

TEST REPORT

Application No.: KSCR2506001290AT
FCC ID: 2AL8S-0235CAF9
Applicant: Zhejiang Uniview Technologies Co., Ltd.
Address of Applicant: No. 369, Xietong Road, Xixing Sub-district, Binjiang District, Hangzhou City, 310051, Zhejiang Province, China
Manufacturer: Zhejiang Uniview Technologies Co., Ltd.
Address of Manufacturer: No. 369, Xietong Road, Xixing Sub-district, Binjiang District, Hangzhou City, 310051, Zhejiang Province, China
Equipment Under Test (EUT):
EUT Name: IP Camera
Model No.: Uho-S3E-M3TD-A,Uho-S3E-M5TD-A,Uho-S3E-M3TD-A-xxxxxxx,Uho-S3E-M5TD-A-xxxxxxx (where x, y, z may be 0-9 A-Z a-z or blank, or "-") is optional. The differences no impact safety related constructionsand EMC) ♣
♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2025-06-16
Date of Test: 2025-06-20 to 2025-06-27
Date of Issue: 2025-07-01

Test Result:	Pass*
---------------------	--------------

* In the configuration tested, the EUT complied with the standards specified above.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/terms-and-conditions>, and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/terms-and-conditions/terms-and-conditions-electronic>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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	2025-07-01	/

Authorized for issue by:			
Tested By		Maker Qi	
		Maker Qi /Project Engineer	
Approved By		Terry Hou	
		Terry Hou /Reviewer	

2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
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

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Conducted Average Output Power		ANSI C63.10 (2013) Section 11.9.2	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Minimum 6dB Bandwidth		ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density		ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement		ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions		ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass

Note: There are series models mentioned in this report, and they are identical in electrical and electronic characters. Only the model Uho-S3E-M3TD-A was tested since their differences were the model number and appearance.

3 Contents

	Page
1 COVER PAGE	1
2 Test Summary	3
3 Contents.....	4
4 General Information.....	5
4.1 Details of E.U.T.	5
4.2 Description of Support Units	5
4.3 Power level setting using in test.....	5
4.4 Measurement Uncertainty	6
4.5 Test Location.....	7
4.6 Test Facility	7
4.7 Deviation from Standards.....	7
4.8 Abnormalities from Standard Conditions.....	7
5 Equipment List	8
6 Radio Spectrum Technical Requirement.....	9
6.1 Antenna Requirement	9
7 Radio Spectrum Matter Test Results	10
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz).....	10
7.2 Radiated Emissions which fall in the restricted bands	14
7.3 Radiated Spurious Emissions Below 1GHz	41
7.4 Radiated Spurious Emissions Above 1GHz.....	45
7.5 Conducted Average Output Power	71
7.6 Minimum 6dB Bandwidth	73
7.7 Power Spectrum Density.....	74
7.8 Conducted Band Edges Measurement	75
7.9 Conducted Spurious Emissions	77
8 Test Setup Photo	79
9 EUT Constructional Details (EUT Photos).....	79
10 Appendix.....	80

4 General Information

4.1 Details of E.U.T.

Power supply:	AC/DC Adapter: Model: TPA-141A050150UU01 Input: 100~240V~, 50-60Hz, 0.3A Output: 5V/1.5A
Test Voltage:	AC 120V/60Hz(Pre-test AC 120V/50-60Hz&AC 240V/50-60Hz then choose the AC 120/60Hz as worst case)
Operation Frequency:	802.11b/g/n(HT20)/ax(HE20):2412MHz to 2462MHz; 802.11n(HT40)/ax(HE40):2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (DBPSK, DQPSK, CCK); 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Number of Channels:	802.11b/g/n(HT20)/ax(HE20):11;802.11n(HT40)/ax(HE40):7
Channel Spacing:	5MHz
Antenna Type:	Iron plate antenna
Antenna Gain:	3.94dBi (Provided by the manufacturer)

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	LENOVO	K27	EB24537645

4.3 Power level setting using in test

2.4G				
Mode	802.11b	802.11g	802.11n20/ax20	802.11n40/ax40
CH	Ant1	Ant1	Ant1	Ant1
L	30	30	30	30
M	30	30	30	30
H	30	30	30	30

4.4 Measurement Uncertainty

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.		

4.5 Test Location

All tests were performed at:

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

No tests were sub-contracted.

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:

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

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**

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.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
Conducted Emission at Mains Terminals						
1	EMI Test Receive	R&S	ESCI	KS301196	08/01/2024	07/31/2025
2	LISN	R&S	ENV216	KS301197	01/15/2025	01/14/2026
3	LISN	Schwarzbeck	NNLK 8129	KS301091	01/15/2025	01/14/2026
4	Pulse Limiter	R&S	ESH3-Z2	KUS1902E001	12/05/2024	12/04/2025
5	CE test Cable	Thermax	/	CZ301102	01/14/2025	01/13/2026
6	Test Software	Farad	EZ-EMC	/	N.C.R	N.C.R
RF Conducted Test						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/01/2024	07/31/2025
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/01/2024	07/31/2025
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	08/02/2024	08/01/2025
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/01/2024	07/31/2025
7	Signal Generator	Agilent	E8257C	KS301066	08/06/2024	08/05/2025
8	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/01/2024	07/31/2025
9	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	02/19/2025	02/18/2026
10	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/13/2024	08/12/2025
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	KSES104904	08/26/2024	08/25/2025
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
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/06/2024	08/05/2025
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	02/18/2025	02/17/2026
3	Signal Generator	Agilent	E8257C	KS301066	08/06/2024	08/05/2025
4	Loop Antenna (9KHz-30MHz)	COM-POWER	AL-130R	KUS1806E001	03/01/2025	02/28/2027
5	Bilog Antenna (30MHz-1GHz)	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	03/23/2024	03/22/2026
7	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/07/2024	01/06/2026
8	Amplifier(30MHz~1GHz)	TST	LNA009100G30	KSEM061	01/15/2025	01/14/2026
9	Amplifier(400MHz~8GHz)	TST	LNA004080G30	KSEM062	01/15/2025	01/14/2026
10	Amplifier(1GHz~18GHz)	TST	LNA010180G45	KSEM039	08/02/2024	08/01/2025
11	Amplifier(18~40GHz)	TST	LNA180400G40	KSEM038	08/12/2024	08/11/2025
12	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/23/2024	08/22/2025
13	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	02/26/2025	02/25/2026
14	Software	Faratronic	EZ_EM C-v 3A1	/	NCR	NCR
15	Software	ESE	E3_V 6.111221a	/	NCR	NCR

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 Iron plate antenna on the main PCB and no consideration of replacement. The best case gain of the antenna is 3.94dBi.

Antenna location: Refer to internal photo.

7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz		

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C

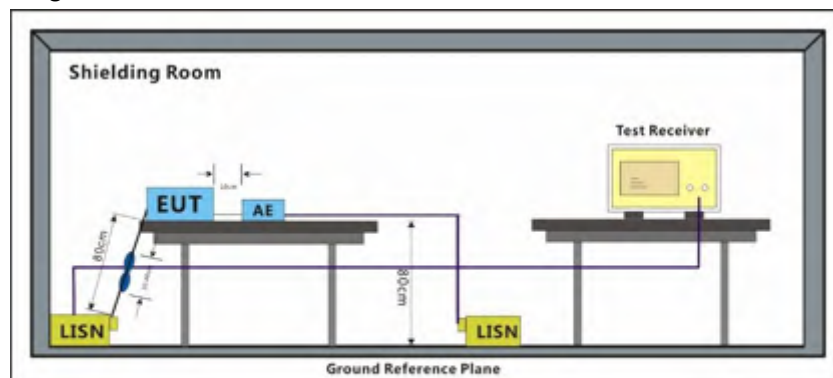
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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, 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

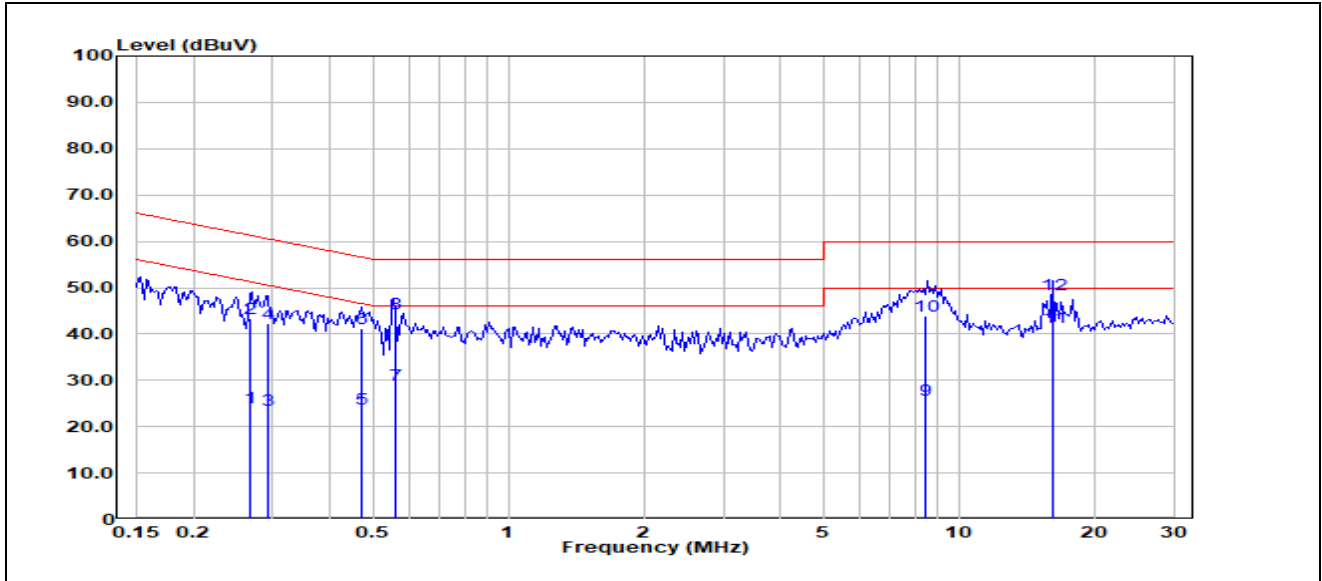


7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

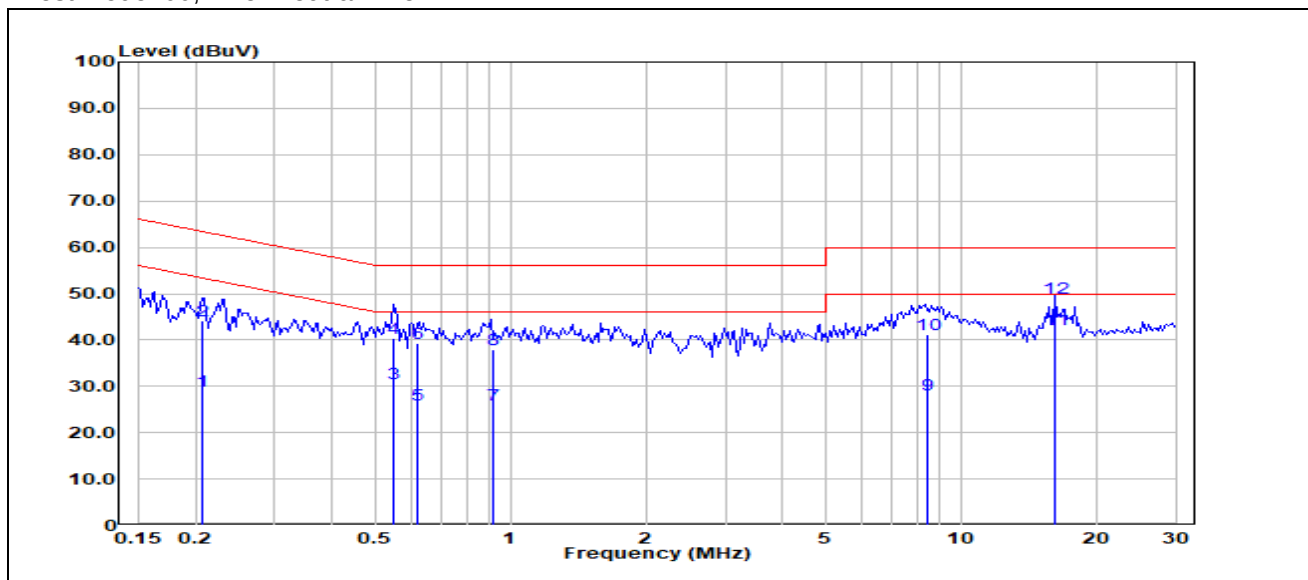
Remark : Level=Read Level+ Cable Loss+ LISN Factor

Test Mode: 00; Line: Live line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2668	4.00	20.14	24.14	51.22	-27.08	Average
2	0.2668	23.13	20.14	43.27	61.22	-17.95	QP
3	0.2933	3.43	20.15	23.58	50.43	-26.85	Average
4	0.2933	22.16	20.15	42.31	60.43	-18.12	QP
5	0.4705	3.90	20.06	23.96	46.51	-22.55	Average
6	0.4705	21.03	20.06	41.09	56.51	-15.42	QP
7	0.5618	9.03	20.07	29.10	46.00	-16.90	Average
8	0.5618	24.44	20.07	44.51	56.00	-11.49	QP
9	8.4250	2.67	23.10	25.77	50.00	-24.23	Average
10	8.4250	20.68	23.10	43.78	60.00	-16.22	QP
11	16.2290	15.42	26.05	41.47	50.00	-8.53	Average
12	16.2290	22.49	26.05	48.54	60.00	-11.46	QP

Test Mode: 00; Line: Neutral Line



No.	Frequency (MHz)	Reading (dBUV)	Correct Factor(dB)	Result (dBUV)	Limit (dBUV)	Margin (dB)	Remark
1	0.2064	8.76	20.18	28.94	53.35	-24.41	Average
2	0.2064	23.92	20.18	44.10	63.35	-19.25	QP
3	0.5495	10.46	20.03	30.49	46.00	-15.51	Average
4	0.5495	20.44	20.03	40.47	56.00	-15.53	QP
5	0.6237	6.10	20.02	26.12	46.00	-19.88	Average
6	0.6237	19.36	20.02	39.38	56.00	-16.62	QP
7	0.9145	6.06	19.99	26.05	46.00	-19.95	Average
8	0.9145	18.08	19.99	38.07	56.00	-17.93	QP
9	8.4030	4.85	23.20	28.05	50.00	-21.95	Average
10	8.4030	18.12	23.20	41.32	60.00	-18.68	QP
11	16.2280	16.27	25.98	42.25	50.00	-7.75	Average
12	16.2280	22.99	25.98	48.97	60.00	-11.03	QP

7.2 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 (2013) 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.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

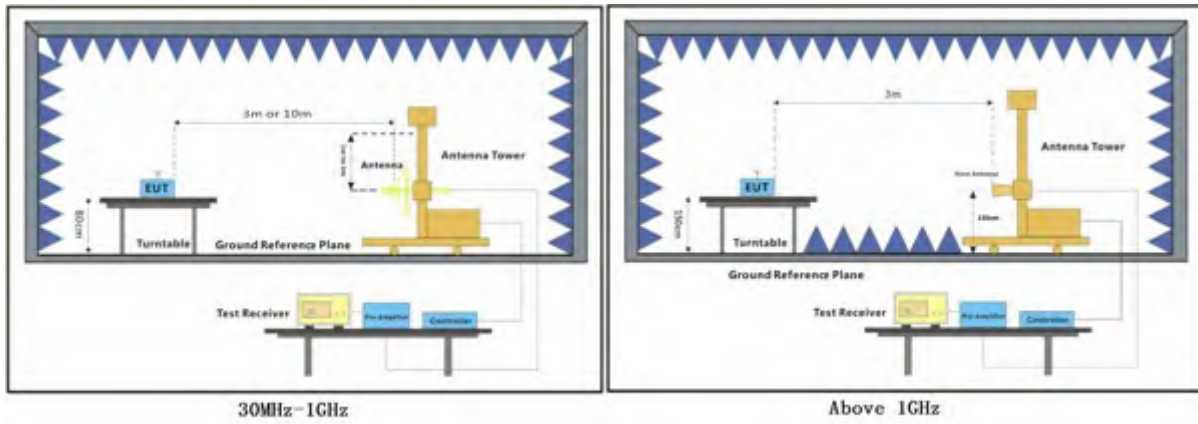
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). 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 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.

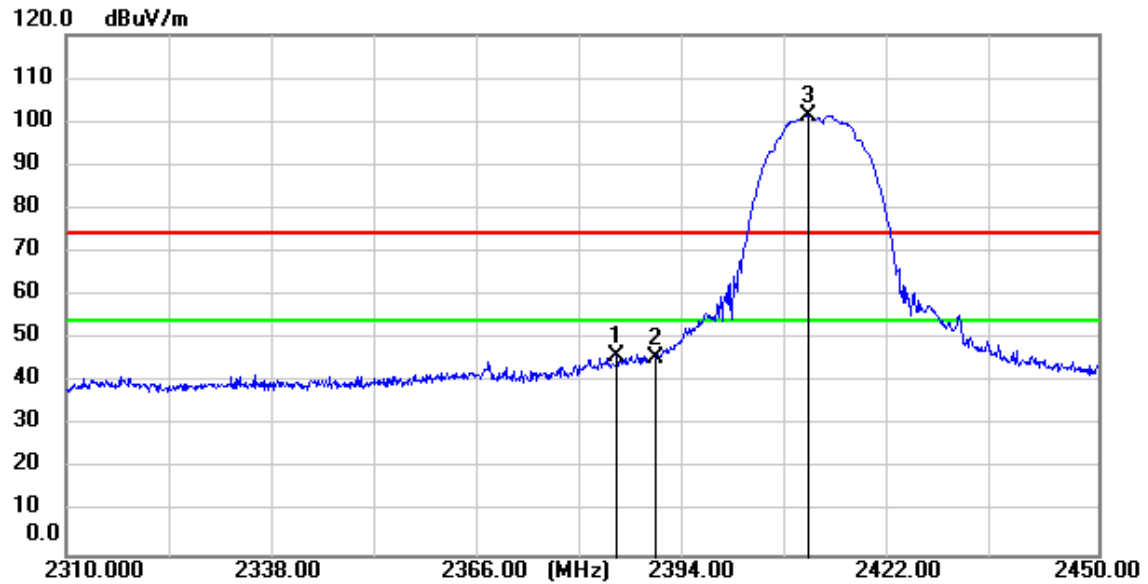
Remark 1: $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$

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.

