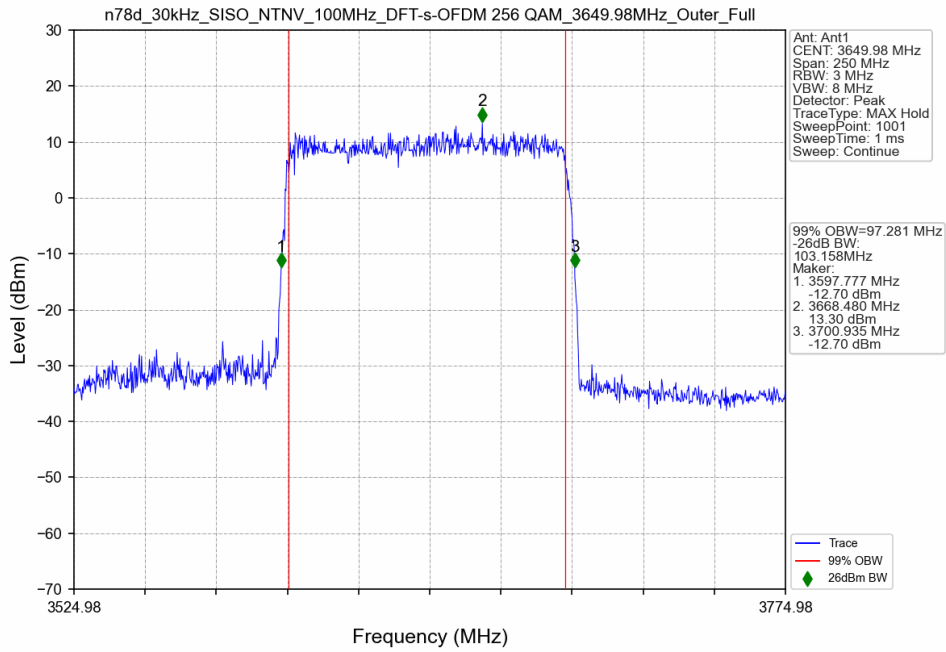
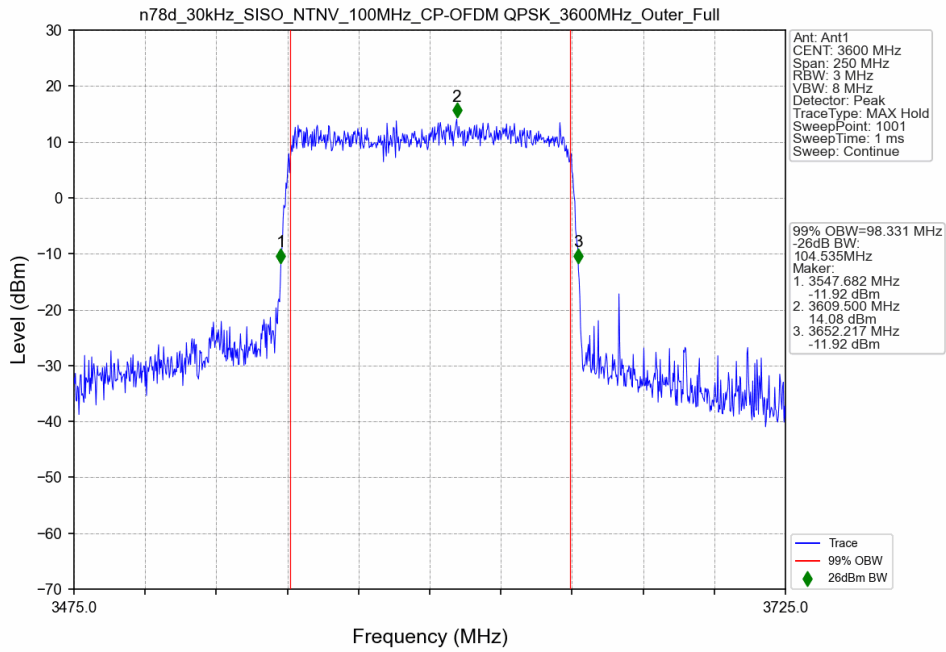


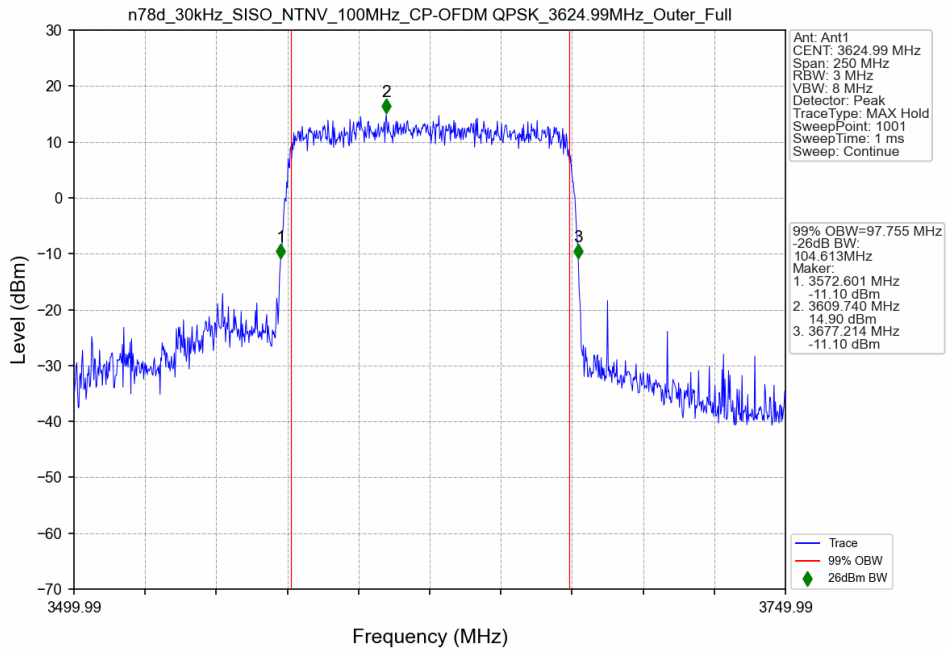
n78d\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 256 QAM\_3649.98MHz\_Outer\_Full



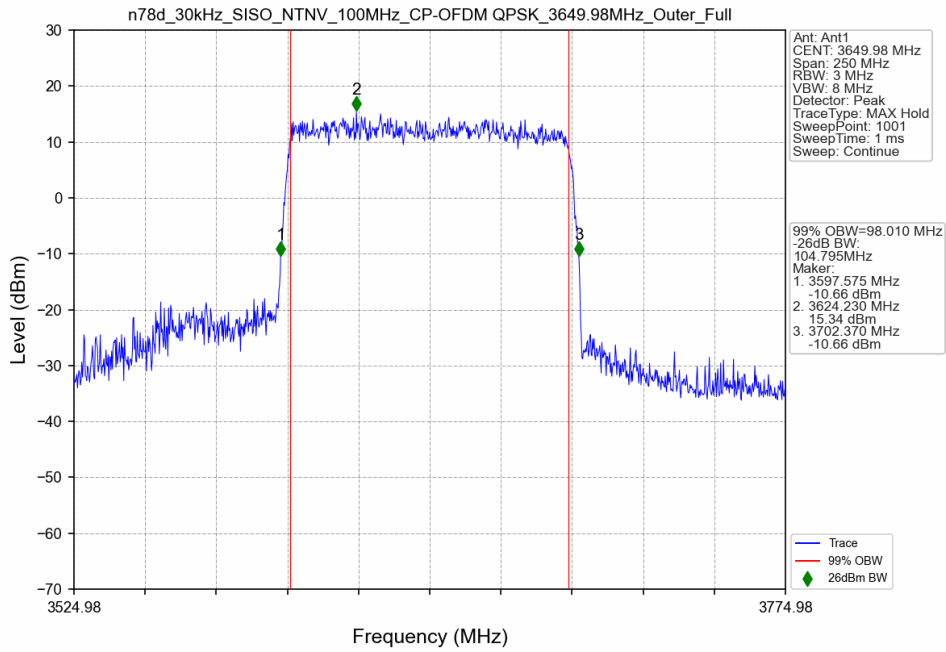
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM QPSK\_3600MHz\_Outer\_Full



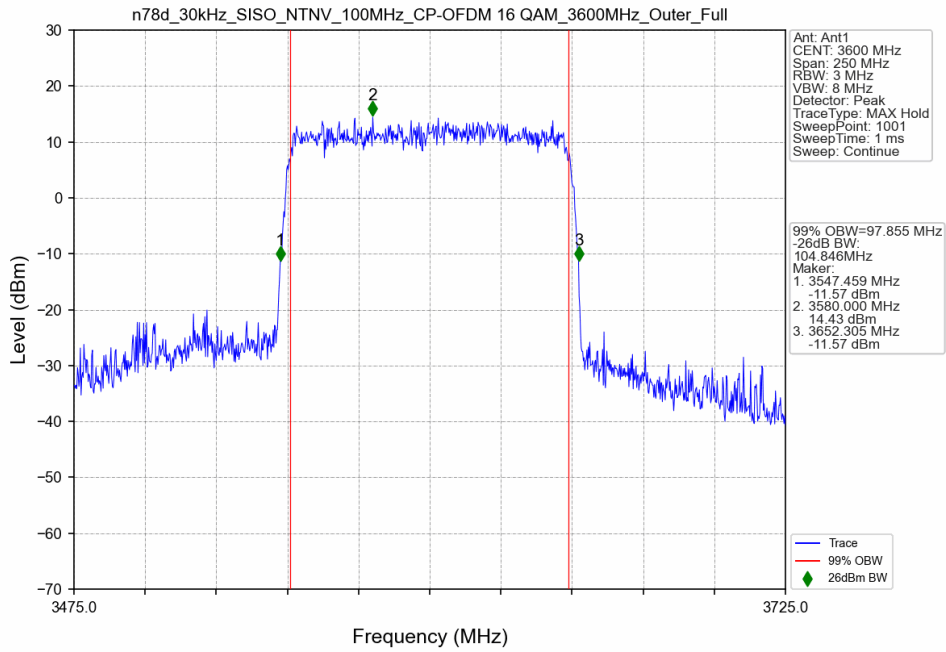
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM\_QPSK\_3624.99MHz\_Outer\_Full



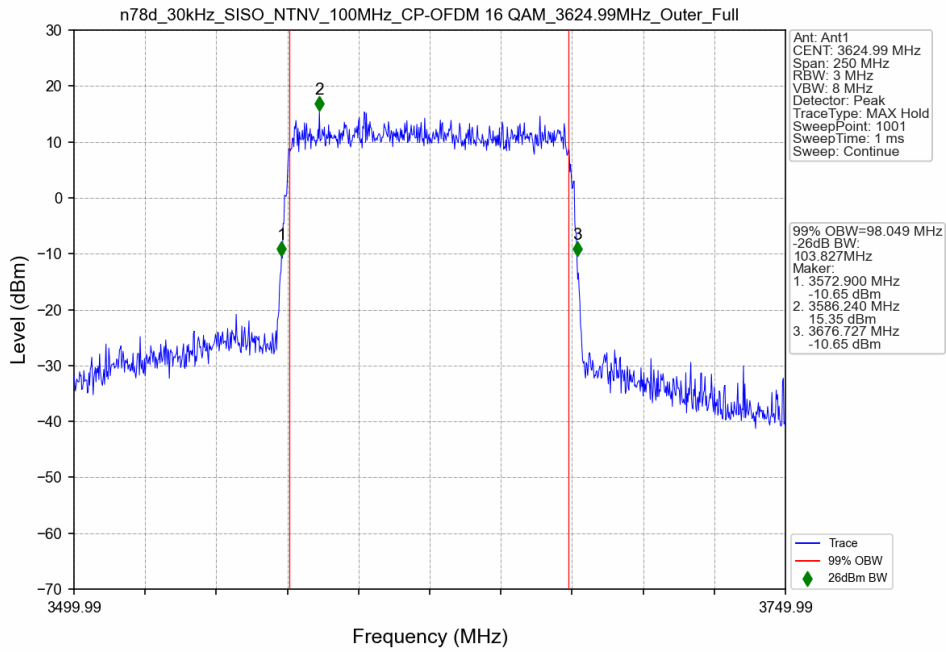
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM\_QPSK\_3649.98MHz\_Outer\_Full



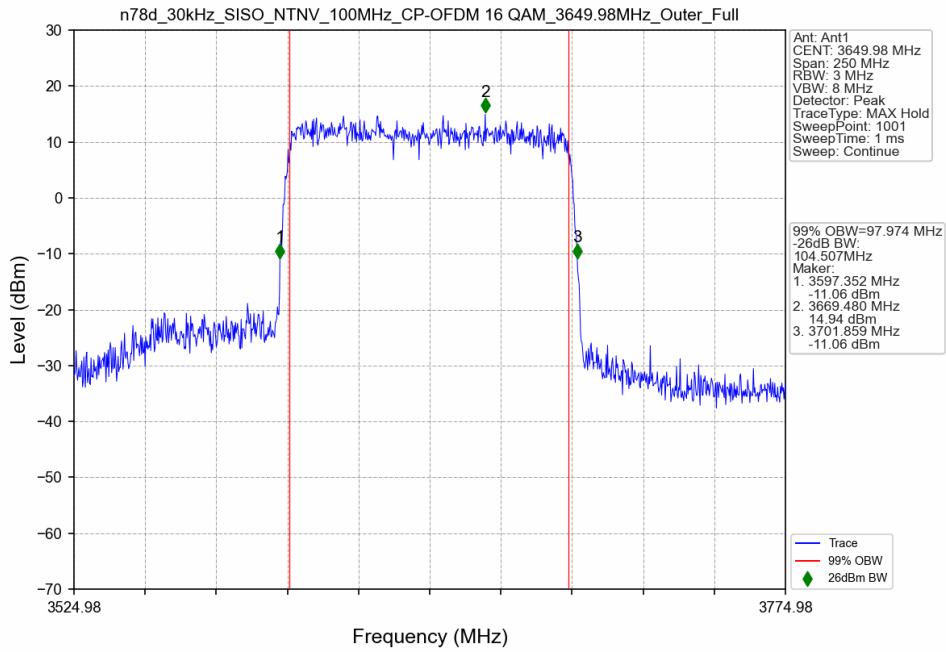
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 16 QAM\_3600MHz\_Outer\_Full



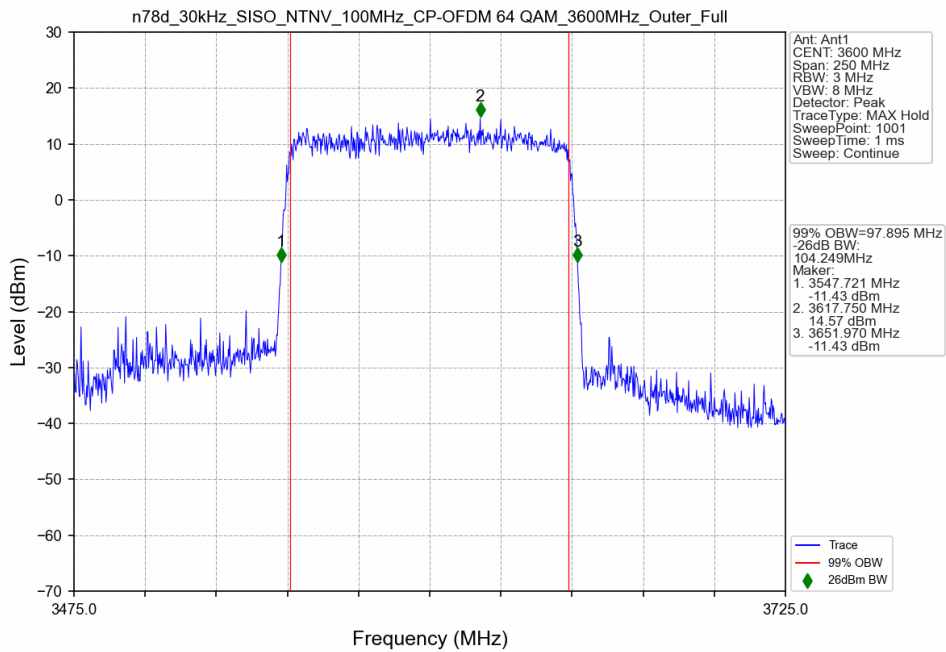
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 16 QAM\_3624.99MHz\_Outer\_Full



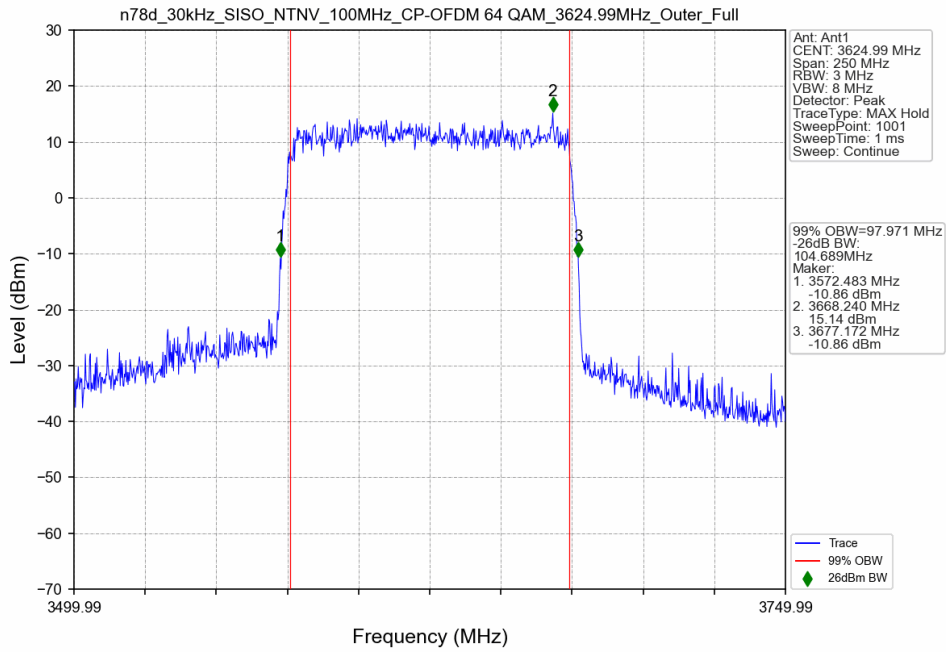
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 16 QAM\_3649.98MHz\_Outer\_Full



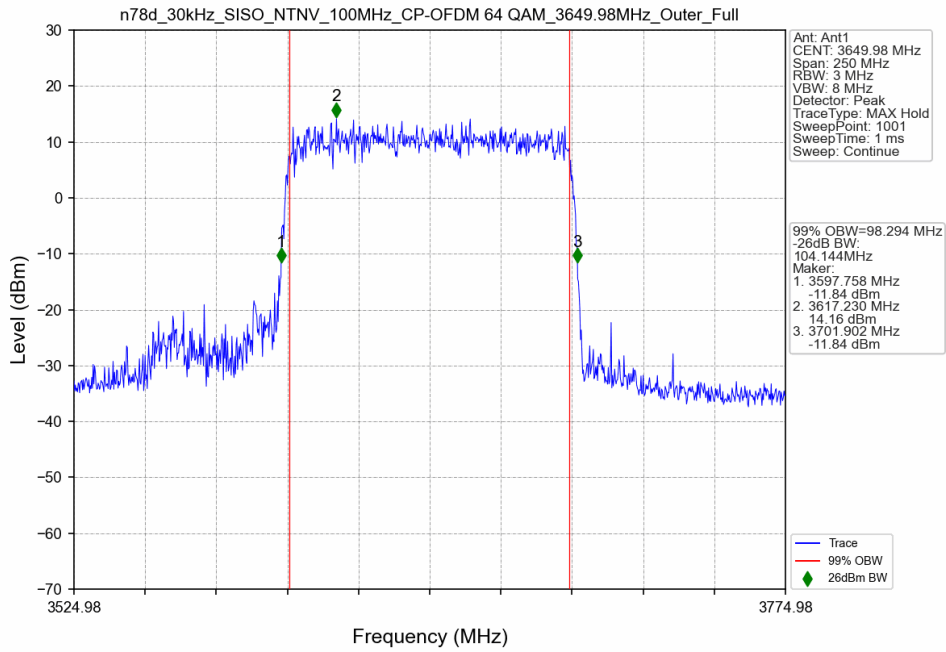
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 64 QAM\_3600MHz\_Outer\_Full



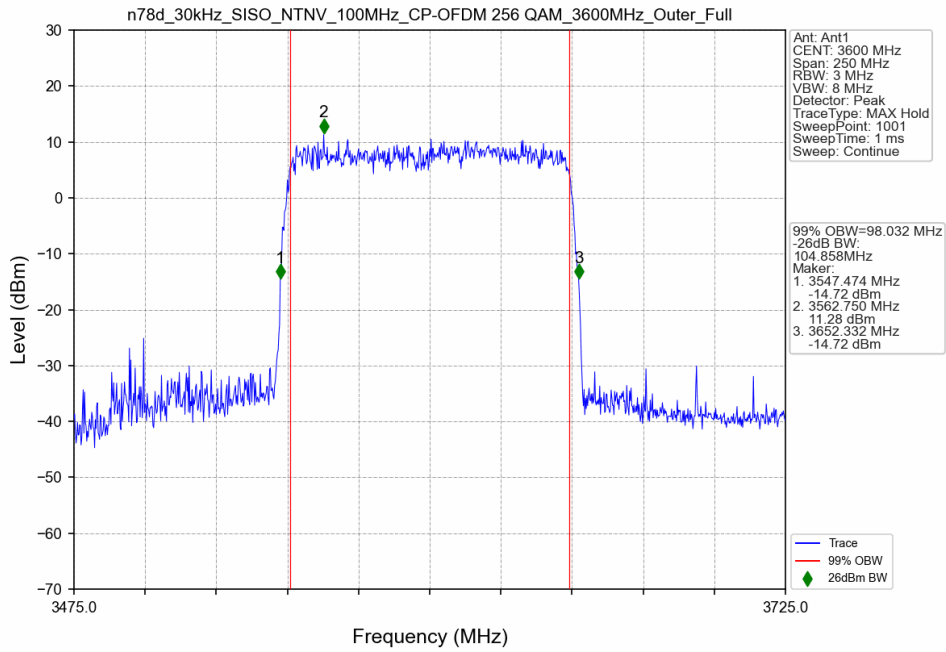
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 64 QAM\_3624.99MHz\_Outer\_Full



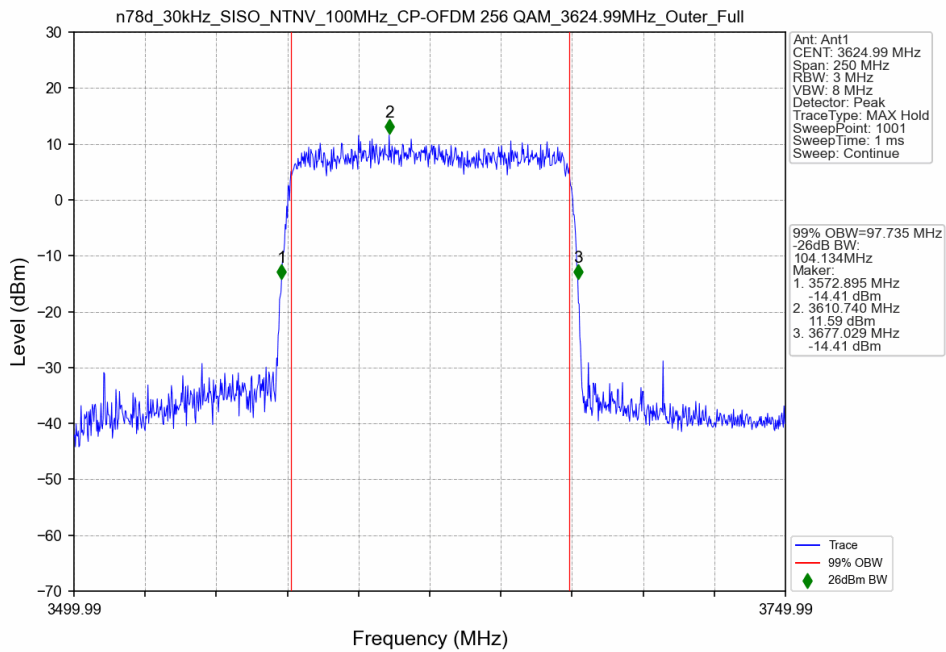
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 64 QAM\_3649.98MHz\_Outer\_Full



