Appendix Test Data

Project No.:	18220WC10100901	Test Date:	2021.6.2
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	22.3℃	Relative Humidity:	55 %
Pressure:	1012 hPa		

1. Duty Cycle

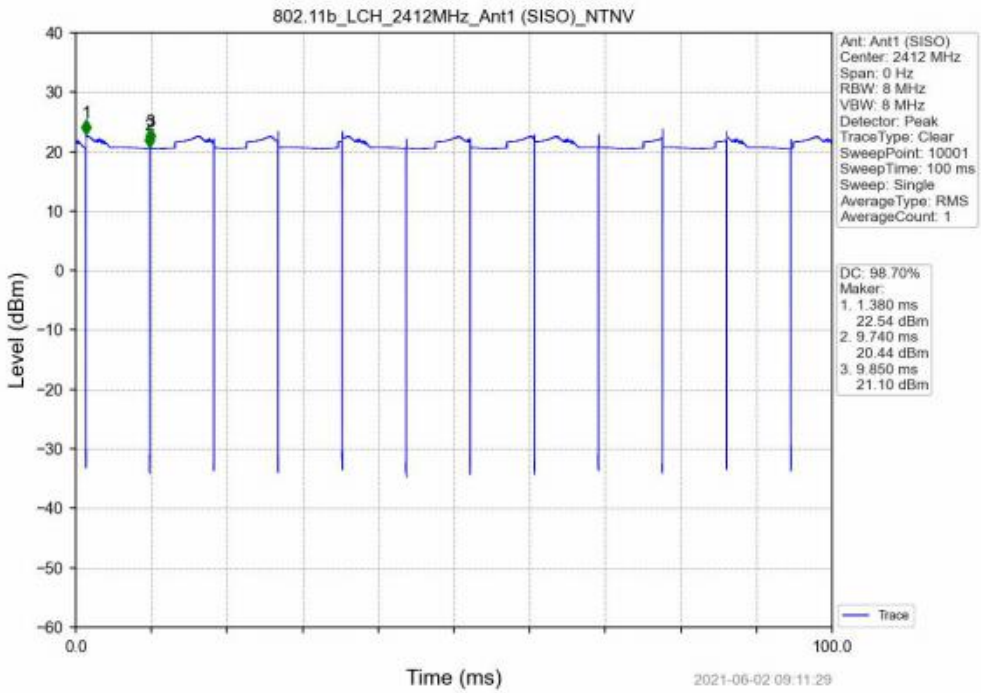
1.1 Ant1

1.1.1 Test Result

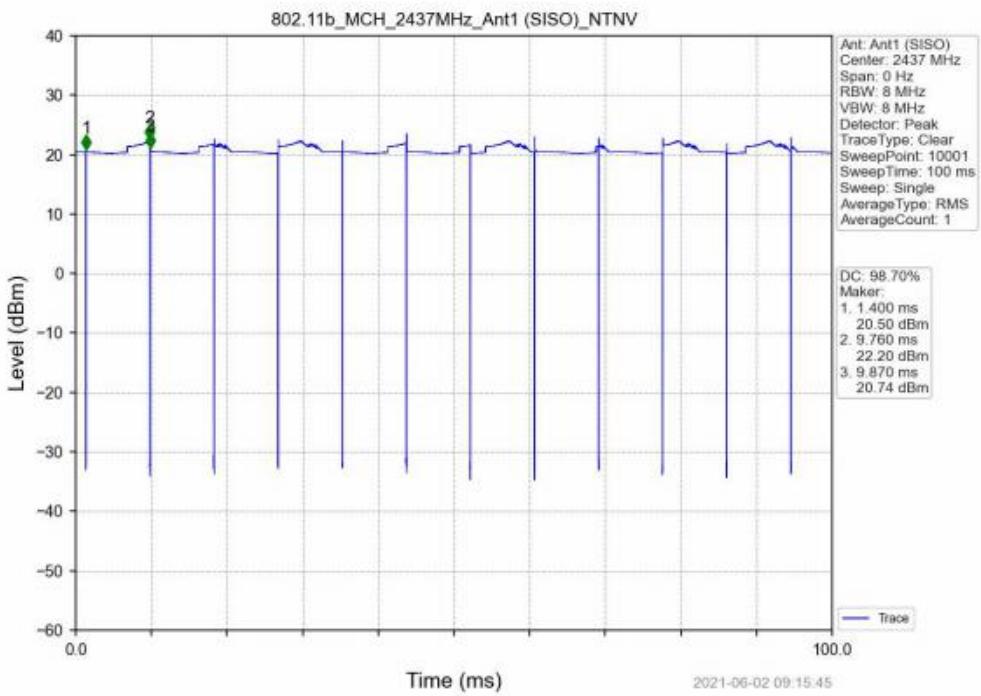
Ant1									
Mode	TX Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	/	/	8.36	8.47	98.70	0.06	0.00
		2437	/	/	8.36	8.47	98.70	0.06	0.12
		2462	/	/	8.36	8.47	98.70	0.06	0.00
802.11g	SISO	2412	/	/	1.39	1.41	98.51	0.07	0.10
		2437	/	/	1.39	1.41	98.51	0.07	0.11
		2462	/	/	1.39	1.41	98.51	0.07	0.00
802.11n (HT20)	SISO	2412	/	/	1.30	1.32	98.48	0.07	0.10
		2437	/	/	1.30	1.32	98.48	0.07	0.10
		2462	/	/	1.30	1.32	98.48	0.07	0.00
802.11n (HT40)	SISO	2422	/	/	100.00	100.00	100.00	0.00	0.00
		2437	/	/	100.00	100.00	100.00	0.00	0.00
		2452	/	/	100.00	100.00	100.00	0.00	0.00

1.1.2 Test Graph

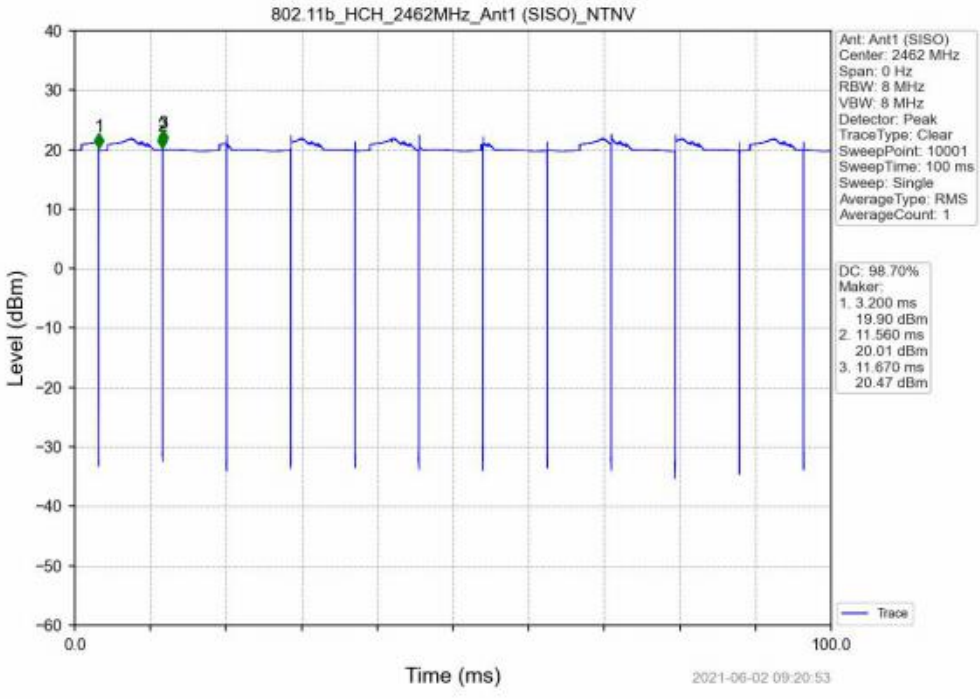
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



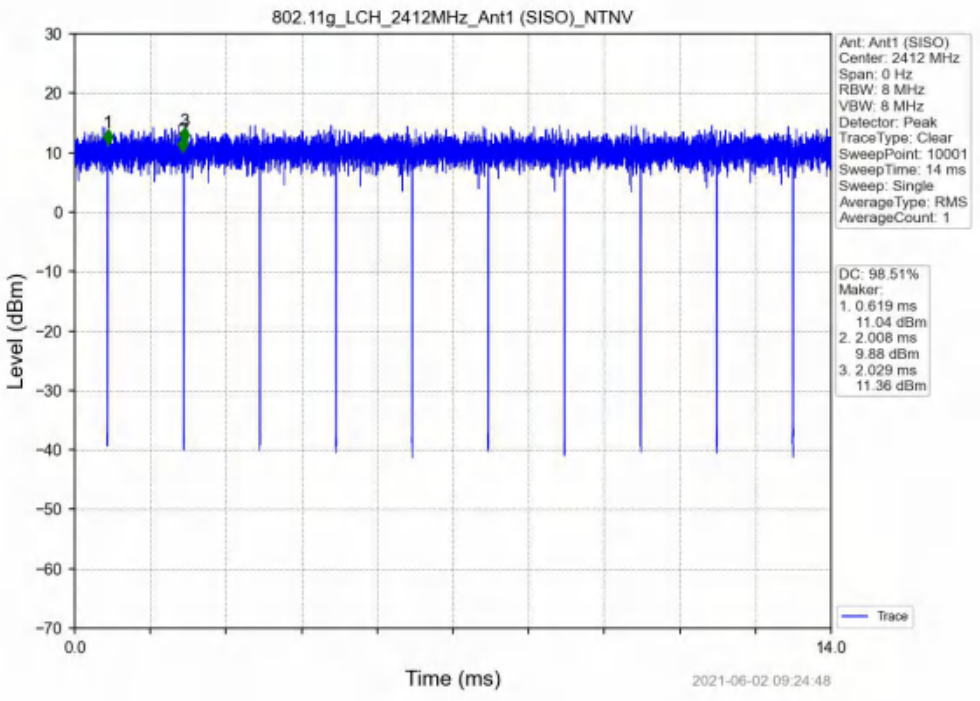
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



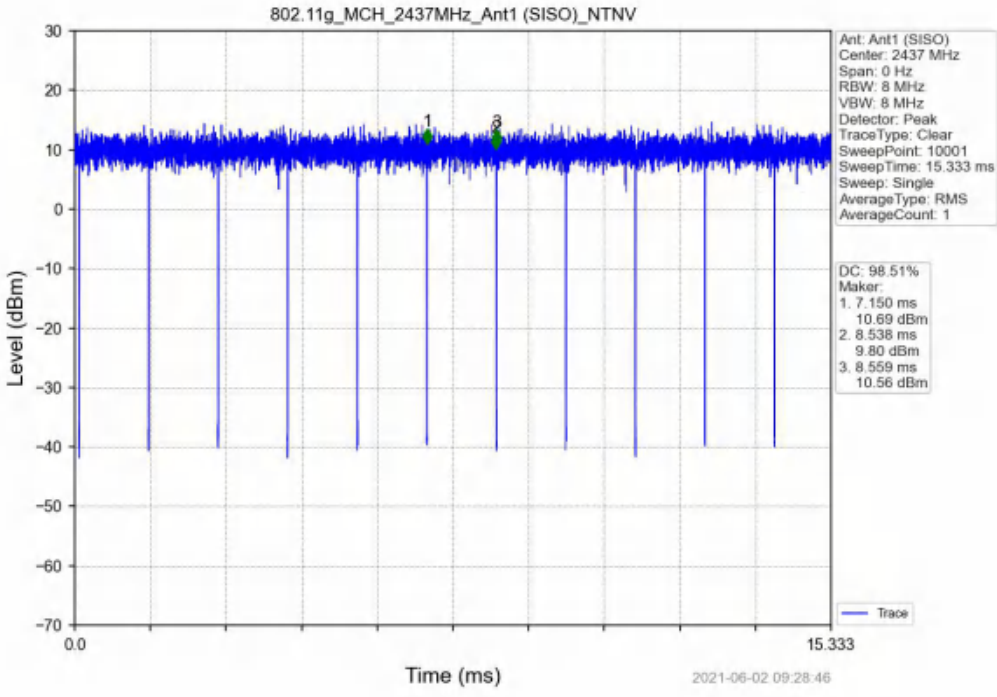
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



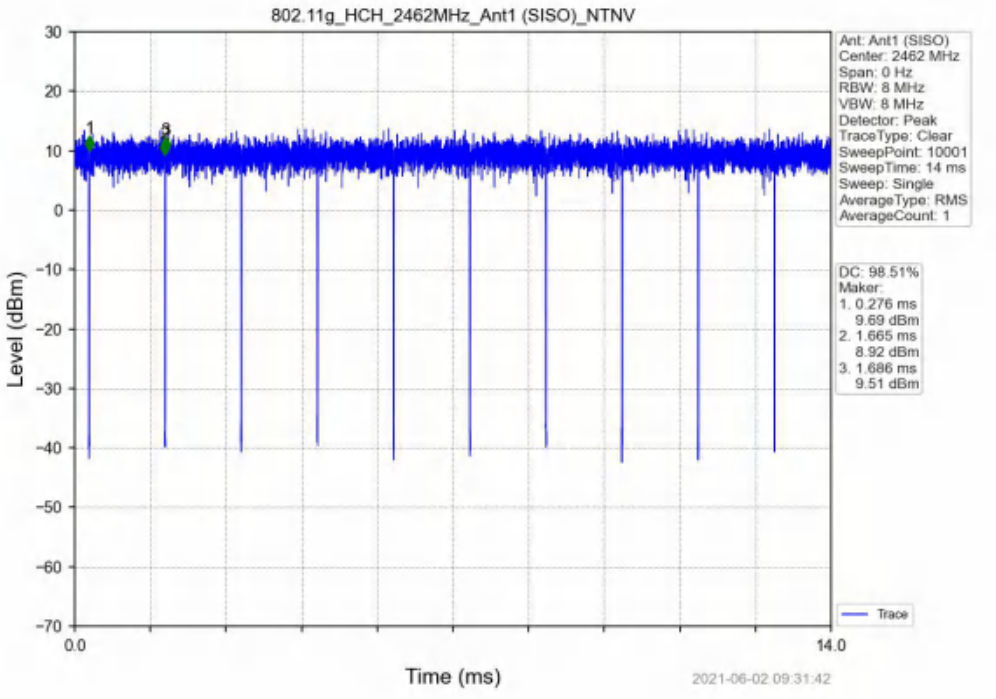
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



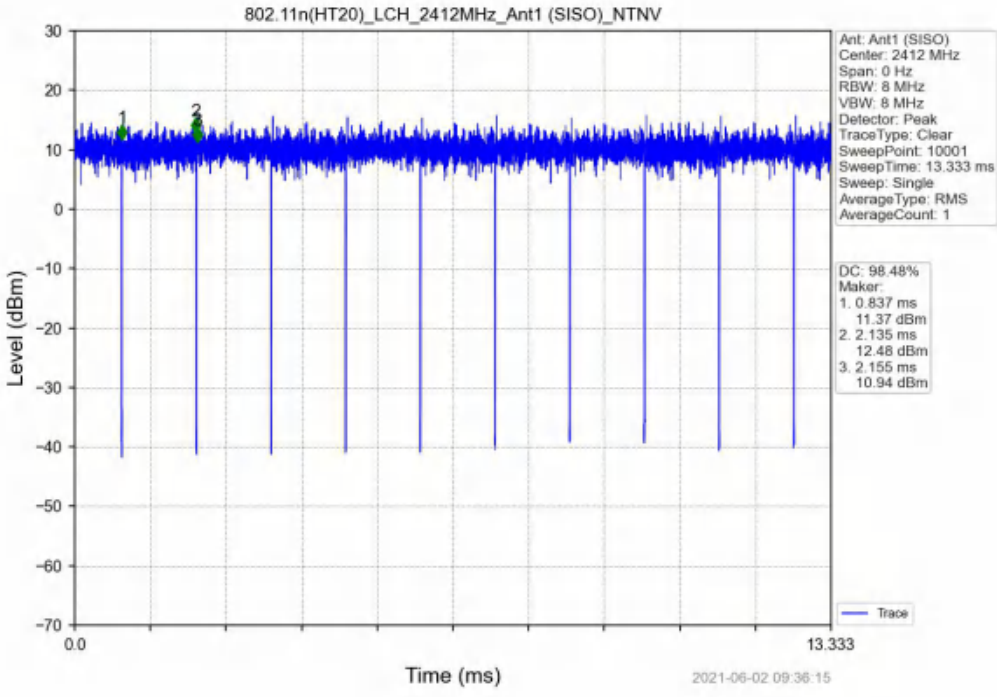
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



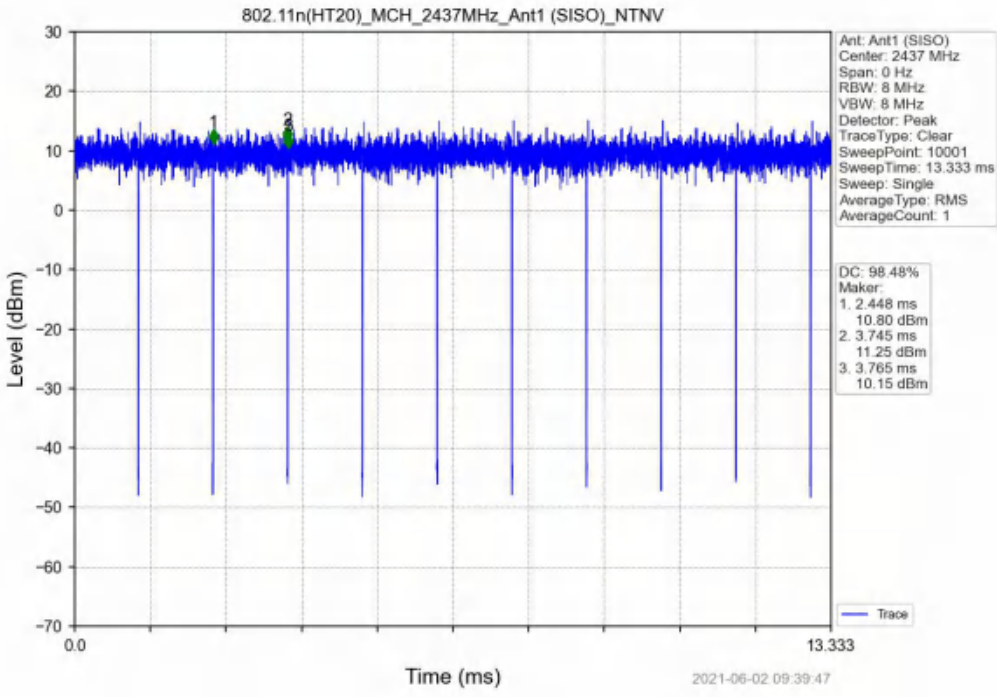
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



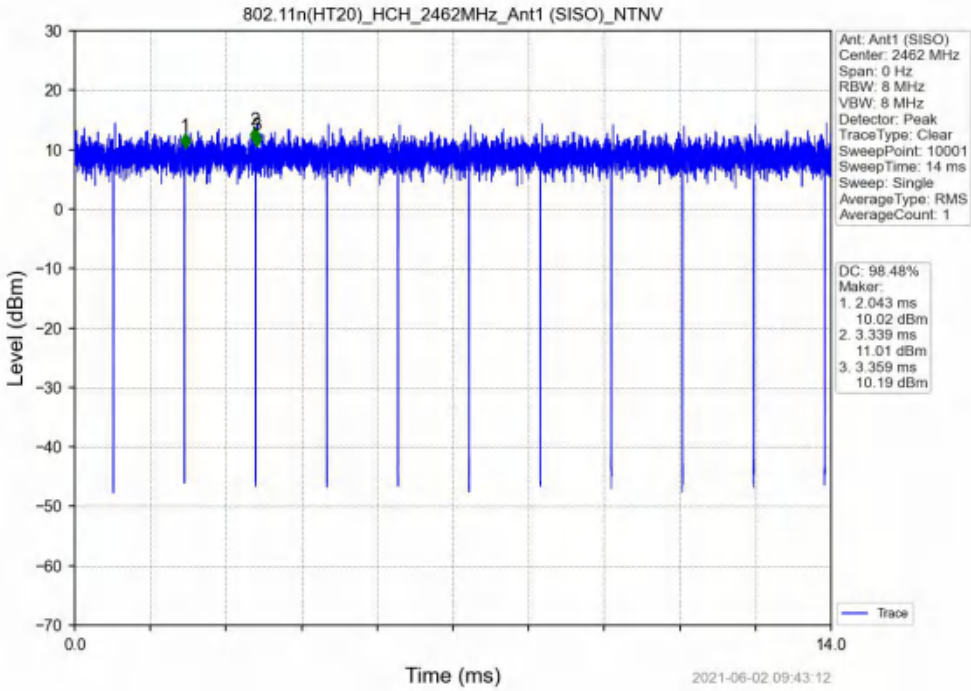
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



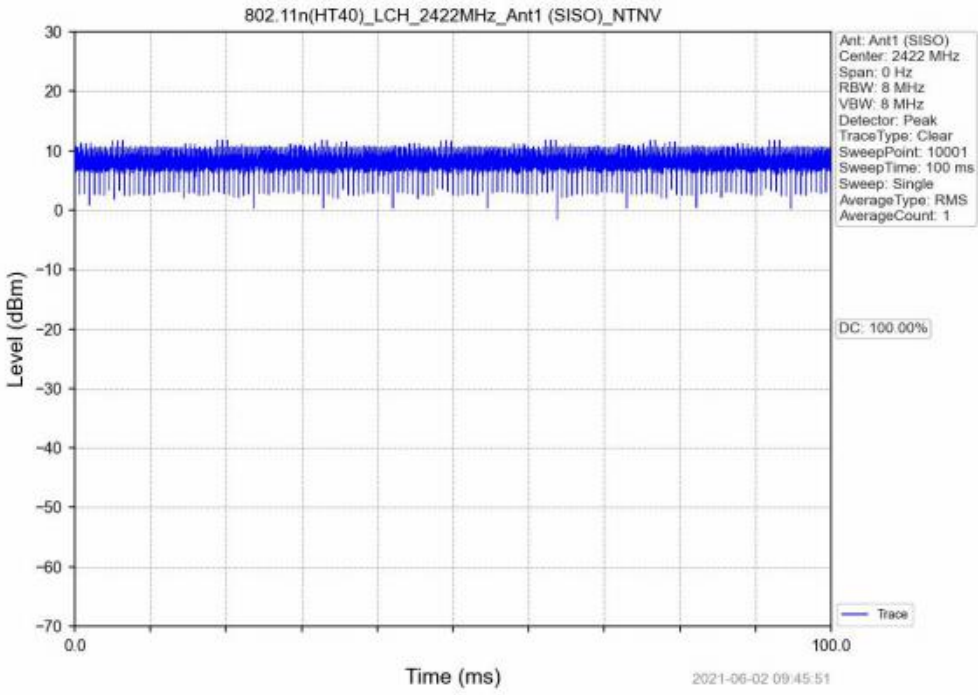
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



