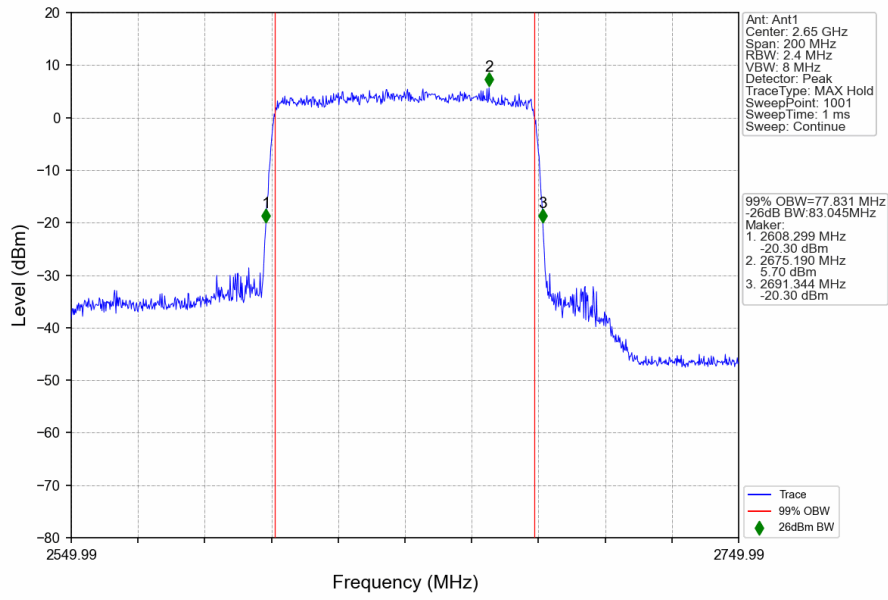
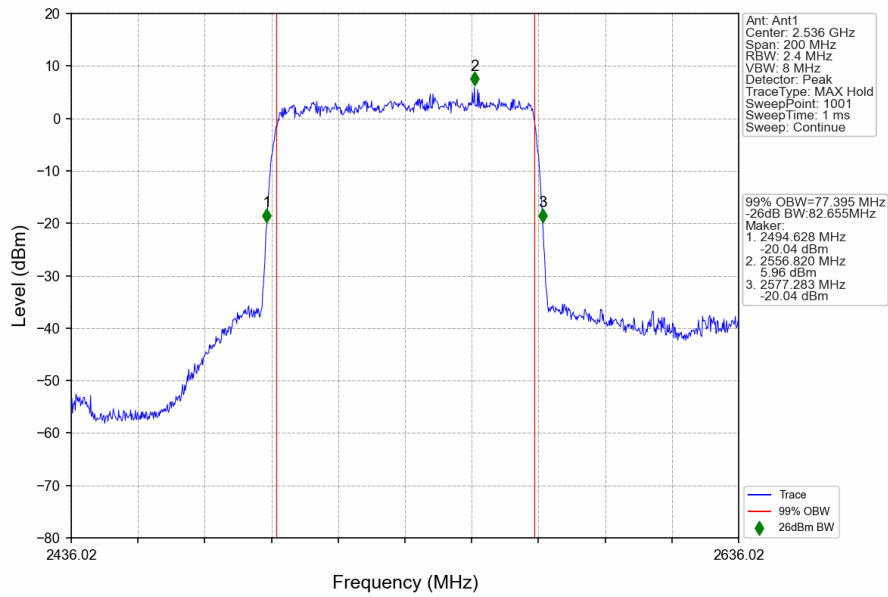


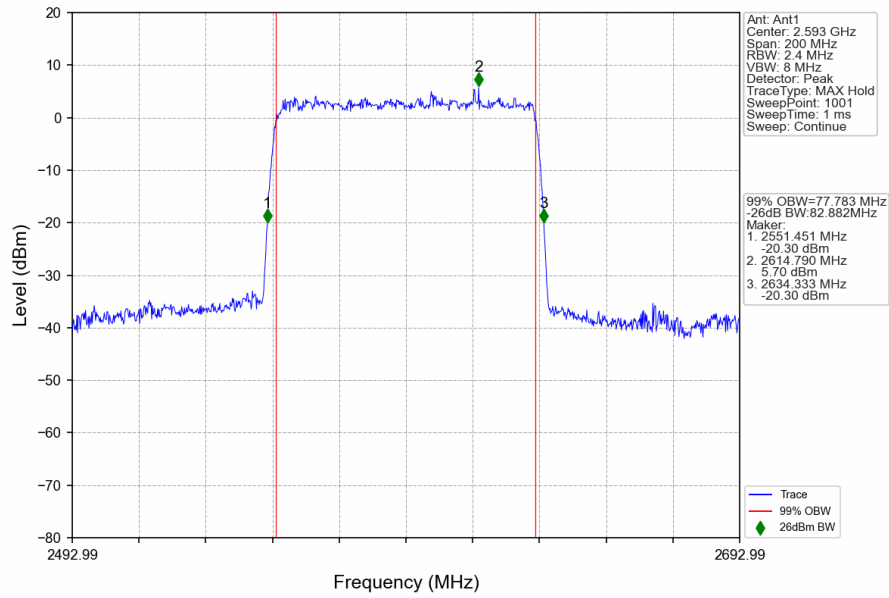
n41\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 16 QAM\_2649.99MHz\_Outer\_Full



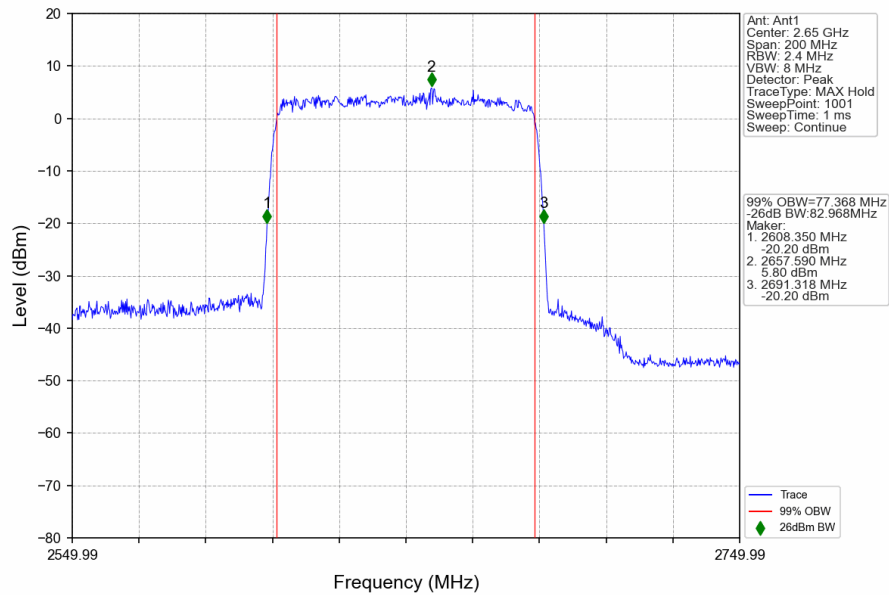
n41\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 64 QAM\_2536.02MHz\_Outer\_Full



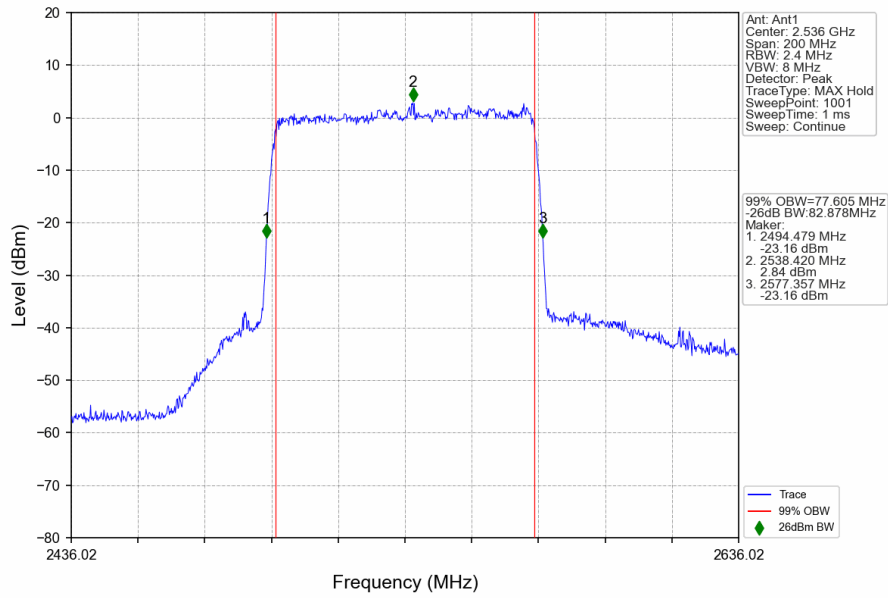
n41\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 64 QAM\_2592.99MHz\_Outer\_Full



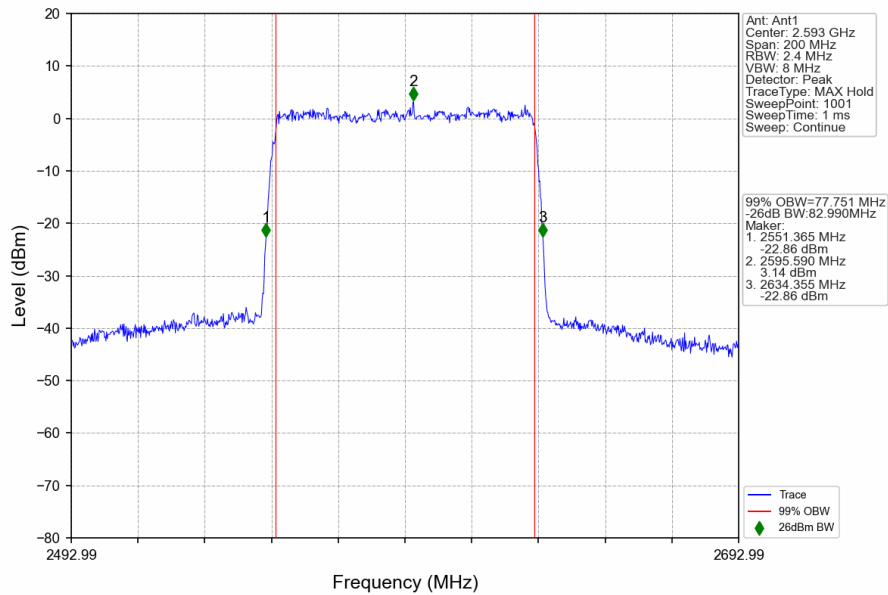
n41\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 64 QAM\_2649.99MHz\_Outer\_Full



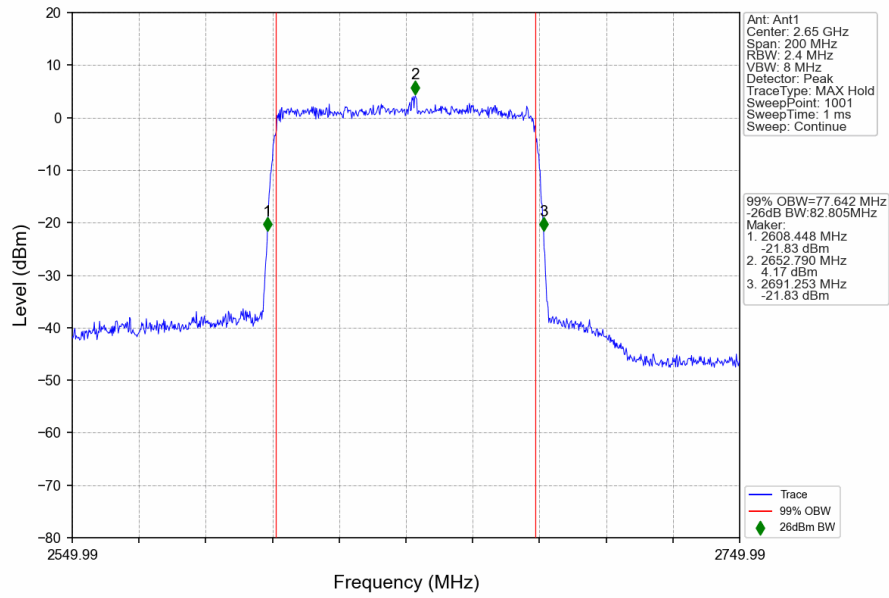
n41\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 256 QAM\_2536.02MHz\_Outer\_Full



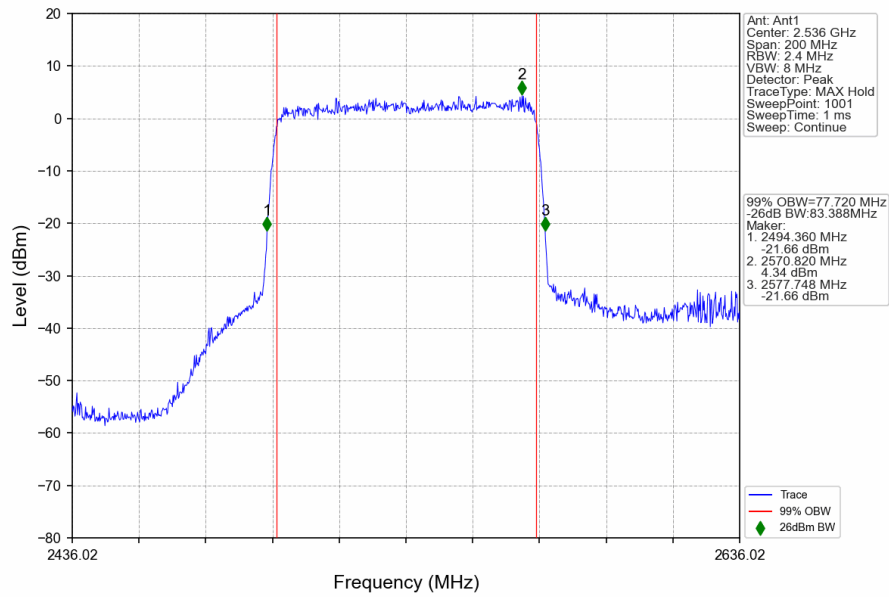
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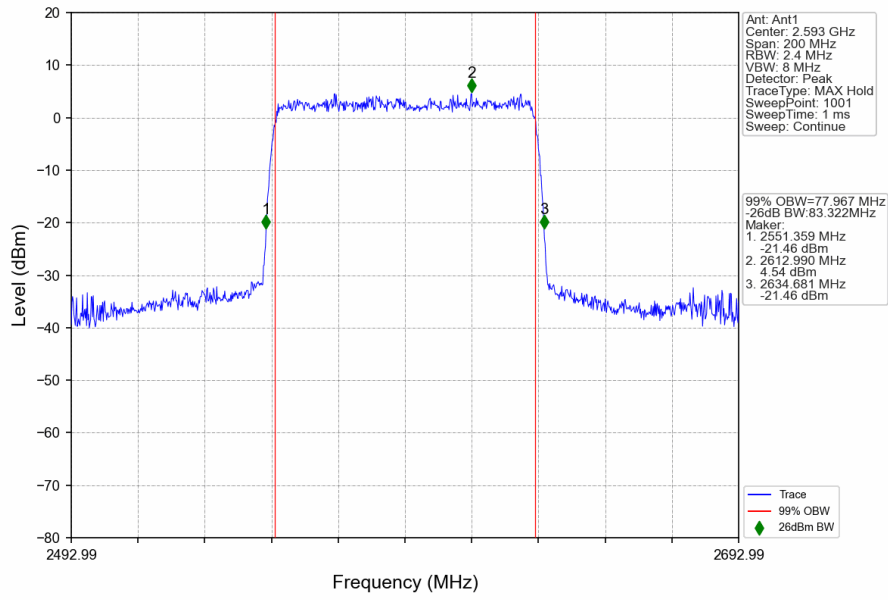
n41\_30kHz\_SISO\_NTNV\_80MHz\_DFT-s-OFDM 256 QAM\_2649.99MHz\_Outer\_Full



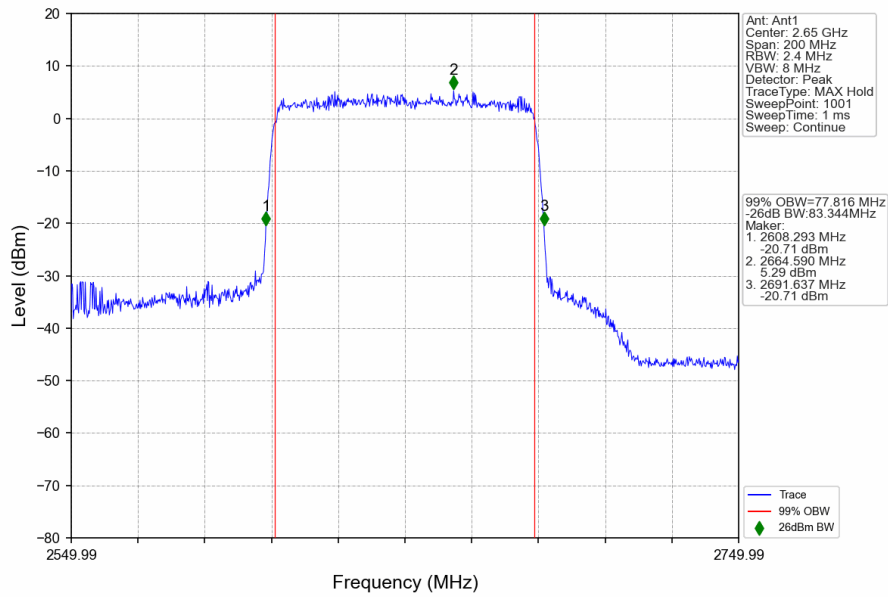
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM QPSK\_2536.02MHz\_Outer\_Full



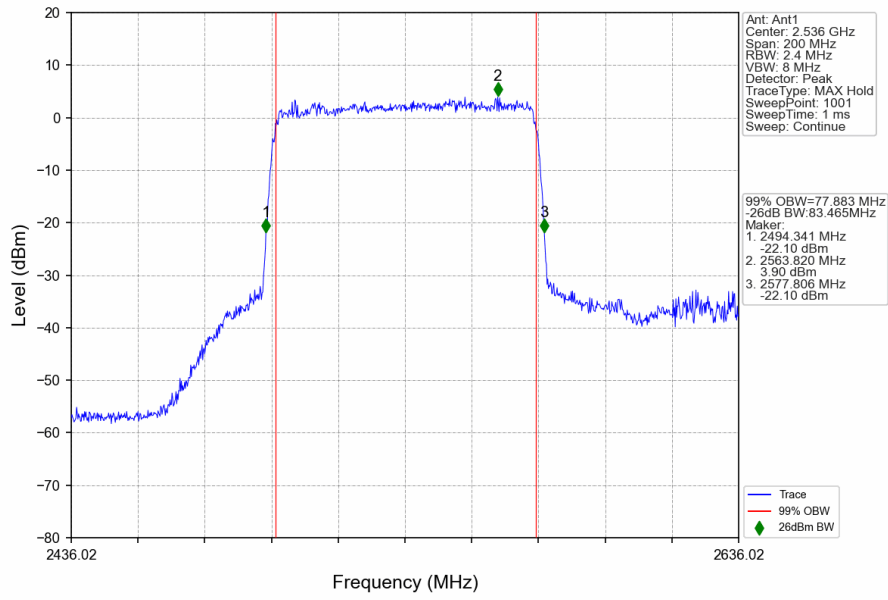
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM QPSK\_2592.99MHz\_Outer\_Full



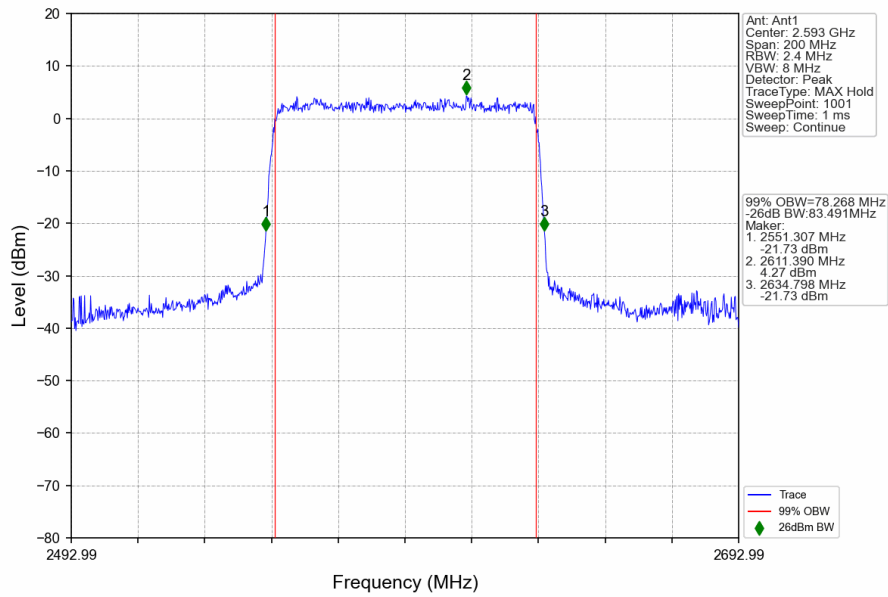
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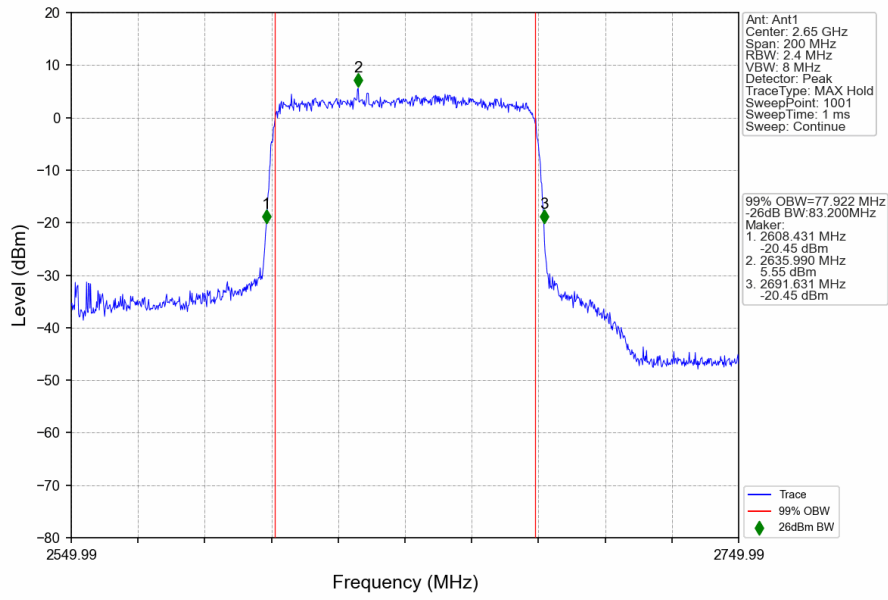
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 16 QAM\_2536.02MHz\_Outer\_Full