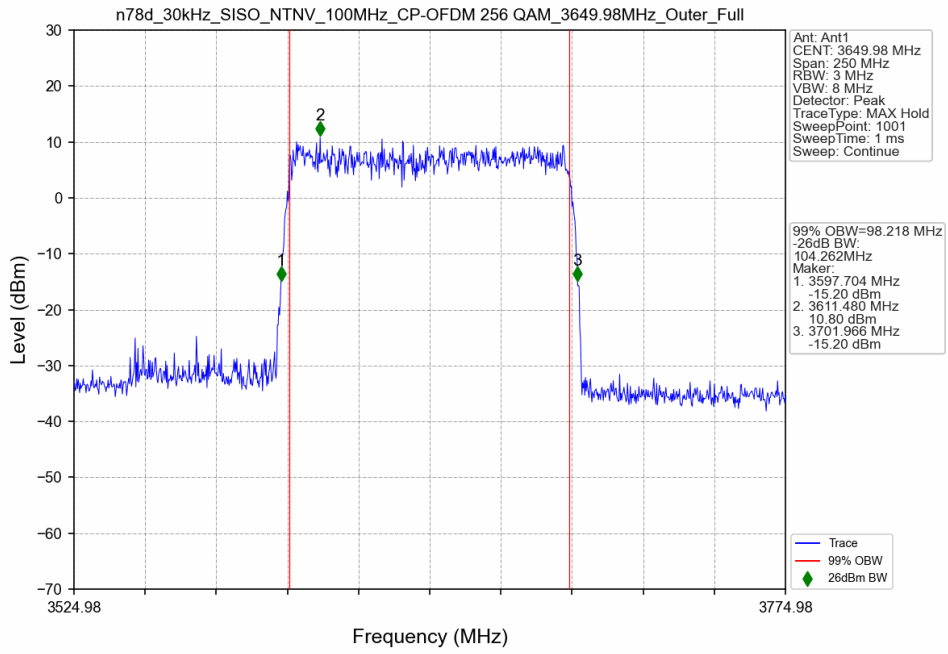
n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 256 QAM\_3600MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 256 QAM\_3624.99MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 256 QAM\_3649.98MHz\_Outer\_Full



## 4. Peak-Average Ratio

### 4.1 30k\_SISO\_20MHz\_NTNV

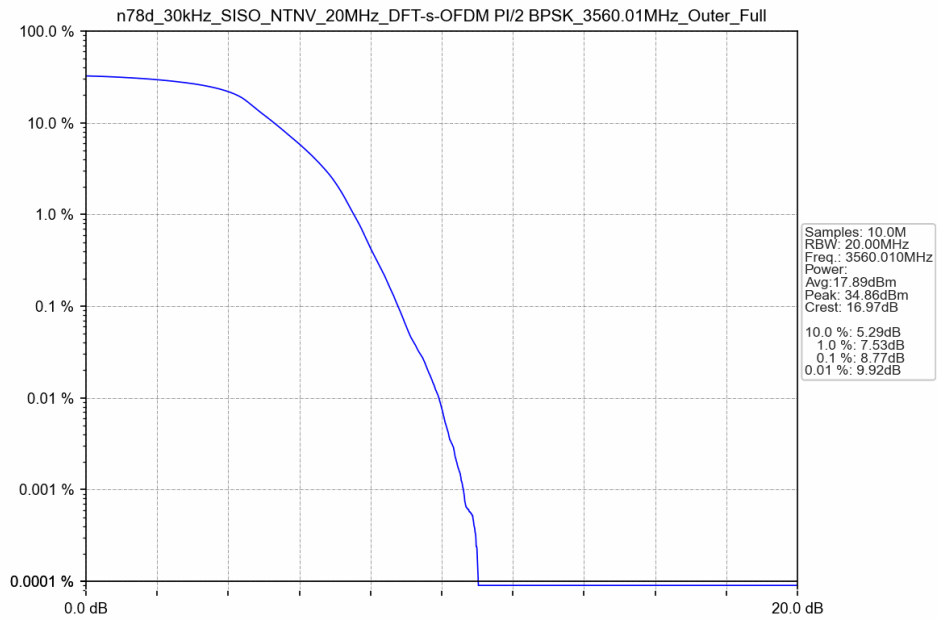
#### 4.1.1 Test Result

5G NR n78d SCS=30kHz SISO 20MHz NTN							
Modulation	Frequency (MHz)	RB Allocation	Peak-Average Ratio (dB)				Verdict
			Ant1	Ant2	Sum	Limit	
DFT-s-OFDM PI/2 BPSK	3560.01	Outer_Full	8.77	/	/	<=13	Pass
	3624.99	Outer_Full	7.96	/	/	<=13	Pass
	3690	Outer_Full	8.13	/	/	<=13	Pass
DFT-s-OFDM QPSK	3560.01	Outer_Full	9.54	/	/	<=13	Pass
	3624.99	Outer_Full	9.22	/	/	<=13	Pass
	3690	Outer_Full	9.51	/	/	<=13	Pass
DFT-s-OFDM 16 QAM	3560.01	Outer_Full	10.07	/	/	<=13	Pass
	3624.99	Outer_Full	10.01	/	/	<=13	Pass
	3690	Outer_Full	9.88	/	/	<=13	Pass
DFT-s-OFDM 64 QAM	3560.01	Outer_Full	10.25	/	/	<=13	Pass
	3624.99	Outer_Full	10.04	/	/	<=13	Pass
	3690	Outer_Full	10.03	/	/	<=13	Pass
DFT-s-OFDM 256 QAM	3560.01	Outer_Full	10.24	/	/	<=13	Pass
	3624.99	Outer_Full	9.97	/	/	<=13	Pass
	3690	Outer_Full	10.15	/	/	<=13	Pass
CP-OFDM QPSK	3560.01	Outer_Full	11.97	/	/	<=13	Pass
	3624.99	Outer_Full	12.03	/	/	<=13	Pass
	3690	Outer_Full	11.86	/	/	<=13	Pass
CP-OFDM 16 QAM	3560.01	Outer_Full	12.17	/	/	<=13	Pass
	3624.99	Outer_Full	11.72	/	/	<=13	Pass
	3690	Outer_Full	11.72	/	/	<=13	Pass
CP-OFDM 64 QAM	3560.01	Outer_Full	12.08	/	/	<=13	Pass
	3624.99	Outer_Full	12.08	/	/	<=13	Pass
	3690	Outer_Full	11.87	/	/	<=13	Pass
CP-OFDM 256 QAM	3560.01	Outer_Full	11.72	/	/	<=13	Pass
	3624.99	Outer_Full	11.86	/	/	<=13	Pass
	3690	Outer_Full	11.99	/	/	<=13	Pass

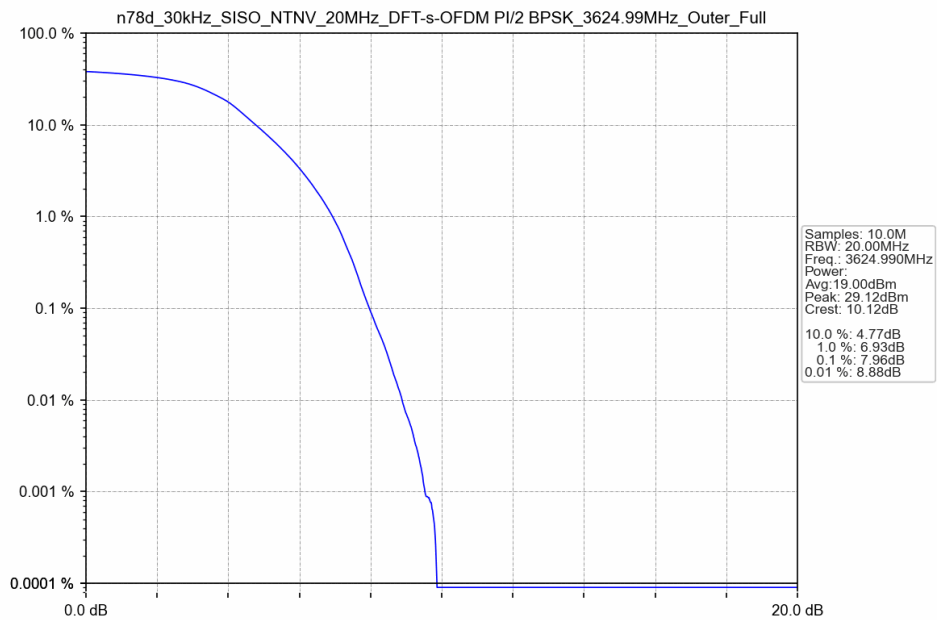


## 4.1.2 Test Graph

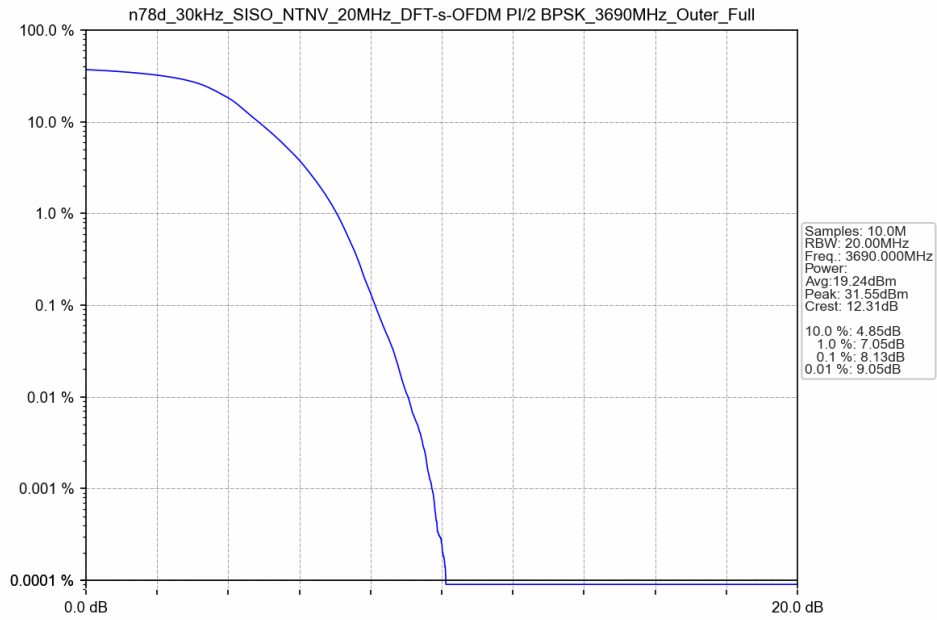
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM PI/2 BPSK\_3560.01MHz\_Outer\_Full



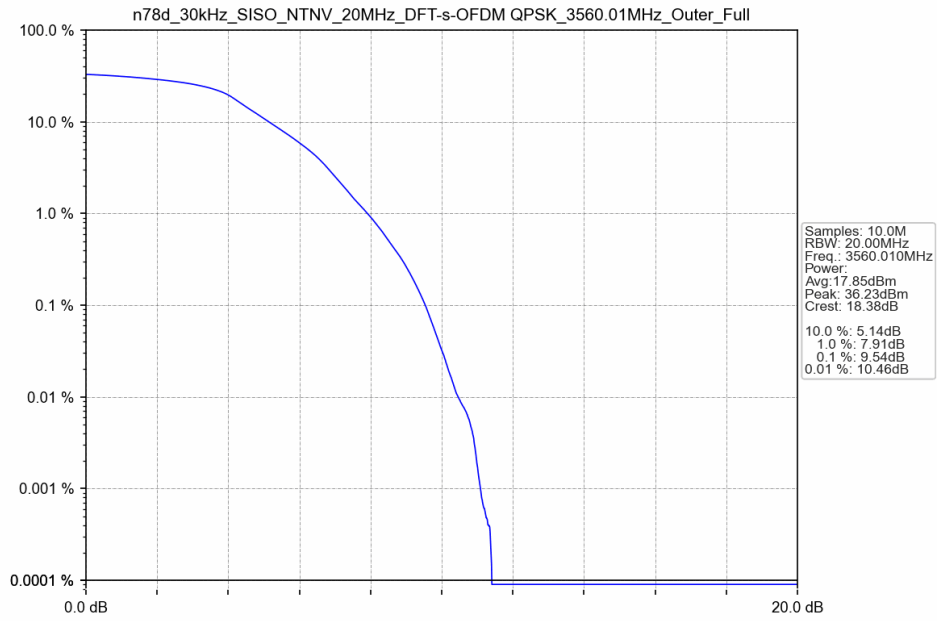
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM PI/2 BPSK\_3624.99MHz\_Outer\_Full



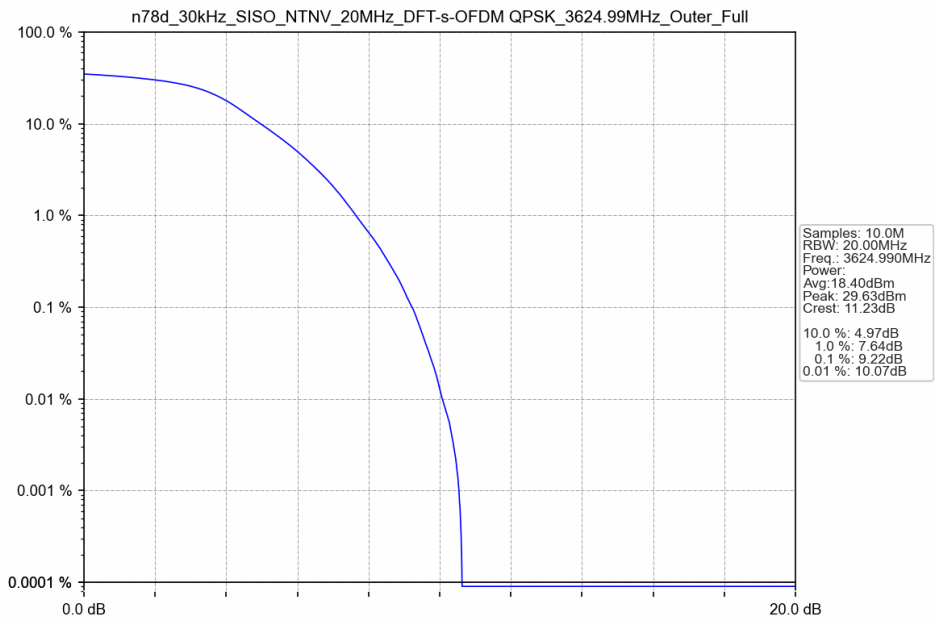
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM PI/2 BPSK\_3690MHz\_Outer\_Full



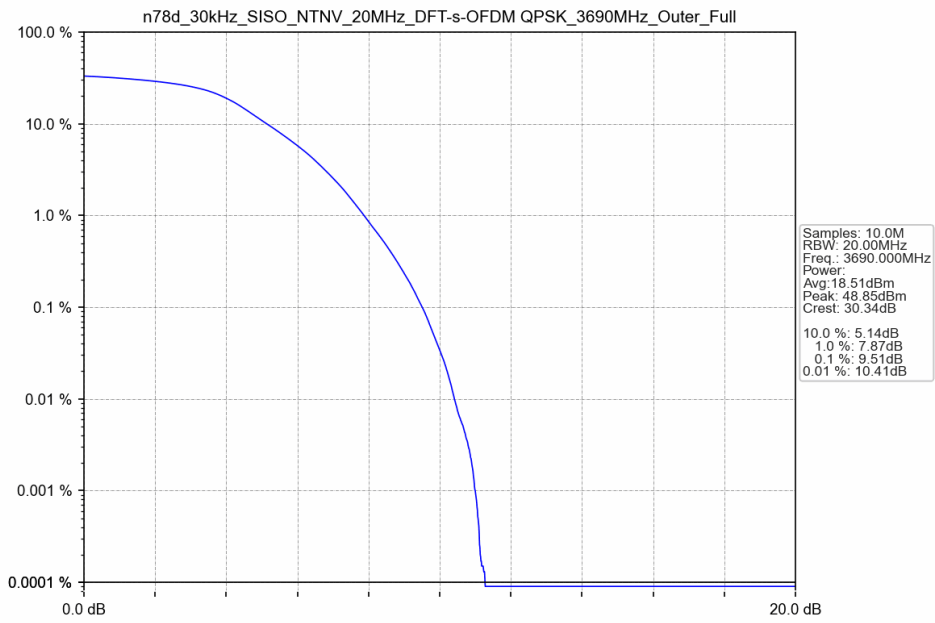
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM QPSK\_3560.01MHz\_Outer\_Full



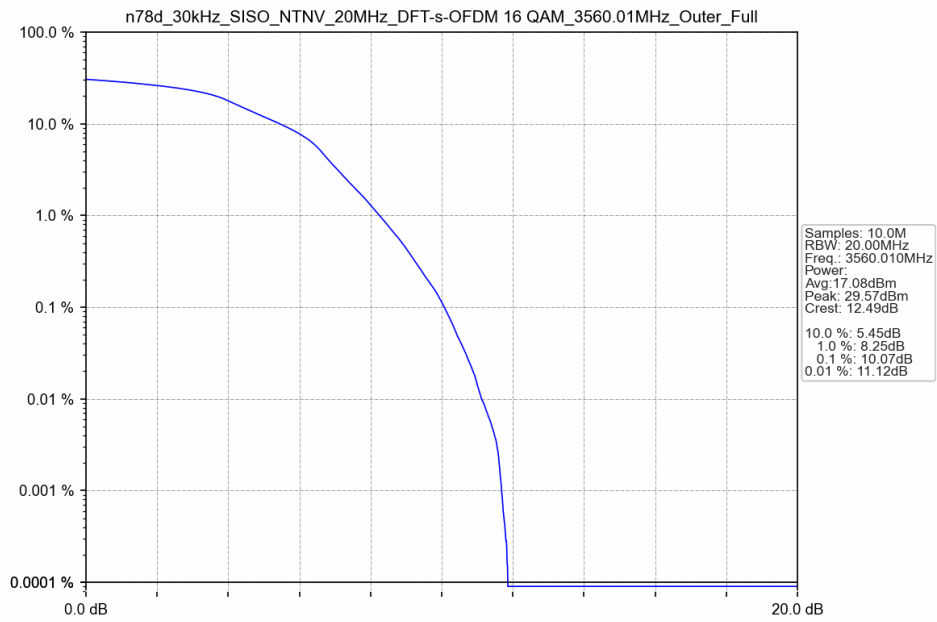
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM\_QPSK\_3624.99MHz\_Outer\_Full



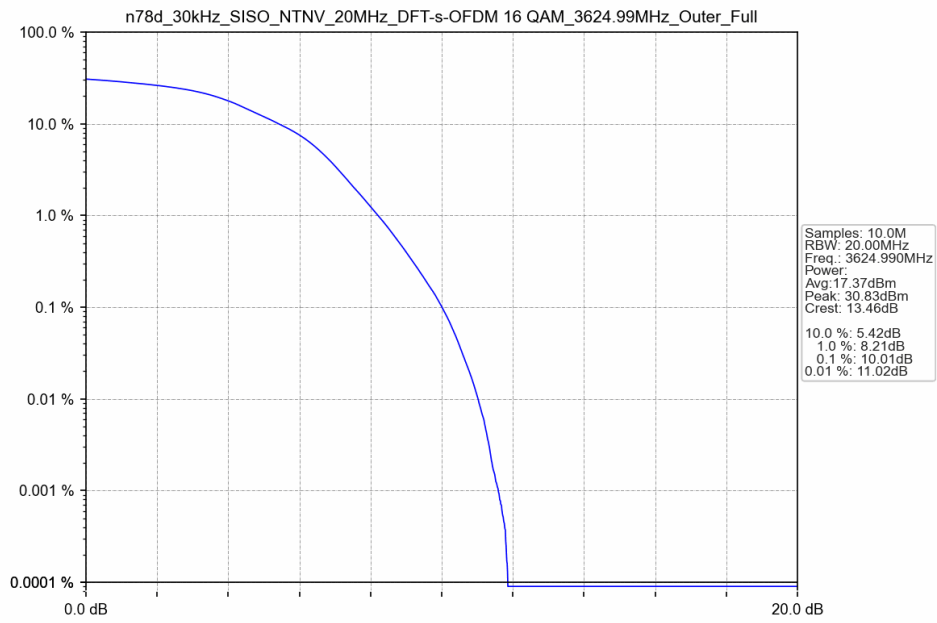
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM\_QPSK\_3690MHz\_Outer\_Full



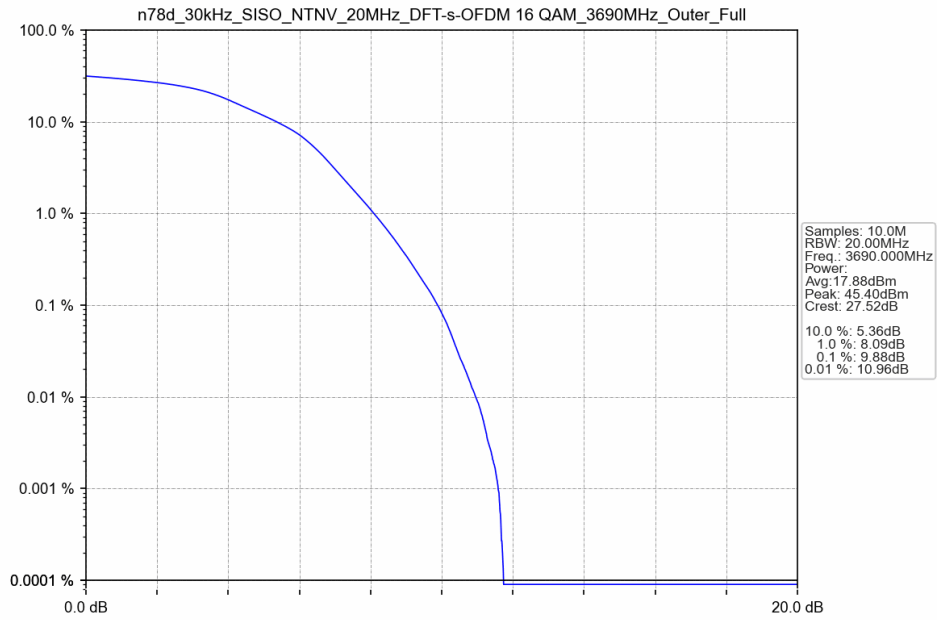
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM\_16\_QAM\_3560.01MHz\_Outer\_Full