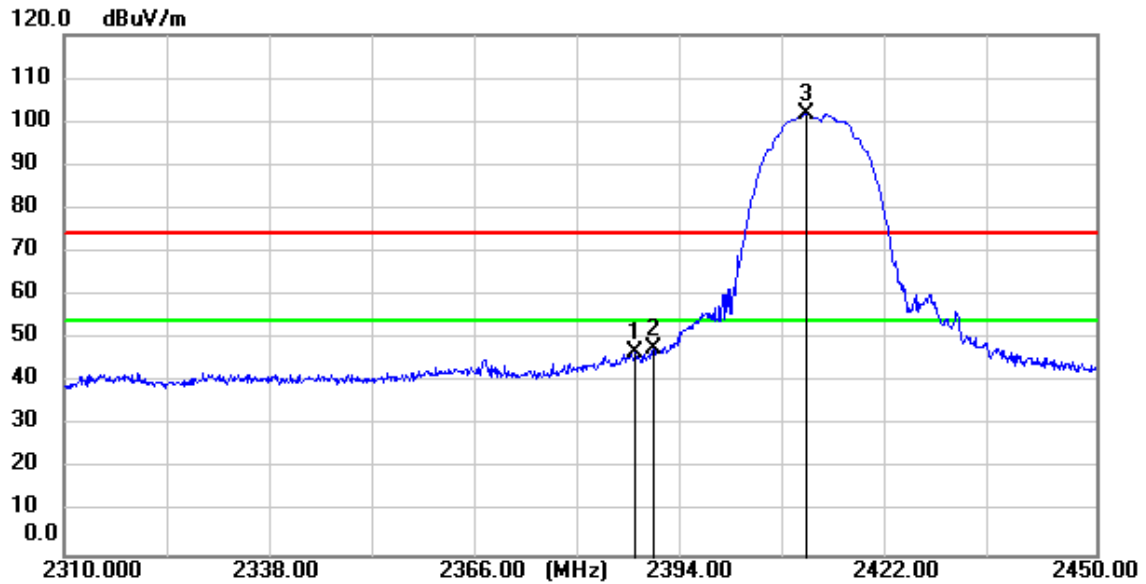
Remark 4: For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



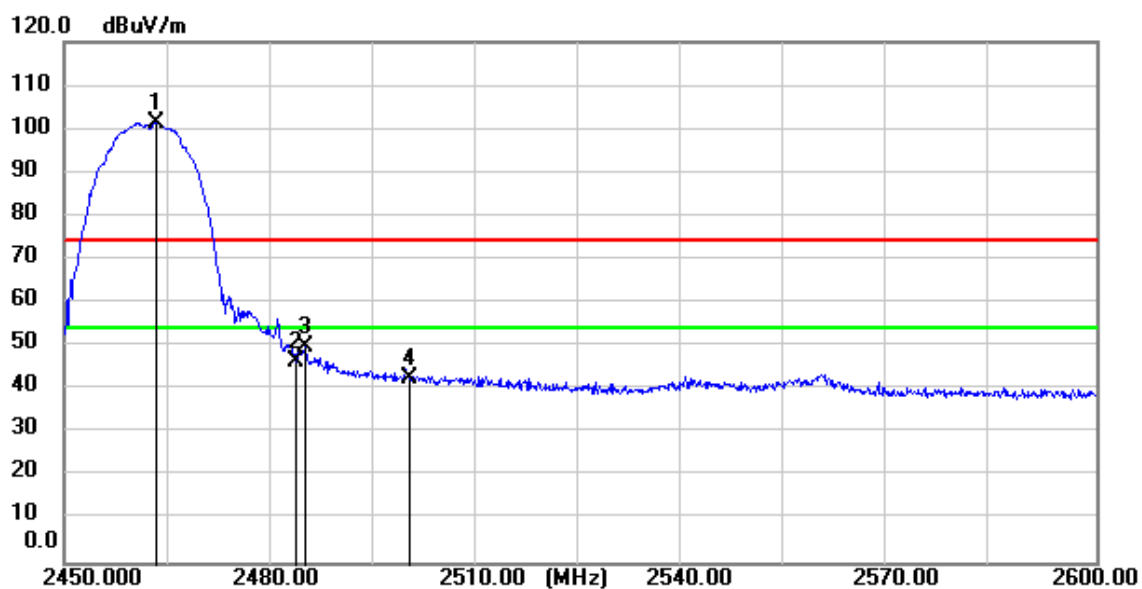
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.760	46.88	-0.82	46.06	74.00	-27.94	peak
2	2390.000	46.57	-0.79	45.78	74.00	-28.22	peak
3	2410.800	102.18	-0.69	101.49	74.00	27.49	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



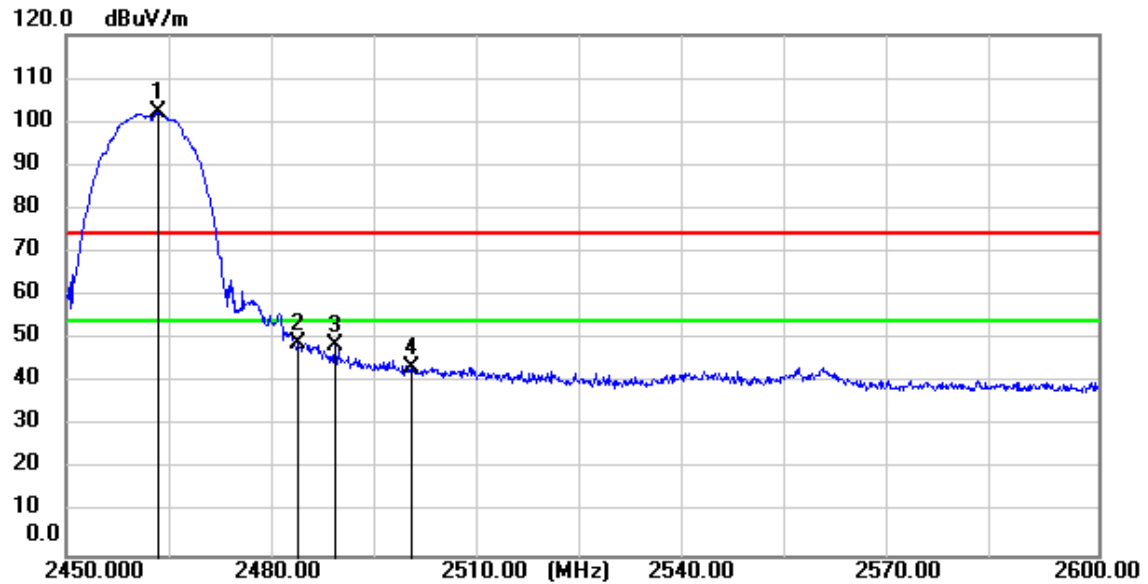
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.560	47.72	-0.80	46.92	74.00	-27.08	peak
2	2390.000	48.62	-0.79	47.83	74.00	-26.17	peak
3	2410.660	102.42	-0.69	101.73	74.00	27.73	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



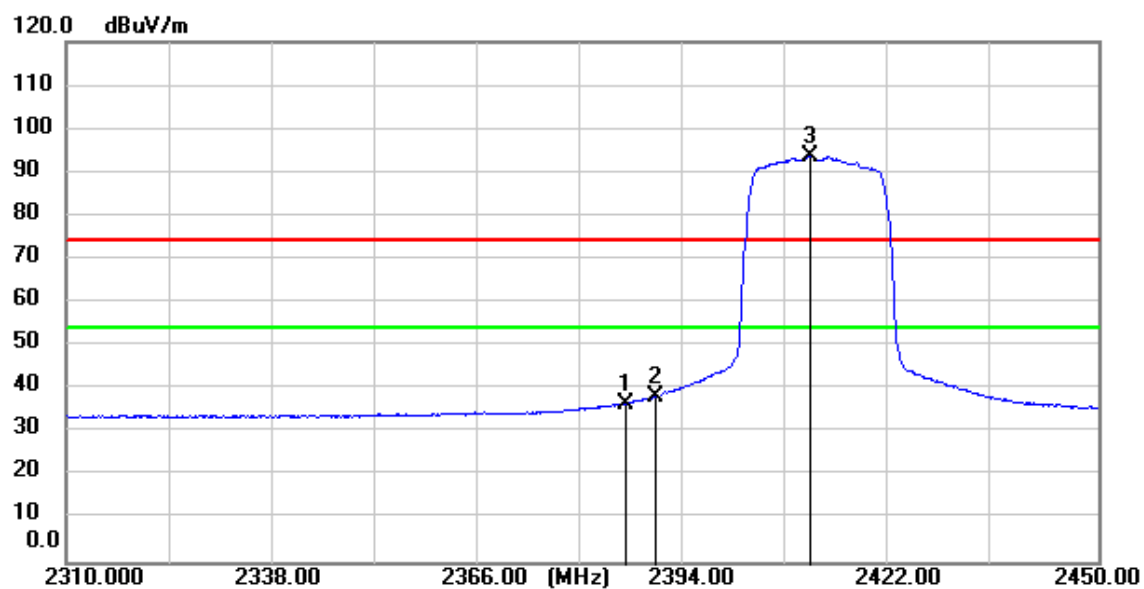
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.350	101.94	-0.43	101.51	74.00	27.51	peak
2	2483.500	46.65	-0.33	46.32	74.00	-27.68	peak
3	2485.100	50.13	-0.31	49.82	74.00	-24.18	peak
4	2500.000	42.79	-0.24	42.55	74.00	-31.45	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



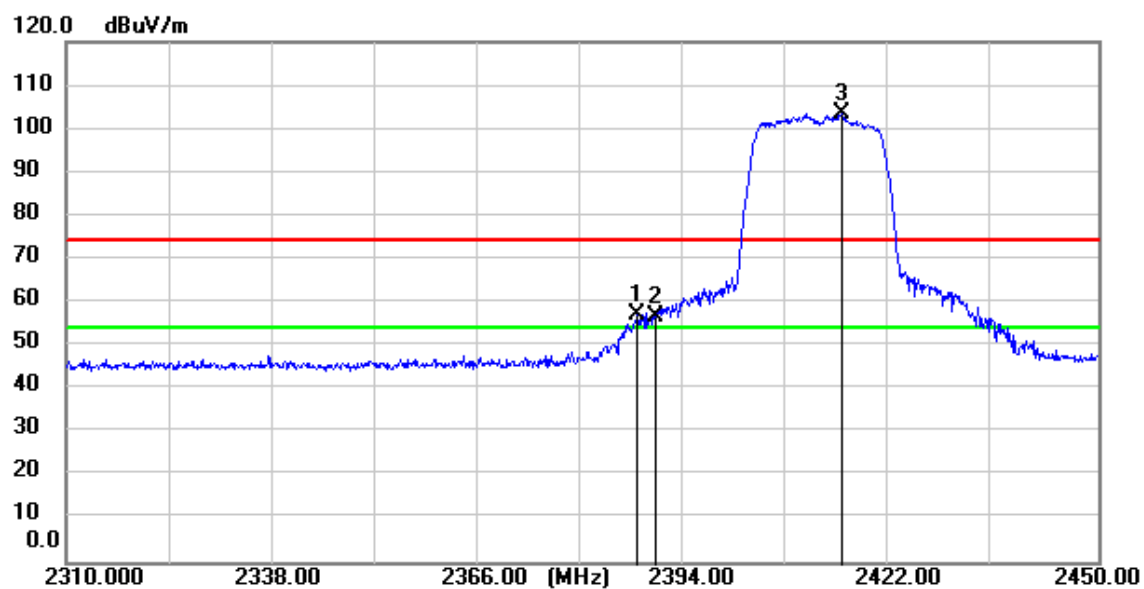
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.350	102.49	-0.43	102.06	74.00	28.06	peak
2	2483.500	49.32	-0.33	48.99	74.00	-25.01	peak
3	2489.150	49.02	-0.29	48.73	74.00	-25.27	peak
4	2500.000	43.90	-0.24	43.66	74.00	-30.34	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



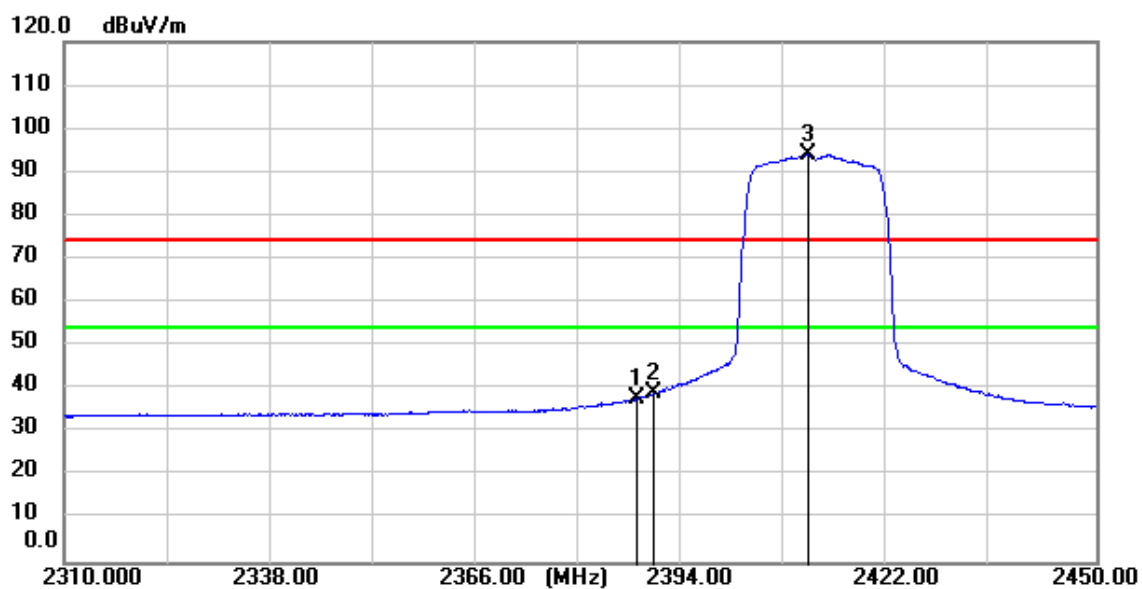
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.880	37.64	-0.80	36.84	54.00	-17.16	AVG
2	2390.000	39.16	-0.79	38.37	54.00	-15.63	AVG
3	2410.940	94.47	-0.69	93.78	54.00	39.78	AVG

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



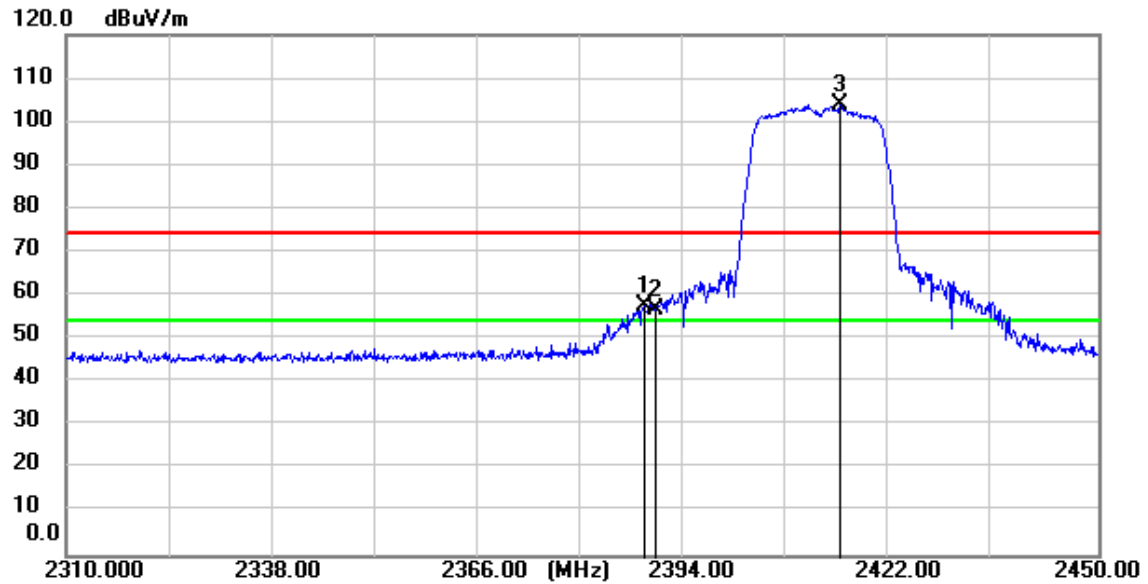
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.560	57.94	-0.80	57.14	74.00	-16.86	peak
2	2390.000	57.54	-0.79	56.75	74.00	-17.25	peak
3	2415.280	104.16	-0.66	103.50	74.00	29.50	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



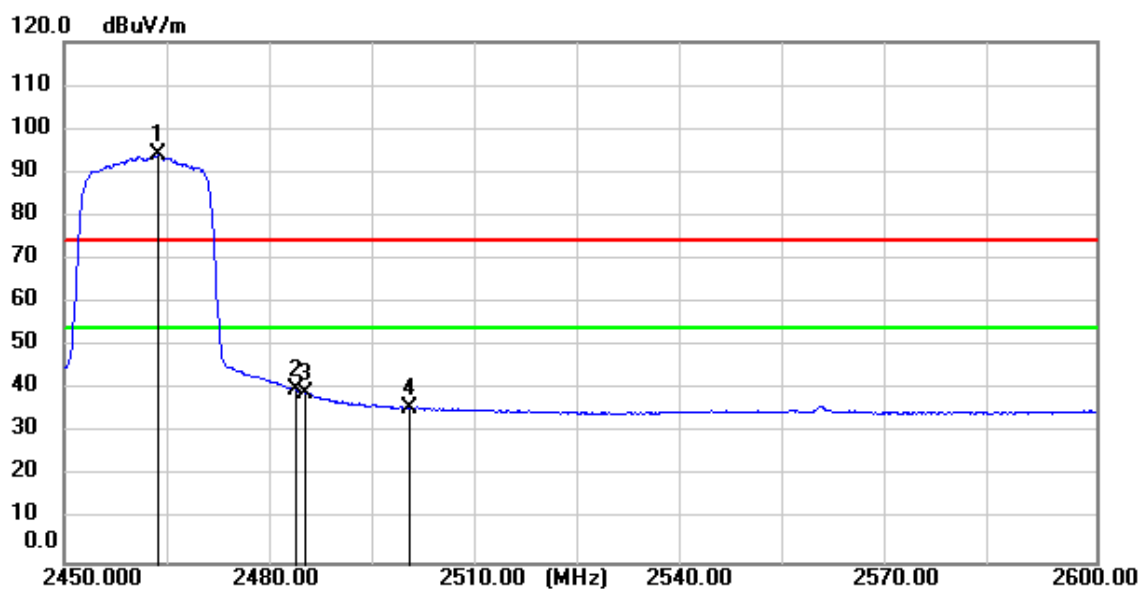
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.700	38.76	-0.80	37.96	54.00	-16.04	AVG
2	2390.000	39.87	-0.79	39.08	54.00	-14.92	AVG
3	2410.940	94.82	-0.69	94.13	54.00	40.13	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



