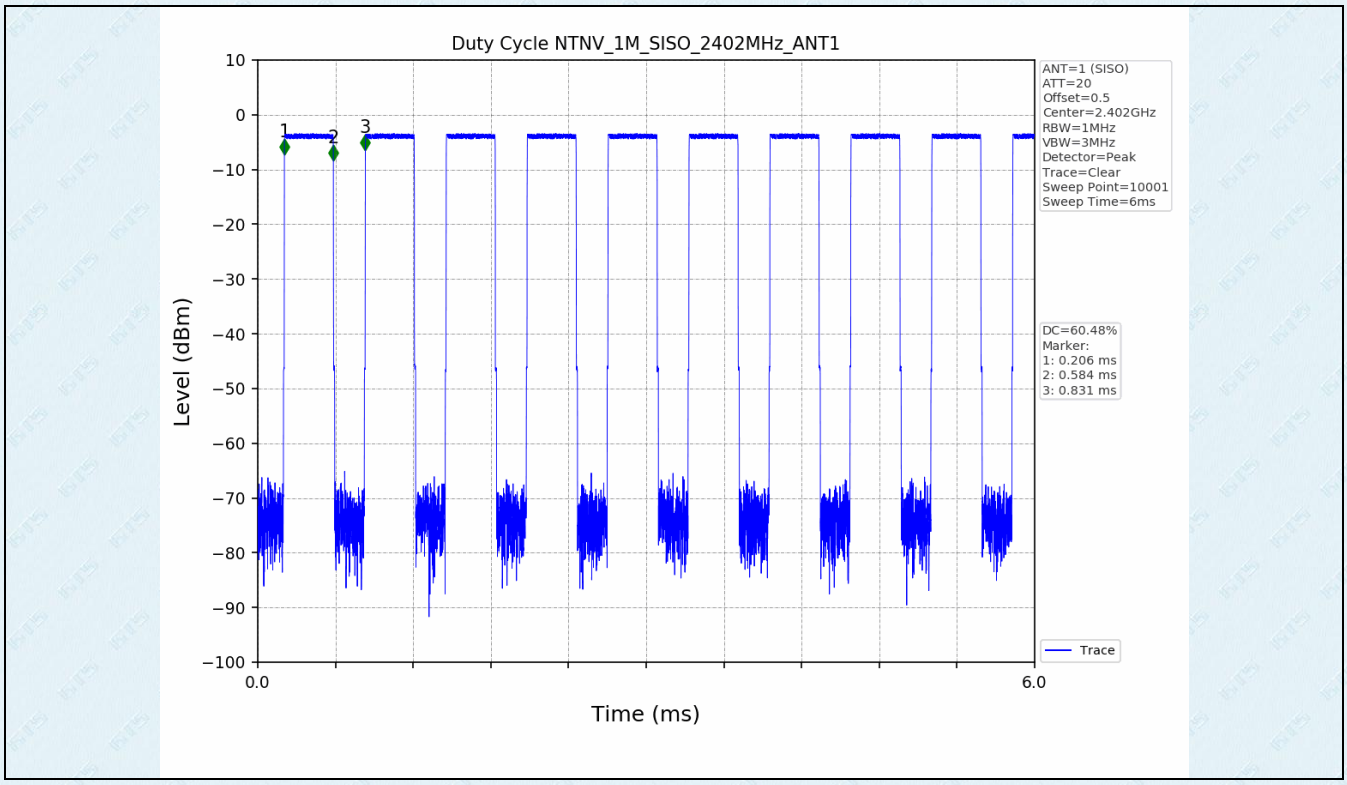
Appendix for 15.247

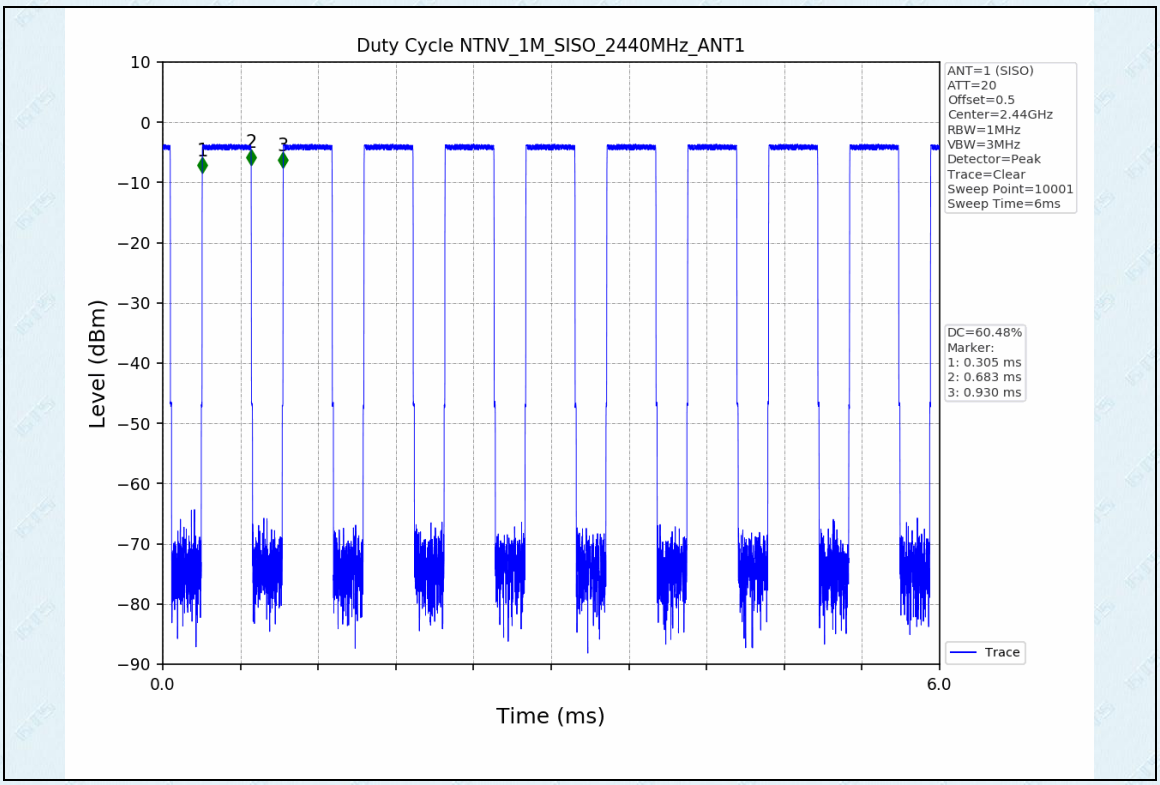
1. Duty Cycle

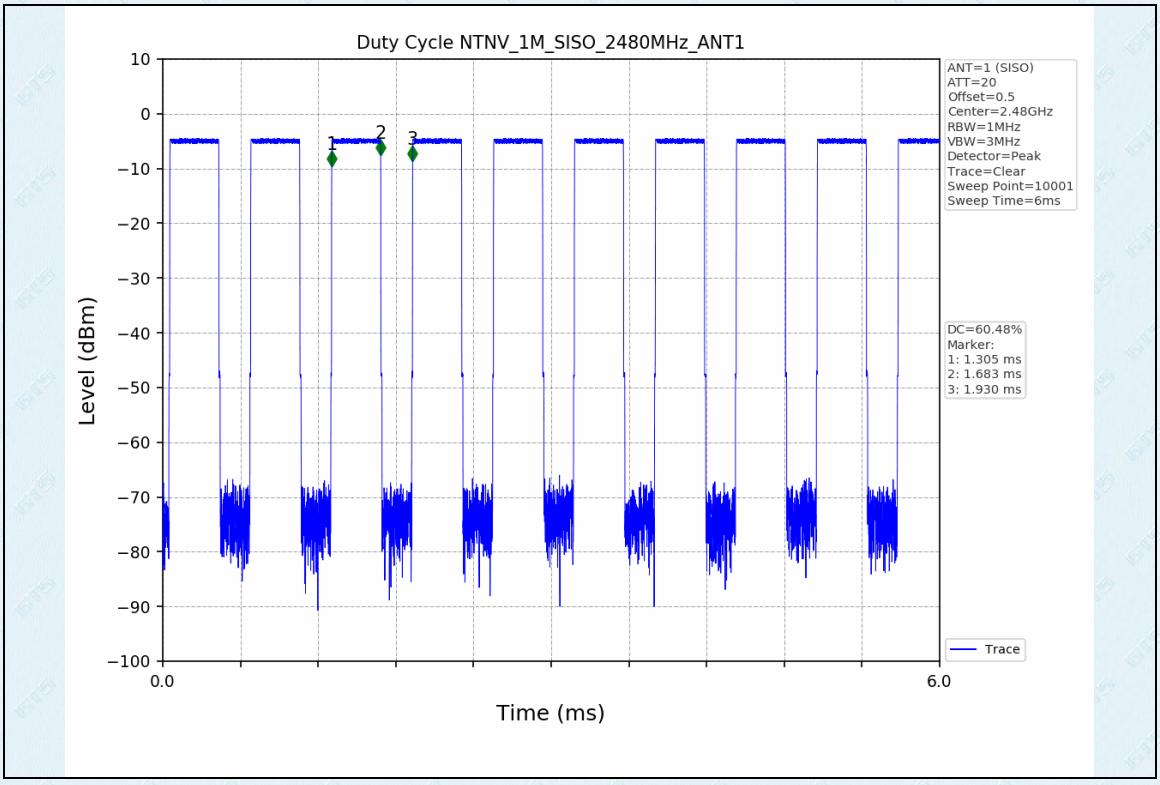
1.1 Test Result

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	0.378	0.625	60.48	2.18
	2440	SISO	1	0.378	0.625	60.48	2.18
	2480	SISO	1	0.378	0.625	60.48	2.18

1.2 Test Graph




Duty Cycle NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
Center=2.44GHz
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=6ms
DC=60.48%
Marker:
1: 0.305 ms
2: 0.683 ms
3: 0.930 ms
Trace
Level (dBm)
Time (ms)
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
0.0
6.0


Duty Cycle NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
Center=2.48GHz
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=Clear
Sweep Point=10001
Sweep Time=6ms
DC=60.48%
Marker:
1: 1.305 ms
2: 1.683 ms
3: 1.930 ms
Trace
Level (dBm)
Time (ms)
10
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
−100
0.0
6.0

