

Appendix for 15.247

1. Duty Cycle

1.1 Test Result

ANT 1:

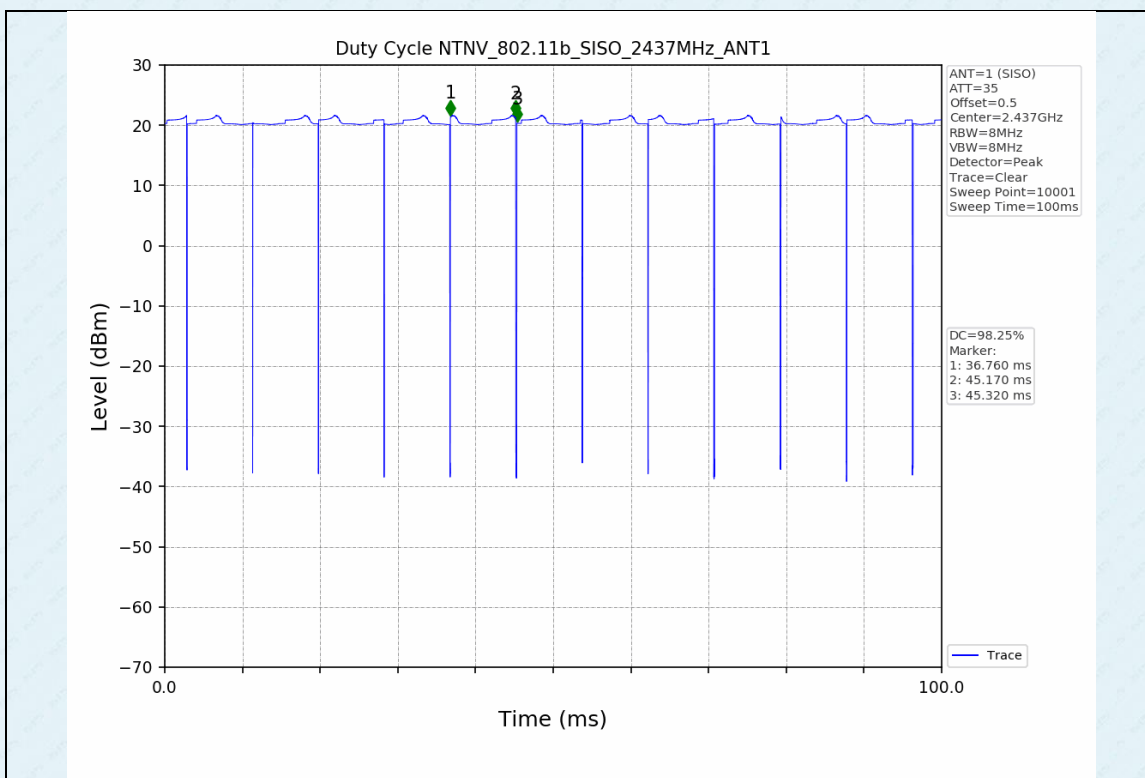
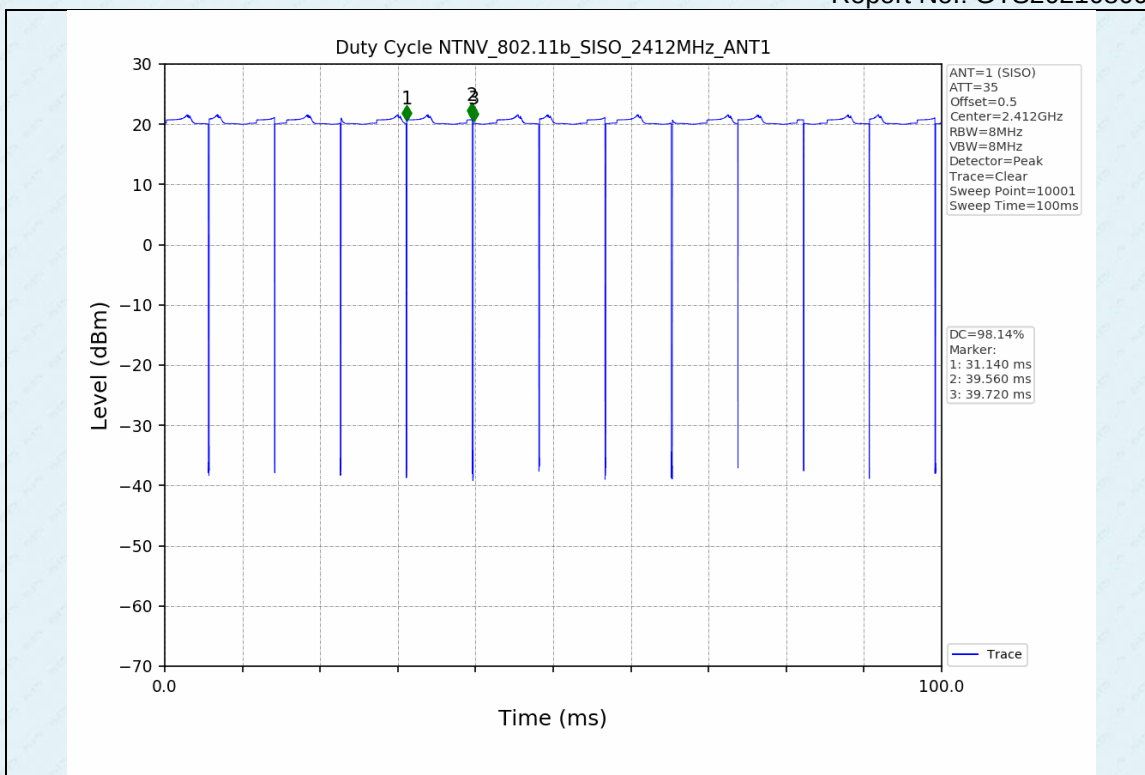
Test Mode	Channel Frequency(M Hz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
802.11b	2412	SISO	1	8.420	8.580	98.14	0.08
	2437	SISO	1	8.410	8.560	98.25	0.08
	2462	SISO	1	8.420	8.580	98.14	0.08
802.11g	2412	SISO	1	1.373	1.541	89.10	0.50
	2437	SISO	1	1.395	1.565	89.14	0.50
	2462	SISO	1	1.395	1.546	90.23	0.45
802.11n(HT20)	2412	SISO	1	1.284	1.452	88.43	0.53
	2437	SISO	1	1.288	1.454	88.58	0.53
	2462	SISO	1	1.283	1.450	88.48	0.53
802.11n(HT40)	2422	SISO	1	0.348	0.508	68.50	1.64
	2437	SISO	1	0.348	0.518	67.18	1.73
	2452	SISO	1	0.348	0.508	68.50	1.64

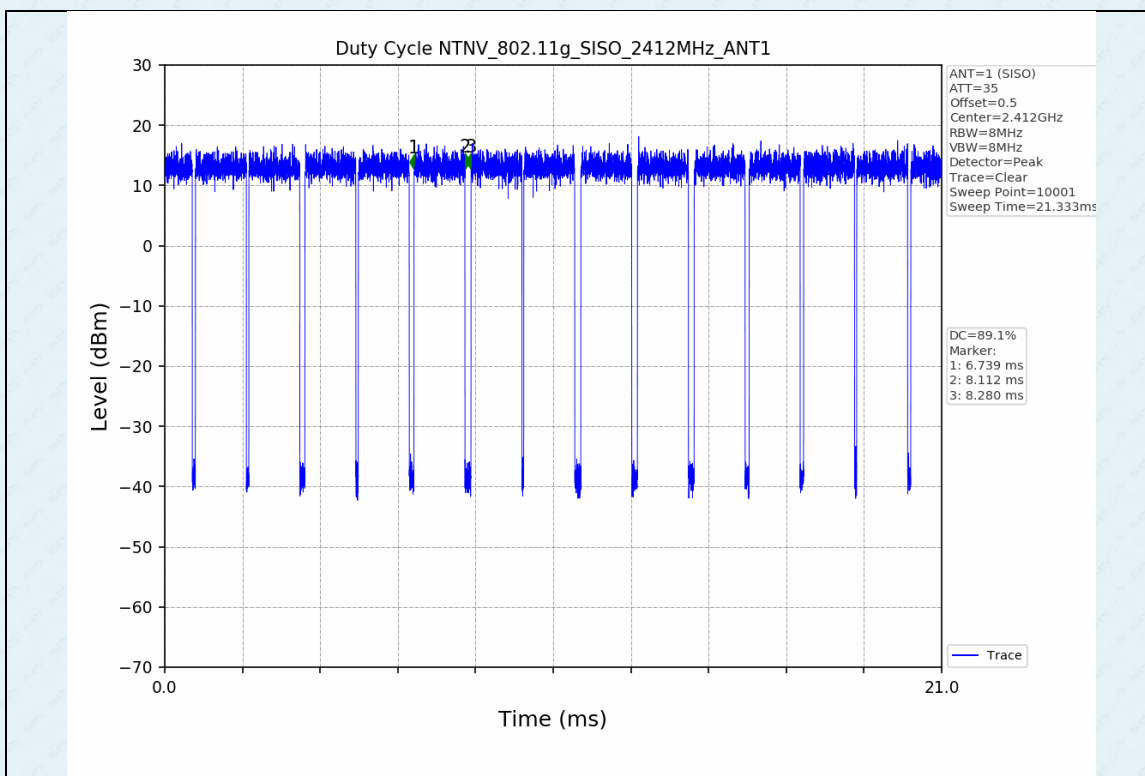
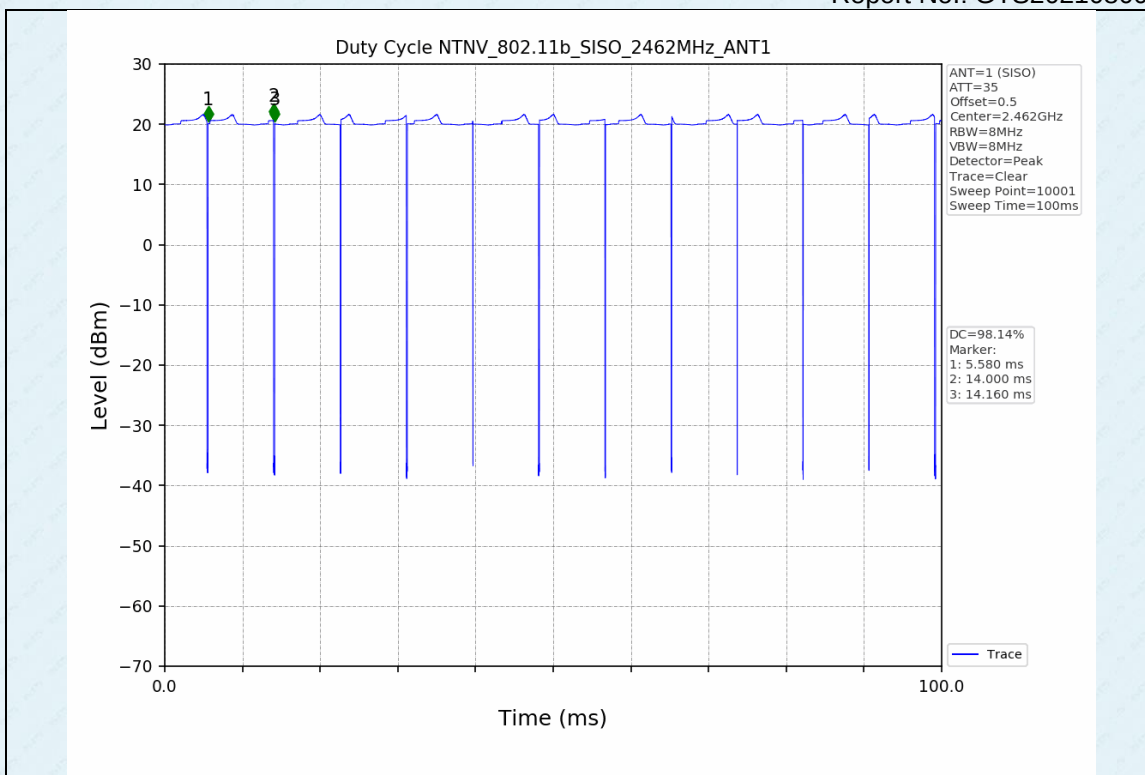
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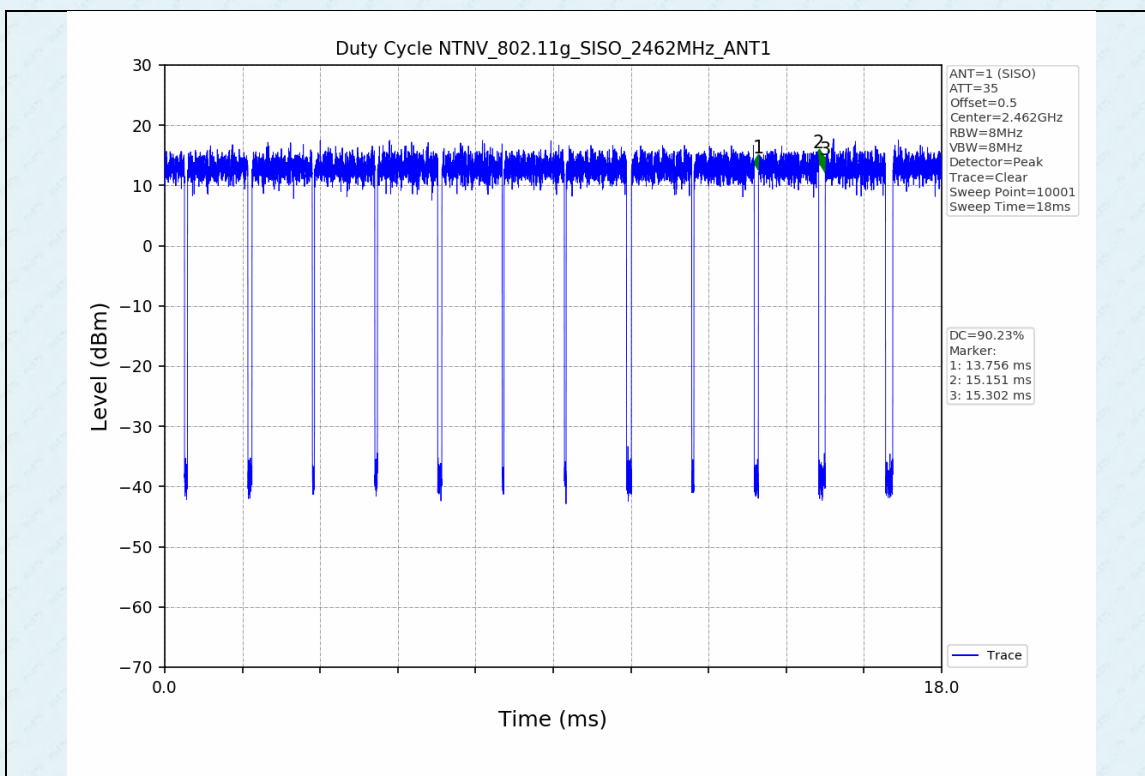
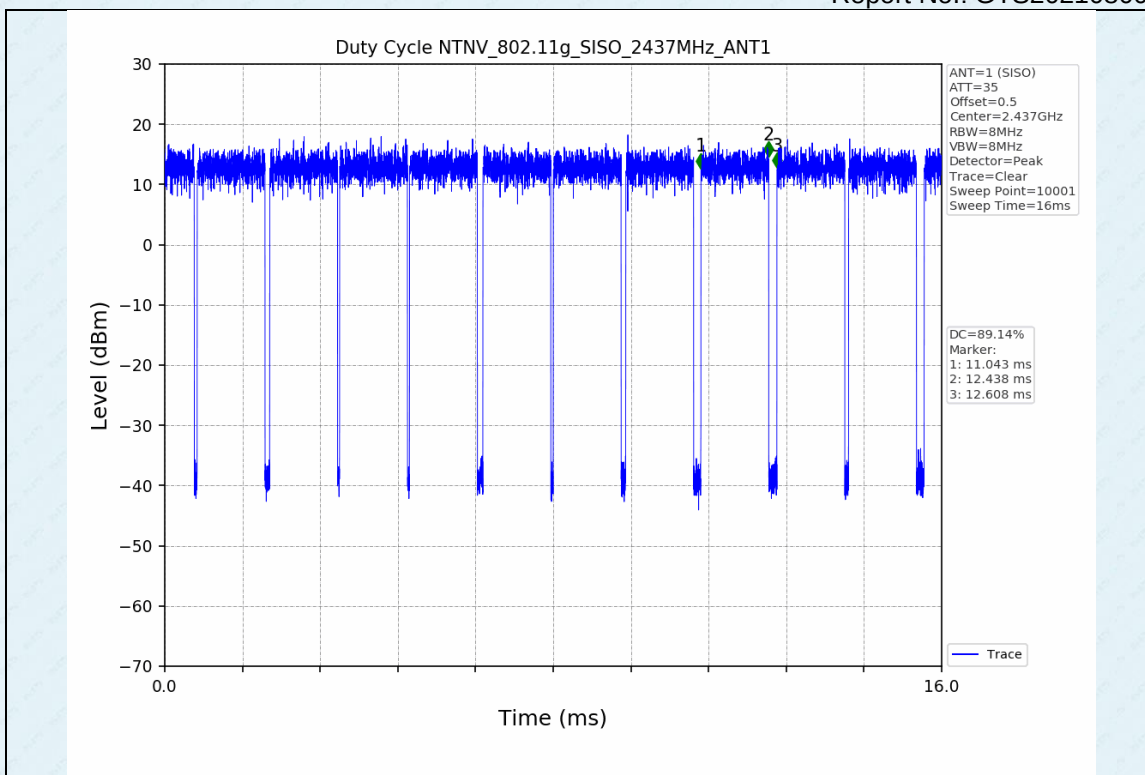
Test Mode	Channel Frequency(M Hz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
802.11b	2412	SISO	1	8.420	8.580	98.14	0.08
	2437	SISO	1	8.420	8.570	98.25	0.08
	2462	SISO	1	8.420	8.550	98.48	0.07
802.11g	2412	SISO	1	1.396	1.566	89.14	0.50
	2437	SISO	1	1.365	1.523	89.63	0.48
	2462	SISO	1	1.365	1.487	91.80	0.37
802.11n(HT20)	2412	SISO	1	1.270	1.436	88.44	0.53
	2437	SISO	1	1.296	1.456	89.01	0.51
	2462	SISO	1	1.270	1.428	88.94	0.51
802.11n(HT40)	2422	SISO	1	0.607	0.769	78.93	1.03
	2437	SISO	1	0.607	0.751	80.83	0.92
	2452	SISO	1	0.636	0.804	79.10	1.02

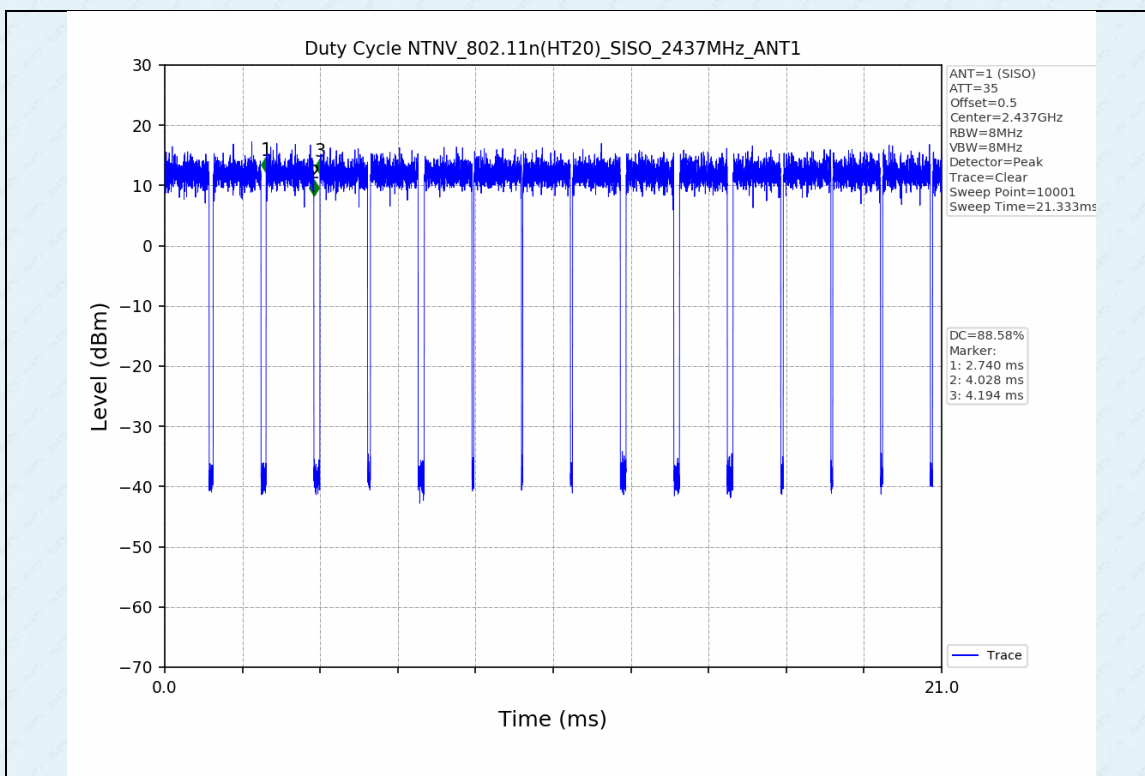
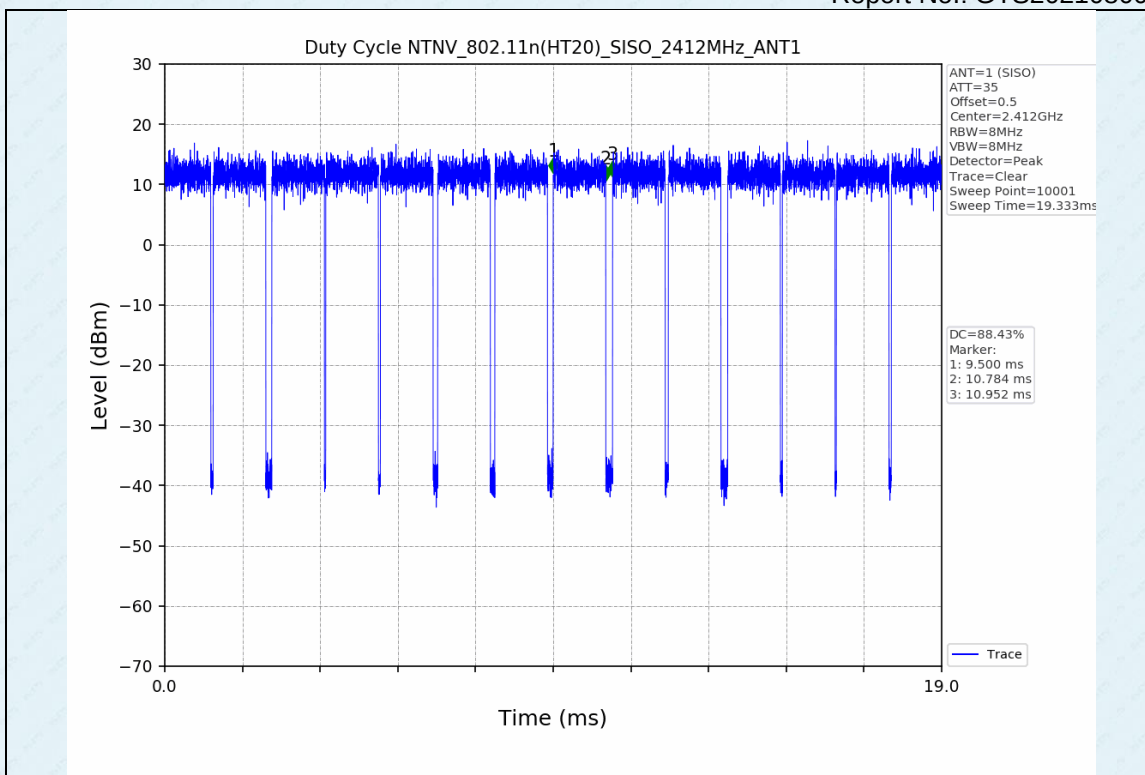
1.2 Test Graph

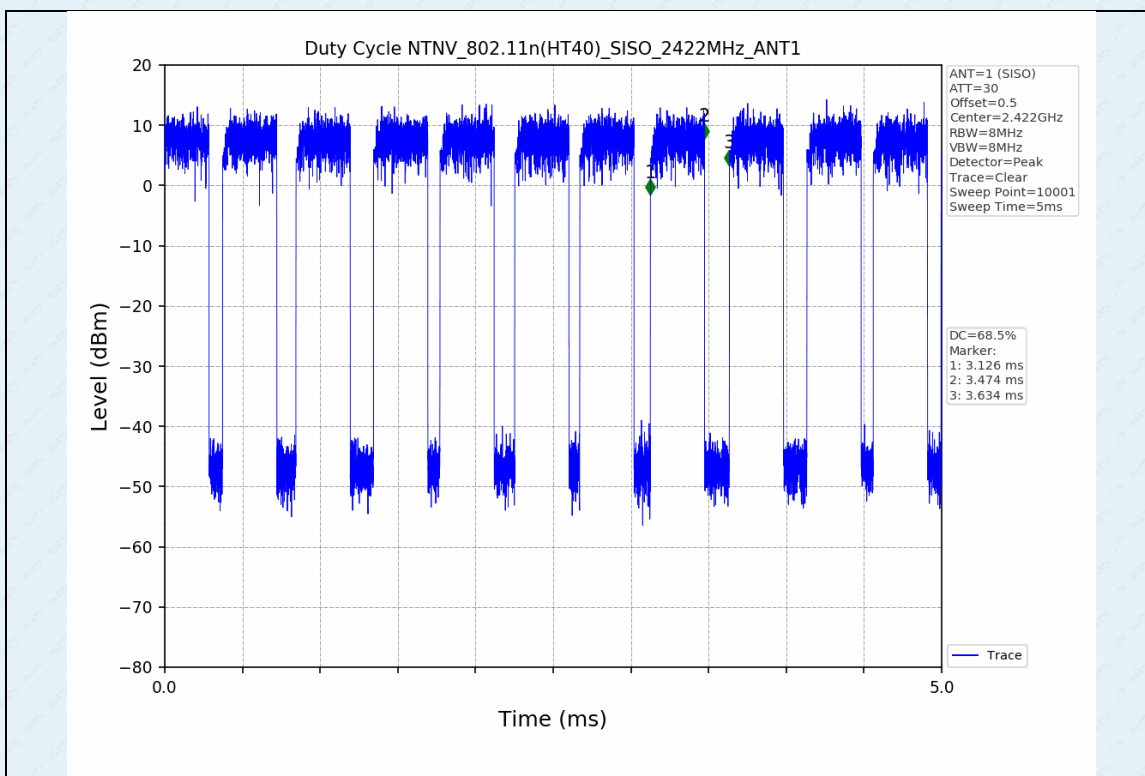
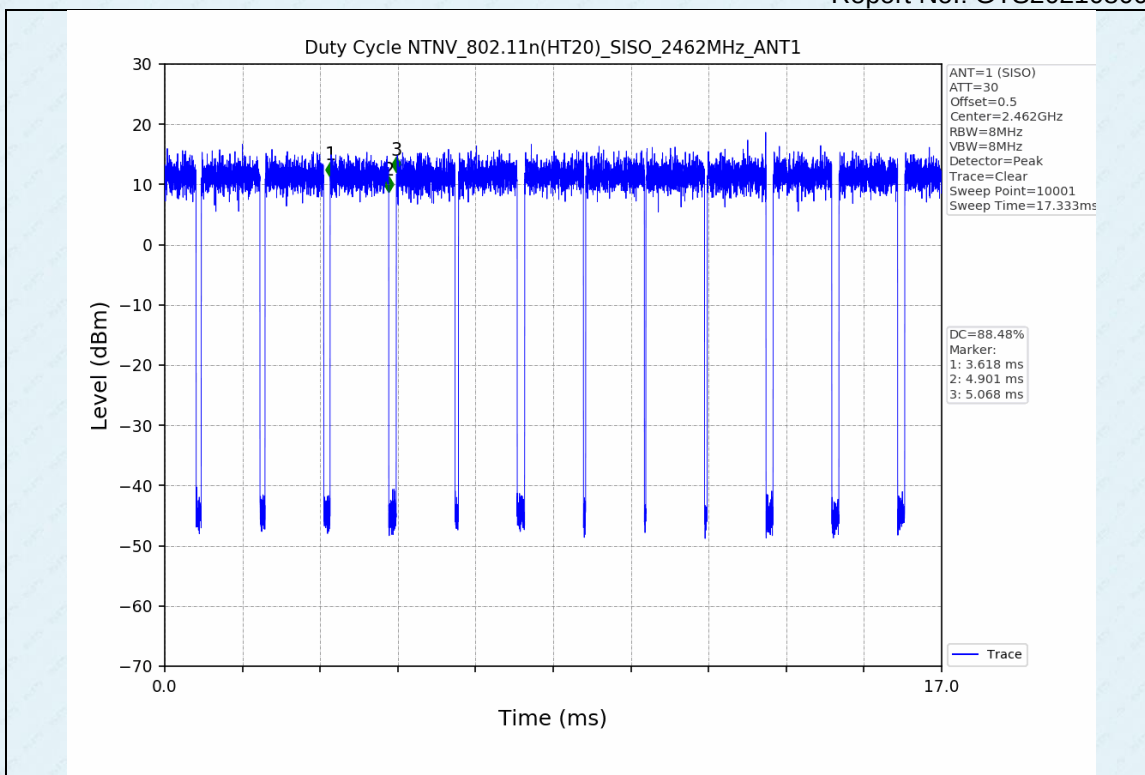
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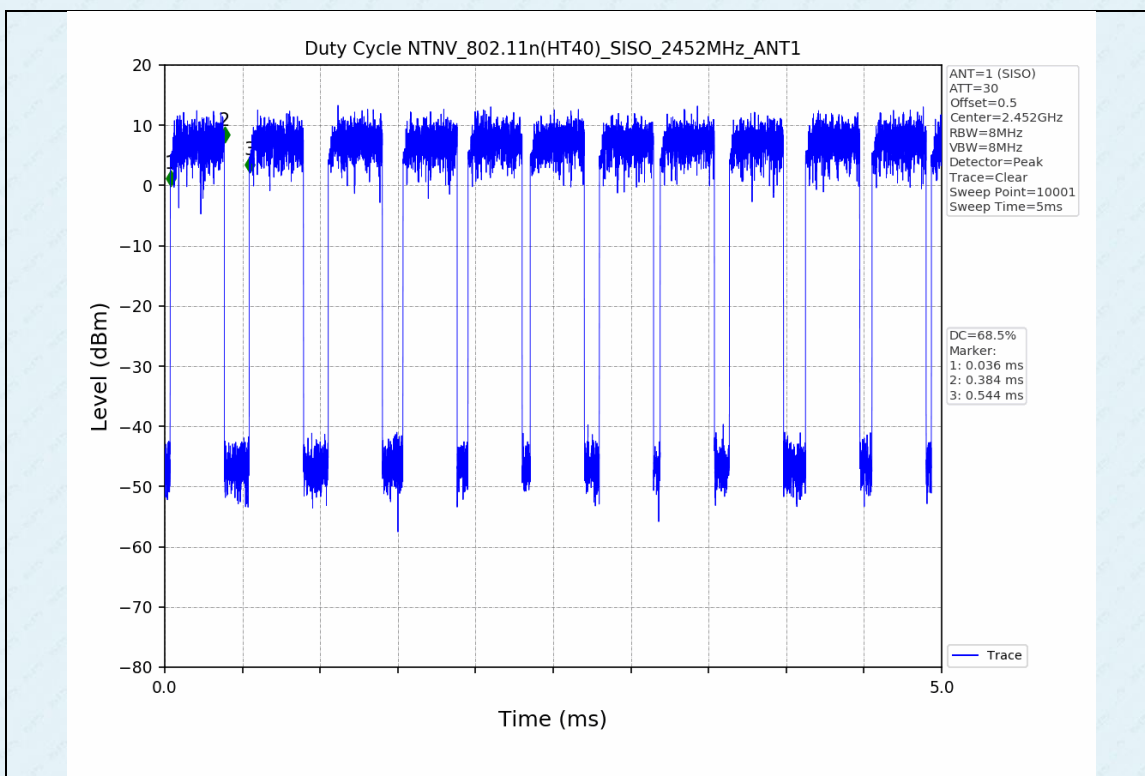
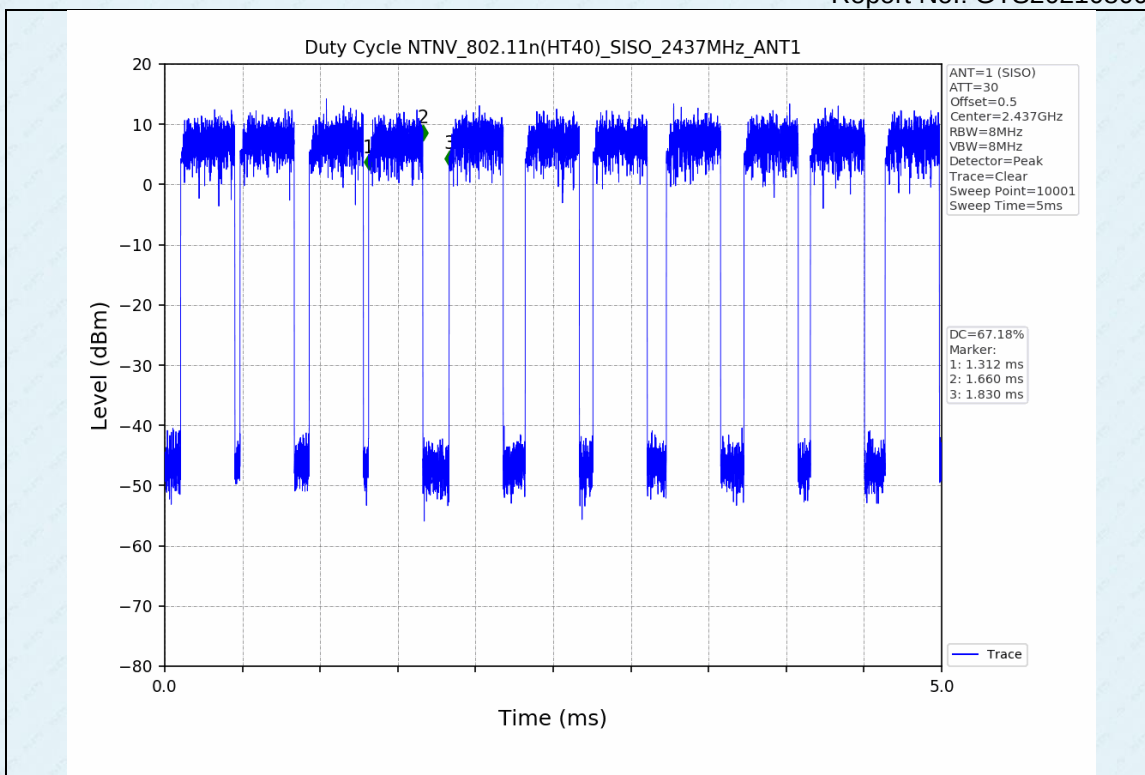