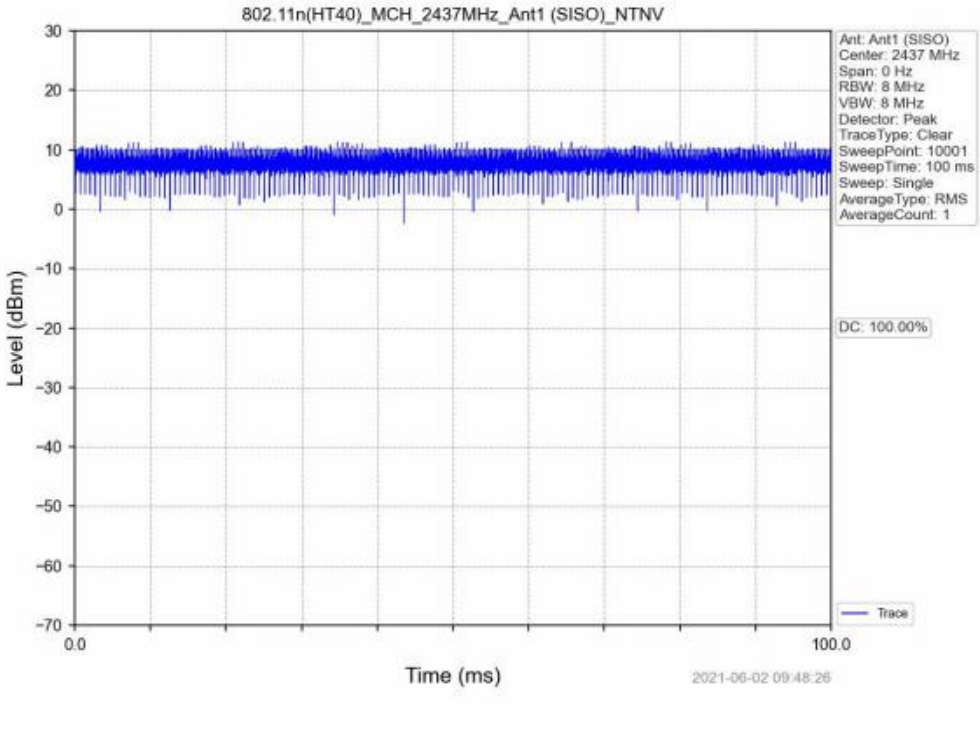
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



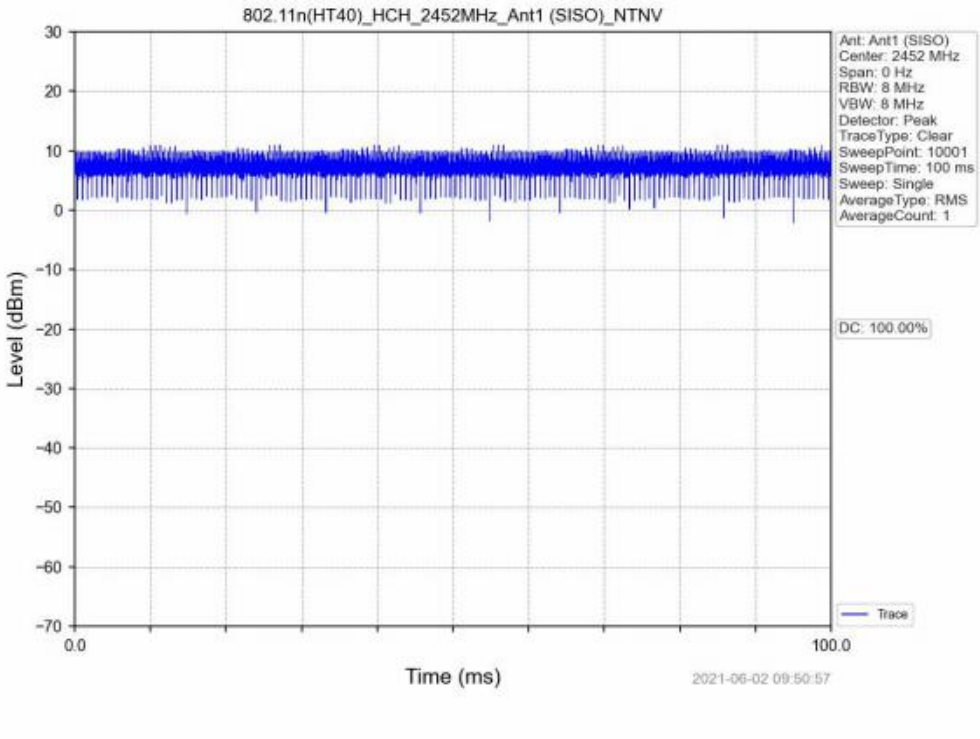
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



2. Bandwidth

2.1 OBW

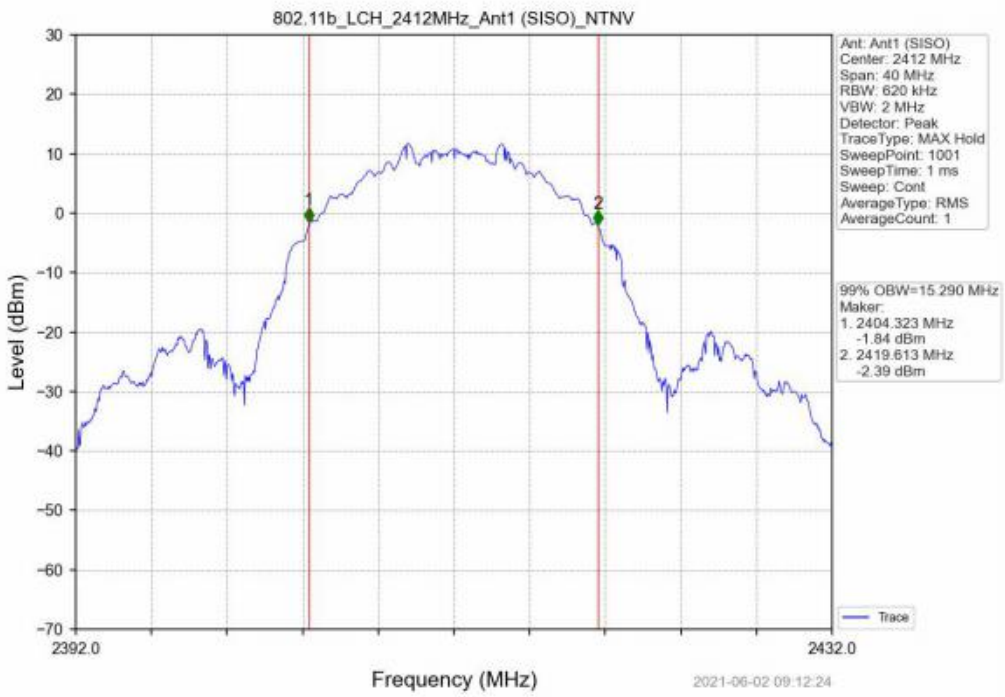
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	99% Occupied Bandwidth (MHz)	Limit (MHz)	Verdict
					Ant1		
802.11b	SISO	2412	/	/	15.290	/	Note1
		2437	/	/	15.270	/	Note1
		2462	/	/	15.292	/	Note1
802.11g	SISO	2412	/	/	17.549	/	Note1
		2437	/	/	17.548	/	Note1
		2462	/	/	17.543	/	Note1
802.11n (HT20)	SISO	2412	/	/	18.432	/	Note1
		2437	/	/	18.432	/	Note1
		2462	/	/	18.428	/	Note1
802.11n (HT40)	SISO	2422	/	/	35.766	/	Note1
		2437	/	/	35.757	/	Note1
		2452	/	/	35.751	/	Note1

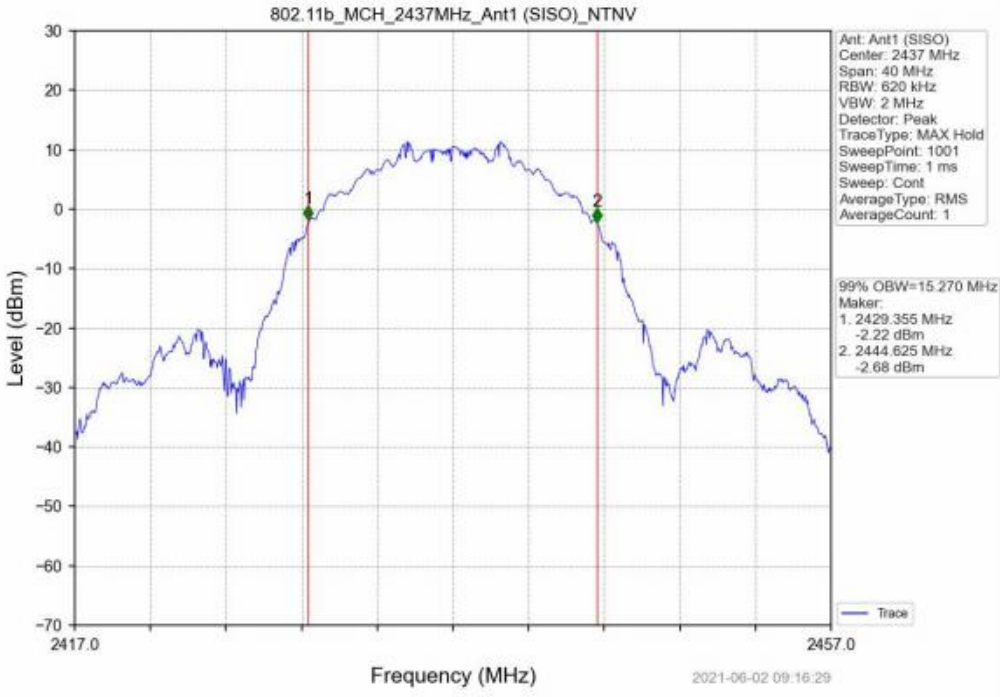
Note1: Only for Report Use

2.1.2 Test Graph

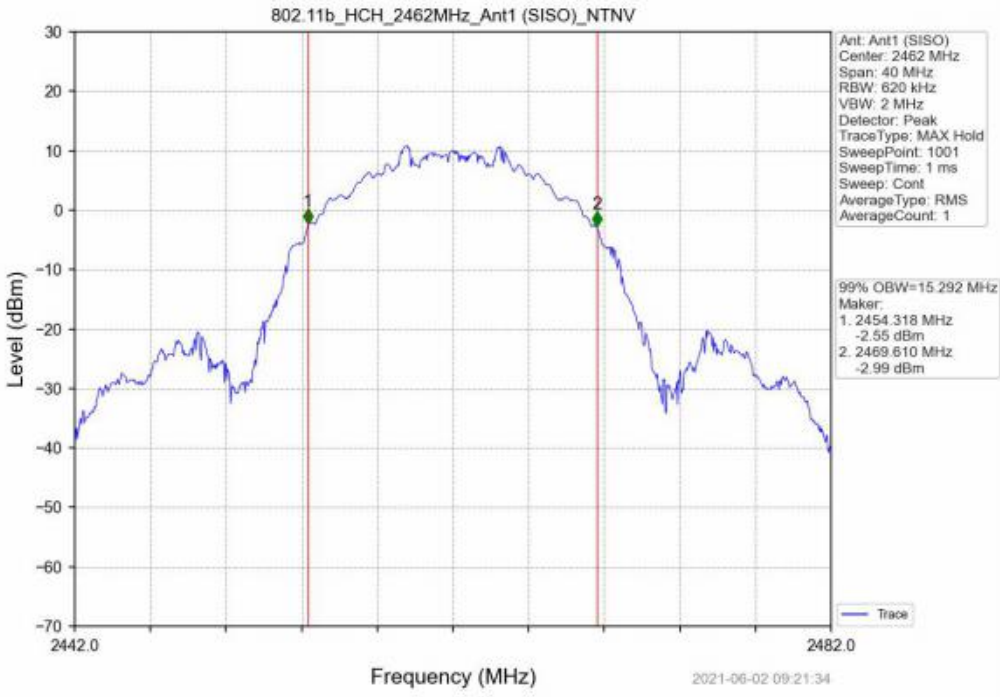
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



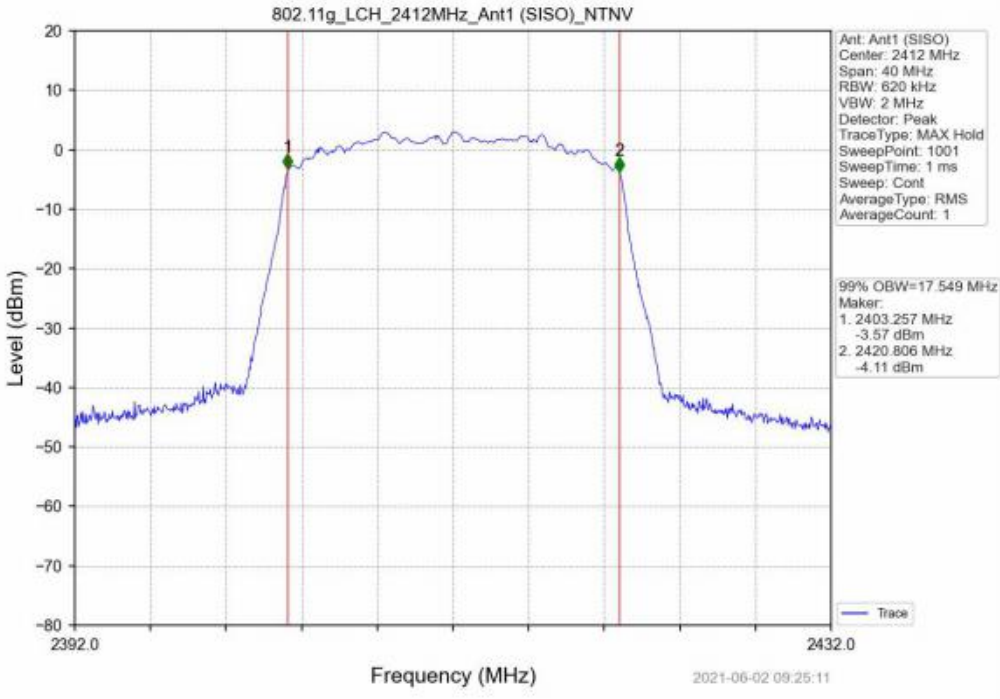
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



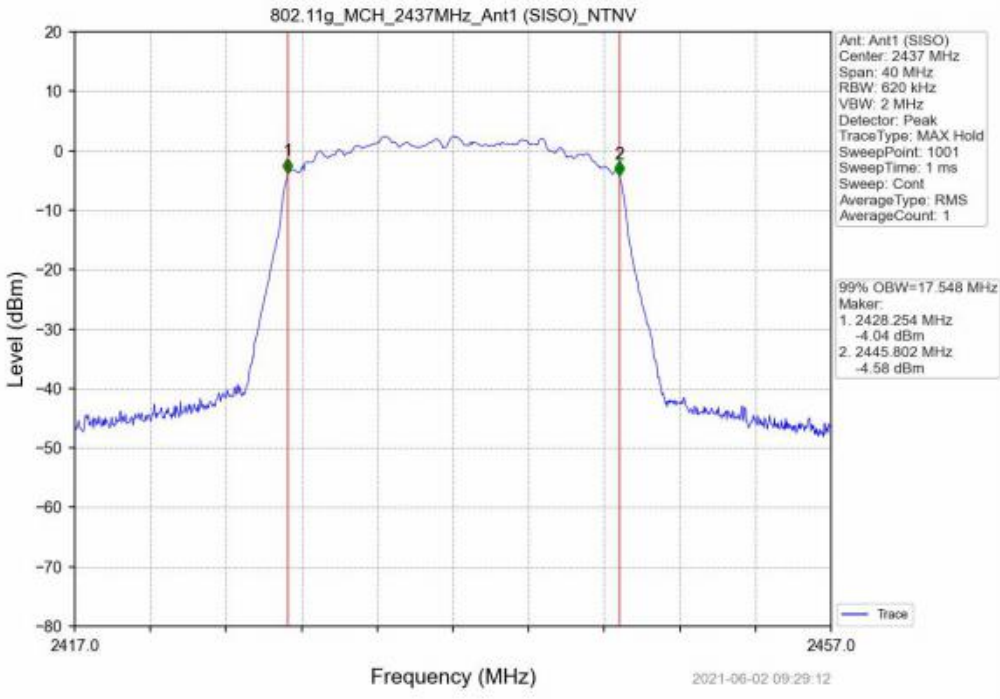
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



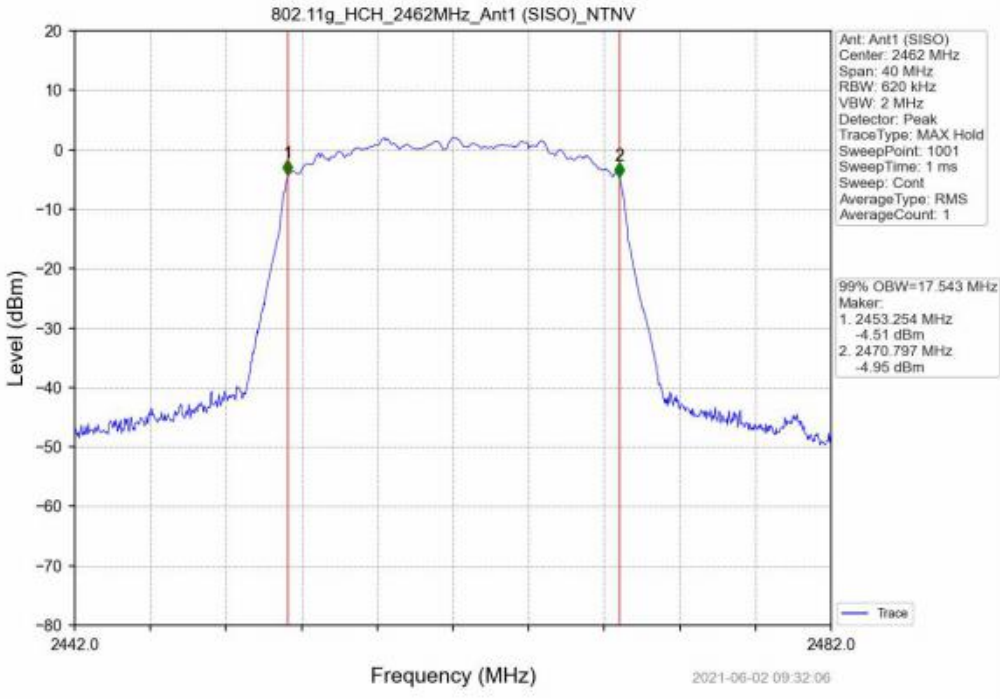
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



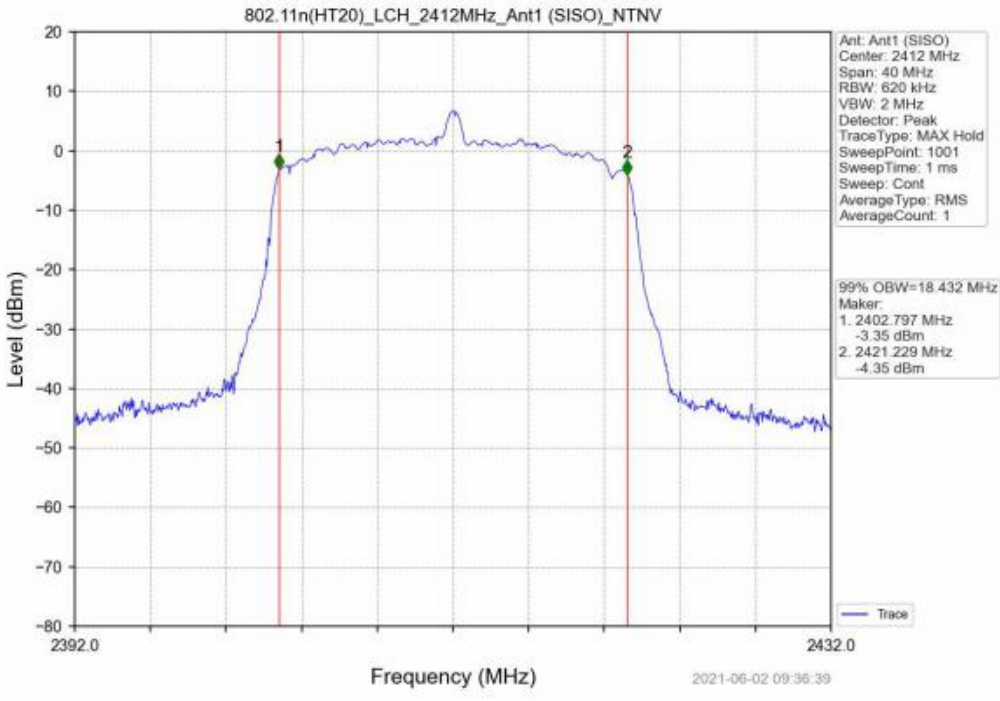
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



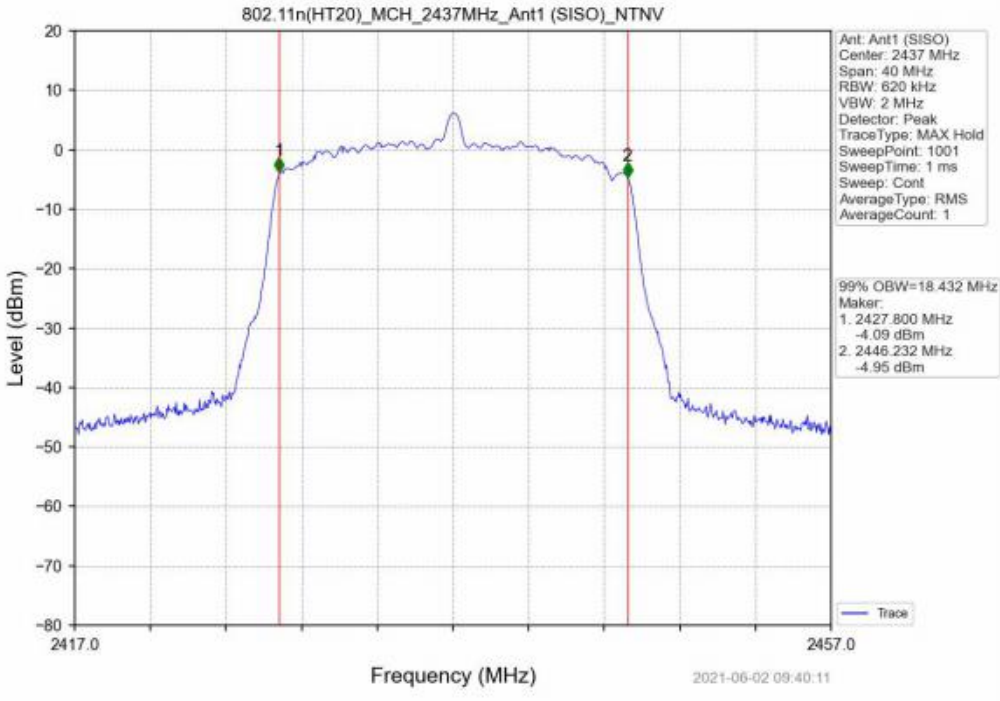
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



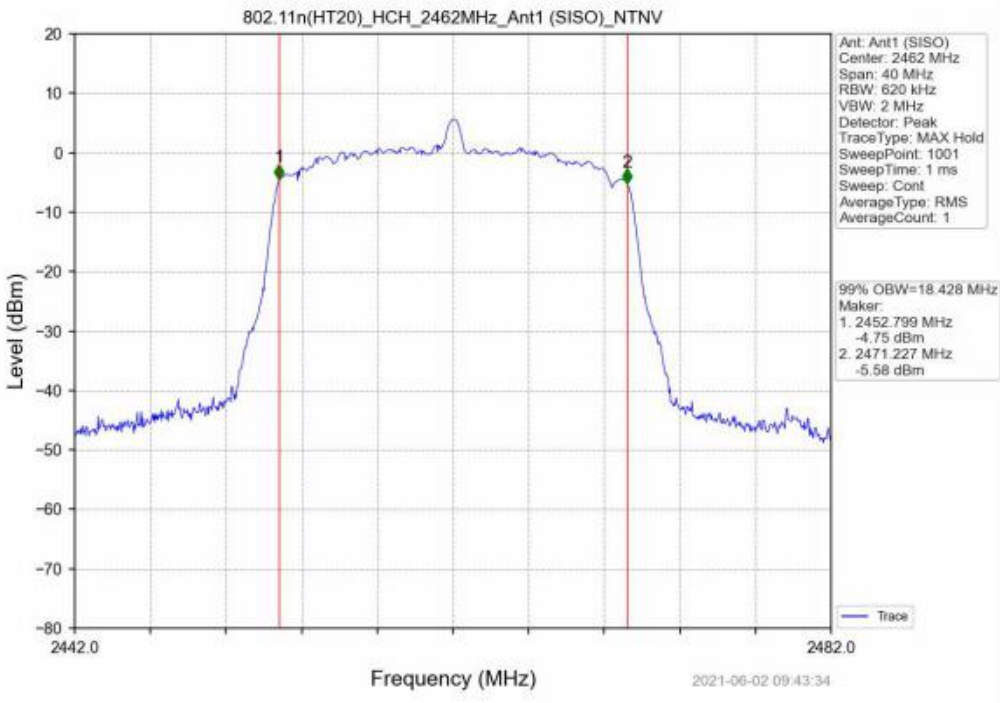
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



