Pass
	2592.99	Outer_Full	97.09	103.66	/	Pass
	2640	Outer_Full	97.02	103.71	/	Pass
DFT-s-OFDM 256 QAM	2546.01	Outer_Full	97.47	103.67	/	Pass
	2592.99	Outer_Full	97.20	103.77	/	Pass
	2640	Outer_Full	97.13	103.53	/	Pass
CP-OFDM QPSK	2546.01	Outer_Full	98.30	104.82	/	Pass
	2592.99	Outer_Full	98.04	104.88	/	Pass
	2640	Outer_Full	97.88	104.59	/	Pass
CP-OFDM 16 QAM	2546.01	Outer_Full	98.01	104.77	/	Pass
	2592.99	Outer_Full	97.90	104.86	/	Pass
	2640	Outer_Full	98.09	104.68	/	Pass
CP-OFDM 64 QAM	2546.01	Outer_Full	98.08	104.59	/	Pass
	2592.99	Outer_Full	97.89	104.71	/	Pass
	2640	Outer_Full	97.87	104.57	/	Pass
CP-OFDM 256 QAM	2546.01	Outer_Full	98.20	104.92	/	Pass
	2592.99	Outer_Full	97.87	104.68	/	Pass
	2640	Outer_Full	98.02	104.85	/	Pass

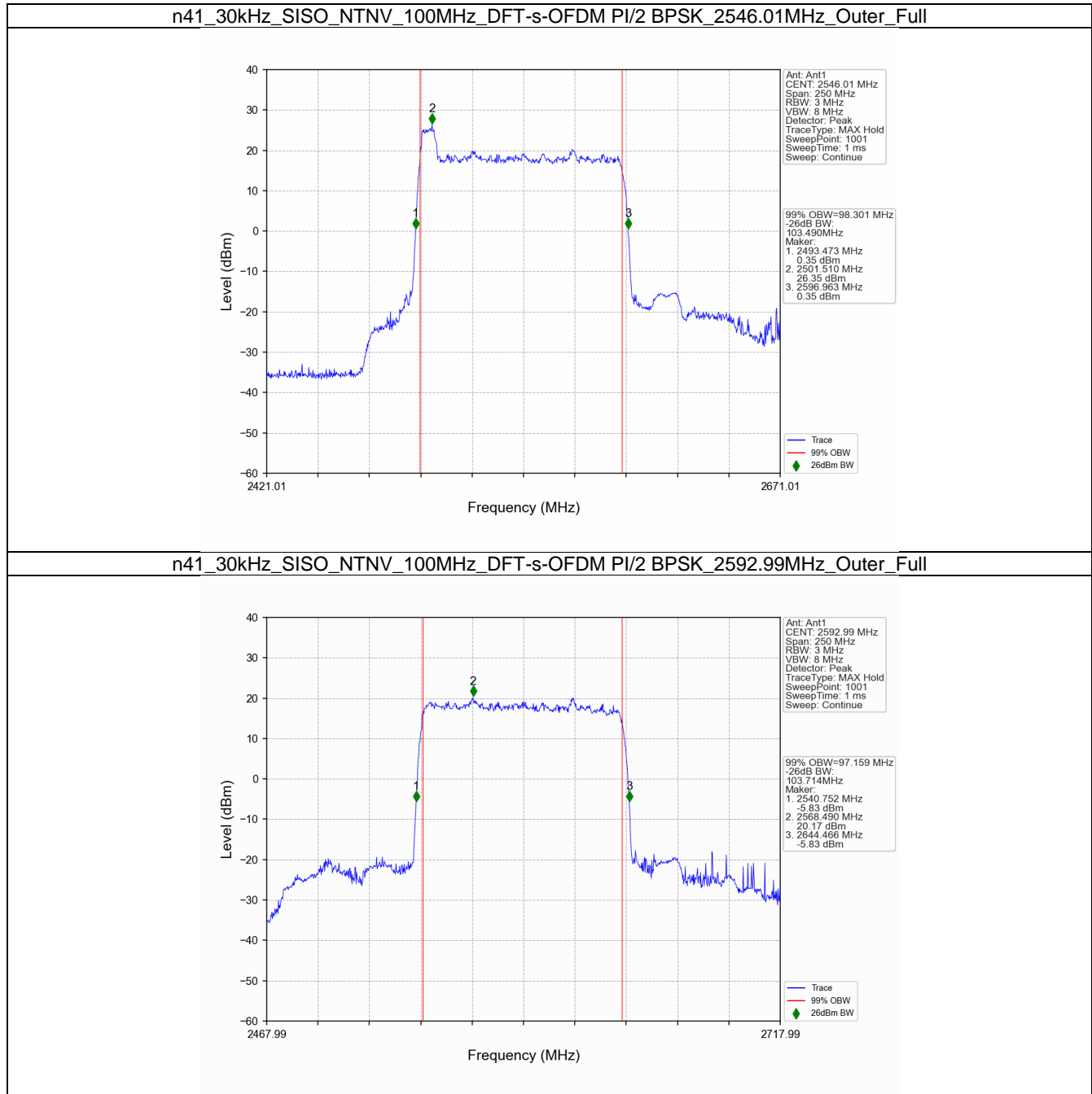


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4.19.2 Test Graph

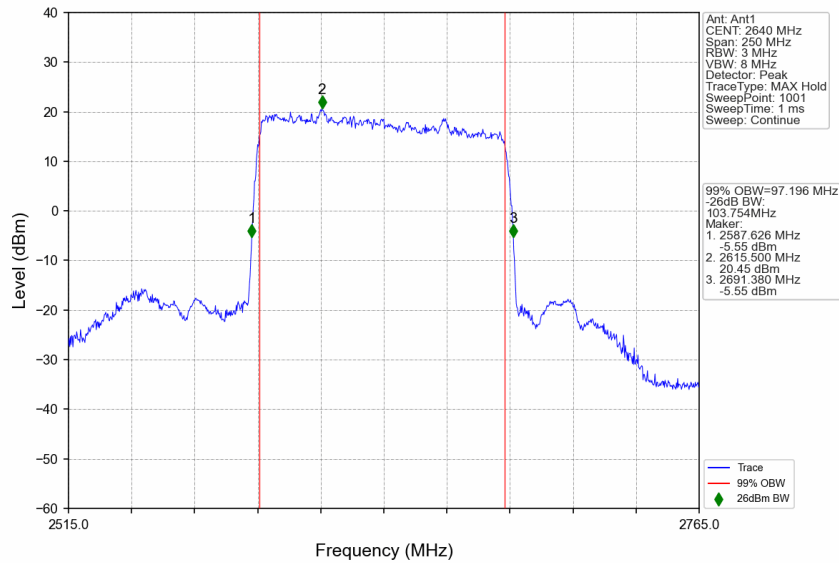


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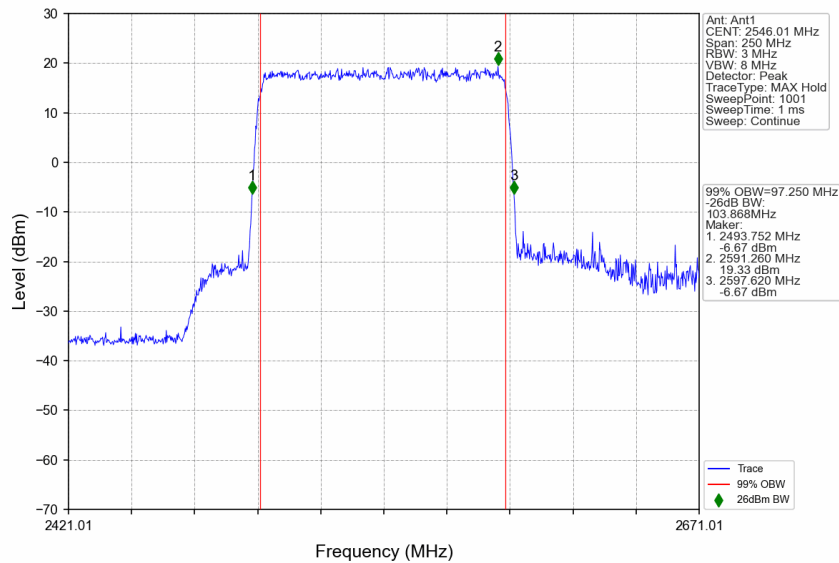
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n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM PI/2 BPSK_2640MHz_Outer_Full



n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM QPSK_2546.01MHz_Outer_Full

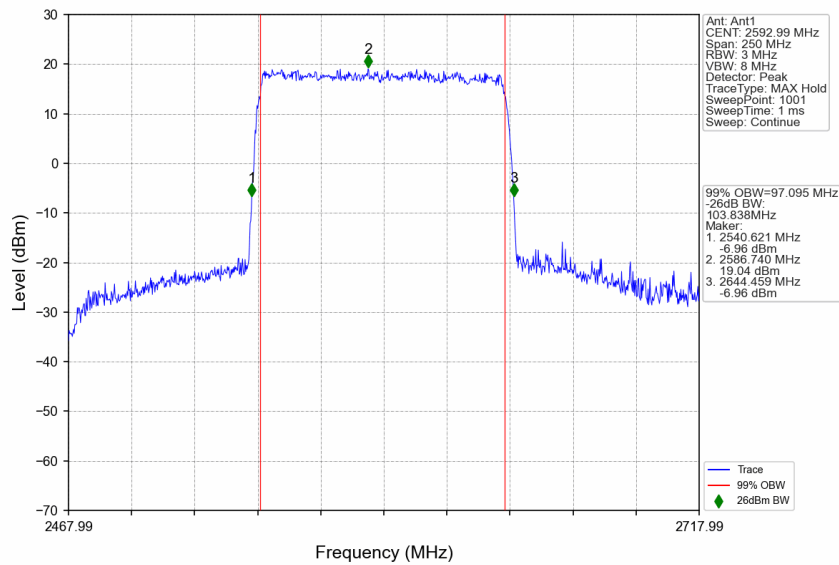


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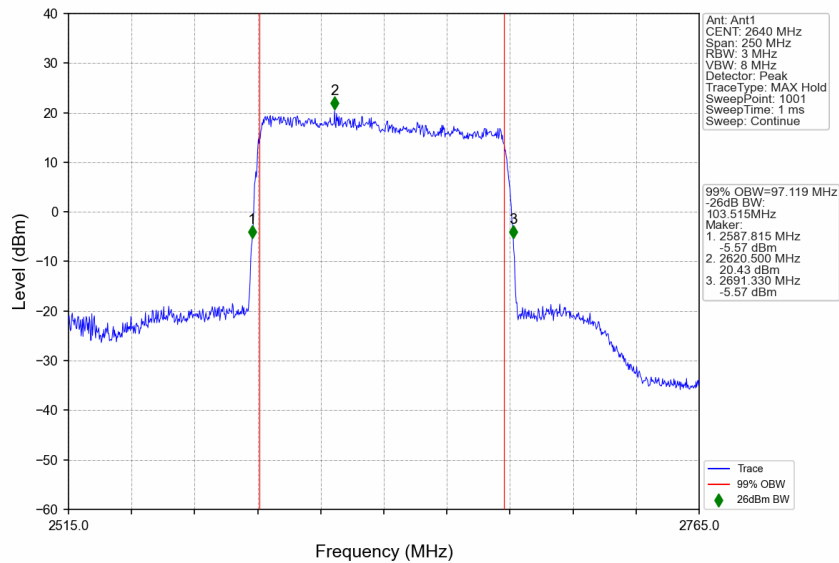
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n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM QPSK_2592.99MHz_Outer_Full



n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM QPSK_2640MHz_Outer_Full

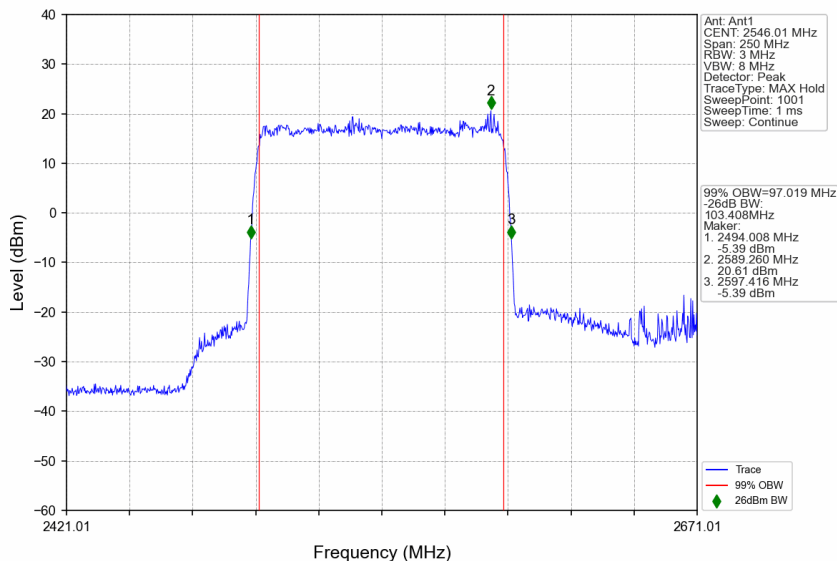


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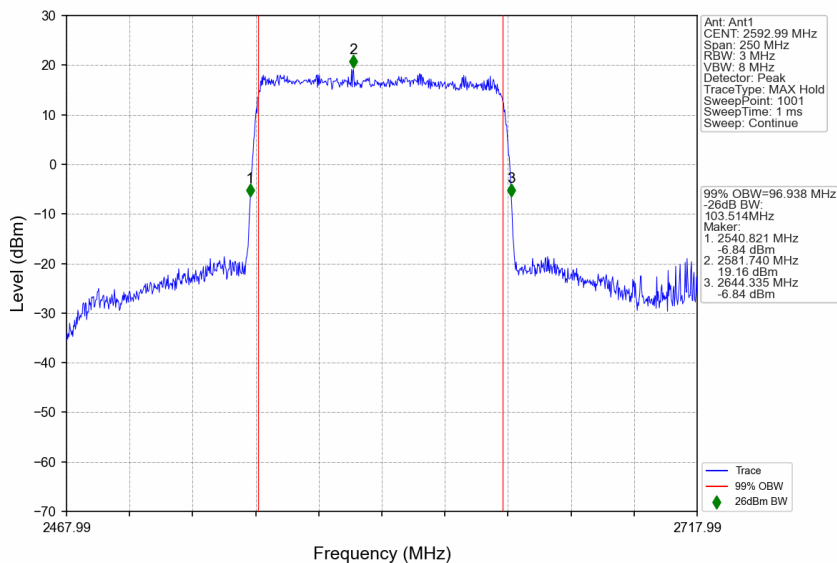
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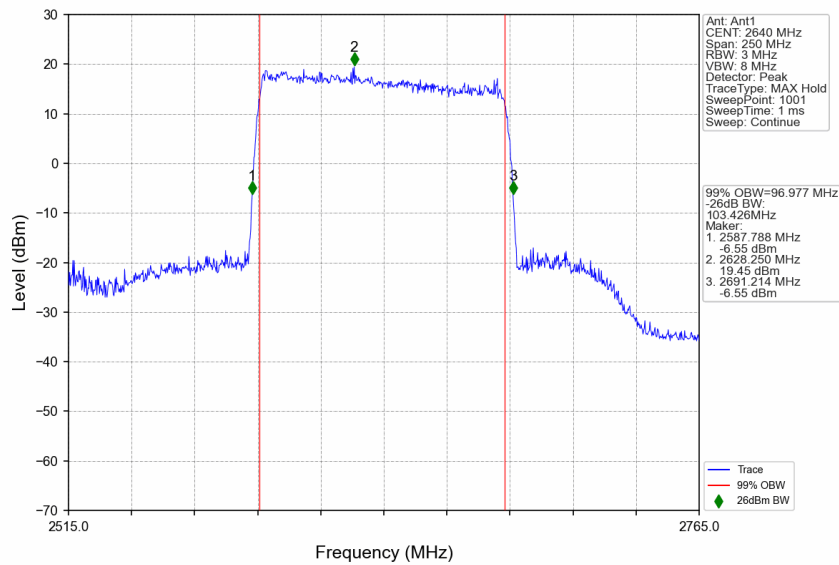


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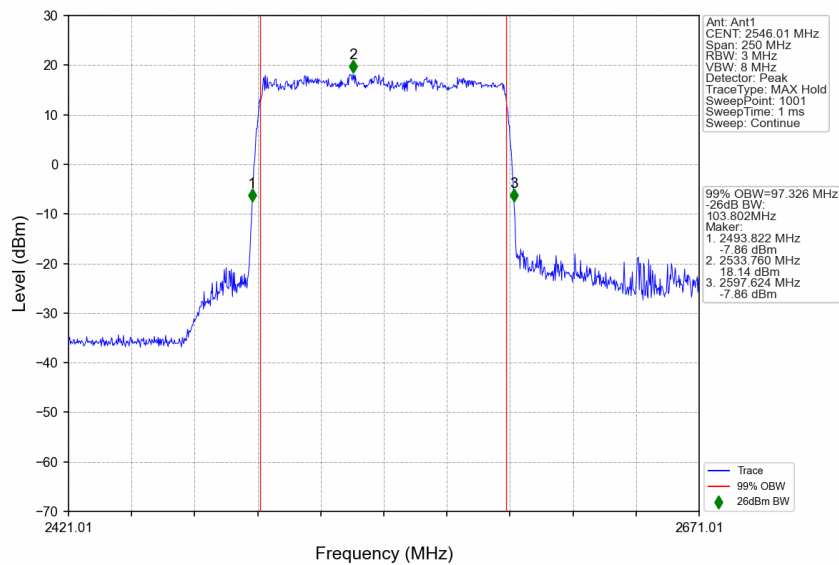
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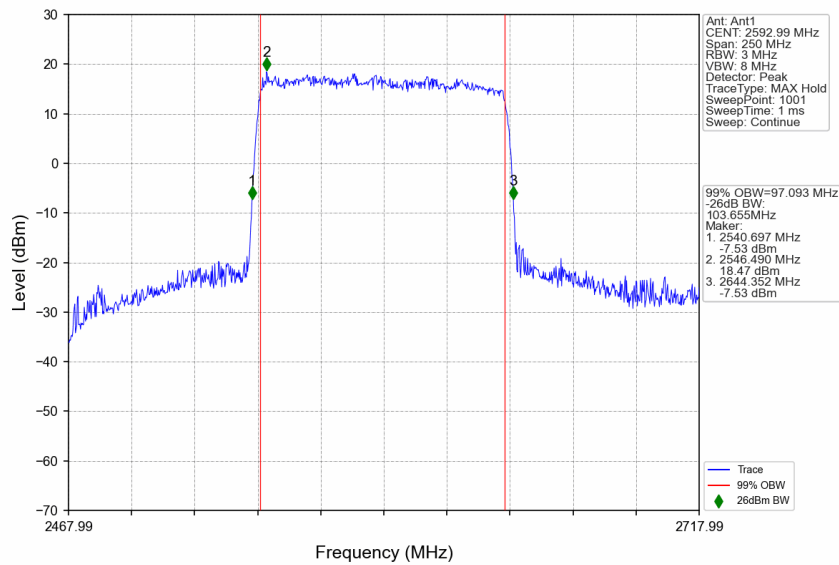