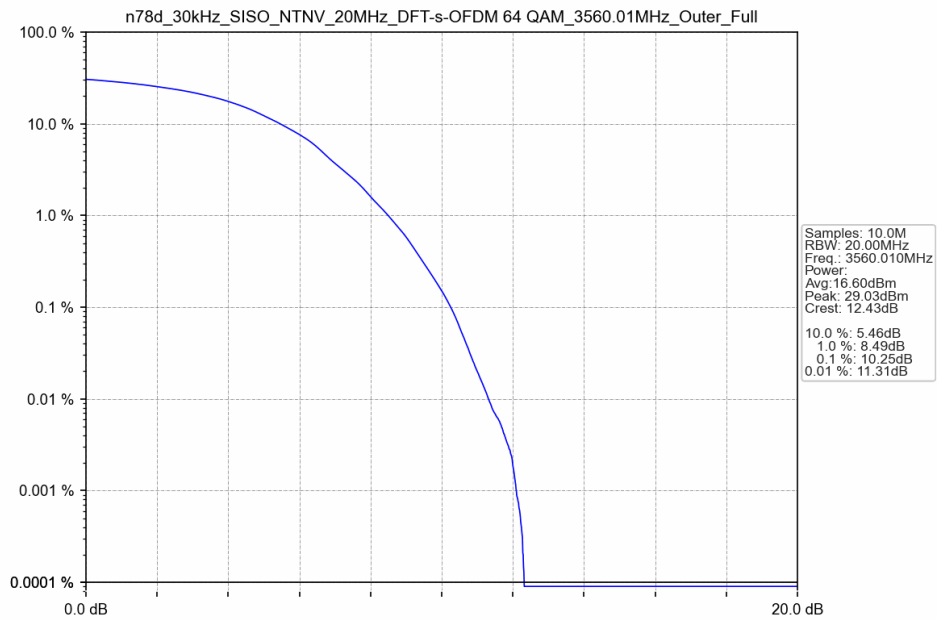
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM\_16\_QAM\_3624.99MHz\_Outer\_Full



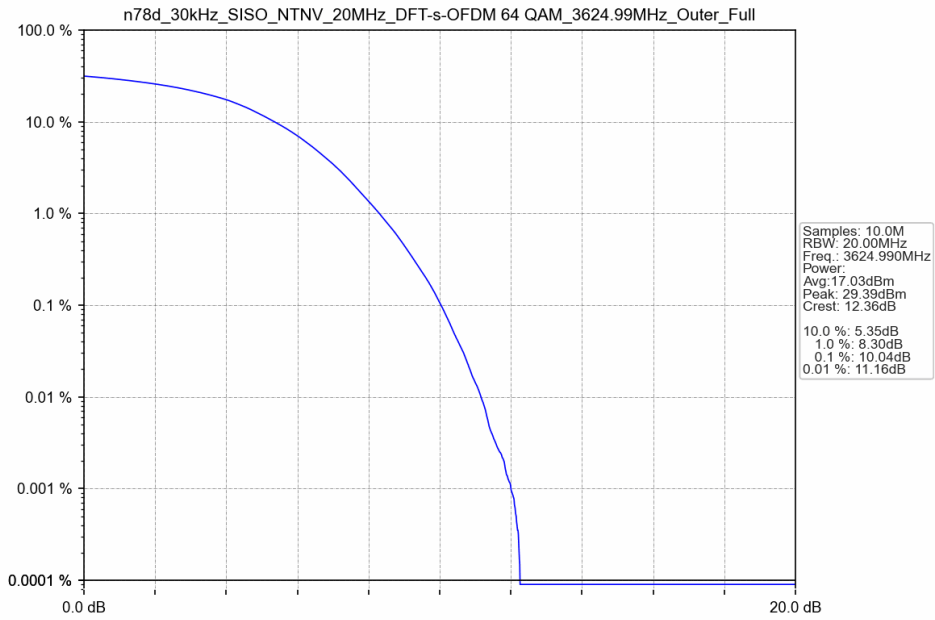
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM 16 QAM\_3690MHz\_Outer\_Full



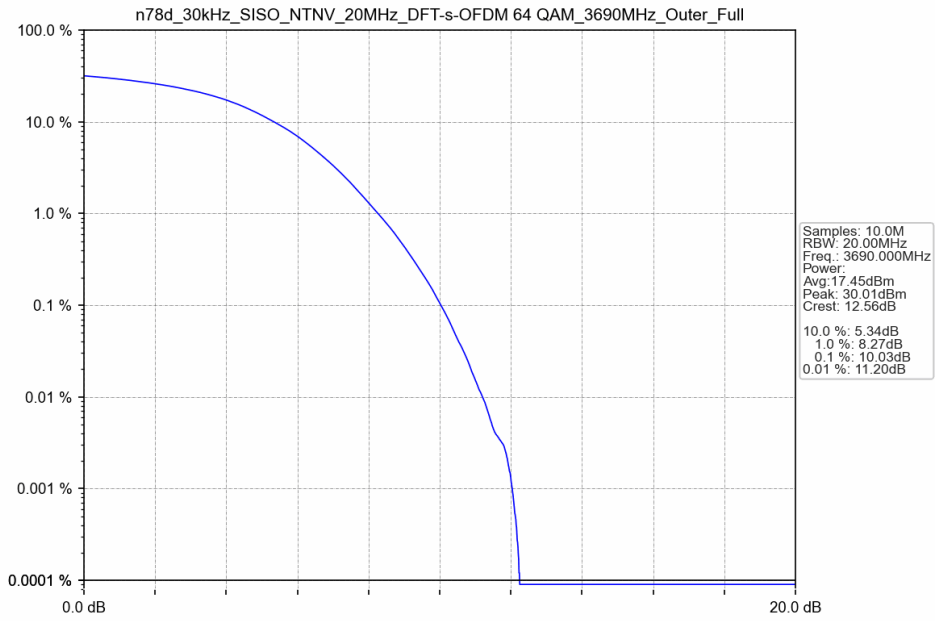
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM 64 QAM\_3560.01MHz\_Outer\_Full



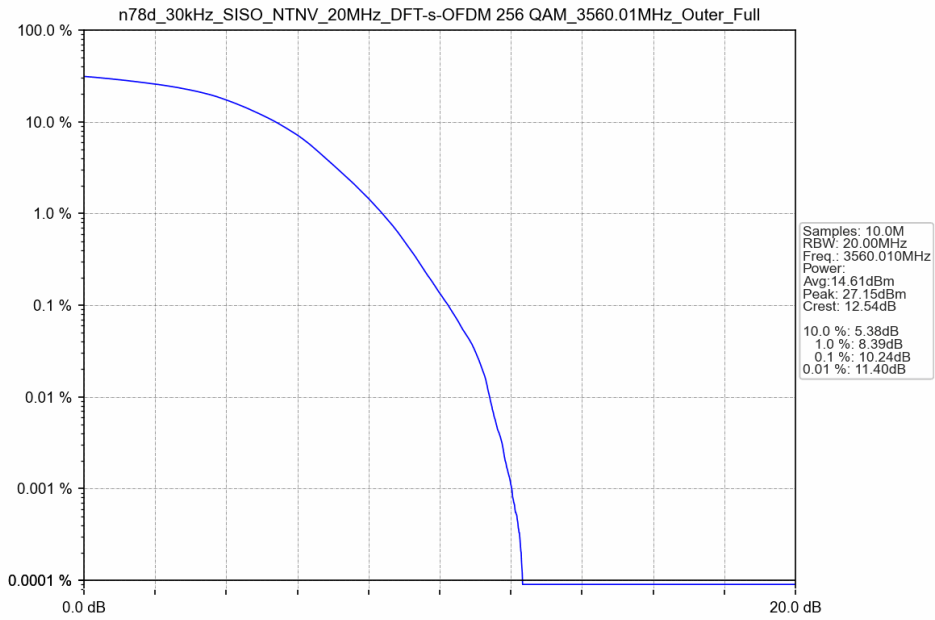
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM 64 QAM\_3624.99MHz\_Outer\_Full



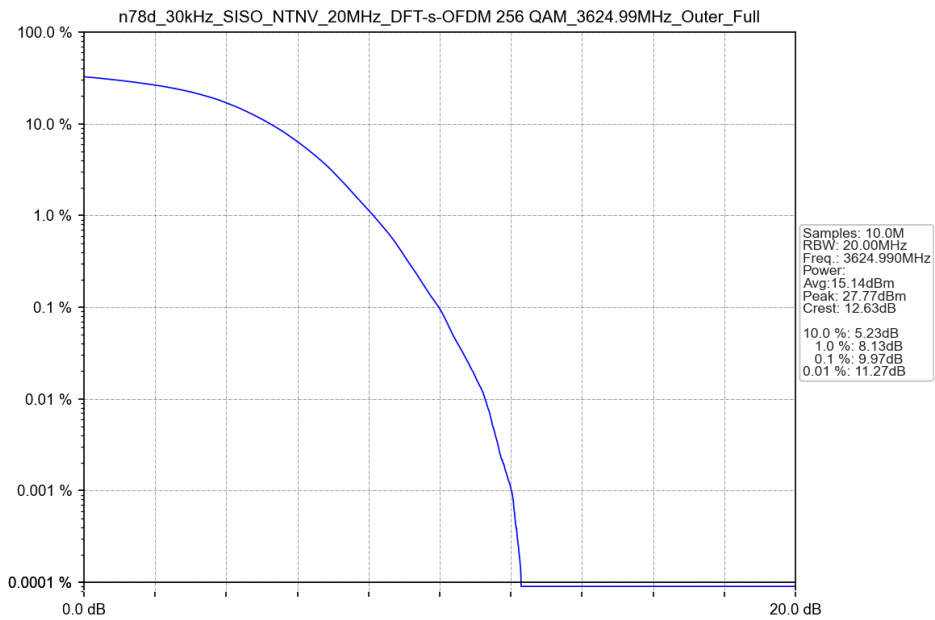
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM 64 QAM\_3690MHz\_Outer\_Full



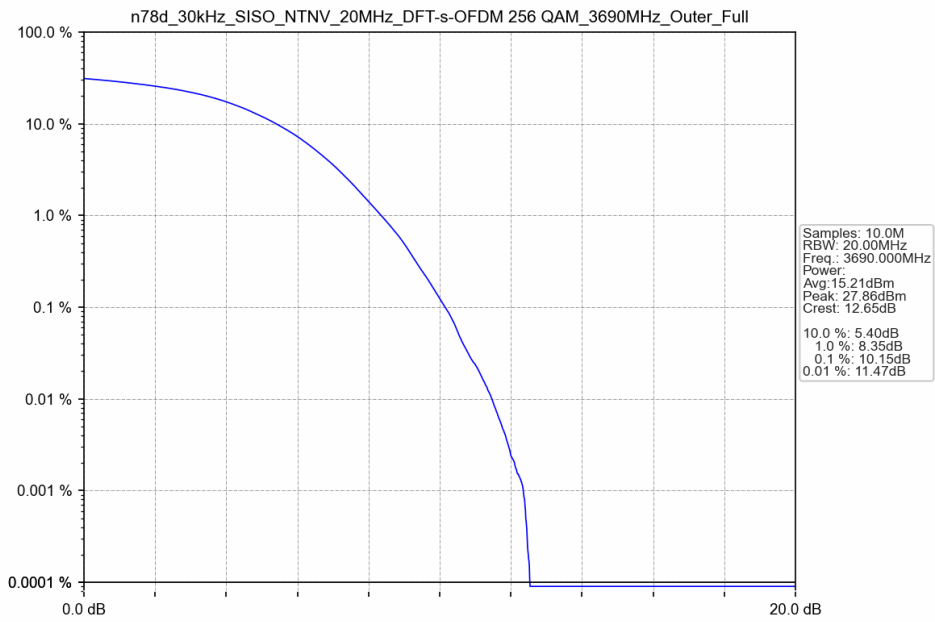
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM\_256\_QAM\_3560.01MHz\_Outer\_Full



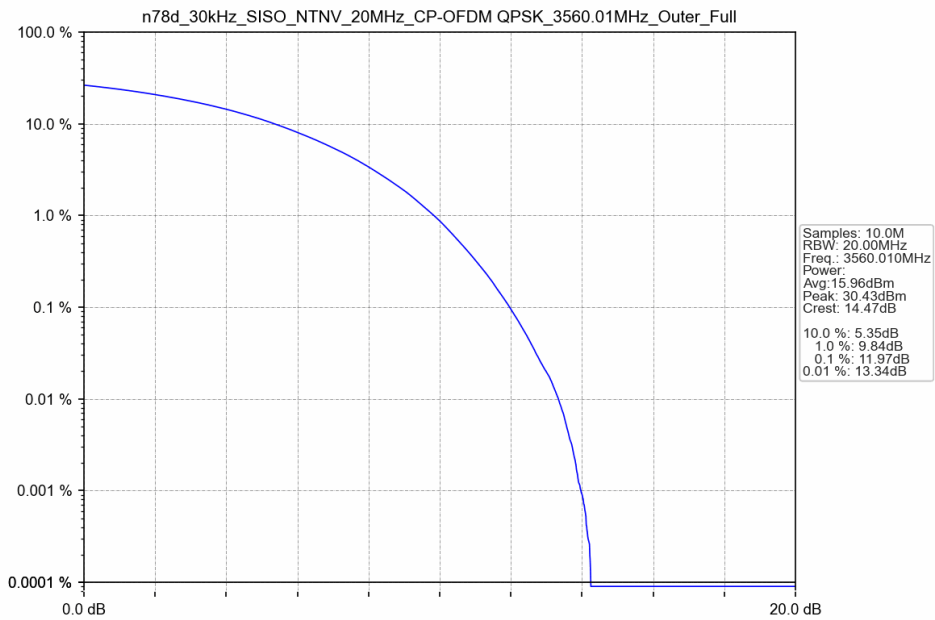
n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM\_256\_QAM\_3624.99MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_20MHz\_DFT-s-OFDM 256 QAM\_3690MHz\_Outer\_Full

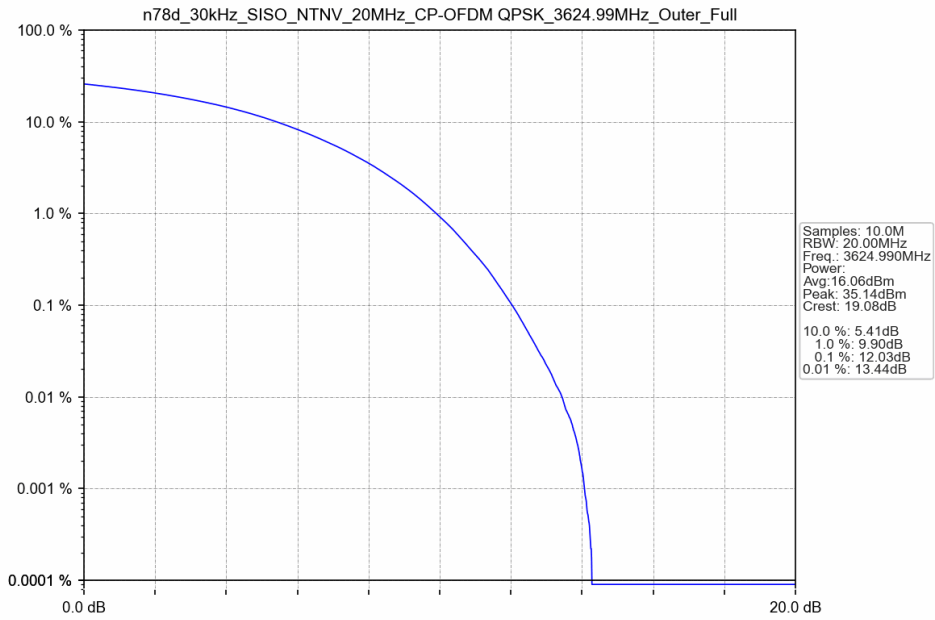


n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM QPSK\_3560.01MHz\_Outer\_Full

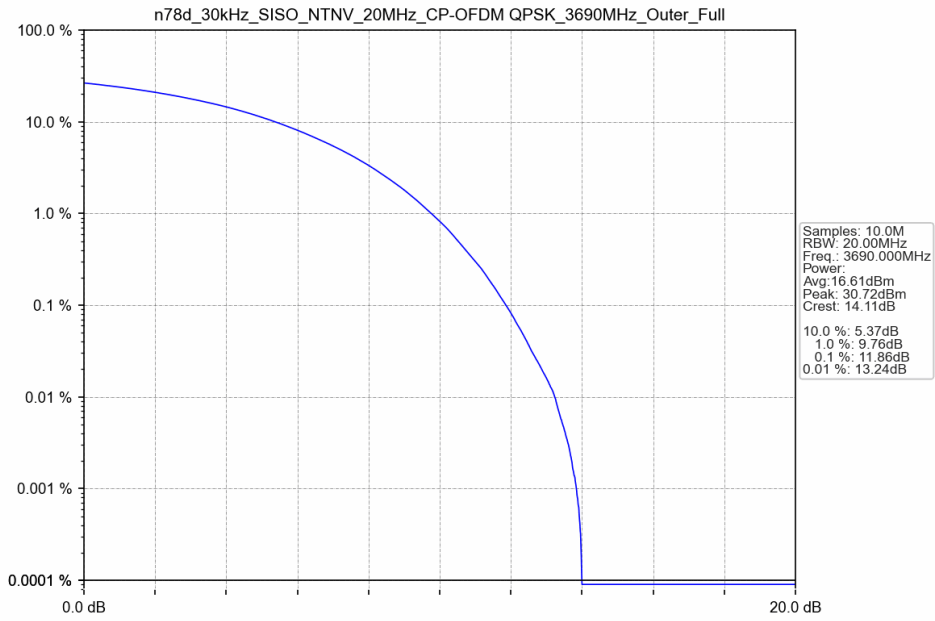




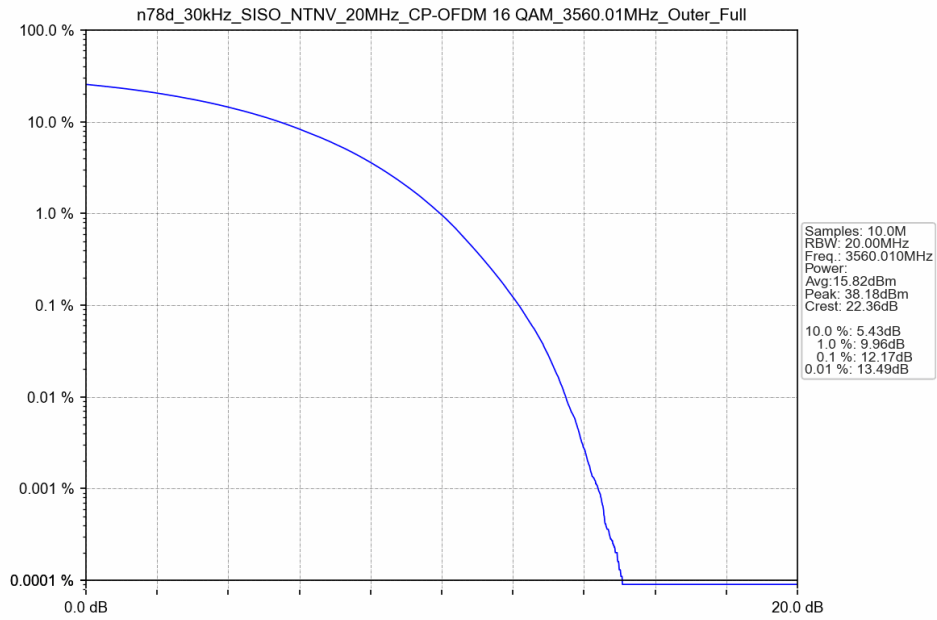
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM QPSK\_3624.99MHz\_Outer\_Full



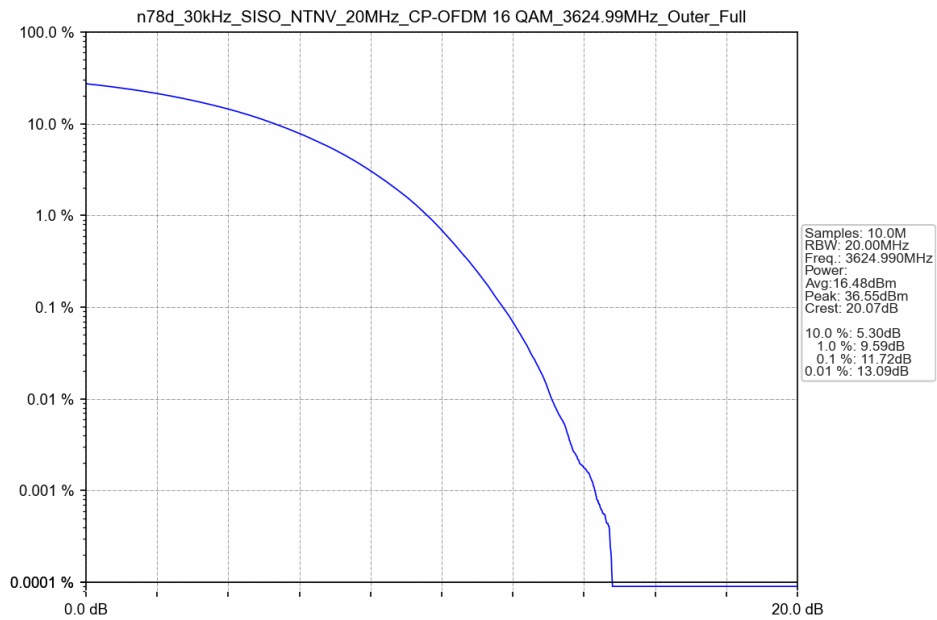
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM QPSK\_3690MHz\_Outer\_Full



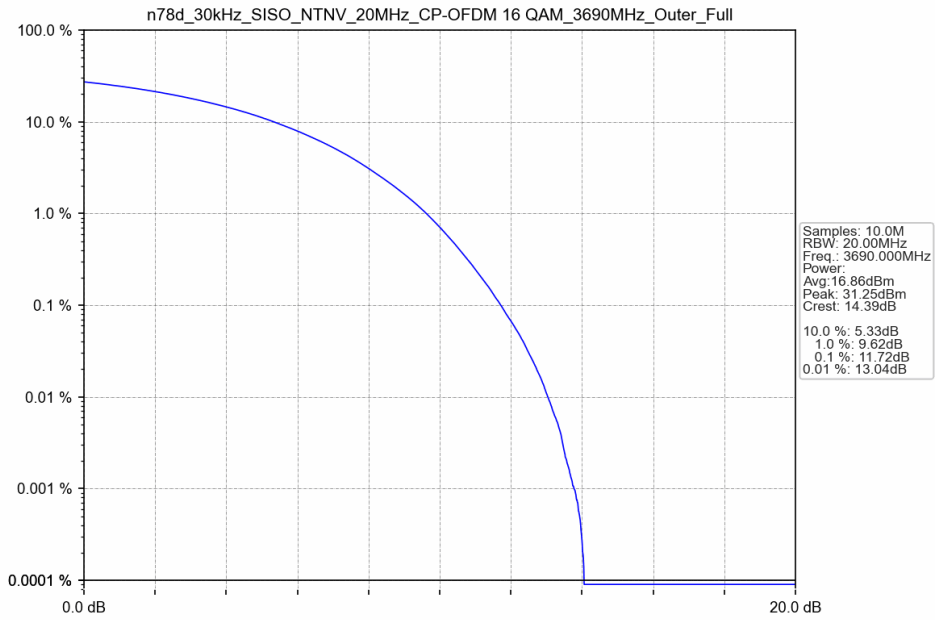
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 16 QAM\_3560.01MHz\_Outer\_Full



