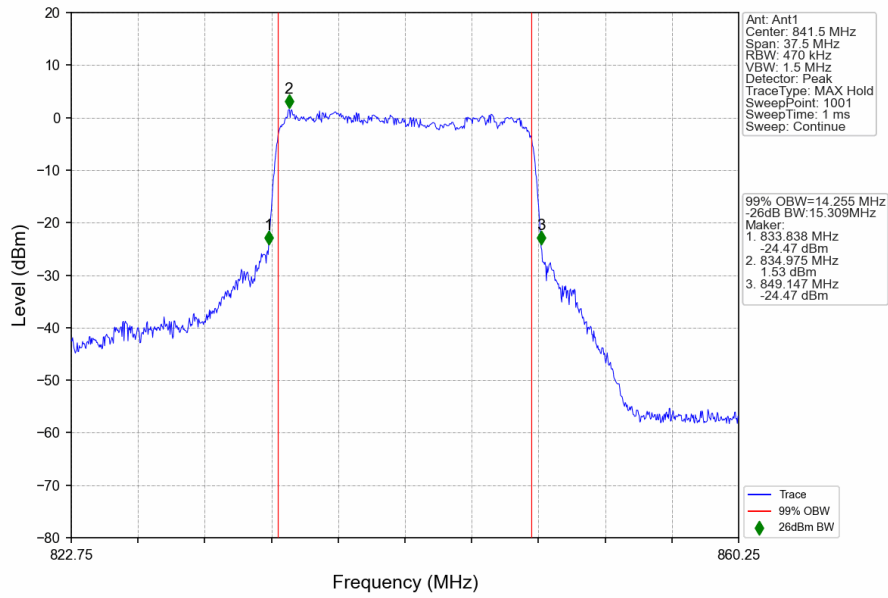
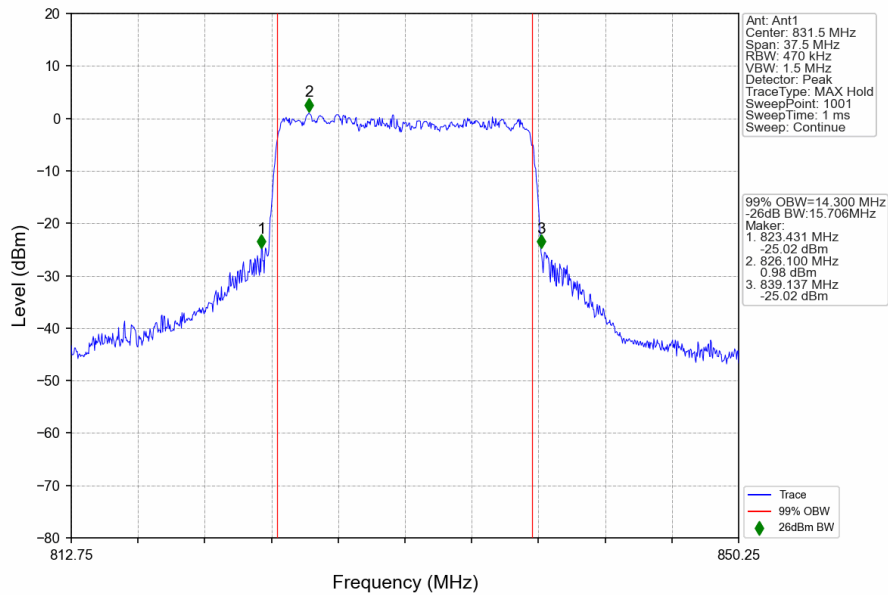


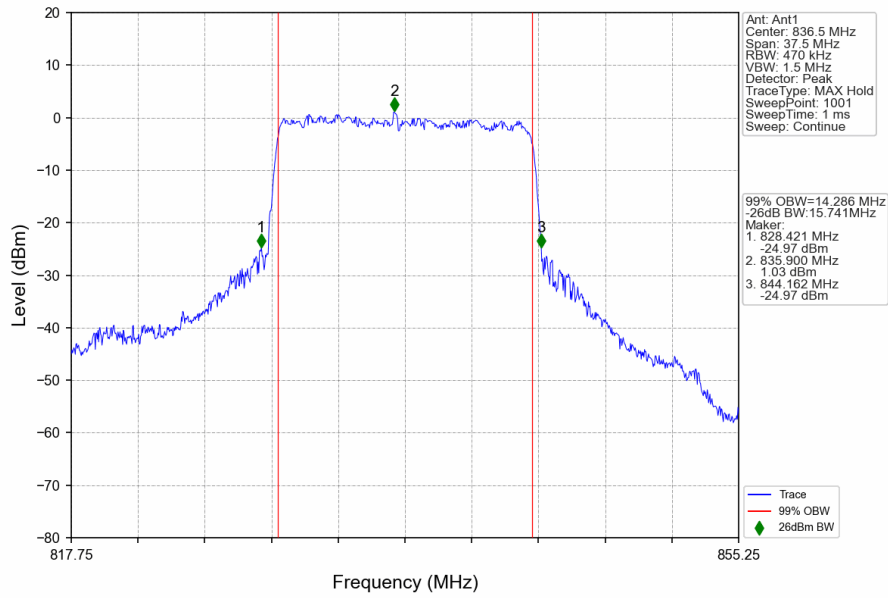
n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 16 QAM 841.5MHz_Outer_Full



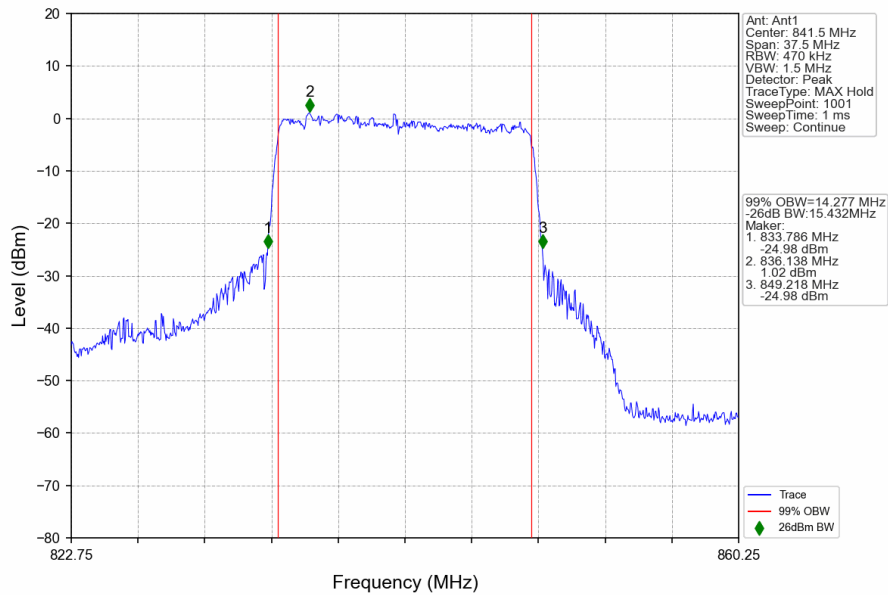
n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 64 QAM 831.5MHz_Outer_Full



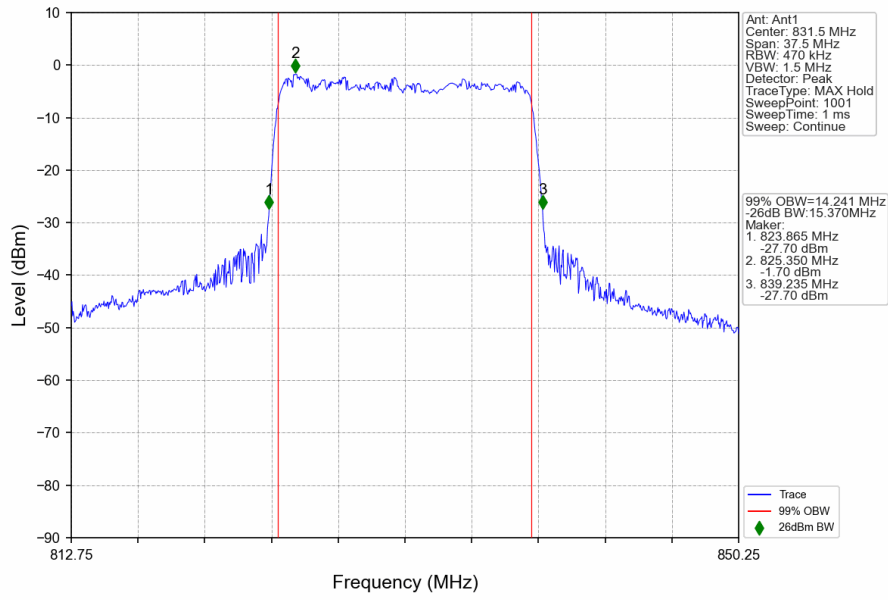
n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 64 QAM_836.5MHz_Outer_Full



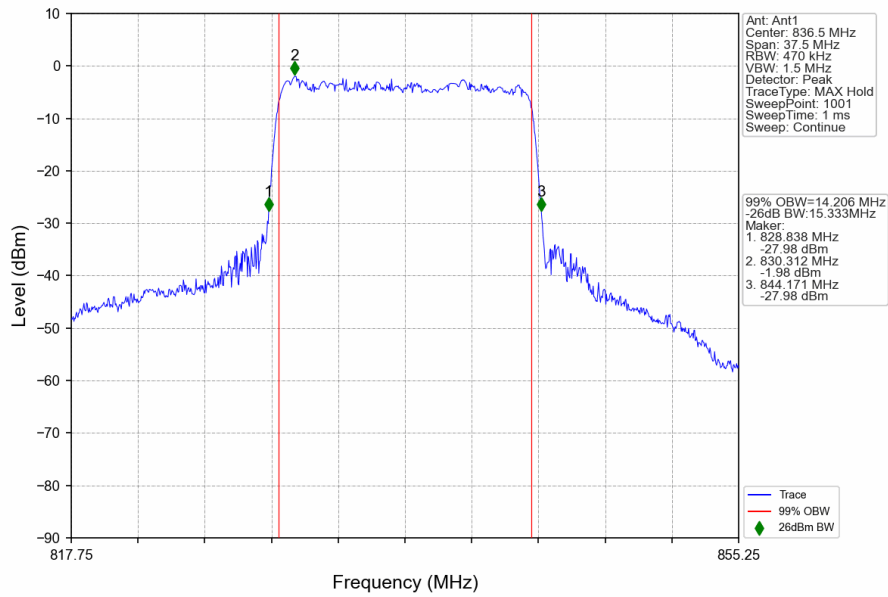
n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 64 QAM_841.5MHz_Outer_Full



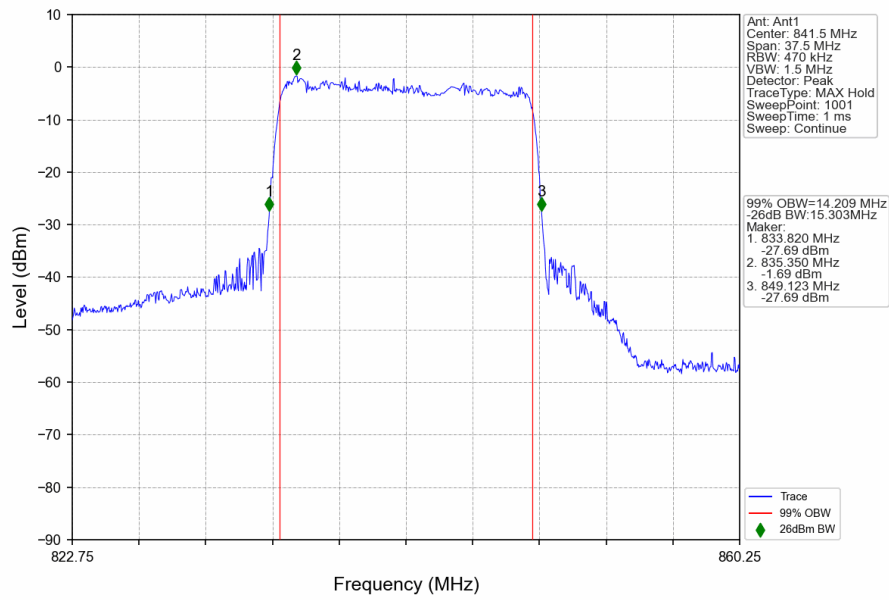
n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 256 QAM_831.5MHz_Outer_Full



n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 256 QAM_836.5MHz_Outer_Full



n5_15kHz_SISO_NTNV_15MHz_CP-OFDM 256 QAM_841.5MHz_Outer_Full

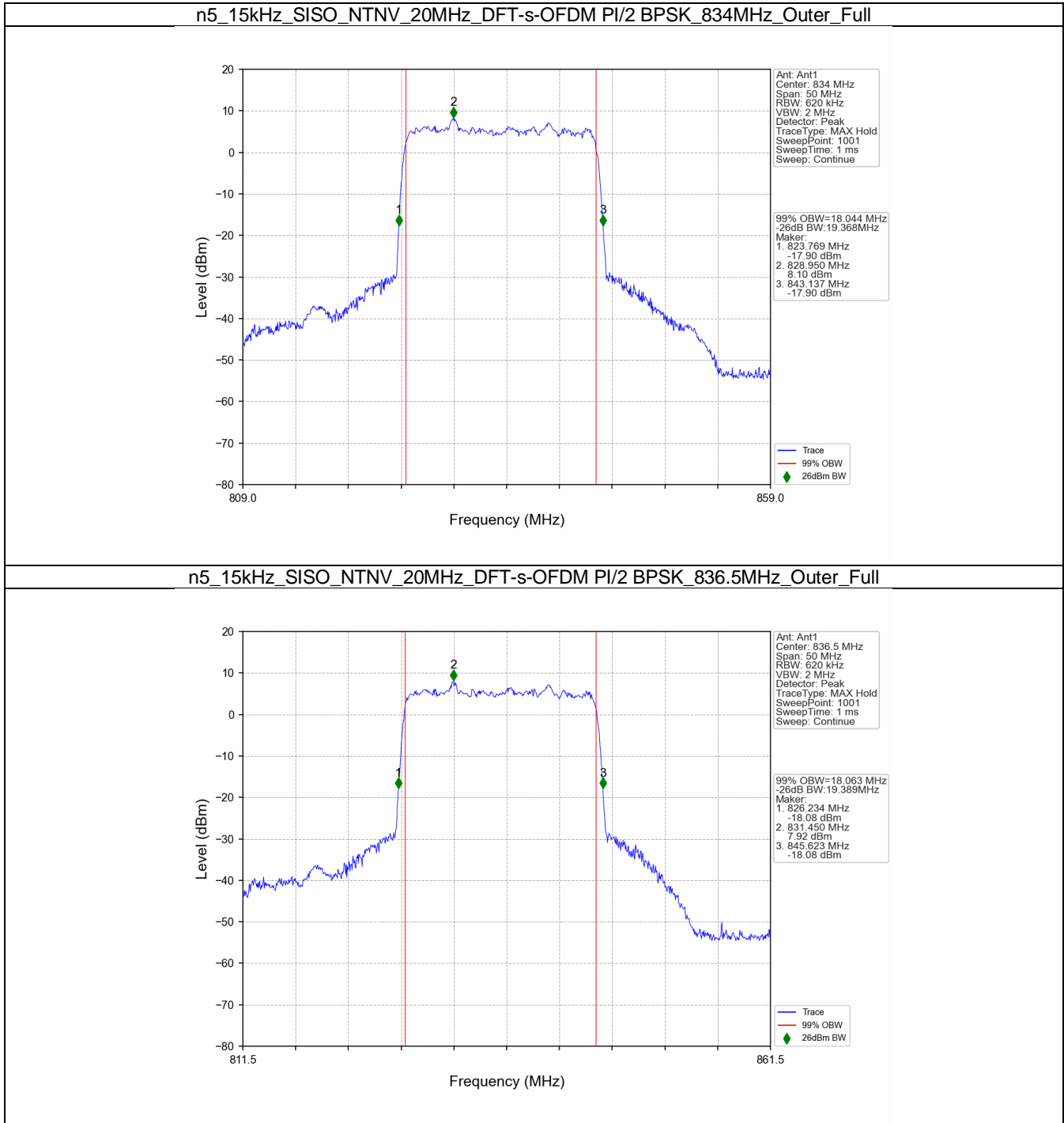


2.4 15k_SISO_20MHz_NTNV

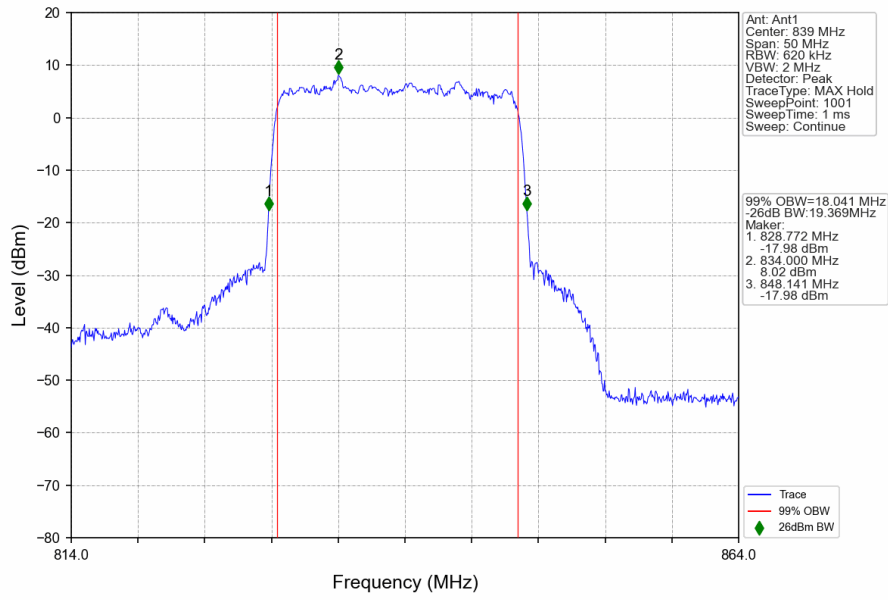
2.4.1 Test Result

5G NR n5 SCS=15kHz SISO 20MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	834	Outer_Full	18.04	19.37	/	Pass
	836.5	Outer_Full	18.06	19.39	/	Pass
	839	Outer_Full	18.04	19.37	/	Pass
DFT-s-OFDM QPSK	834	Outer_Full	17.99	19.45	/	Pass
	836.5	Outer_Full	18.00	19.44	/	Pass
	839	Outer_Full	17.98	19.47	/	Pass
DFT-s-OFDM 16 QAM	834	Outer_Full	18.01	19.40	/	Pass
	836.5	Outer_Full	17.99	19.37	/	Pass
	839	Outer_Full	17.98	19.39	/	Pass
DFT-s-OFDM 64 QAM	834	Outer_Full	18.01	19.43	/	Pass
	836.5	Outer_Full	18.00	19.47	/	Pass
	839	Outer_Full	18.00	19.41	/	Pass
DFT-s-OFDM 256 QAM	834	Outer_Full	18.03	19.39	/	Pass
	836.5	Outer_Full	18.02	19.36	/	Pass
	839	Outer_Full	18.02	19.35	/	Pass
CP-OFDM QPSK	834	Outer_Full	19.01	21.39	/	Pass
	836.5	Outer_Full	19.02	21.72	/	Pass
	839	Outer_Full	19.03	21.14	/	Pass
CP-OFDM 16 QAM	834	Outer_Full	19.09	21.76	/	Pass
	836.5	Outer_Full	19.09	21.50	/	Pass
	839	Outer_Full	19.08	20.96	/	Pass
CP-OFDM 64 QAM	834	Outer_Full	19.11	22.07	/	Pass
	836.5	Outer_Full	19.08	22.77	/	Pass
	839	Outer_Full	19.08	21.90	/	Pass
CP-OFDM 256 QAM	834	Outer_Full	19.14	20.53	/	Pass
	836.5	Outer_Full	19.14	20.52	/	Pass
	839	Outer_Full	19.13	20.55	/	Pass

