

TEST REPORT

Application No.: KSCR2509002164AT
FCC ID: 2AC8UA2550
Applicant: Anhui Huami Information Technology Co., Ltd.
Address of Applicant: Room 401-1, Building H8, Hefei Innovation Industrial Park Phase II, No.2800, Chuangxin Road, High-tech Zone, Hefei City, China (Anhui) Pilot Free Trade Zone
Manufacturer: Anhui Huami Information Technology Co., Ltd.
Address of Manufacturer: Room 401-1, Building H8, Hefei Innovation Industrial Park Phase II, No.2800, Chuangxin Road, High-tech Zone, Hefei City, China (Anhui) Pilot Free Trade Zone
Equipment Under Test (EUT):
EUT Name: Smart Watch
Model No.: A2550
Trade Mark: AMAZFIT
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2025-09-26
Date of Test: 2025-12-10 to 2025-12-17
Date of Issue: 2025-12-19

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Revision Record			
Version	Description	Date	Remark
00	Original	2025-12-19	/

Authorized for issue by:			
Tested By		Damon Zhou	
		Damon_Zhou/Project Engineer	
Approved By		Terry Hou	
		Terry Hou /Reviewer	

2 Test Summary

Radio Spectrum Technical Requirement					
Item	Standard	Method	Requirement	Result	Test Lab*
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Pass	N/A

Radio Spectrum Matter Part					
Item	Standard	Method	Requirement	Result	Test Lab*
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2020) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	B
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2020) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	B
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2020) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	B
Conducted Average Output Power		ANSI C63.10 (2020) Section 11.9.2	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass	A
Minimum 6dB Bandwidth		ANSI C63.10 (2020) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass	A
Power Spectrum Density		ANSI C63.10 (2020) Section 11.10.3	47 CFR Part 15, Subpart C 15.247(e)	Pass	A
Conducted Band Edges Measurement		ANSI C63.10 (2020) Section 6.10.4	47 CFR Part 15, Subpart C 15.247(d)	Pass	A
Conducted Spurious Emissions		ANSI C63.10 (2020) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass	A

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 5V Rechargeable Li-ion Battery Model: PL682734 Rated Capacity: 870mAh Nominal Energy: 3.367Wh Limit Charge: DC4.45V Nominal Voltage: DC 3.87V
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Number of Channels:	802.11b/g/n(HT20):11
Channel Spacing:	5MHz
Antenna Type:	Slot Antenna
Antenna Gain:	-4.49dBi(Provided by the manufacturer)

4.2 Power level setting using in test:

Channel	802.11b	802.11g	802.11n HT20
	Ant 1	Ant 1	Ant 1
L	15	15	15
M	15	15	15
H	15	15	15

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	Lenovo	K27	EB24537645
AC Adapter	JIUZHOU	DYS05100CS-E	7103780JZH21A040H 5G

4.4 Measurement Uncertainty

Lab A:

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1°C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Lab B:

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25 \times 10^{-8}$
2	Duty cycle	$\pm 0.37\%$
3	Occupied Bandwidth	$\pm 3\%$
4	Conduction emission	$\pm 3.0\text{dB}$ (150kHz to 30MHz)
5	RF conducted power	$\pm 0.75\text{dB}$
6	RF power density	$\pm 2.84\text{dB}$
7	Conducted Spurious emissions	$\pm 0.75\text{dB}$
8	RF Radiated power	$\pm 2.6\text{dB}$ (30MHz-1GHz)
		$\pm 2.7\text{dB}$ (1GHz-18GHz)
9	Temperature test	$\pm 1^\circ\text{C}$
10	Humidity test	$\pm 3\%$
11	Supply voltages	$\pm 1\%$
12	Time	$\pm 3\%$

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

4.5 Test Location

Lab A:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

Lab B:

Conducted Emissions at AC Power Line (150kHz-30MHz); Radiated Emissions; Radiated Emissions which fall in the restricted bands test at:

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Lab A:

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA).

- **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

- **VCCI (Member No: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

Lab B:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

- **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5 Equipment List

Lab A:

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
RF Conducted Test						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	07/09/2025	07/08/2026
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	07/09/2025	07/08/2026
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	01/15/2025	01/14/2026
4	Signal Generator	R&S	SMBV100B	KSEM032	02/19/2025	02/18/2026
5	Signal Generator	R&S	SMW200A	KSEM020-1	07/09/2025	07/08/2026
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	07/08/2025	07/07/2026
7	Signal Generator	Agilent	E8257C	KS301066	07/22/2025	07/21/2026
8	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	07/09/2025	07/08/2026
9	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	02/19/2025	02/18/2026
10	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	07/08/2025	07/07/2026
11	Switcher	TST	FY562	KUS2001M001-4	01/15/2025	01/14/2026
12	Conducted Test Cable	Thermax	RF01-RF04	CZ301111- CZ301120	01/14/2025	01/13/2026
13	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	07/15/2025	07/14/2026
14	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	02/26/2025	02/25/2026
15	Software	BST	TST-PASS	/	NCR	NCR

Lab B:

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
RF Radiated Test						
1	Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	6/3/2023	6/2/2026
2	Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	1/20/2025	1/19/2026
3	Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-09	11/21/2025	11/20/2026
4	Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026
5	Signal Generator	ROHDE&SCHWARZ	SMW100A	SUWI-01-18-01	1/16/2025	1/15/2026
6	Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9168	SUWI-01-11-04	9/10/2025	9/9/2027
7	Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	5/7/2025	5/6/2027
8	Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9170	SUWI-01-11-03	5/7/2025	5/6/2027
9	Active Loop Antenna	SCHWRZBECK MESS- ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	5/7/2025	5/6/2027
10	Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	1/16/2025	1/15/2026
11	Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	1/16/2025	1/15/2026
12	Amplifier	Tonscend	TAP18040048	SUWI-01-14-03	1/20/2025	1/19/2026
13	Wideband Radio Communication Tester	Anritsu	MT8820C	SUWI-01-26-01	11/21/2025	11/20/2026
14	Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	8/25/2025	8/24/2026
15	Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-09	8/26/2025	8/25/2026
16	Radio Communication Analyzer	StarPoint	SP9500E	SUWI-01-28-02	2025/11/21	2026/11/20
17	Signal Generator	ROHDE&SCHWARZ	SMB100A	SUWI-01-08-01	1/16/2025	1/15/2026
18	DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	1/15/2025	1/14/2026
19	Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2/13/2025	2/12/2026
20	Measurement Software	Tonscend	JS32-RE 4.0.0.0	SUWI-02-09-06	NCR	NCR
21	RF Control unit	Tonscend	JS0806-1	SUWI-02-20-01	NCR	NCR
22	RFCables	Tonscend	NA	SUWI-01-03-02	1/16/2025	1/15/2026

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is Slot Antenna on the main PCB and no consideration of replacement. The best case gain of the antenna is -4.49 dBi.

Antenna location: Refer to internal photo.

7 Radio Spectrum Matter Test Results

7.1 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.10.5

Measurement Distance: 3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C

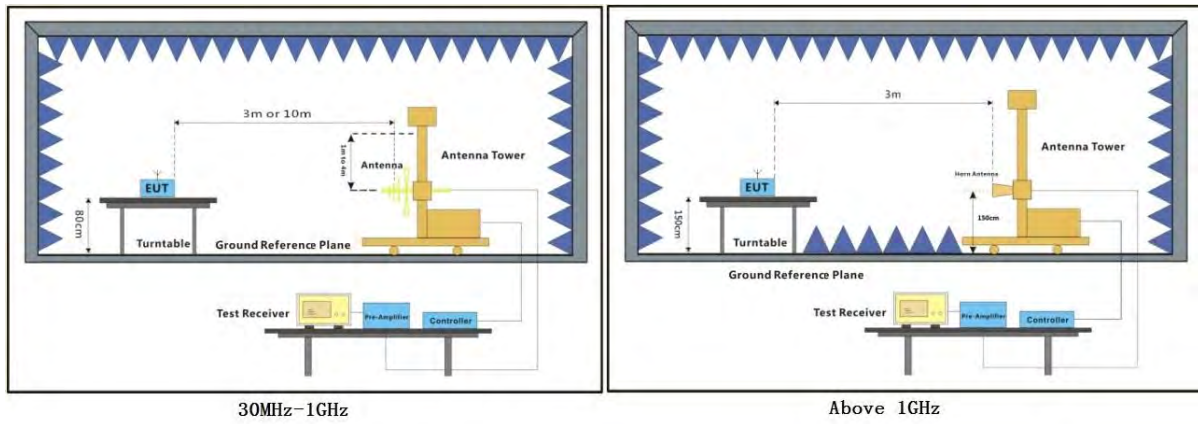
Humidity: 34.7 % RH

Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark 1: $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$

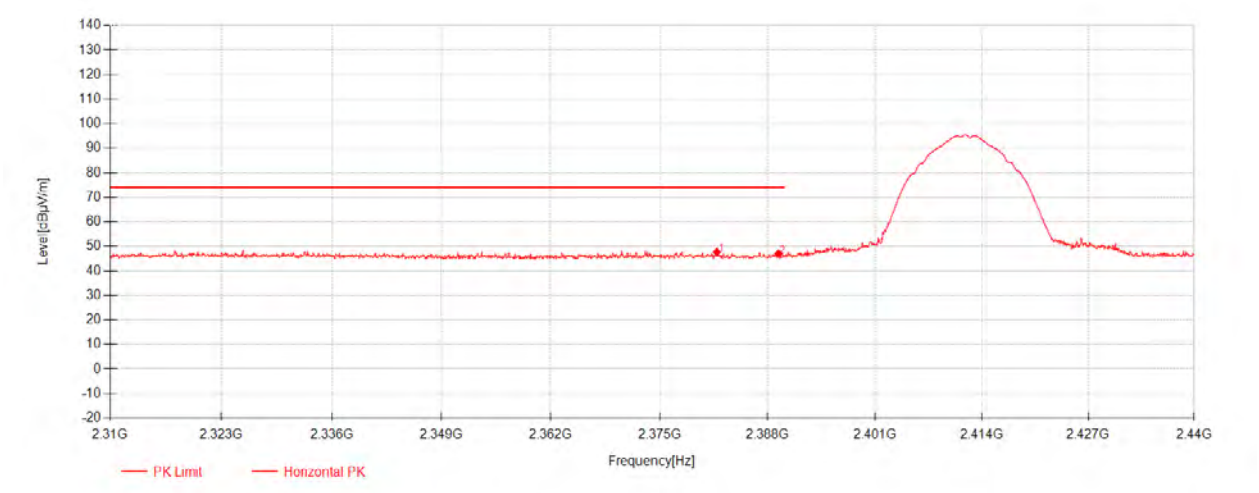
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Remark 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 4: For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

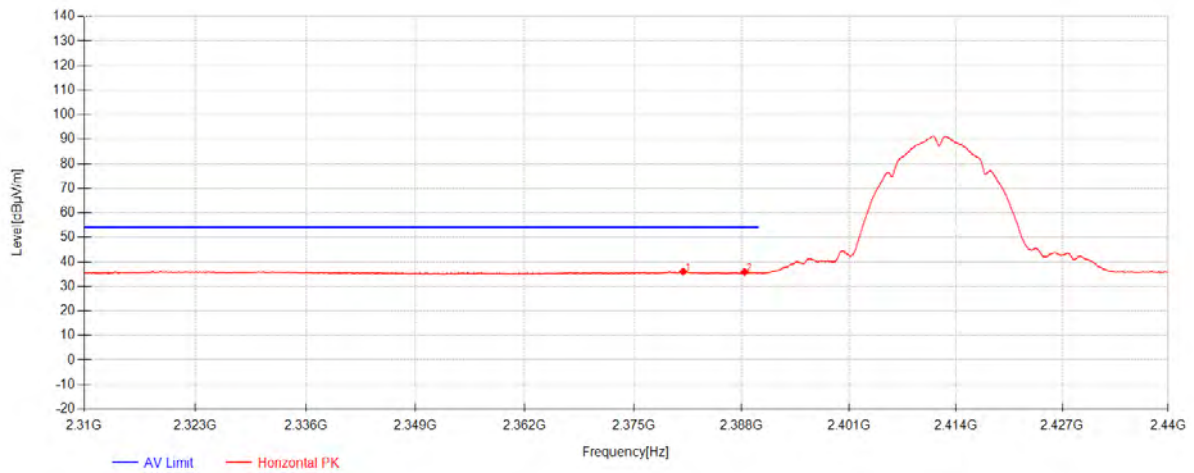


11b_TX_CH_01_Horizontal_Peak



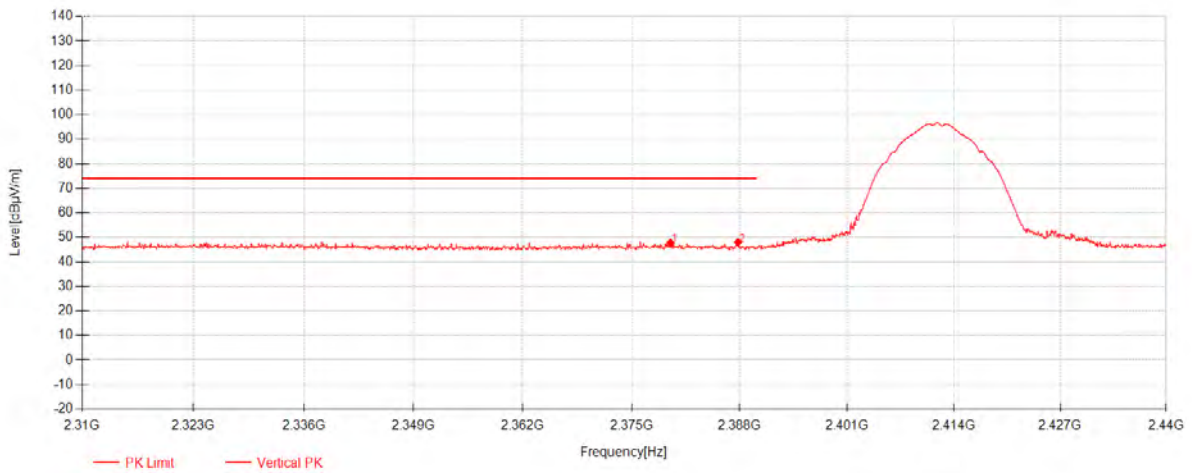
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2381.89	44.19	26.99	-23.51	47.67	74.00	26.33	Horizontal
2	2389.3	43.59	27.00	-23.52	47.07	74.00	26.93	Horizontal

11b_TX_CH_01_Horizontal_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2380.98	32.55	26.99	-23.51	36.03	54.00	17.97	Horizontal
2	2388.3575	32.39	27.00	-23.51	35.87	54.00	18.13	Horizontal

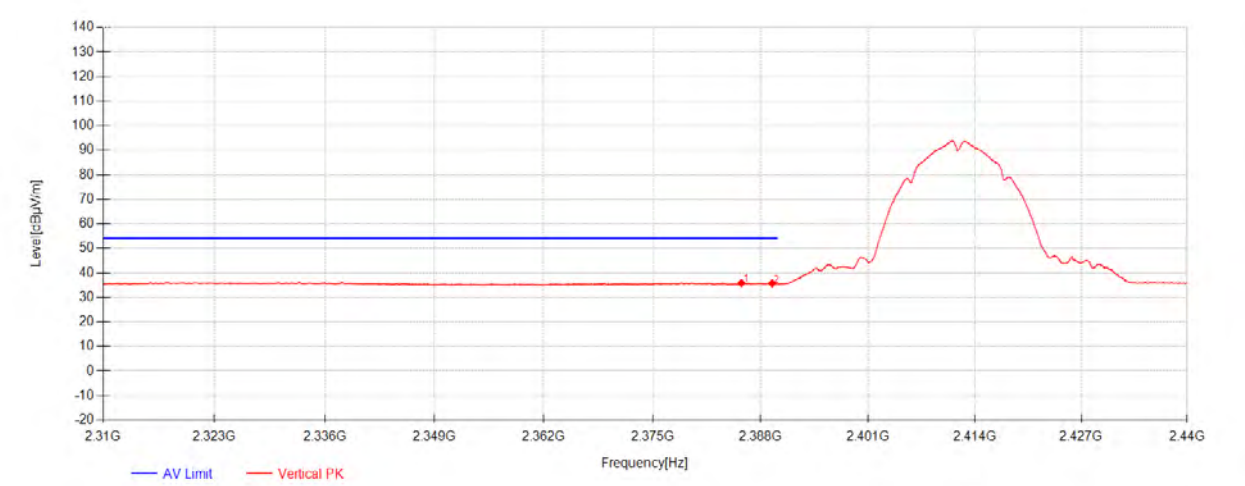
11b_TX_CH_01_Vertical_Peak



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2379.68	44.35	26.98	-23.50	47.83	74.00	26.17	Vertical
2	2387.8267	44.59	27.00	-23.51	48.07	74.00	25.93	Vertical

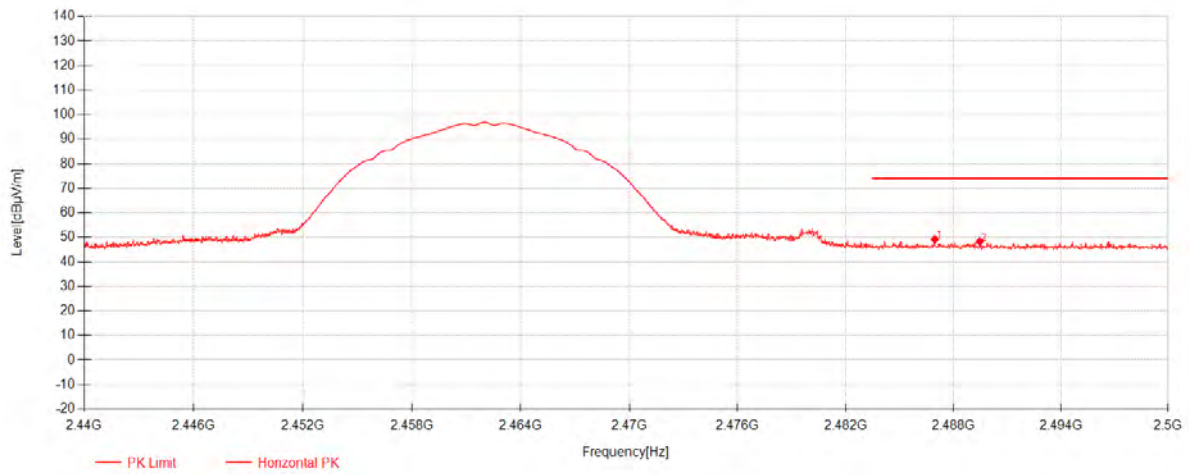


11b_TX_CH_01_Vertical_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2385.6925	32.35	26.99	-23.51	35.83	54.00	18.17	Vertical
2	2389.3975	32.24	27.00	-23.52	35.72	54.00	18.28	Vertical

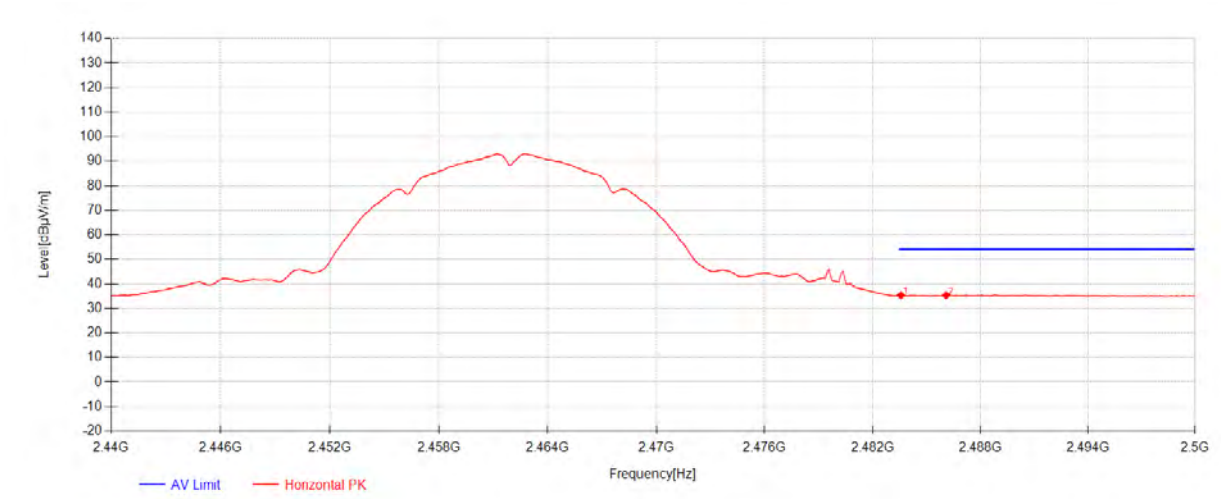
11b_TX_CH_11_Horizontal_Peak



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2486.965	45.22	27.18	-23.16	49.23	74.00	24.77	Horizontal
2	2489.47	44.33	27.18	-23.15	48.36	74.00	25.64	Horizontal

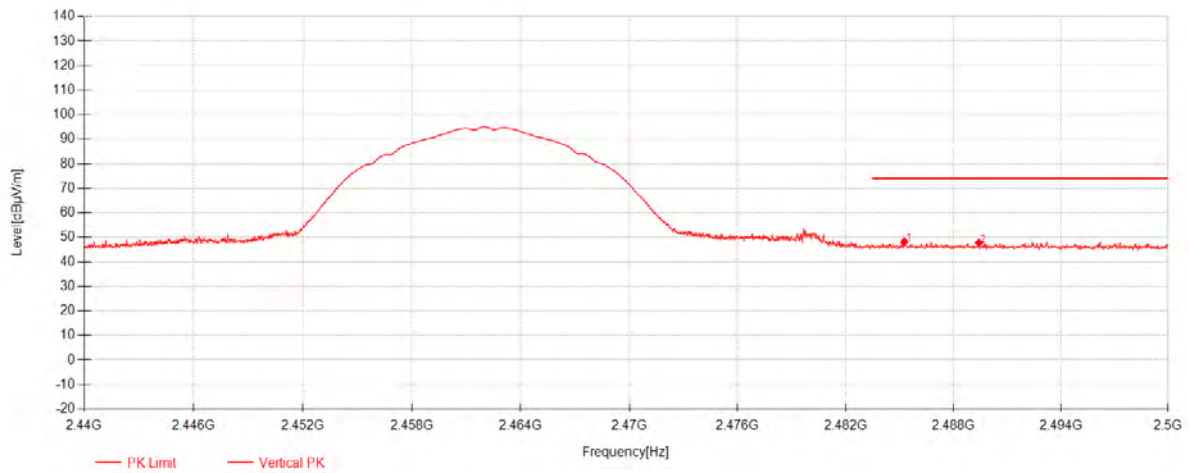


11b_TX_CH_11_Horizontal_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2483.575	31.30	27.17	-23.18	35.29	54.00	18.71	Horizontal
2	2486.095	31.28	27.17	-23.17	35.29	54.00	18.71	Horizontal

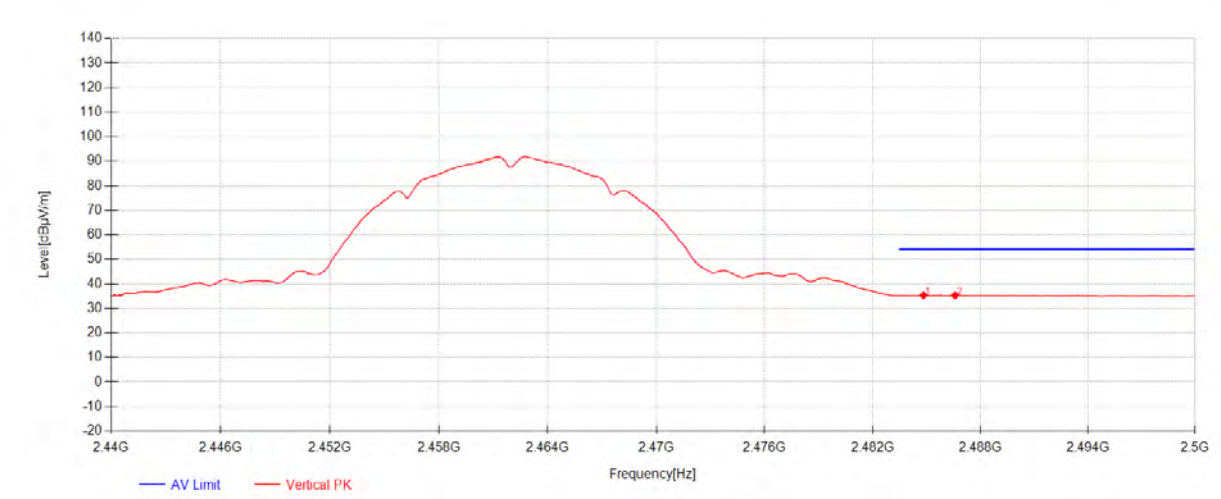
11b_TX_CH_11_Vertical_Peak



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2485.27	44.25	27.17	-23.17	48.25	74.00	25.75	Vertical
2	2489.425	43.72	27.18	-23.15	47.75	74.00	26.25	Vertical

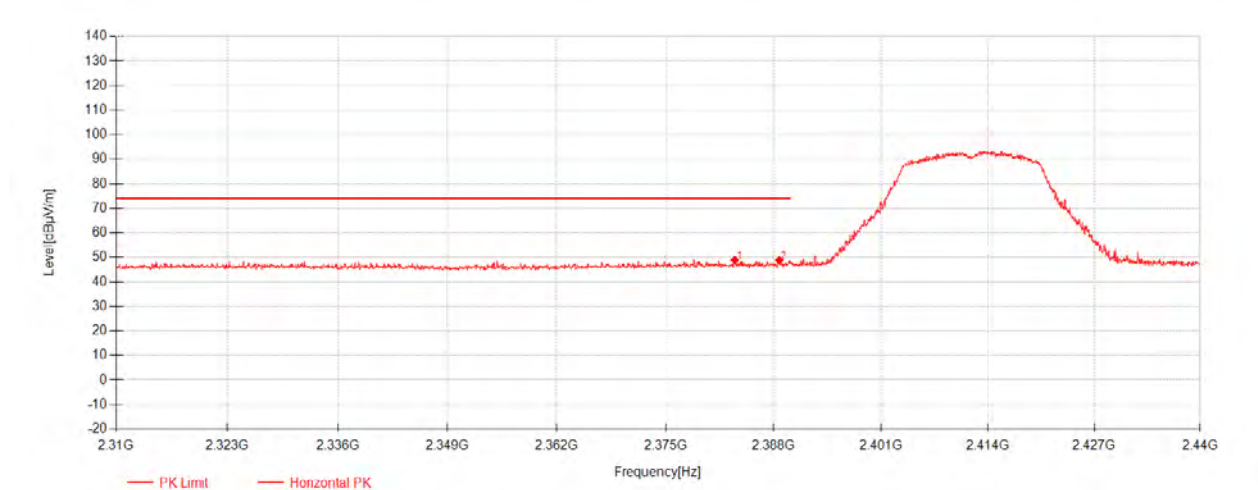


11b_TX_CH_11_Vertical_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.835	31.31	27.17	-23.17	35.31	54.00	18.69	Vertical
2	2486.59	31.23	27.18	-23.17	35.24	54.00	18.76	Vertical