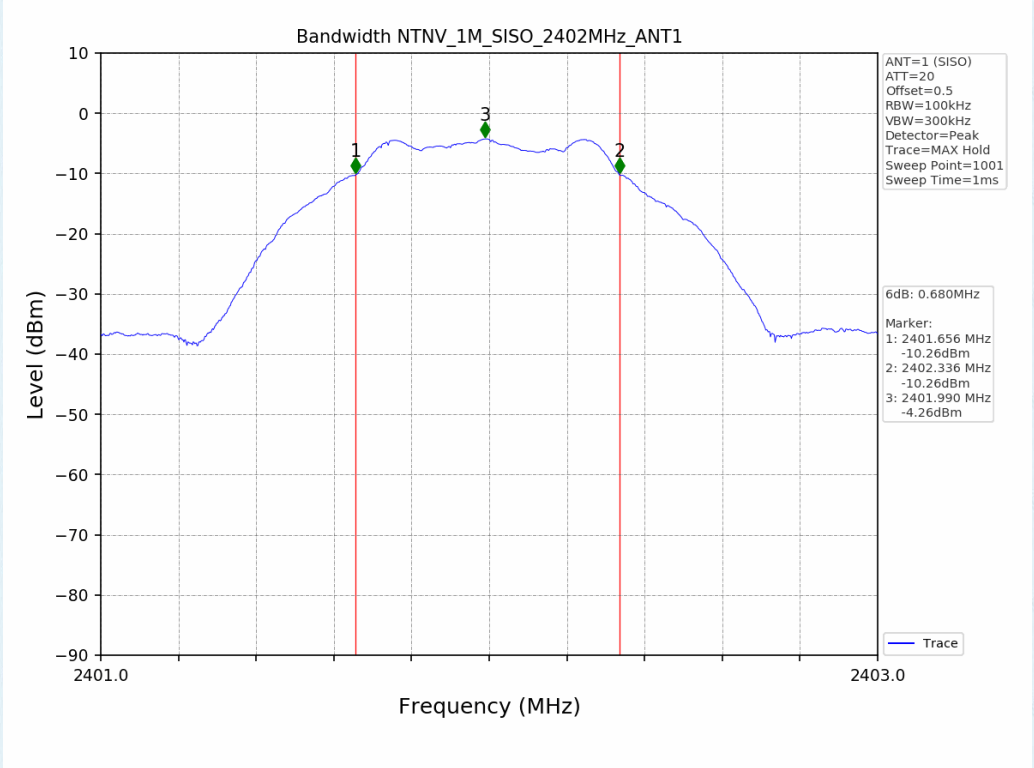
2. Bandwidth

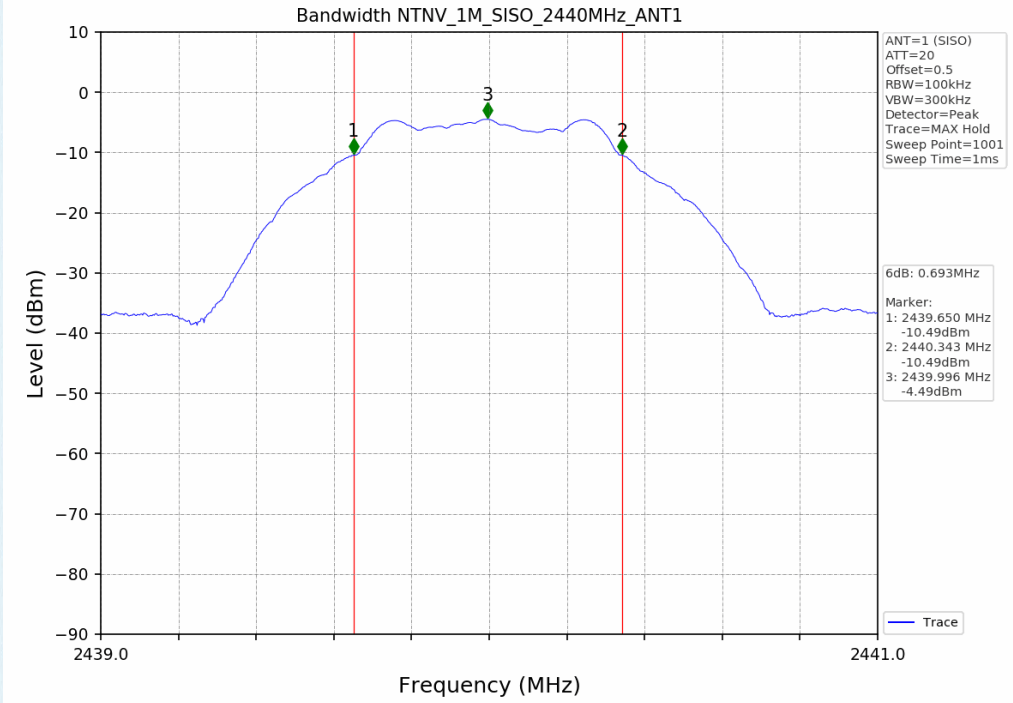
2.1 Test Result

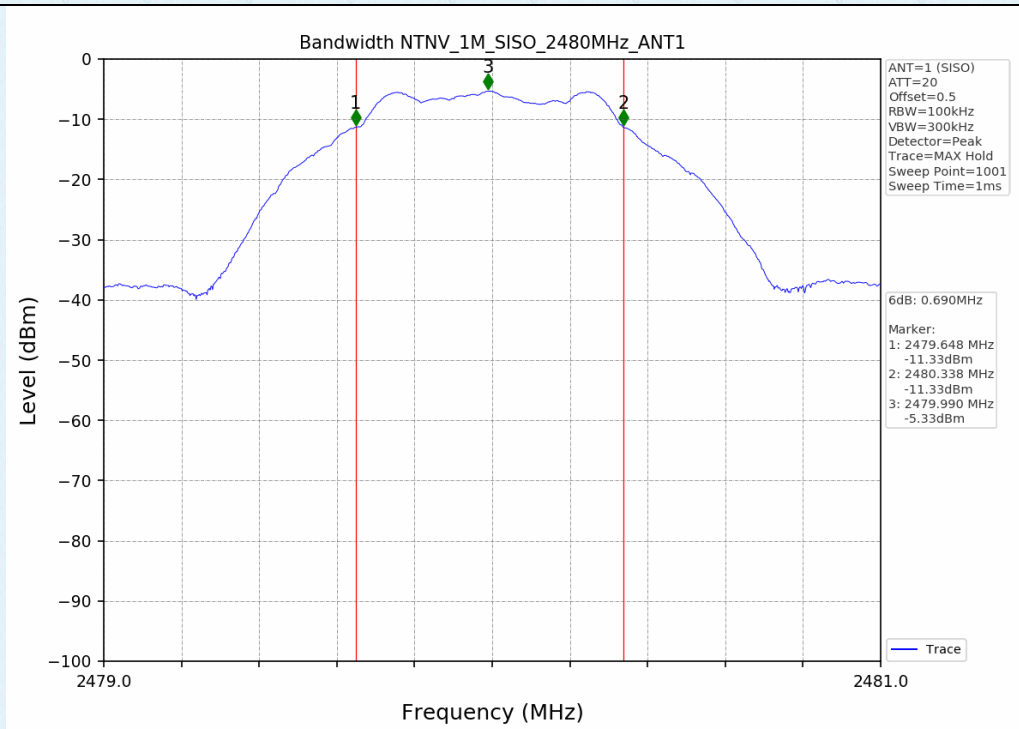
Test Mode	Frequency (MHz)	TX Type	ANT No.	6dB Bandwidth Test Result (MHz)	Verdict
1M	2402	SISO	1	0.680	PASS
	2440	SISO	1	0.693	PASS
	2480	SISO	1	0.690	PASS

Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth Test Result (MHz)	
1M	2402	SISO	1	1.020	Only for Report Use
	2440	SISO	1	1.020	Only for Report Use
	2480	SISO	1	1.019	Only for Report Use