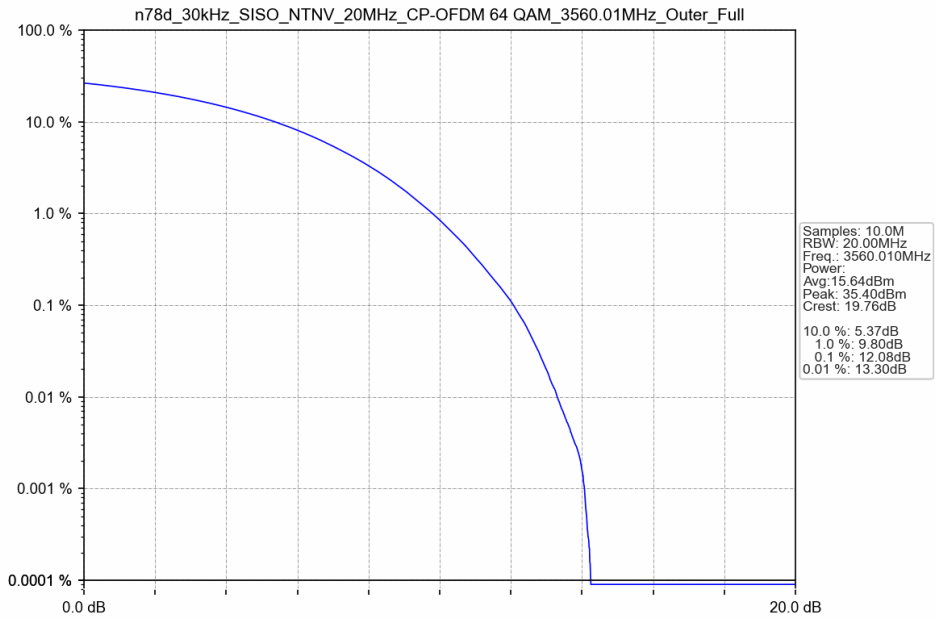
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 16 QAM\_3624.99MHz\_Outer\_Full



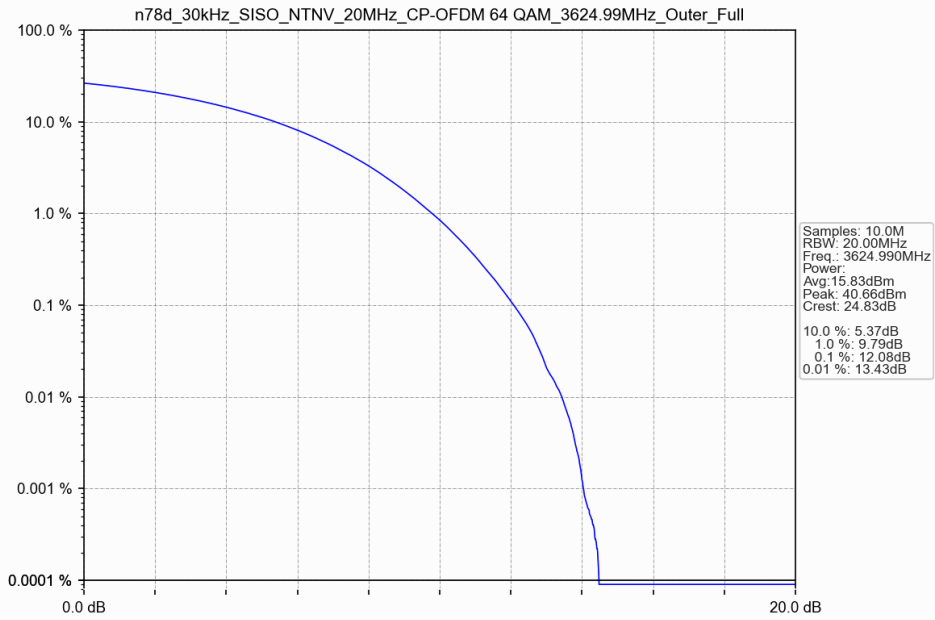
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 16 QAM\_3690MHz\_Outer\_Full



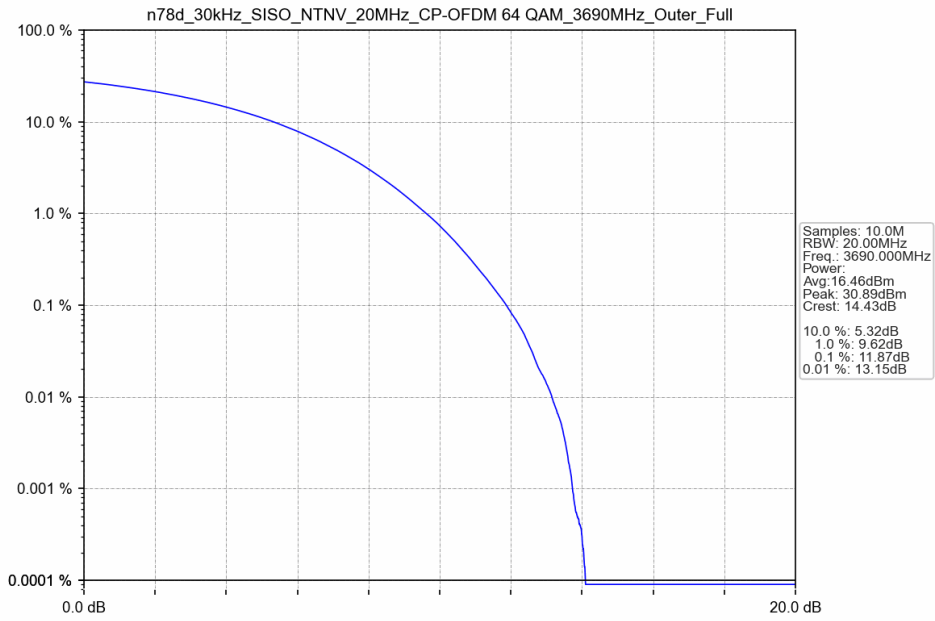
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 64 QAM\_3560.01MHz\_Outer\_Full



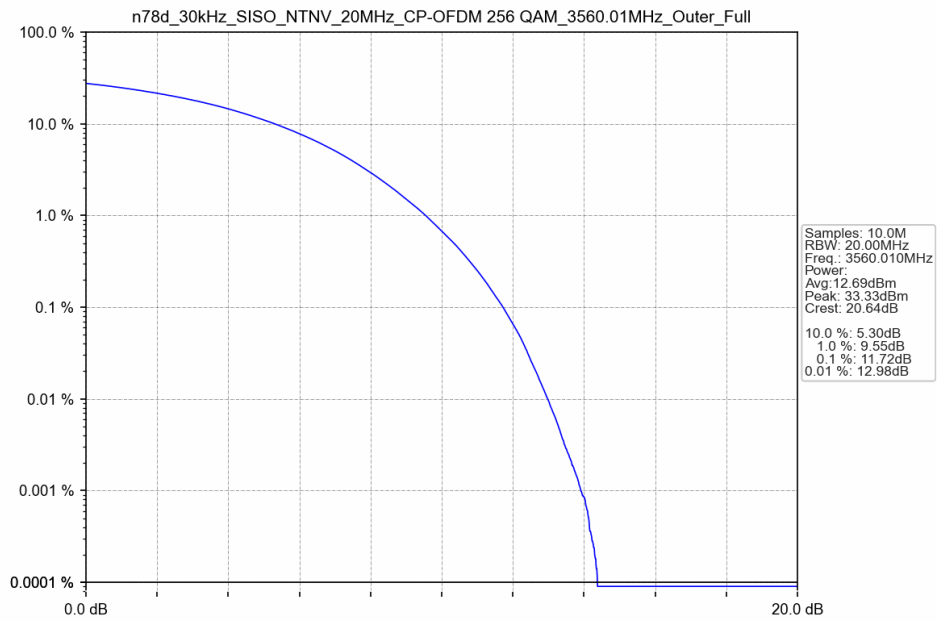
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 64 QAM\_3624.99MHz\_Outer\_Full



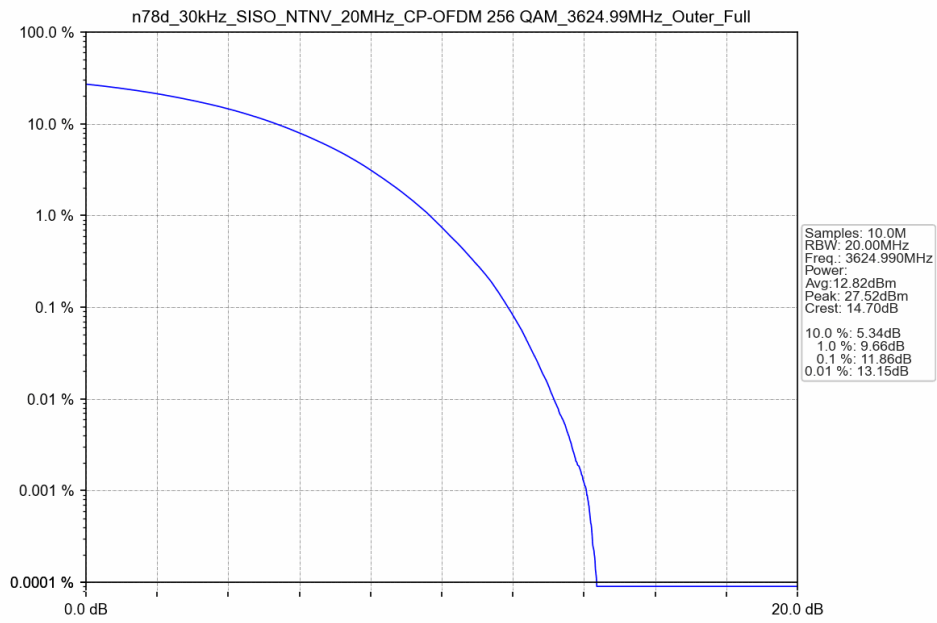
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 64 QAM\_3690MHz\_Outer\_Full



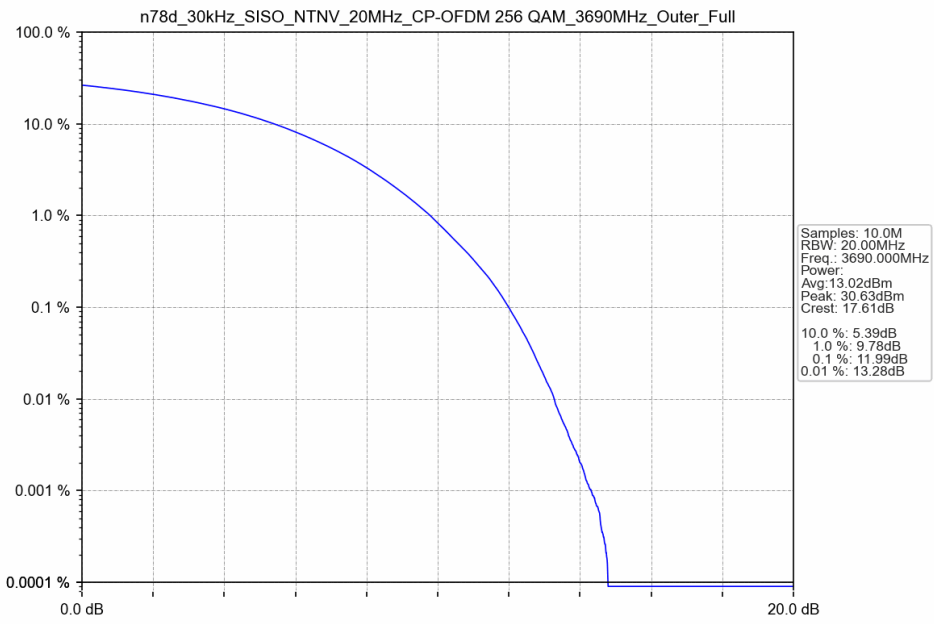
n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 256 QAM\_3560.01MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 256 QAM\_3624.99MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_20MHz\_CP-OFDM 256 QAM\_3690MHz\_Outer\_Full



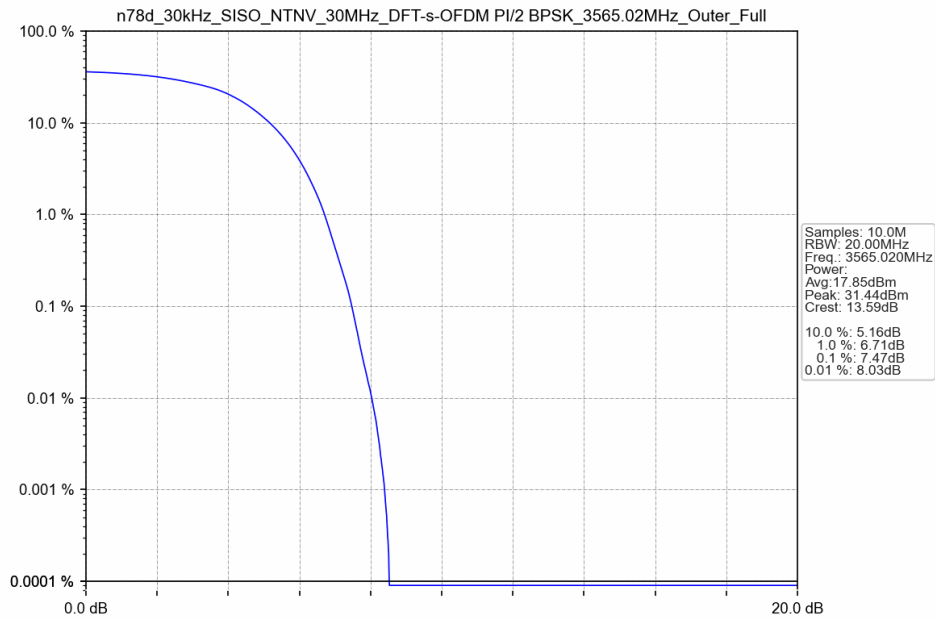
## 4.2 30k\_SISO\_30MHz\_NTNV

### 4.2.1 Test Result

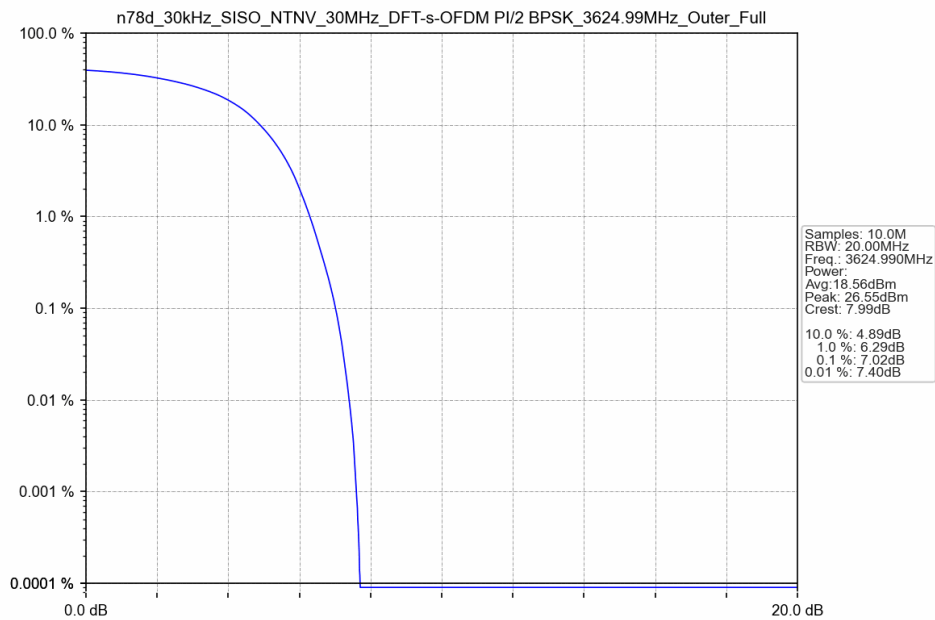
5G NR n78d SCS=30kHz SISO 30MHz NTN							
Modulation	Frequency (MHz)	RB Allocation	Peak-Average Ratio (dB)				Verdict
			Ant1	Ant2	Sum	Limit	
DFT-s-OFDM PI/2 BPSK	3565.02	Outer_Full	7.47	/	/	<=13	Pass
	3624.99	Outer_Full	7.02	/	/	<=13	Pass
	3684.99	Outer_Full	7.02	/	/	<=13	Pass
DFT-s-OFDM QPSK	3565.02	Outer_Full	9.37	/	/	<=13	Pass
	3624.99	Outer_Full	8.92	/	/	<=13	Pass
	3684.99	Outer_Full	8.96	/	/	<=13	Pass
DFT-s-OFDM 16 QAM	3565.02	Outer_Full	9.94	/	/	<=13	Pass
	3624.99	Outer_Full	9.90	/	/	<=13	Pass
	3684.99	Outer_Full	9.83	/	/	<=13	Pass
DFT-s-OFDM 64 QAM	3565.02	Outer_Full	10.40	/	/	<=13	Pass
	3624.99	Outer_Full	10.01	/	/	<=13	Pass
	3684.99	Outer_Full	9.89	/	/	<=13	Pass
DFT-s-OFDM 256 QAM	3565.02	Outer_Full	10.30	/	/	<=13	Pass
	3624.99	Outer_Full	9.87	/	/	<=13	Pass
	3684.99	Outer_Full	9.99	/	/	<=13	Pass
CP-OFDM QPSK	3565.02	Outer_Full	12.12	/	/	<=13	Pass
	3624.99	Outer_Full	11.72	/	/	<=13	Pass
	3684.99	Outer_Full	11.73	/	/	<=13	Pass
CP-OFDM 16 QAM	3565.02	Outer_Full	11.81	/	/	<=13	Pass
	3624.99	Outer_Full	11.82	/	/	<=13	Pass
	3684.99	Outer_Full	12.11	/	/	<=13	Pass
CP-OFDM 64 QAM	3565.02	Outer_Full	12.08	/	/	<=13	Pass
	3624.99	Outer_Full	11.70	/	/	<=13	Pass
	3684.99	Outer_Full	11.99	/	/	<=13	Pass
CP-OFDM 256 QAM	3565.02	Outer_Full	11.83	/	/	<=13	Pass
	3624.99	Outer_Full	11.96	/	/	<=13	Pass
	3684.99	Outer_Full	11.73	/	/	<=13	Pass

## 4.2.2 Test Graph

n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM PI/2 BPSK\_3565.02MHz\_Outer\_Full

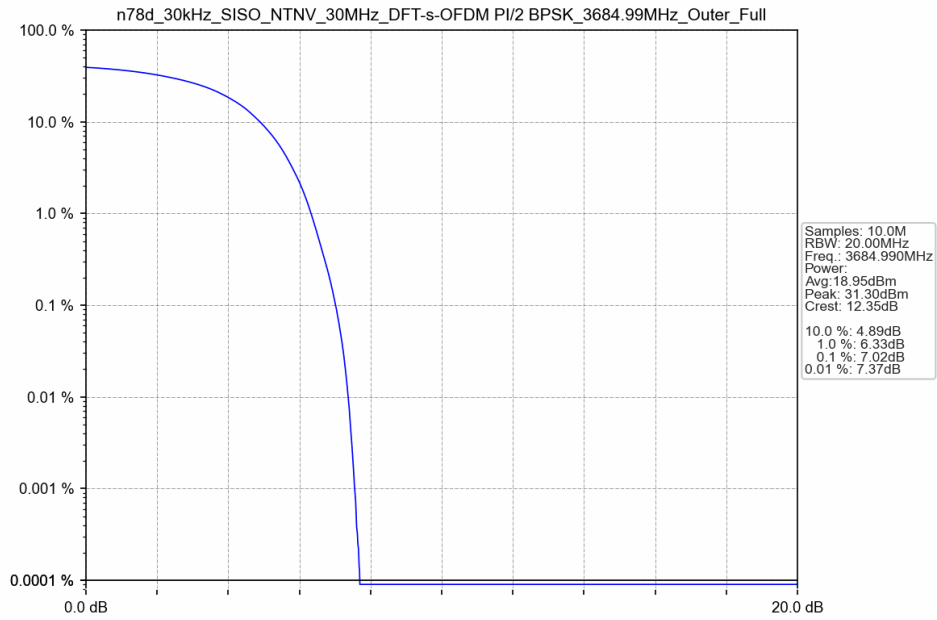


n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM PI/2 BPSK\_3624.99MHz\_Outer\_Full

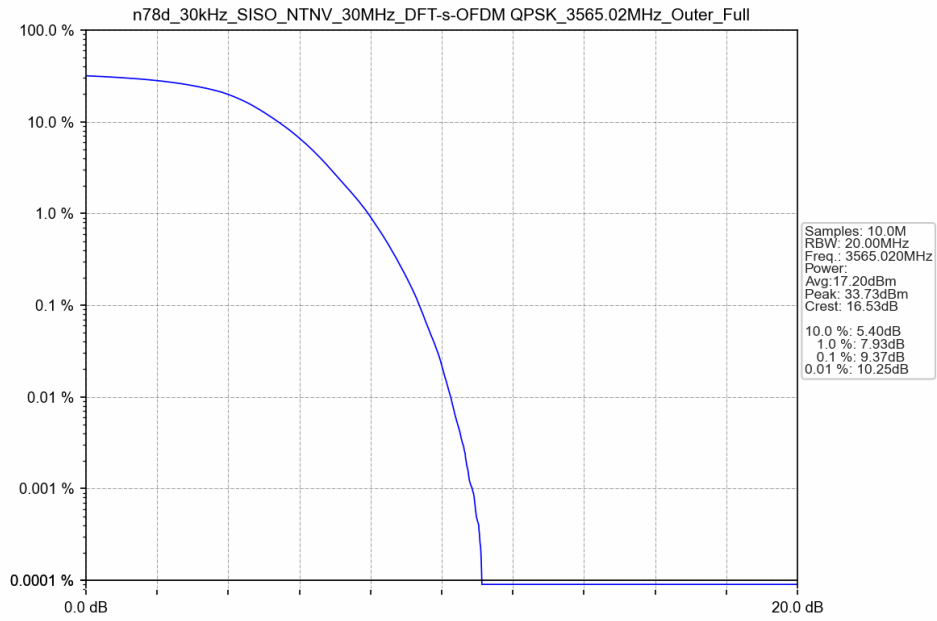




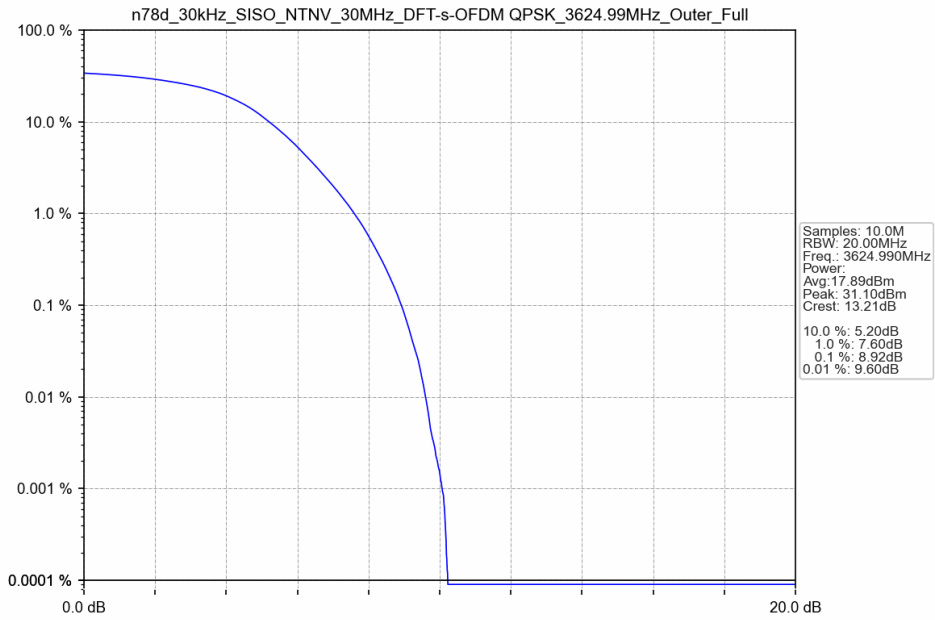
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM PI/2 BPSK\_3684.99MHz\_Outer\_Full