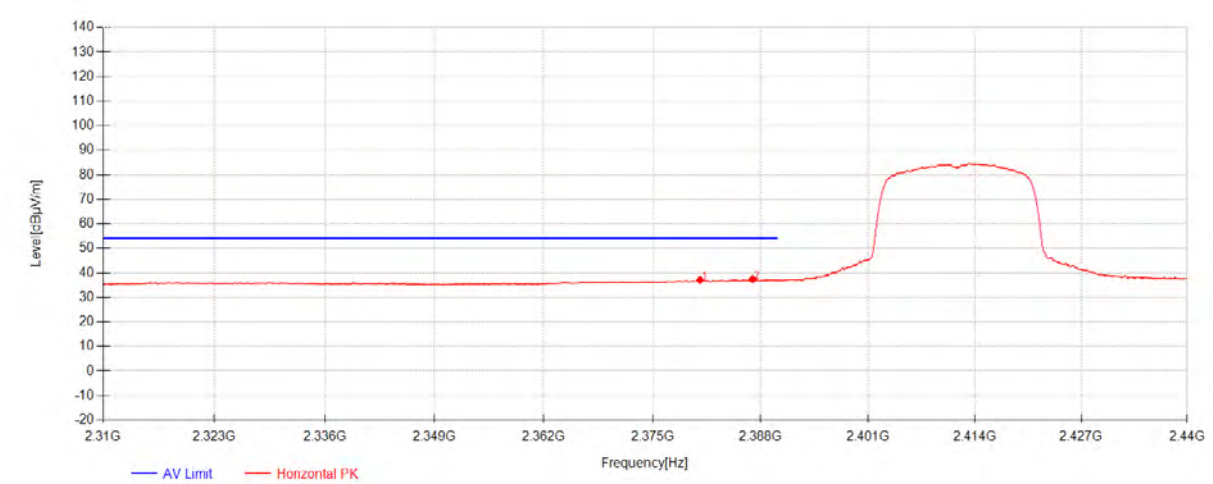
11n(HT20)_TX_CH_01_Horizontal_Peak



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2383.32	45.42	26.99	-23.51	48.90	74.00	25.10	Horizontal
2	2388.6933	45.33	27.00	-23.52	48.81	74.00	25.19	Horizontal



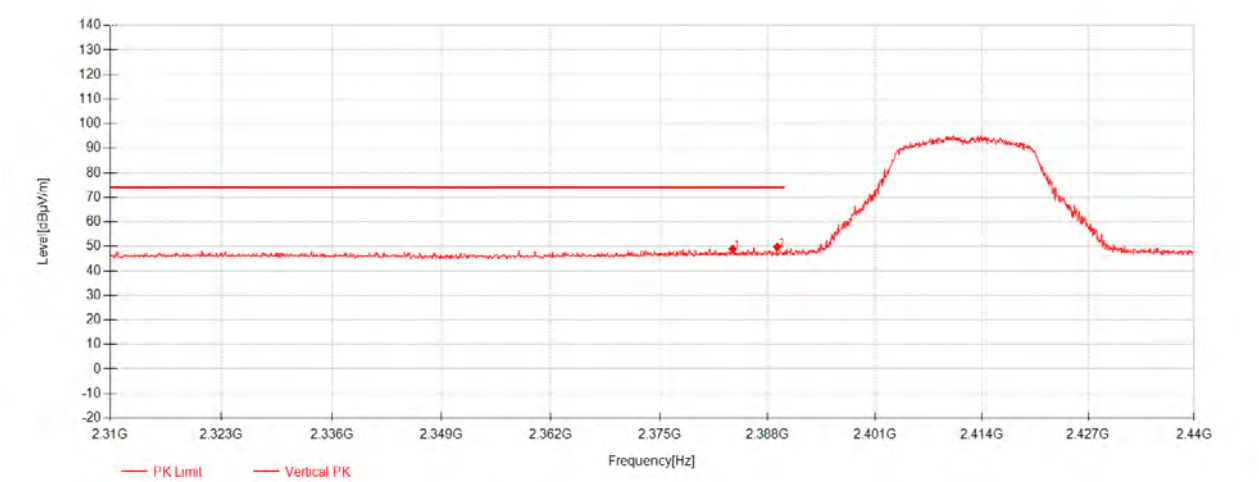
11n(HT20)_TX_CH_01_Horizontal_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2380.72	33.60	26.99	-23.50	37.08	54.00	16.92	Horizontal
2	2387.025	33.96	27.00	-23.51	37.44	54.00	16.56	Horizontal

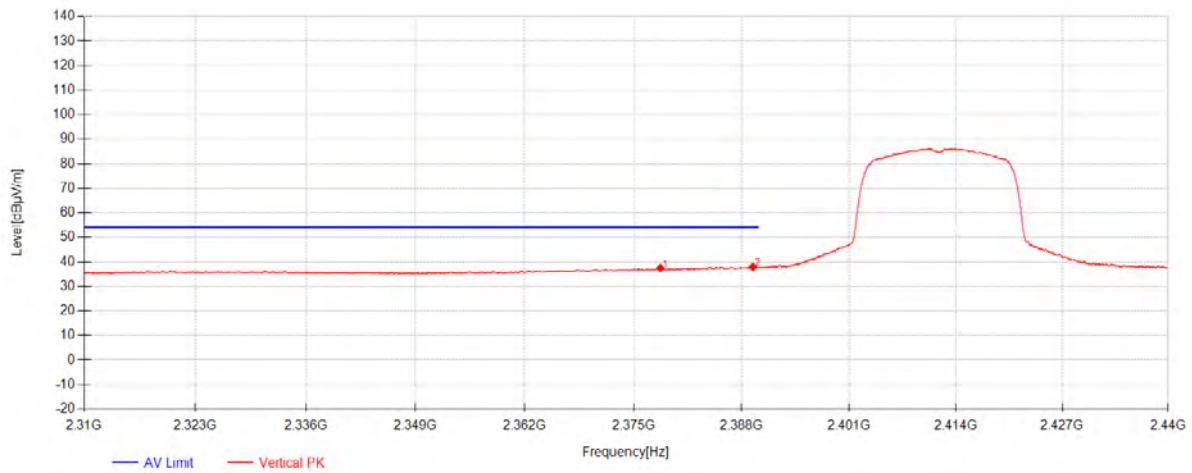


11n(HT20)_TX_CH_01_Vertical_Peak



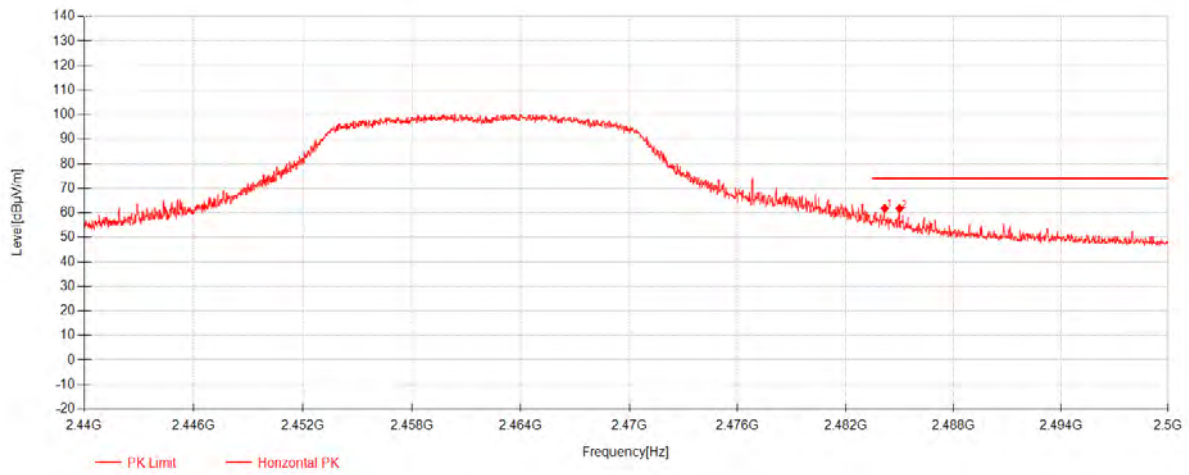
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2383.7967	45.50	26.99	-23.51	48.98	74.00	25.02	Vertical
2	2389.17	46.25	27.00	-23.52	49.73	74.00	24.27	Vertical

11n(HT20)_TX_CH_01_Vetical_Average



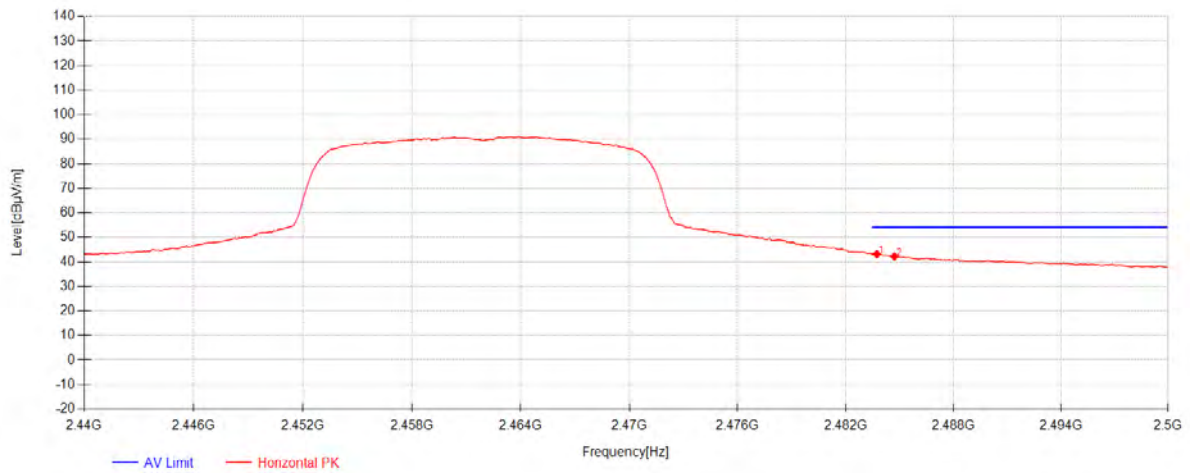
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2378.2175	34.00	26.98	-23.50	37.48	54.00	16.52	Vertical
2	2389.365	34.46	27.00	-23.52	37.94	54.00	16.06	Vertical

11n(HT20)_TX_CH_11_Horizontal_Peak



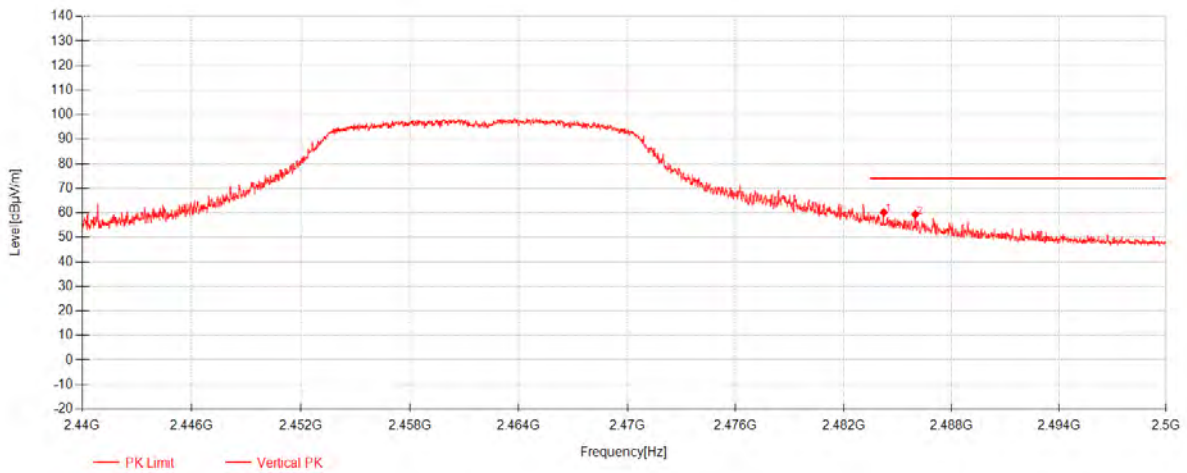
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.175	57.79	27.17	-23.18	61.79	74.00	12.21	Horizontal
2	2485	57.72	27.17	-23.17	61.72	74.00	12.28	Horizontal

11n(HT20)_TX_CH_11_Horizontal_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2483.74	39.13	27.17	-23.18	43.12	54.00	10.88	Horizontal
2	2484.715	38.16	27.17	-23.17	42.16	54.00	11.84	Horizontal

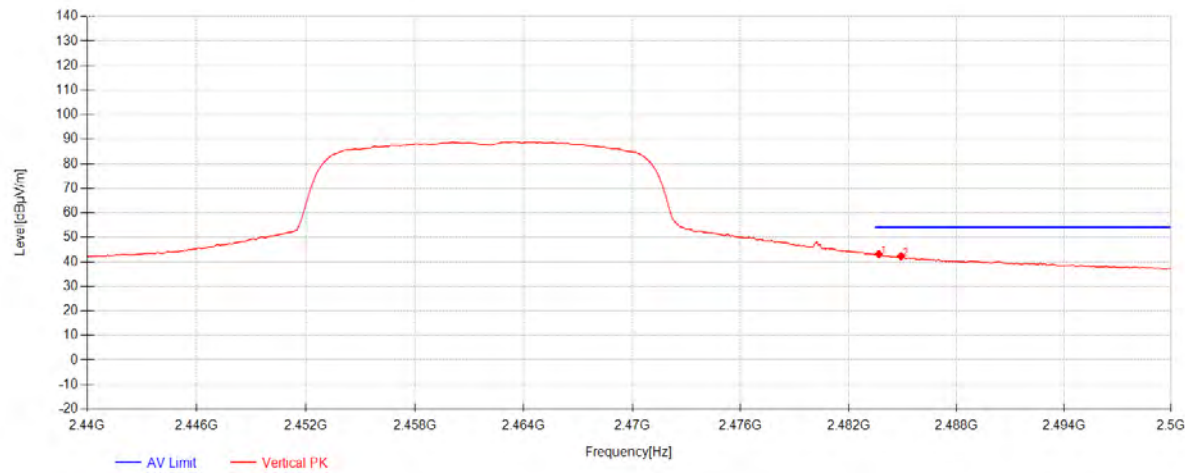
11n(HT20)_TX_CH_11_Vertical_Peak



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.235	56.17	27.17	-23.18	60.17	74.00	13.83	Vertical
2	2485.99	55.35	27.17	-23.17	59.36	74.00	14.64	Vertical



11n(HT20)_TX_CH_11_Vetical_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2483.68	39.13	27.17	-23.18	43.12	54.00	10.88	Vertical
2	2484.91	38.24	27.17	-23.17	42.24	54.00	11.76	Vertical

7.2 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.4,6.5

Measurement Distance: 3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C

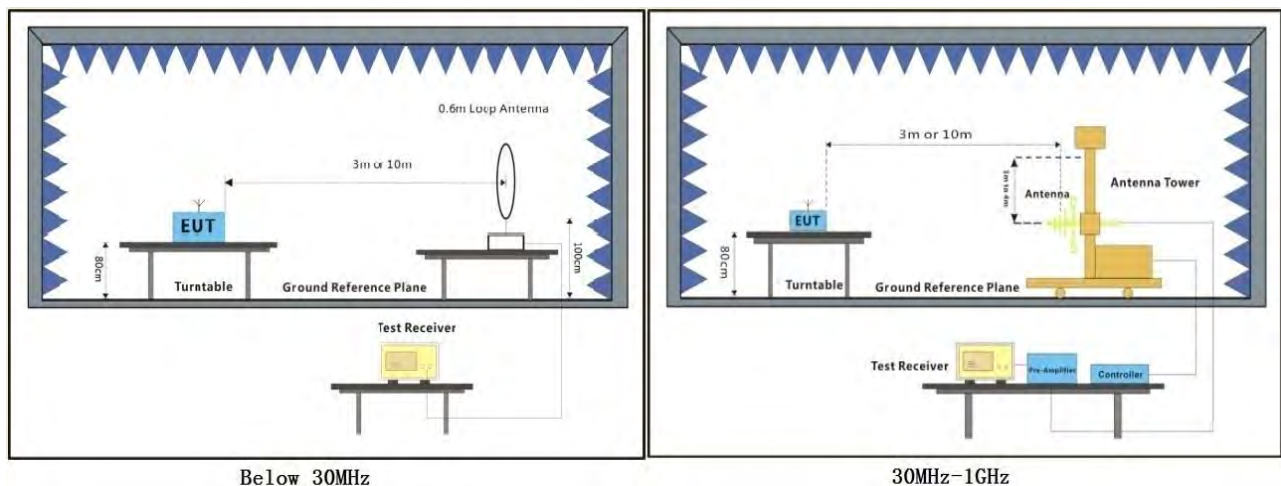
Humidity: 34.7 % RH

Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram



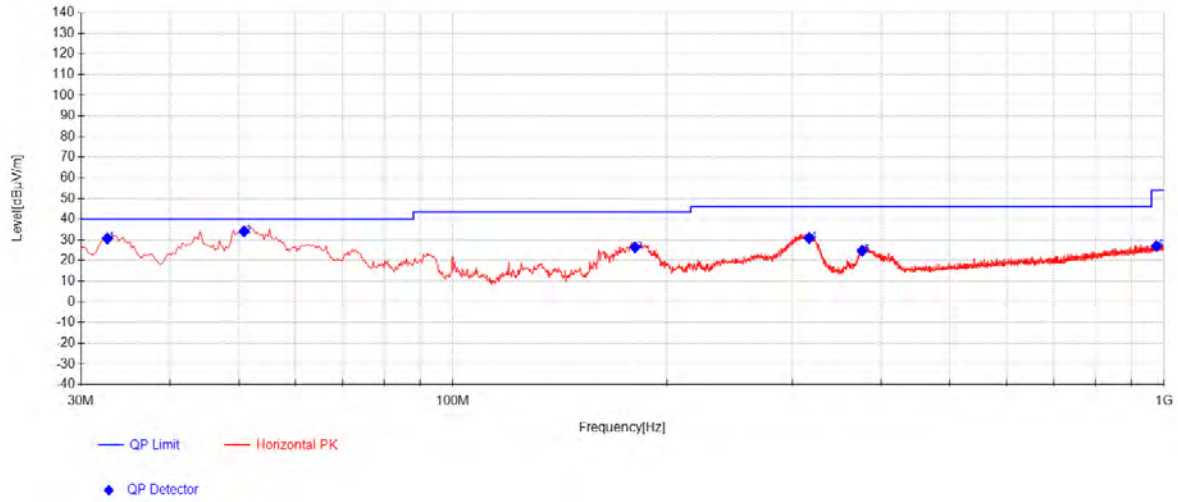
7.2.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

11b_TX_CH_01_Horizontal



Final Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.6675	52.03	12.66	-33.98	30.71	40.00	9.29	132	155	Horizontal
2	50.855	54.38	13.40	-33.68	34.10	40.00	5.90	145	166	Horizontal
3	180.35	48.04	10.68	-32.37	26.35	43.50	17.15	166	186	Horizontal
4	316.8775	49.14	13.31	-31.54	30.91	46.00	15.09	174	197	Horizontal
5	376.29	40.76	15.09	-31.14	24.71	46.00	21.29	182	155	Horizontal
6	975.265	30.67	24.30	-28.01	26.97	54.00	27.03	193	73	Horizontal

11b_TX_CH_01_Vertical



Final Data List

NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	33.6375	52.95	12.72	-33.97	31.70	40.00	8.30	174	83	Vertical
2	55.22	55.1	12.87	-33.62	34.35	40.00	5.65	166	309	Vertical
3	177.6825	46.16	10.94	-32.39	24.72	43.50	18.78	182	278	Vertical
4	315.4225	48.77	13.26	-31.54	30.49	46.00	15.51	140	194	Vertical
5	383.08	39.48	15.29	-31.10	23.67	46.00	22.33	161	154	Vertical
6	996.12	28.32	24.47	-27.84	24.95	54.00	29.05	168	247	Vertical

7.3 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.6

Measurement Distance: 3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C

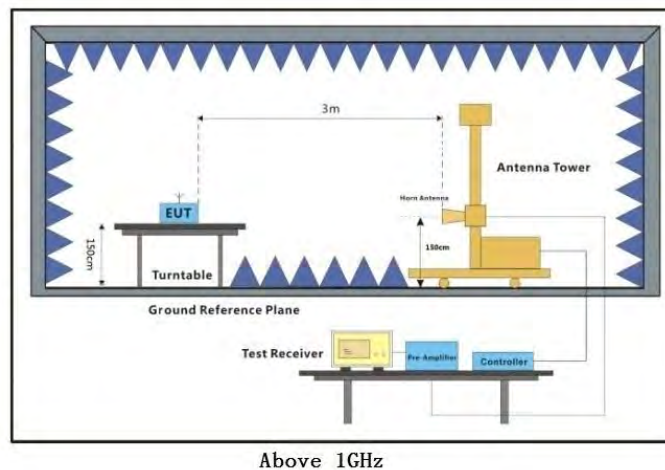
Humidity: 34.7 % RH

Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



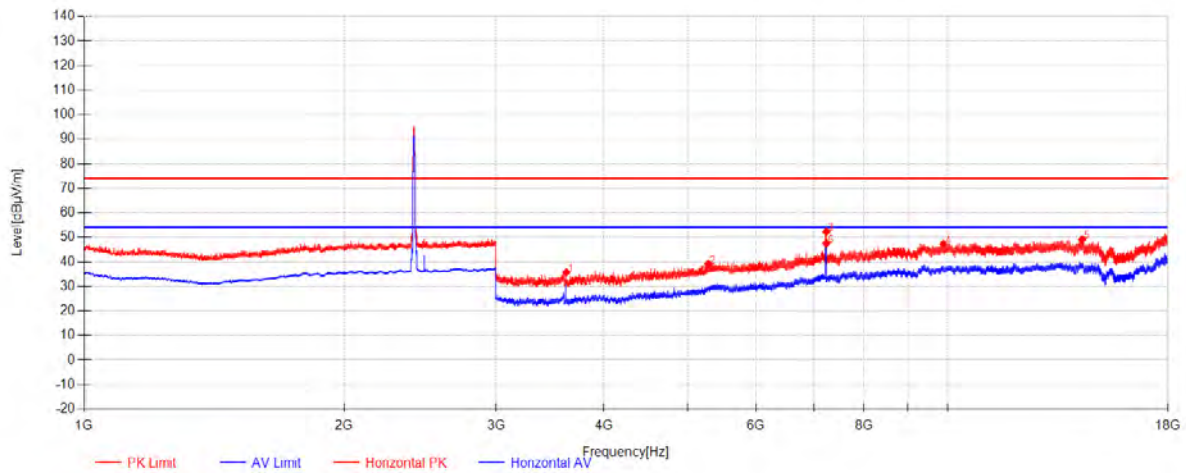
7.3.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

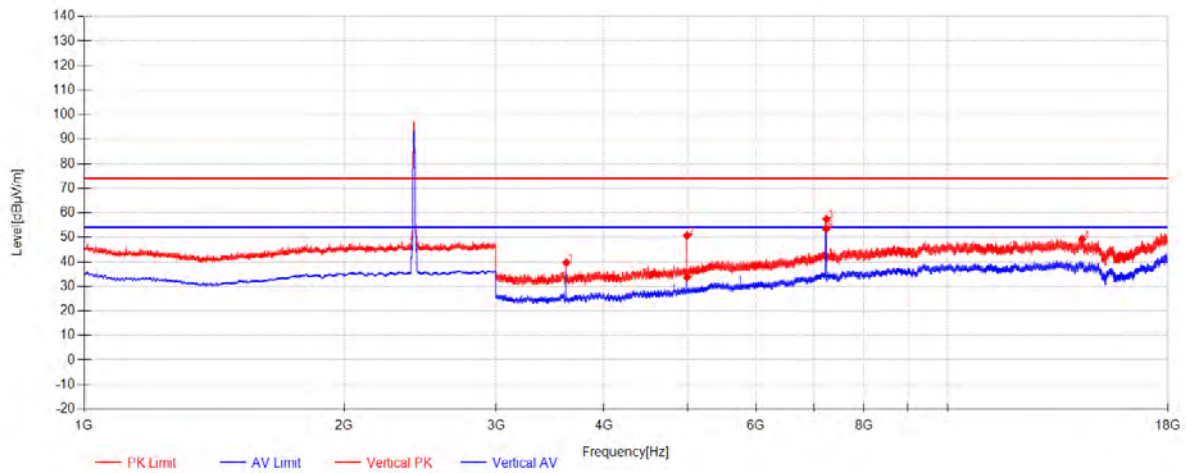
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
- 4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.
- 5:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle<98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

11b_TX_CH_01_Horizontal



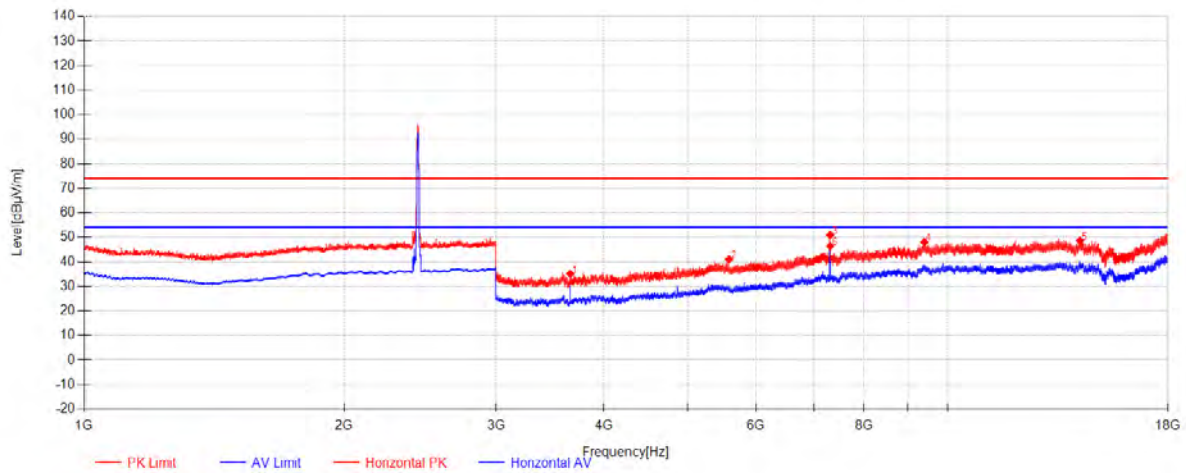
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3618.375	55.38	28.69	-48.32	35.75	74.00	38.25	Horizontal
2	5283.375	54.97	31.99	-47.80	39.17	74.00	34.83	Horizontal
3	7236.75	62.50	35.93	-46.19	52.24	74.00	21.76	Horizontal
4	9889.875	50.78	38.65	-42.12	47.31	74.00	26.69	Horizontal
5	14317.5	47.33	40.27	-38.45	49.15	74.00	24.85	Horizontal
6	7235.625	57.84	35.92	-46.19	47.58	54.00	6.42	Horizontal