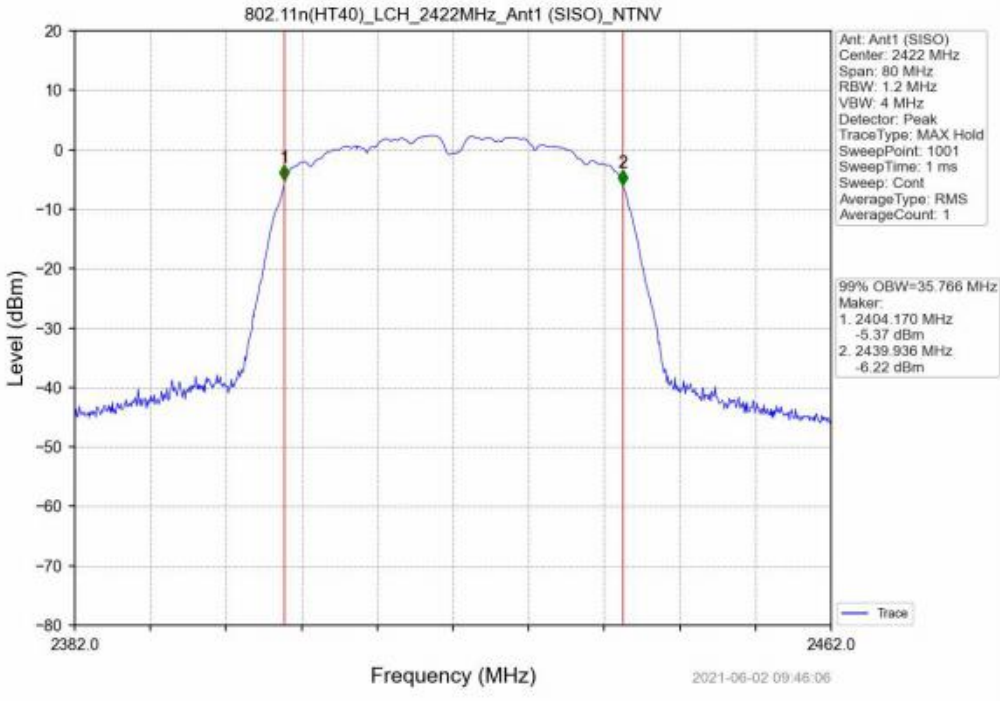
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



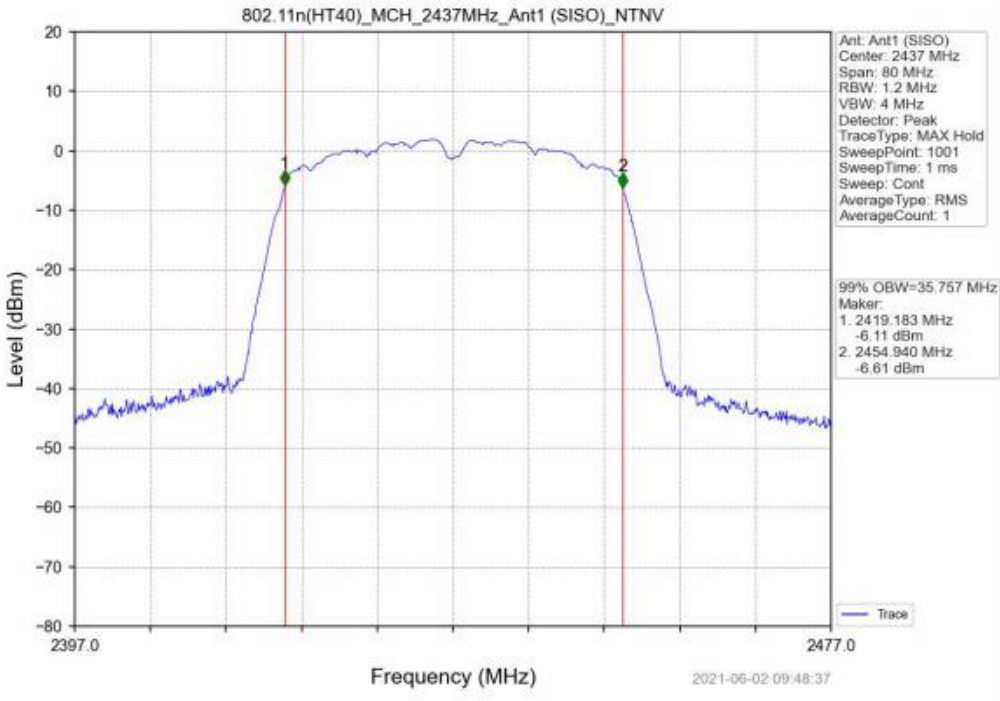
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



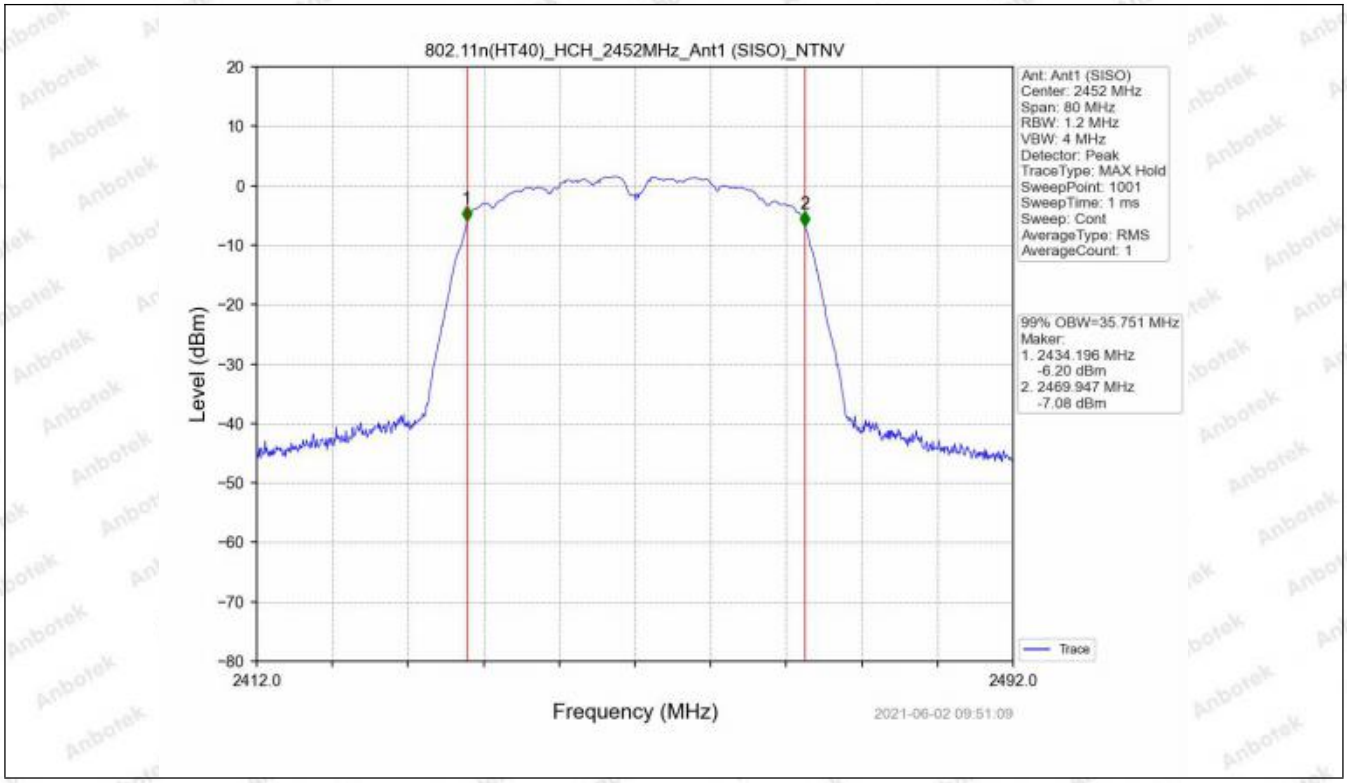
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



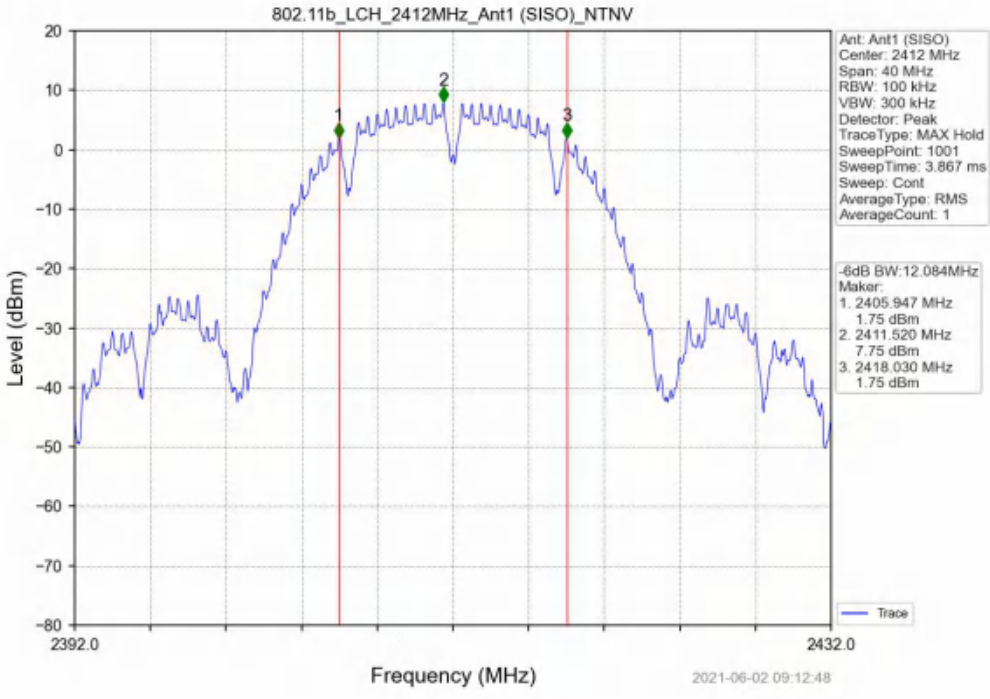
2.2 XDB

2.2.1 Test Result

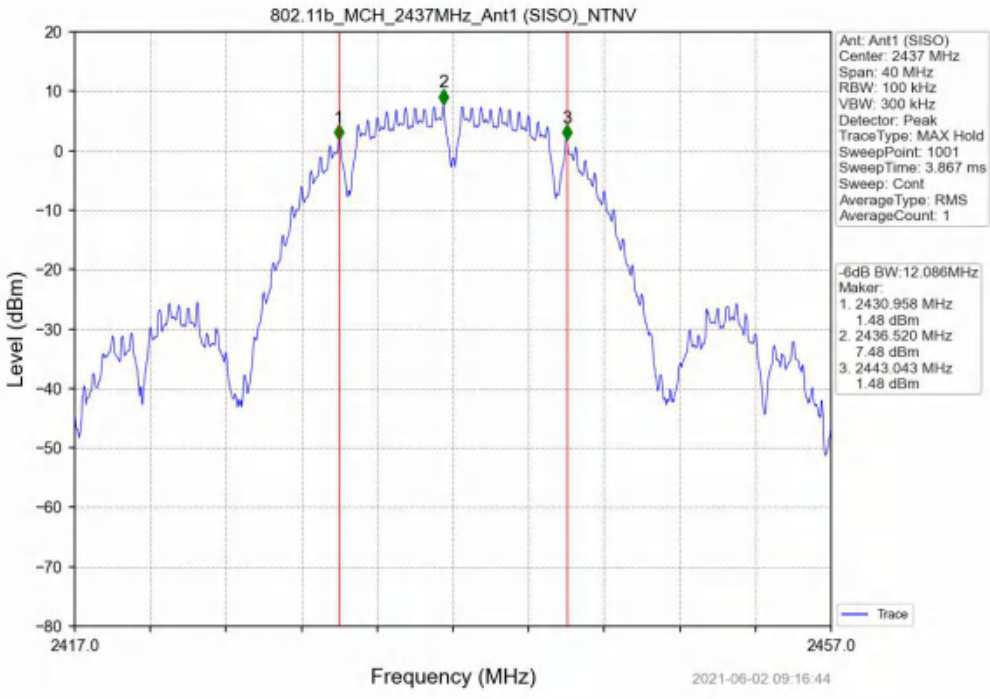
Mode	TX Type	Frequency (MHz)	RU	RU Pos	6dB Bandwidth (MHz)	Limit (MHz)	Verdict
					Ant1		
802.11b	SISO	2412	/	/	12.084	>=0.5	Pass
		2437	/	/	12.086	>=0.5	Pass
		2462	/	/	12.092	>=0.5	Pass
802.11g	SISO	2412	/	/	15.179	>=0.5	Pass
		2437	/	/	15.184	>=0.5	Pass
		2462	/	/	15.184	>=0.5	Pass
802.11n (HT20)	SISO	2412	/	/	15.076	>=0.5	Pass
		2437	/	/	15.078	>=0.5	Pass
		2462	/	/	15.082	>=0.5	Pass
802.11n (HT40)	SISO	2422	/	/	35.111	>=0.5	Pass
		2437	/	/	35.110	>=0.5	Pass
		2452	/	/	35.106	>=0.5	Pass

2.2.2 Test Graph

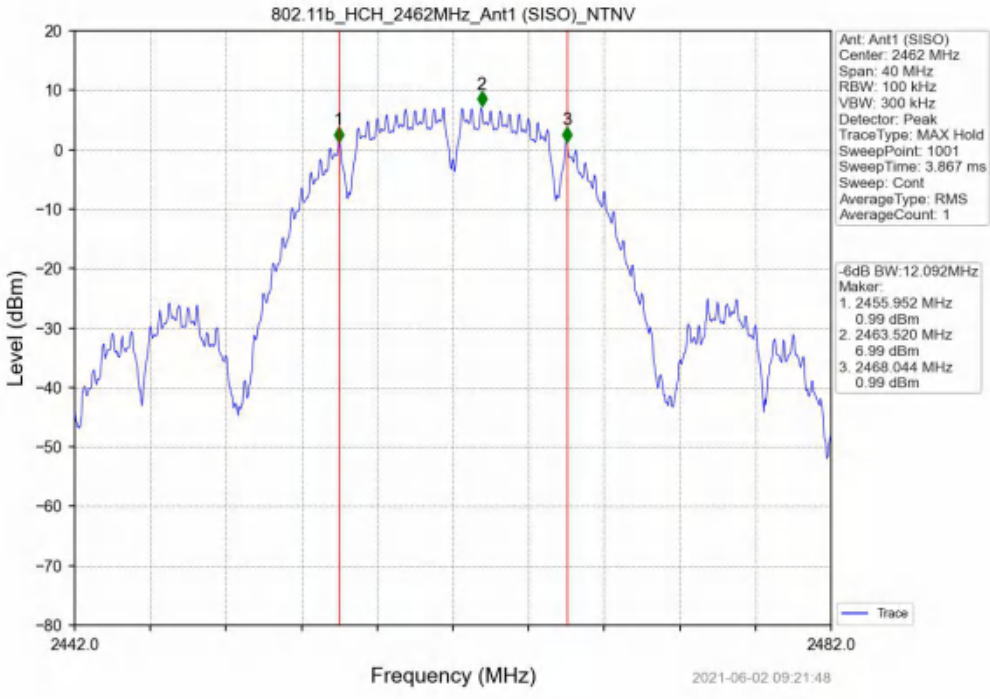
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



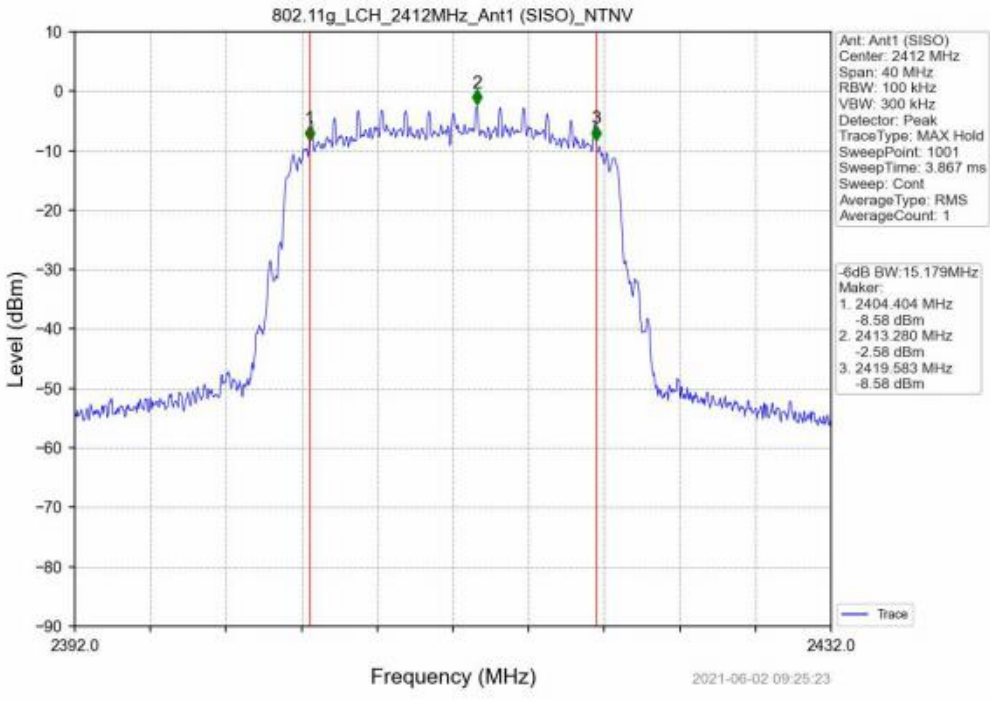
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



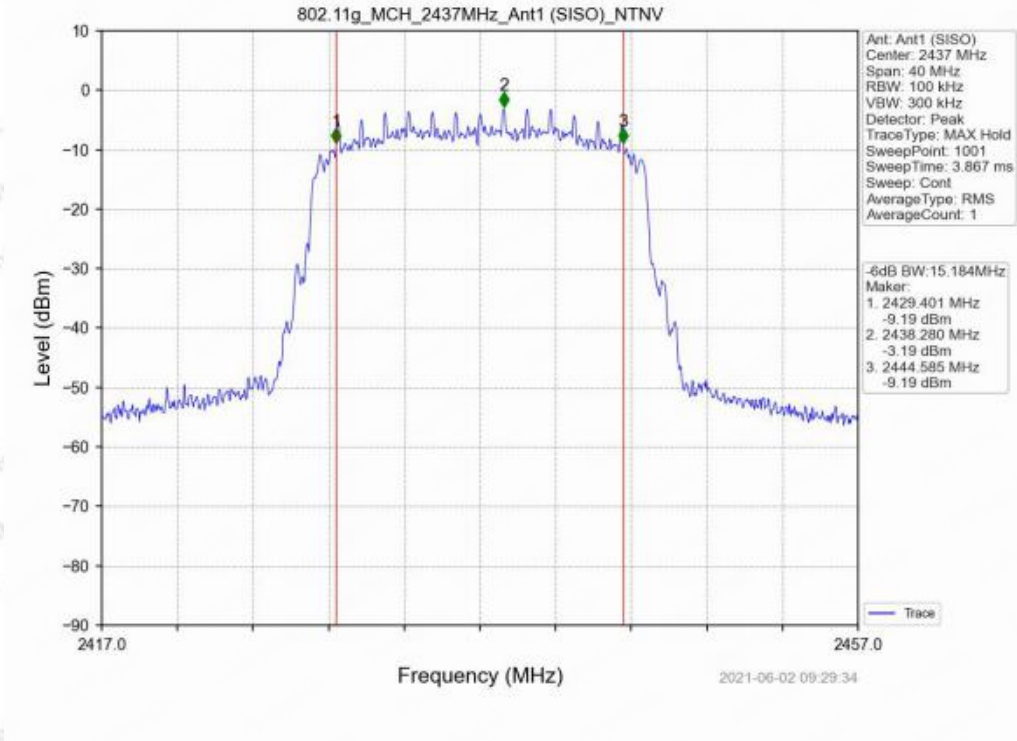
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



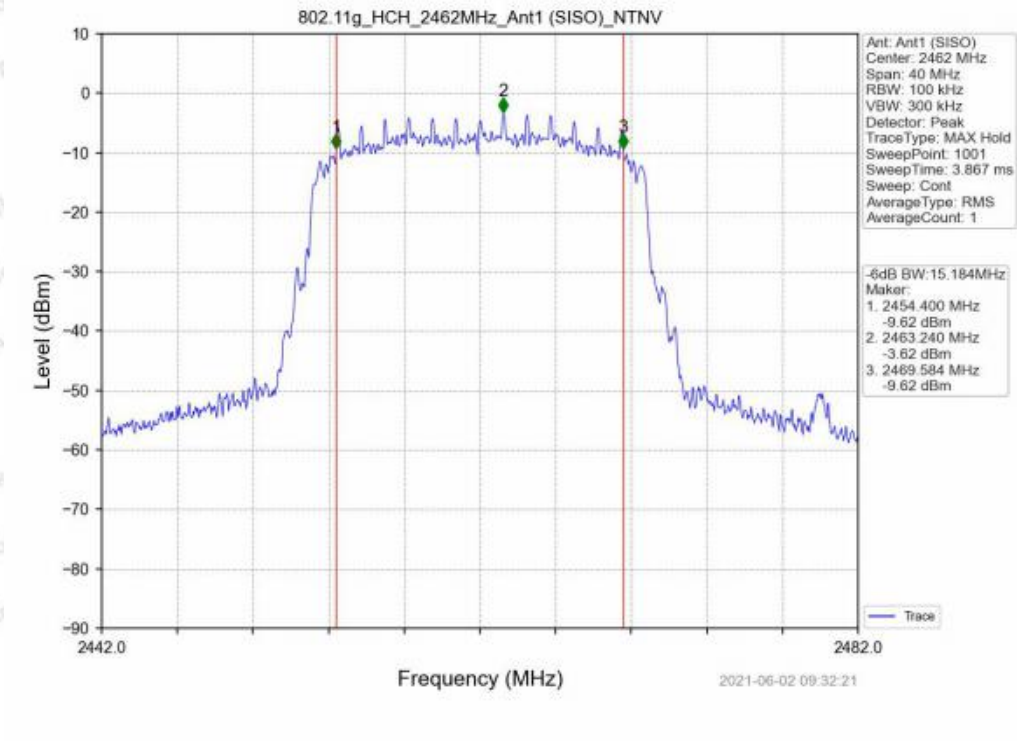
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