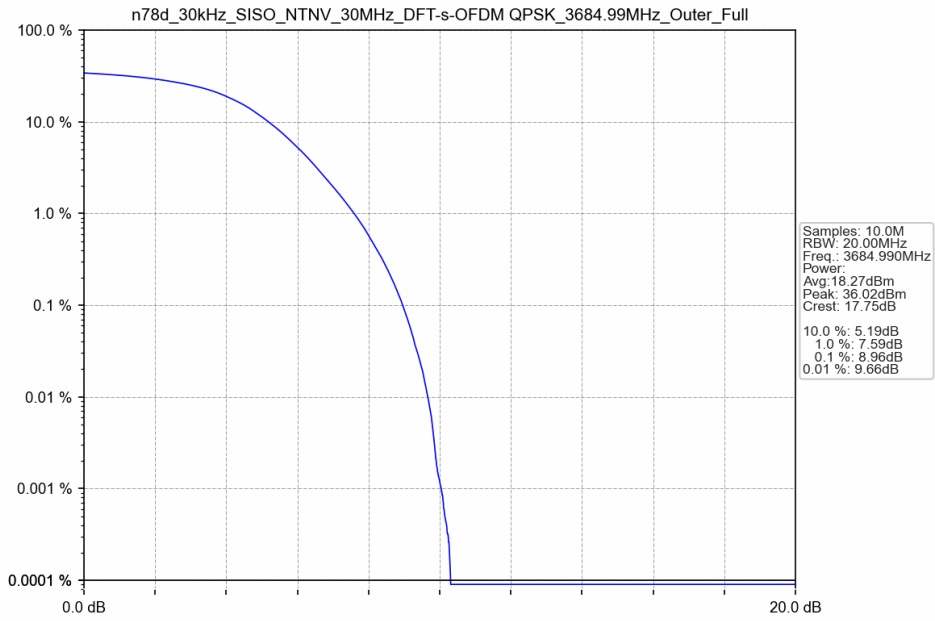
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM QPSK\_3565.02MHz\_Outer\_Full



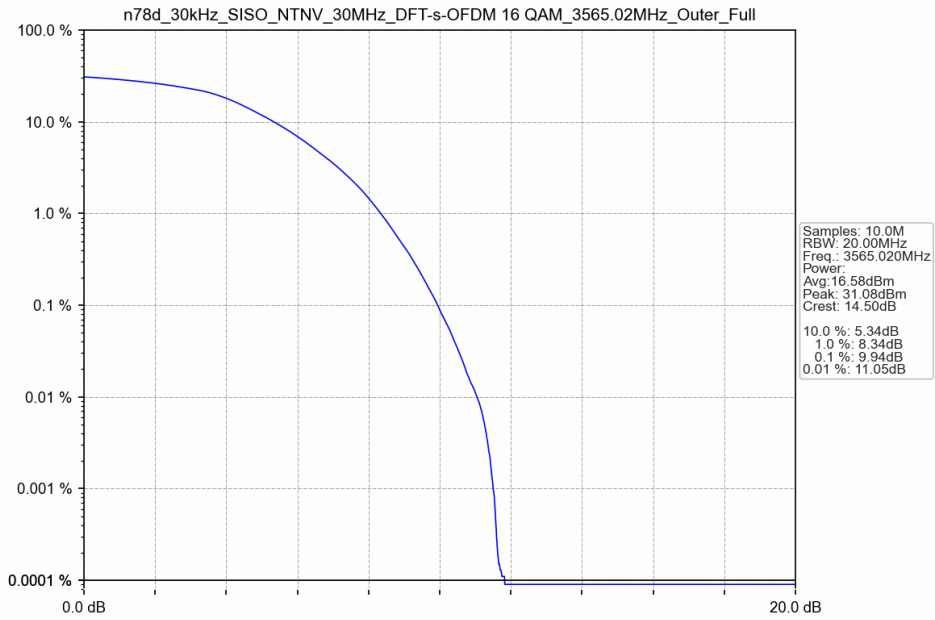
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM QPSK\_3624.99MHz\_Outer\_Full



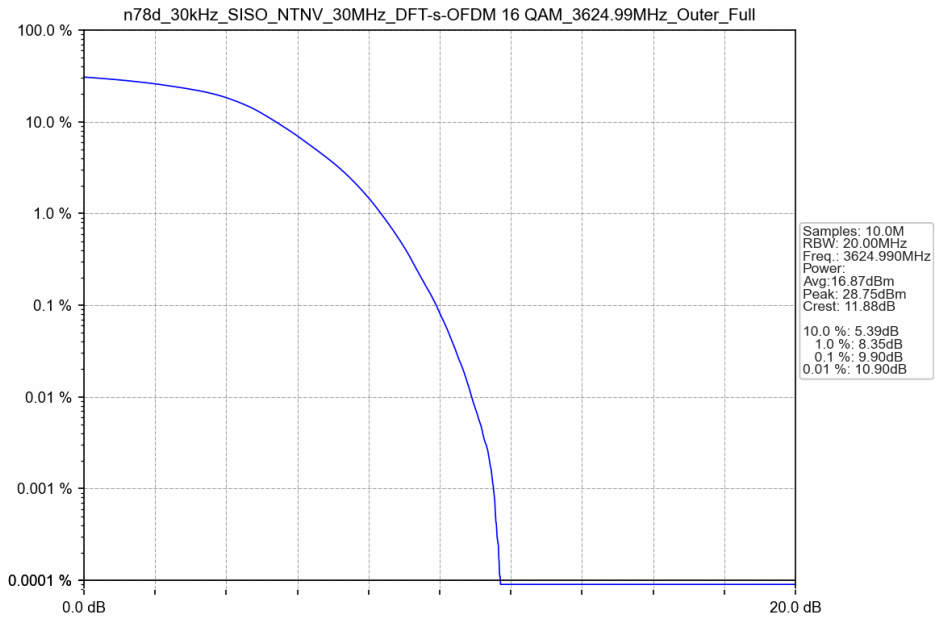
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM QPSK\_3684.99MHz\_Outer\_Full



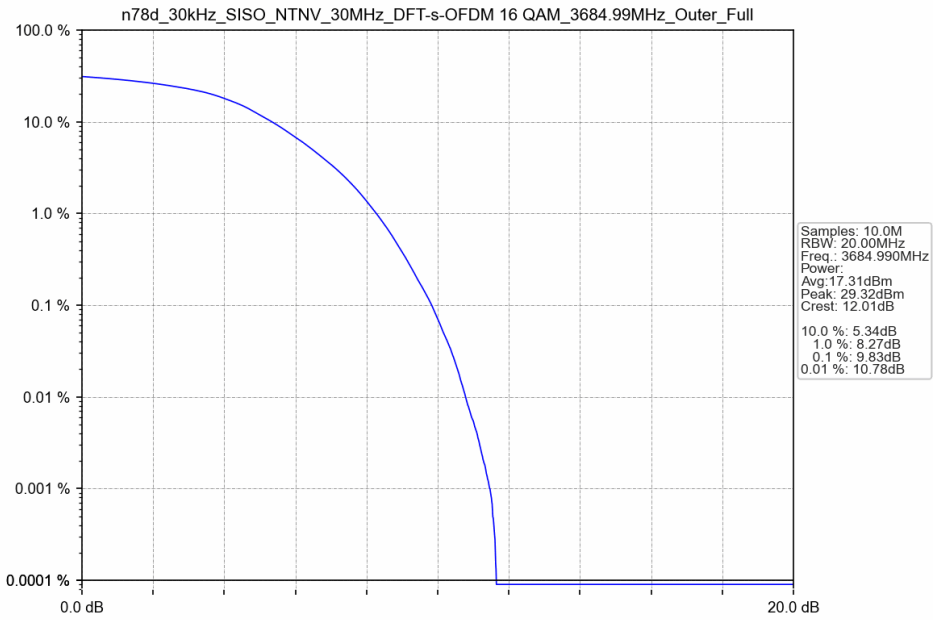
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM\_16\_QAM\_3565.02MHz\_Outer\_Full



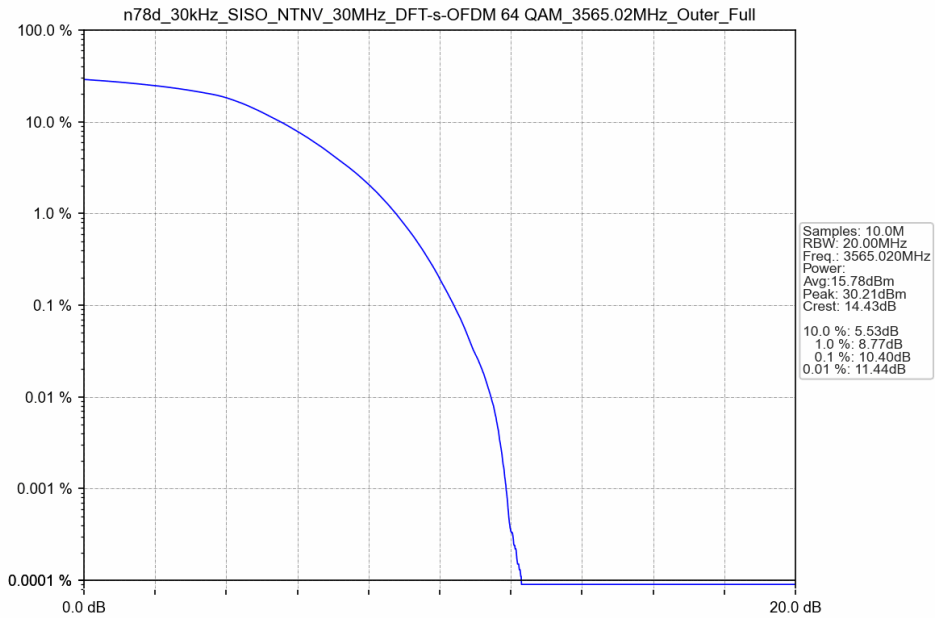
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM\_16\_QAM\_3624.99MHz\_Outer\_Full



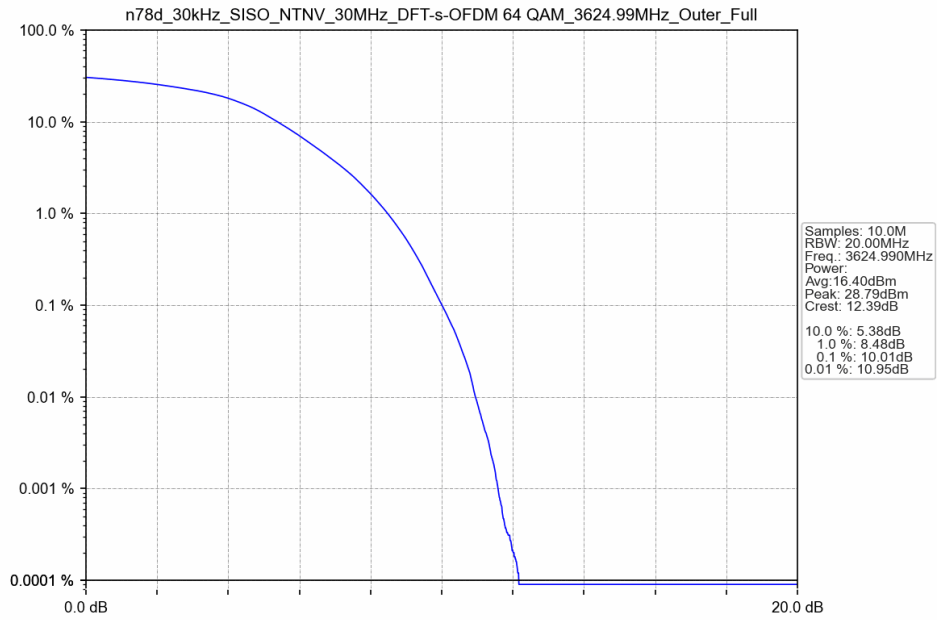
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM 16 QAM\_3684.99MHz\_Outer\_Full



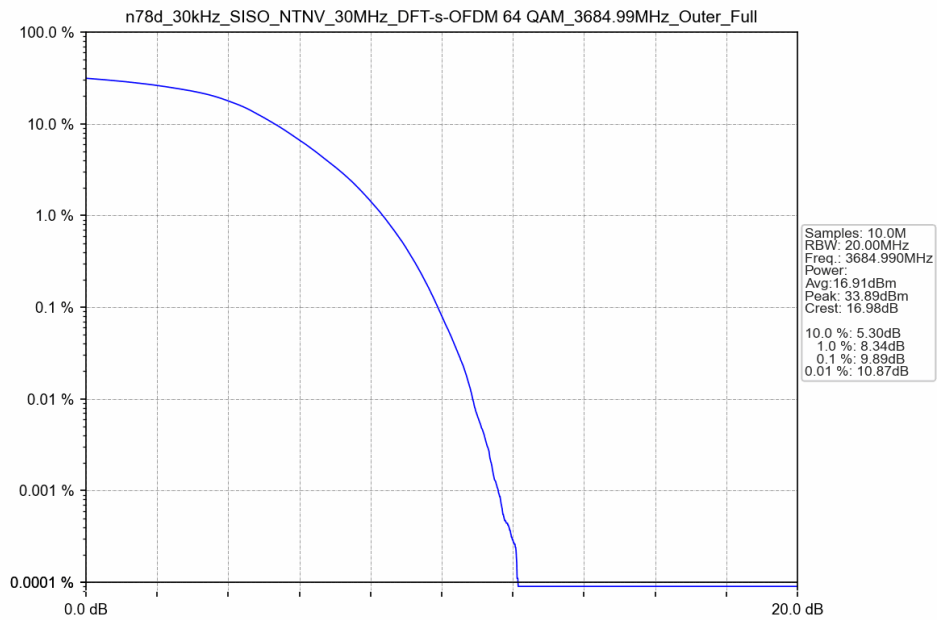
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM 64 QAM\_3565.02MHz\_Outer\_Full



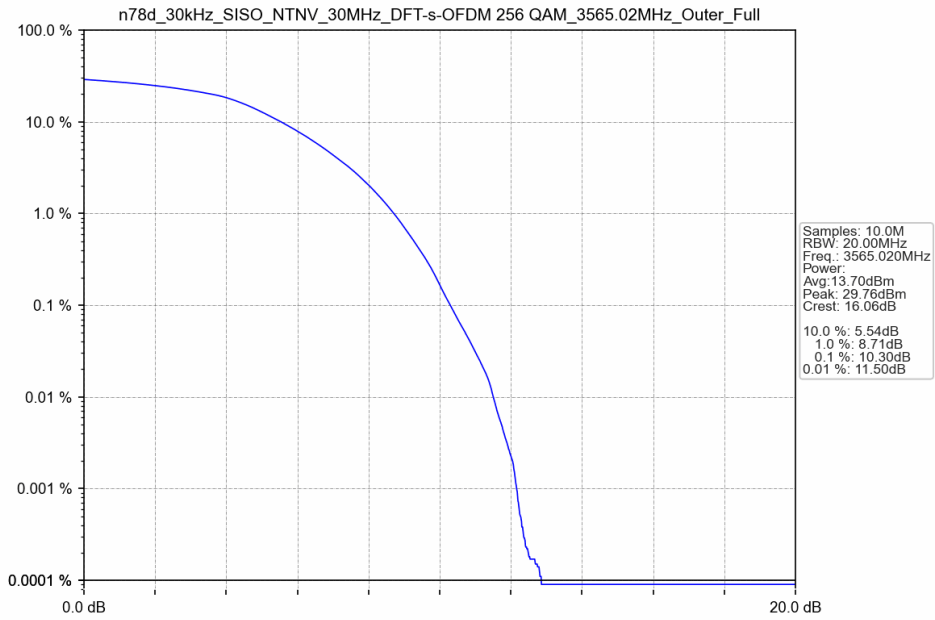
n78d\_30kHz\_SISO\_NTV\_30MHz\_DFT-s-OFDM\_64\_QAM\_3624.99MHz\_Outer\_Full



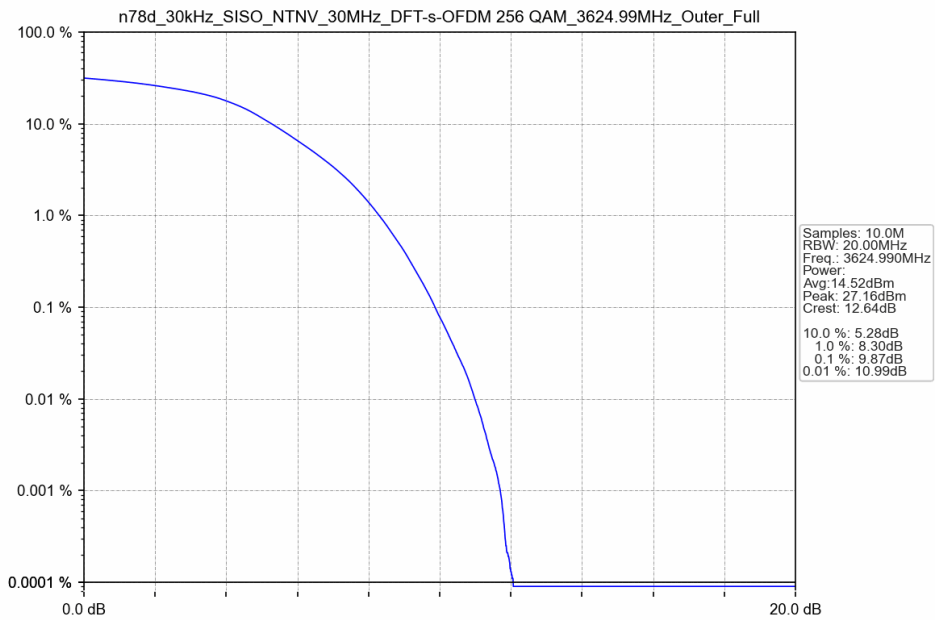
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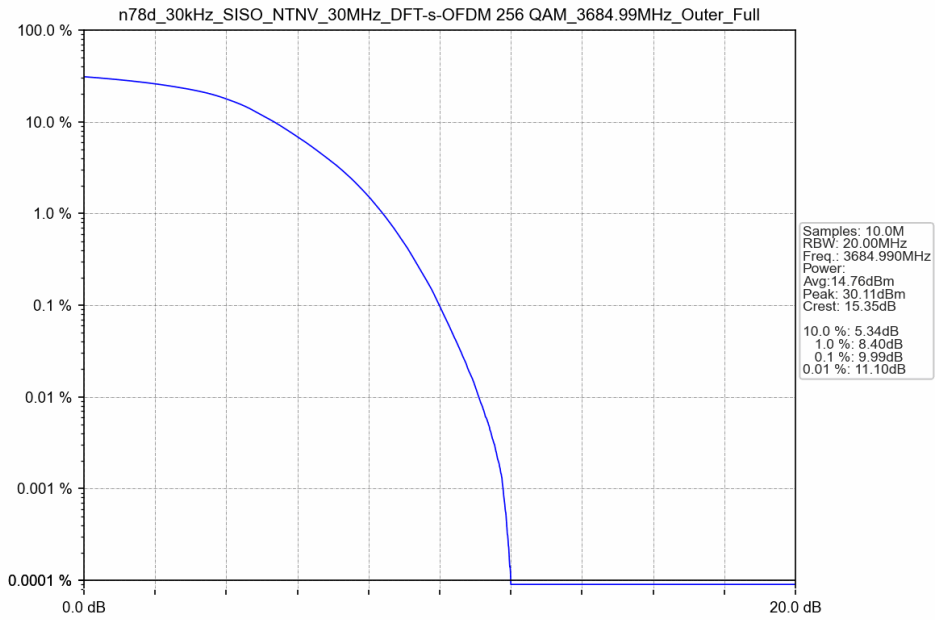
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM\_256\_QAM\_3565.02MHz\_Outer\_Full



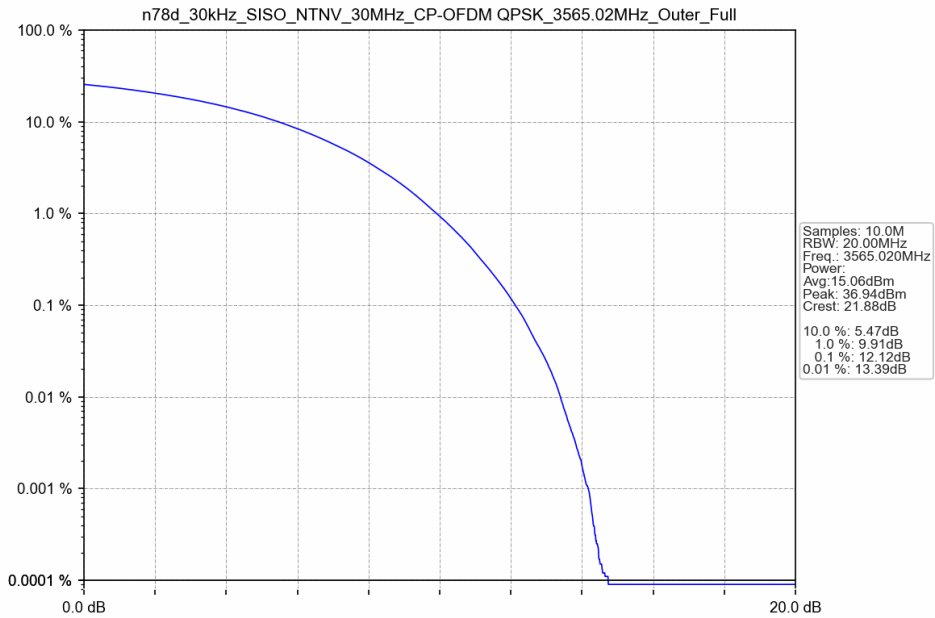
n78d\_30kHz\_SISO\_NTNV\_30MHz\_DFT-s-OFDM\_256\_QAM\_3624.99MHz\_Outer\_Full