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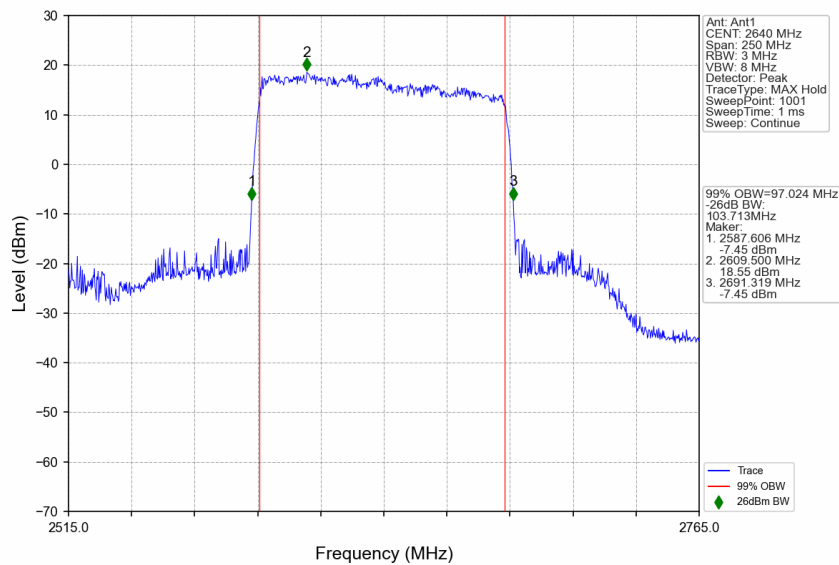
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n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM 64 QAM_2592.99MHz_Outer_Full



n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM 64 QAM_2640MHz_Outer_Full

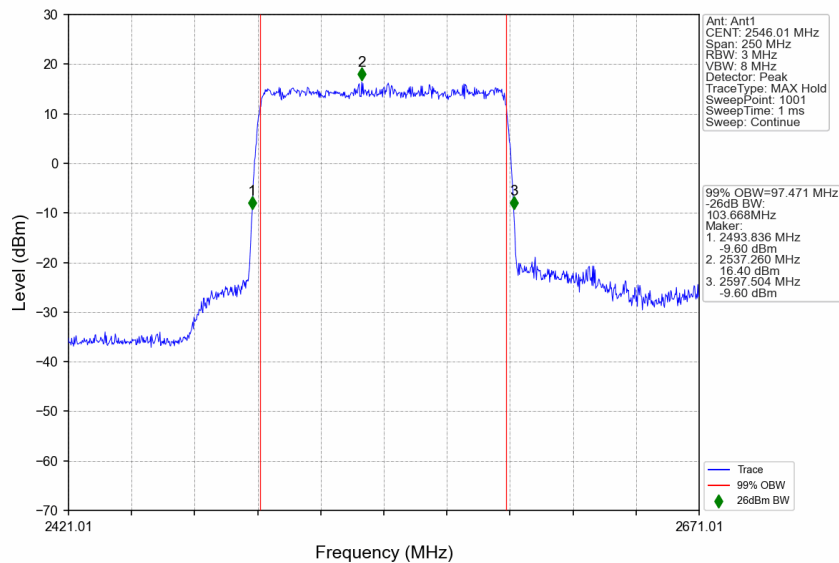


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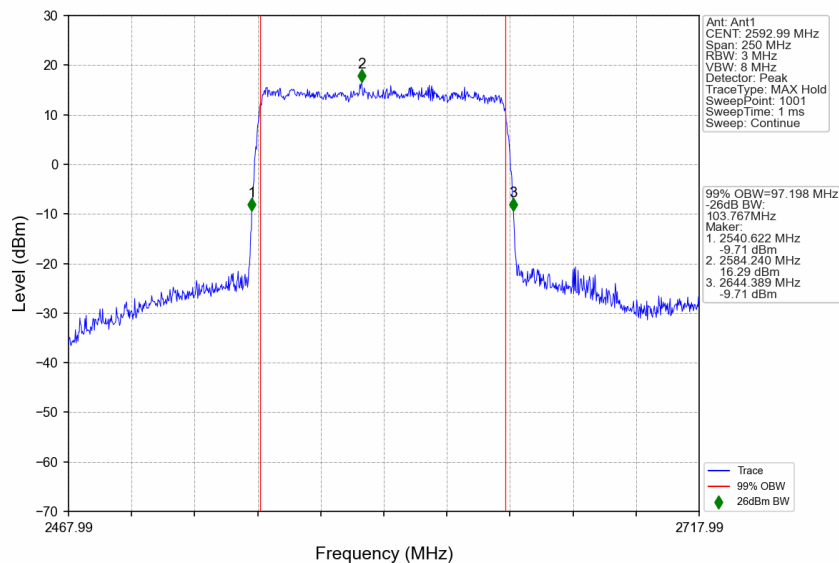
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n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM 256 QAM_2592.99MHz_Outer_Full

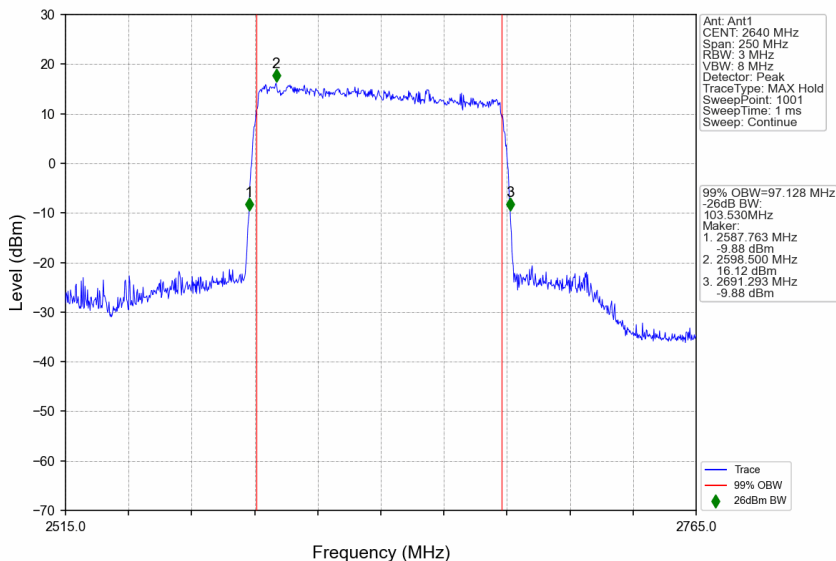


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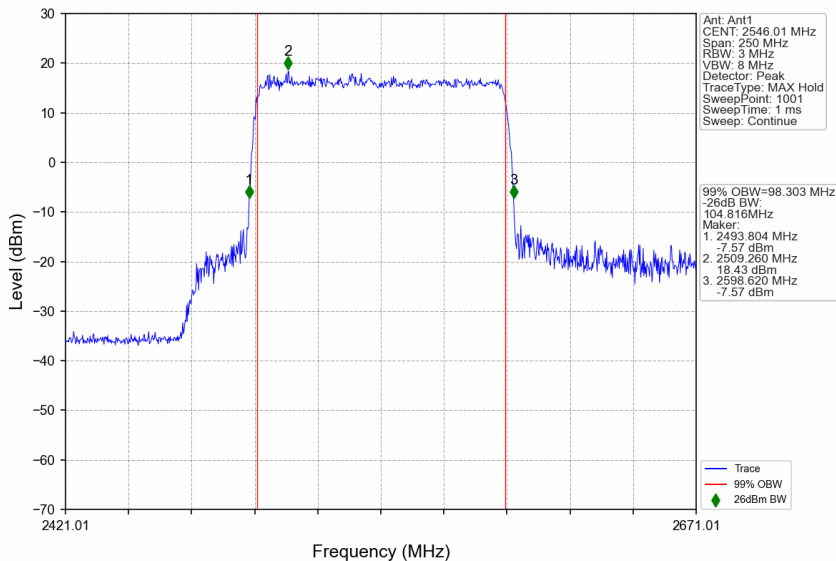
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n41_30kHz_SISO_NTNV_100MHz_DFT-s-OFDM 256 QAM_2640MHz_Outer_Full



n41_30kHz_SISO_NTNV_100MHz_CP-OFDM QPSK_2546.01MHz_Outer_Full

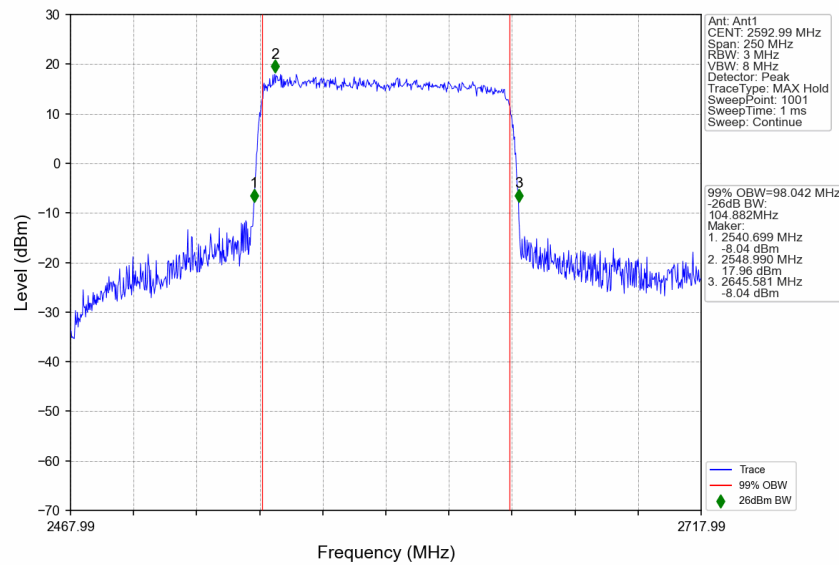


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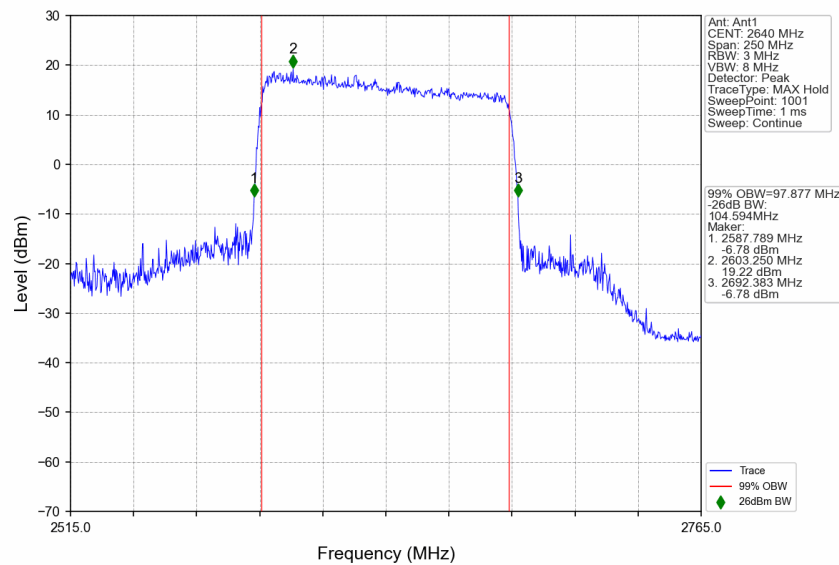
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n41_30kHz_SISO_NTNV_100MHz_CP-OFDM QPSK_2592.99MHz_Outer_Full



n41_30kHz_SISO_NTNV_100MHz_CP-OFDM QPSK_2640MHz_Outer_Full

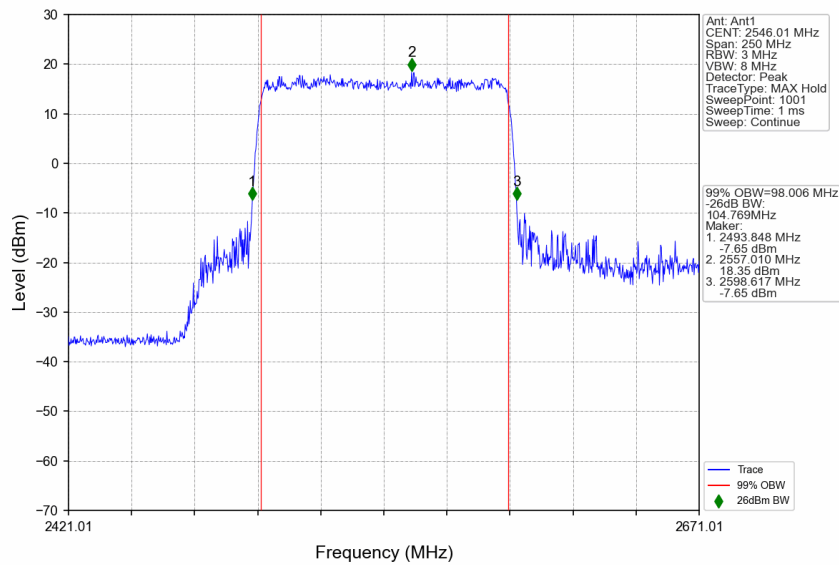


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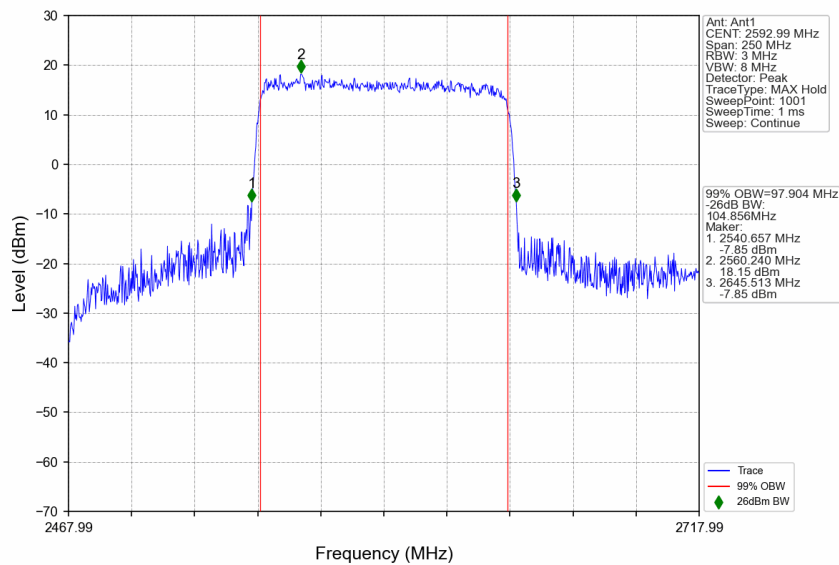
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n41_30kHz_SISO_NTNV_100MHz_CP-OFDM 16 QAM_2592.99MHz_Outer_Full

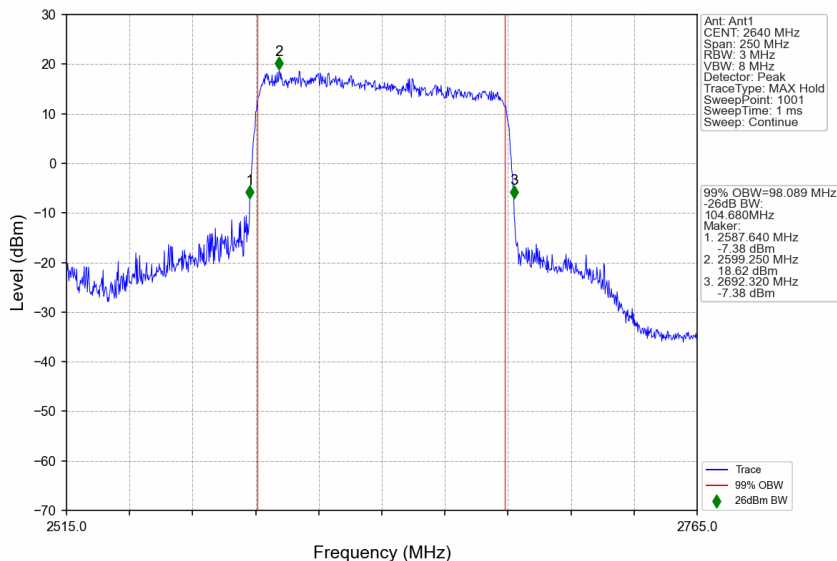


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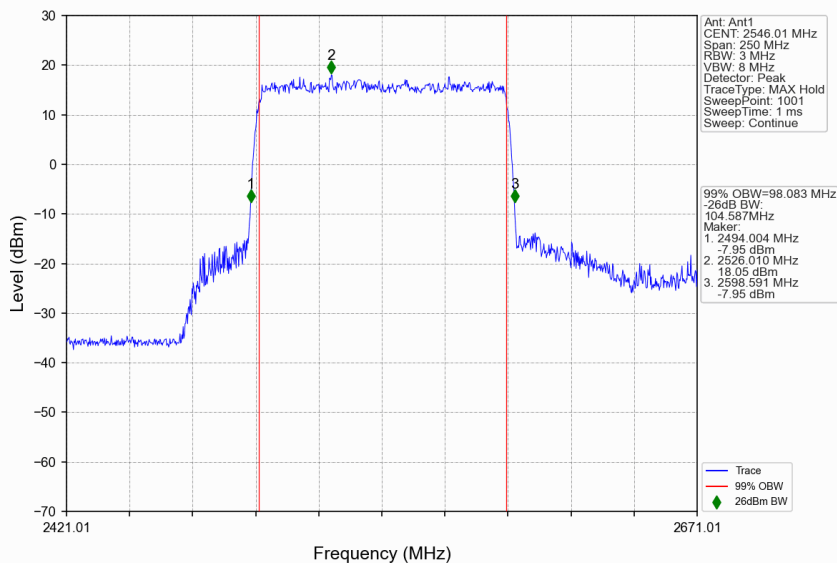
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n41_30kHz_SISO_NTNV_100MHz_CP-OFDM 16 QAM_2640MHz_Outer_Full



n41_30kHz_SISO_NTNV_100MHz_CP-OFDM 64 QAM_2546.01MHz_Outer_Full

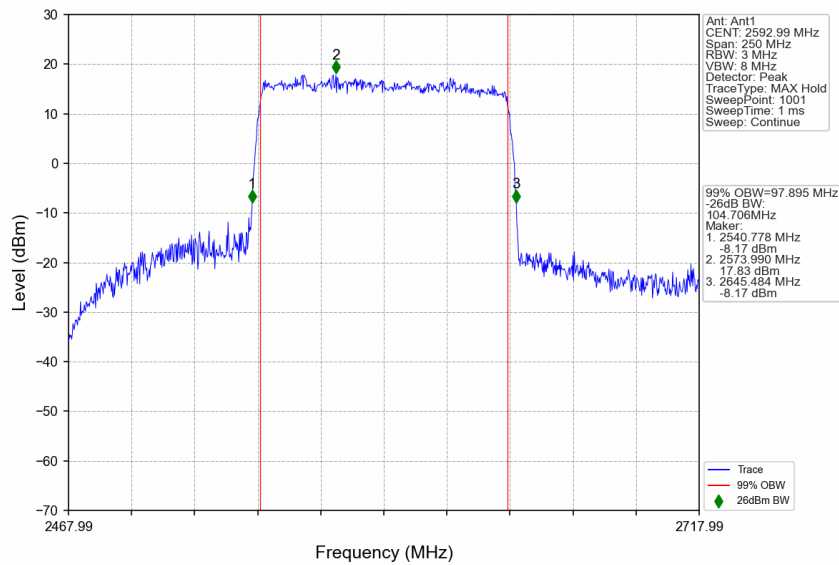


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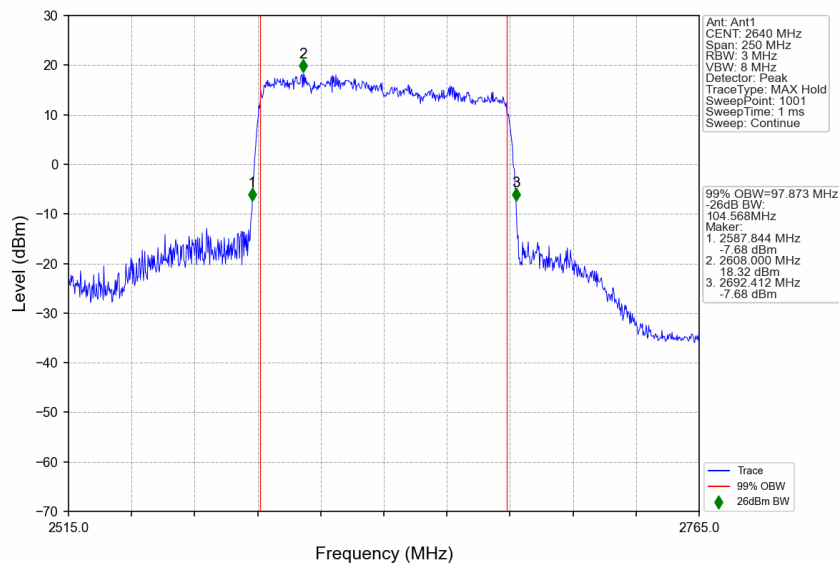
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n41_30kHz_SISO_NTNV_100MHz_CP-OFDM 64 QAM_2640MHz_Outer_Full