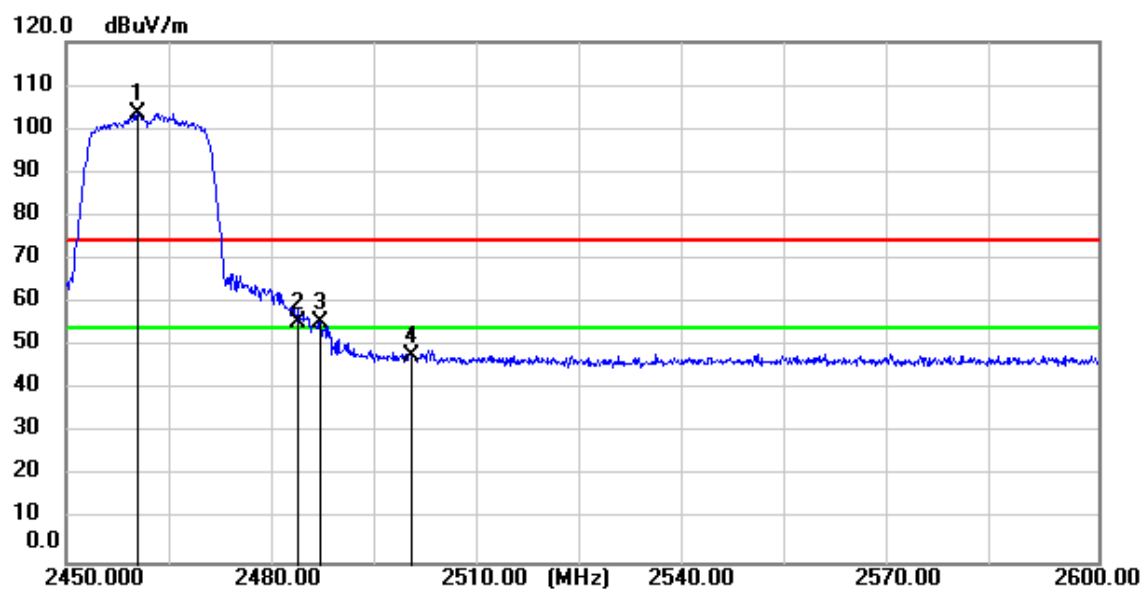
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.400	58.48	-0.79	57.69	74.00	-16.31	peak
2	2390.000	57.70	-0.79	56.91	74.00	-17.09	peak
3	2415.000	104.66	-0.67	103.99	74.00	29.99	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



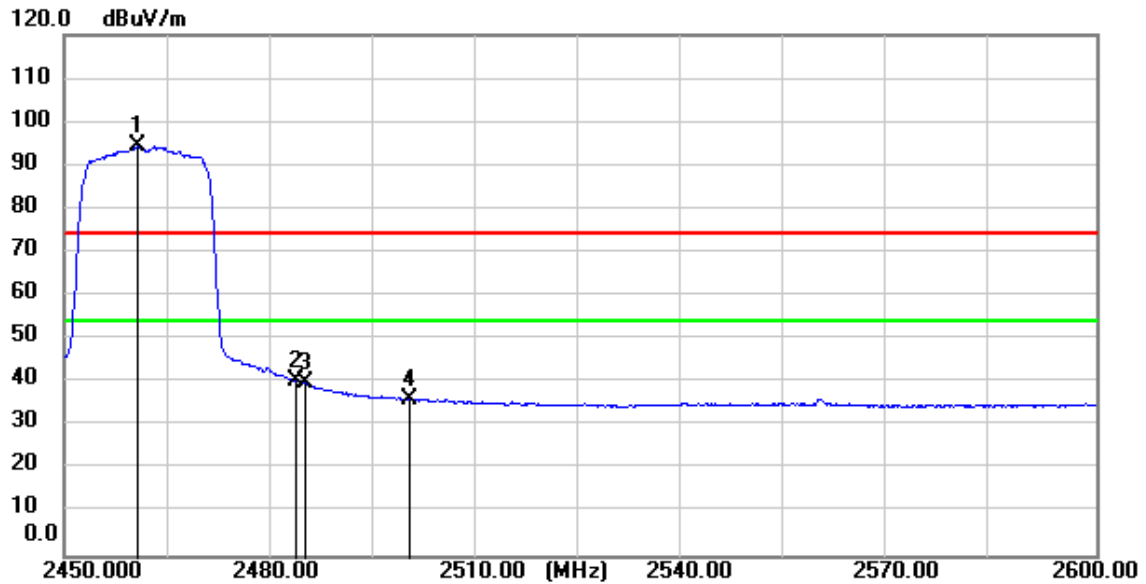
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.800	94.36	-0.42	93.94	54.00	39.94	AVG
2	2483.500	40.31	-0.33	39.98	54.00	-14.02	AVG
3	2484.950	39.55	-0.32	39.23	54.00	-14.77	AVG
4	2500.000	36.15	-0.24	35.91	54.00	-18.09	AVG

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



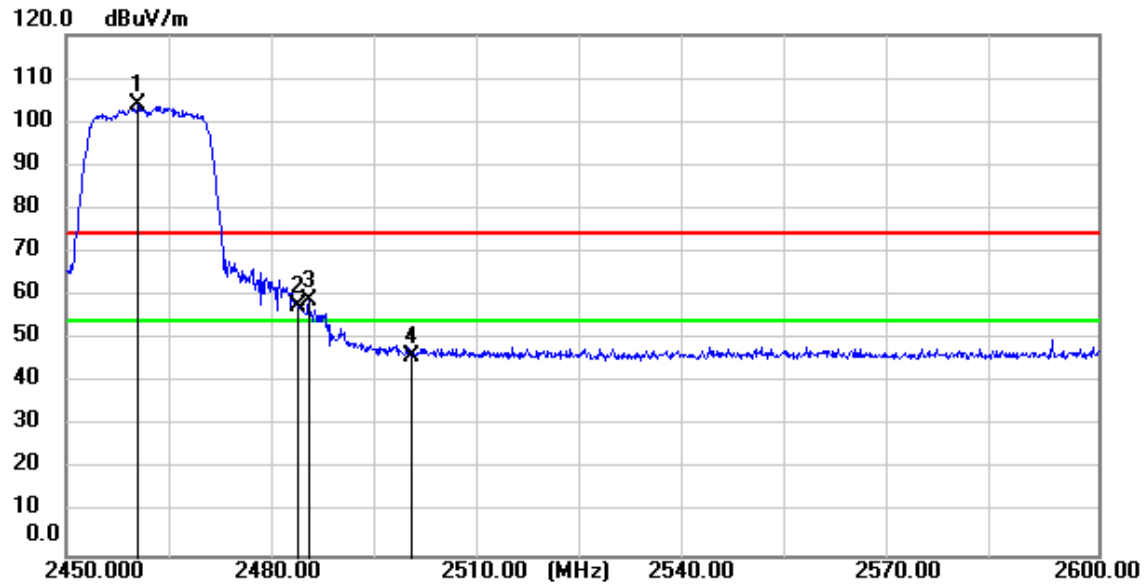
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.350	104.03	-0.44	103.59	74.00	29.59	peak
2	2483.500	55.98	-0.33	55.65	74.00	-18.35	peak
3	2486.900	56.01	-0.30	55.71	74.00	-18.29	peak
4	2500.000	47.91	-0.24	47.67	74.00	-26.33	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



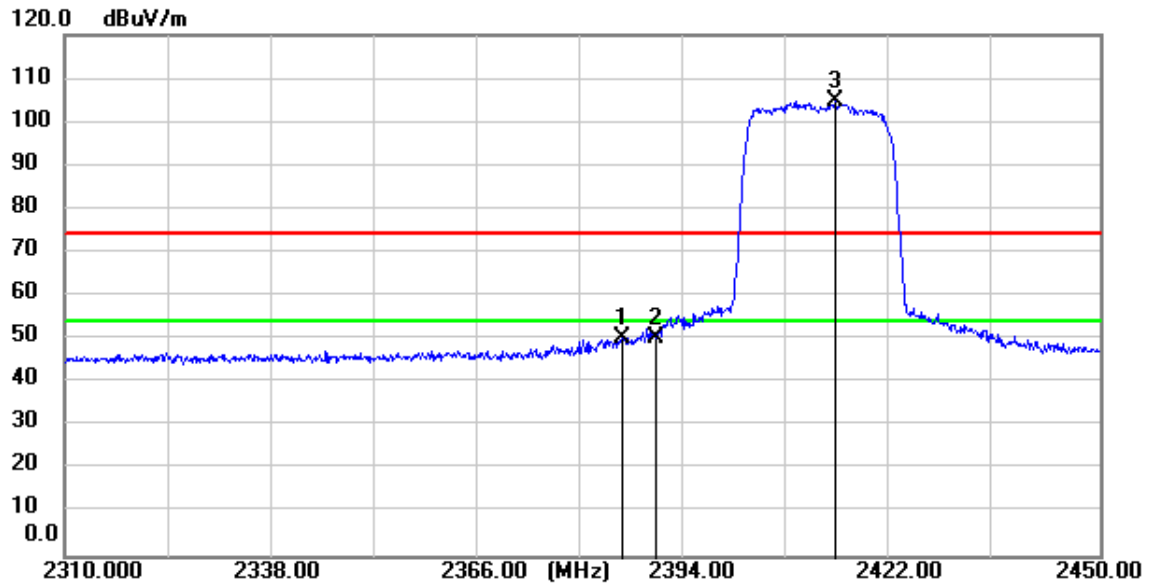
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.800	94.86	-0.44	94.42	54.00	40.42	AVG
2	2483.500	40.77	-0.33	40.44	54.00	-13.56	AVG
3	2484.950	40.32	-0.32	40.00	54.00	-14.00	AVG
4	2500.000	36.53	-0.24	36.29	54.00	-17.71	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

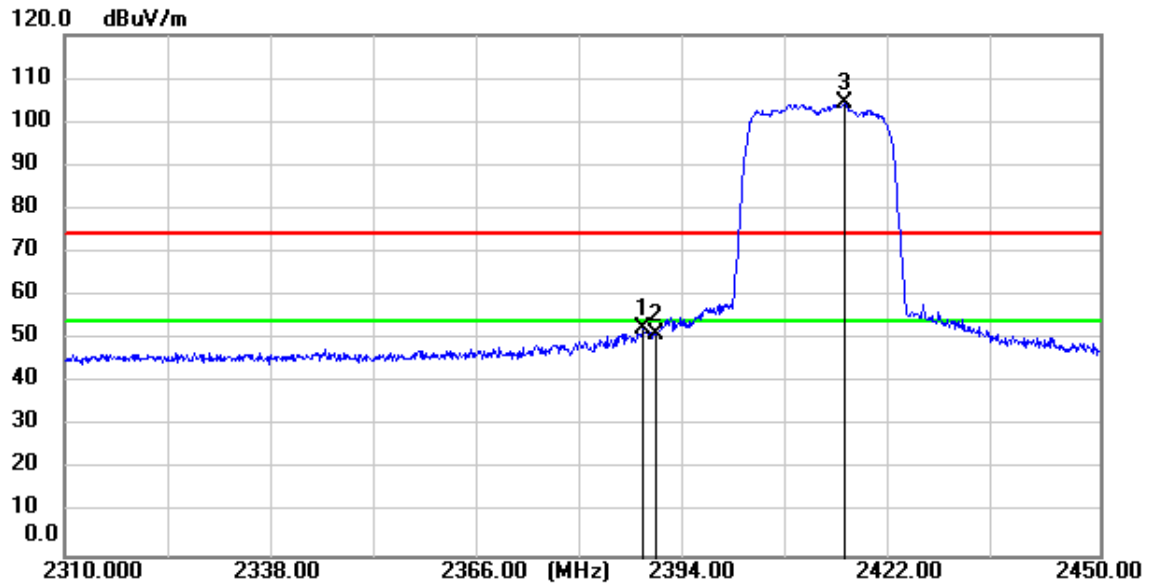


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.500	104.27	-0.44	103.83	74.00	29.83	peak
2	2483.500	57.79	-0.33	57.46	74.00	-16.54	peak
3	2485.250	59.18	-0.31	58.87	74.00	-15.13	peak
4	2500.000	46.33	-0.24	46.09	74.00	-27.91	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low

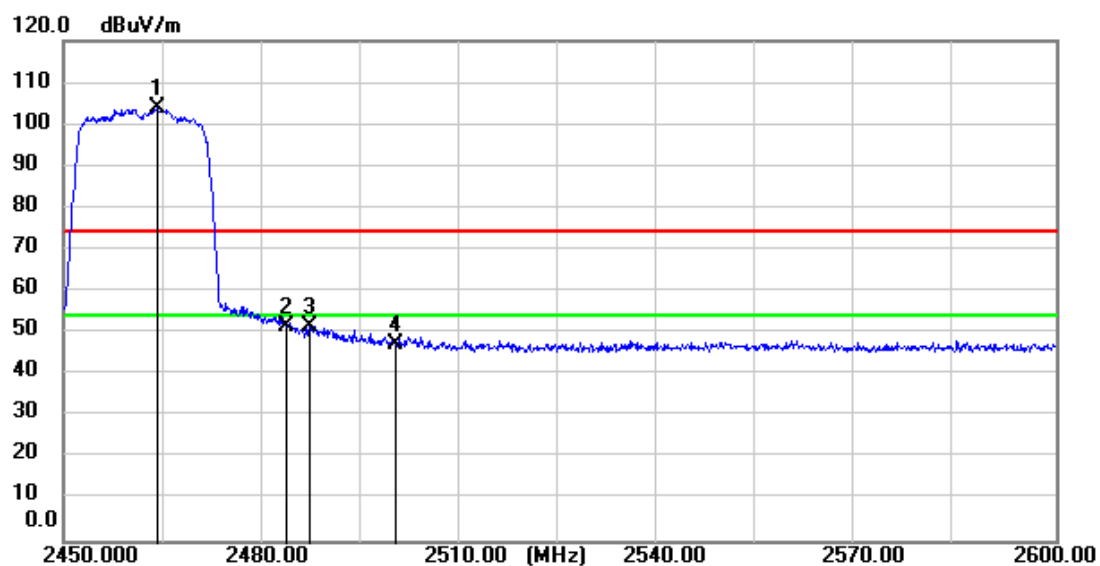


Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low



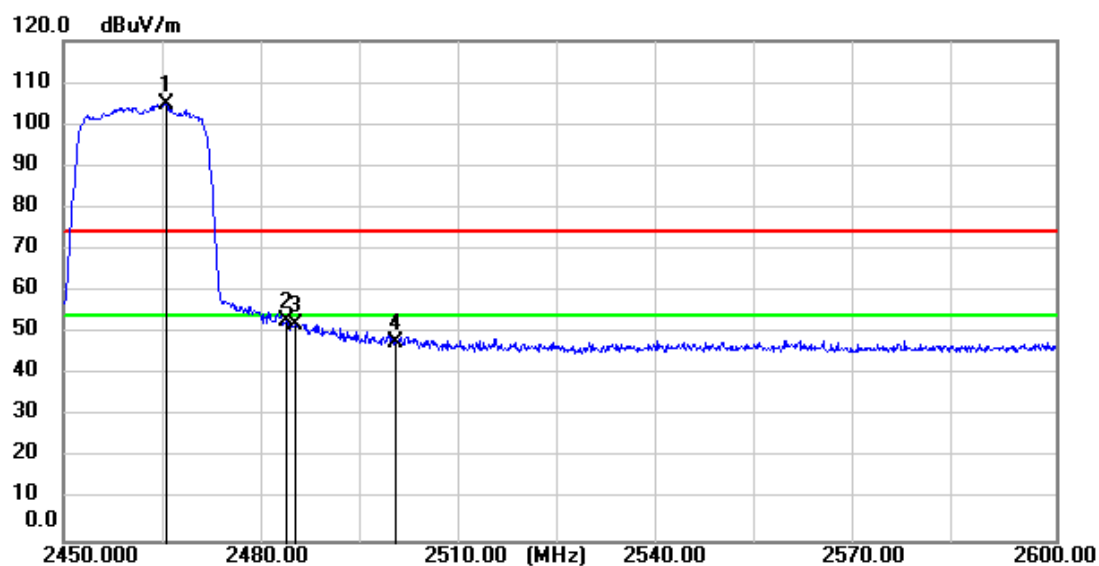
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.260	53.38	-0.80	52.58	74.00	-21.42	peak
2	2390.000	51.88	-0.79	51.09	74.00	-22.91	peak
3	2415.420	105.11	-0.66	104.45	74.00	30.45	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:High



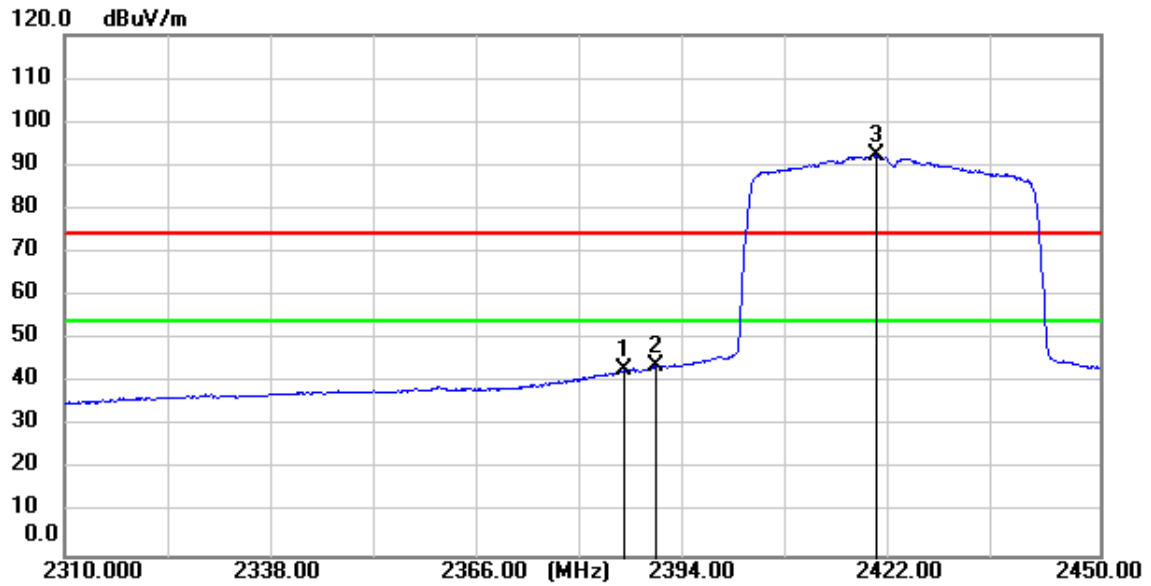
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2464.250	104.14	-0.42	103.72	74.00	29.72	peak
2	2483.500	51.91	-0.33	51.58	74.00	-22.42	peak
3	2487.350	52.09	-0.30	51.79	74.00	-22.21	peak
4	2500.000	47.68	-0.24	47.44	74.00	-26.56	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:High



