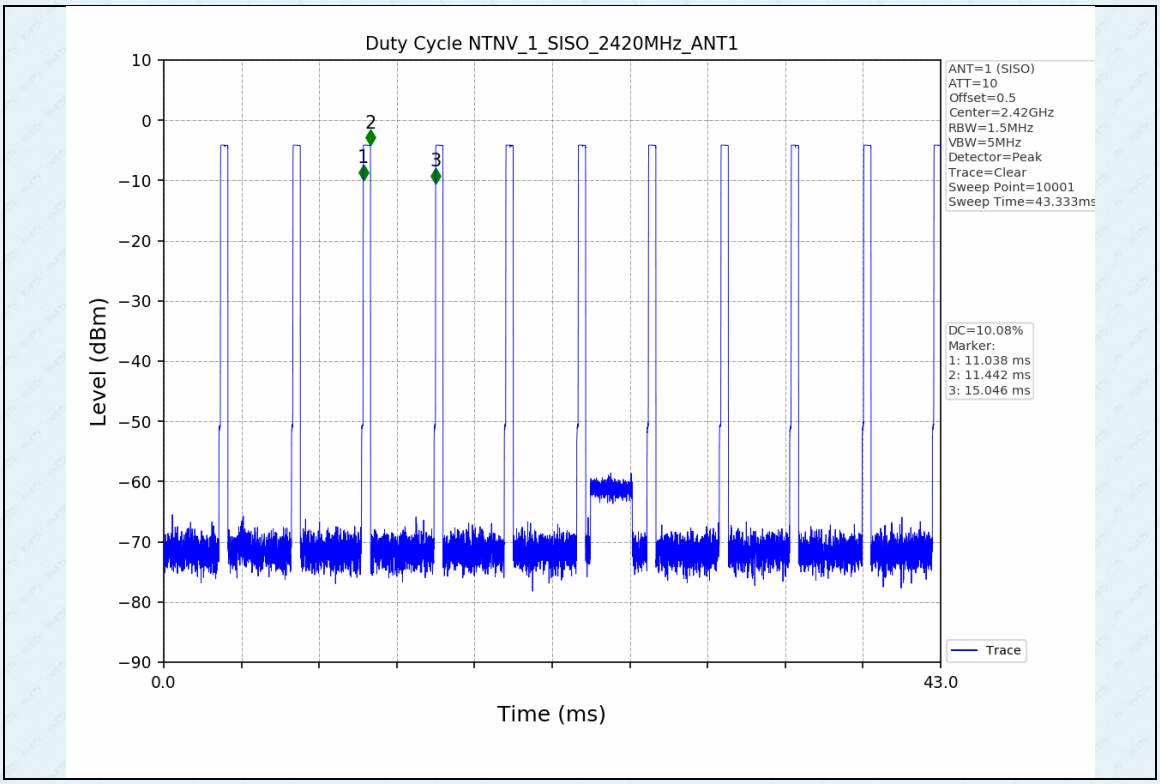
Appendix for 15.247

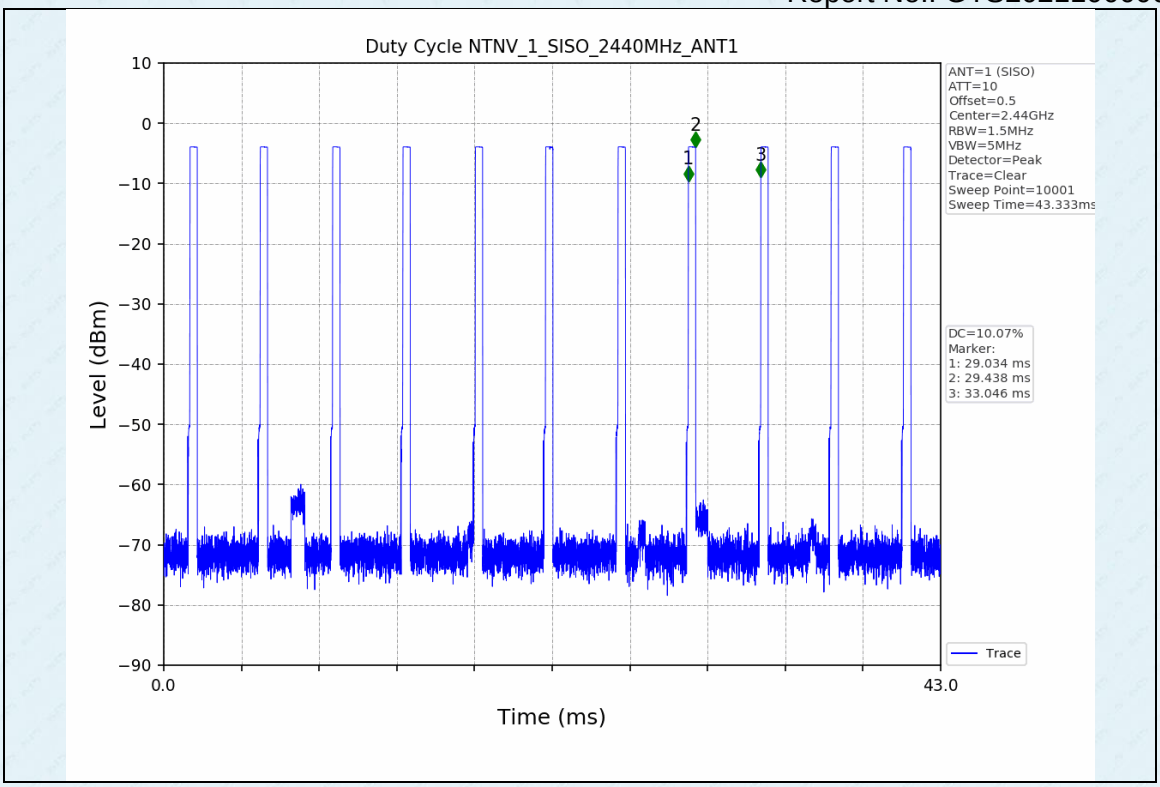
1. Duty Cycle

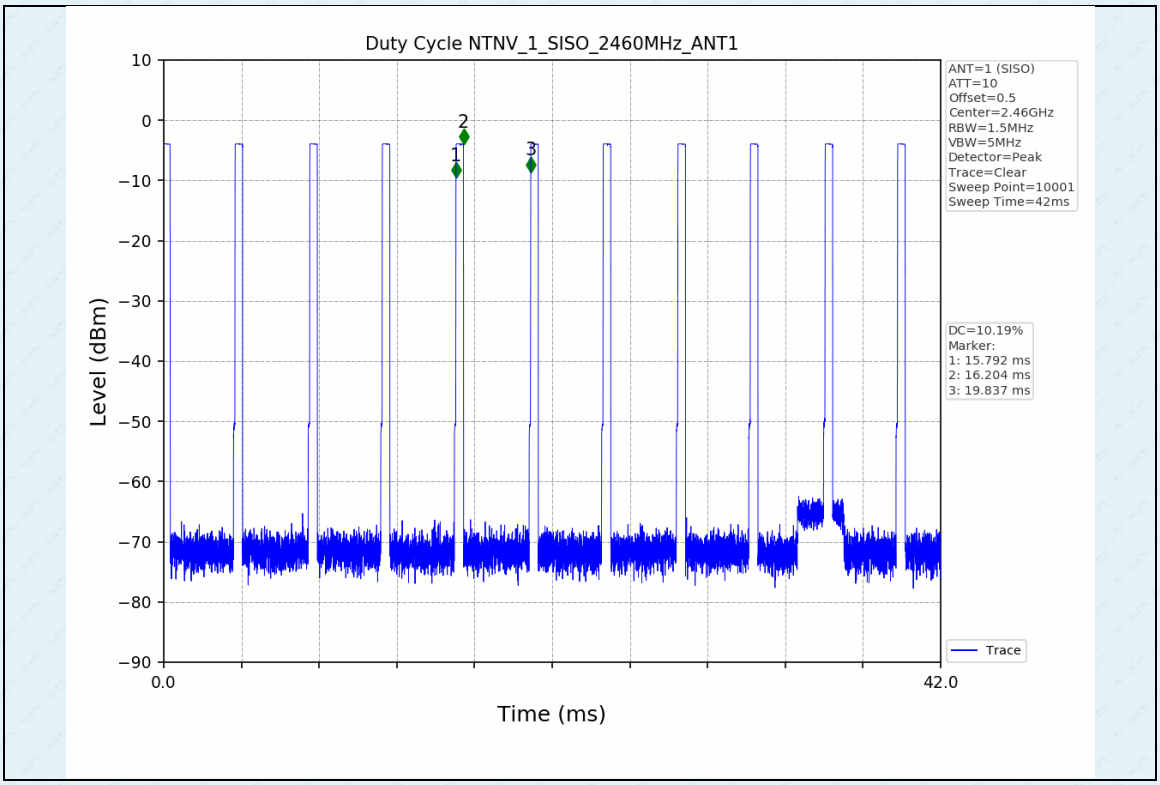
1.1 Test Result

Test Mode	Channel Frequency(MHz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
1	2420	SISO	1	0.404	4.008	10.08	9.97
	2440	SISO	1	0.404	4.012	10.07	9.97
	2460	SISO	1	0.412	4.045	10.19	9.92

1.2 Test Graph




Duty Cycle NTNV_1_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
Center=2.44GHz
RBW=1.5MHz
VBW=5MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=43.333ms
DC=10.07%
Marker:
1: 29.034 ms
2: 29.438 ms
3: 33.046 ms
Trace
Level (dBm)
Time (ms)
0.0
43.0


Duty Cycle NTNV_1_SISO_2460MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
Center=2.46GHz
RBW=1.5MHz
VBW=5MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=42ms
DC=10.19%
Marker:
1: 15.792 ms
2: 16.204 ms
3: 19.837 ms
Trace
Level (dBm)
Time (ms)
0.0
42.0