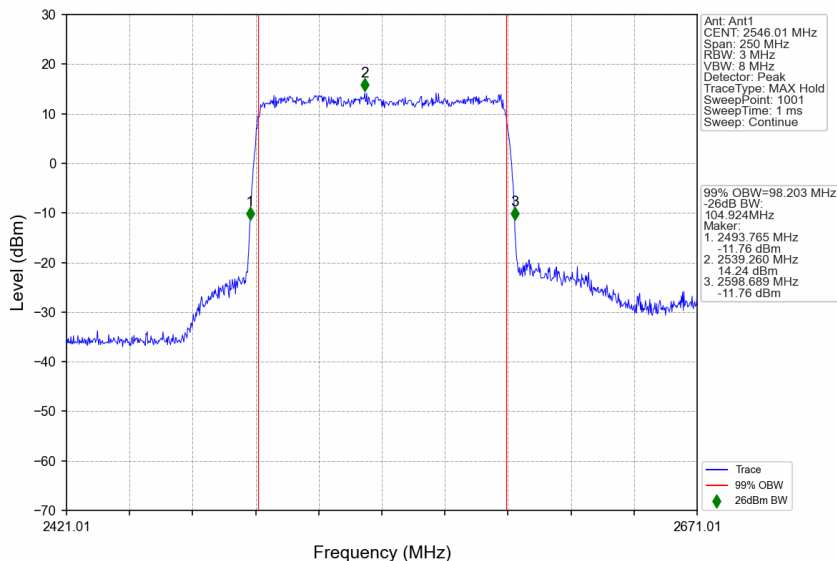


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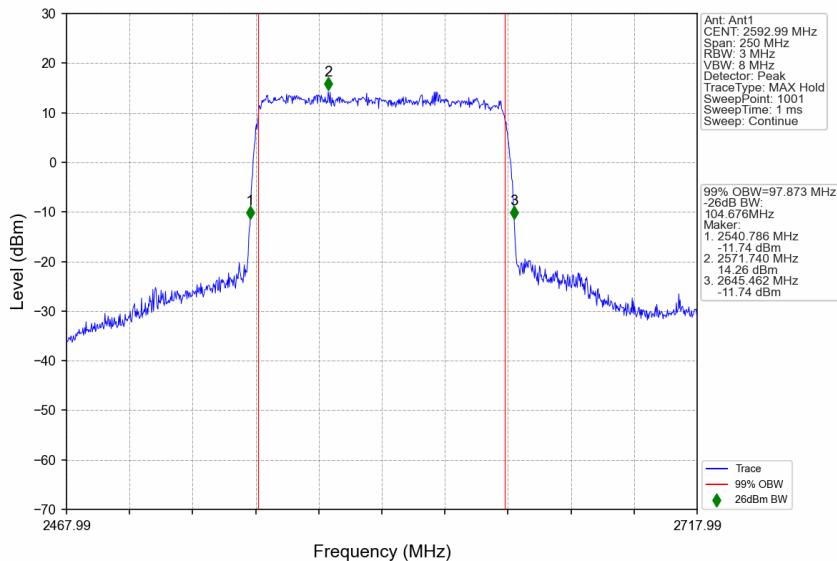
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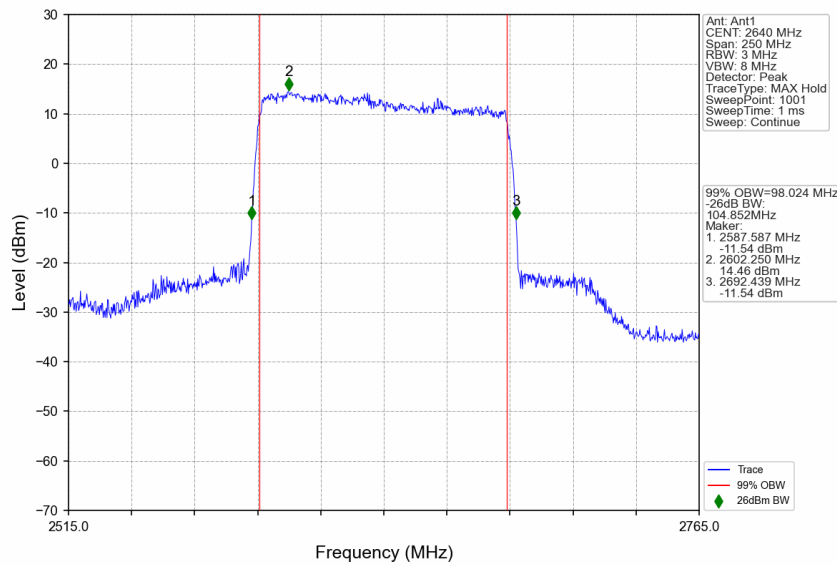


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5. Peak-Average Ratio

5.1 15k_SISO_10MHz_NTNV

5.1.1 Test Result

5G NR n41 SCS=15kHz SISO 10MHz NTNv							
Modulation	Frequency (MHz)	RB Allocation	Peak-Average Ratio (dB)				Verdict
			Ant1	Ant2	Sum	Limit	
DFT-s-OFDM PI/2 BPSK	2501.01	Outer_Full	10.73	/	/	<=13	Pass
	2593.005	Outer_Full	10.73	/	/	<=13	Pass
	2685	Outer_Full	10.81	/	/	<=13	Pass
DFT-s-OFDM QPSK	2501.01	Outer_Full	12.03	/	/	<=13	Pass
	2593.005	Outer_Full	11.83	/	/	<=13	Pass
	2685	Outer_Full	11.72	/	/	<=13	Pass
DFT-s-OFDM 16 QAM	2501.01	Outer_Full	12.96	/	/	<=13	Pass
	2593.005	Outer_Full	12.58	/	/	<=13	Pass
	2685	Outer_Full	12.38	/	/	<=13	Pass
DFT-s-OFDM 64 QAM	2501.01	Outer_Full	12.39	/	/	<=13	Pass
	2593.005	Outer_Full	12.81	/	/	<=13	Pass
	2685	Outer_Full	12.28	/	/	<=13	Pass
DFT-s-OFDM 256 QAM	2501.01	Outer_Full	12.58	/	/	<=13	Pass
	2593.005	Outer_Full	12.78	/	/	<=13	Pass
	2685	Outer_Full	12.52	/	/	<=13	Pass
CP-OFDM QPSK	2501.01	Outer_Full	11.88	/	/	<=13	Pass
	2593.005	Outer_Full	11.75	/	/	<=13	Pass
	2685	Outer_Full	11.67	/	/	<=13	Pass
CP-OFDM 16 QAM	2501.01	Outer_Full	11.91	/	/	<=13	Pass
	2593.005	Outer_Full	11.85	/	/	<=13	Pass
	2685	Outer_Full	11.95	/	/	<=13	Pass
CP-OFDM 64 QAM	2501.01	Outer_Full	11.67	/	/	<=13	Pass
	2593.005	Outer_Full	11.89	/	/	<=13	Pass
	2685	Outer_Full	11.83	/	/	<=13	Pass
CP-OFDM 256 QAM	2501.01	Outer_Full	11.72	/	/	<=13	Pass
	2593.005	Outer_Full	12.28	/	/	<=13	Pass
	2685	Outer_Full	12.31	/	/	<=13	Pass

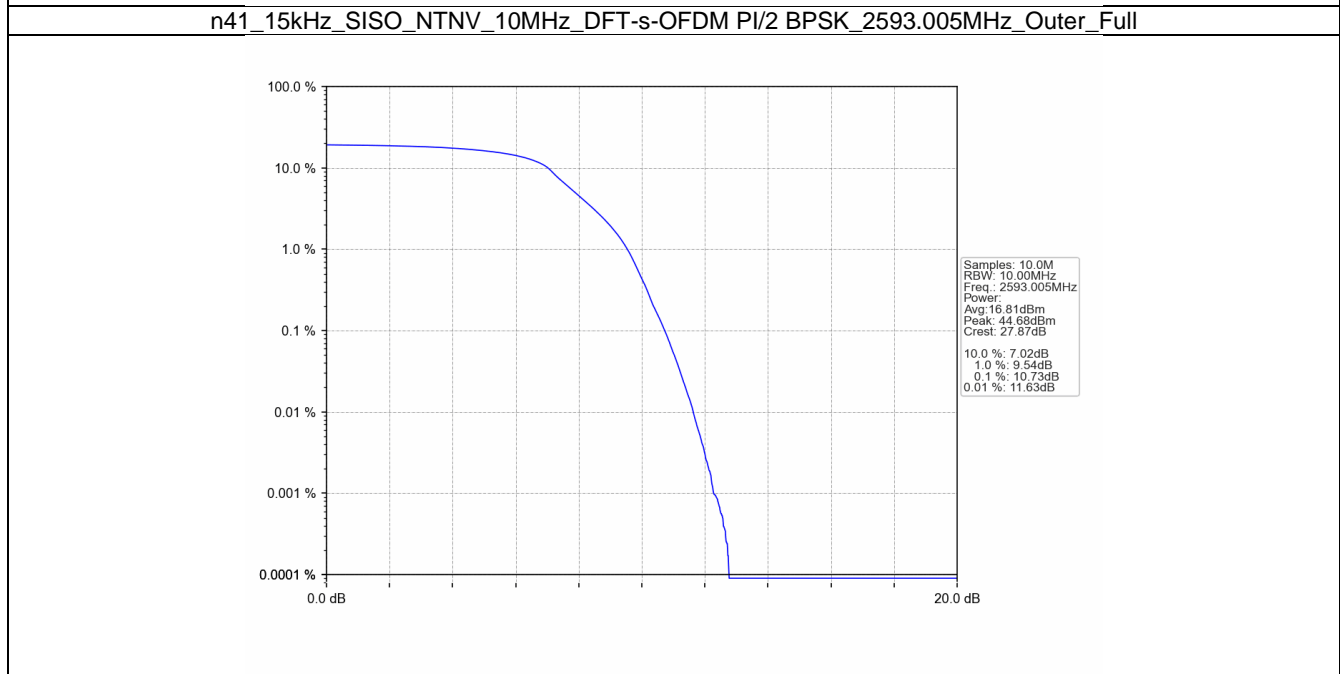
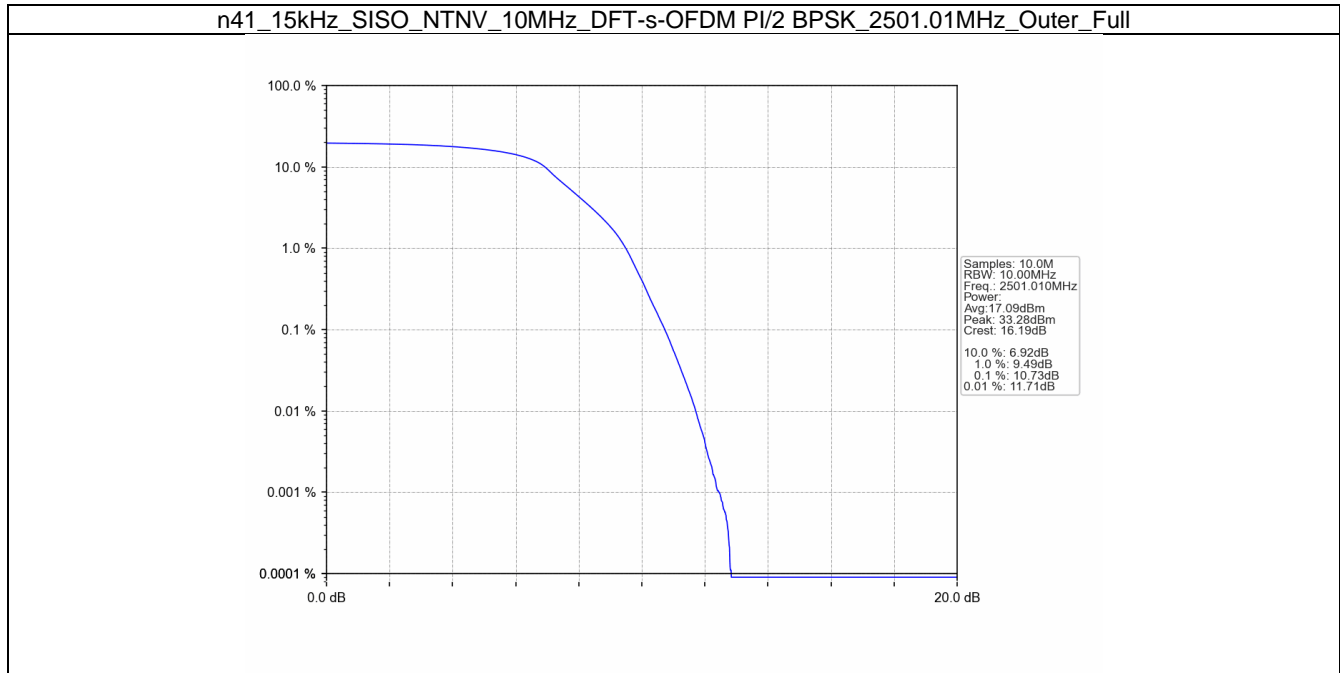


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5.1.2 Test Graph

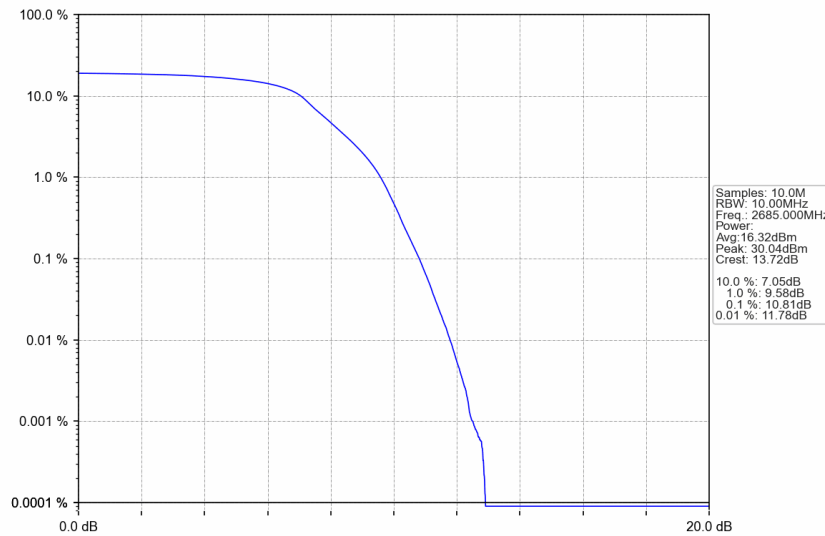


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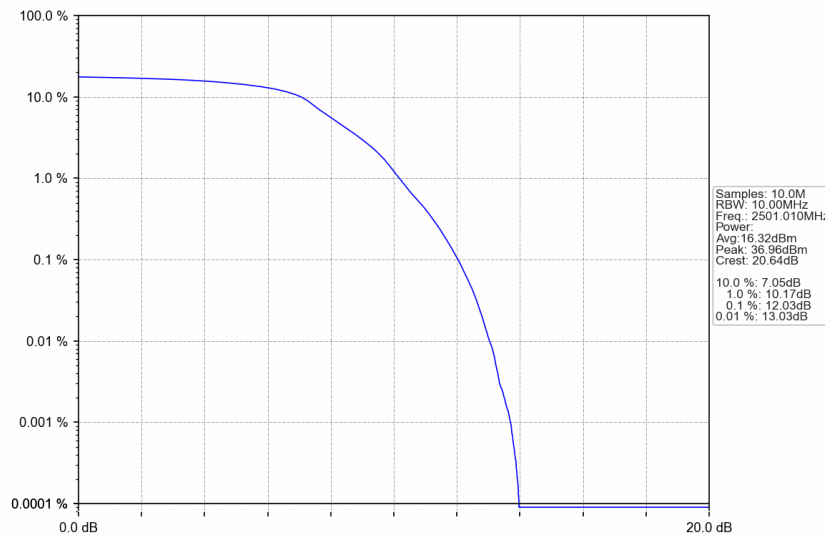
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n41_15kHz_SISO_NTNV_10MHz_DFT-s-OFDM PI/2 BPSK_2685MHz_Outer_Full



n41_15kHz_SISO_NTNV_10MHz_DFT-s-OFDM QPSK_2501.01MHz_Outer_Full



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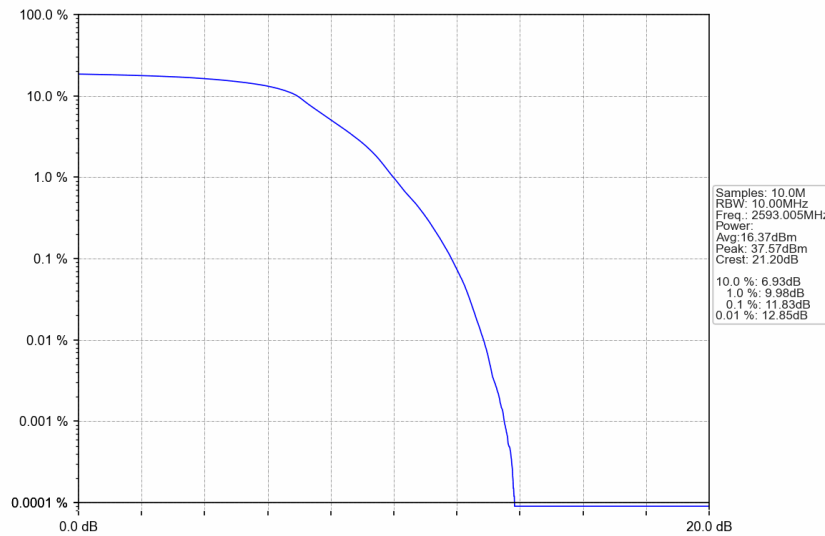
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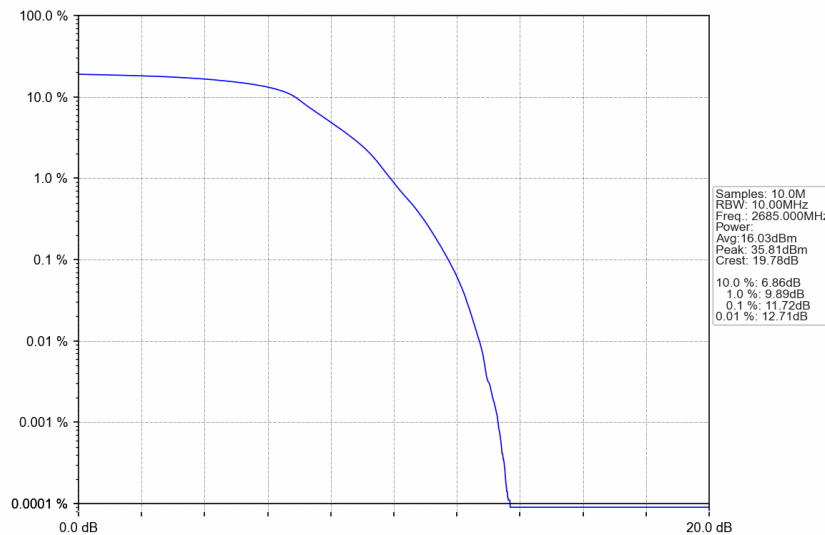
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n41_15kHz_SISO_NTNV_10MHz_DFT-s-OFDM QPSK_2593.005MHz_Outer_Full