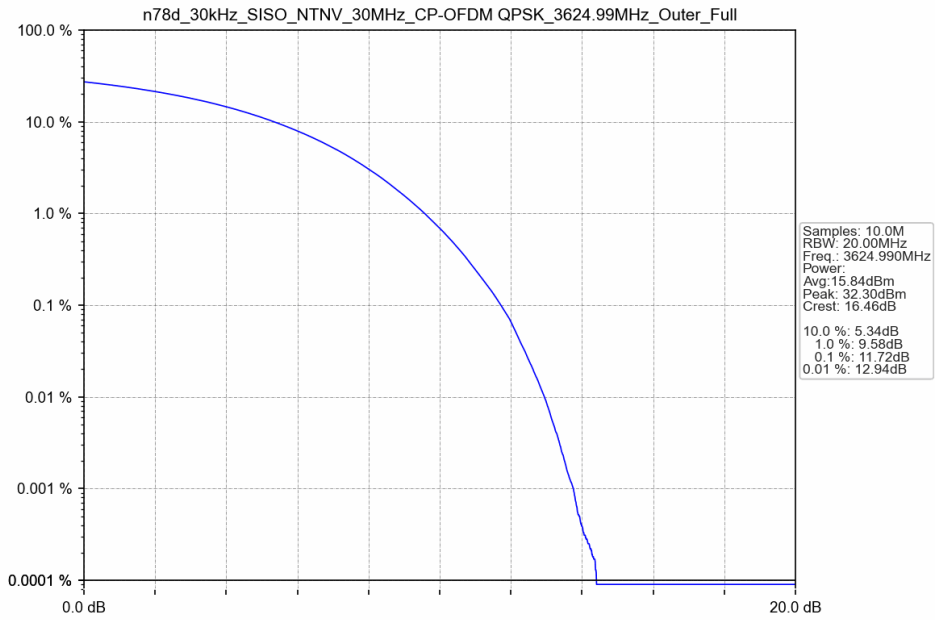
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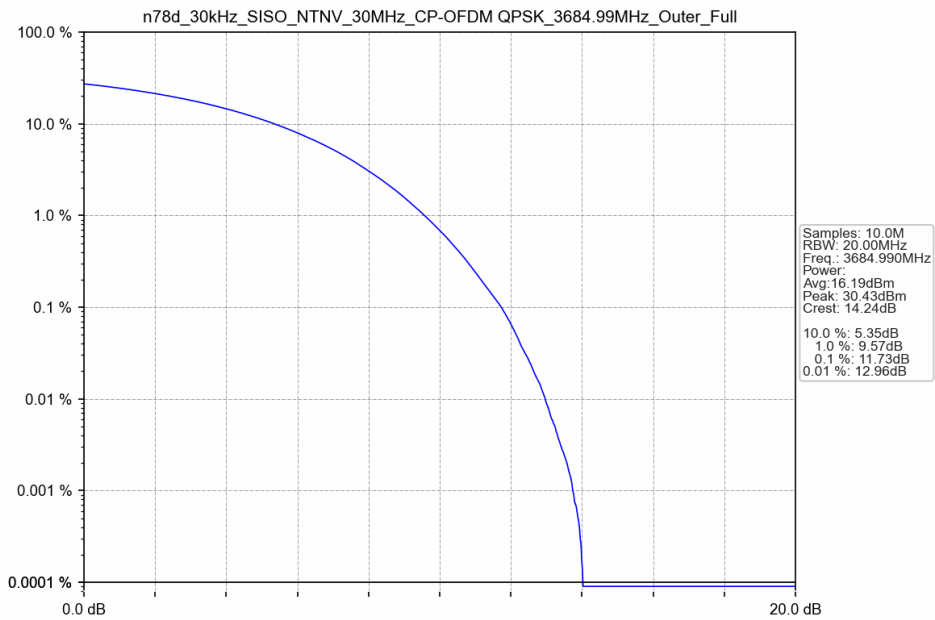
n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM\_QPSK\_3565.02MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM QPSK\_3624.99MHz\_Outer\_Full

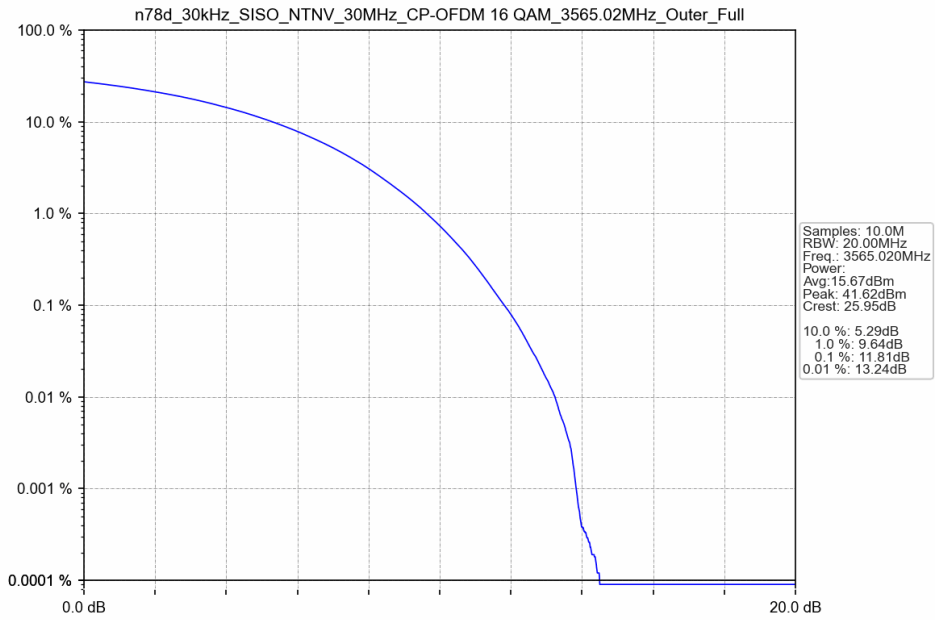


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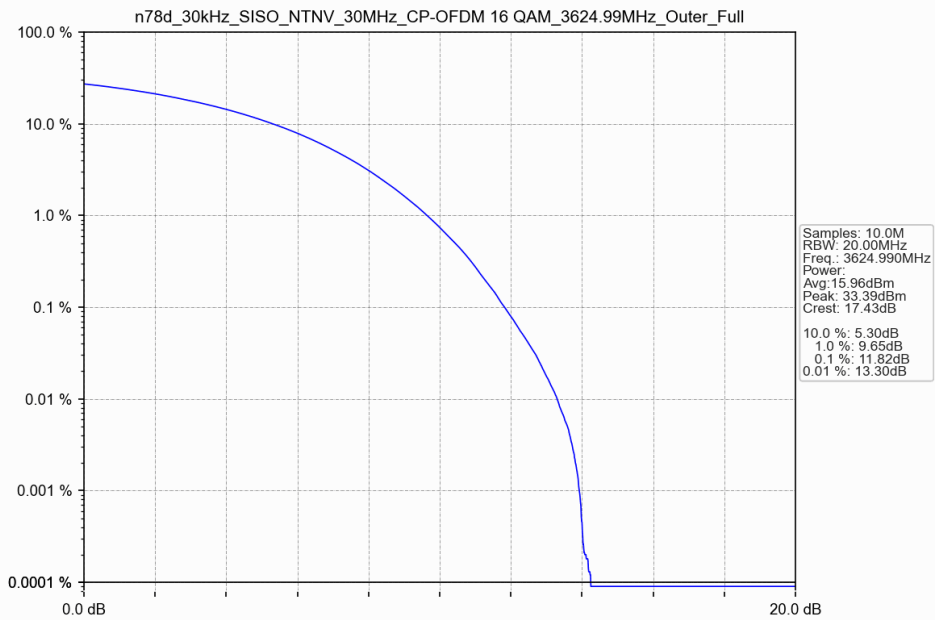




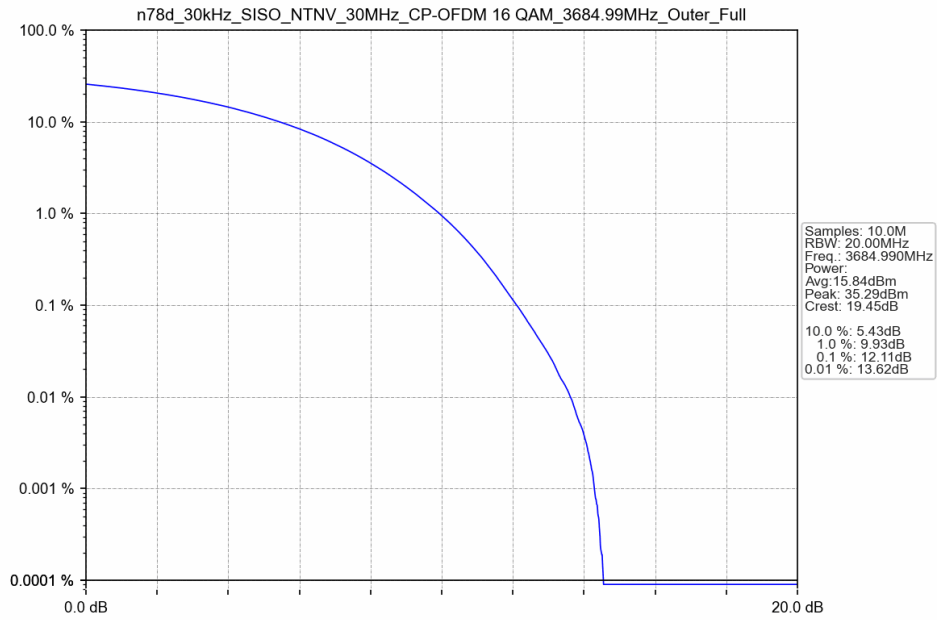
n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 16 QAM\_3565.02MHz\_Outer\_Full



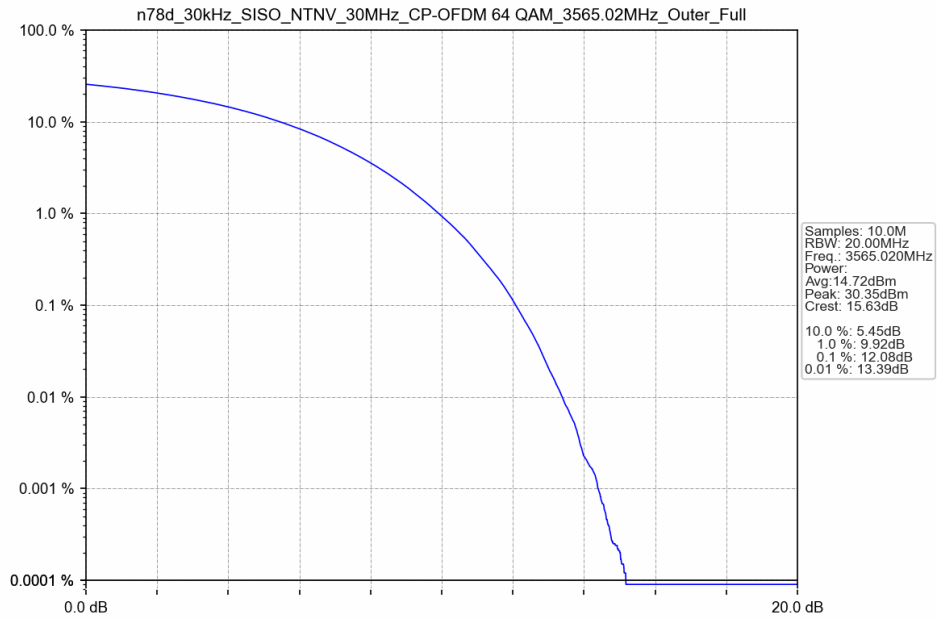
n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 16 QAM\_3624.99MHz\_Outer\_Full



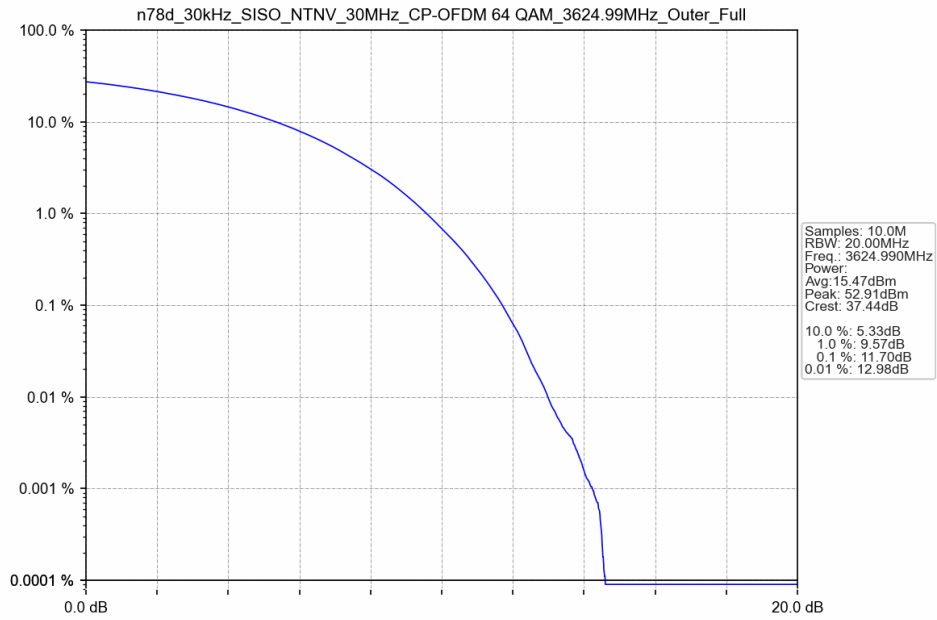
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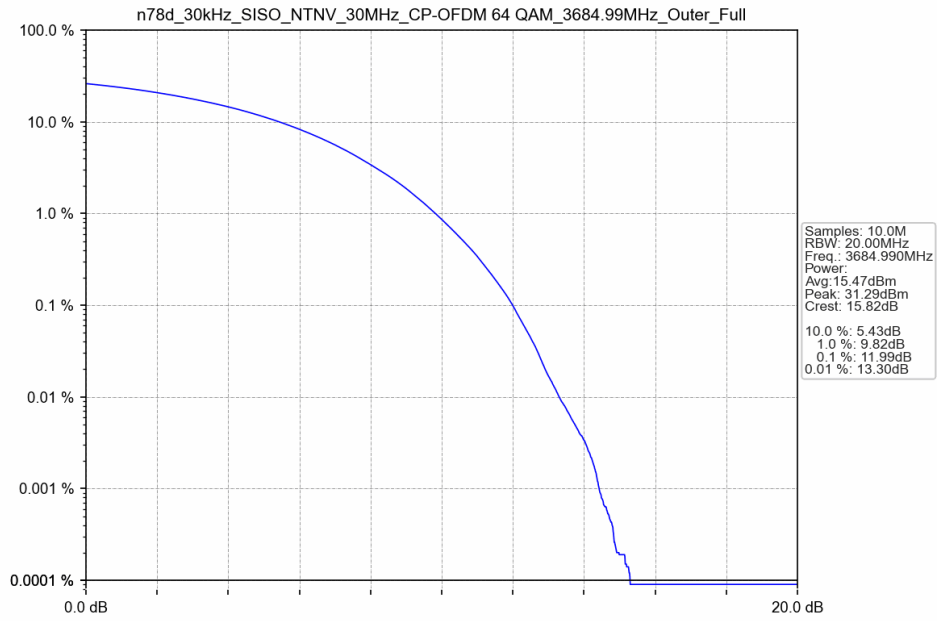
n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 64 QAM\_3565.02MHz\_Outer\_Full



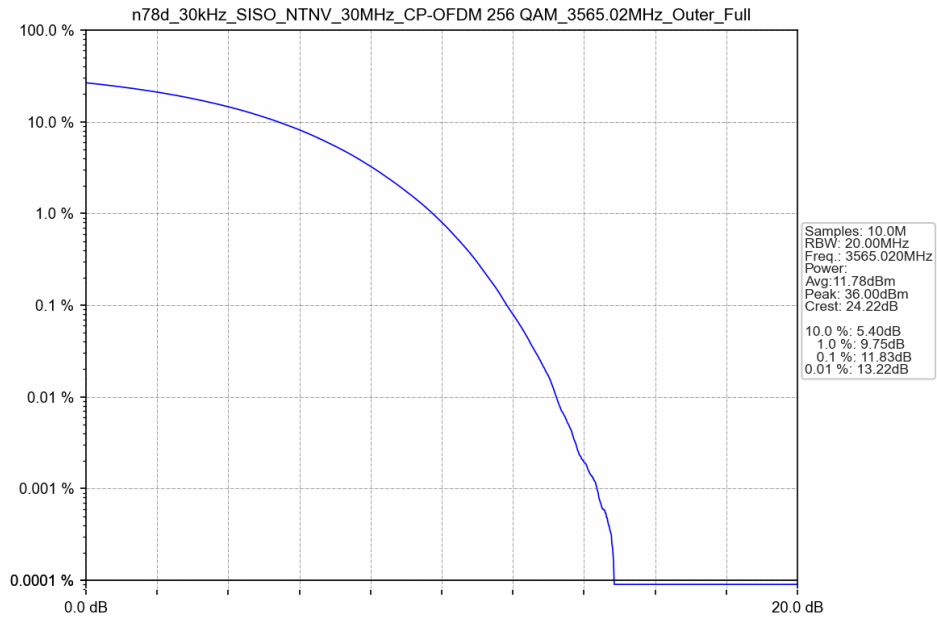
n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 64 QAM\_3624.99MHz\_Outer\_Full



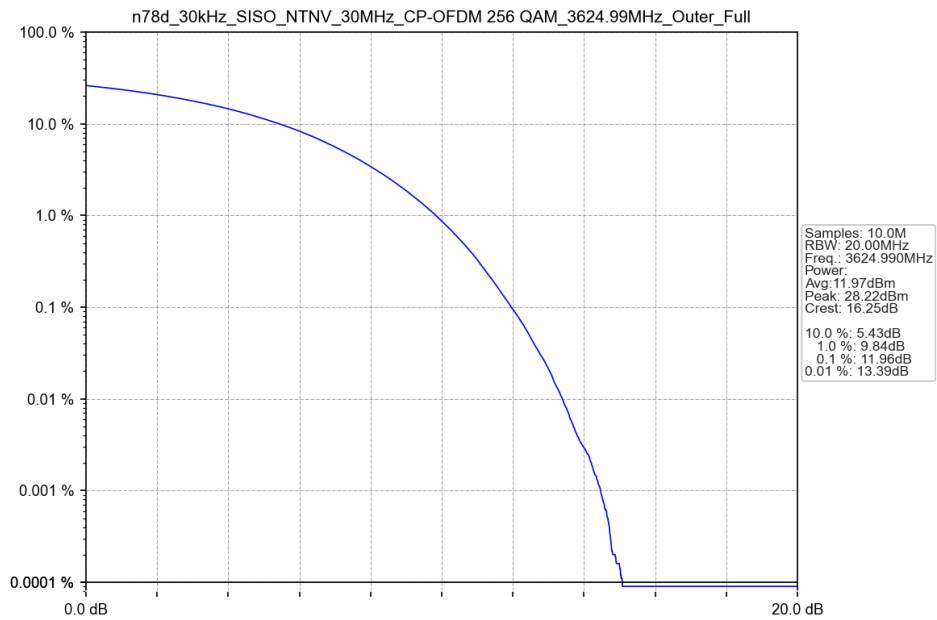
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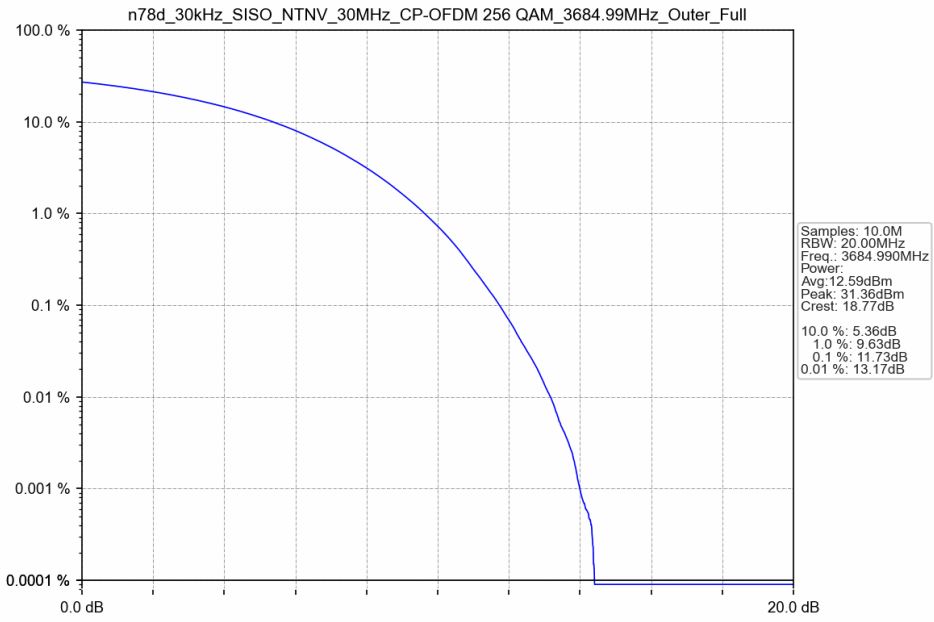
n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 256 QAM\_3565.02MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 256 QAM\_3624.99MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_30MHz\_CP-OFDM 256 QAM\_3684.99MHz\_Outer\_Full

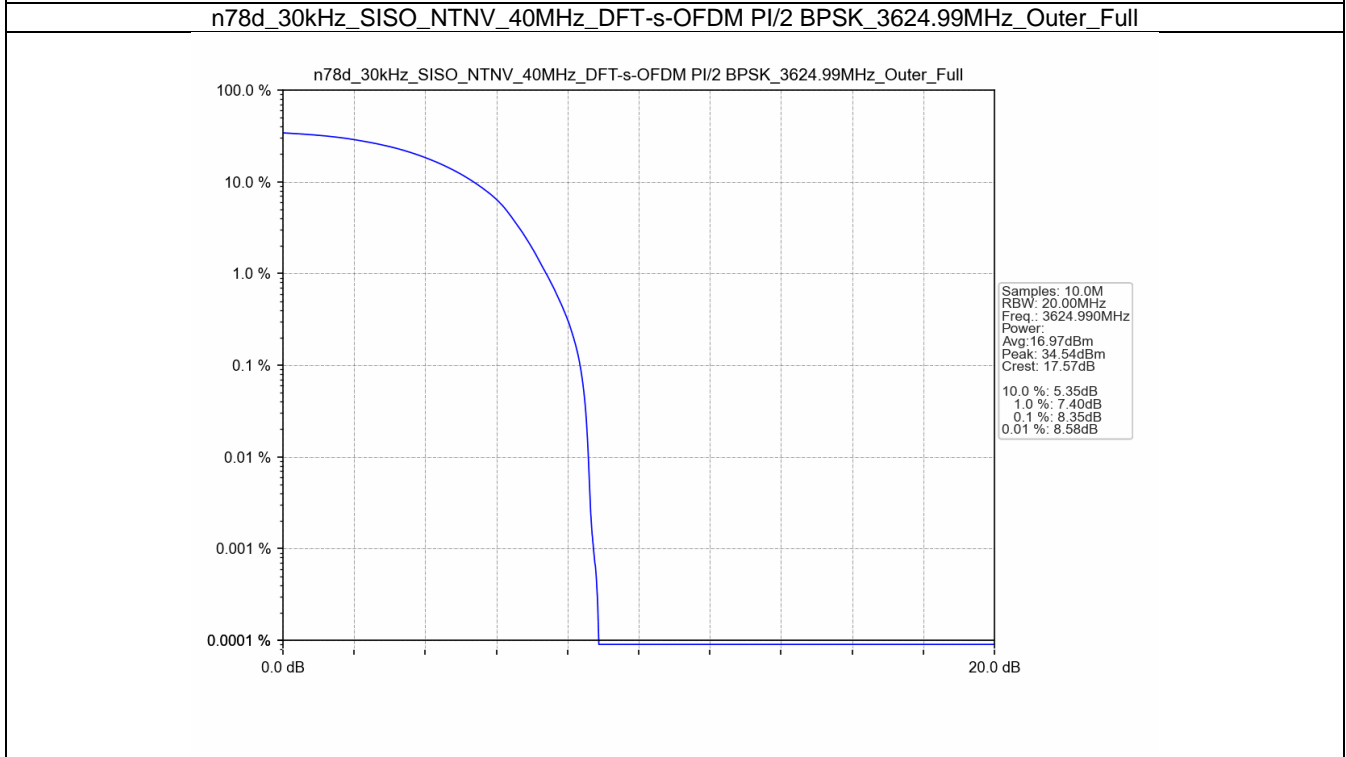
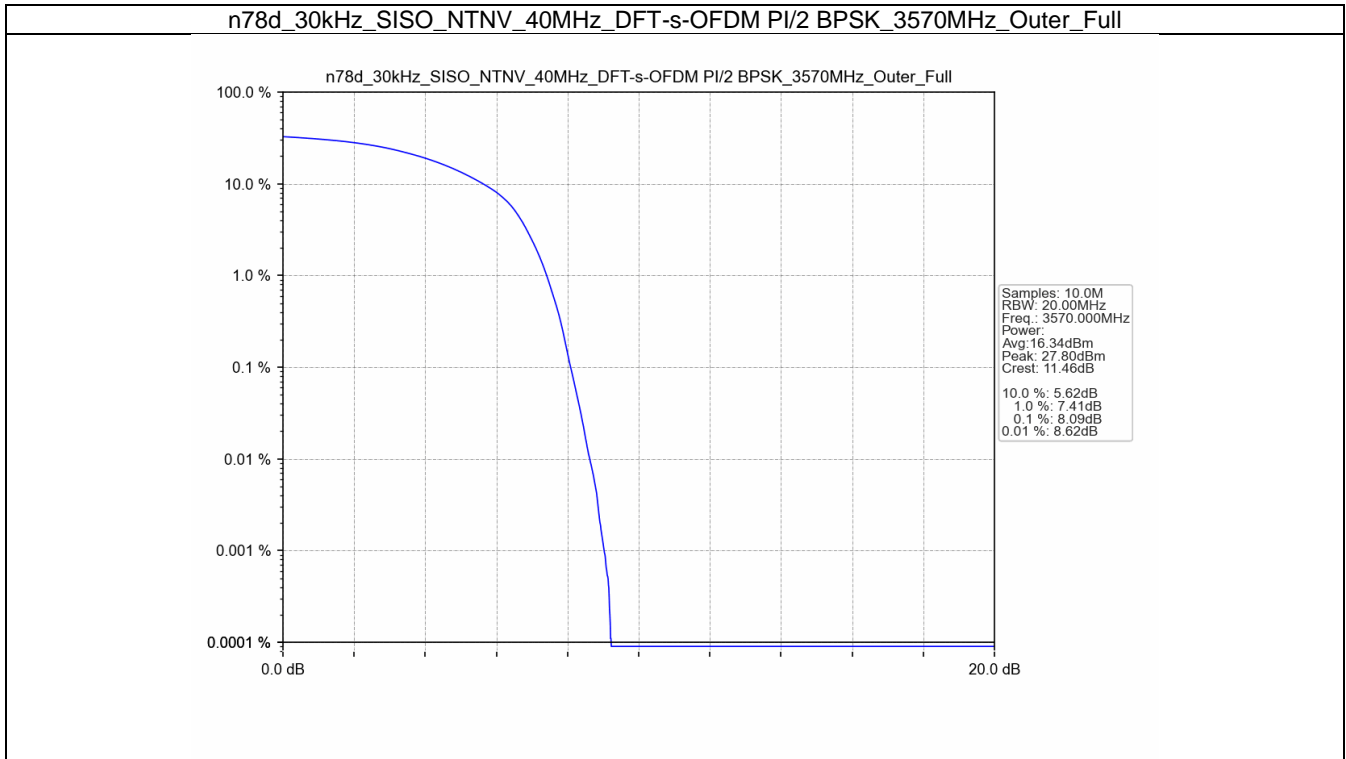