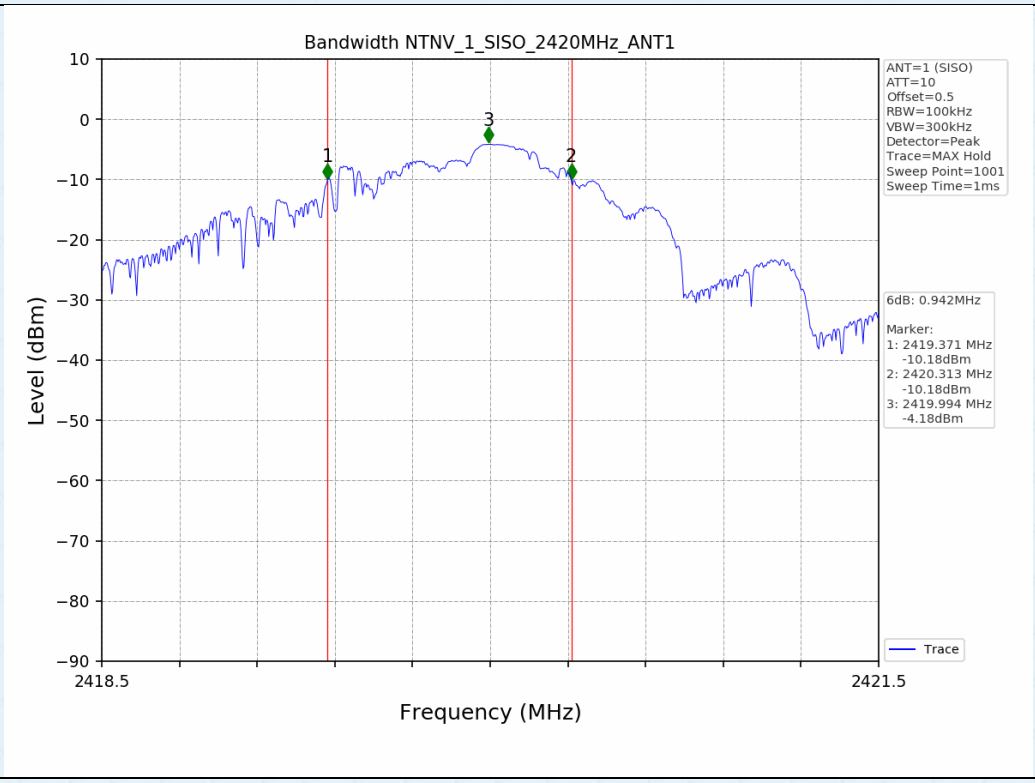
2. Bandwidth

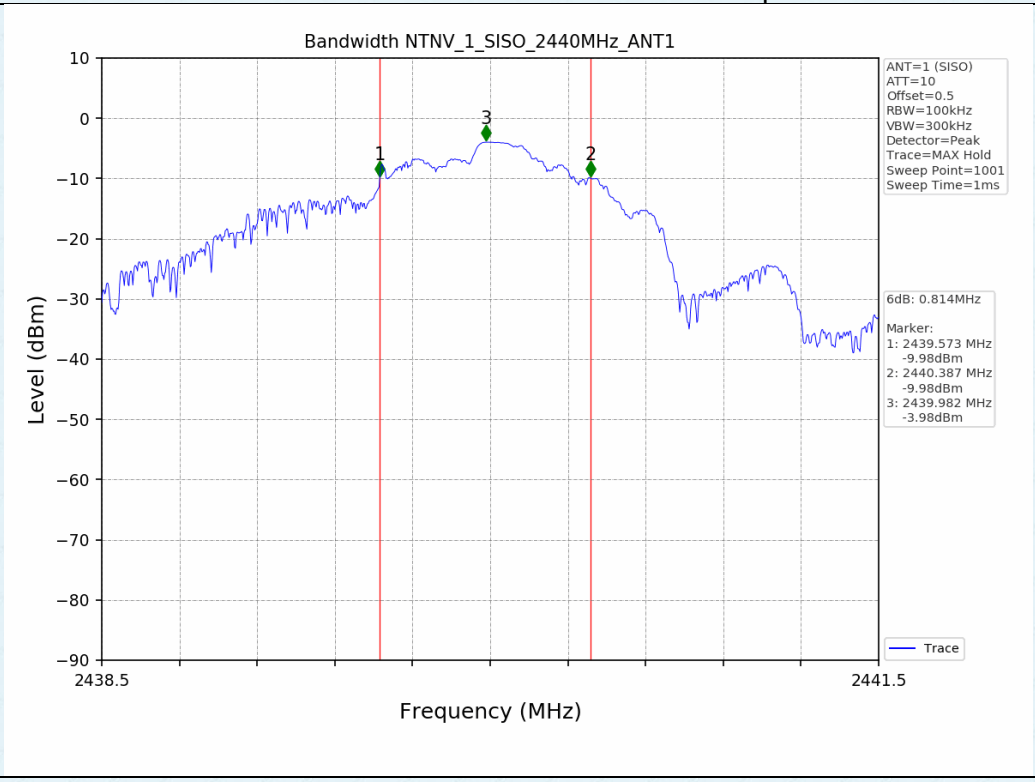
2.1 Test Result

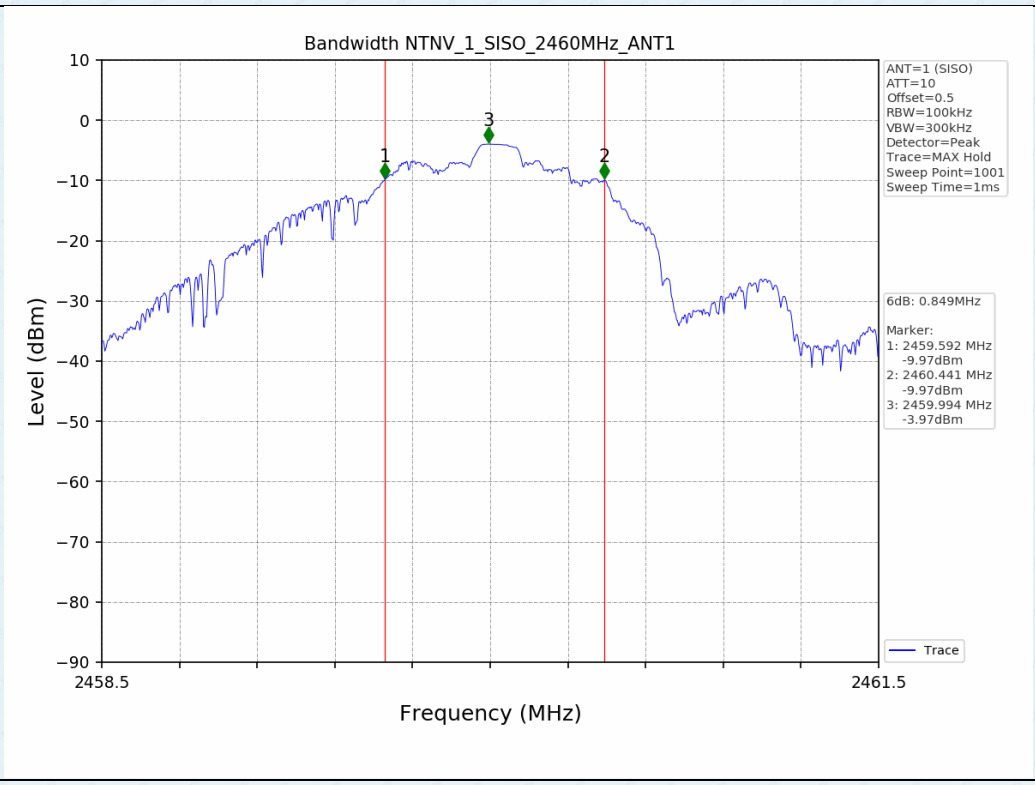
Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
1	2420	SISO	1	0.942	≥0.5	PASS
	2440	SISO	1	0.814	≥0.5	PASS
	2460	SISO	1	0.849	≥0.5	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
1	2420	SISO	1	1.785	Only for Report Use
	2440	SISO	1	1.631	Only for Report Use
	2460	SISO	1	1.412	Only for Report Use