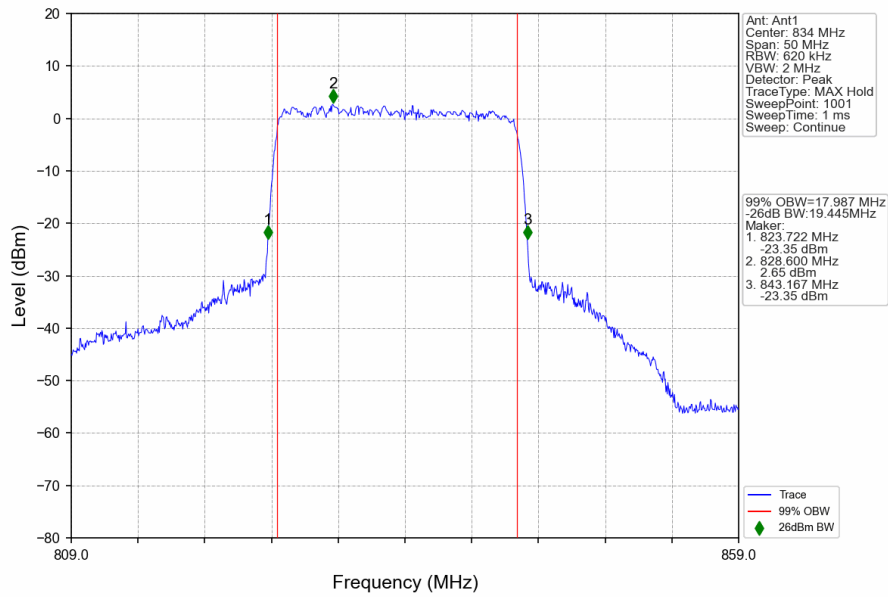
2.4.2 Test Graph



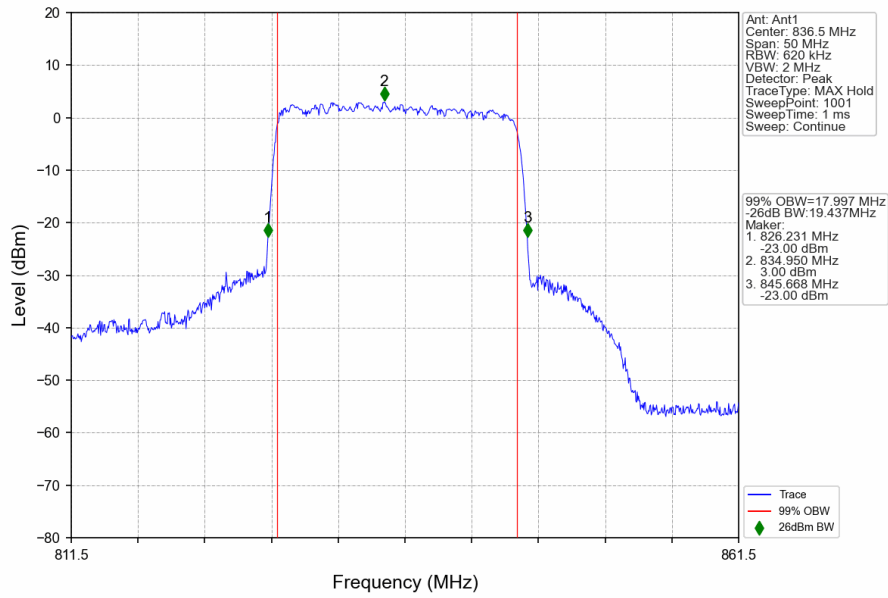
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM PI/2 BPSK_839MHz_Outer_Full



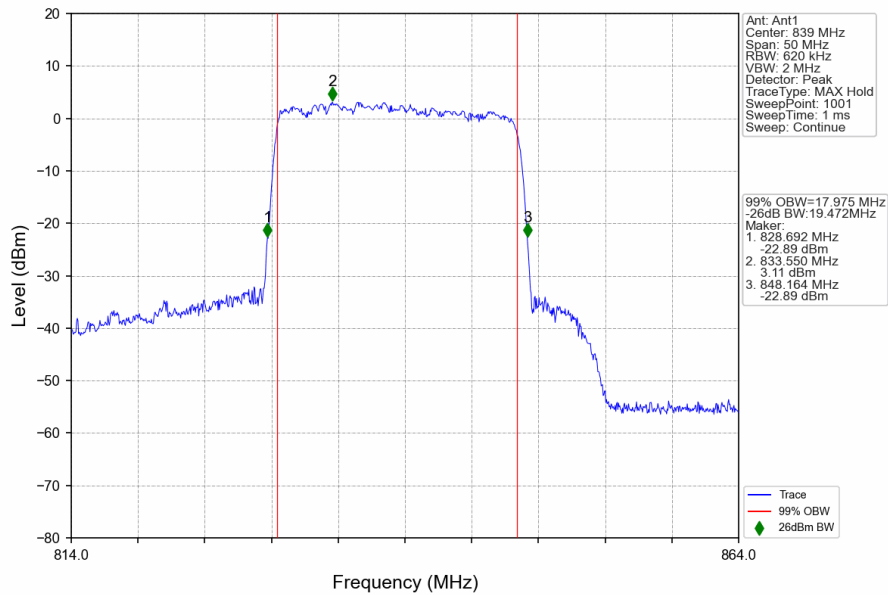
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM QPSK_834MHz_Outer_Full



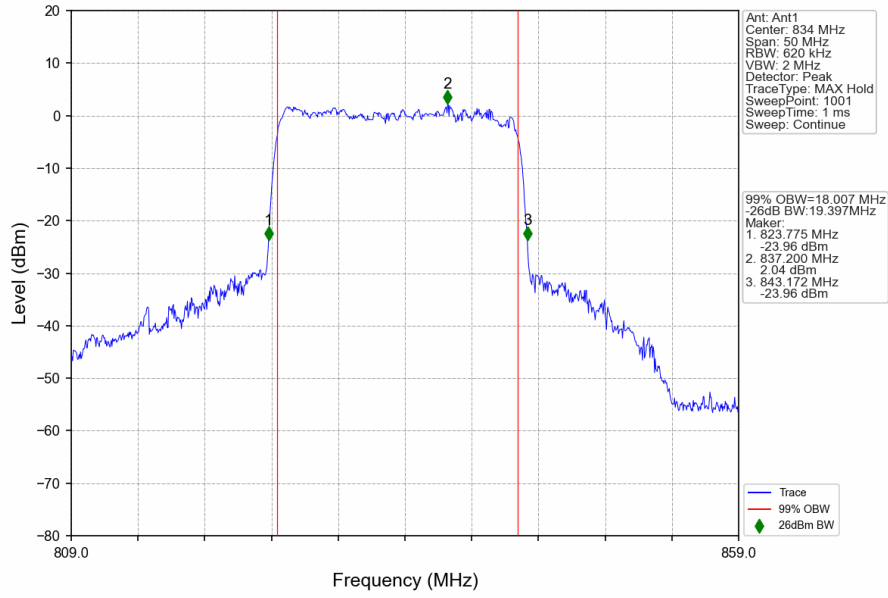
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM QPSK_836.5MHz_Outer_Full



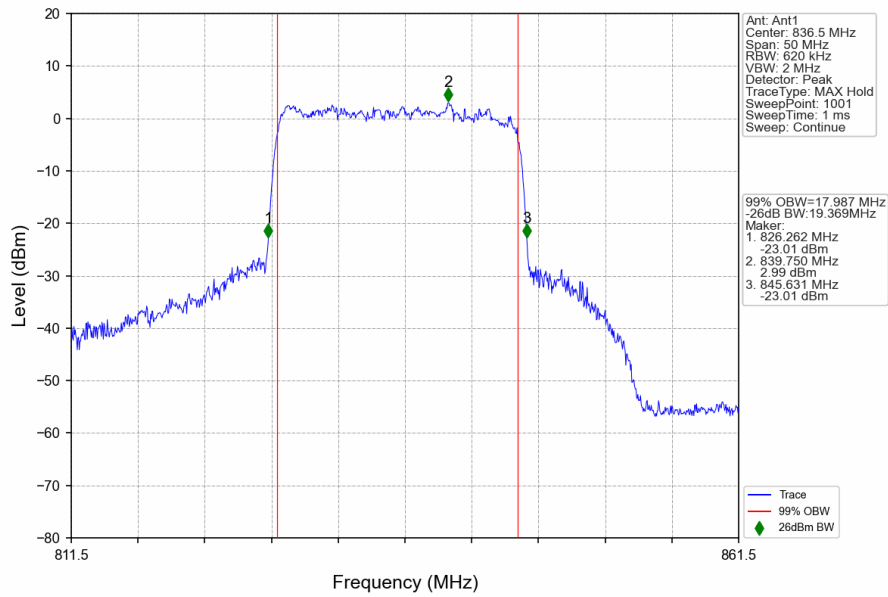
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM QPSK_839MHz_Outer_Full



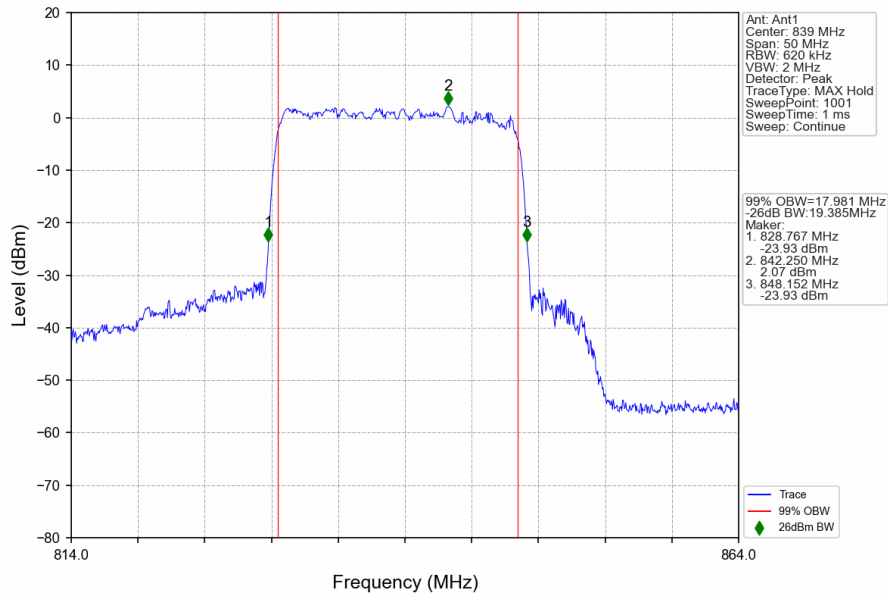
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 16 QAM_834MHz_Outer_Full



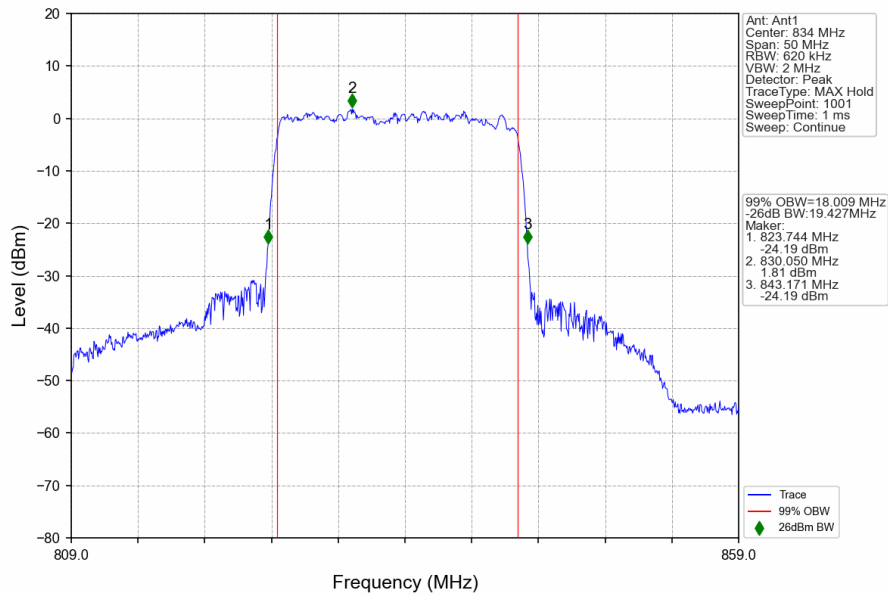
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 16 QAM_836.5MHz_Outer_Full



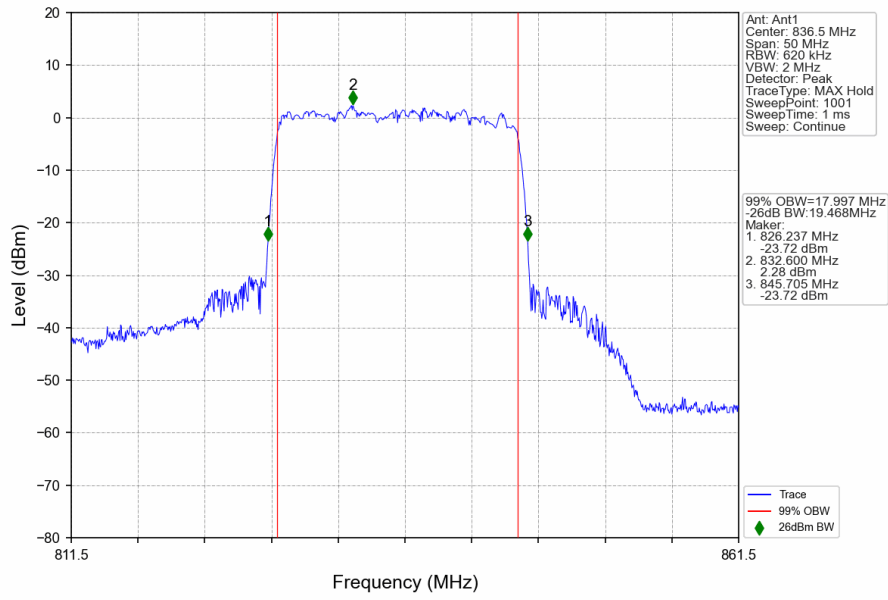
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 16 QAM_839MHz_Outer_Full



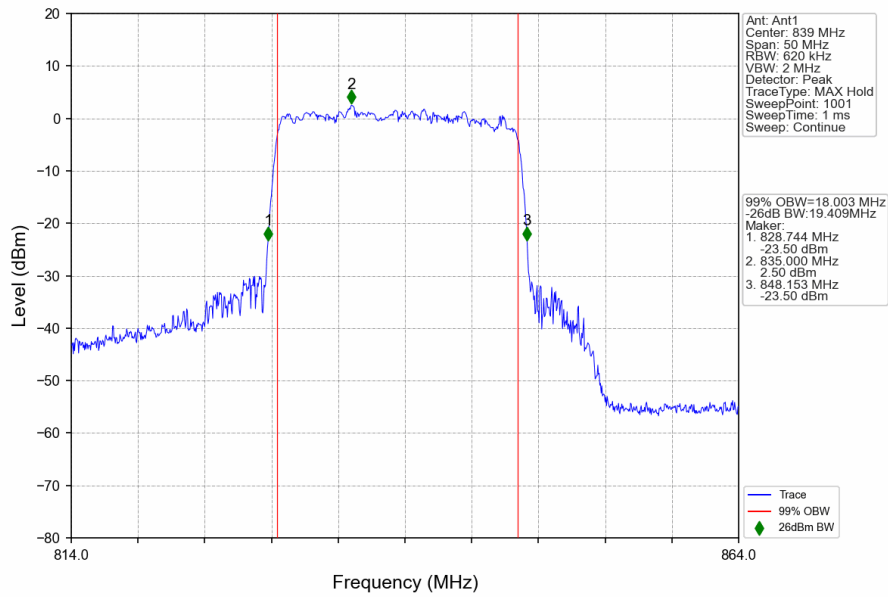
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 64 QAM_834MHz_Outer_Full



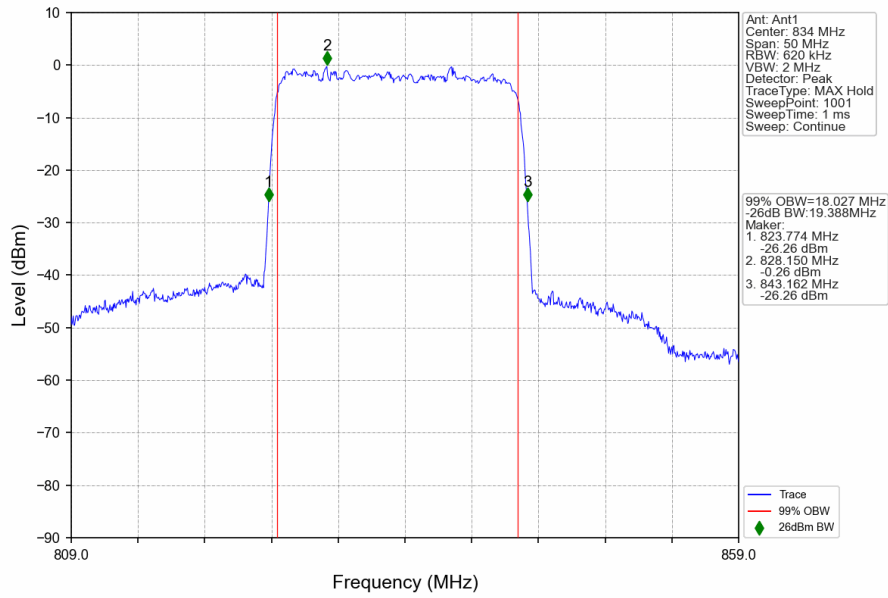
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 64 QAM_836.5MHz_Outer_Full



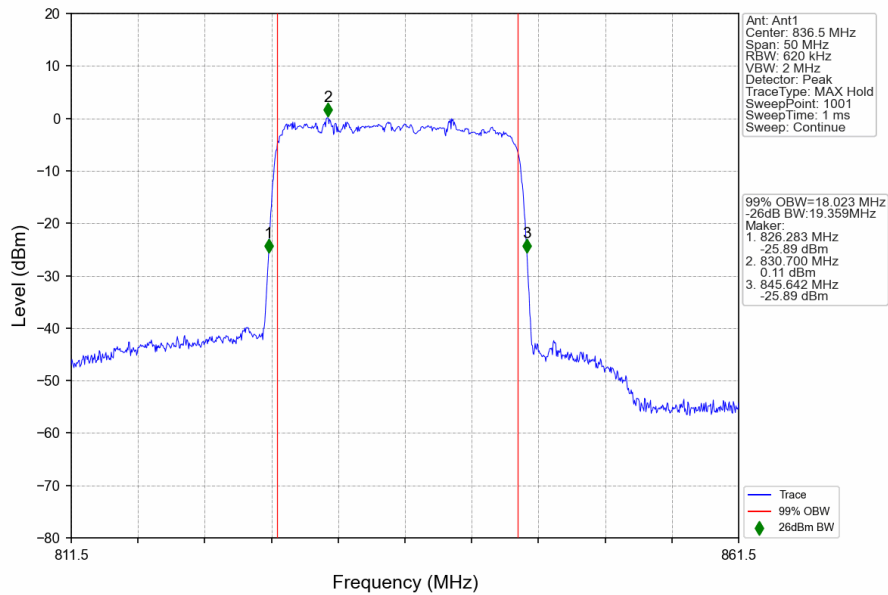
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 64 QAM_839MHz_Outer_Full



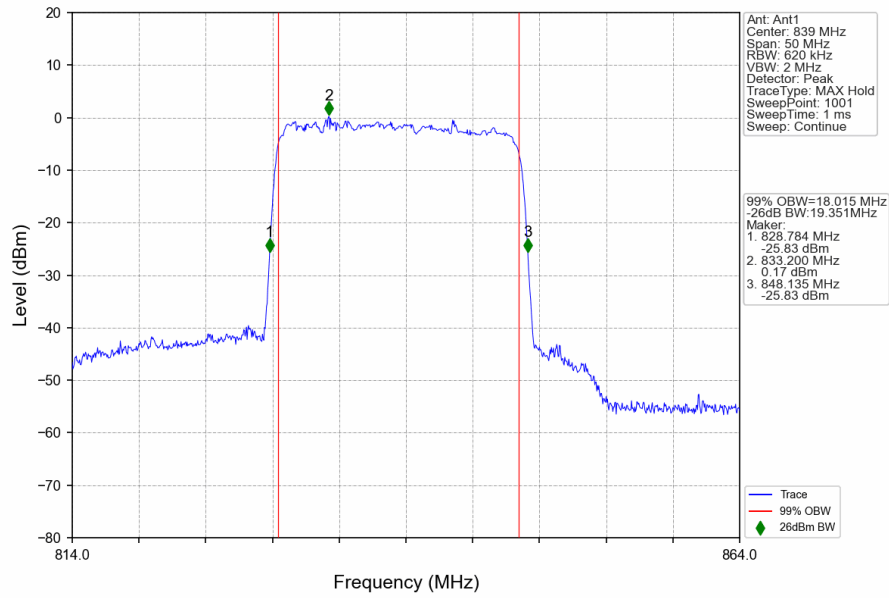
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 256 QAM_834MHz_Outer_Full