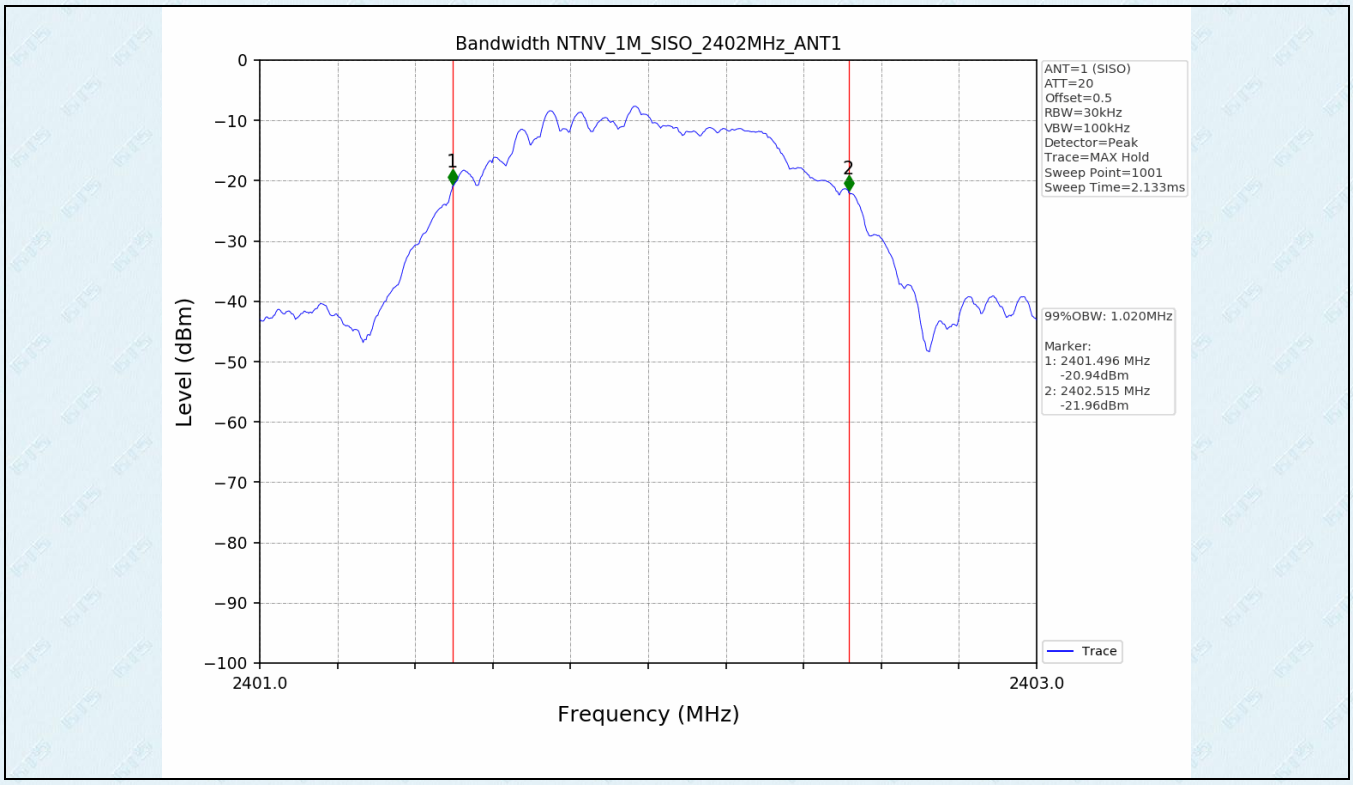
2.2 Test Graph - 6dB Bandwidth

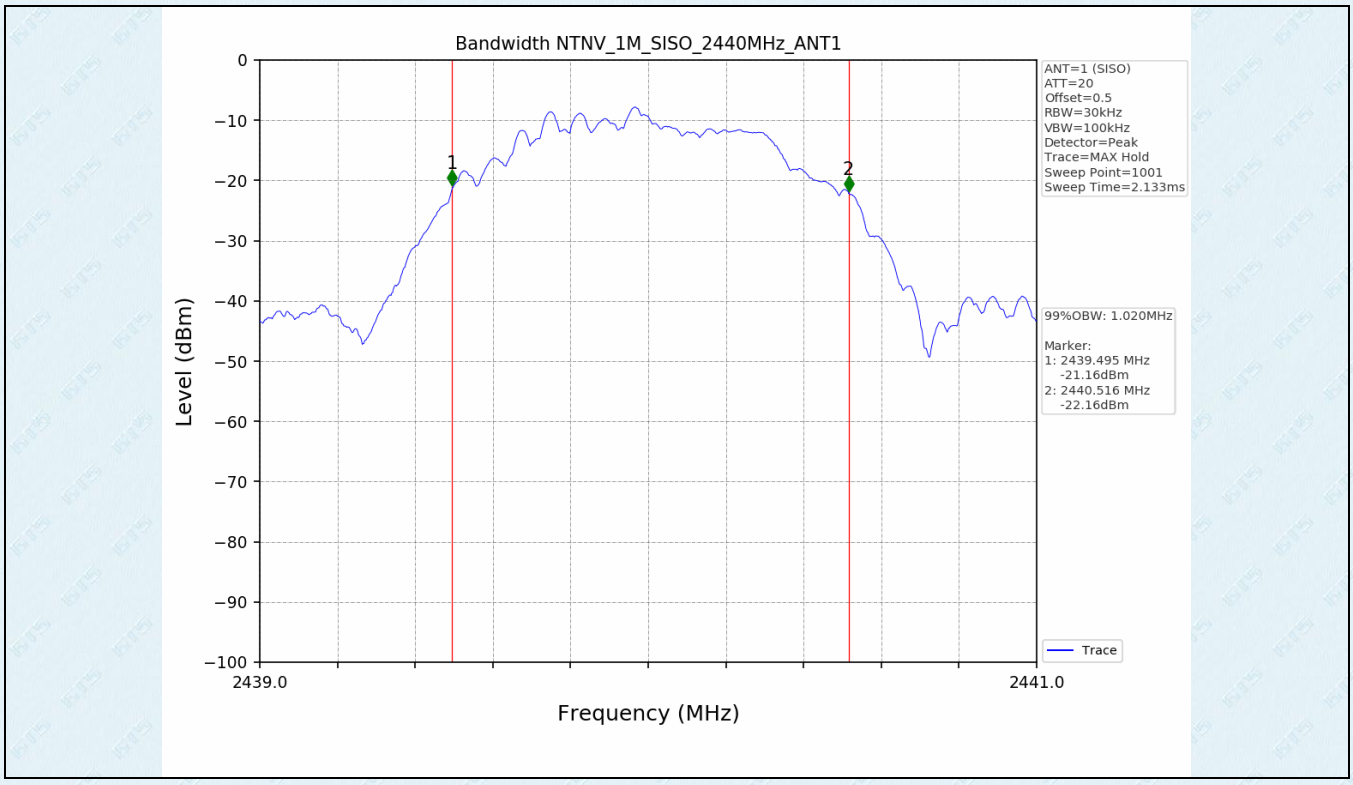


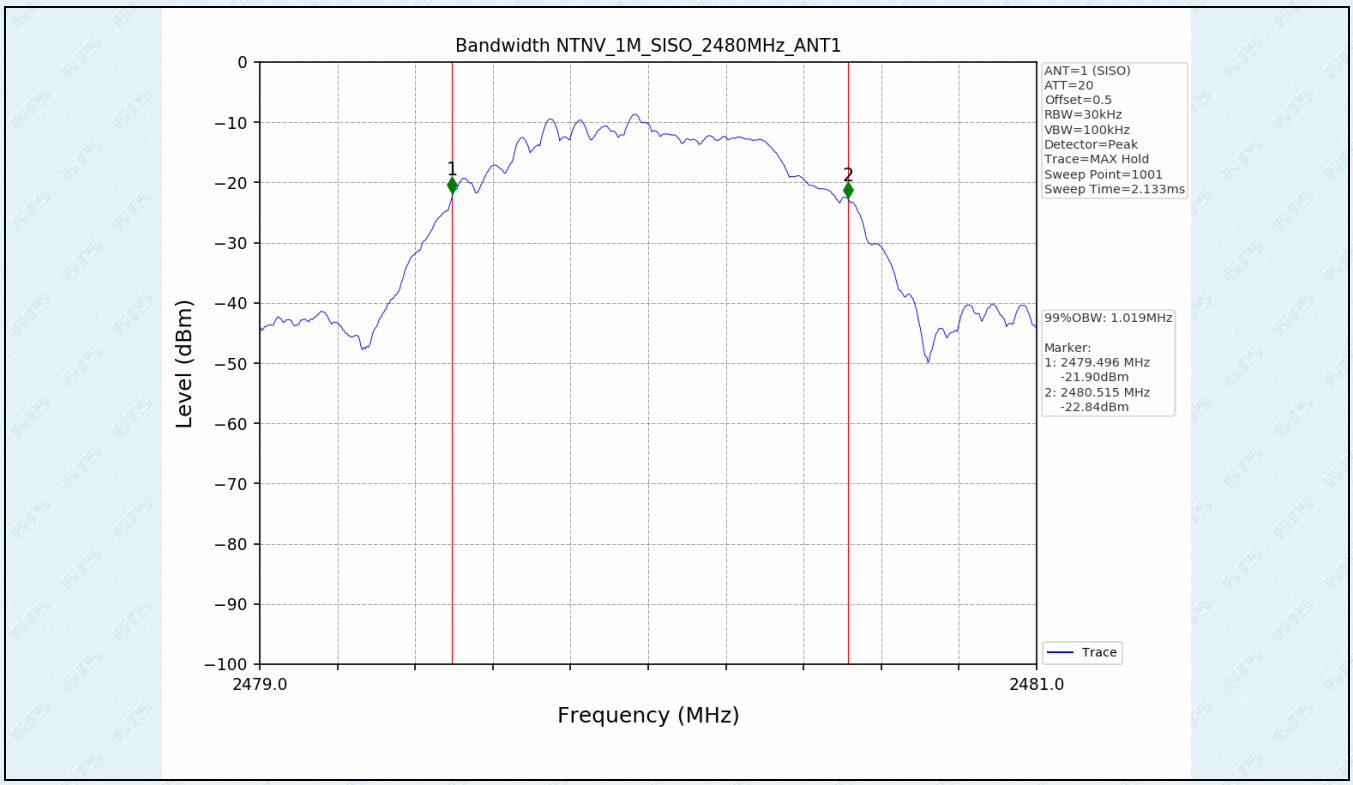

Bandwidth NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.693MHz
Marker:
1: 2439.650 MHz
-10.49dBm
2: 2440.343 MHz
-10.49dBm
3: 2439.996 MHz
-4.49dBm
Trace
Level (dBm)
Frequency (MHz)
2439.0
2441.0


Bandwidth NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
6dB: 0.690MHz
Marker:
1: 2479.648 MHz
-11.33dBm
2: 2480.338 MHz
-11.33dBm