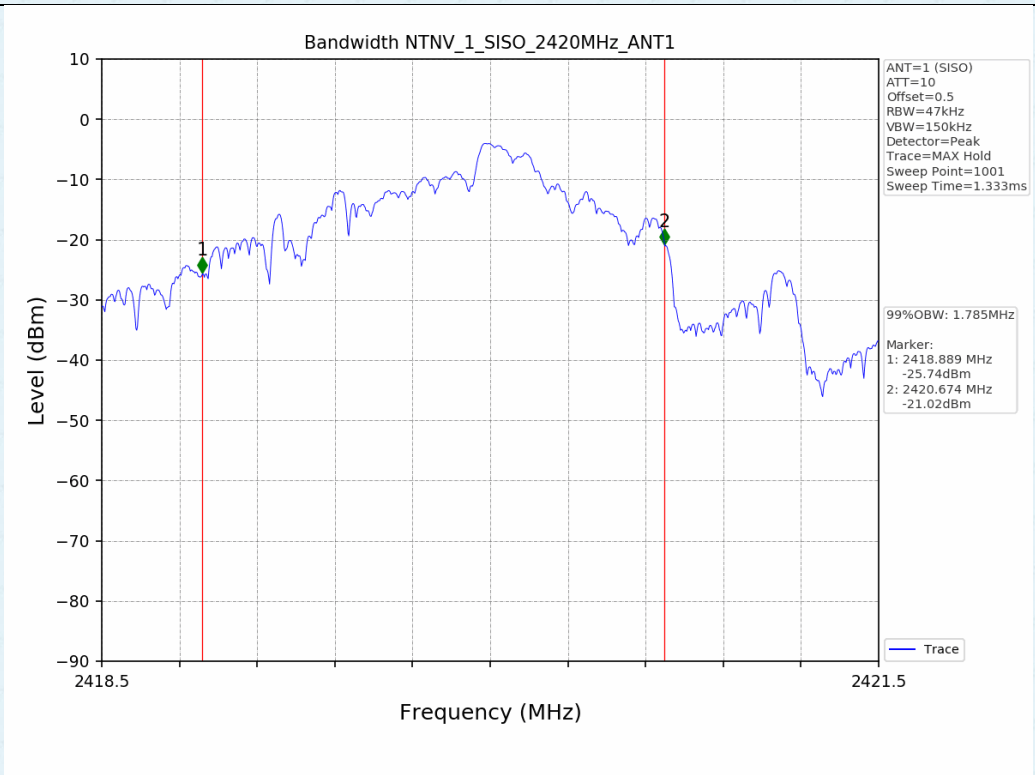
2.2 Test Graph - 6dB Bandwidth

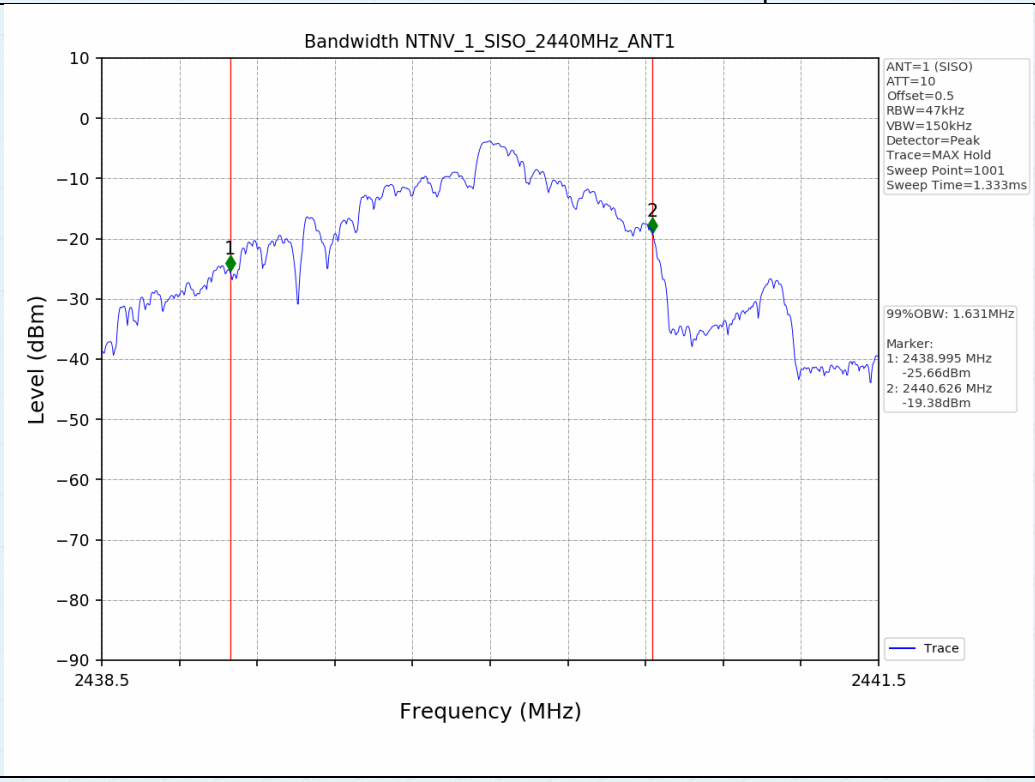


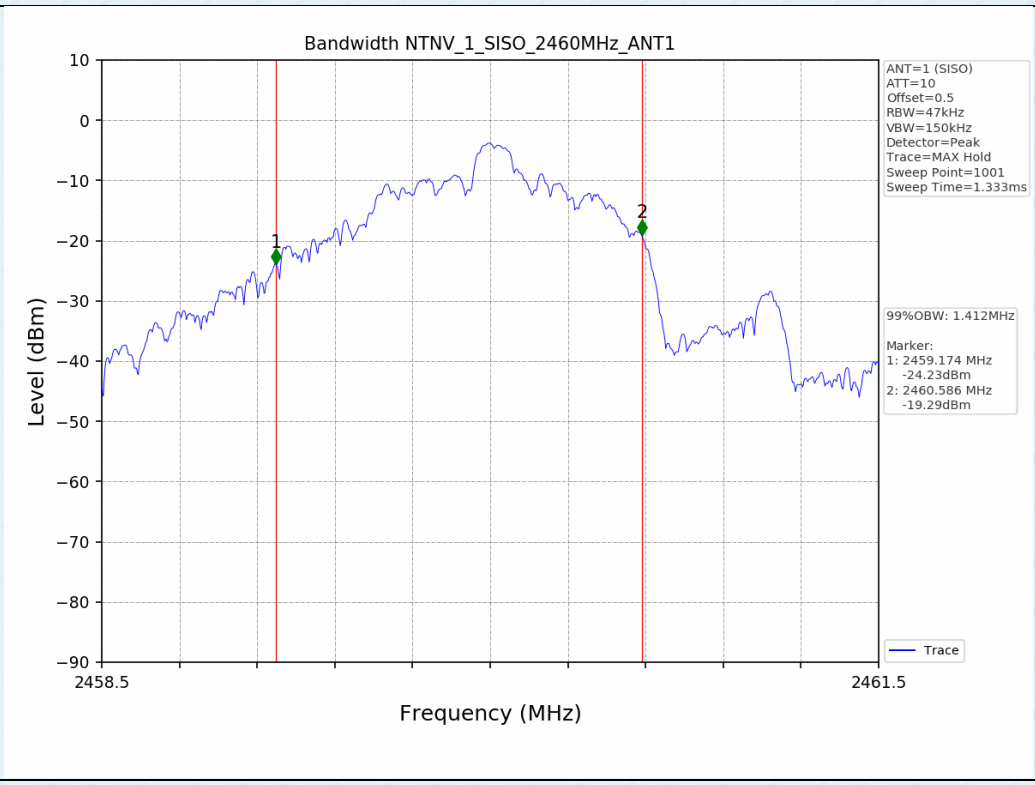

Bandwidth NTNV_1_SISO_2440MHz_ANT1
Level (dBm)
Frequency (MHz)
2438.5
2441.5
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.814MHz
Marker:
1: 2439.573 MHz
-9.98dBm
2: 2440.387 MHz
-9.98dBm
3: 2439.982 MHz
-3.98dBm
Trace


Bandwidth NTNV_1_SISO_2460MHz_ANT1
Level (dBm)
Frequency (MHz)
2458.5
2461.5
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.849MHz
Marker:
1: 2459.592 MHz
-9.97dBm
2: 2460.441 MHz
-9.97dBm
3: 2459.994 MHz
-3.97dBm
Trace