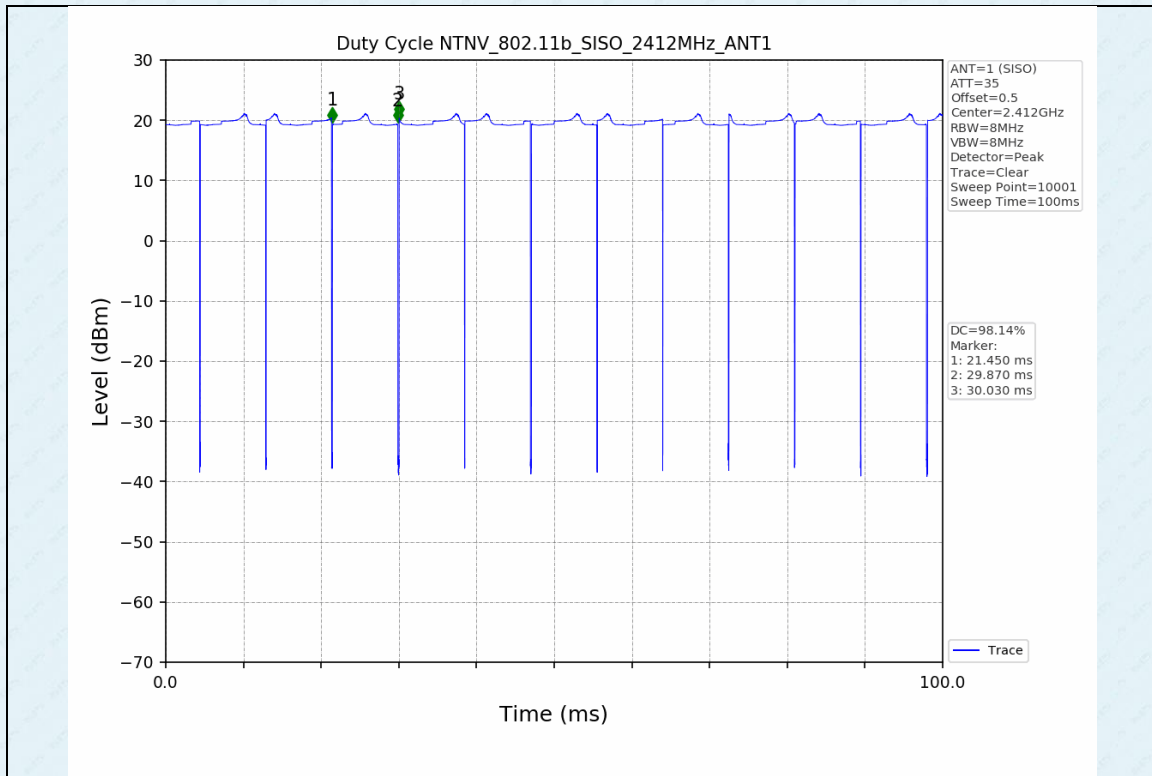


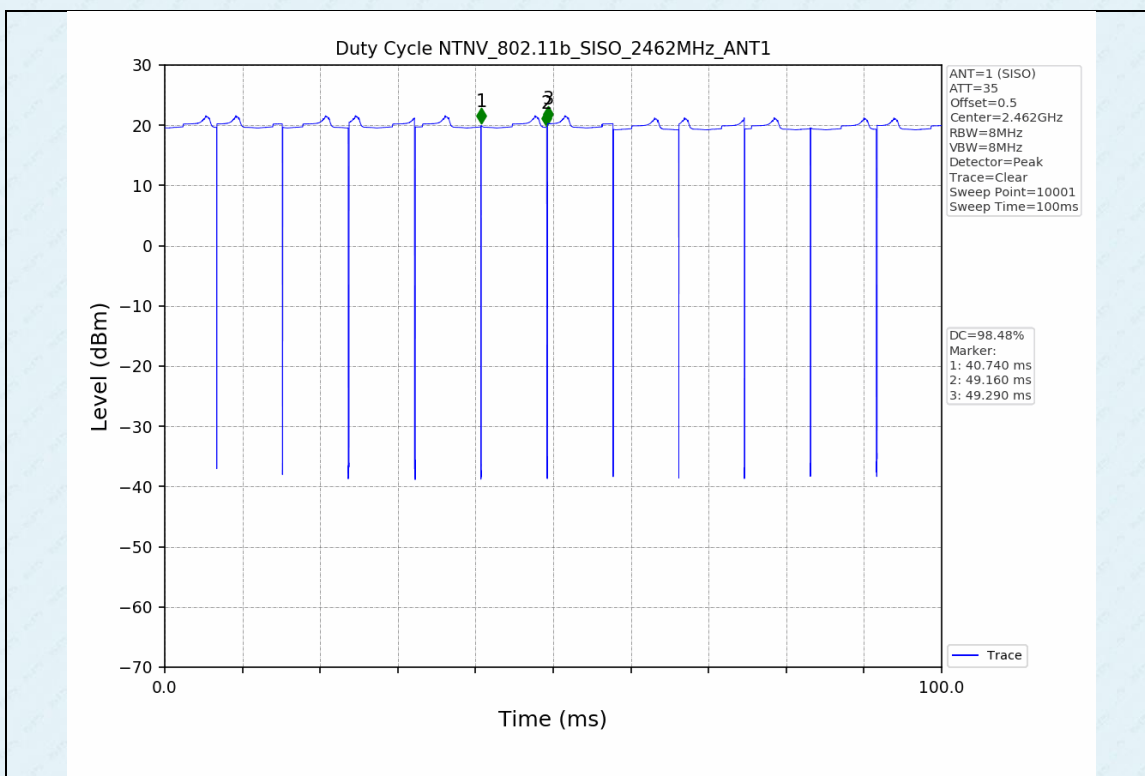
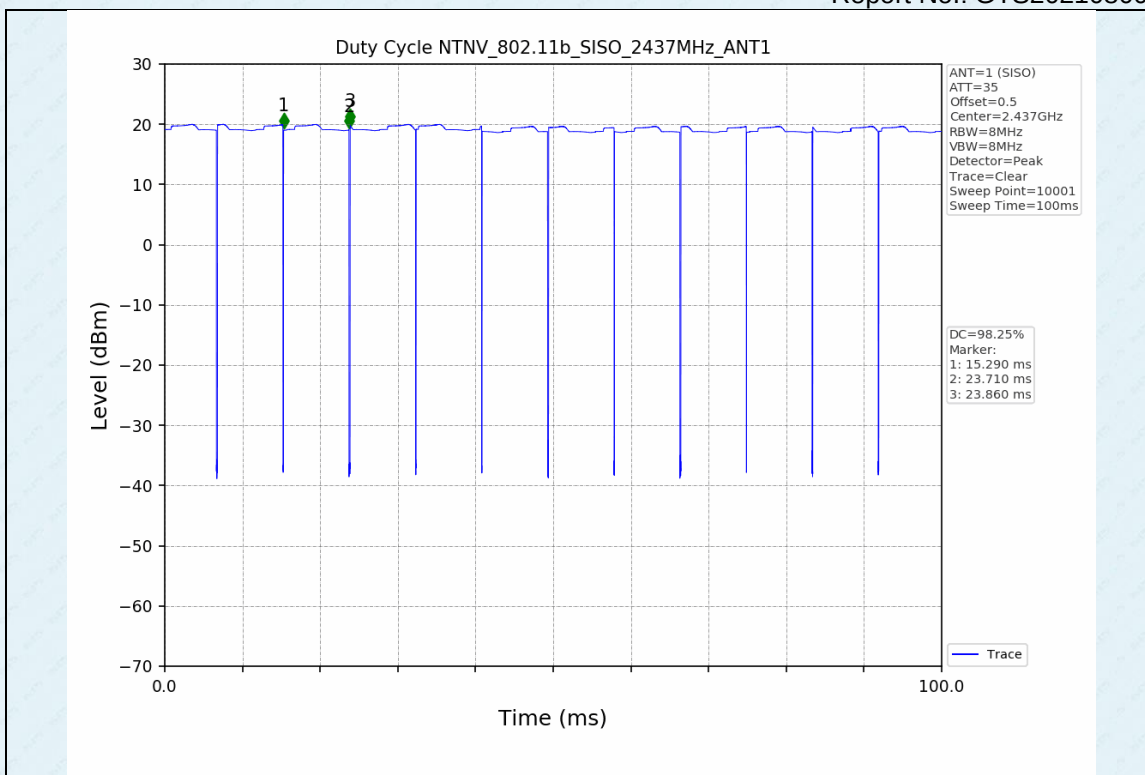


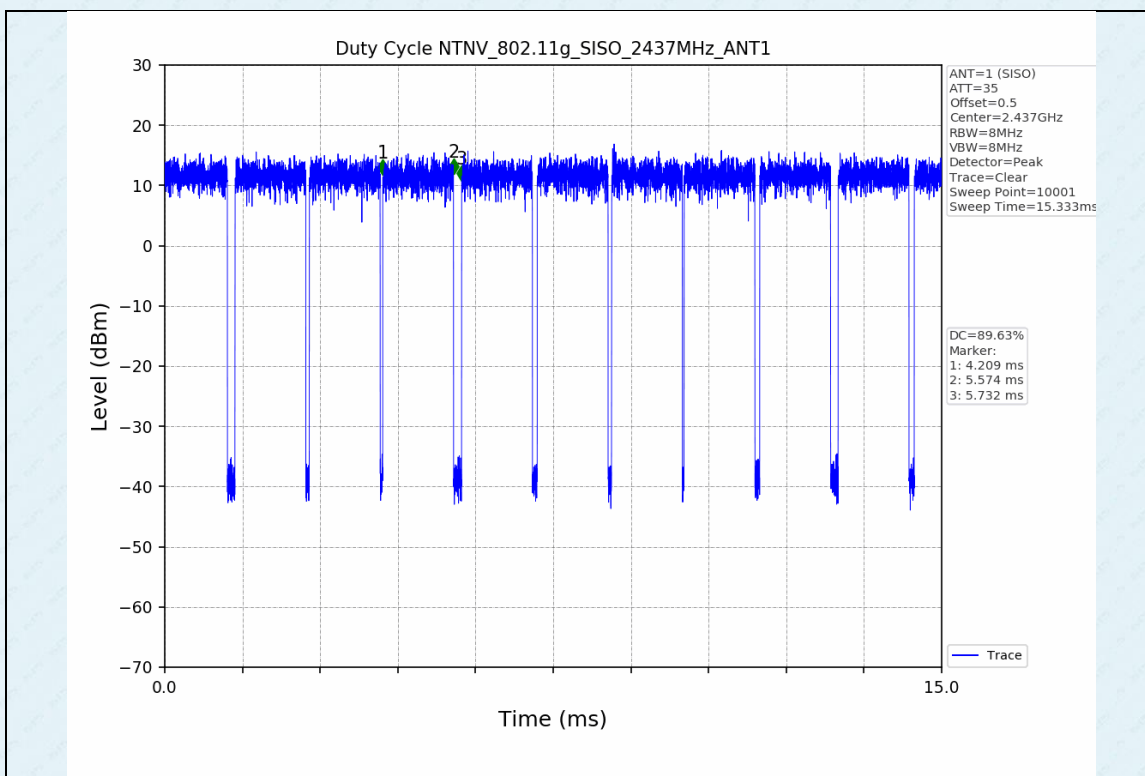
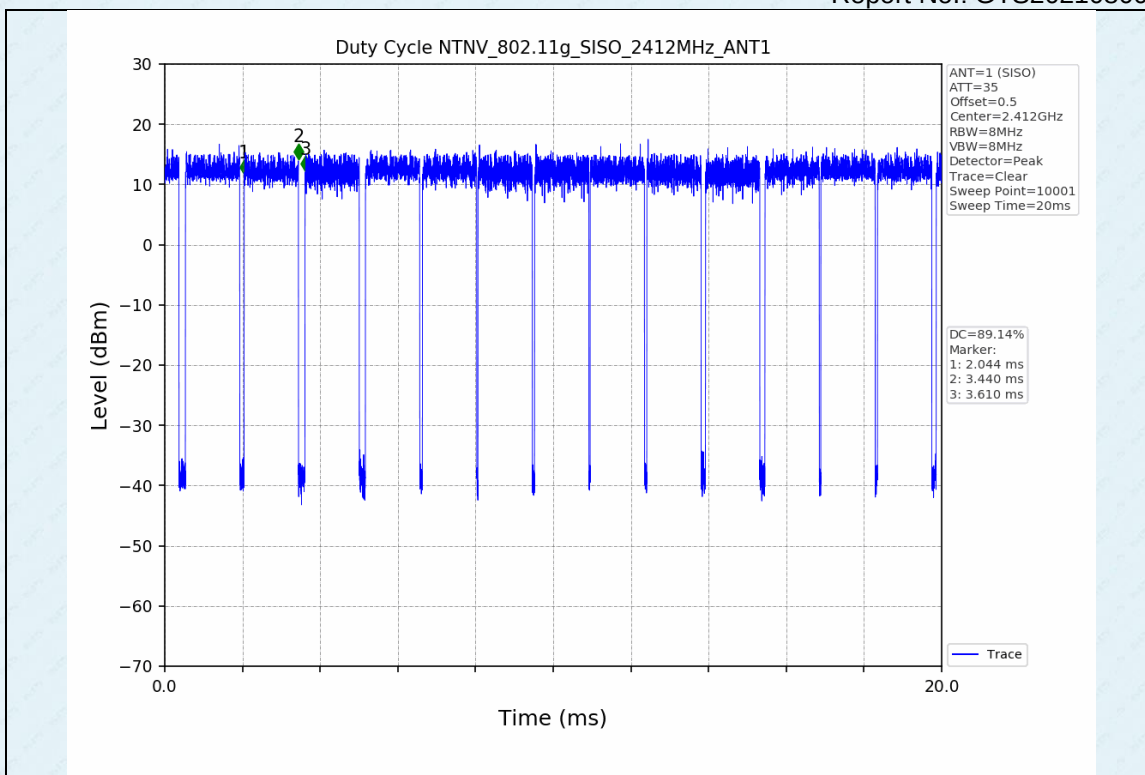


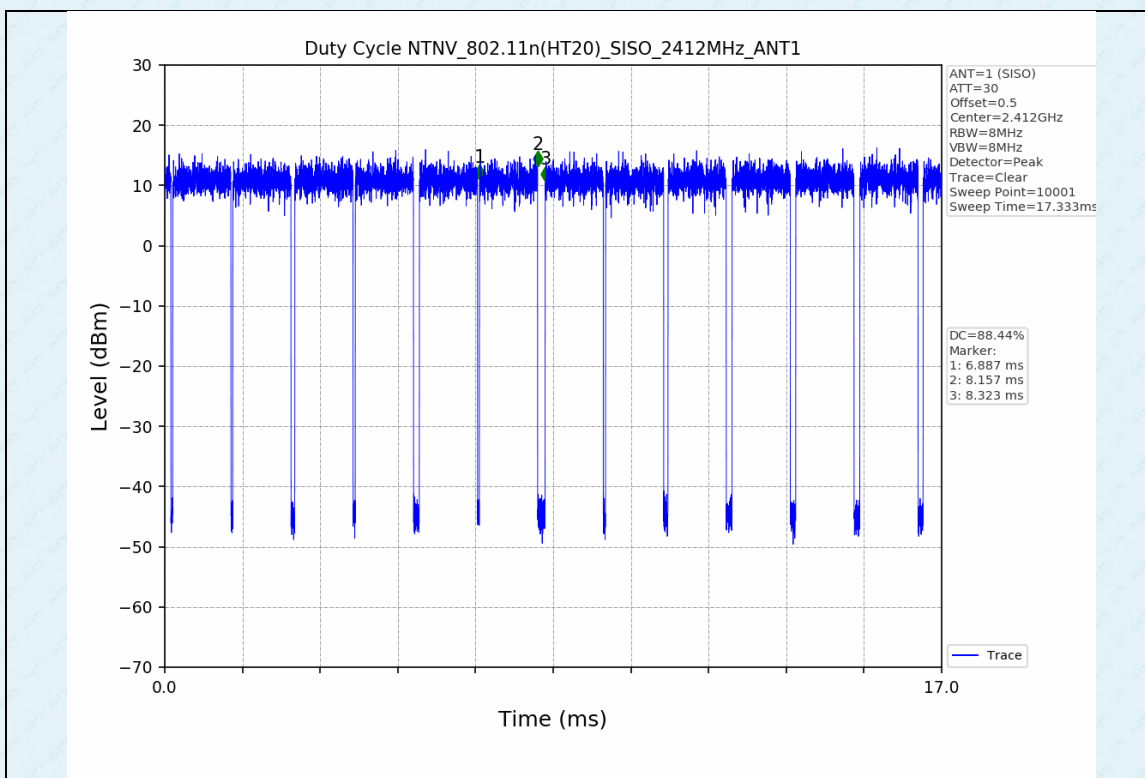
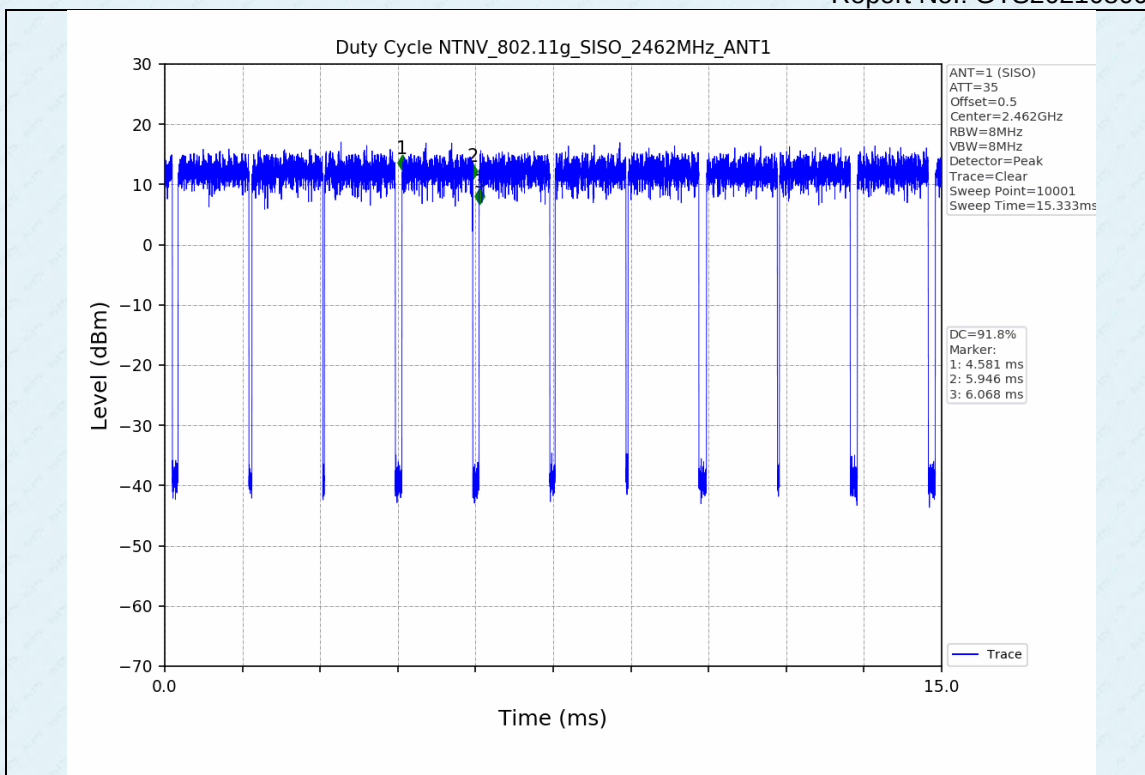


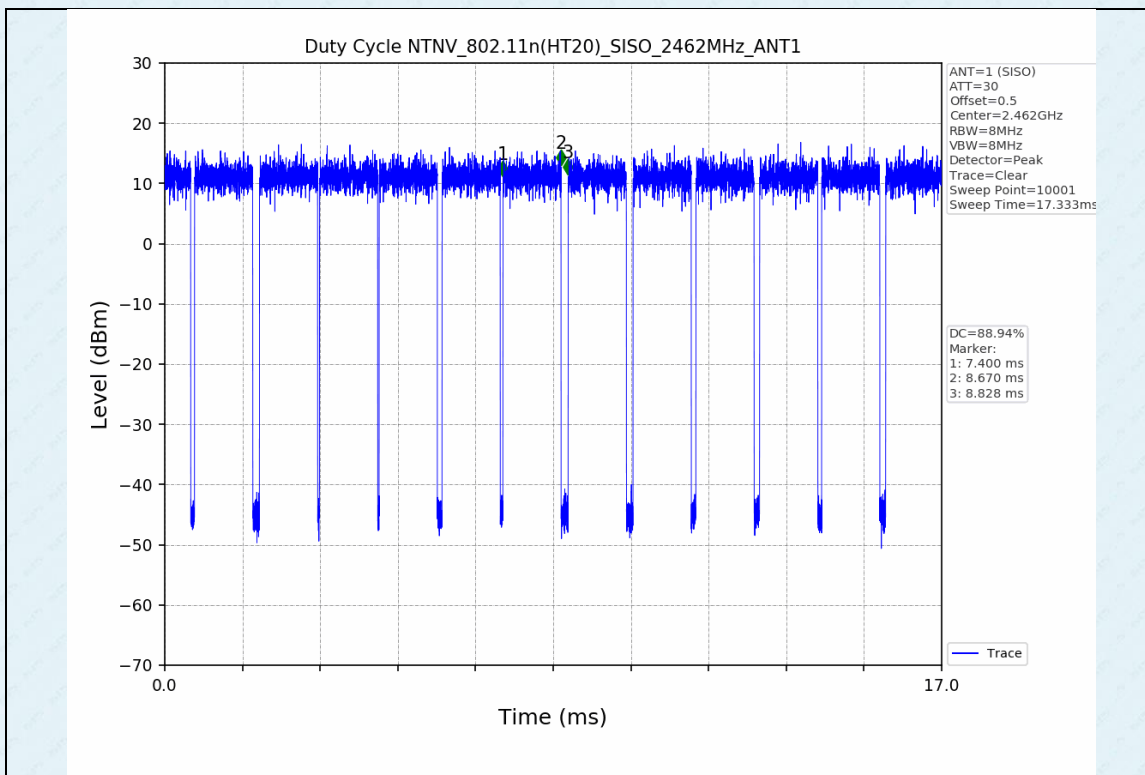
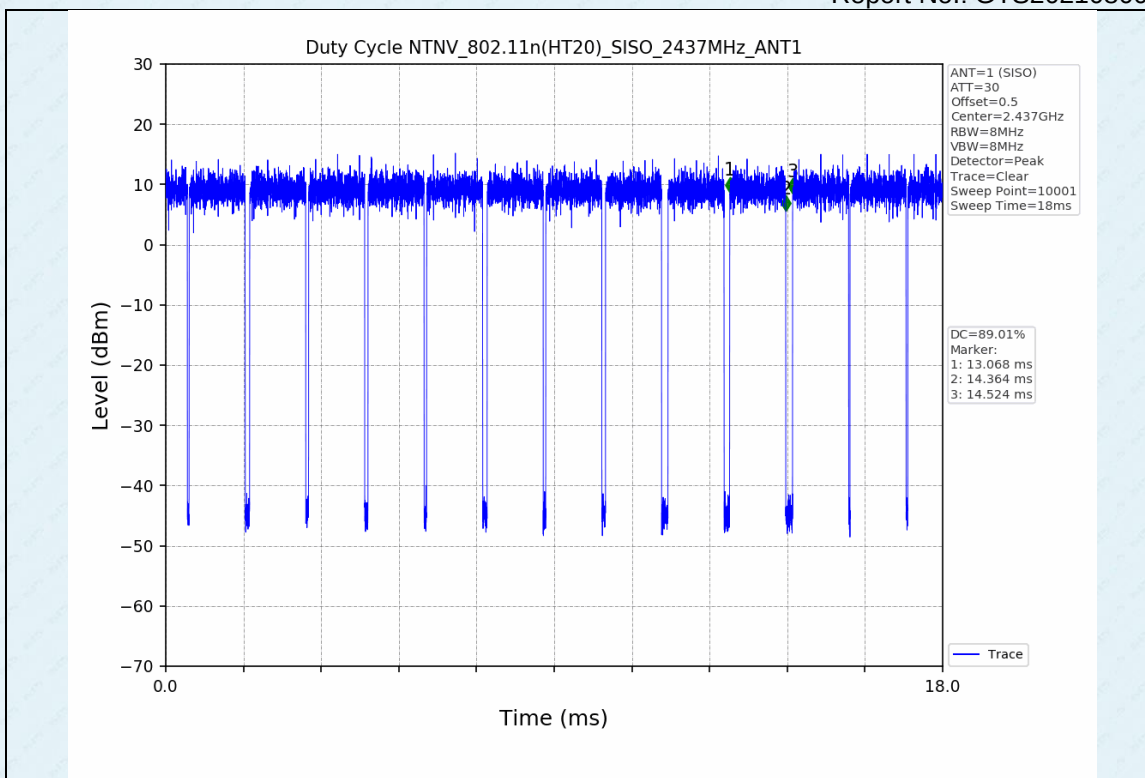
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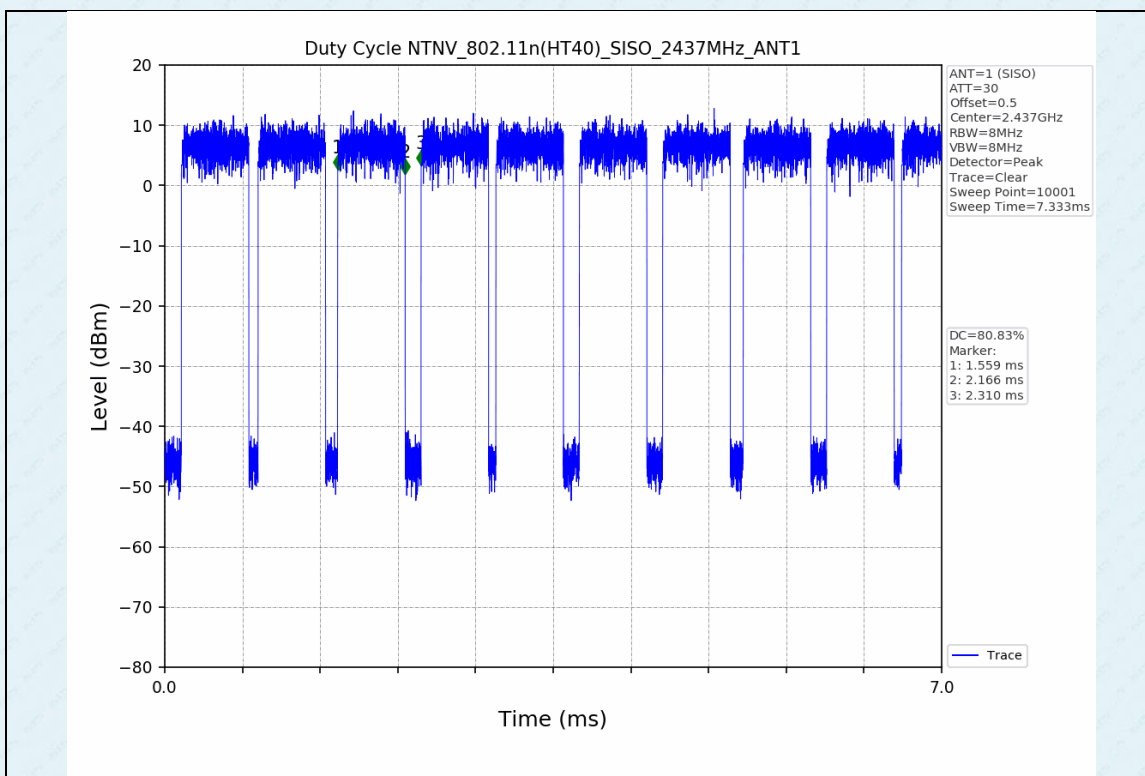
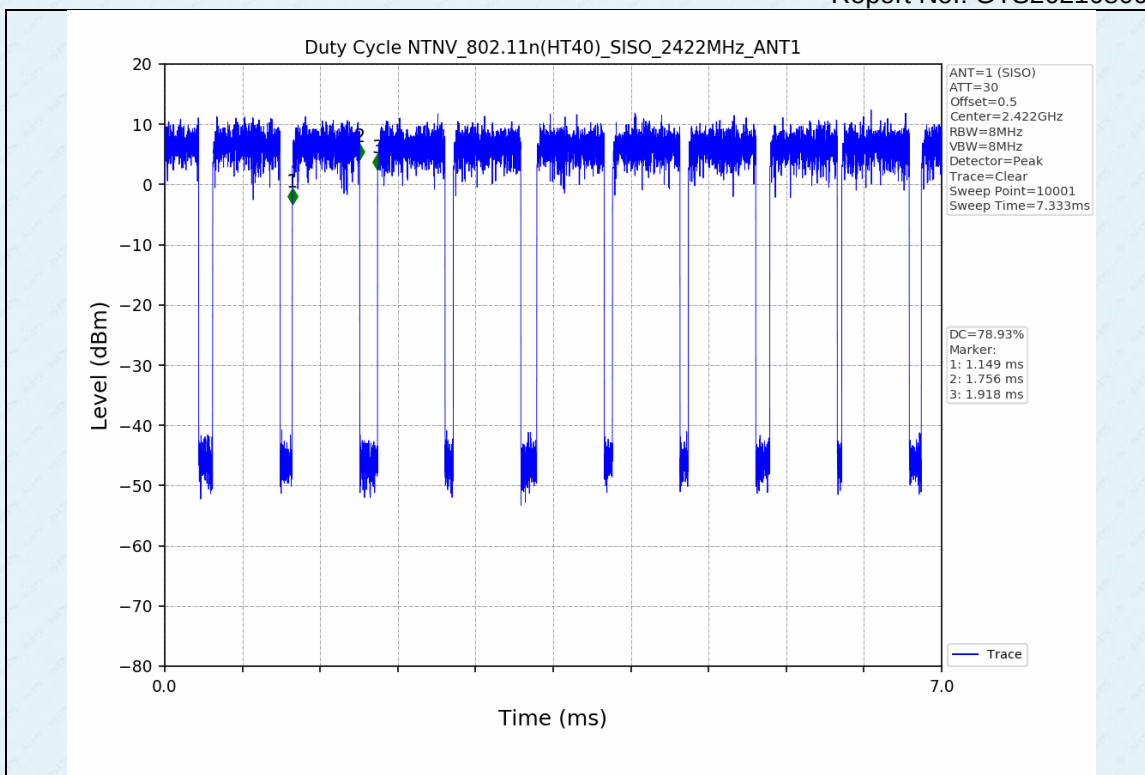