n41_15kHz_SISO_NTNV_10MHz_DFT-s-OFDM QPSK_2685MHz_Outer_Full



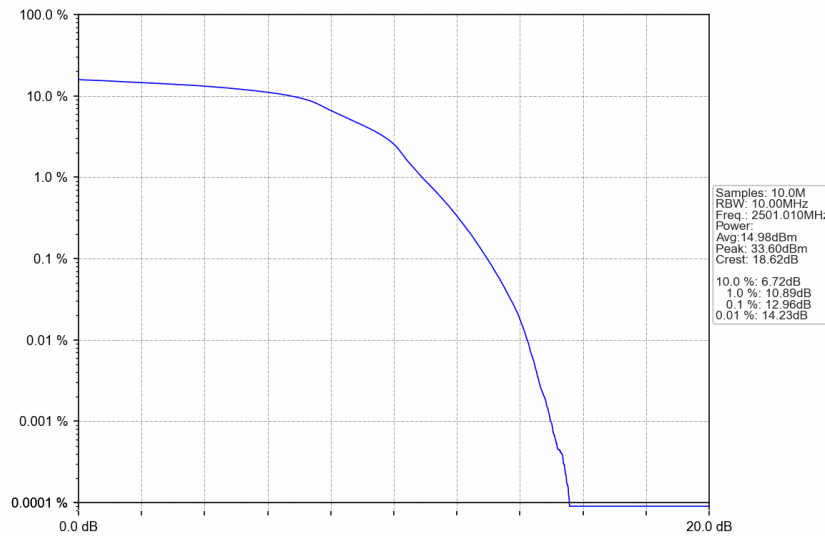
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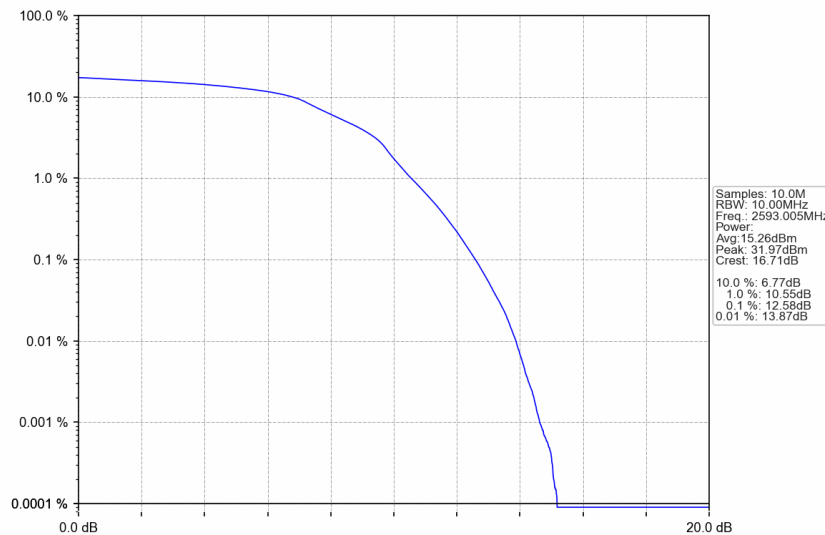
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n41_15kHz_SISO_NTNV_10MHz_DFT-s-OFDM 16 QAM_2593.005MHz_Outer_Full

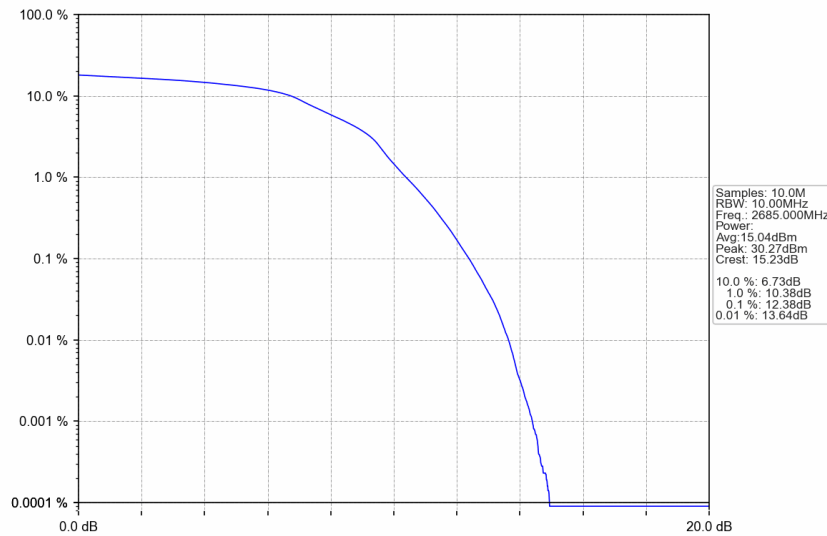


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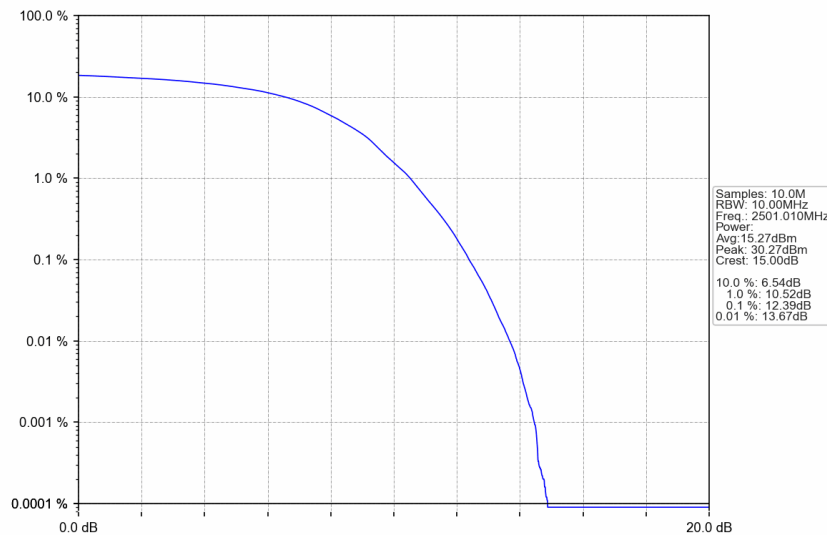
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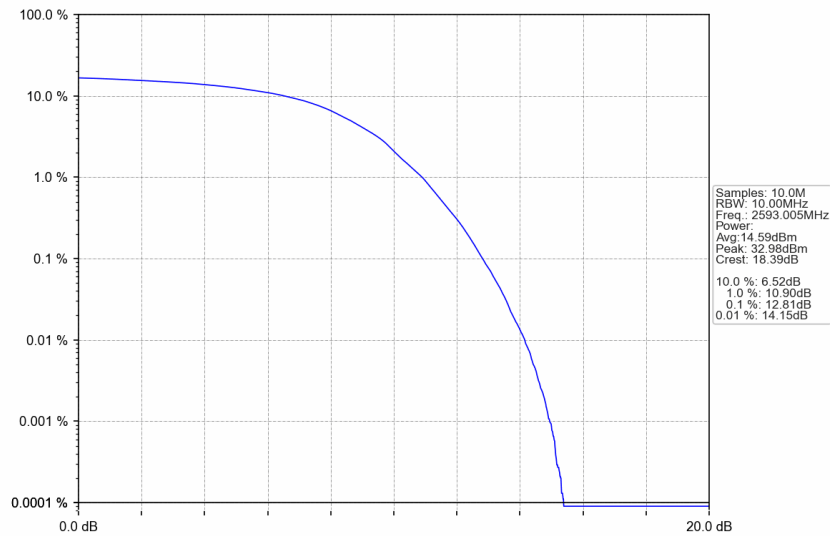
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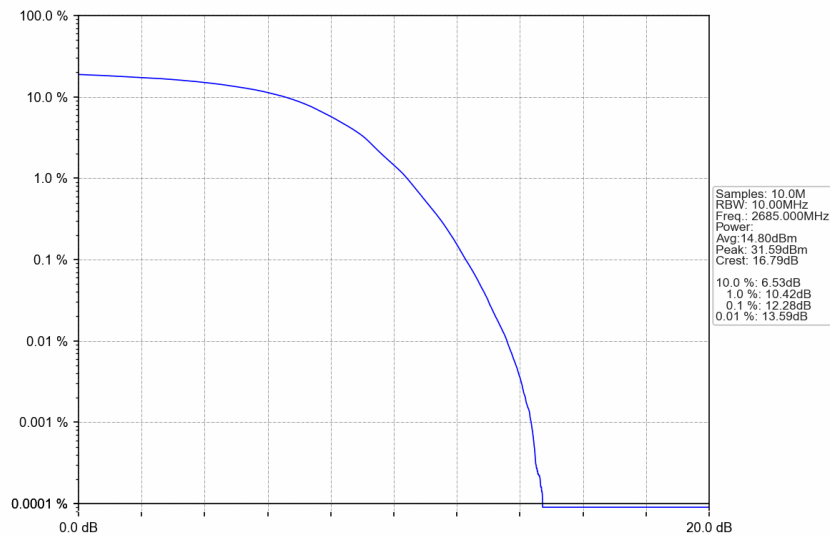
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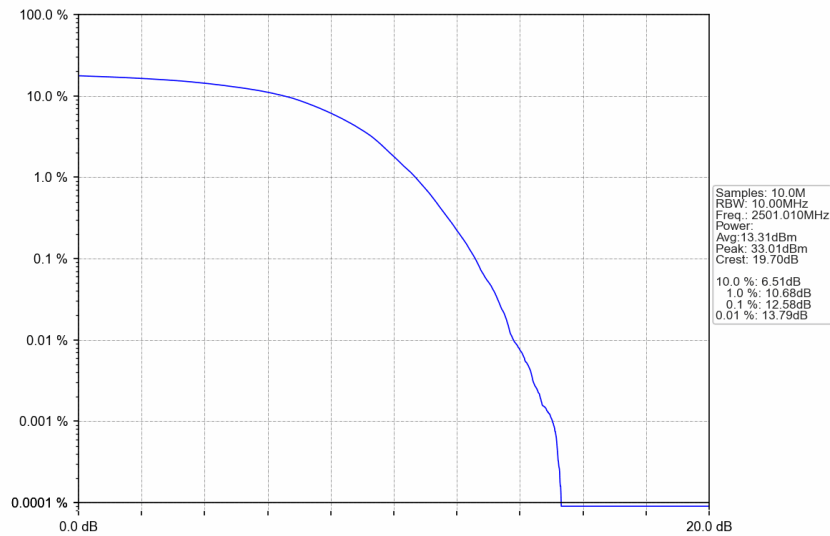


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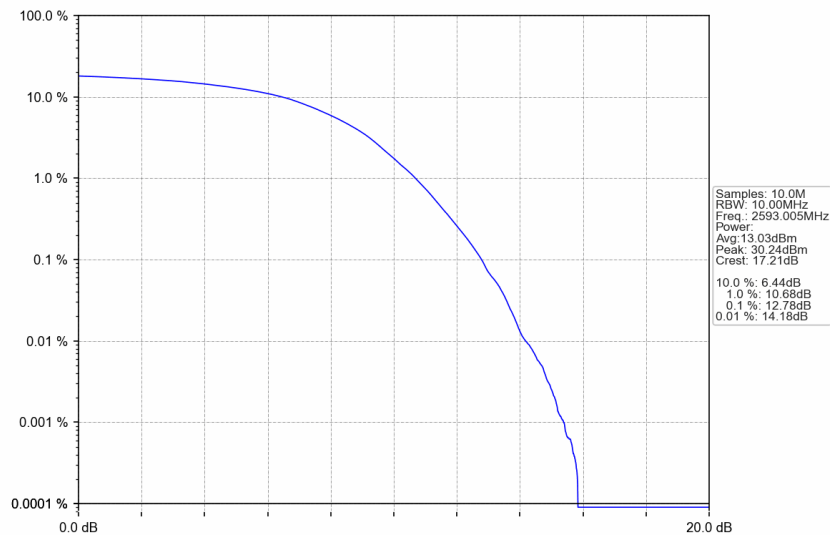
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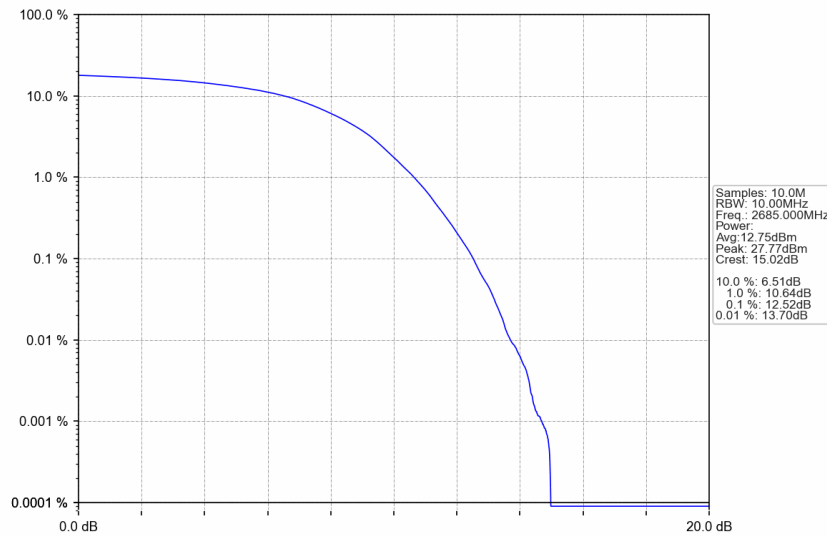


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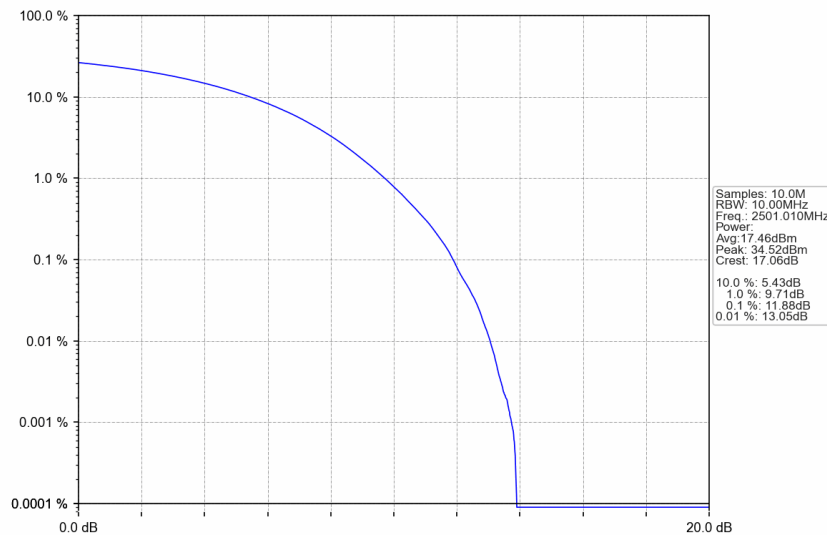
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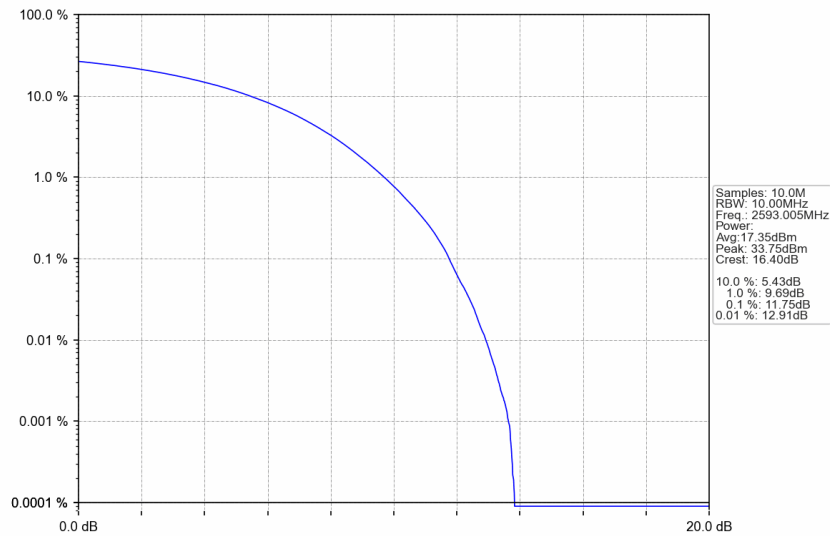


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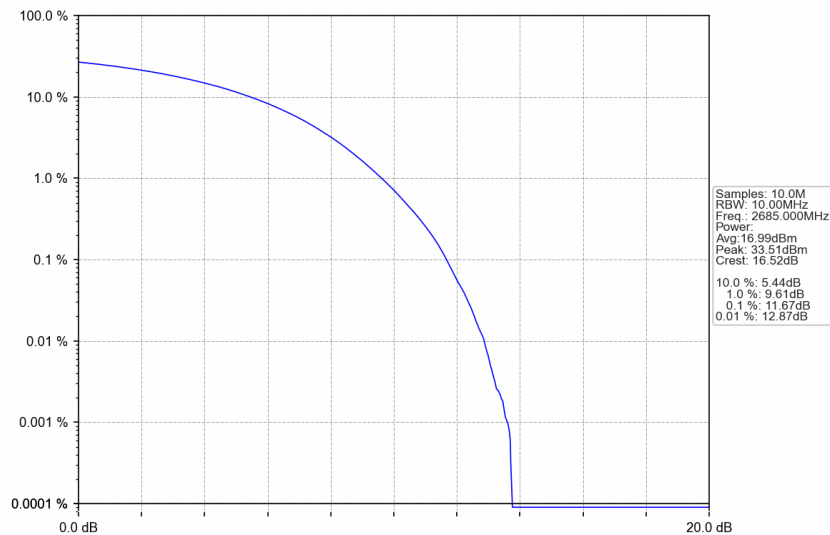
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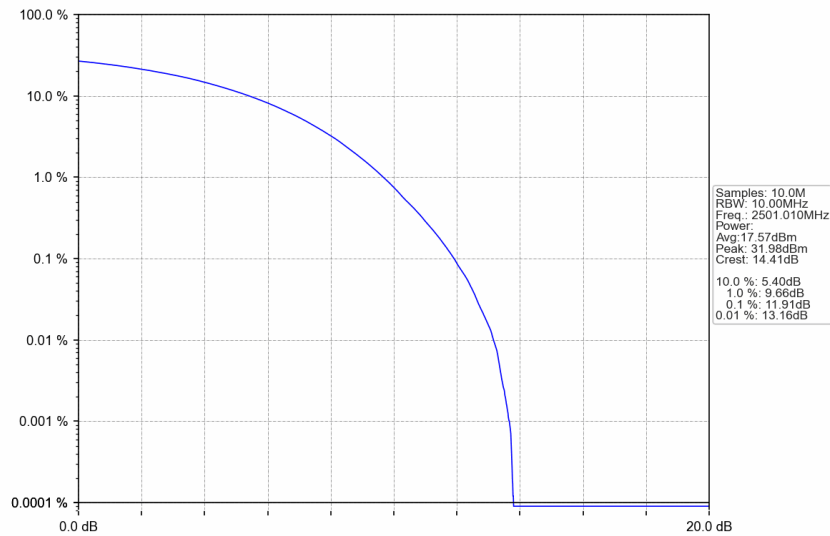