### 4.3 30k\_SISO\_40MHz\_NTNV

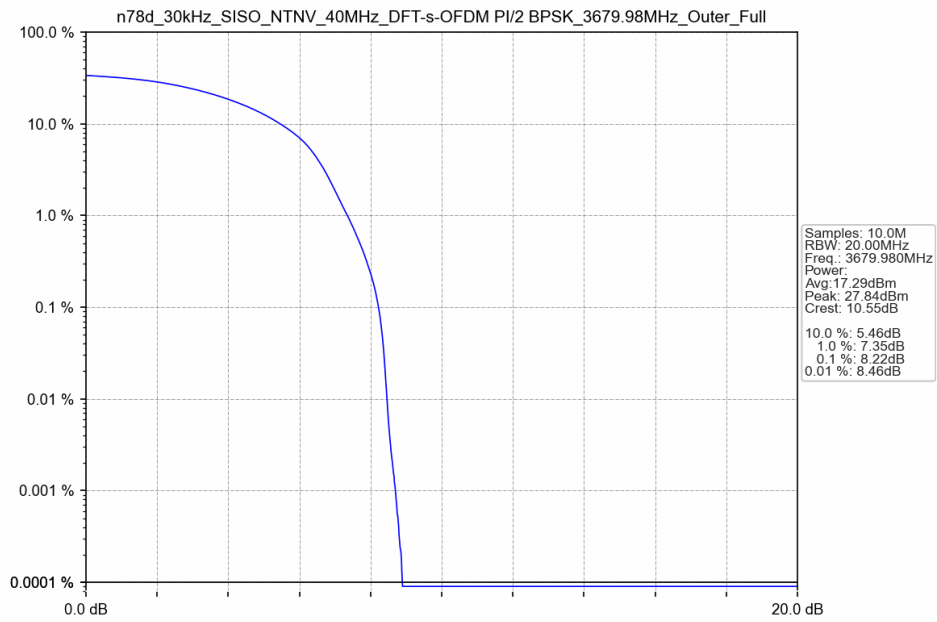
#### 4.3.1 Test Result

5G NR n78d SCS=30kHz SISO 40MHz NTN							
Modulation	Frequency (MHz)	RB Allocation	Peak-Average Ratio (dB)				Verdict
			Ant1	Ant2	Sum	Limit	
DFT-s-OFDM PI/2 BPSK	3570	Outer_Full	8.09	/	/	<=13	Pass
	3624.99	Outer_Full	8.35	/	/	<=13	Pass
	3679.98	Outer_Full	8.22	/	/	<=13	Pass
DFT-s-OFDM QPSK	3570	Outer_Full	9.55	/	/	<=13	Pass
	3624.99	Outer_Full	9.06	/	/	<=13	Pass
	3679.98	Outer_Full	8.93	/	/	<=13	Pass
DFT-s-OFDM 16 QAM	3570	Outer_Full	10.06	/	/	<=13	Pass
	3624.99	Outer_Full	10.13	/	/	<=13	Pass
	3679.98	Outer_Full	10.18	/	/	<=13	Pass
DFT-s-OFDM 64 QAM	3570	Outer_Full	10.25	/	/	<=13	Pass
	3624.99	Outer_Full	10.17	/	/	<=13	Pass
	3679.98	Outer_Full	10.06	/	/	<=13	Pass
DFT-s-OFDM 256 QAM	3570	Outer_Full	10.64	/	/	<=13	Pass
	3624.99	Outer_Full	10.36	/	/	<=13	Pass
	3679.98	Outer_Full	10.31	/	/	<=13	Pass
CP-OFDM QPSK	3570	Outer_Full	12.10	/	/	<=13	Pass
	3624.99	Outer_Full	12.04	/	/	<=13	Pass
	3679.98	Outer_Full	11.45	/	/	<=13	Pass
CP-OFDM 16 QAM	3570	Outer_Full	11.87	/	/	<=13	Pass
	3624.99	Outer_Full	11.84	/	/	<=13	Pass
	3679.98	Outer_Full	12.03	/	/	<=13	Pass
CP-OFDM 64 QAM	3570	Outer_Full	11.97	/	/	<=13	Pass
	3624.99	Outer_Full	11.76	/	/	<=13	Pass
	3679.98	Outer_Full	11.31	/	/	<=13	Pass
CP-OFDM 256 QAM	3570	Outer_Full	11.66	/	/	<=13	Pass
	3624.99	Outer_Full	11.98	/	/	<=13	Pass
	3679.98	Outer_Full	11.97	/	/	<=13	Pass

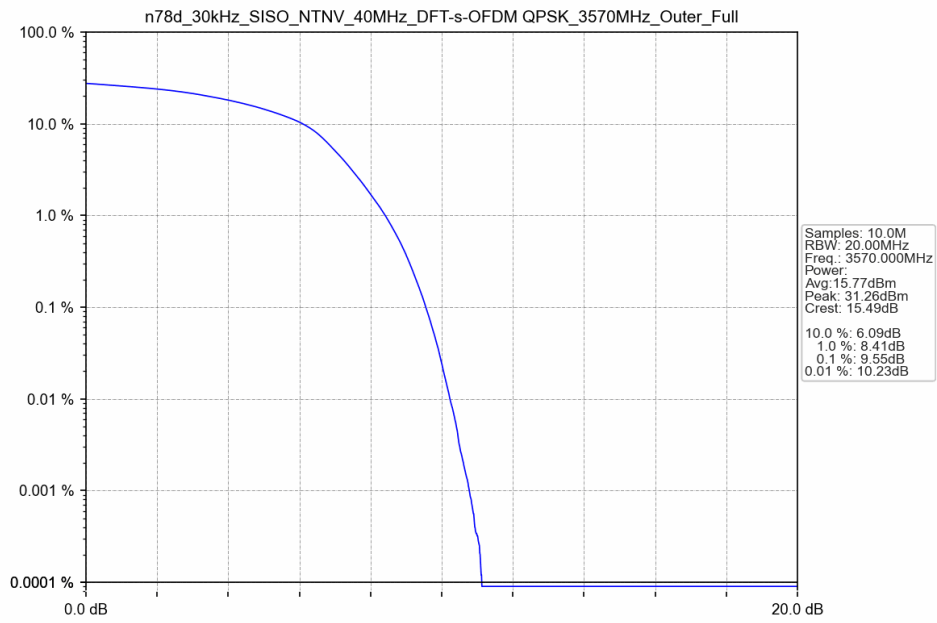
### 4.3.2 Test Graph



n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM PI/2 BPSK\_3679.98MHz\_Outer\_Full

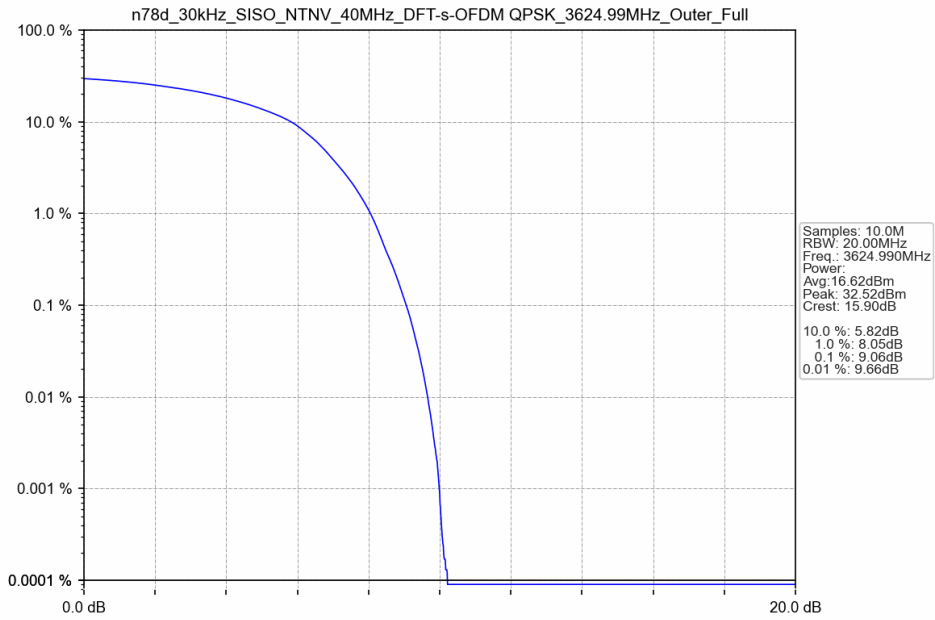


n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM QPSK\_3570MHz\_Outer\_Full

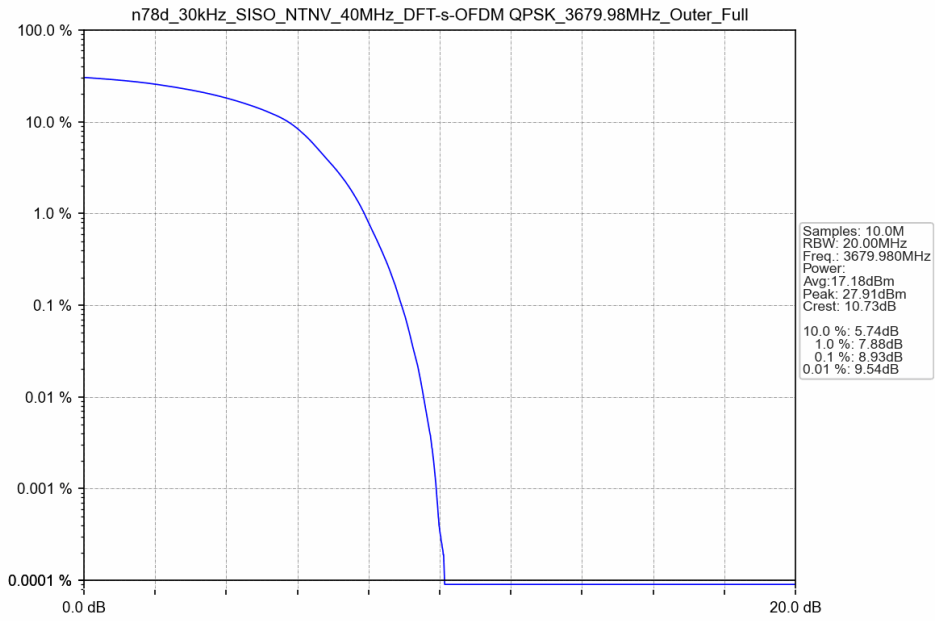




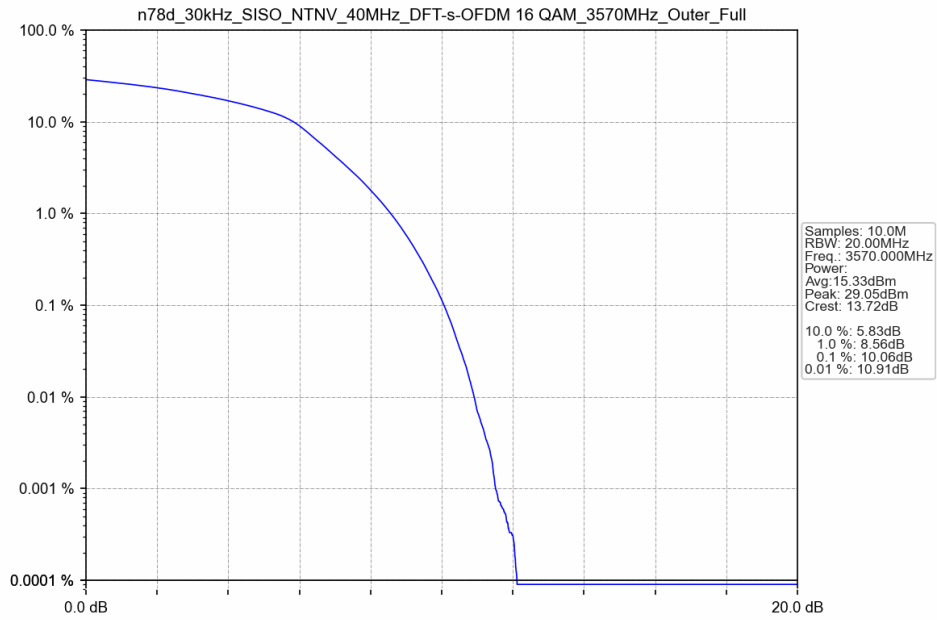
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM\_QPSK\_3624.99MHz\_Outer\_Full



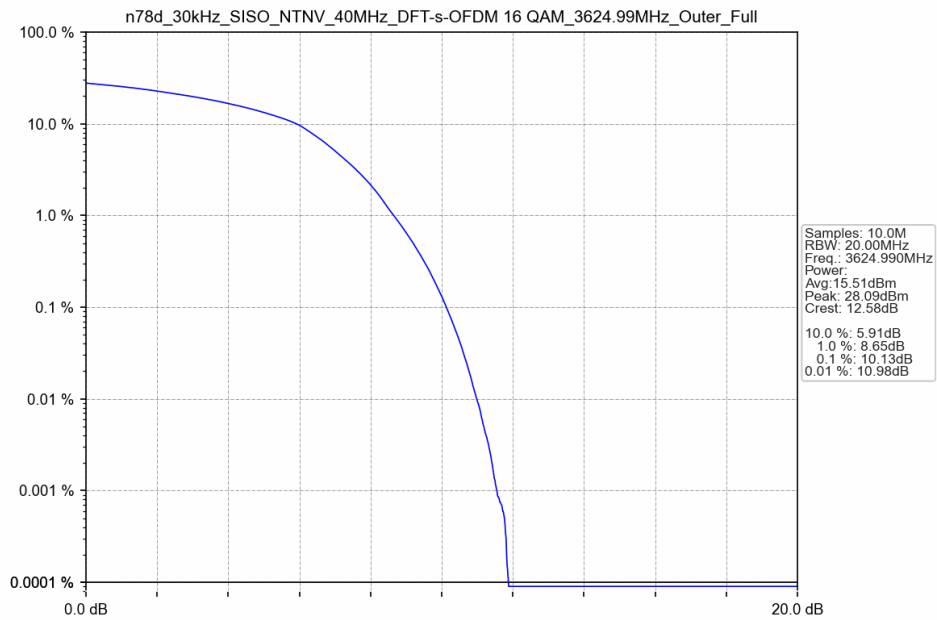
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM\_QPSK\_3679.98MHz\_Outer\_Full



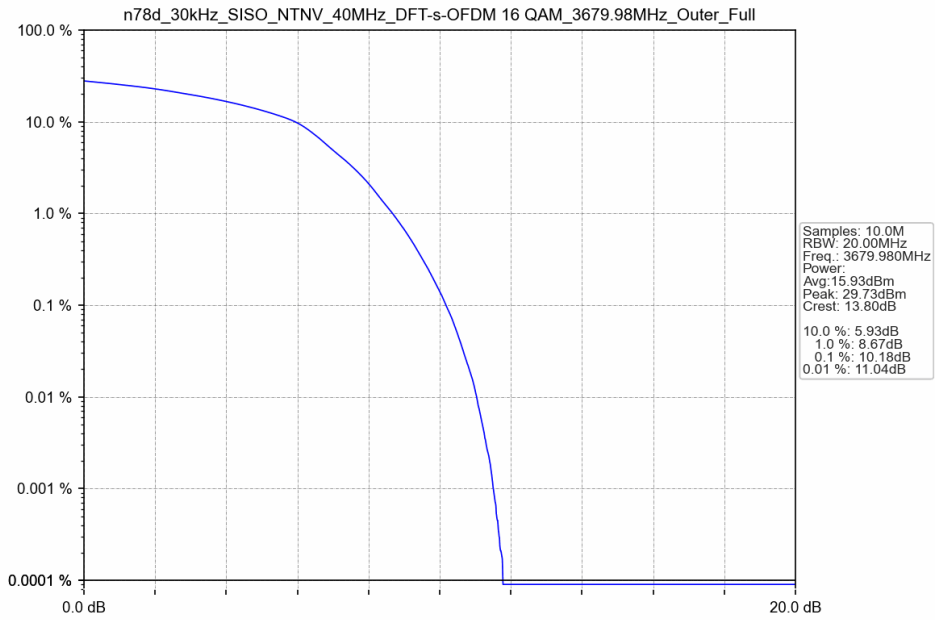
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM\_16\_QAM\_3570MHz\_Outer\_Full



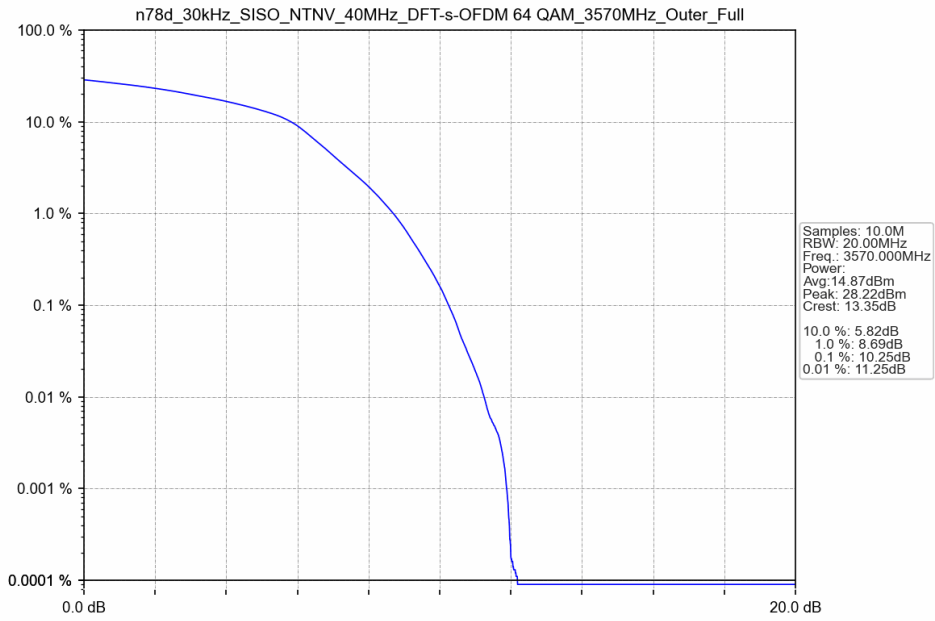
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM\_16\_QAM\_3624.99MHz\_Outer\_Full



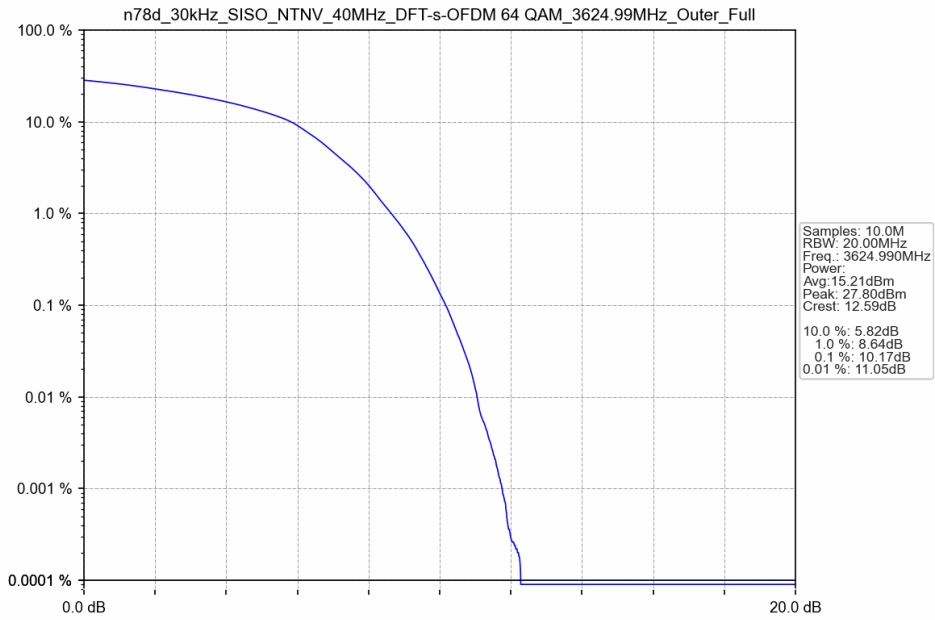
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM 16 QAM\_3679.98MHz\_Outer\_Full