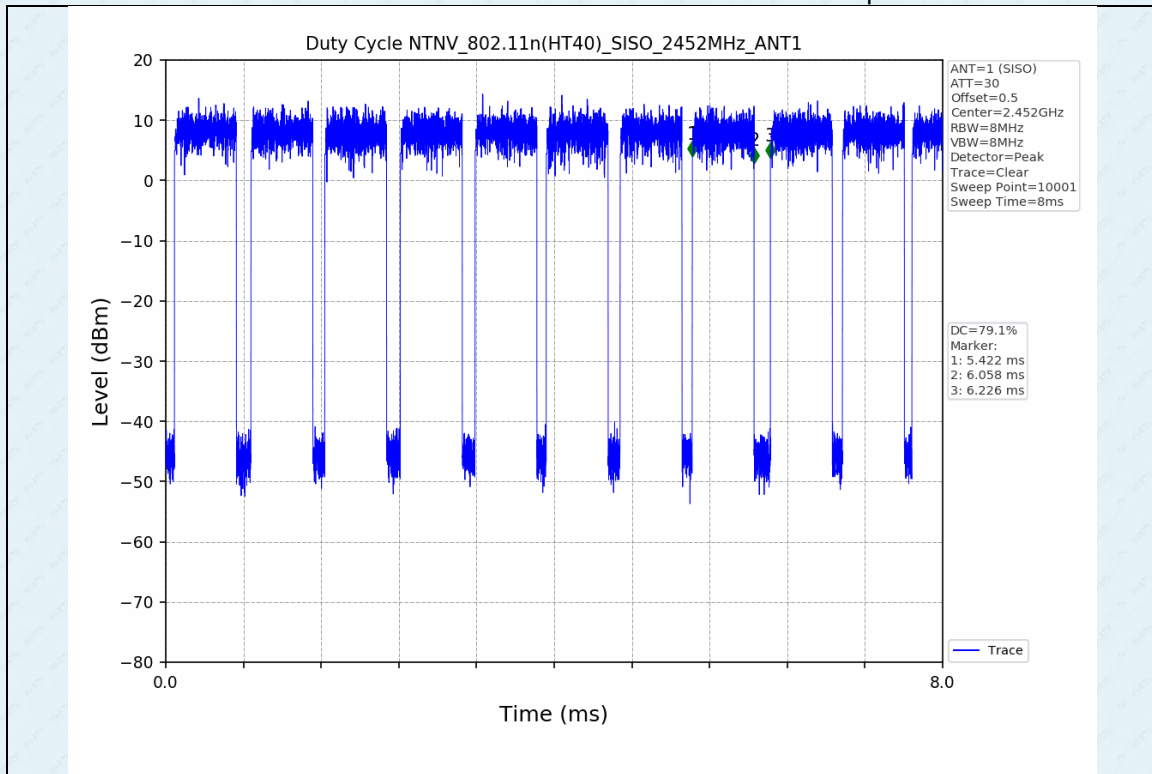












2. Bandwidth

2.1 Test Result

ANT 1:

Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth	Verdict
				Test Result (MHz)	
802.11b	2412	SISO	1	10.081	PASS
	2437	SISO	1	10.088	PASS
	2462	SISO	1	10.073	PASS
802.11g	2412	SISO	1	15.093	PASS
	2437	SISO	1	15.147	PASS
	2462	SISO	1	15.155	PASS
802.11n(HT20)	2412	SISO	1	15.131	PASS
	2437	SISO	1	15.126	PASS
	2462	SISO	1	15.108	PASS
802.11n(HT40)	2422	SISO	1	35.085	PASS
	2437	SISO	1	35.144	PASS
	2452	SISO	1	35.113	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
802.11b	2412	SISO	1	14.714	Only for Report Use
	2437	SISO	1	14.771	Only for Report Use
	2462	SISO	1	14.696	Only for Report Use
802.11g	2412	SISO	1	16.665	Only for Report Use
	2437	SISO	1	16.713	Only for Report Use
	2462	SISO	1	16.670	Only for Report Use
802.11n(HT20)	2412	SISO	1	17.605	Only for Report Use
	2437	SISO	1	17.622	Only for Report Use
	2462	SISO	1	17.601	Only for Report Use
802.11n(HT40)	2422	SISO	1	35.986	Only for Report Use
	2437	SISO	1	36.119	Only for Report Use
	2452	SISO	1	36.074	Only for Report Use

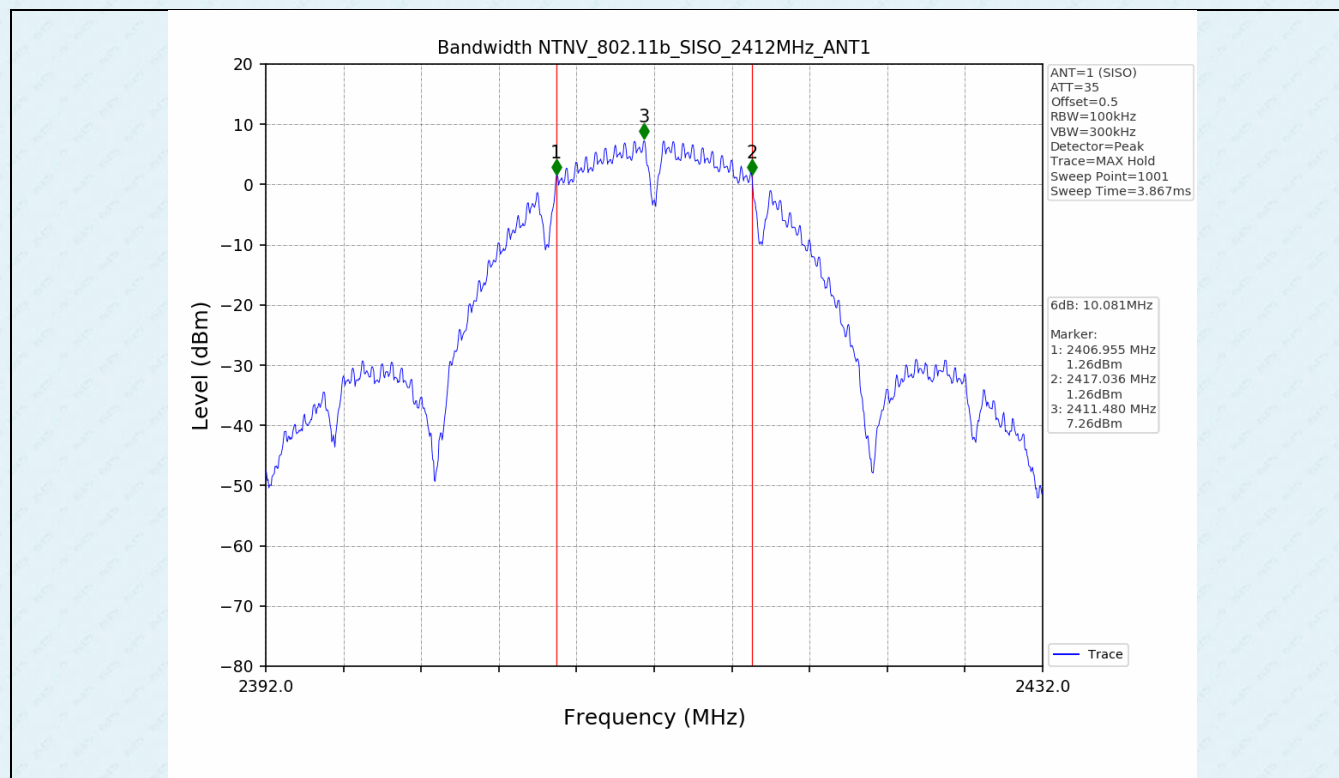
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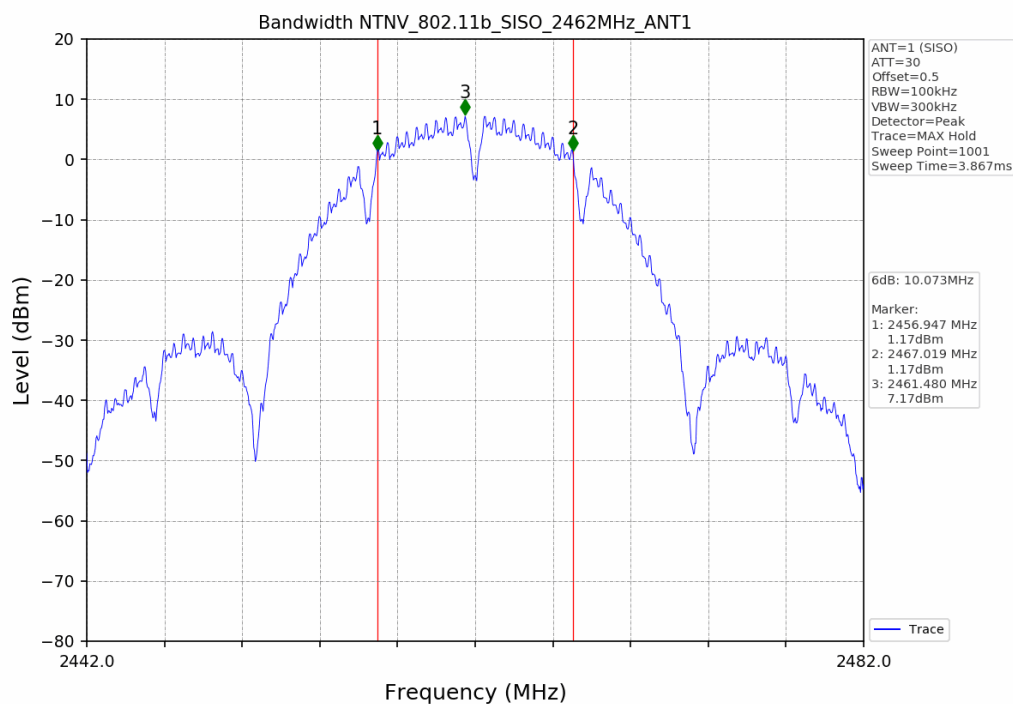
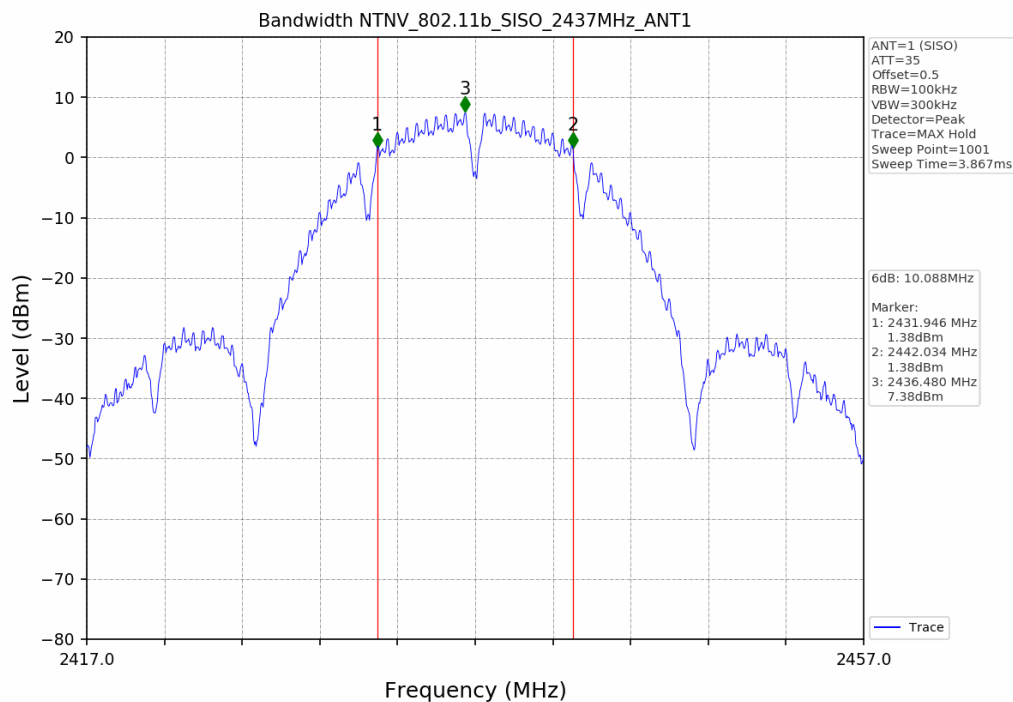
Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth	Verdict
				Test Result (MHz)	
802.11b	2412	SISO	1	9.610	PASS
	2437	SISO	1	9.619	PASS
	2462	SISO	1	9.601	PASS
802.11g	2412	SISO	1	15.128	PASS
	2437	SISO	1	15.721	PASS
	2462	SISO	1	15.129	PASS
802.11n(HT20)	2412	SISO	1	15.691	PASS
	2437	SISO	1	15.158	≥0.5
	2462	SISO	1	15.721	PASS
802.11n(HT40)	2422	SISO	1	35.208	PASS
	2437	SISO	1	35.125	PASS
	2452	SISO	1	28.772	PASS

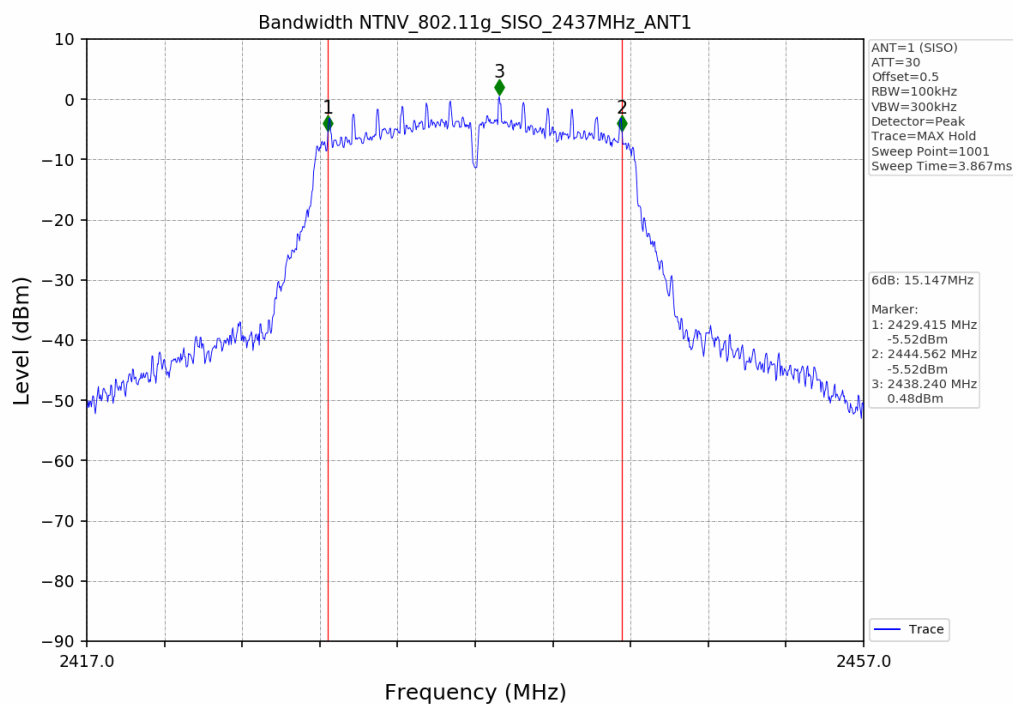
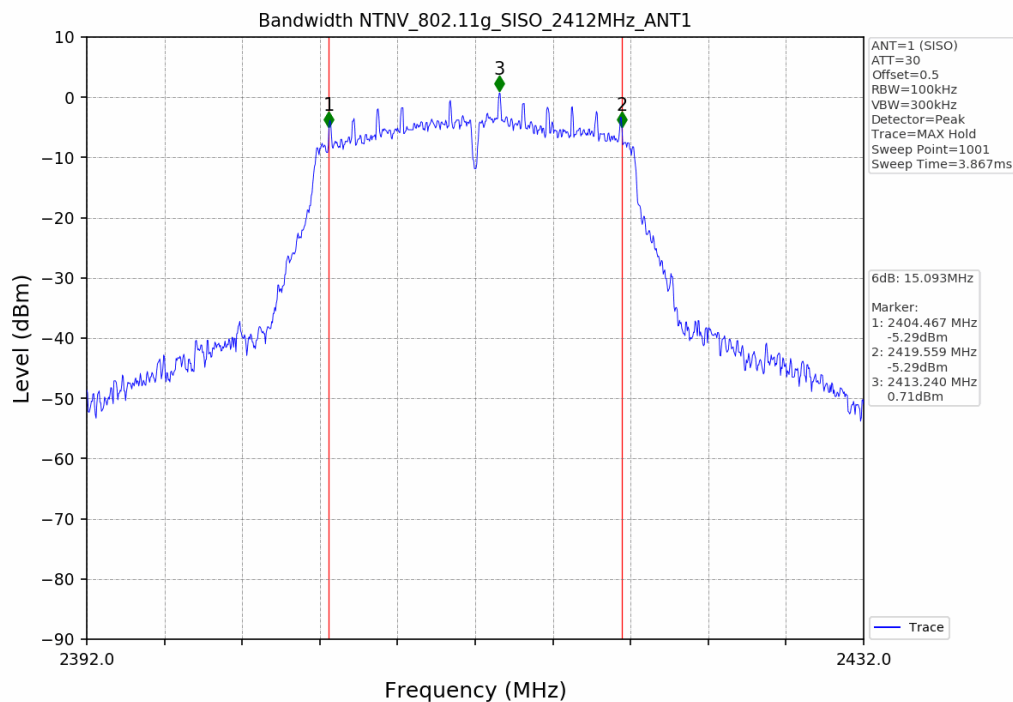
Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
802.11b	2412	SISO	1	14.568	Only for Report Use
	2437	SISO	1	14.609	Only for Report Use
	2462	SISO	1	14.514	Only for Report Use
802.11g	2412	SISO	1	16.543	Only for Report Use
	2437	SISO	1	16.644	Only for Report Use
	2462	SISO	1	16.535	Only for Report Use
802.11n(HT20)	2412	SISO	1	17.522	Only for Report Use
	2437	SISO	1	17.598	Only for Report Use
	2462	SISO	1	17.528	Only for Report Use
802.11n(HT40)	2422	SISO	1	37.643	Only for Report Use
	2437	SISO	1	38.037	Only for Report Use
	2452	SISO	1	36.337	Only for Report Use

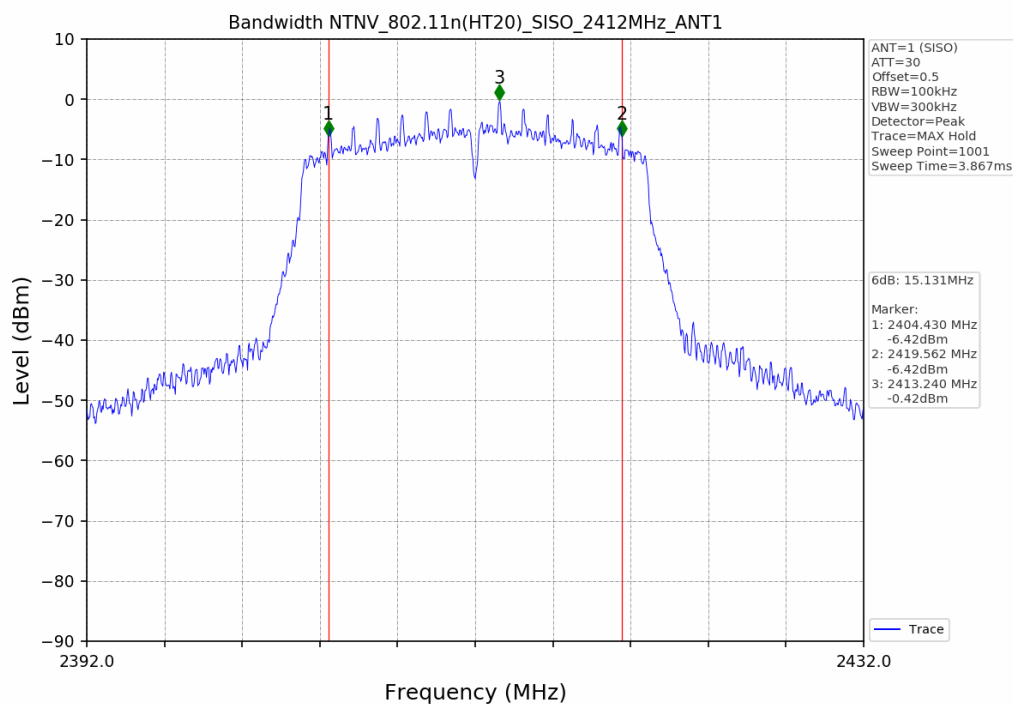
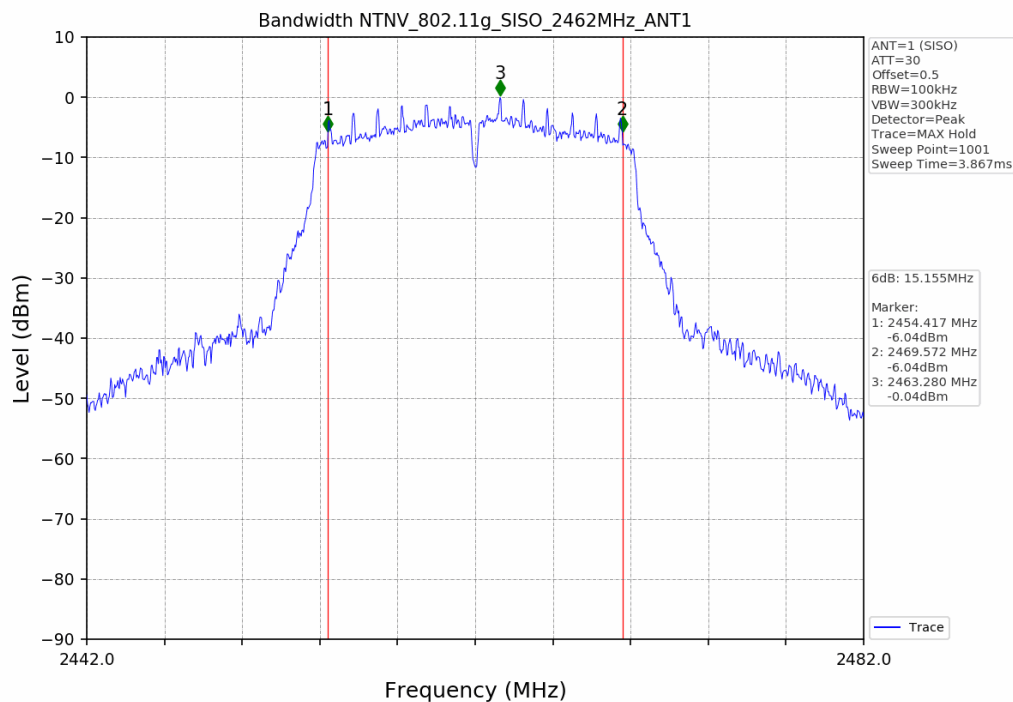
2.2 Test Graph - 6dB Bandwidth

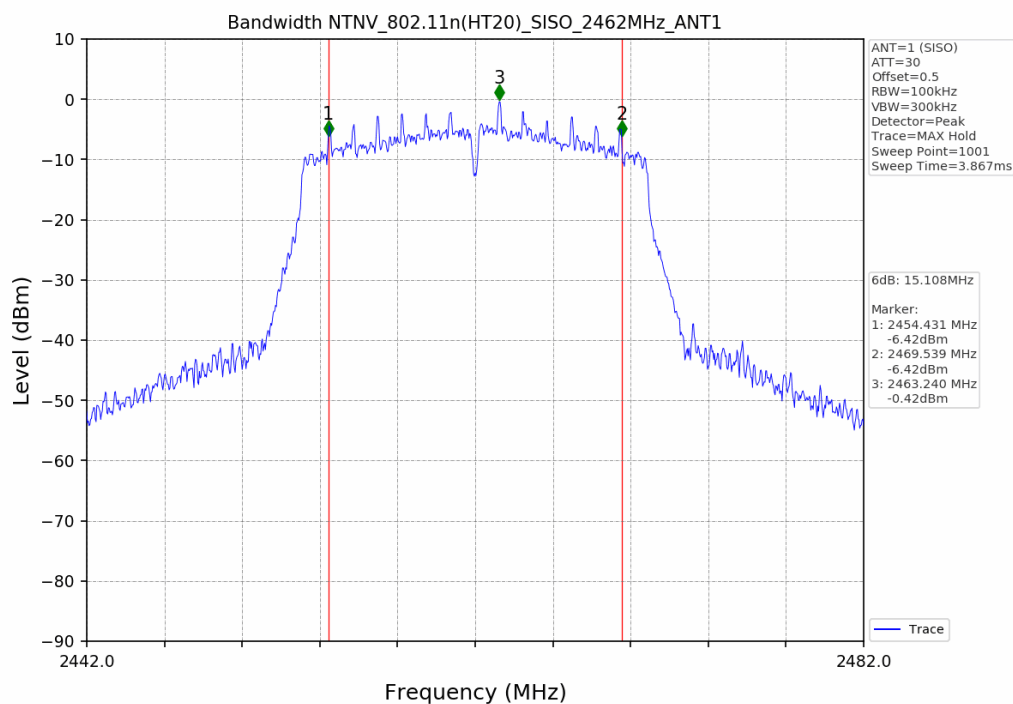
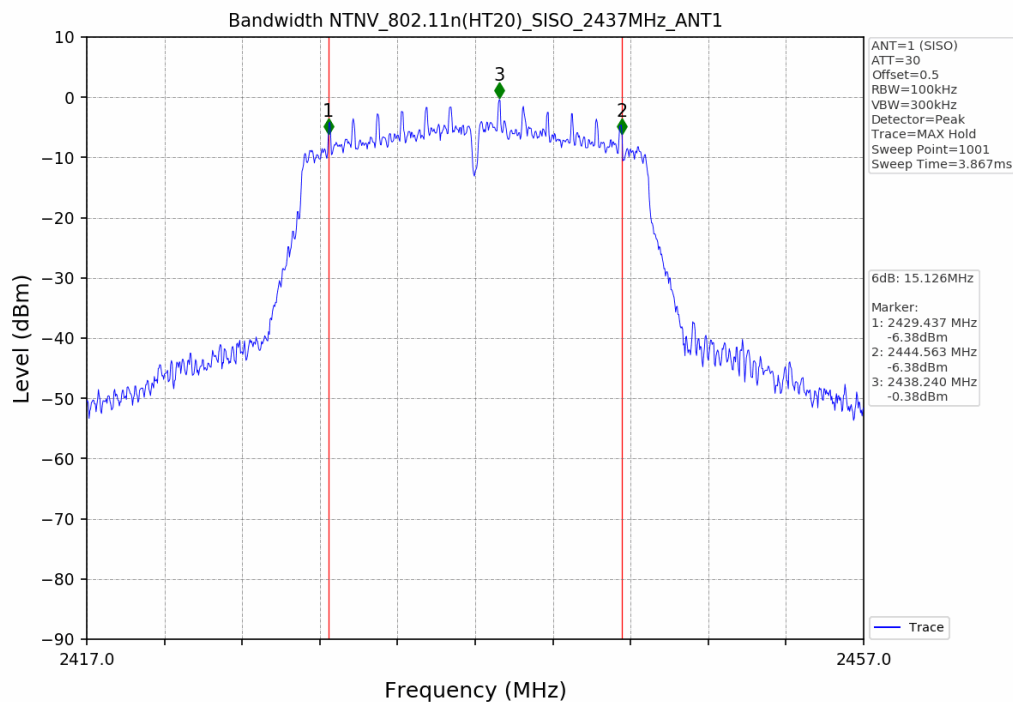
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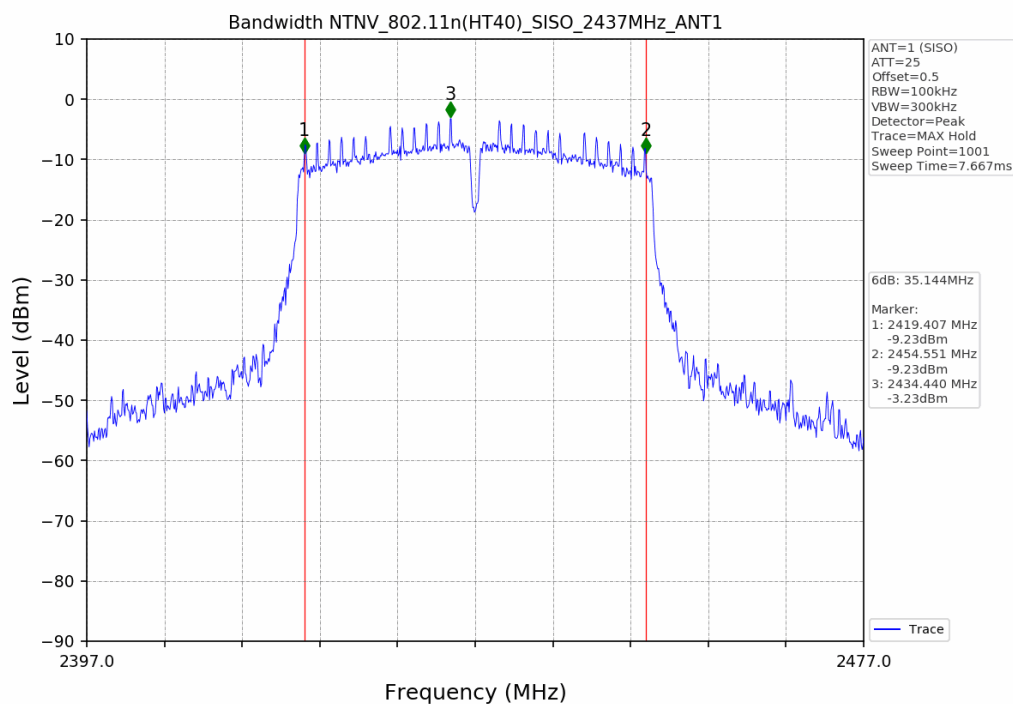
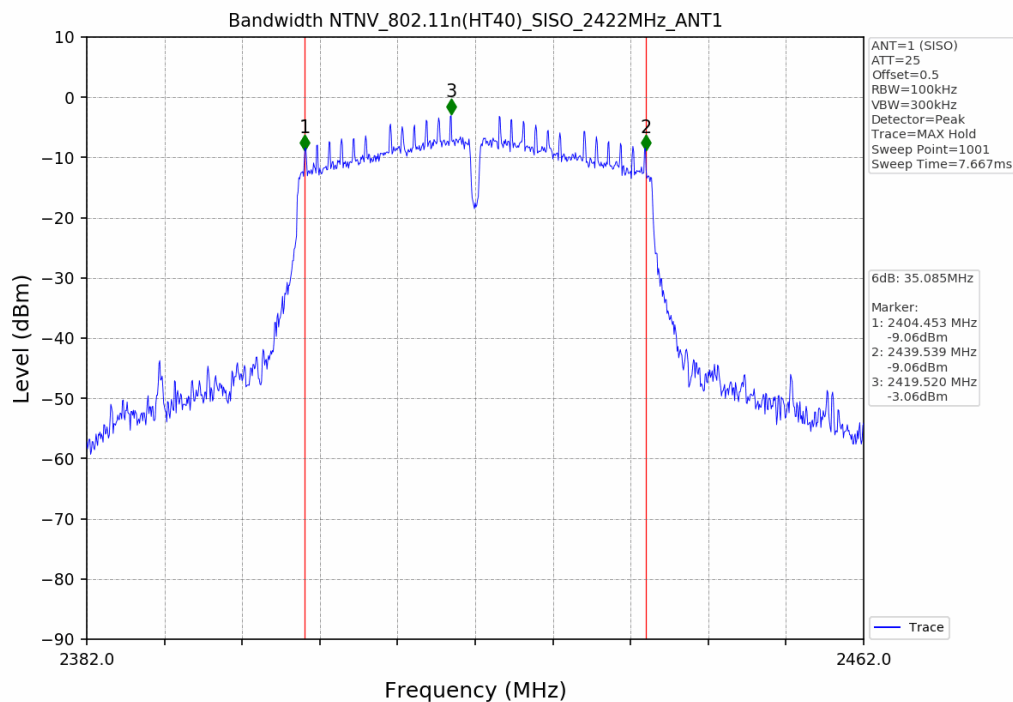