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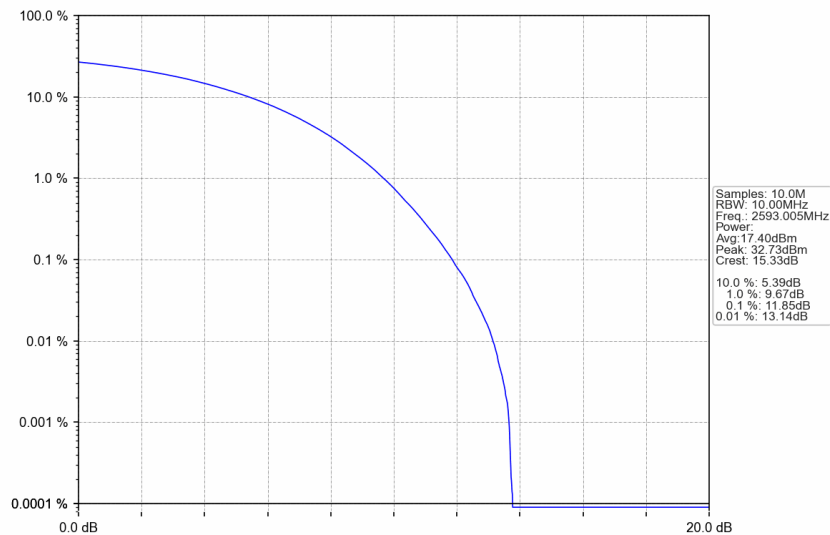
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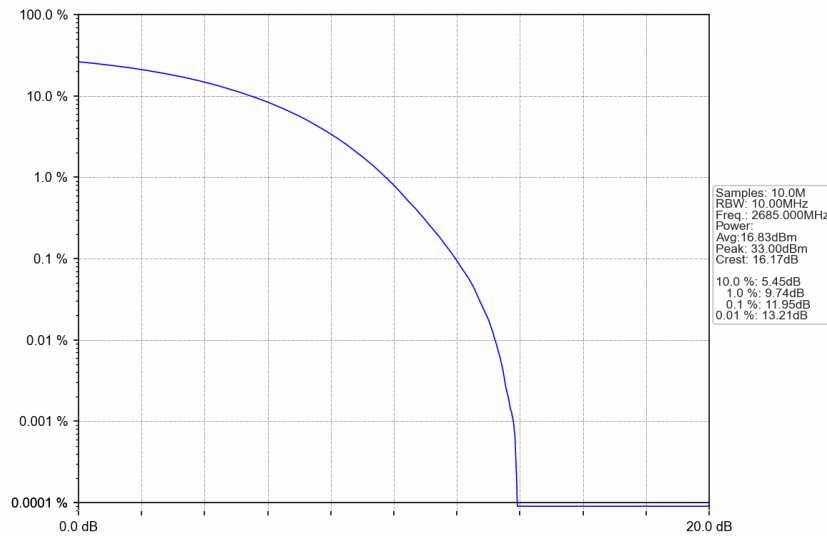


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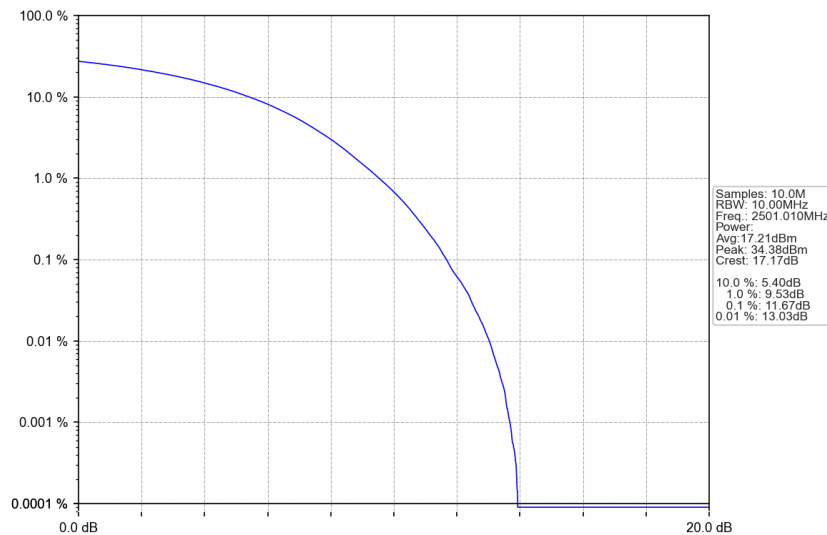
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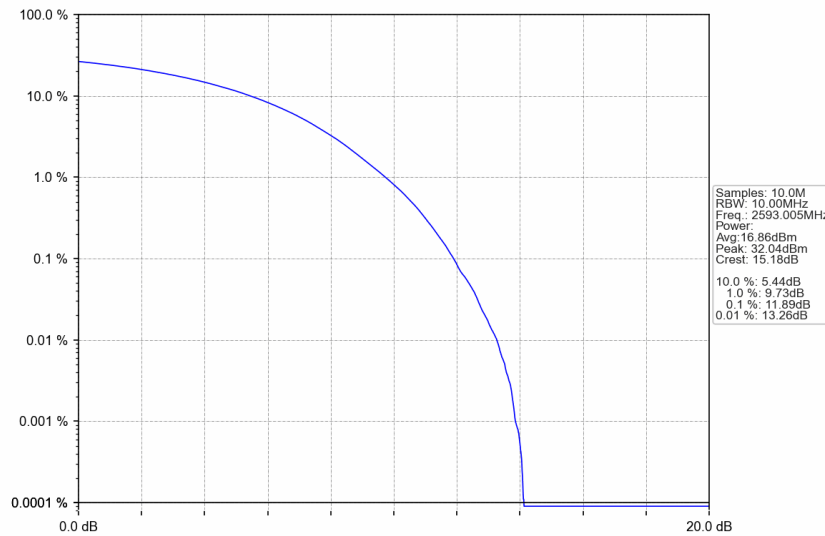
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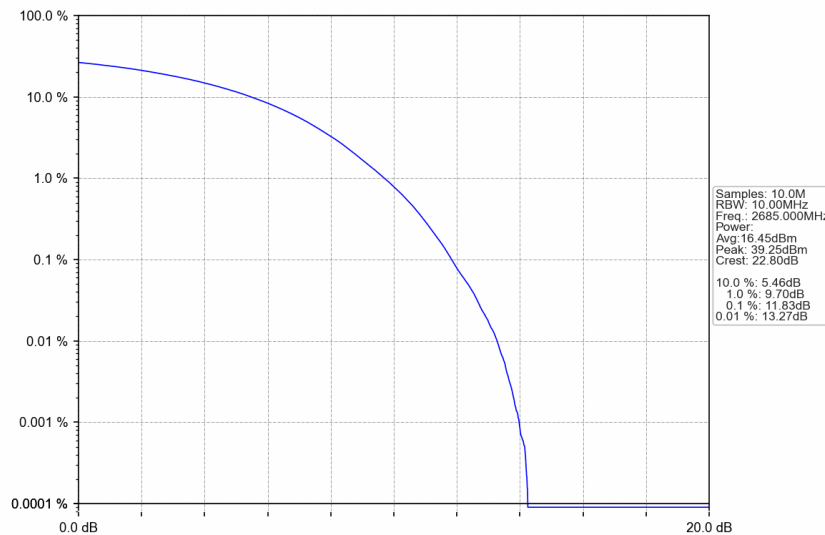
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n41_15kHz_SISO_NTNV_10MHz_CP-OFDM 64 QAM_2685MHz_Outer_Full



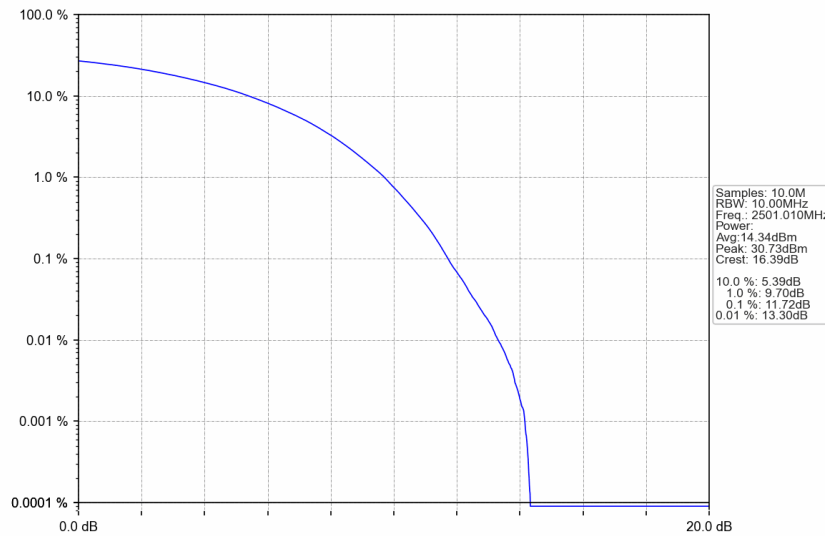
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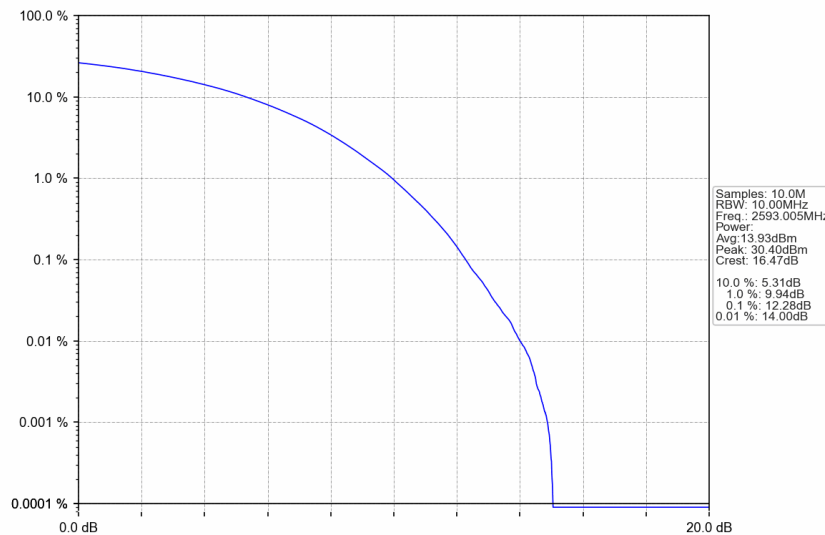
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n41_15kHz_SISO_NTNV_10MHz_CP-OFDM 256 QAM_2501.01MHz_Outer_Full



n41_15kHz_SISO_NTNV_10MHz_CP-OFDM 256 QAM_2593.005MHz_Outer_Full



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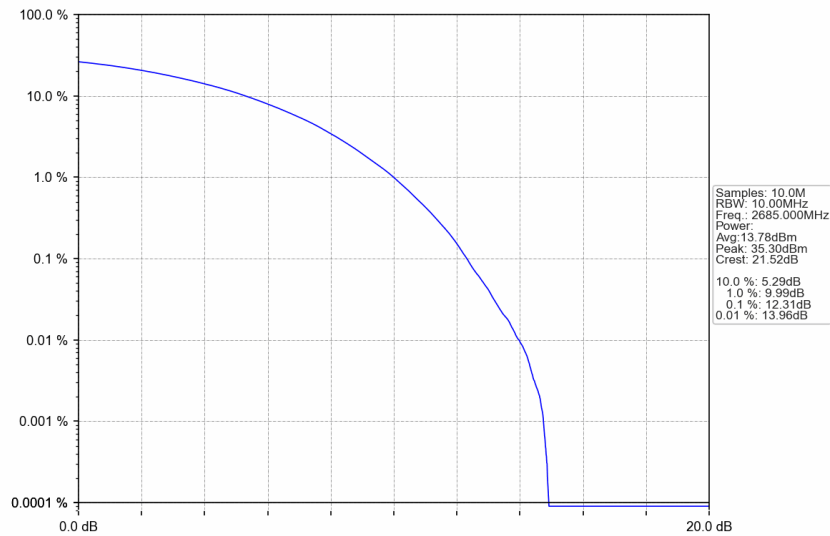
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5.2 15k_SISO_15MHz_NTNV

5.2.1 Test Result

5G NR n41 SCS=15kHz SISO 15MHz NTN							
Modulation	Frequency (MHz)	RB Allocation	Peak-Average Ratio (dB)				Verdict
			Ant1	Ant2	Sum	Limit	
DFT-s-OFDM PI/2 BPSK	2503.5	Outer_Full	12.19	/	/	<=13	Pass
	2593.005	Outer_Full	10.93	/	/	<=13	Pass
	2682.495	Outer_Full	10.79	/	/	<=13	Pass
DFT-s-OFDM QPSK	2503.5	Outer_Full	11.80	/	/	<=13	Pass
	2593.005	Outer_Full	11.95	/	/	<=13	Pass
	2682.495	Outer_Full	11.54	/	/	<=13	Pass
DFT-s-OFDM 16 QAM	2503.5	Outer_Full	12.34	/	/	<=13	Pass
	2593.005	Outer_Full	11.99	/	/	<=13	Pass
	2682.495	Outer_Full	12.87	/	/	<=13	Pass
DFT-s-OFDM 64 QAM	2503.5	Outer_Full	12.56	/	/	<=13	Pass
	2593.005	Outer_Full	12.75	/	/	<=13	Pass
	2682.495	Outer_Full	12.53	/	/	<=13	Pass
DFT-s-OFDM 256 QAM	2503.5	Outer_Full	12.28	/	/	<=13	Pass
	2593.005	Outer_Full	12.50	/	/	<=13	Pass
	2682.495	Outer_Full	12.44	/	/	<=13	Pass
CP-OFDM QPSK	2503.5	Outer_Full	11.41	/	/	<=13	Pass
	2593.005	Outer_Full	11.92	/	/	<=13	Pass
	2682.495	Outer_Full	11.47	/	/	<=13	Pass
CP-OFDM 16 QAM	2503.5	Outer_Full	11.57	/	/	<=13	Pass
	2593.005	Outer_Full	12.12	/	/	<=13	Pass
	2682.495	Outer_Full	11.73	/	/	<=13	Pass
CP-OFDM 64 QAM	2503.5	Outer_Full	11.58	/	/	<=13	Pass
	2593.005	Outer_Full	11.97	/	/	<=13	Pass
	2682.495	Outer_Full	11.65	/	/	<=13	Pass
CP-OFDM 256 QAM	2503.5	Outer_Full	12.19	/	/	<=13	Pass
	2593.005	Outer_Full	11.55	/	/	<=13	Pass
	2682.495	Outer_Full	11.61	/	/	<=13	Pass

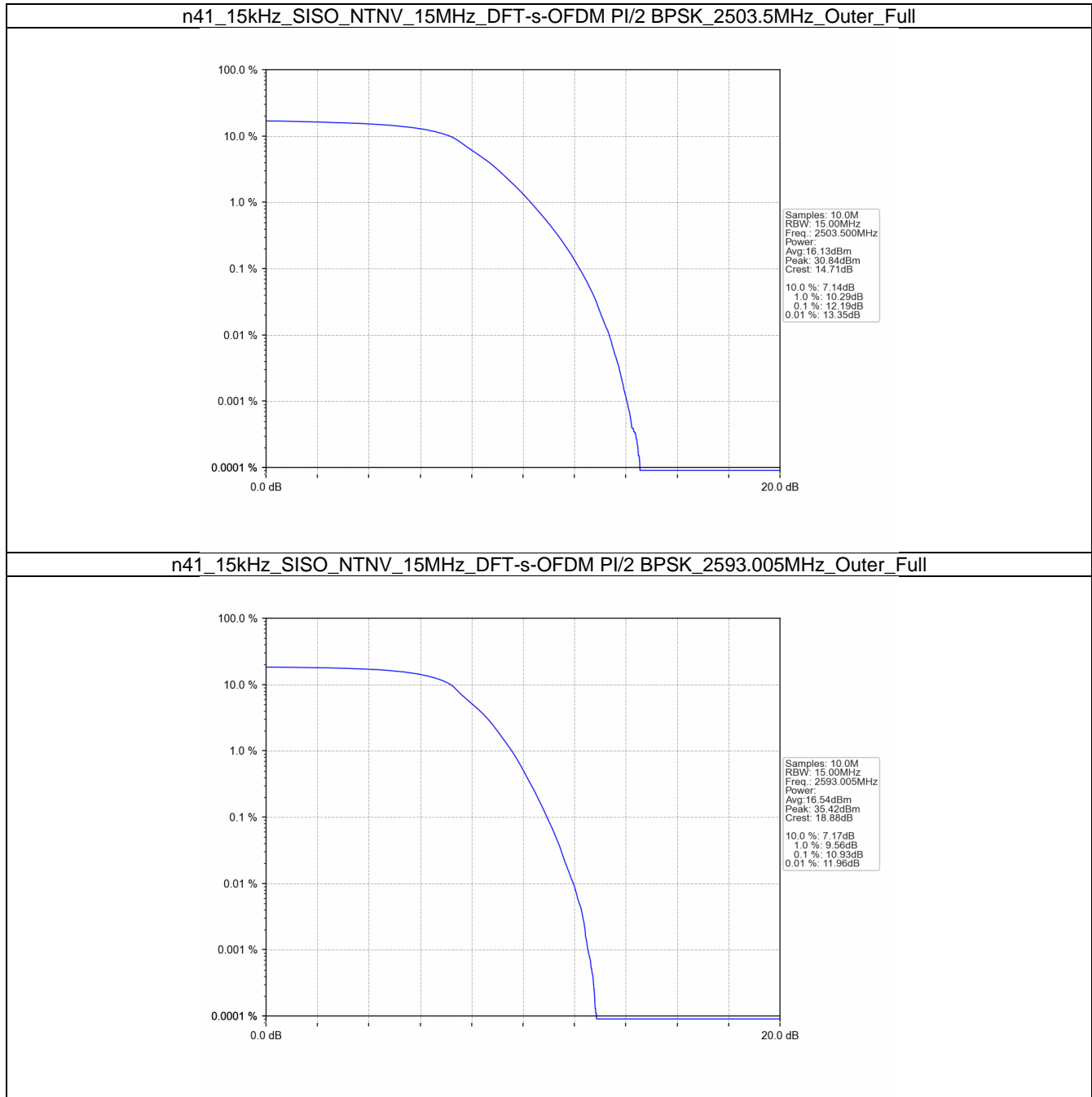


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5.2.2 Test Graph

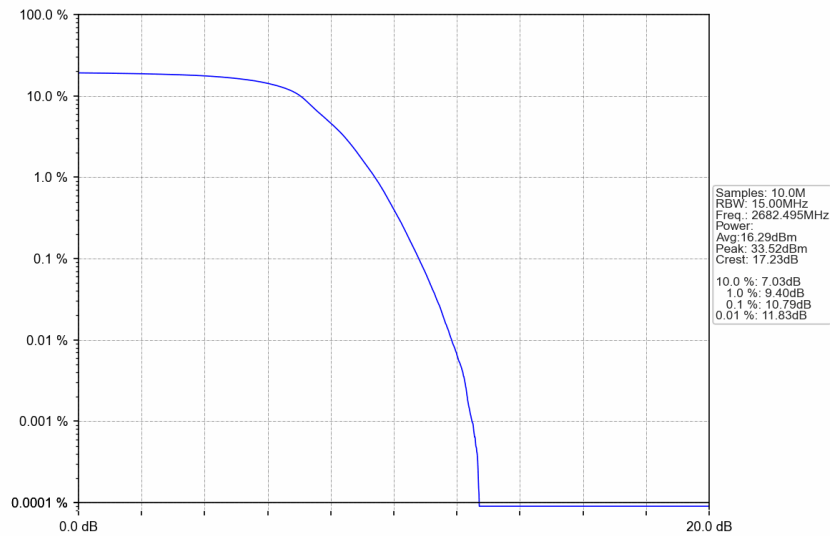


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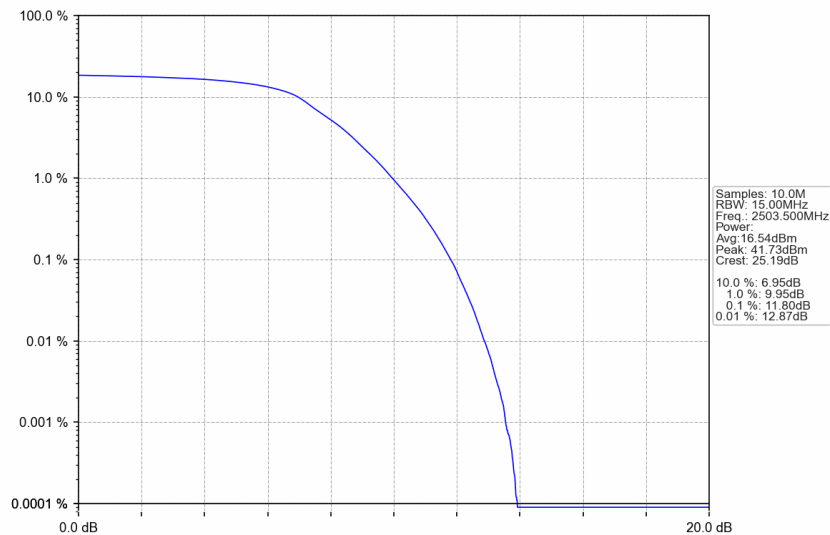
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n41_15kHz_SISO_NTNV_15MHz_DFT-s-OFDM PI/2 BPSK_2682.495MHz_Outer_Full