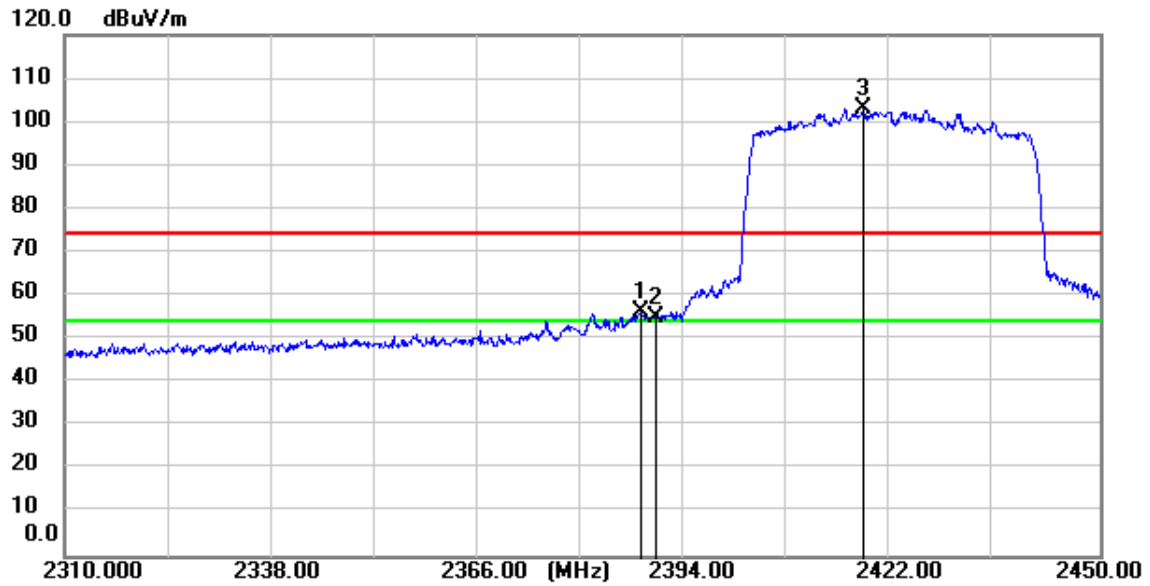
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2465.450	105.37	-0.41	104.96	74.00	30.96	peak
2	2483.500	53.12	-0.33	52.79	74.00	-21.21	peak
3	2484.950	52.60	-0.32	52.28	74.00	-21.72	peak
4	2500.000	47.85	-0.24	47.61	74.00	-26.39	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low

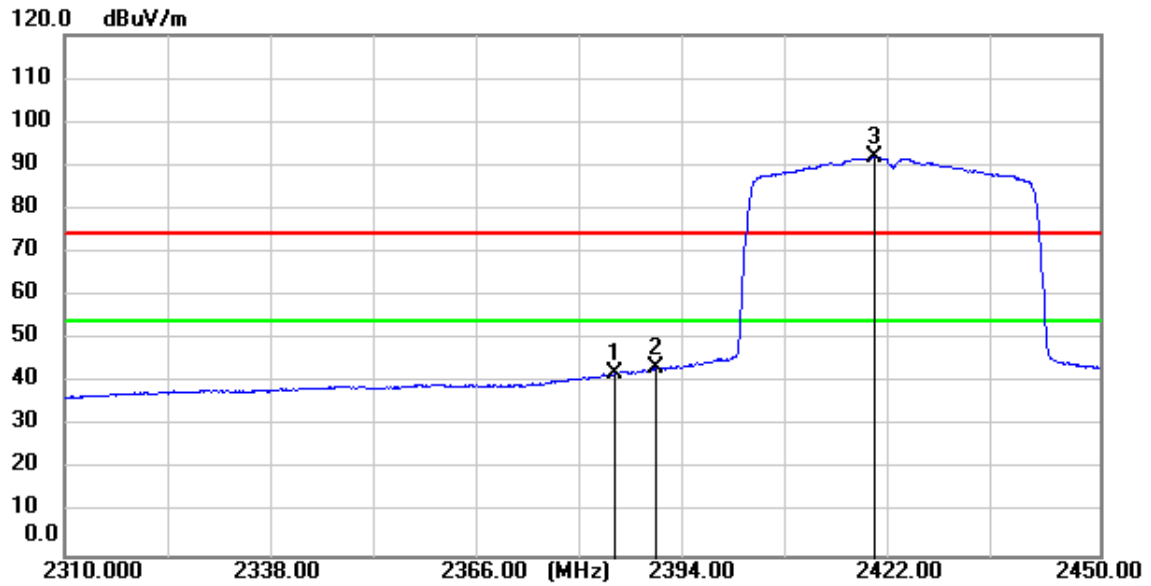


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.600	43.82	-0.81	43.01	54.00	-10.99	AVG
2	2390.000	44.56	-0.79	43.77	54.00	-10.23	AVG
3	2419.760	93.00	-0.64	92.36	54.00	38.36	AVG

Test Mode: 00; Polarity: Horizontal; Modulation: 802.11ax; Bandwidth: 40MHz; Channel: Low

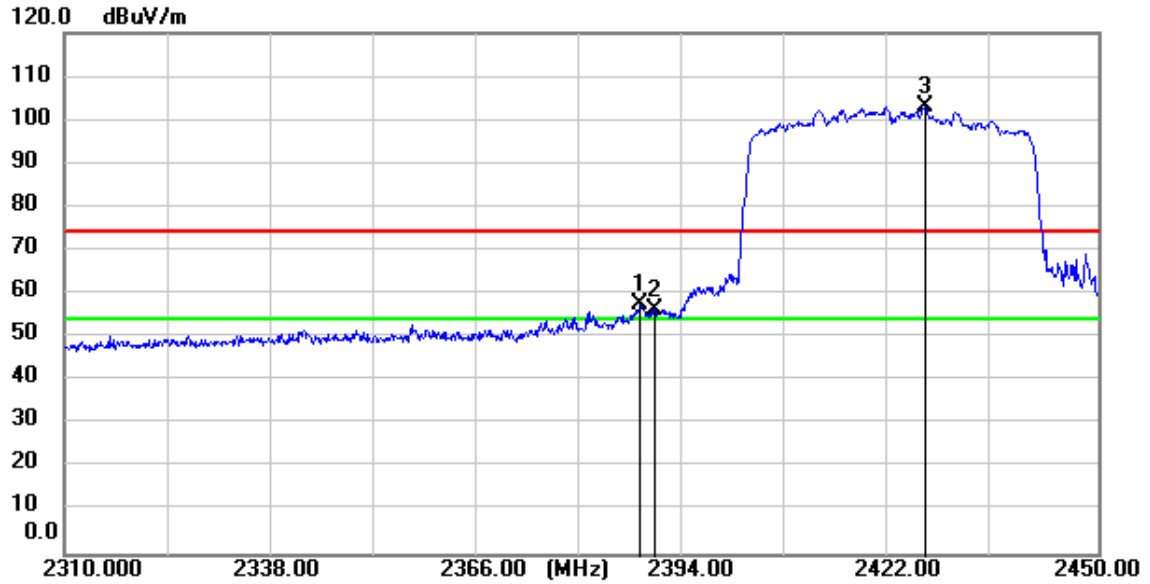


Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low



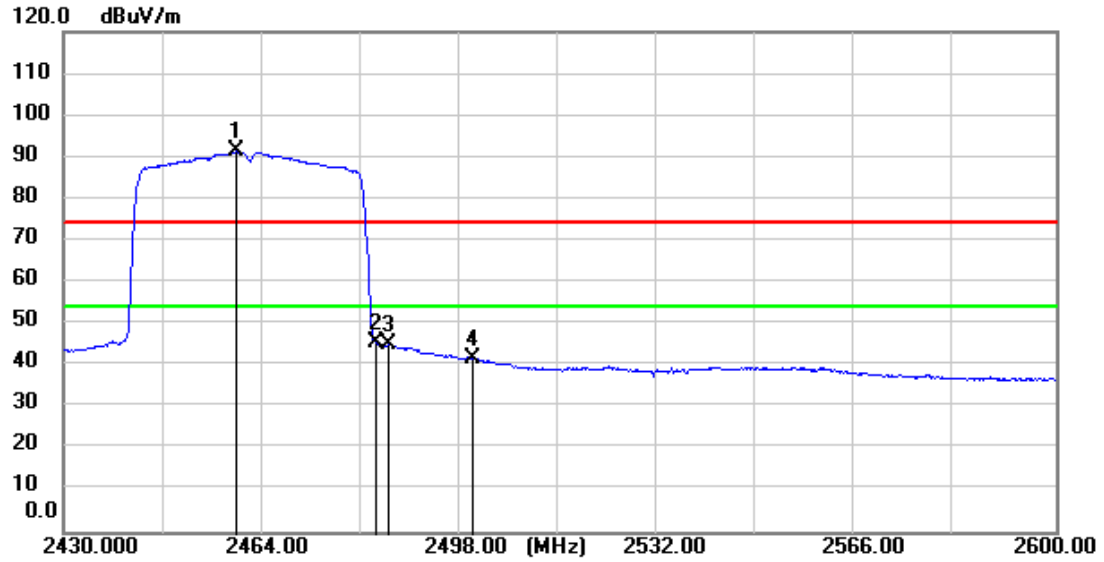
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.340	42.88	-0.82	42.06	54.00	-11.94	AVG
2	2390.000	44.41	-0.79	43.62	54.00	-10.38	AVG
3	2419.480	92.69	-0.64	92.05	54.00	38.05	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low



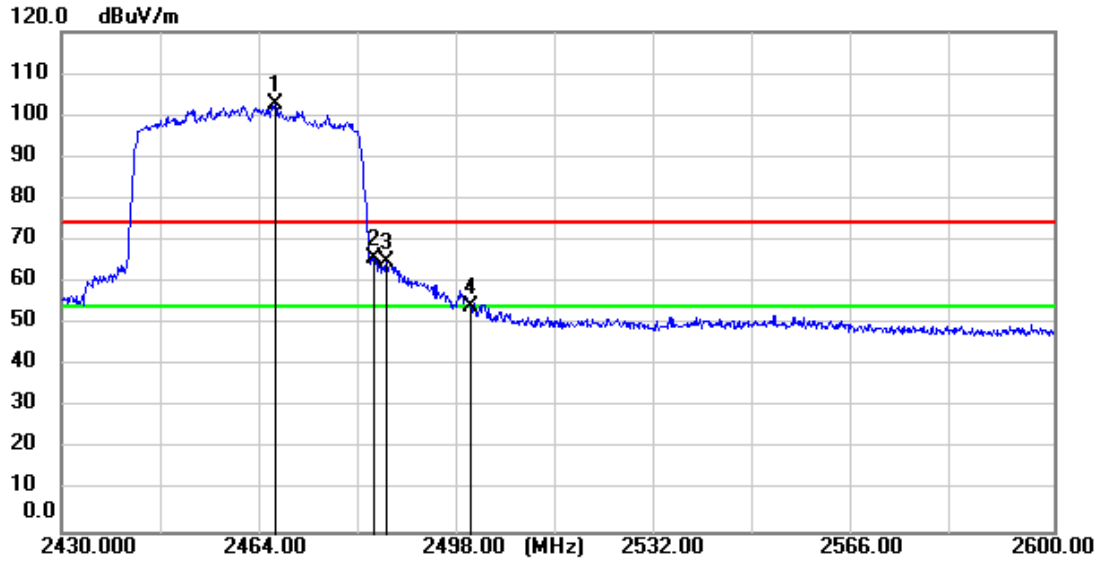
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.980	58.42	-0.80	57.62	74.00	-16.38	peak
2	2390.000	57.20	-0.79	56.41	74.00	-17.59	peak
3	2426.620	103.64	-0.60	103.04	74.00	29.04	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:High



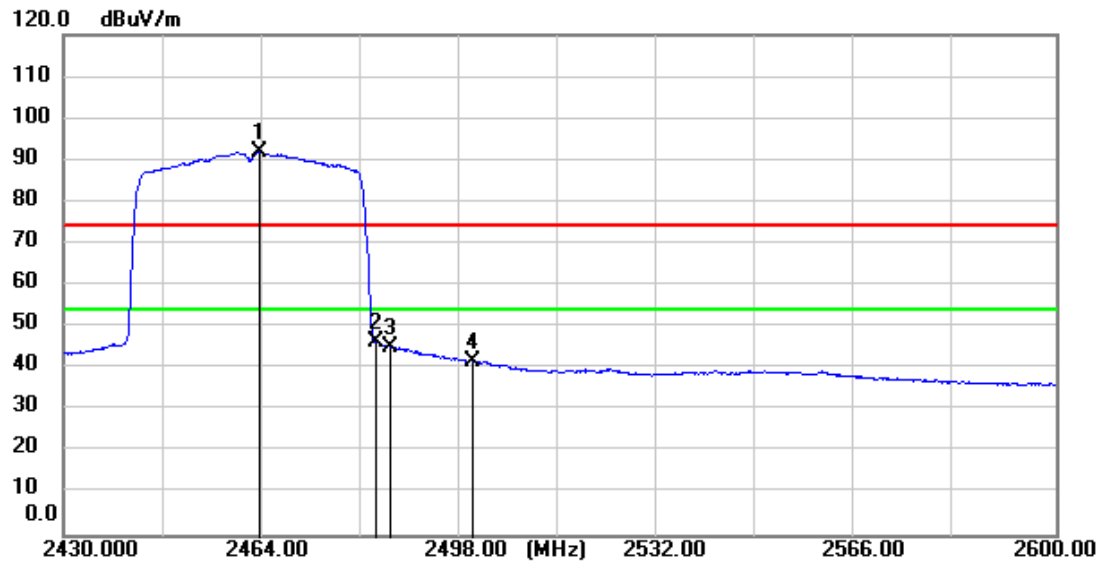
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2459.750	91.75	-0.44	91.31	54.00	37.31	AVG
2	2483.500	46.18	-0.33	45.85	54.00	-8.15	AVG
3	2485.590	45.61	-0.31	45.30	54.00	-8.70	AVG
4	2500.000	41.95	-0.24	41.71	54.00	-12.29	AVG

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:High



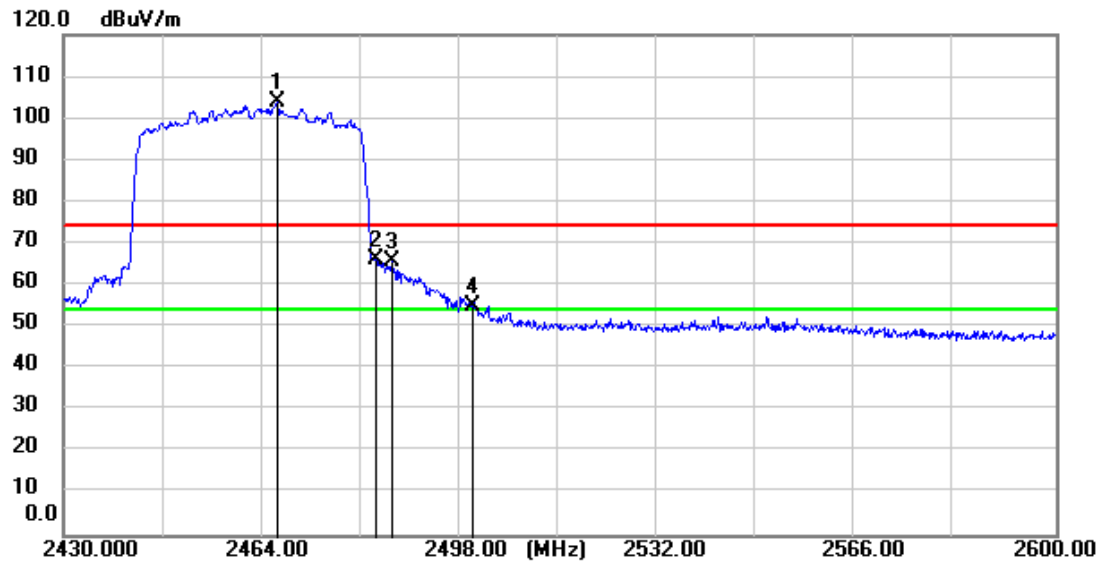
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2466.550	102.86	-0.40	102.46	74.00	28.46	peak
2	2483.500	66.13	-0.33	65.80	74.00	-8.20	peak
3	2485.760	65.19	-0.31	64.88	74.00	-9.12	peak
4	2500.000	54.63	-0.24	54.39	74.00	-19.61	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.490	92.41	-0.43	91.98	54.00	37.98	AVG
2	2483.500	46.63	-0.33	46.30	54.00	-7.70	AVG
3	2486.100	45.71	-0.31	45.40	54.00	-8.60	AVG
4	2500.000	42.08	-0.24	41.84	54.00	-12.16	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:High



7.3 Radiated Spurious Emissions Below 1GHz

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

Test Method: ANSI C63.10 (2013) 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

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

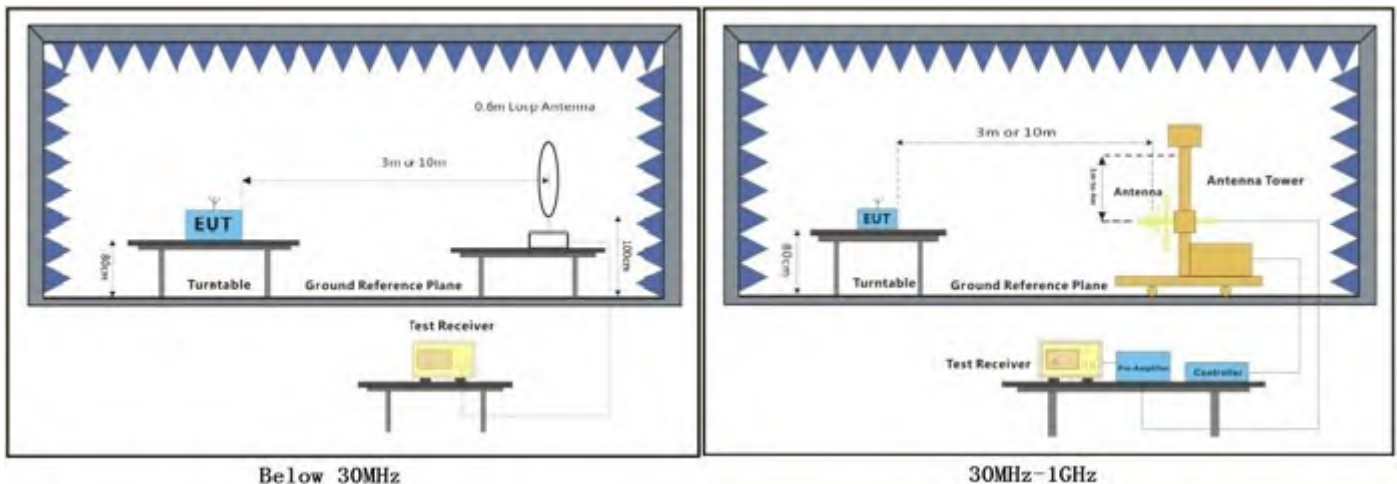
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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, 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