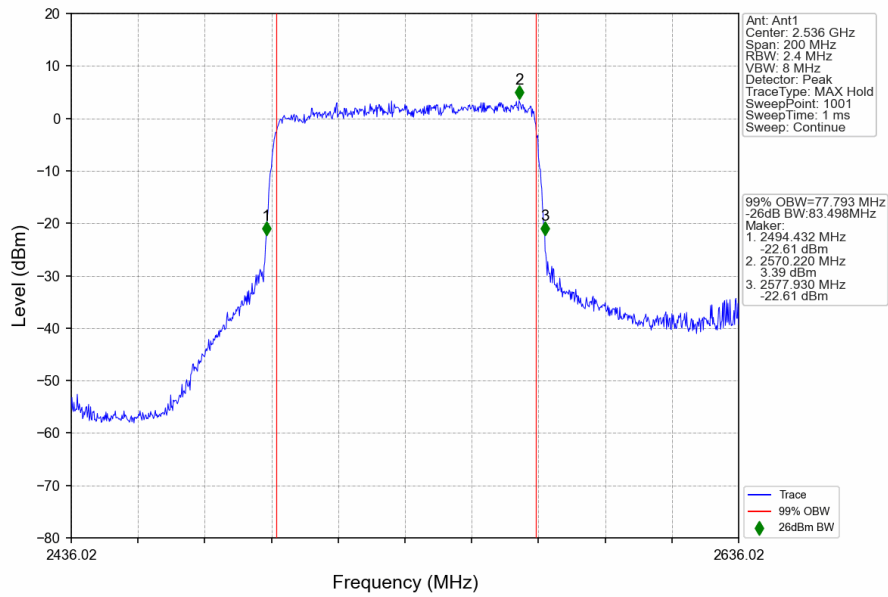
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 16 QAM\_2592.99MHz\_Outer\_Full



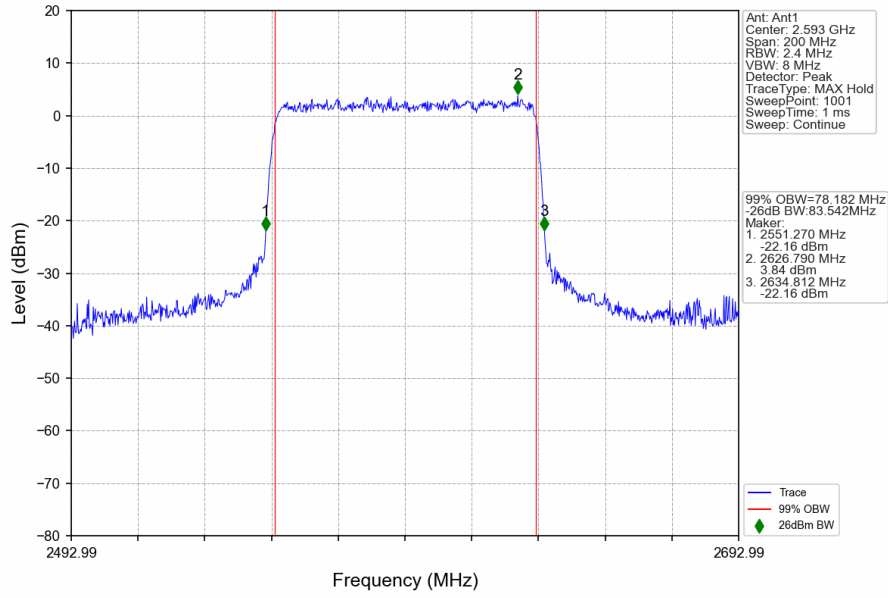
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 16 QAM\_2649.99MHz\_Outer\_Full



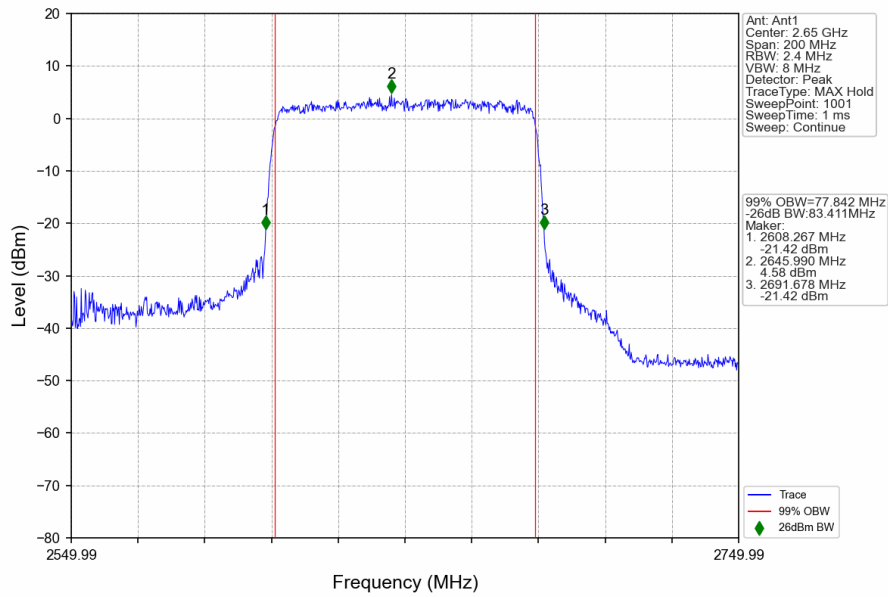
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 64 QAM\_2536.02MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 64 QAM\_2592.99MHz\_Outer\_Full

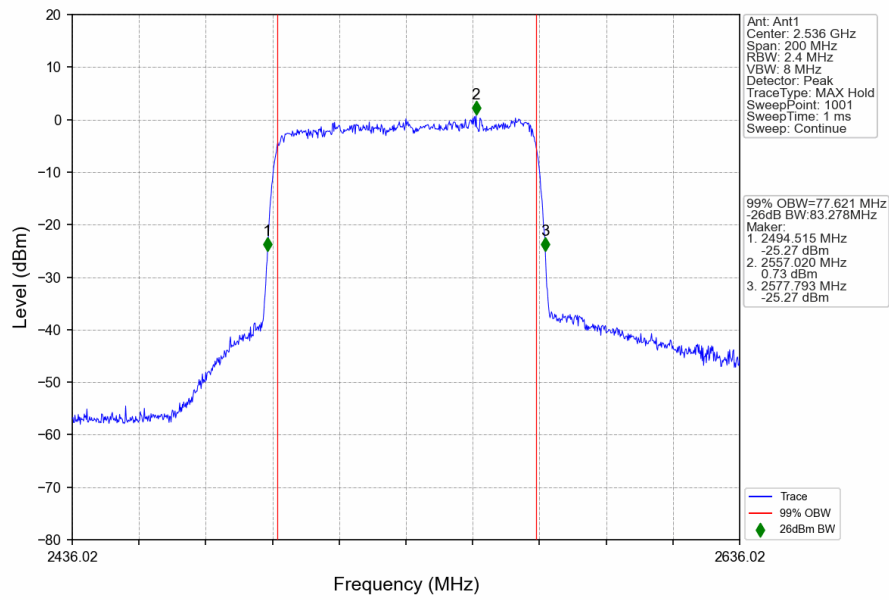


n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 64 QAM\_2649.99MHz\_Outer\_Full

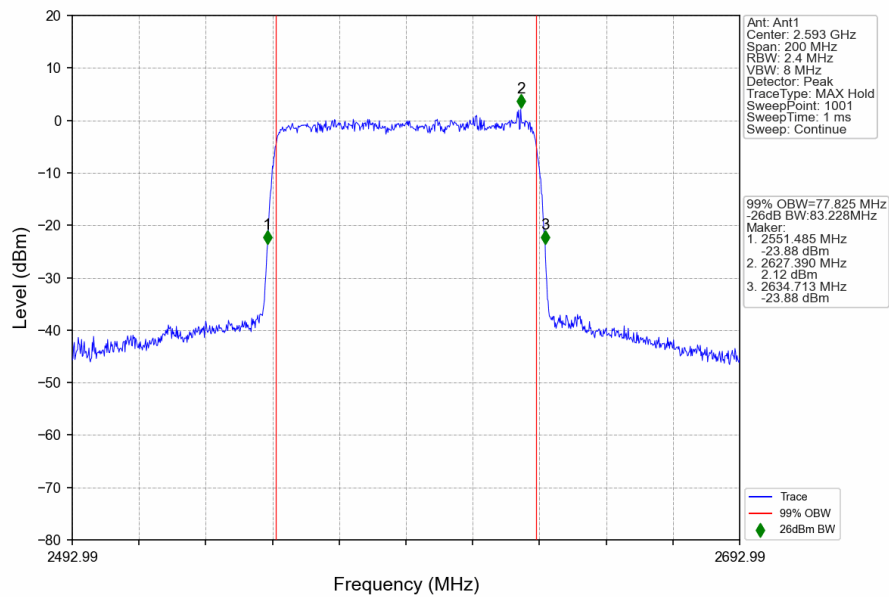




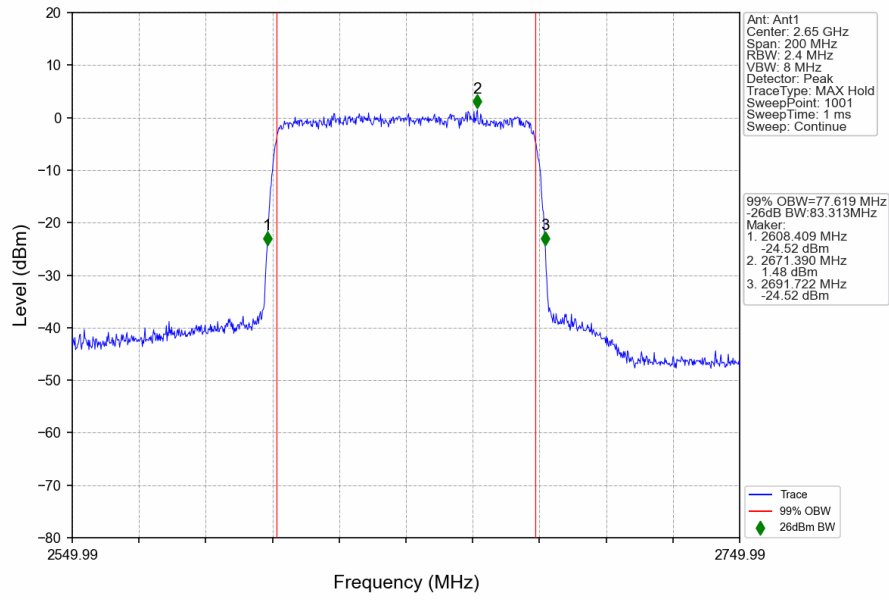
n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 256 QAM 2536.02MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 256 QAM 2592.99MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_80MHz\_CP-OFDM 256 QAM 2649.99MHz\_Outer\_Full

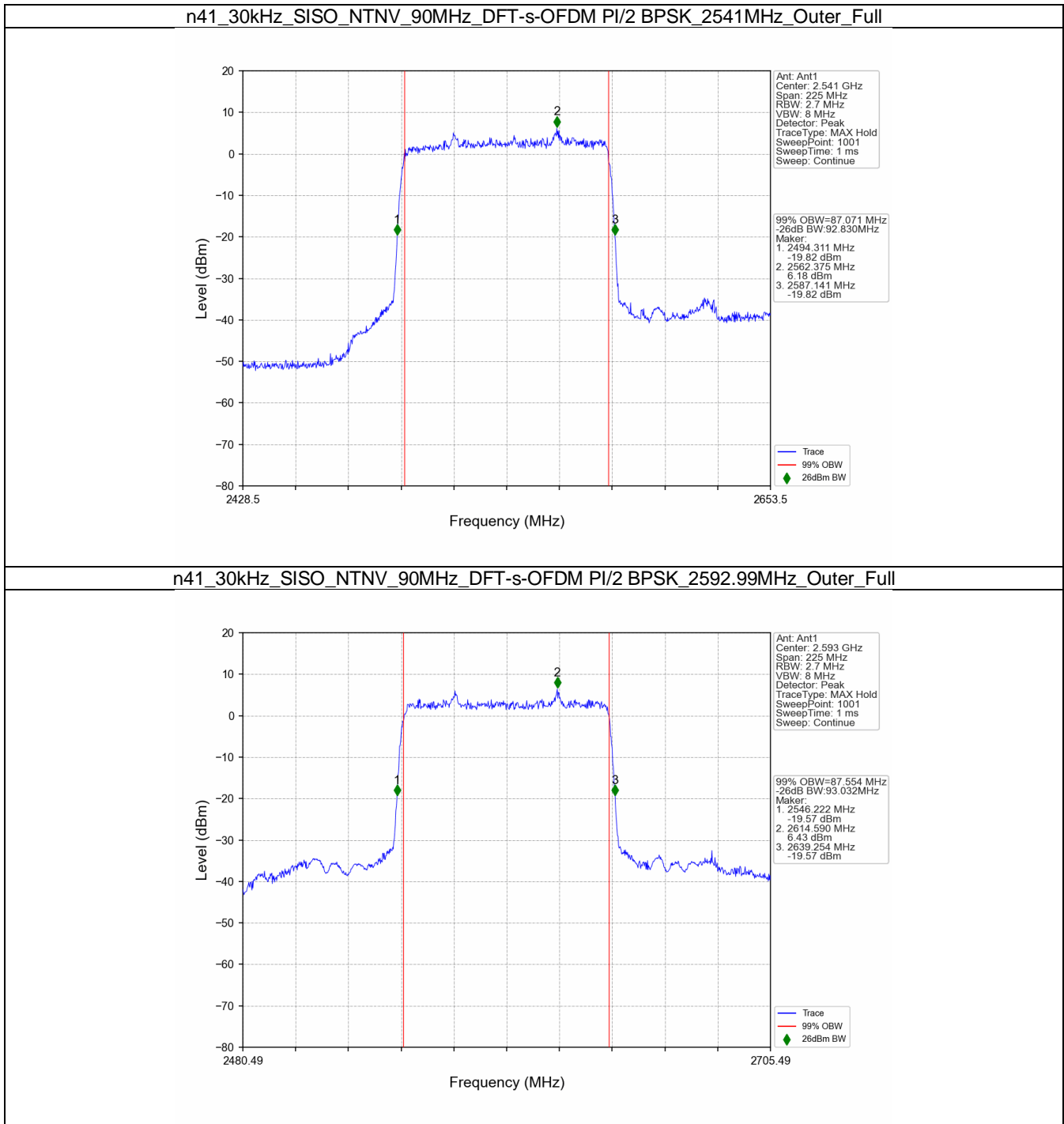


### 3.7 30k\_SISO\_90MHz\_NTNV

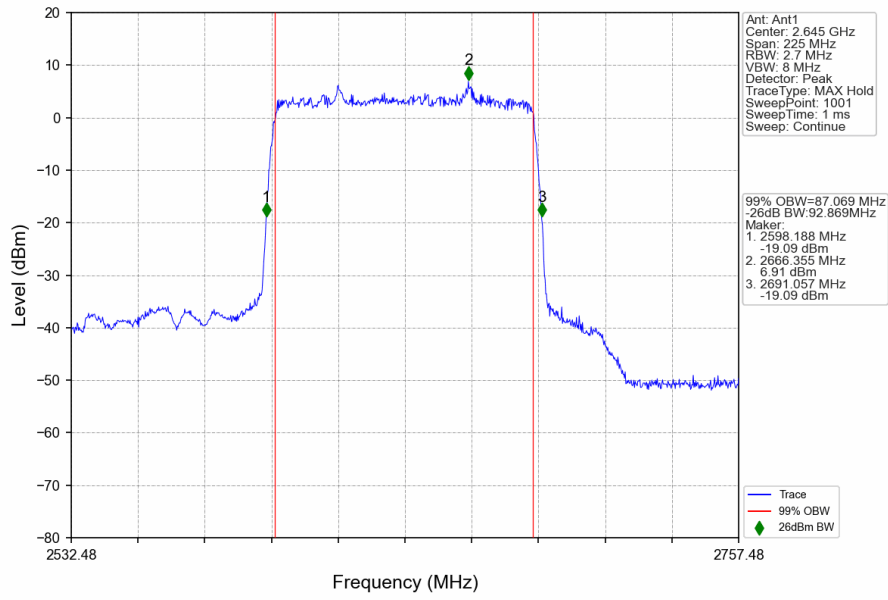
#### 3.7.1 Test Result

5G NR n41 SCS=30kHz SISO 90MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	2541	Outer_Full	87.07	92.83	/	Pass
	2592.99	Outer_Full	87.55	93.03	/	Pass
	2644.98	Outer_Full	87.07	92.87	/	Pass
DFT-s-OFDM QPSK	2541	Outer_Full	87.16	93.31	/	Pass
	2592.99	Outer_Full	87.52	93.48	/	Pass
	2644.98	Outer_Full	87.22	93.39	/	Pass
DFT-s-OFDM 16 QAM	2541	Outer_Full	87.67	93.57	/	Pass
	2592.99	Outer_Full	87.65	93.13	/	Pass
	2644.98	Outer_Full	87.60	93.41	/	Pass
DFT-s-OFDM 64 QAM	2541	Outer_Full	87.11	93.40	/	Pass
	2592.99	Outer_Full	87.42	93.41	/	Pass
	2644.98	Outer_Full	87.00	93.16	/	Pass
DFT-s-OFDM 256 QAM	2541	Outer_Full	86.83	93.05	/	Pass
	2592.99	Outer_Full	87.21	93.21	/	Pass
	2644.98	Outer_Full	86.83	93.05	/	Pass
CP-OFDM QPSK	2541	Outer_Full	87.90	93.83	/	Pass
	2592.99	Outer_Full	88.31	94.18	/	Pass
	2644.98	Outer_Full	87.88	93.94	/	Pass
CP-OFDM 16 QAM	2541	Outer_Full	87.88	93.90	/	Pass
	2592.99	Outer_Full	88.01	93.84	/	Pass
	2644.98	Outer_Full	87.77	93.97	/	Pass
CP-OFDM 64 QAM	2541	Outer_Full	87.86	93.86	/	Pass
	2592.99	Outer_Full	88.27	93.96	/	Pass
	2644.98	Outer_Full	87.96	94.01	/	Pass
CP-OFDM 256 QAM	2541	Outer_Full	87.93	93.99	/	Pass
	2592.99	Outer_Full	88.49	93.96	/	Pass
	2644.98	Outer_Full	88.10	93.93	/	Pass