3: 2479.990 MHz
-5.33dBm
Trace
Level (dBm)
Frequency (MHz)
2479.0
2481.0

2.3 Test Graph - 99% Occupied Bandwidth





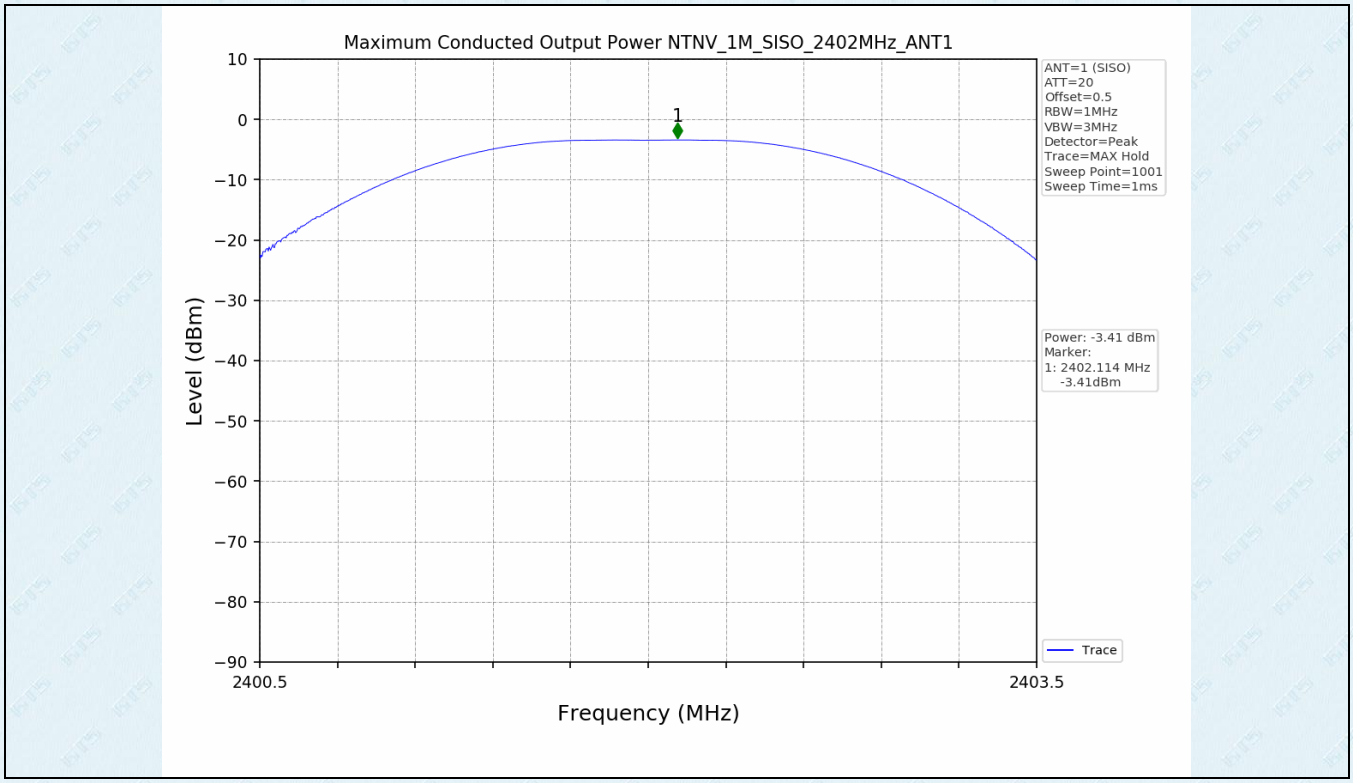

Bandwidth NTNV_1M_SISO_2480MHz_ANT1
Level (dBm)
Frequency (MHz)
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
−100
2479.0
2481.0
1
2
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=30kHz
VBW=100kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.133ms
99%OBW: 1.019MHz
Marker:
1: 2479.496 MHz
-21.90dBm
2: 2480.515 MHz
-22.84dBm
Trace