11b_TX_CH_01_Vertical



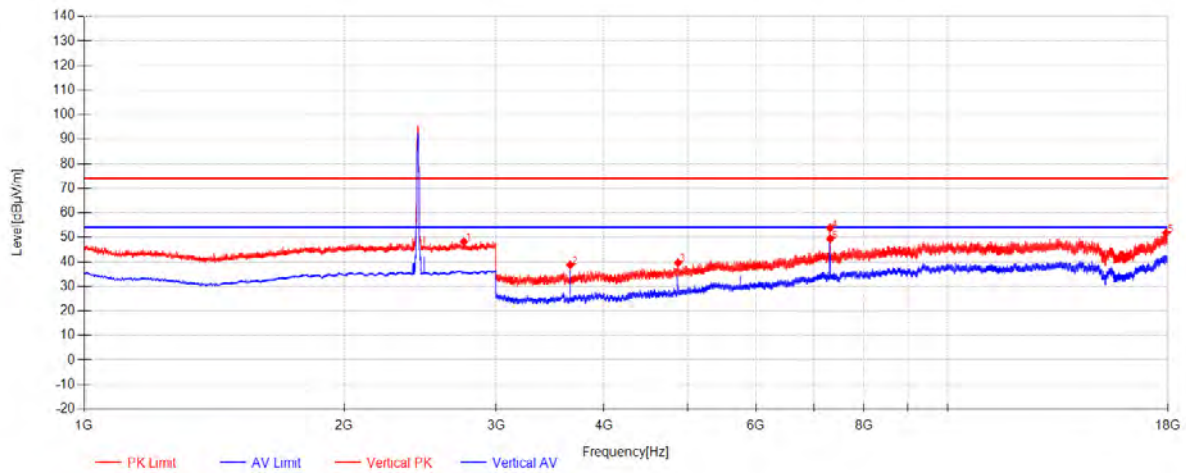
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3618	59.35	28.69	-48.32	39.72	74.00	34.28	Vertical
2	4990.875	67.51	31.18	-48.01	50.68	74.00	23.32	Vertical
3	7237.125	67.62	35.93	-46.19	57.36	74.00	16.64	Vertical
4	14313.75	47.50	40.27	-38.44	49.33	74.00	24.67	Vertical
5	4990.875	50.50	31.18	-48.01	33.67	54.00	20.33	Vertical
6	7235.25	63.67	35.92	-46.19	53.41	54.00	0.59	Vertical

11b_TX_CH_06_Horizontal



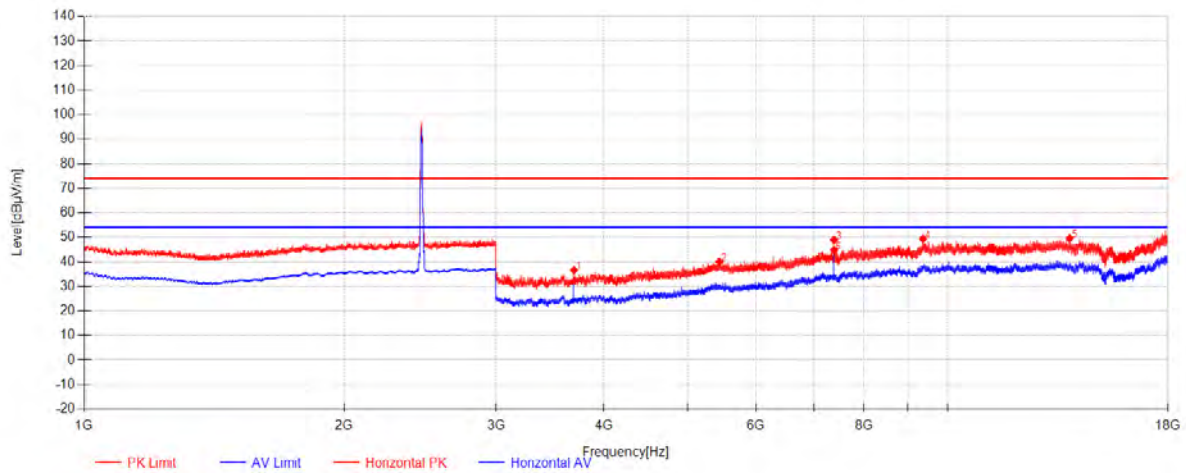
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3655.5	54.74	28.75	-48.41	35.08	74.00	38.92	Horizontal
2	5582.625	56.04	32.63	-47.68	40.99	74.00	33.01	Horizontal
3	7309.875	60.99	36.06	-46.16	50.89	74.00	23.11	Horizontal
4	9399.375	53.19	37.96	-43.05	48.10	74.00	25.90	Horizontal
5	14232	46.93	40.28	-38.58	48.62	74.00	25.38	Horizontal
6	7310.625	56.49	36.06	-46.16	46.39	54.00	7.61	Horizontal

11b_TX_CH_06_Vertical



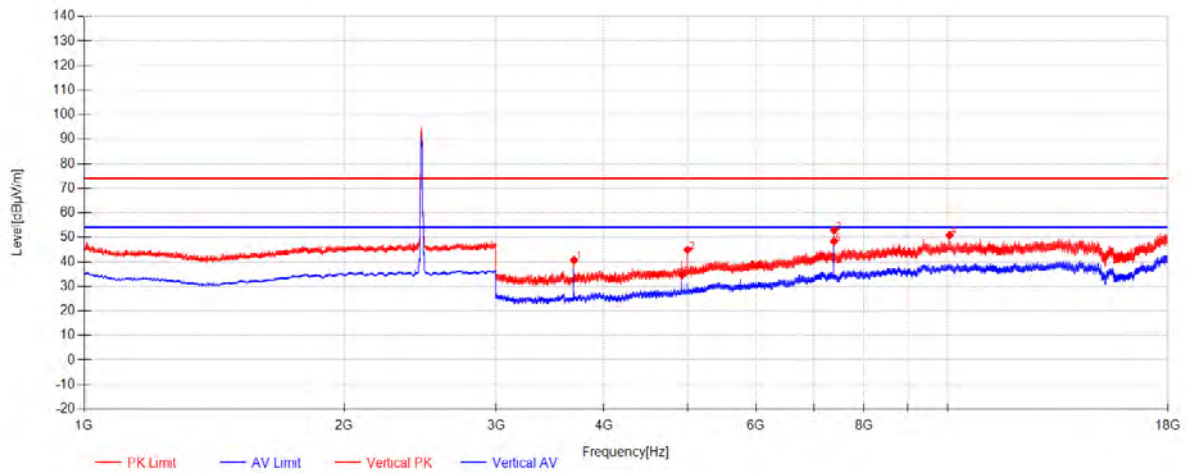
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2752.6667	43.72	27.65	-23.13	48.25	74.00	25.75	Vertical
2	3655.125	58.42	28.75	-48.41	38.76	74.00	35.24	Vertical
3	4873.875	56.72	30.92	-48.02	39.62	74.00	34.38	Vertical
4	7309.5	63.85	36.06	-46.16	53.75	74.00	20.25	Vertical
5	17911.875	45.79	44.27	-38.24	51.82	74.00	22.18	Vertical
6	7312.125	59.51	36.06	-46.16	49.41	54.00	4.59	Vertical

11b_TX_CH_11_Horizontal



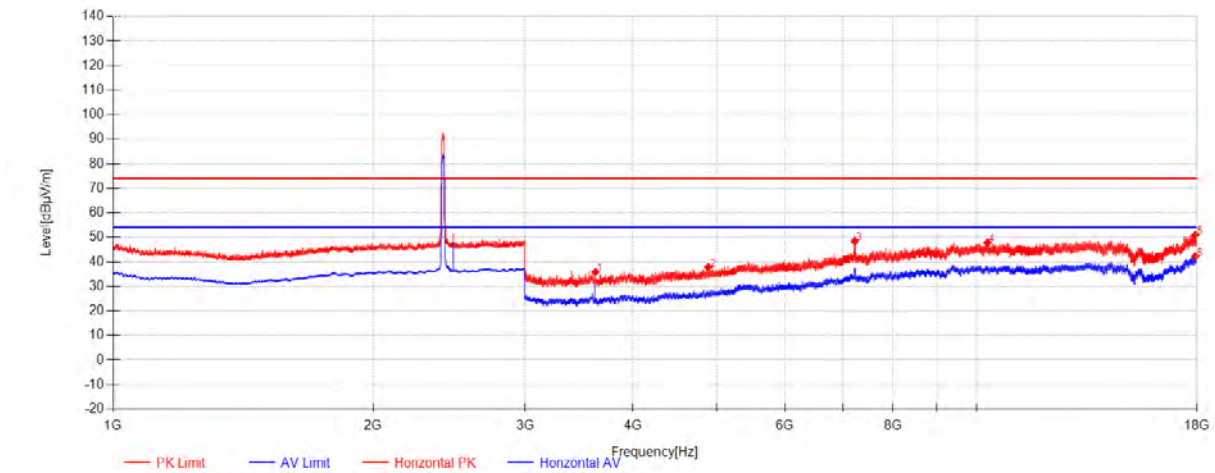
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3693	56.30	28.81	-48.49	36.61	74.00	37.39	Horizontal
2	5440.875	55.26	32.43	-47.68	40.02	74.00	33.98	Horizontal
3	7387.125	58.95	36.20	-46.17	48.98	74.00	25.02	Horizontal
4	9364.125	54.48	37.91	-42.99	49.40	74.00	24.60	Horizontal
5	13846.125	48.42	40.07	-38.88	49.61	74.00	24.39	Horizontal
6	7385.625	54.67	36.19	-46.17	44.70	54.00	9.30	Horizontal

11b_TX_CH_11_Vertical



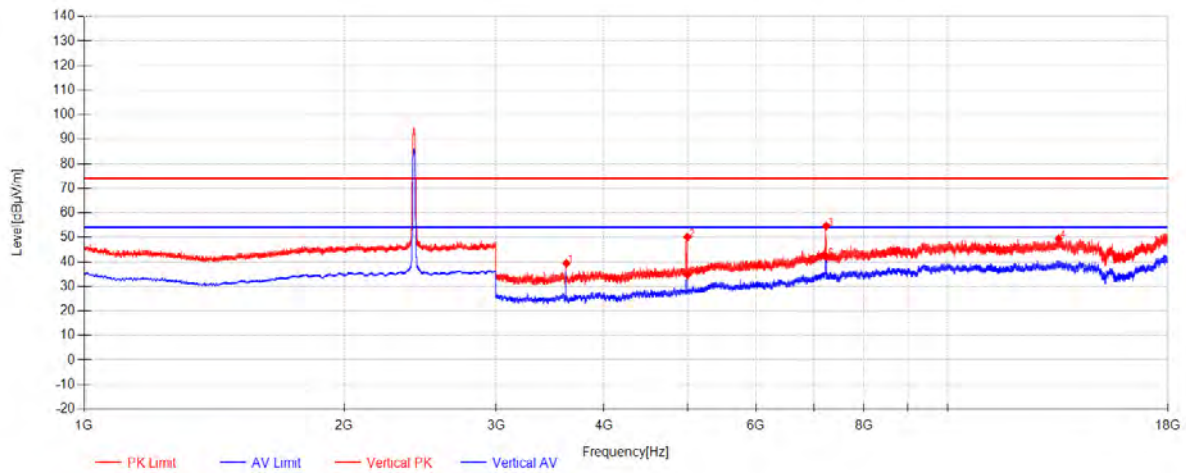
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3693	60.40	28.81	-48.49	40.71	74.00	33.29	Vertical
2	4999.5	61.66	31.20	-48.01	44.85	74.00	29.15	Vertical
3	7387.5	62.80	36.20	-46.17	52.83	74.00	21.17	Vertical
4	10053	53.82	38.84	-41.79	50.87	74.00	23.13	Vertical
5	4924.5	51.56	31.03	-48.03	34.57	54.00	19.43	Vertical
6	7385.625	58.33	36.19	-46.17	48.36	54.00	5.64	Vertical

11n(HT20)_TX_CH_01_Horizontal



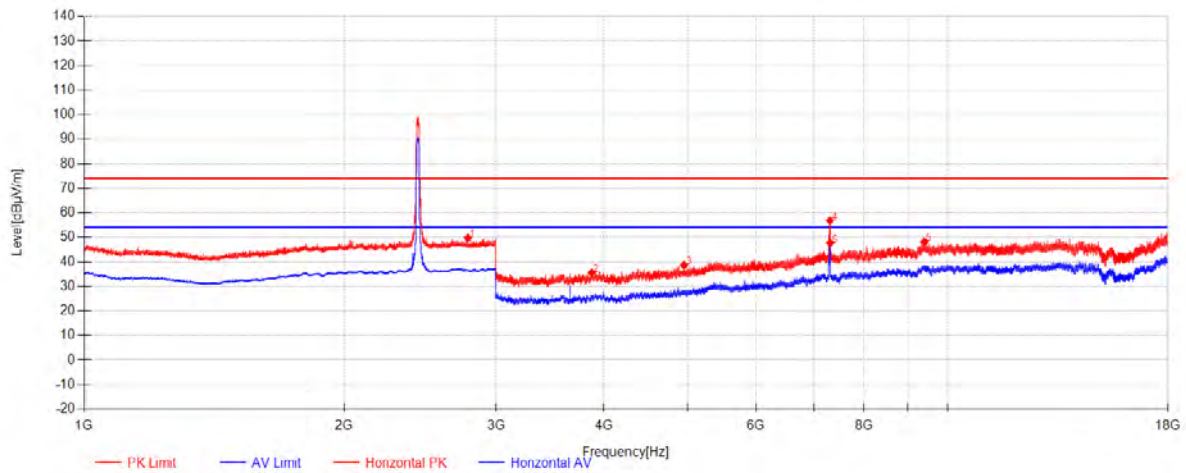
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3618	55.44	28.69	-48.32	35.81	74.00	38.19	Horizontal
2	4887	54.89	30.95	-48.03	37.81	74.00	36.19	Horizontal
3	7224	58.74	35.90	-46.19	48.45	74.00	25.55	Horizontal
4	10295.625	50.00	39.01	-41.19	47.81	74.00	26.19	Horizontal
5	17918.625	44.88	44.31	-38.29	50.90	74.00	23.10	Horizontal
6	17911.5	36.21	44.27	-38.24	42.24	54.00	11.76	Horizontal

11n(HT20)_TX_CH_01_Vertical



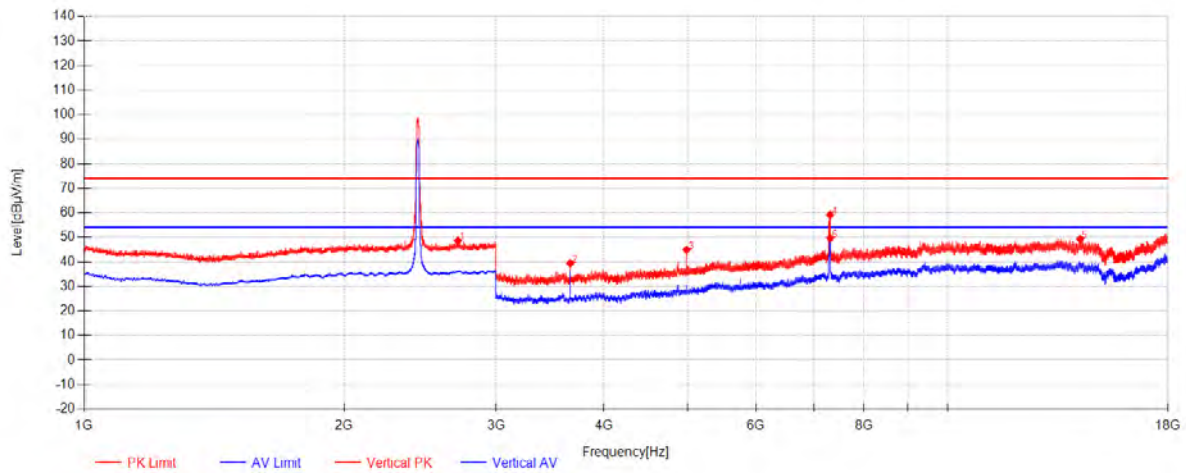
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	3618.375	59.04	28.69	-48.32	39.41	74.00	34.59	Vertical
2	4996.5	66.91	31.19	-48.01	50.09	74.00	23.91	Vertical
3	7233.375	64.79	35.92	-46.19	54.52	74.00	19.48	Vertical
4	13447.5	49.18	39.47	-39.18	49.47	74.00	24.53	Vertical
5	4996.875	51.42	31.19	-48.01	34.60	54.00	19.40	Vertical
6	7233	52.51	35.92	-46.19	42.24	54.00	11.76	Vertical

11n(HT20)_TX_CH_06_Horizontal



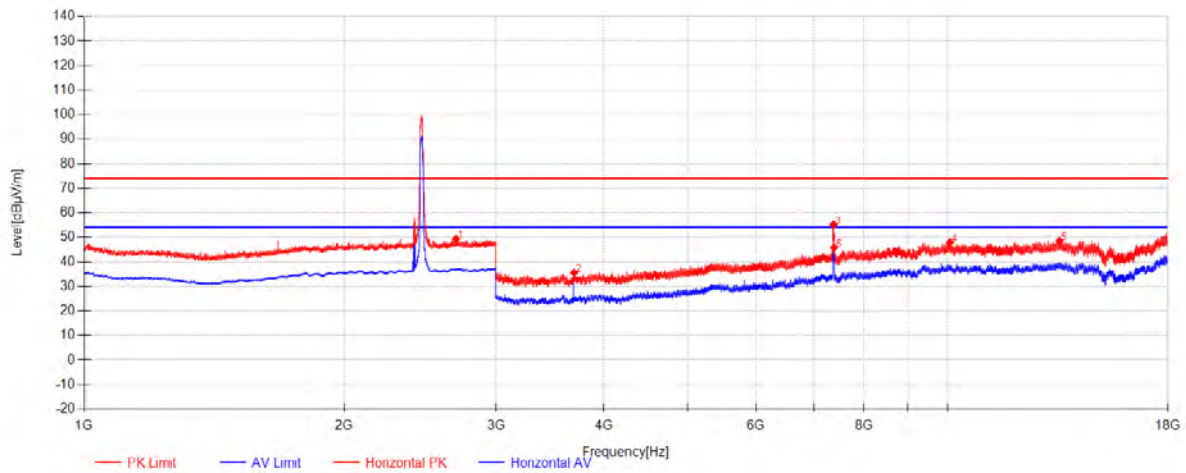
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2782	45.24	27.71	-23.22	49.73	74.00	24.27	Horizontal
2	3871.875	54.74	29.10	-48.26	35.58	74.00	38.42	Horizontal
3	4951.5	55.58	31.09	-48.02	38.65	74.00	35.35	Horizontal
4	7306.875	66.95	36.05	-46.16	56.84	74.00	17.16	Horizontal
5	9399	53.28	37.96	-43.05	48.19	74.00	25.81	Horizontal
6	7310.625	57.83	36.06	-46.16	47.73	54.00	6.27	Horizontal

11n(HT20)_TX_CH_06_Vertical



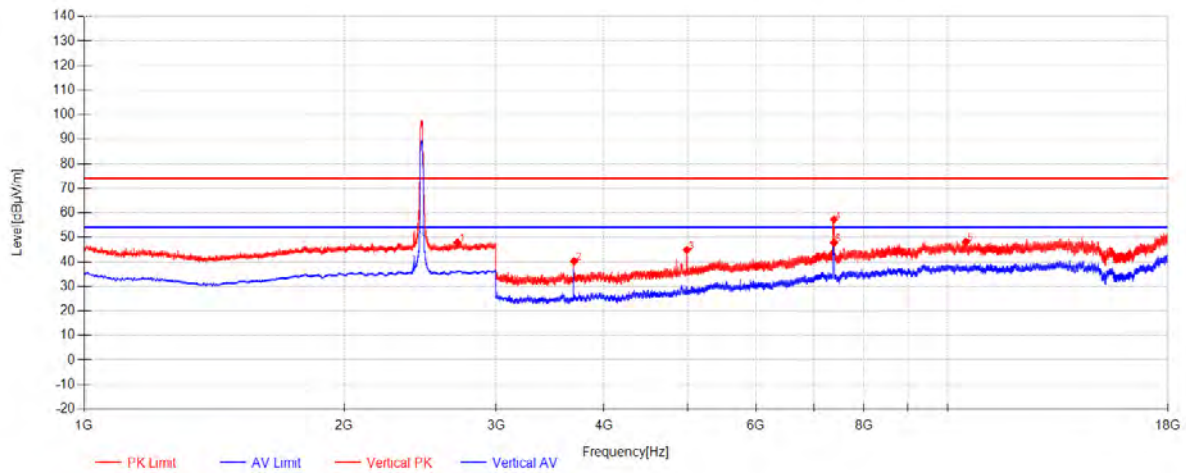
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2709.3333	44.02	27.58	-22.99	48.61	74.00	25.39	Vertical
2	3655.5	59.05	28.75	-48.41	39.39	74.00	34.61	Vertical
3	4986	61.70	31.17	-48.01	44.86	74.00	29.14	Vertical
4	7311	69.29	36.06	-46.16	59.19	74.00	14.81	Vertical
5	14237.25	47.61	40.28	-38.57	49.32	74.00	24.68	Vertical
6	7312.5	59.75	36.06	-46.16	49.65	54.00	4.35	Vertical

11n(HT20)_TX_CH_11_Horizontal



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2696	44.79	27.55	-22.99	49.35	74.00	24.65	Horizontal
2	3693	55.23	28.81	-48.49	35.54	74.00	38.46	Horizontal
3	7375.875	65.09	36.18	-46.17	55.10	74.00	18.90	Horizontal
4	10062.75	50.90	38.84	-41.81	47.94	74.00	26.06	Horizontal
5	13473.75	48.20	39.51	-39.18	48.53	74.00	25.47	Horizontal
6	7386.75	55.78	36.20	-46.17	45.81	54.00	8.19	Horizontal

11n(HT20)_TX_CH_11_Vertical



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2705.3333	43.31	27.57	-22.98	47.90	74.00	26.10	Vertical
2	3693	59.97	28.81	-48.49	40.28	74.00	33.72	Vertical
3	4990.5	61.66	31.18	-48.01	44.83	74.00	29.17	Vertical
4	7385.625	67.21	36.19	-46.17	57.24	74.00	16.76	Vertical
5	10500	49.67	39.15	-40.65	48.17	74.00	25.83	Vertical
6	7385.25	57.80	36.19	-46.17	47.82	54.00	6.18	Vertical

7.4 Conducted Average Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)

Test Method: ANSI C63.10 (2020) Section 11.9.2

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

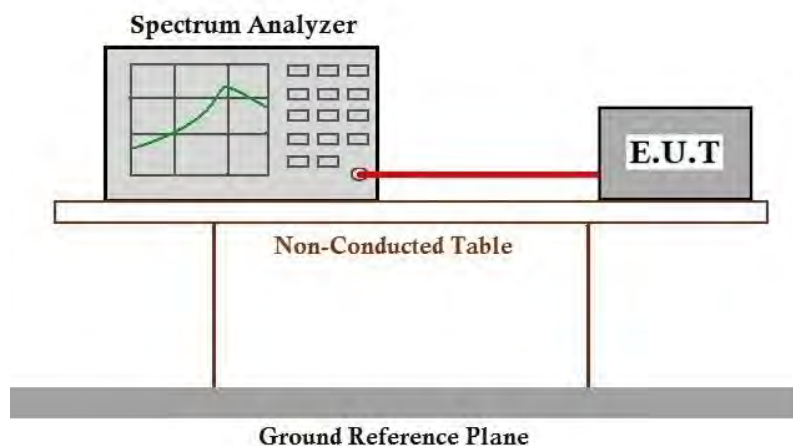
Humidity: 47.8 % RH

Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram





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7.4.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details

7.5 Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)

Test Method: ANSI C63.10 (2020) Section 11.8.1

Limit:

≥500 kHz

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

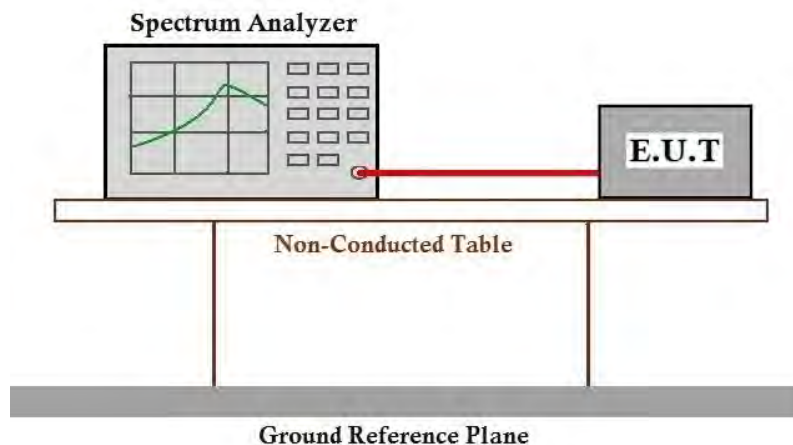
Humidity: 47.8 % RH

Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.6 Power Spectrum Density

Test Requirement 47 CFR Part 15, Subpart C 15.247(e)

Test Method: ANSI C63.10 (2020) Section 11.10.3

Limit:

≤8dBm in any 3 kHz band during any time interval of continuous transmission

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

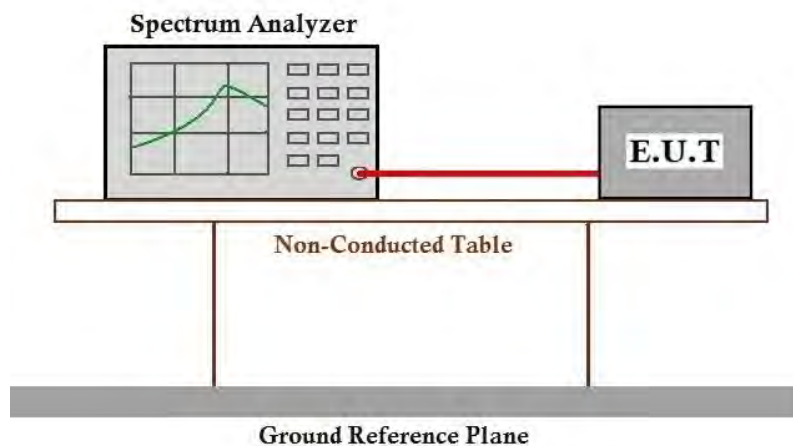
Humidity: 47.8 % RH

Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.7 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2020) Section 6.10.4

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

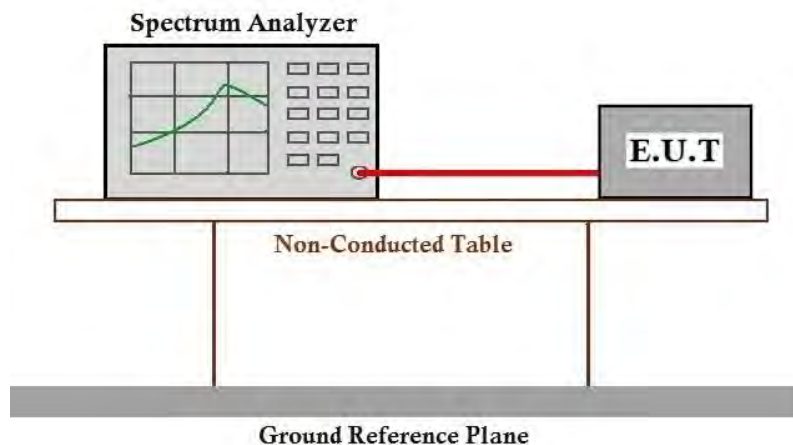
Humidity: 47.8 % RH

Atmospheric Pressure: 1010 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 Conducted Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2020) Section 11.11