2.3 Test Graph - 99% Occupied Bandwidth




Bandwidth NTNV_1_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=47kHz
VBW=150kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1.333ms
99%OBW: 1.631MHz
Marker:
1: 2438.995 MHz
-25.66dBm
2: 2440.626 MHz
-19.38dBm
Trace
Level (dBm)
Frequency (MHz)
2438.5
2441.5

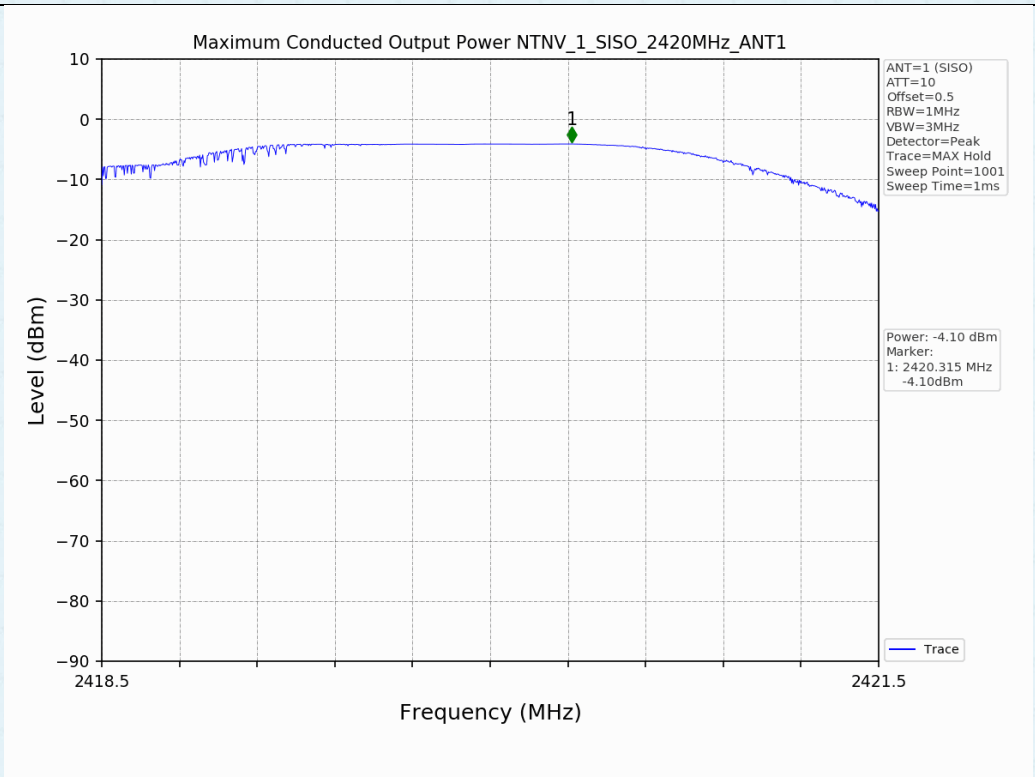

Bandwidth NTNV_1_SISO_2460MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=47kHz
VBW=150kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1.333ms
99%OBW: 1.412MHz
Marker:
1: 2459.174 MHz
-24.23dBm
2: 2460.586 MHz
-19.29dBm
Trace
Level (dBm)
Frequency (MHz)
2458.5
2461.5