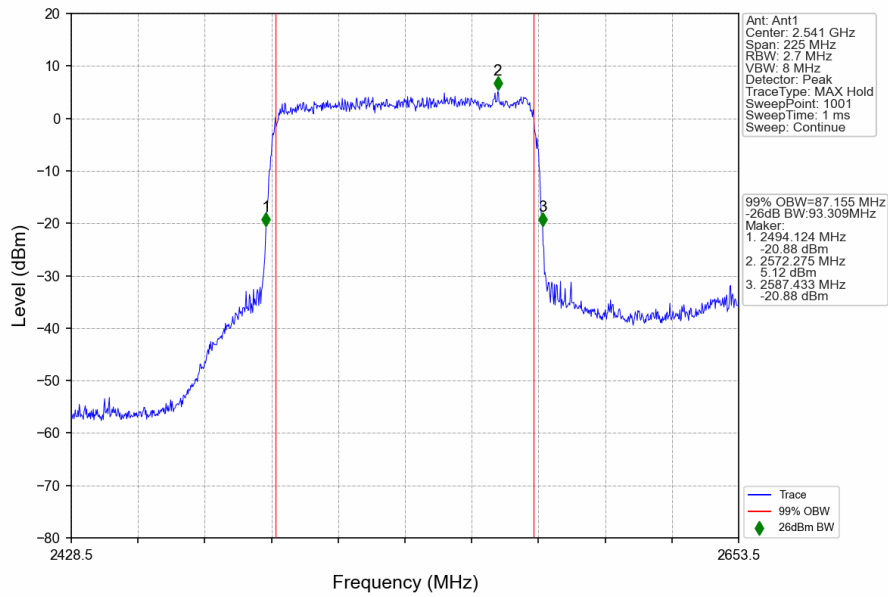
### 3.7.2 Test Graph



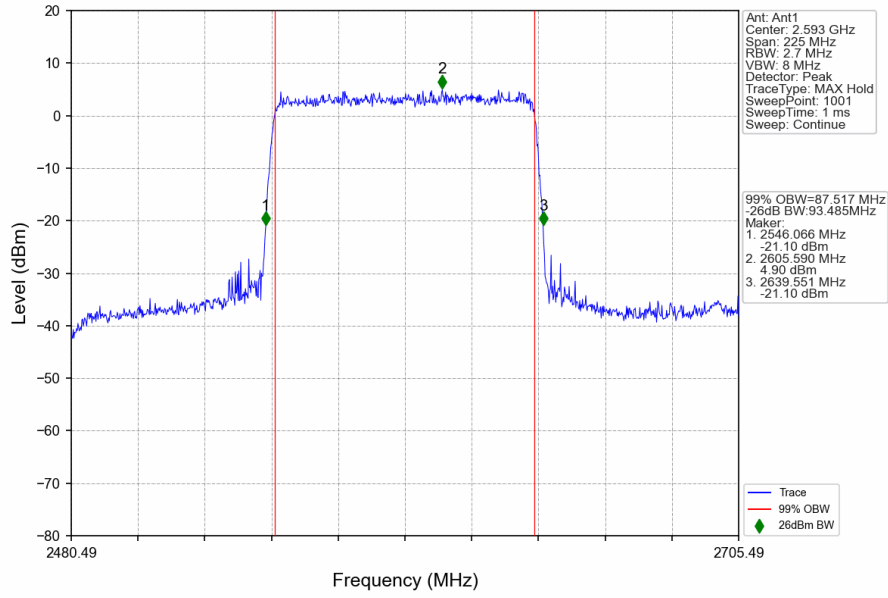
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM PI/2 BPSK\_2644.98MHz\_Outer\_Full



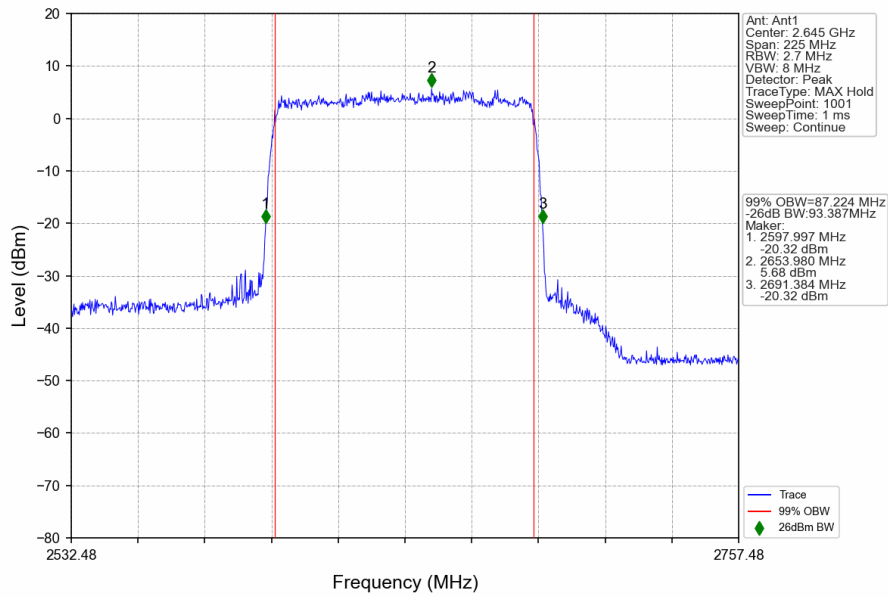
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM QPSK\_2541MHz\_Outer\_Full



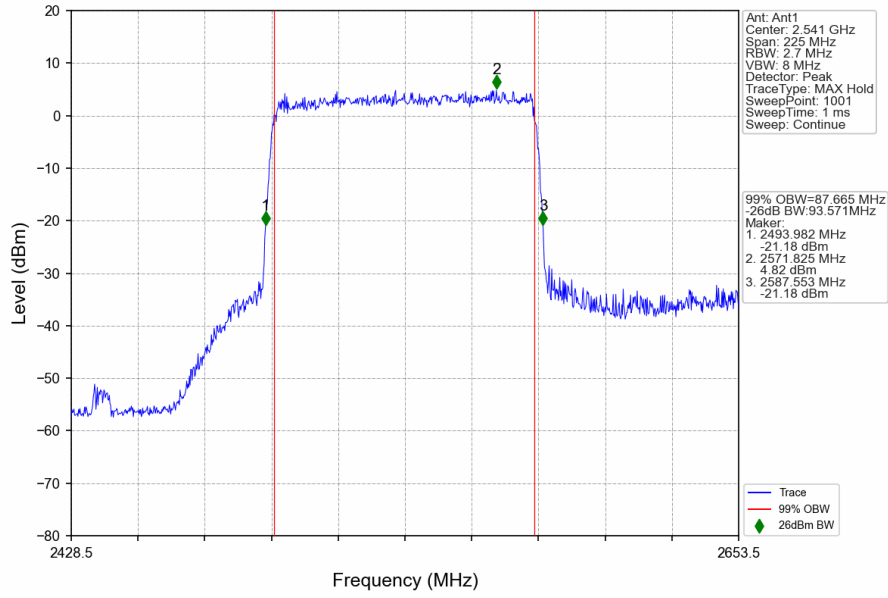
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM QPSK\_2592.99MHz\_Outer\_Full



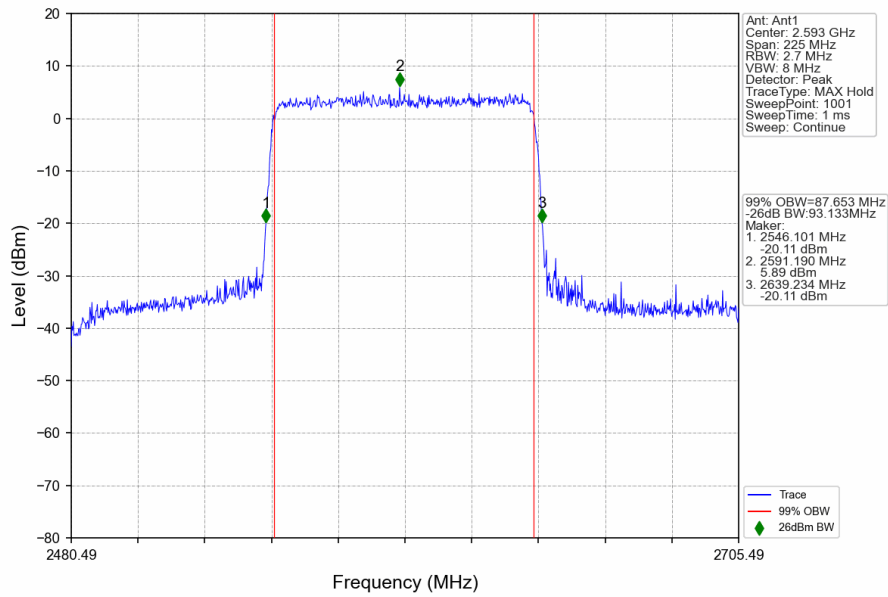
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM QPSK\_2644.98MHz\_Outer\_Full



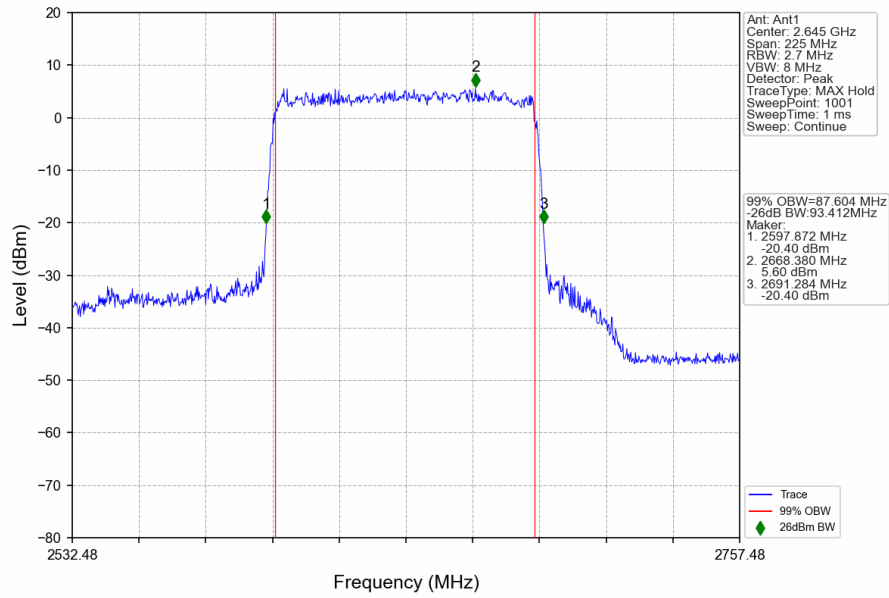
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 16 QAM\_2541MHz\_Outer\_Full



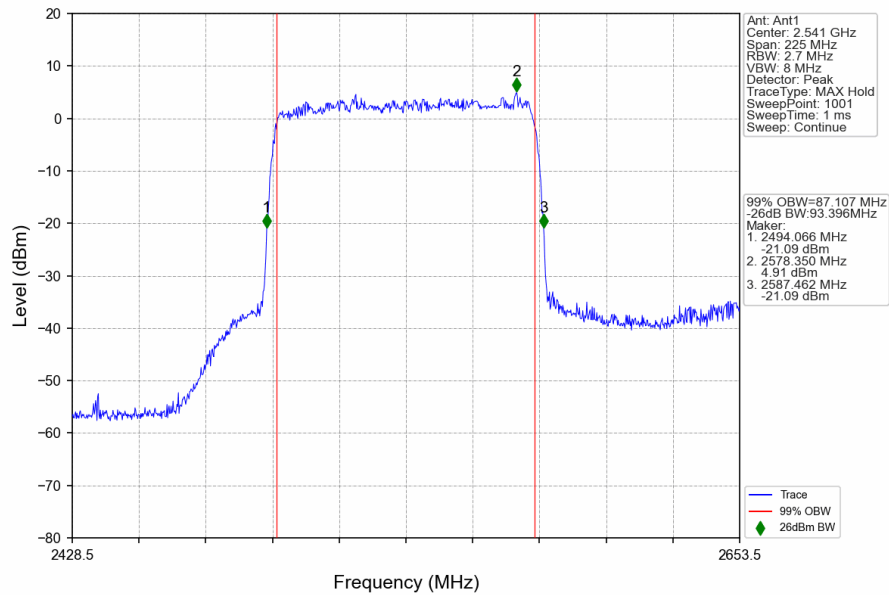
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 16 QAM\_2592.99MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 16 QAM\_2644.98MHz\_Outer\_Full

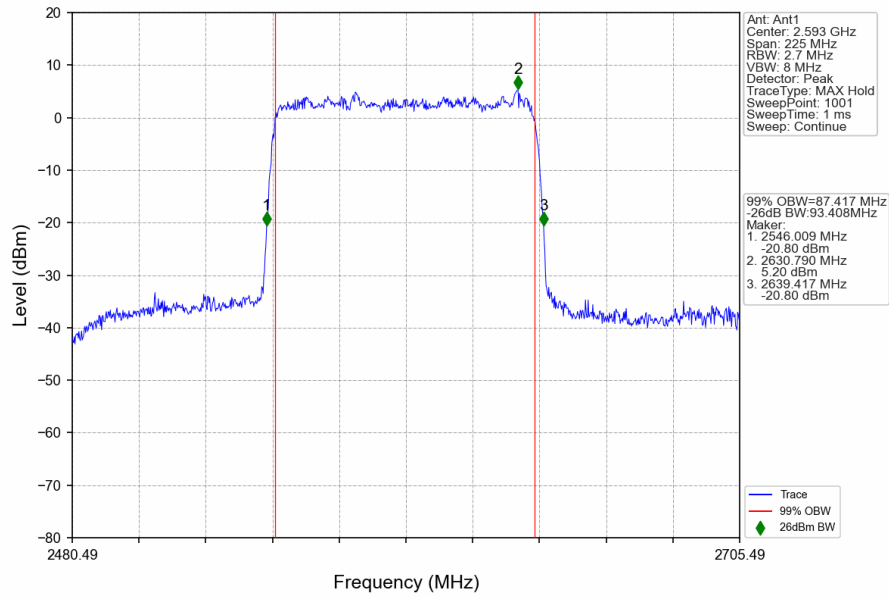


n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 64 QAM\_2541MHz\_Outer\_Full

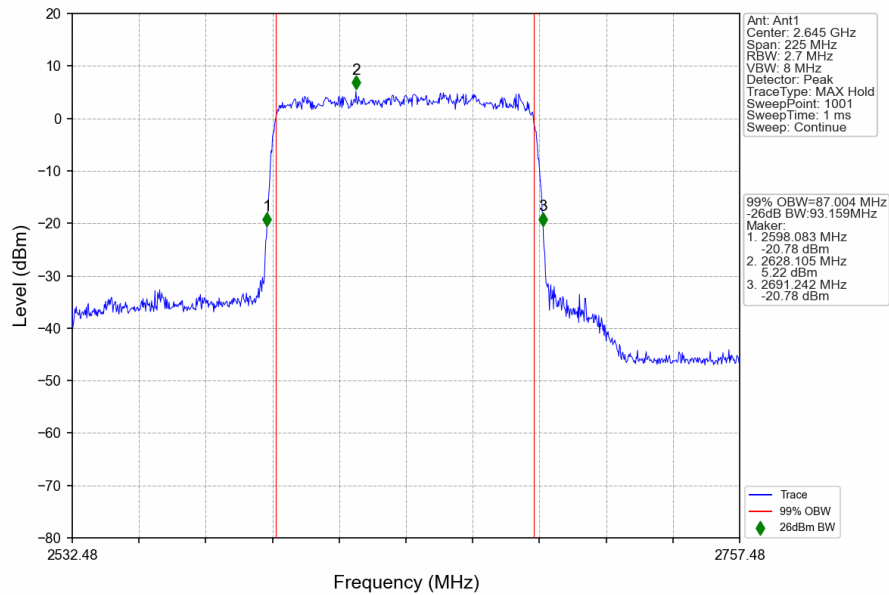




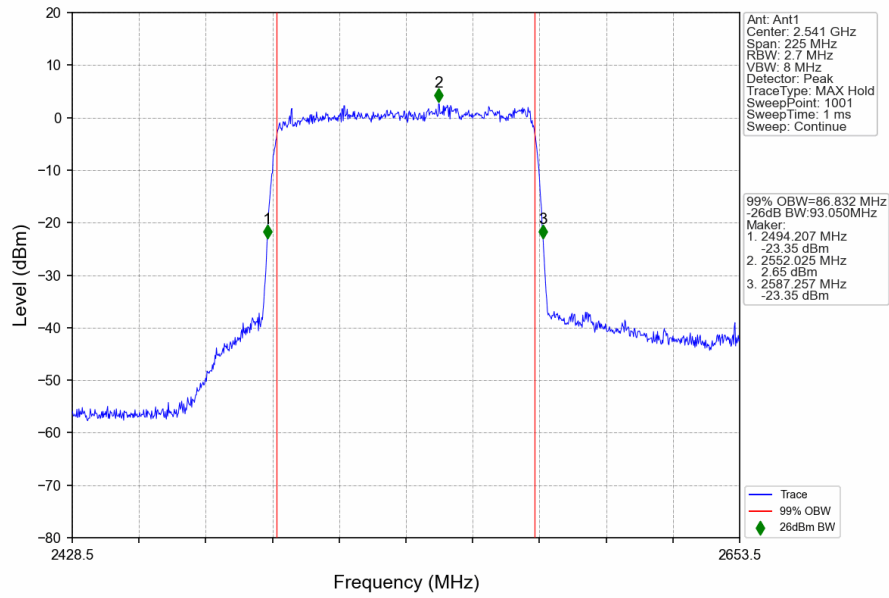
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 64 QAM\_2592.99MHz\_Outer\_Full



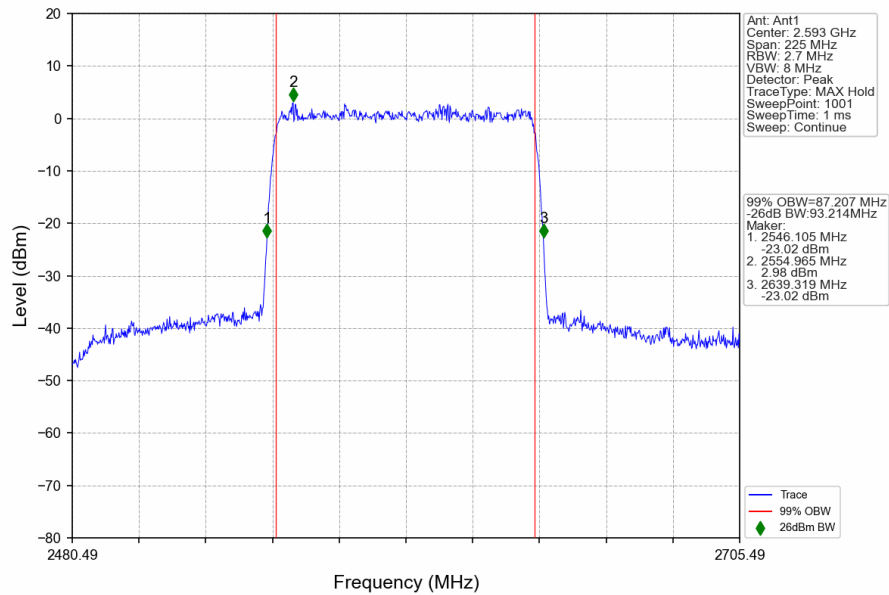
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 64 QAM\_2644.98MHz\_Outer\_Full



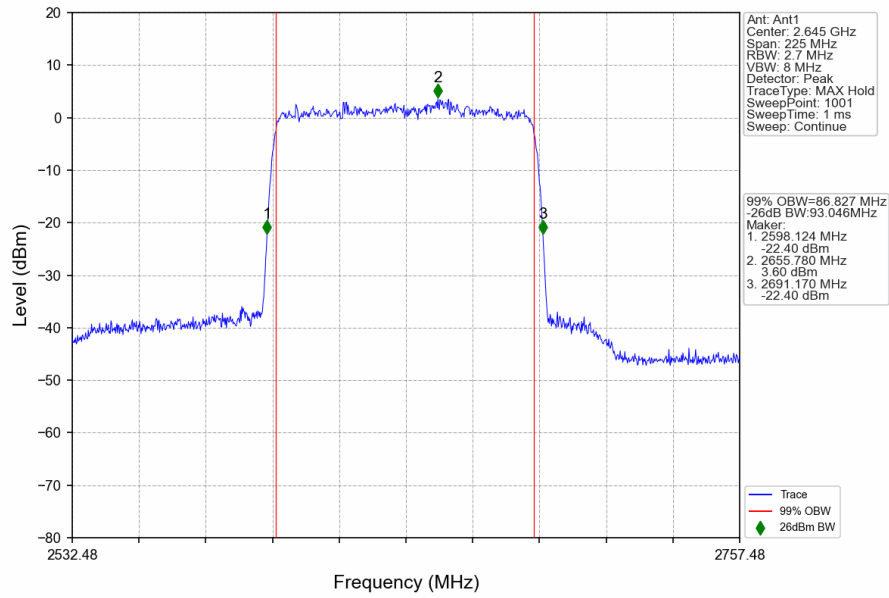
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 256 QAM\_2541MHz\_Outer\_Full



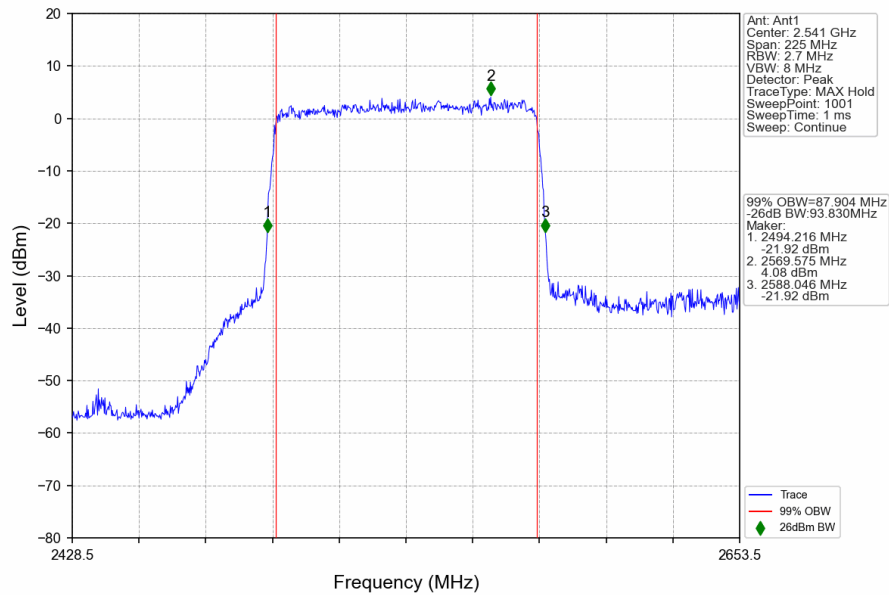
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 256 QAM\_2592.99MHz\_Outer\_Full