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

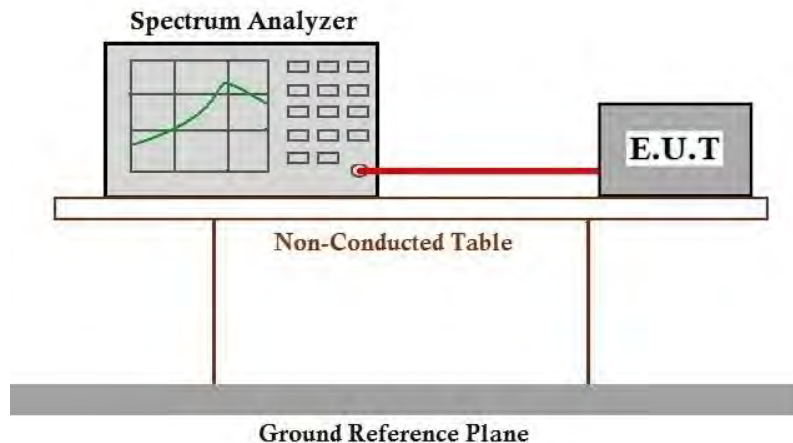
Humidity: 47.8 % RH

Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2509002164AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for KSCR2509002164AT



10 Appendix

1. Duty Cycle

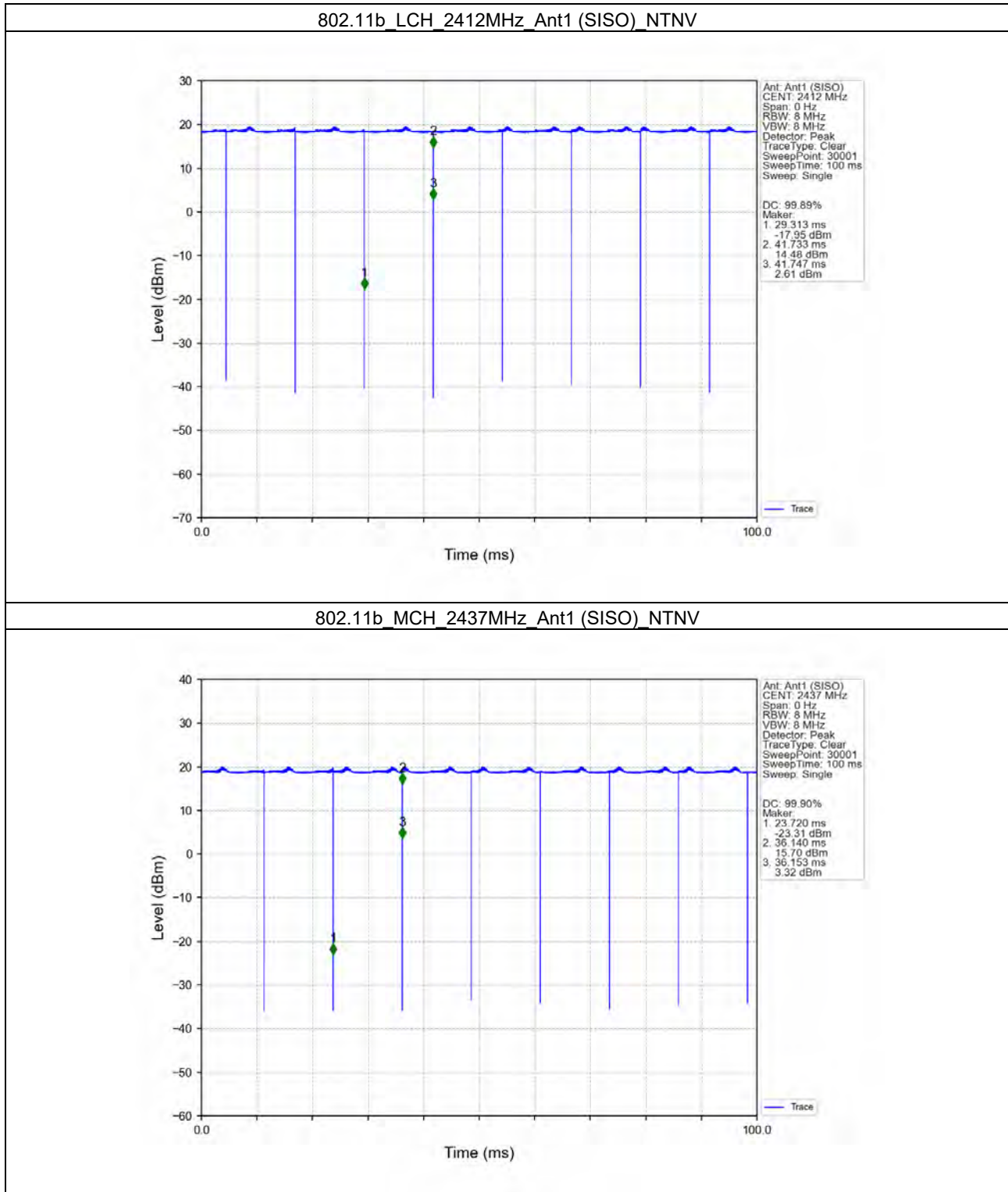
1.1 Test Result

1.1.1 Ant1

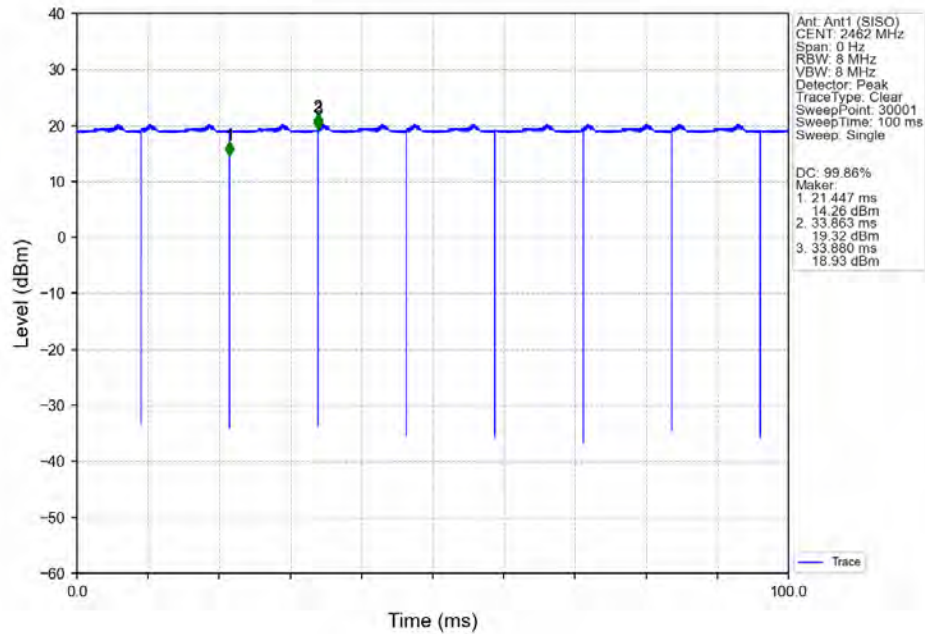
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	12.420	12.434	99.89	0.00	0.03
		2437	12.420	12.433	99.90	0.00	0.03
		2462	12.416	12.433	99.86	0.01	0.03
802.11g	SISO	2412	2.064	2.084	99.04	0.04	0.07
		2437	1.921	1.939	99.07	0.04	0.03
		2462	2.065	2.083	99.14	0.04	0.04
802.11n (HT20)	SISO	2412	1.922	1.940	99.07	0.04	0.03
		2437	1.921	1.939	99.07	0.04	0.03
		2462	1.921	1.939	99.07	0.04	0.03

1.2 Test Graph

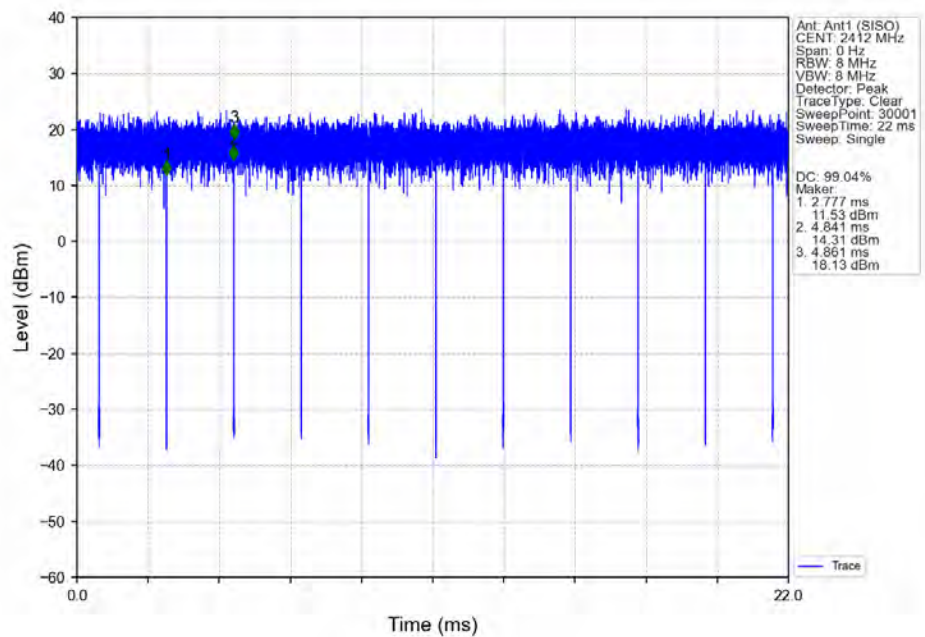
1.2.1 Ant1



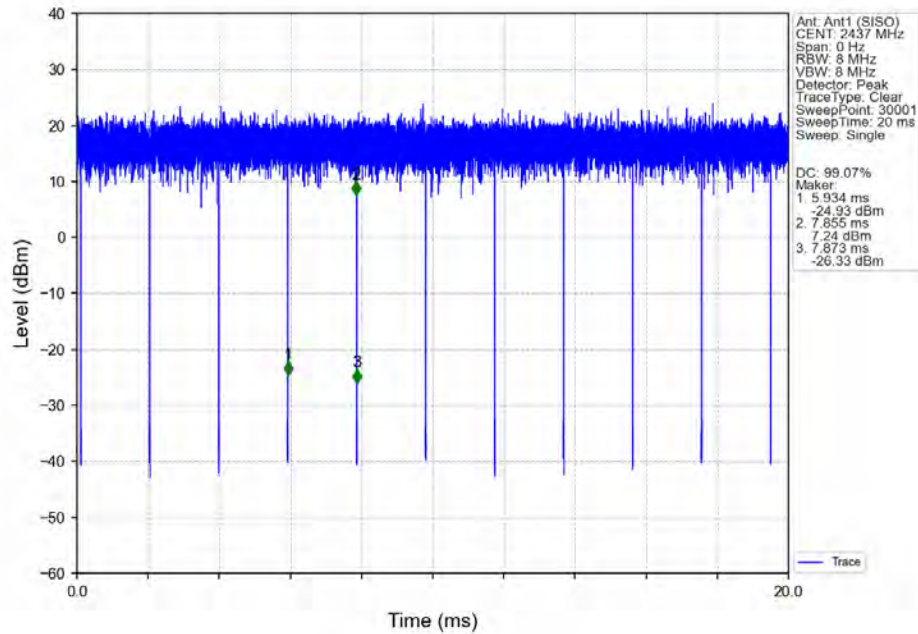
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



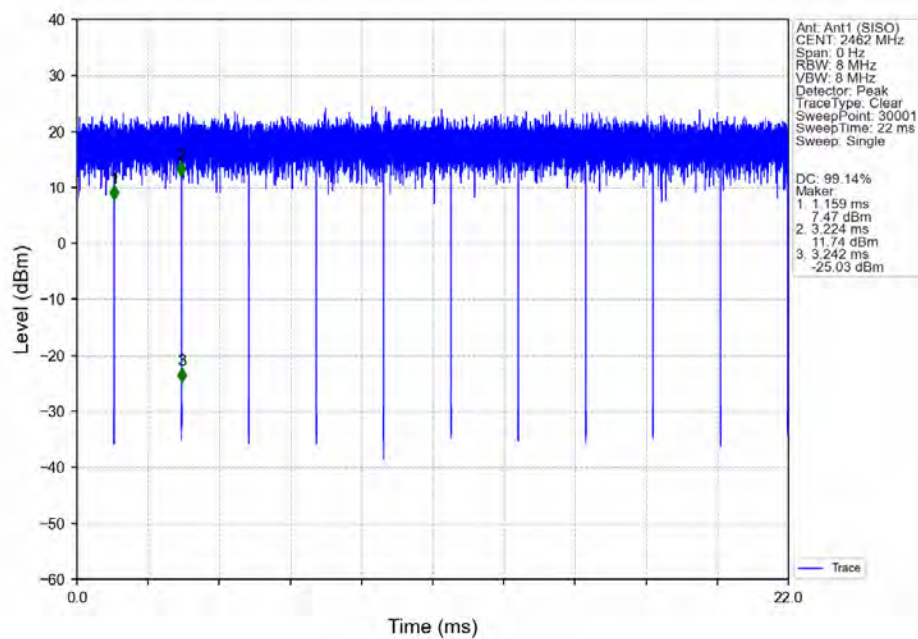
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



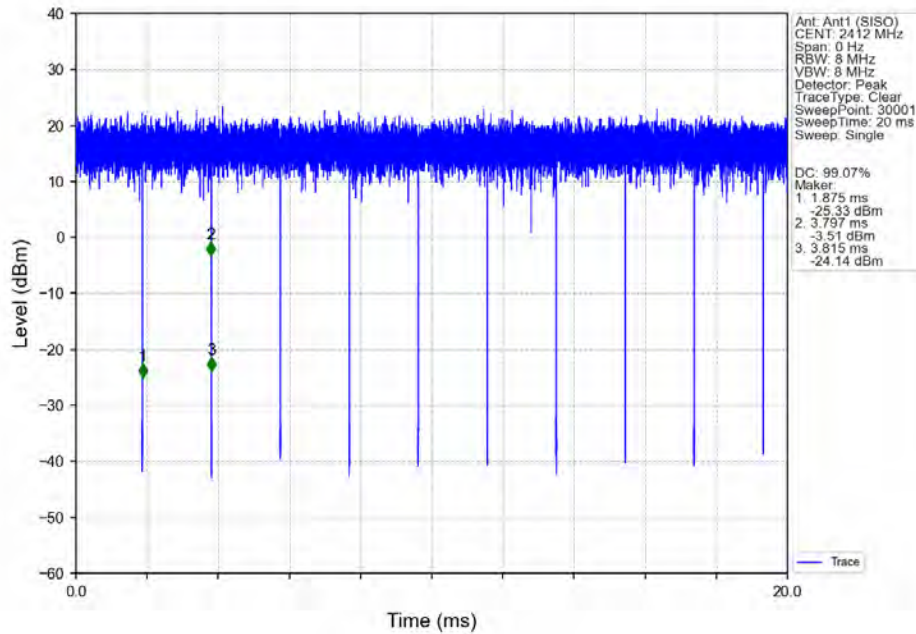
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



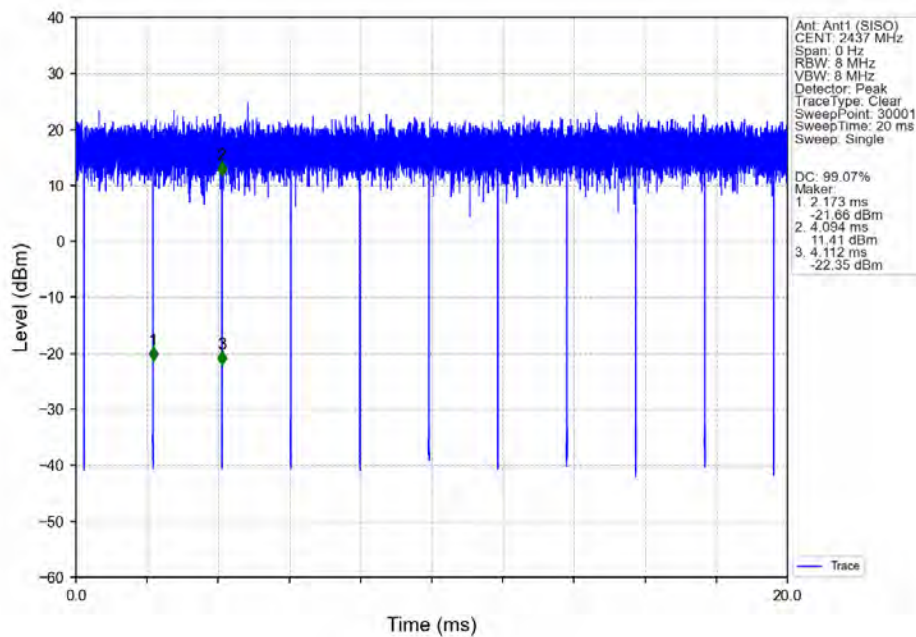
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



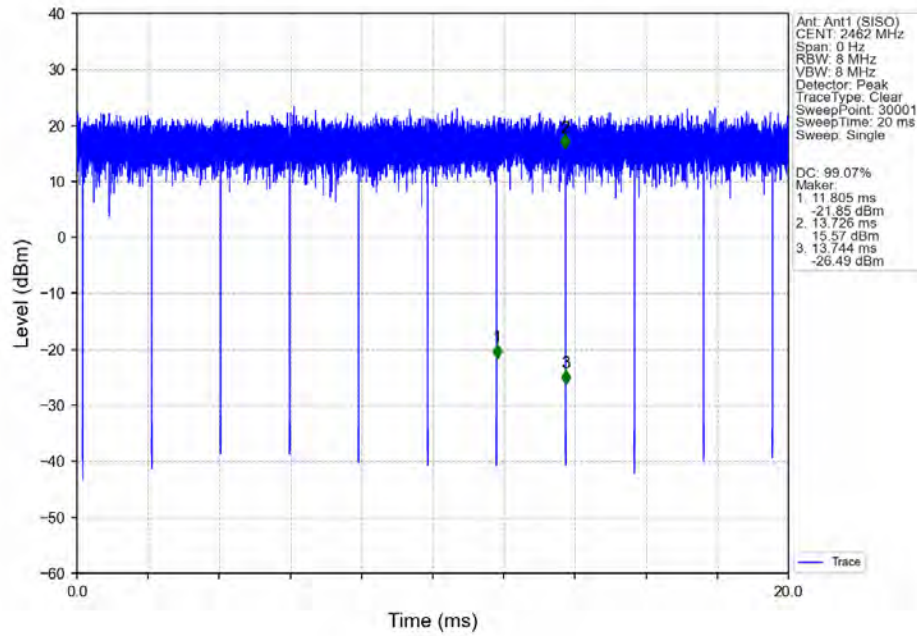
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	12.587	/	Pass
		2437	1	12.529	/	Pass
		2462	1	12.519	/	Pass
802.11g	SISO	2412	1	17.174	/	Pass
		2437	1	18.142	/	Pass
		2462	1	17.174	/	Pass
802.11n (HT20)	SISO	2412	1	18.175	/	Pass
		2437	1	18.131	/	Pass
		2462	1	18.162	/	Pass

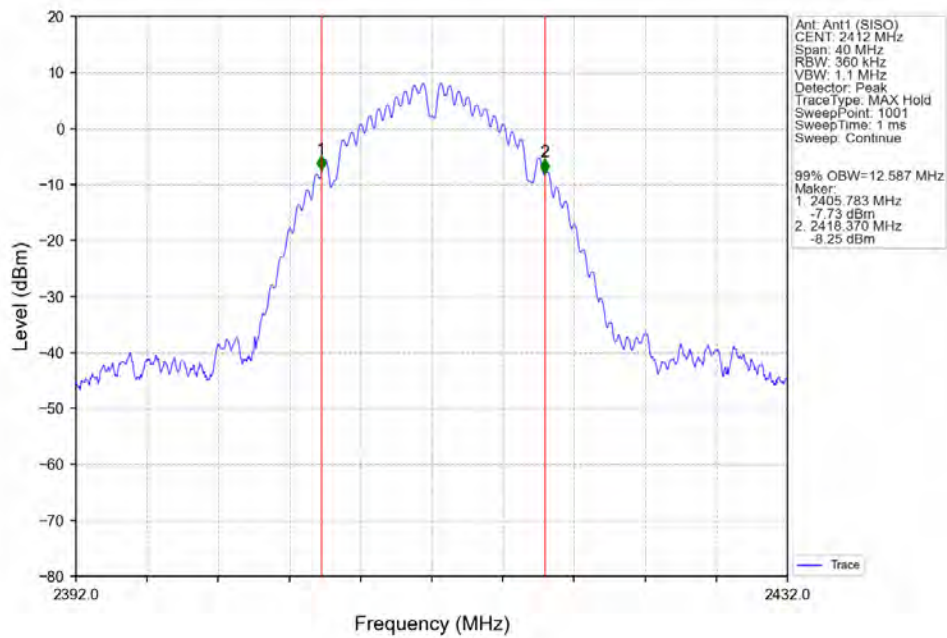
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	7.133	≥ 0.5	Pass
		2437	1	6.702	≥ 0.5	Pass
		2462	1	7.098	≥ 0.5	Pass
802.11g	SISO	2412	1	15.446	≥ 0.5	Pass
		2437	1	15.607	≥ 0.5	Pass
		2462	1	15.647	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	16.296	≥ 0.5	Pass
		2437	1	16.377	≥ 0.5	Pass
		2462	1	16.439	≥ 0.5	Pass

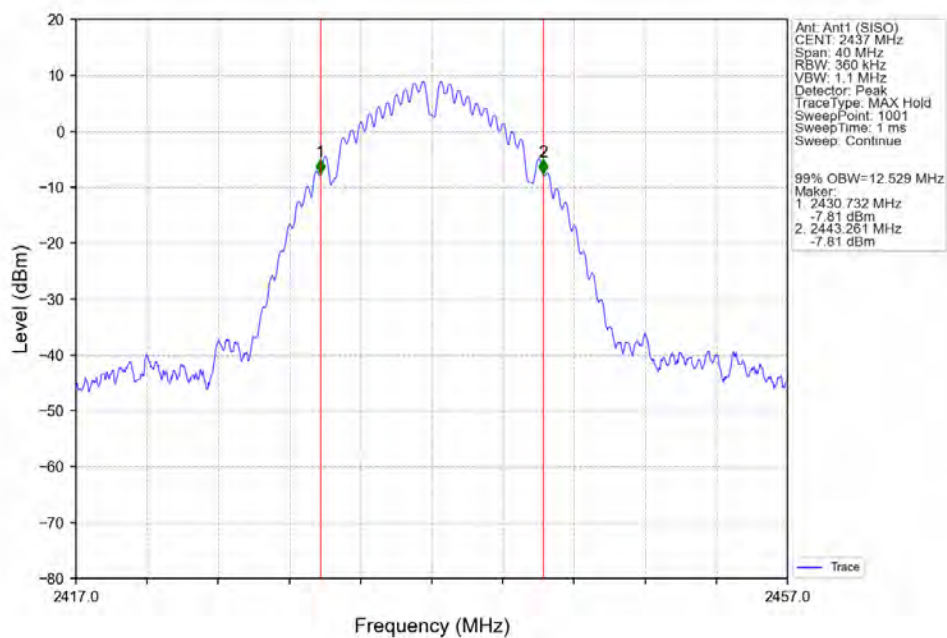
2.2 Test Graph

2.2.1 OBW

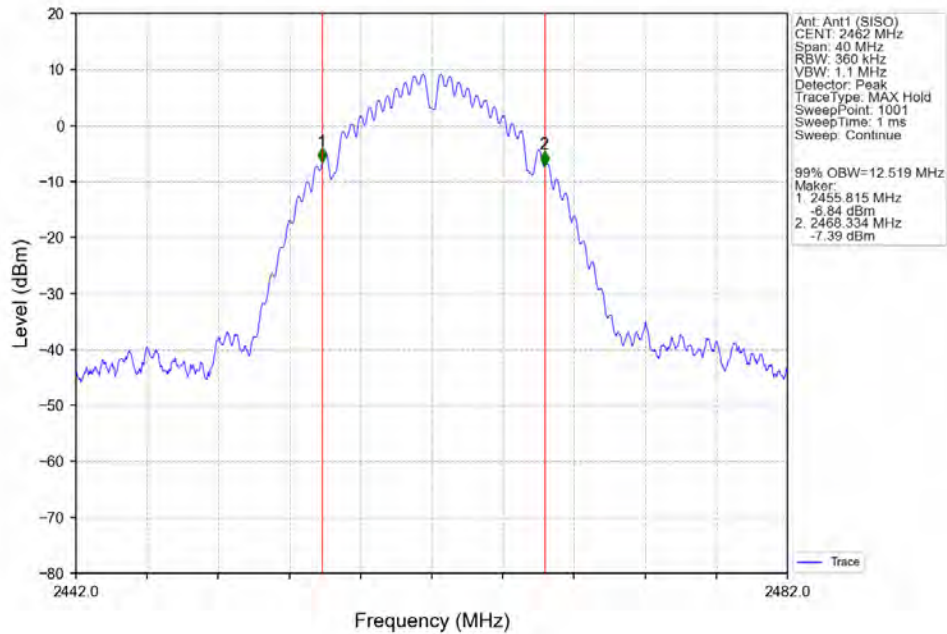
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



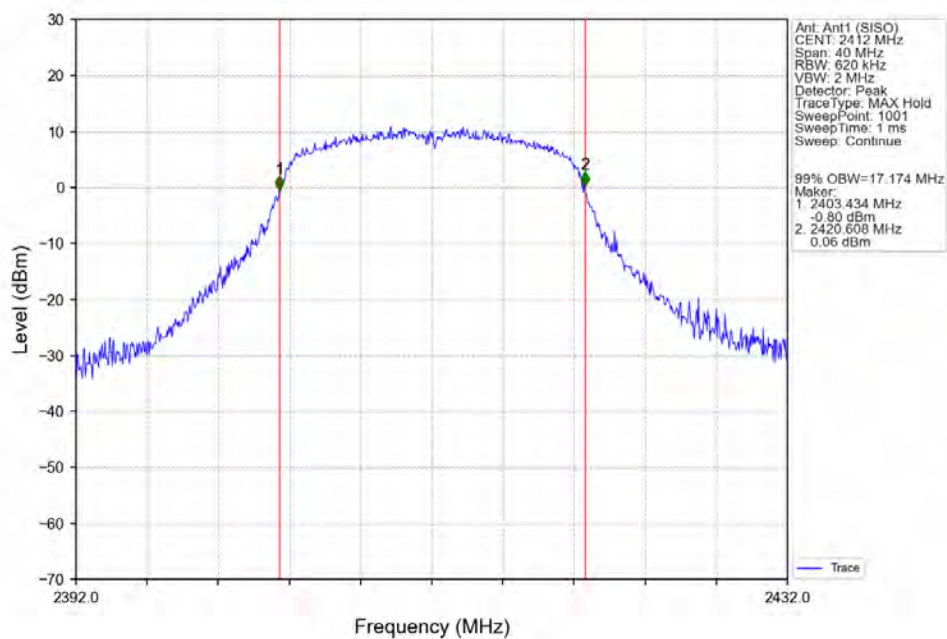
802.11b MCH 2437MHz_Ant1 (SISO)_NTNV



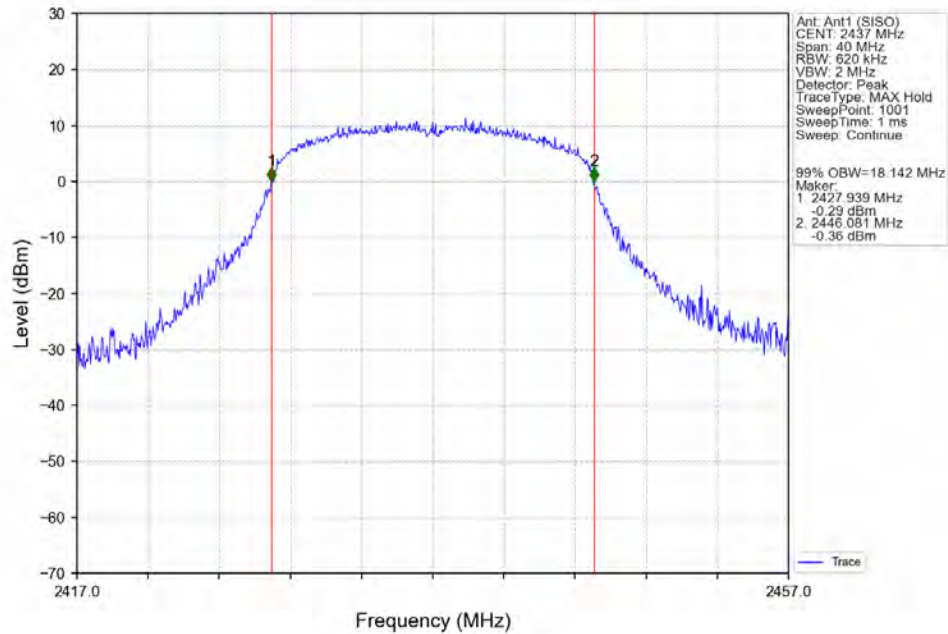
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