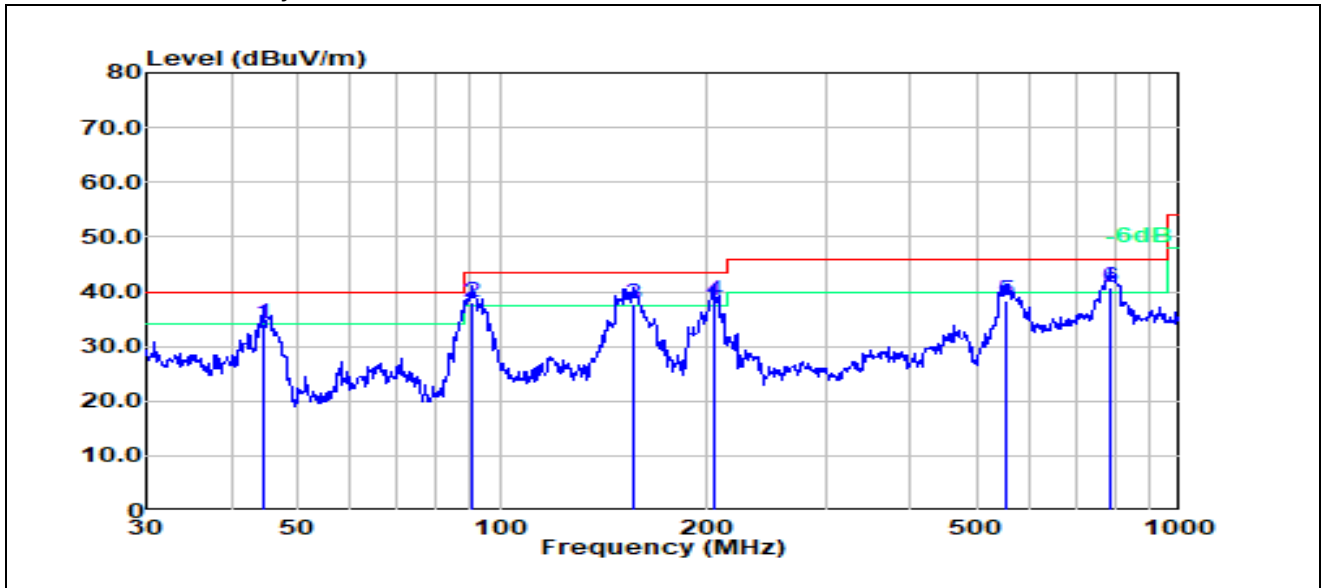
7.3.4 Measurement Procedure and Data

- a. For 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. 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.
- 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:

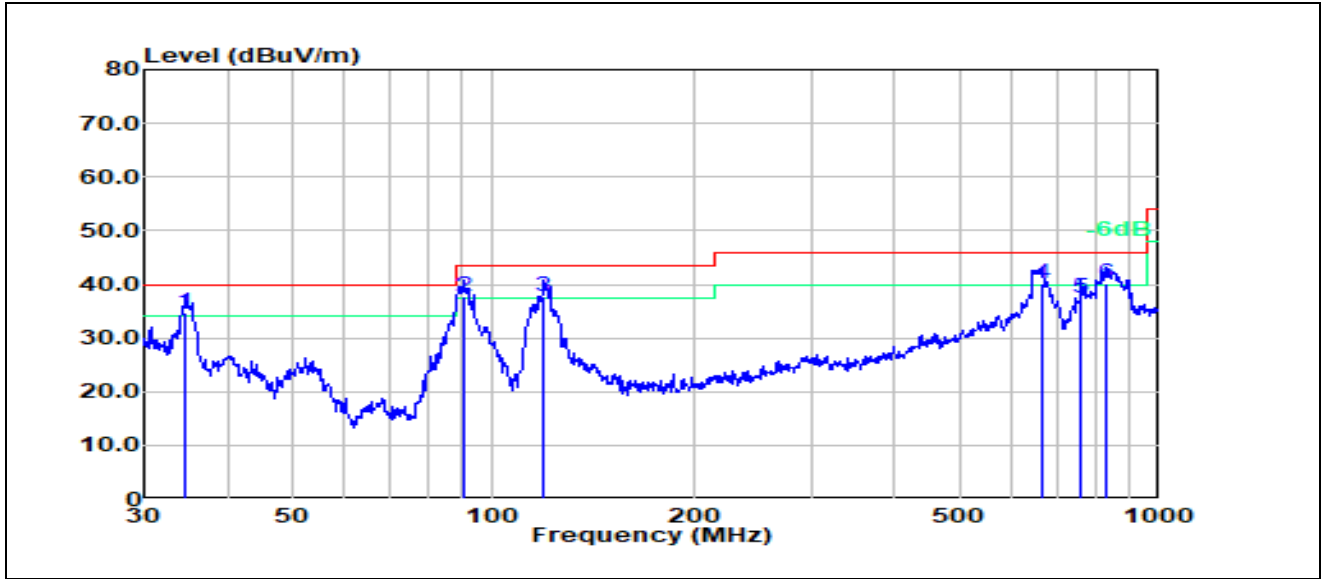
1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed.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

Test Mode: 00; Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	44.5870	19.87	14.33	34.20	40.00	-5.80	100	0	QP
2	90.2200	20.25	17.73	37.98	43.50	-5.52	200	54	QP
3	156.4580	20.24	17.39	37.63	43.50	-5.87	100	130	QP
4	204.9550	20.79	17.41	38.20	43.50	-5.30	200	160	QP
5	552.8830	10.54	27.71	38.25	46.00	-7.75	200	0	QP
6	787.8510	10.32	30.37	40.69	46.00	-5.31	100	258	QP

Test Mode: 00; Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	34.6385	12.69	21.95	34.64	40.00	-5.36	100	306	QP
2	90.5374	19.98	17.80	37.78	43.50	-5.72	100	151	QP
3	119.4361	17.41	20.25	37.66	43.50	-5.84	100	108	QP
4	665.8035	10.59	29.56	40.15	46.00	-5.85	100	151	QP
5	760.7036	7.86	29.71	37.57	46.00	-8.43	100	2	QP
6	830.4001	9.61	30.44	40.05	46.00	-5.95	100	272	QP

7.4 Radiated Spurious Emissions Above 1GHz

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

Test Method: ANSI C63.10 (2013) Section 6.6

Measurement Distance: 3m

Limit:

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

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

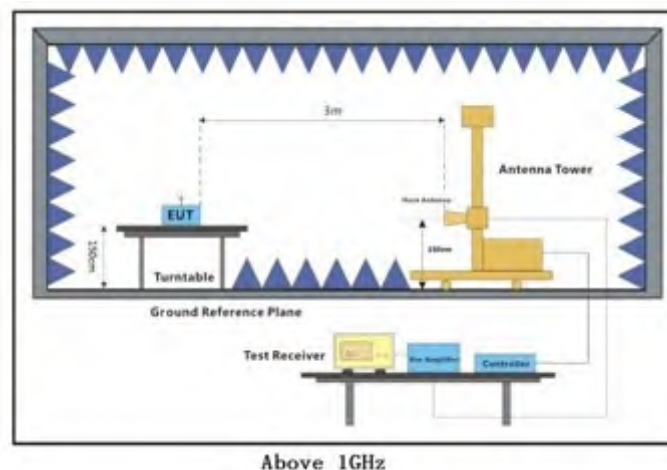
Humidity: 50.3 % RH

Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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 @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



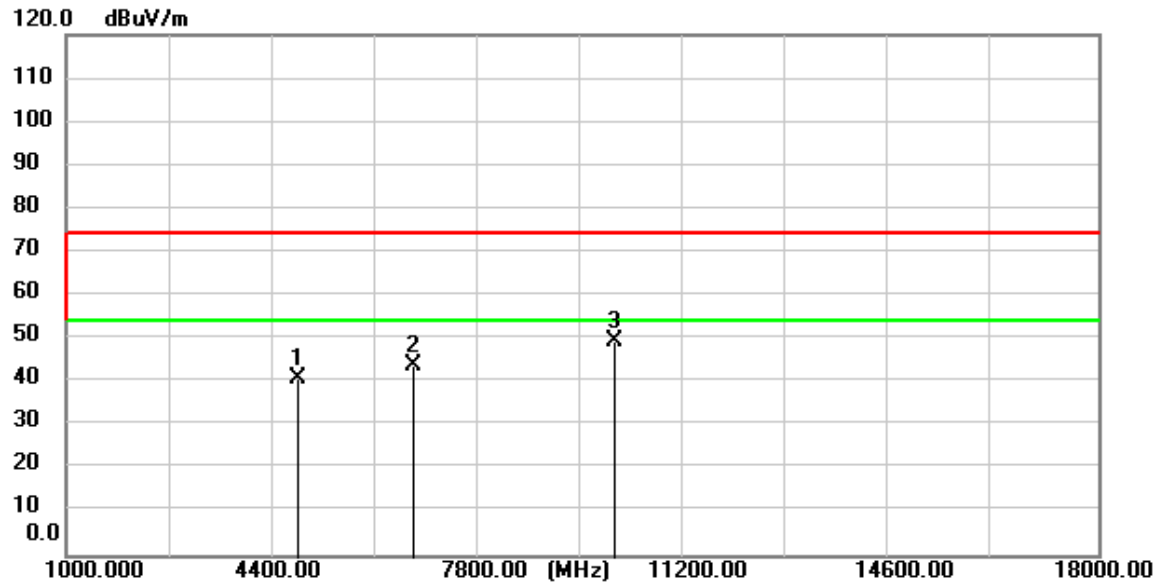
7.4.4 Measurement Procedure and Data

- 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 fully-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:

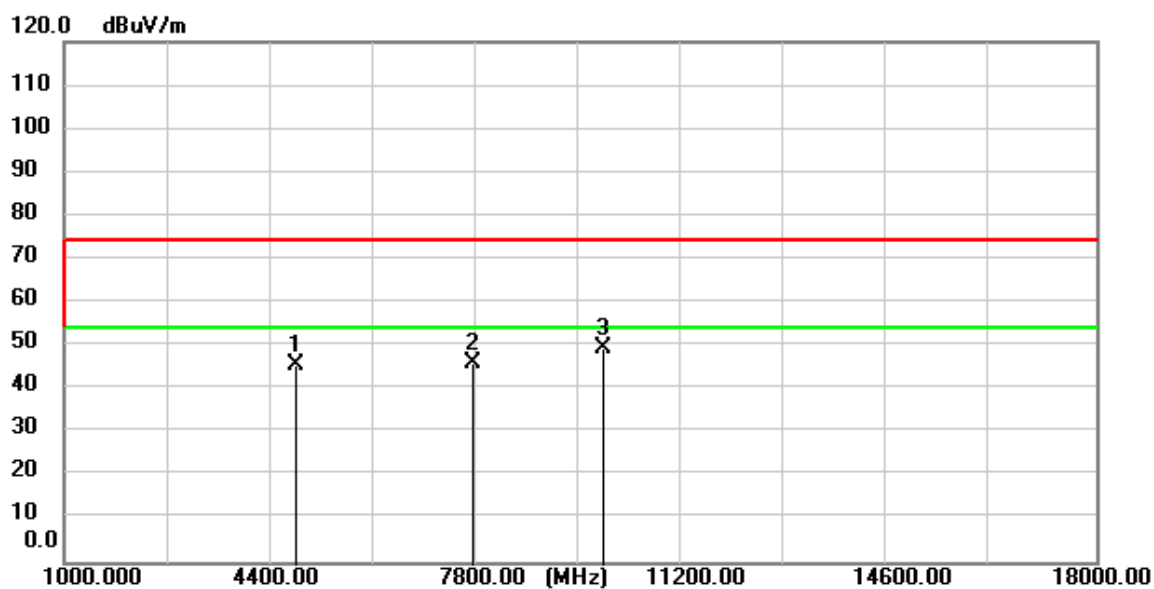
1. $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. 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.

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



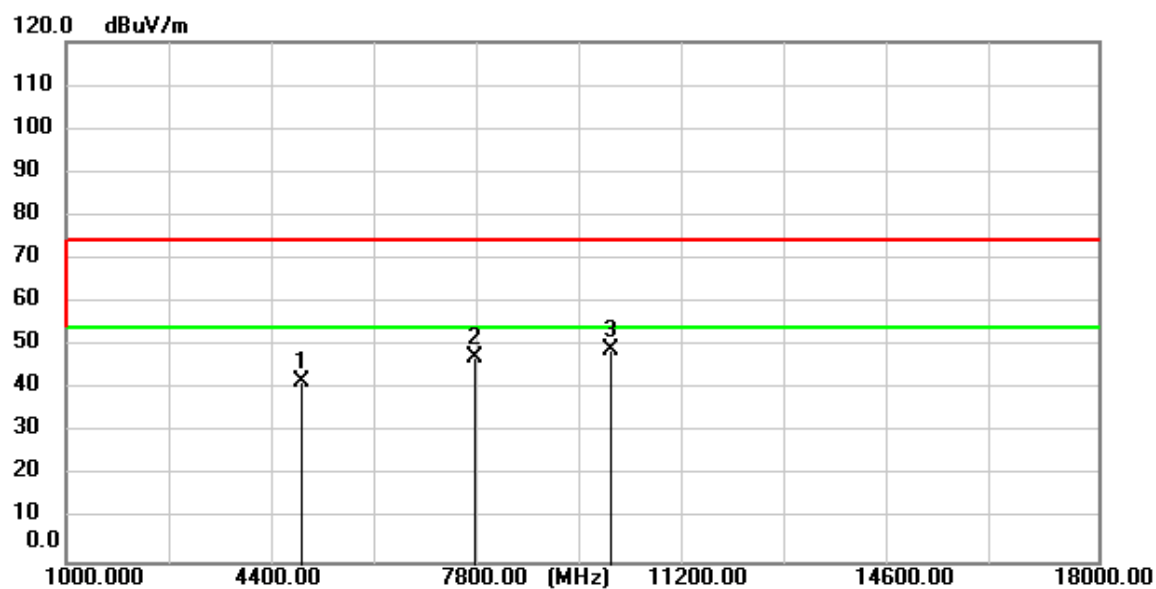
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.150	58.00	-16.97	41.03	74.00	-32.97	peak
2	6721.350	54.32	-10.45	43.87	74.00	-30.13	peak
3	10028.700	55.15	-5.60	49.55	74.00	-24.45	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:Low



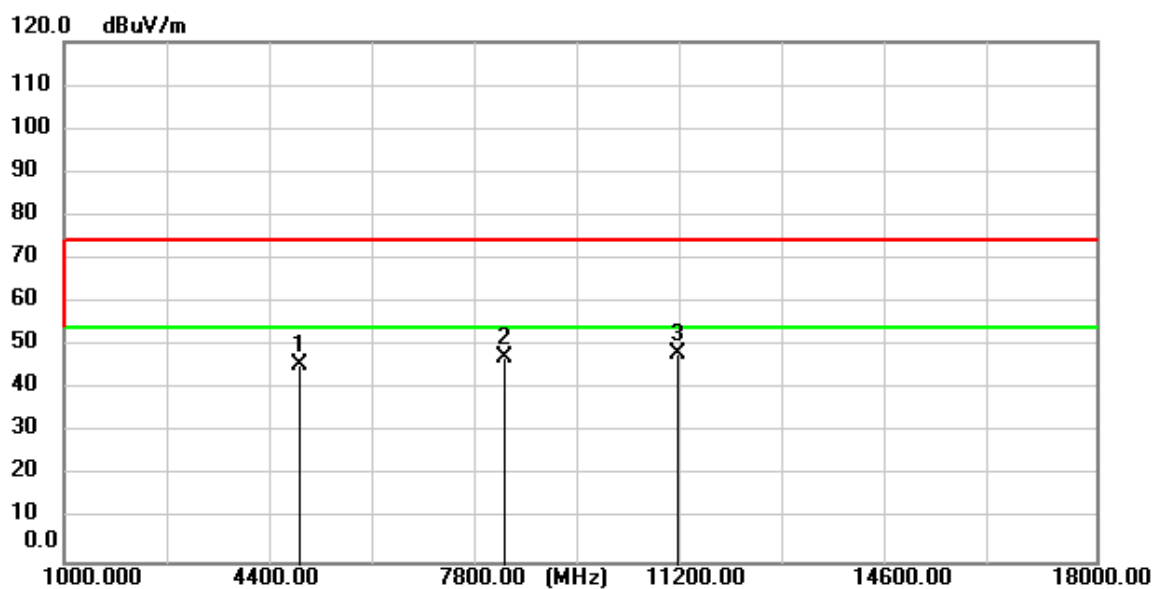
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.150	62.45	-16.97	45.48	74.00	-28.52	peak
2	7715.850	55.53	-9.62	45.91	74.00	-28.09	peak
3	9862.950	54.99	-5.63	49.36	74.00	-24.64	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



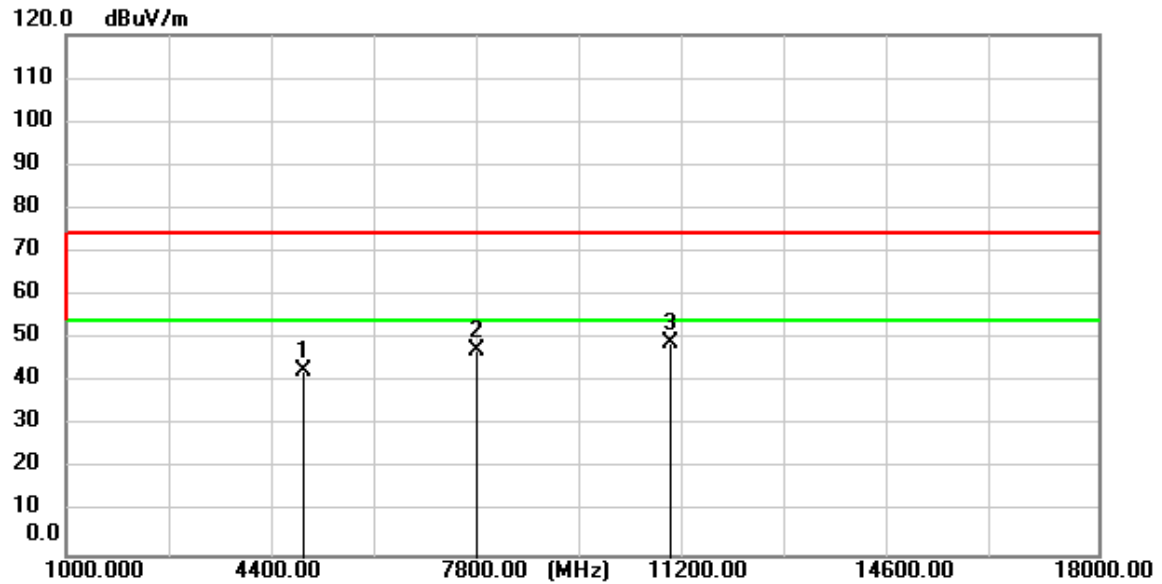
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4873.450	58.80	-16.88	41.92	74.00	-32.08	peak
2	7716.700	56.97	-9.63	47.34	74.00	-26.66	peak
3	9970.050	54.85	-5.59	49.26	74.00	-24.74	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:middle