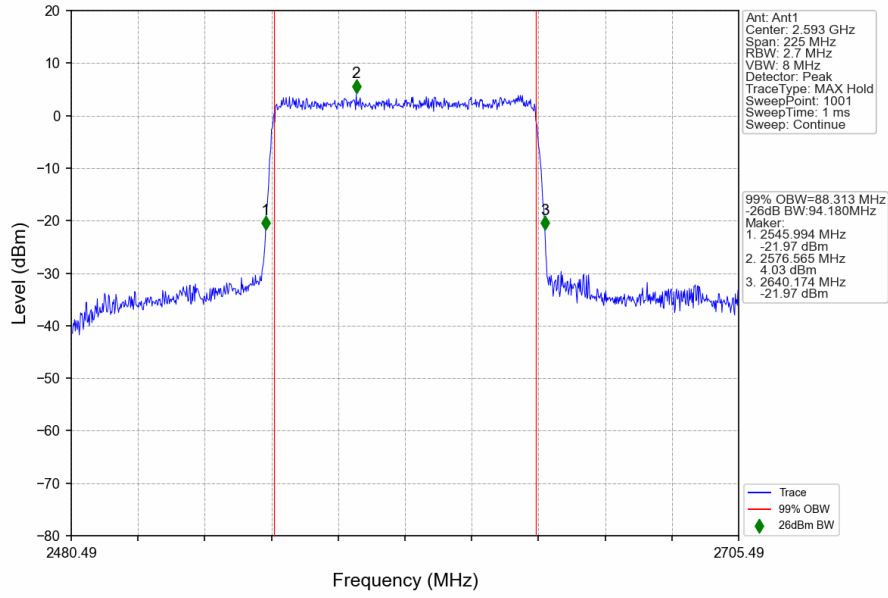
n41\_30kHz\_SISO\_NTNV\_90MHz\_DFT-s-OFDM 256 QAM\_2644.98MHz\_Outer\_Full



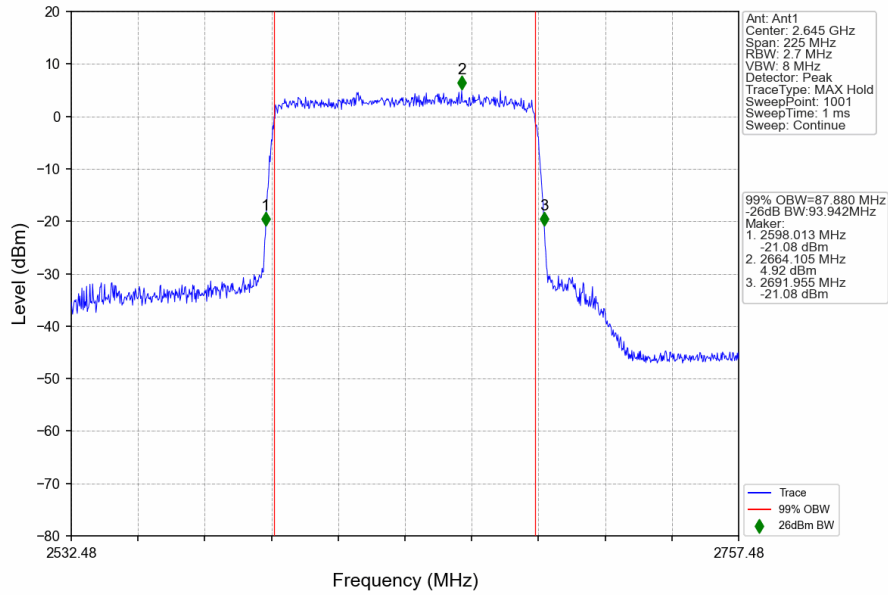
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM QPSK\_2541MHz\_Outer\_Full



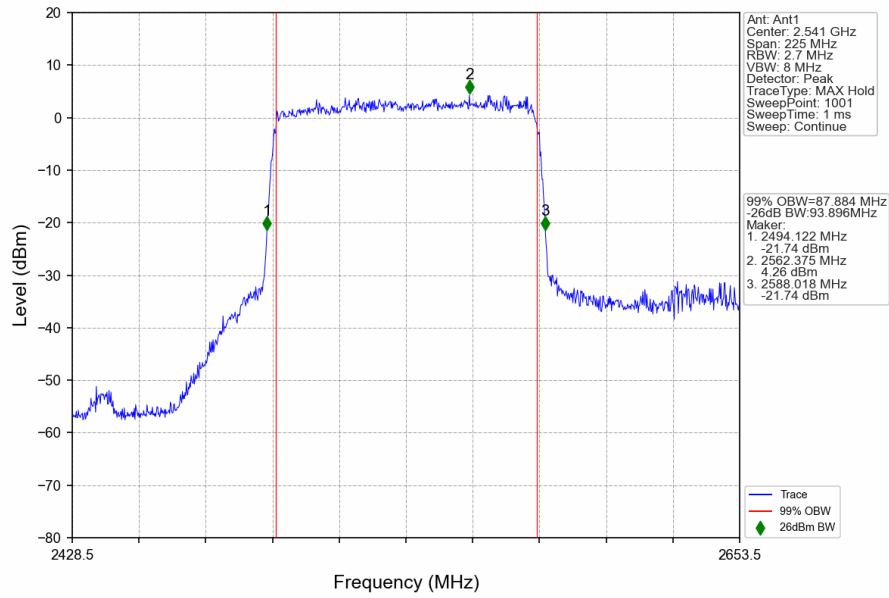
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM QPSK\_2592.99MHz\_Outer\_Full



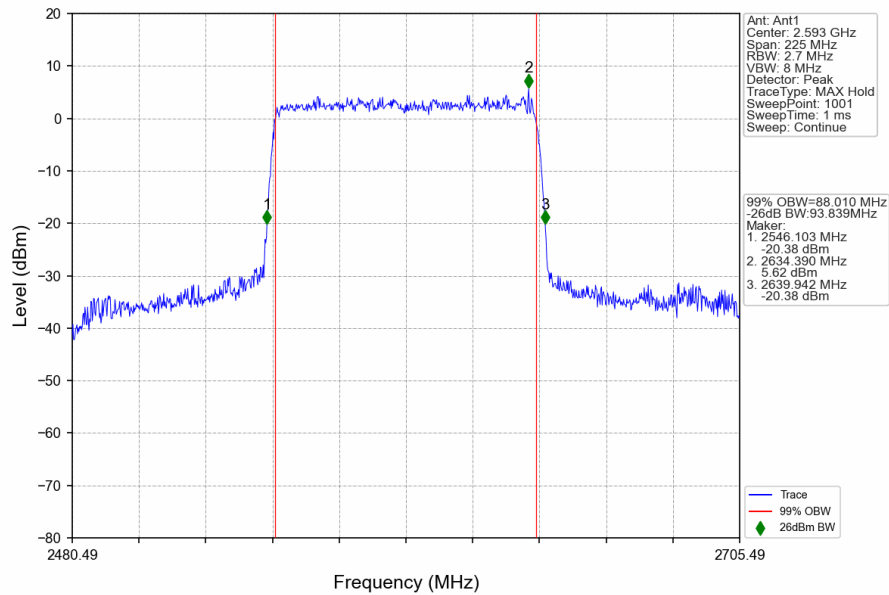
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM QPSK\_2644.98MHz\_Outer\_Full



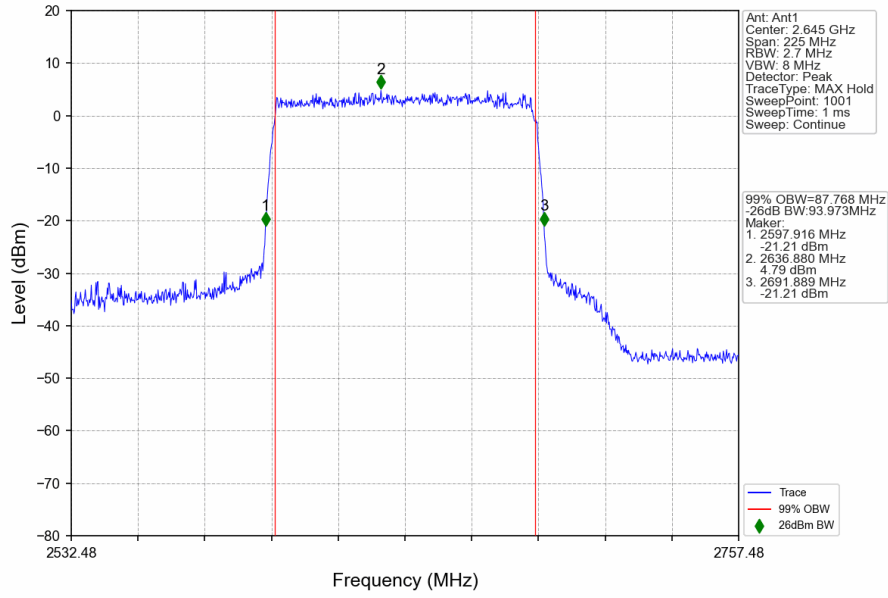
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM\_16 QAM\_2541MHz\_Outer\_Full



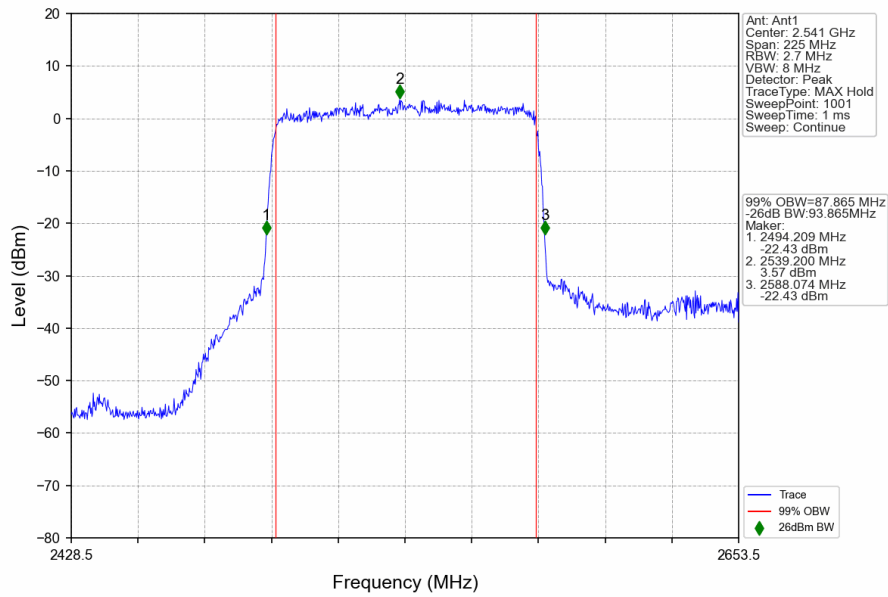
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM\_16 QAM\_2592.99MHz\_Outer\_Full



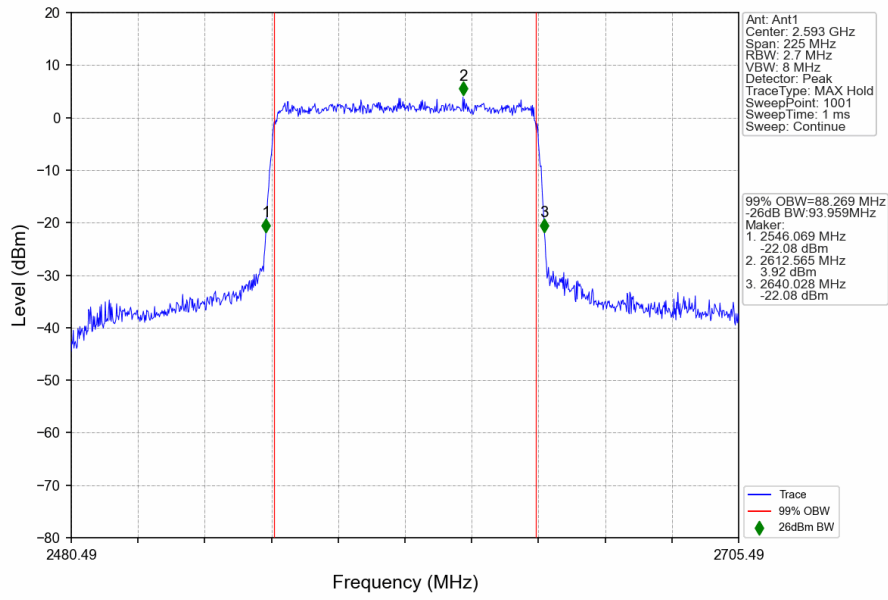
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 16 QAM\_2644.98MHz\_Outer\_Full



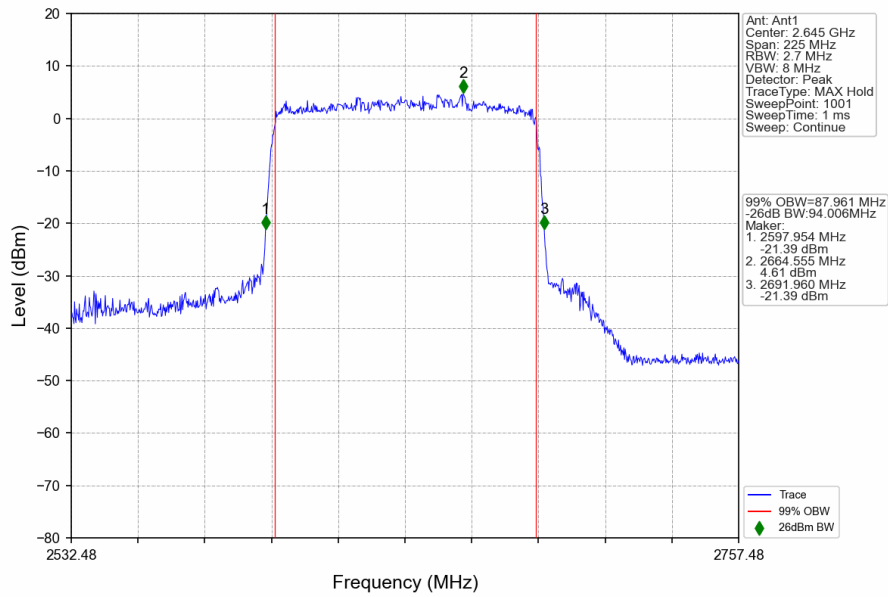
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 64 QAM\_2541MHz\_Outer\_Full



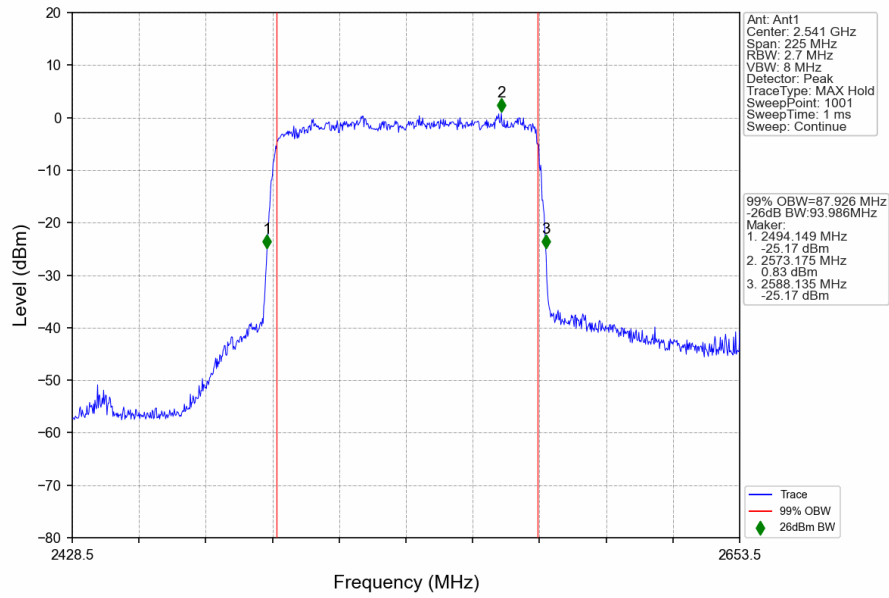
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 64 QAM\_2592.99MHz\_Outer\_Full



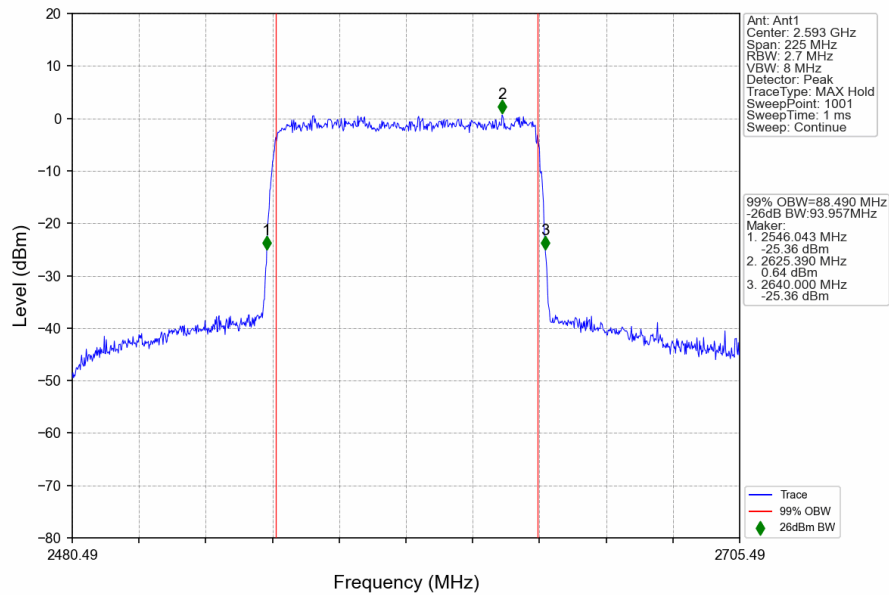
n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 64 QAM\_2644.98MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 256 QAM 2541MHz\_Outer\_Full