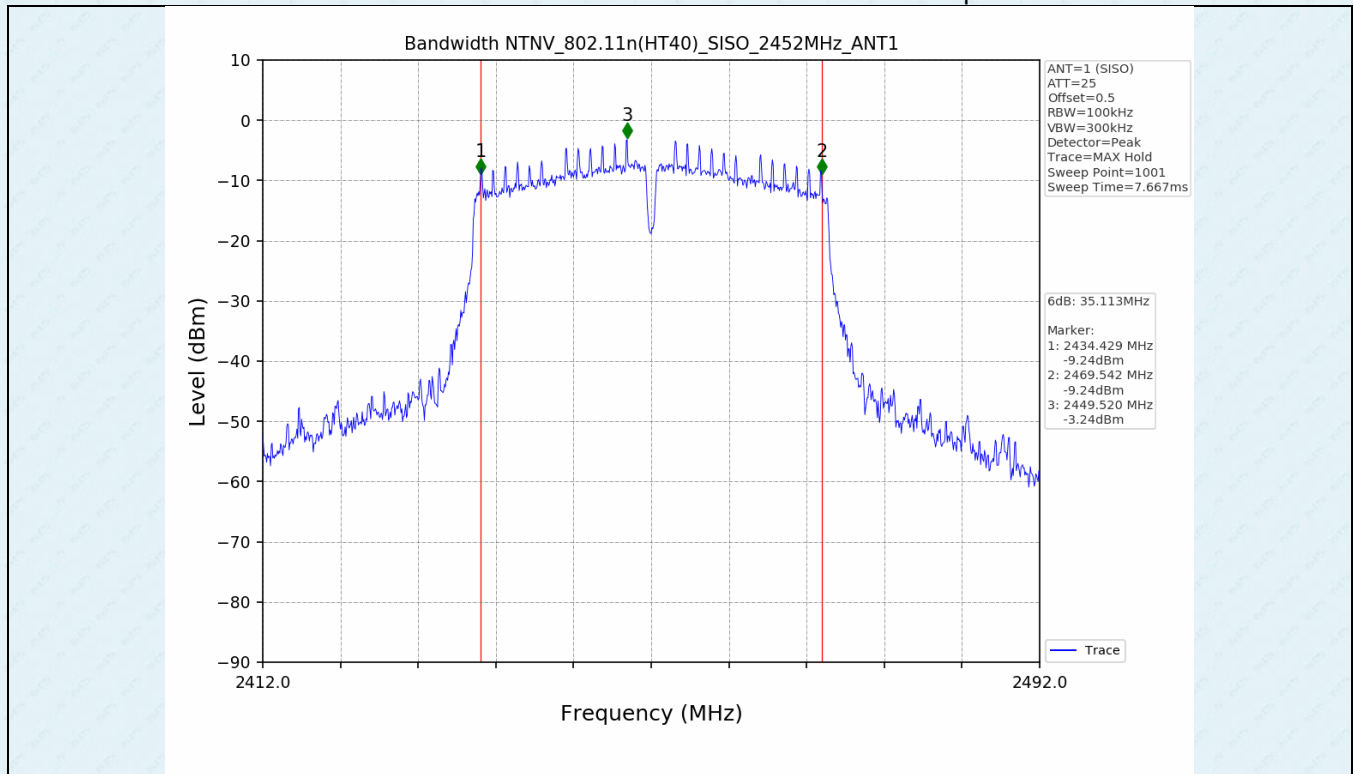




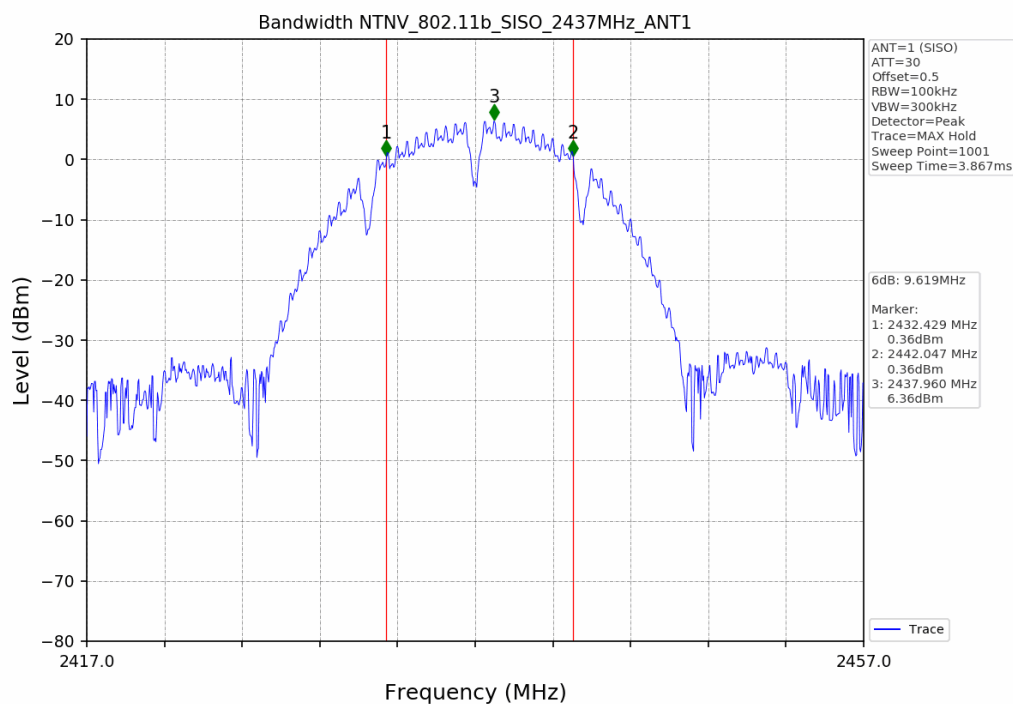
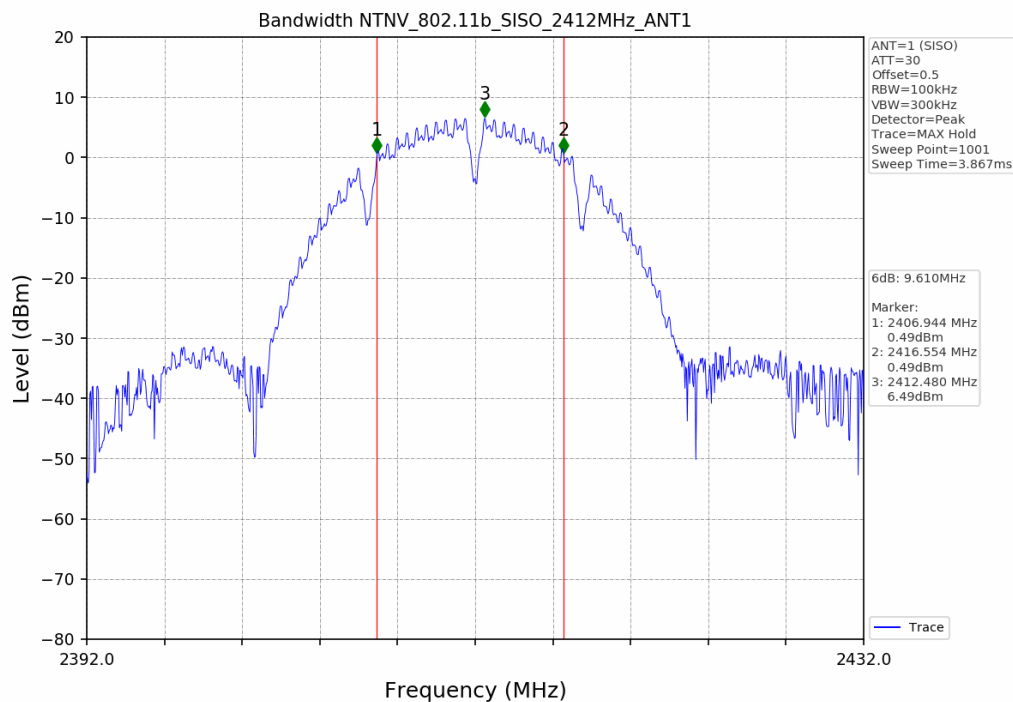


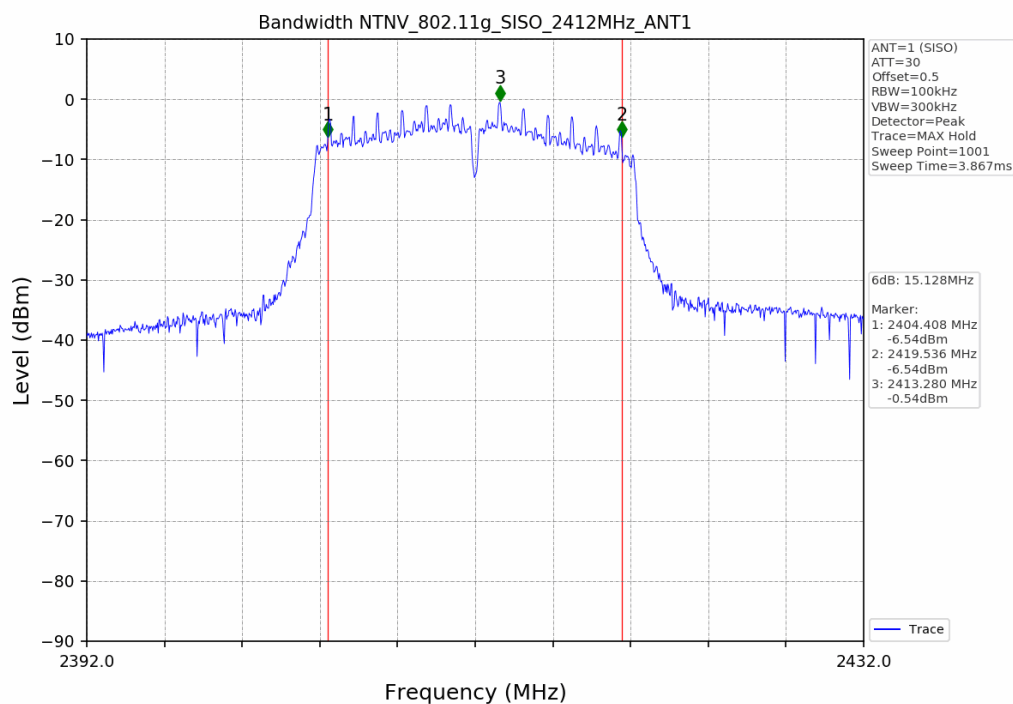
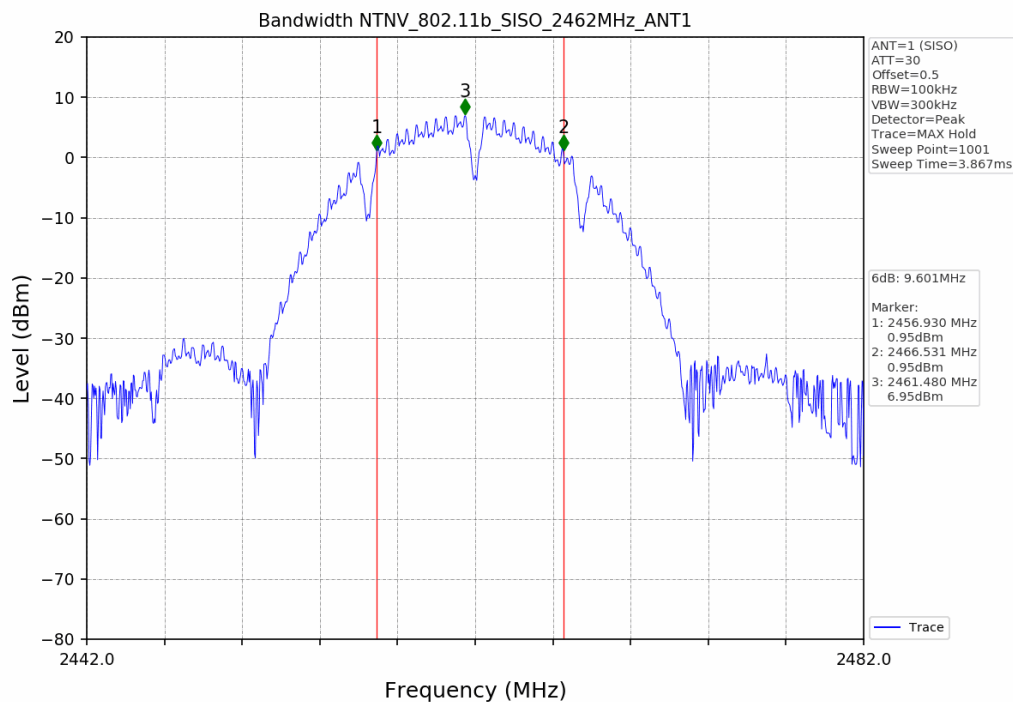


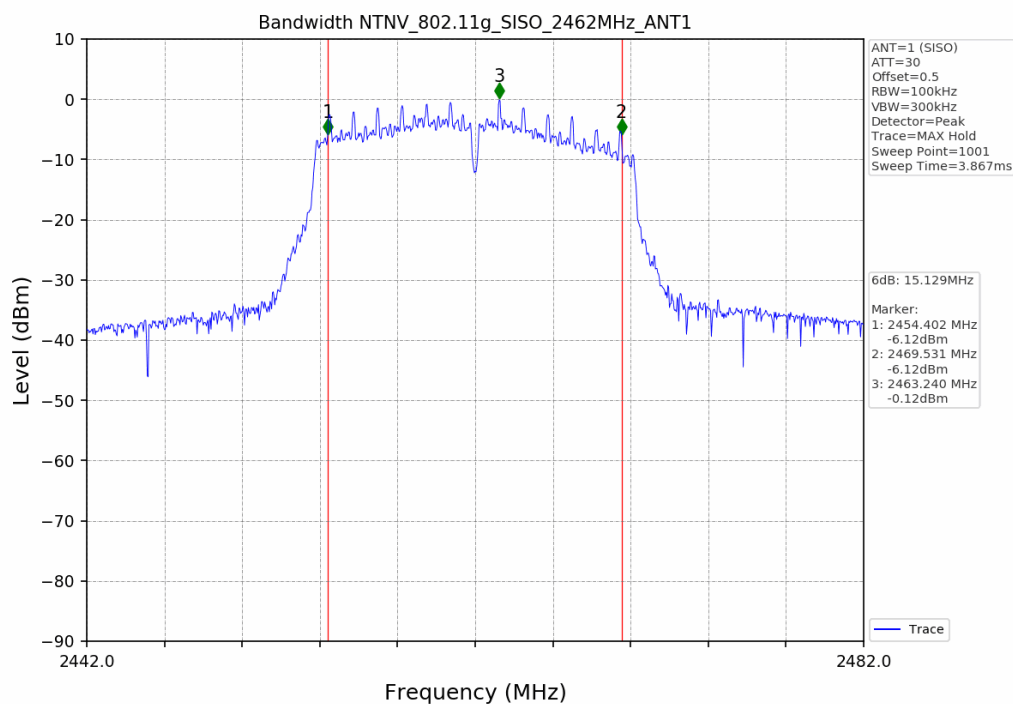
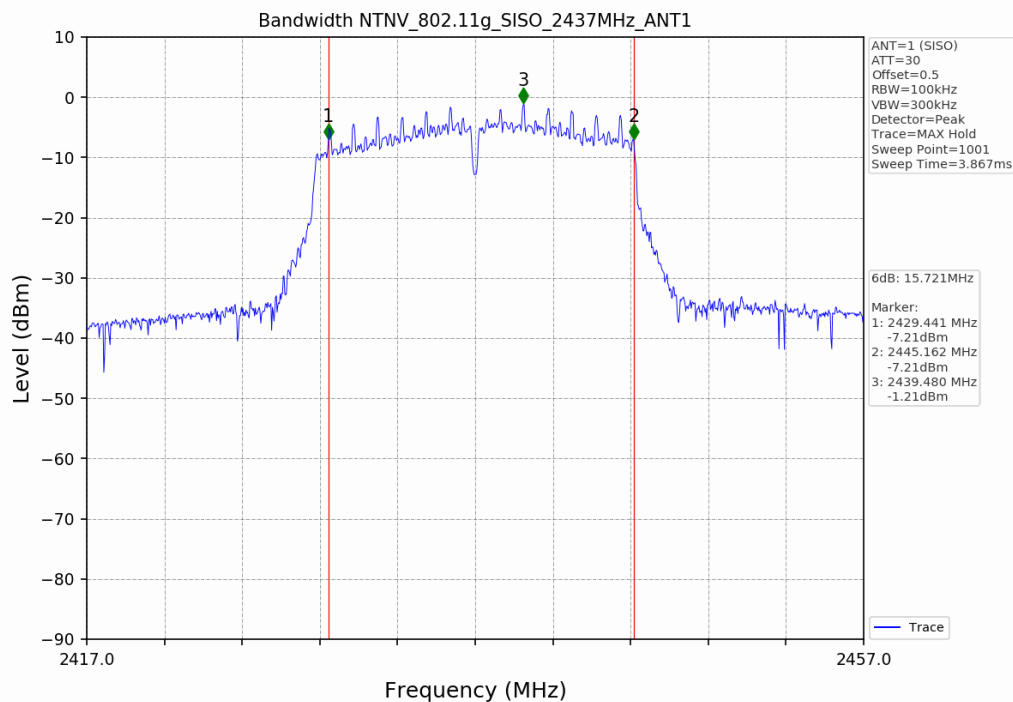


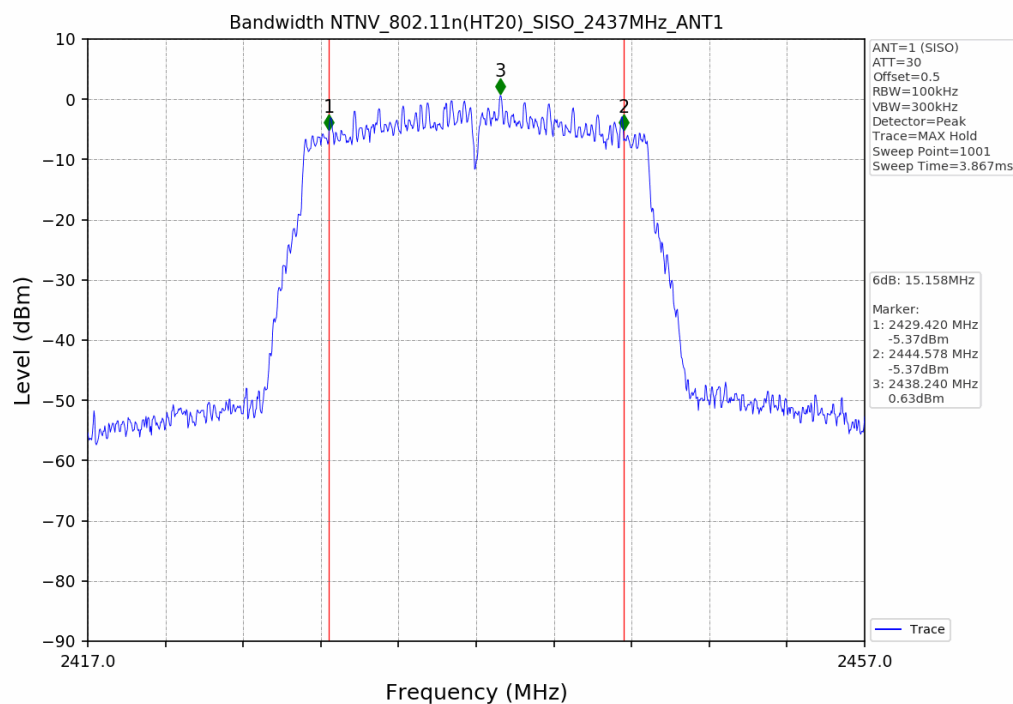
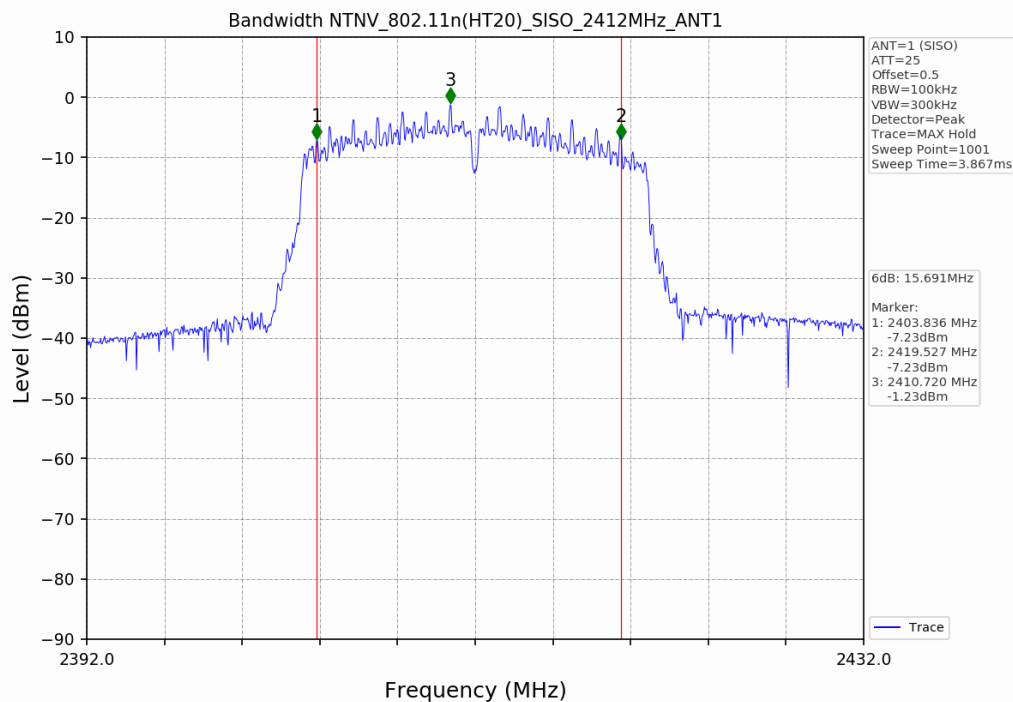


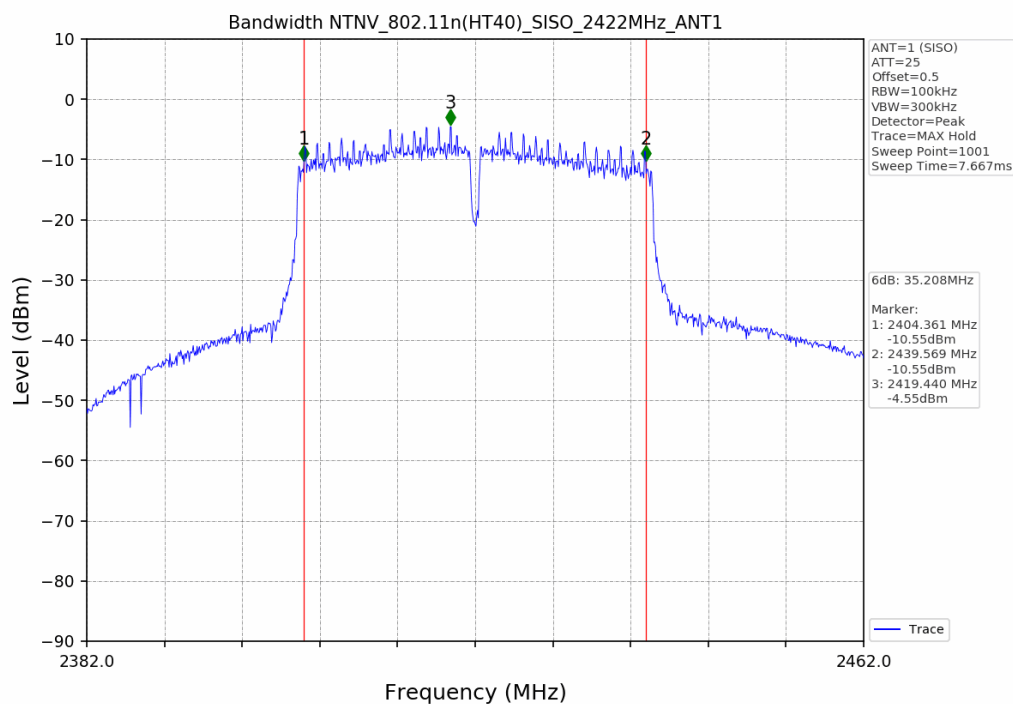
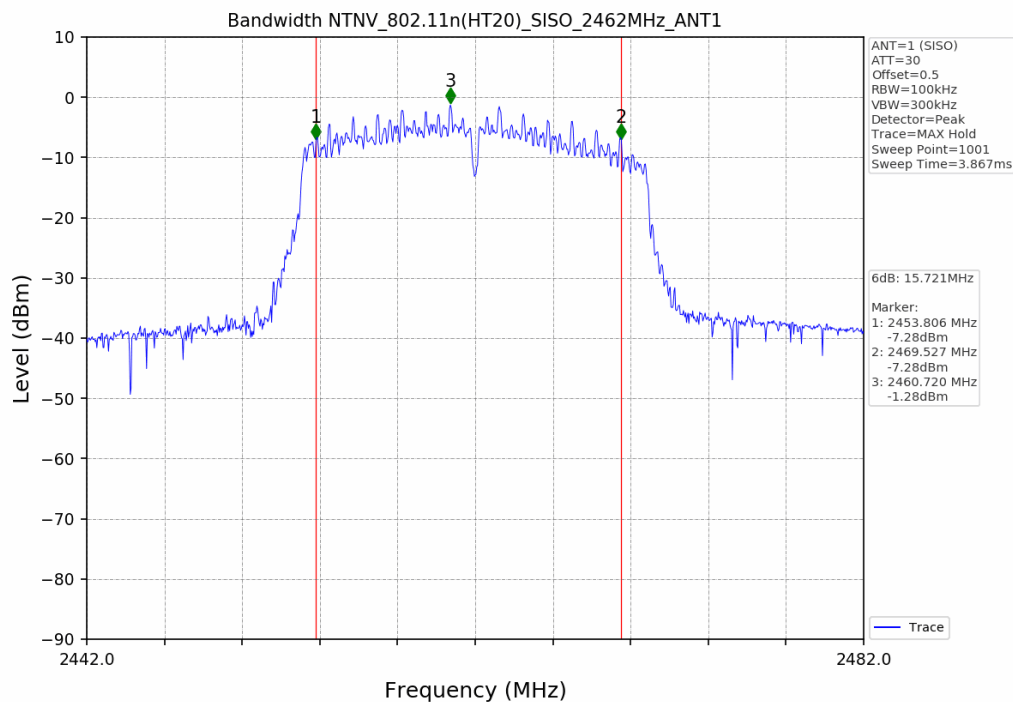
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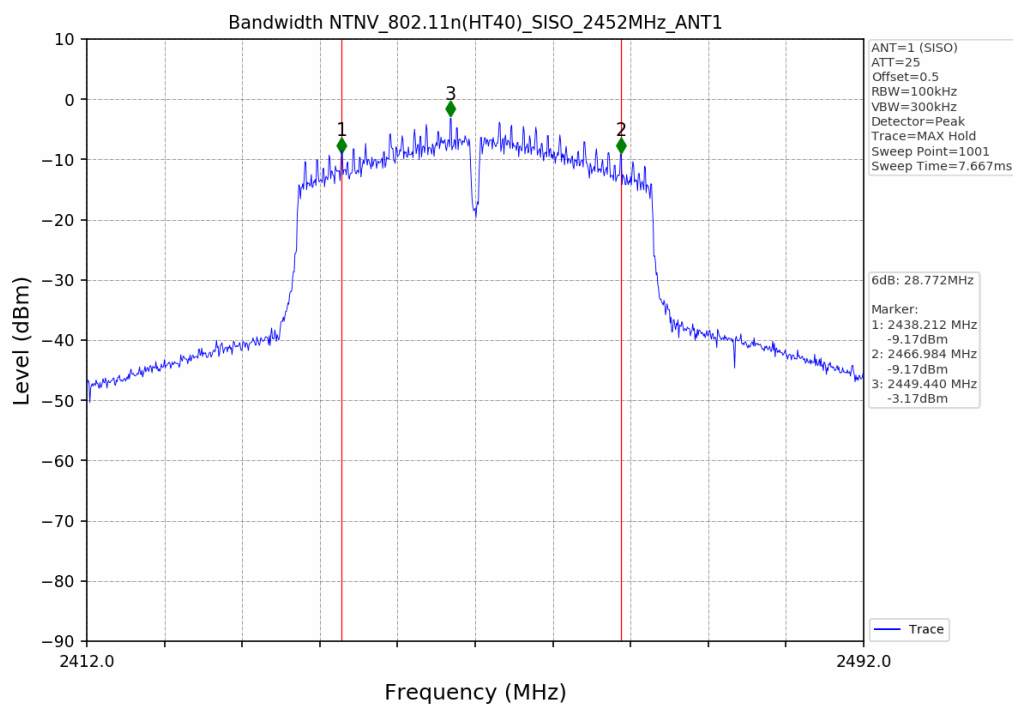
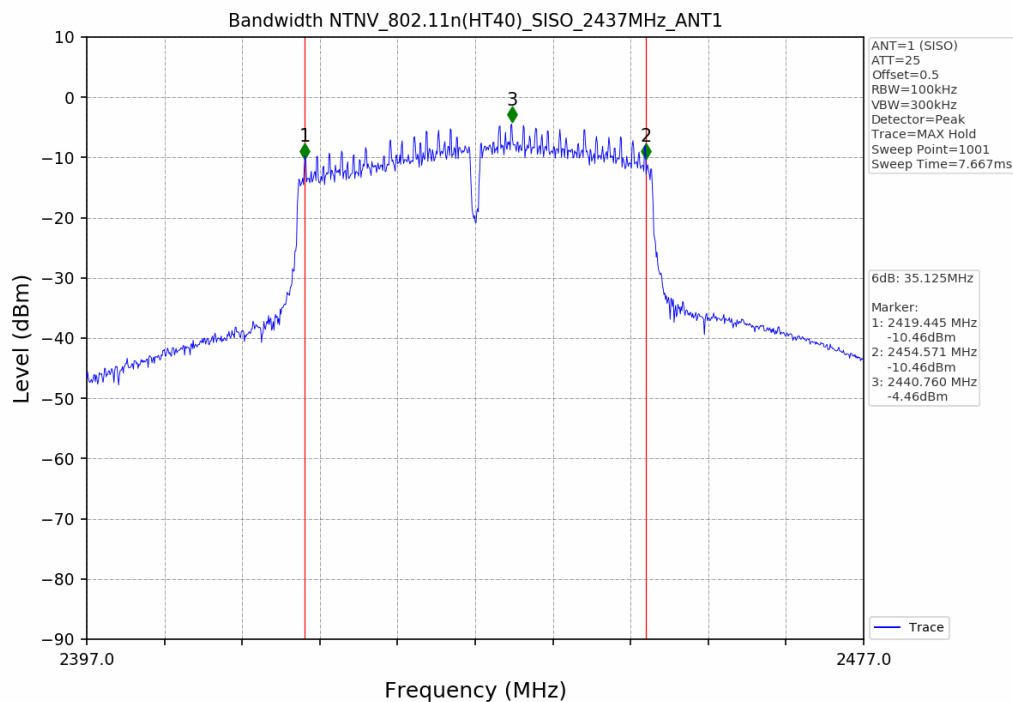




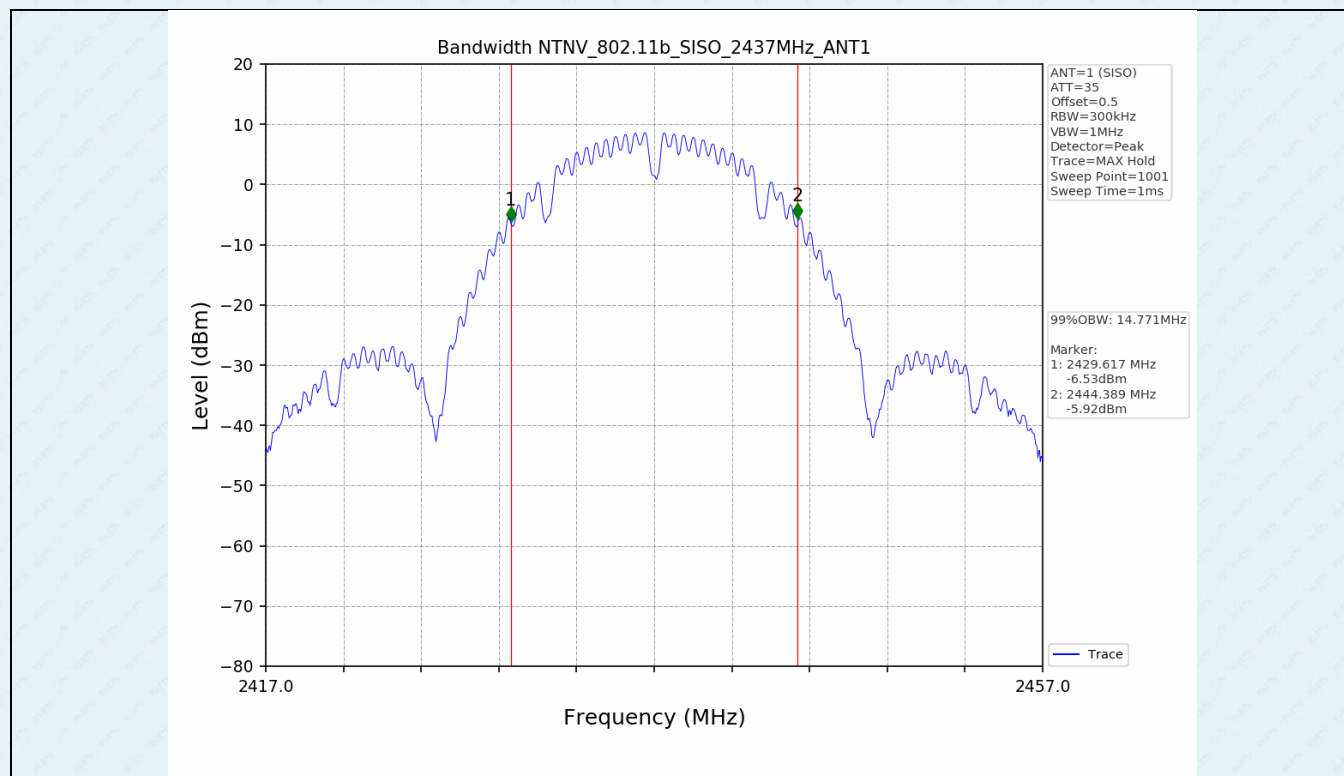
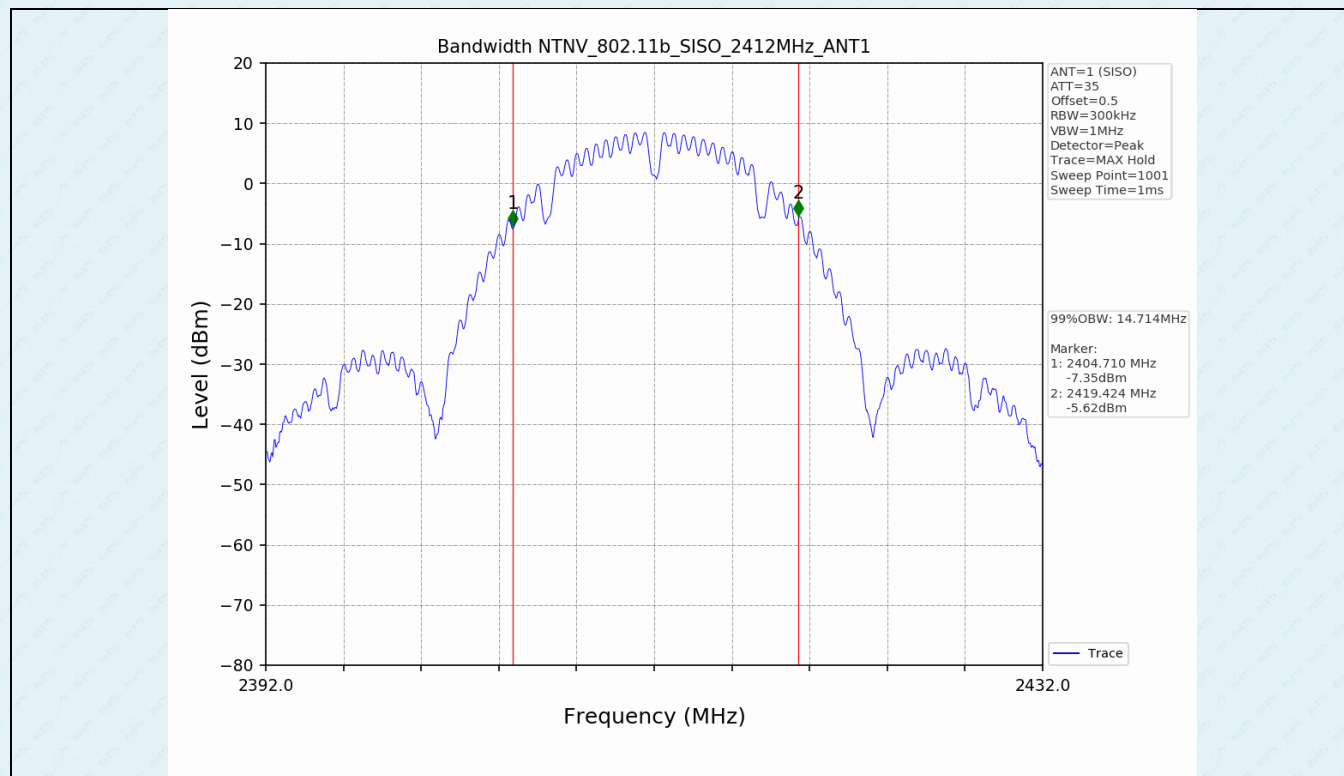