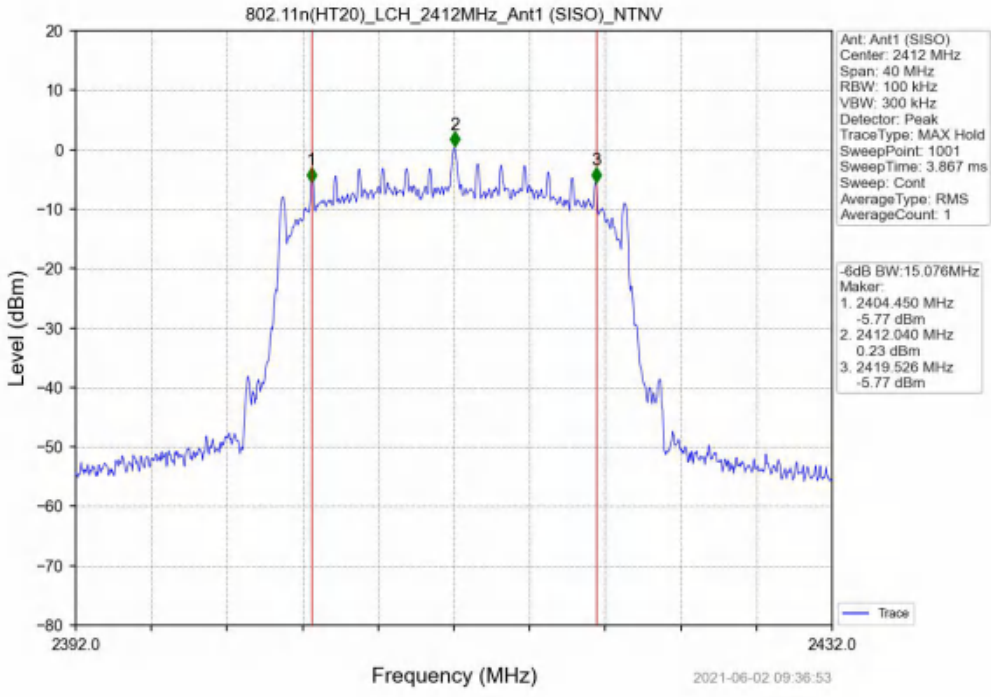
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



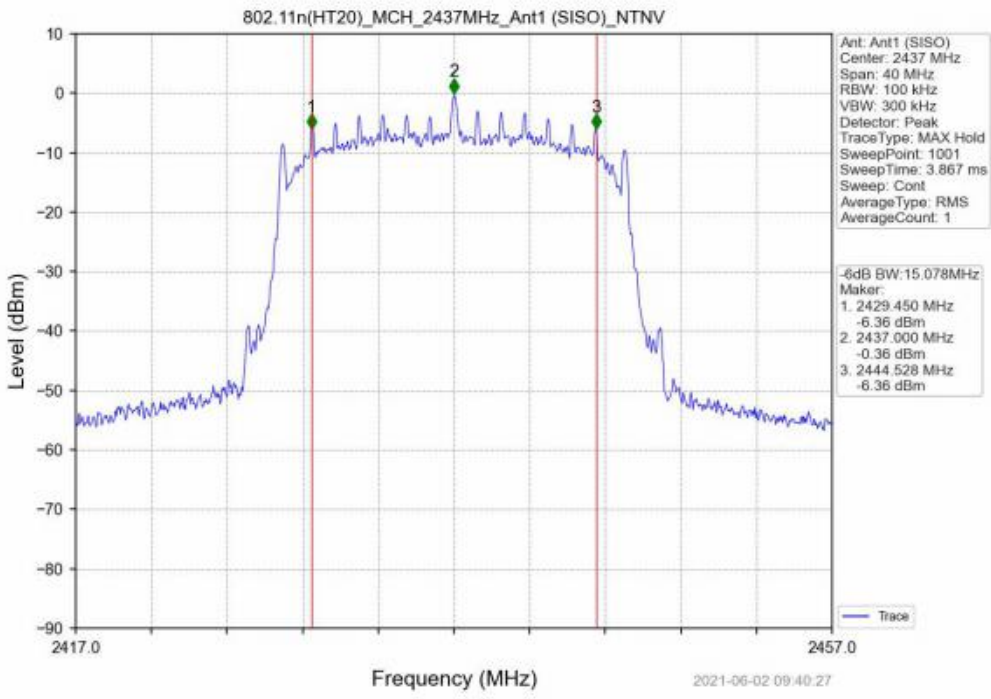
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



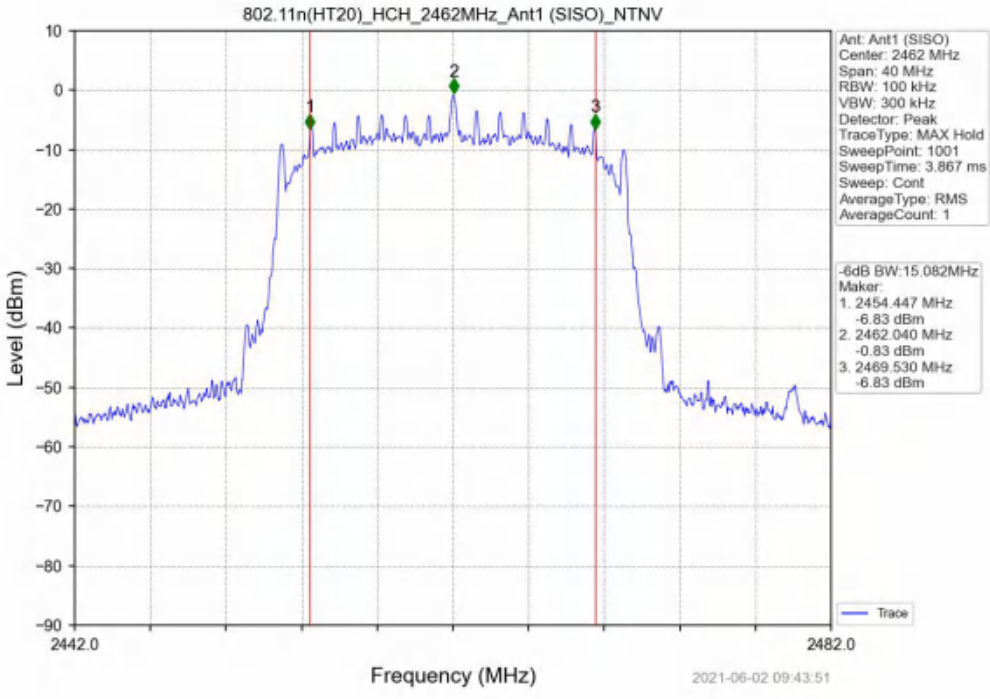
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



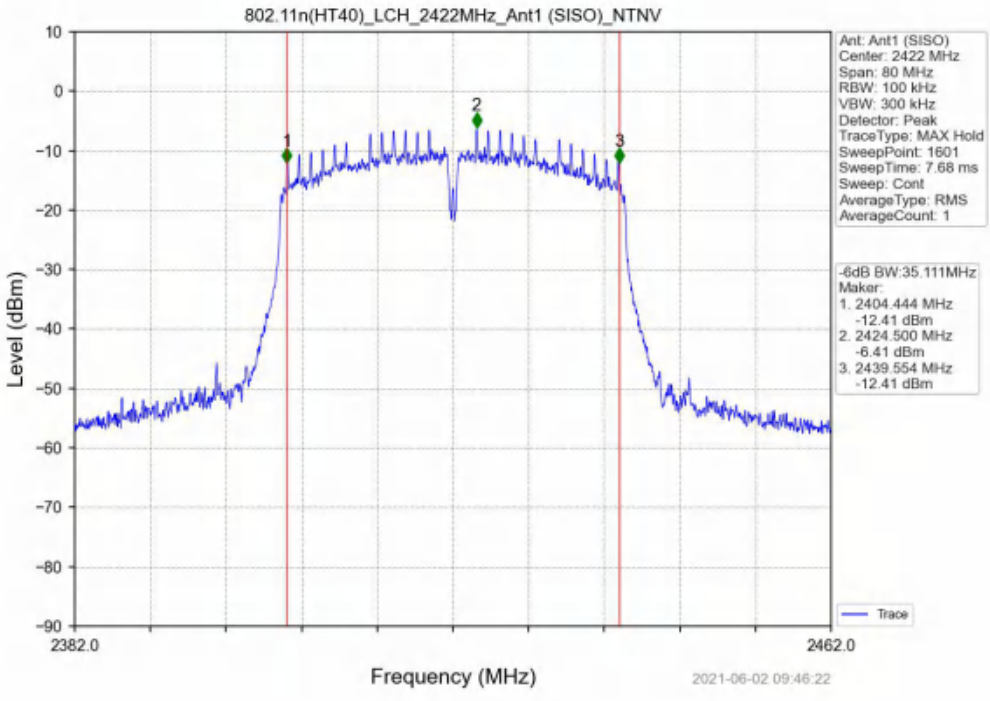
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



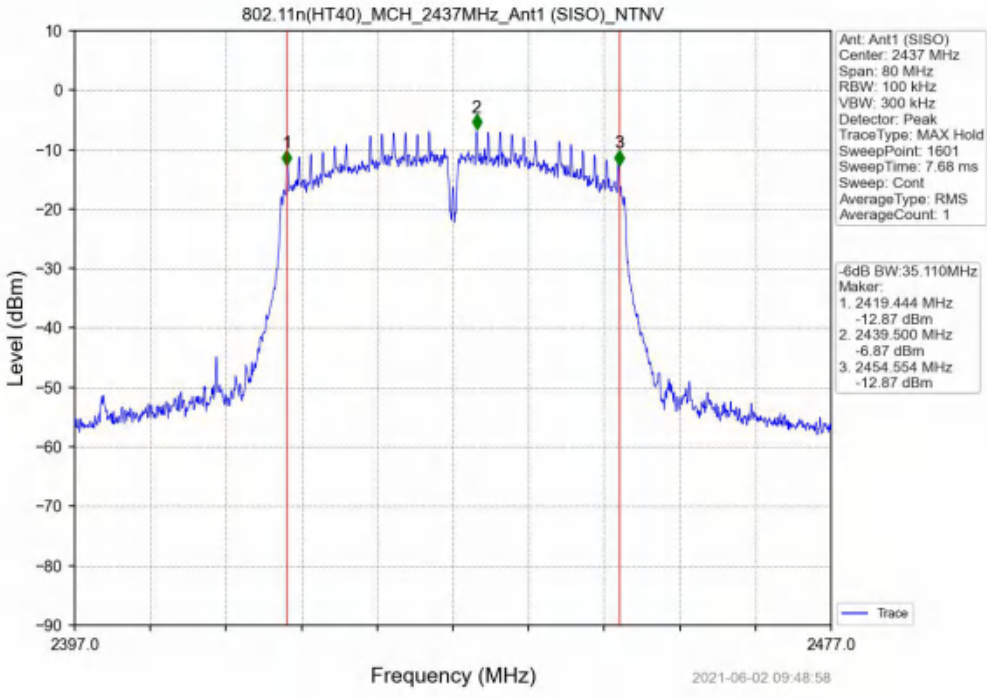
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



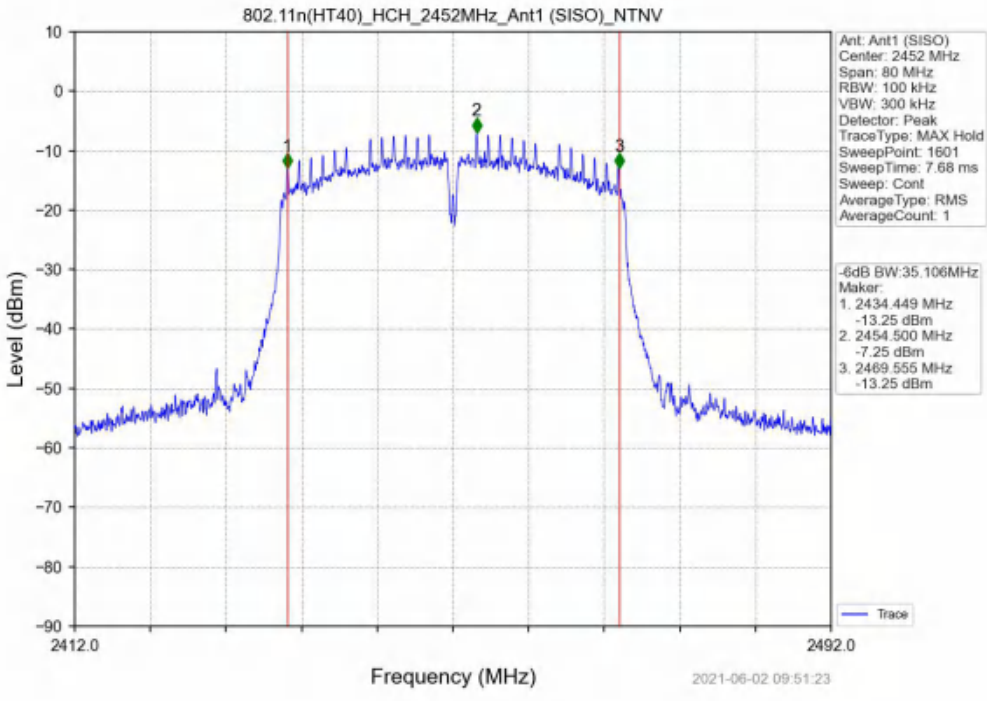
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Measured Peak Output Power (dBm)	Limit (dBm)	Verdict
					Ant1		
802.11b	SISO	2412	/	/	20.99	<=30	Pass
		2437	/	/	20.70	<=30	Pass
		2462	/	/	20.14	<=30	Pass
802.11g	SISO	2412	/	/	15.45	<=30	Pass
		2437	/	/	15.00	<=30	Pass
		2462	/	/	14.51	<=30	Pass
802.11n (HT20)	SISO	2412	/	/	15.53	<=30	Pass
		2437	/	/	15.00	<=30	Pass
		2462	/	/	14.59	<=30	Pass
802.11n (HT40)	SISO	2422	/	/	14.13	<=30	Pass
		2437	/	/	13.71	<=30	Pass
		2452	/	/	13.34	<=30	Pass
Note1: Antenna Gain: 1:0dBi;							

4. Maximum Power Spectral Density

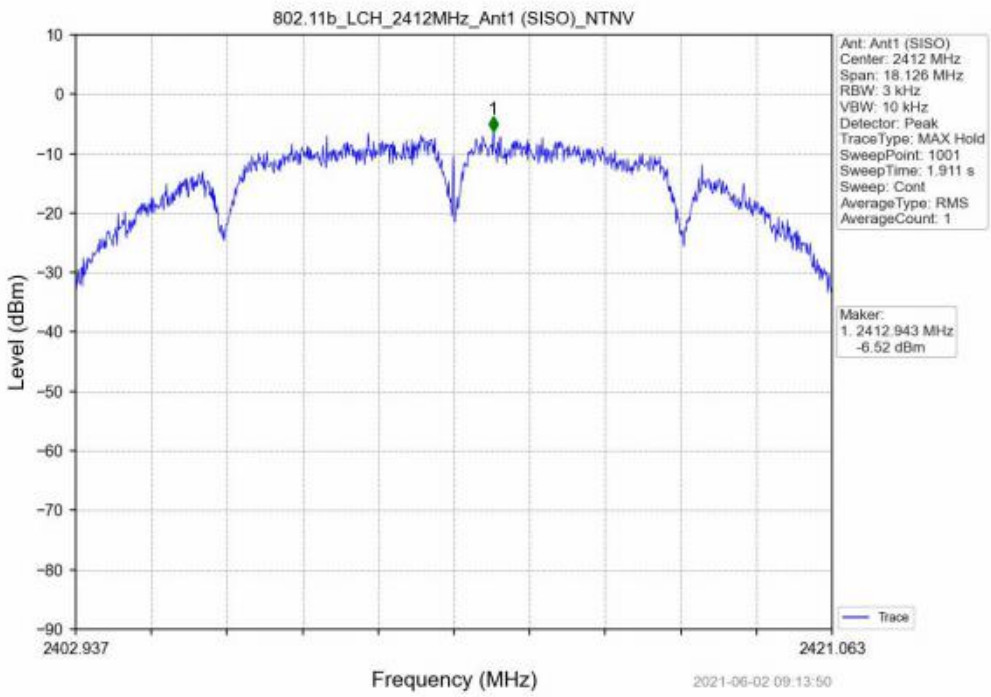
4.1 PSD

4.1.1 Test Result

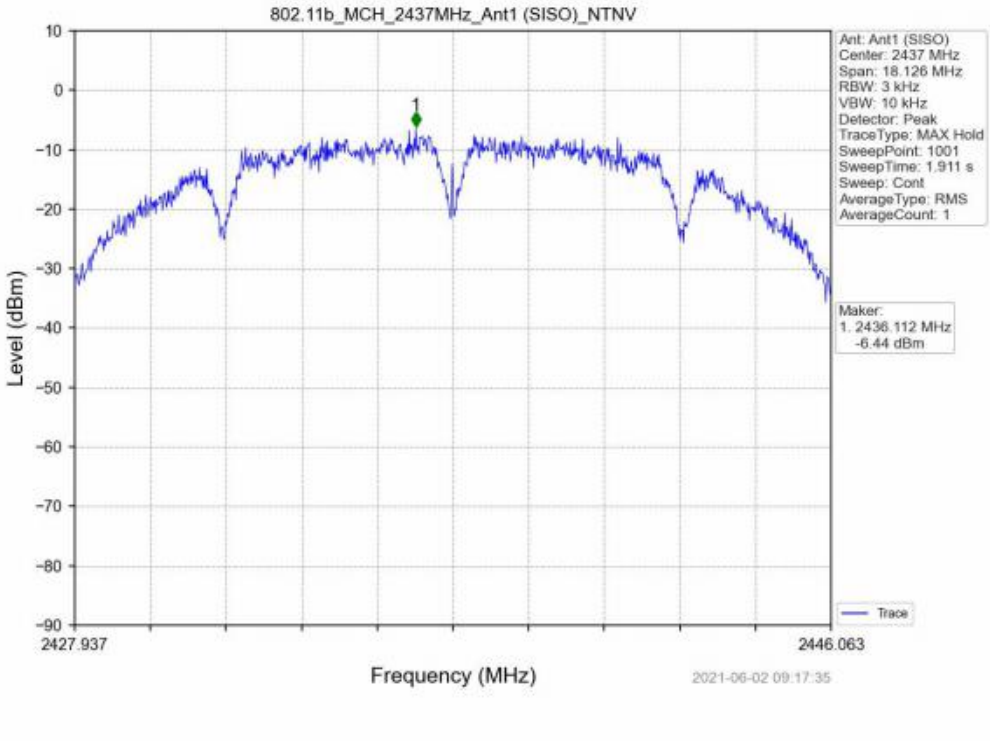
Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/3kHz) Ant1	Limit (dBm/3kHz)	Verdict
802.11b	SISO	2412	/	/	-6.52	<=8	Pass
		2437	/	/	-6.44	<=8	Pass
		2462	/	/	-7.46	<=8	Pass
802.11g	SISO	2412	/	/	-17.36	<=8	Pass
		2437	/	/	-17.10	<=8	Pass
		2462	/	/	-18.03	<=8	Pass
802.11n (HT20)	SISO	2412	/	/	-16.97	<=8	Pass
		2437	/	/	-17.79	<=8	Pass
		2462	/	/	-18.21	<=8	Pass
802.11n (HT40)	SISO	2422	/	/	-20.68	<=8	Pass
		2437	/	/	-20.20	<=8	Pass
		2452	/	/	-21.27	<=8	Pass
Note1: Antenna Gain: 1:0dBi;							

4.1.2 Test Graph

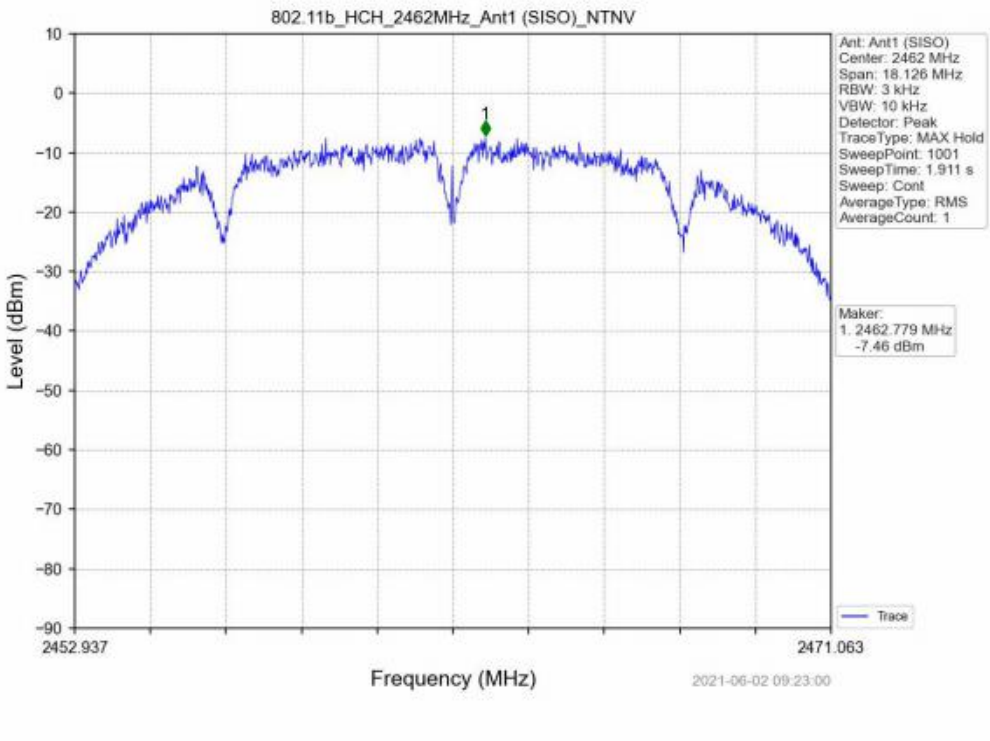
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



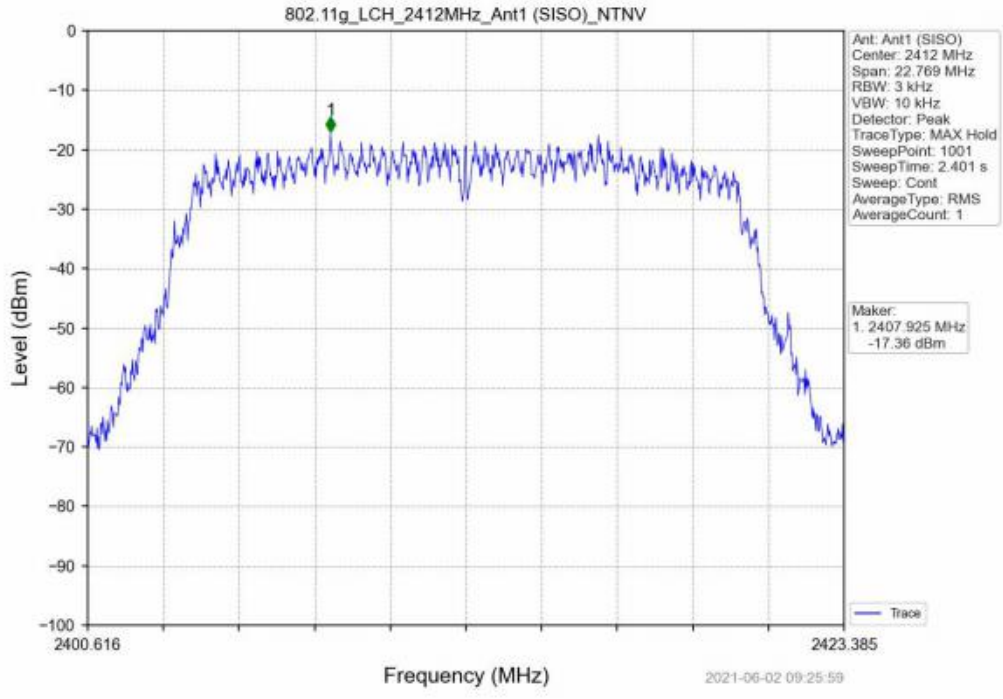
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