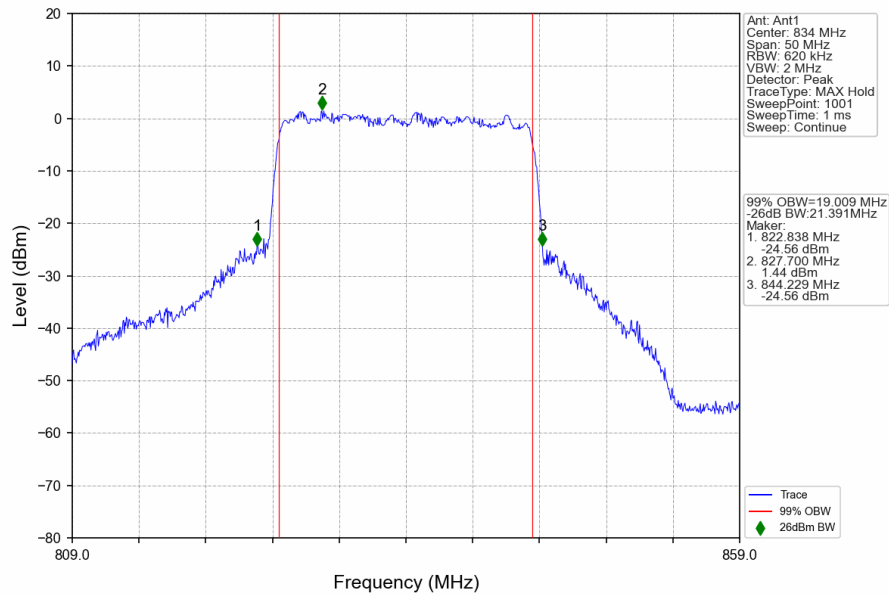
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 256 QAM_836.5MHz_Outer_Full



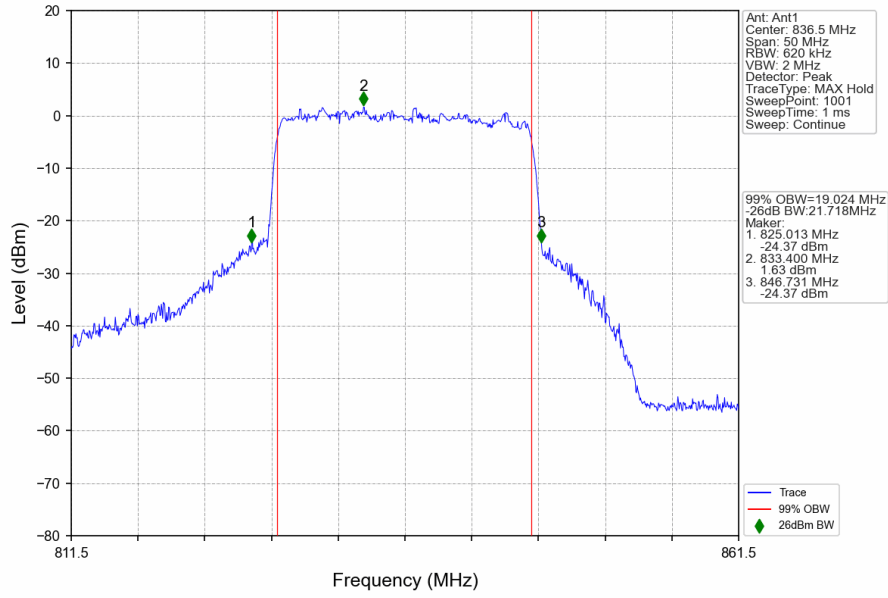
n5_15kHz_SISO_NTNV_20MHz_DFT-s-OFDM 256 QAM_839MHz_Outer_Full



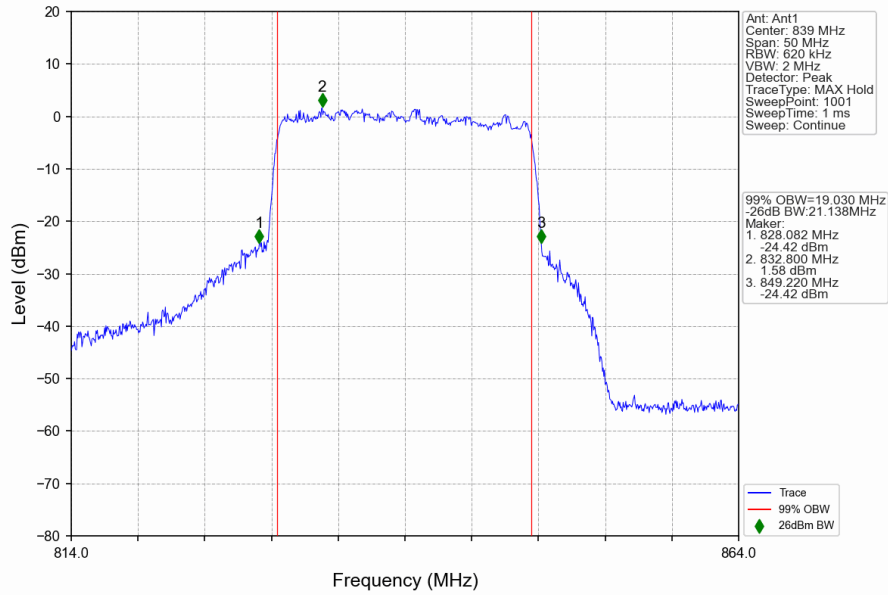
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM QPSK_834MHz_Outer_Full



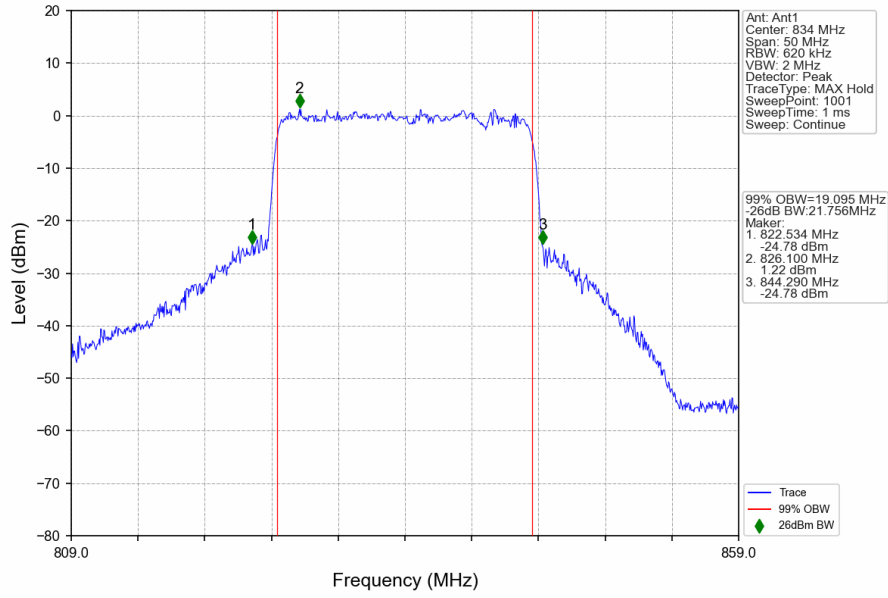
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM QPSK_836.5MHz_Outer_Full



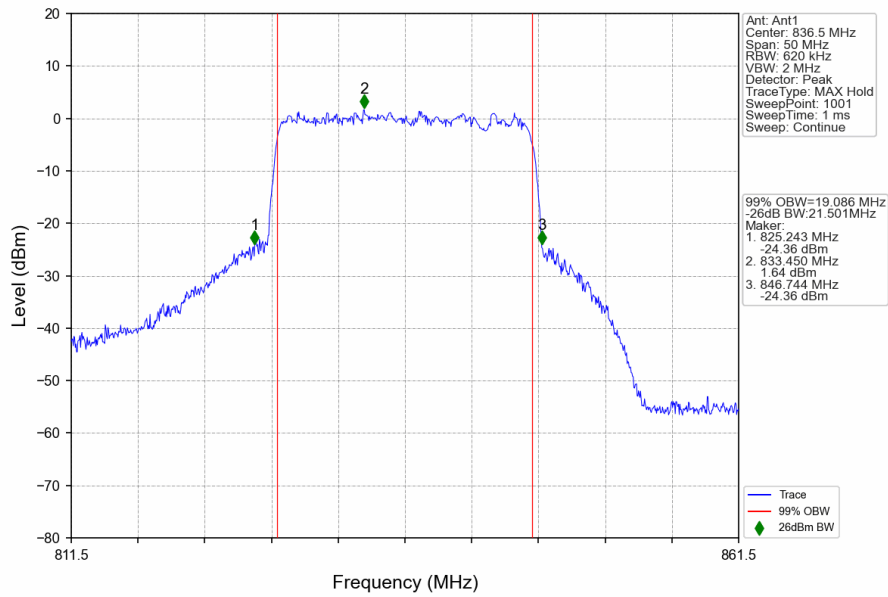
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM QPSK_839MHz_Outer_Full



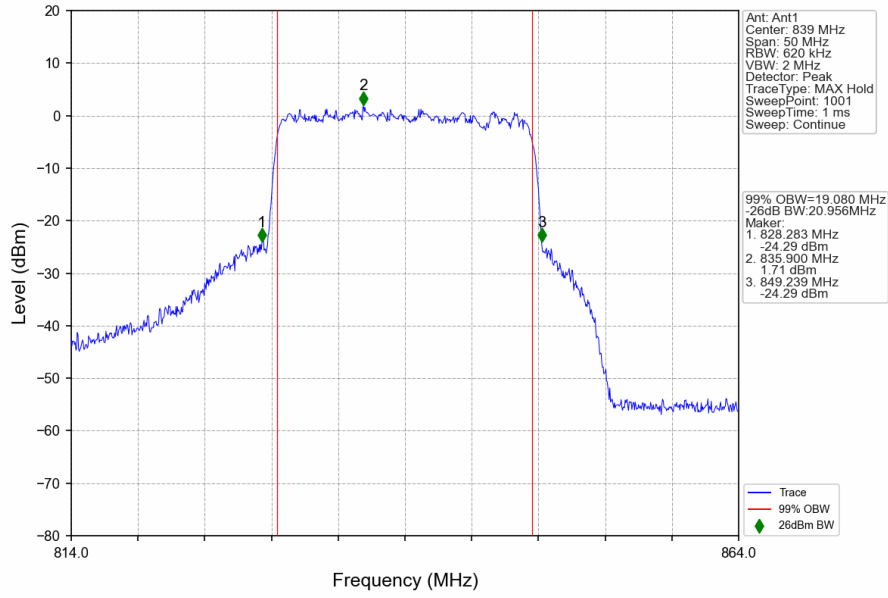
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 16 QAM_834MHz_Outer_Full



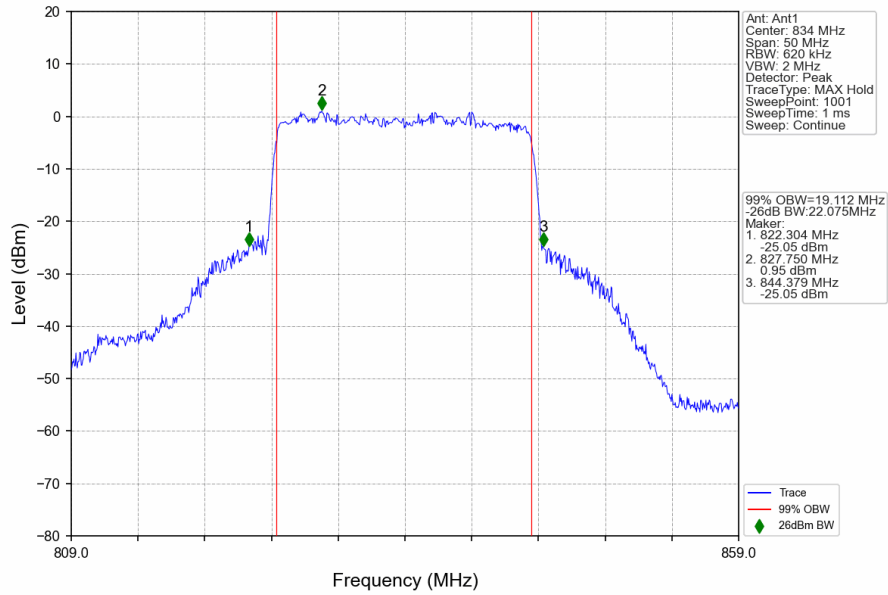
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 16 QAM_836.5MHz_Outer_Full



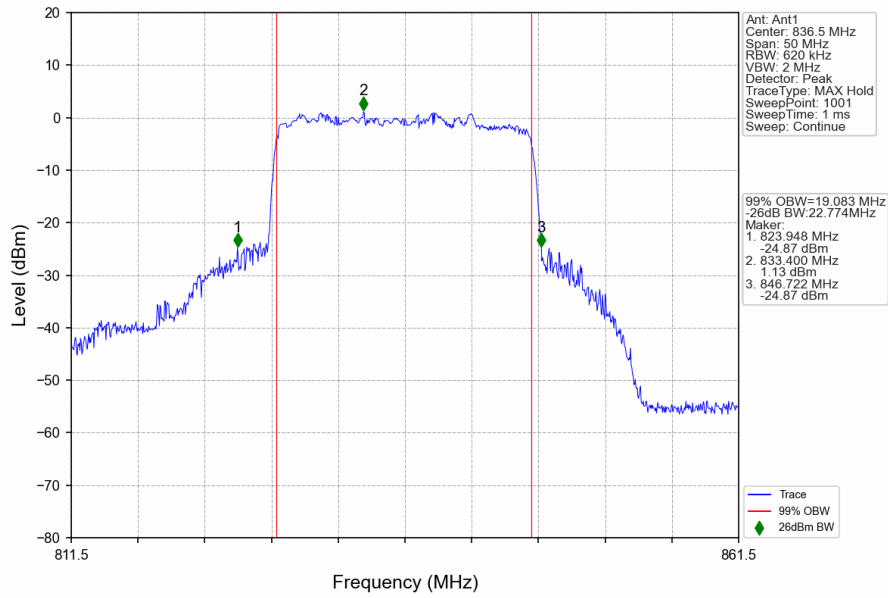
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 16 QAM_839MHz_Outer_Full



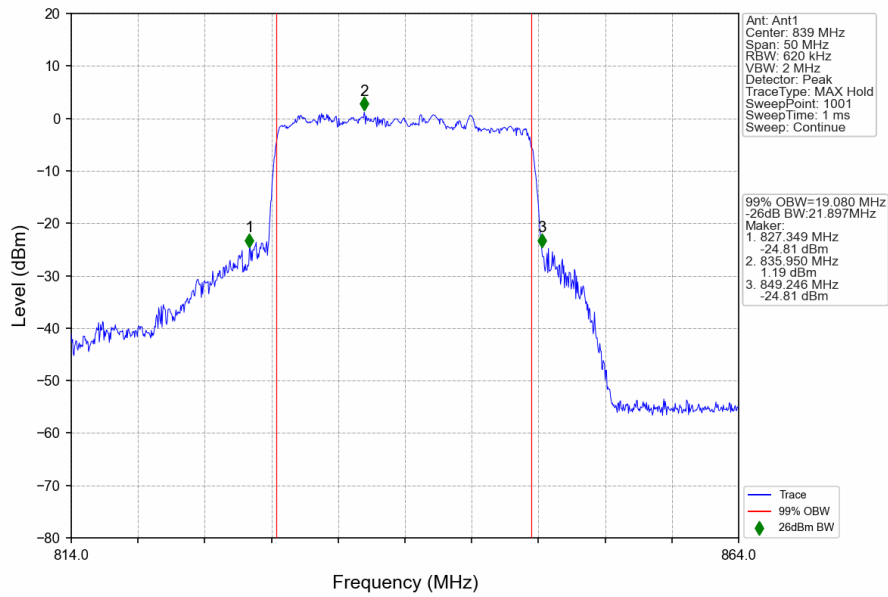
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_834MHz_Outer_Full



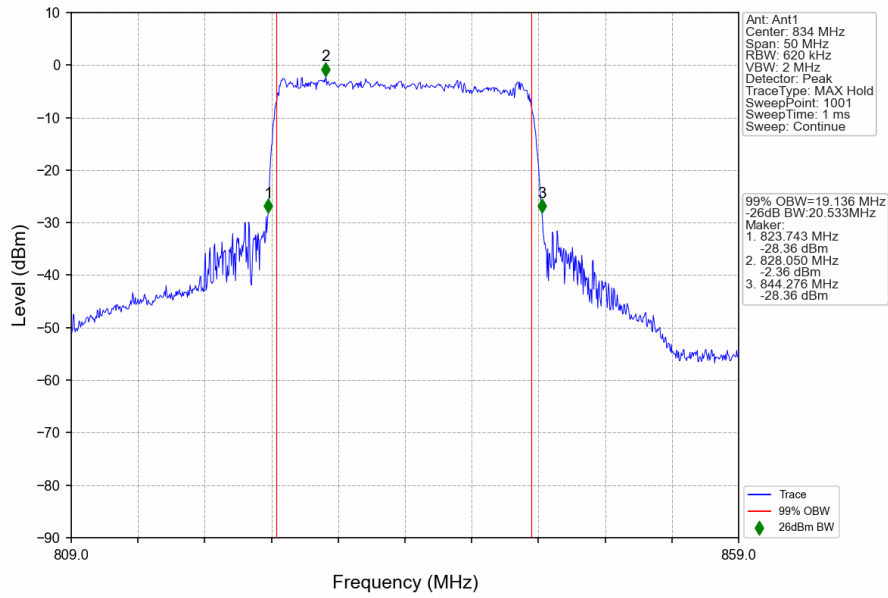
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_836.5MHz_Outer_Full



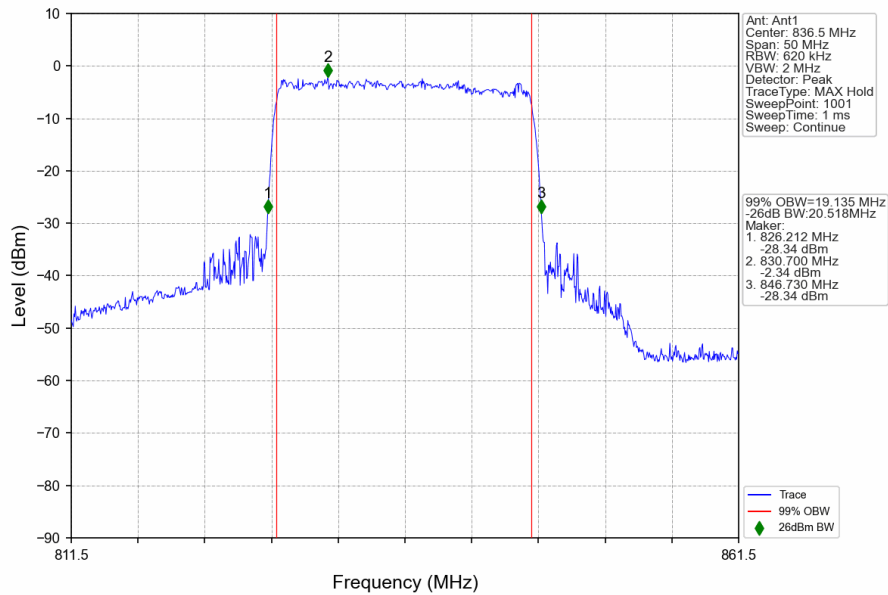
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_839MHz_Outer_Full