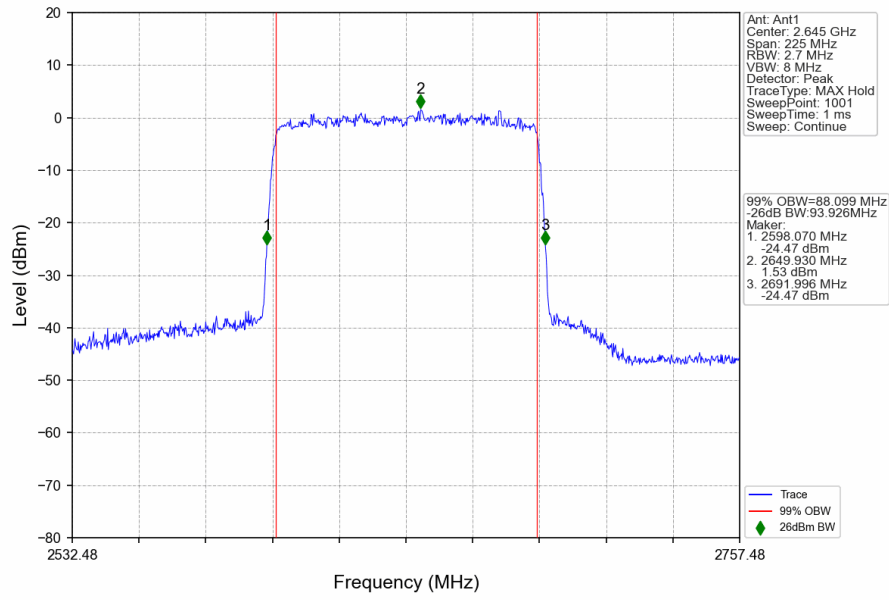


n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 256 QAM 2592.99MHz\_Outer\_Full





n41\_30kHz\_SISO\_NTNV\_90MHz\_CP-OFDM 256 QAM 2644.98MHz\_Outer\_Full

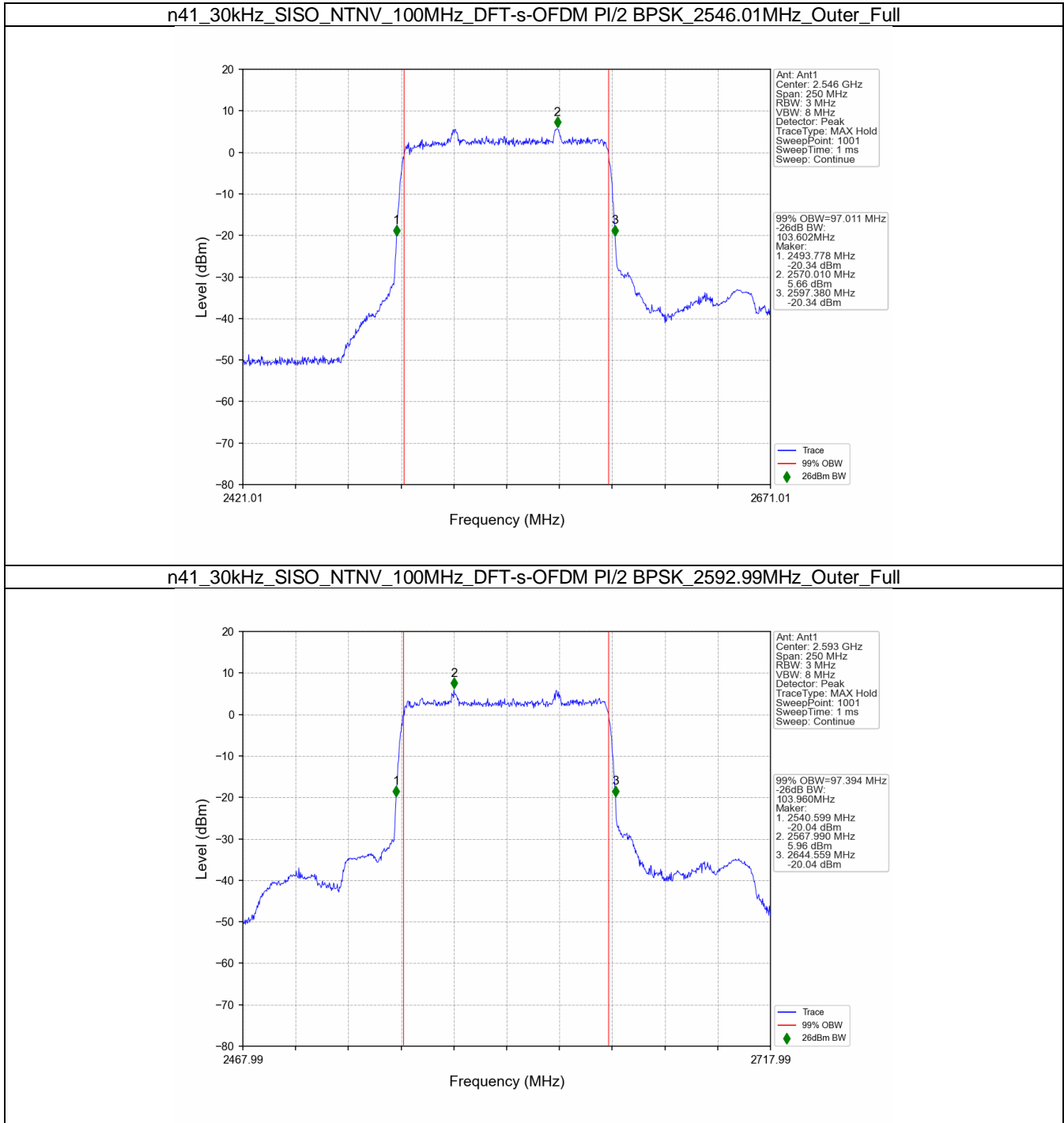


### 3.8 30k\_SISO\_100MHz\_NTNV

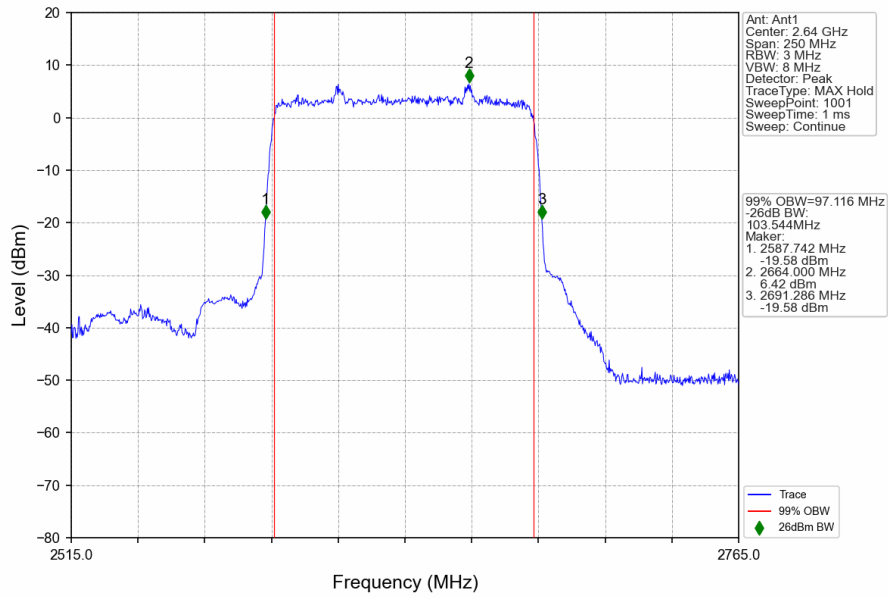
#### 3.8.1 Test Result

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	97.01	103.60	/	Pass
	2592.99	Outer_Full	97.39	103.96	/	Pass
	2640	Outer_Full	97.12	103.54	/	Pass
DFT-s-OFDM QPSK	2546.01	Outer_Full	96.86	103.76	/	Pass
	2592.99	Outer_Full	97.21	103.93	/	Pass
	2640	Outer_Full	96.92	103.52	/	Pass
DFT-s-OFDM 16 QAM	2546.01	Outer_Full	97.30	103.92	/	Pass
	2592.99	Outer_Full	97.67	103.78	/	Pass
	2640	Outer_Full	97.35	103.67	/	Pass
DFT-s-OFDM 64 QAM	2546.01	Outer_Full	97.11	103.71	/	Pass
	2592.99	Outer_Full	97.27	103.63	/	Pass
	2640	Outer_Full	97.10	103.52	/	Pass
DFT-s-OFDM 256 QAM	2546.01	Outer_Full	97.05	103.78	/	Pass
	2592.99	Outer_Full	97.26	103.94	/	Pass
	2640	Outer_Full	96.98	103.71	/	Pass
CP-OFDM QPSK	2546.01	Outer_Full	97.91	104.66	/	Pass
	2592.99	Outer_Full	98.33	104.73	/	Pass
	2640	Outer_Full	97.96	104.73	/	Pass
CP-OFDM 16 QAM	2546.01	Outer_Full	97.95	104.82	/	Pass
	2592.99	Outer_Full	98.47	104.94	/	Pass
	2640	Outer_Full	97.97	104.86	/	Pass
CP-OFDM 64 QAM	2546.01	Outer_Full	97.81	104.95	/	Pass
	2592.99	Outer_Full	98.12	105.07	/	Pass
	2640	Outer_Full	97.92	104.85	/	Pass
CP-OFDM 256 QAM	2546.01	Outer_Full	97.95	104.65	/	Pass
	2592.99	Outer_Full	98.25	104.77	/	Pass
	2640	Outer_Full	98.03	104.68	/	Pass

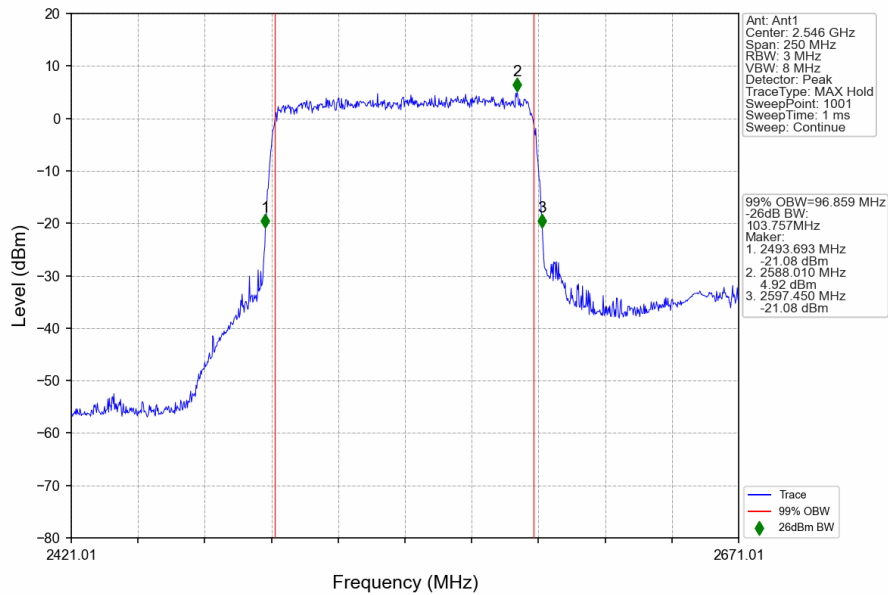
### 3.8.2 Test Graph



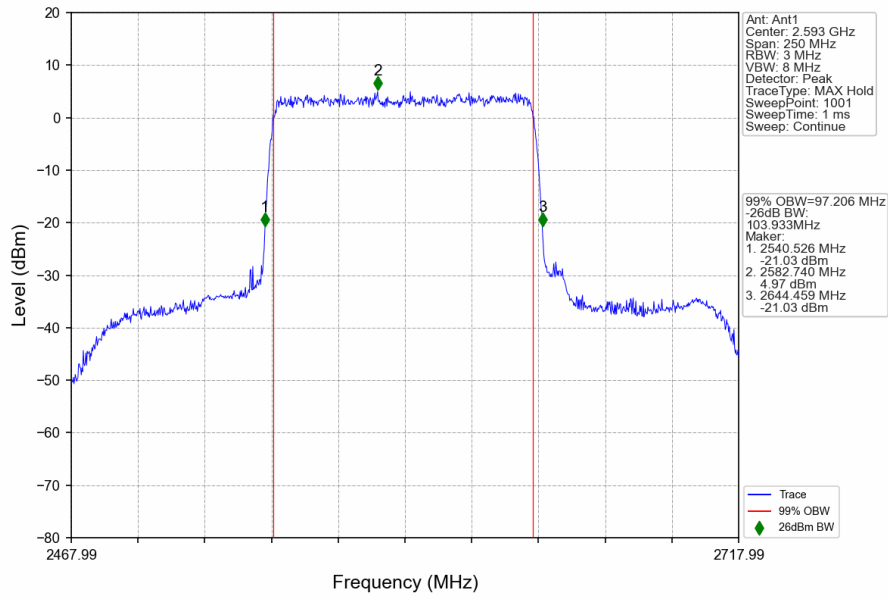
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM PI/2 BPSK\_2640MHz\_Outer\_Full



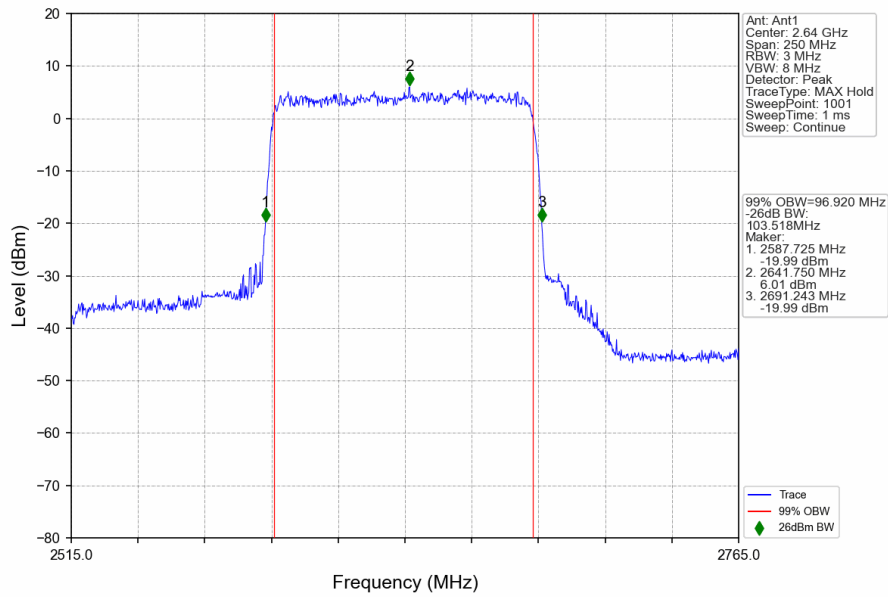
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM QPSK\_2546.01MHz\_Outer\_Full



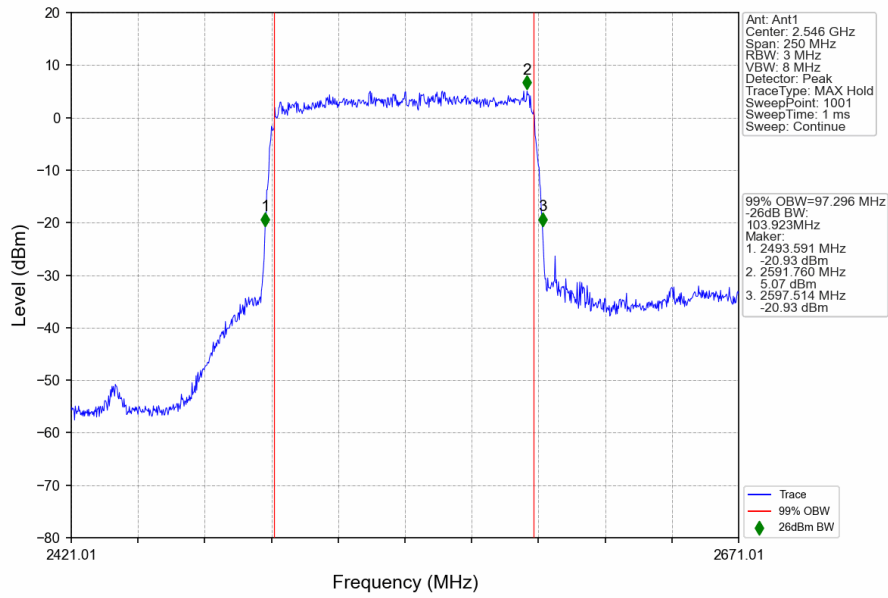
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM QPSK\_2592.99MHz\_Outer\_Full



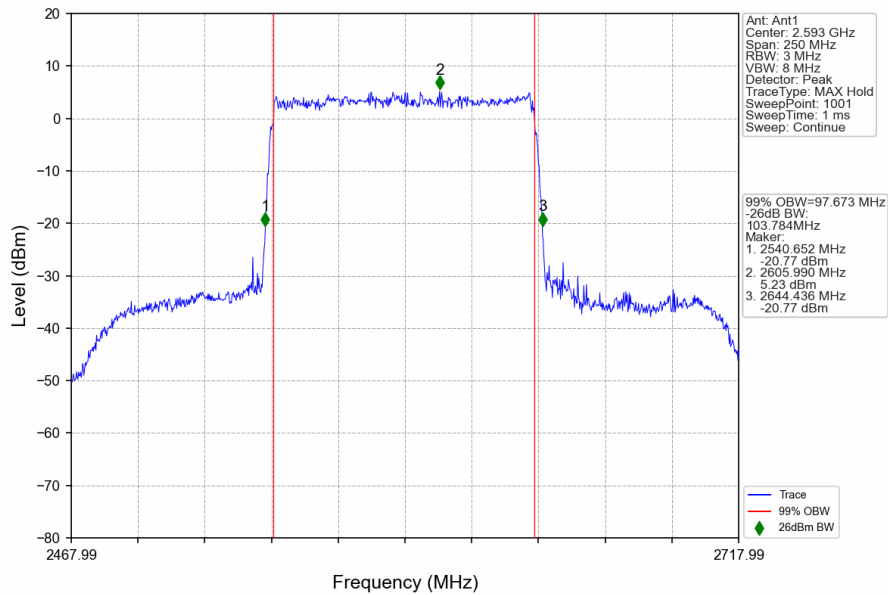
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM QPSK\_2640MHz\_Outer\_Full



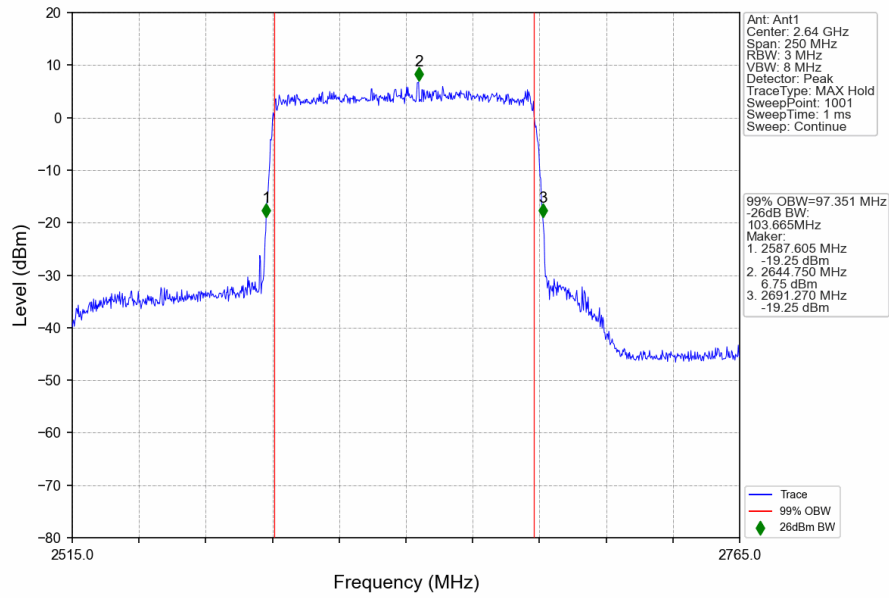
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 16 QAM\_2546.01MHz\_Outer\_Full



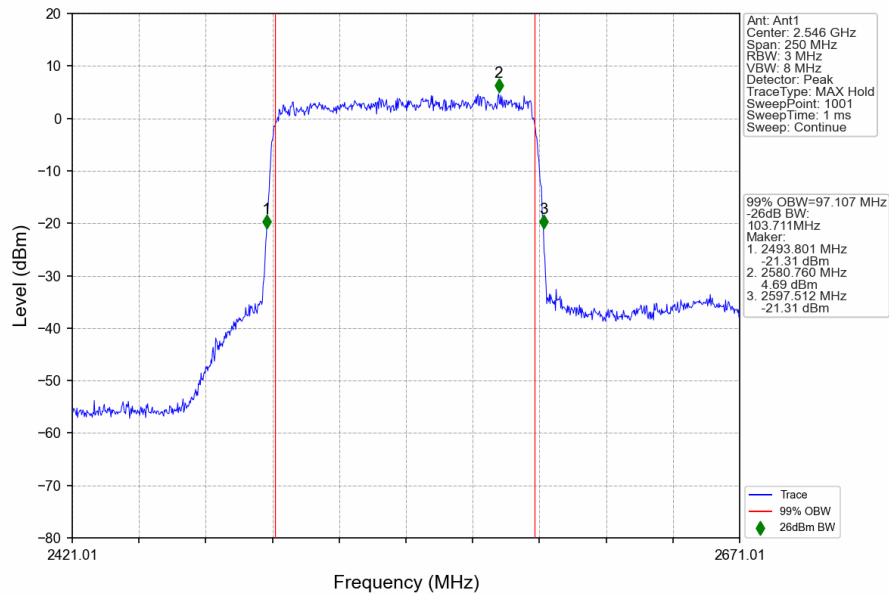
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 16 QAM\_2592.99MHz\_Outer\_Full



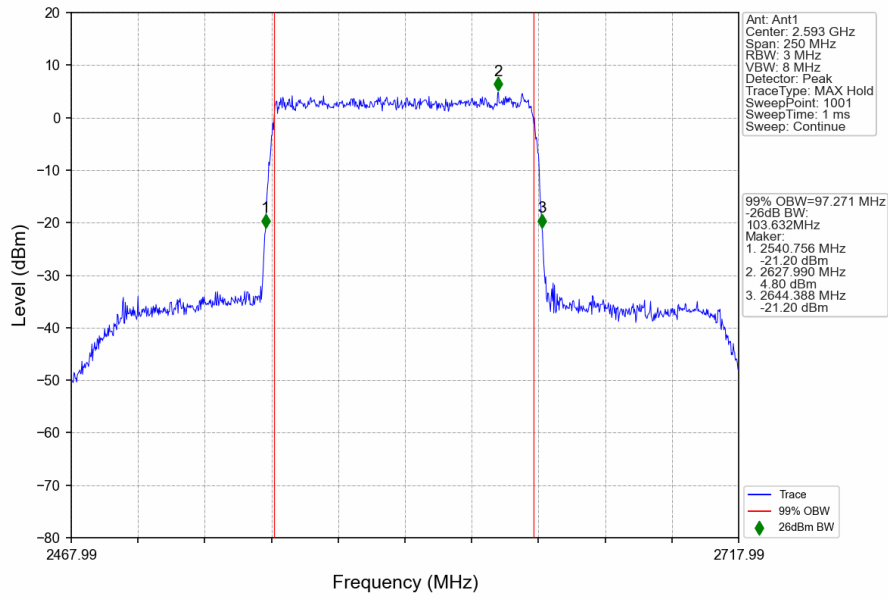
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 16 QAM\_2640MHz\_Outer\_Full