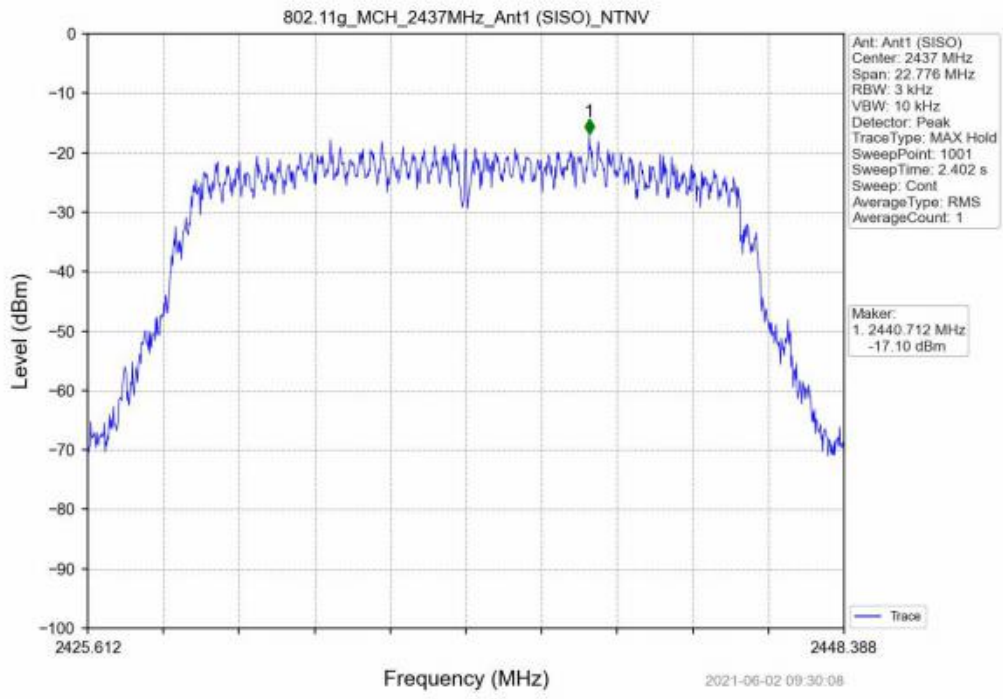
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



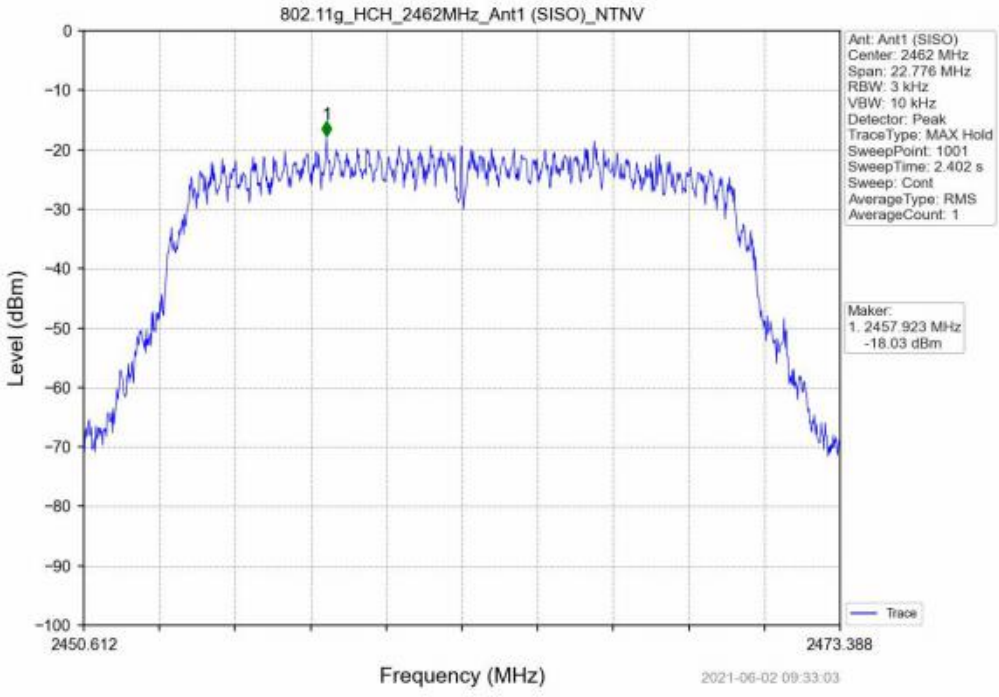
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



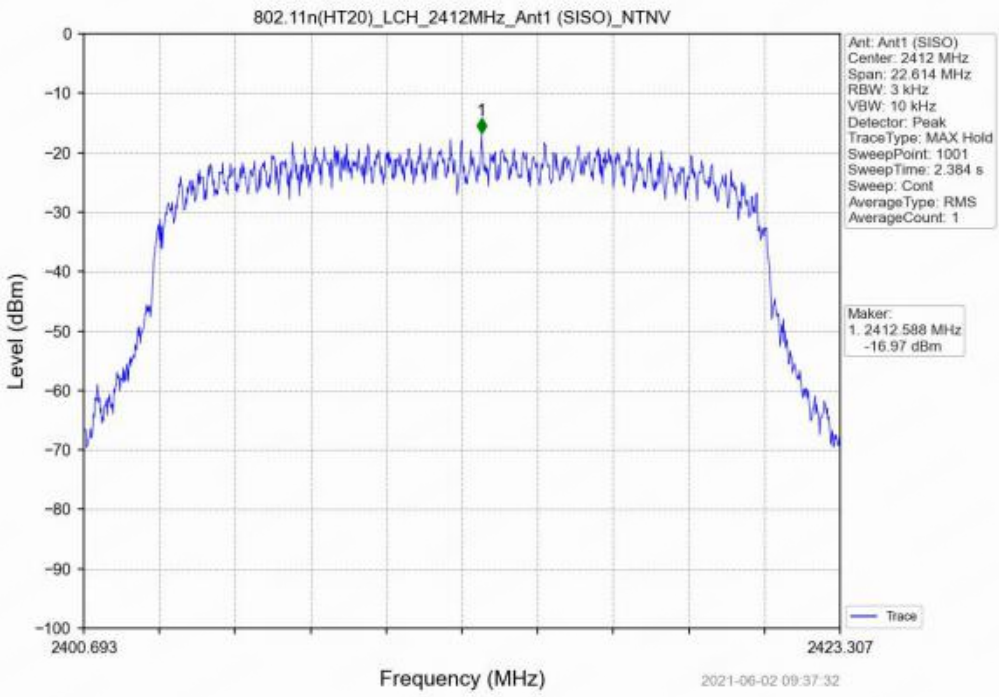
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



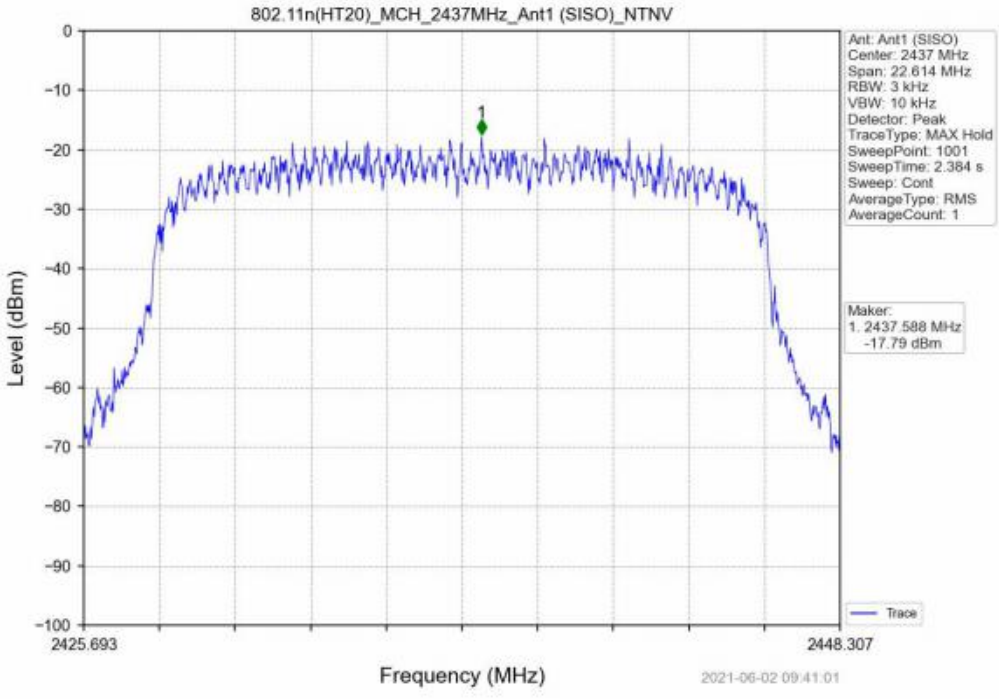
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



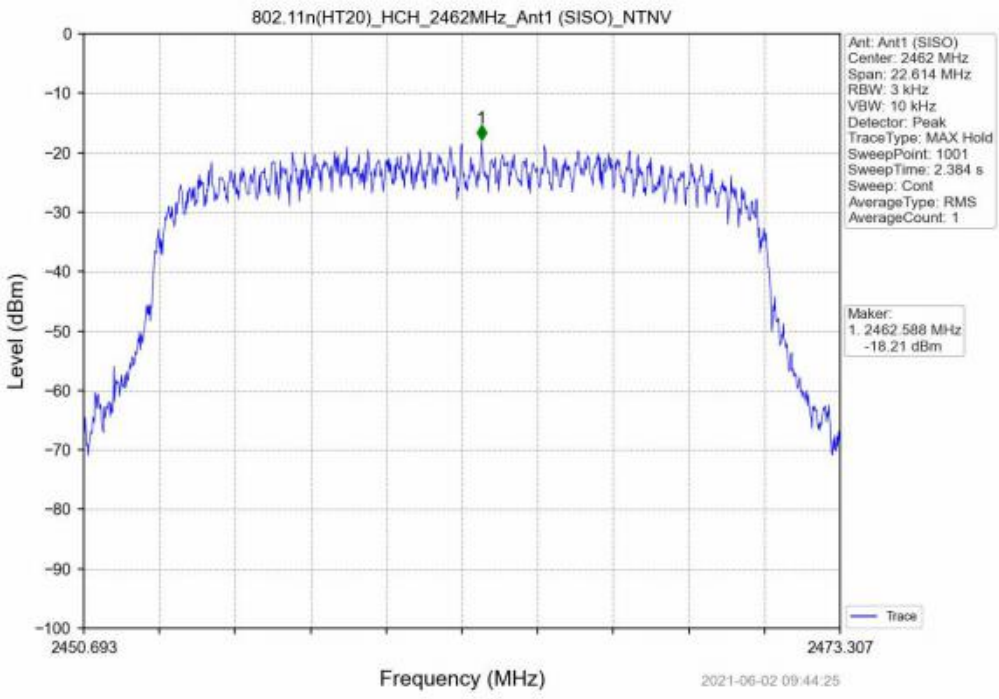
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



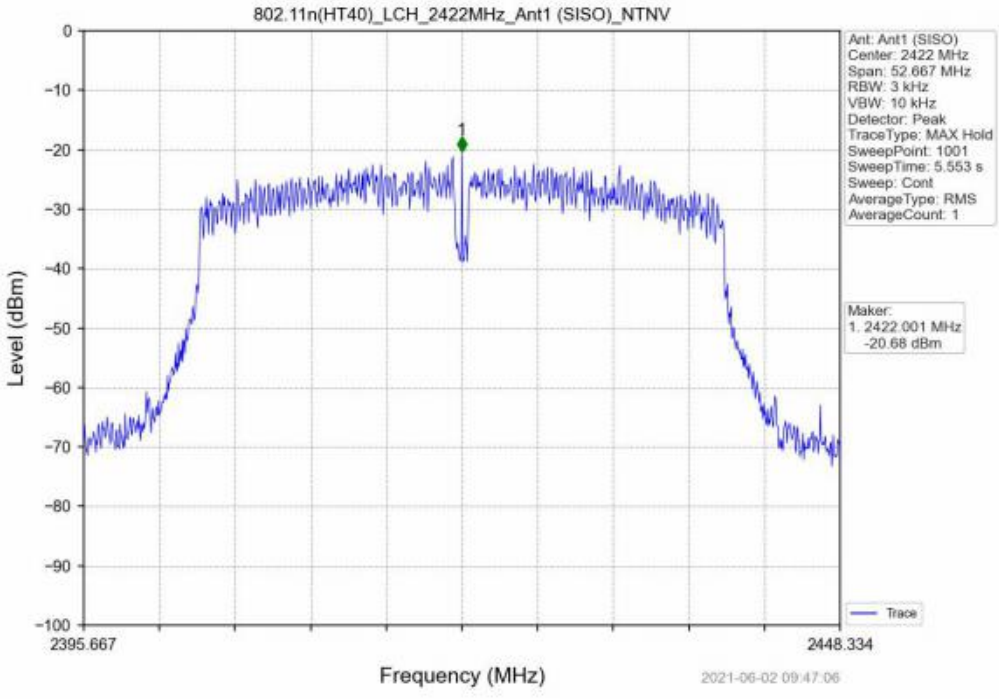
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



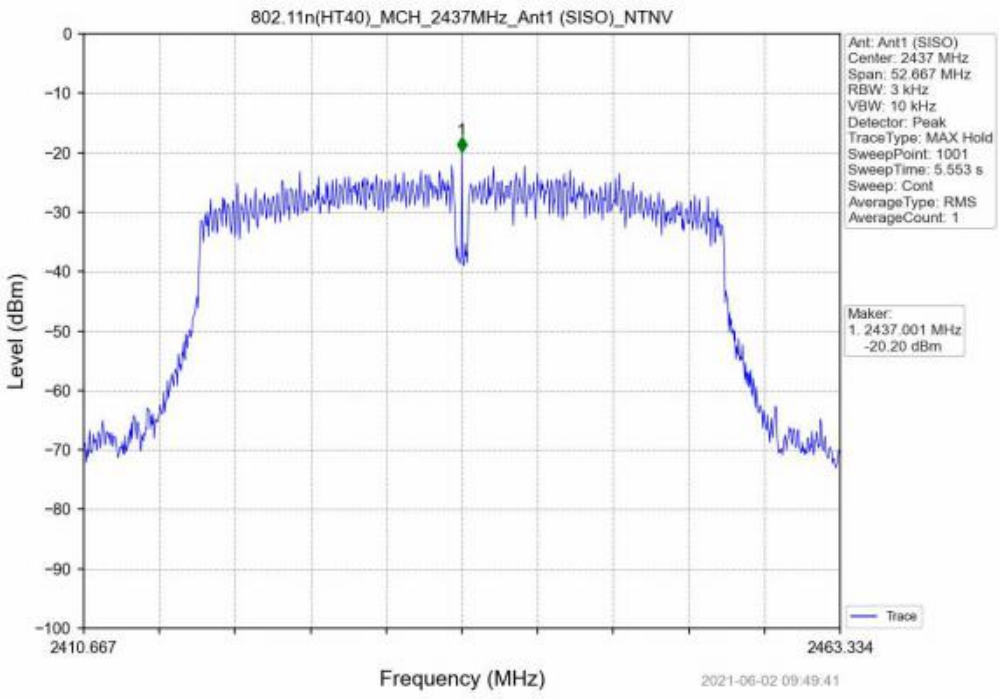
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



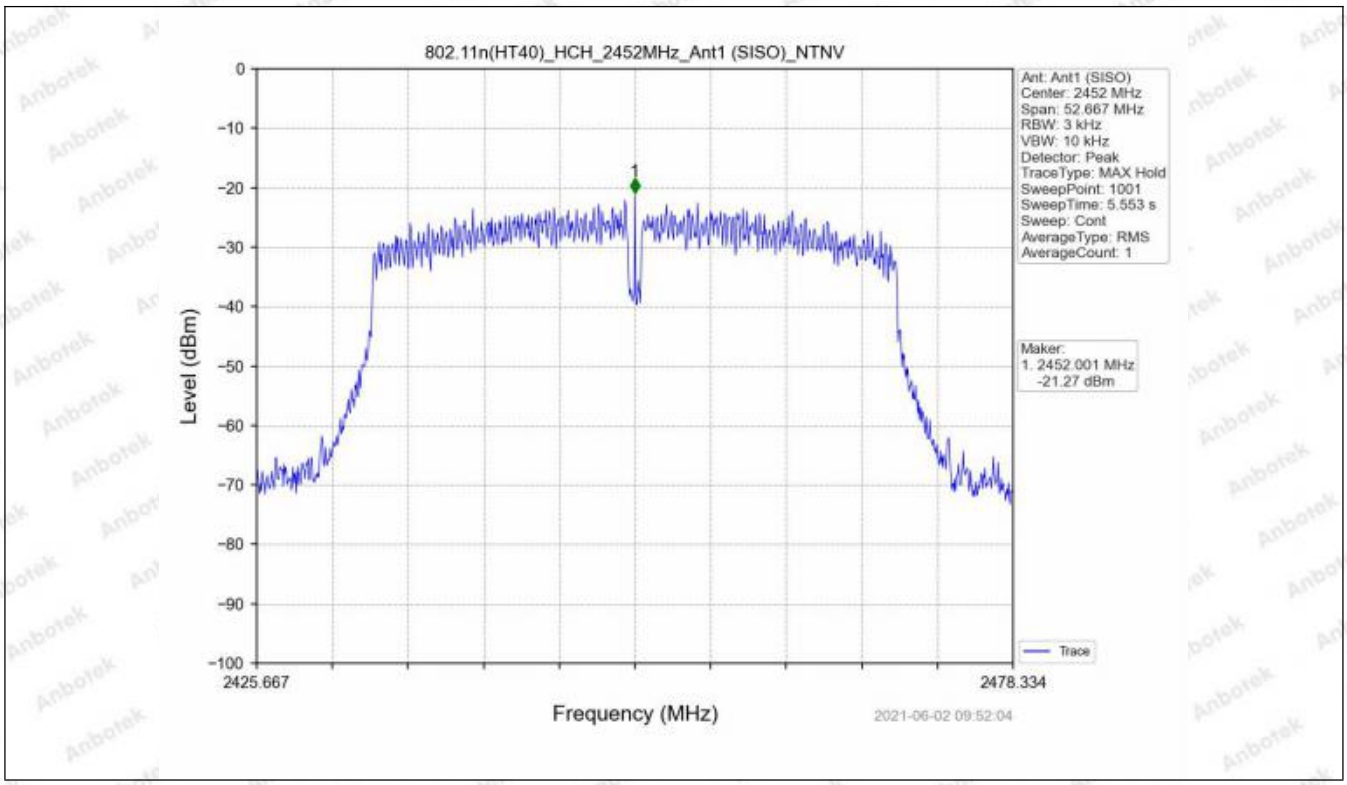
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV


802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV
Ant: Ant1 (SISO)
Center: 2452 MHz
Span: 52.667 MHz
RBW: 3 kHz
VBW: 10 kHz
Detector: Peak
TraceType: MAX Hold
SweepPoint: 1001
SweepTime: 5.553 s
Sweep: Cont
AverageType: RMS
AverageCount: 1
Maker:
1. 2452.001 MHz
-21.27 dBm
Trace
Level (dBm)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
2425.667
2478.334
Frequency (MHz)
2021-06-02 09:52:04

5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Ref

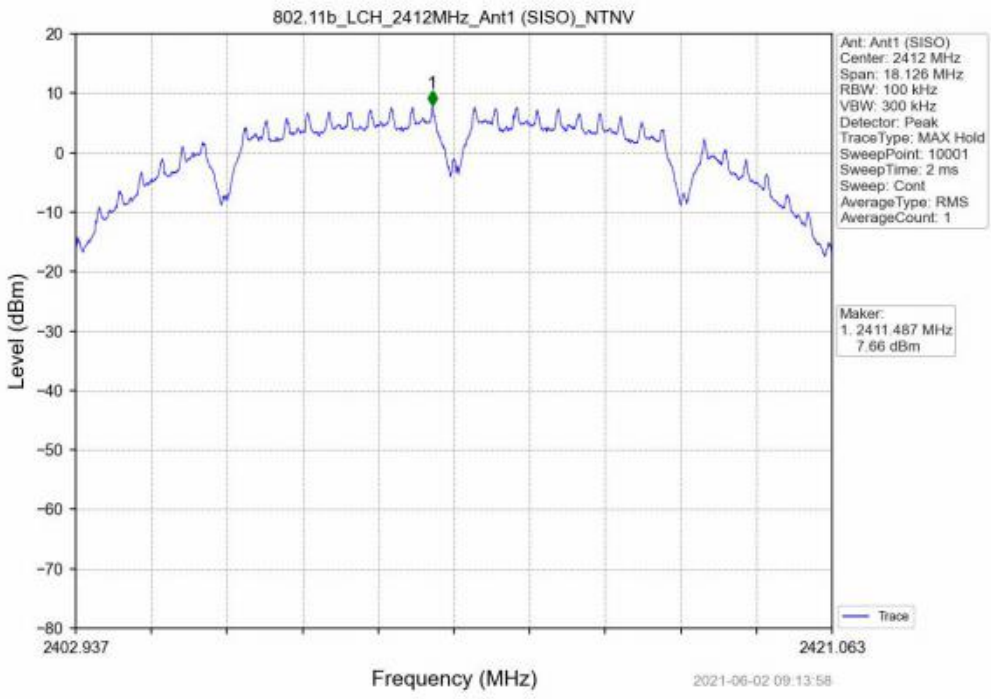
5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	7.66	/	/
		2437	/	/	1	7.35	/	/
		2462	/	/	1	6.96	/	/
802.11g	SISO	2412	/	/	1	-2.80	/	/
		2437	/	/	1	-3.25	/	/
		2462	/	/	1	-3.74	/	/
802.11n (HT20)	SISO	2412	/	/	1	-0.03	/	/
		2437	/	/	1	-1.04	/	/
		2462	/	/	1	-1.18	/	/
802.11n (HT40)	SISO	2422	/	/	1	-6.57	/	/
		2437	/	/	1	-7.05	/	/
		2452	/	/	1	-7.39	/	/

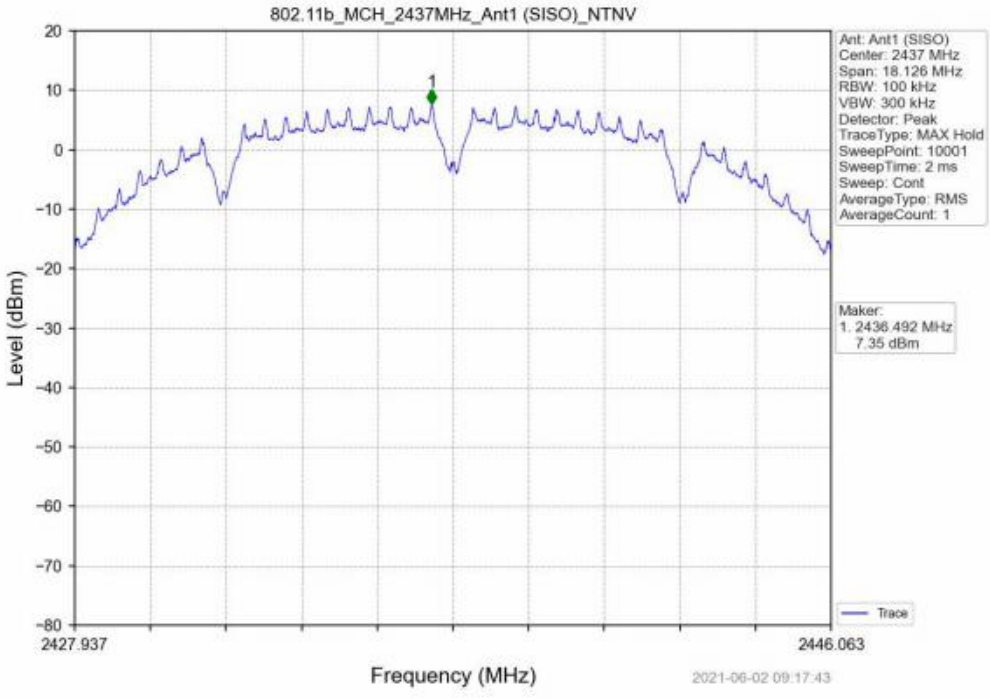
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