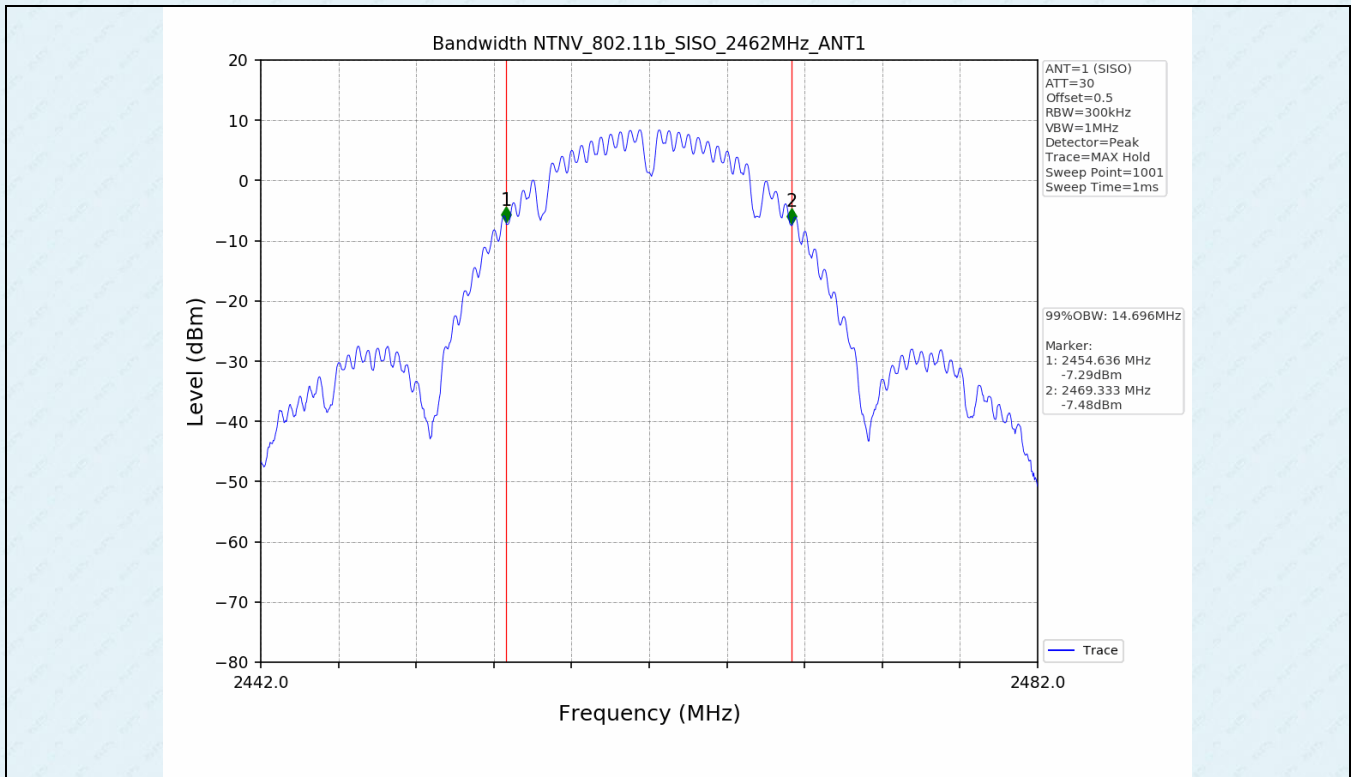


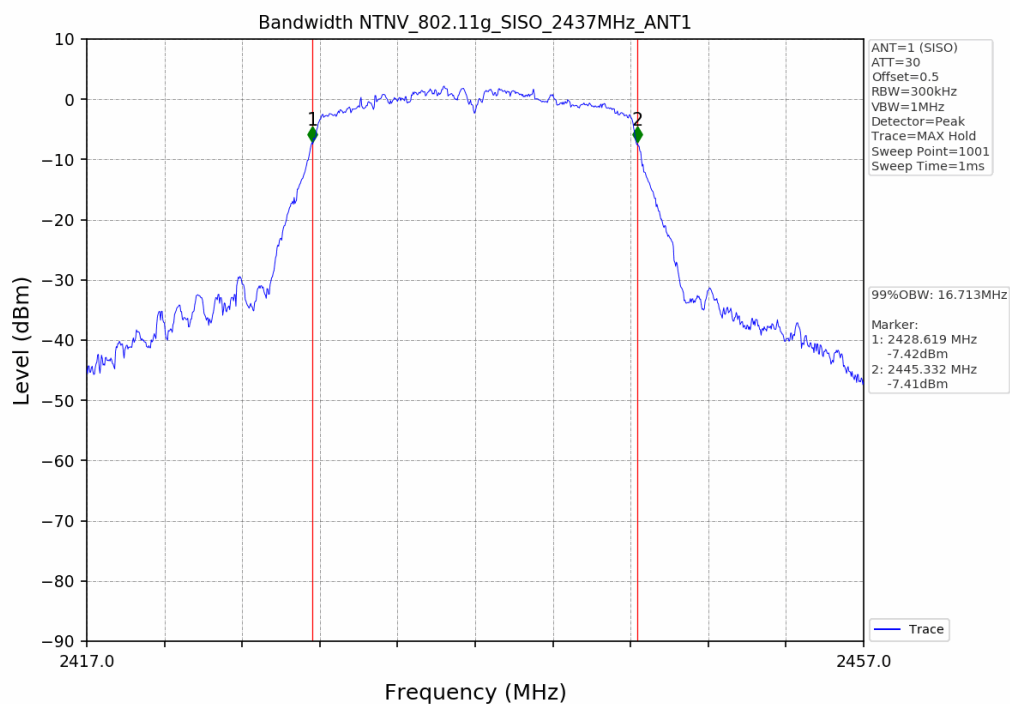
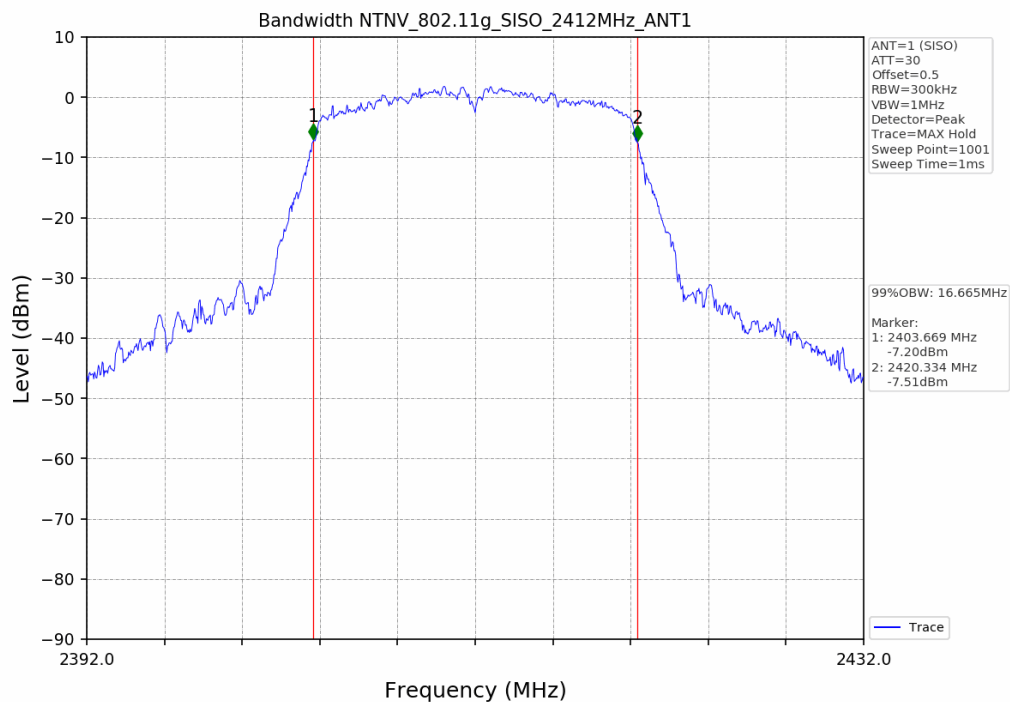


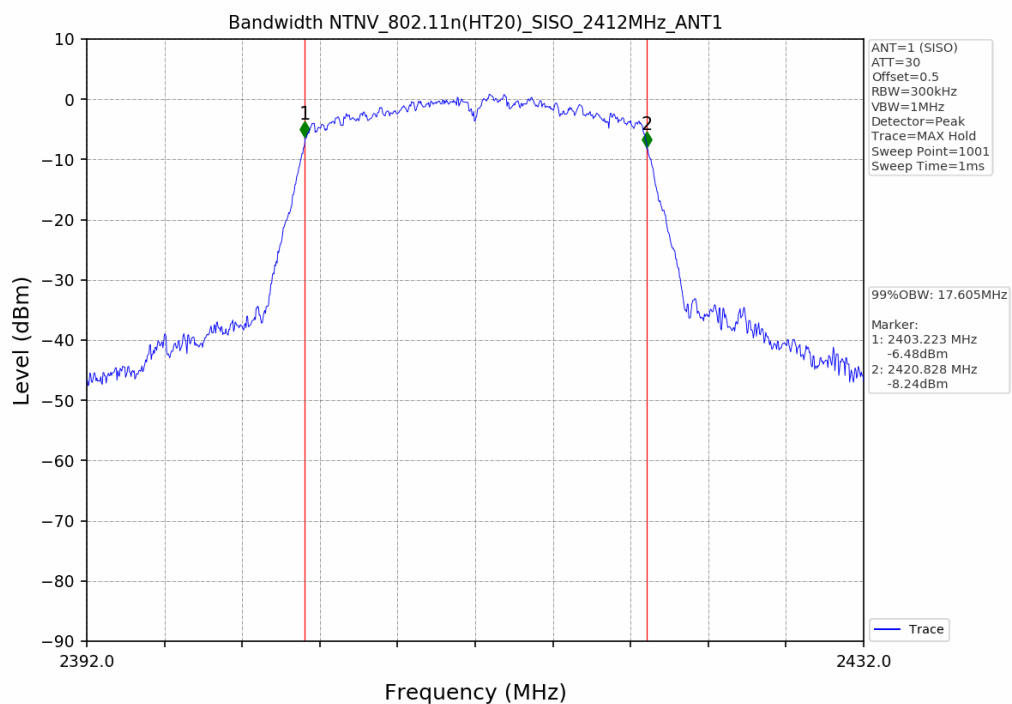
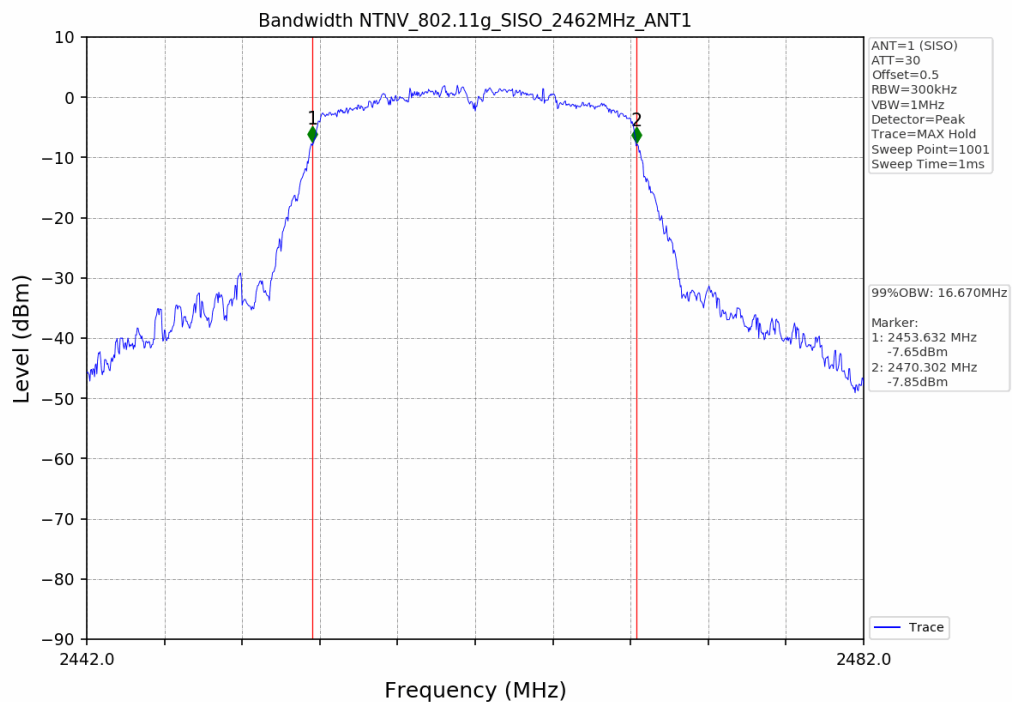


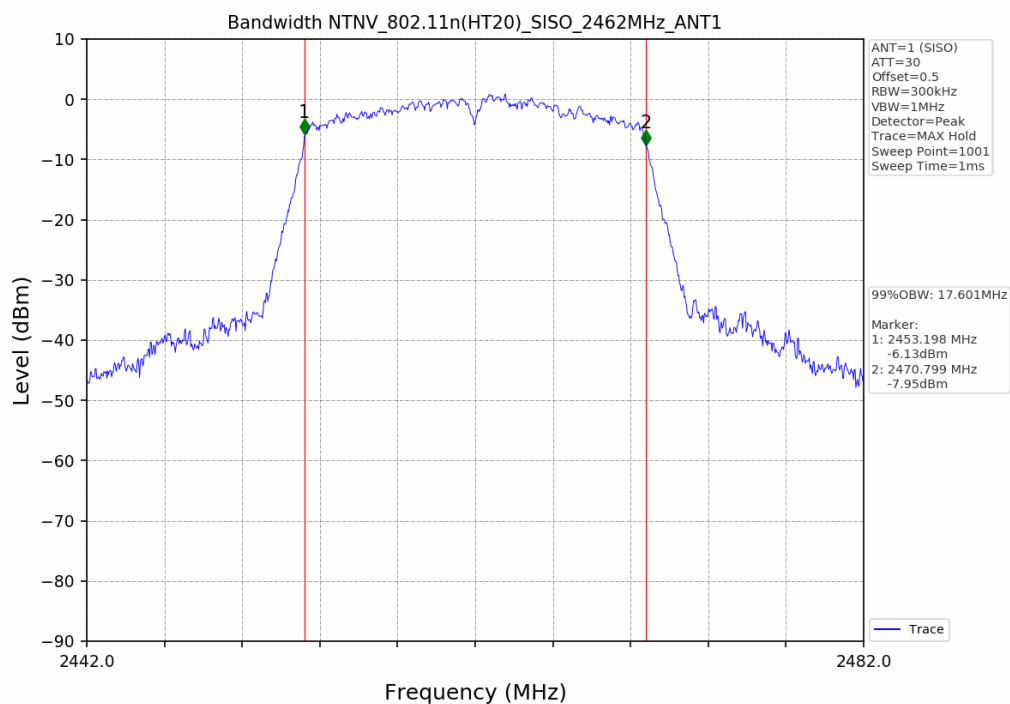
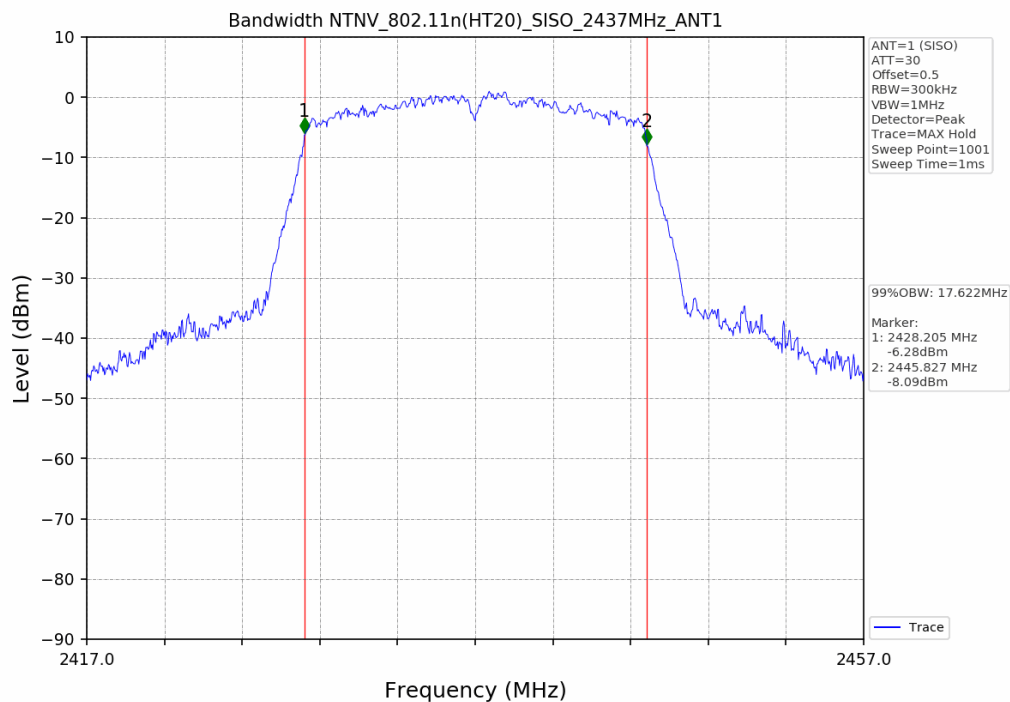
2.3 Test Graph - 99% Occupied Bandwidth

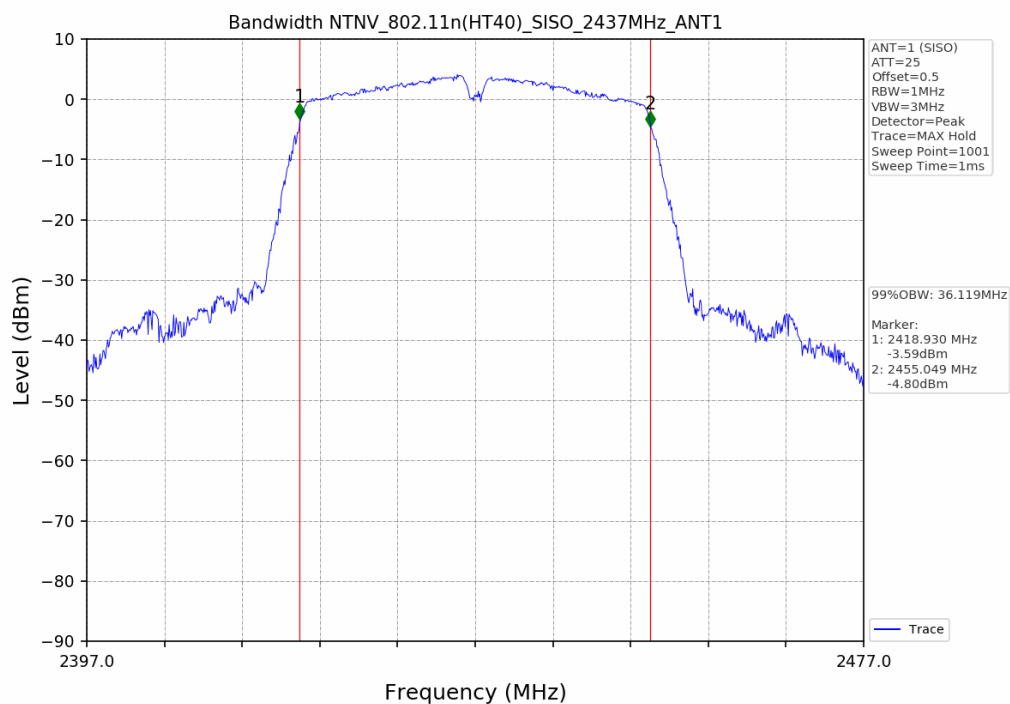
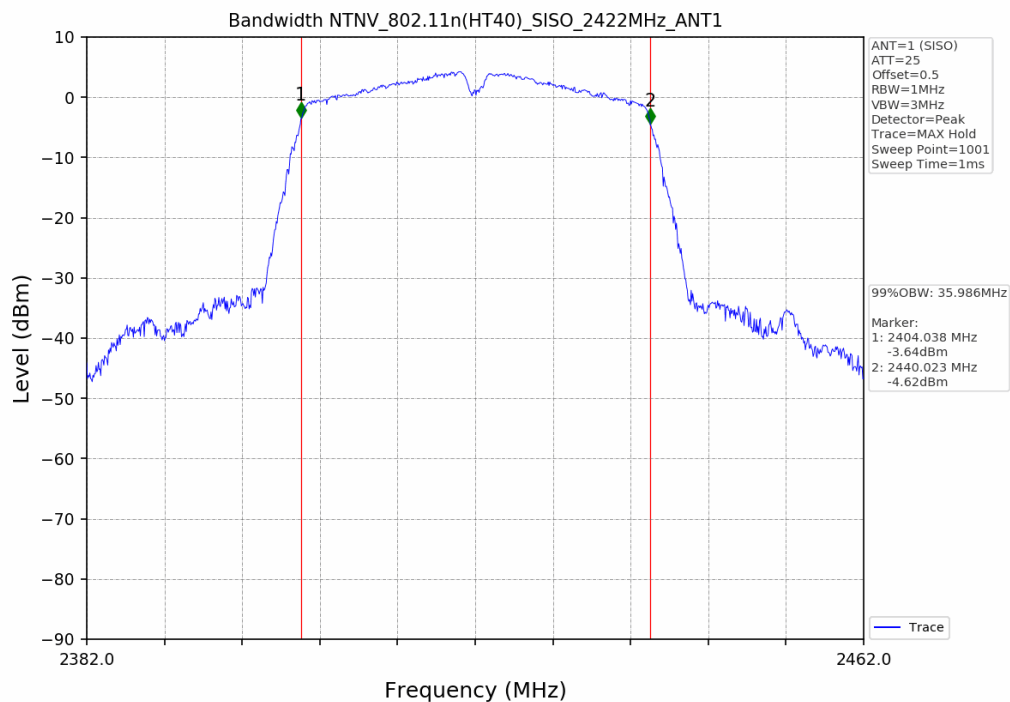


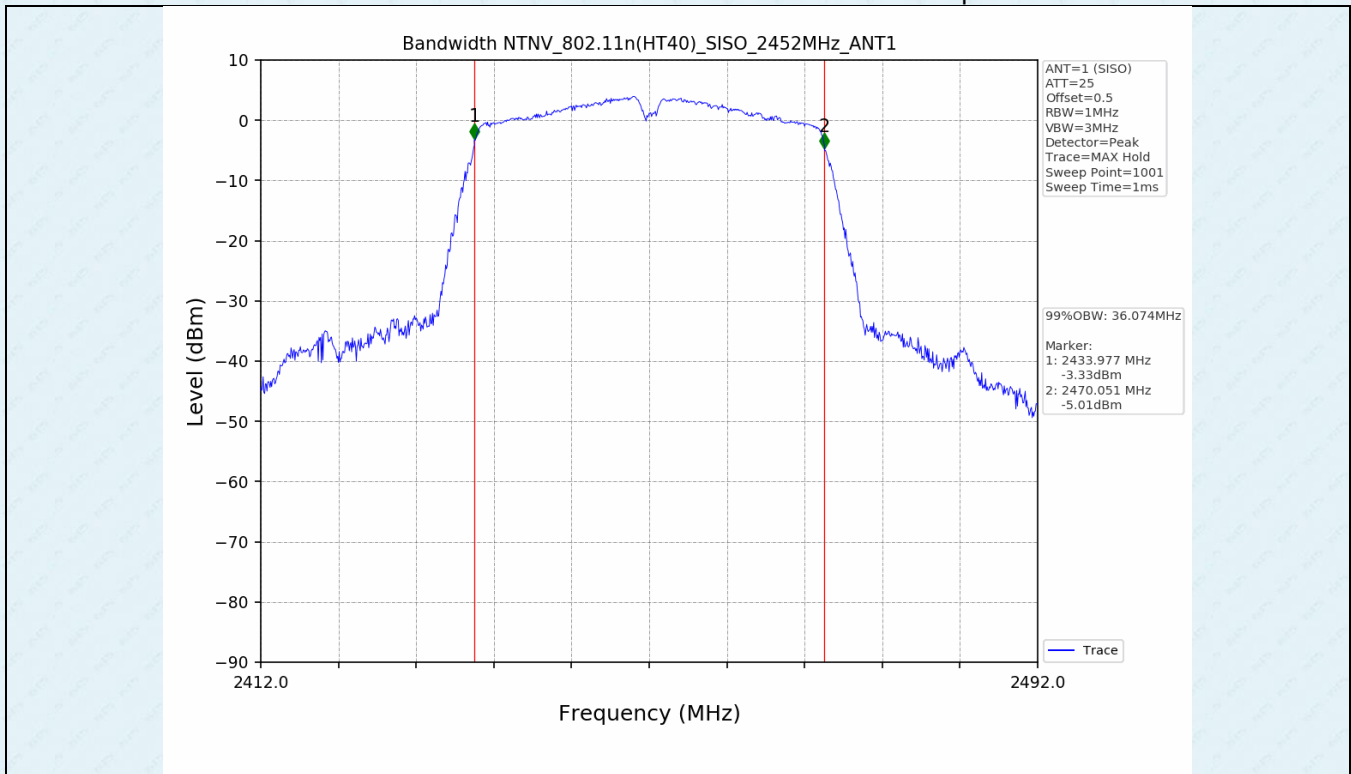




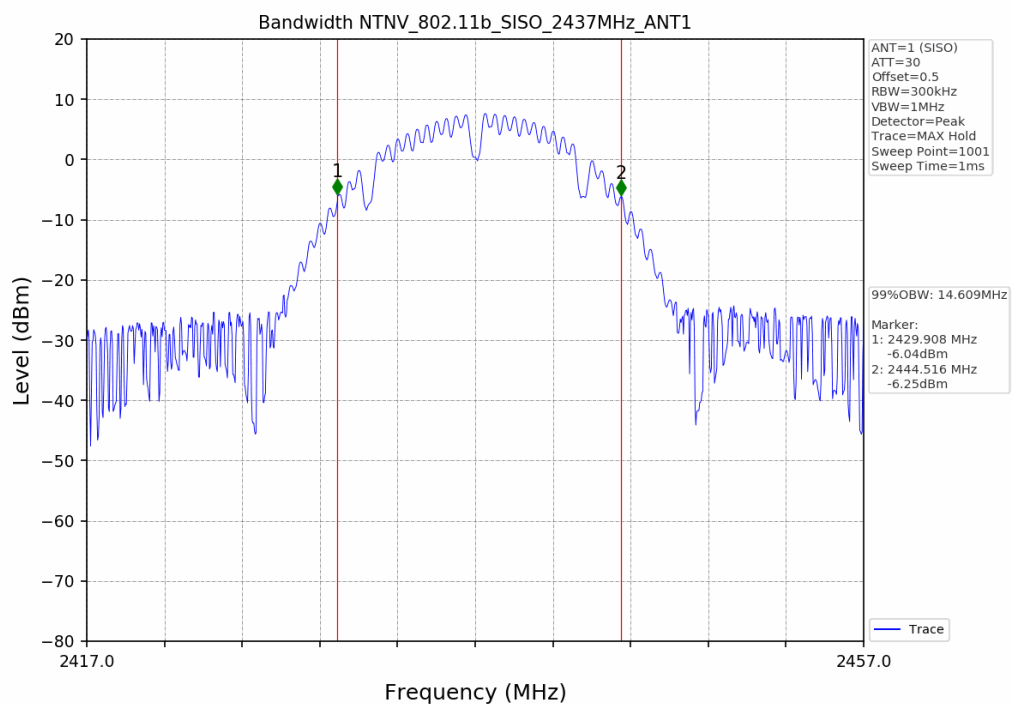
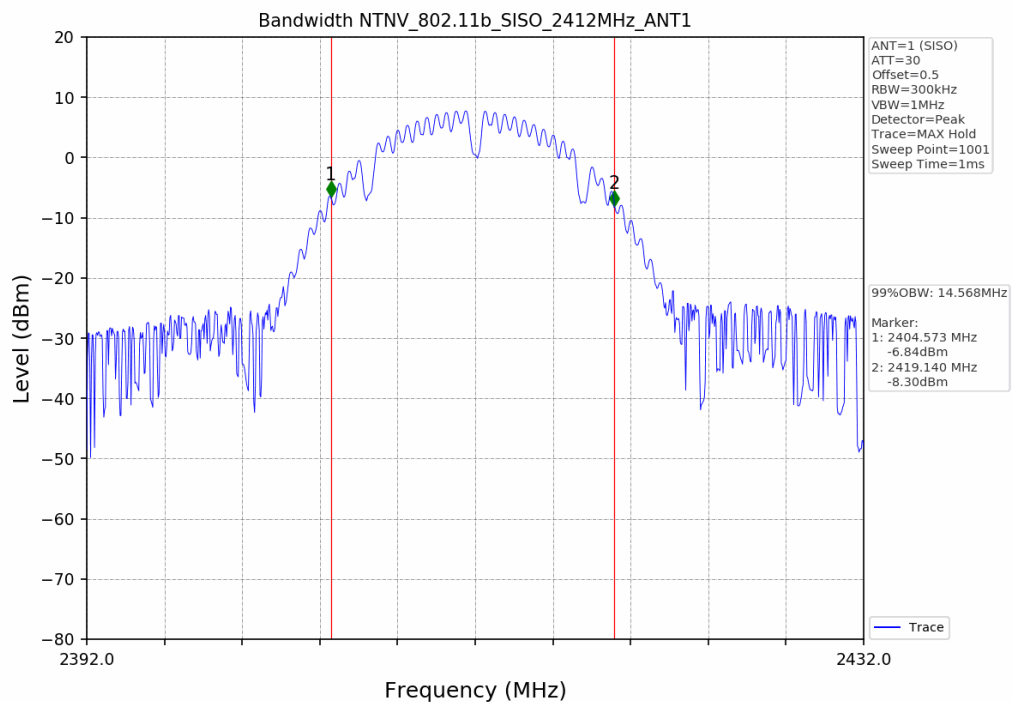


