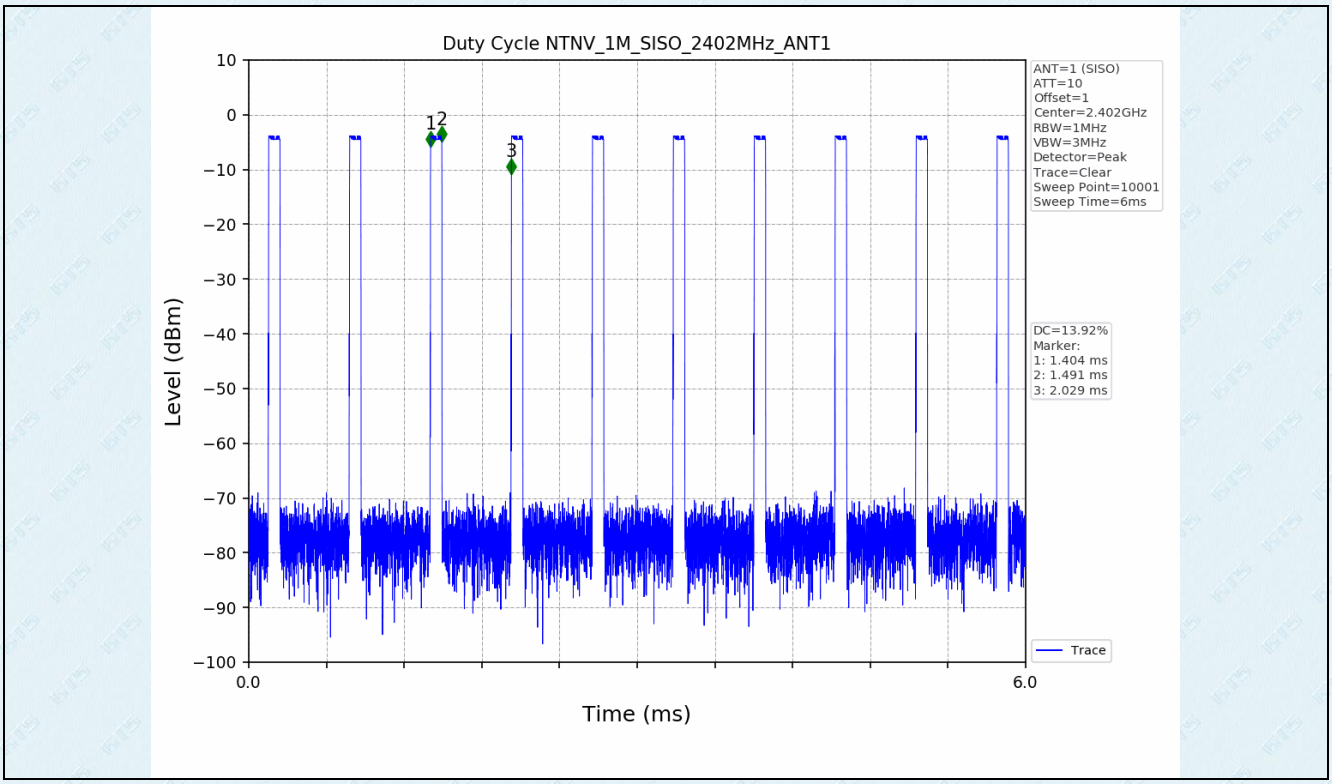
Appendix for 15.247

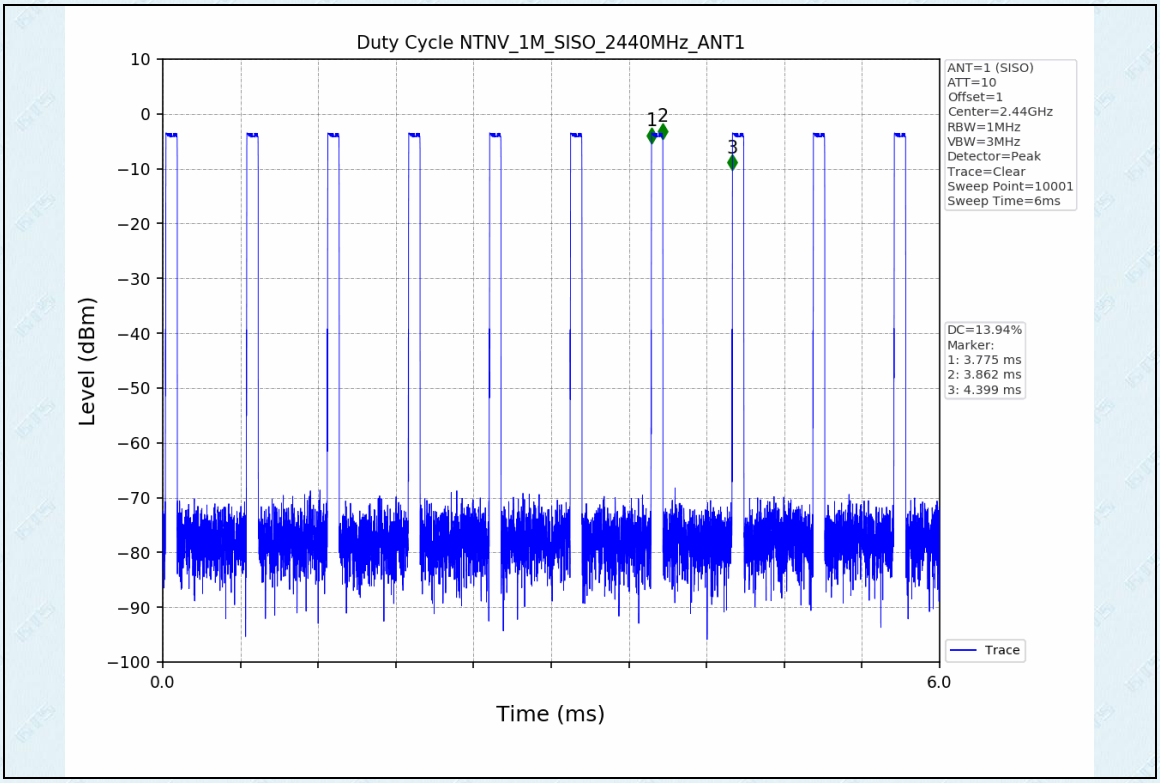
1. Duty Cycle

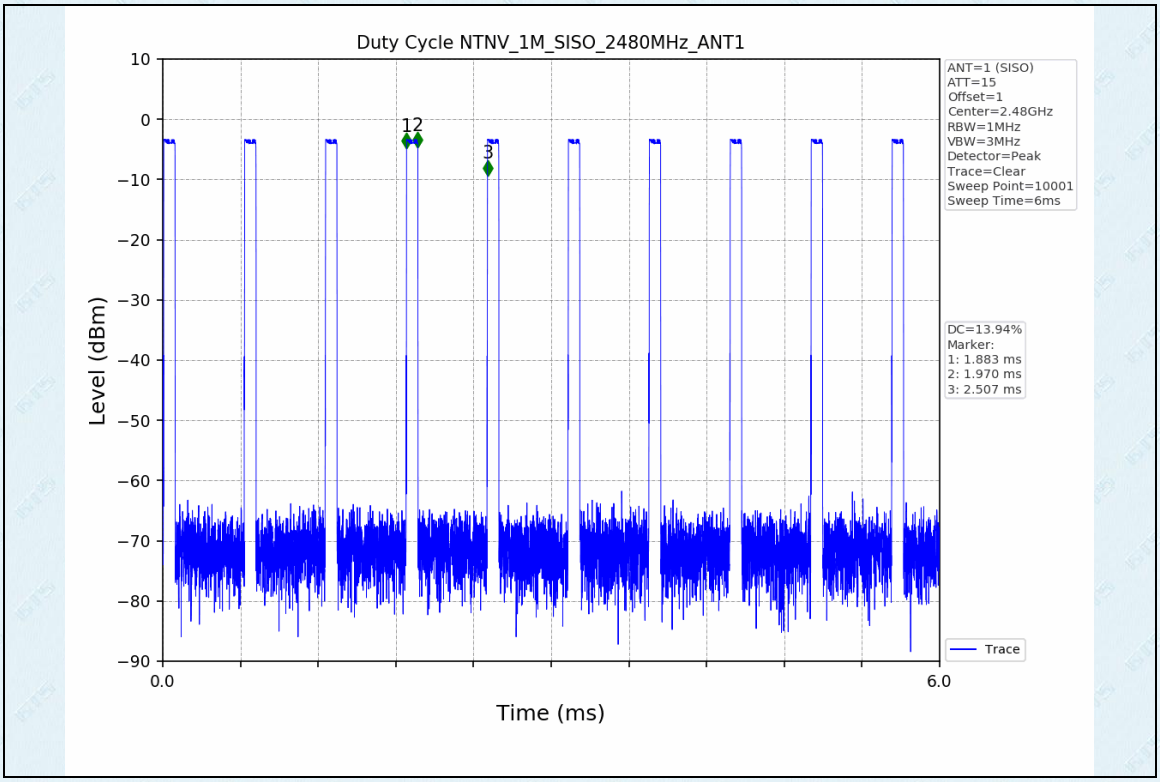
1.1 Test Result

Test Mode	Channel Frequency(MHz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
1M	2402	SISO	1	0.087	0.625	13.92	8.56
	2440	SISO	1	0.087	0.624	13.94	8.56
	2480	SISO	1	0.087	0.624	13.94	8.56

1.2 Test Graph




Duty Cycle NTNV_1M_SISO_2440MHz_ANT1
Level (dBm)
Time (ms)
ANT=1 (SISO)
ATT=10
Offset=1
Center=2.44GHz
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=6ms
DC=13.94%
Marker:
1: 3.775 ms
2: 3.862 ms
3: 4.399 ms
Trace


Duty Cycle NTNV_1M_SISO_2480MHz_ANT1
Level (dBm)
Time (ms)
ANT=1 (SISO)
ATT=15
Offset=1
Center=2.48GHz
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=6ms
DC=13.94%
Marker:
1: 1.883 ms
2: 1.970 ms
3: 2.507 ms
Trace