5.1.2 Test Graph

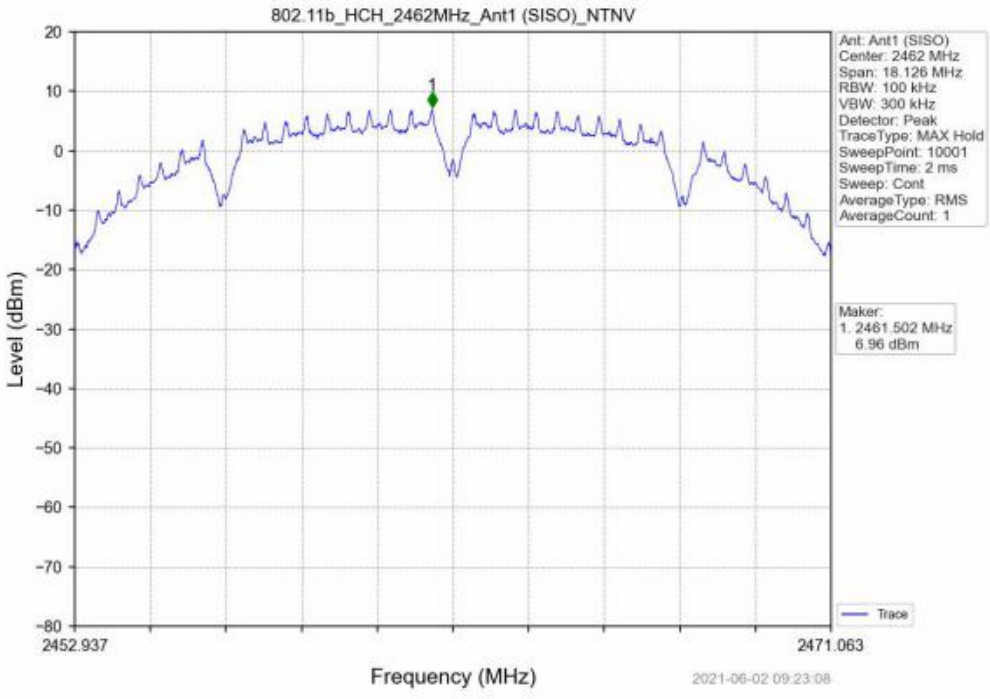
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



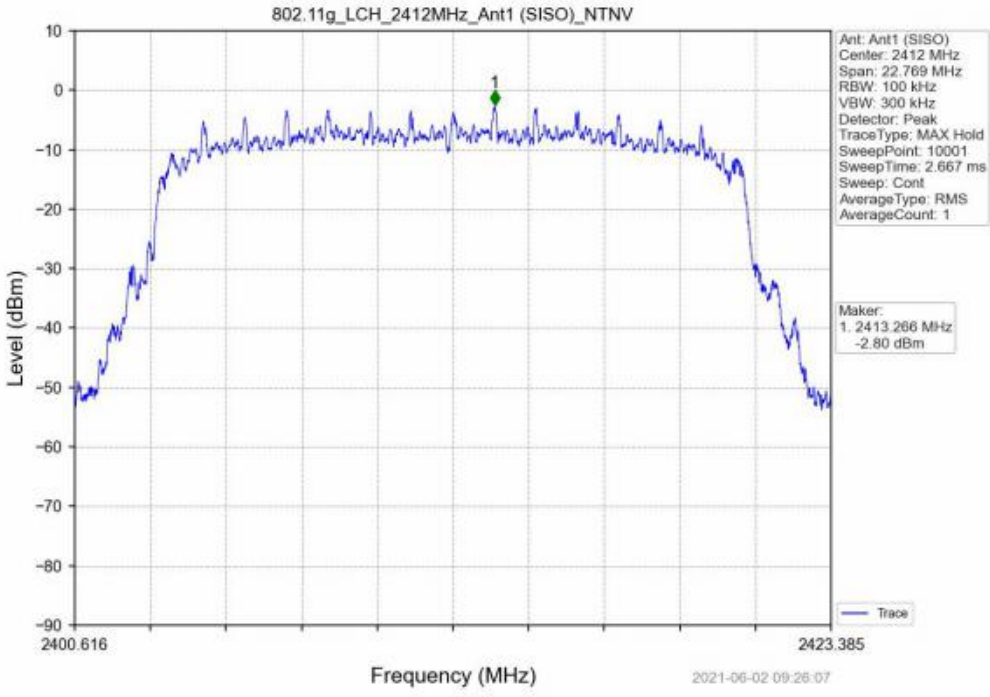
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



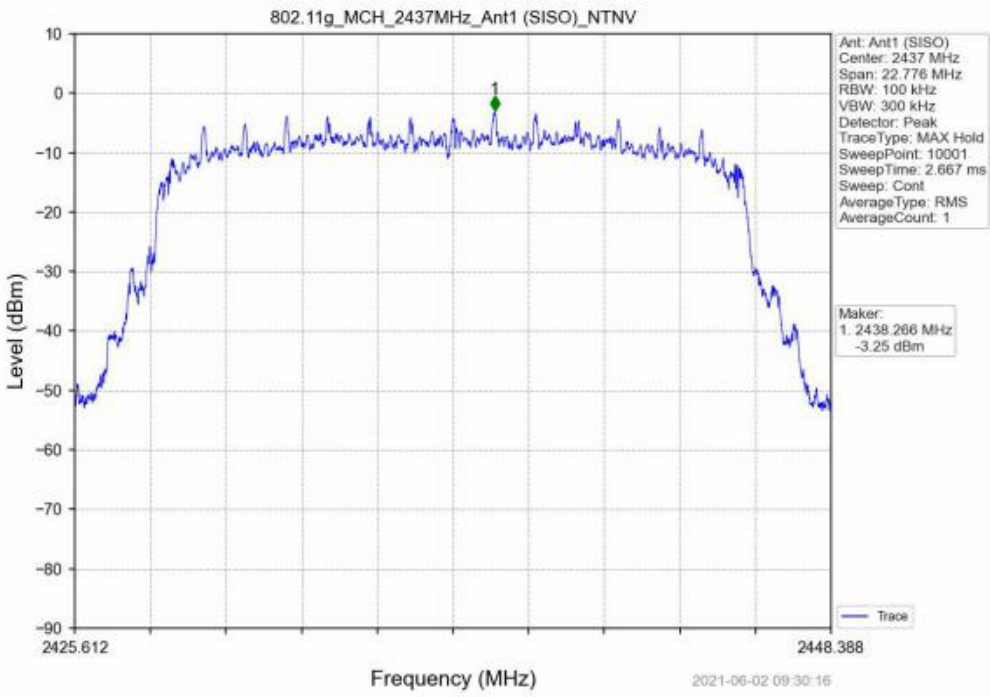
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



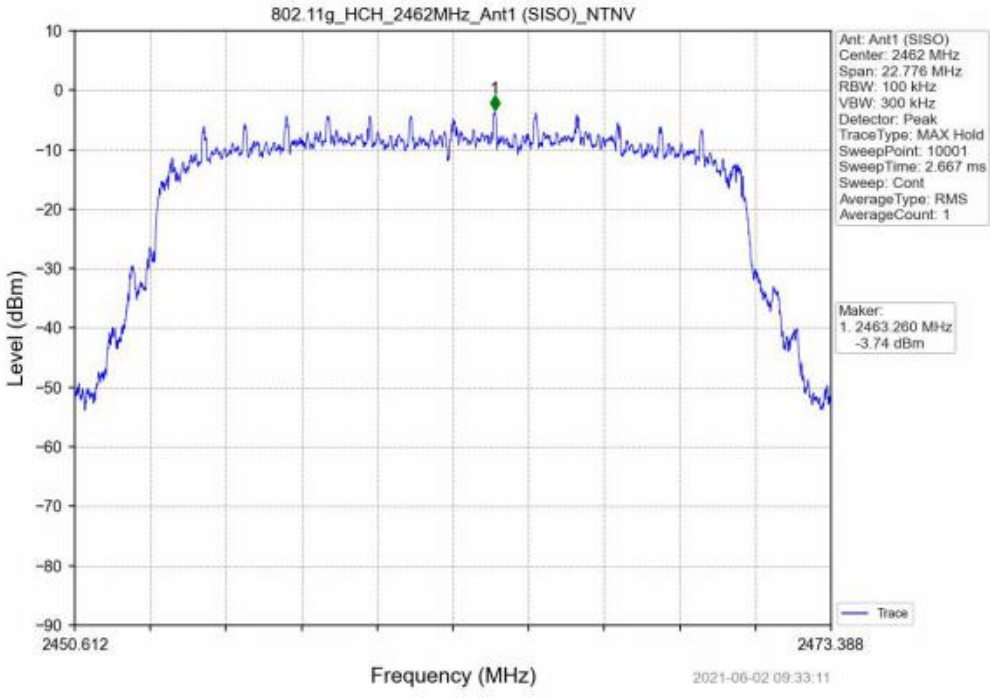
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



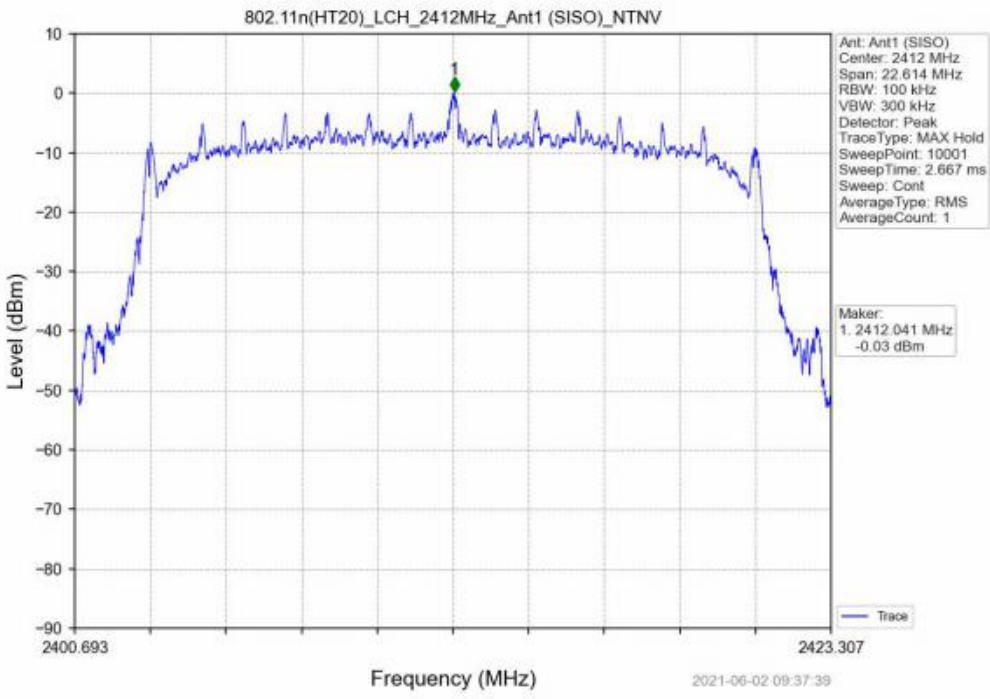
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



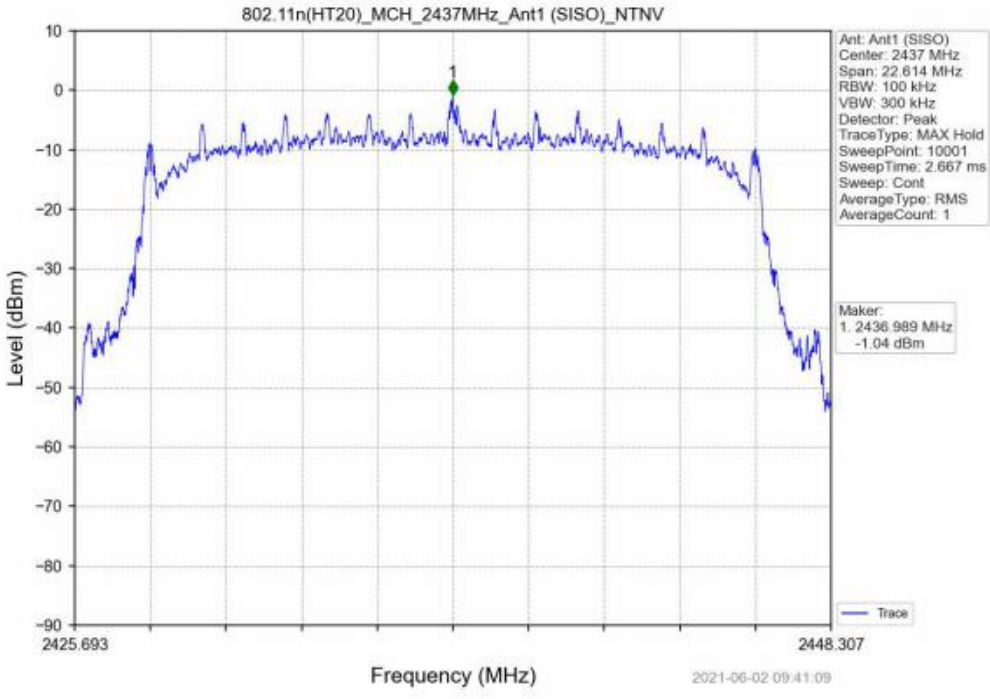
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



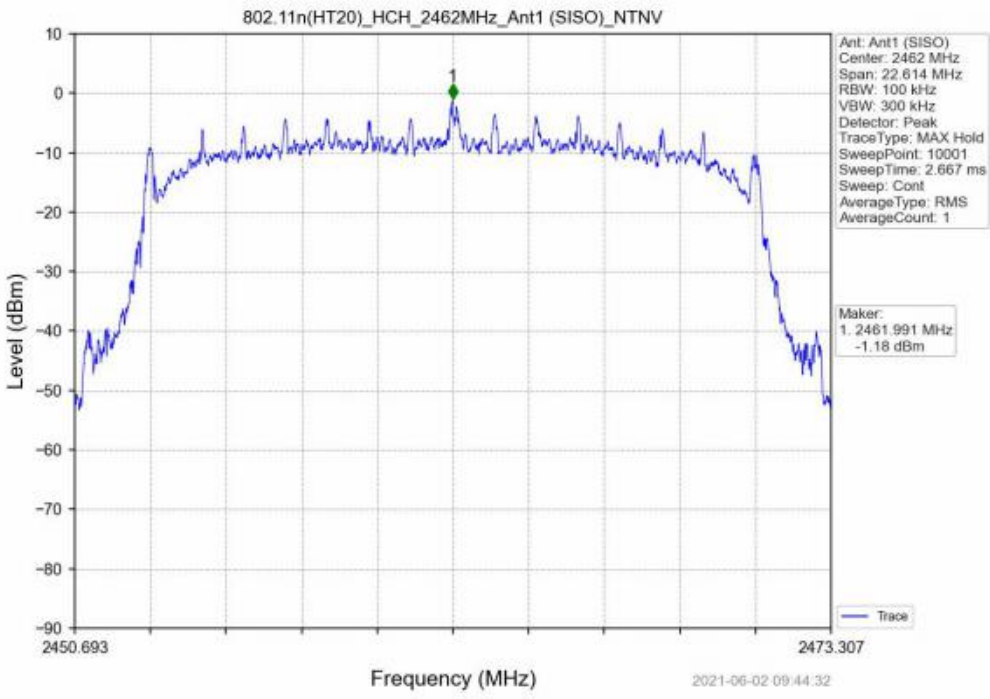
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



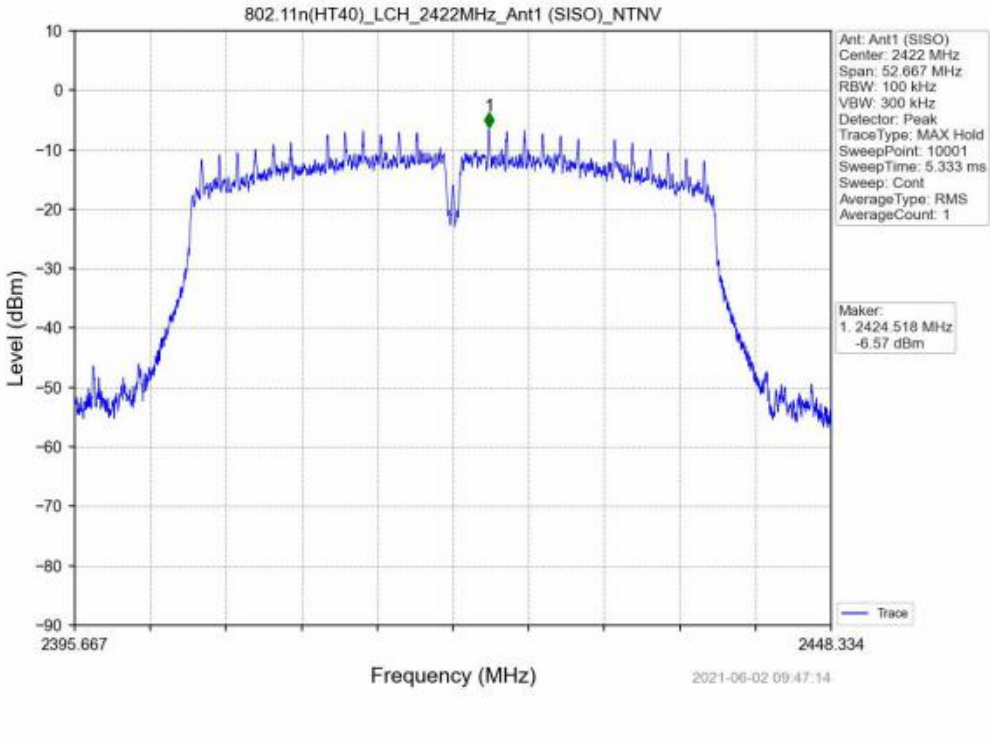
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



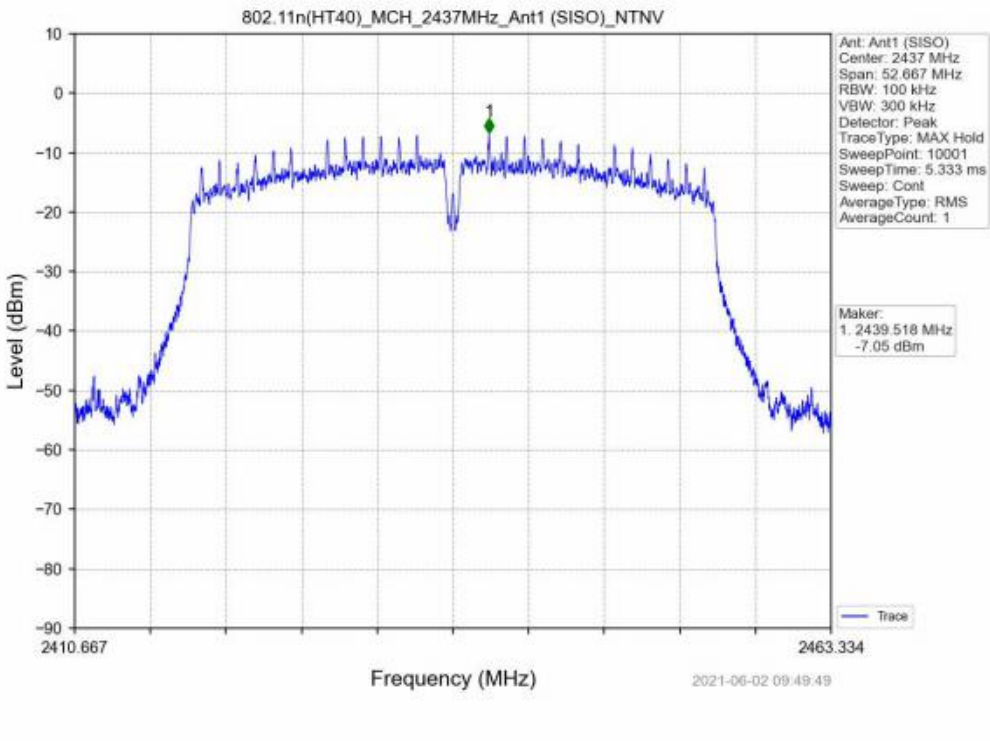
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



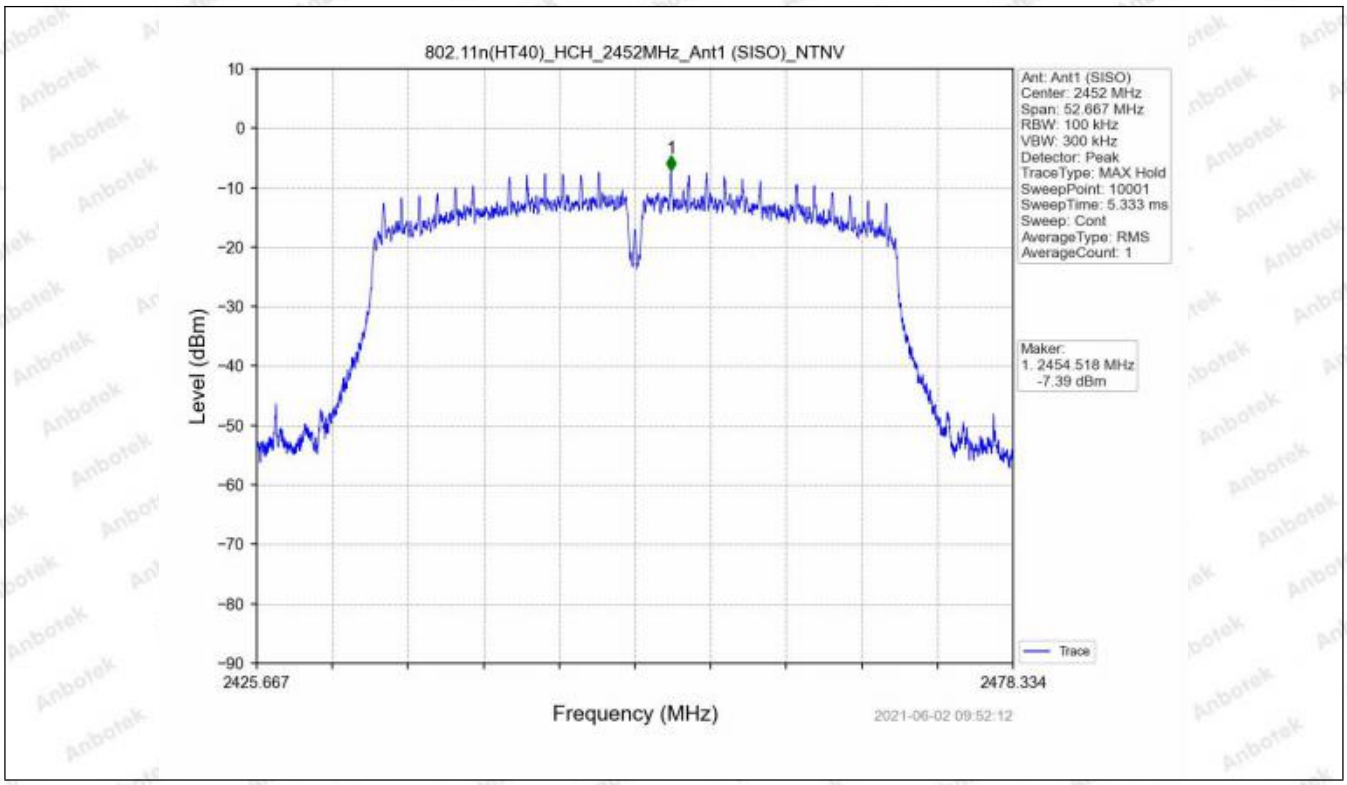
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV


802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV
Ant: Ant1 (SISO)
Center: 2452 MHz
Span: 52.667 MHz
RBW: 100 kHz
VBW: 300 kHz
Detector: Peak
TraceType: MAX Hold
SweepPoint: 10001
SweepTime: 5.333 ms
Sweep: Cont
AverageType: RMS
AverageCount: 1
Maker:
1. 2454.518 MHz
-7.39 dBm
Trace
Level (dBm)
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
2425.667
2478.334
Frequency (MHz)
2021-06-02 09:52:12

5.2 CSE

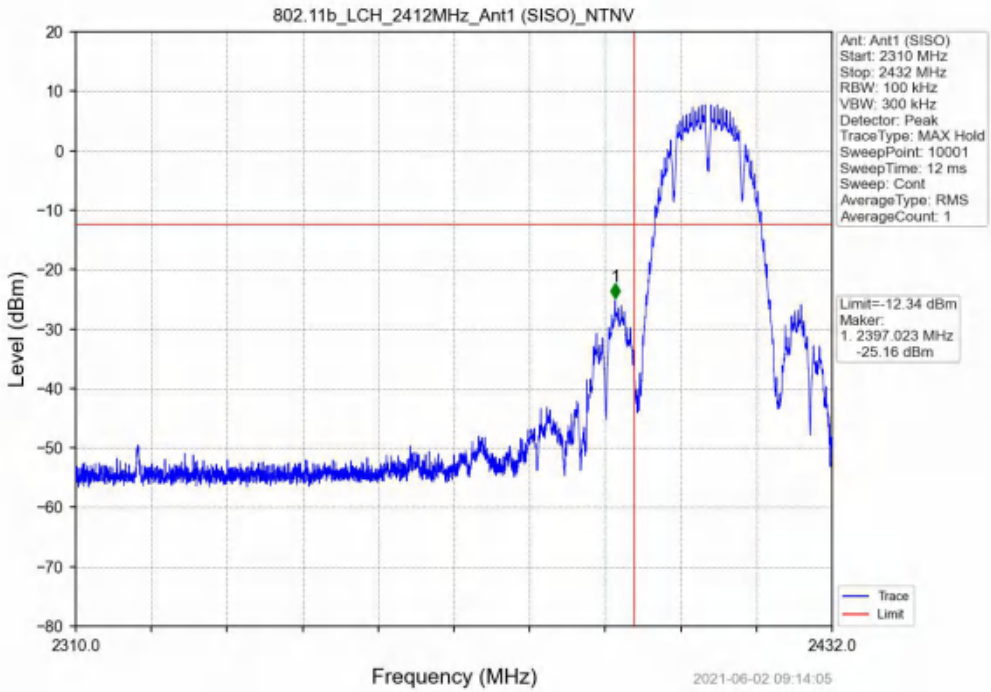
5.2.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	Refer To Test Graph	<=-12.34	Pass
		2437	/	/	1	Refer To Test Graph	<=-12.34	Pass
		2462	/	/	1	Refer To Test Graph	<=-12.34	Pass
802.11g	SISO	2412	/	/	1	Refer To Test Graph	<=-22.8	Pass
		2437	/	/	1	Refer To Test Graph	<=-22.8	Pass
		2462	/	/	1	Refer To Test Graph	<=-22.8	Pass
802.11n (HT20)	SISO	2412	/	/	1	Refer To Test Graph	<=-20.03	Pass
		2437	/	/	1	Refer To Test Graph	<=-20.03	Pass
		2462	/	/	1	Refer To Test Graph	<=-20.03	Pass
802.11n (HT40)	SISO	2422	/	/	1	Refer To Test Graph	<=-20.03	Pass
		2437	/	/	1	Refer To Test Graph	<=-20.03	Pass
		2452	/	/	1	Refer To Test Graph	<=-20.03	Pass

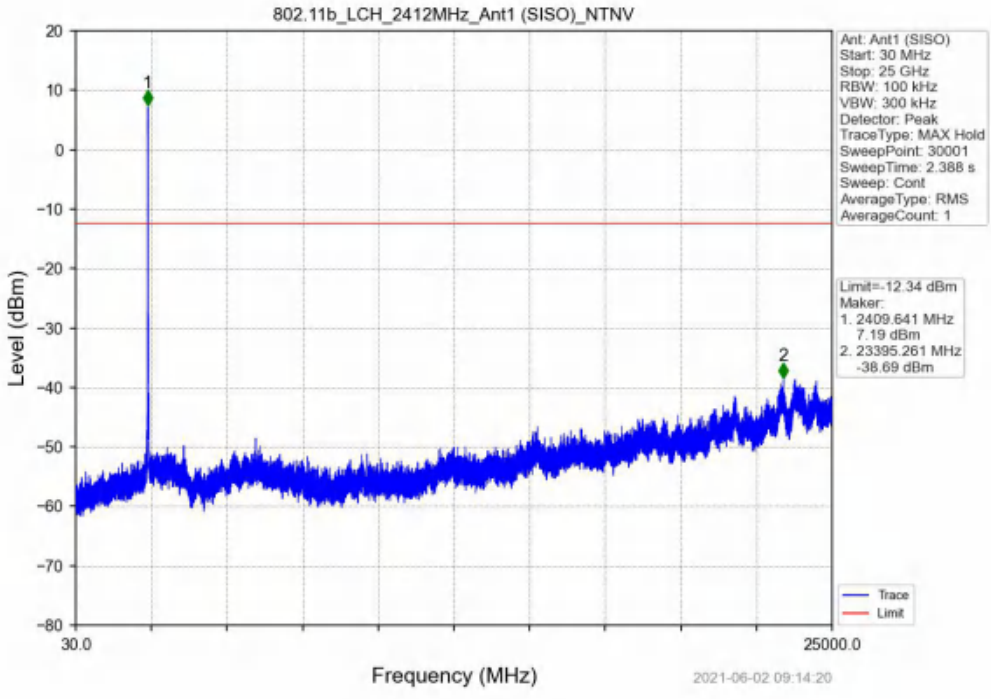
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

5.2.2 Test Graph

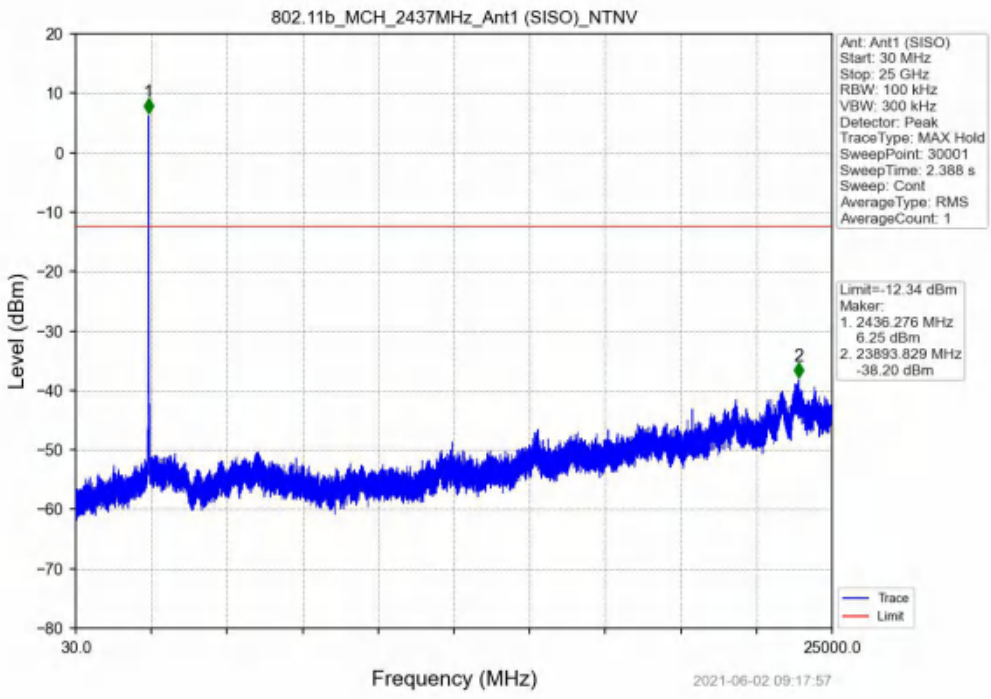
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



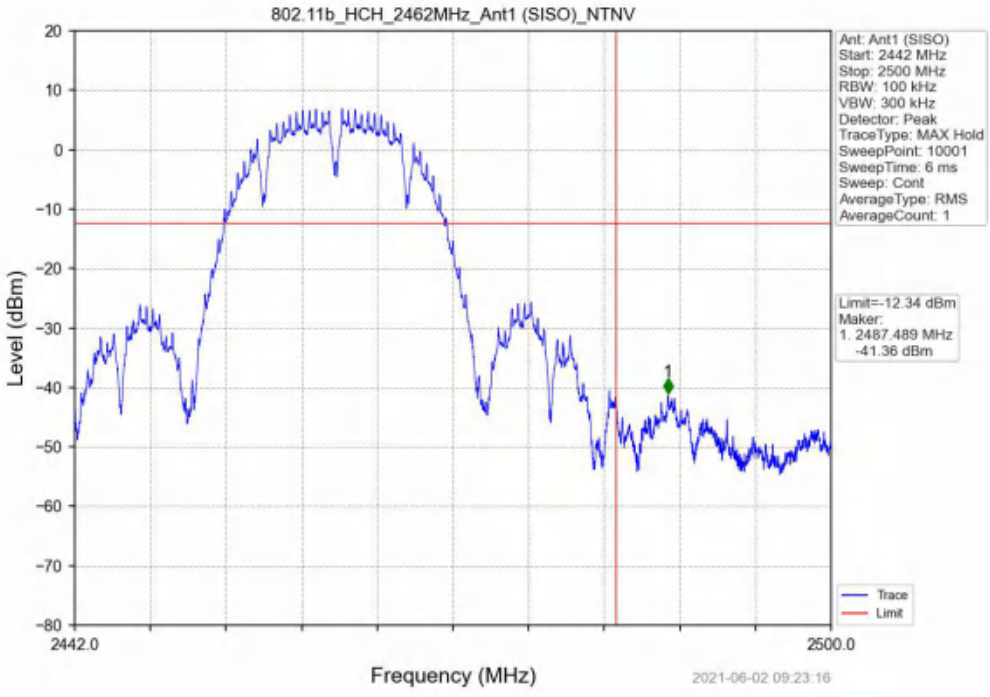
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



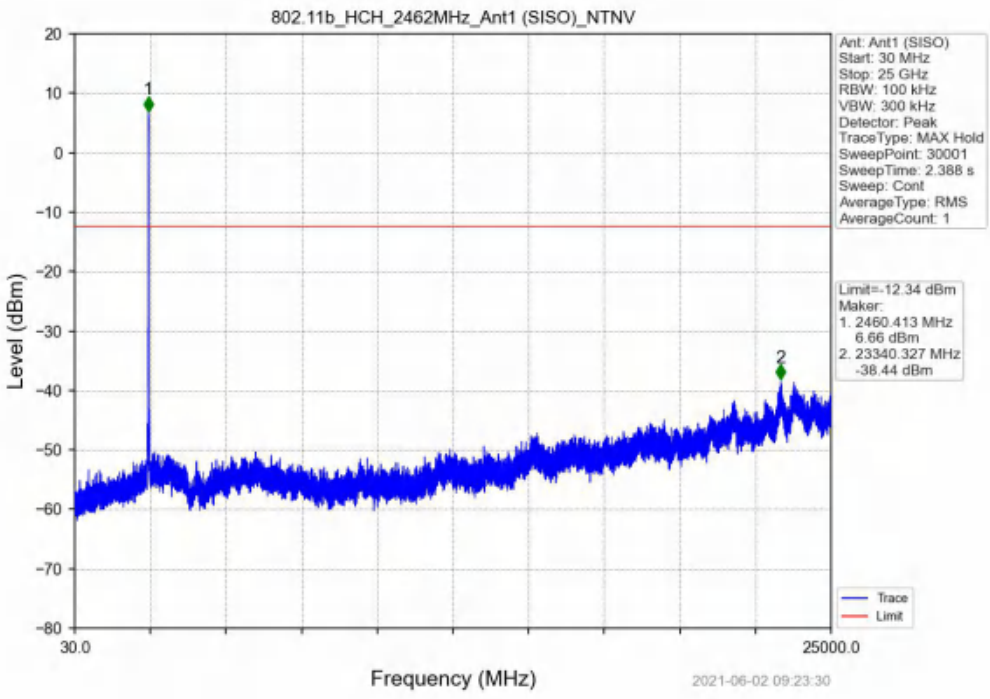
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



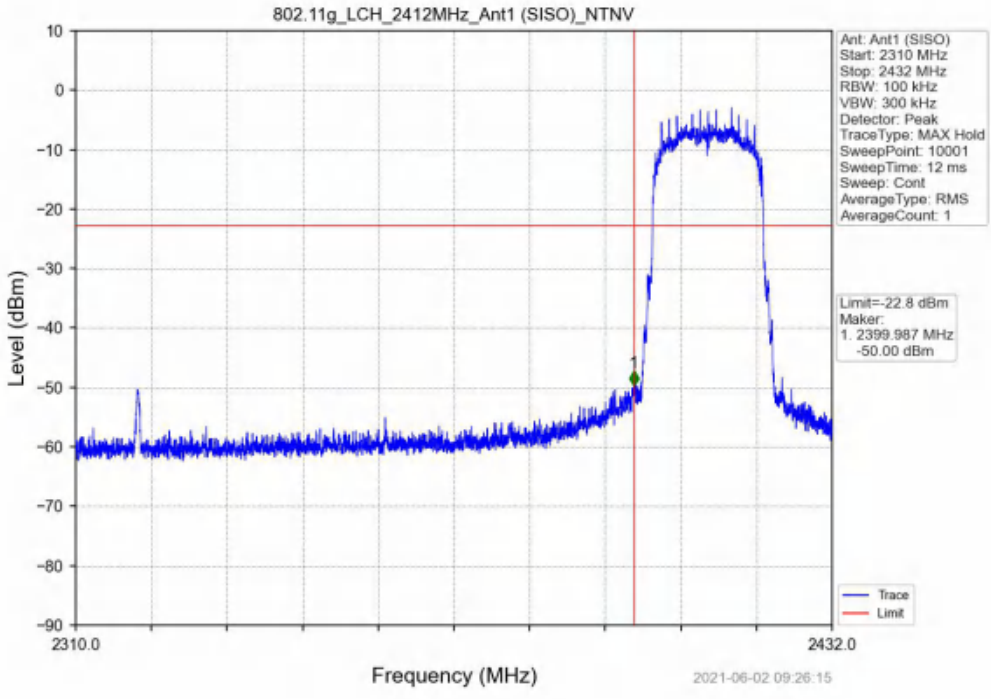
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



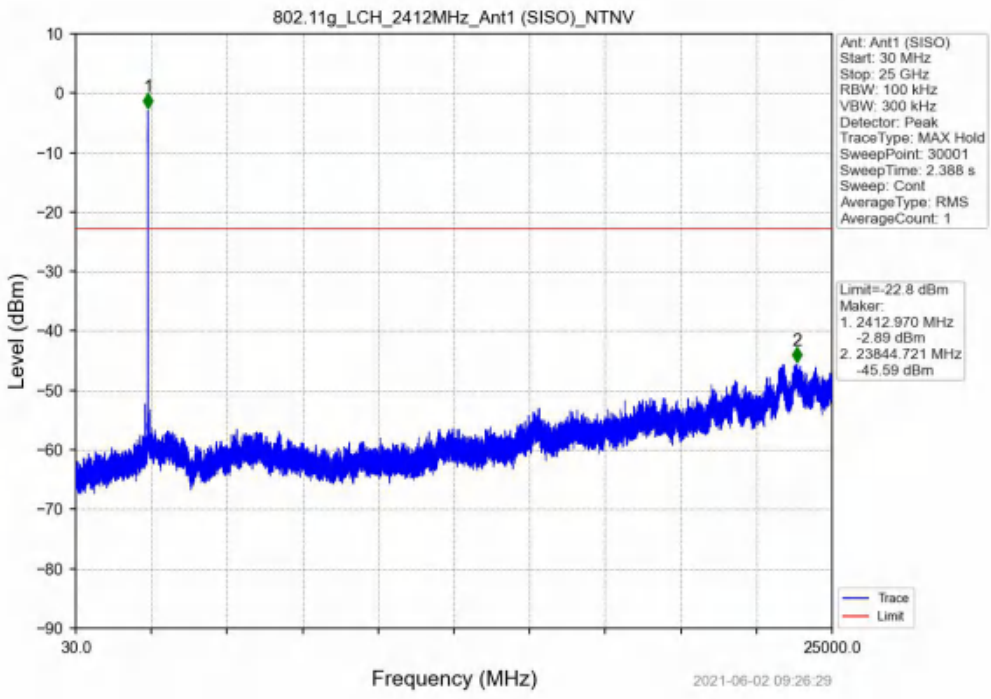
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



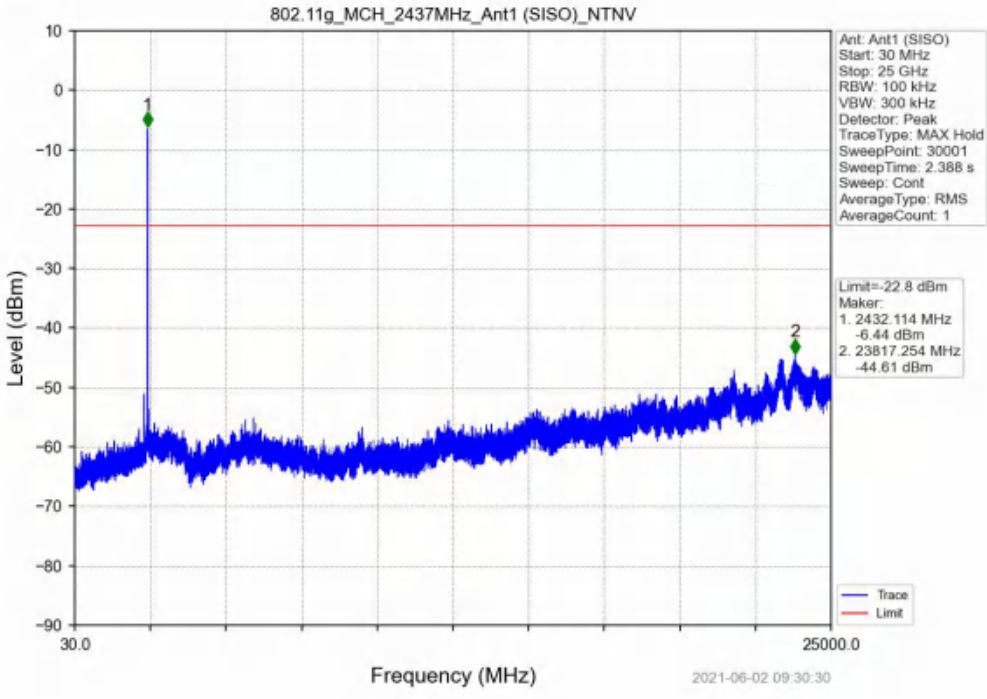
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



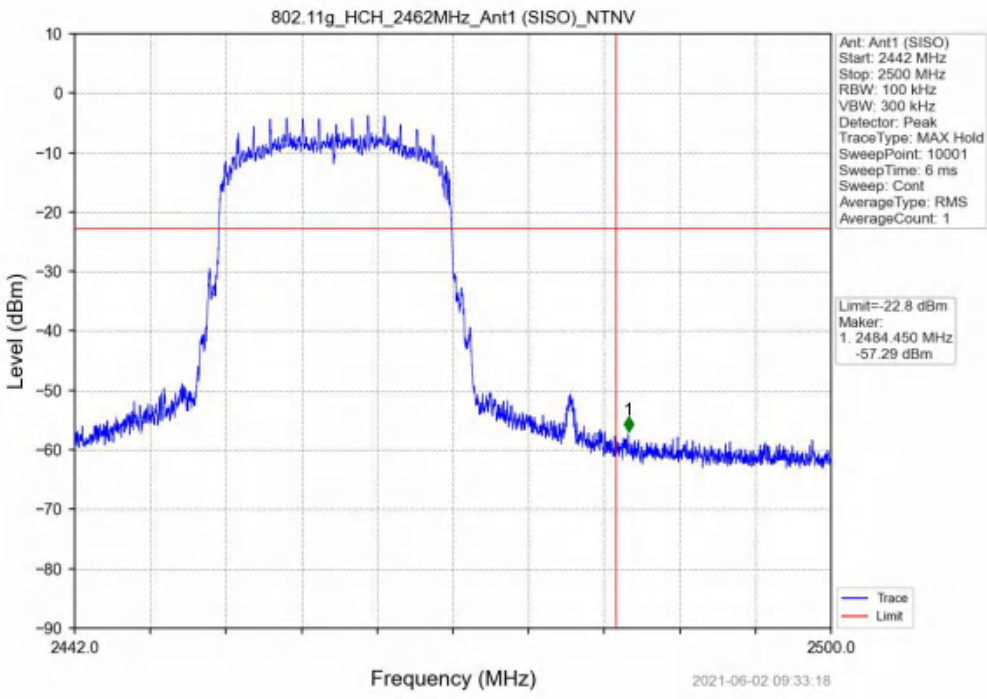
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



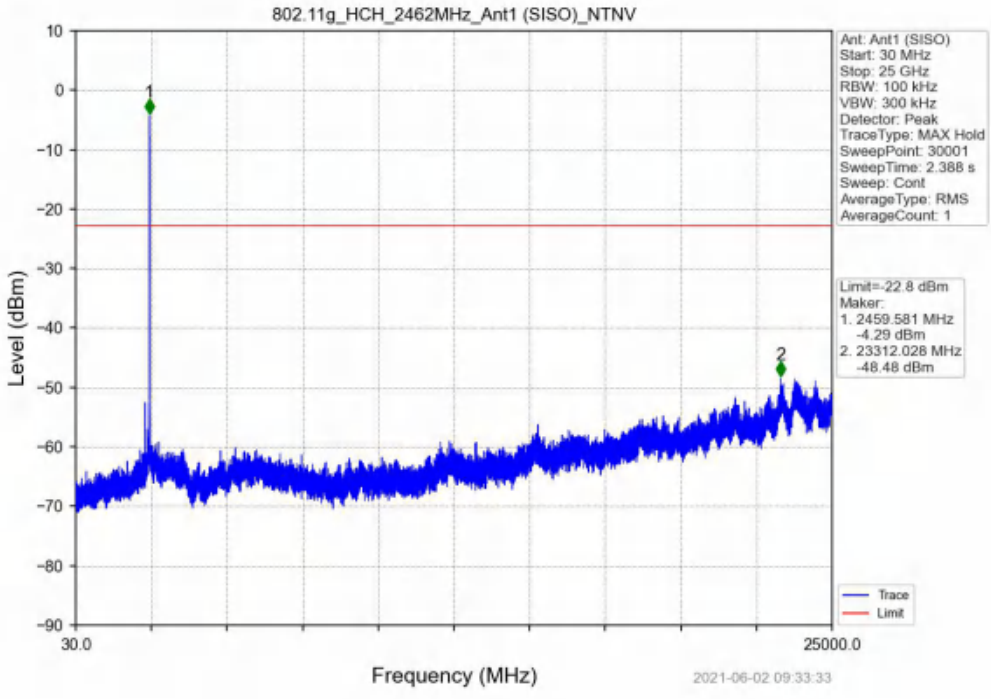
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