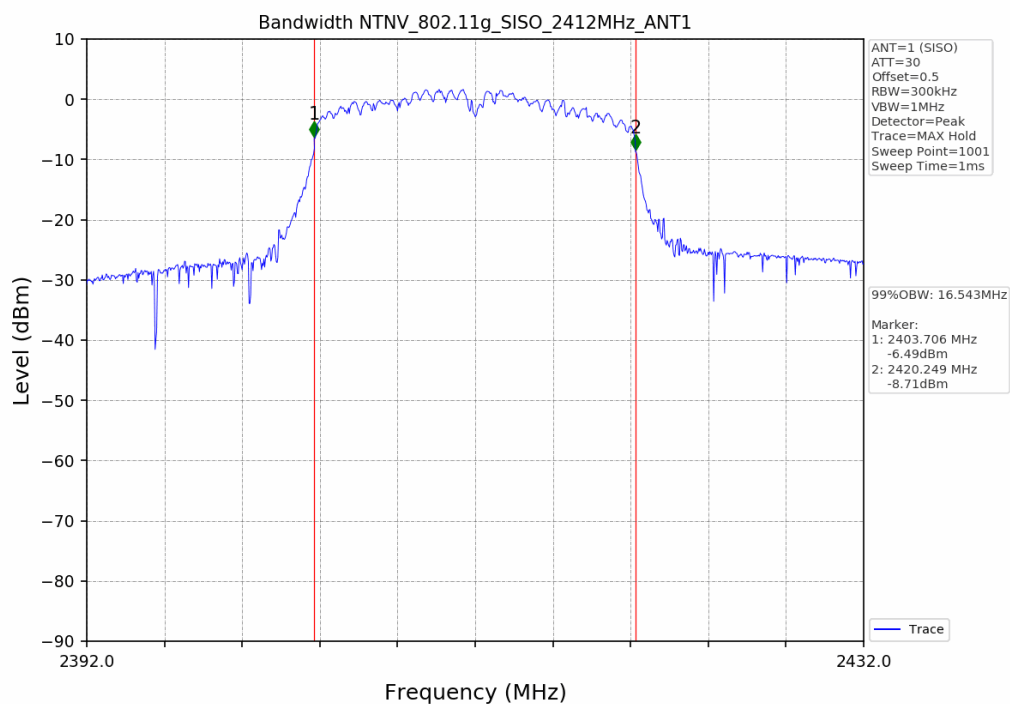
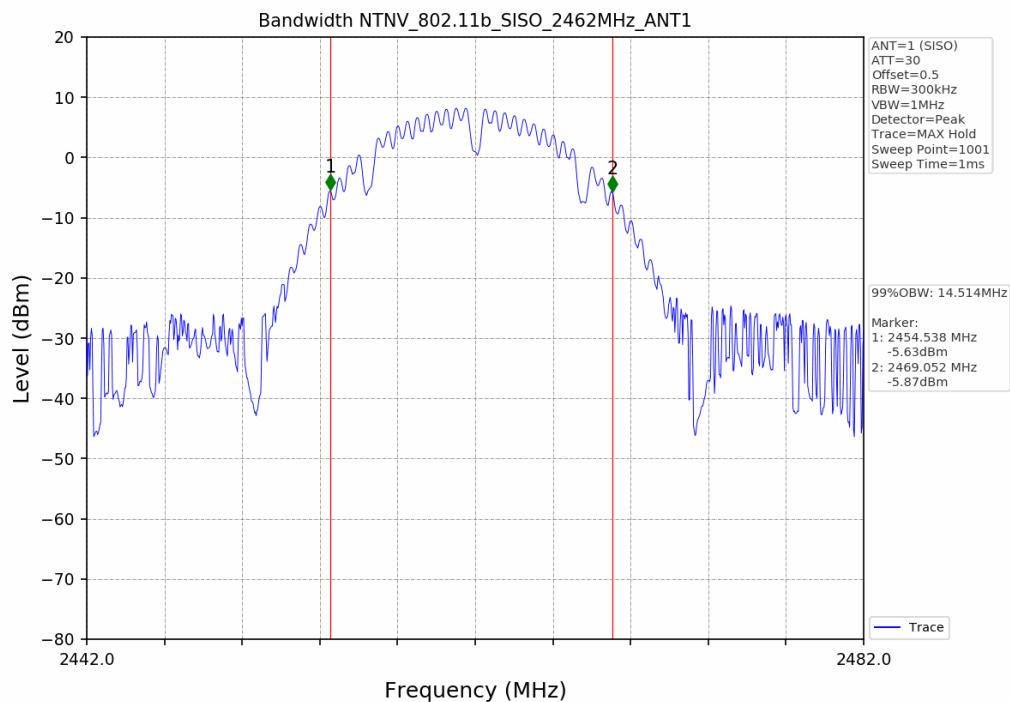


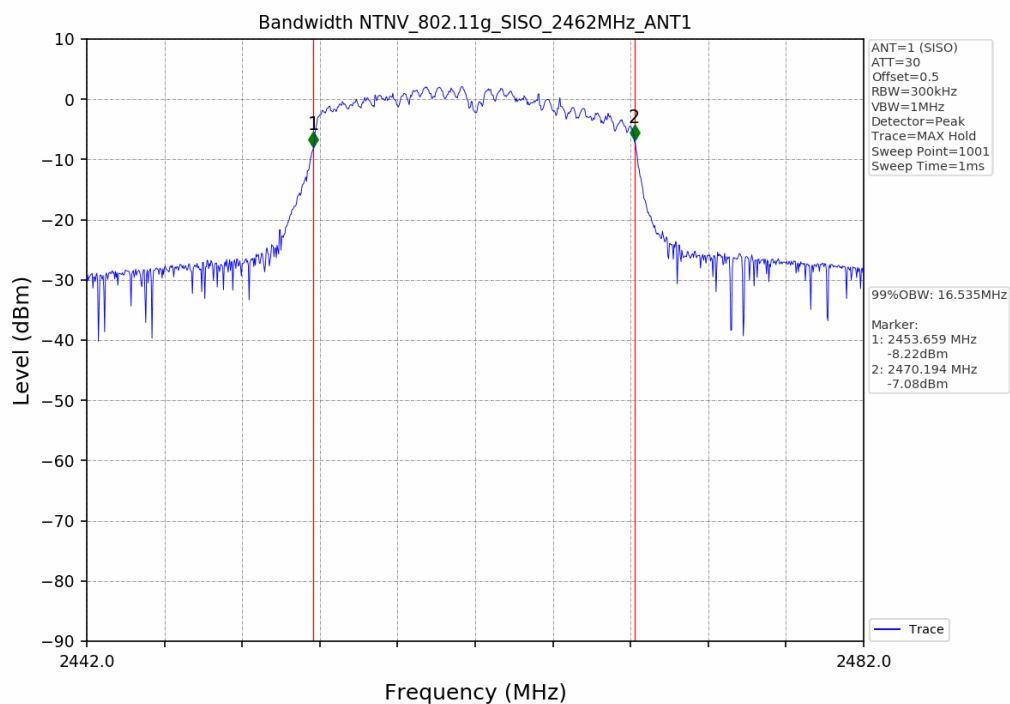
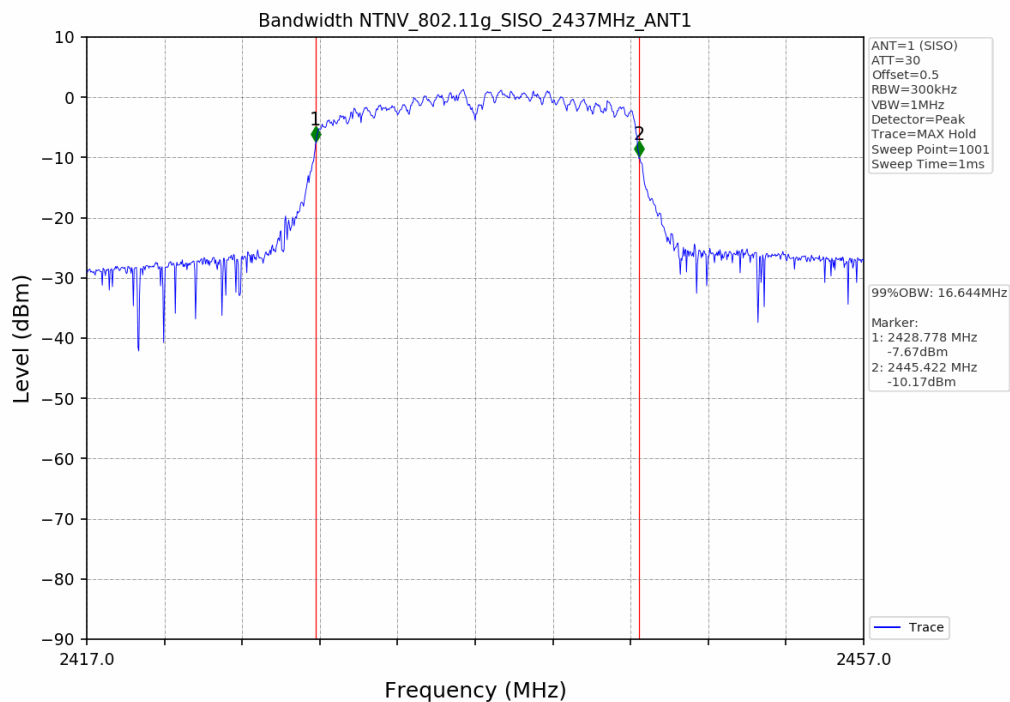


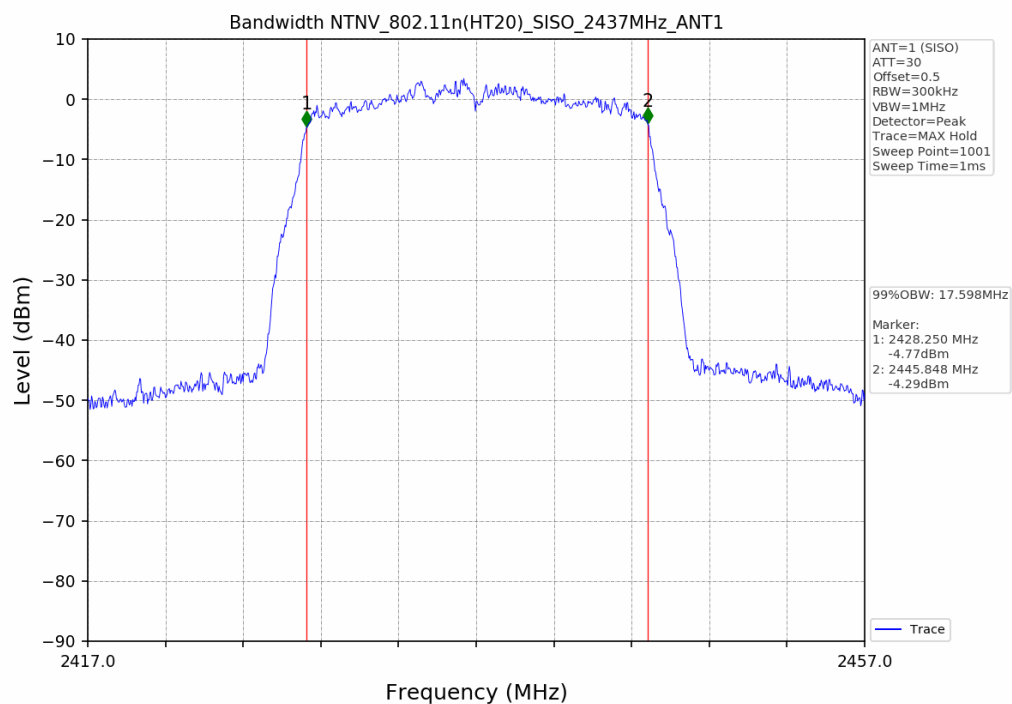
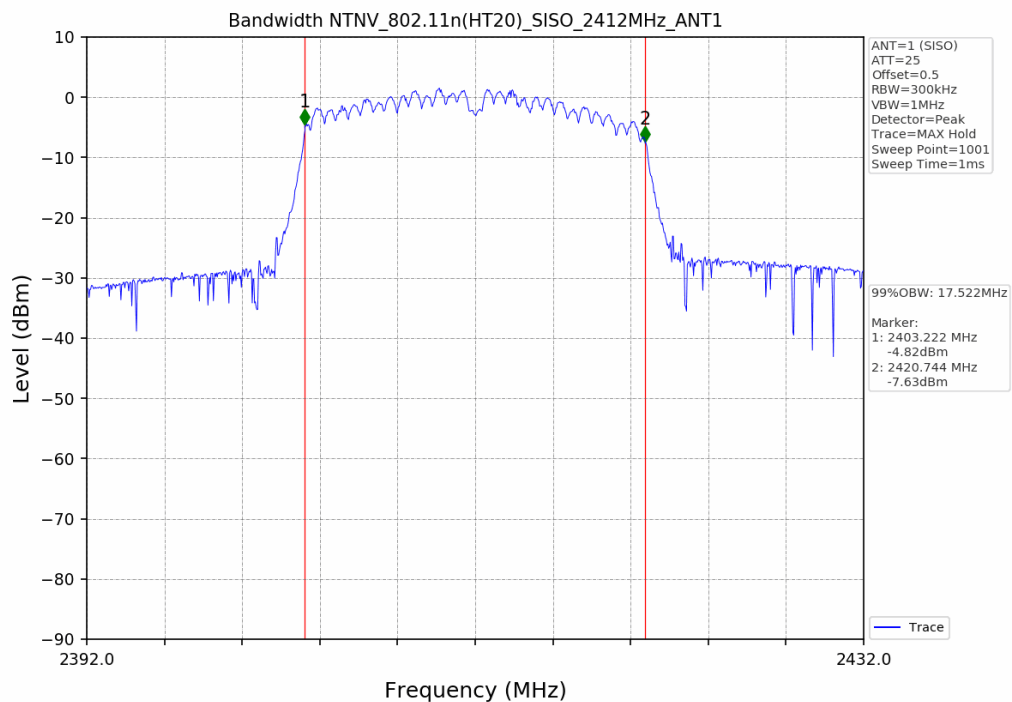


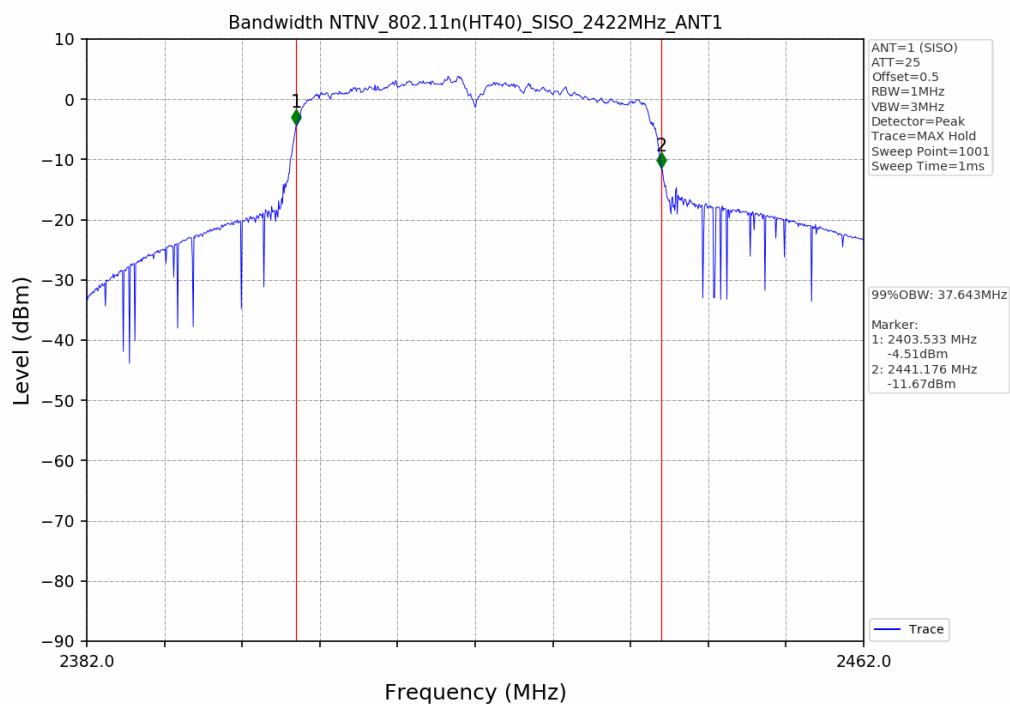
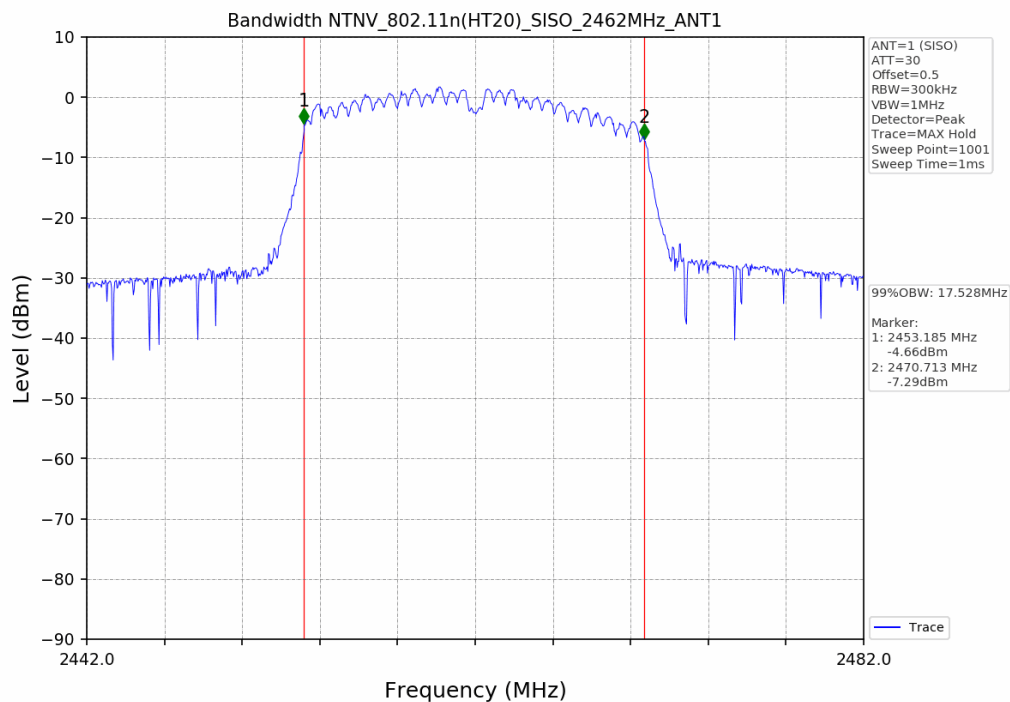
ANT 2:

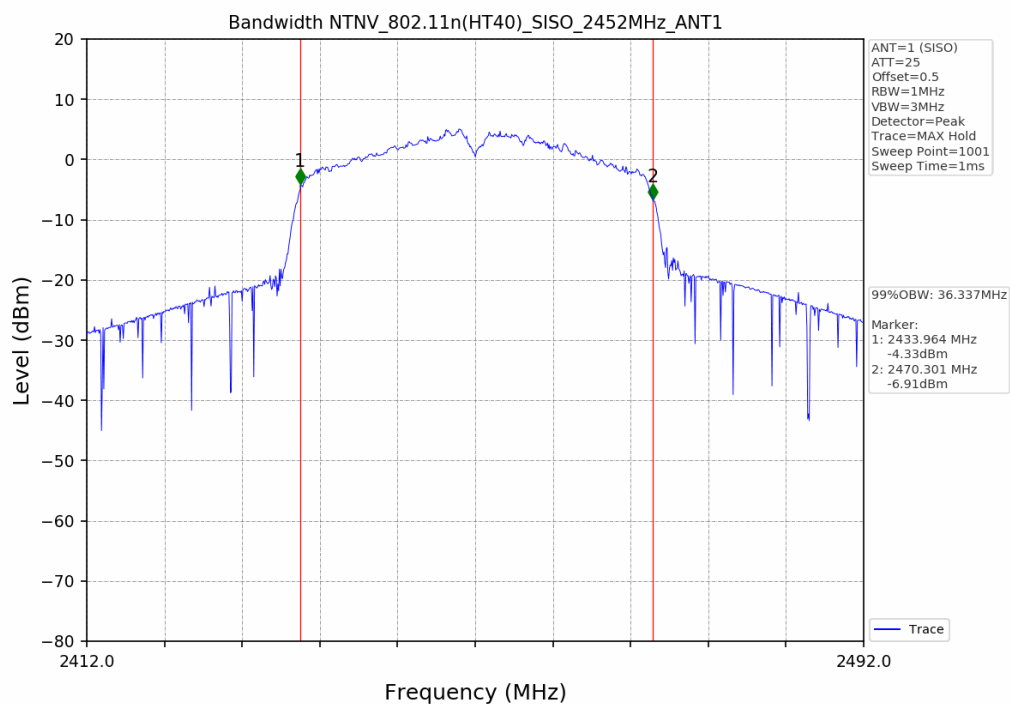
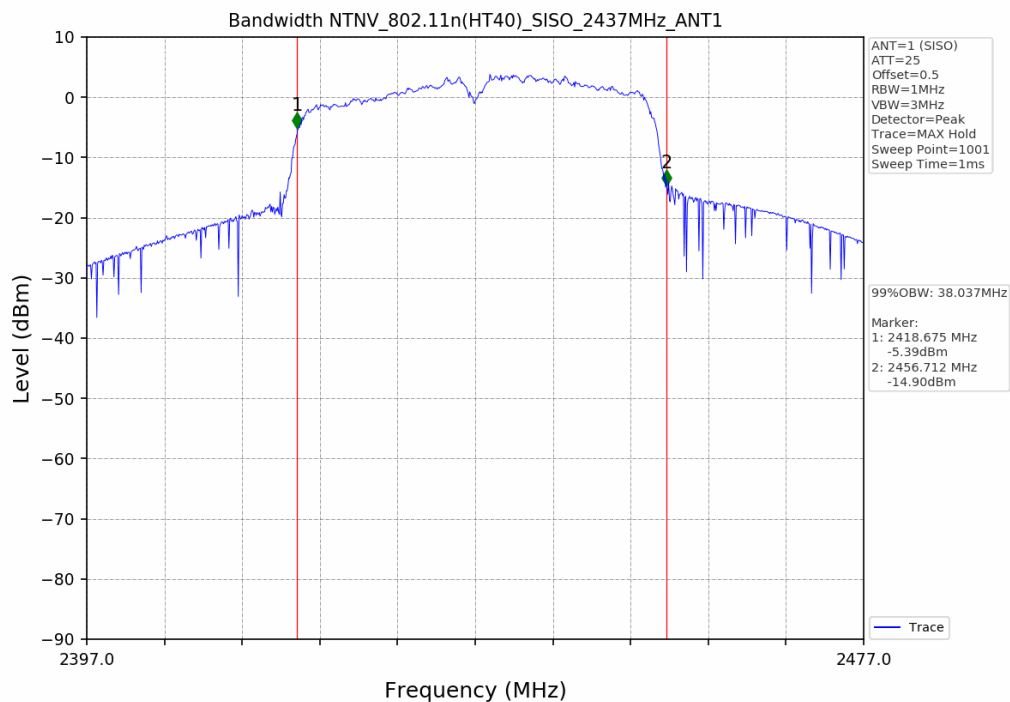












3. Maximum Conducted Output Power

3.1 Test Result

Test Mode	Frequency (MHz)	Ant.	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
802.11b	2412	1	19.53	30	PASS
	2412	2	18.83	30	PASS
	2437	1	19.69	30	PASS
	2437	2	18.43	30	PASS
	2462	1	19.44	30	PASS
	2462	2	19.00	30	PASS
802.11g	2412	1	17.62	30	PASS
	2412	2	16.87	30	PASS
	2437	1	17.74	30	PASS
	2437	2	16.72	30	PASS
	2462	1	17.61	30	PASS
	2462	2	17.28	30	PASS
802.11n(HT20)	2412	1	16.26	30	PASS
	2412	2	16.49	30	PASS
	2412	Total	19.39	30	PASS
	2437	1	16.43	30	PASS
	2437	2	16.50	30	PASS
	2437	Total	19.48	30	PASS
	2462	1	16.34	30	PASS
	2462	2	16.50	30	PASS
	2462	Total	19.43	30	PASS
802.11n(HT40)	2422	1	16.93	30	PASS
	2422	2	16.47	30	PASS
	2422	Total	19.72	30	PASS
	2437	1	16.91	30	PASS
	2437	2	16.36	30	PASS
	2437	Total	19.65	30	PASS
	2452	1	16.76	30	PASS
	2452	2	16.34	30	PASS
	2452	Total	19.57	30	PASS

Note: transmit signals are completely *correlated*,
Directional gain= $10 \times \log[(10^{2/20} + 10^{2/20})^2 / 2] = 5.01\text{dBi}$

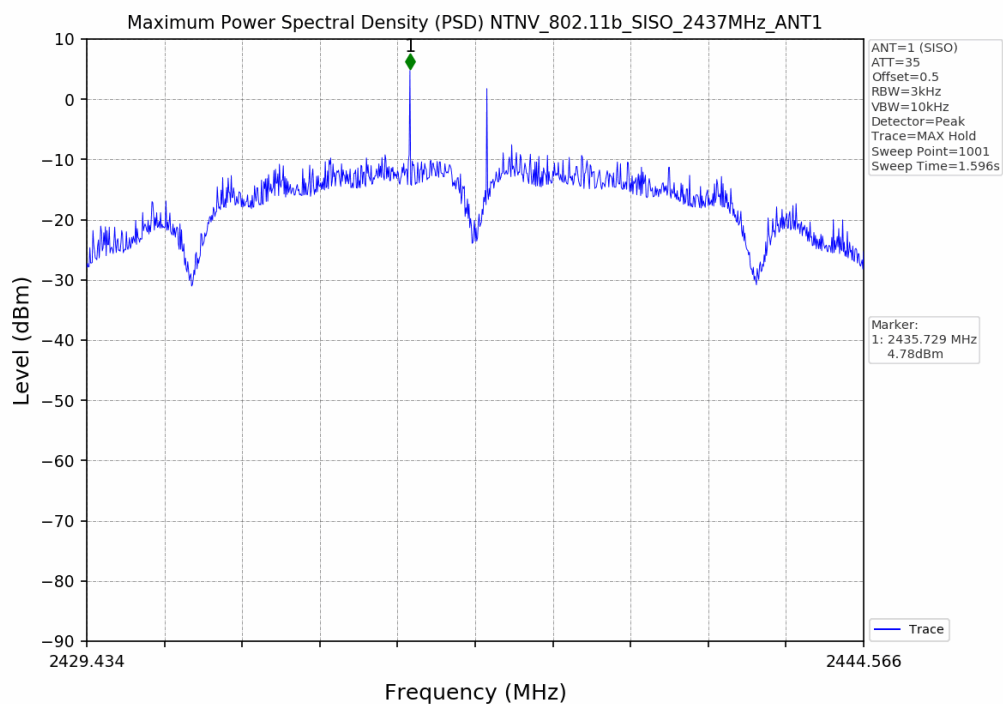
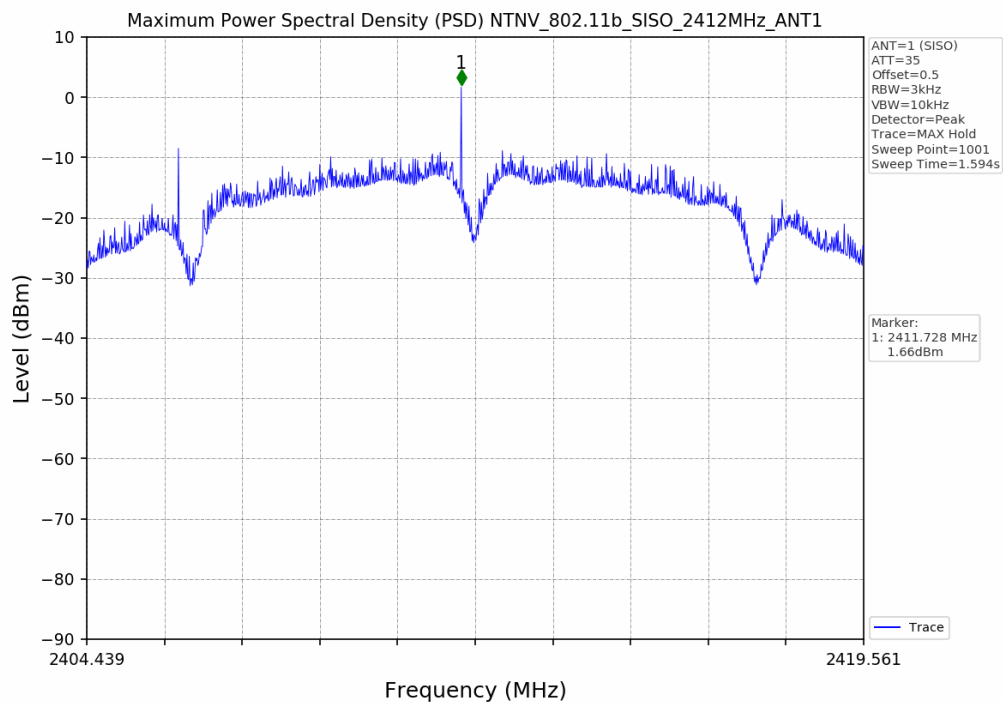
4. Maximum Power Spectral Density (PSD)

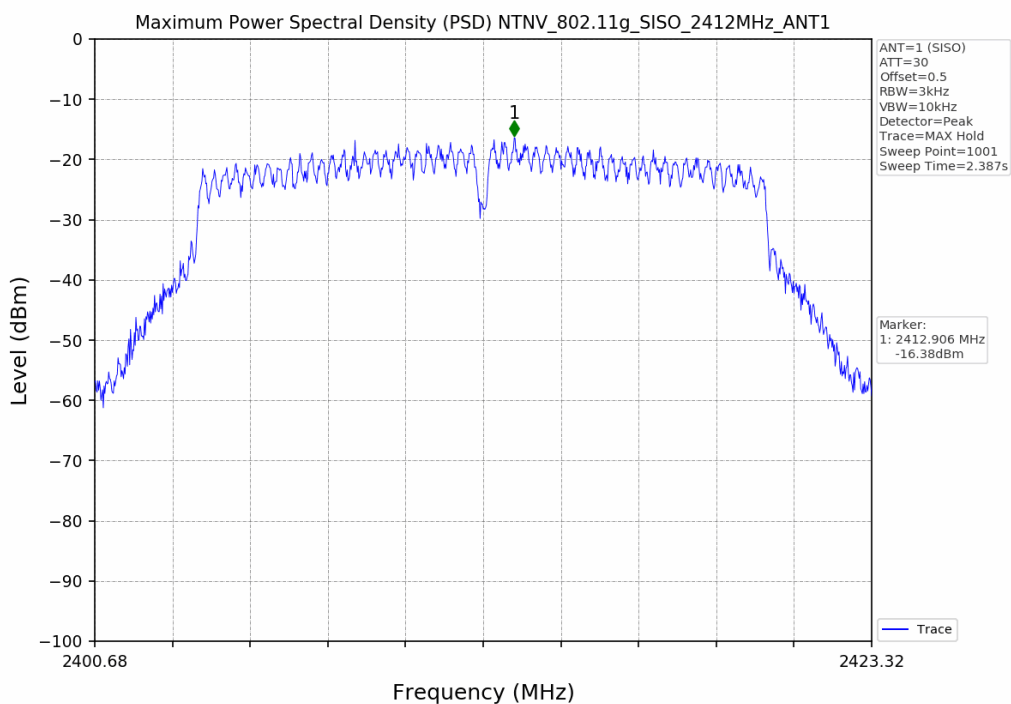
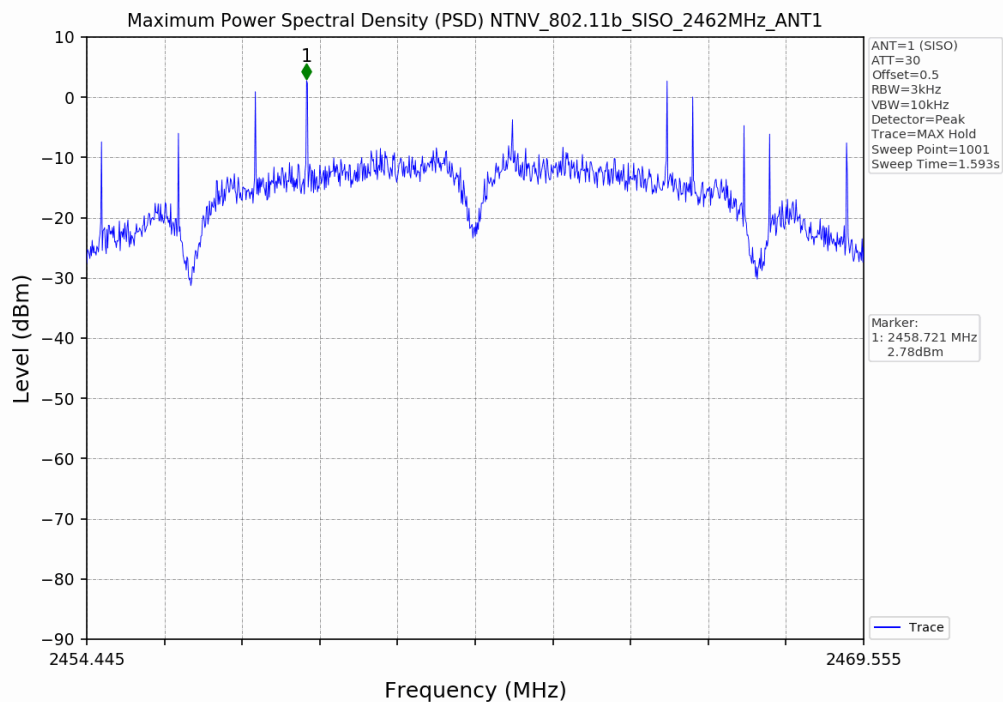
4.1 Test Result