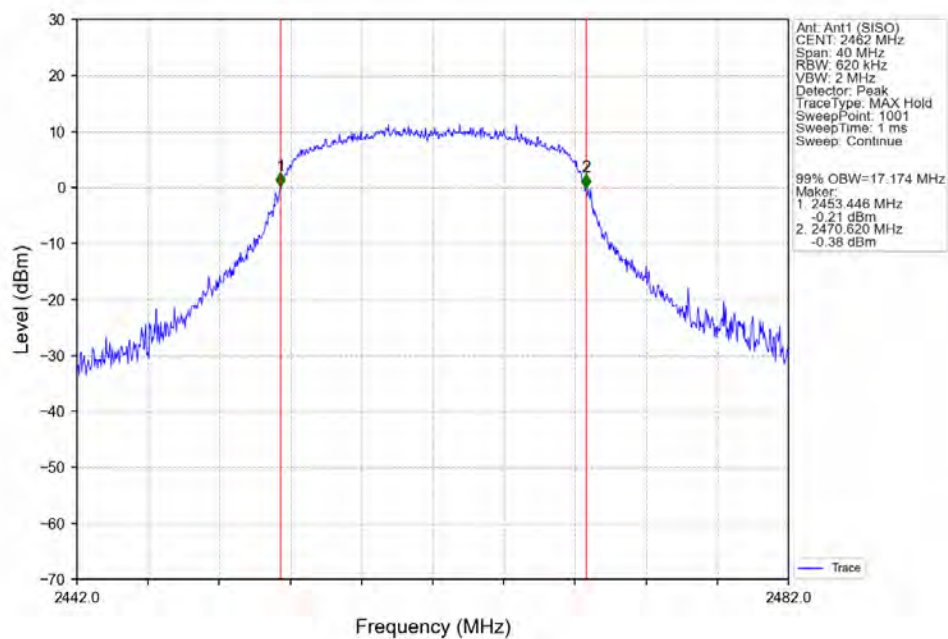
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



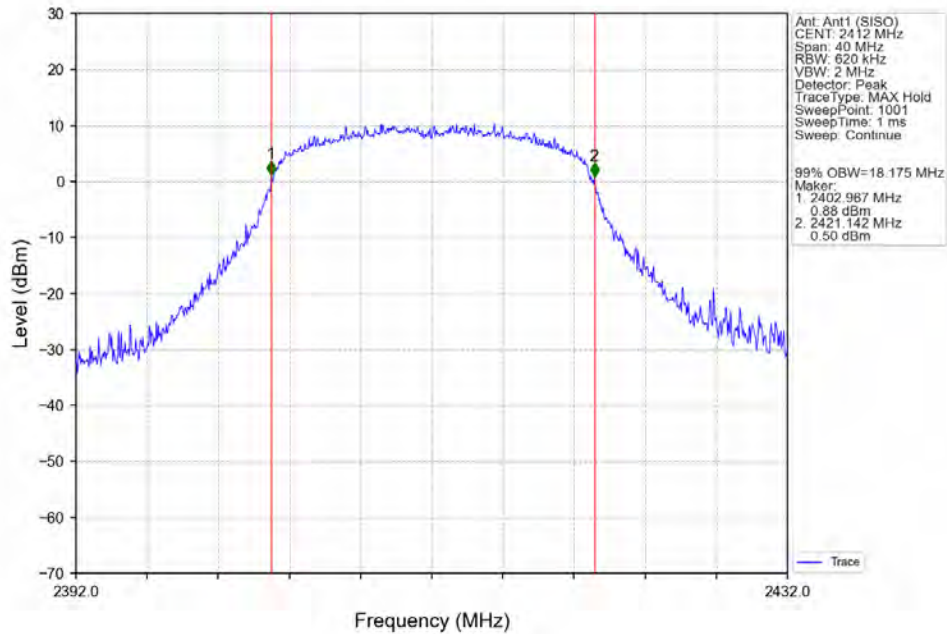
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



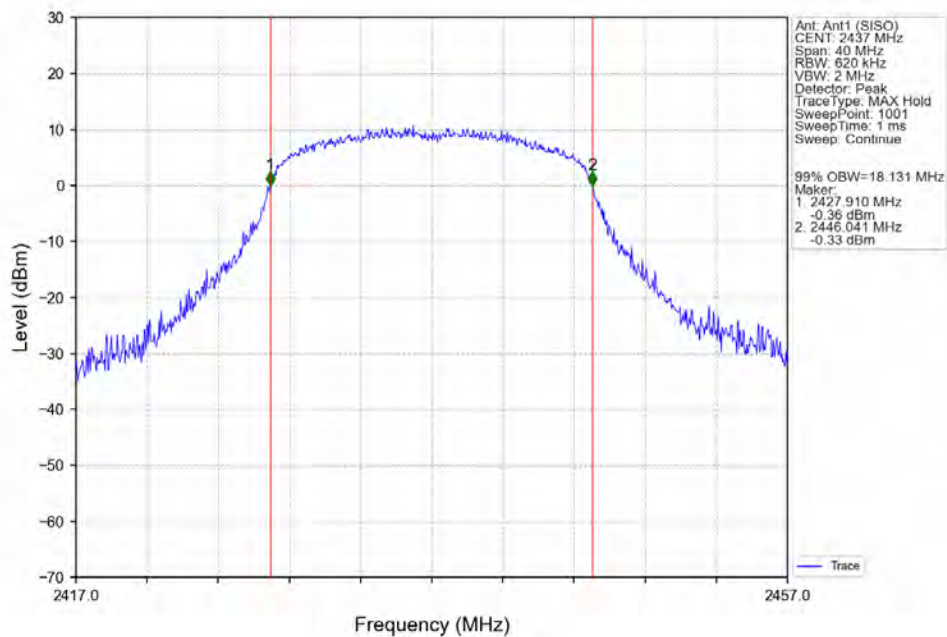
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



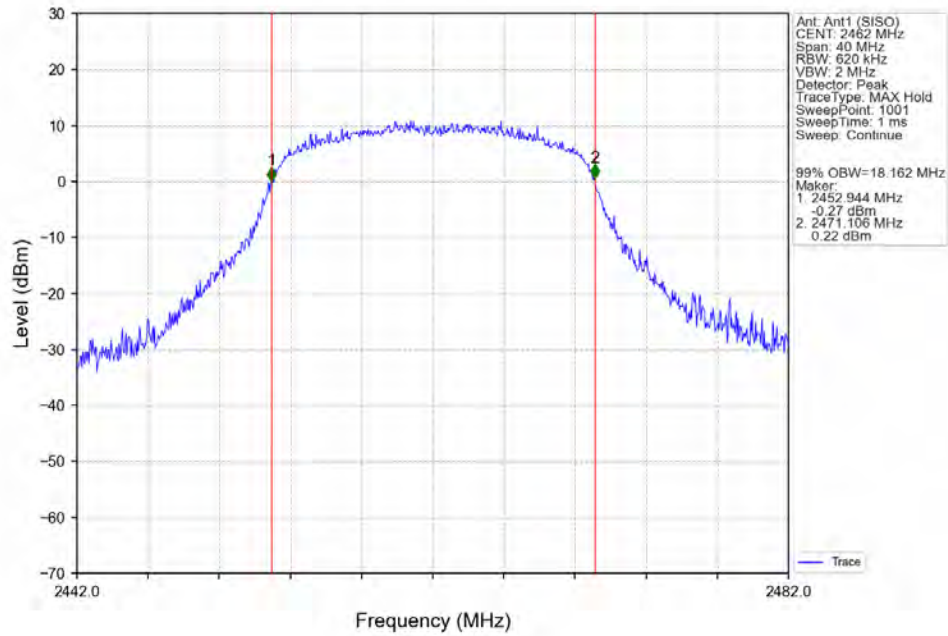
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV

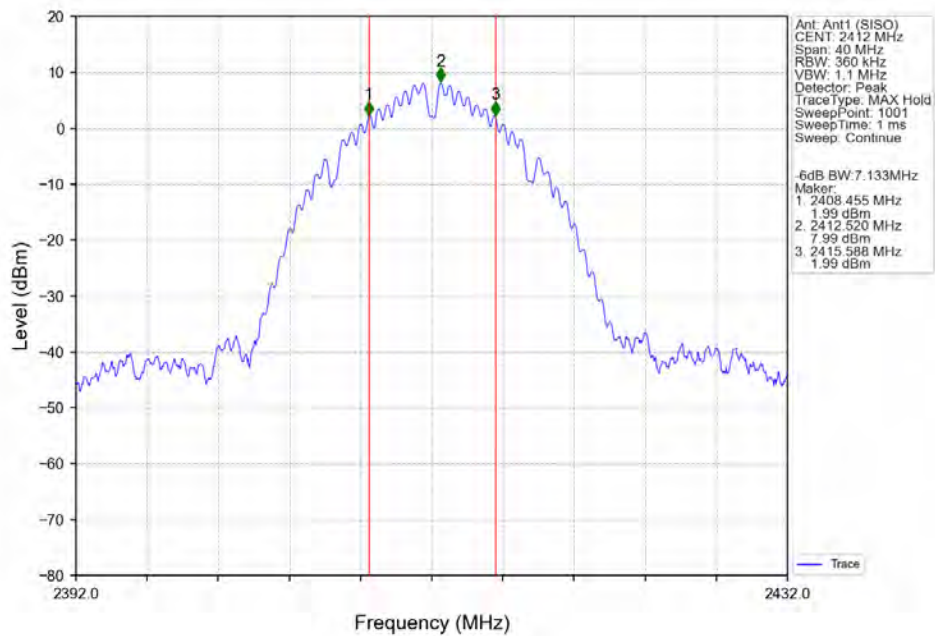


802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV

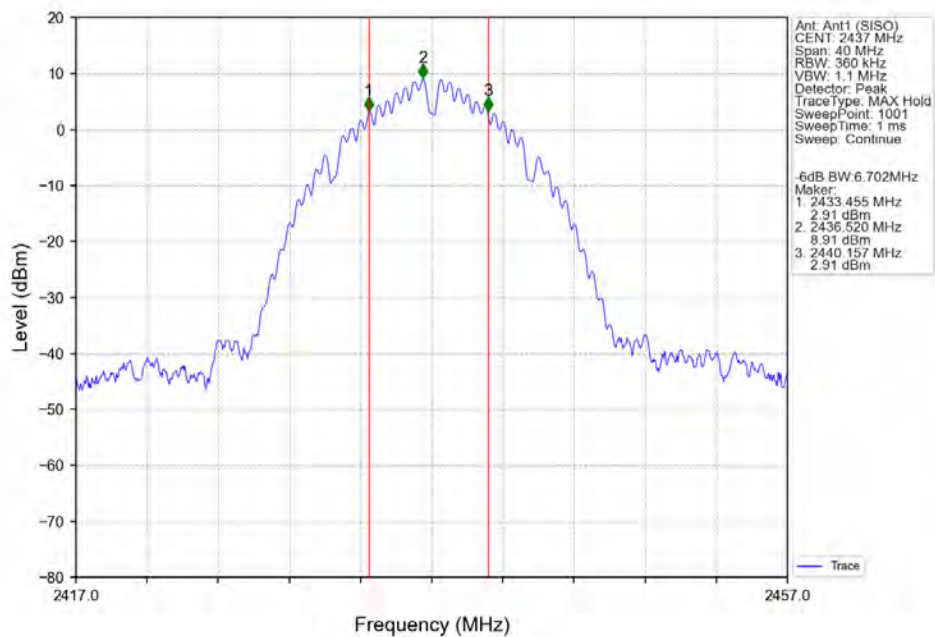


2.2.2 6dB BW

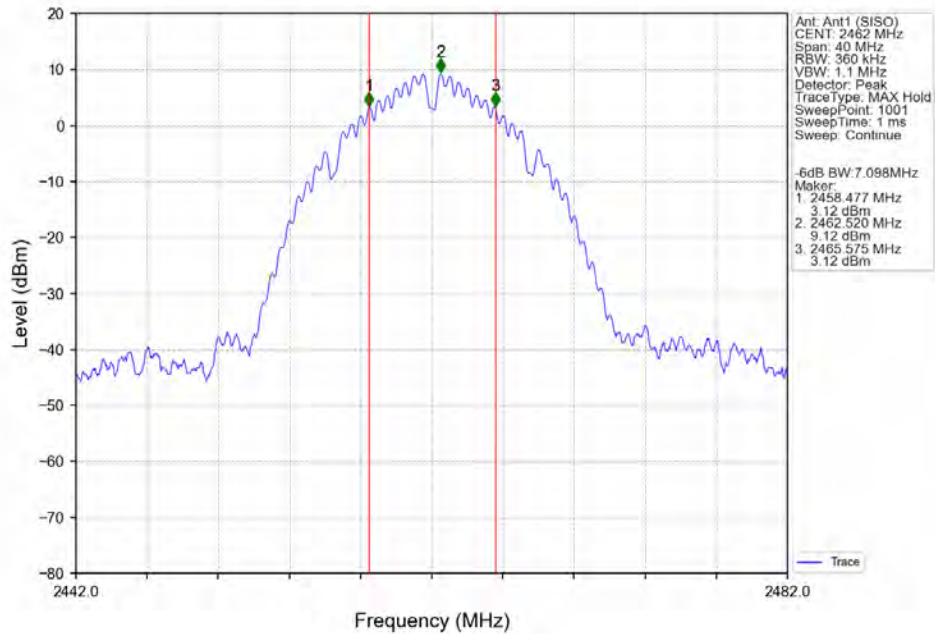
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



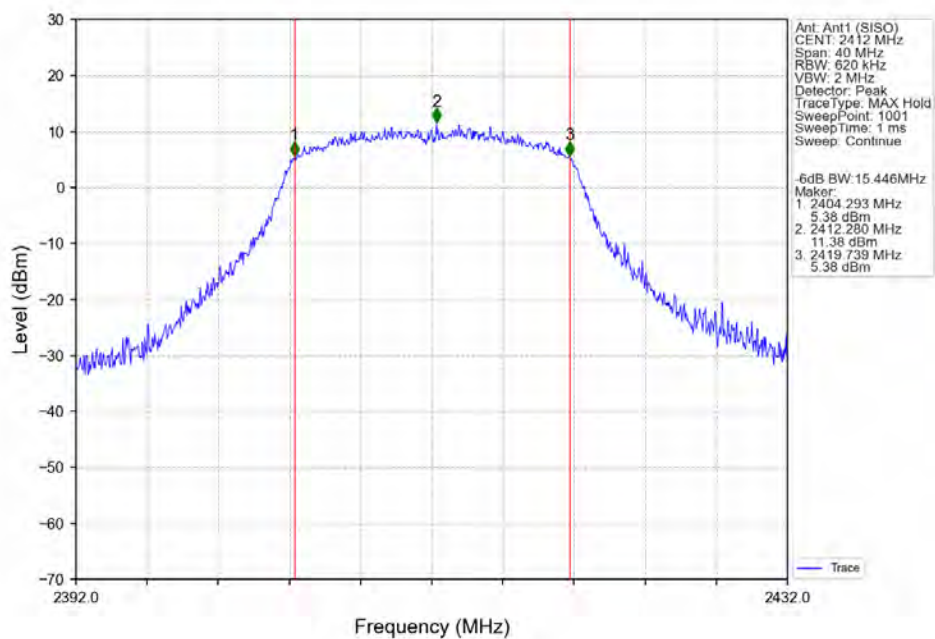
802.11b MCH 2437MHz_Ant1 (SISO)_NTNV



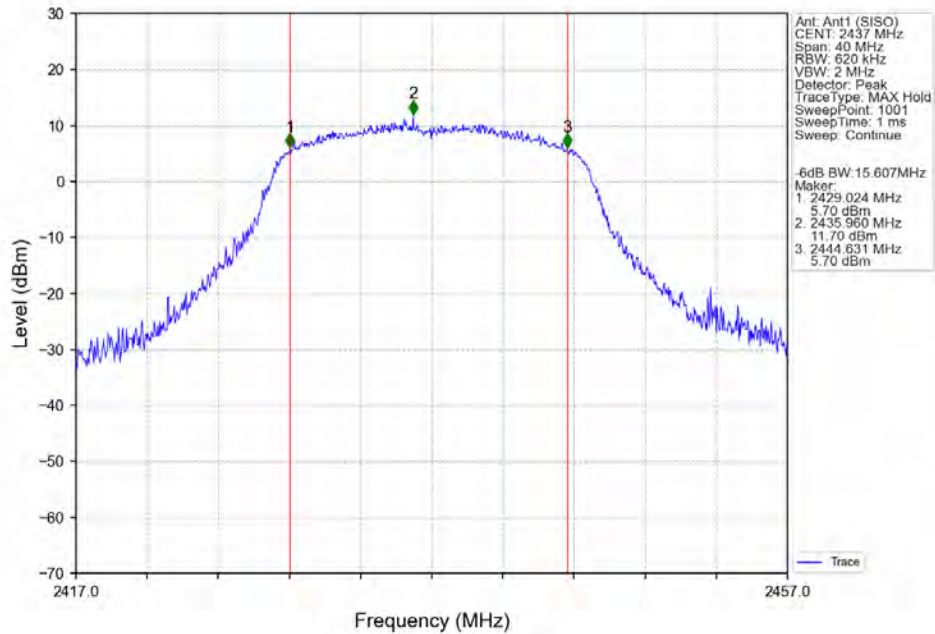
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



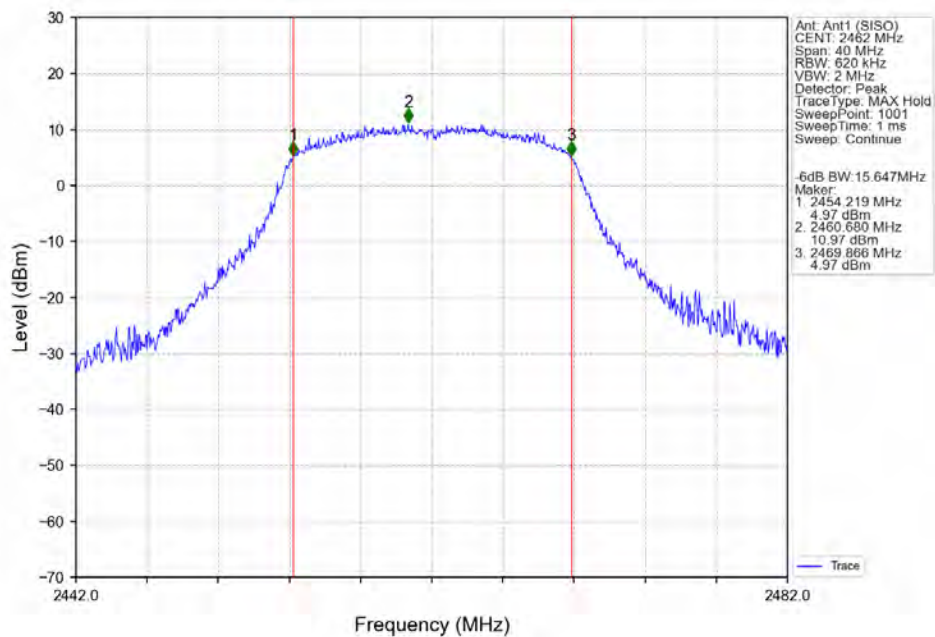
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



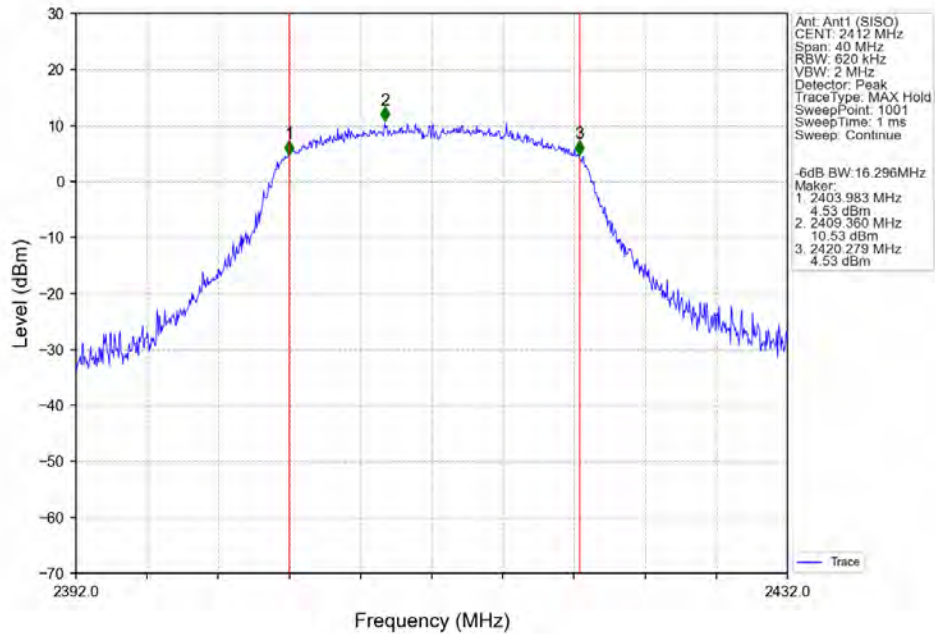
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



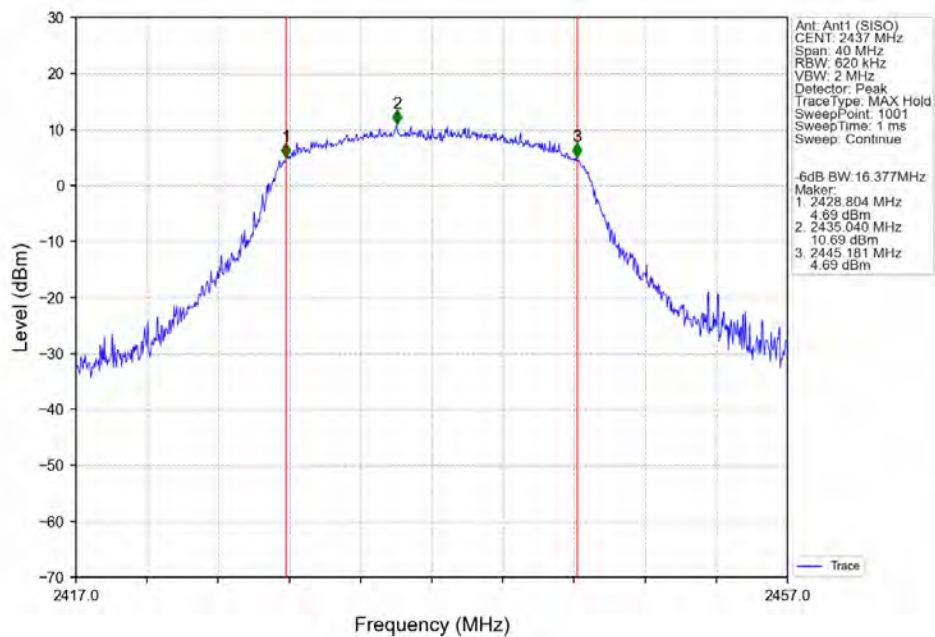
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



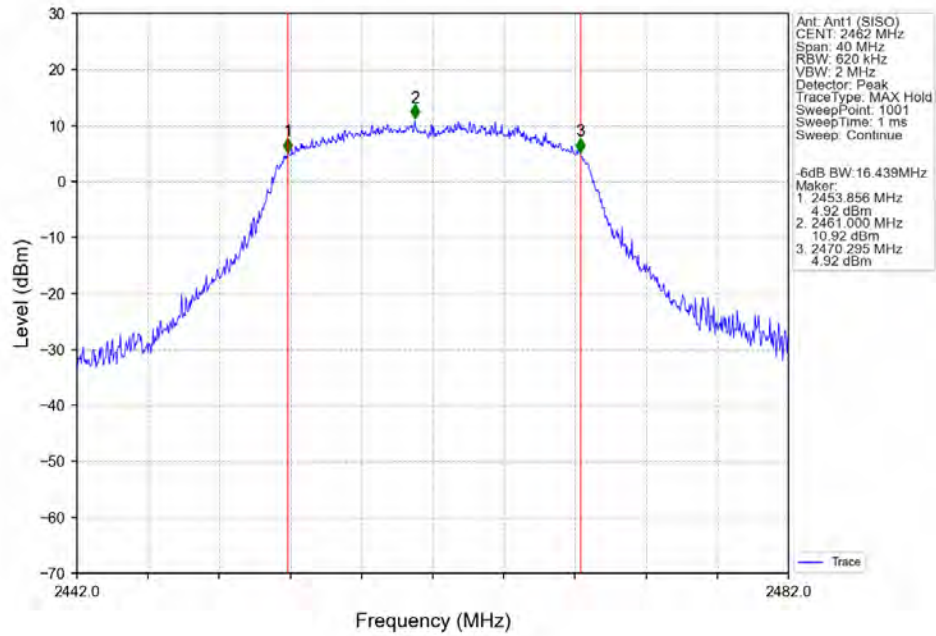
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTN





3. Maximum Conducted Output Power

3.1 Test Result

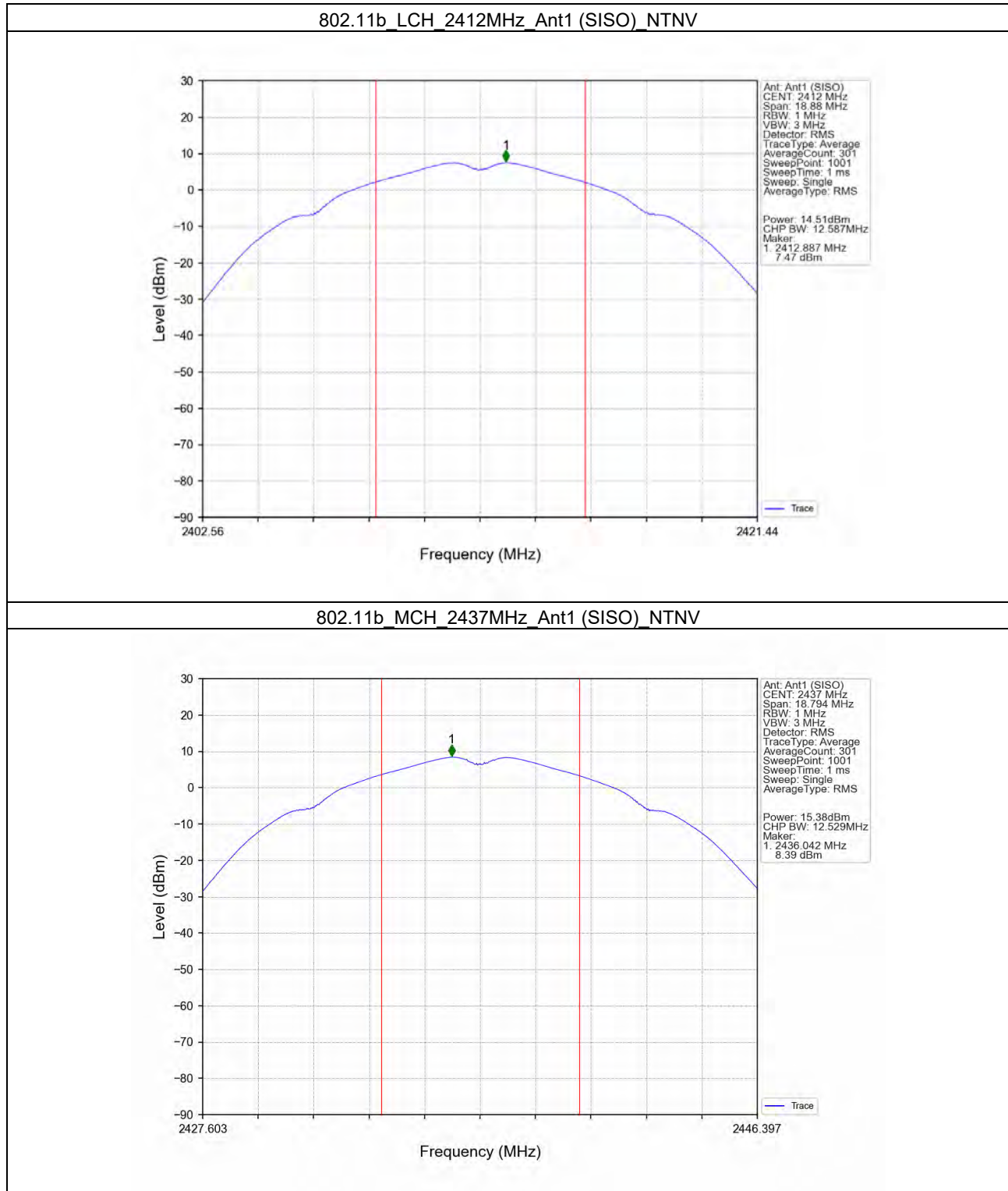
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	14.51	≤ 30	Pass
		2437	15.38	≤ 30	Pass
		2462	15.65	≤ 30	Pass
802.11g	SISO	2412	15.13	≤ 30	Pass
		2437	15.34	≤ 30	Pass
		2462	15.52	≤ 30	Pass
802.11n (HT20)	SISO	2412	14.94	≤ 30	Pass
		2437	15.05	≤ 30	Pass
		2462	15.20	≤ 30	Pass

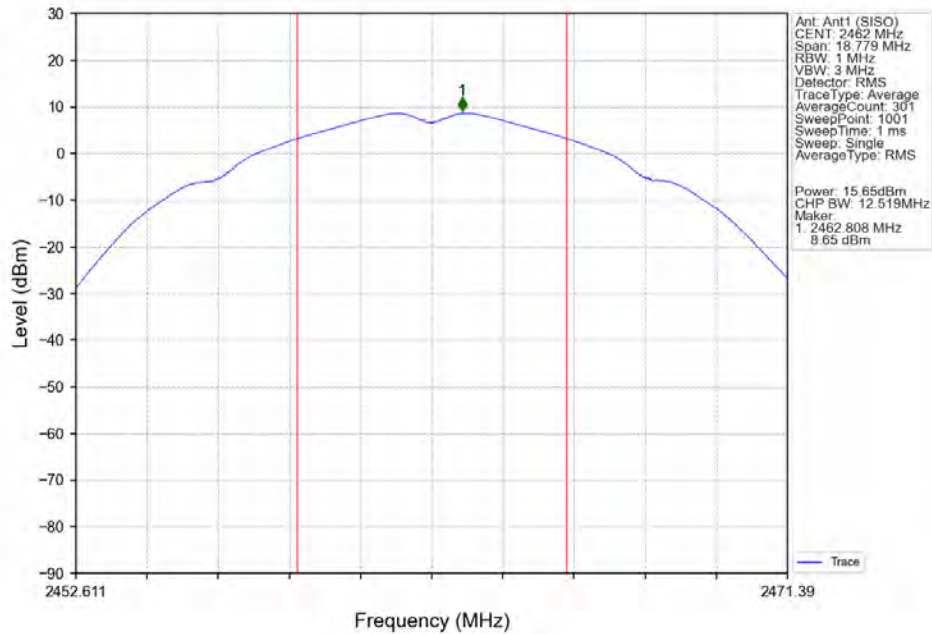
Note1: Antenna Gain: Ant1: -4.49dBi;

3.2 Test Graph

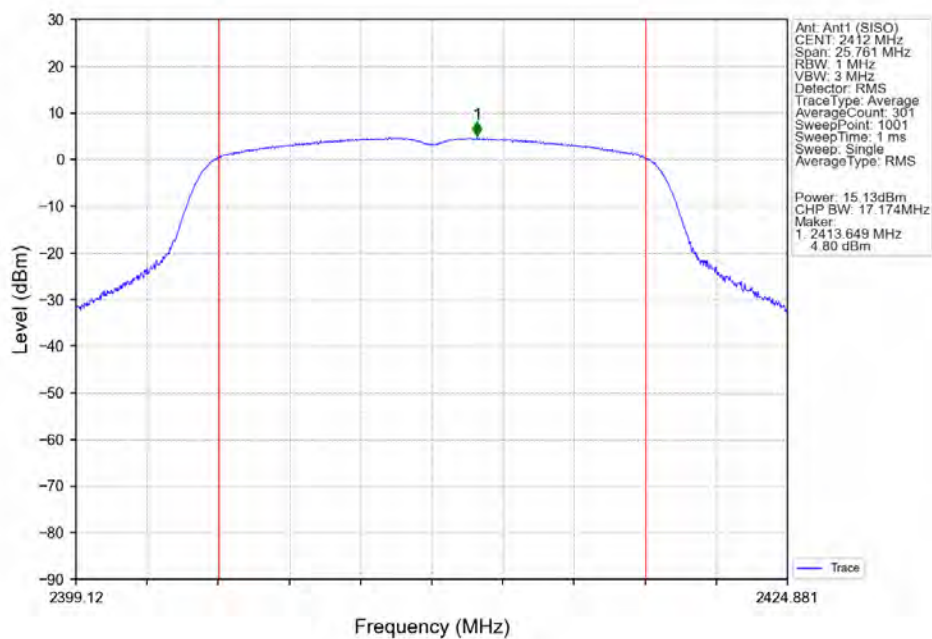
3.2.1 Power



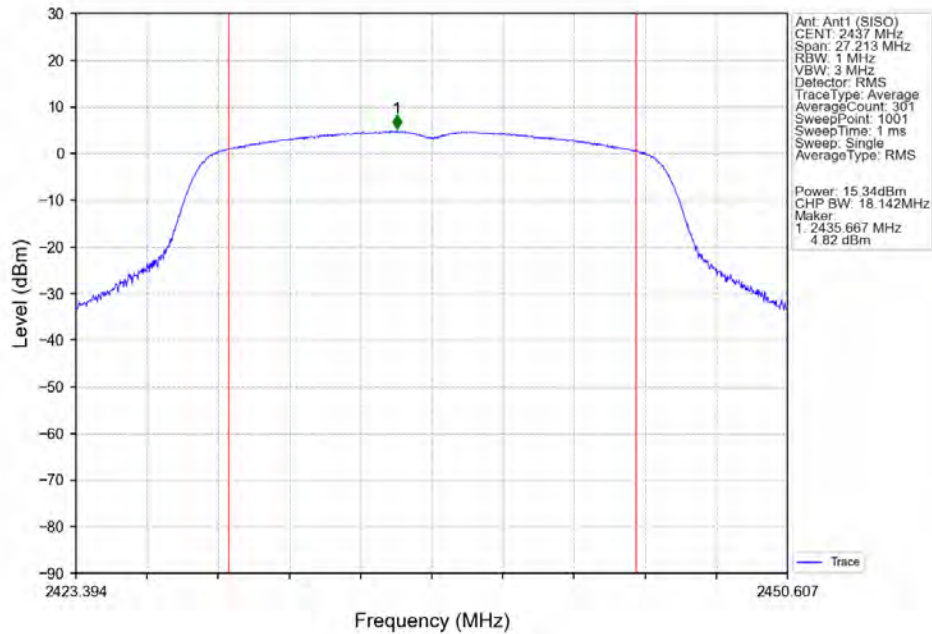
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



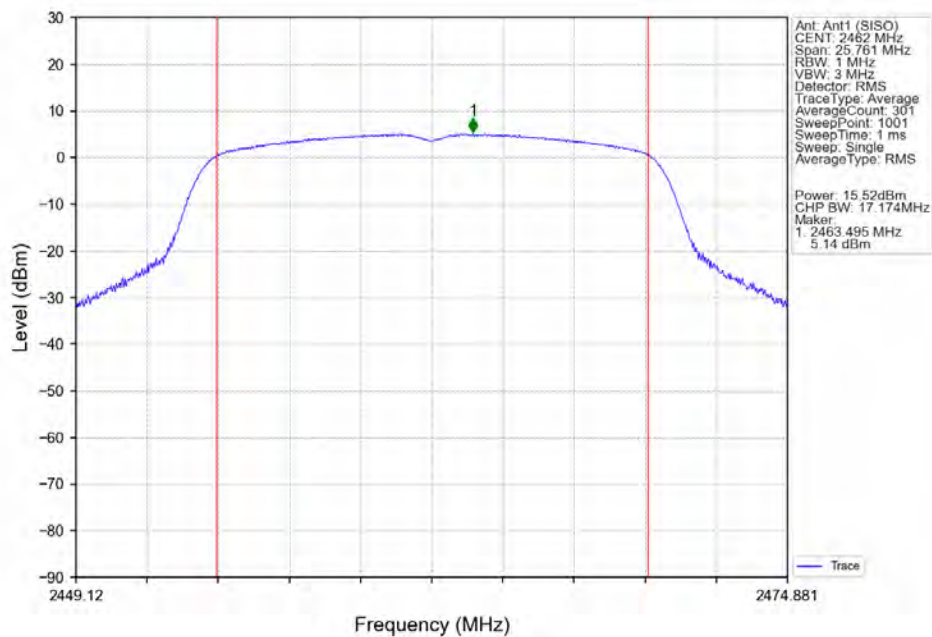
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



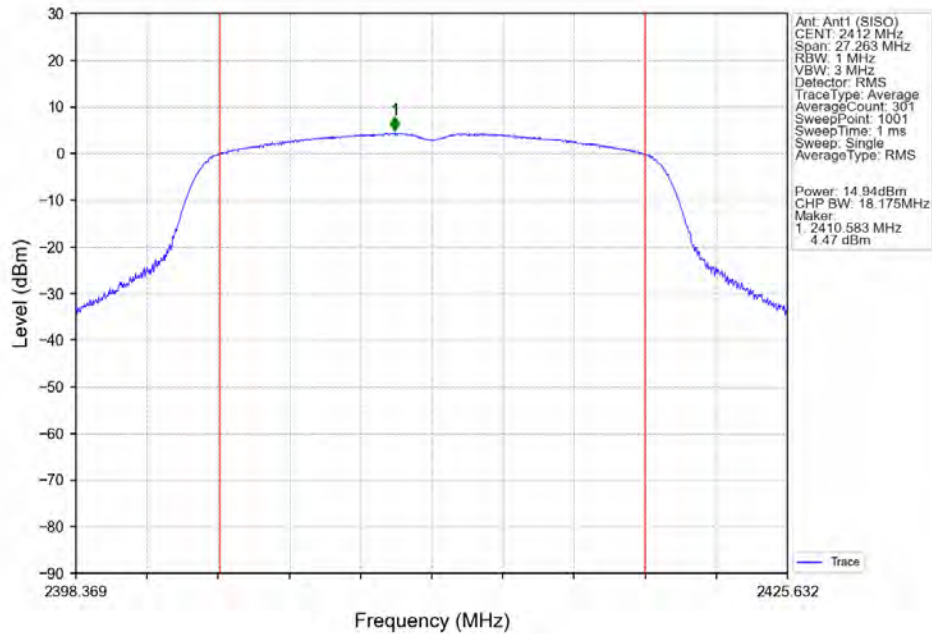
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



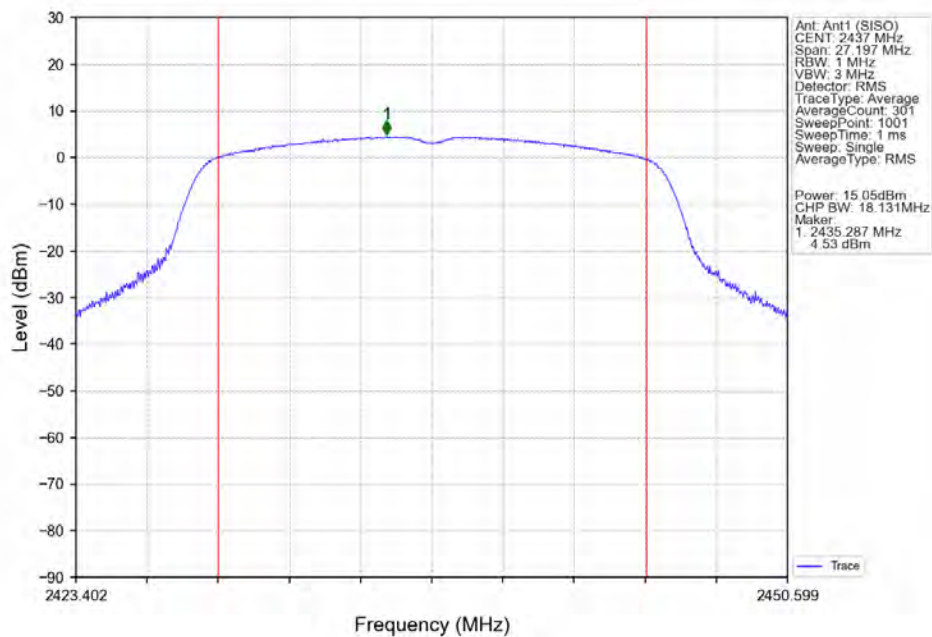
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



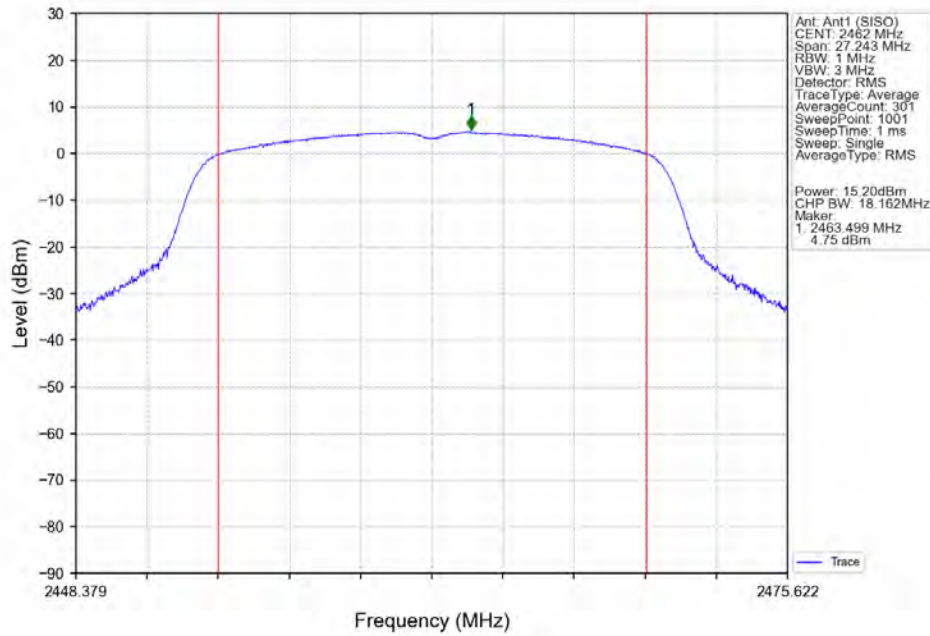
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV





4. Maximum Power Spectral Density

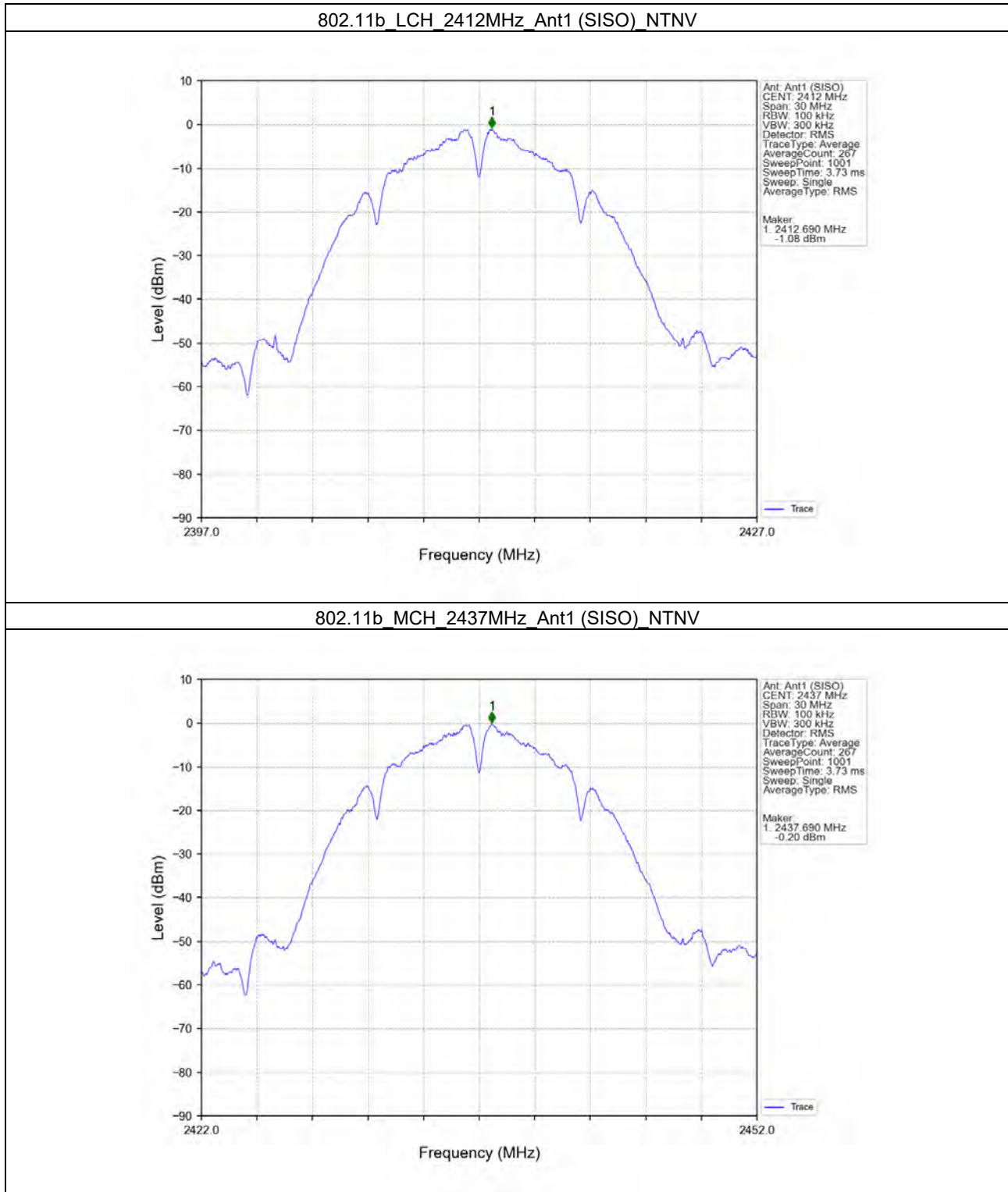
4.1 Test Result

4.1.1 PSD

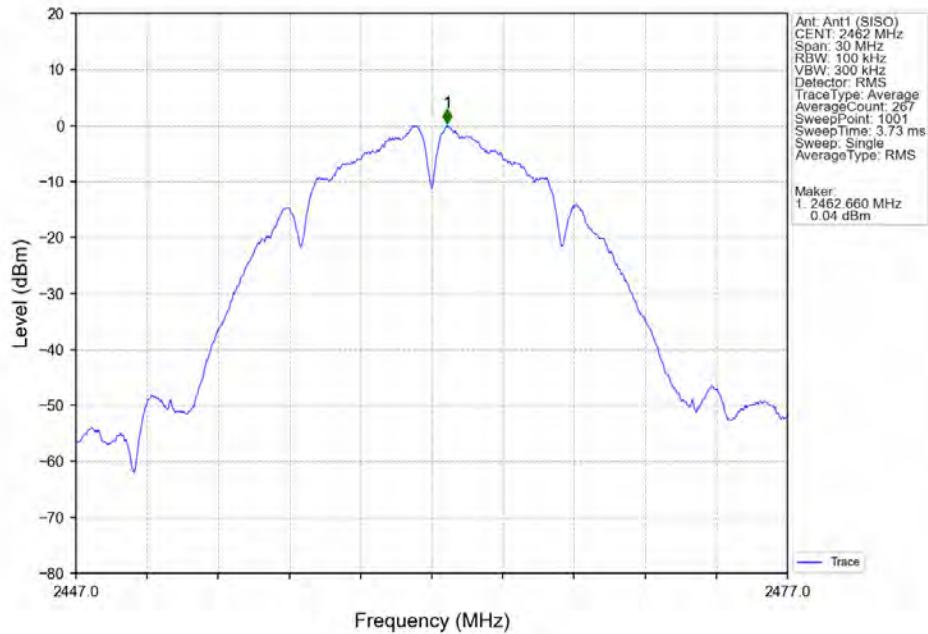
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-1.08	<=8	Pass
		2437	-0.20	<=8	Pass
		2462	0.04	<=8	Pass
802.11g	SISO	2412	-4.18	<=8	Pass
		2437	-4.04	<=8	Pass
		2462	-3.65	<=8	Pass
802.11n (HT20)	SISO	2412	-4.53	<=8	Pass
		2437	-4.39	<=8	Pass
		2462	-4.24	<=8	Pass
Note1: Antenna Gain: Ant1: -4.49dBi;					

4.2 Test Graph

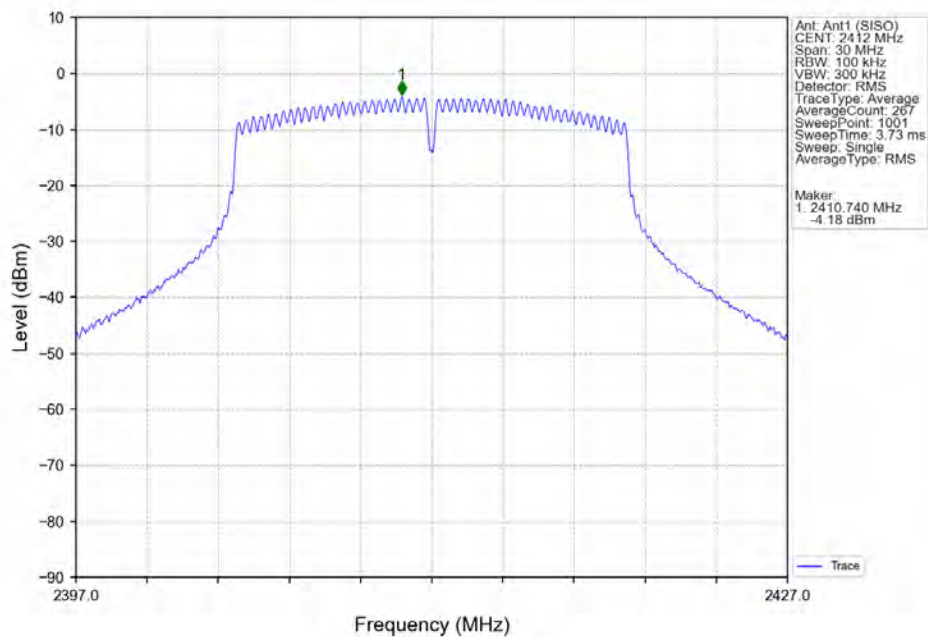
4.2.1 PSD



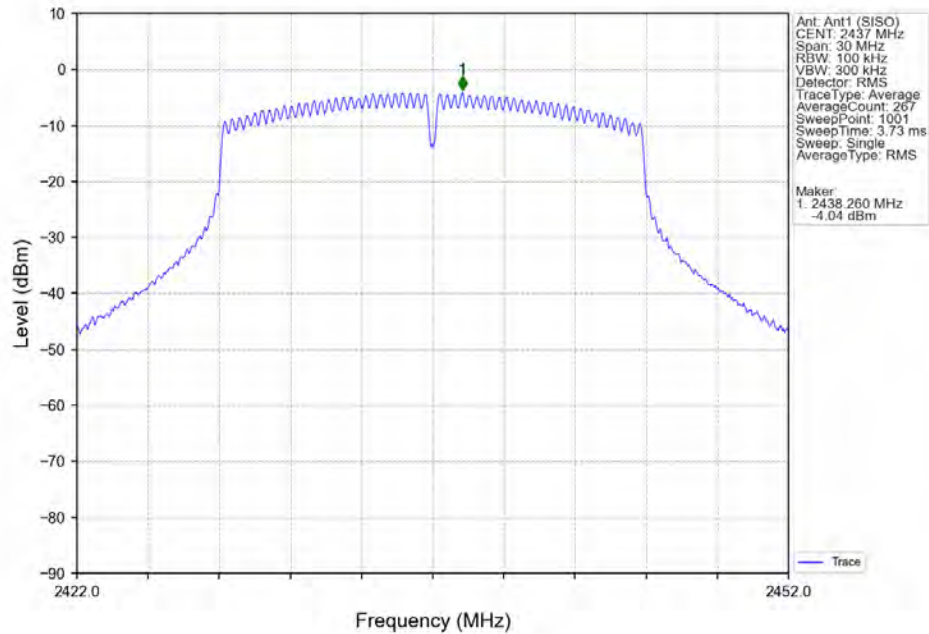
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