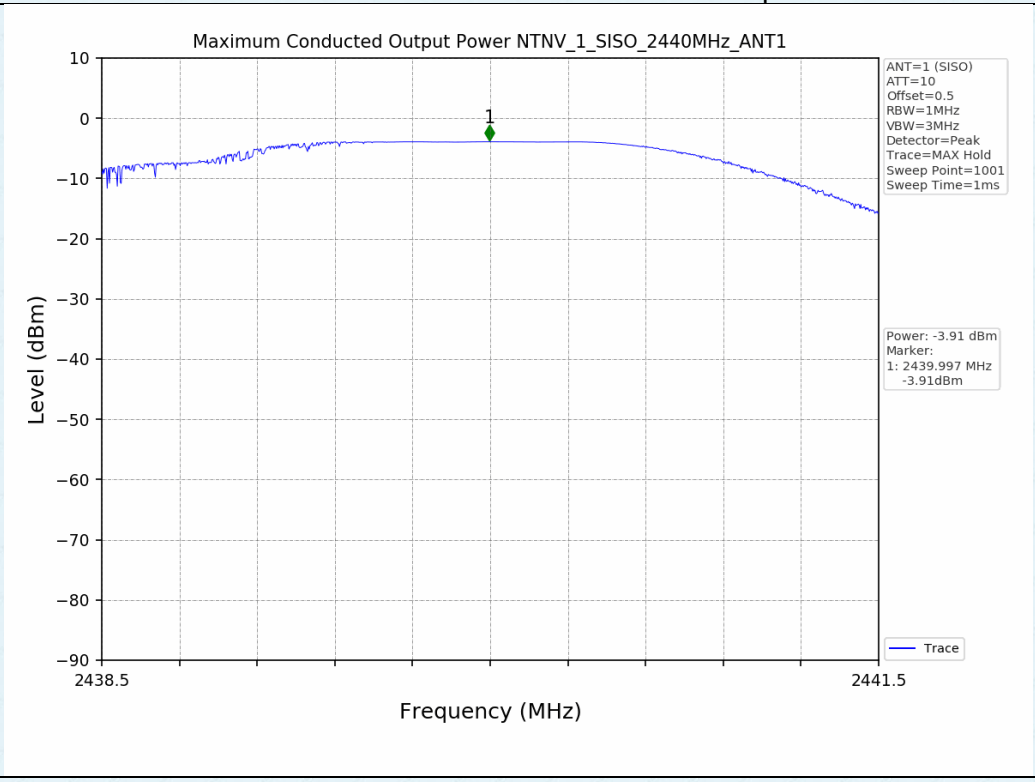
3. Maximum Conducted Output Power

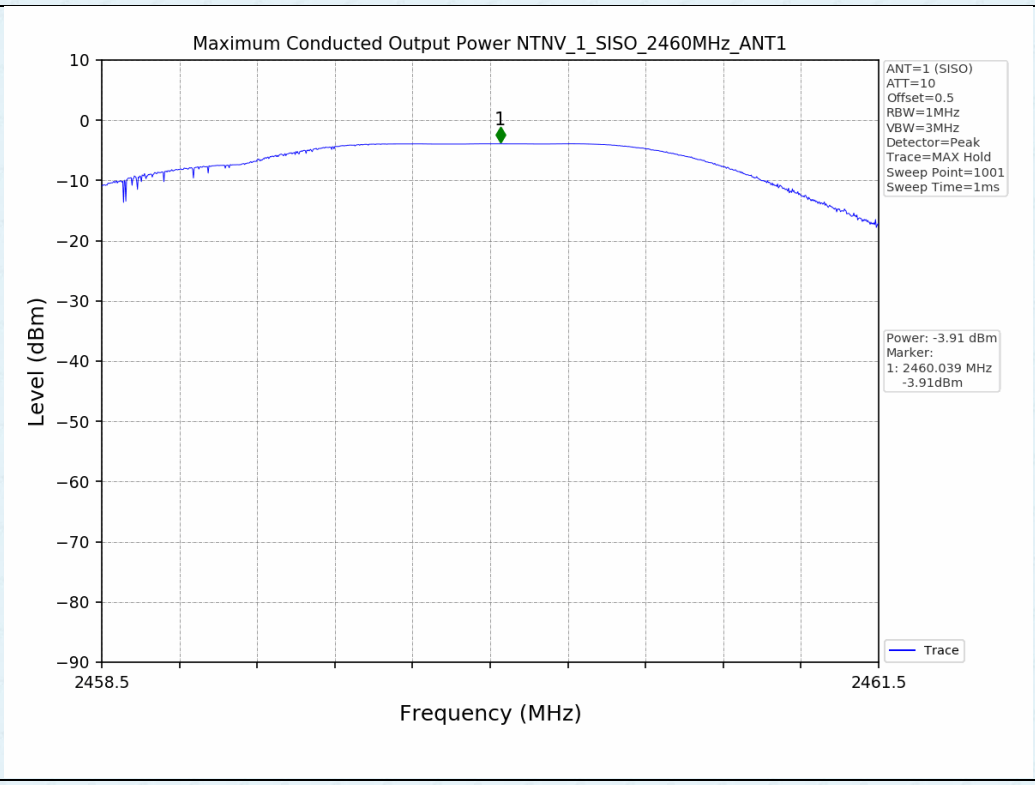
3.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
1	2420	SISO	-4.10	30	PASS
	2440	SISO	-3.91	30	PASS
	2460	SISO	-3.91	30	PASS

3.2 Test Graph




Maximum Conducted Output Power NTNV_1_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: -3.91 dBm
Marker:
1: 2439.997 MHz
-3.91dBm
Trace
Level (dBm)
Frequency (MHz)
2438.5
2441.5

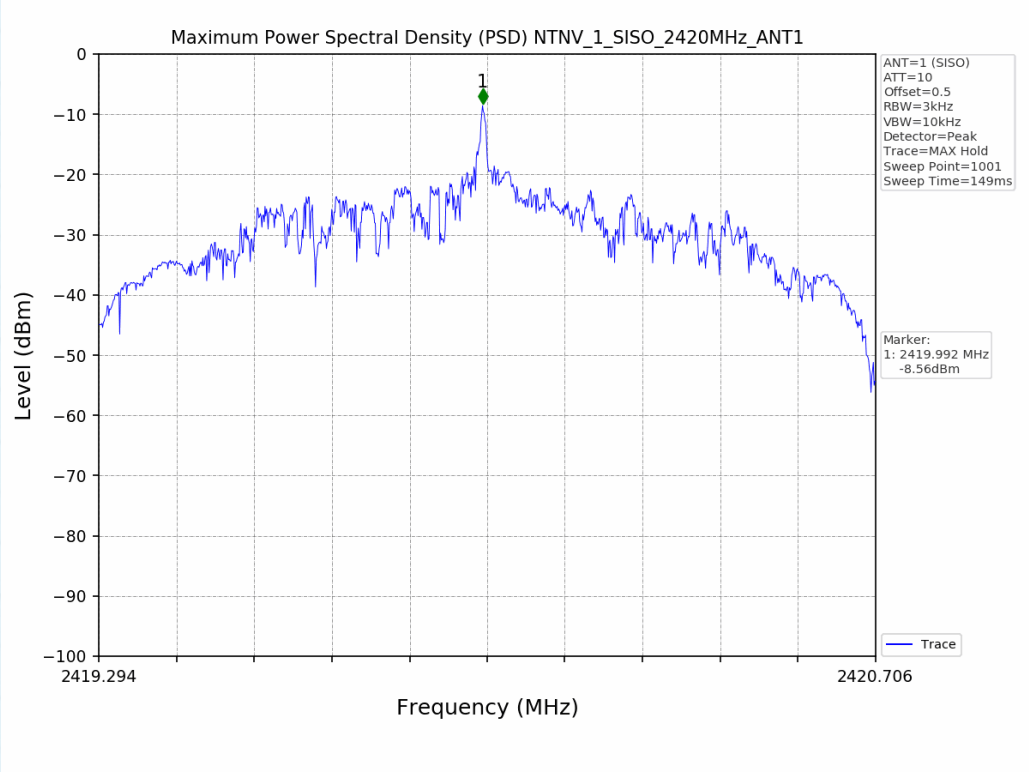

Maximum Conducted Output Power NTNV_1_SISO_2460MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: -3.91 dBm
Marker:
1: 2460.039 MHz
-3.91dBm
Trace
Level (dBm)
Frequency (MHz)
2458.5
2461.5