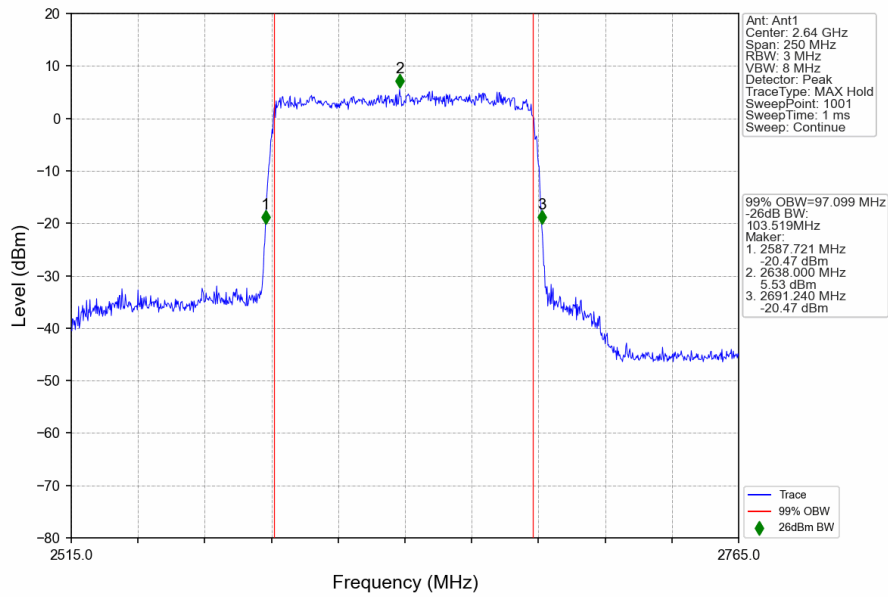
n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 64 QAM\_2546.01MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_100MHz\_DFT-s-OFDM 64 QAM\_2592.99MHz\_Outer\_Full

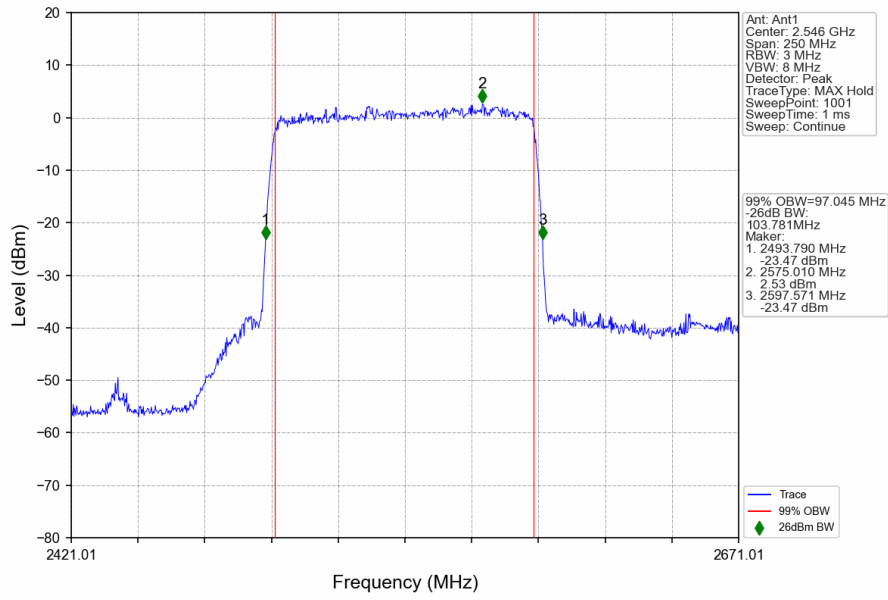


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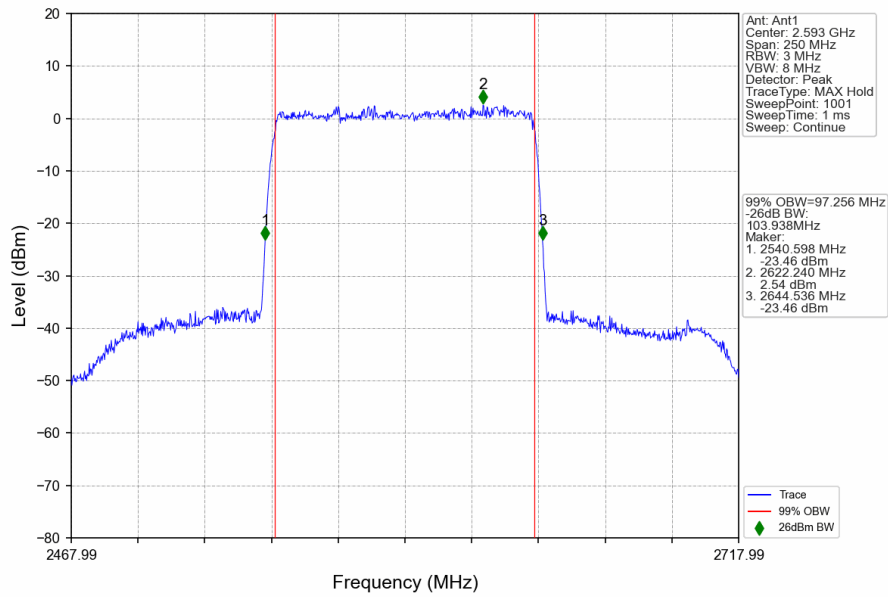




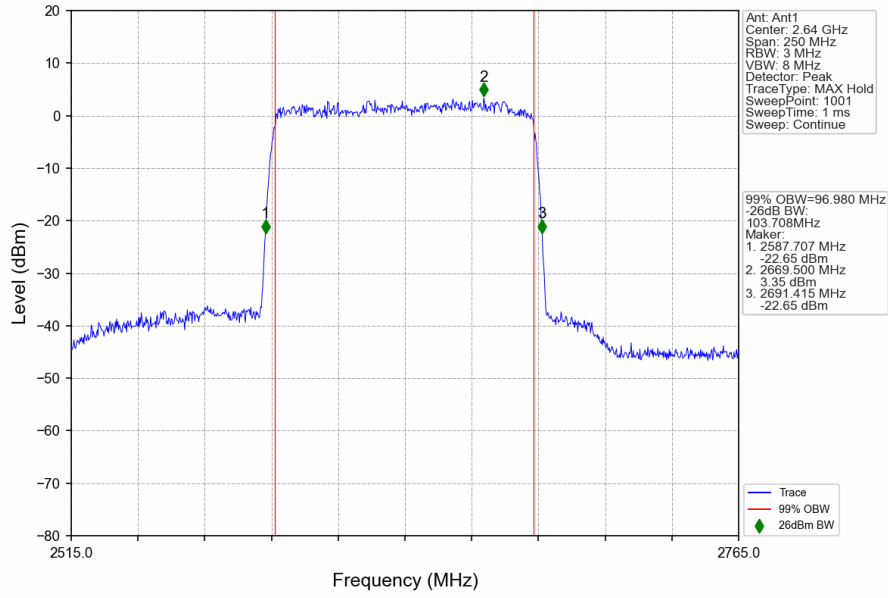
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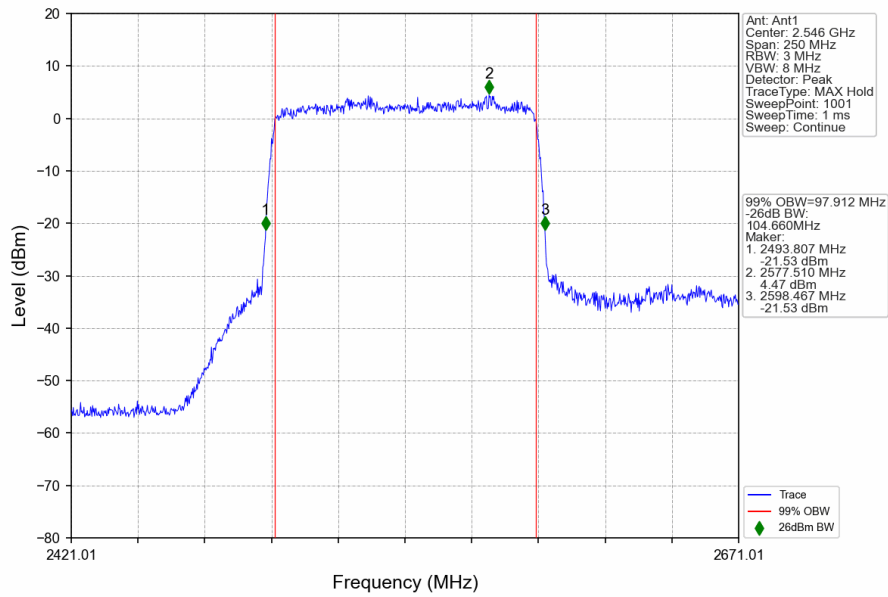
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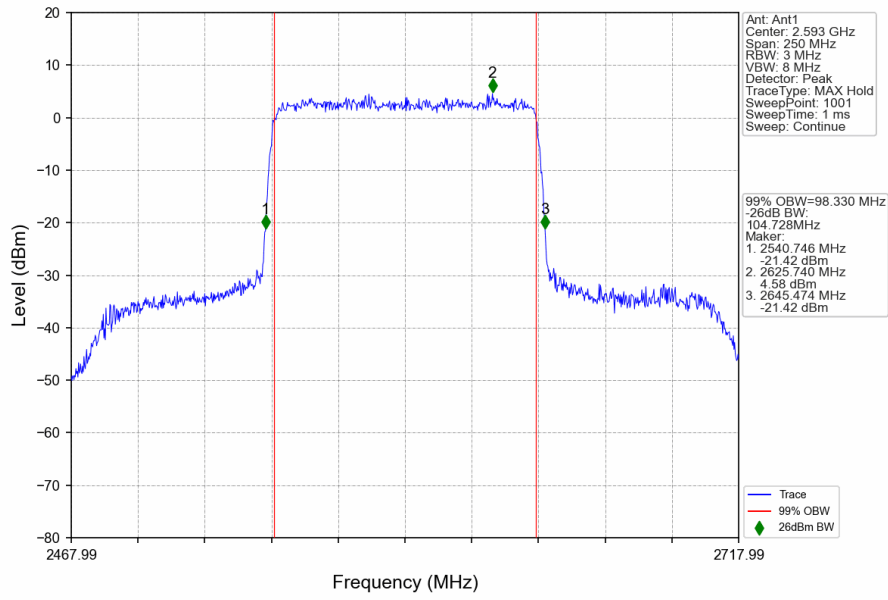
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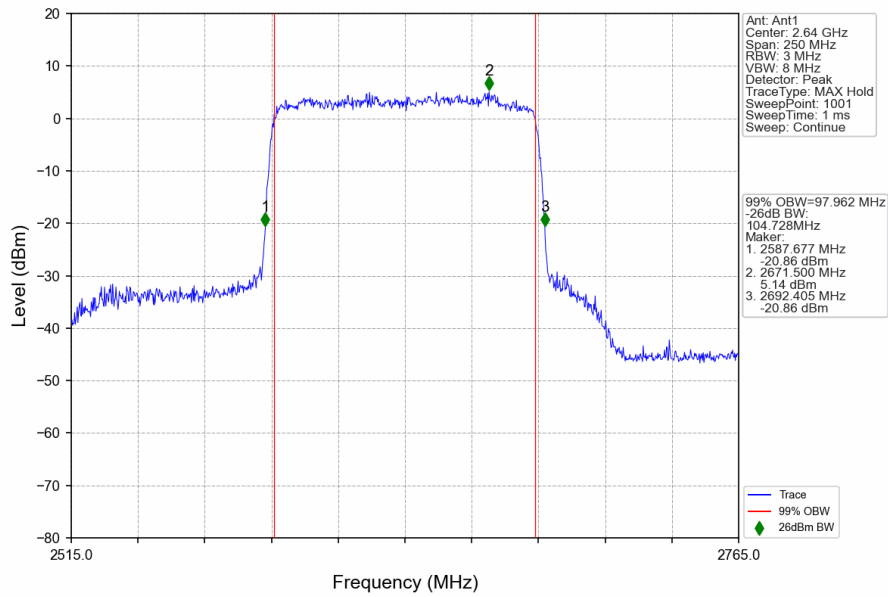
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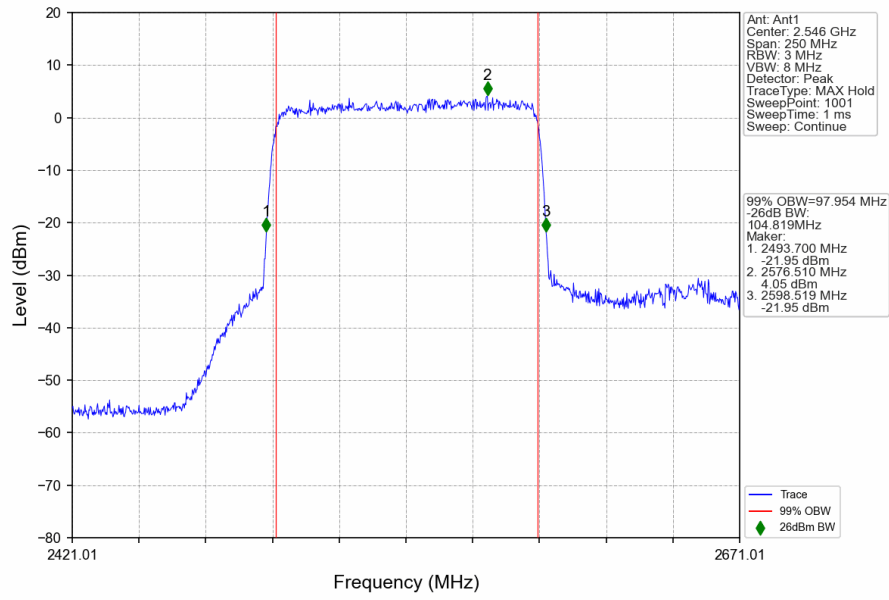
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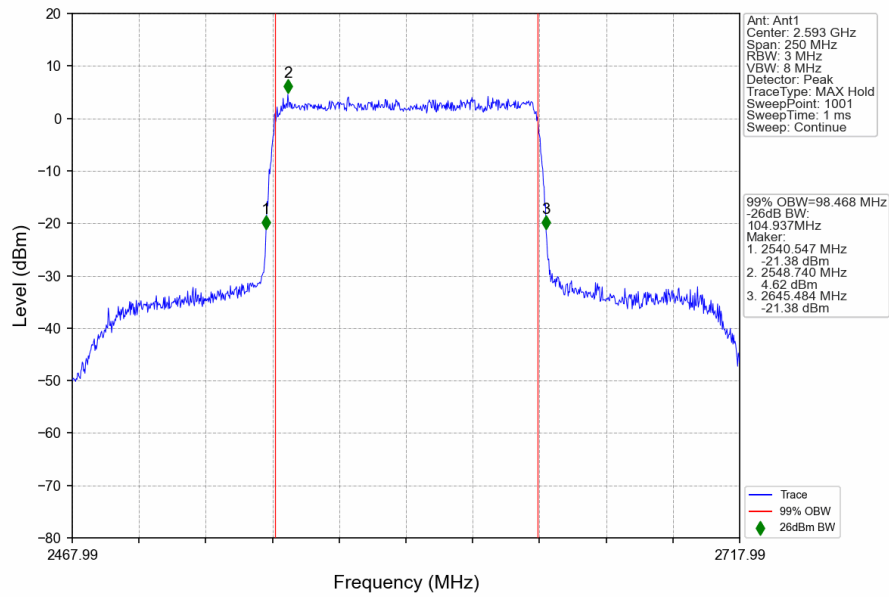
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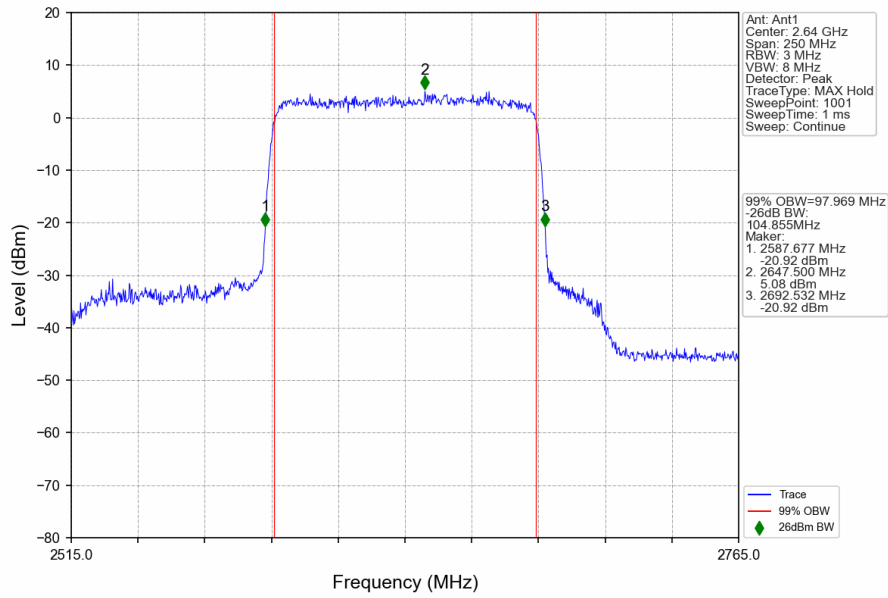
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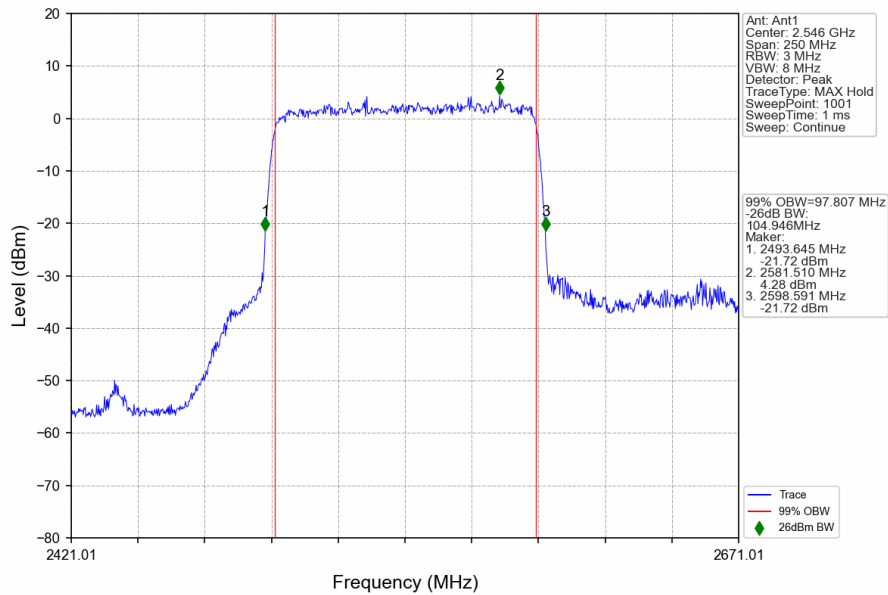
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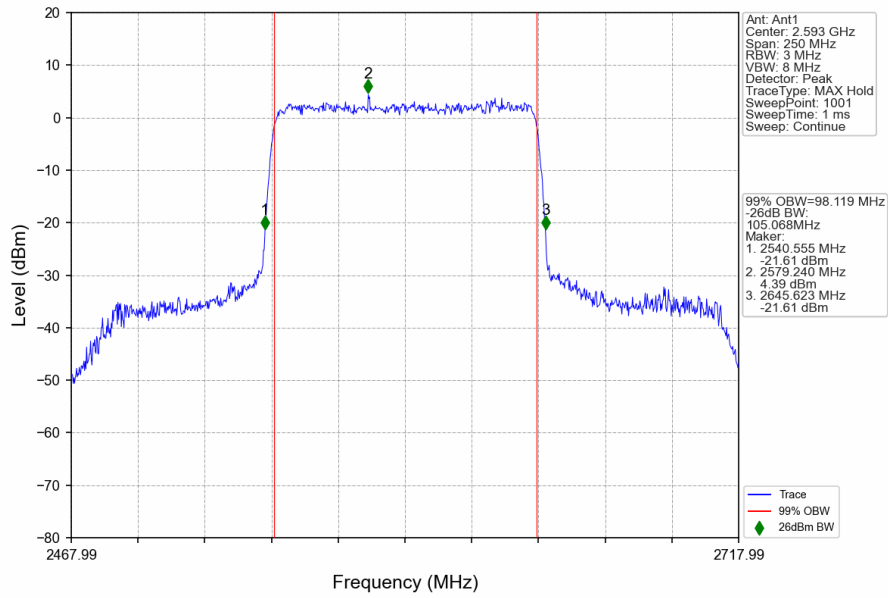
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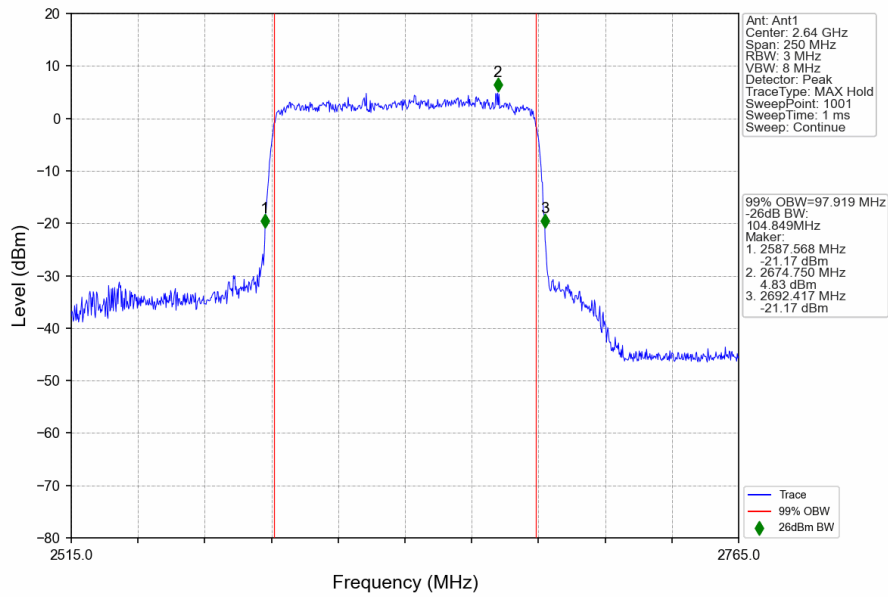
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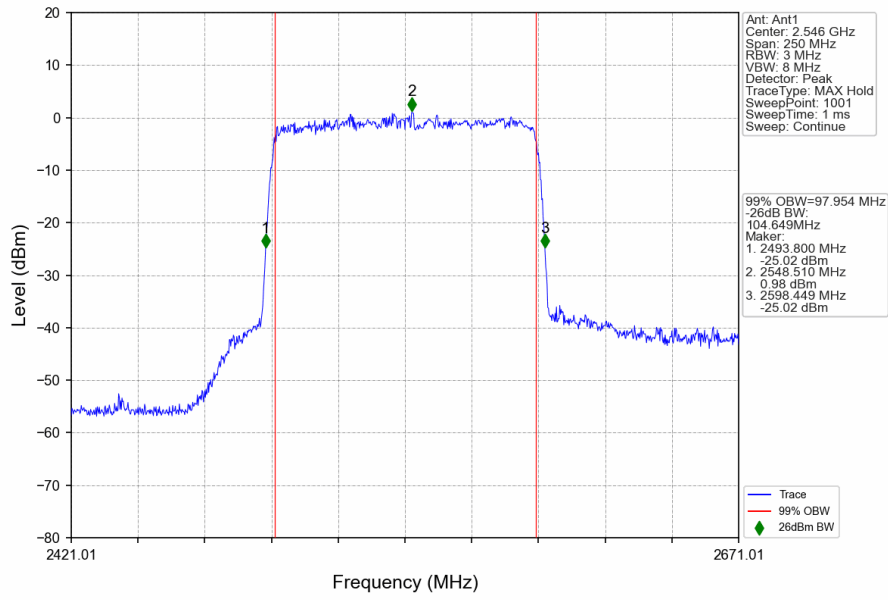
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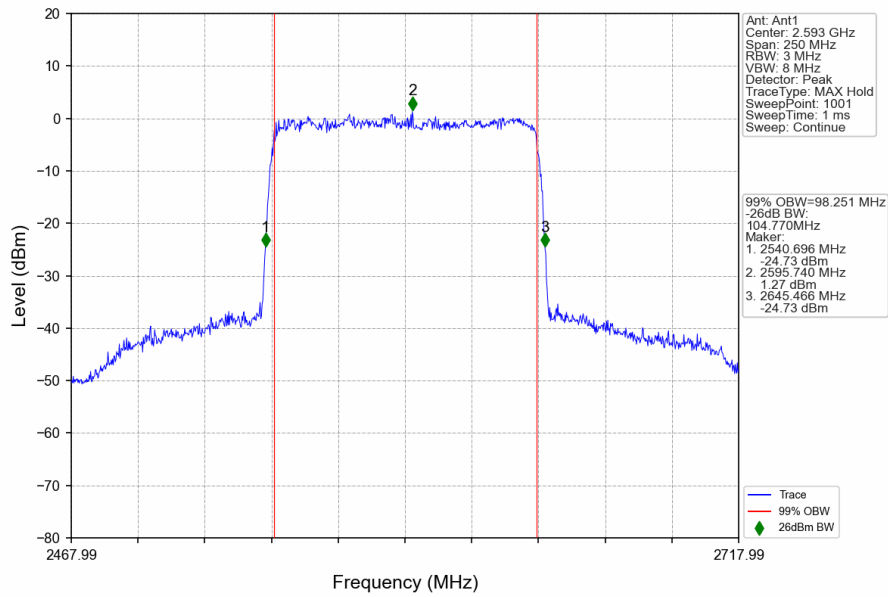
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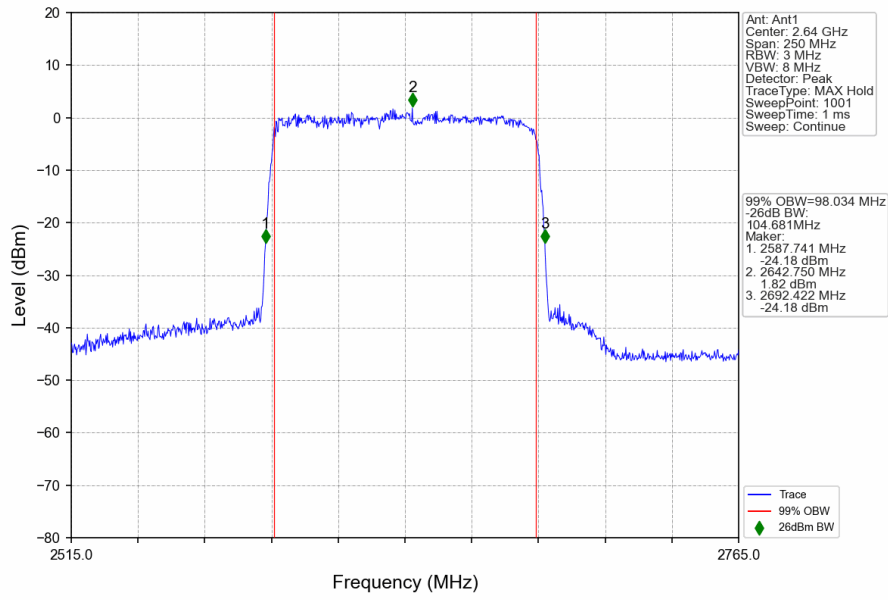
n41\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 256 QAM\_2546.01MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM 256 QAM\_2592.99MHz\_Outer\_Full