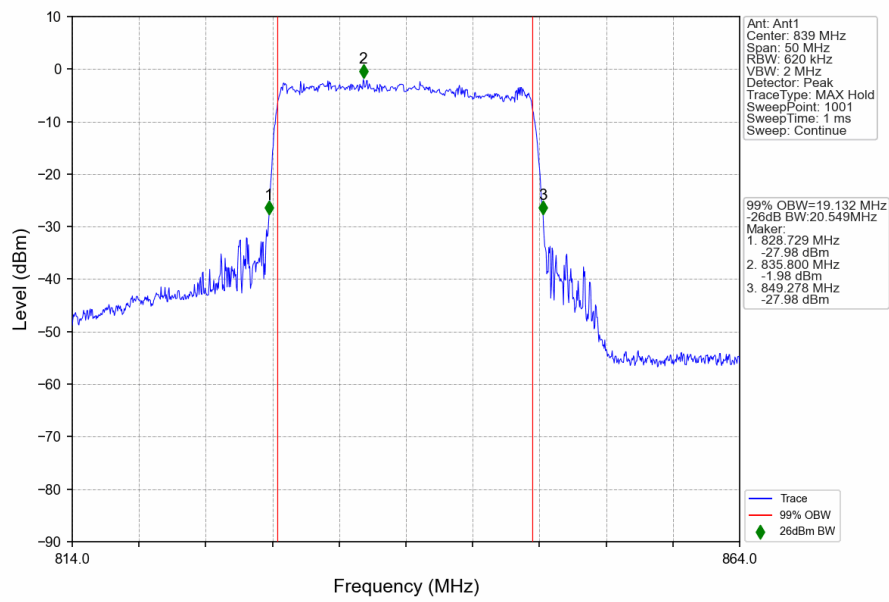
n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 256 QAM 834MHz_Outer_Full



n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 256 QAM 836.5MHz_Outer_Full



n5_15kHz_SISO_NTNV_20MHz_CP-OFDM 256 QAM 839MHz_Outer_Full



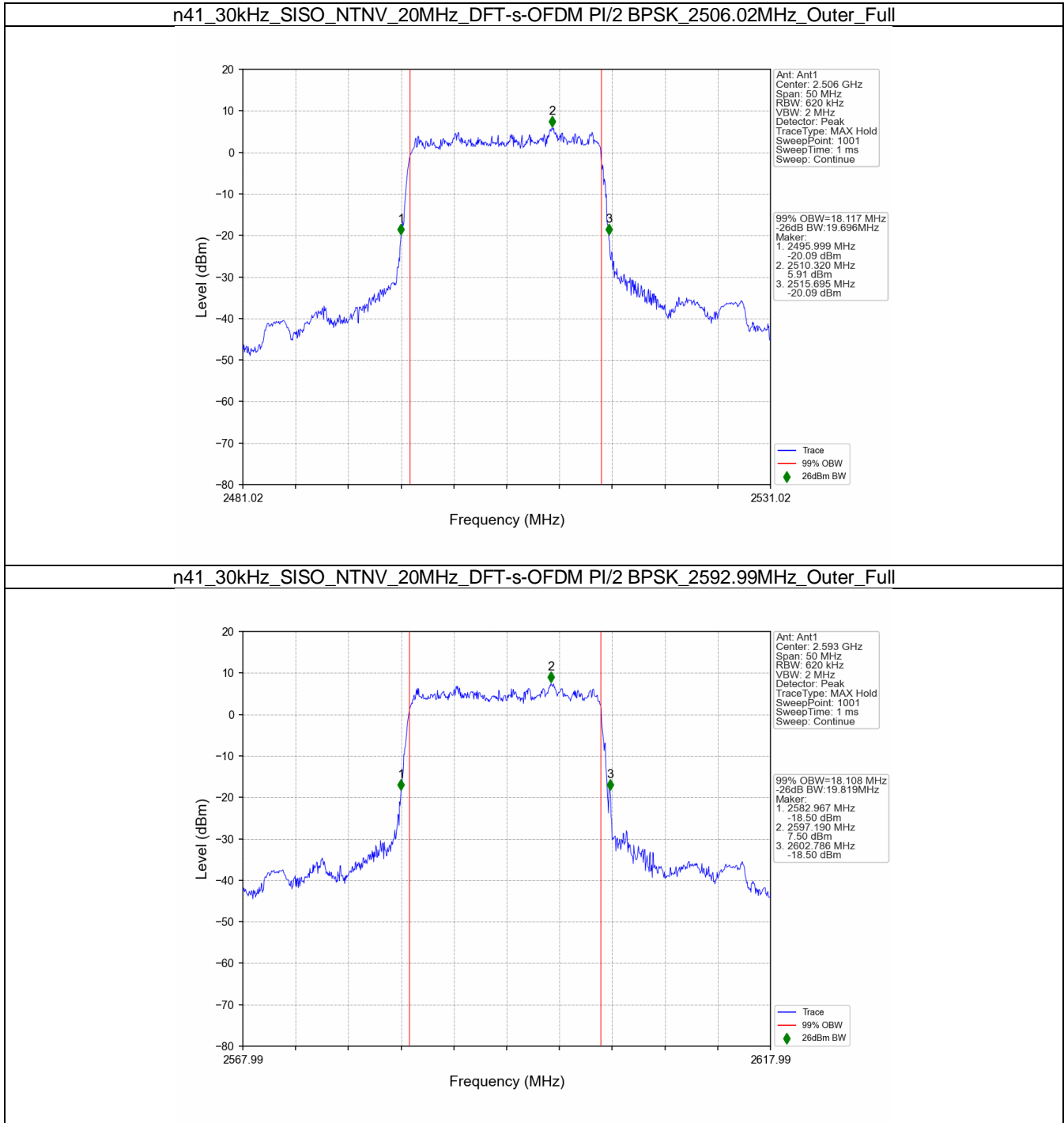
3. 99% & 26dB Bandwidth

3.1 30k_SISO_20MHz_NTNV

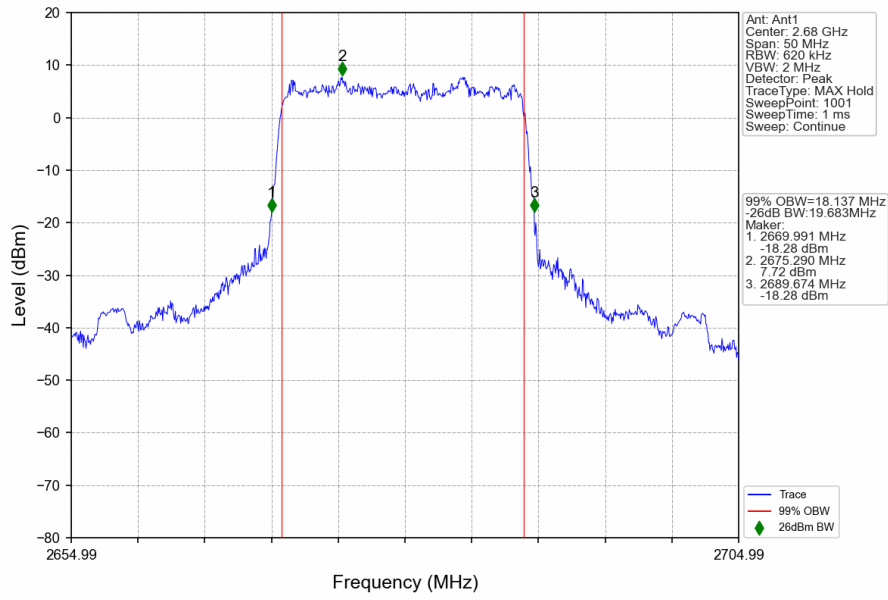
3.1.1 Test Result

5G NR n41 SCS=30kHz SISO 20MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	2506.02	Outer_Full	18.12	19.70	/	Pass
	2592.99	Outer_Full	18.11	19.82	/	Pass
	2679.99	Outer_Full	18.14	19.68	/	Pass
DFT-s-OFDM QPSK	2506.02	Outer_Full	18.11	19.67	/	Pass
	2592.99	Outer_Full	18.18	19.77	/	Pass
	2679.99	Outer_Full	18.10	19.83	/	Pass
DFT-s-OFDM 16 QAM	2506.02	Outer_Full	18.12	19.80	/	Pass
	2592.99	Outer_Full	18.11	19.70	/	Pass
	2679.99	Outer_Full	18.13	19.72	/	Pass
DFT-s-OFDM 64 QAM	2506.02	Outer_Full	18.10	19.67	/	Pass
	2592.99	Outer_Full	18.12	19.91	/	Pass
	2679.99	Outer_Full	18.12	19.78	/	Pass
DFT-s-OFDM 256 QAM	2506.02	Outer_Full	18.06	19.57	/	Pass
	2592.99	Outer_Full	18.06	19.70	/	Pass
	2679.99	Outer_Full	18.05	19.62	/	Pass
CP-OFDM QPSK	2506.02	Outer_Full	18.41	20.28	/	Pass
	2592.99	Outer_Full	18.43	20.52	/	Pass
	2679.99	Outer_Full	18.41	21.08	/	Pass
CP-OFDM 16 QAM	2506.02	Outer_Full	18.43	20.89	/	Pass
	2592.99	Outer_Full	18.42	20.33	/	Pass
	2679.99	Outer_Full	18.43	21.01	/	Pass
CP-OFDM 64 QAM	2506.02	Outer_Full	18.41	23.36	/	Pass
	2592.99	Outer_Full	18.48	24.32	/	Pass
	2679.99	Outer_Full	18.47	22.88	/	Pass
CP-OFDM 256 QAM	2506.02	Outer_Full	18.35	20.08	/	Pass
	2592.99	Outer_Full	18.37	20.16	/	Pass
	2679.99	Outer_Full	18.35	20.04	/	Pass

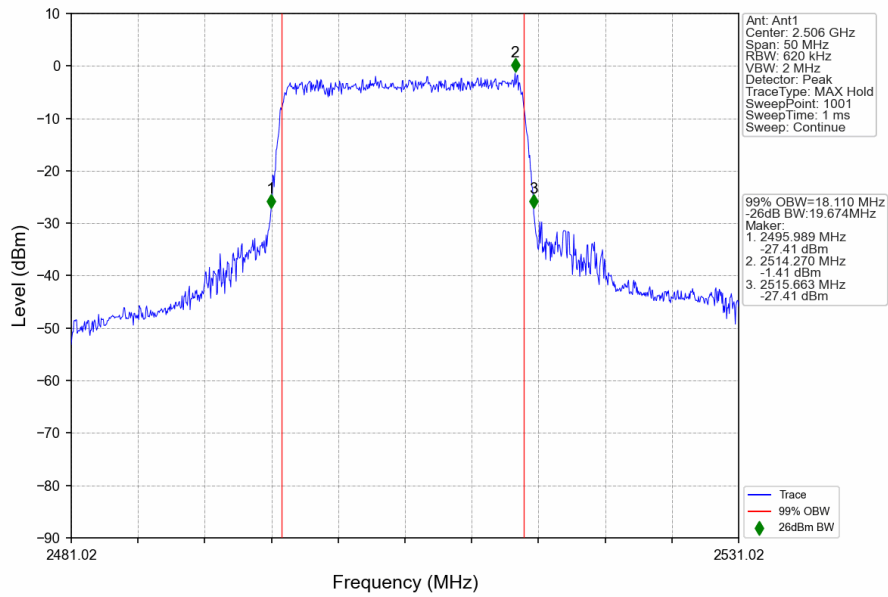
3.1.2 Test Graph



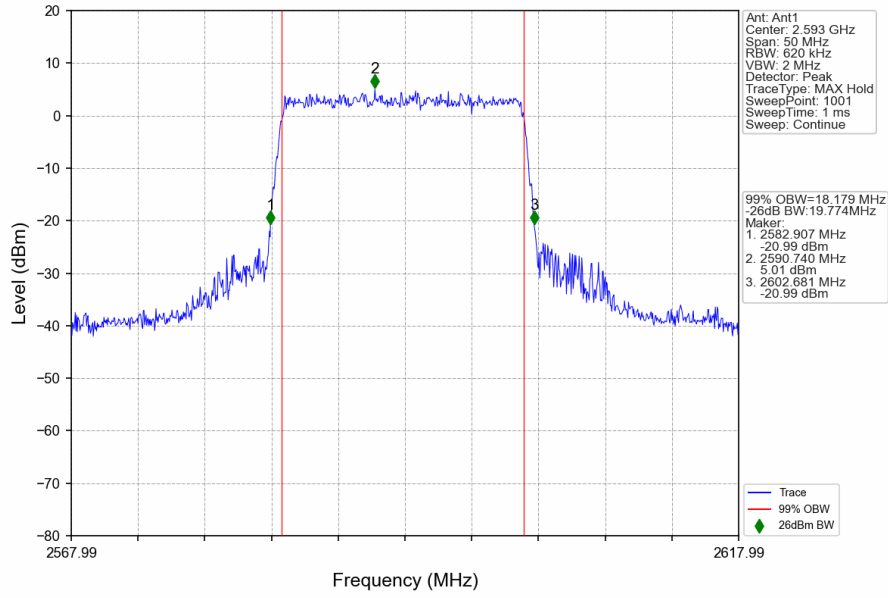
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM PI/2 BPSK_2679.99MHz_Outer_Full



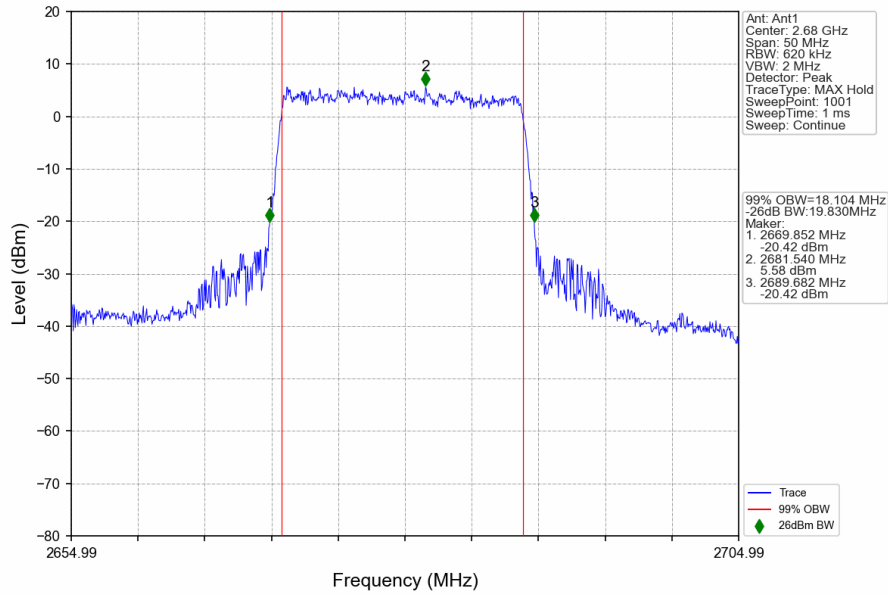
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM QPSK_2506.02MHz_Outer_Full



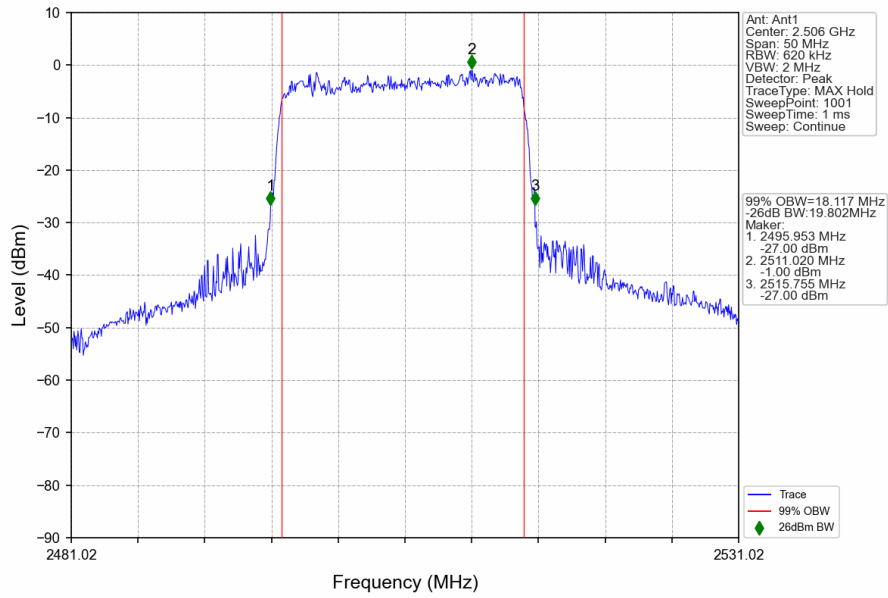
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM QPSK_2592.99MHz_Outer_Full



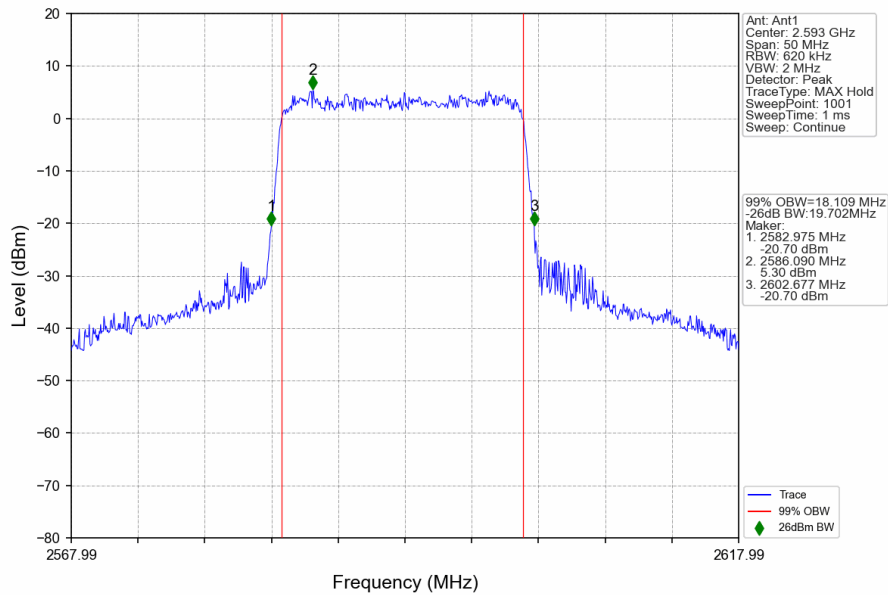
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM QPSK_2679.99MHz_Outer_Full



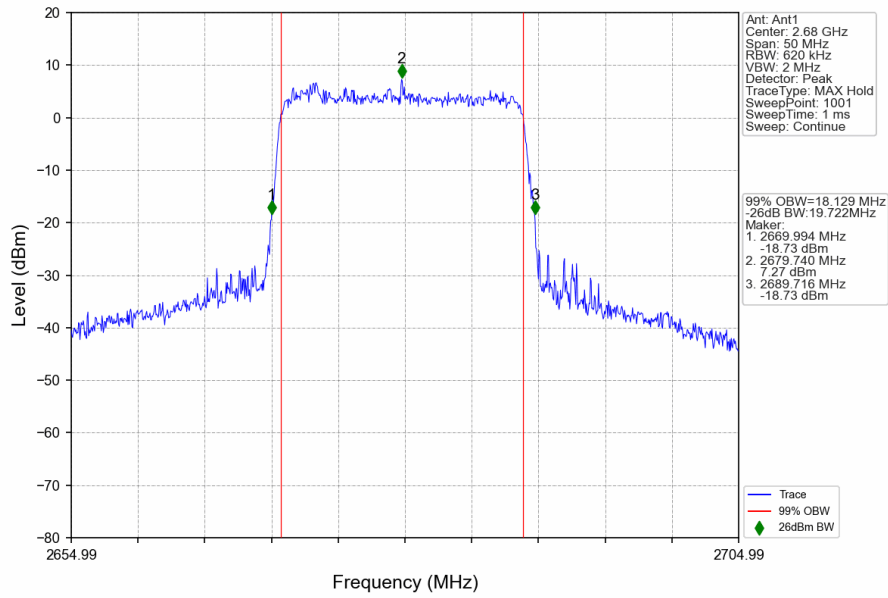
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM_16 QAM_2506.02MHz_Outer_Full



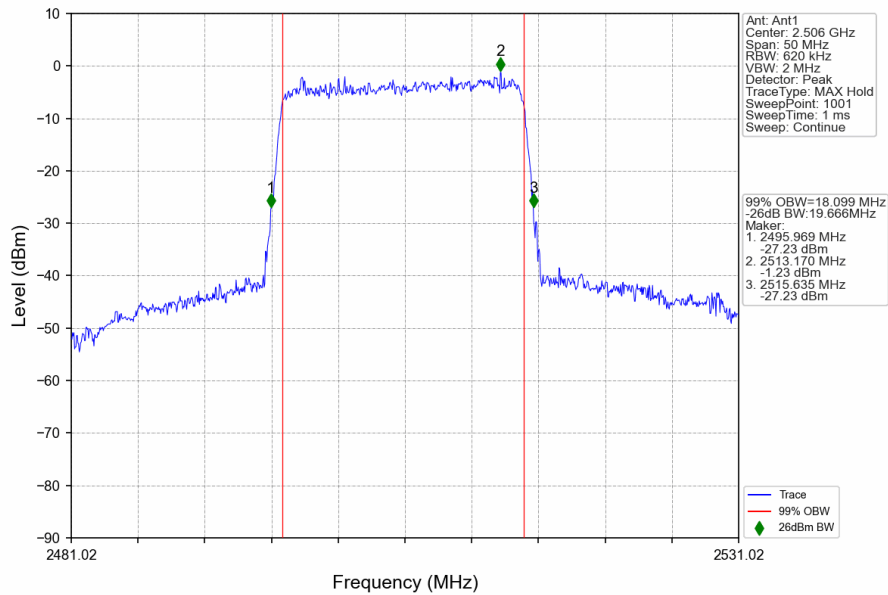
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM_16 QAM_2592.99MHz_Outer_Full