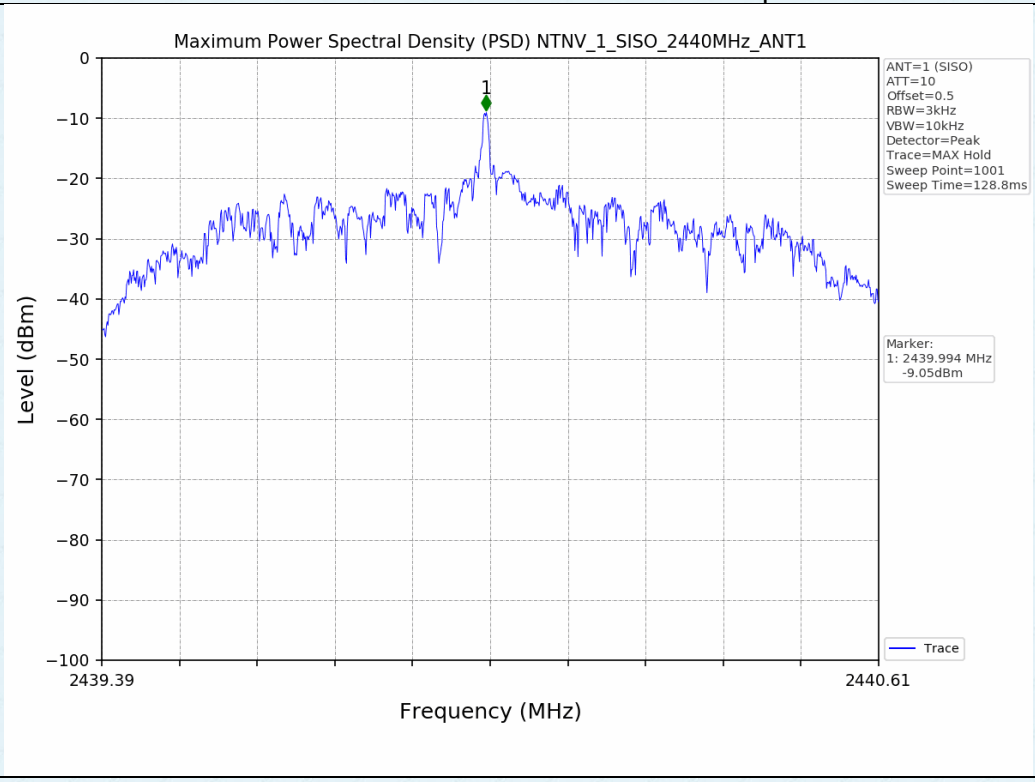
4. Maximum Power Spectral Density (PSD)

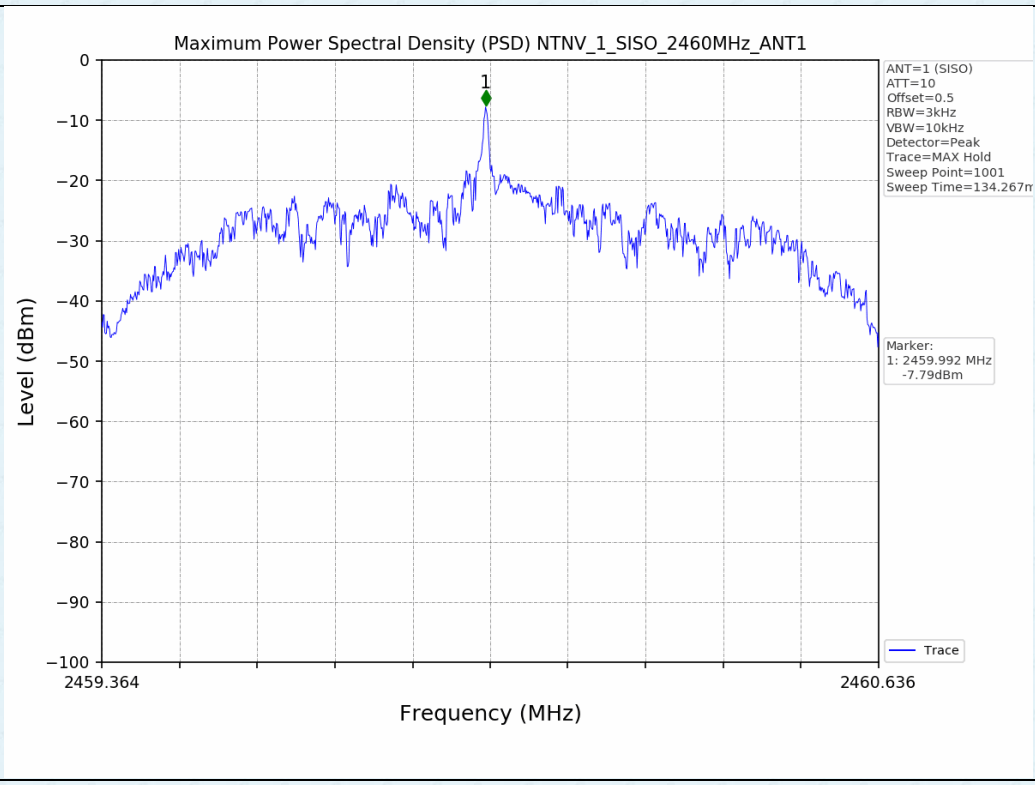
4.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
			Ant 1		
1	2420	SISO	-8.56	≤8	PASS
	2440	SISO	-9.05	≤8	PASS
	2460	SISO	-7.79	≤8	PASS

4.2 Test Graph




Maximum Power Spectral Density (PSD) NTNV_1_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=128.8ms
Marker:
1: 2439.994 MHz
-9.05dBm
Trace
Level (dBm)
Frequency (MHz)
2439.39
2440.61

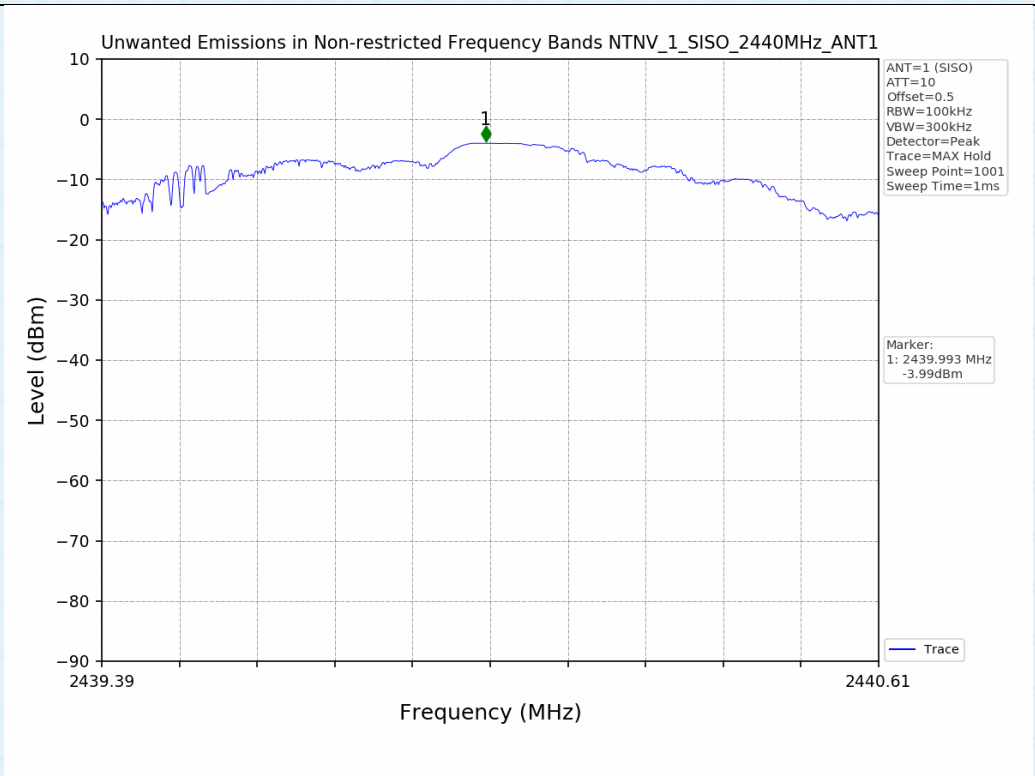

Maximum Power Spectral Density (PSD) NTNV_1_SISO_2460MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=134.267m
Marker:
1: 2459.992 MHz
-7.79dBm
Trace
Level (dBm)
Frequency (MHz)
2459.364
2460.636