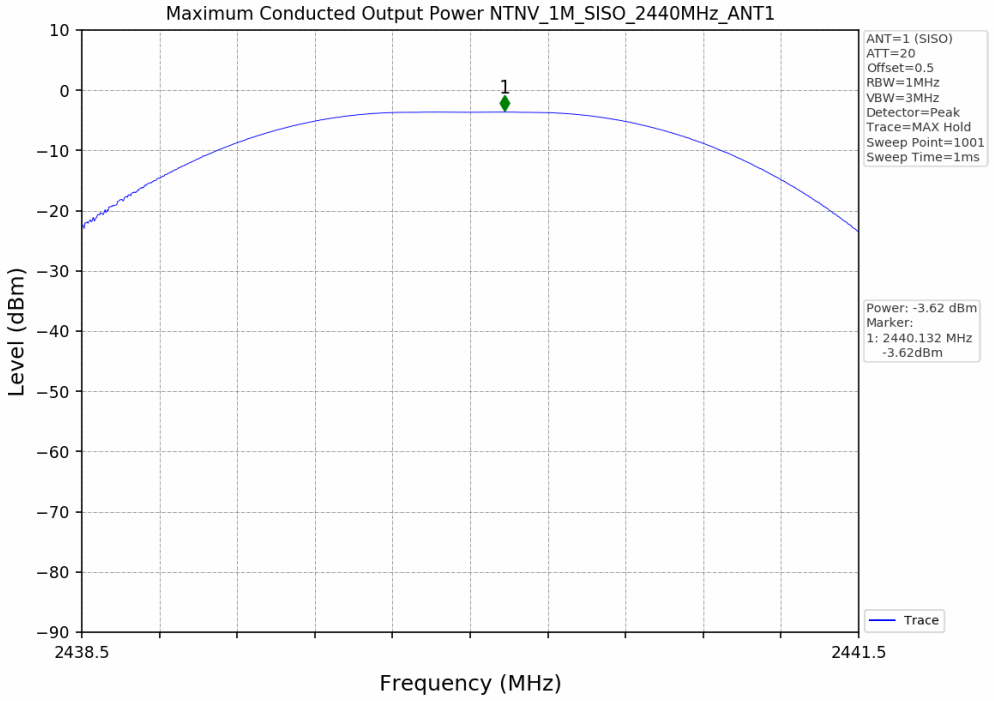
3. Maximum Conducted Output Power

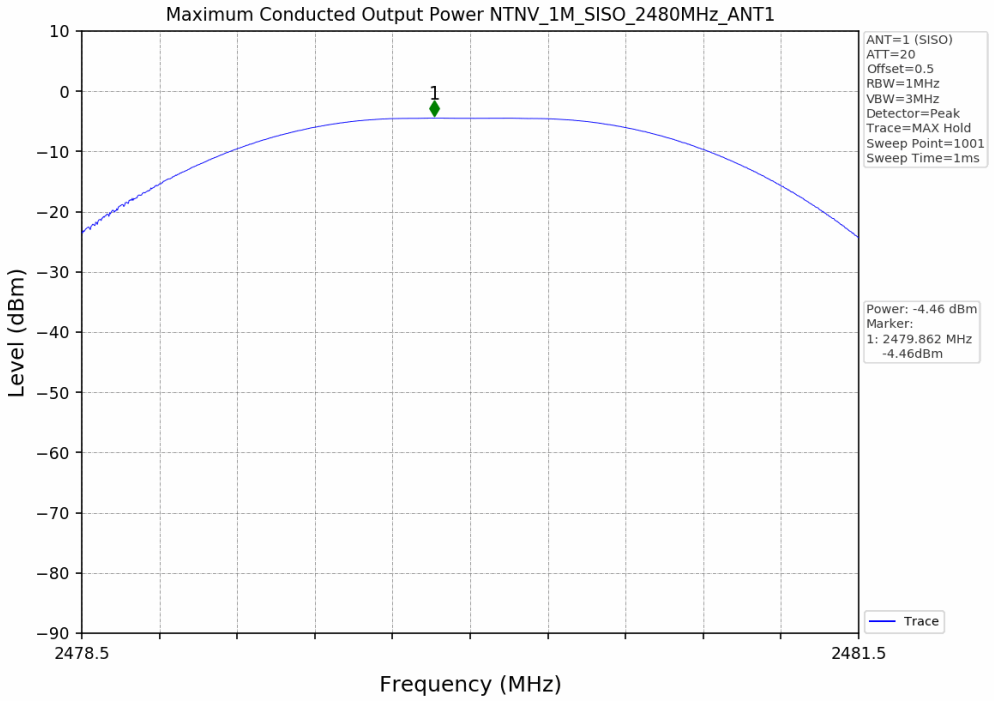
3.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
1M	2402	SISO	-3.41	30	PASS
	2440	SISO	-3.62	30	PASS
	2480	SISO	-4.46	30	PASS

3.2 Test Graph




Maximum Conducted Output Power NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: -3.62 dBm
Marker:
1: 2440.132 MHz
-3.62dBm
Trace
Level (dBm)
Frequency (MHz)
2438.5
2441.5

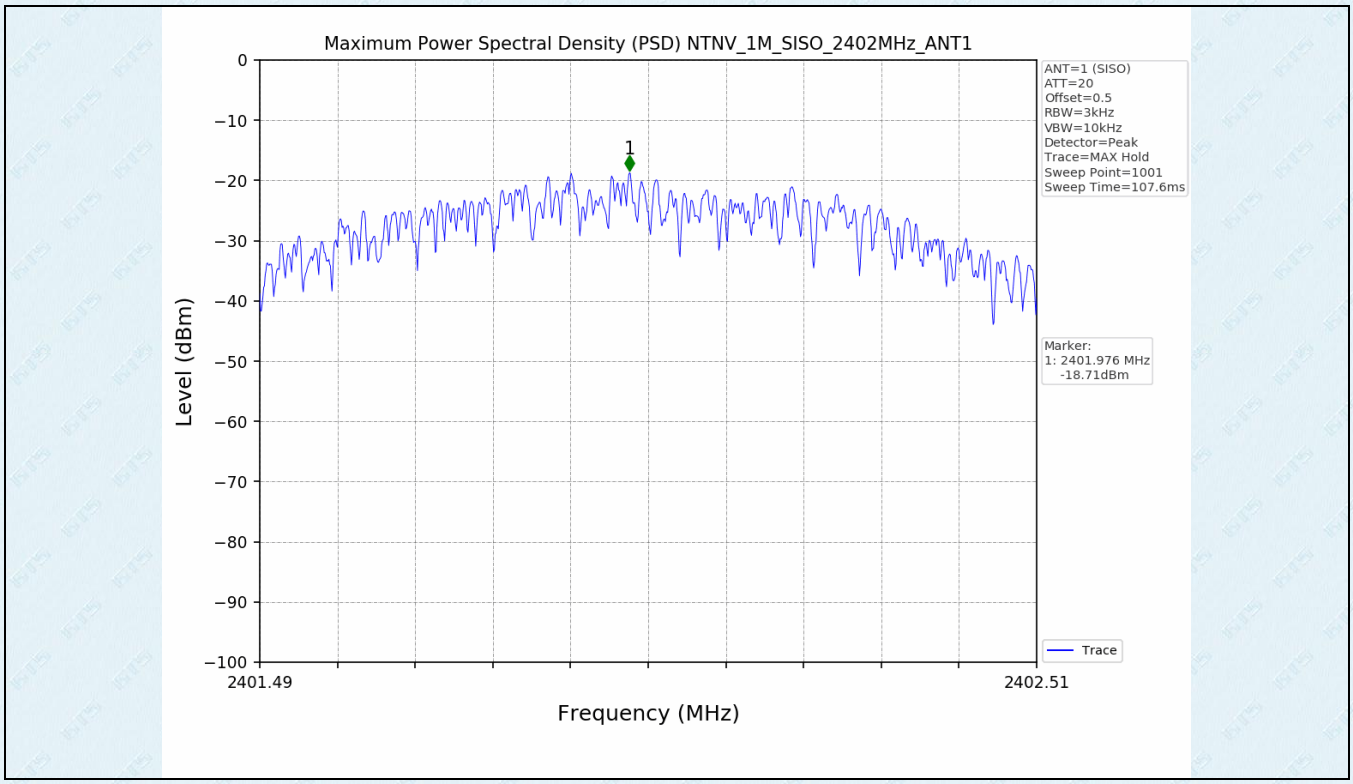

Maximum Conducted Output Power NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=1MHz
VBW=3MHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Power: -4.46 dBm
Marker:
1: 2479.862 MHz
-4.46dBm
Trace
Level (dBm)
Frequency (MHz)
2478.5
2481.5