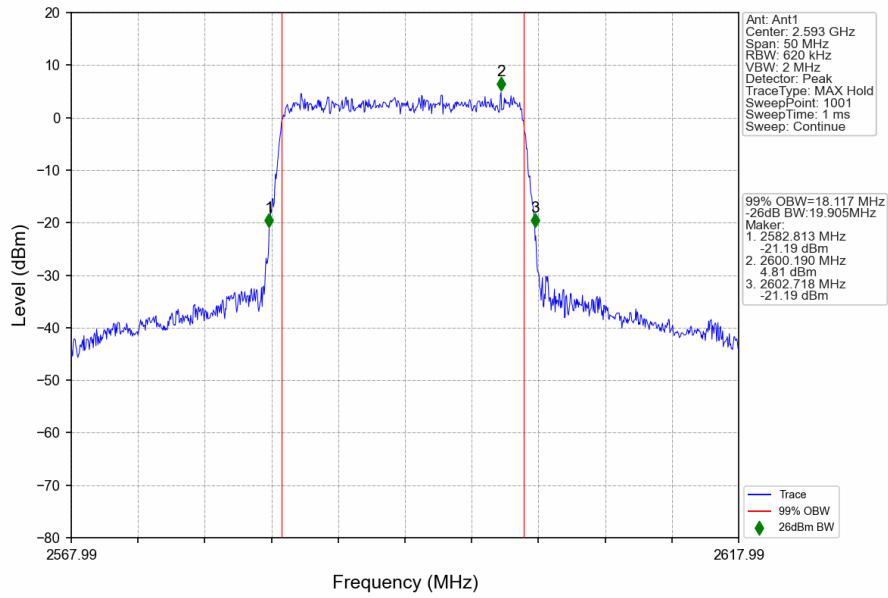
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 16 QAM_2679.99MHz_Outer_Full



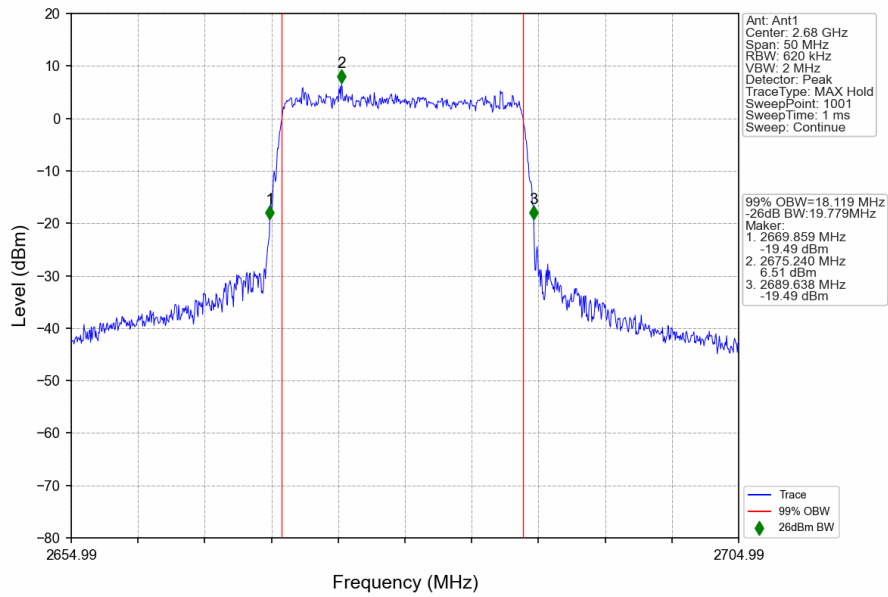
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 64 QAM_2506.02MHz_Outer_Full



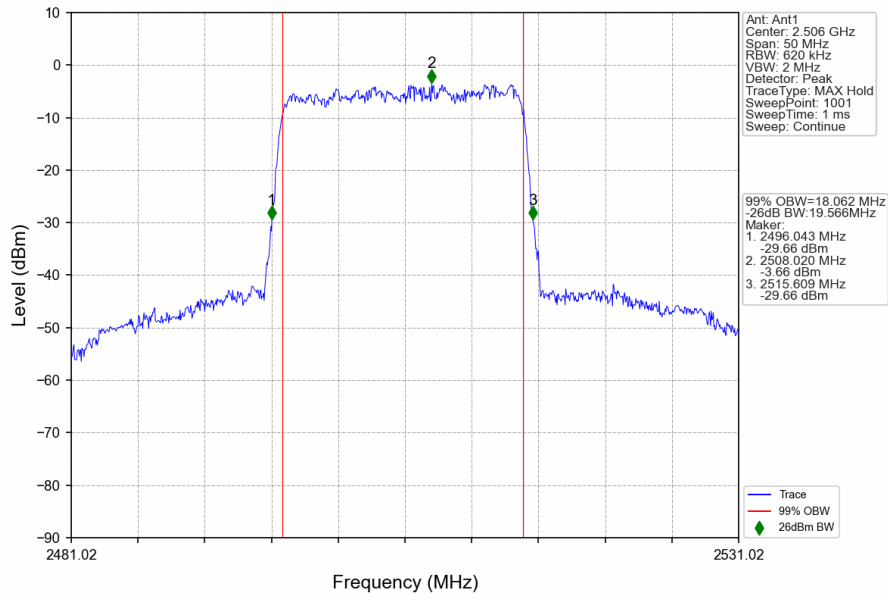
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 64 QAM_2592.99MHz_Outer_Full



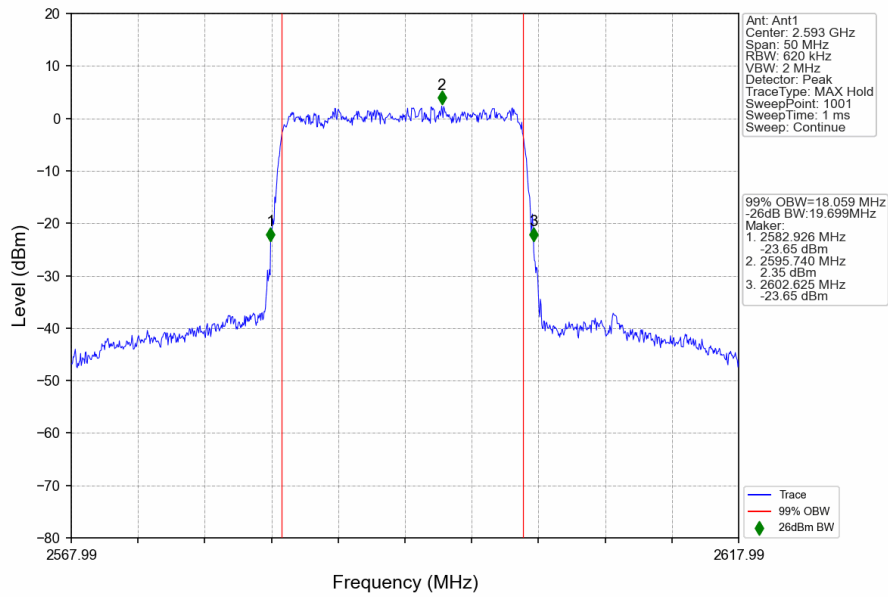
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 64 QAM_2679.99MHz_Outer_Full



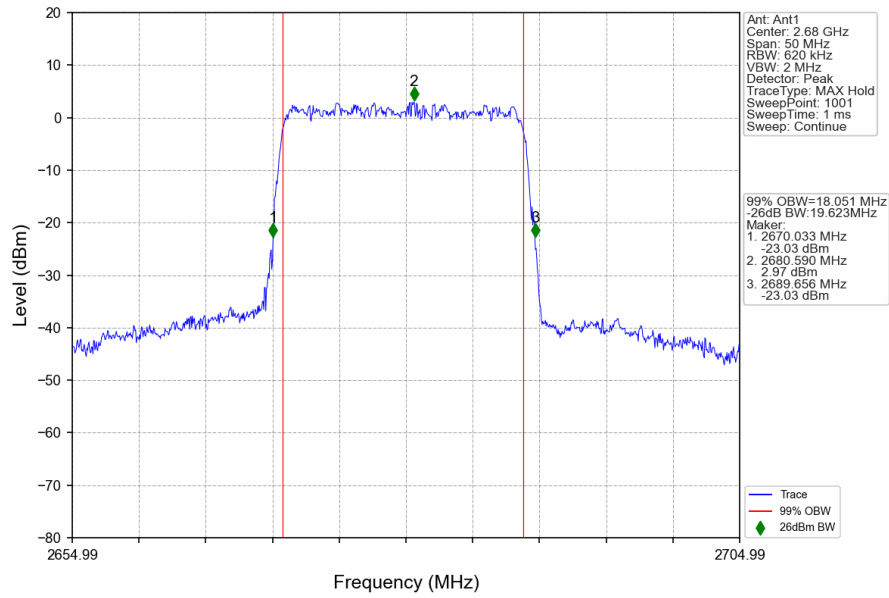
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 256 QAM_2506.02MHz_Outer_Full



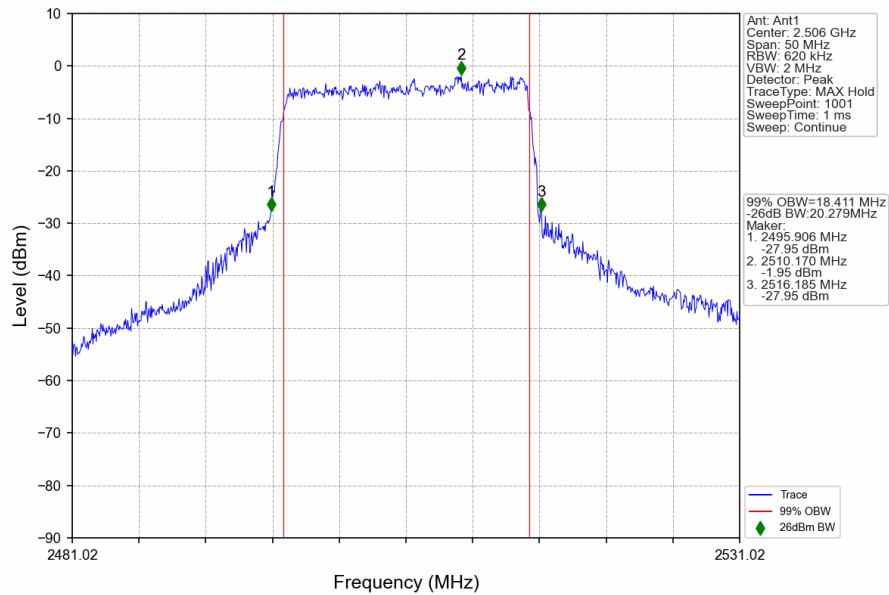
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 256 QAM_2592.99MHz_Outer_Full



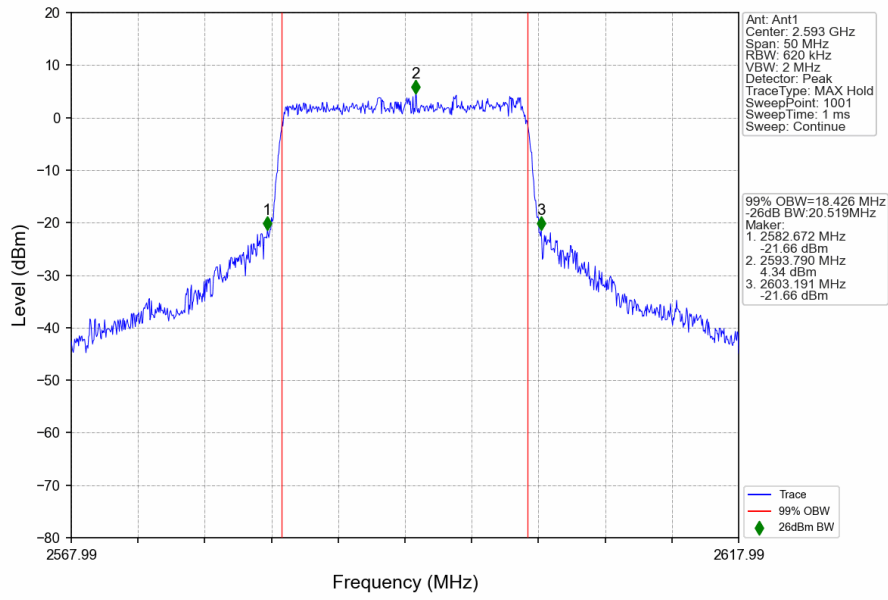
n41_30kHz_SISO_NTNV_20MHz_DFT-s-OFDM 256 QAM 2679.99MHz_Outer_Full



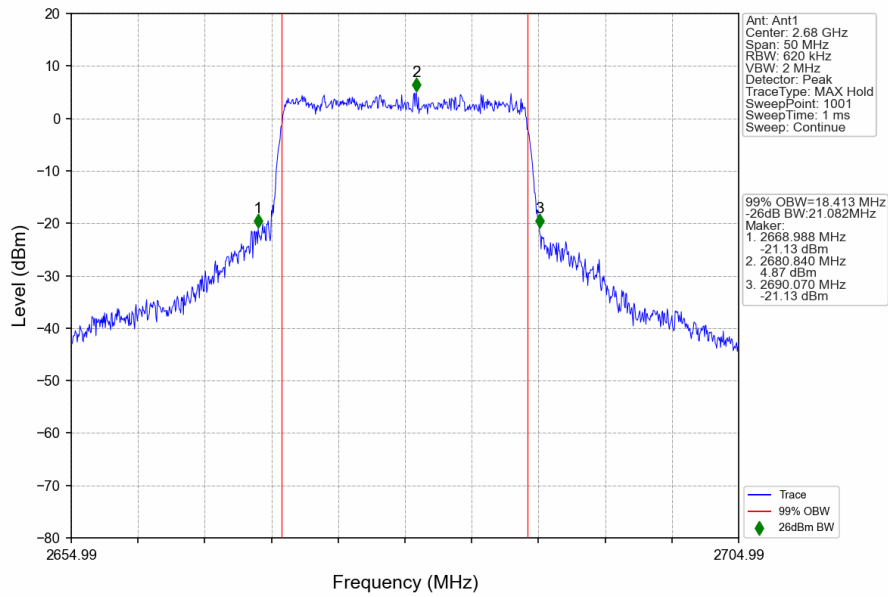
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM QPSK 2506.02MHz_Outer_Full



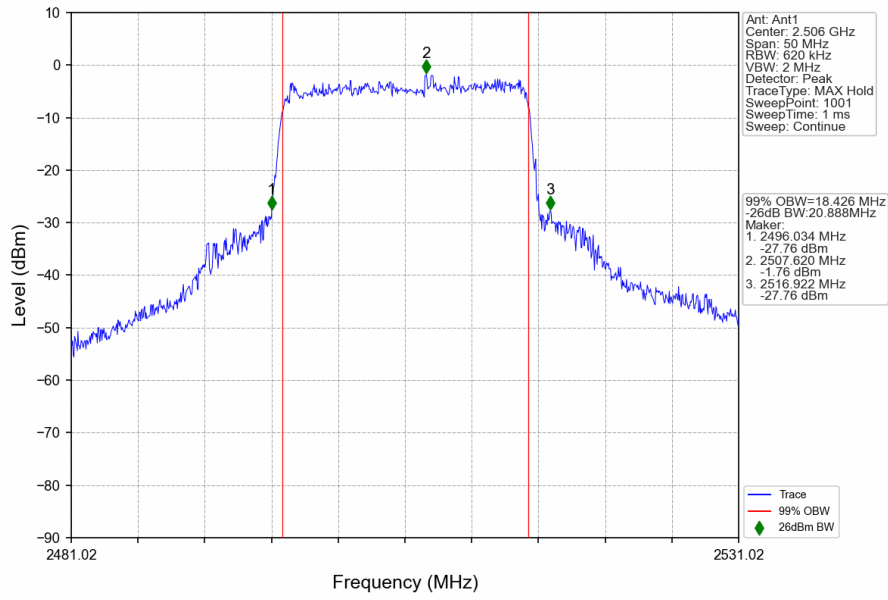
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM QPSK_2592.99MHz_Outer_Full



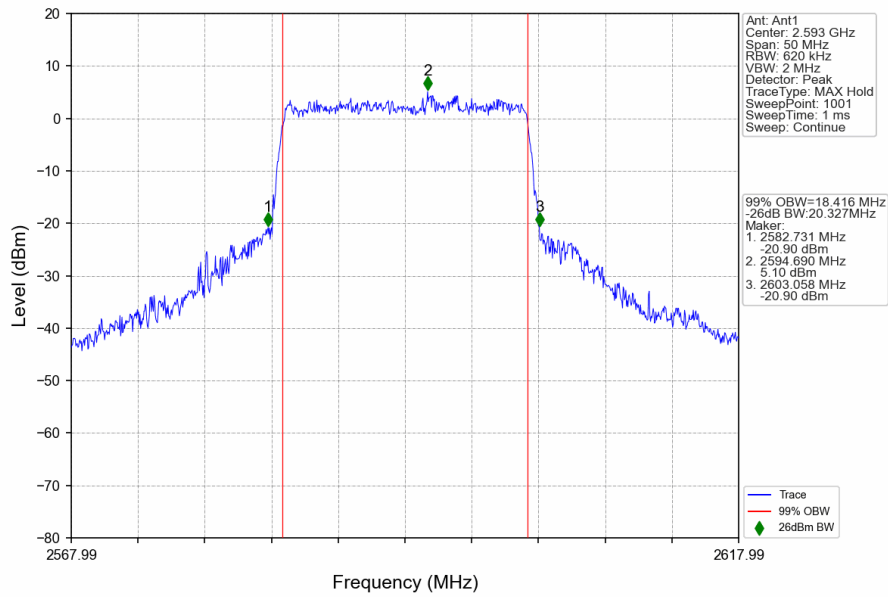
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM QPSK_2679.99MHz_Outer_Full



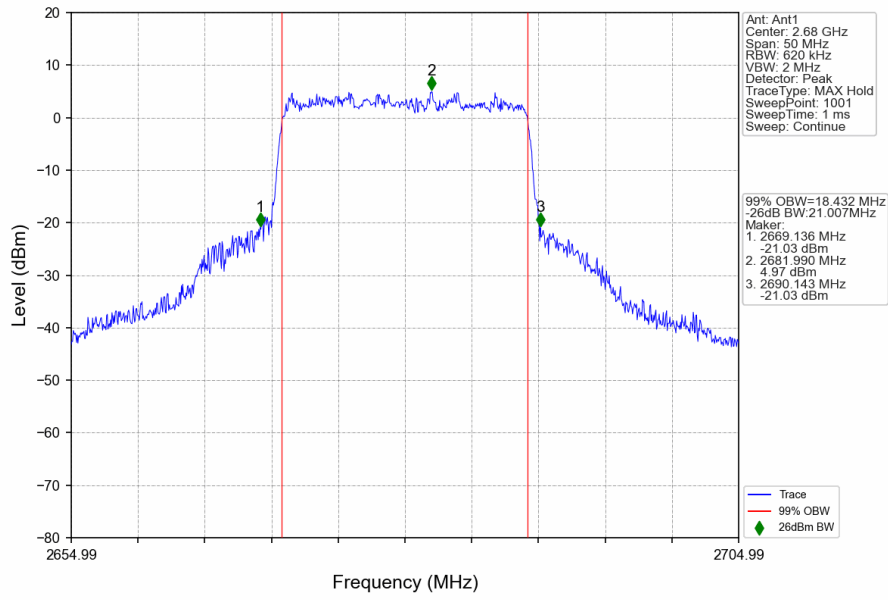
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM_16 QAM_2506.02MHz_Outer_Full



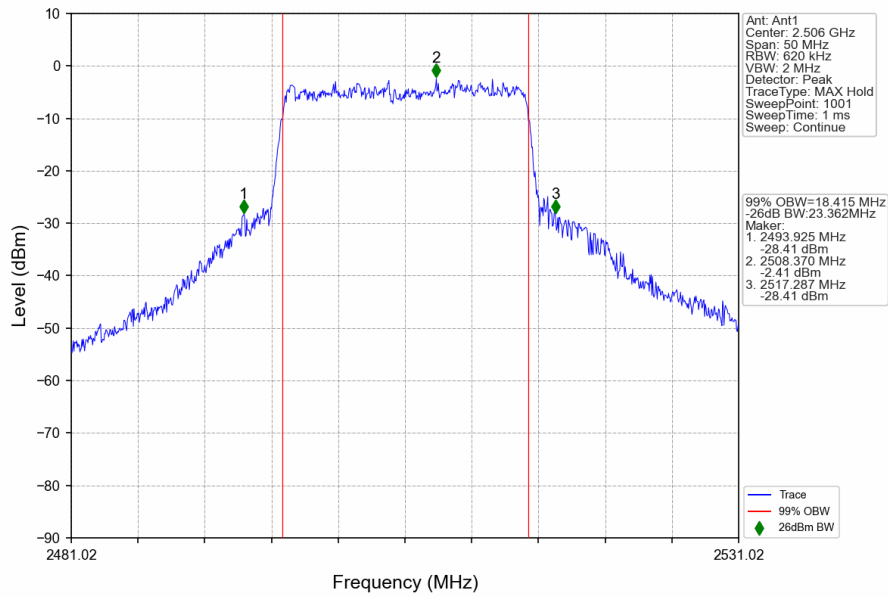
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM_16 QAM_2592.99MHz_Outer_Full