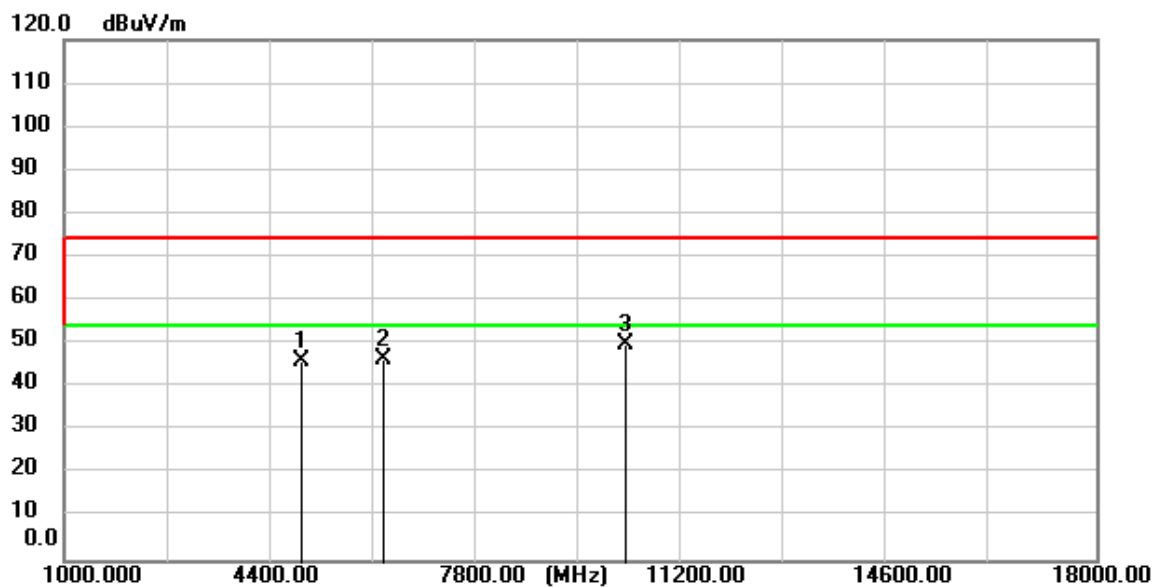
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4873.450	62.57	-16.88	45.69	74.00	-28.31	peak
2	8236.900	56.36	-8.93	47.43	74.00	-26.57	peak
3	11097.150	54.65	-6.43	48.22	74.00	-25.78	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11b; Bandwidth:20MHz; Channel:High



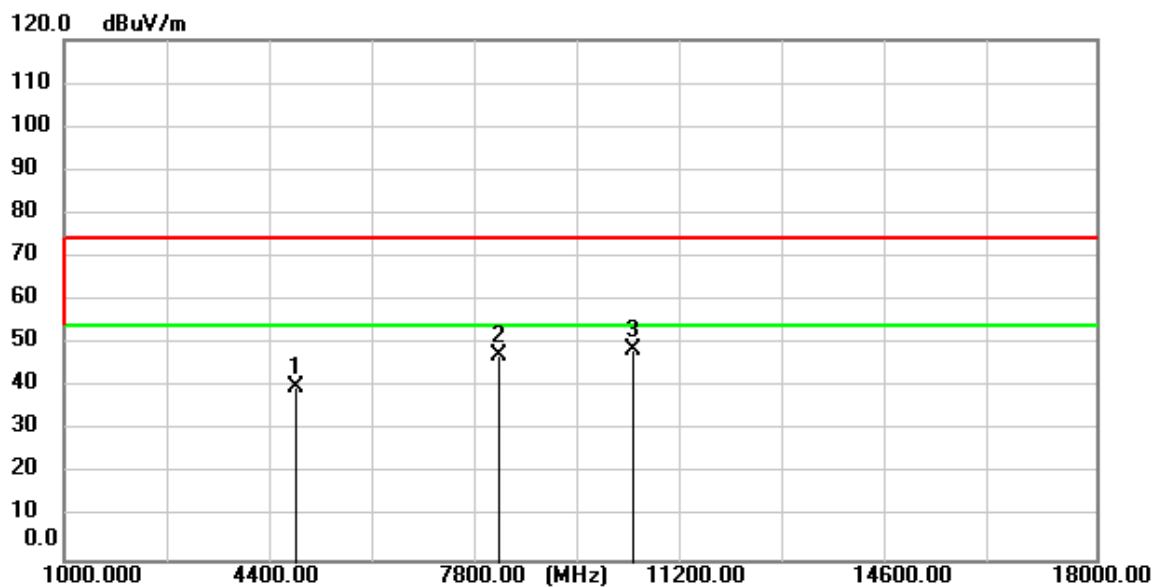
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.450	59.28	-16.78	42.50	74.00	-31.50	peak
2	7762.600	56.77	-9.57	47.20	74.00	-26.80	peak
3	10941.600	55.27	-6.37	48.90	74.00	-25.10	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11b; Bandwidth:20MHz; Channel:High



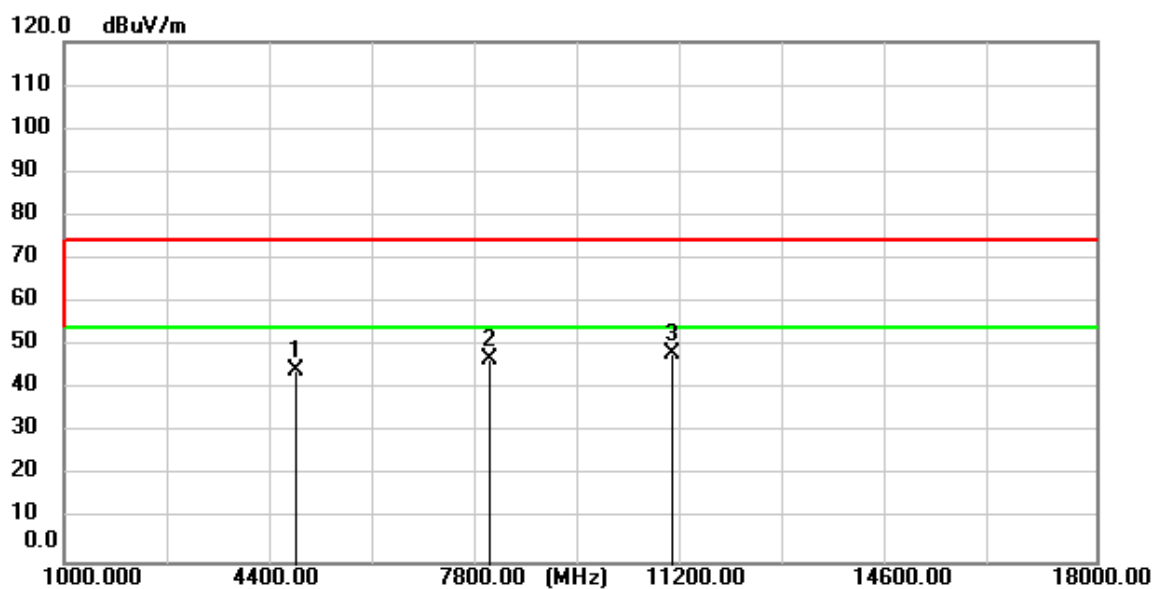
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4923.600	62.66	-16.79	45.87	74.00	-28.13	peak
2	6266.600	59.07	-12.60	46.47	74.00	-27.53	peak
3	10231.850	55.86	-5.77	50.09	74.00	-23.91	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



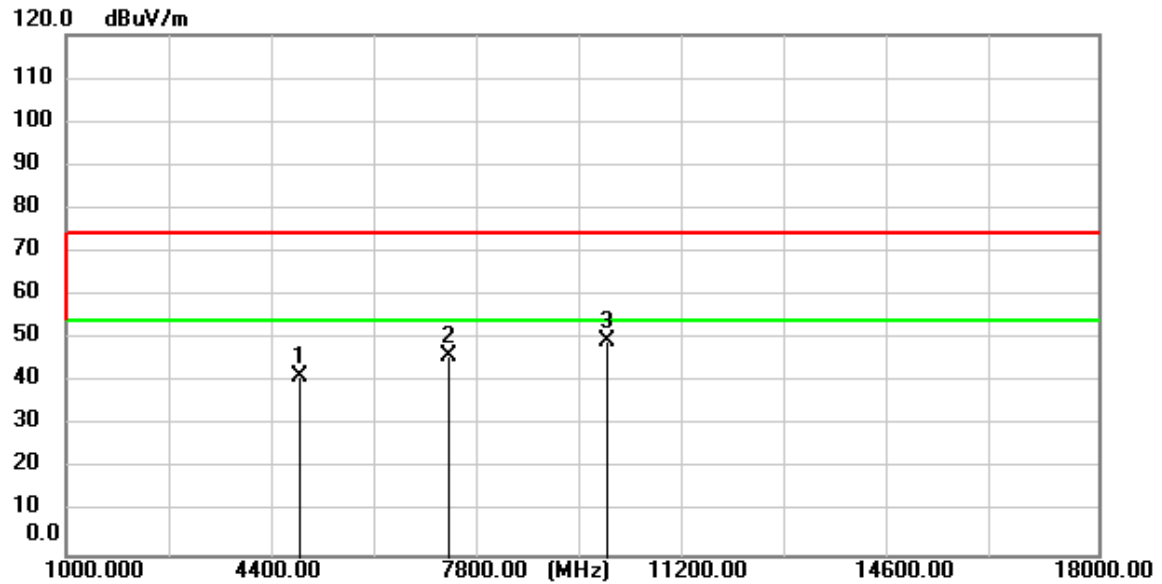
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.650	57.01	-16.98	40.03	74.00	-33.97	peak
2	8145.100	56.37	-9.06	47.31	74.00	-26.69	peak
3	10355.950	54.49	-5.87	48.62	74.00	-25.38	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



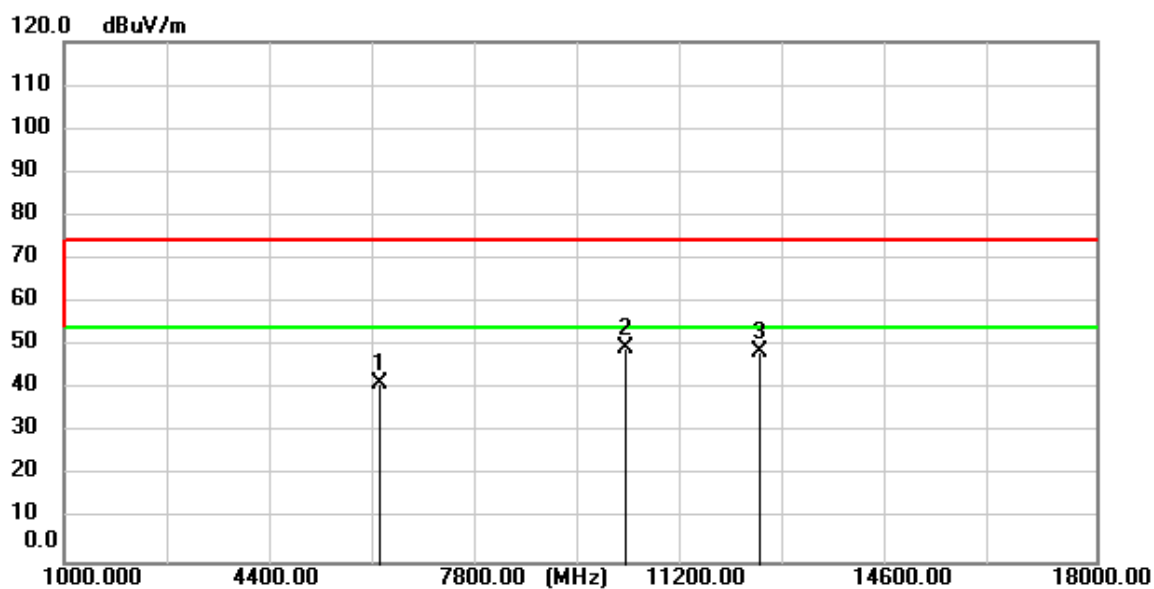
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4820.750	61.52	-16.98	44.54	74.00	-29.46	peak
2	8016.750	56.02	-9.28	46.74	74.00	-27.26	peak
3	11011.300	54.68	-6.42	48.26	74.00	-25.74	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



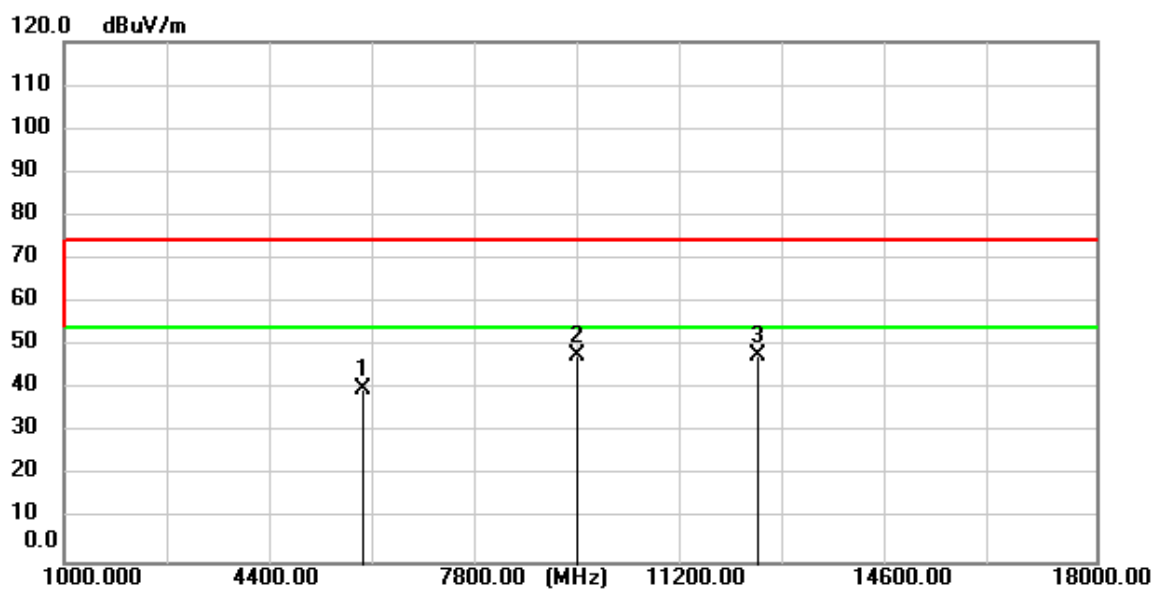
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4825.850	58.21	-16.97	41.24	74.00	-32.76	peak
2	7293.400	56.00	-10.02	45.98	74.00	-28.02	peak
3	9904.600	54.91	-5.62	49.29	74.00	-24.71	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle

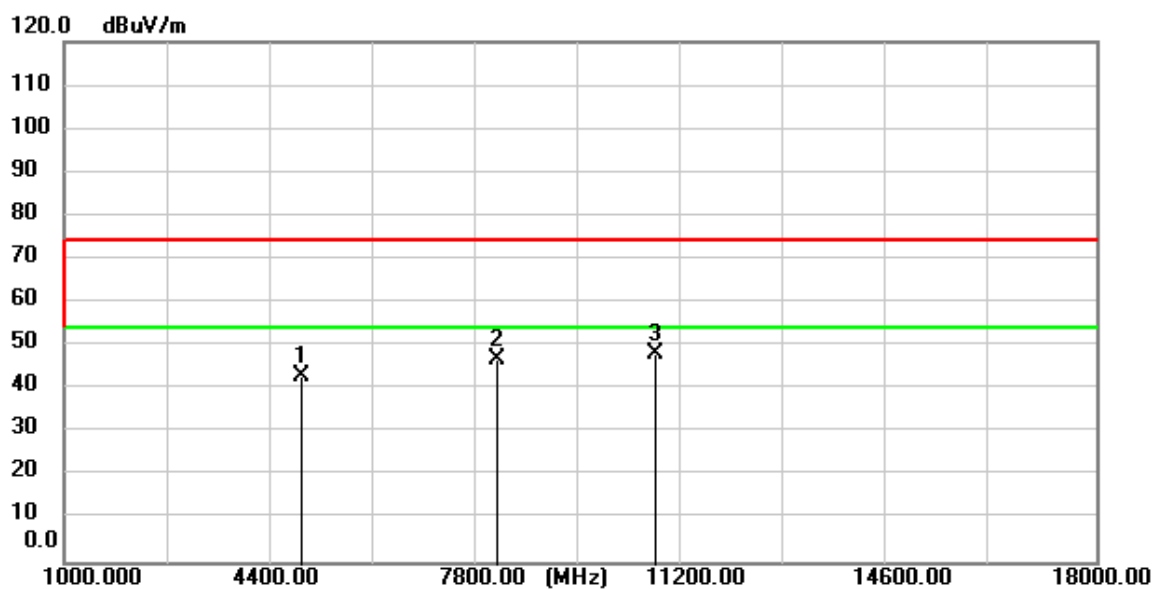


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6196.900	54.10	-12.92	41.18	74.00	-32.82	peak
2	10242.050	55.40	-5.78	49.62	74.00	-24.38	peak
3	12458.000	54.97	-6.17	48.80	74.00	-25.20	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High