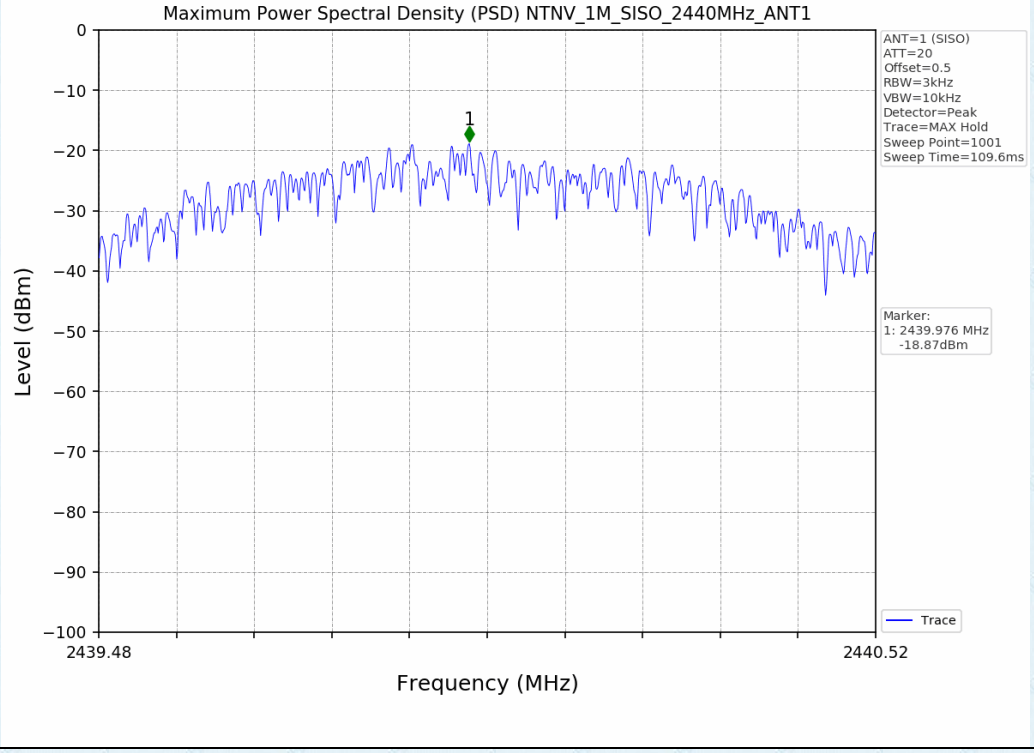
4. Maximum Power Spectral Density (PSD)

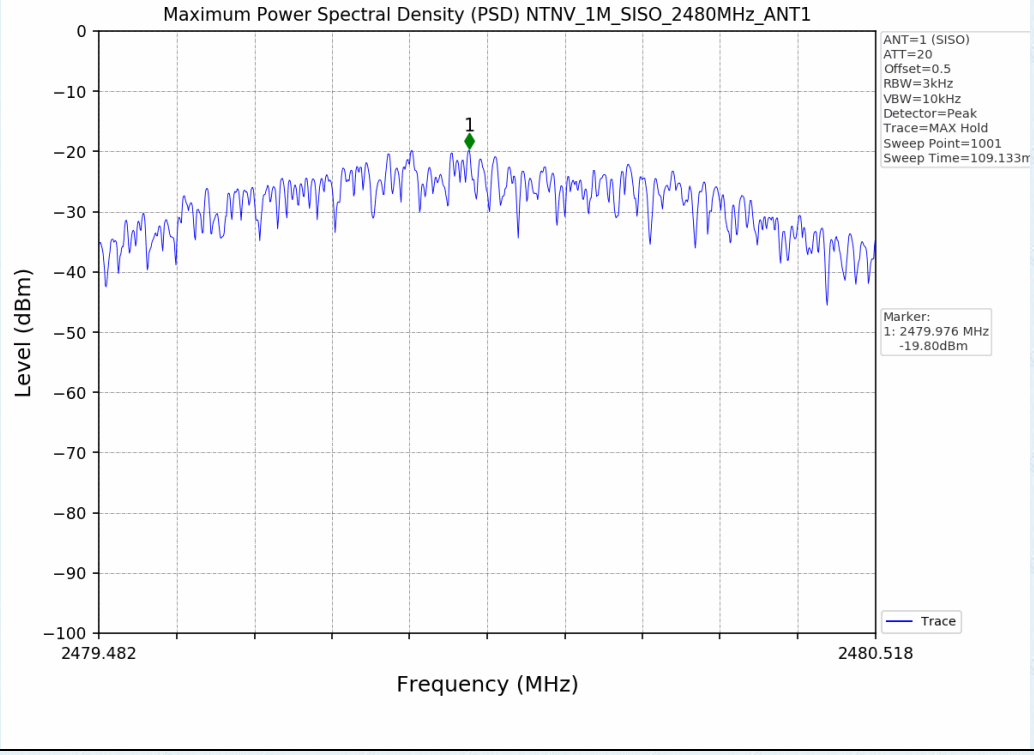
4.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/3KHz)	Limits (dBm/3kHz)	Verdict
			Ant 1		
1M	2402	SISO	-18.71	≤8	PASS
	2440	SISO	-18.87	≤8	PASS
	2480	SISO	-19.80	≤8	PASS

4.2 Test Graph




Maximum Power Spectral Density (PSD) NTNV_1M_SISO_2440MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=109.6ms
Marker:
1: 2439.976 MHz
-18.87dBm
Trace
Level (dBm)
Frequency (MHz)
2439.48
2440.52