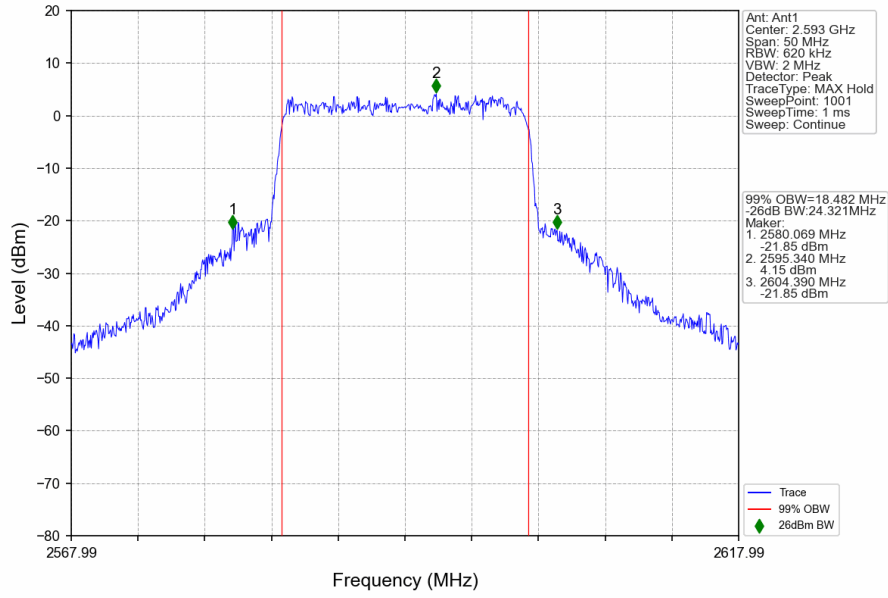
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 16 QAM_2679.99MHz_Outer_Full



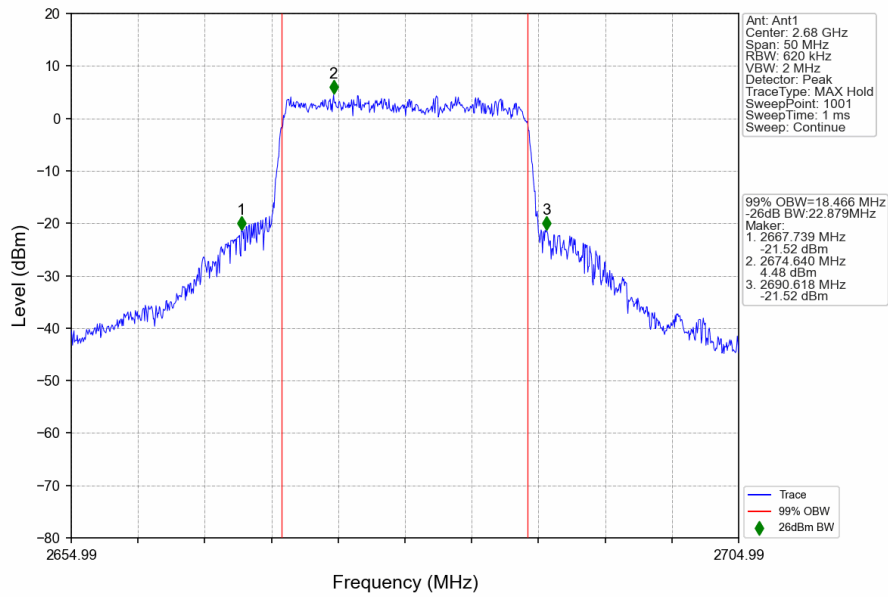
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_2506.02MHz_Outer_Full



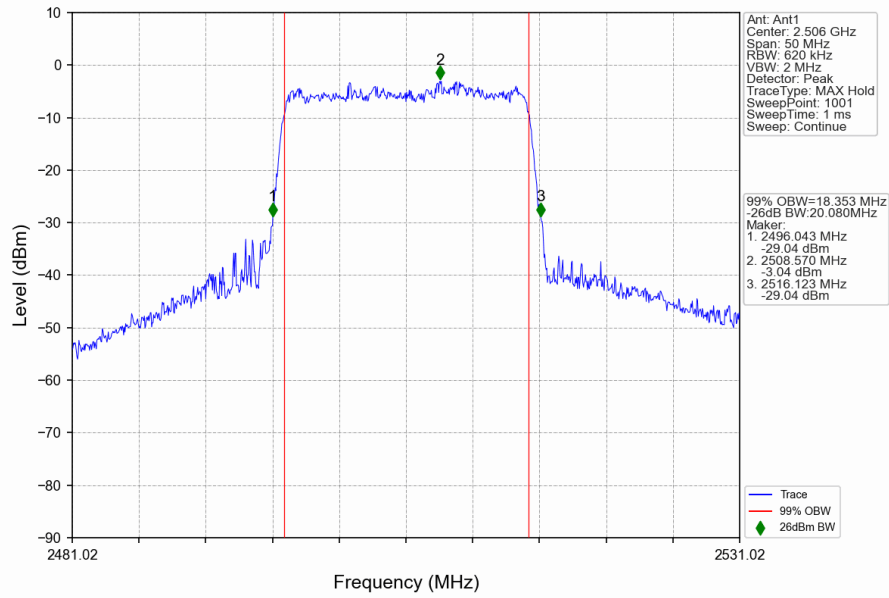
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_2592.99MHz_Outer_Full



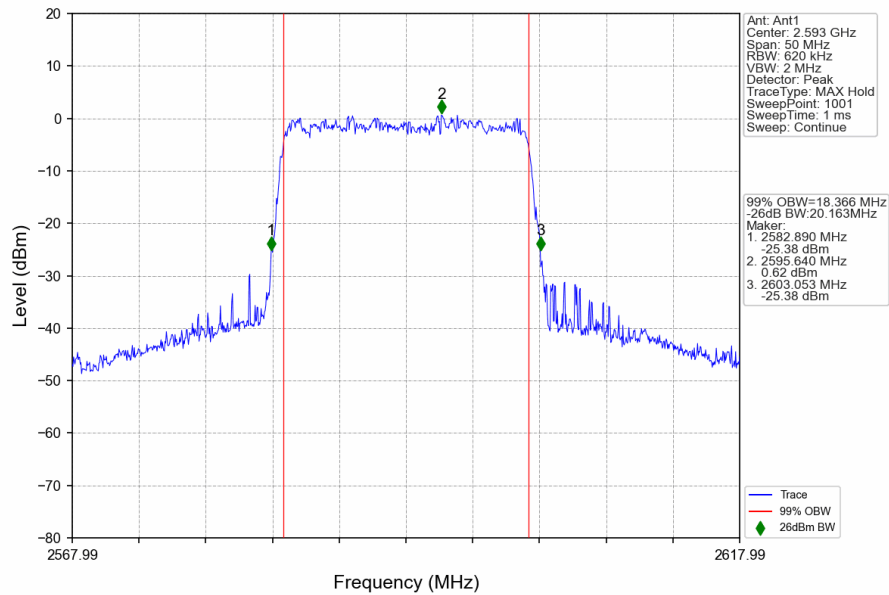
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 64 QAM_2679.99MHz_Outer_Full



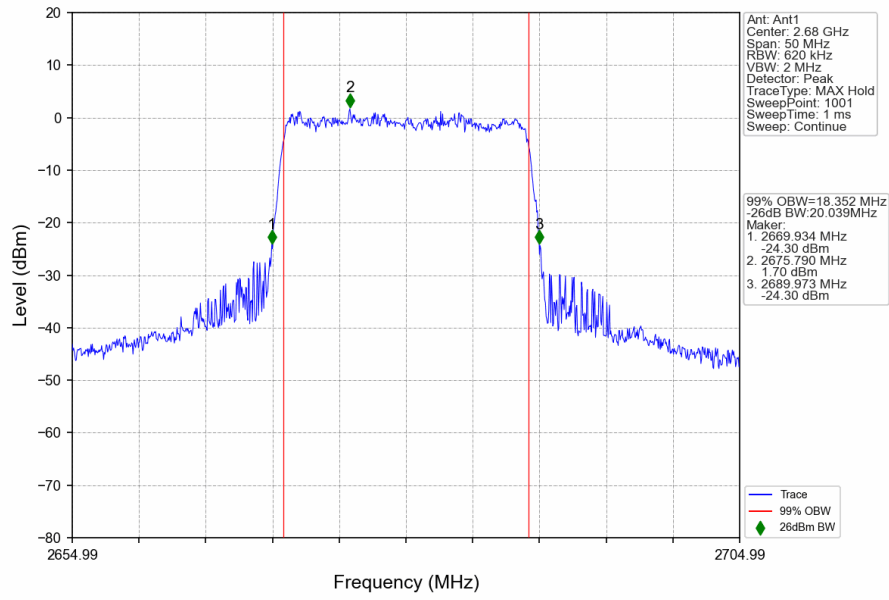
n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 256 QAM 2506.02MHz_Outer_Full



n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 256 QAM 2592.99MHz_Outer_Full



n41_30kHz_SISO_NTNV_20MHz_CP-OFDM 256 QAM 2679.99MHz_Outer_Full

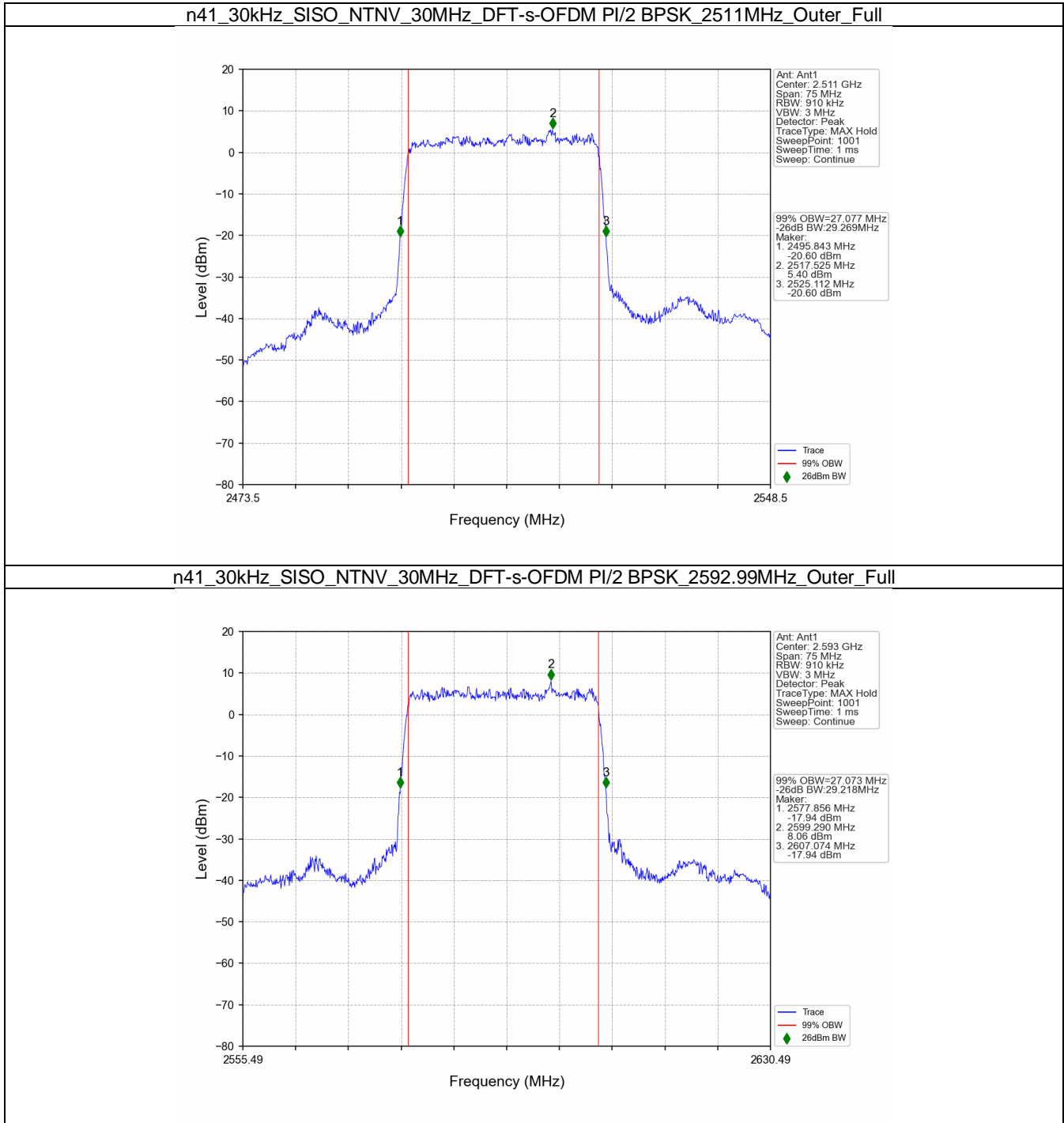


3.2 30k_SISO_30MHz_NTNV

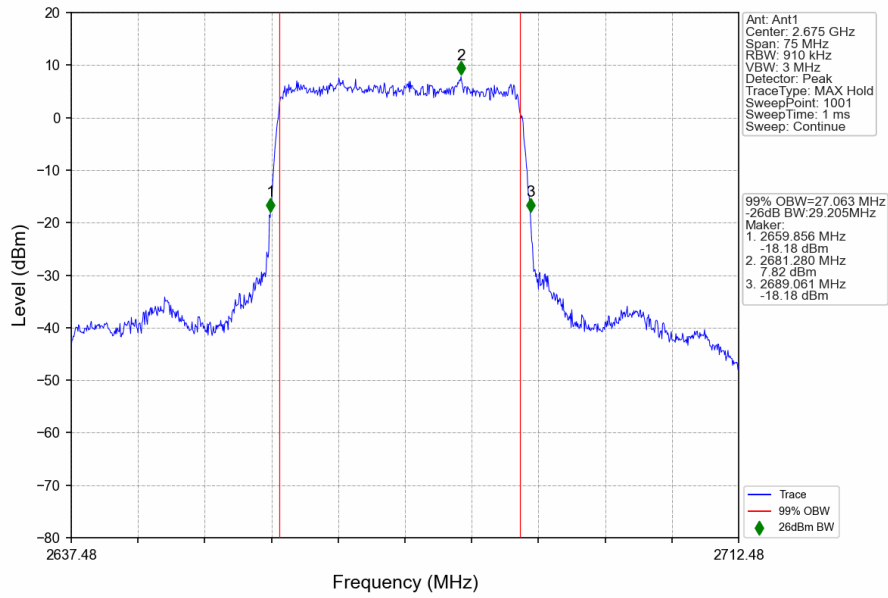
3.2.1 Test Result

5G NR n41 SCS=30kHz SISO 30MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	2511	Outer_Full	27.08	29.27	/	Pass
	2592.99	Outer_Full	27.07	29.22	/	Pass
	2674.98	Outer_Full	27.06	29.20	/	Pass
DFT-s-OFDM QPSK	2511	Outer_Full	27.10	29.13	/	Pass
	2592.99	Outer_Full	27.18	29.20	/	Pass
	2674.98	Outer_Full	27.17	29.19	/	Pass
DFT-s-OFDM 16 QAM	2511	Outer_Full	27.11	29.07	/	Pass
	2592.99	Outer_Full	27.16	29.17	/	Pass
	2674.98	Outer_Full	27.15	29.25	/	Pass
DFT-s-OFDM 64 QAM	2511	Outer_Full	27.14	29.25	/	Pass
	2592.99	Outer_Full	27.22	29.18	/	Pass
	2674.98	Outer_Full	27.17	29.23	/	Pass
DFT-s-OFDM 256 QAM	2511	Outer_Full	27.16	29.22	/	Pass
	2592.99	Outer_Full	27.14	29.23	/	Pass
	2674.98	Outer_Full	27.19	29.15	/	Pass
CP-OFDM QPSK	2511	Outer_Full	28.18	30.18	/	Pass
	2592.99	Outer_Full	28.13	30.15	/	Pass
	2674.98	Outer_Full	28.07	30.21	/	Pass
CP-OFDM 16 QAM	2511	Outer_Full	28.14	30.39	/	Pass
	2592.99	Outer_Full	28.15	30.27	/	Pass
	2674.98	Outer_Full	28.17	30.42	/	Pass
CP-OFDM 64 QAM	2511	Outer_Full	28.07	30.40	/	Pass
	2592.99	Outer_Full	28.11	30.73	/	Pass
	2674.98	Outer_Full	28.09	31.00	/	Pass
CP-OFDM 256 QAM	2511	Outer_Full	28.13	30.22	/	Pass
	2592.99	Outer_Full	28.14	30.25	/	Pass
	2674.98	Outer_Full	28.11	30.16	/	Pass

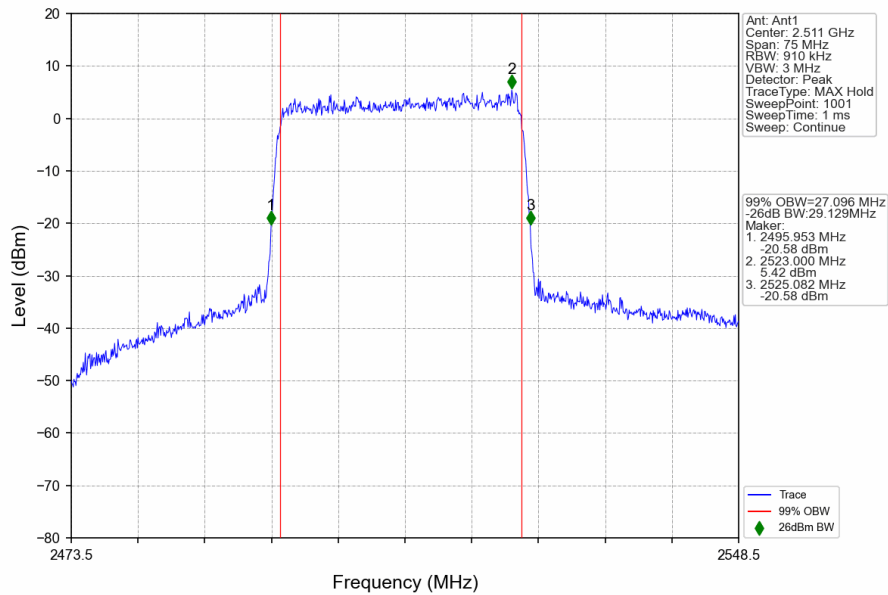
3.2.2 Test Graph



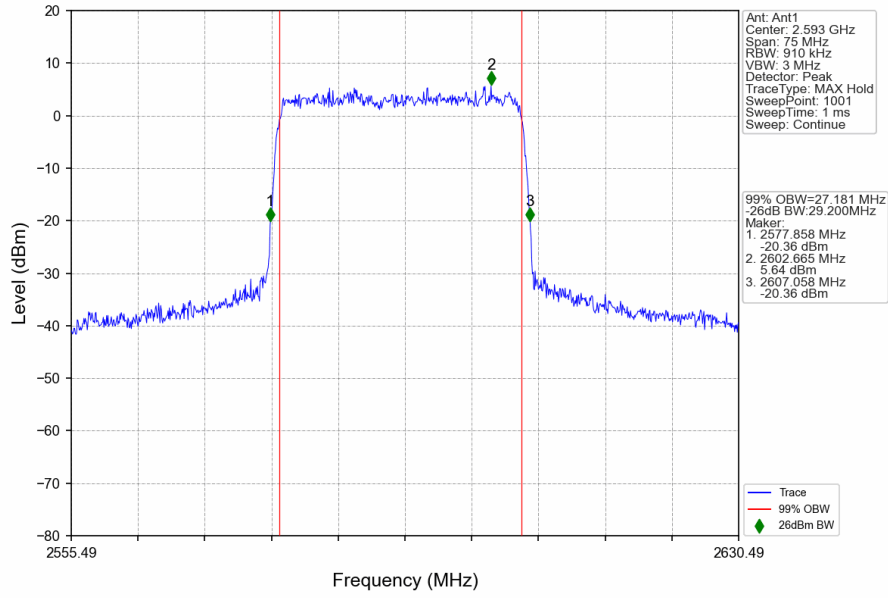
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM PI/2 BPSK_2674.98MHz_Outer_Full