n41_15kHz_SISO_NTNV_15MHz_DFT-s-OFDM QPSK_2503.5MHz_Outer_Full



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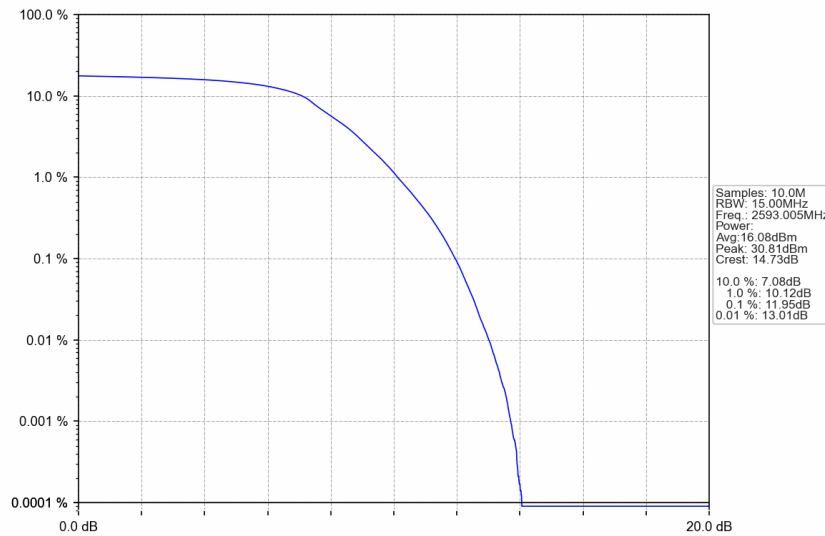
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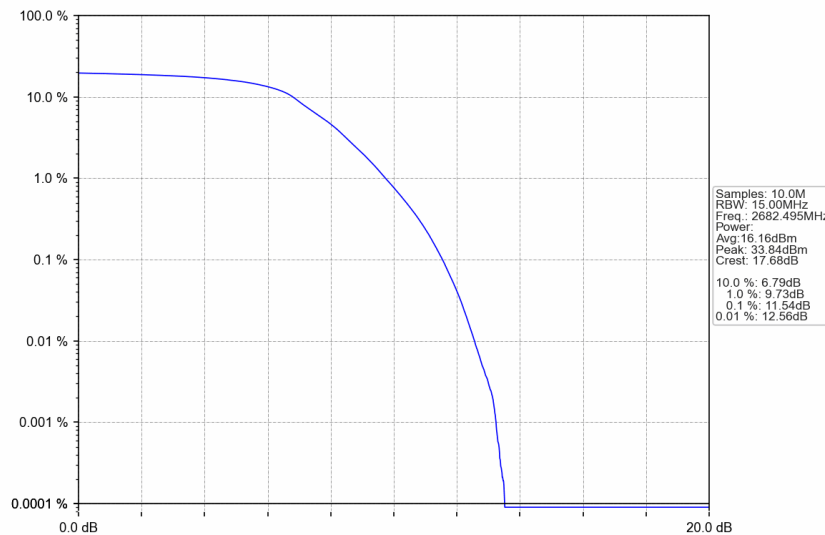
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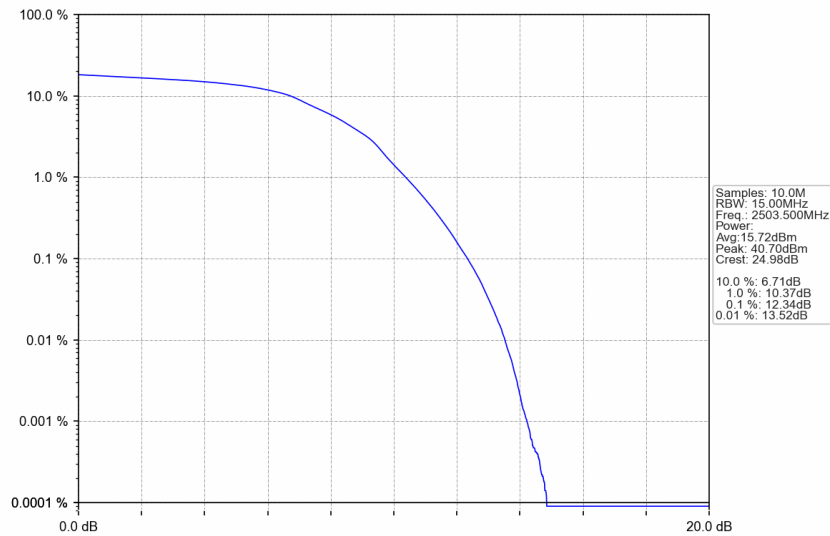


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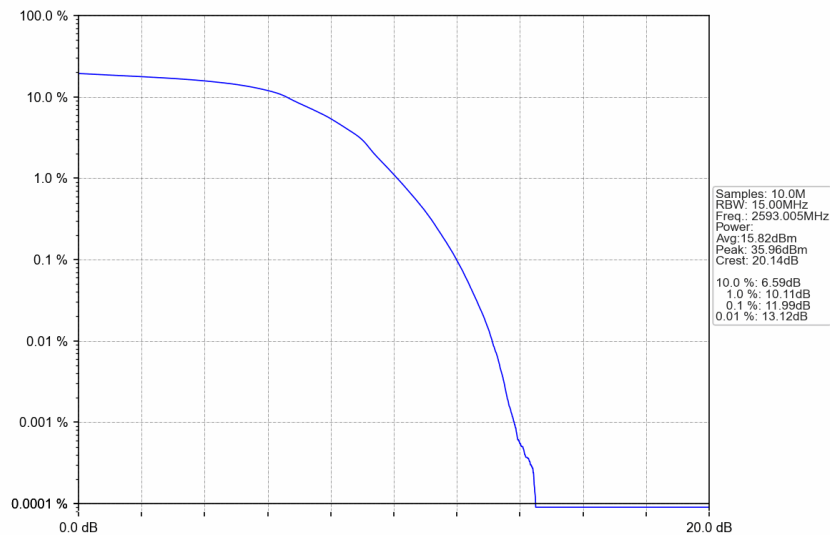
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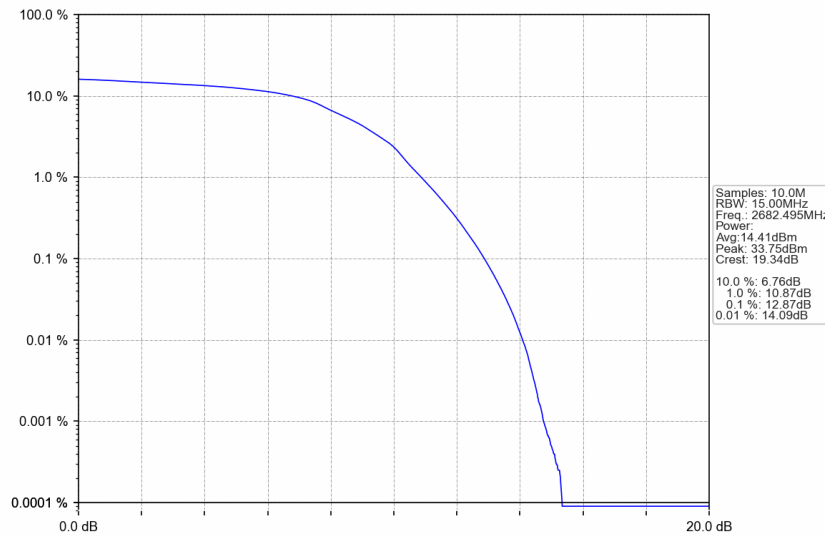
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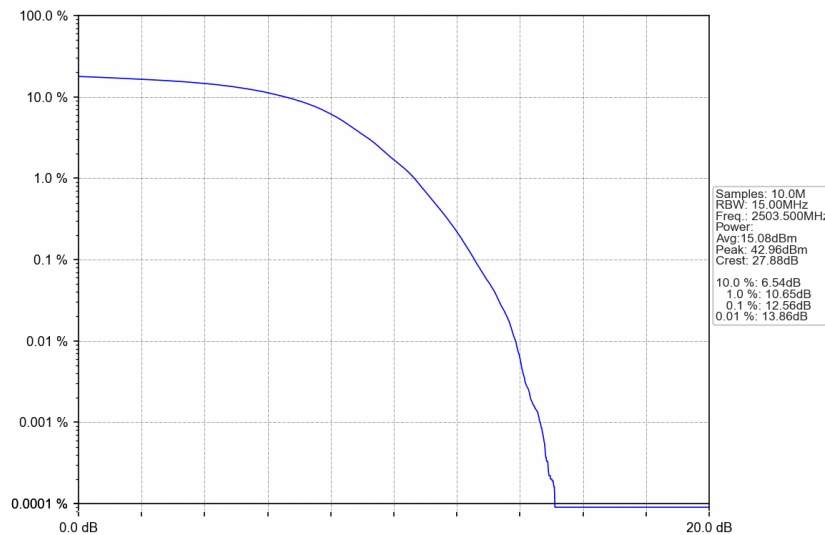
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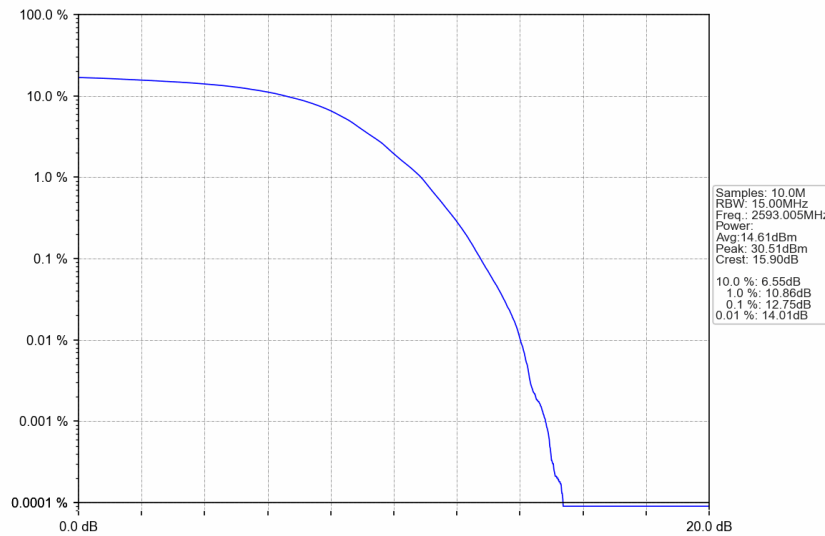


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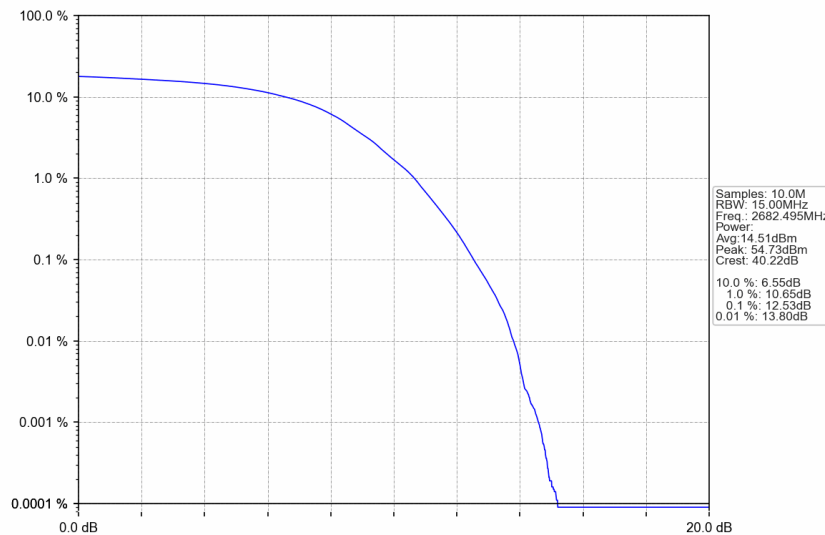
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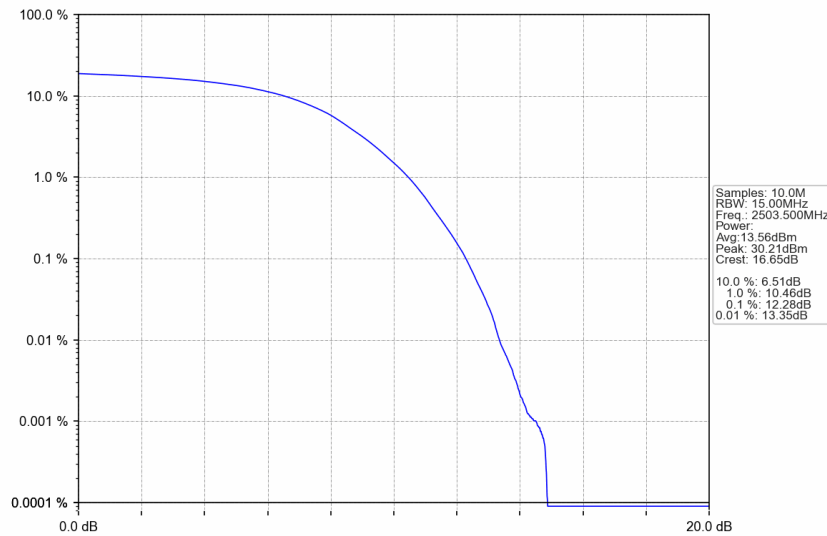
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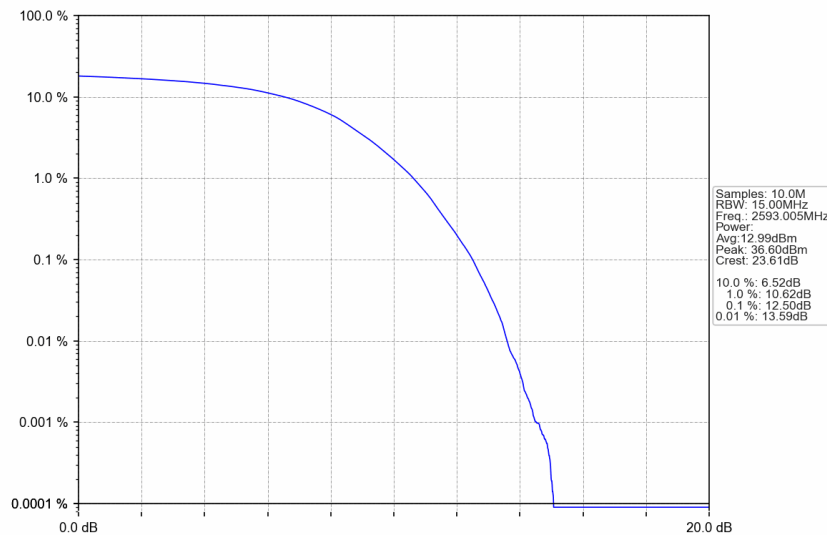
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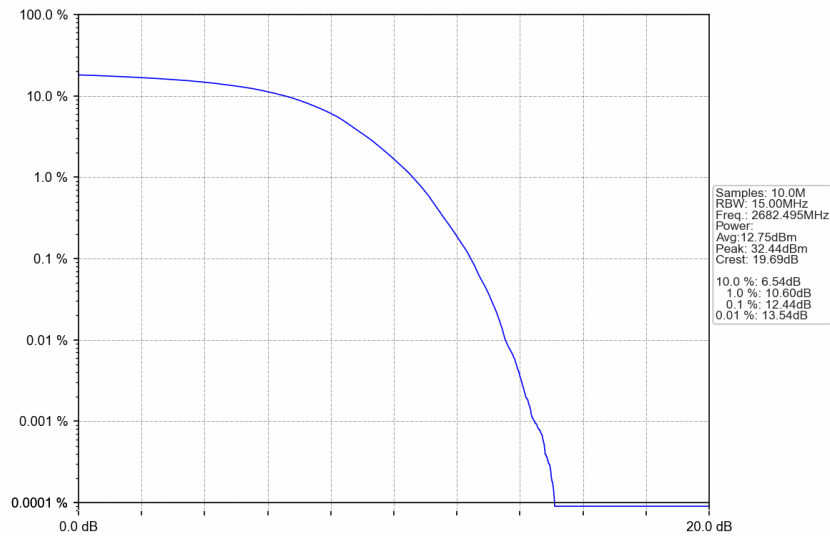
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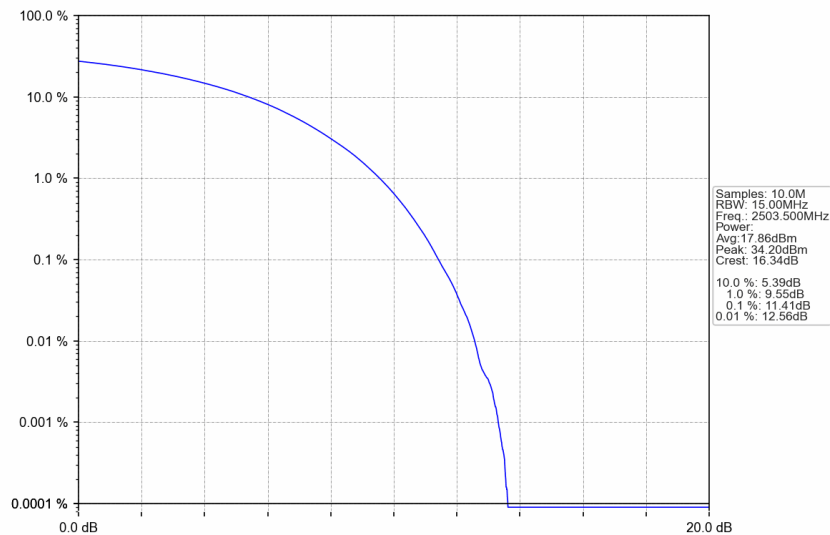
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n41_15kHz_SISO_NTNV_15MHz_DFT-s-OFDM 256 QAM_2682.495MHz_Outer_Full