n41\_30kHz\_SISO\_NTNV\_100MHz\_CP-OFDM\_256 QAM\_2640MHz\_Outer\_Full





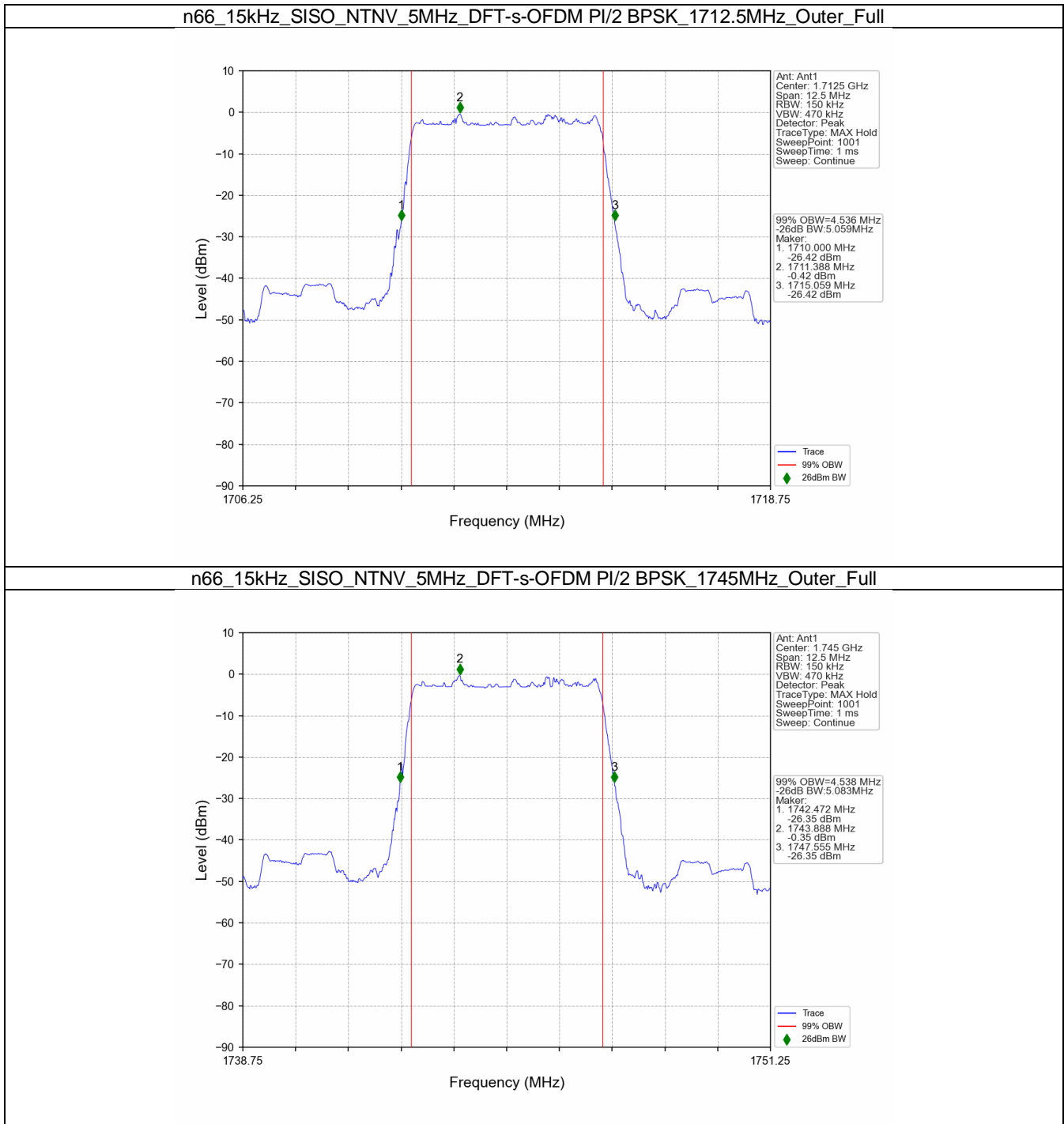
## 4. 99% & 26dB Bandwidth

### 4.1 15k\_SISO\_5MHz\_NTNV

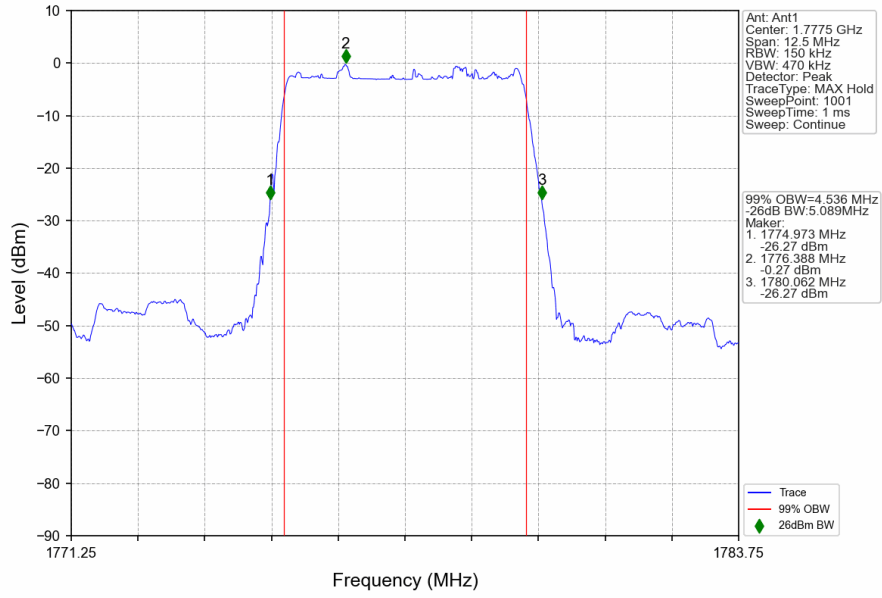
#### 4.1.1 Test Result

5G NR n66 SCS=15kHz SISO 5MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	1712.5	Outer_Full	4.54	5.06	/	Pass
	1745	Outer_Full	4.54	5.08	/	Pass
	1777.5	Outer_Full	4.54	5.09	/	Pass
DFT-s-OFDM QPSK	1712.5	Outer_Full	4.53	5.02	/	Pass
	1745	Outer_Full	4.53	5.06	/	Pass
	1777.5	Outer_Full	4.52	5.02	/	Pass
DFT-s-OFDM 16 QAM	1712.5	Outer_Full	4.54	5.07	/	Pass
	1745	Outer_Full	4.54	5.05	/	Pass
	1777.5	Outer_Full	4.54	5.05	/	Pass
DFT-s-OFDM 64 QAM	1712.5	Outer_Full	4.55	5.05	/	Pass
	1745	Outer_Full	4.55	5.06	/	Pass
	1777.5	Outer_Full	4.55	5.06	/	Pass
DFT-s-OFDM 256 QAM	1712.5	Outer_Full	4.52	5.07	/	Pass
	1745	Outer_Full	4.52	5.08	/	Pass
	1777.5	Outer_Full	4.52	5.05	/	Pass
CP-OFDM QPSK	1712.5	Outer_Full	4.54	5.08	/	Pass
	1745	Outer_Full	4.55	5.13	/	Pass
	1777.5	Outer_Full	4.55	5.07	/	Pass
CP-OFDM 16 QAM	1712.5	Outer_Full	4.55	5.04	/	Pass
	1745	Outer_Full	4.54	5.09	/	Pass
	1777.5	Outer_Full	4.53	5.04	/	Pass
CP-OFDM 64 QAM	1712.5	Outer_Full	4.54	5.06	/	Pass
	1745	Outer_Full	4.53	5.11	/	Pass
	1777.5	Outer_Full	4.54	5.07	/	Pass
CP-OFDM 256 QAM	1712.5	Outer_Full	4.54	5.13	/	Pass
	1745	Outer_Full	4.54	5.12	/	Pass
	1777.5	Outer_Full	4.54	5.11	/	Pass

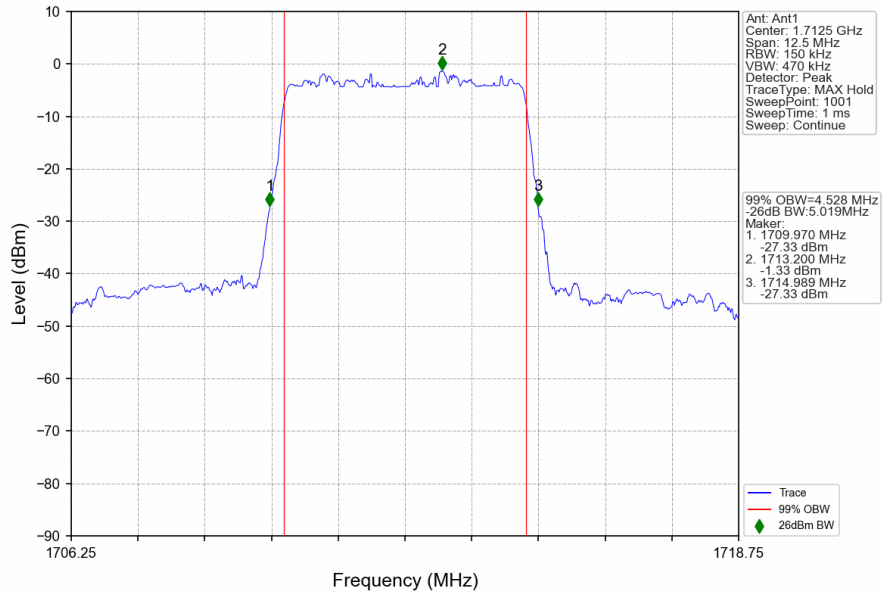
### 4.1.2 Test Graph



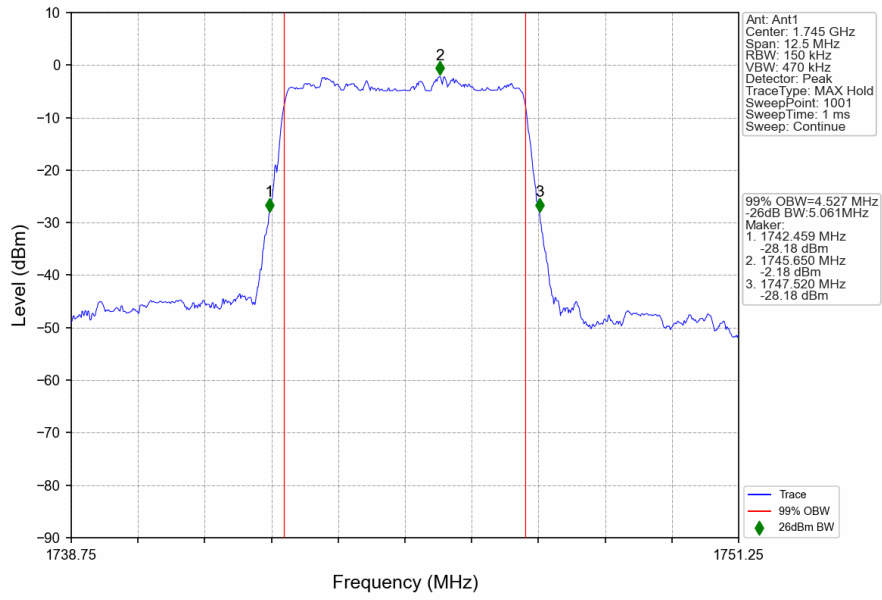
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM PI/2 BPSK\_1777.5MHz\_Outer\_Full



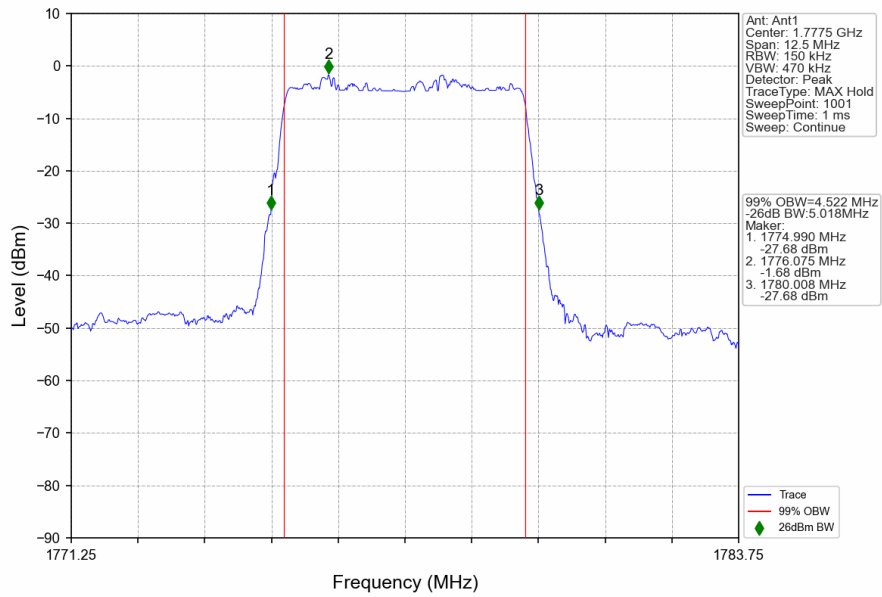
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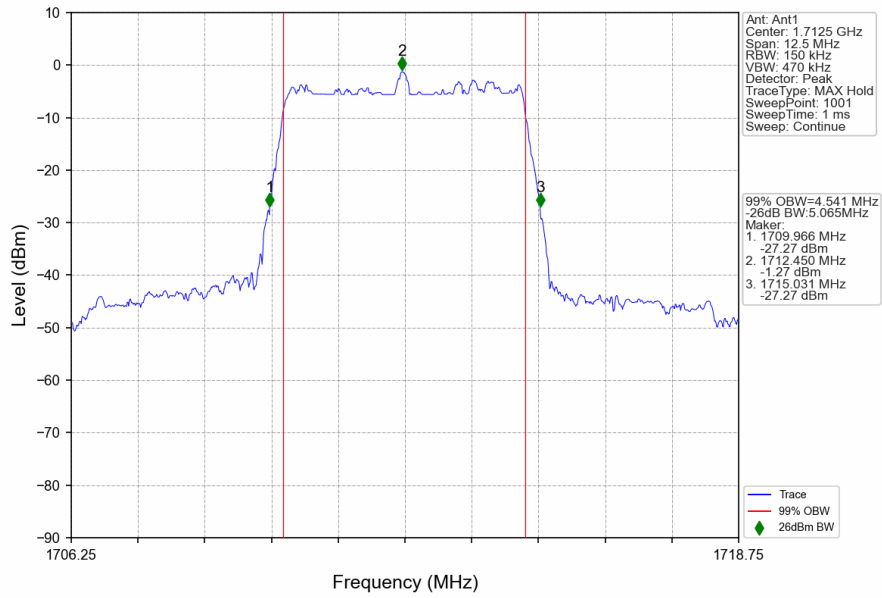
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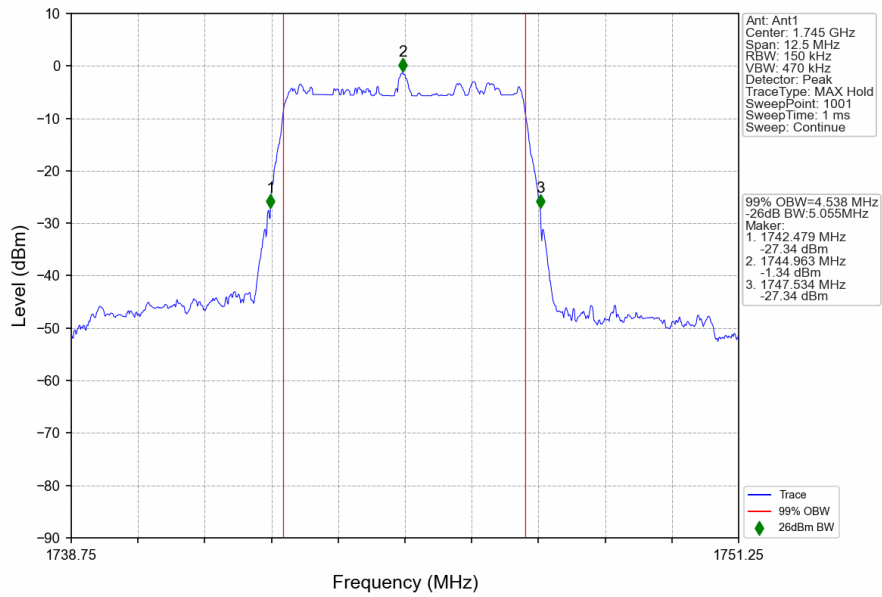
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM QPSK\_1777.5MHz\_Outer\_Full