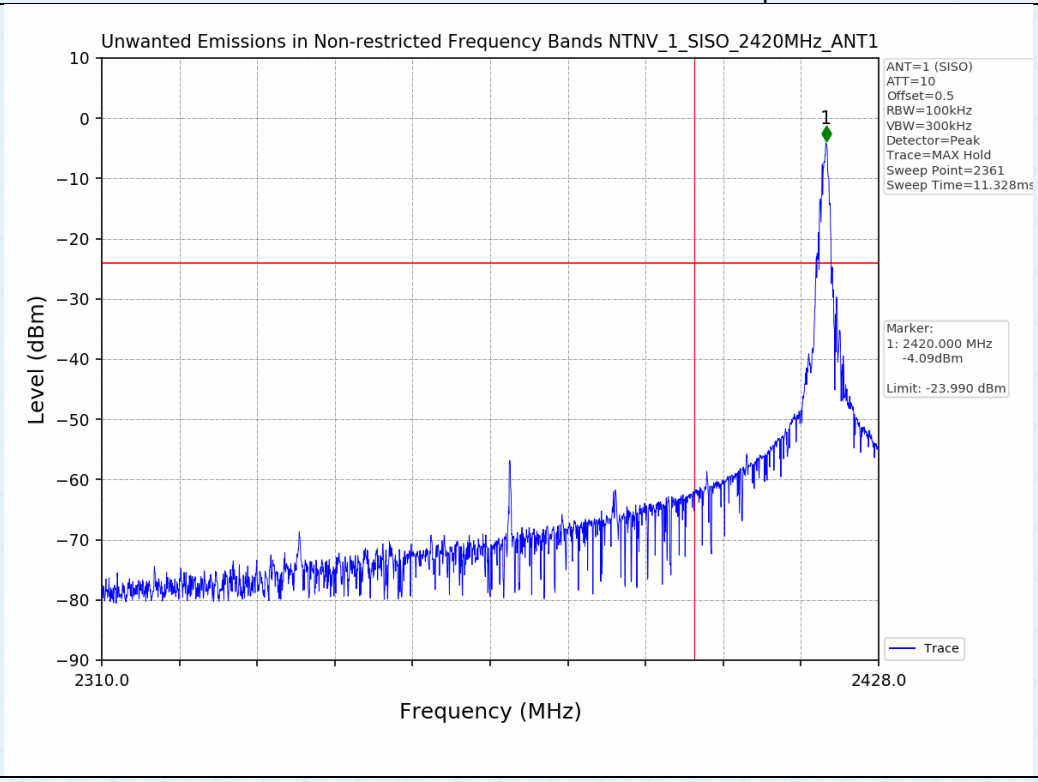
5. Unwanted Emissions in Non-restricted Frequency Bands