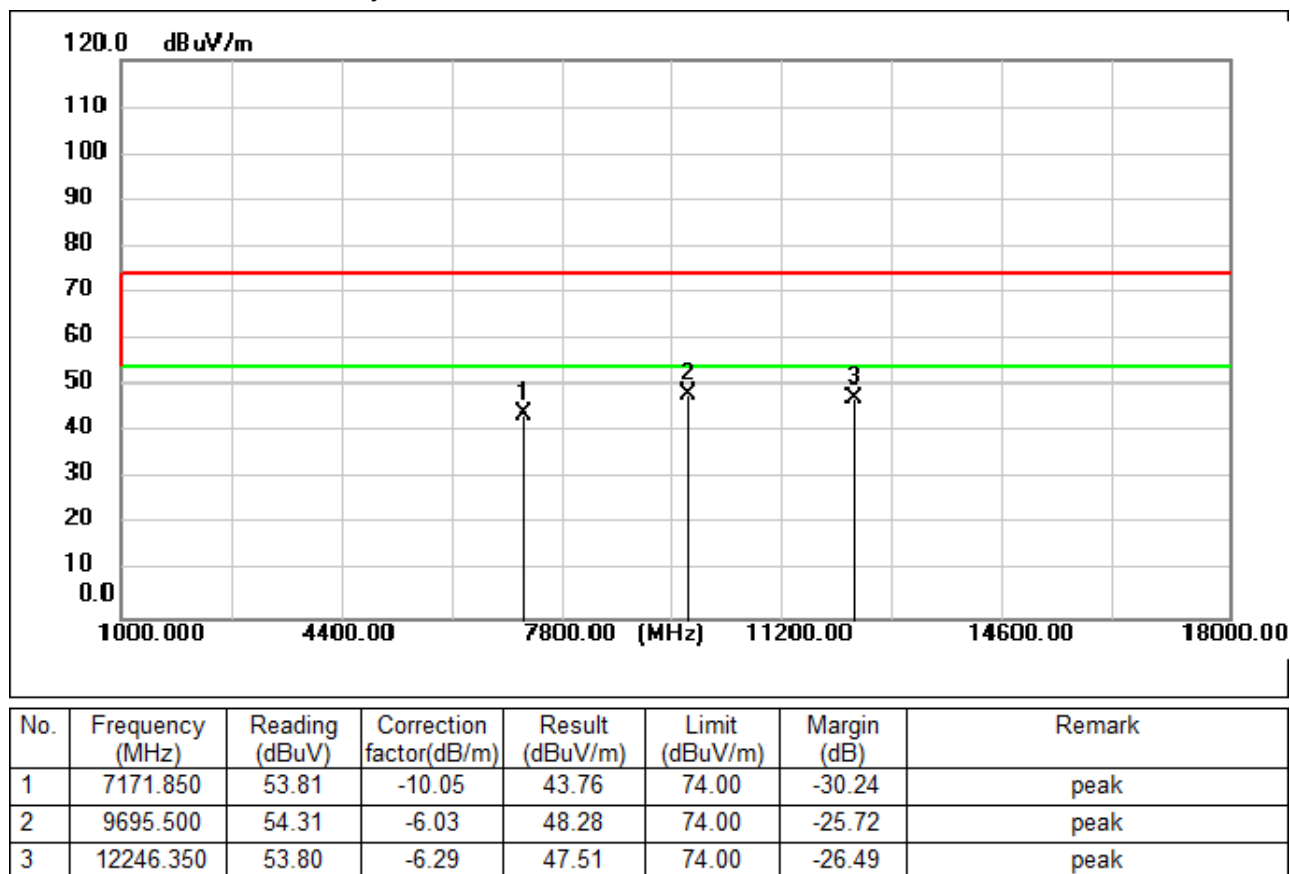


Test Mode: 00; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High

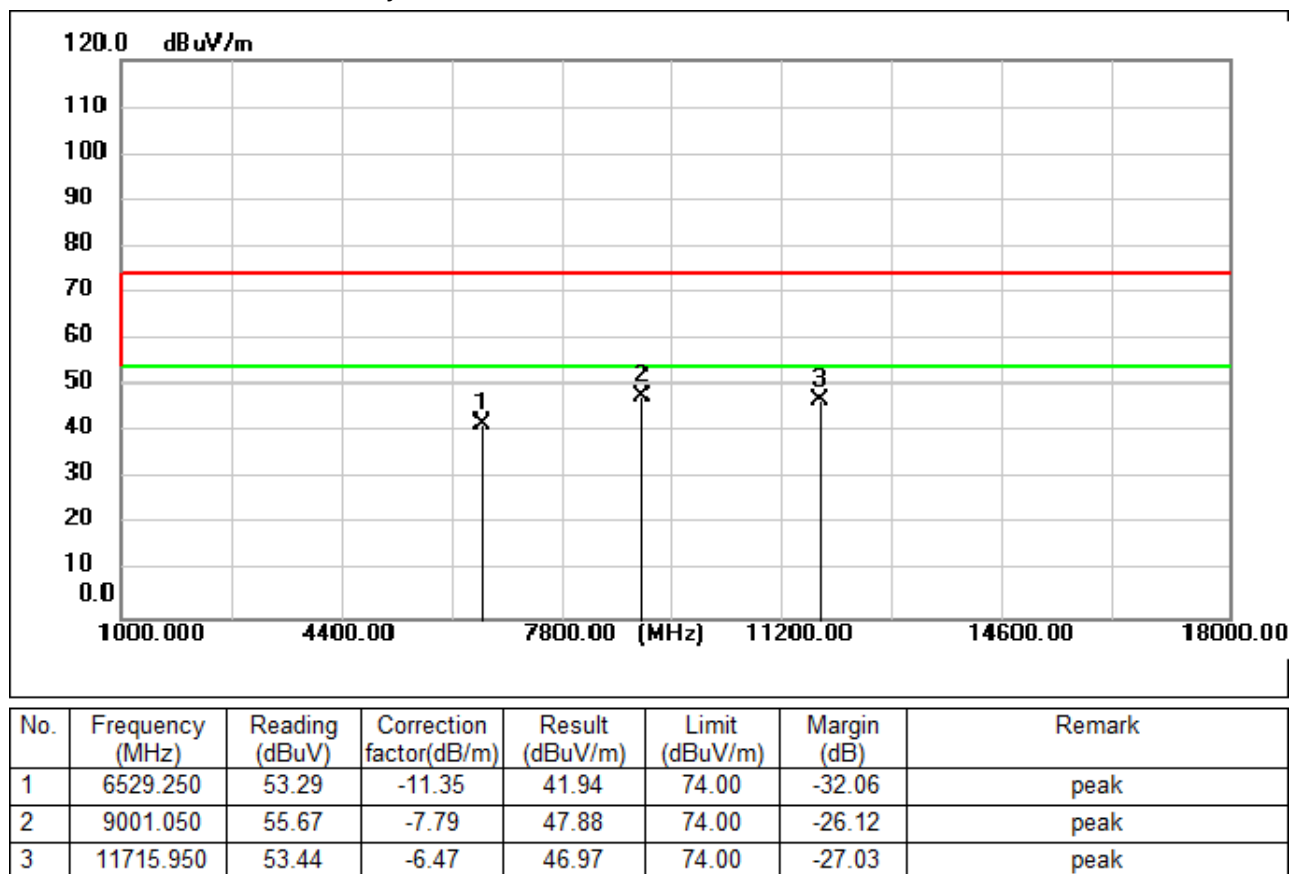


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4927.000	59.68	-16.78	42.90	74.00	-31.10	peak
2	8136.600	56.13	-9.08	47.05	74.00	-26.95	peak
3	10735.900	54.58	-6.19	48.39	74.00	-25.61	peak

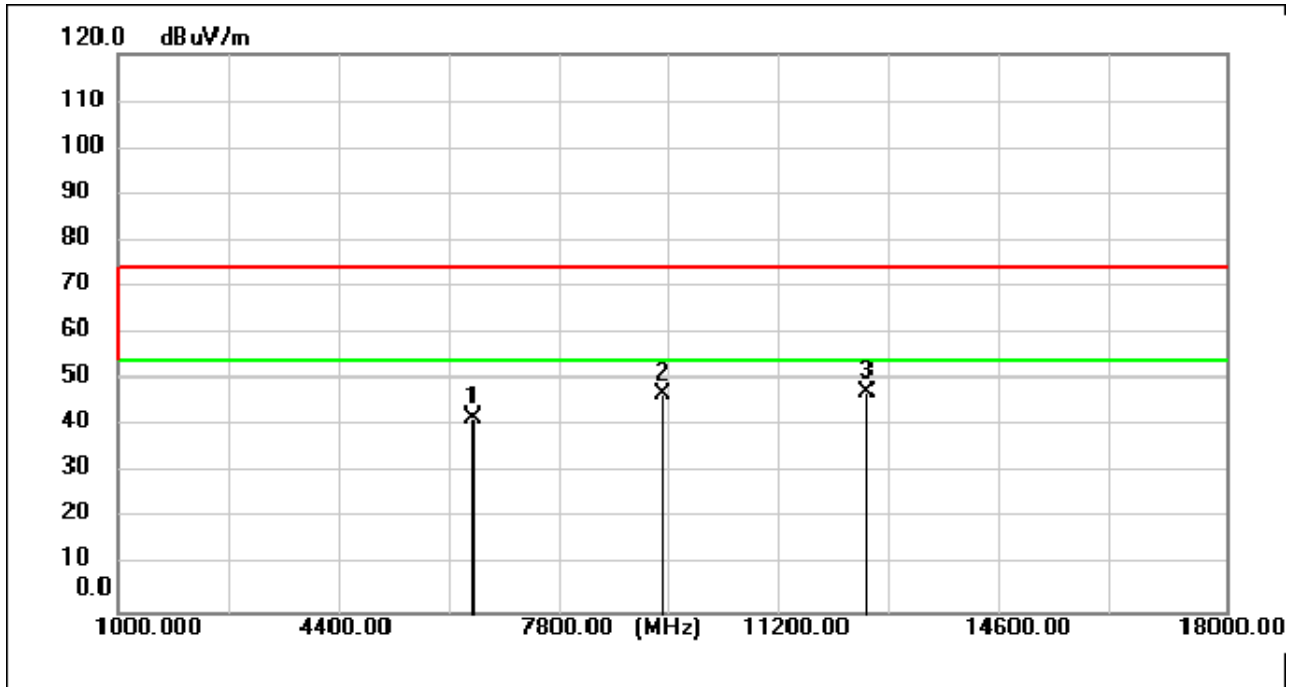
Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low



Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low

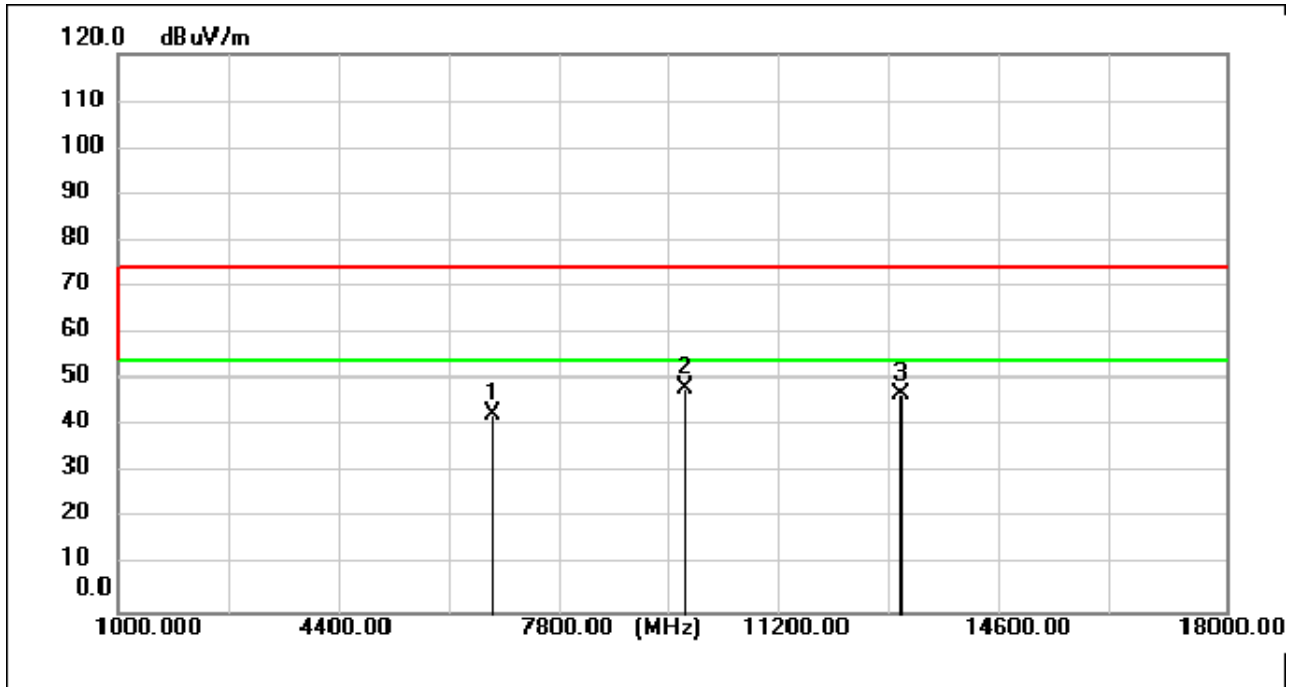


Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:middle



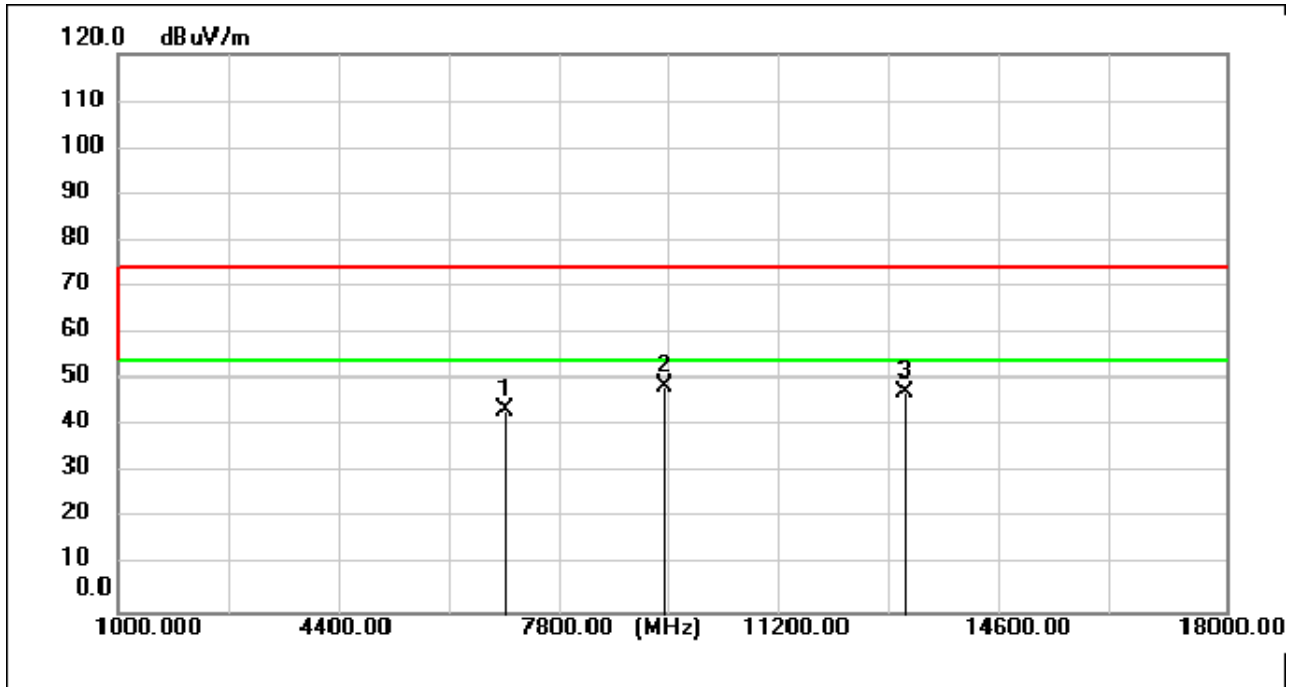
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6430.650	53.49	-11.82	41.67	74.00	-32.33	peak
2	9342.750	53.98	-6.92	47.06	74.00	-26.94	peak
3	12479.250	53.55	-6.17	47.38	74.00	-26.62	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:middle



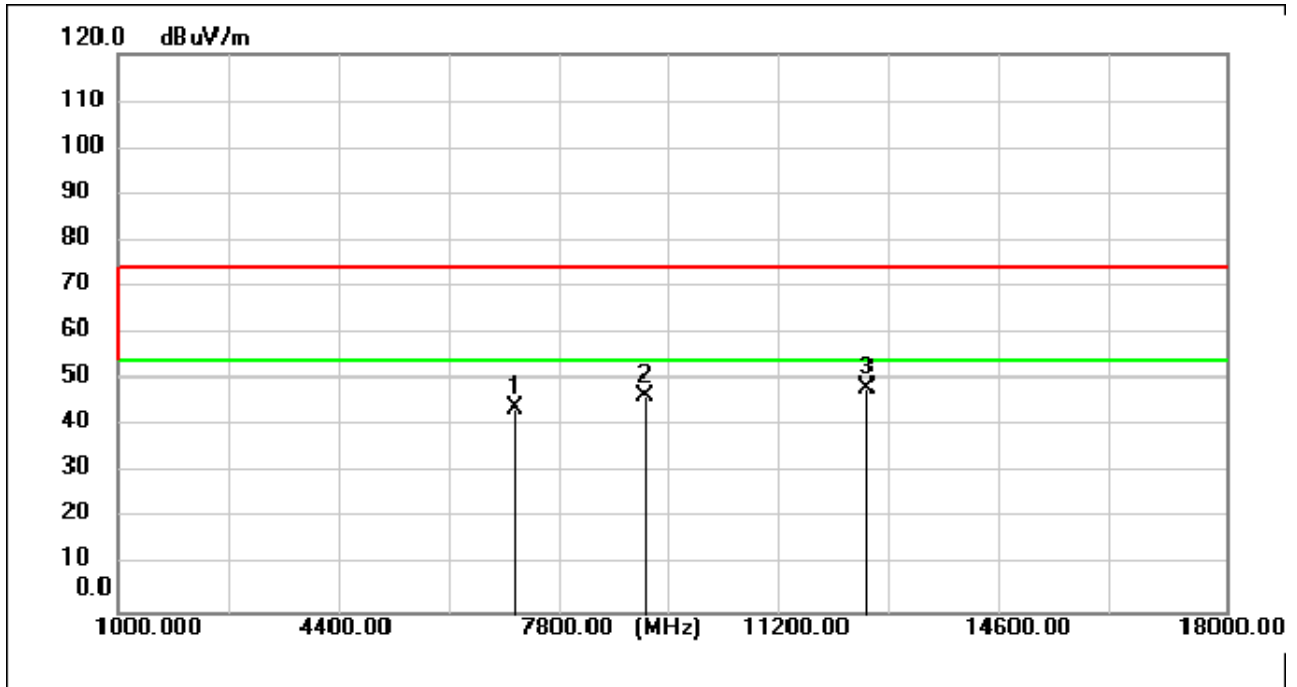
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6746.850	53.21	-10.41	42.80	74.00	-31.20	peak
2	9684.450	54.31	-6.06	48.25	74.00	-25.75	peak
3	13016.450	52.95	-5.87	47.08	74.00	-26.92	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:High