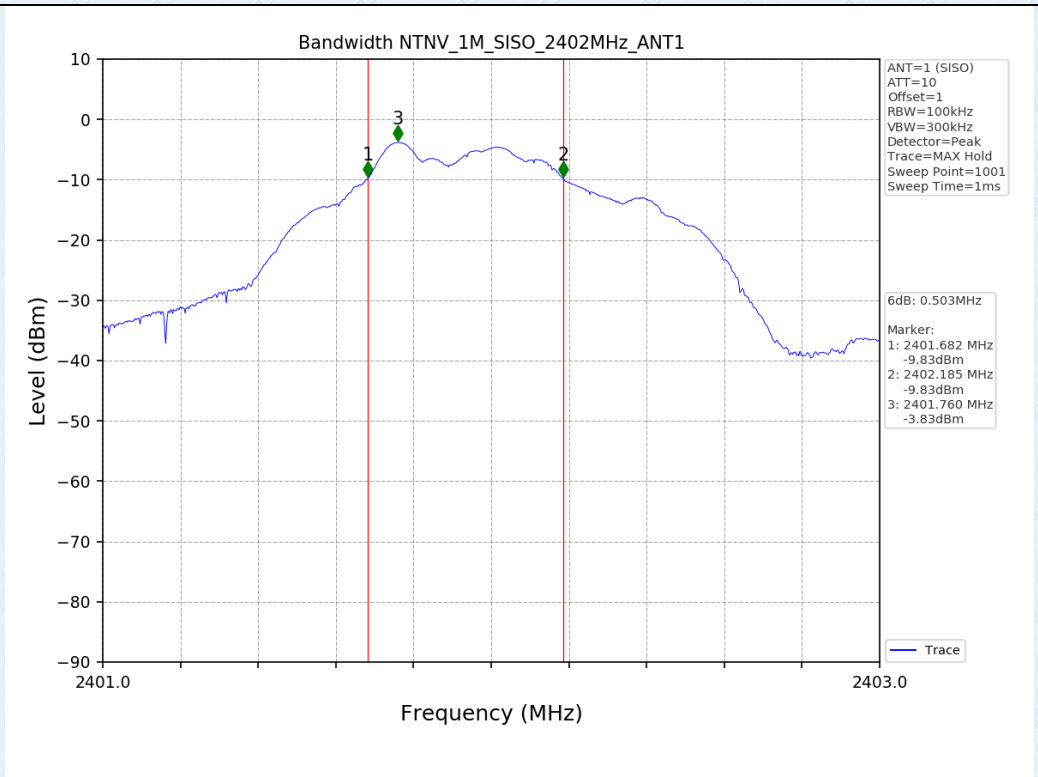
2. Bandwidth

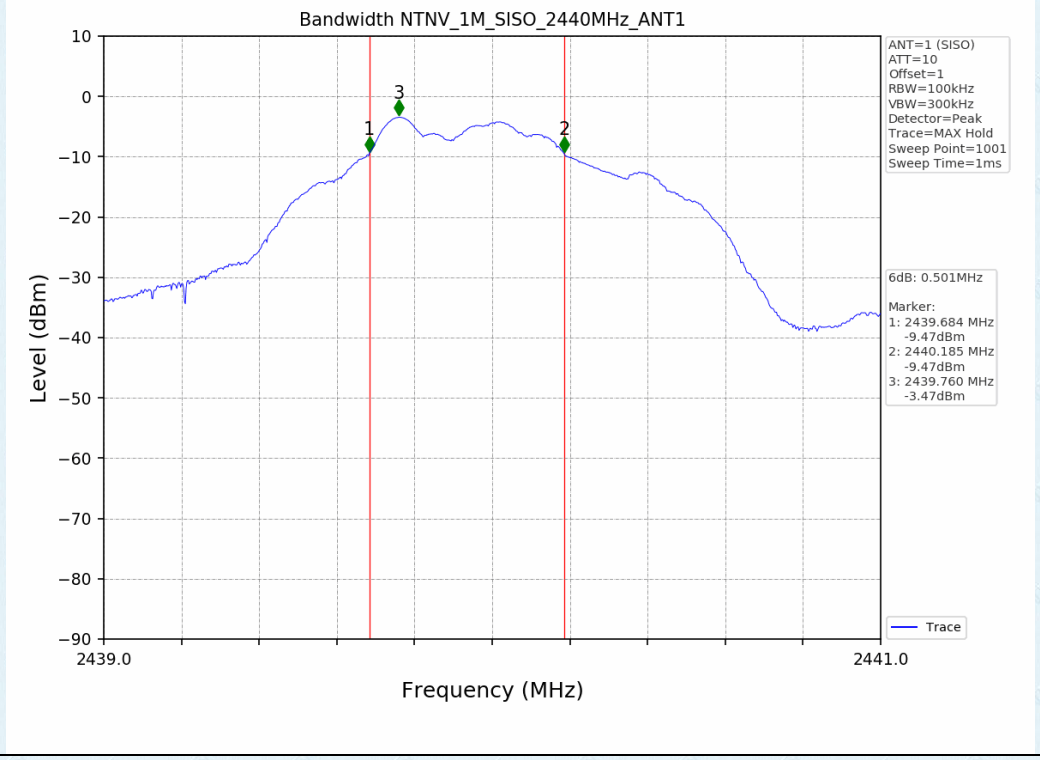
2.1 Test Result

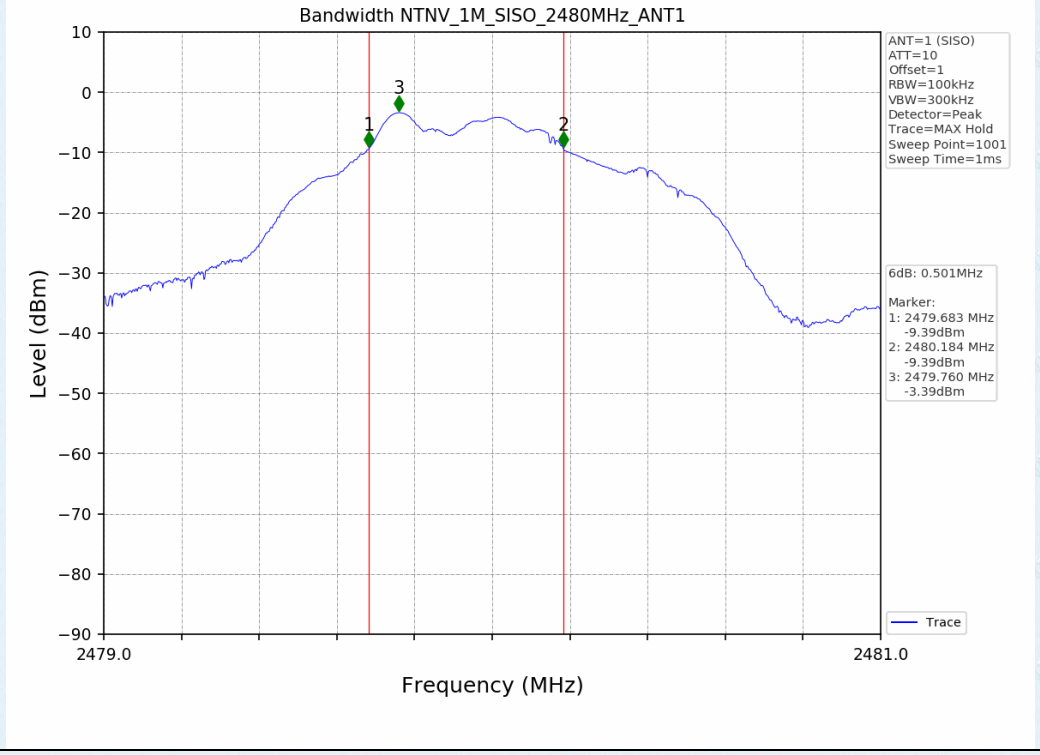
Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
1M	2402	SISO	1	0.503	≥0.5	PASS
	2440	SISO	1	0.501	≥0.5	PASS
	2480	SISO	1	0.501	≥0.5	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
1M	2402	SISO	1	1.028	Only for Report Use
	2440	SISO	1	1.028	Only for Report Use
	2480	SISO	1	1.029	Only for Report Use

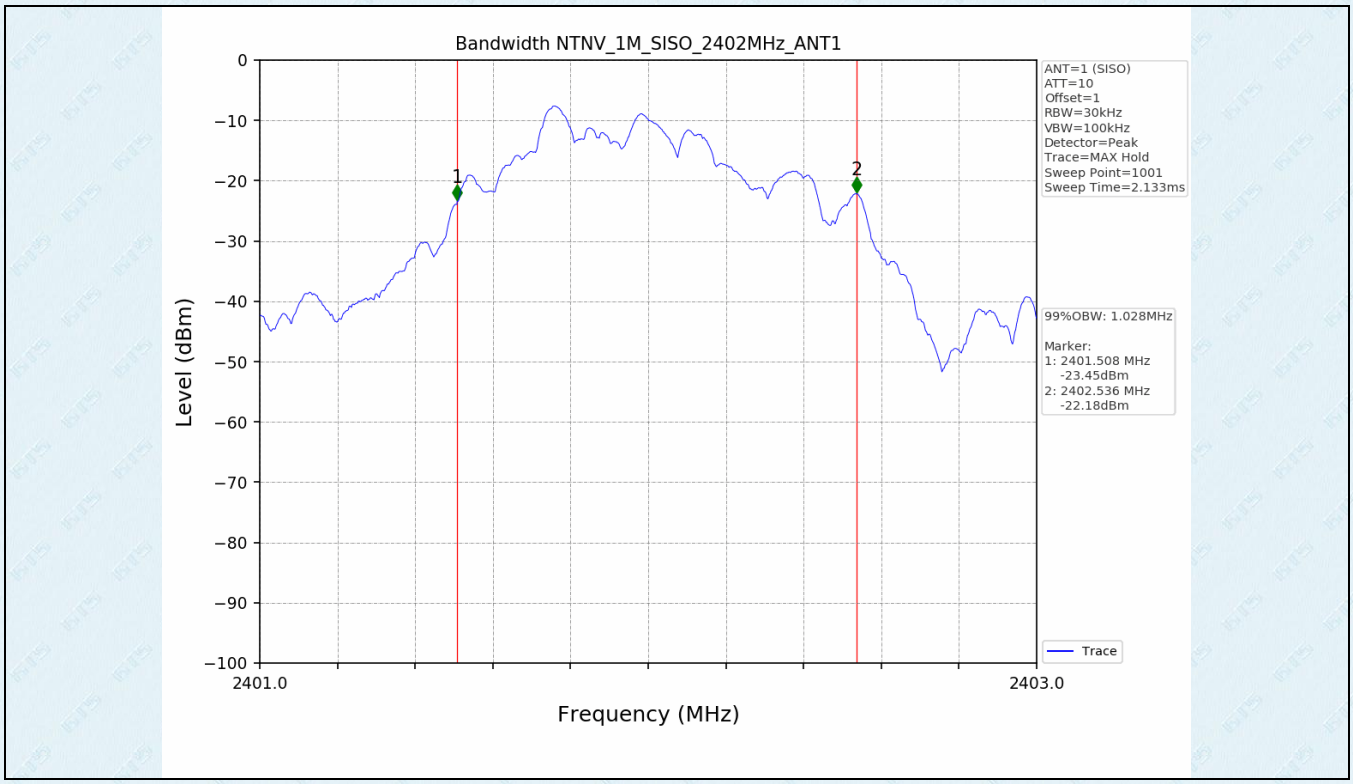
2.2 Test Graph - 6dB Bandwidth

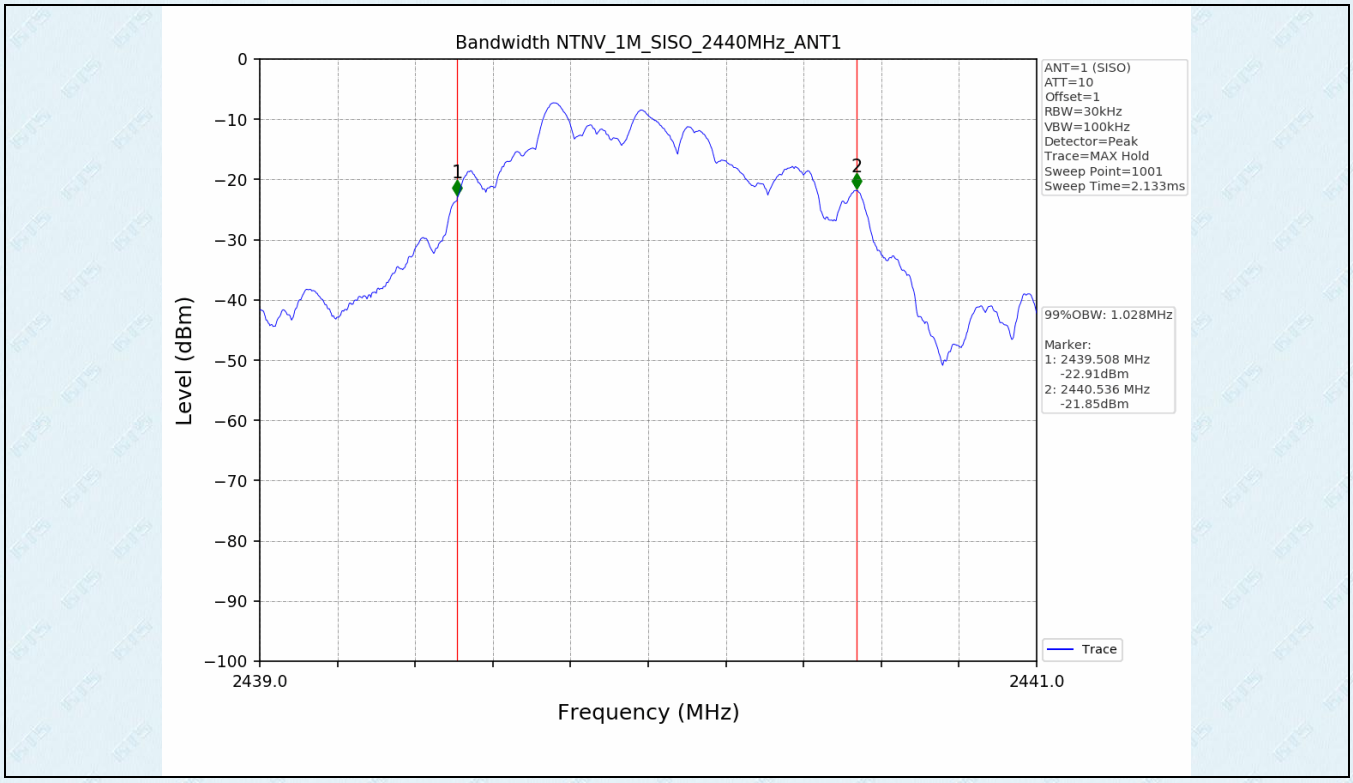


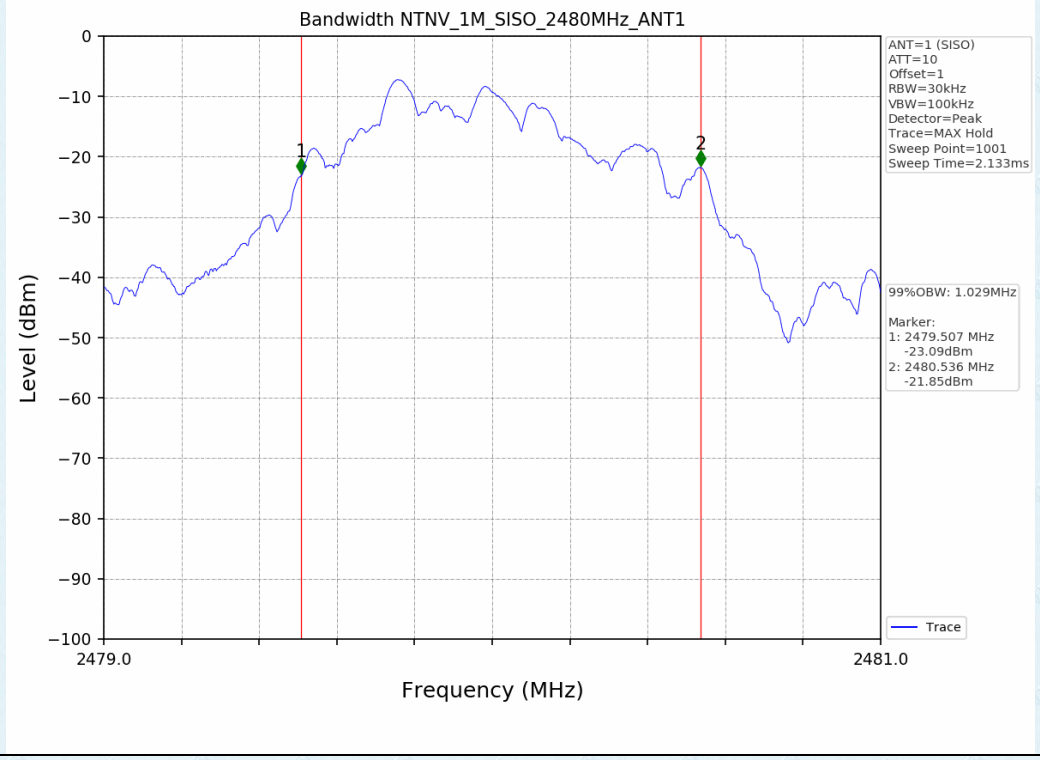

Bandwidth NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.501MHz
Marker:
1: 2439.684 MHz
-9.47dBm
2: 2440.185 MHz
-9.47dBm
3: 2439.760 MHz
-3.47dBm
Trace
Level (dBm)
Frequency (MHz)
2439.0
2441.0


Bandwidth NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.501MHz
Marker:
1: 2479.683 MHz
-9.39dBm
2: 2480.184 MHz
-9.39dBm
3: 2479.760 MHz
-3.39dBm
Trace
Level (dBm)
Frequency (MHz)
2479.0
2481.0

2.3 Test Graph - 99% Occupied Bandwidth





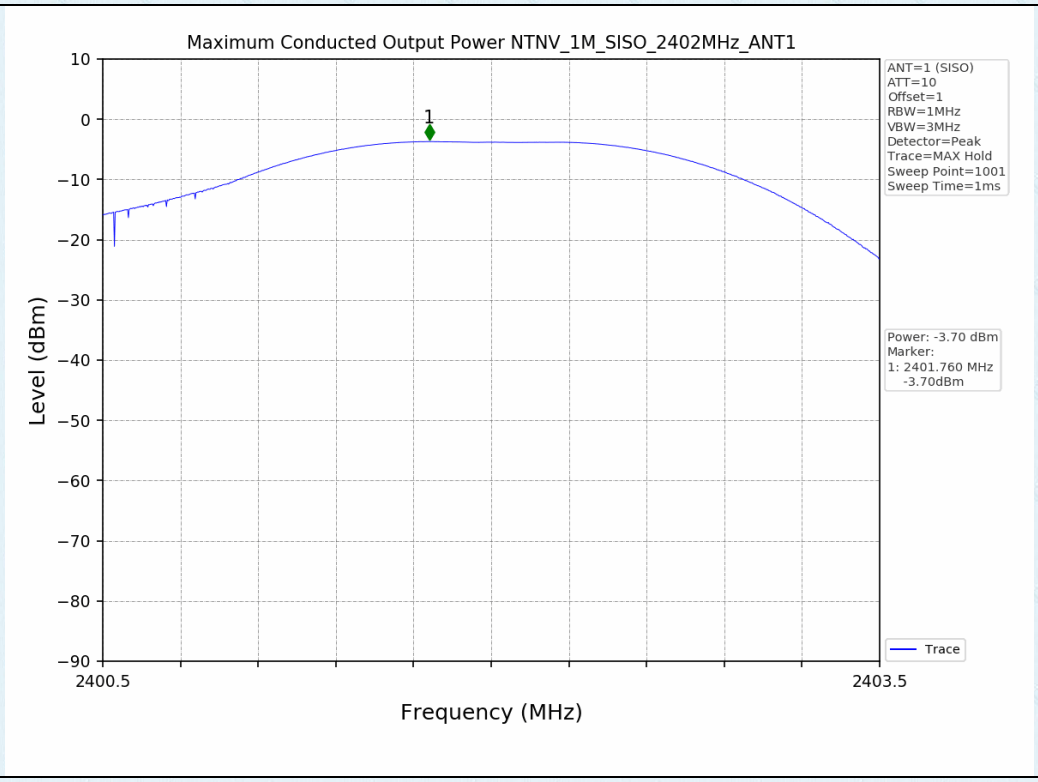

Bandwidth NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=30kHz
VBW=100kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.133ms
99%OBW: 1.029MHz
Marker:
1: 2479.507 MHz
-23.09dBm
2: 2480.536 MHz
-21.85dBm
Trace
Level (dBm)
Frequency (MHz)
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
−100
2479.0
2481.0
1
2

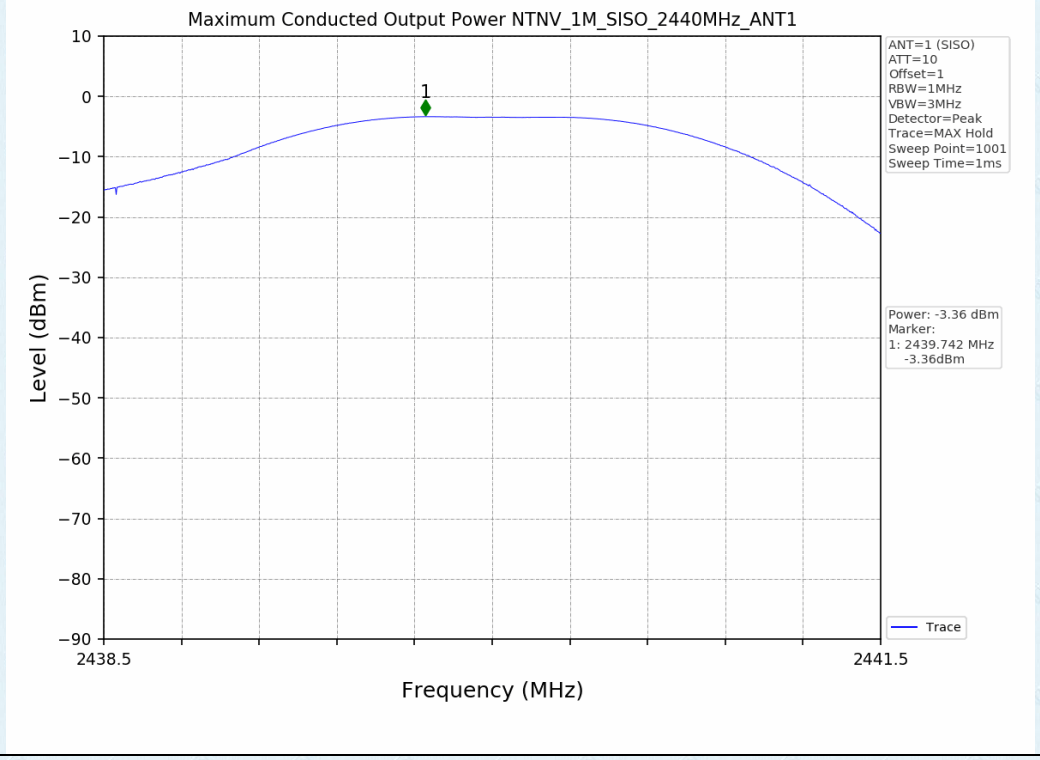
3. Maximum Conducted Output Power

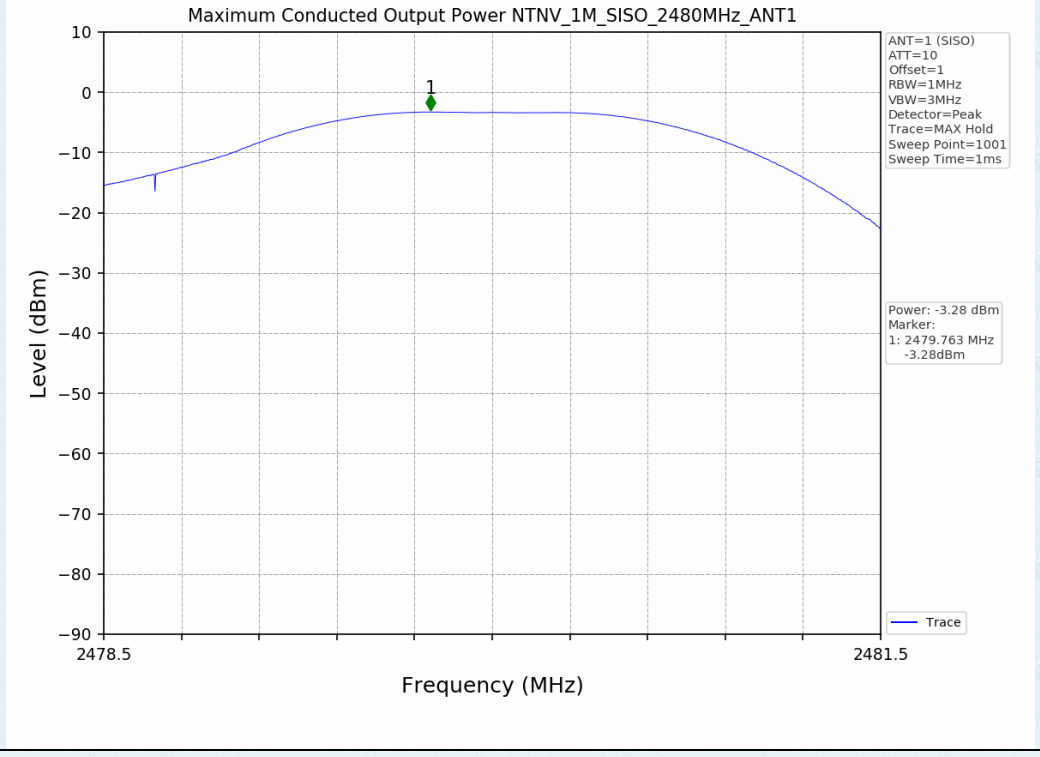
3.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
1M	2402	SISO	-3.70	30	PASS
	2440	SISO	-3.36	30	PASS
	2480	SISO	-3.28	30	PASS

3.2 Test Graph




Maximum Conducted Output Power NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: -3.36 dBm
Marker:
1: 2439.742 MHz
-3.36dBm
Trace
Level (dBm)
Frequency (MHz)
2438.5
2441.5

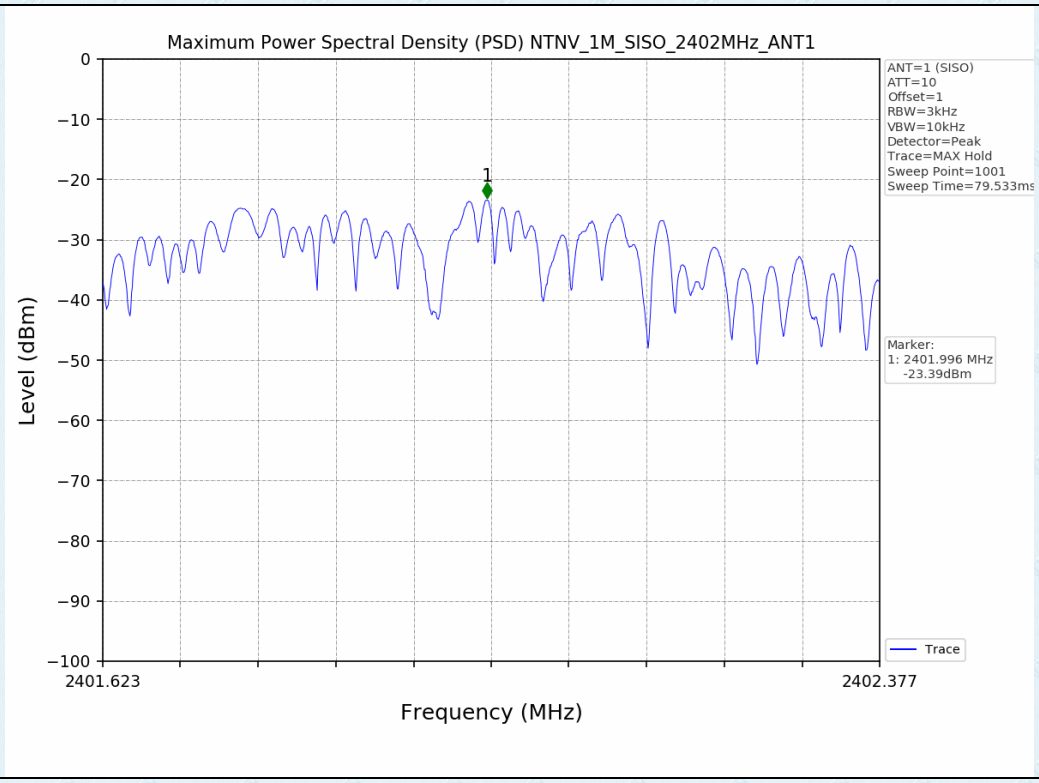

Maximum Conducted Output Power NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: -3.28 dBm
Marker:
1: 2479.763 MHz
-3.28dBm
Trace
Level (dBm)
Frequency (MHz)
2478.5
2481.5

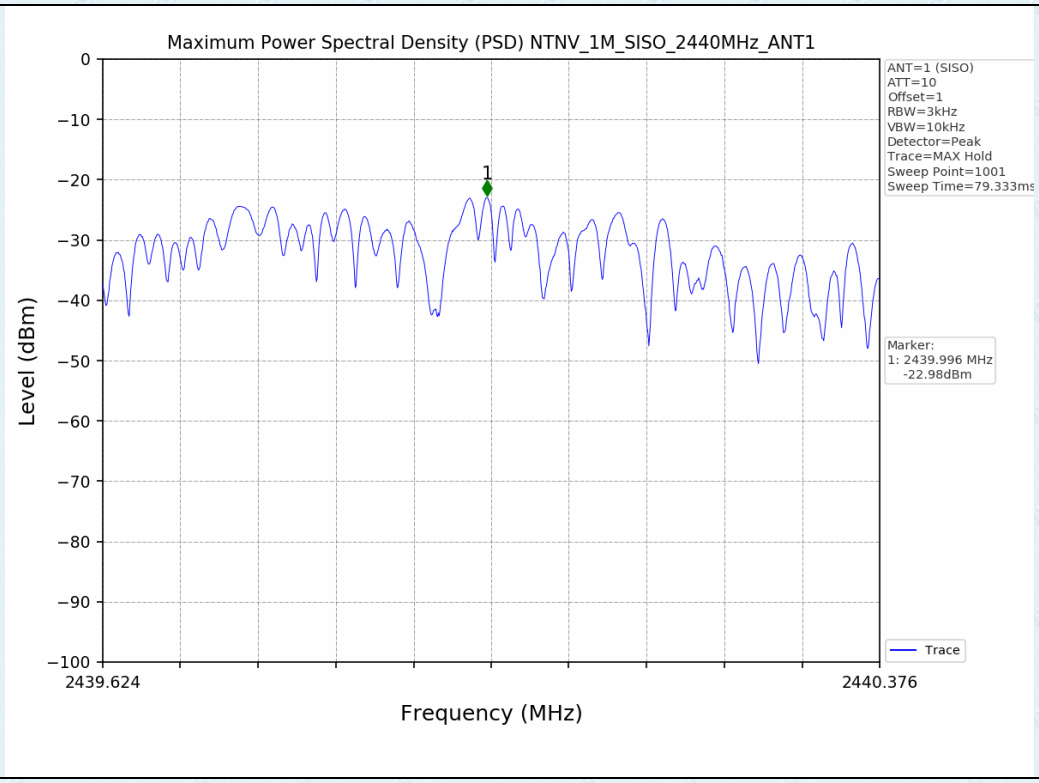
4. Maximum Power Spectral Density (PSD)

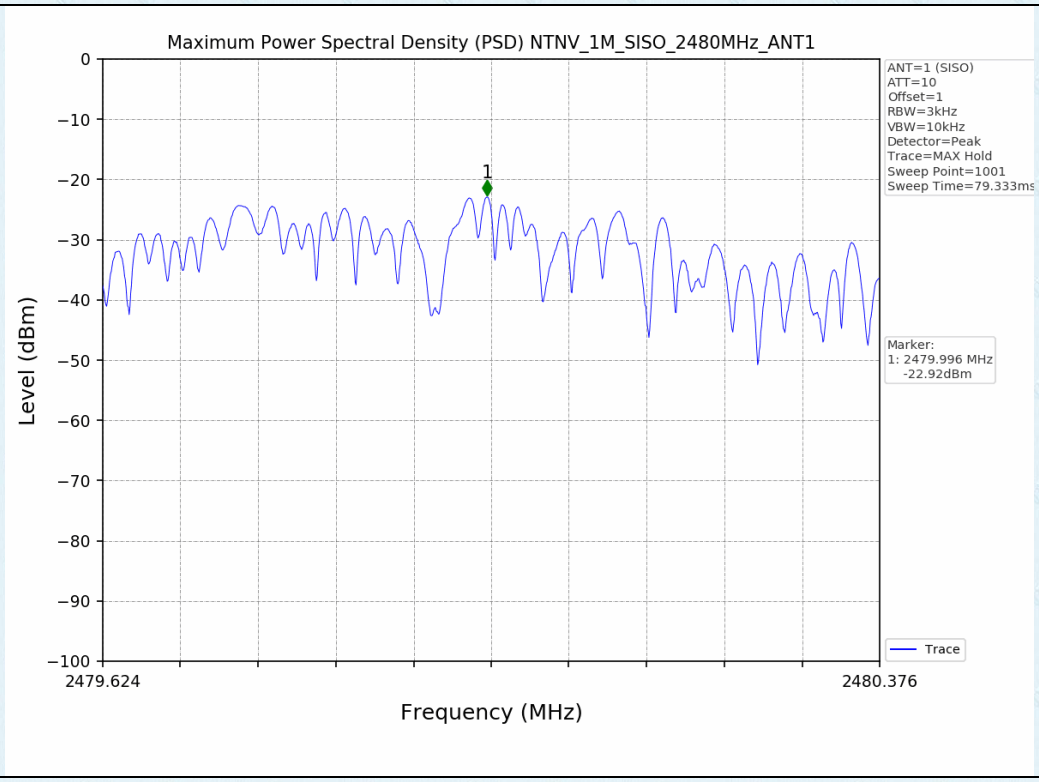
4.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
			Ant 1		
1M	2402	SISO	-23.39	≤8	PASS
	2440	SISO	-22.98	≤8	PASS
	2480	SISO	-22.92	≤8	PASS

4.2 Test Graph




Maximum Power Spectral Density (PSD) NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=79.333ms
Marker:
1: 2439.996 MHz
-22.98dBm
Trace
Level (dBm)
Frequency (MHz)
2439.624
2440.376

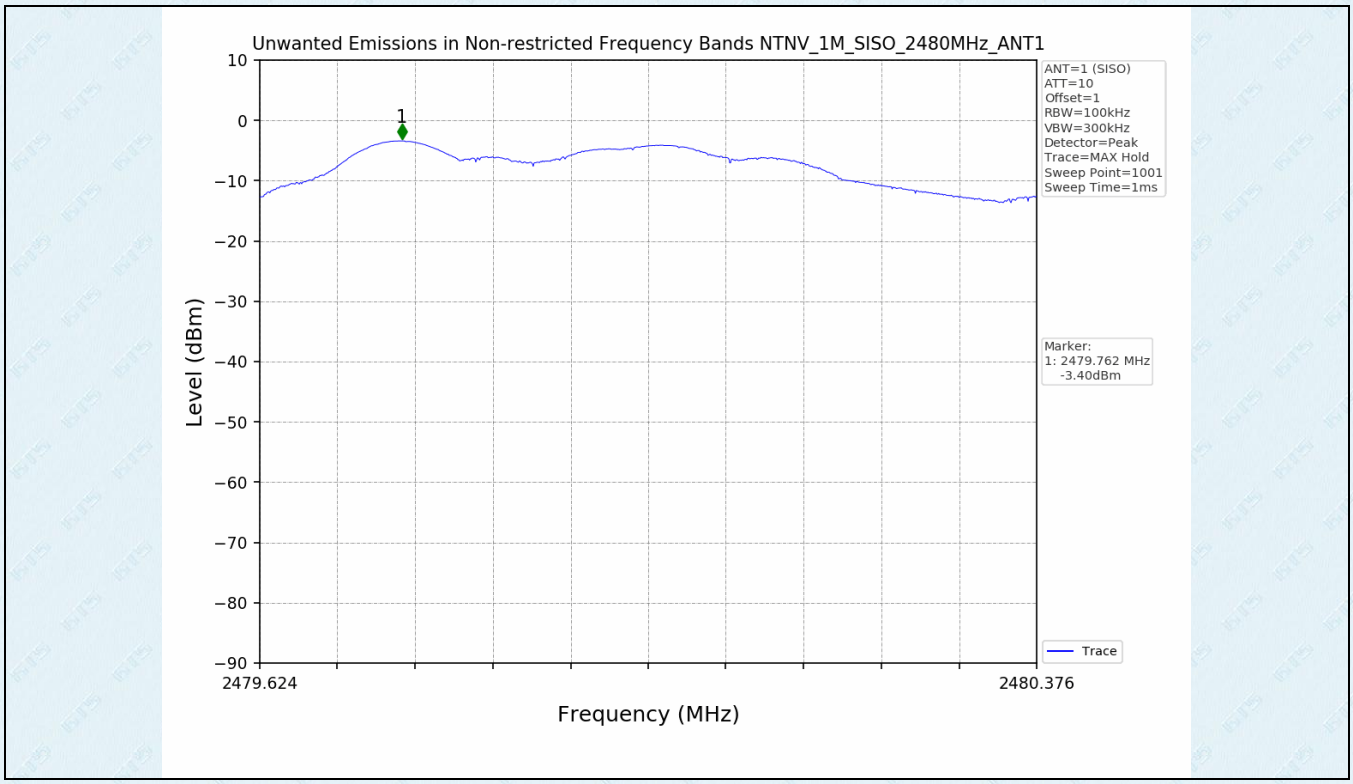

Maximum Power Spectral Density (PSD) NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=79.333ms
Marker:
1: 2479.996 MHz
-22.92dBm
Trace
Level (dBm)
Frequency (MHz)
2479.624
2480.376

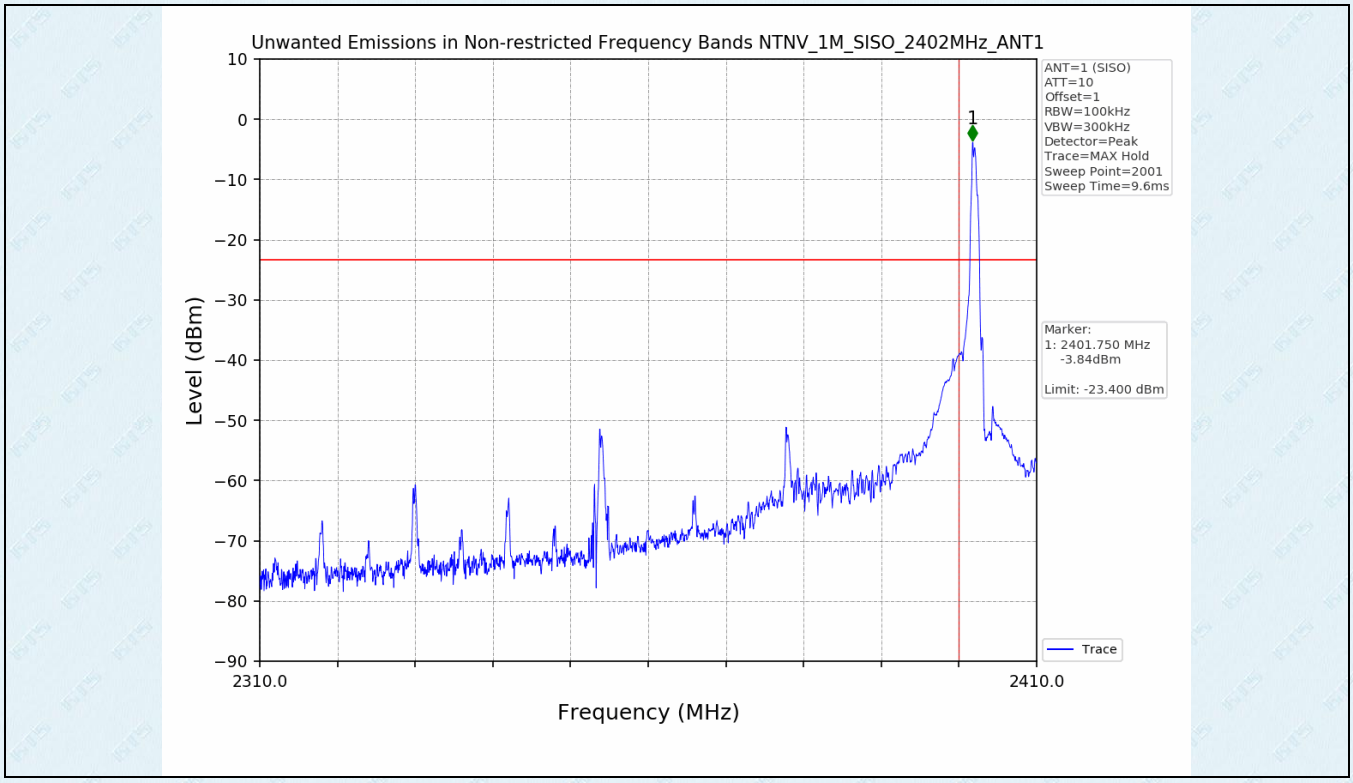
5. Unwanted Emissions in Non-restricted Frequency Bands

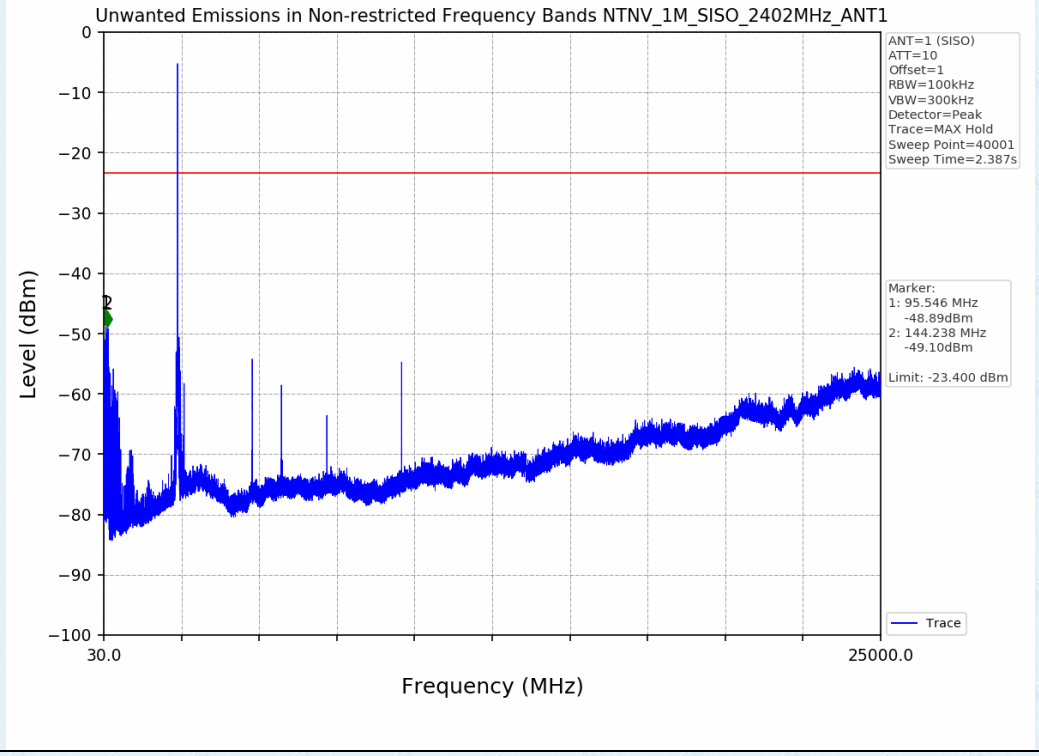
5.1 Test Result

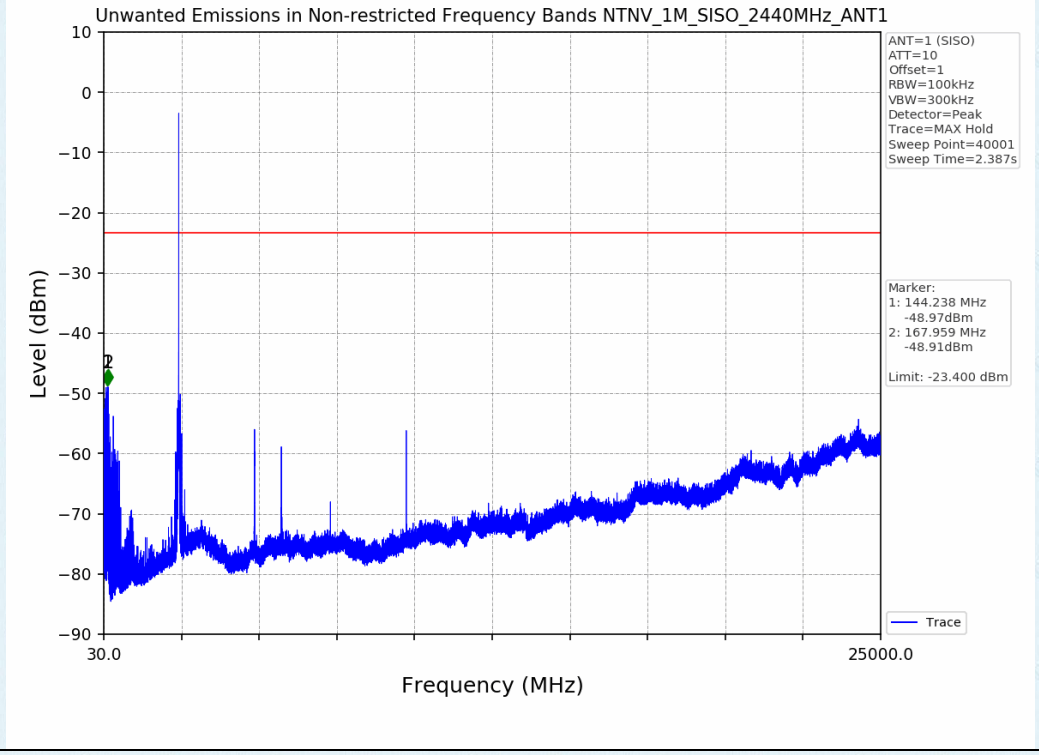
Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
1M	2402	SISO	1	Refer to test graph	-23.40	PASS
	2440	SISO	1	Refer to test graph	-23.40	PASS
	2480	SISO	1	Refer to test graph	-23.40	PASS

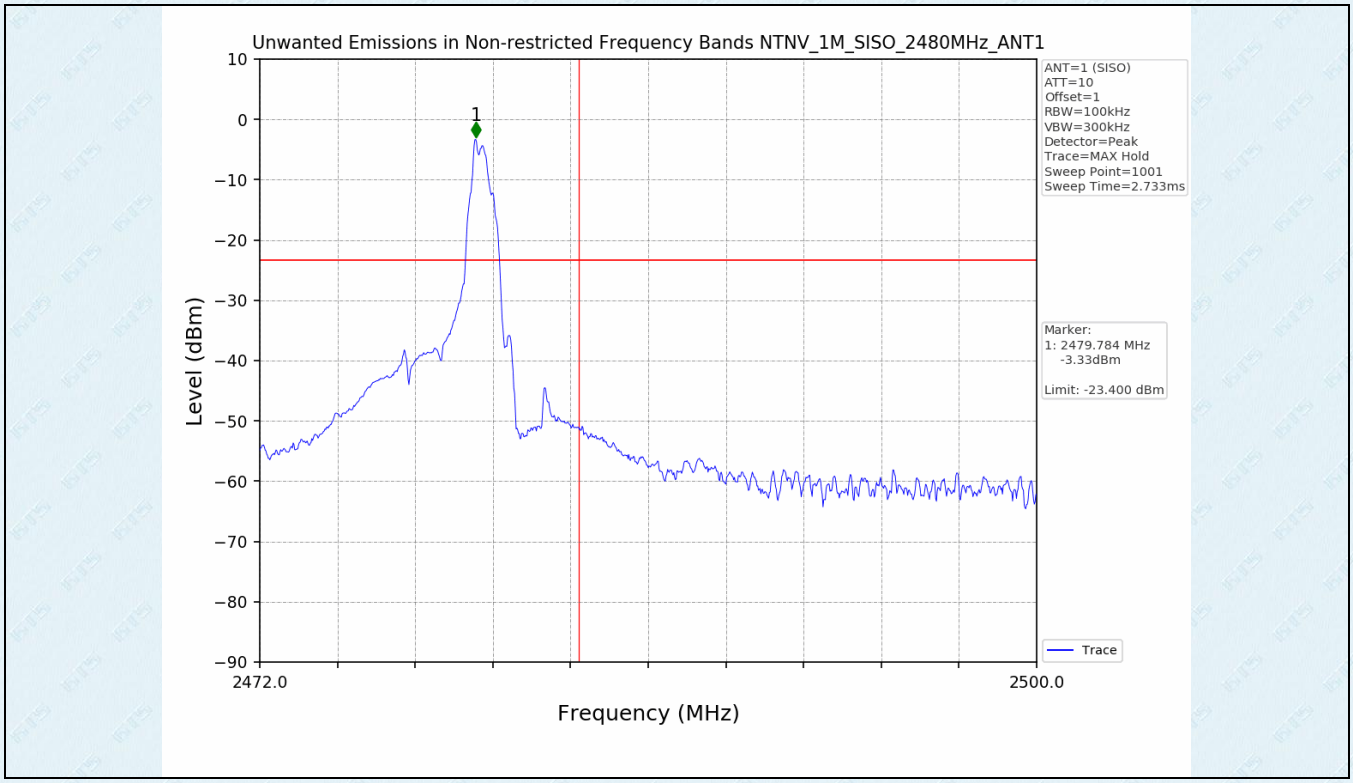
5.2 Test Graph

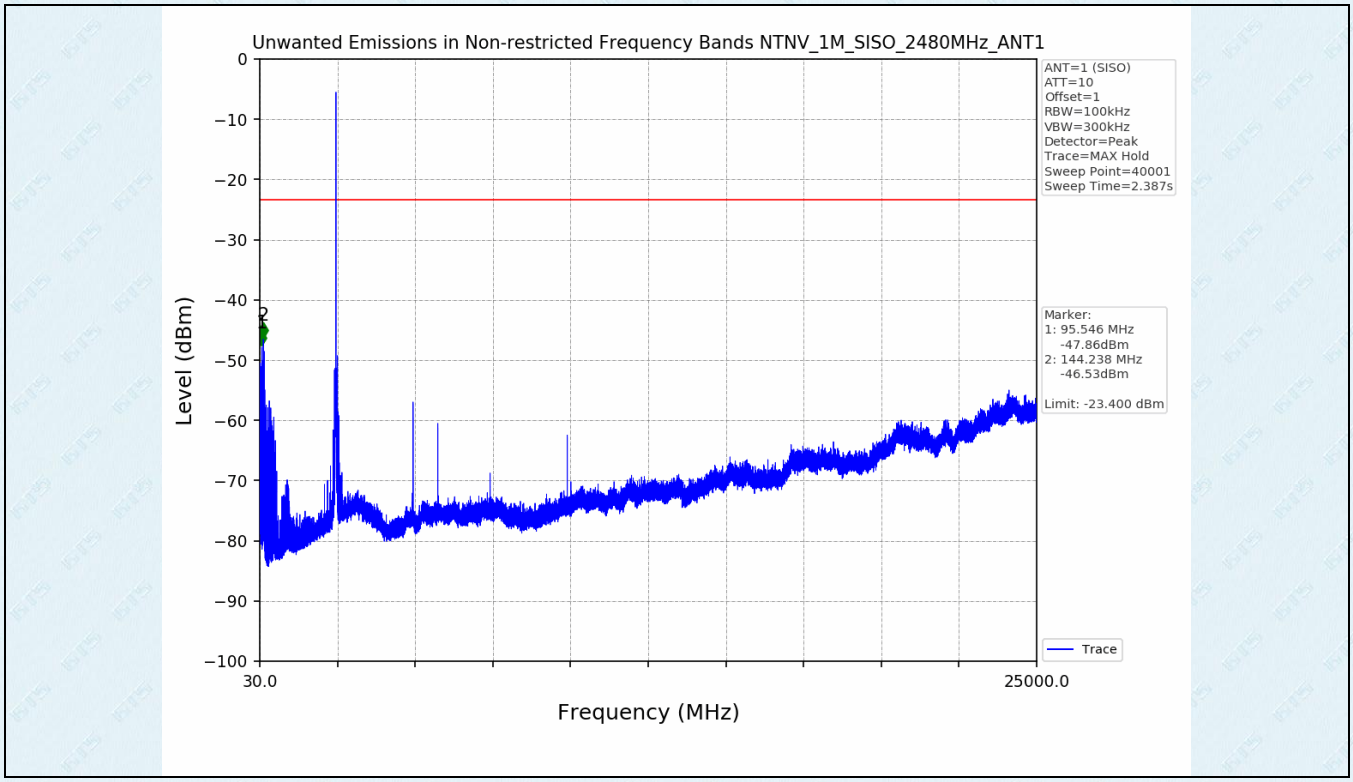





Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2402MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 95.546 MHz
-48.89dBm
2: 144.238 MHz
-49.10dBm
Limit: -23.400 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 144.238 MHz
-48.97dBm
2: 167.959 MHz
-48.91dBm
Limit: -23.400 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.733ms
Marker:
1: 2479.784 MHz
-3.33dBm
Limit: -23.400 dBm
Trace
Level (dBm)
Frequency (MHz)
2472.0
2500.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=10
Offset=1
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 95.546 MHz
-47.86dBm
2: 144.238 MHz
-46.53dBm
Limit: -23.400 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0

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