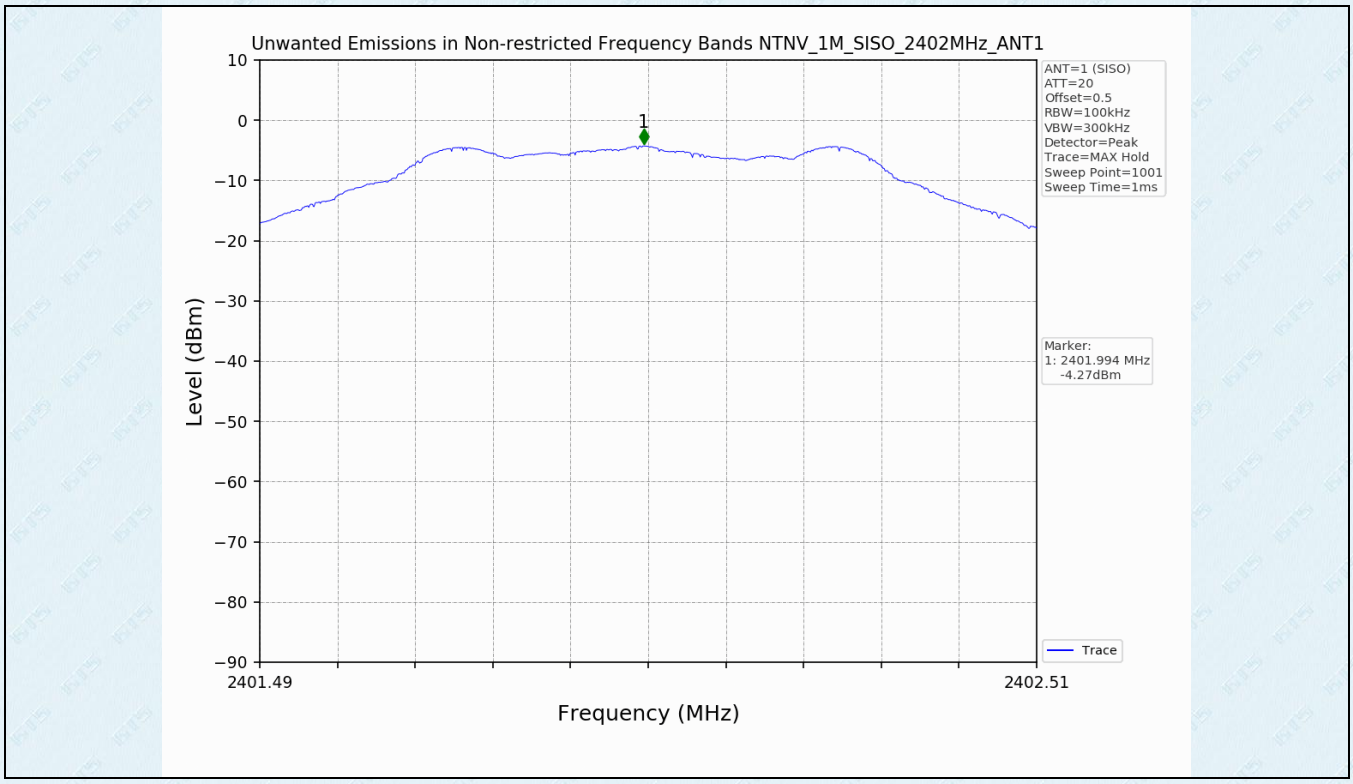

Maximum Power Spectral Density (PSD) NTNV_1M_SISO_2480MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=3kHz
VBW=10kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=109.133m
Marker:
1: 2479.976 MHz
-19.80dBm
Trace
Level (dBm)
Frequency (MHz)
2479.482
2480.518

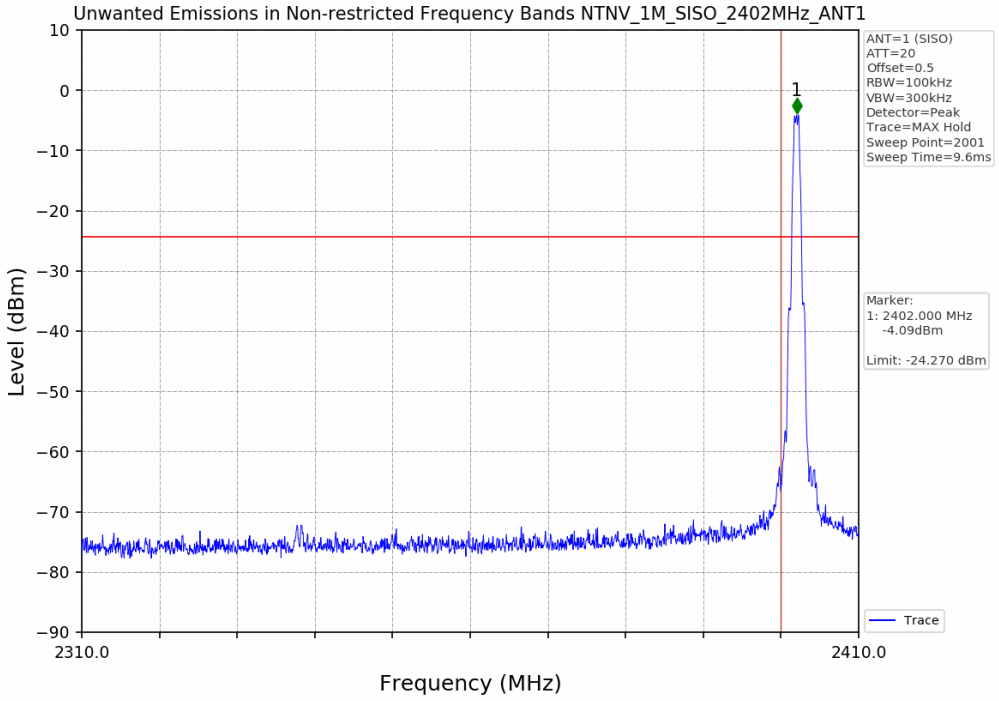
5. Unwanted Emissions in Non-restricted Frequency Bands

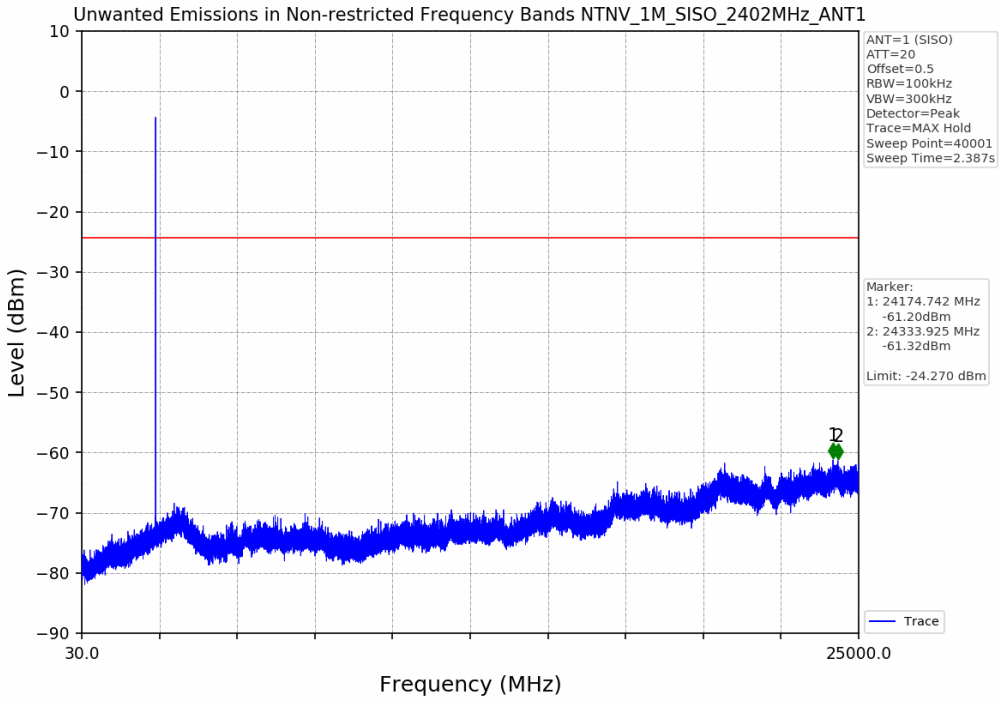
5.1 Test Result

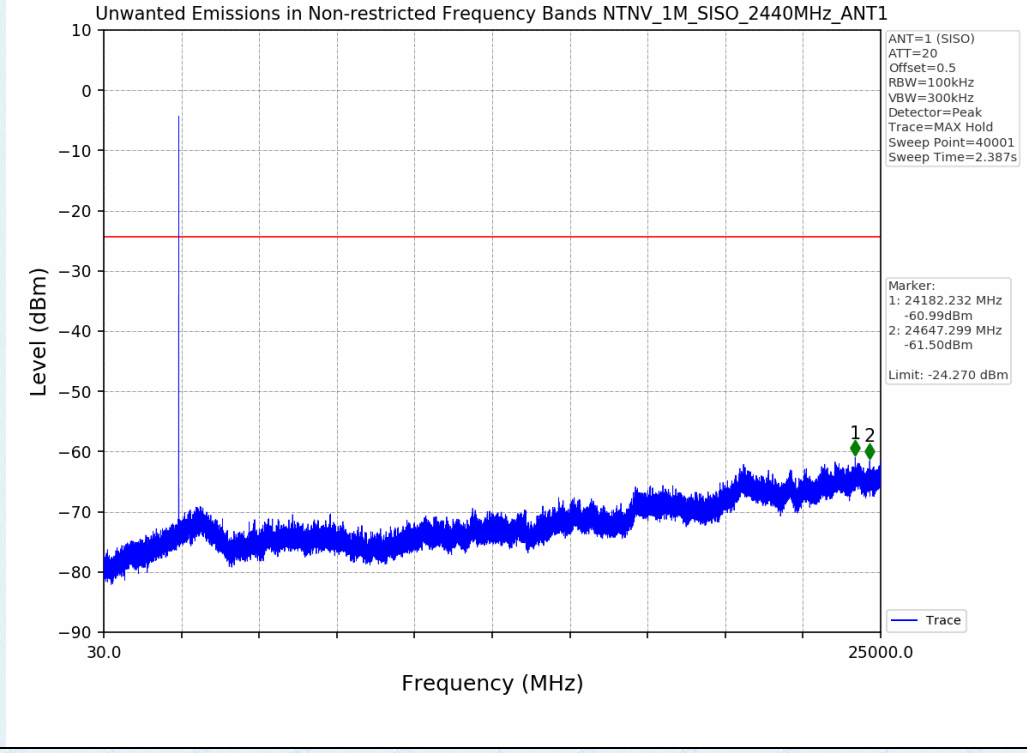
Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
1M	2402	SISO	1	Refer to test graph	-24.27	PASS
	2440	SISO	1	Refer to test graph	-24.27	PASS
	2480	SISO	1	Refer to test graph	-24.27	PASS