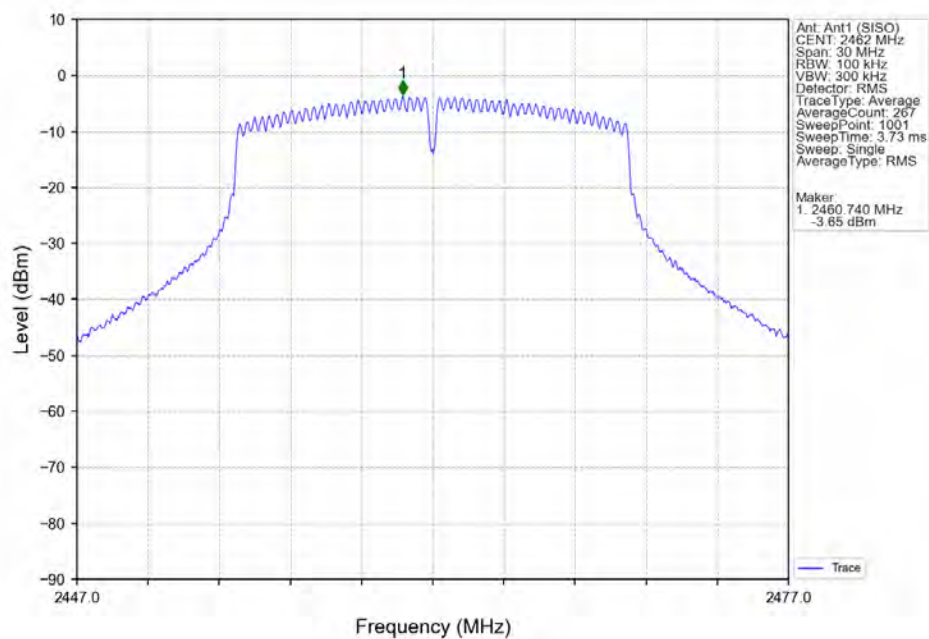
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



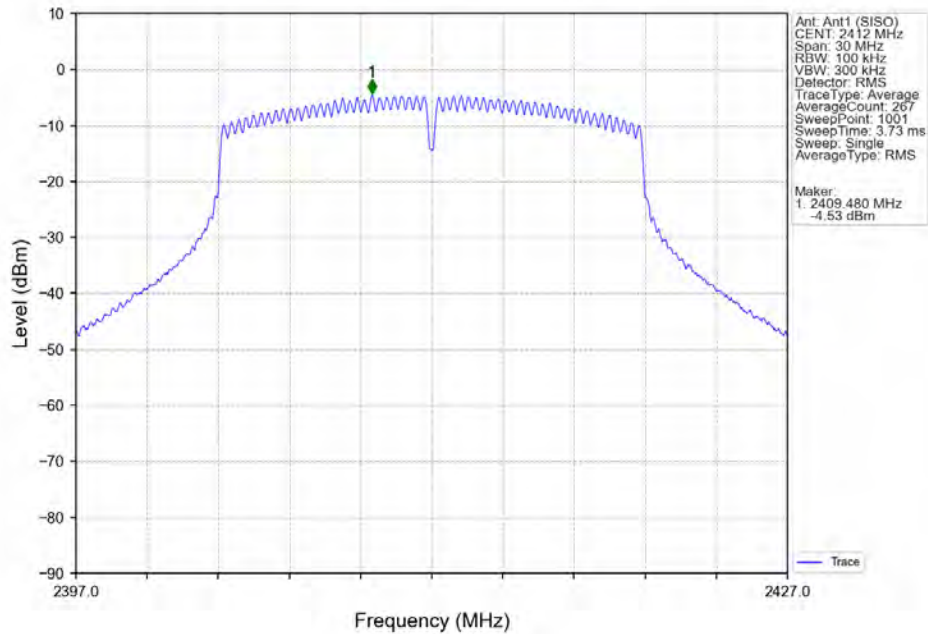
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



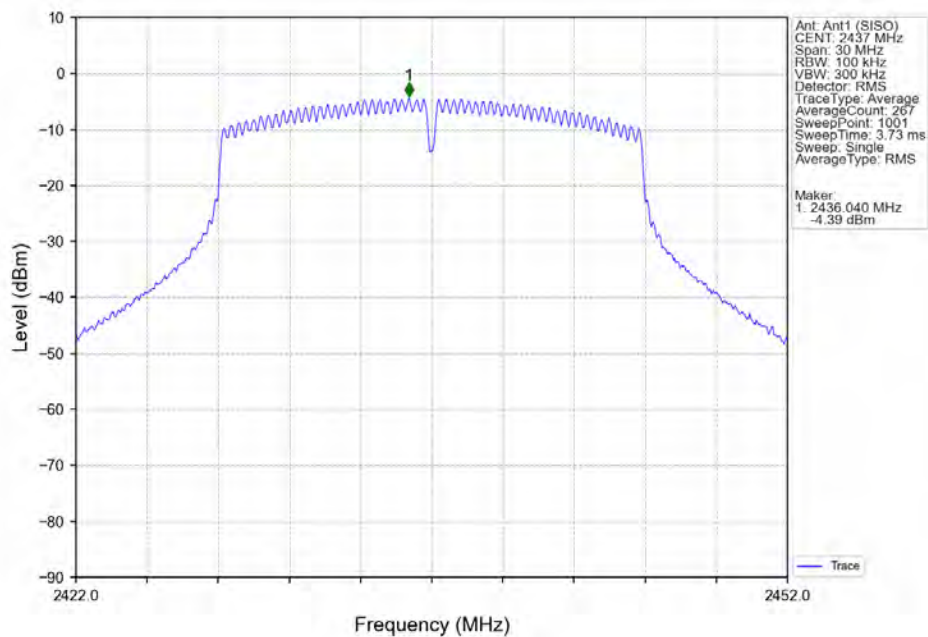
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



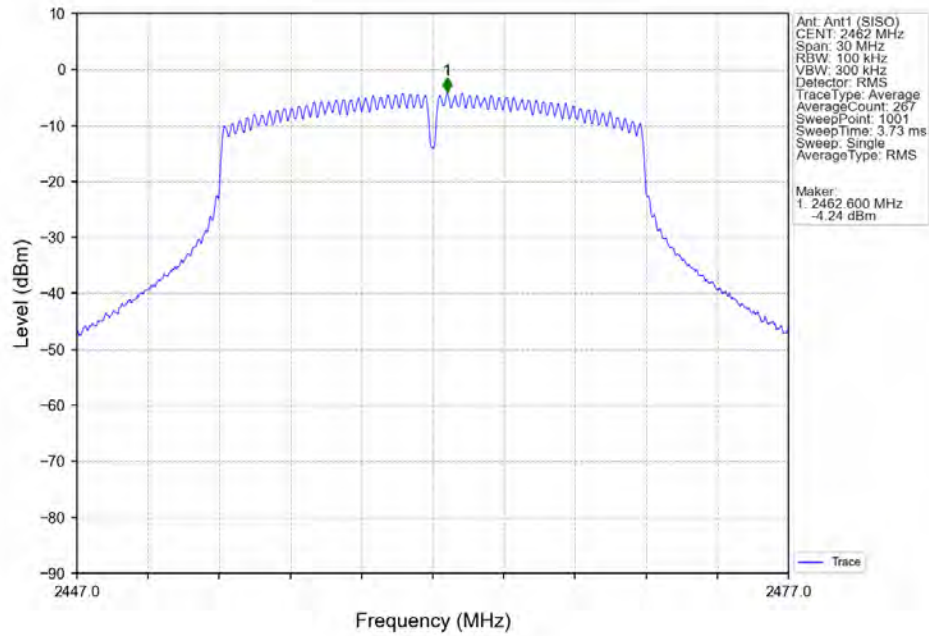
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTN



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	7.42
		2437	1	8.69
		2462	1	8.85
802.11g	SISO	2412	1	4.94
		2437	1	5.03
		2462	1	5.51
802.11n (HT20)	SISO	2412	1	4.91
		2437	1	5.04
		2462	1	5.02

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

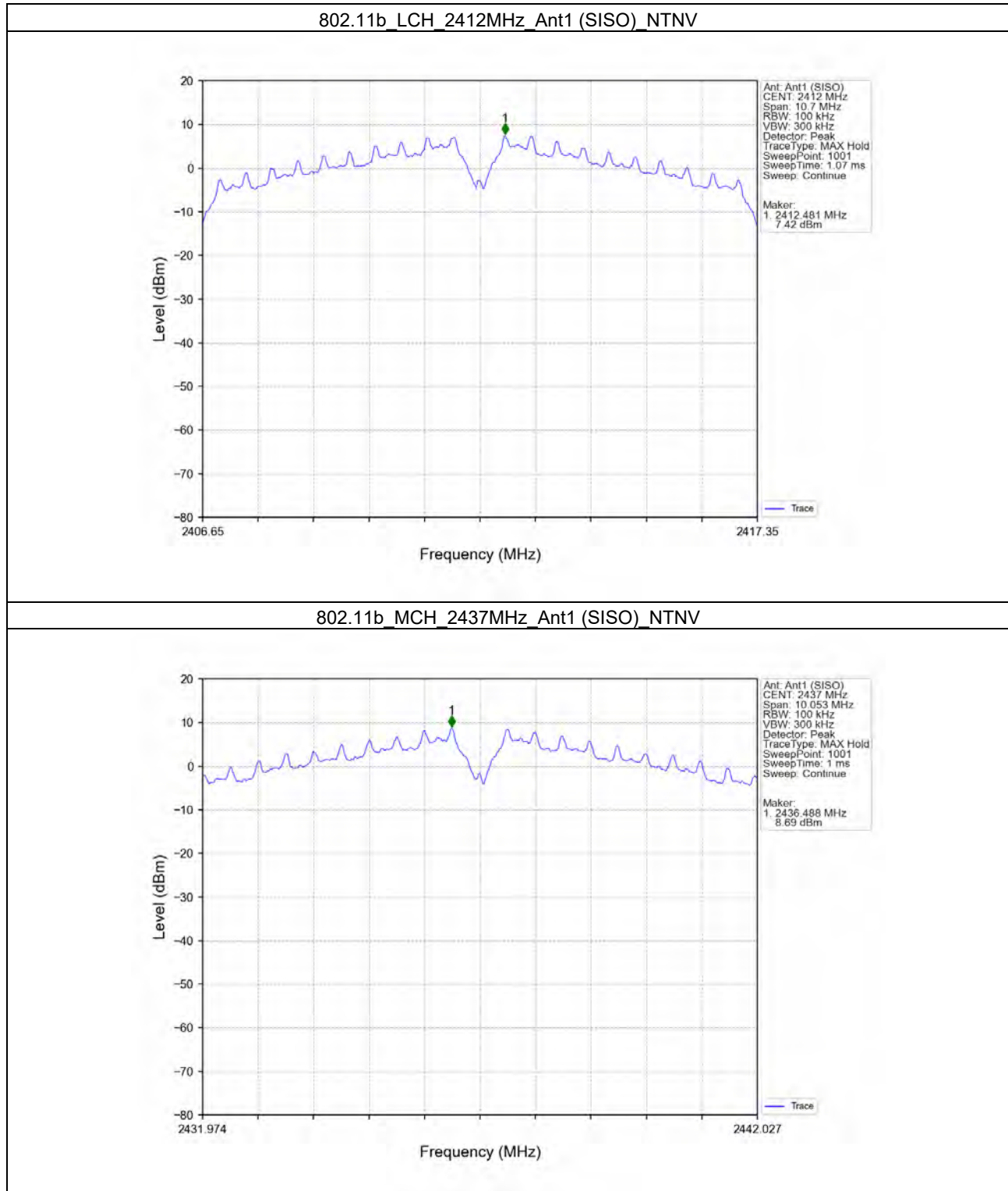
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	7.42	-22.58	Pass
		2437	1	8.69	-21.31	Pass
		2462	1	8.85	-21.15	Pass
802.11g	SISO	2412	1	4.94	-25.06	Pass
		2437	1	5.03	-24.97	Pass
		2462	1	5.51	-24.49	Pass
802.11n (HT20)	SISO	2412	1	4.91	-25.09	Pass
		2437	1	5.04	-24.96	Pass
		2462	1	5.02	-24.98	Pass

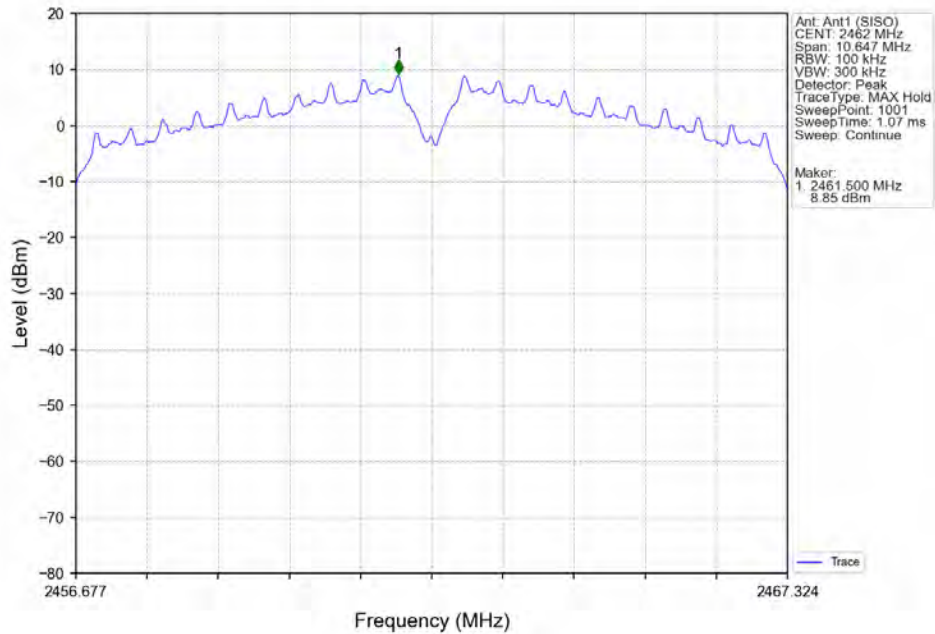
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

5.2 Test Graph

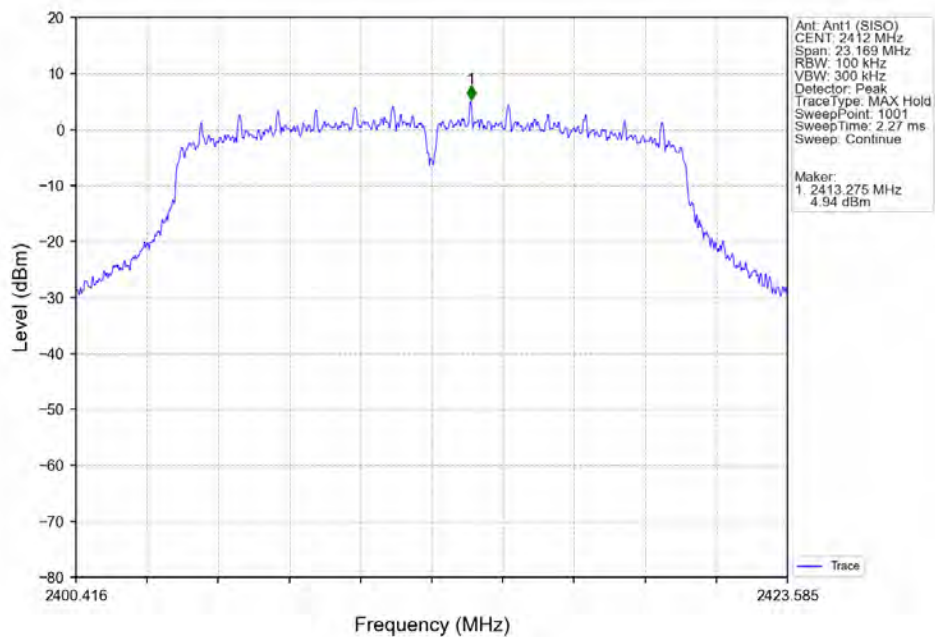
5.2.1 Ref



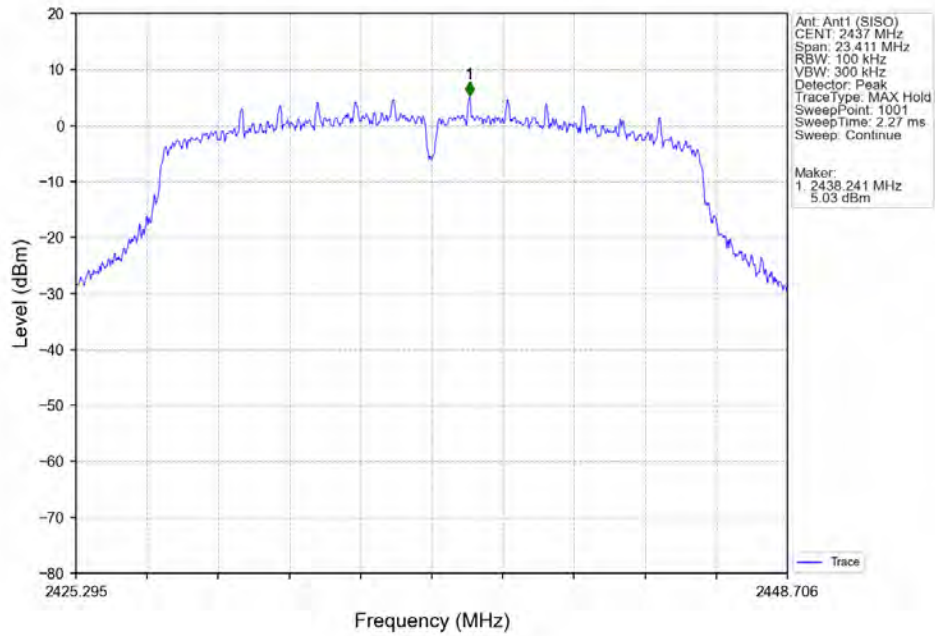
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



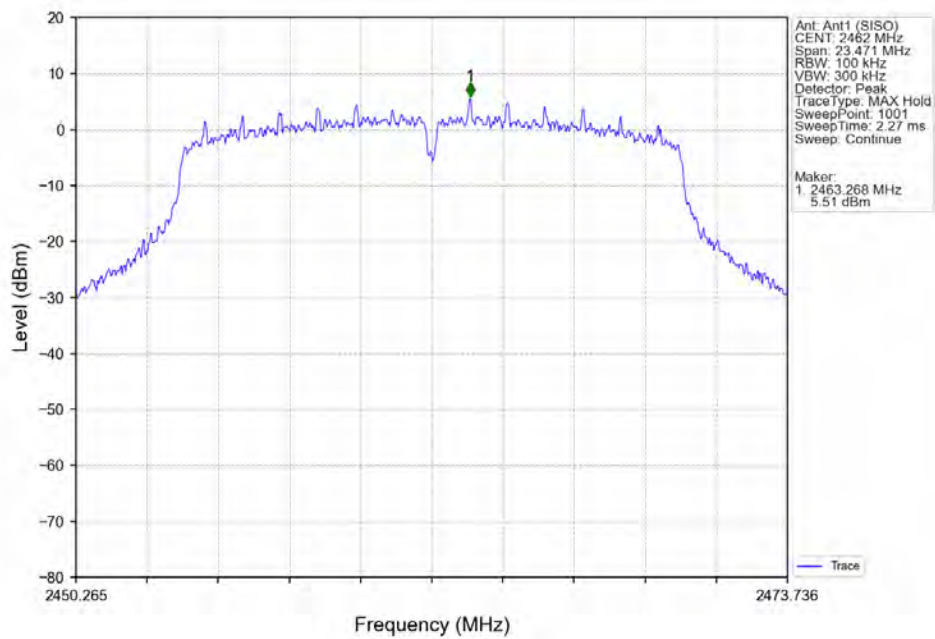
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



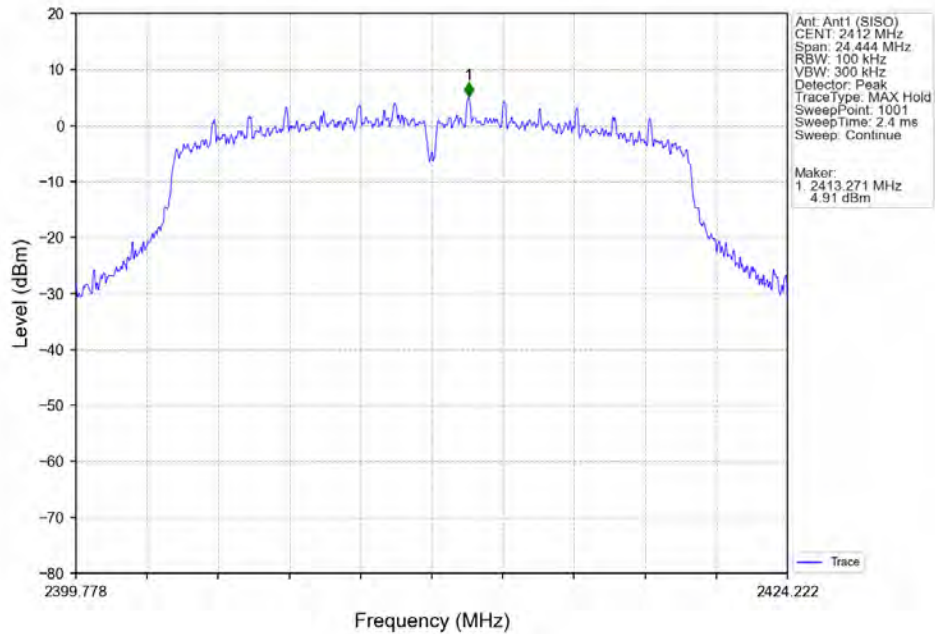
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



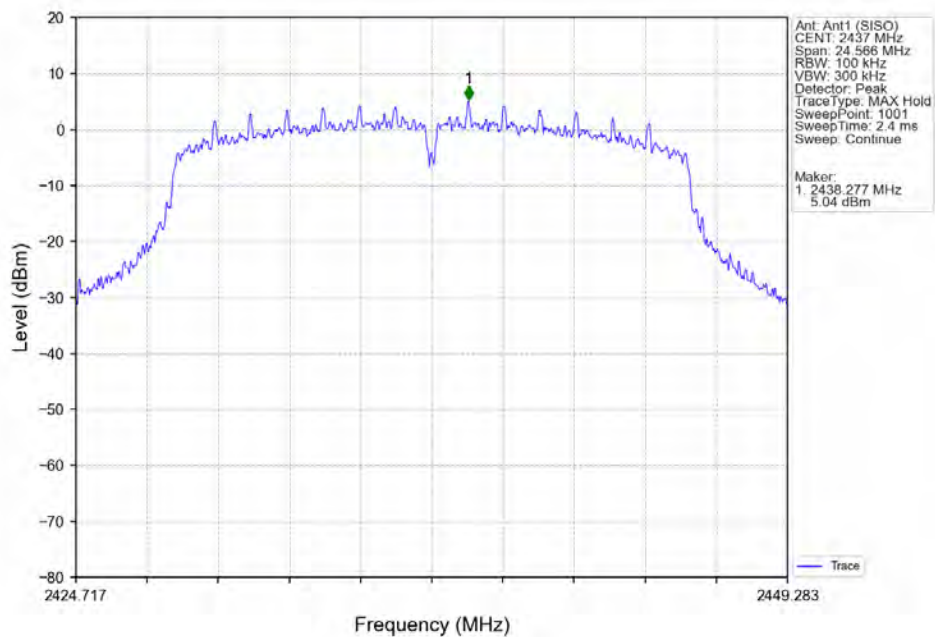
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



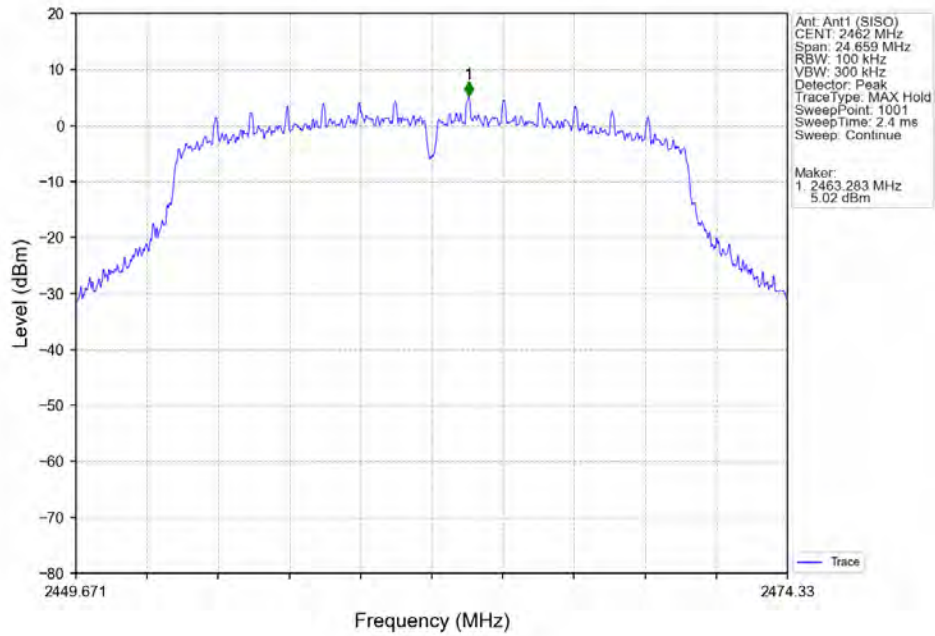
802.11n(HT20) LCH_2412MHz_Ant1 (SISO) NTN