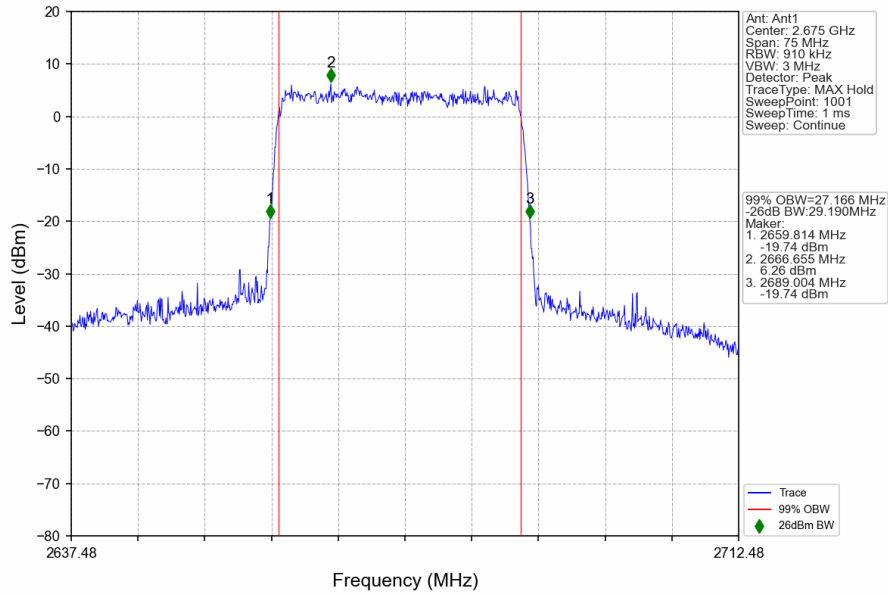
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM QPSK_2511MHz_Outer_Full



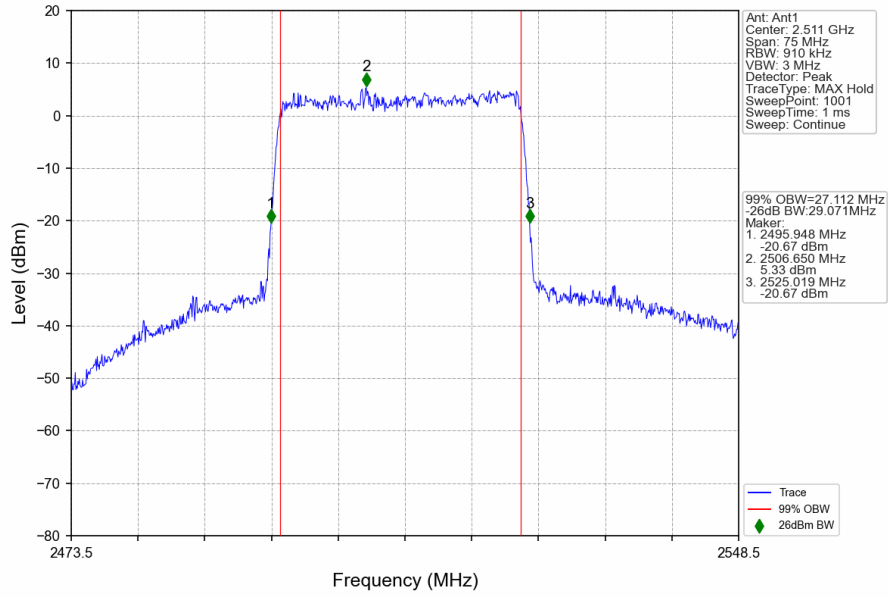
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM QPSK_2592.99MHz_Outer_Full



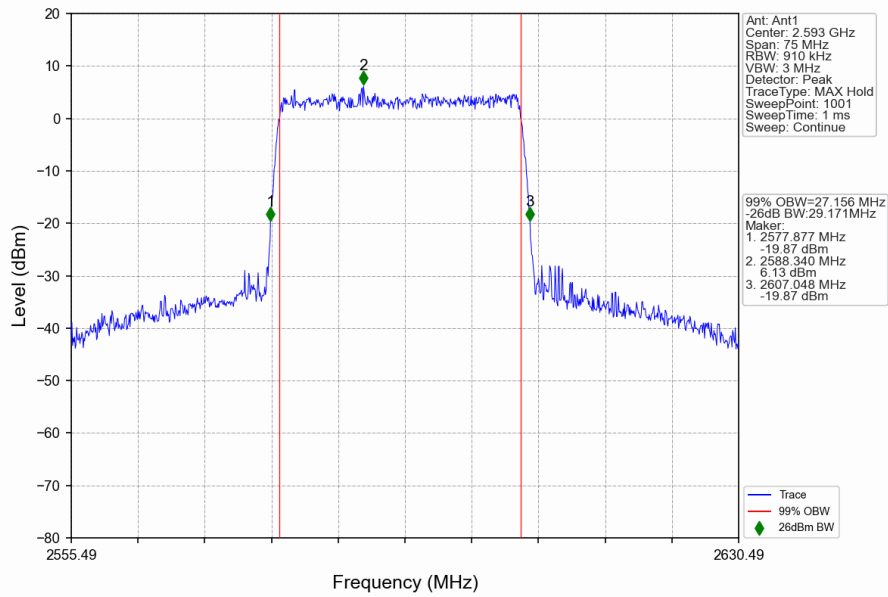
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM QPSK_2674.98MHz_Outer_Full



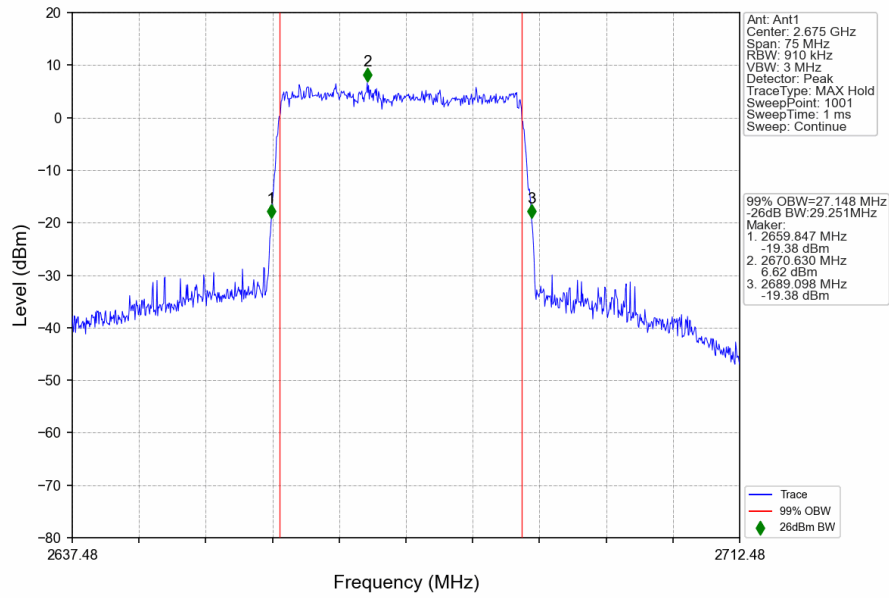
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 16 QAM_2511MHz_Outer_Full



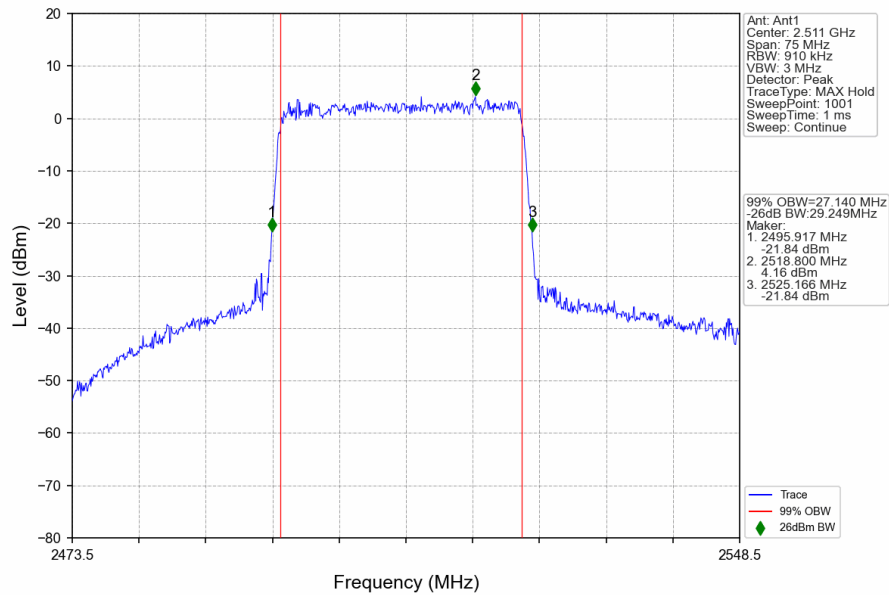
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 16 QAM_2592.99MHz_Outer_Full



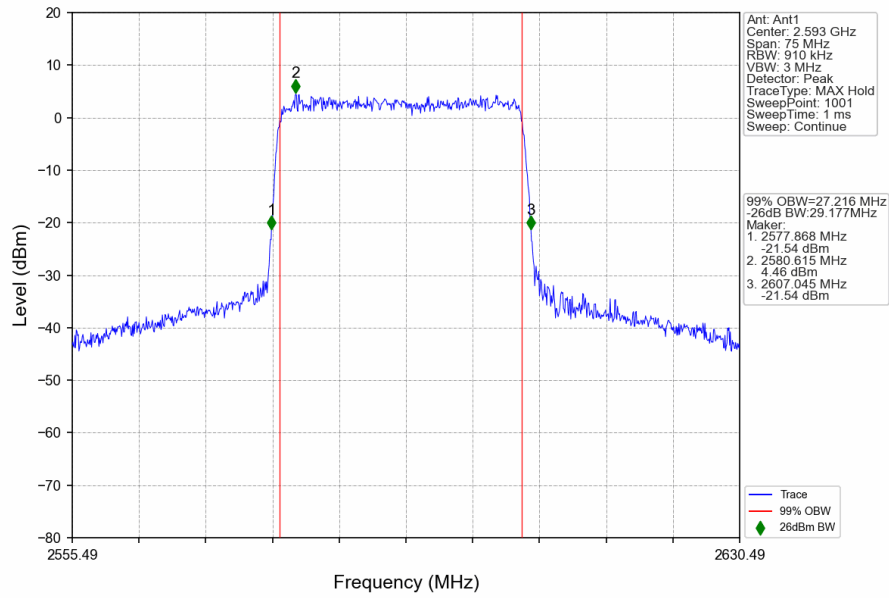
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 16 QAM_2674.98MHz_Outer_Full



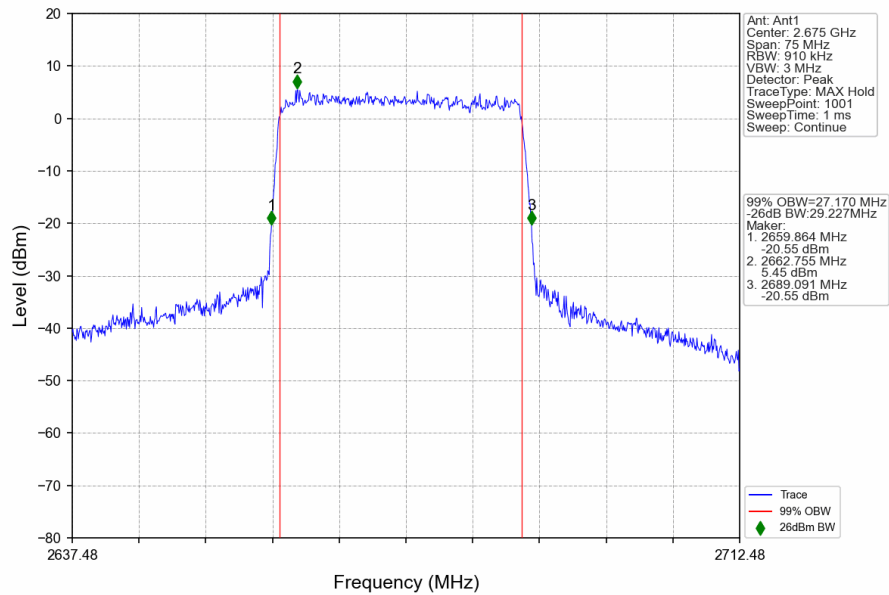
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 64 QAM_2511MHz_Outer_Full



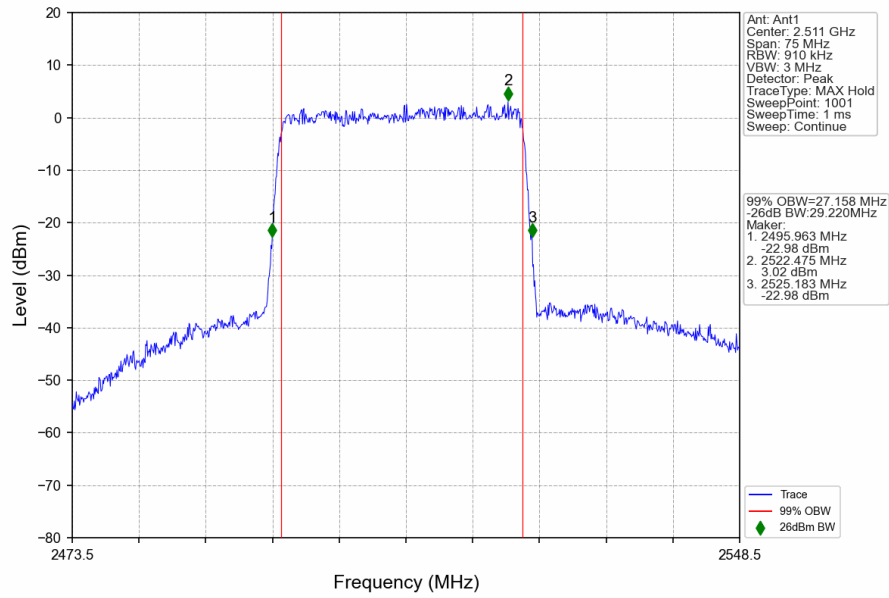
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 64 QAM_2592.99MHz_Outer_Full



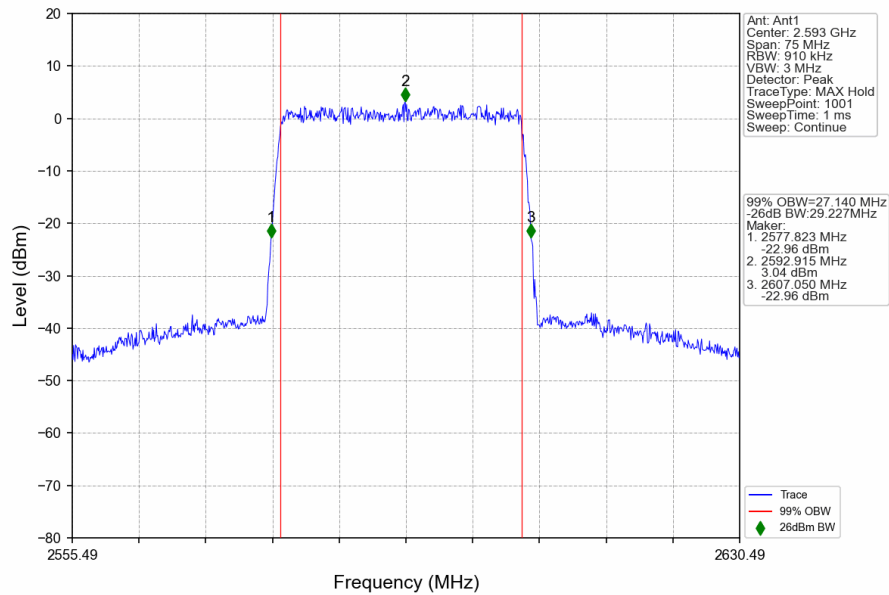
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 64 QAM_2674.98MHz_Outer_Full



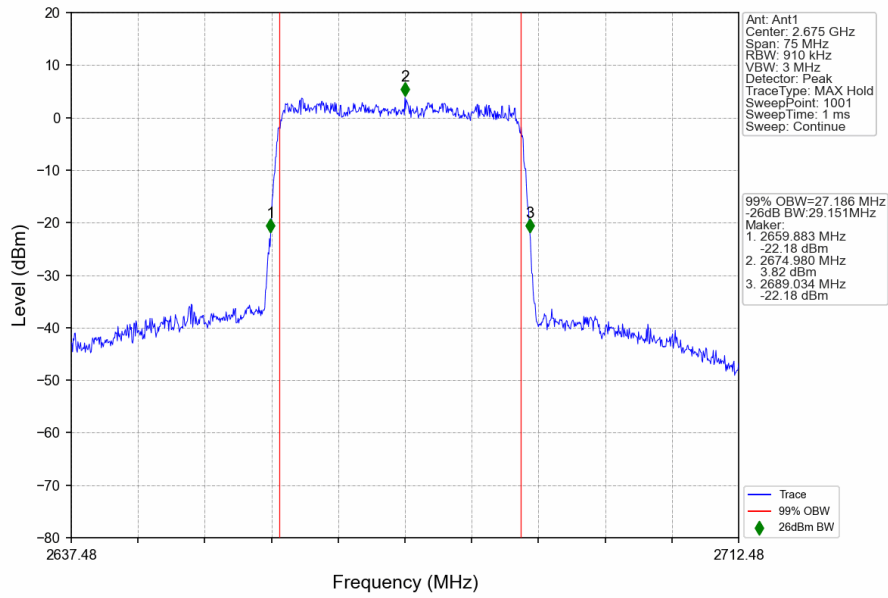
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 256 QAM_2511MHz_Outer_Full



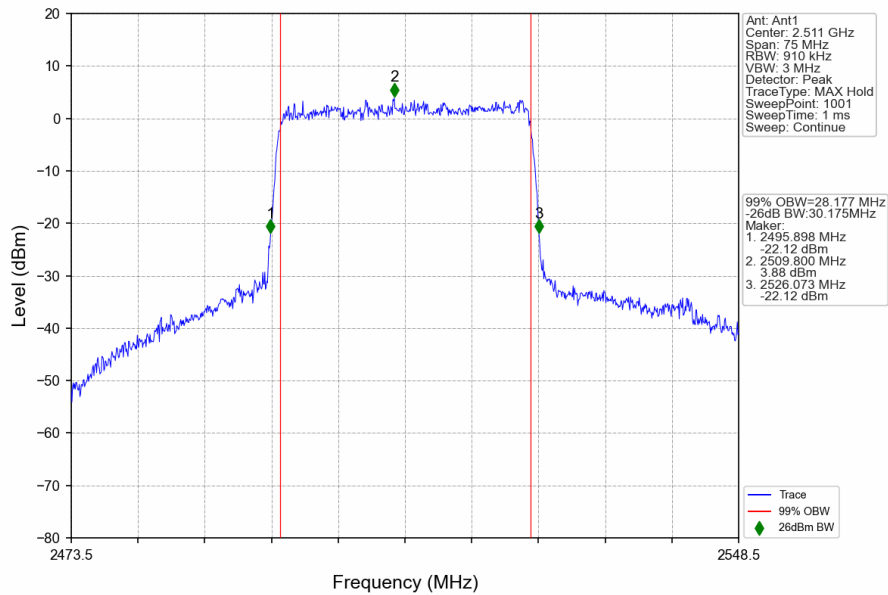
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 256 QAM_2592.99MHz_Outer_Full



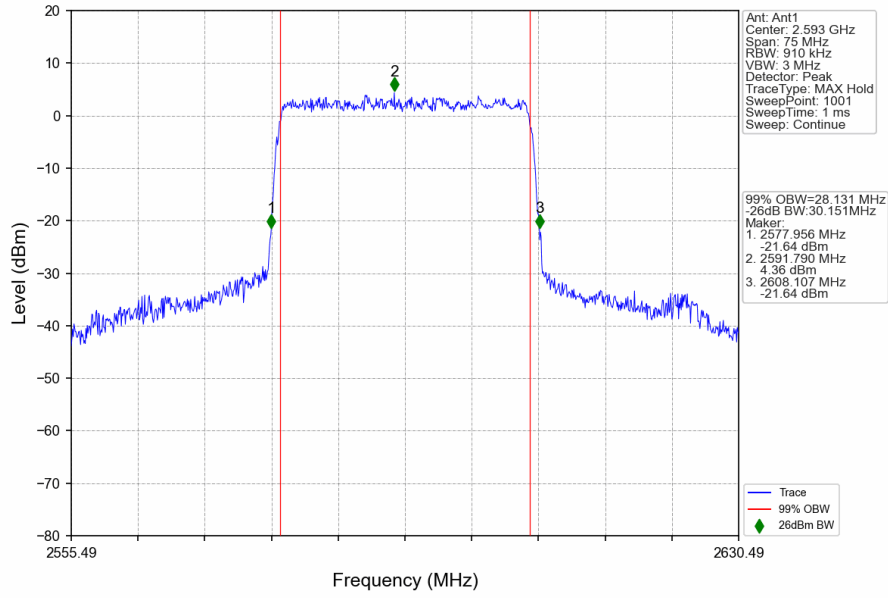
n41_30kHz_SISO_NTNV_30MHz_DFT-s-OFDM 256 QAM 2674.98MHz_Outer_Full