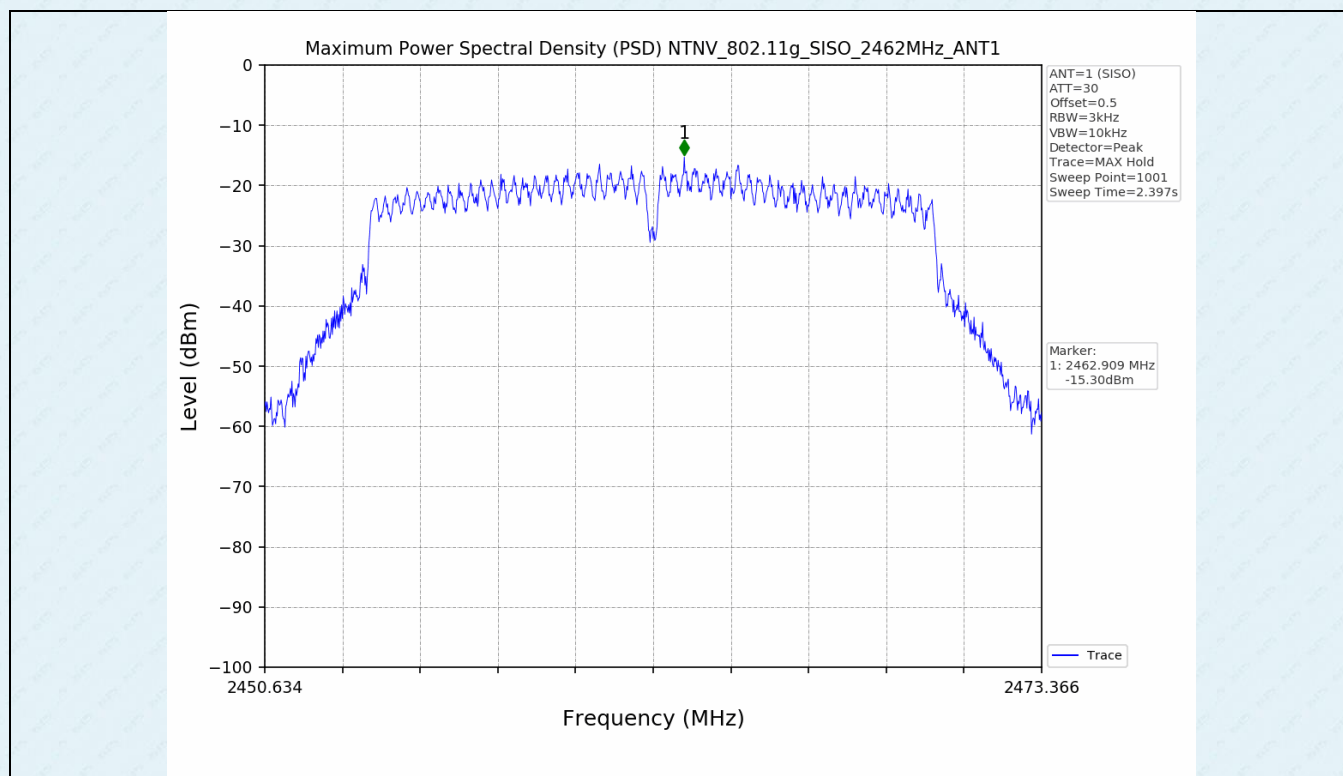
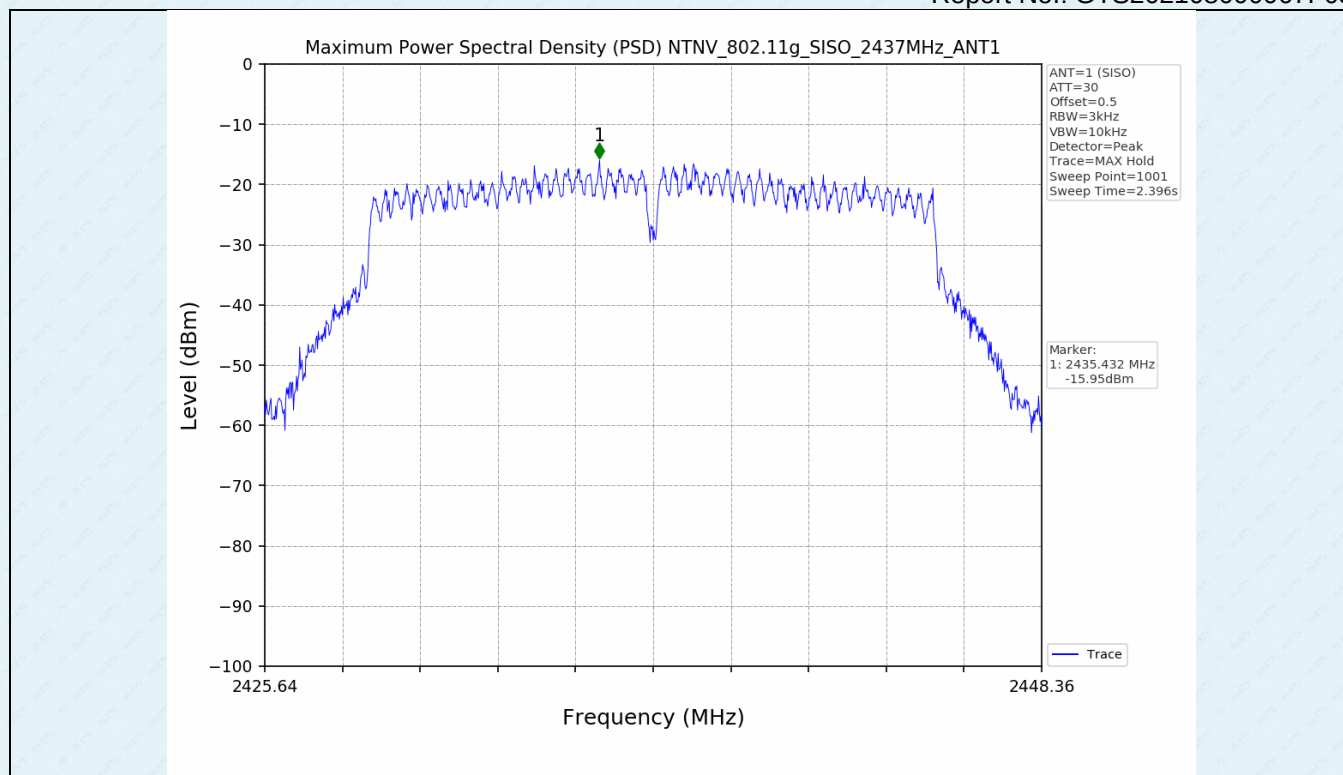
Test Mode	Frequency (MHz)	Ant.	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
802.11b	2412	1	1.66	≤8	PASS
	2412	2	-8.26	≤8	PASS
	2437	1	4.78	≤8	PASS
	2437	2	3.40	≤8	PASS
	2462	1	2.78	≤8	PASS
	2462	2	3.28	≤8	PASS
802.11g	2412	1	-16.38	≤8	PASS
	2412	2	-15.53	≤8	PASS
	2437	1	-15.95	≤8	PASS
	2437	2	-16.93	≤8	PASS
	2462	1	-15.30	≤8	PASS
	2462	2	-17.34	≤8	PASS
802.11n(HT20)	2412	1	-17.05	≤8	PASS
	2412	2	-16.54	≤8	PASS
	2412	Total	-13.78	≤8	PASS
	2437	1	-15.25	≤8	PASS
	2437	2	-14.81	≤8	PASS
	2437	Total	-12.01	≤8	PASS
	2462	1	-17.84	≤8	PASS
	2462	2	-17.05	≤8	PASS
	2462	Total	-14.42	≤8	PASS
802.11n(HT40)	2422	1	-18.98	≤8	PASS
	2422	2	-20.06	≤8	PASS
	2422	Total	-16.48	≤8	PASS
	2437	1	-19.59	≤8	PASS
	2437	2	-20.64	≤8	PASS
	2437	Total	-17.07	≤8	PASS
	2452	1	-19.85	≤8	PASS
	2452	2	-19.25	≤8	PASS
	2452	Total	-16.53	≤8	PASS

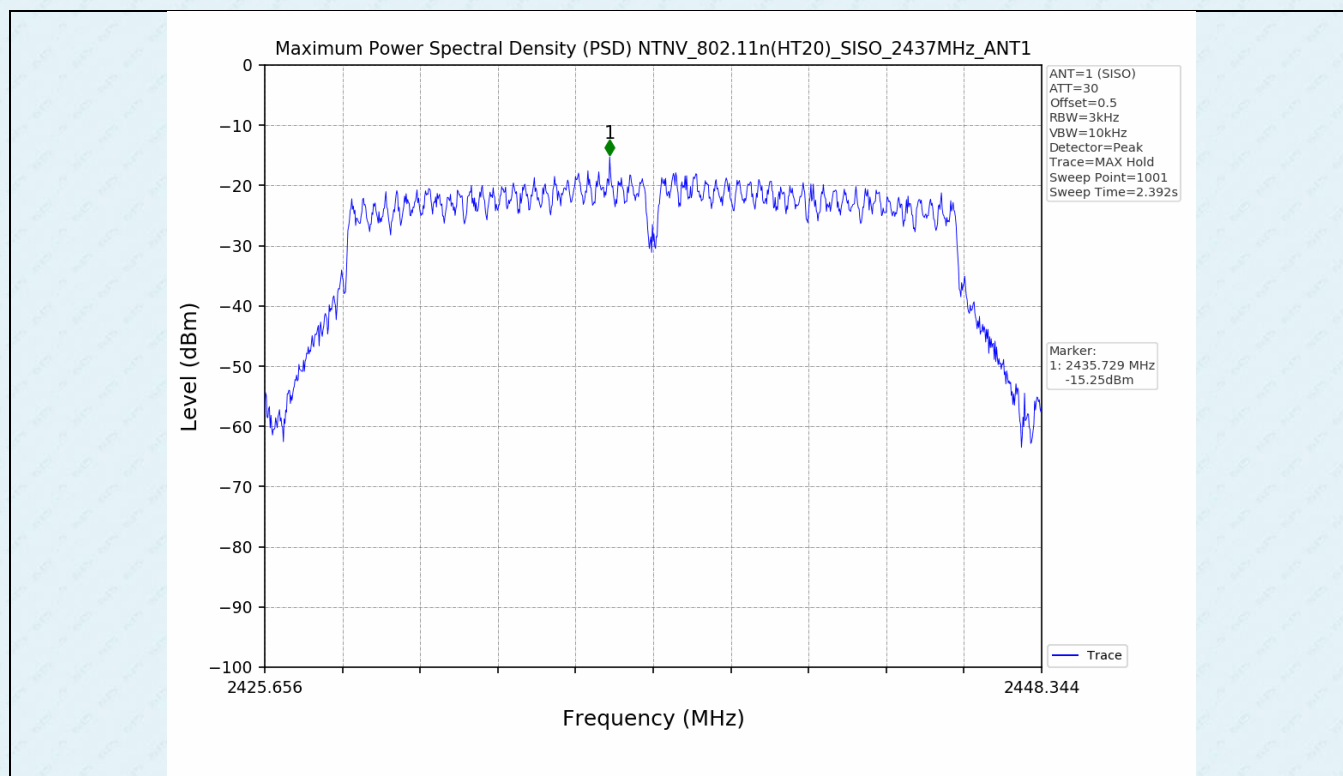
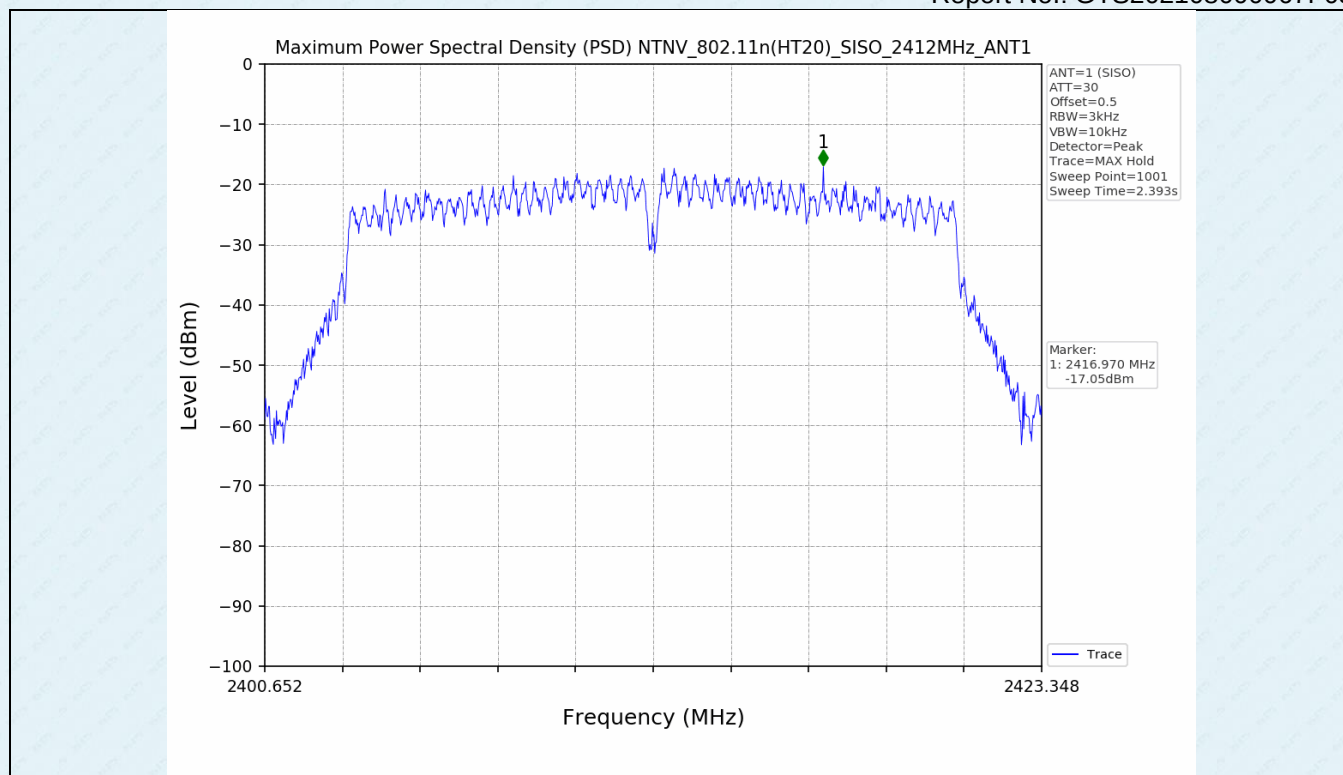
4.2 Test Graph

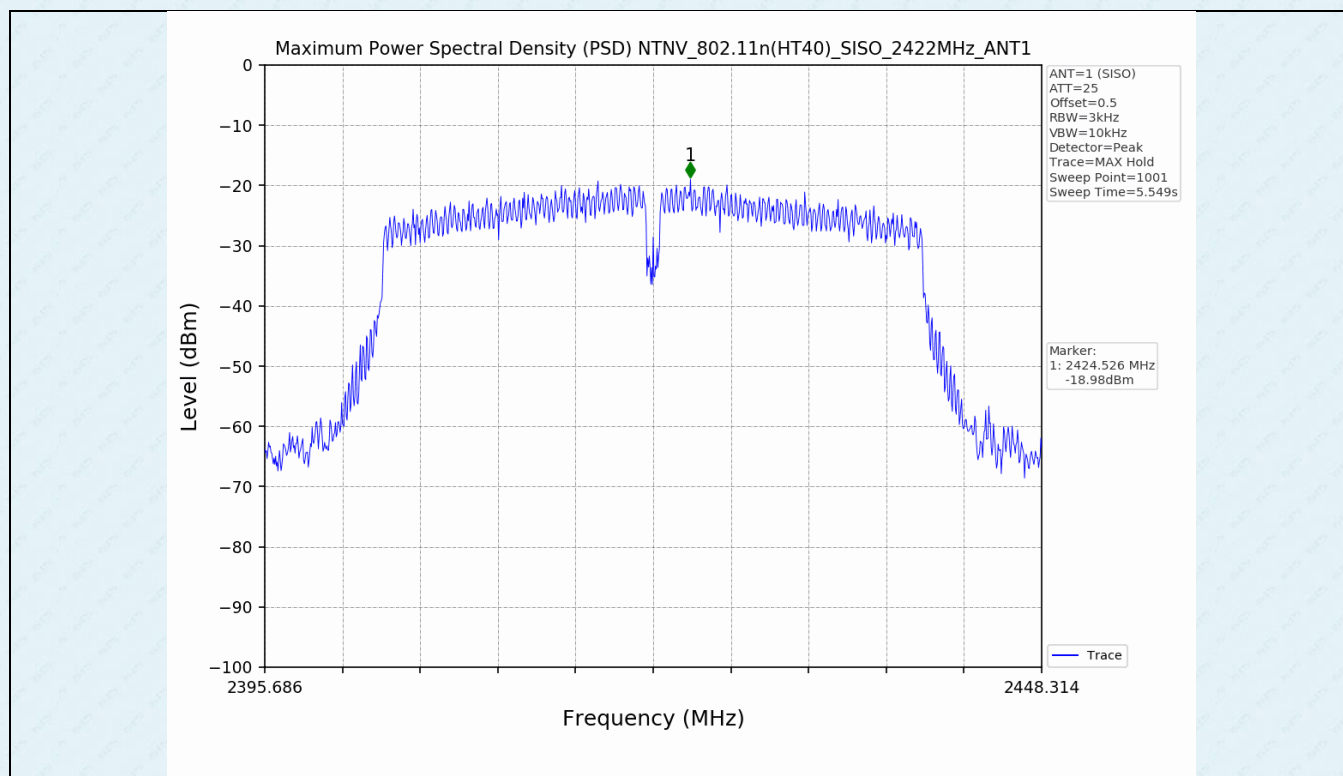
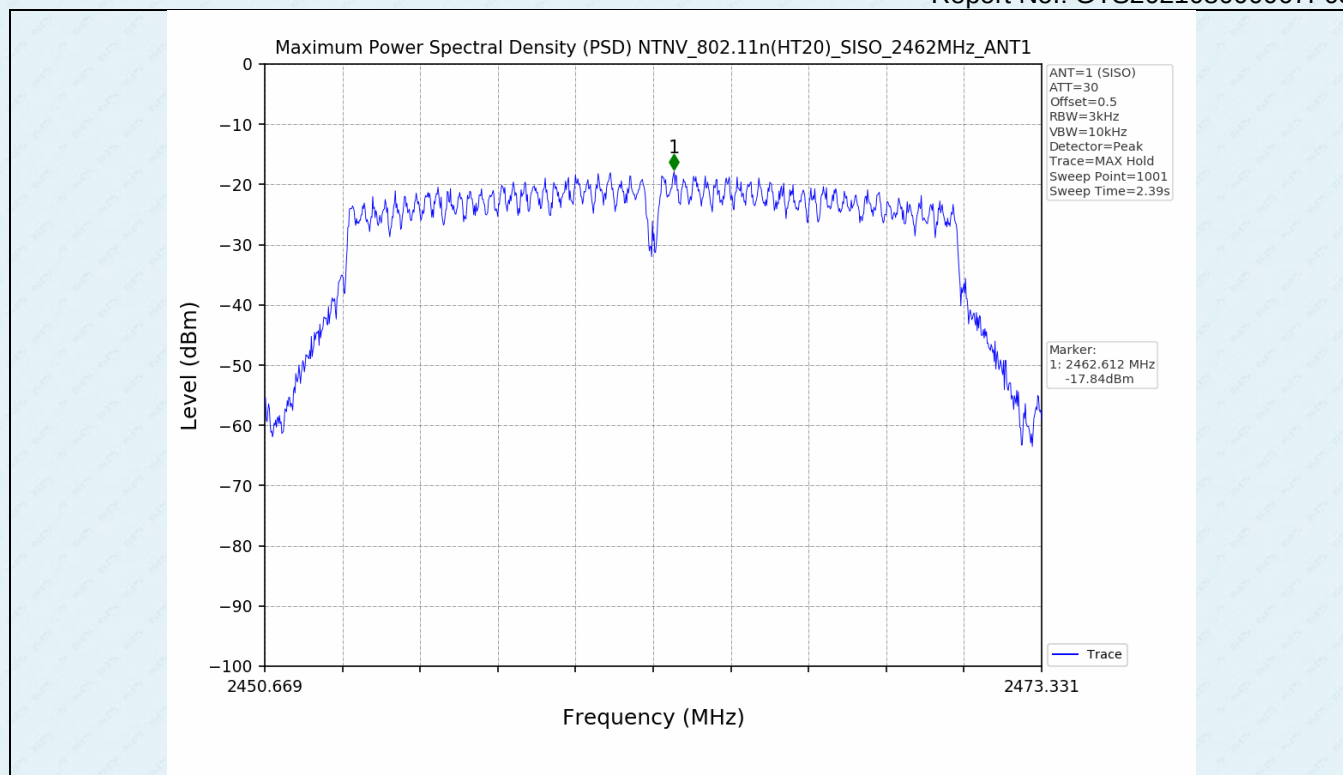
ANT 1:

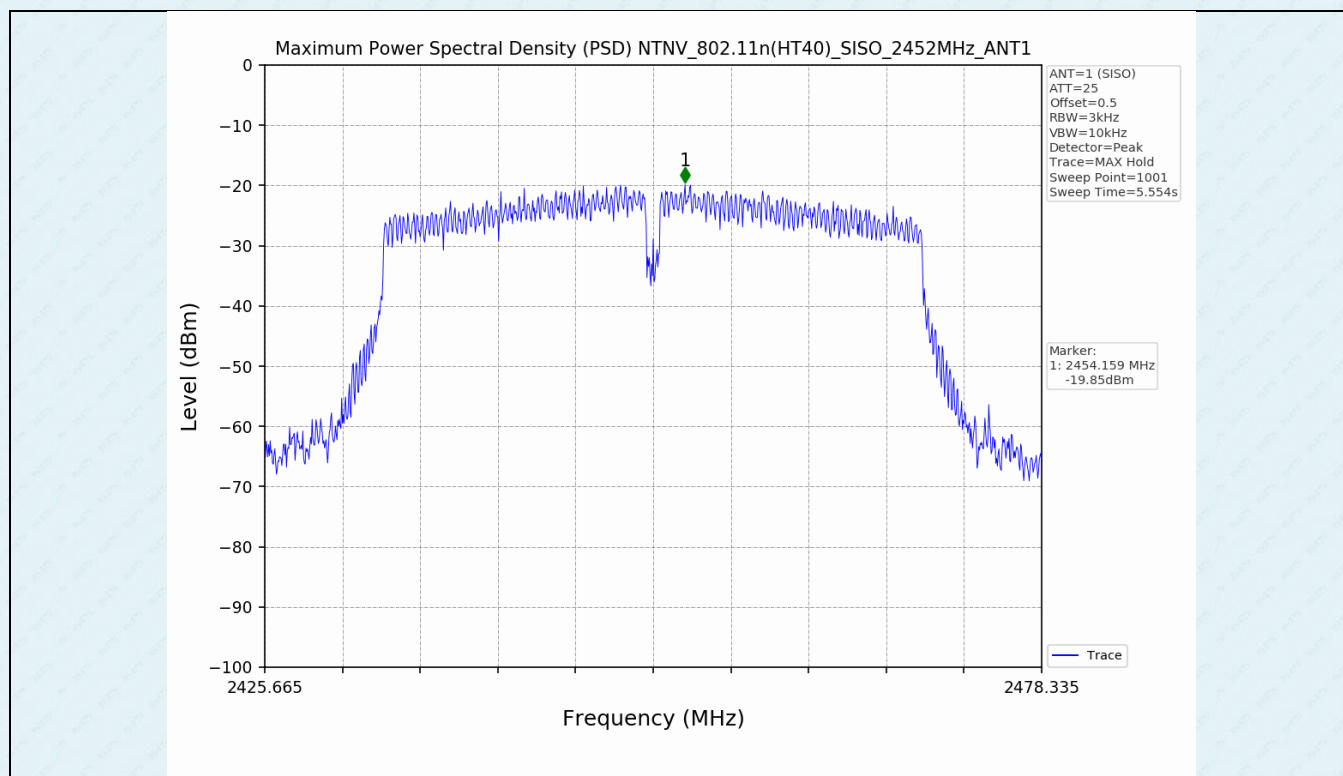
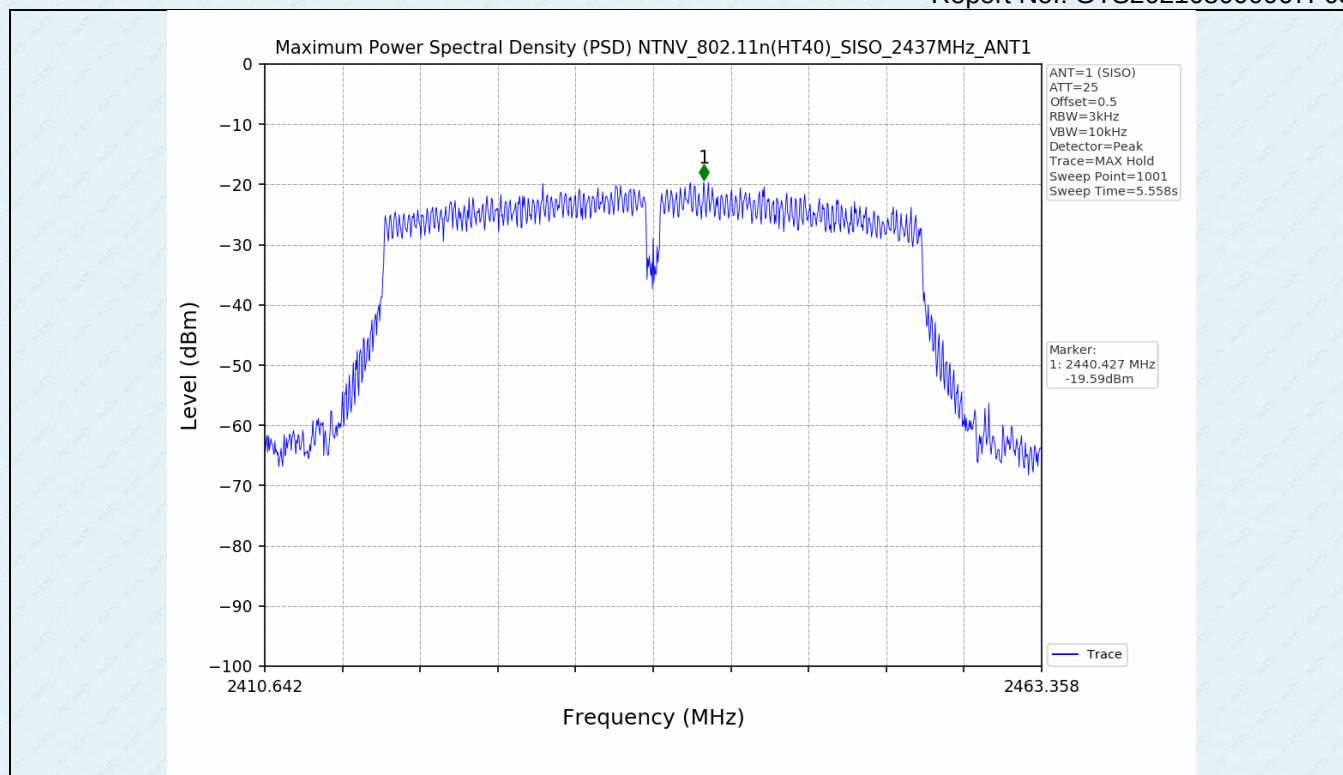




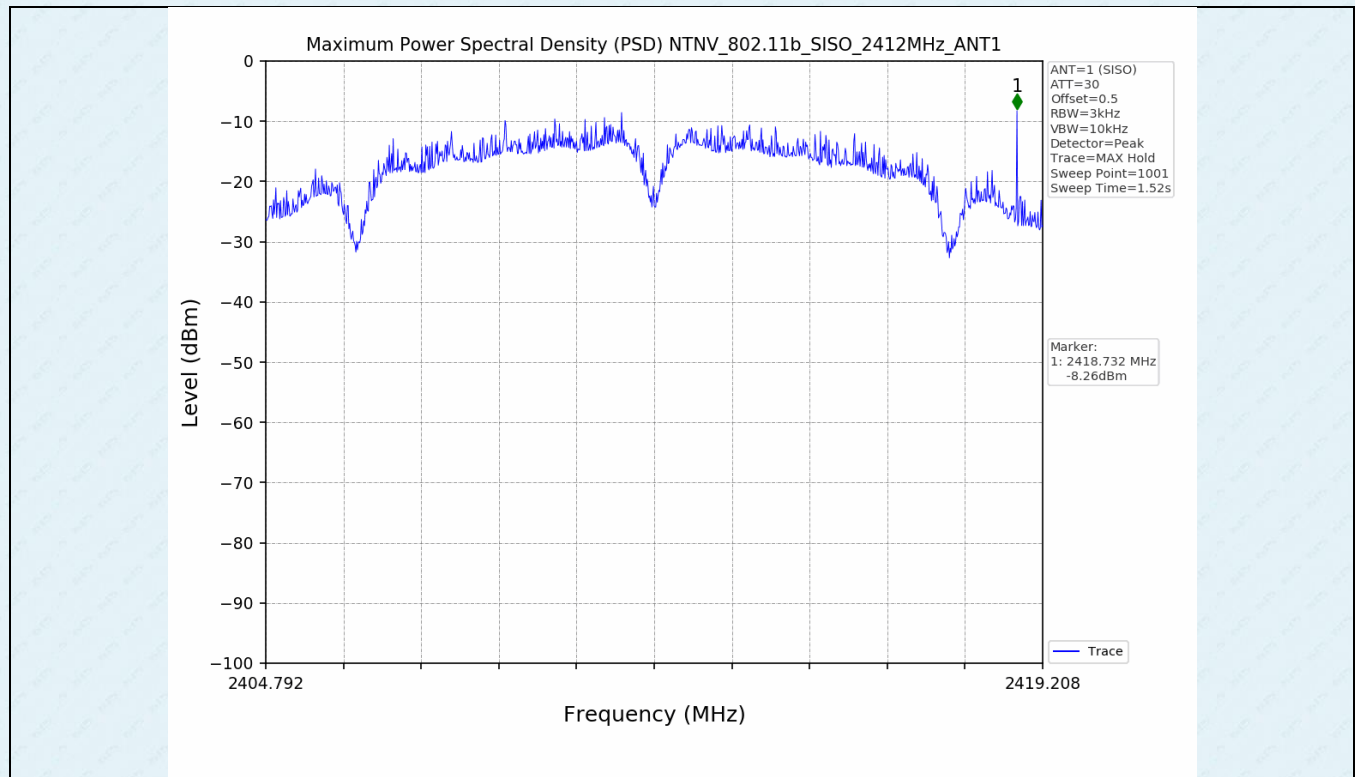


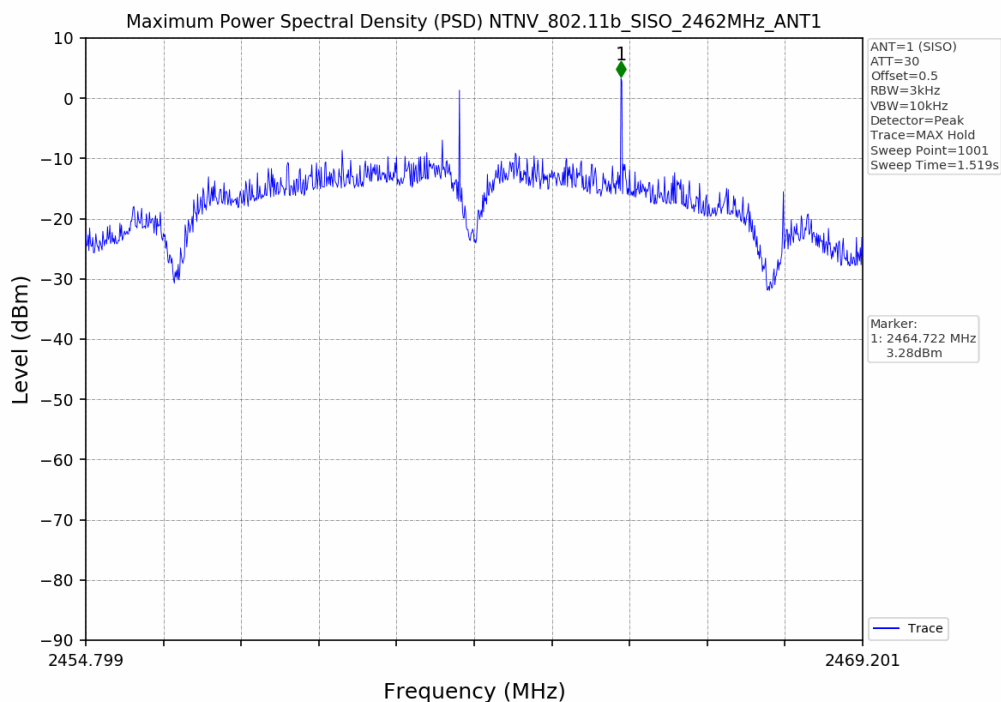
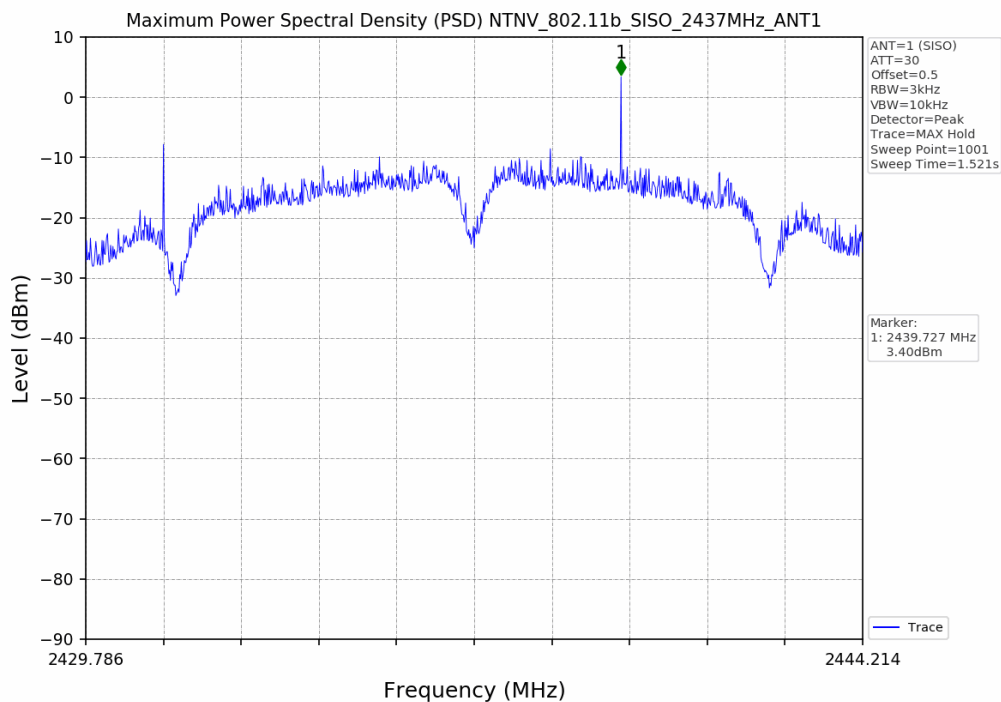