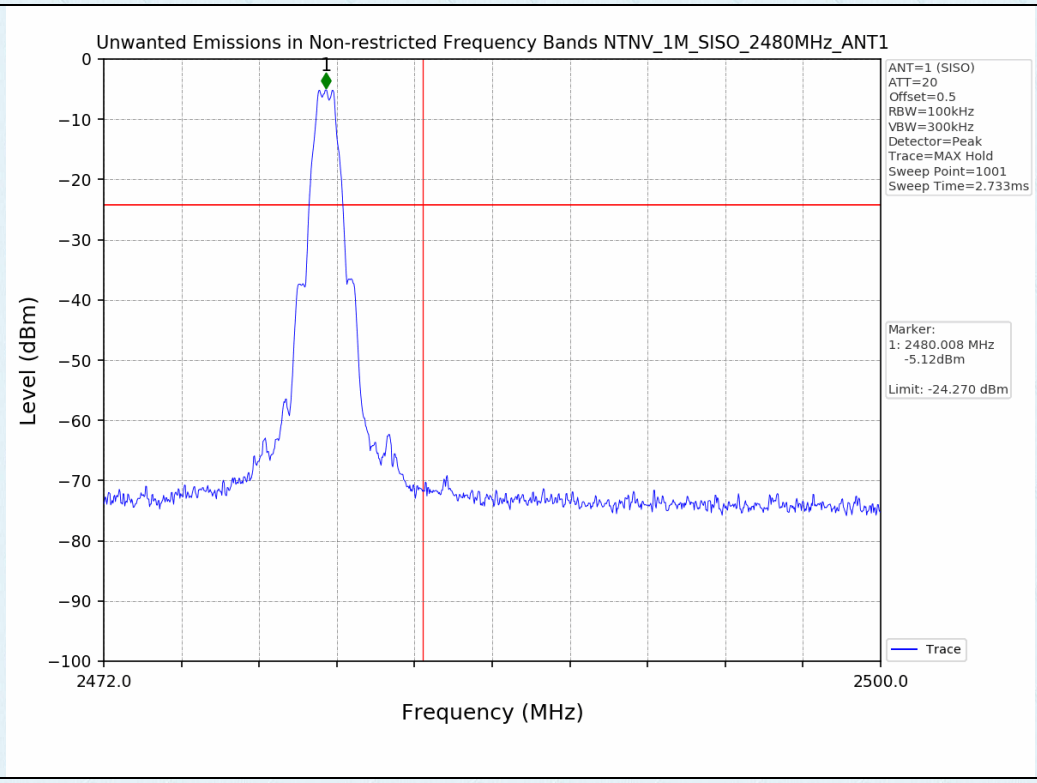
5.2 Test Graph

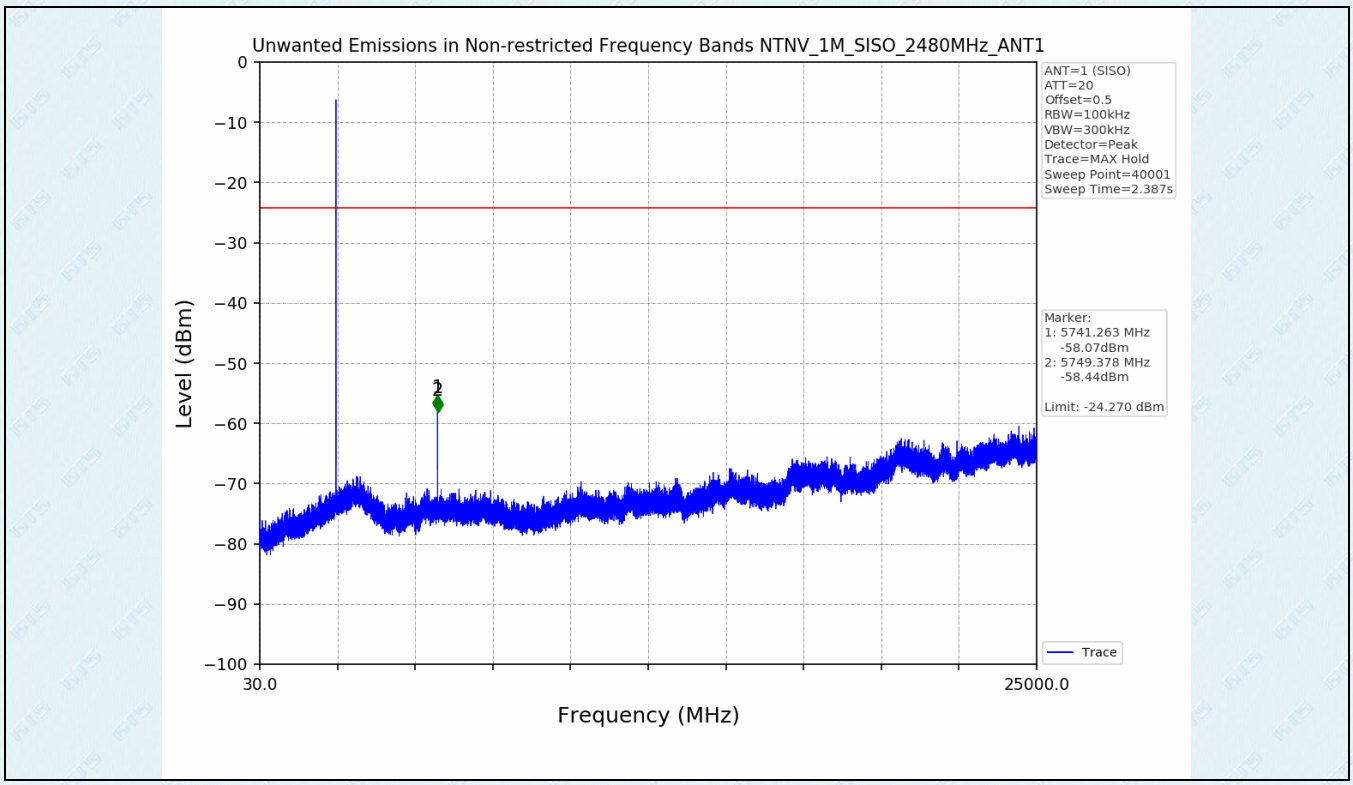



Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2402MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=2001
Sweep Time=9.6ms
Marker:
1: 2402.000 MHz
-4.09dBm
Limit: -24.270 dBm
Trace
Level (dBm)
Frequency (MHz)
2310.0
2410.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1M_SISO_2402MHz_ANT1
ANT=1 (SISO)
ATT=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 24174.742 MHz
-61.20dBm
2: 24333.925 MHz
-61.32dBm
Limit: -24.270 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=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 24182.232 MHz
-60.99dBm
2: 24647.299 MHz
-61.50dBm
Limit: -24.270 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=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.733ms
Marker:
1: 2480.008 MHz
-5.12dBm
Limit: -24.270 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=20
Offset=0.5
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=40001
Sweep Time=2.387s
Marker:
1: 5741.263 MHz
-58.07dBm
2: 5749.378 MHz
-58.44dBm
Limit: -24.270 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0
0
−10
−20
−30
−40
−50
−60
−70
−80
−90
−100

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