n41_15kHz_SISO_NTNV_15MHz_CP-OFDM QPSK_2503.5MHz_Outer_Full

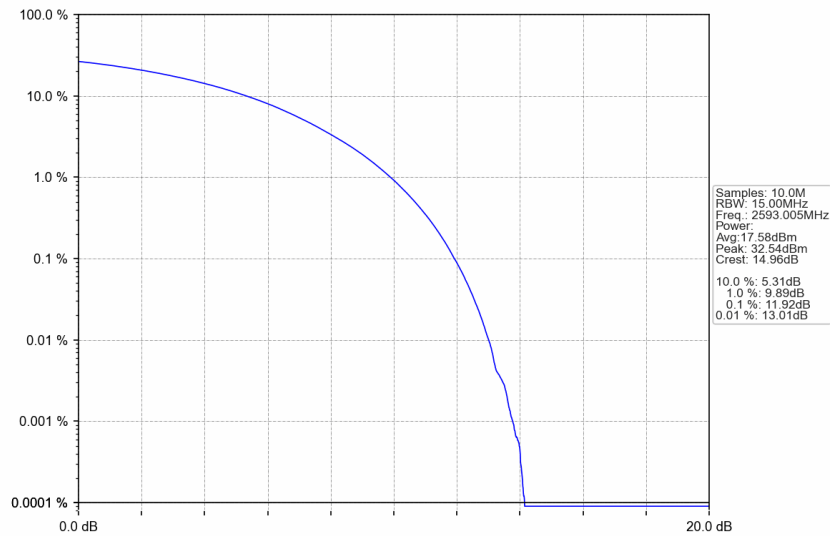


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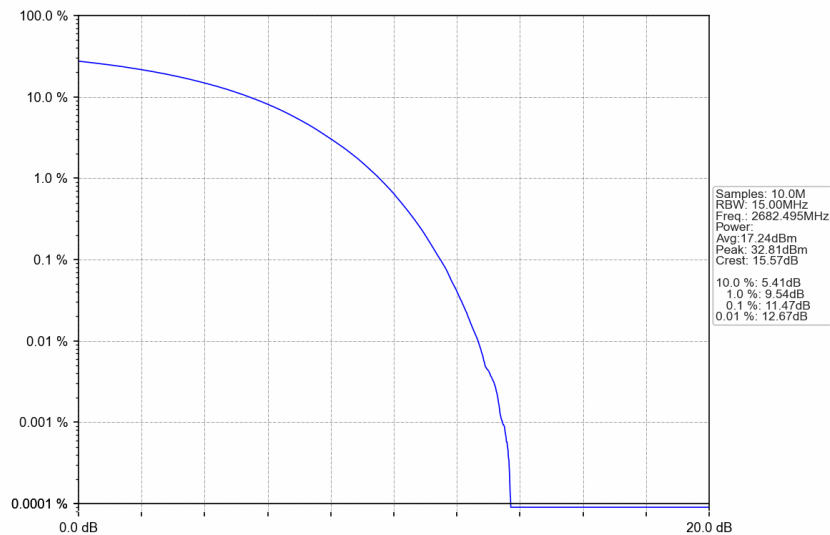
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n41_15kHz_SISO_NTNV_15MHz_CP-OFDM QPSK_2593.005MHz_Outer_Full



n41_15kHz_SISO_NTNV_15MHz_CP-OFDM QPSK_2682.495MHz_Outer_Full



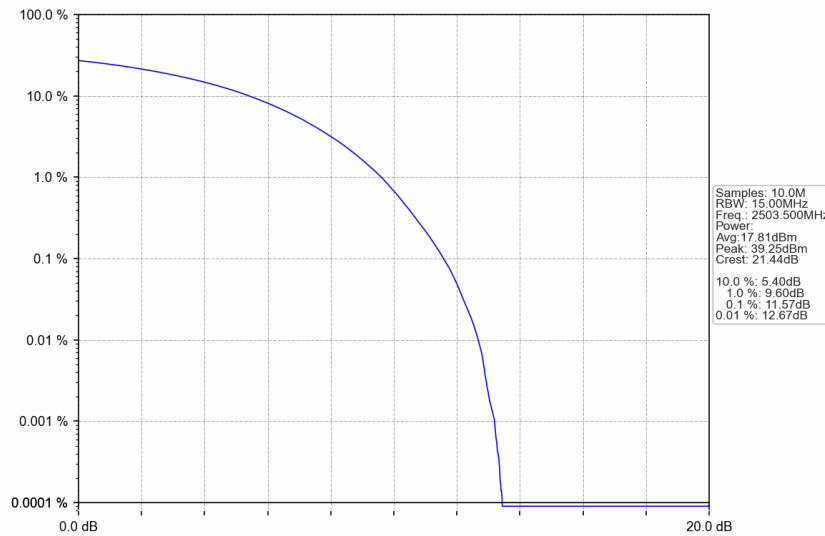
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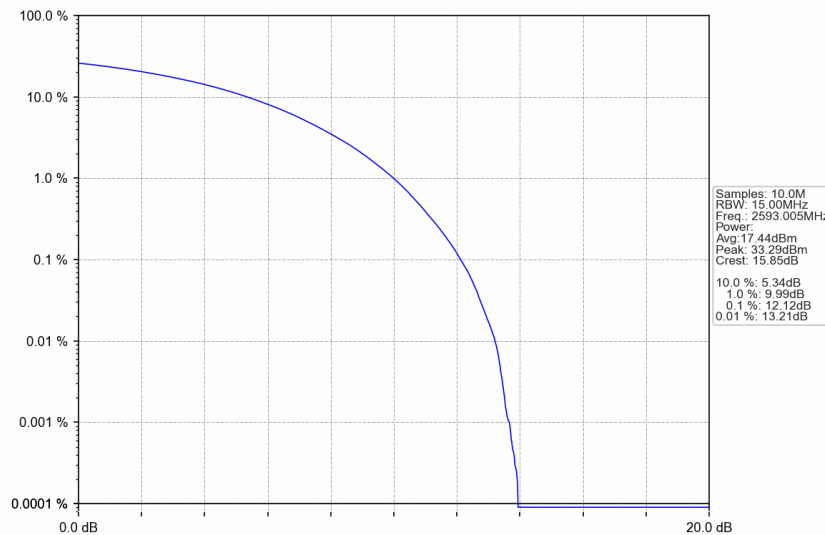
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n41_15kHz_SISO_NTNV_15MHz_CP-OFDM 16 QAM_2503.5MHz_Outer_Full



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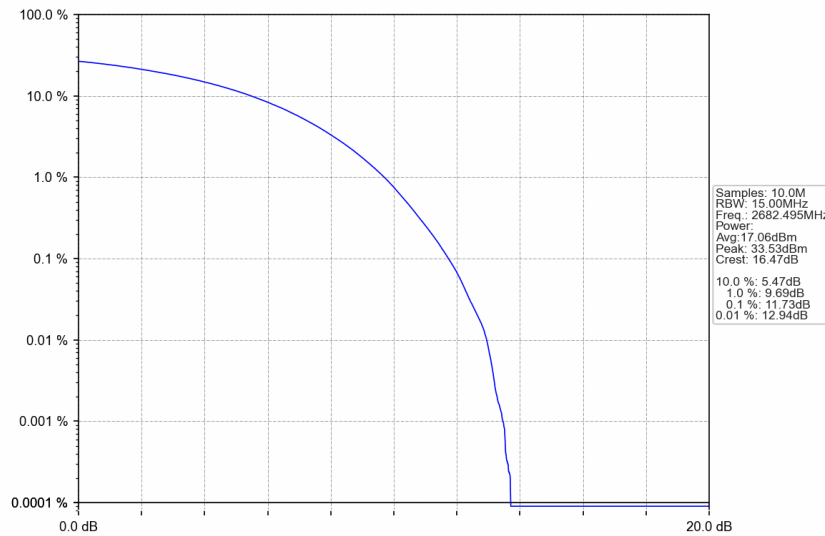


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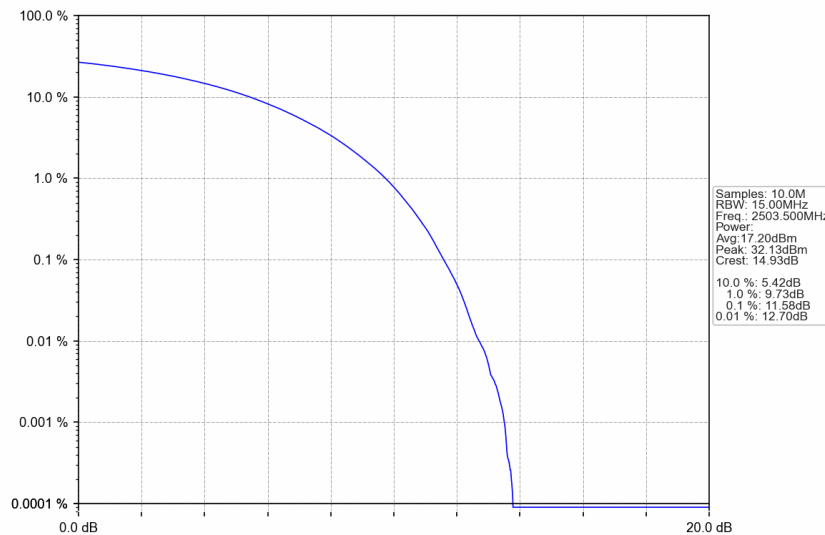
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n41_15kHz_SISO_NTNV_15MHz_CP-OFDM 16 QAM_2682.495MHz_Outer_Full



n41_15kHz_SISO_NTNV_15MHz_CP-OFDM 64 QAM_2503.5MHz_Outer_Full



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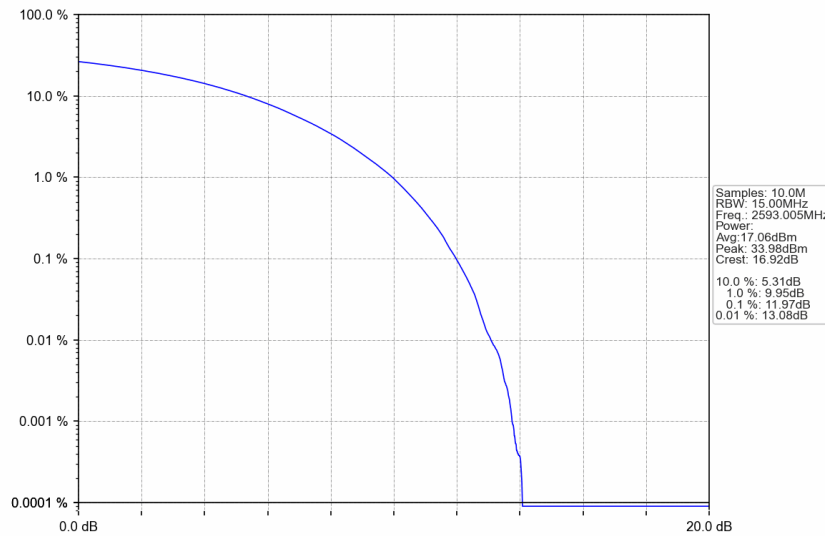
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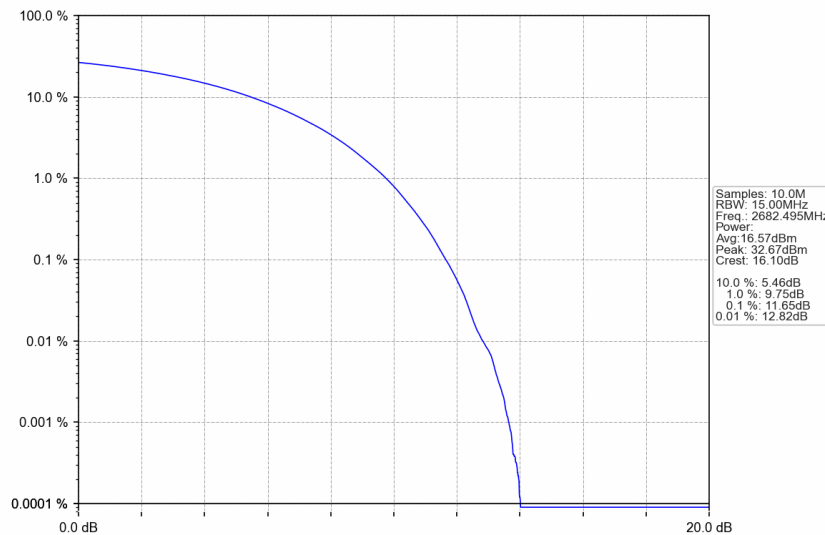
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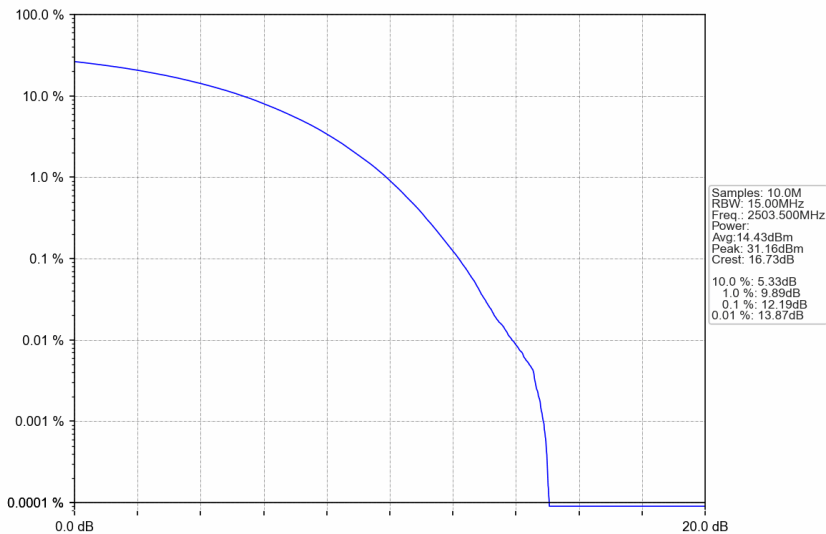
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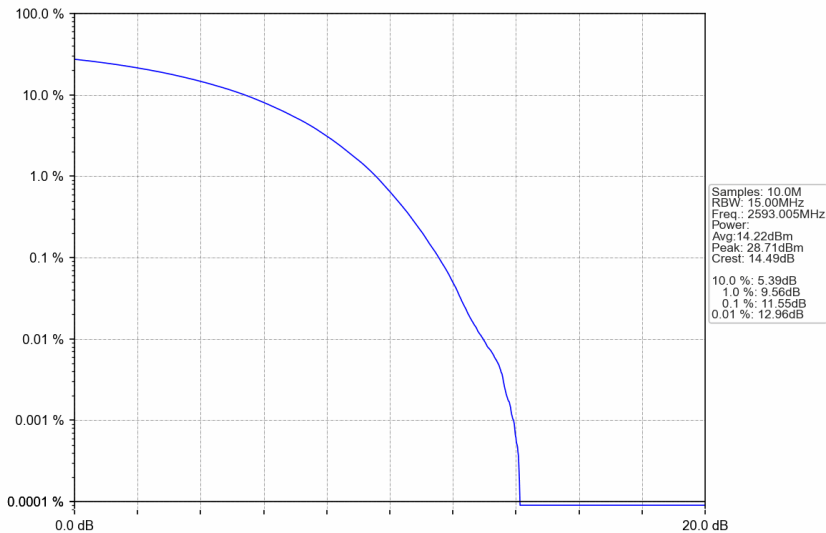
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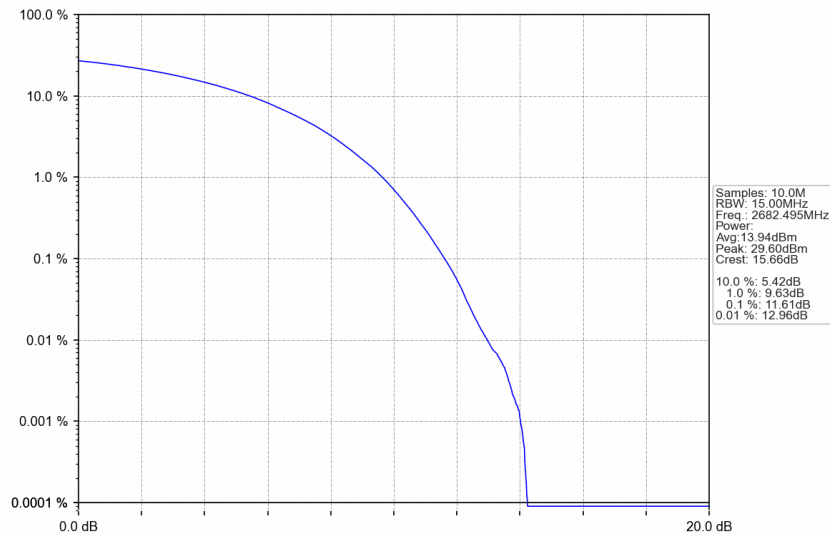


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n41_15kHz_SISO_NTNV_15MHz_CP-OFDM 256 QAM_2682.495MHz_Outer_Full



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5.3 15k_SISO_20MHz_NTNV

5.3.1 Test Result

5G NR n41 SCS=15kHz SISO 20MHz NTN							
Modulation	Frequency (MHz)	RB Allocation	Peak-Average Ratio (dB)				Verdict
			Ant1	Ant2	Sum	Limit	
DFT-s-OFDM PI/2 BPSK	2506.005	Outer_Full	11.52	/	/	<=13	Pass
	2593.005	Outer_Full	10.75	/	/	<=13	Pass
	2679.99	Outer_Full	10.74	/	/	<=13	Pass
DFT-s-OFDM QPSK	2506.005	Outer_Full	11.76	/	/	<=13	Pass
	2593.005	Outer_Full	11.84	/	/	<=13	Pass
	2679.99	Outer_Full	11.53	/	/	<=13	Pass
DFT-s-OFDM 16 QAM	2506.005	Outer_Full	9.61	/	/	<=13	Pass
	2593.005	Outer_Full	12.38	/	/	<=13	Pass
	2679.99	Outer_Full	12.92	/	/	<=13	Pass
DFT-s-OFDM 64 QAM	2506.005	Outer_Full	12.27	/	/	<=13	Pass
	2593.005	Outer_Full	12.07	/	/	<=13	Pass
	2679.99	Outer_Full	12.24	/	/	<=13	Pass
DFT-s-OFDM 256 QAM	2506.005	Outer_Full	12.91	/	/	<=13	Pass
	2593.005	Outer_Full	9.77	/	/	<=13	Pass
	2679.99	Outer_Full	12.01	/	/	<=13	Pass
CP-OFDM QPSK	2506.005	Outer_Full	11.72	/	/	<=13	Pass
	2593.005	Outer_Full	11.63	/	/	<=13	Pass
	2679.99	Outer_Full	11.68	/	/	<=13	Pass
CP-OFDM 16 QAM	2506.005	Outer_Full	11.81	/	/	<=13	Pass
	2593.005	Outer_Full	11.65	/	/	<=13	Pass
	2679.99	Outer_Full	11.59	/	/	<=13	Pass
CP-OFDM 64 QAM	2506.005	Outer_Full	11.79	/	/	<=13	Pass
	2593.005	Outer_Full	11.63	/	/	<=13	Pass
	2679.99	Outer_Full	11.73	/	/	<=13	Pass
CP-OFDM 256 QAM	2506.005	Outer_Full	11.62	/	/	<=13	Pass
	2593.005	Outer_Full	11.64	/	/	<=13	Pass
	2679.99	Outer_Full	11.59	/	/	<=13	Pass