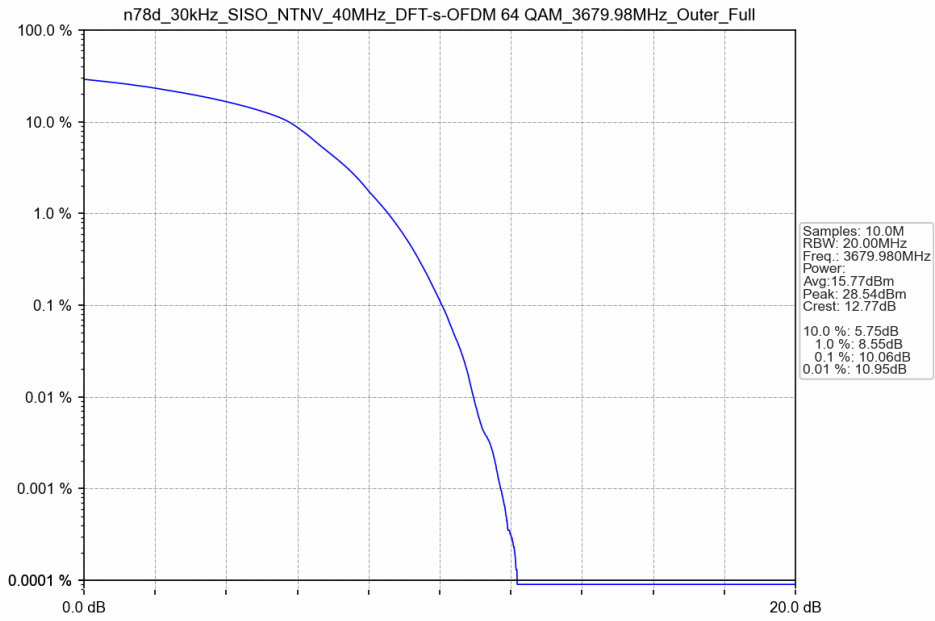
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM 64 QAM\_3570MHz\_Outer\_Full



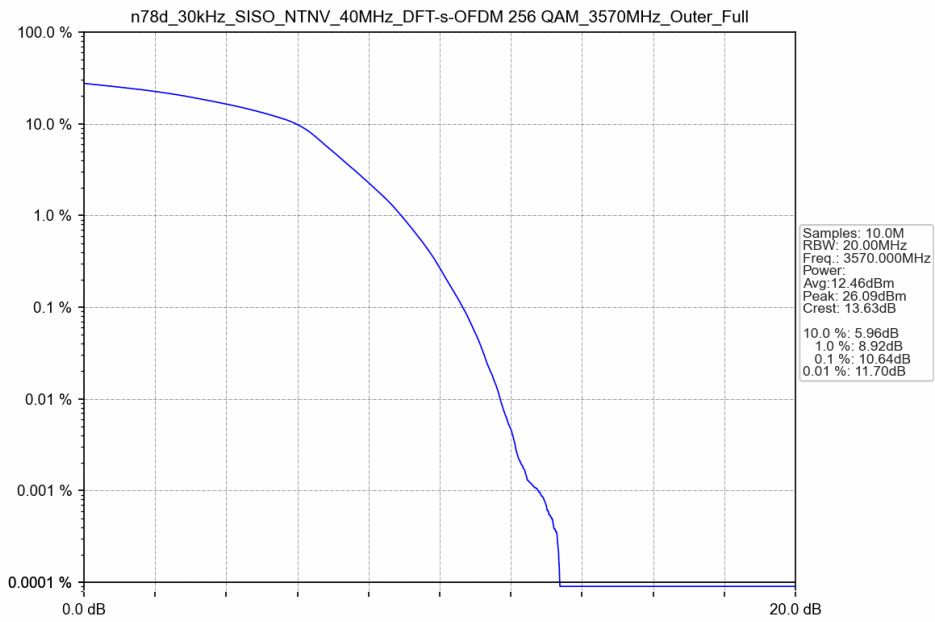
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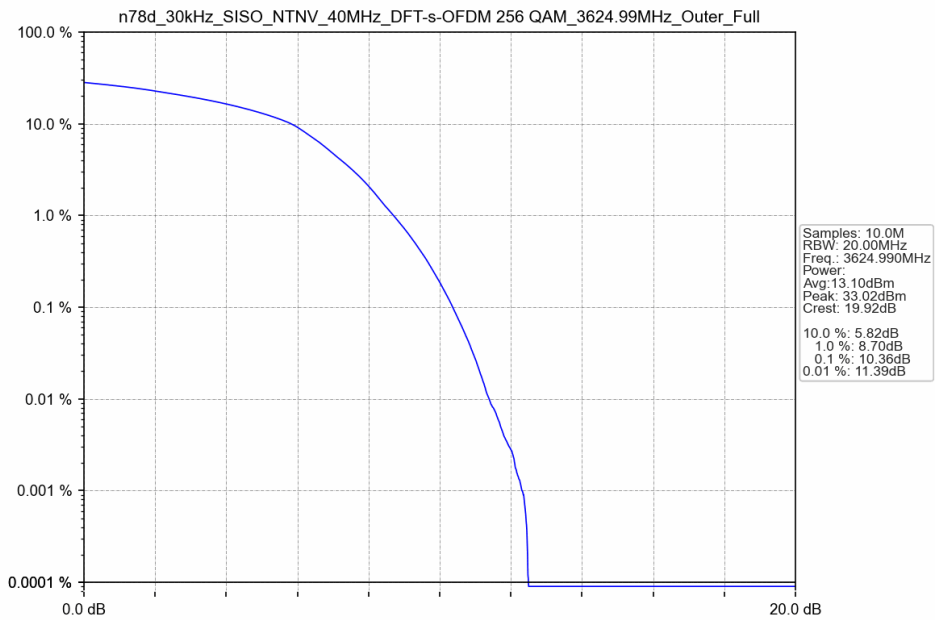
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM\_64\_QAM\_3679.98MHz\_Outer\_Full



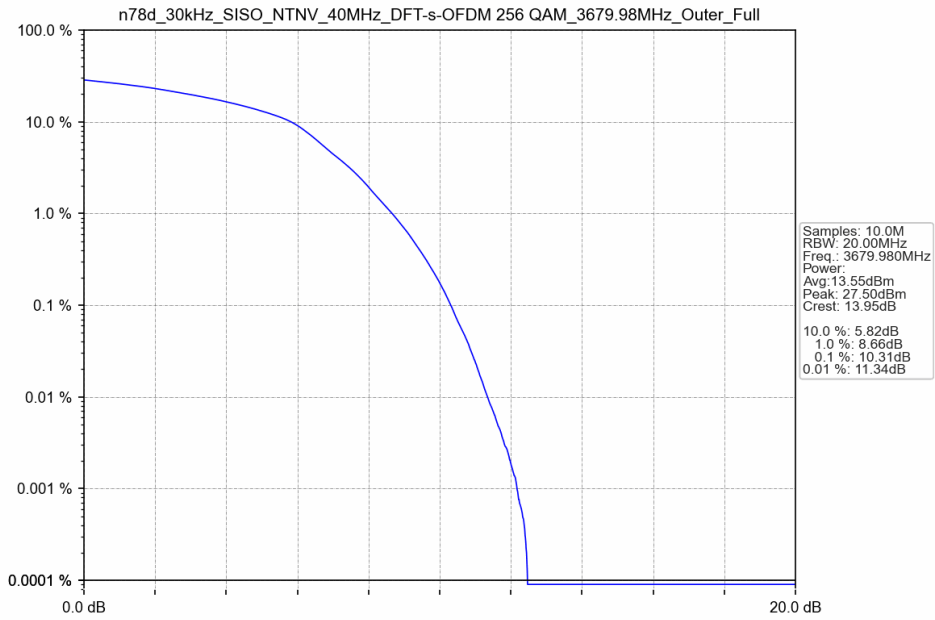
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM 256 QAM\_3570MHz\_Outer\_Full



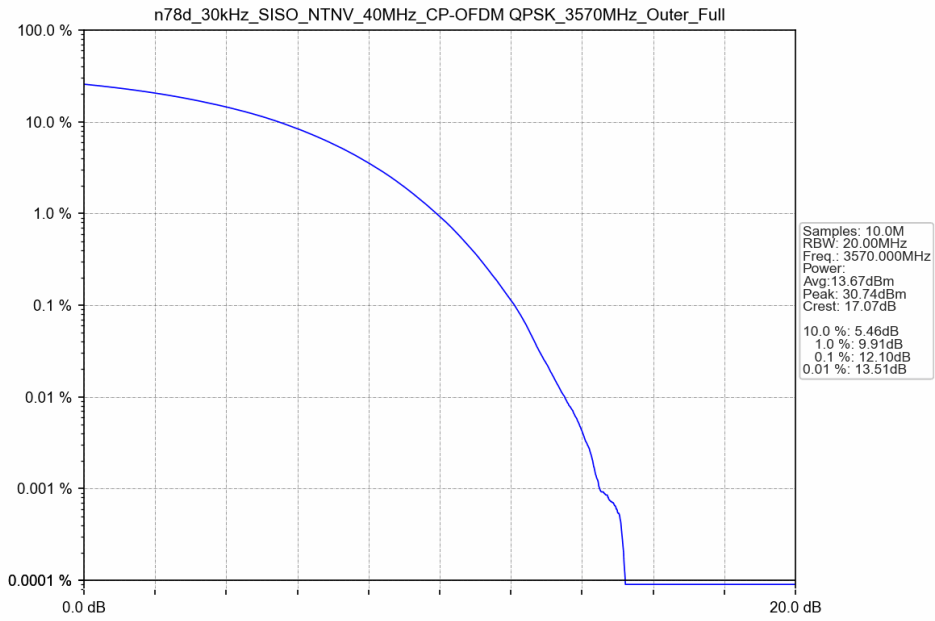
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM 256 QAM\_3624.99MHz\_Outer\_Full



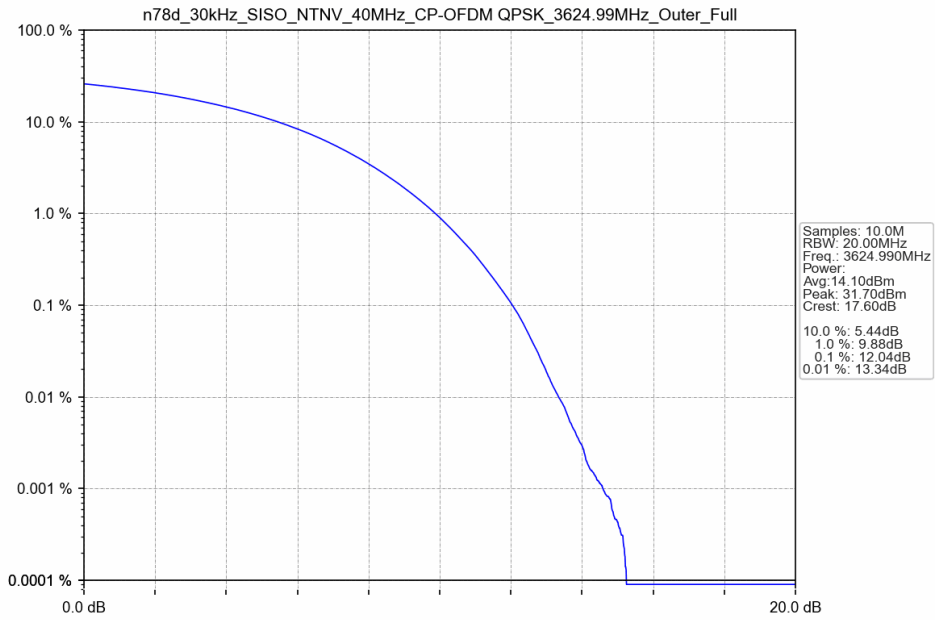
n78d\_30kHz\_SISO\_NTNV\_40MHz\_DFT-s-OFDM\_256\_QAM\_3679.98MHz\_Outer\_Full



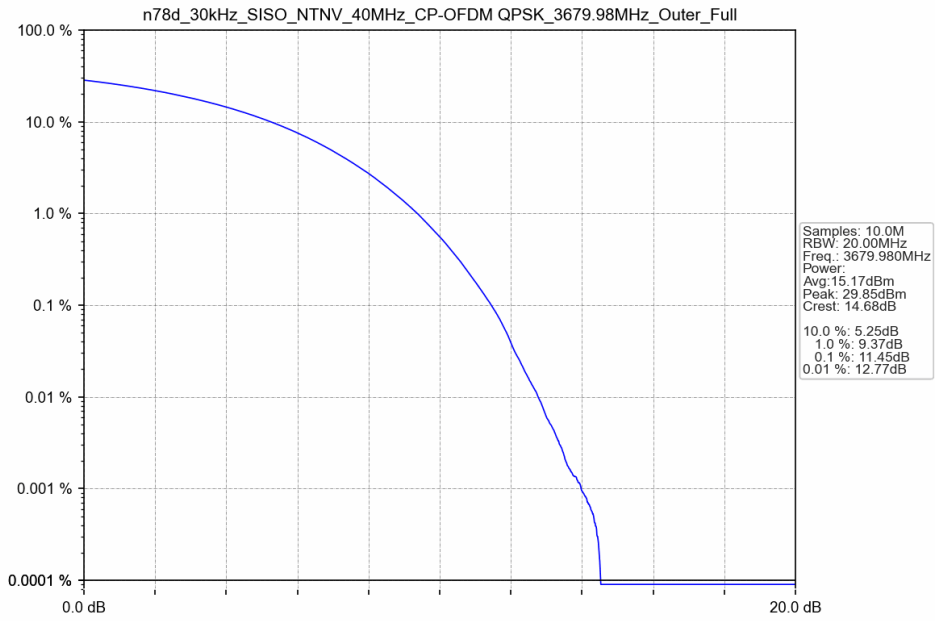
n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM\_QPSK\_3570MHz\_Outer\_Full



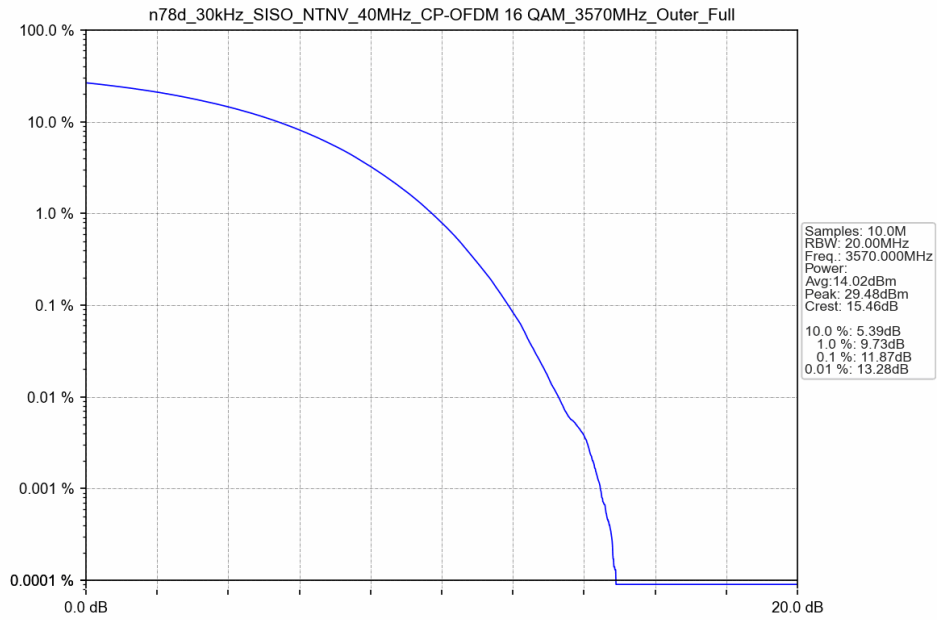
n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM QPSK\_3624.99MHz\_Outer\_Full



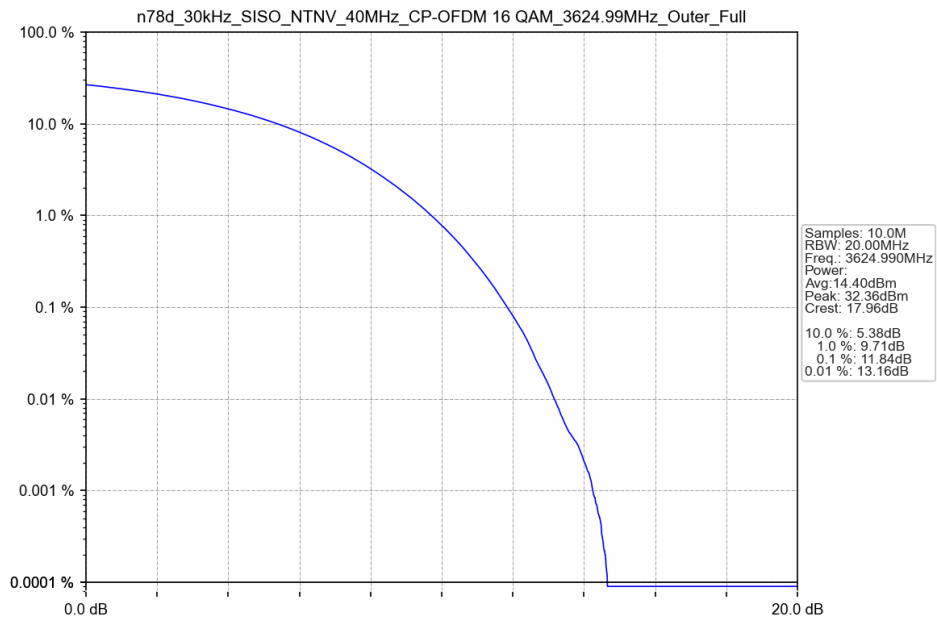
n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM QPSK\_3679.98MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM\_16\_QAM\_3570MHz\_Outer\_Full

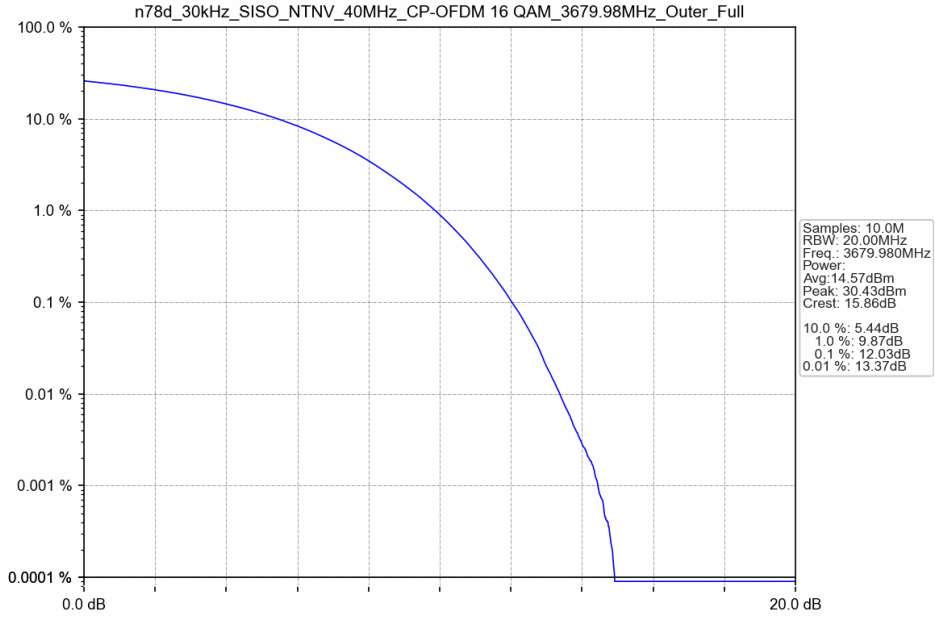


n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM\_16\_QAM\_3624.99MHz\_Outer\_Full

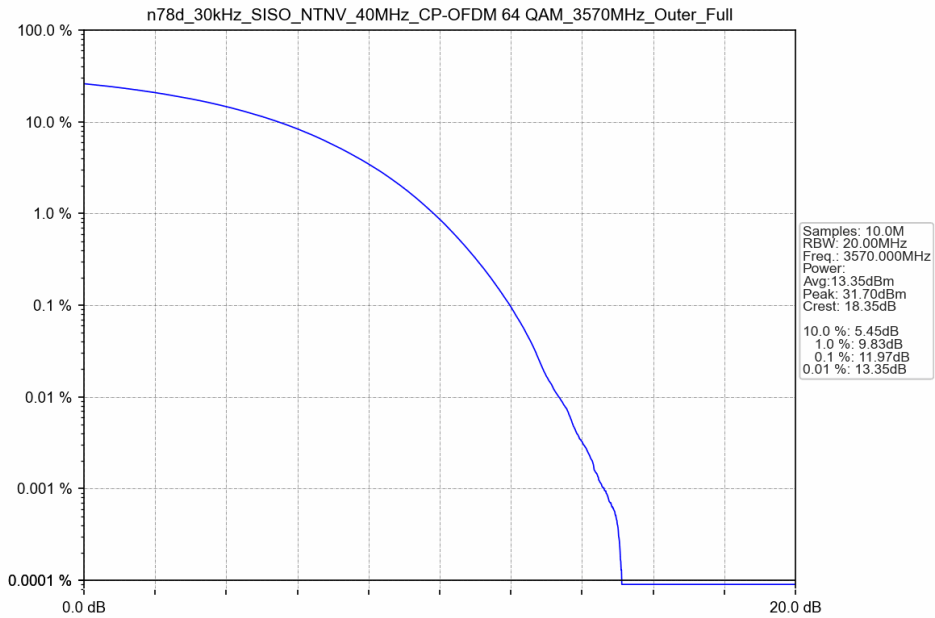




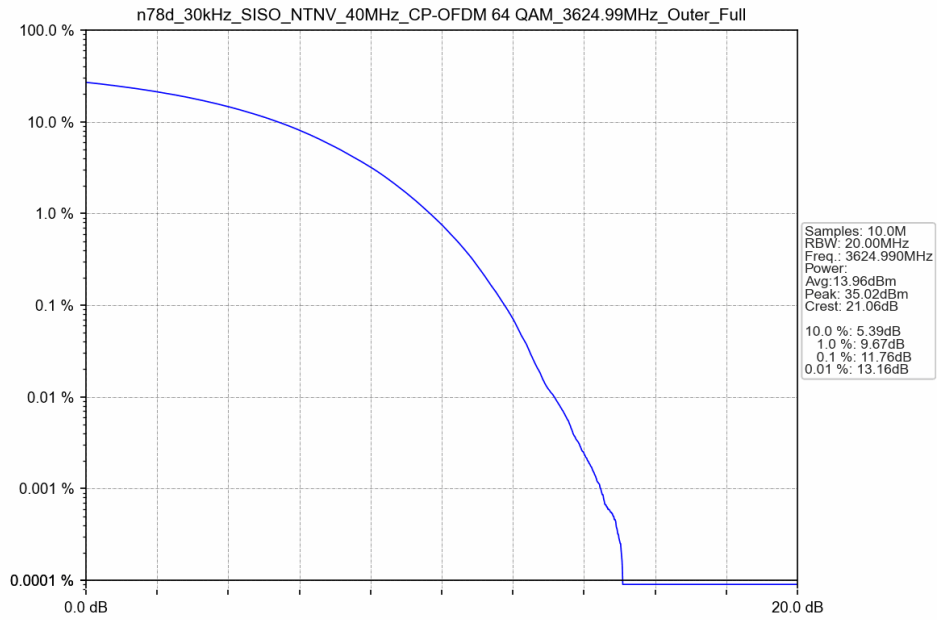
n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM 16 QAM\_3679.98MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM 64 QAM\_3570MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM 64 QAM\_3624.99MHz\_Outer\_Full



n78d\_30kHz\_SISO\_NTNV\_40MHz\_CP-OFDM 64 QAM\_3679.98MHz\_Outer\_Full