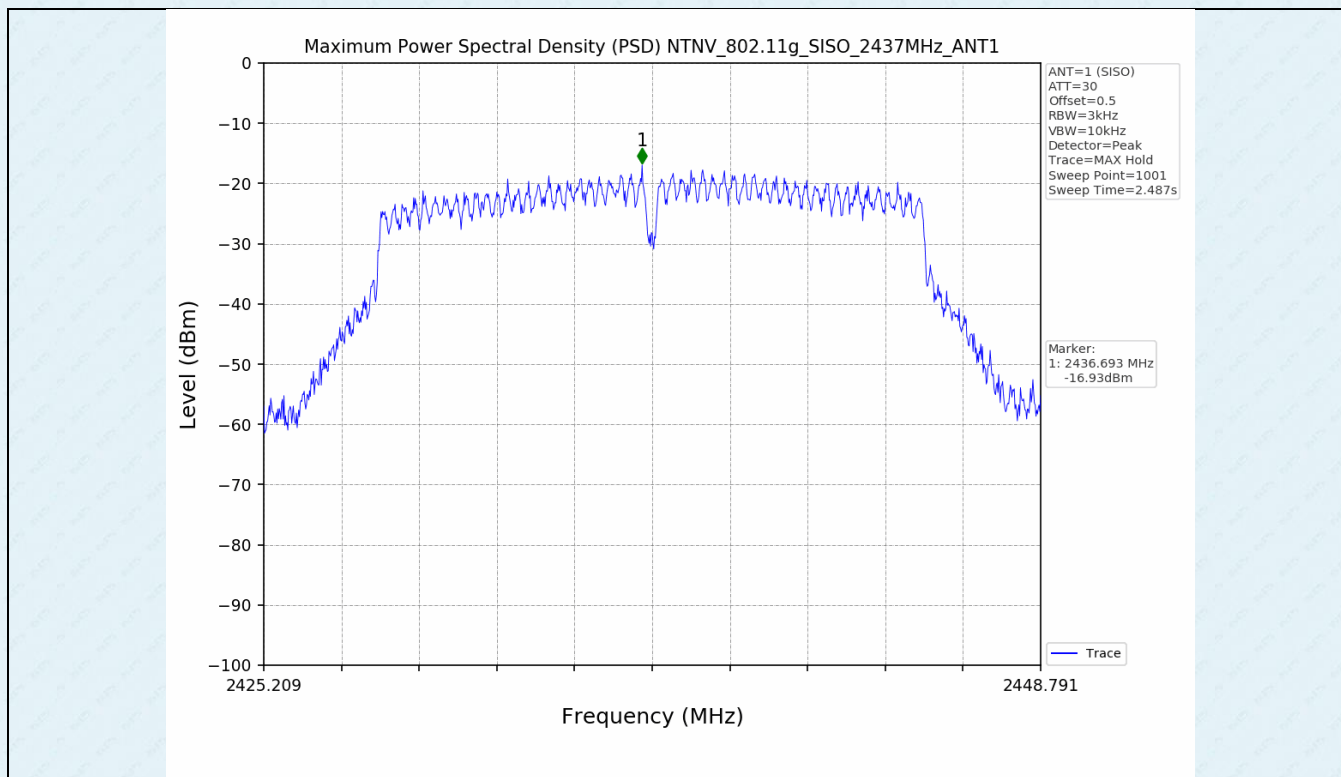
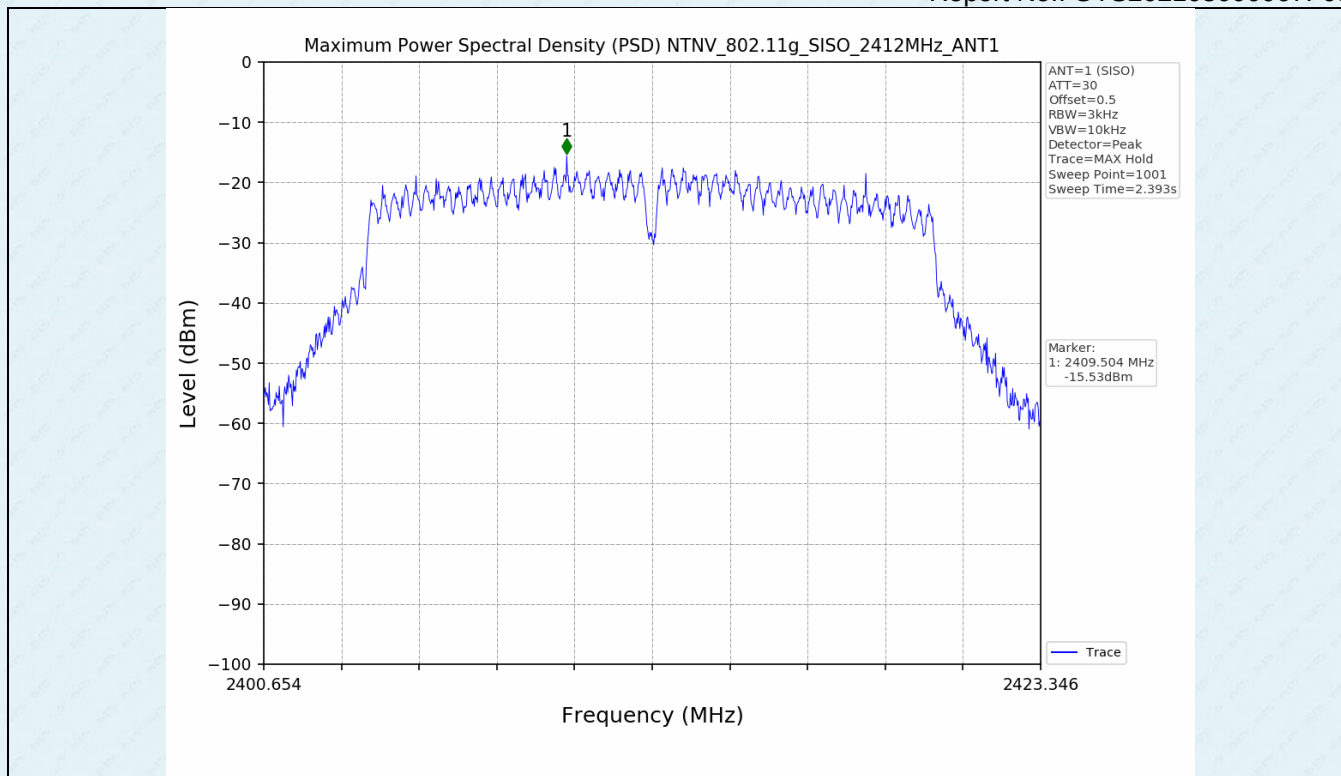


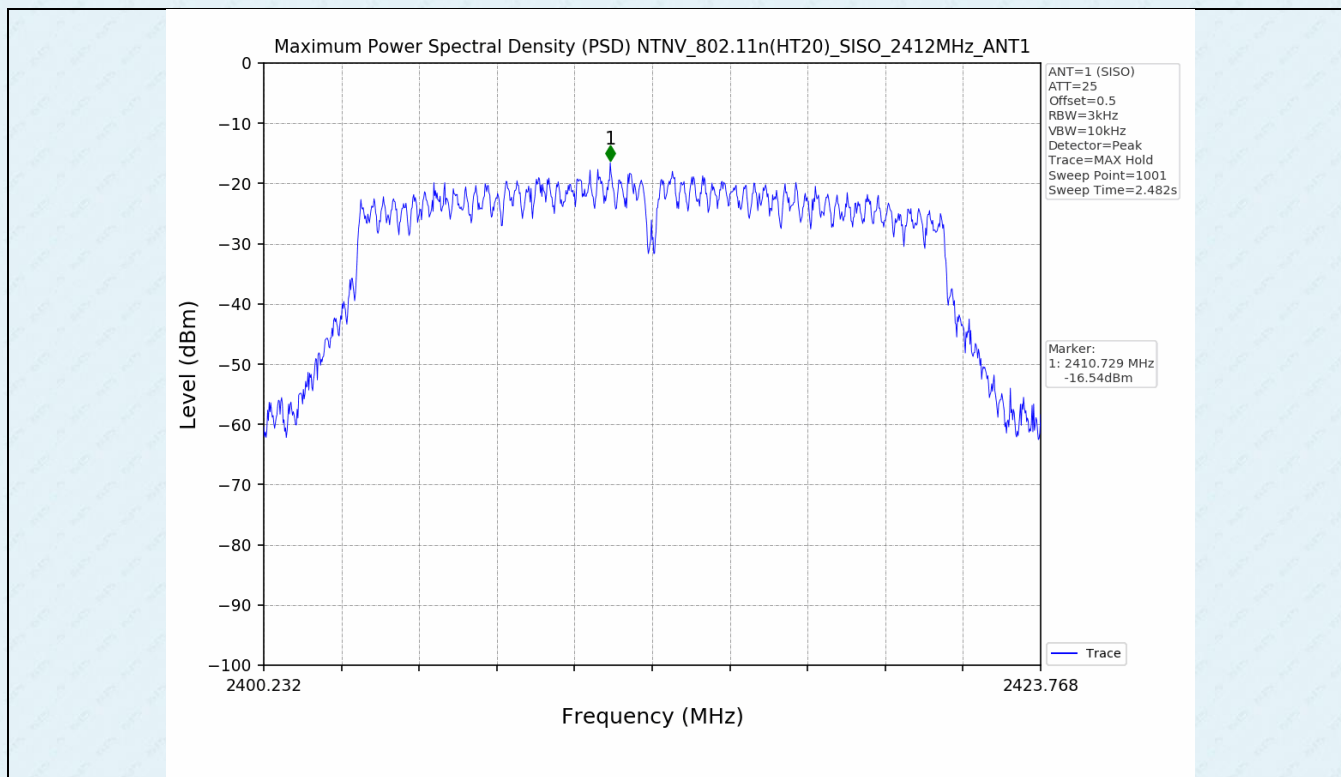
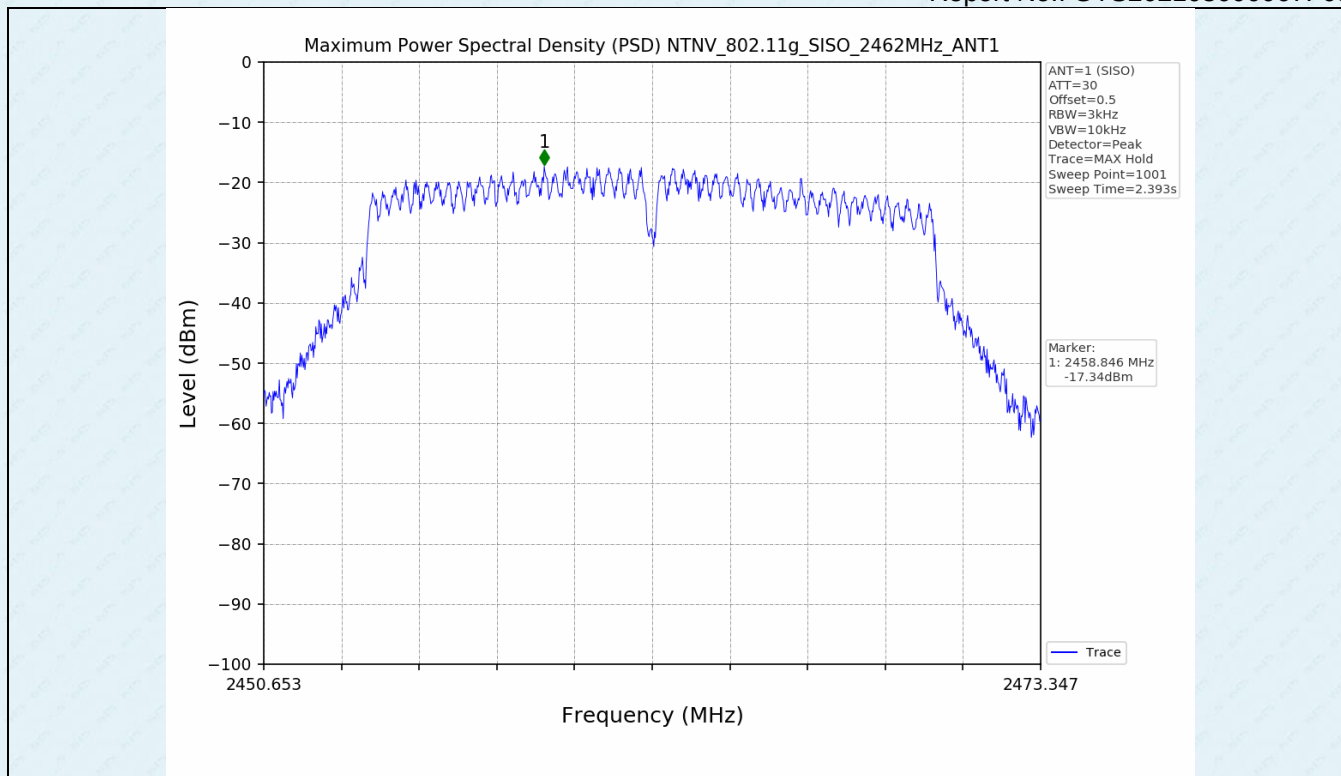


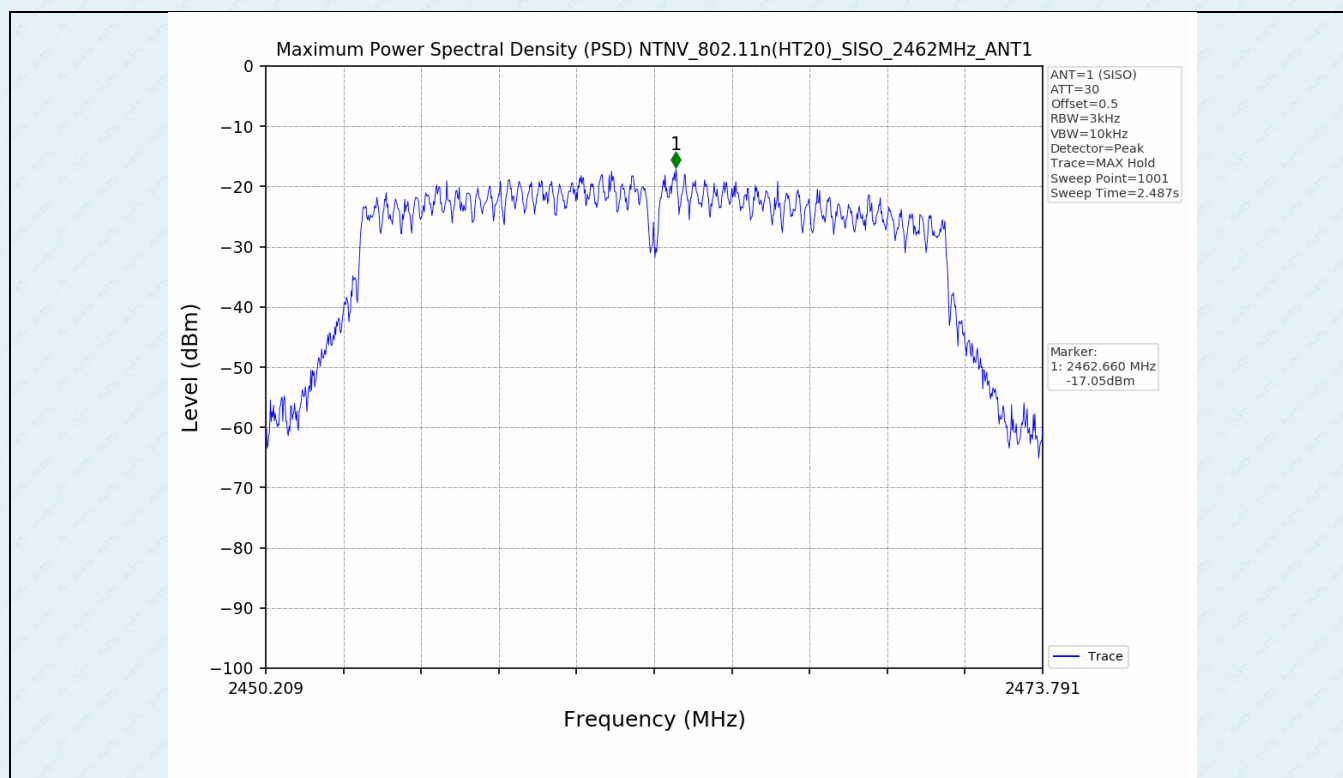
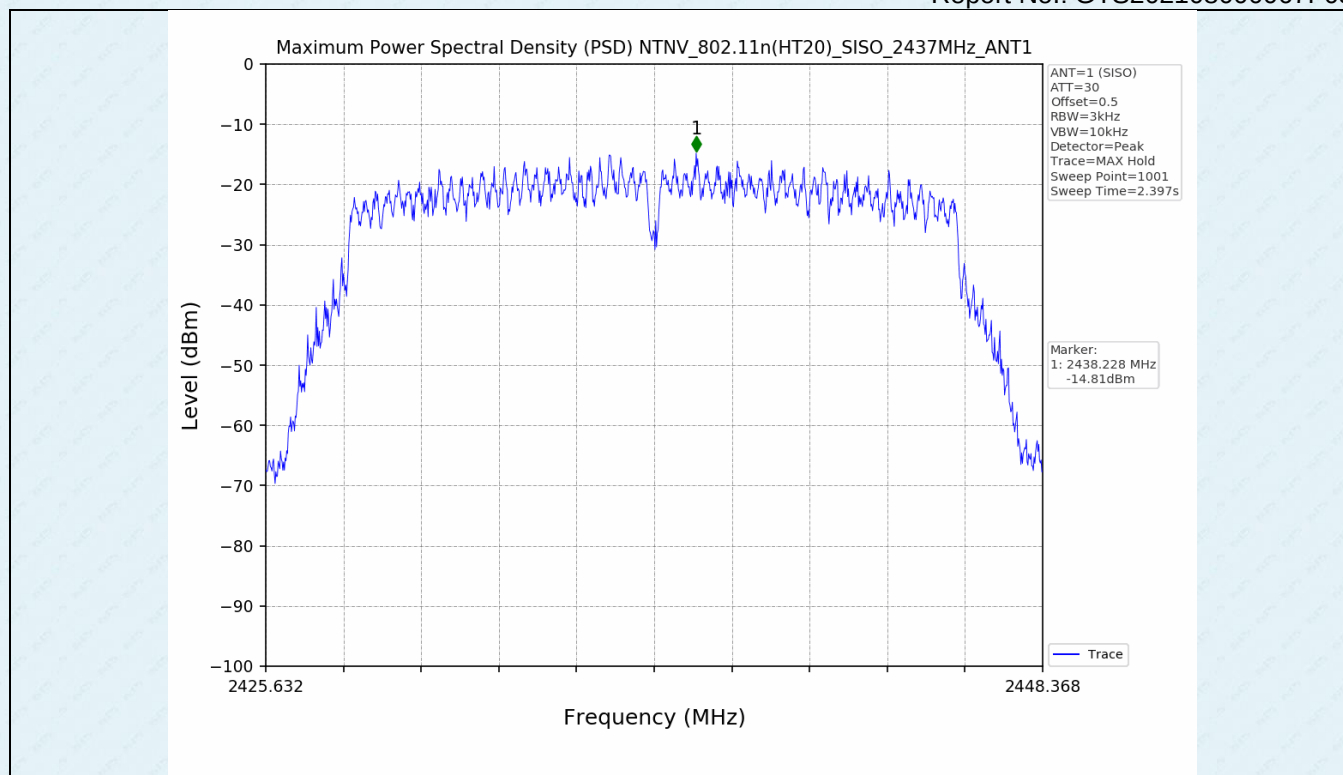
ANT 2:

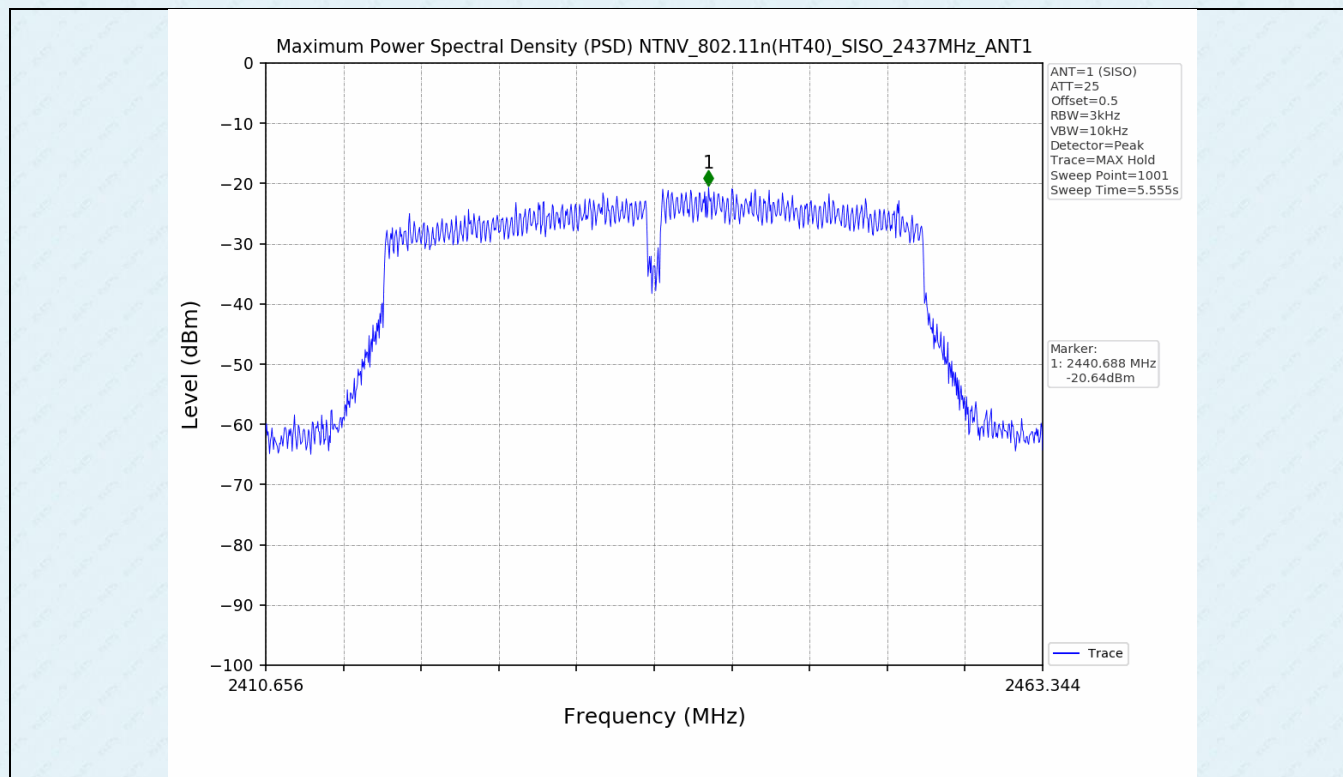
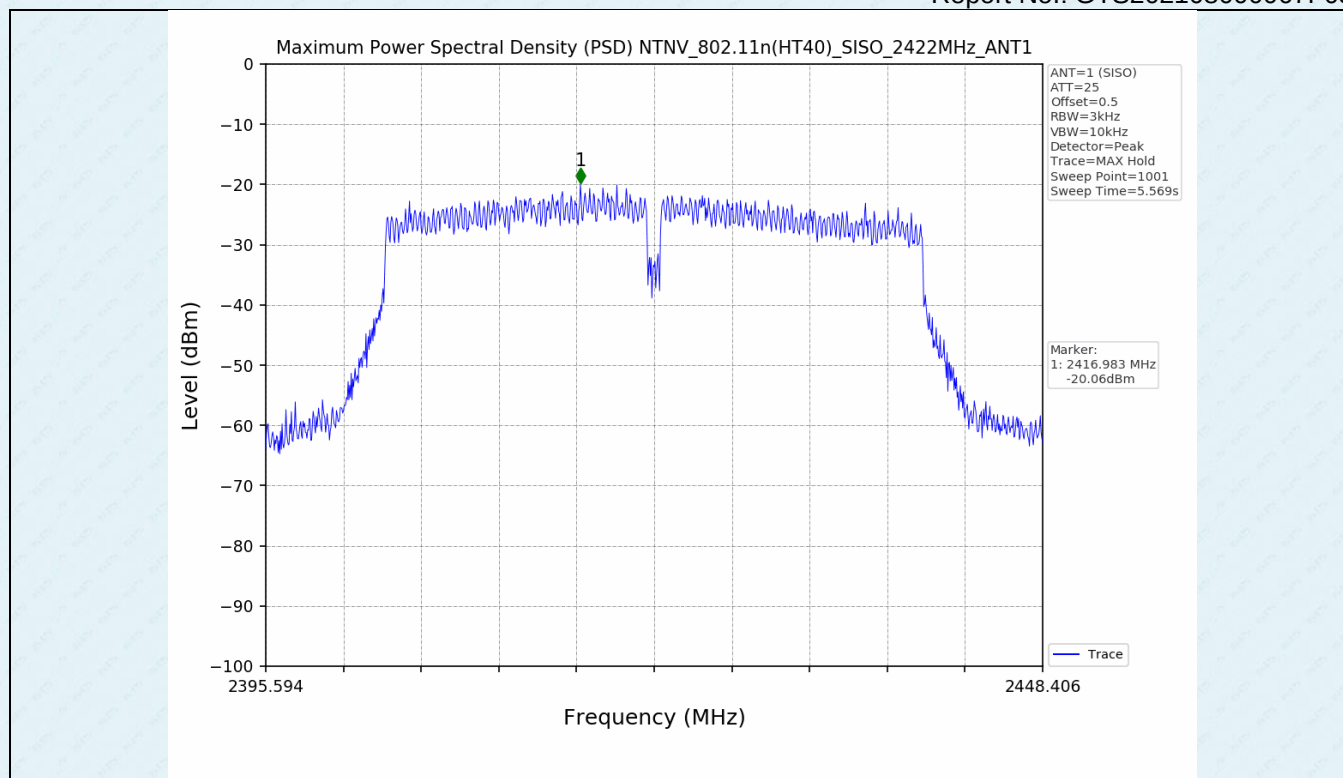


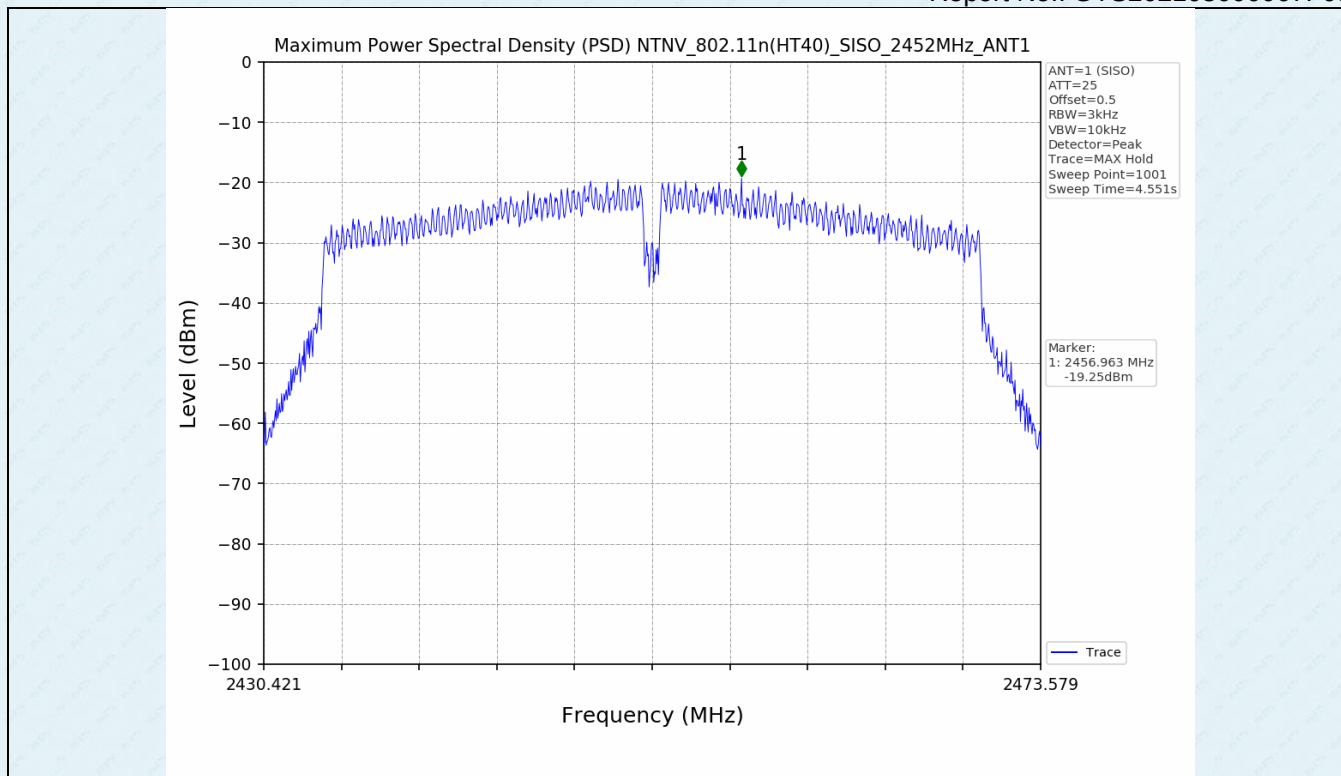












5. Unwanted Emissions in Non-restricted Frequency Bands

5.1 Test Result

ANT 1:

Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
802.11b	2412	SISO	1	Refer to test graph	-12.52	PASS
	2437	SISO	1	Refer to test graph	-12.52	PASS
	2462	SISO	1	Refer to test graph	-12.52	PASS
802.11g	2412	SISO	1	Refer to test graph	-19.26	PASS
	2437	SISO	1	Refer to test graph	-19.26	PASS
	2462	SISO	1	Refer to test graph	-19.26	PASS
802.11n(HT20)	2412	SISO	1	Refer to test graph	-20.36	PASS
	2437	SISO	1	Refer to test graph	-20.36	PASS
	2462	SISO	1	Refer to test graph	-20.36	PASS
802.11n(HT40)	2422	SISO	1	Refer to test graph	-23.07	PASS
	2437	SISO	1	Refer to test graph	-23.07	PASS
	2452	SISO	1	Refer to test graph	-23.07	PASS

ANT 2:

Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
802.11b	2412	SISO	1	Refer to test graph	-13.12	PASS
	2437	SISO	1	Refer to test graph	-13.12	PASS
	2462	SISO	1	Refer to test graph	-13.12	PASS
802.11g	2412	SISO	1	Refer to test graph	-20.13	PASS
	2437	SISO	1	Refer to test graph	-20.13	PASS
	2462	SISO	1	Refer to test graph	-20.13	PASS
802.11n(HT20)	2412	SISO	1	Refer to test graph	-19.47	PASS
	2437	SISO	1	Refer to test graph	-19.47	PASS
	2462	SISO	1	Refer to test graph	-19.47	PASS
802.11n(HT40)	2422	SISO	1	Refer to test graph	-23.54	PASS
	2437	SISO	1	Refer to test graph	-23.54	PASS
	2452	SISO	1	Refer to test graph	-23.54	PASS

5.2 Test Graph

ANT 1:

