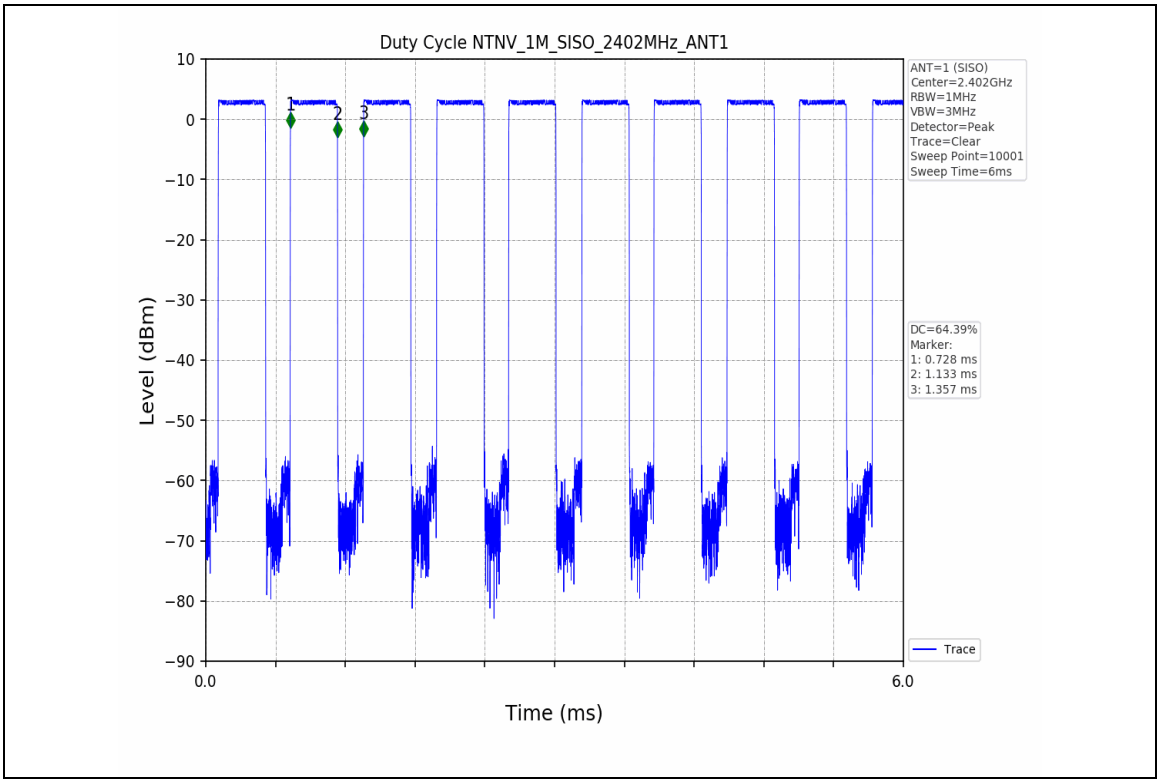
Appendix for 15.247

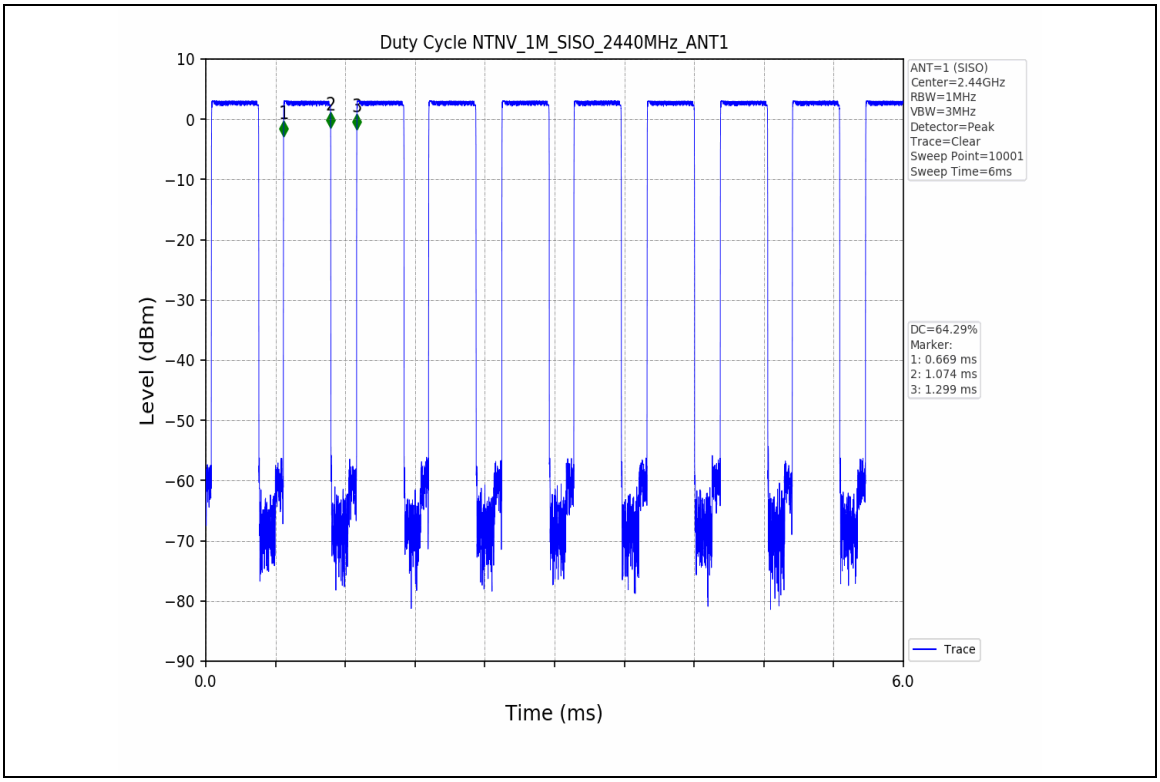
1. Duty Cycle

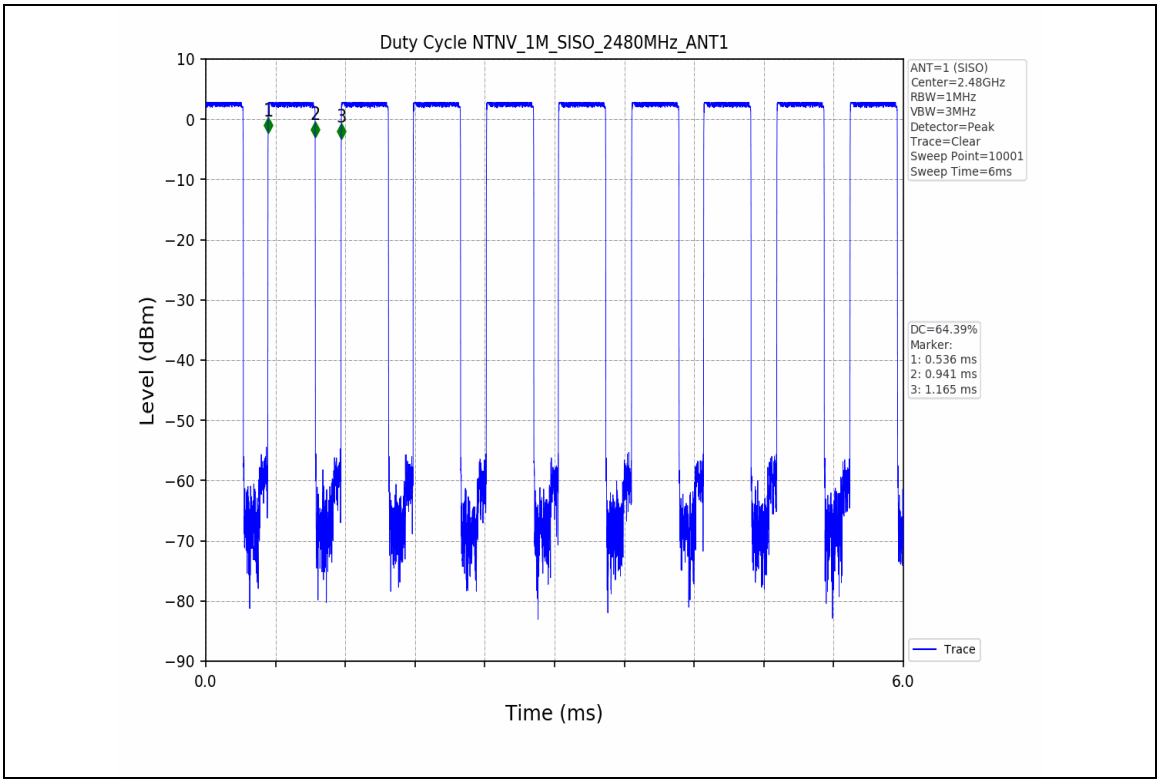
1.1 Test Result

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	0.405	0.629	64.39	1.91
	2440	SISO	1	0.405	0.630	64.29	1.92
	2480	SISO	1	0.405	0.629	64.39	1.91

1.2 Test Graph




Duty Cycle NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
Center=2.44GHz
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=6ms
DC=64.29%
Marker:
1: 0.669 ms
2: 1.074 ms
3: 1.299 ms
Trace
Level (dBm)
Time (ms)
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
0.0
6.0
1
2
3


Duty Cycle NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
Center=2.48GHz
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=6ms
DC=64.39%
Marker:
1: 0.536 ms
2: 0.941 ms
3: 1.165 ms
Trace
Level (dBm)
Time (ms)
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
0.0
6.0
1
2
3

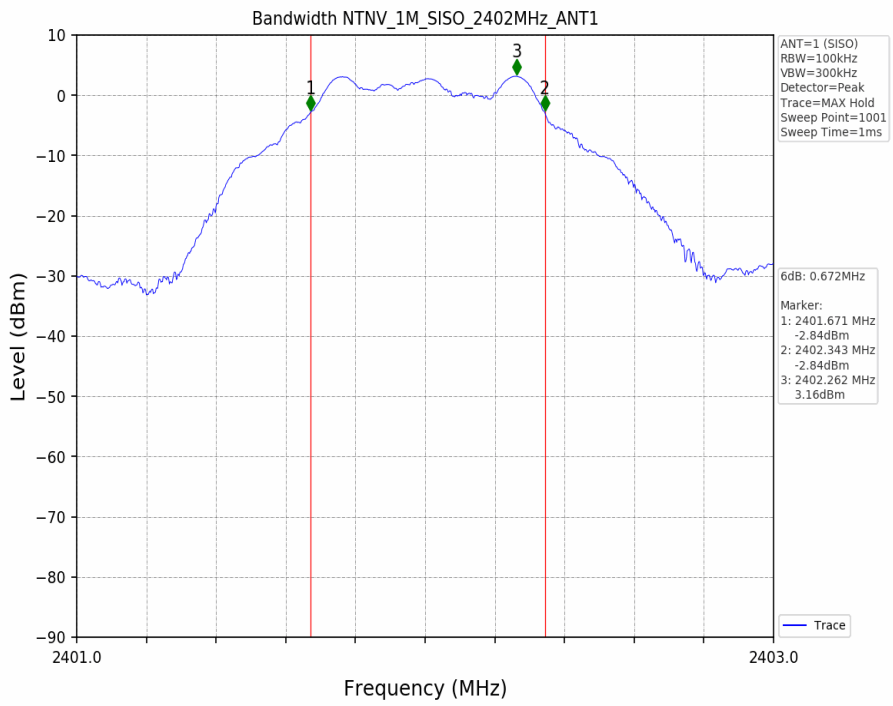
2. Bandwidth

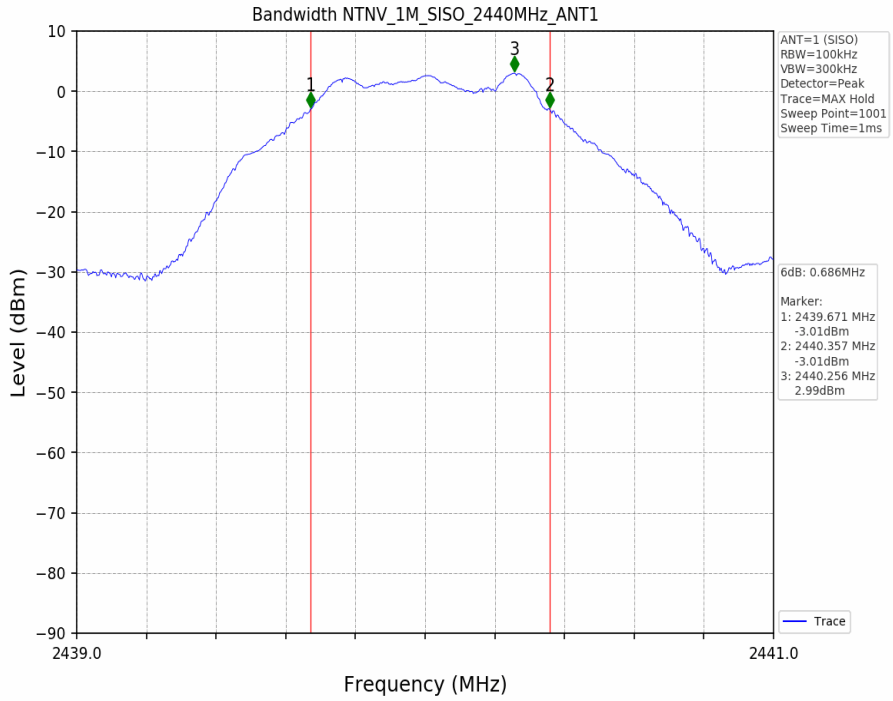
2.1 Test Result

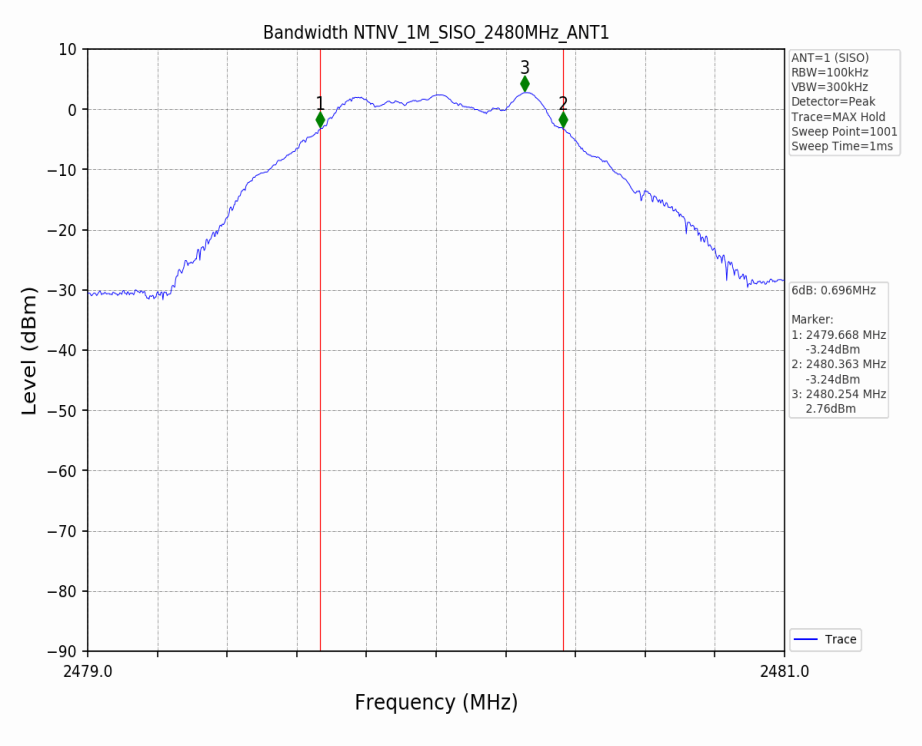
Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
1M	2402	SISO	1	0.672	≥0.5	PASS
	2440	SISO	1	0.686	≥0.5	PASS
	2480	SISO	1	0.696	≥0.5	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
1M	2402	SISO	1	1.013	Only for Report Use
	2440	SISO	1	1.033	Only for Report Use
	2480	SISO	1	1.039	Only for Report Use

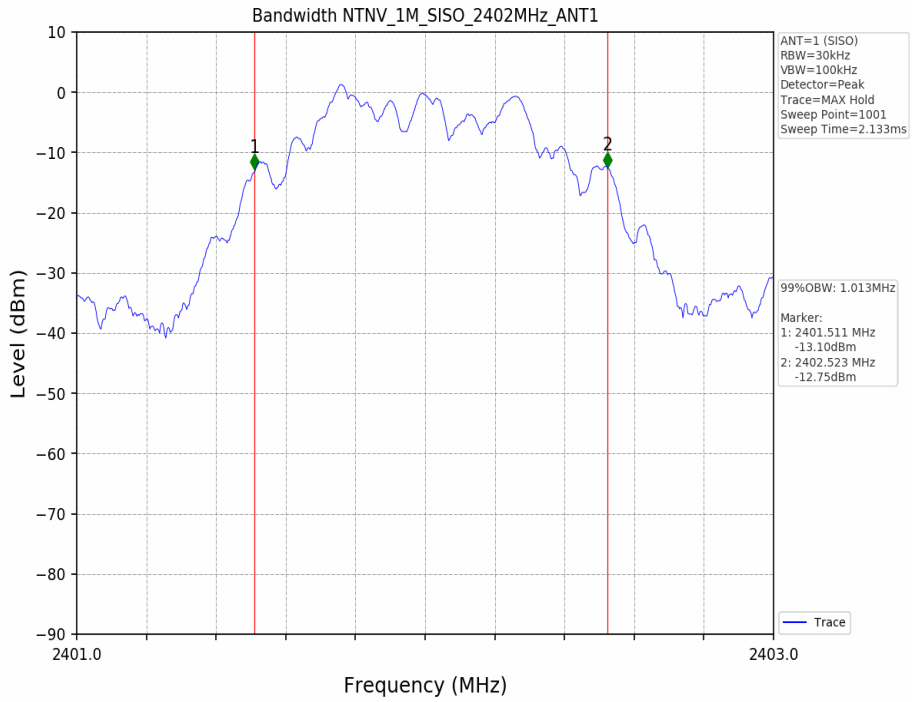
2.2 Test Graph - 6dB Bandwidth

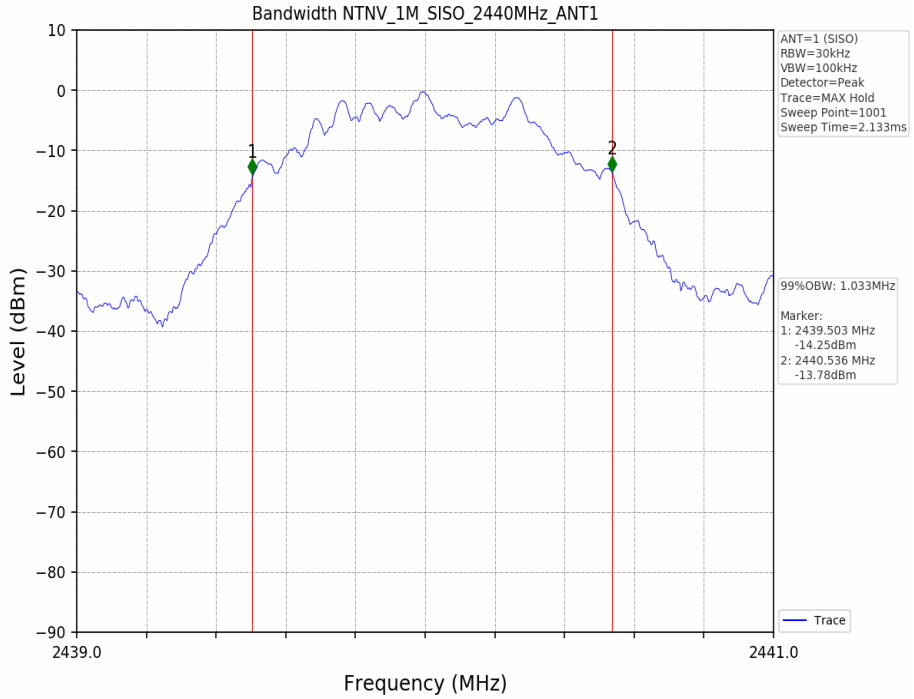


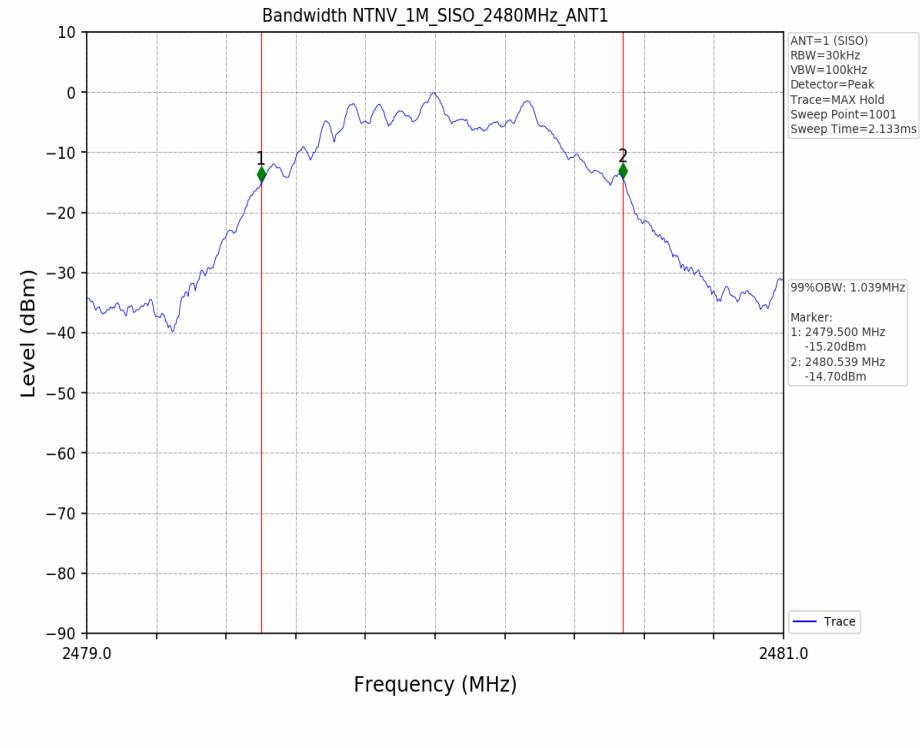

Bandwidth NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.686MHz
Marker:
1: 2439.671 MHz
-3.01dBm
2: 2440.357 MHz
-3.01dBm
3: 2440.256 MHz
2.99dBm
Trace
Level (dBm)
Frequency (MHz)
2439.0
2441.0


Bandwidth NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.696MHz
Marker:
1: 2479.668 MHz
-3.24dBm
2: 2480.363 MHz
-3.24dBm
3: 2480.254 MHz
2.76dBm
Trace
Level (dBm)
Frequency (MHz)
2479.0
2481.0

2.3 Test Graph - 99% Occupied Bandwidth





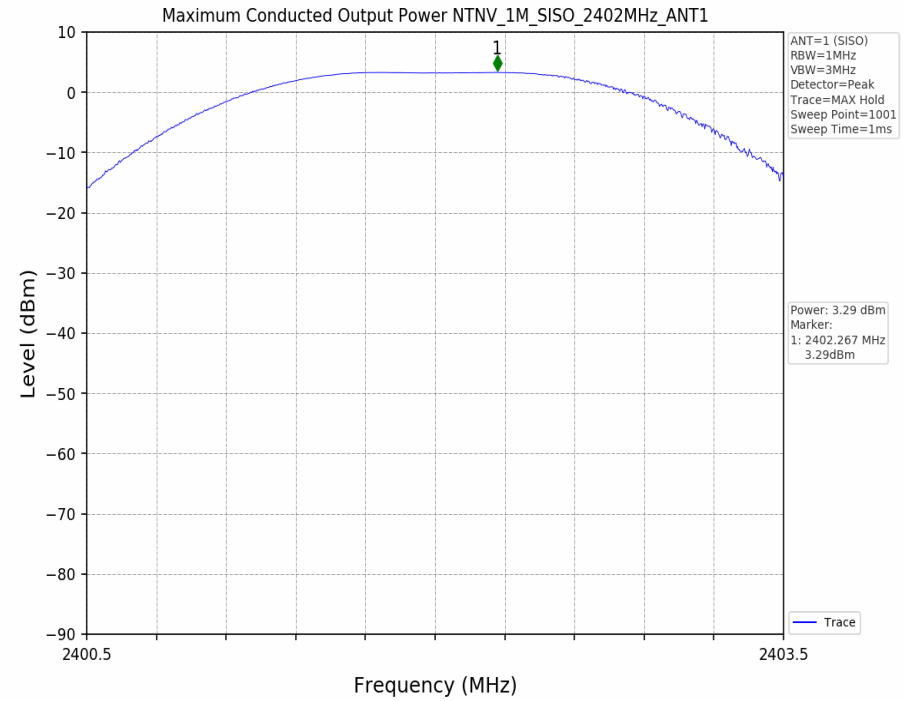

Bandwidth NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=30kHz
VBW=100kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.133ms
99%OBW: 1.039MHz
Marker:
1: 2479.500 MHz
-15.20dBm
2: 2480.539 MHz
-14.70dBm
Trace
Level (dBm)
Frequency (MHz)
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
2479.0
2481.0
1
2

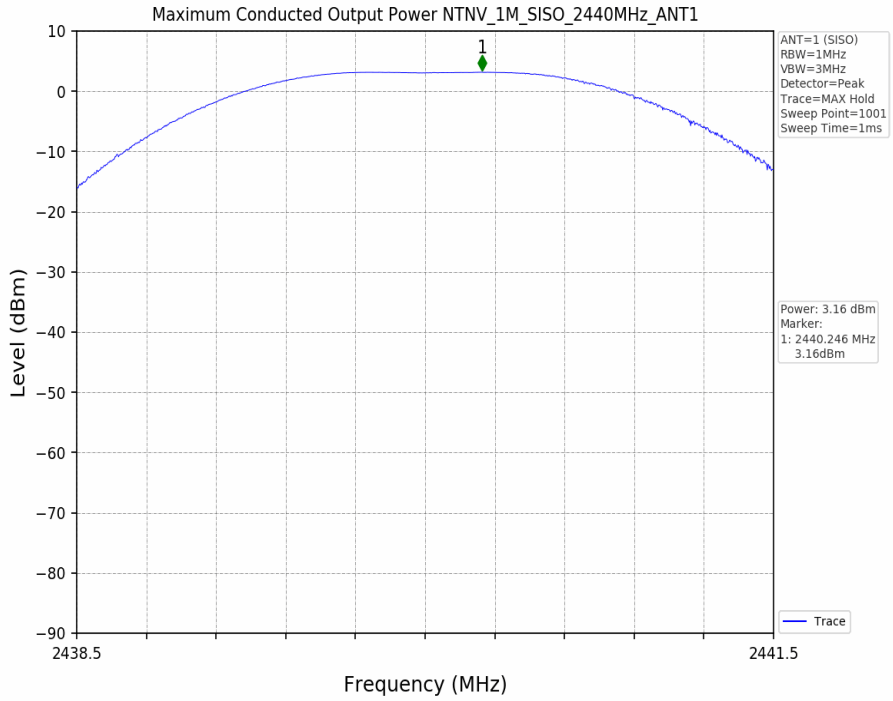
3. Maximum Conducted Output Power

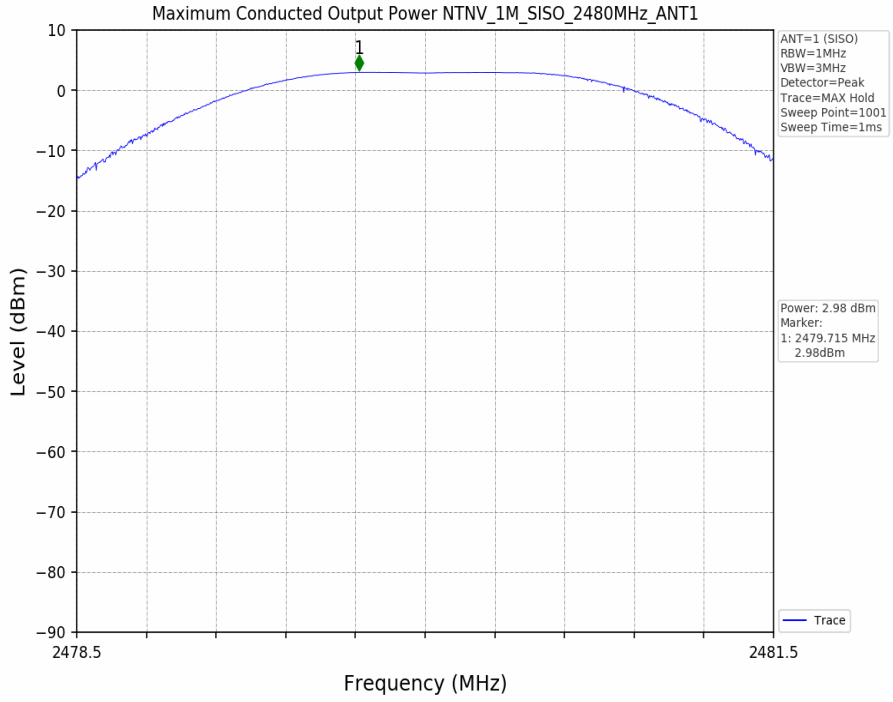
3.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
1M	2402	SISO	3.29	30	PASS
	2440	SISO	3.16	30	PASS
	2480	SISO	2.98	30	PASS

3.2 Test Graph




Maximum Conducted Output Power NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: 3.16 dBm
Marker:
1: 2440.246 MHz
3.16dBm
Trace
Level (dBm)
Frequency (MHz)
2438.5
2441.5

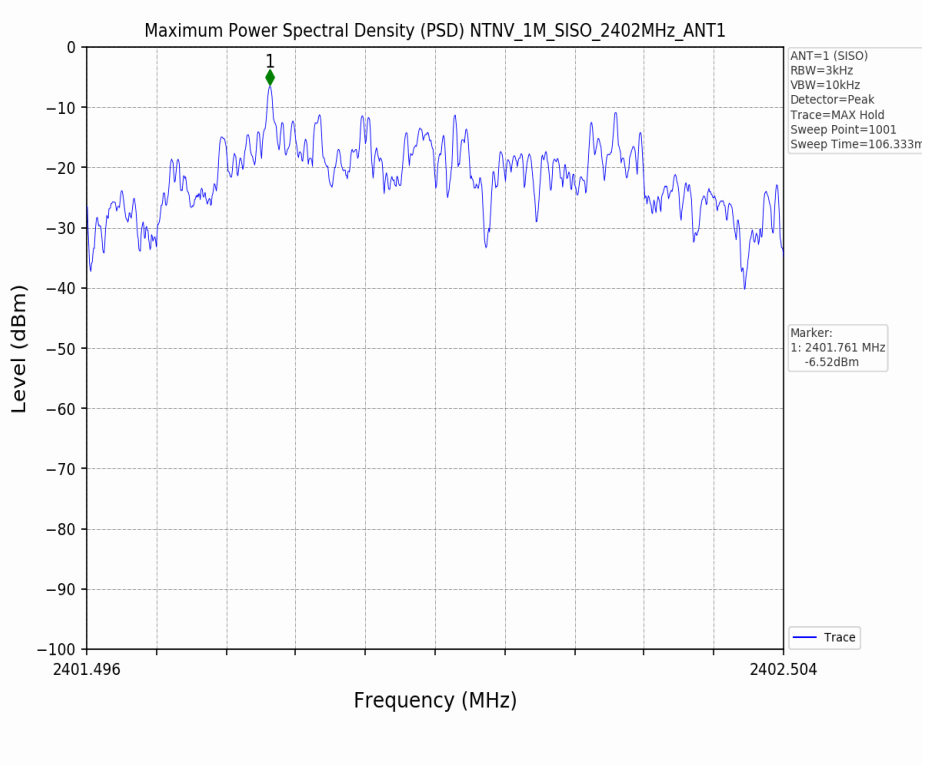

Maximum Conducted Output Power NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: 2.98 dBm
Marker:
1: 2479.715 MHz
2.98dBm
Trace
Level (dBm)
Frequency (MHz)
2478.5
2481.5

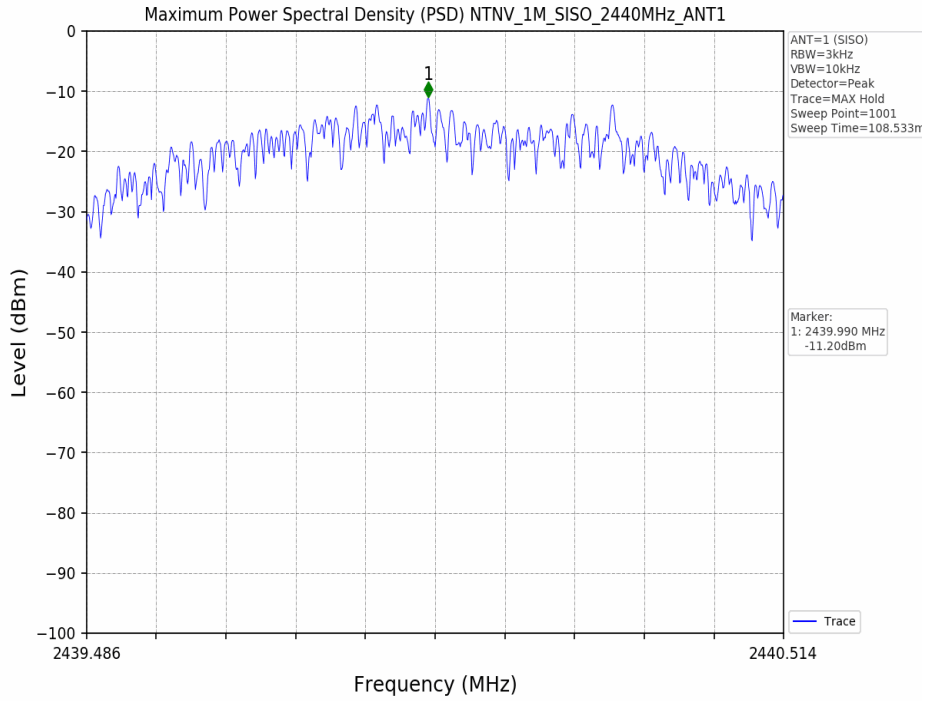
4. Maximum Power Spectral Density (PSD)

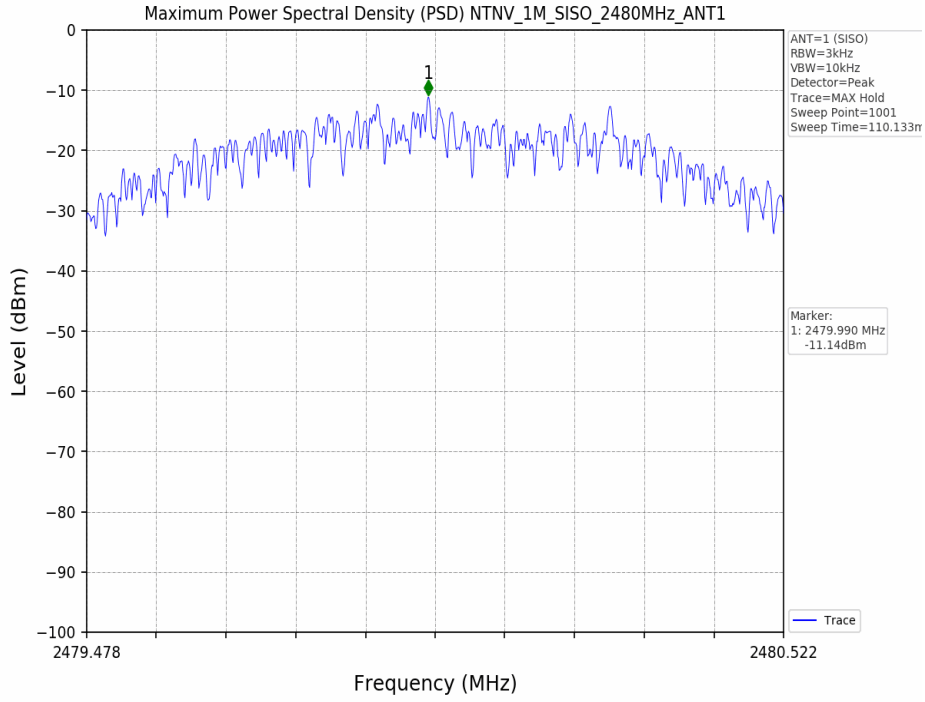
4.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
			Ant 1		
1M	2402	SISO	-6.52	≤8	PASS
	2440	SISO	-11.20	≤8	PASS
	2480	SISO	-11.14	≤8	PASS

4.2 Test Graph




Maximum Power Spectral Density (PSD) NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=108.533m
Marker:
1: 2439.990 MHz
-11.20dBm
Trace
Level (dBm)
Frequency (MHz)
2439.486
2440.514

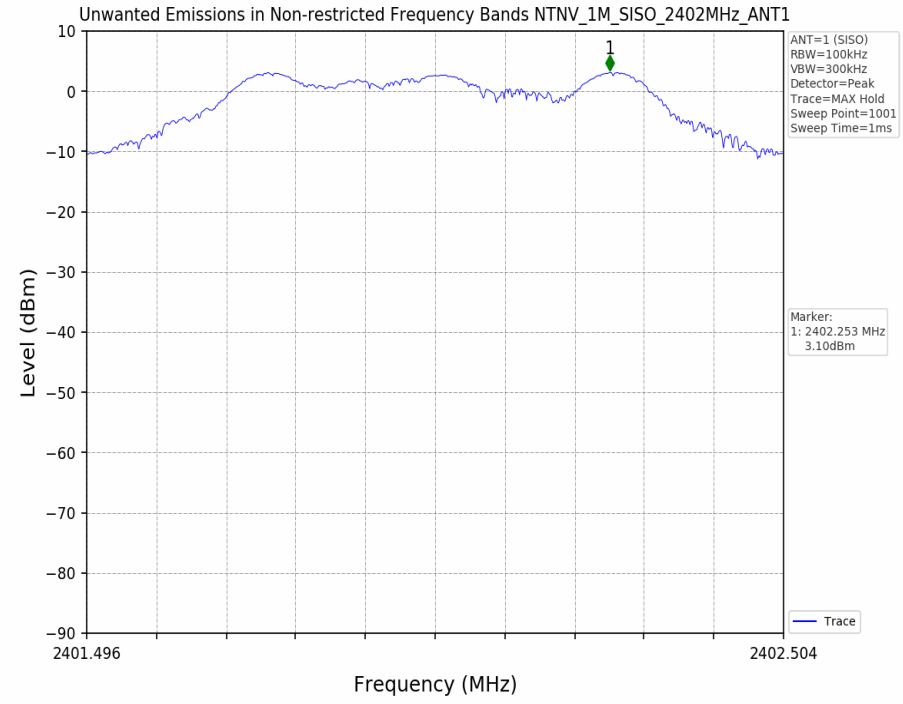

Maximum Power Spectral Density (PSD) NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=110.133m
Marker:
1: 2479.990 MHz
-11.14dBm
Trace
Level (dBm)
Frequency (MHz)
2479.478
2480.522

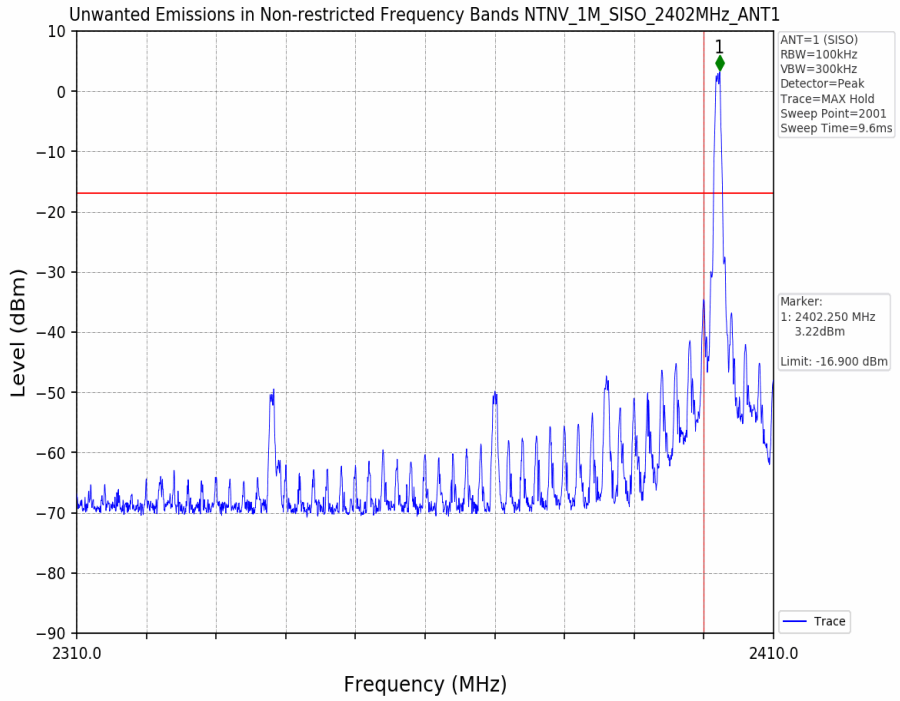
5. Unwanted Emissions in Non-restricted Frequency Bands

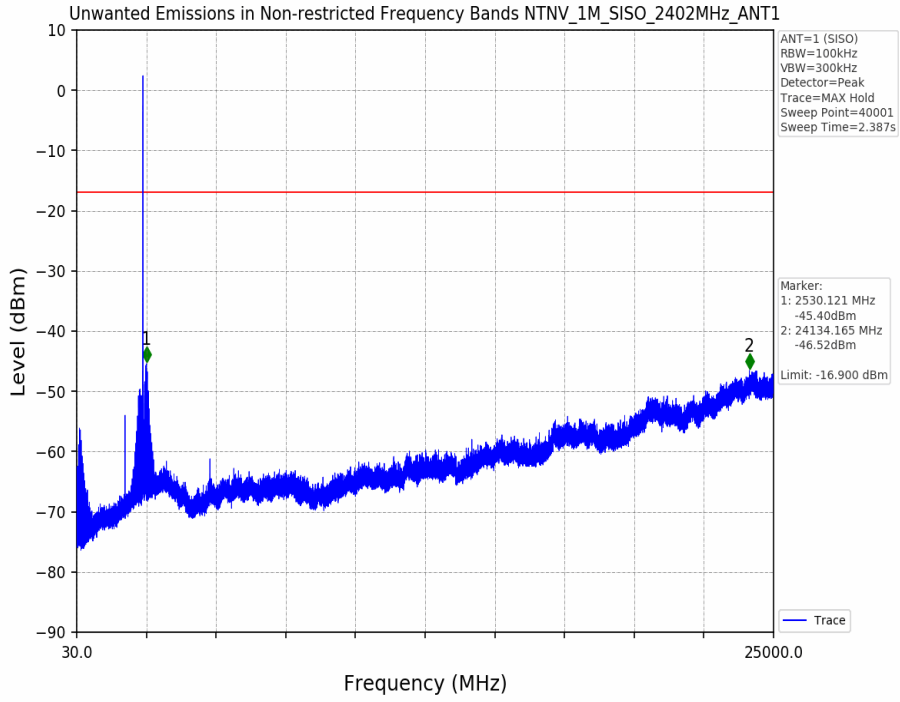
5.1 Test Result

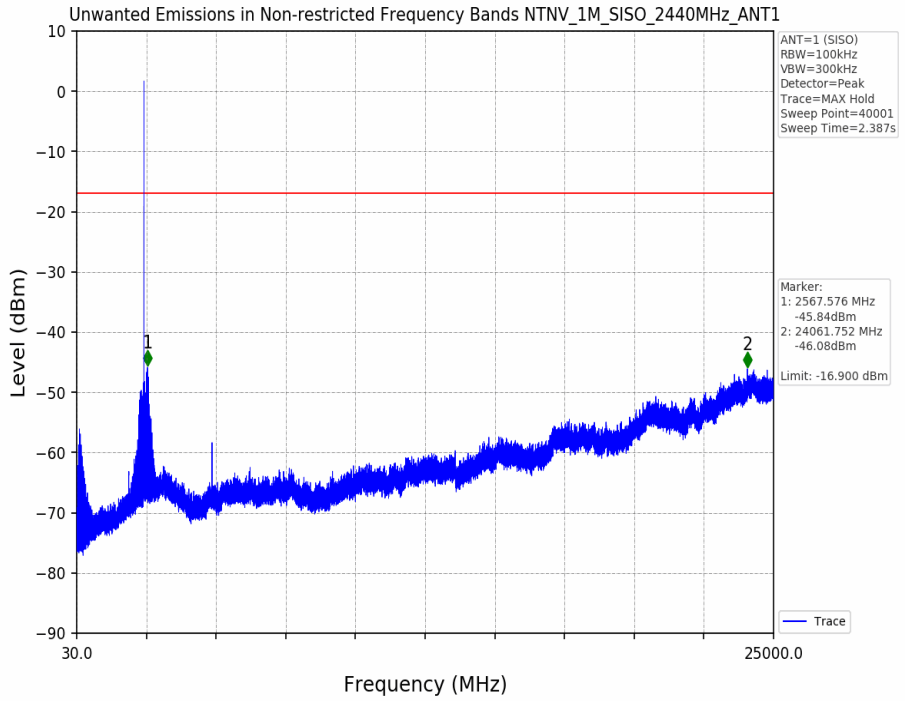
Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
1M	2402	SISO	1	Refer to test graph	-16.90	PASS
	2440	SISO	1	Refer to test graph	-16.90	PASS
	2480	SISO	1	Refer to test graph	-16.90	PASS

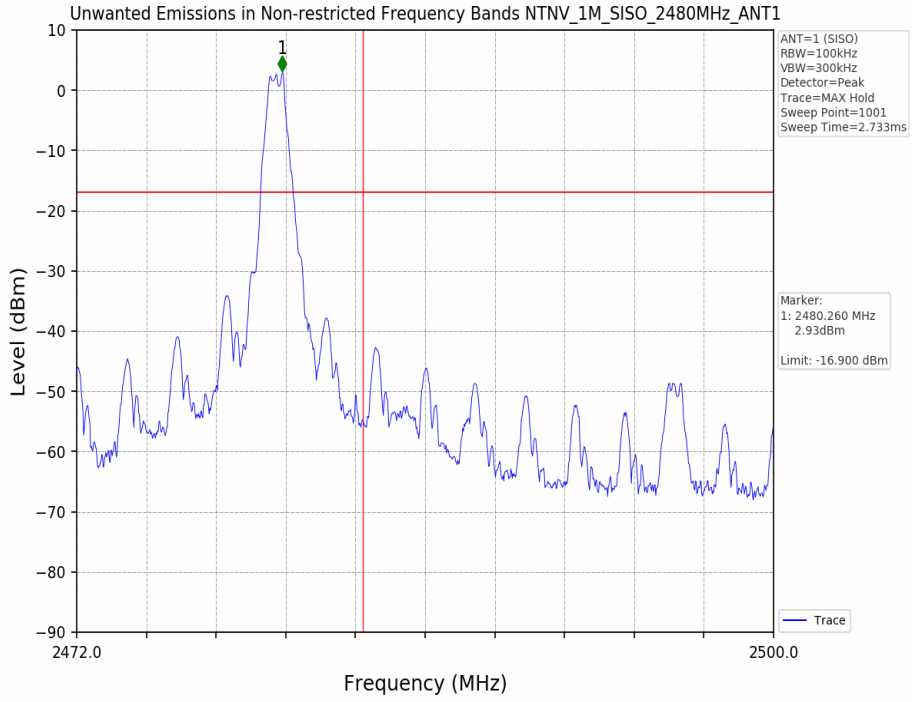
5.2 Test Graph

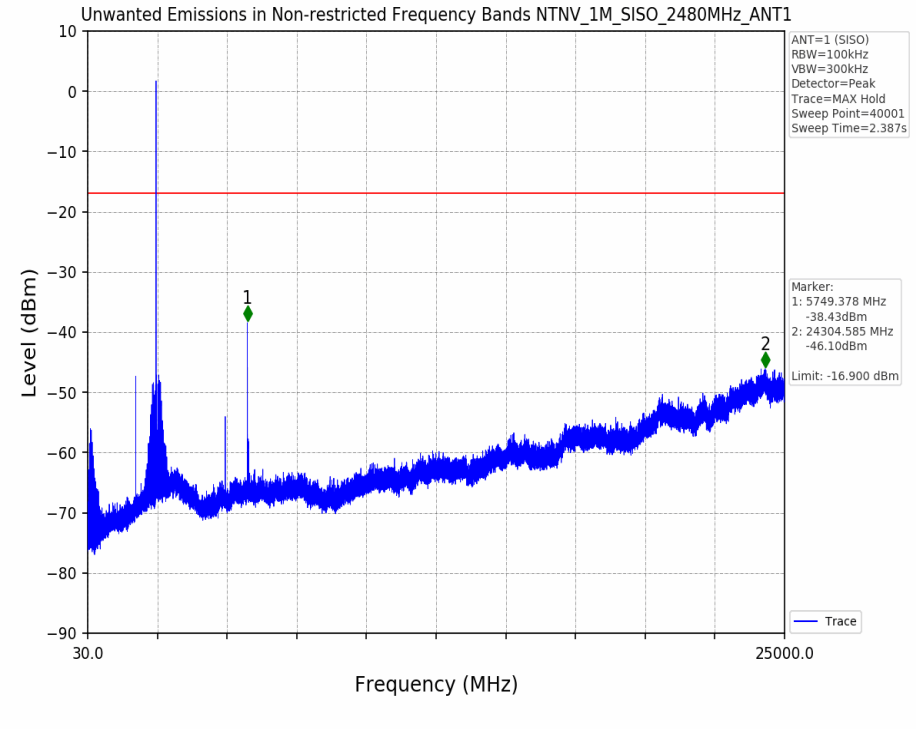



Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2402MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=2001
Sweep Time=9.6ms
Marker:
1: 2402.250 MHz
3.22dBm
Limit: -16.900 dBm
Trace
Level (dBm)
Frequency (MHz)
2310.0
2410.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2402MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 2530.121 MHz
-45.40dBm
2: 24134.165 MHz
-46.52dBm
Limit: -16.900 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)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 2567.576 MHz
-45.84dBm
2: 24061.752 MHz
-46.08dBm
Limit: -16.900 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)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.733ms
Marker:
1: 2480.260 MHz
2.93dBm
Limit: -16.900 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)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 5749.378 MHz
-38.43dBm
2: 24304.585 MHz
-46.10dBm
Limit: -16.900 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
1
2

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