802.11n(HT20) MCH_2437MHz_Ant1 (SISO) NTN

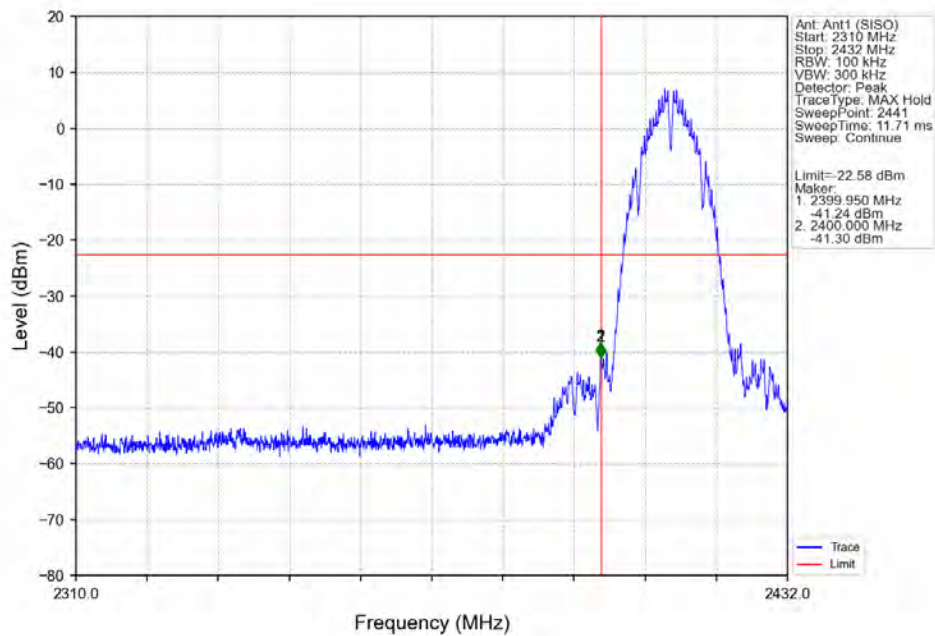


802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTN

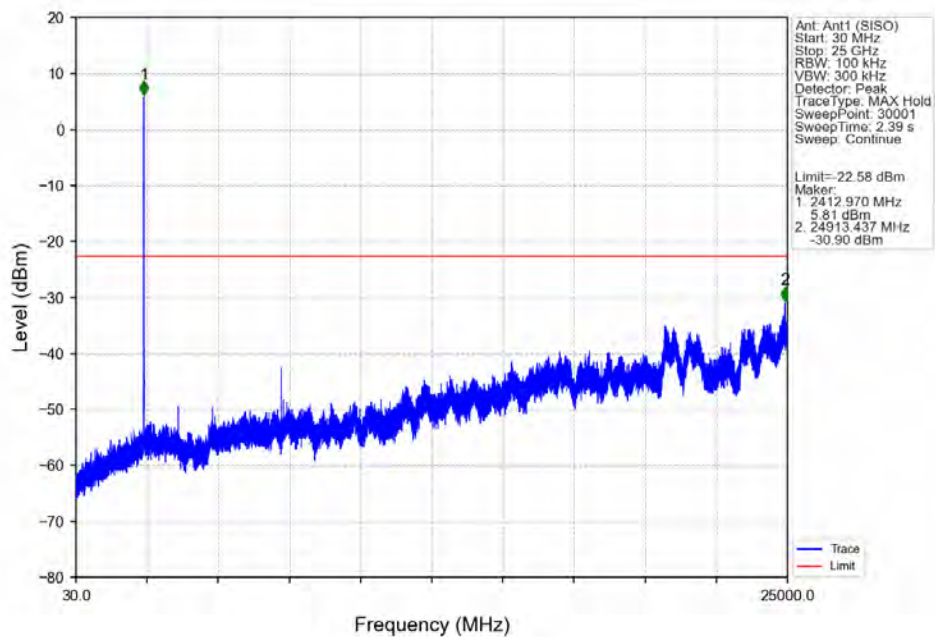


5.2.2 CSE

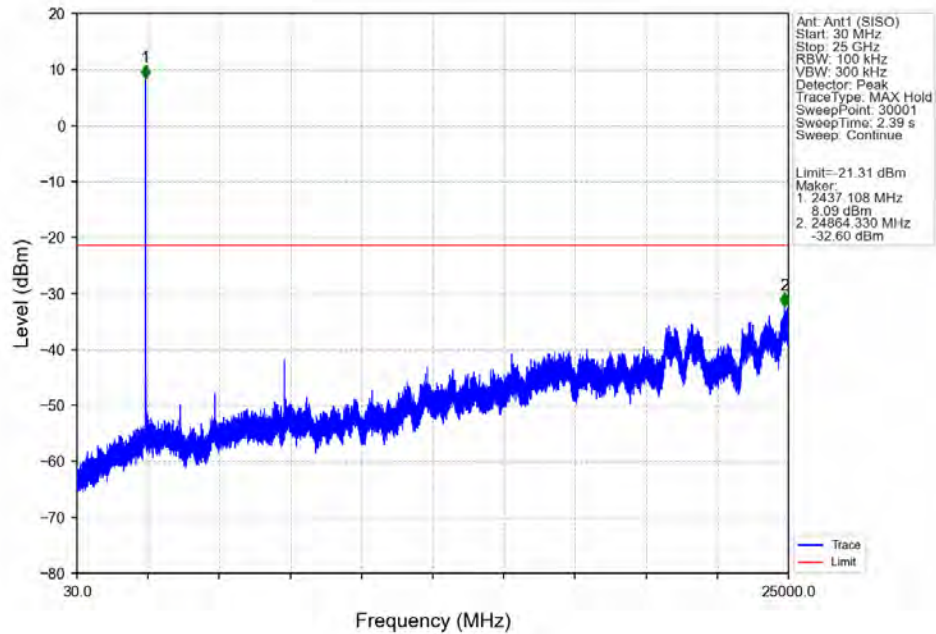
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



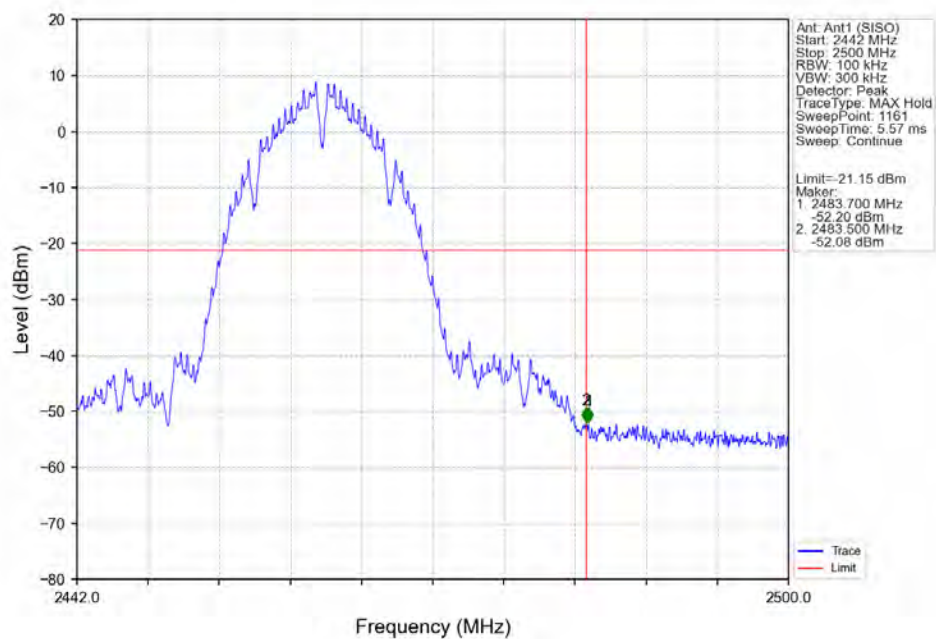
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



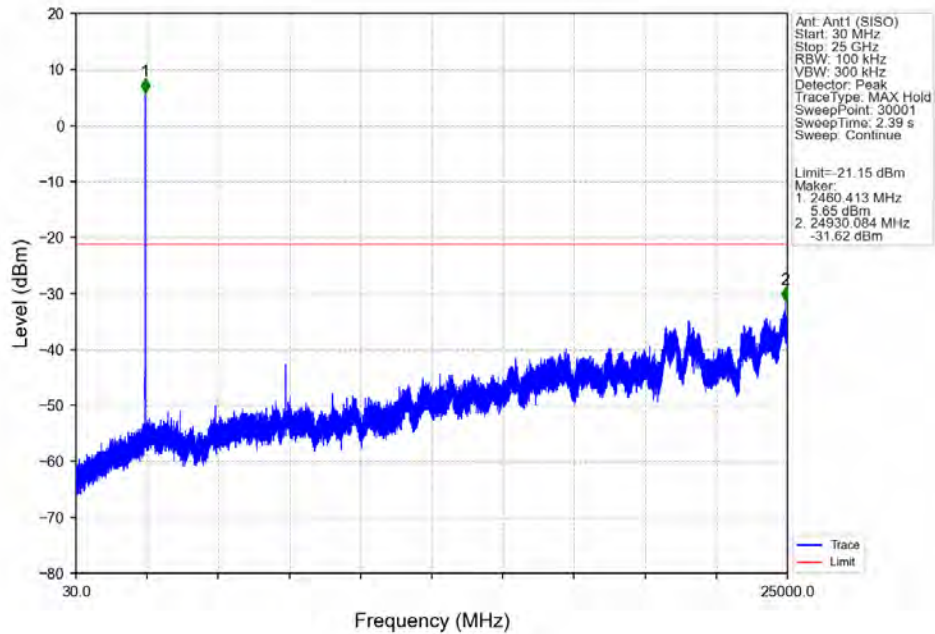
802.11b MCH 2437MHz_Ant1 (SISO)_NTNV



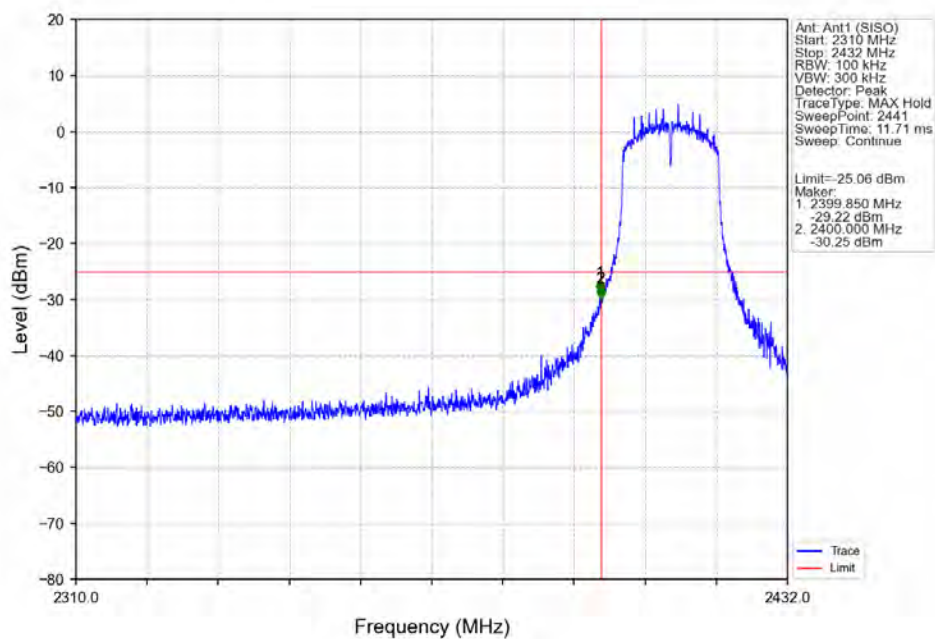
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



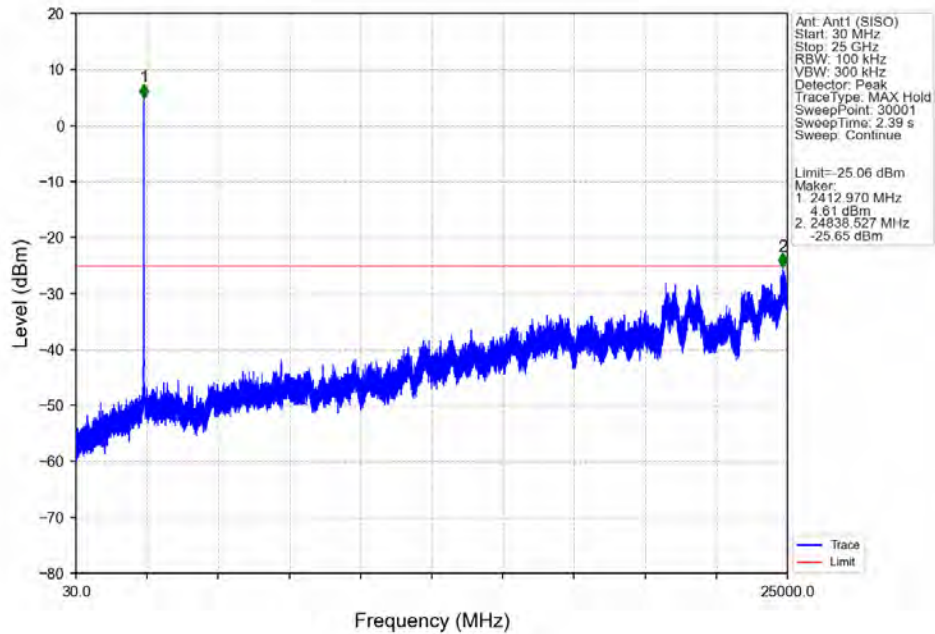
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



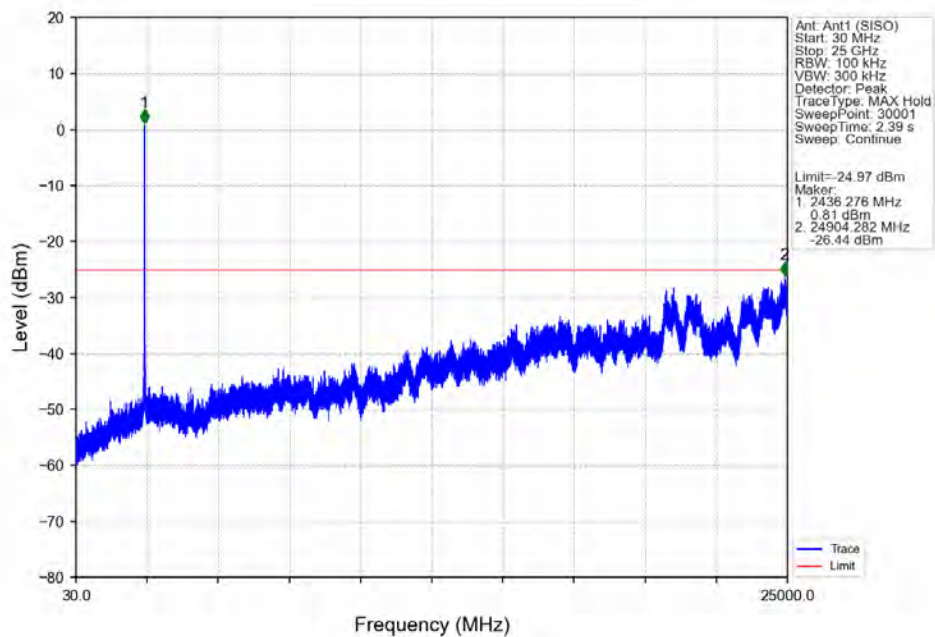
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



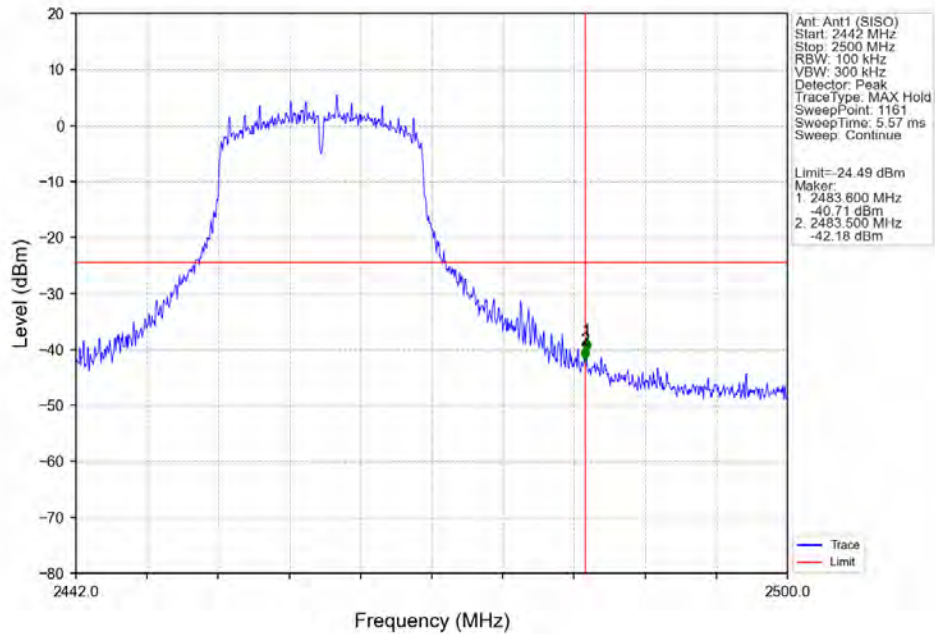
802.11g LCH 2412MHz_Ant1 (SISO) NTN



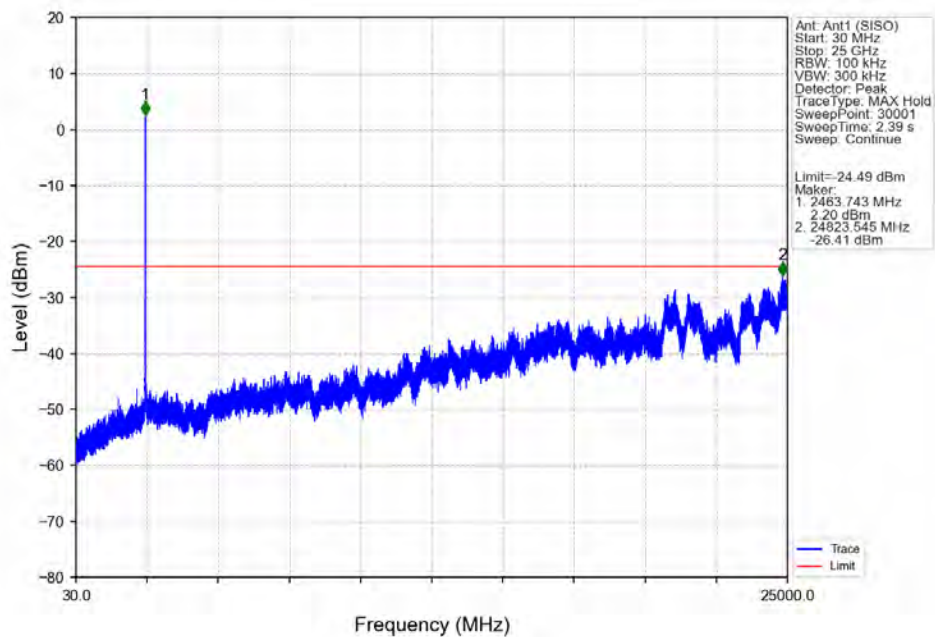
802.11g MCH 2437MHz_Ant1 (SISO) NTN



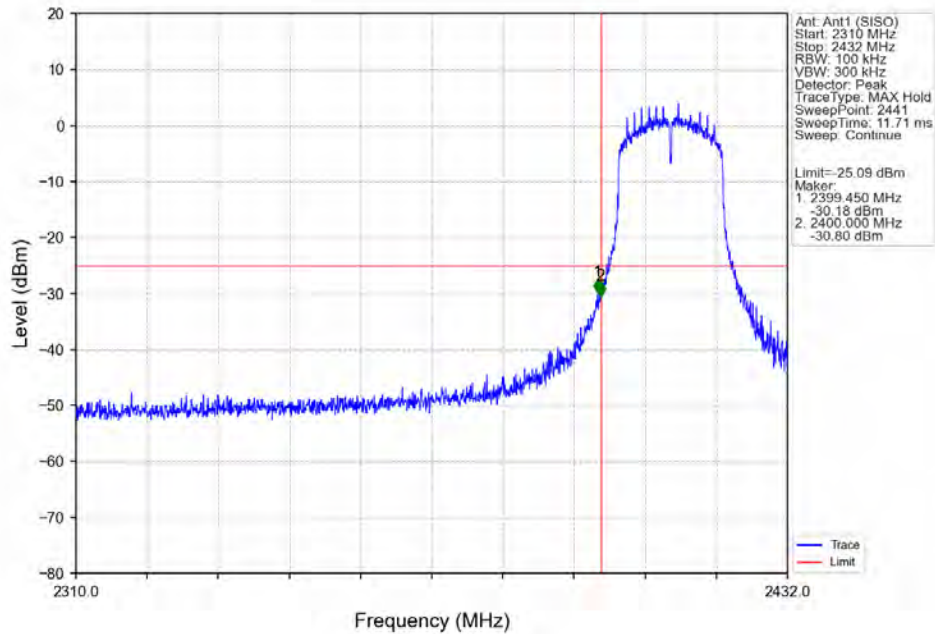
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



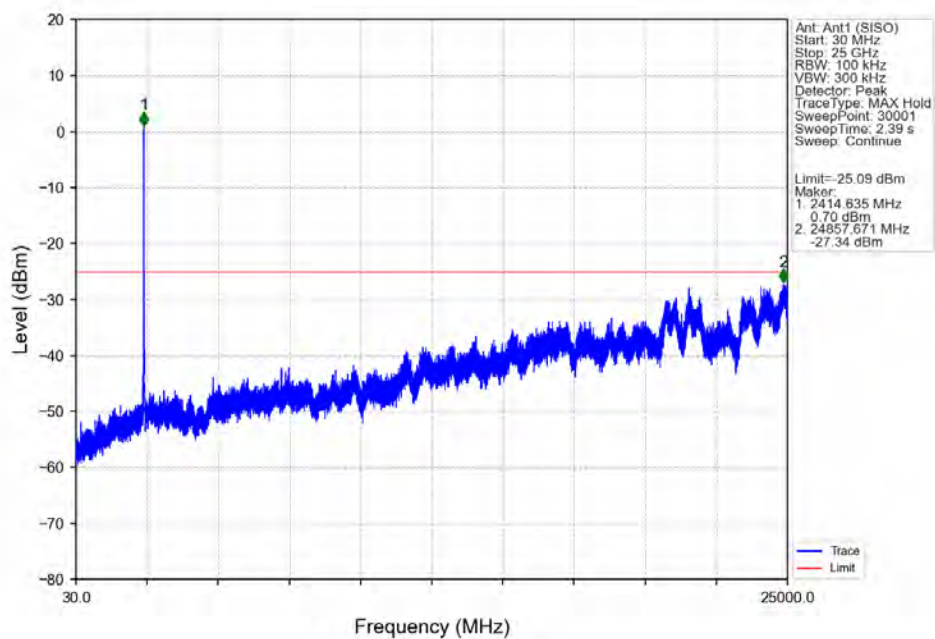
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



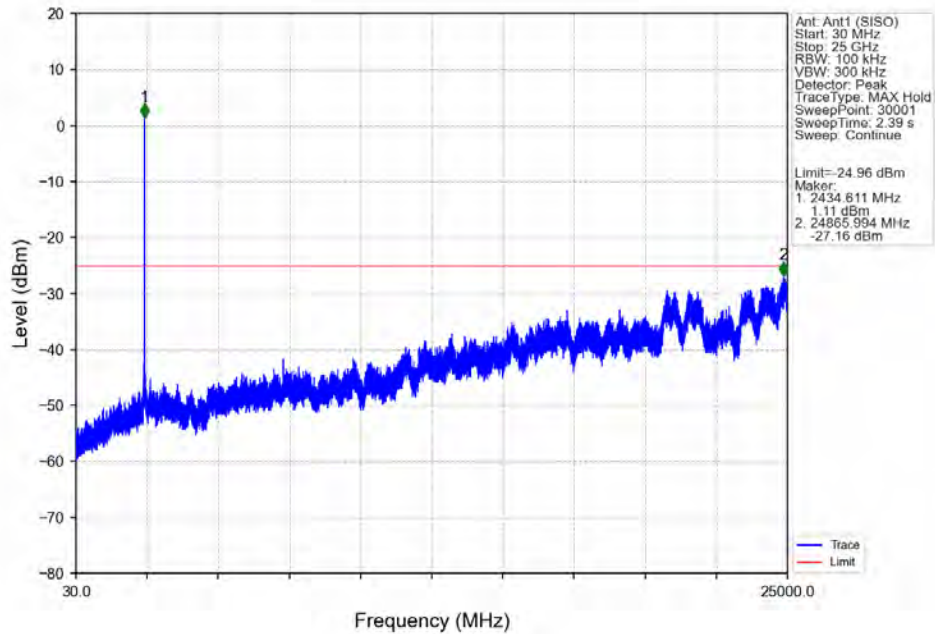
802.11n(HT20) LCH_2412MHz_Ant1 (SISO) NTN



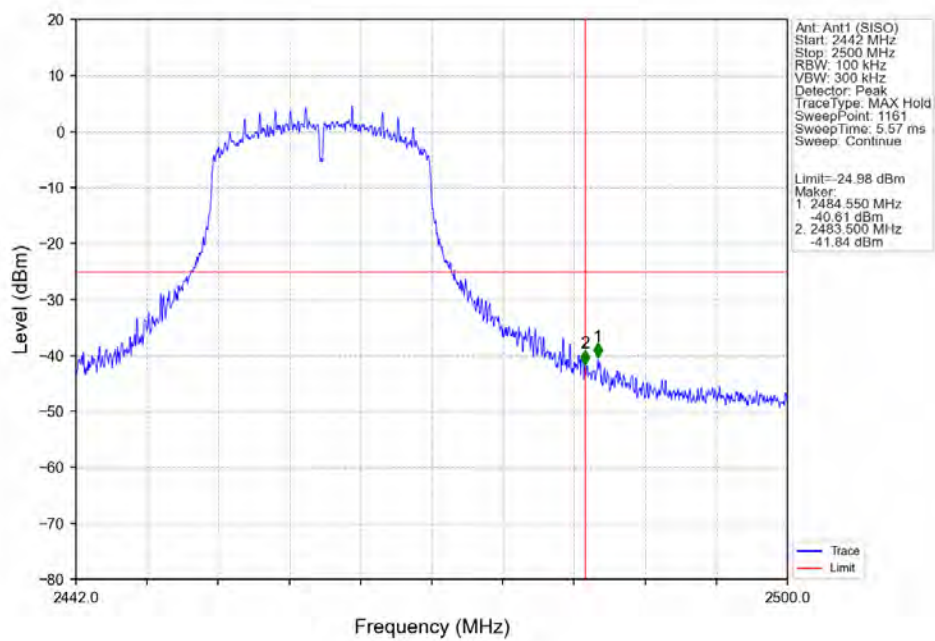
802.11n(HT20) LCH_2412MHz_Ant1 (SISO) NTN



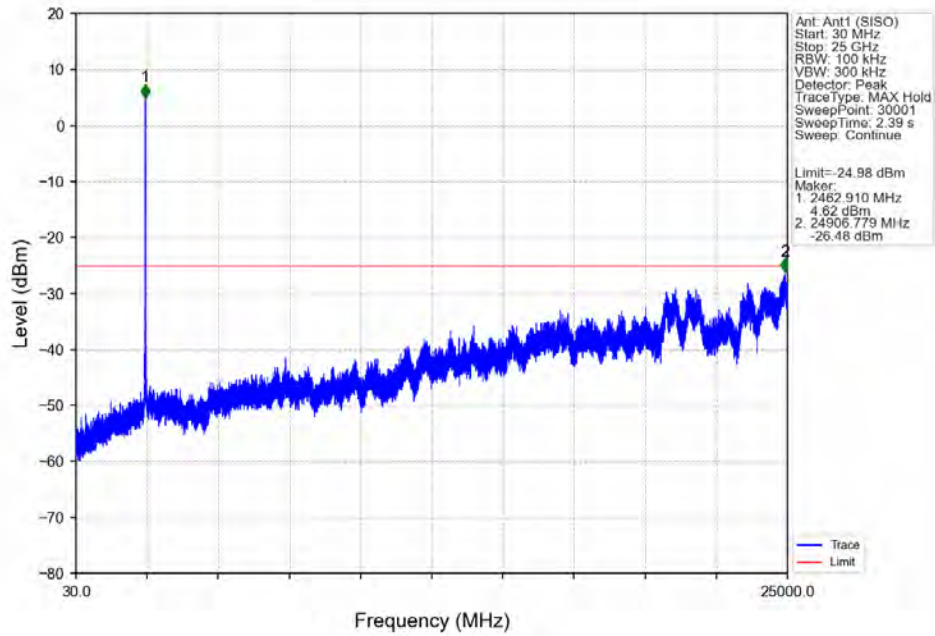
802.11n(HT20) MCH_2437MHz_Ant1 (SISO) NTN



802.11n(HT20) HCH_2462MHz_Ant1 (SISO) NTN



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



- End of the Report -