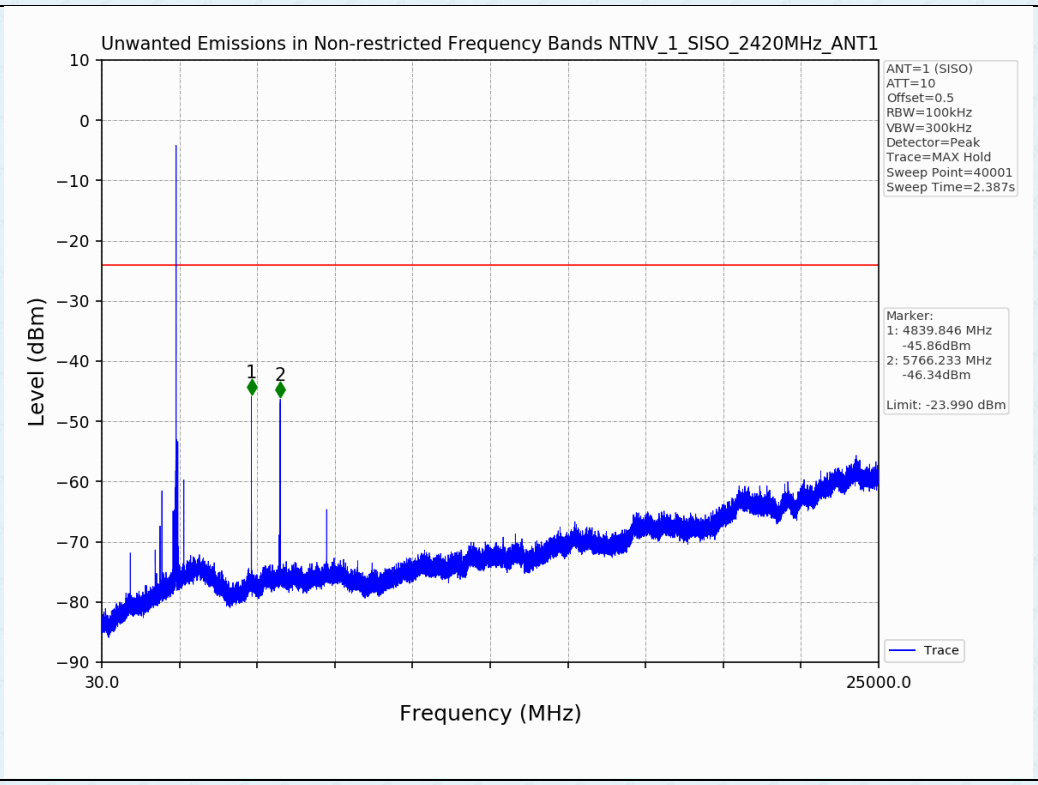
5.1 Test Result

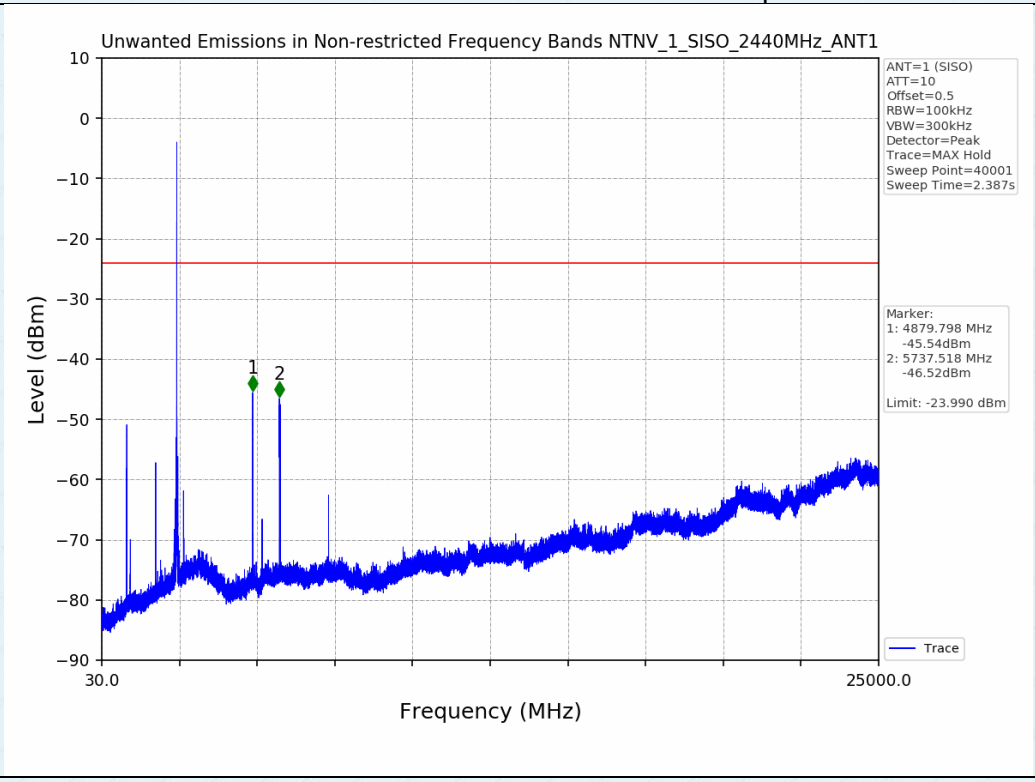
Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
1	2420	SISO	1	Refer to test graph	-23.99	PASS
	2440	SISO	1	Refer to test graph	-23.99	PASS
	2460	SISO	1	Refer to test graph	-23.99	PASS

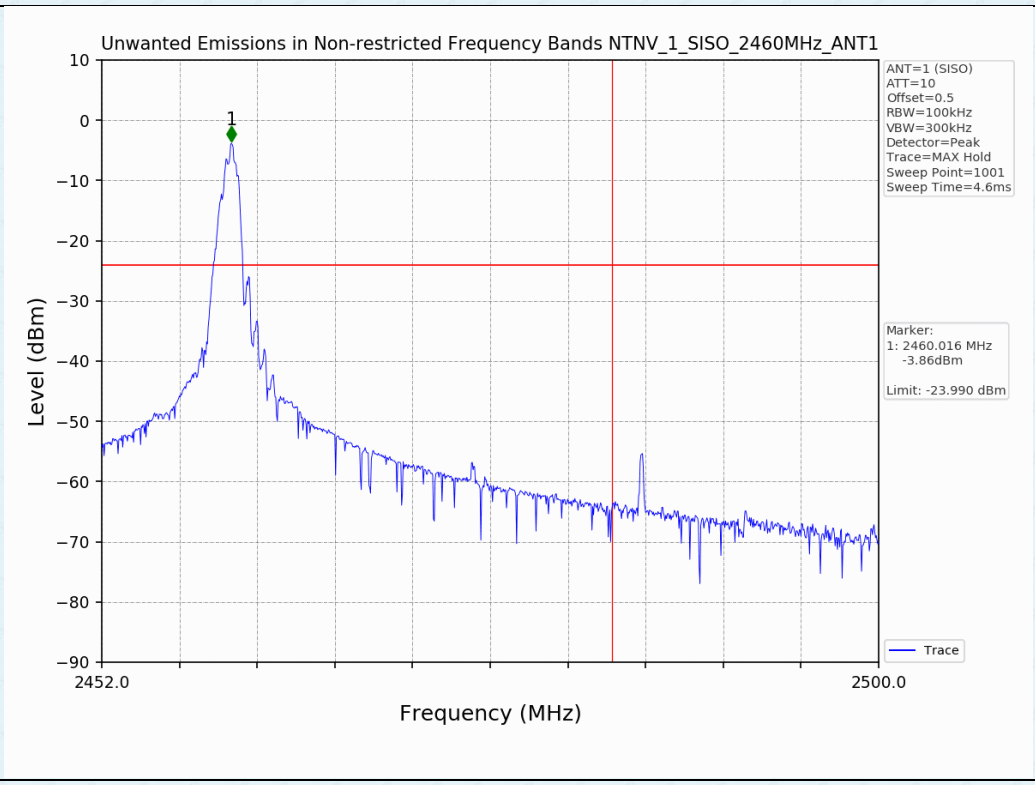
5.2 Test Graph

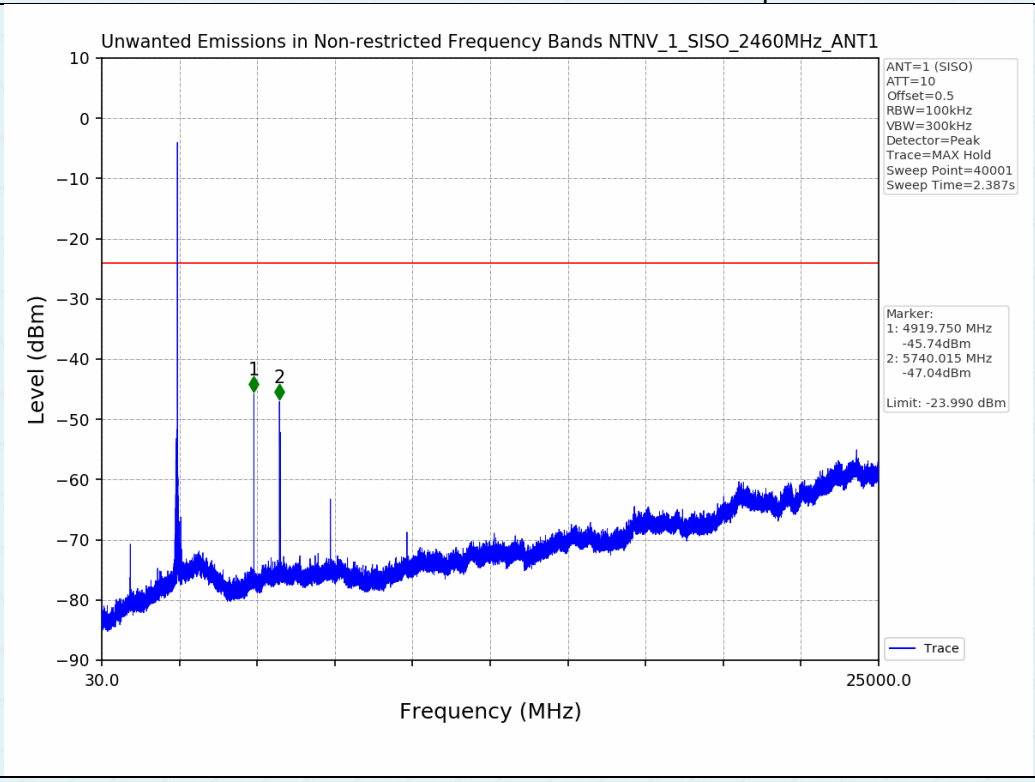



Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2420MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=2361
Sweep Time=11.328ms
Marker:
1: 2420.000 MHz
-4.09dBm
Limit: -23.990 dBm
Trace
Level (dBm)
Frequency (MHz)
2310.0
2428.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2420MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 4839.846 MHz
-45.86dBm
2: 5766.233 MHz
-46.34dBm
Limit: -23.990 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 4879.798 MHz
-45.54dBm
2: 5737.518 MHz
-46.52dBm
Limit: -23.990 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2460MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=4.6ms
Marker:
1: 2460.016 MHz
-3.86dBm
Limit: -23.990 dBm
Trace
Level (dBm)
Frequency (MHz)
2452.0
2500.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2460MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 4919.750 MHz
-45.74dBm
2: 5740.015 MHz
-47.04dBm
Limit: -23.990 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
1
2

------End------