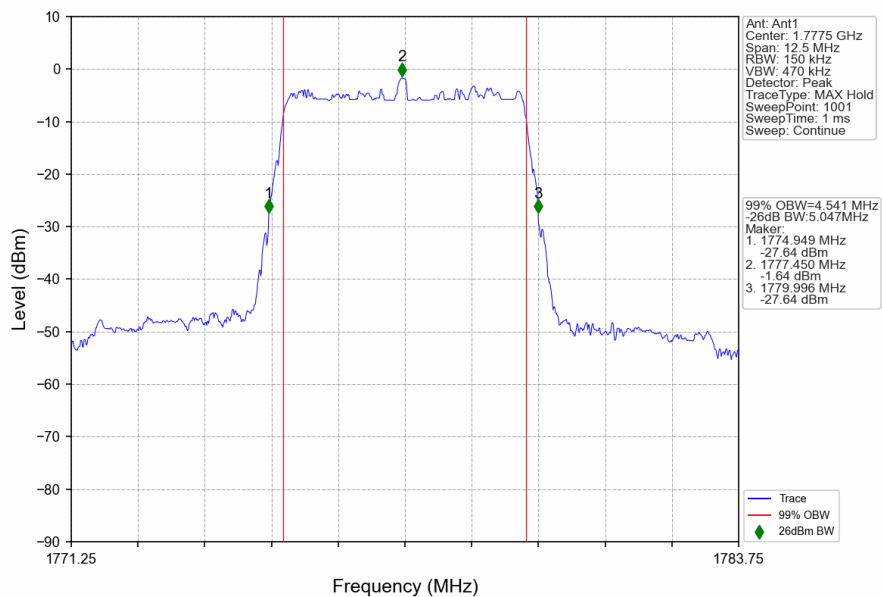
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 16 QAM\_1712.5MHz\_Outer\_Full



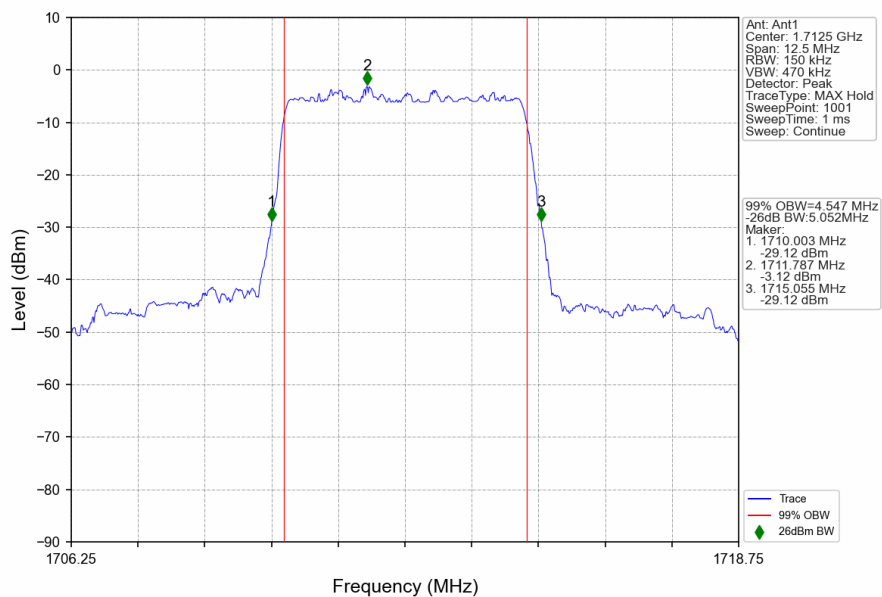
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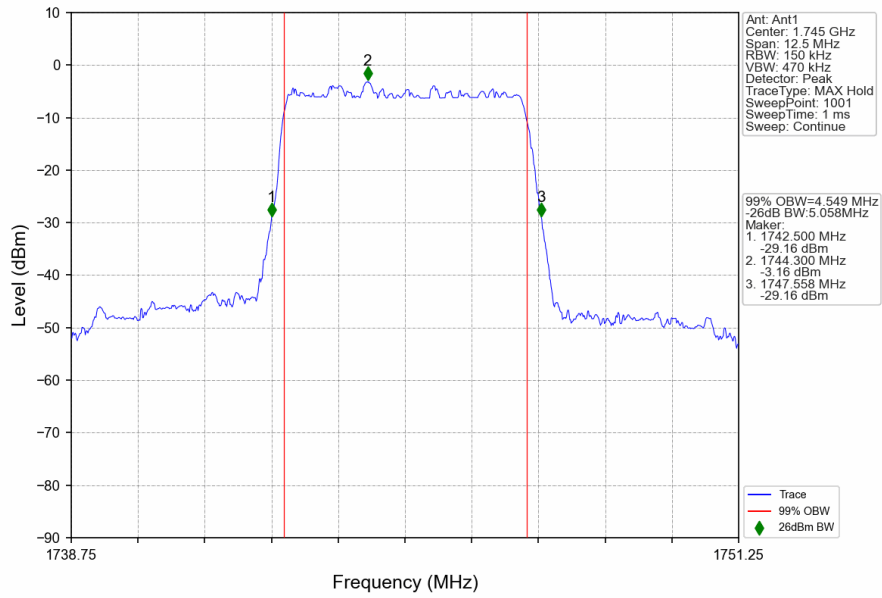
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 16 QAM\_1777.5MHz\_Outer\_Full



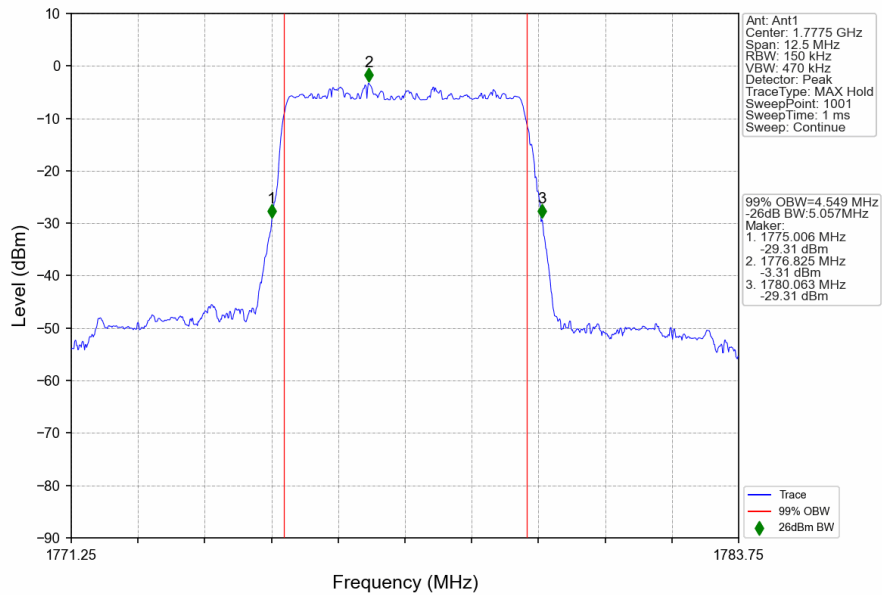
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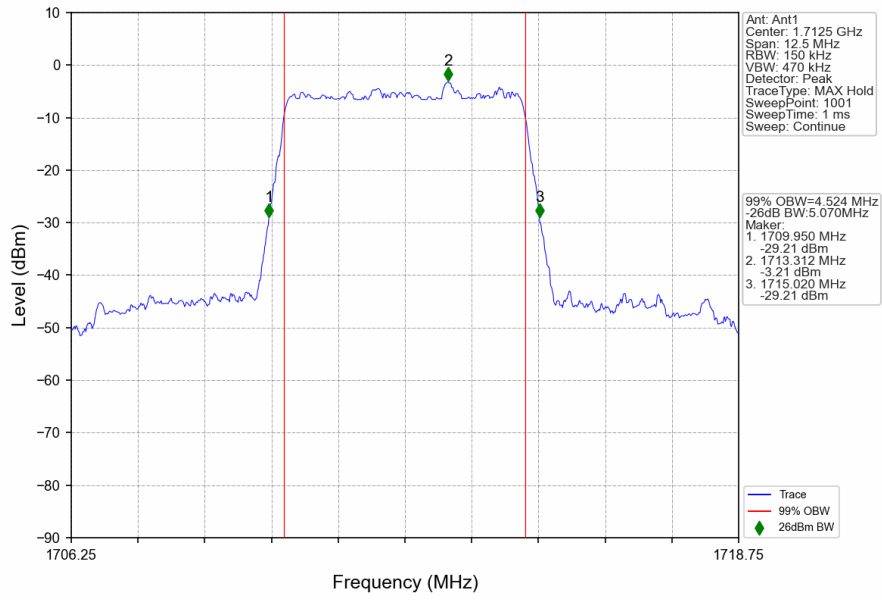
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 64 QAM\_1745MHz\_Outer\_Full



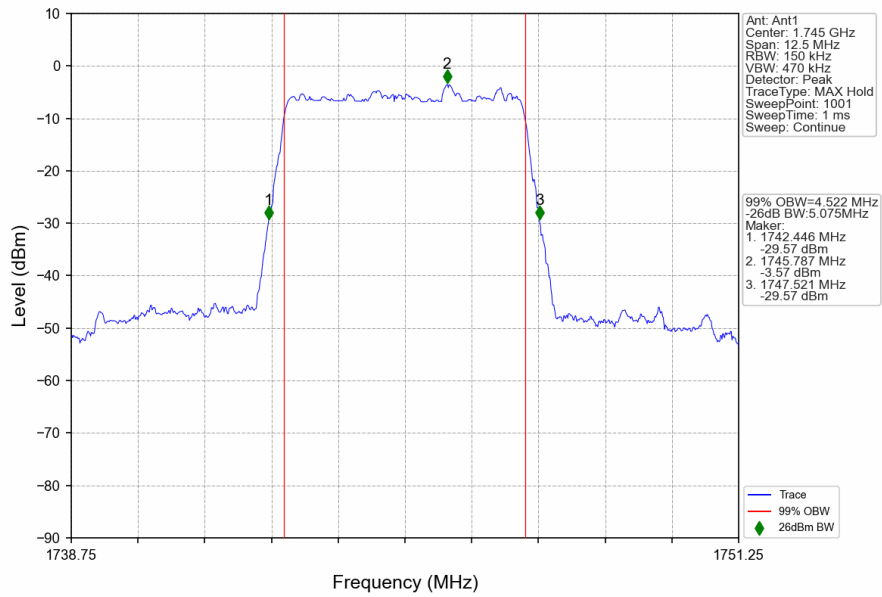
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 64 QAM\_1777.5MHz\_Outer\_Full



n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 256 QAM\_1712.5MHz\_Outer\_Full

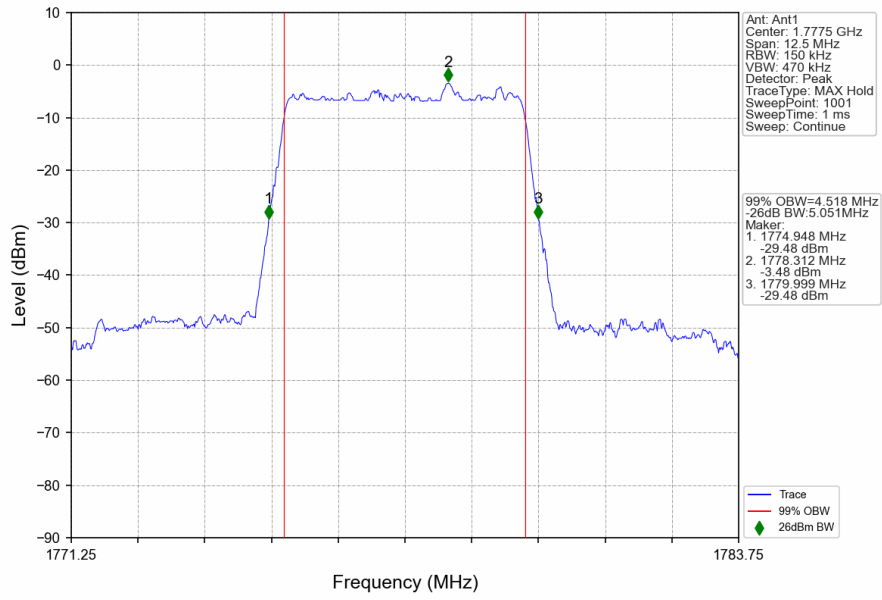


n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 256 QAM\_1745MHz\_Outer\_Full

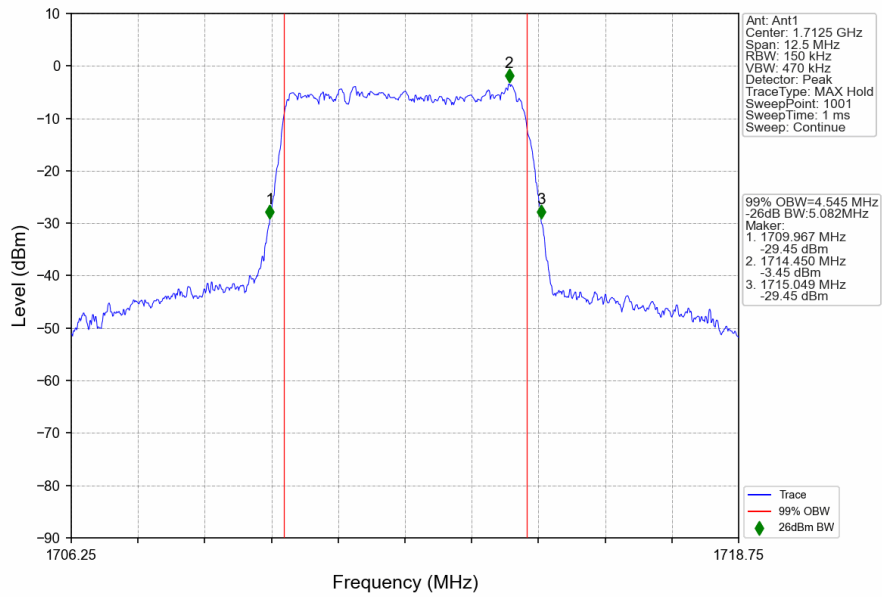




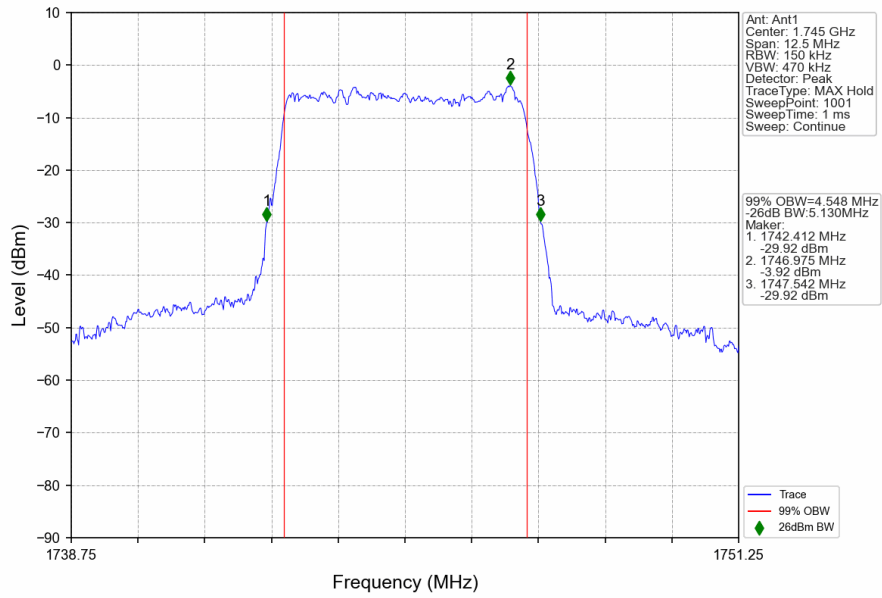
n66\_15kHz\_SISO\_NTNV\_5MHz\_DFT-s-OFDM 256 QAM\_1777.5MHz\_Outer\_Full



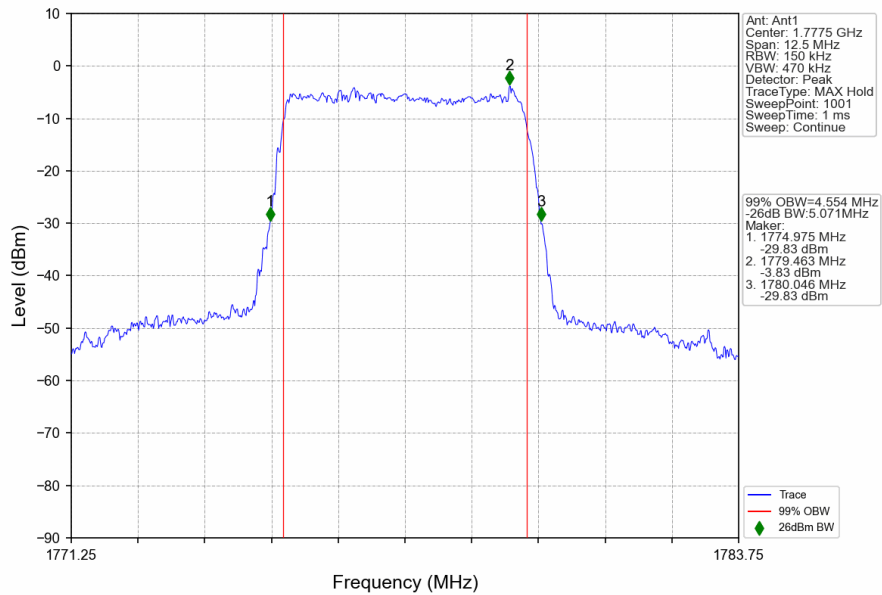
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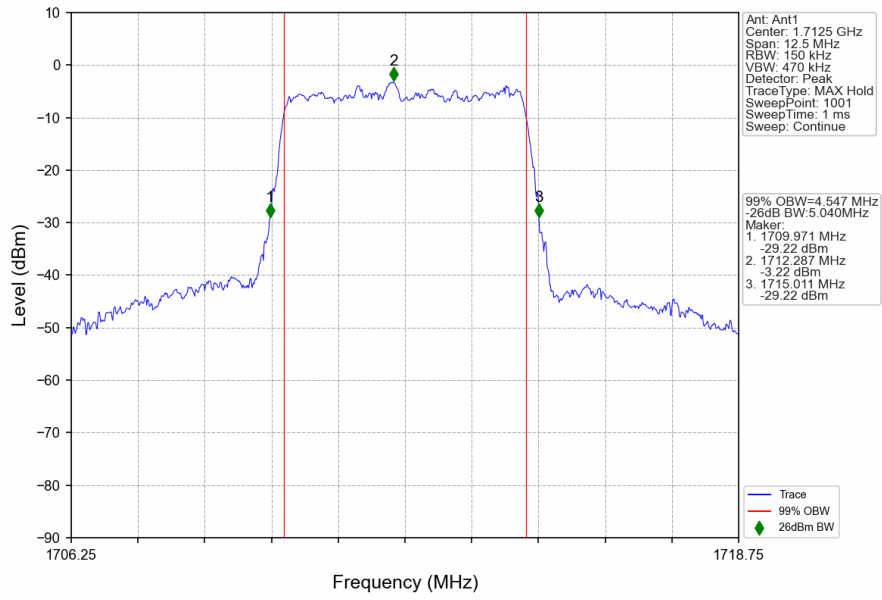
n66\_15kHz\_SISO\_NTNV\_5MHz\_CP-OFDM QPSK\_1745MHz\_Outer\_Full



n66\_15kHz\_SISO\_NTNV\_5MHz\_CP-OFDM QPSK\_1777.5MHz\_Outer\_Full



n66\_15kHz\_SISO\_NTNV\_5MHz\_CP-OFDM 16 QAM\_1712.5MHz\_Outer\_Full



n66\_15kHz\_SISO\_NTNV\_5MHz\_CP-OFDM 16 QAM\_1745MHz\_Outer\_Full