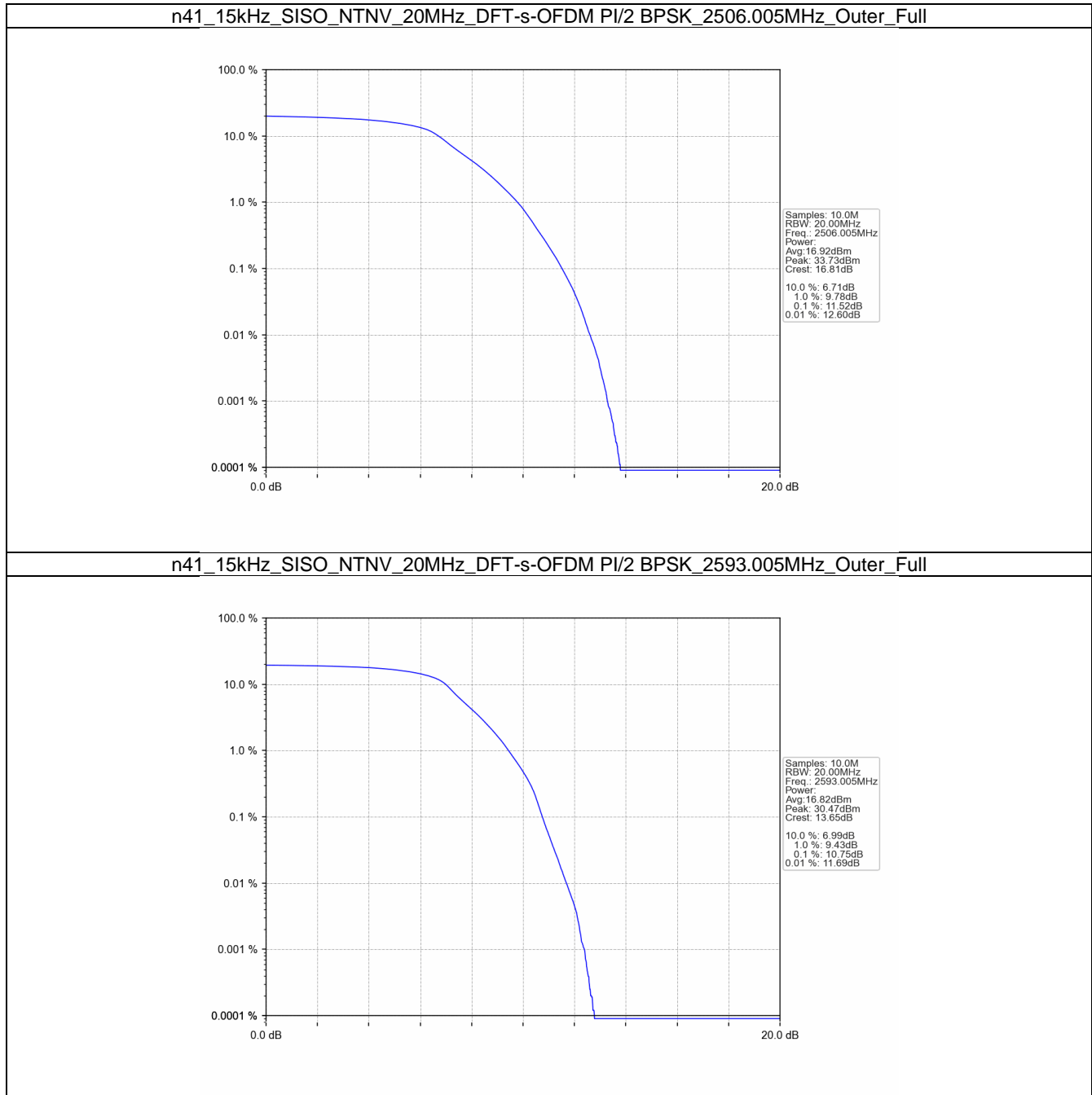


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5.3.2 Test Graph



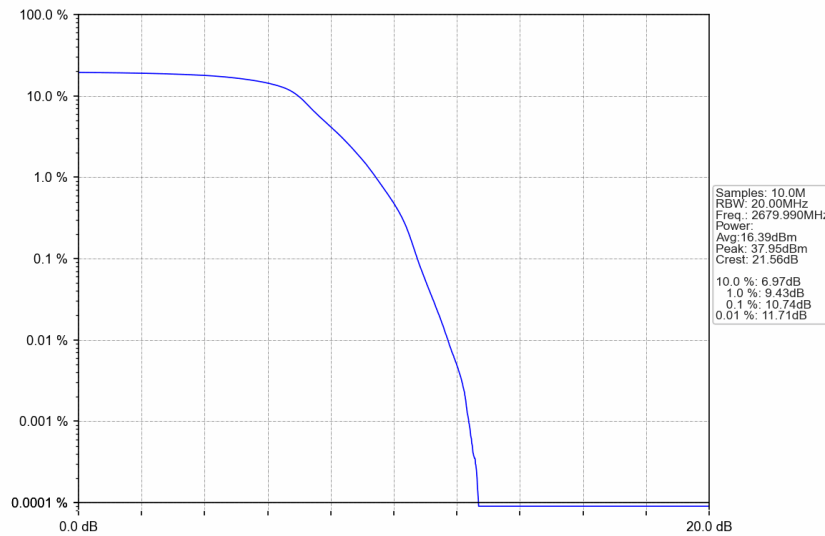
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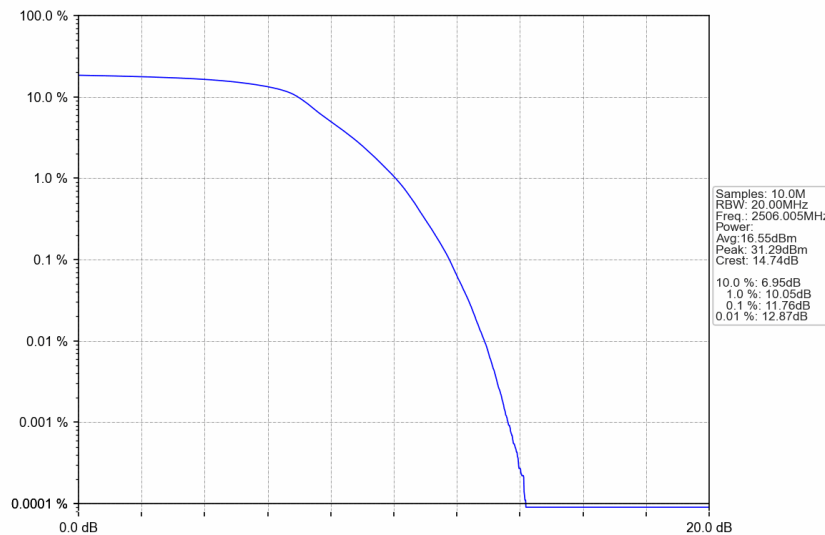
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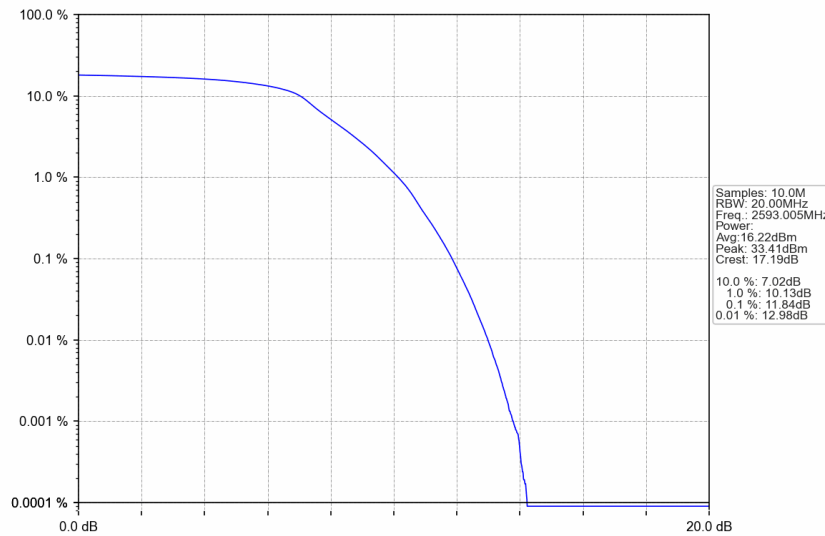
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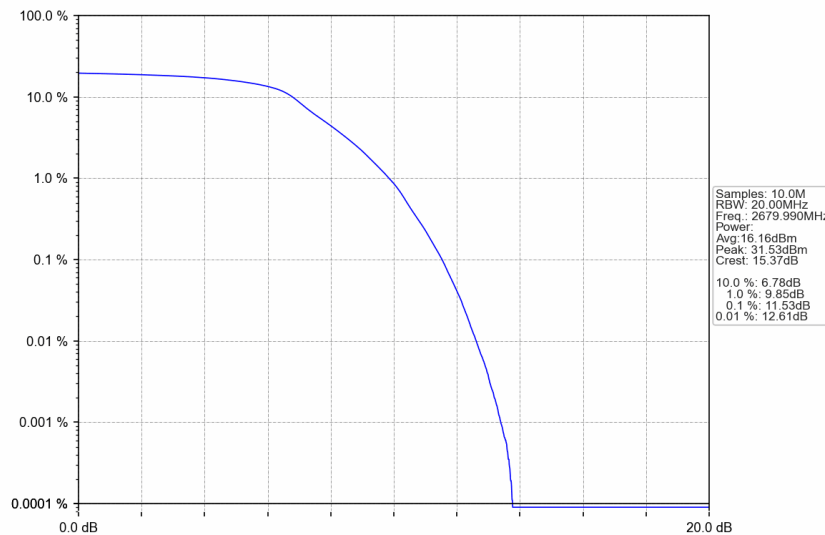
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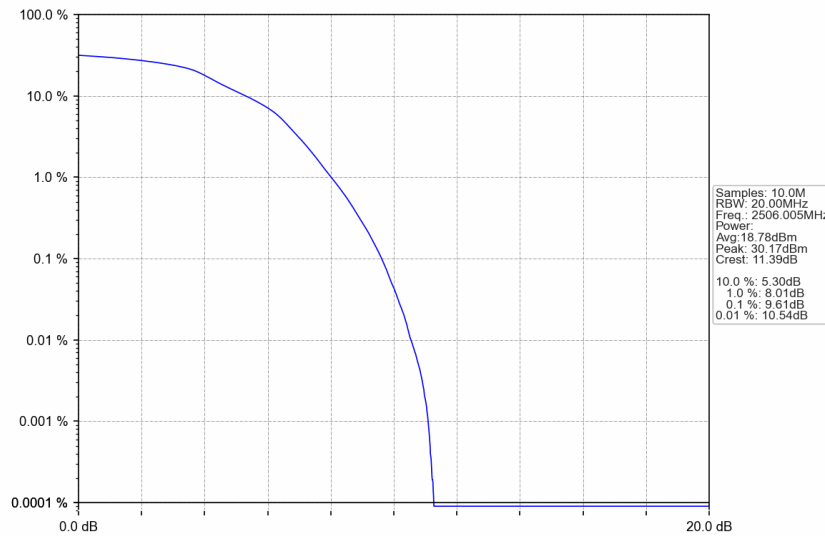
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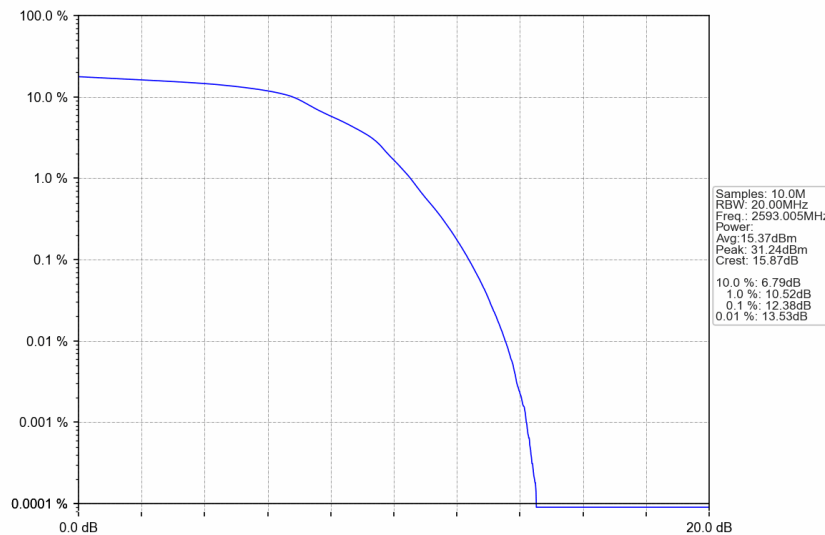
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n41_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 16 QAM_2506.005MHz_Outer_Full



n41_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 16 QAM_2593.005MHz_Outer_Full



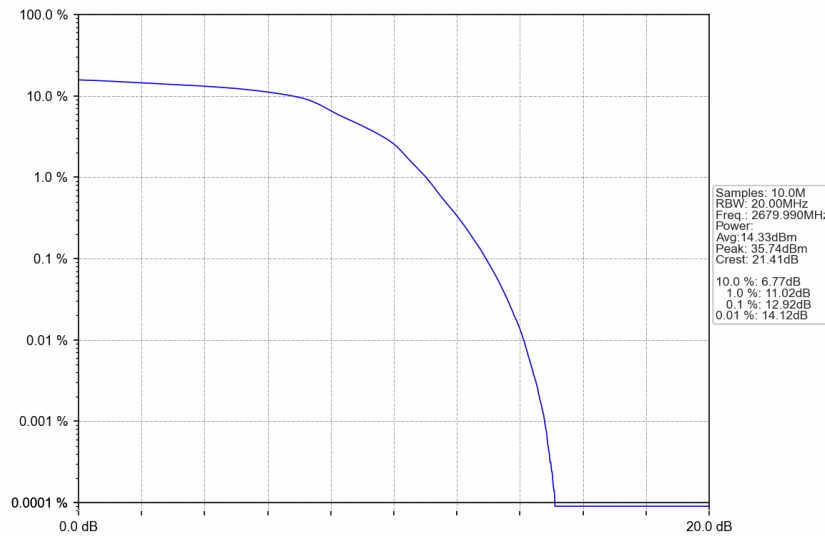
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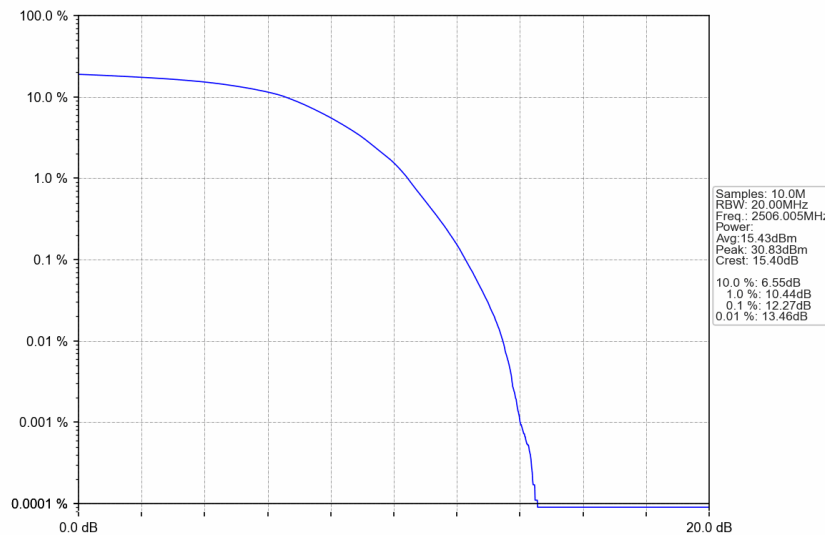
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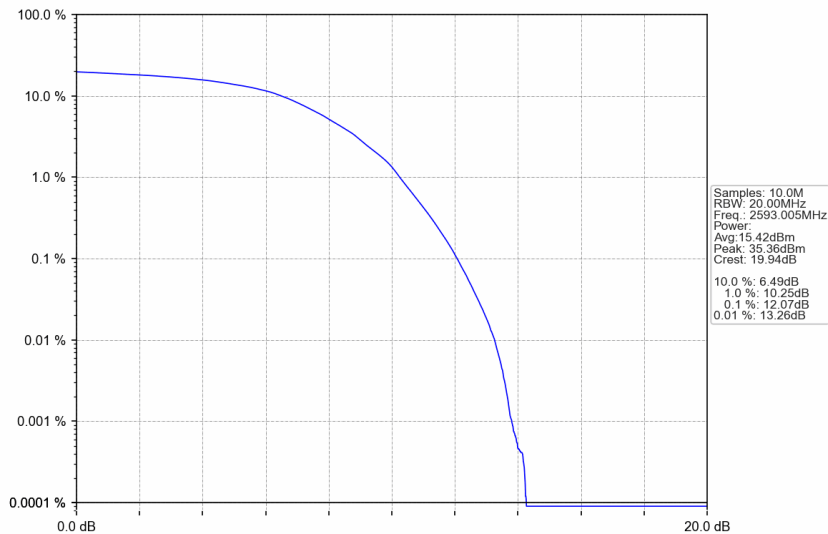
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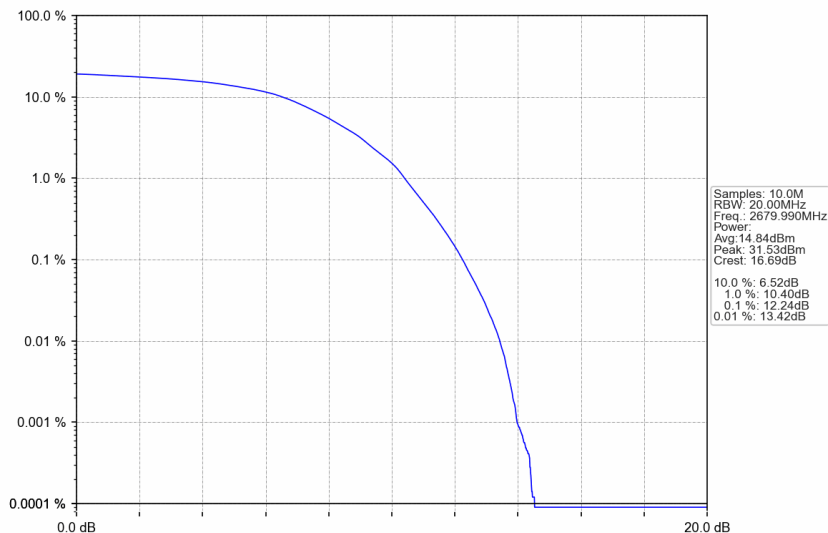
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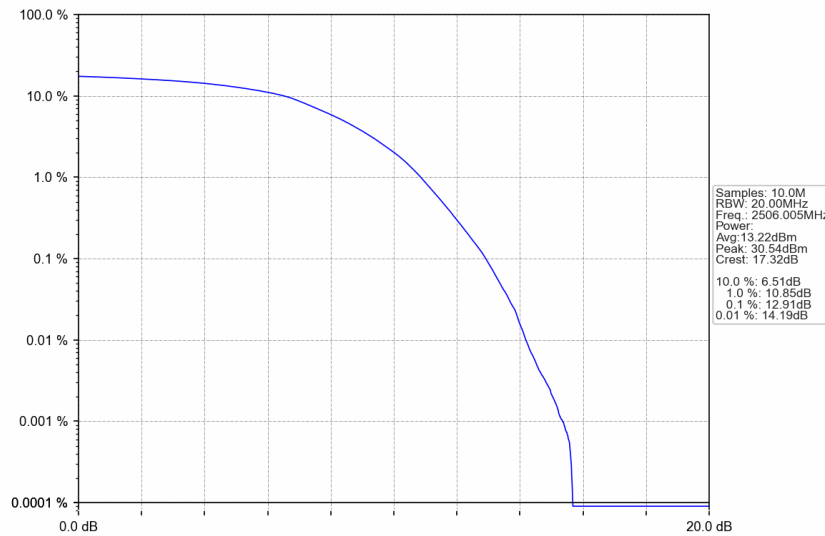
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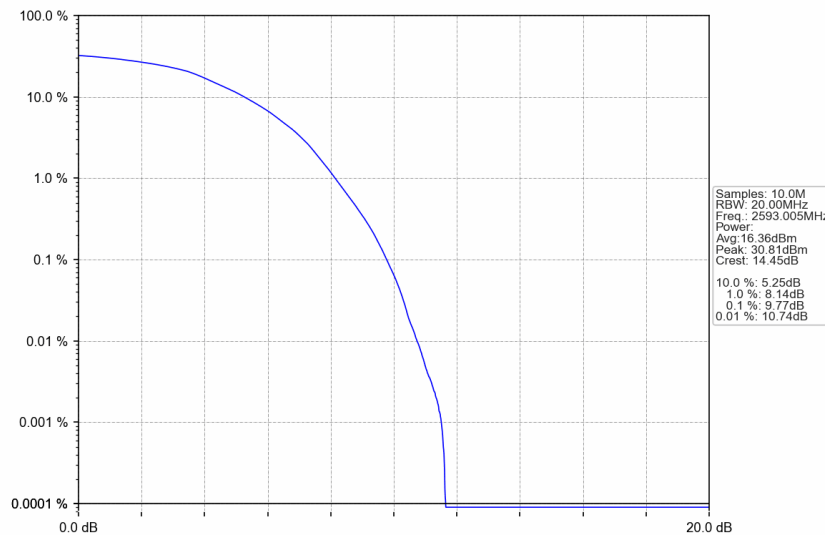
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