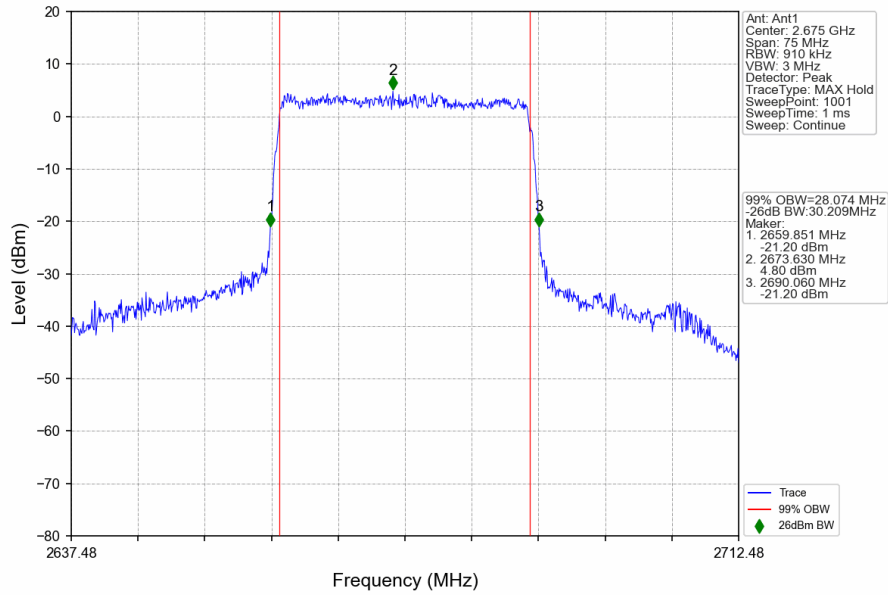
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM QPSK 2511MHz_Outer_Full



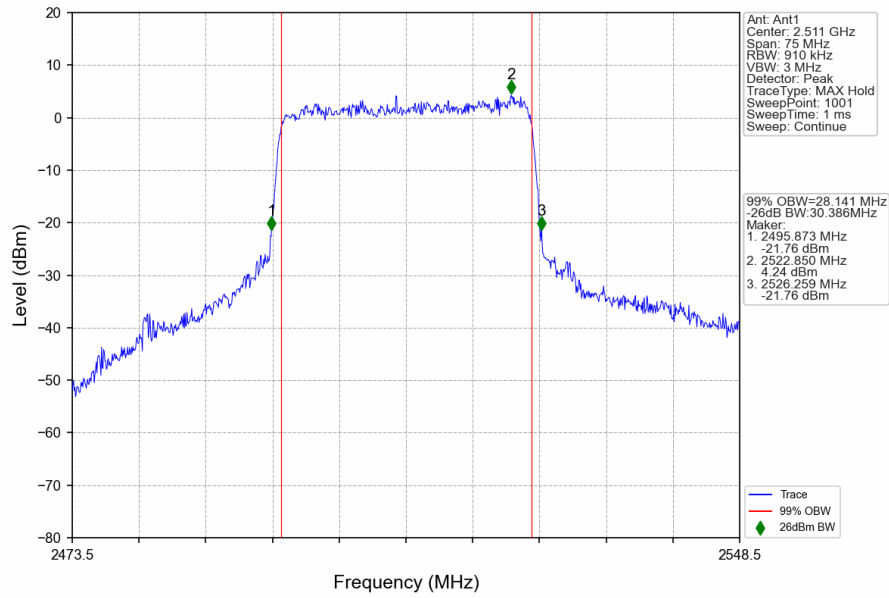
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM QPSK_2592.99MHz_Outer_Full



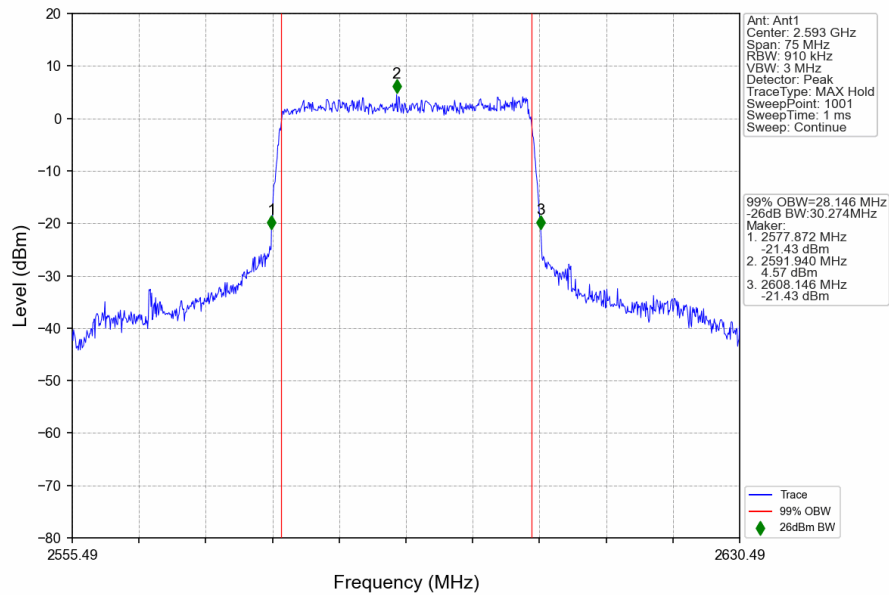
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM QPSK_2674.98MHz_Outer_Full



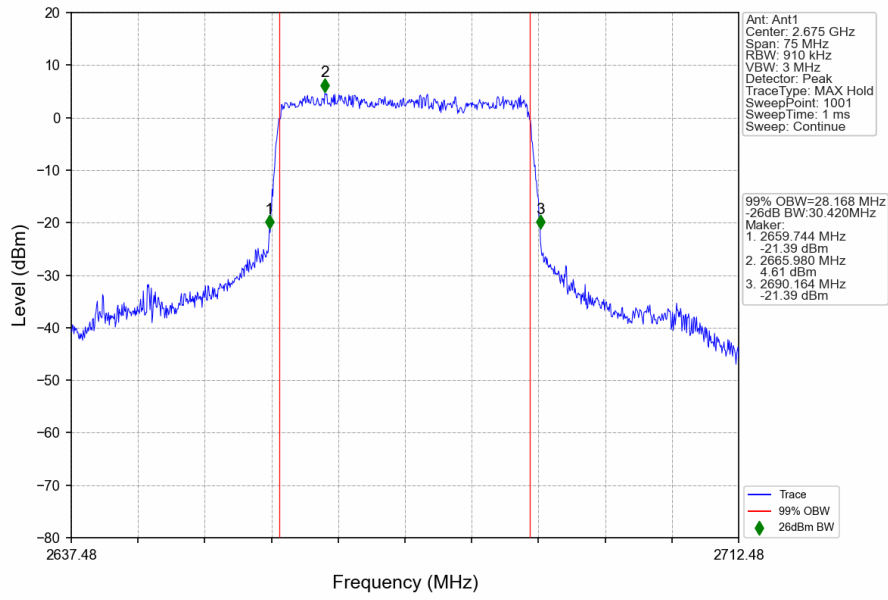
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM_16 QAM_2511MHz_Outer_Full



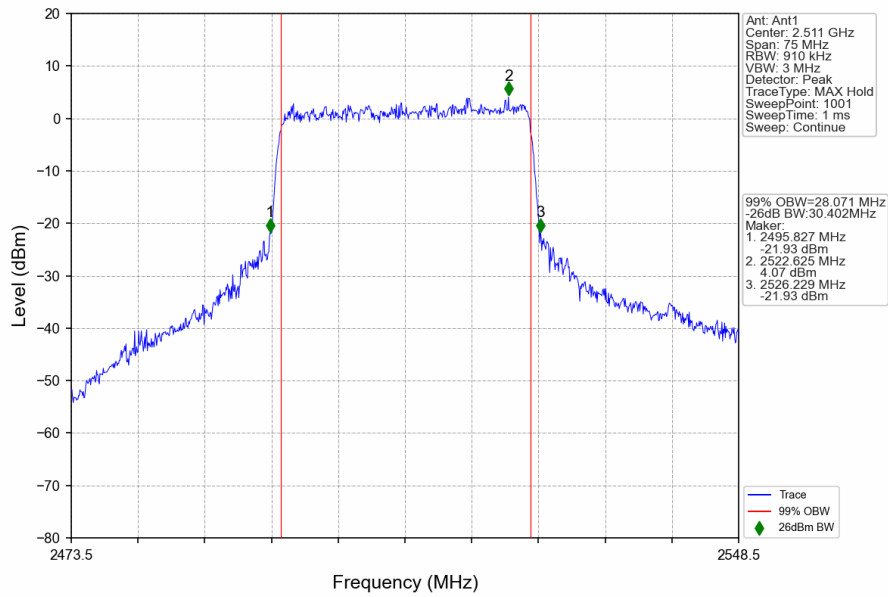
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM_16 QAM_2592.99MHz_Outer_Full



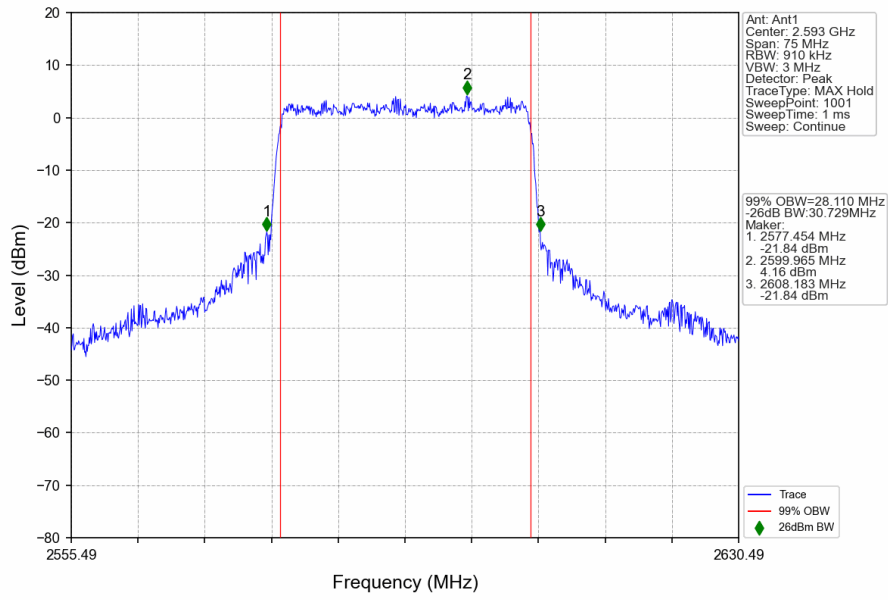
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM 16 QAM_2674.98MHz_Outer_Full



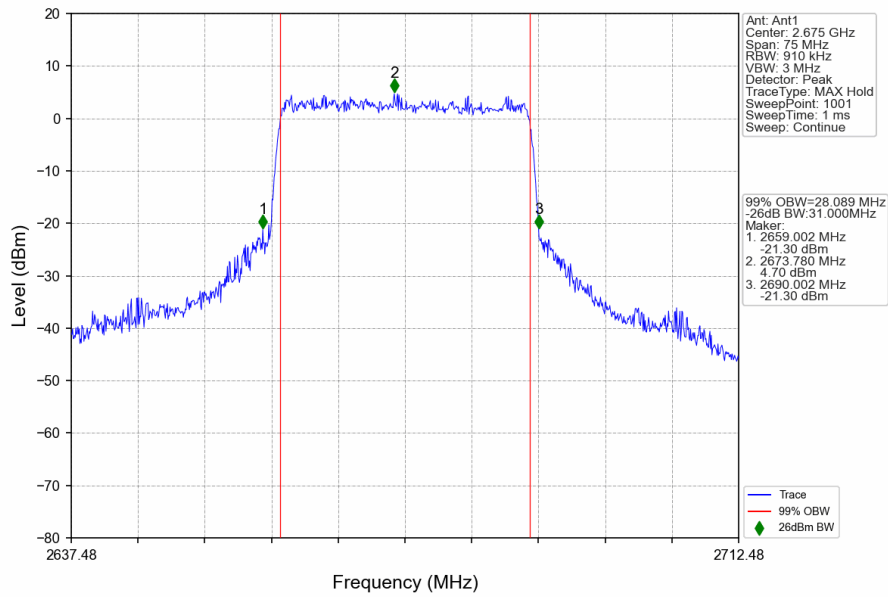
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM 64 QAM_2511MHz_Outer_Full



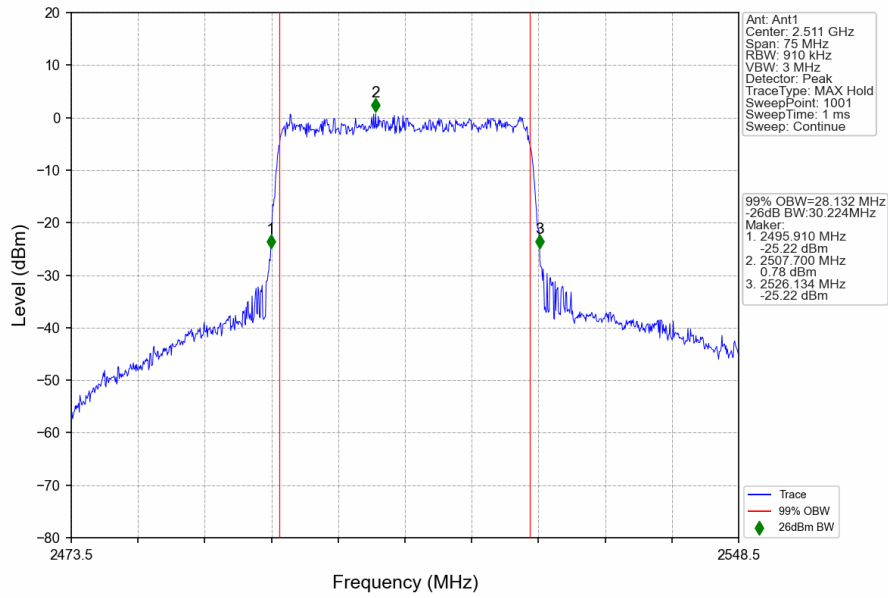
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM 64 QAM_2592.99MHz_Outer_Full



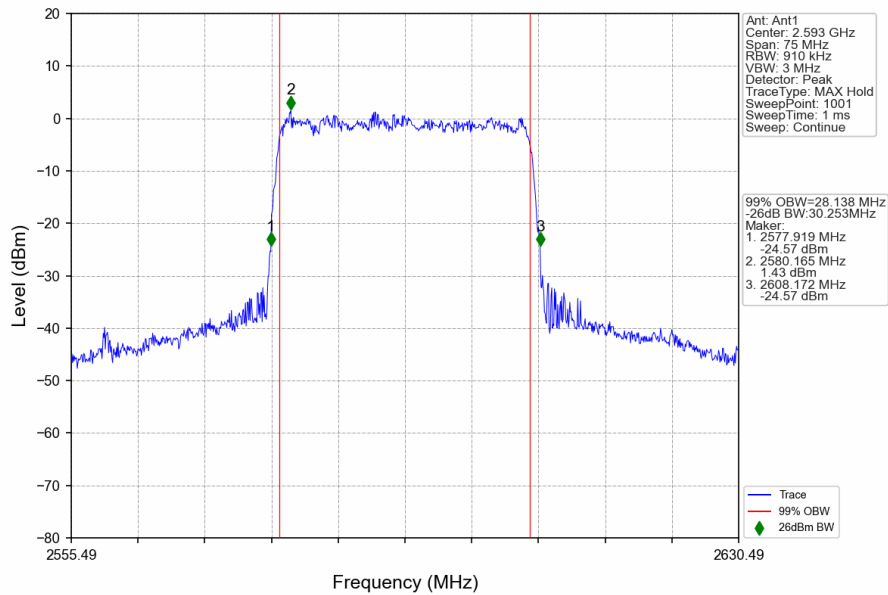
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM 64 QAM_2674.98MHz_Outer_Full



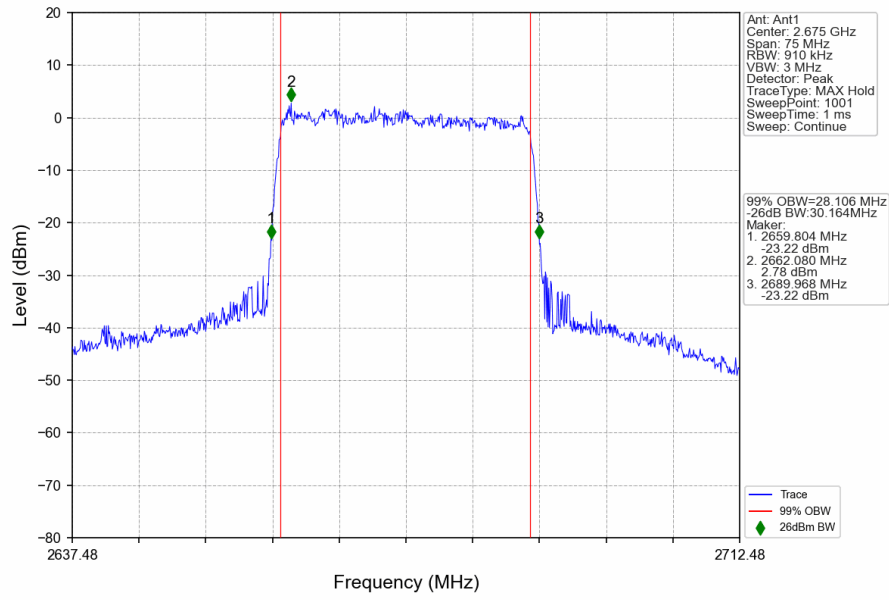
n41_30kHz_SISO_NTNV_30MHz_CP-OFDM 256 QAM 2511MHz_Outer_Full



n41_30kHz_SISO_NTNV_30MHz_CP-OFDM 256 QAM 2592.99MHz_Outer_Full



n41_30kHz_SISO_NTNV_30MHz_CP-OFDM_256_QAM_2674.98MHz_Outer_Full



3.3 30k_SISO_40MHz_NTNV

3.3.1 Test Result

5G NR n41 SCS=30kHz SISO 40MHz NTN						
Modulation	Frequency (MHz)	RB Allocation	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
DFT-s-OFDM PI/2 BPSK	2516.01	Outer_Full	36.05	38.55	/	Pass
	2592.99	Outer_Full	36.01	38.59	/	Pass
	2670	Outer_Full	36.00	38.54	/	Pass
DFT-s-OFDM QPSK	2516.01	Outer_Full	36.07	38.71	/	Pass
	2592.99	Outer_Full	36.06	38.82	/	Pass
	2670	Outer_Full	35.97	38.66	/	Pass
DFT-s-OFDM 16 QAM	2516.01	Outer_Full	36.06	38.75	/	Pass
	2592.99	Outer_Full	36.03	38.74	/	Pass
	2670	Outer_Full	36.09	38.74	/	Pass
DFT-s-OFDM 64 QAM	2516.01	Outer_Full	35.97	38.69	/	Pass
	2592.99	Outer_Full	36.06	38.74	/	Pass
	2670	Outer_Full	36.01	38.64	/	Pass
DFT-s-OFDM 256 QAM	2516.01	Outer_Full	36.05	38.86	/	Pass
	2592.99	Outer_Full	36.04	38.72	/	Pass
	2670	Outer_Full	36.08	38.73	/	Pass
CP-OFDM QPSK	2516.01	Outer_Full	38.03	40.97	/	Pass
	2592.99	Outer_Full	38.10	40.82	/	Pass
	2670	Outer_Full	38.04	40.78	/	Pass
CP-OFDM 16 QAM	2516.01	Outer_Full	38.09	40.76	/	Pass
	2592.99	Outer_Full	38.18	40.89	/	Pass
	2670	Outer_Full	38.02	40.78	/	Pass
CP-OFDM 64 QAM	2516.01	Outer_Full	38.15	40.91	/	Pass
	2592.99	Outer_Full	38.30	40.86	/	Pass
	2670	Outer_Full	38.24	40.76	/	Pass
CP-OFDM 256 QAM	2516.01	Outer_Full	38.09	40.75	/	Pass
	2592.99	Outer_Full	38.31	40.93	/	Pass
	2670	Outer_Full	38.18	40.80	/	Pass