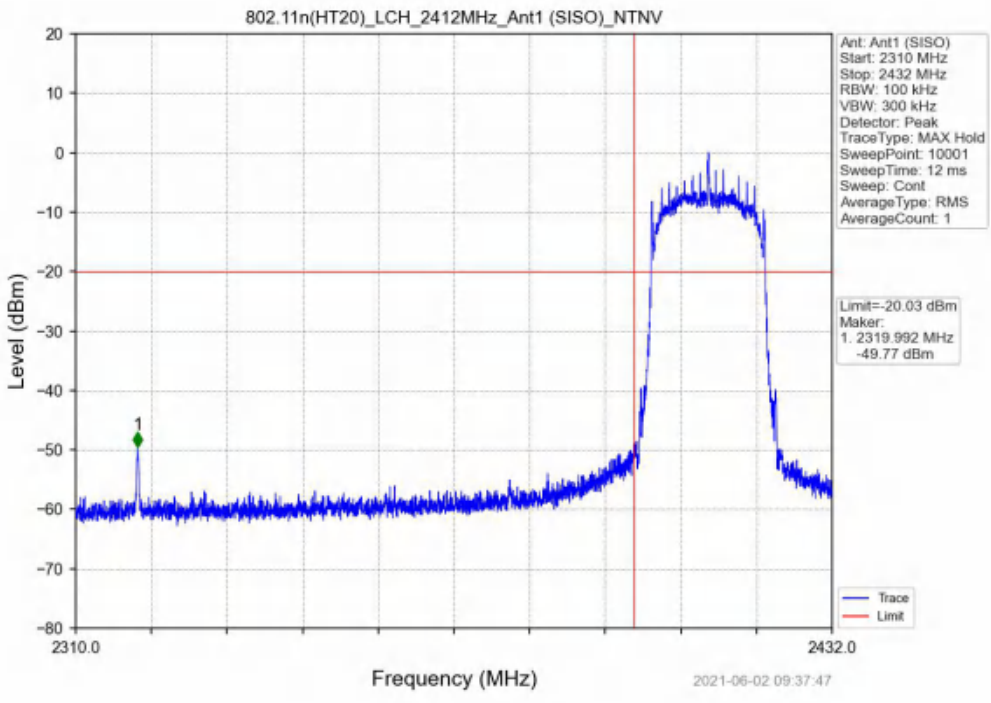
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



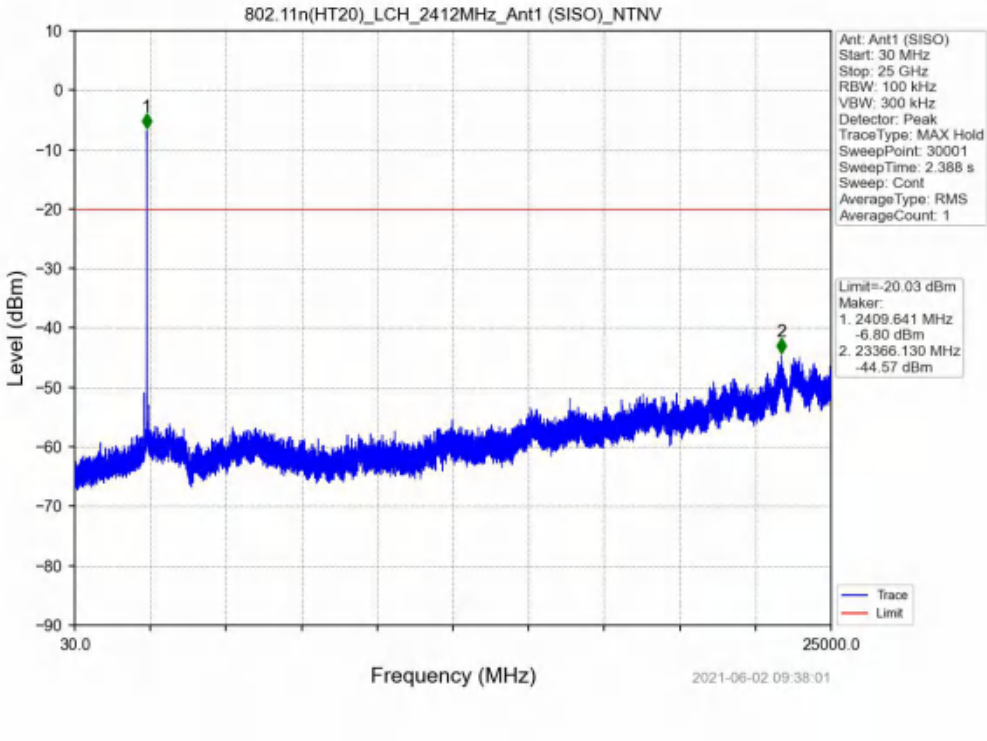
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



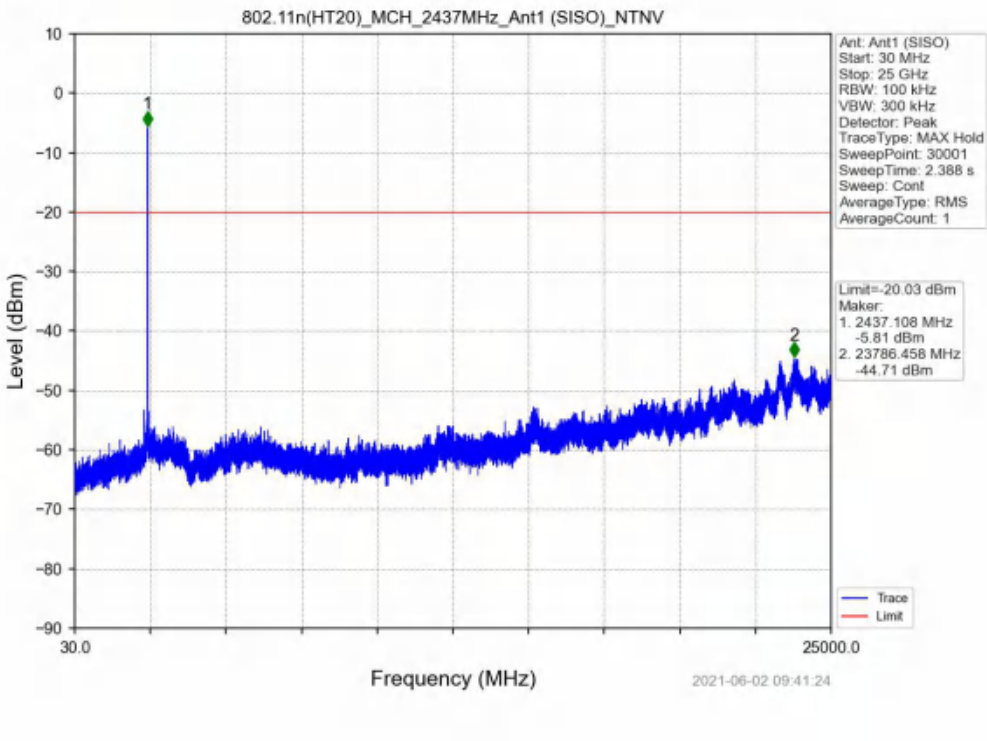
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



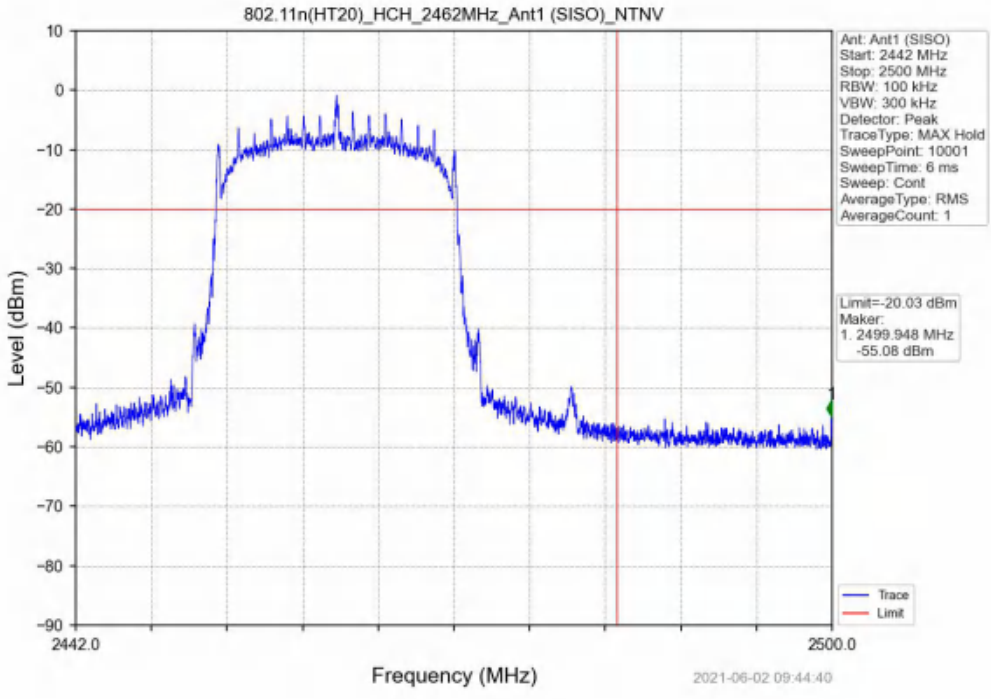
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



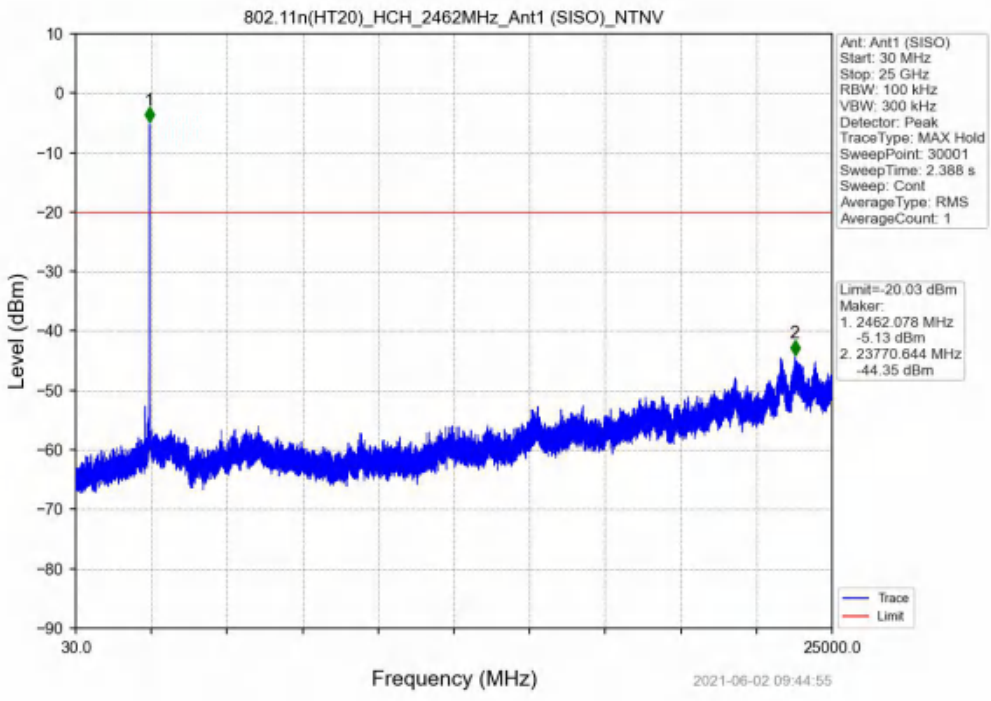
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



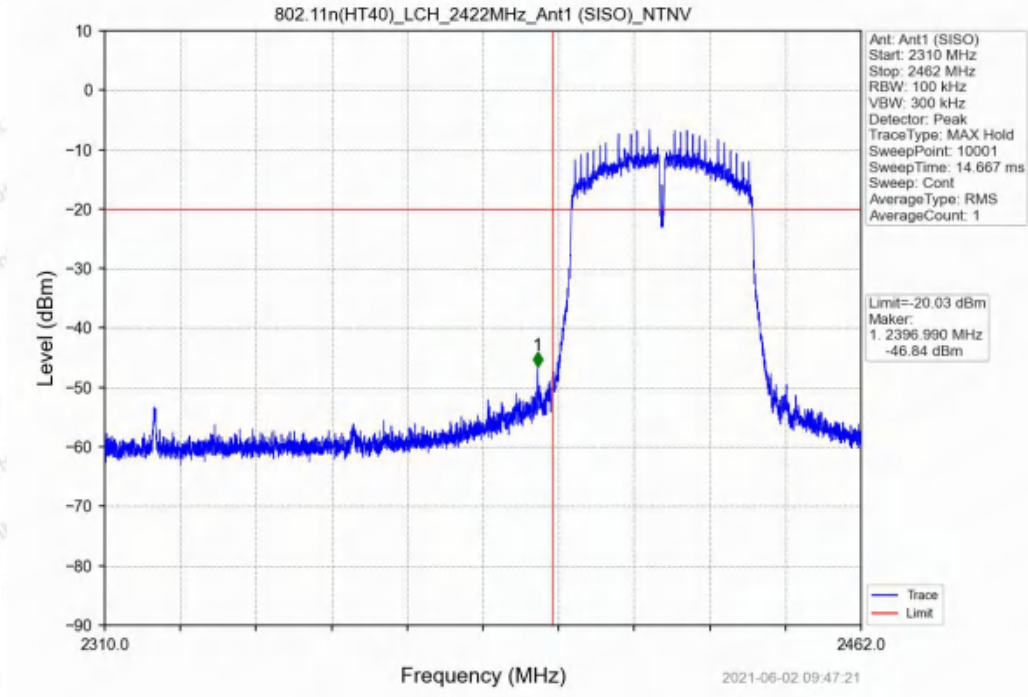
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



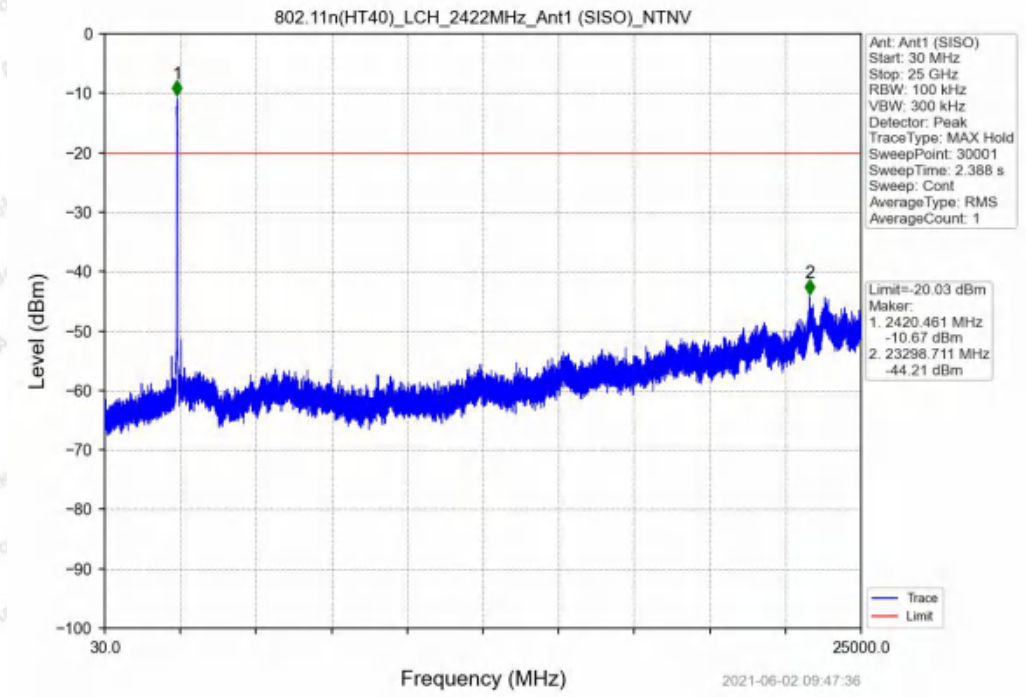
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



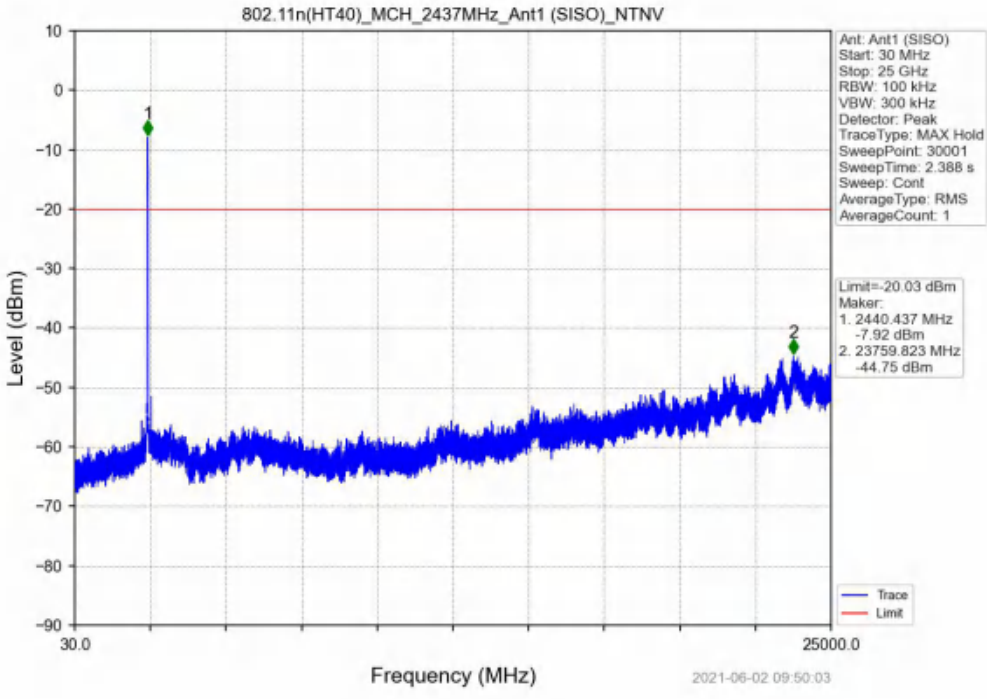
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



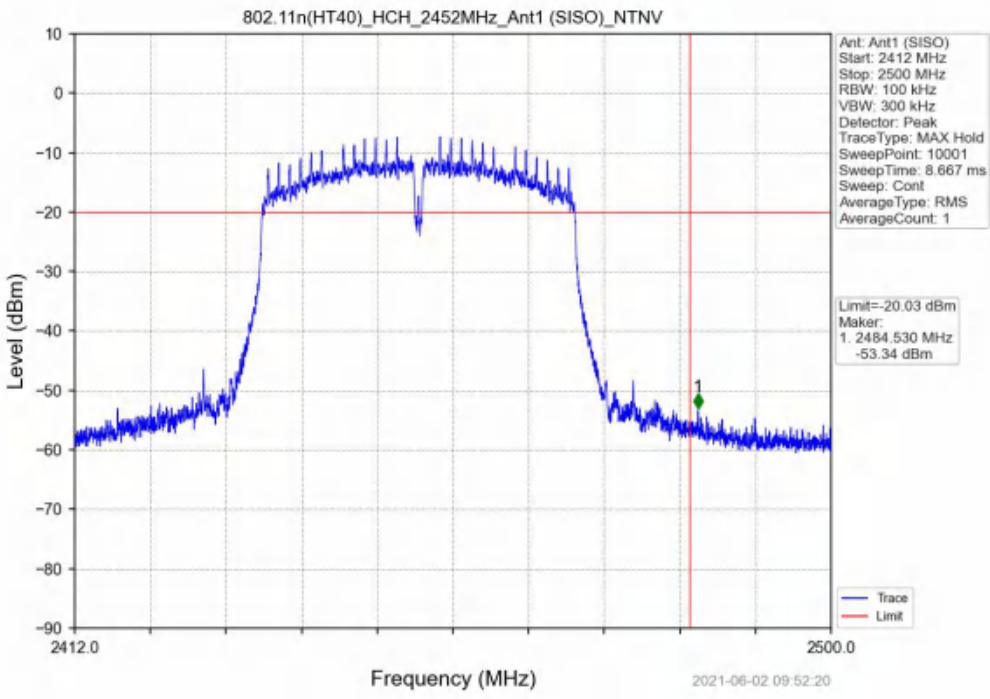
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



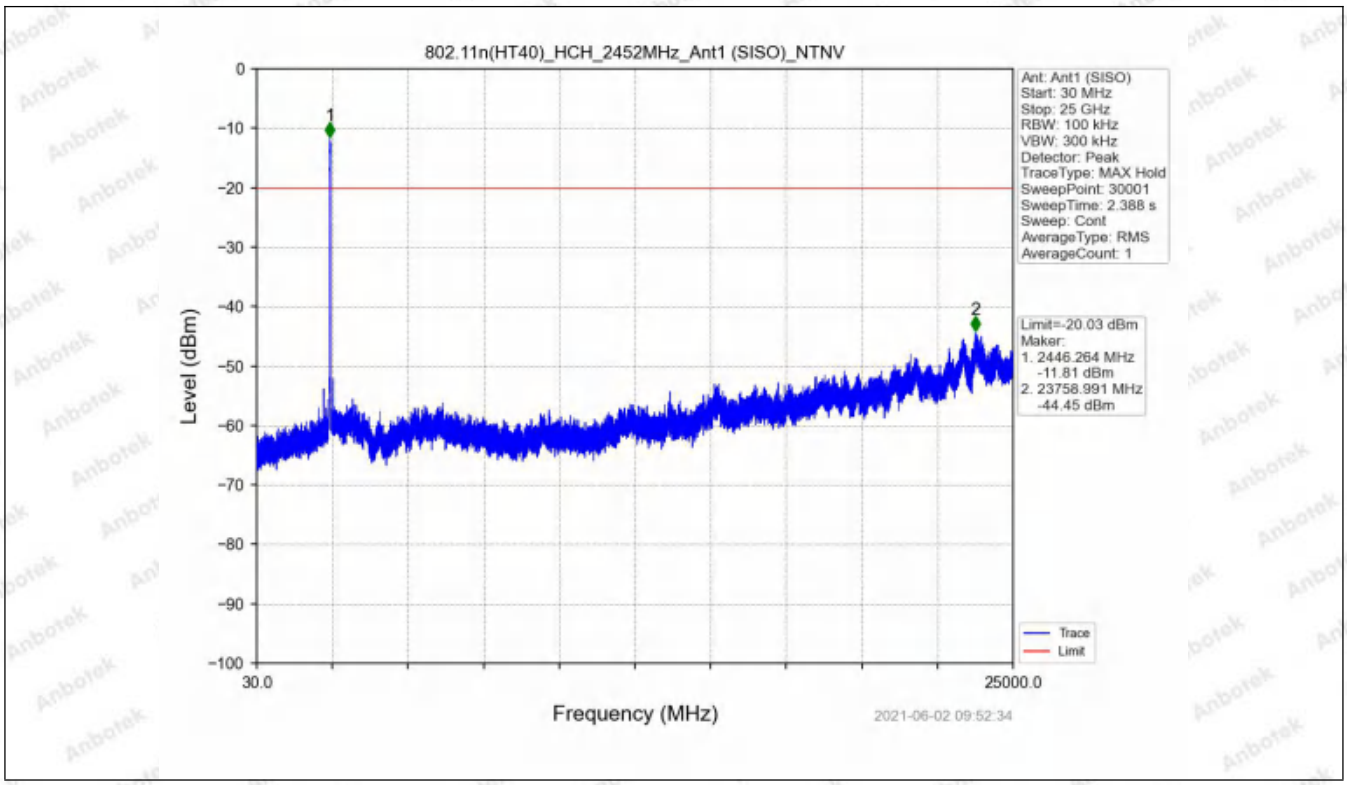
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV


802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV
Ant: Ant1 (SISO)
Start: 30 MHz
Stop: 25 GHz
RBW: 100 kHz
VBW: 300 kHz
Detector: Peak
TraceType: MAX Hold
SweepPoint: 30001
SweepTime: 2.388 s
Sweep: Cont
AverageType: RMS
AverageCount: 1
Limit=-20.03 dBm
Maker:
1. 2446.264 MHz
-11.81 dBm
2. 23758.991 MHz
-44.45 dBm
Trace
Limit
Level (dBm)
Frequency (MHz)
30.0
25000.0
2021-06-02 09:52:34

---End---