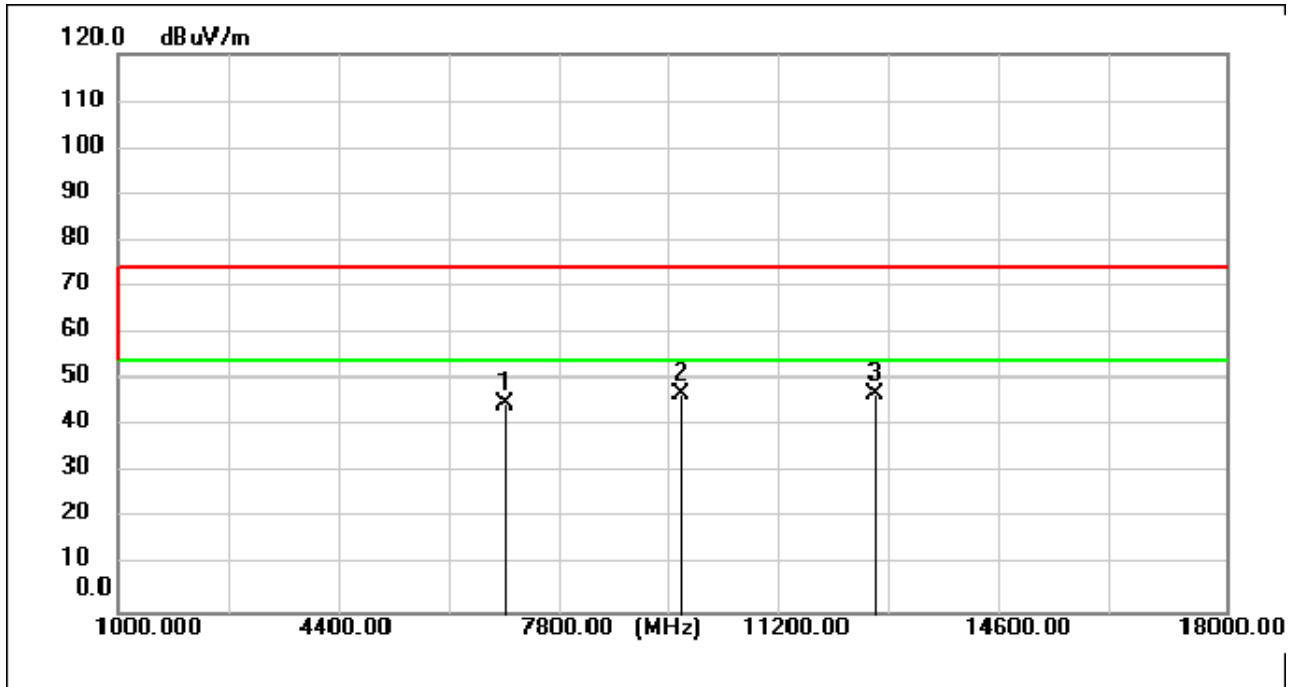
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6923.650	53.58	-10.18	43.40	74.00	-30.60	peak
2	9398.000	55.29	-6.79	48.50	74.00	-25.50	peak
3	13069.150	53.30	-5.80	47.50	74.00	-26.50	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:High



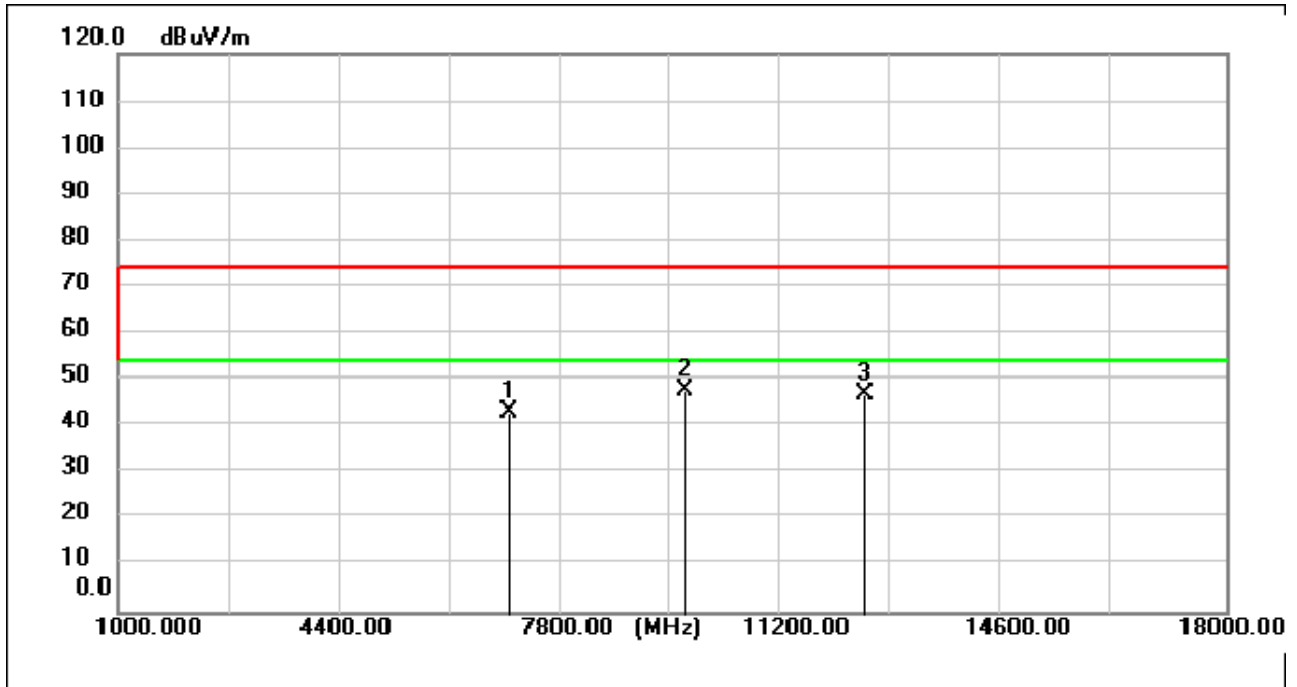
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7095.350	54.21	-10.07	44.14	74.00	-29.86	peak
2	9072.450	53.91	-7.60	46.31	74.00	-27.69	peak
3	12477.550	54.32	-6.17	48.15	74.00	-25.85	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low



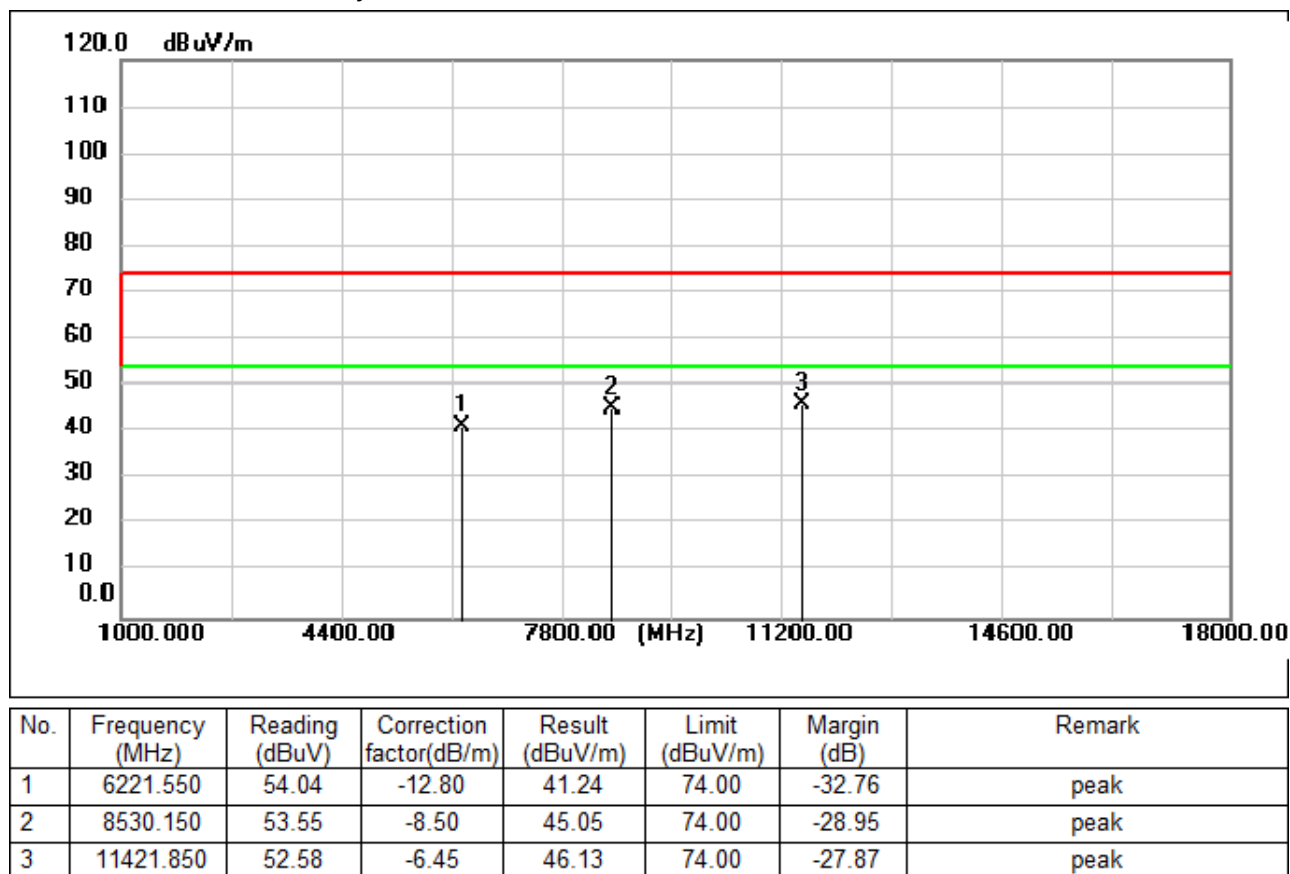
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6931.300	55.07	-10.18	44.89	74.00	-29.11	peak
2	9629.200	53.24	-6.20	47.04	74.00	-26.96	peak
3	12596.550	53.05	-6.10	46.95	74.00	-27.05	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low

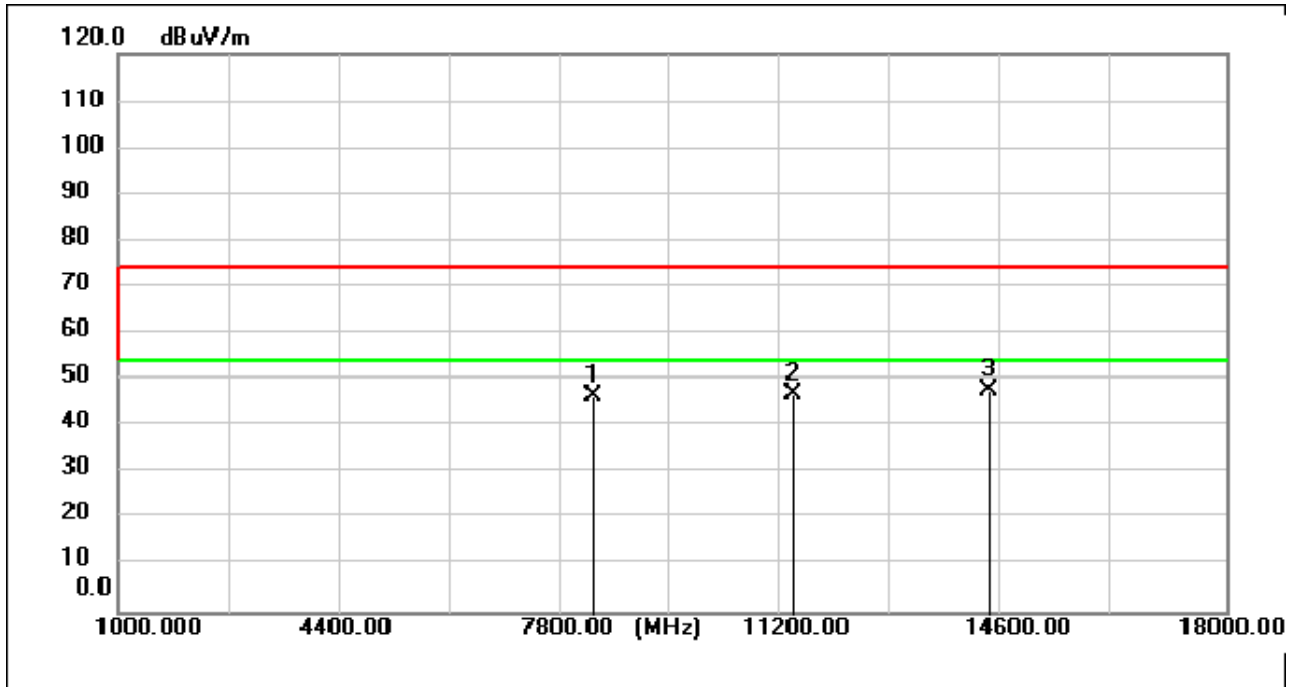


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6974.650	53.18	-10.12	43.06	74.00	-30.94	peak
2	9676.800	54.03	-6.07	47.96	74.00	-26.04	peak
3	12469.050	53.06	-6.17	46.89	74.00	-27.11	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:middle

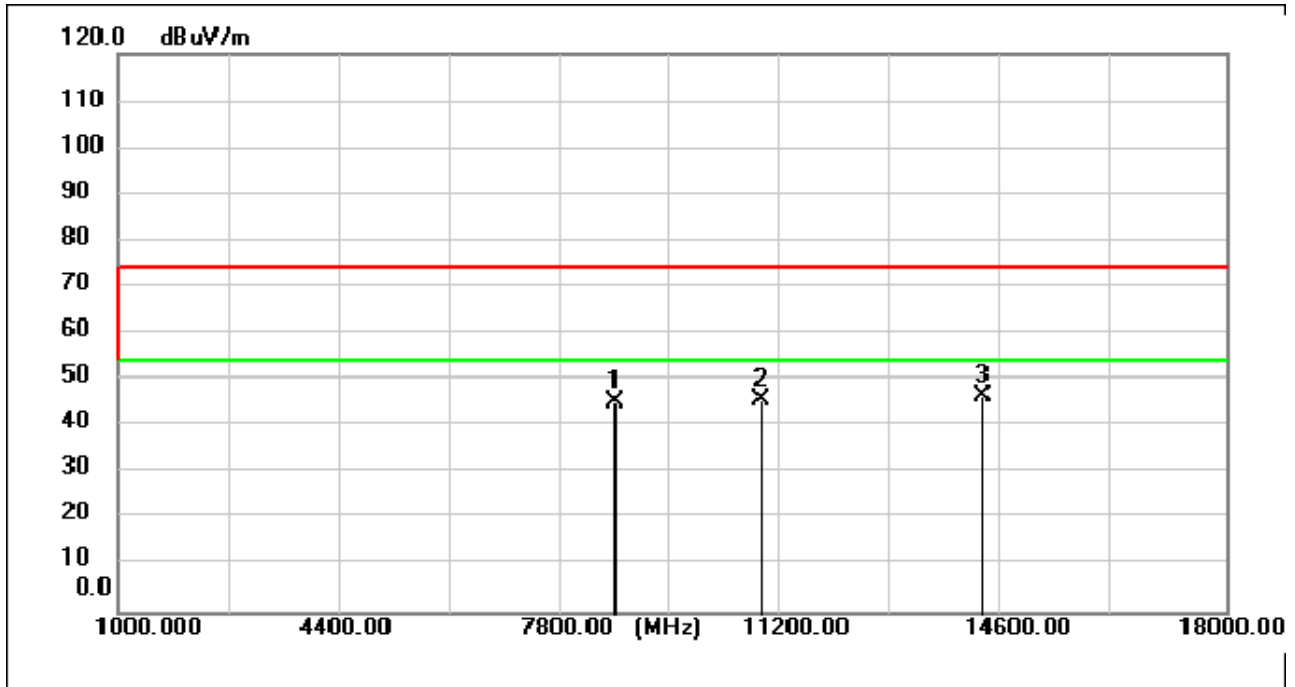


Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:middle



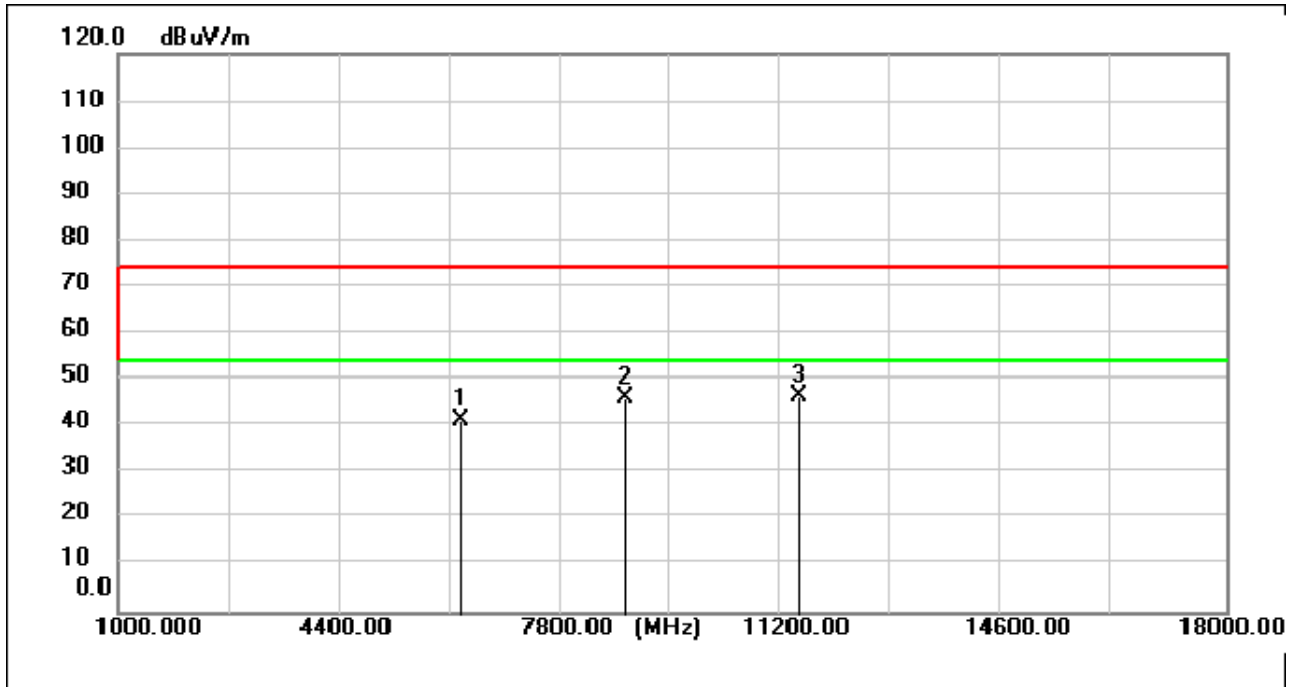
No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8291.300	55.17	-8.86	46.31	74.00	-27.69	peak
2	11361.500	53.42	-6.44	46.98	74.00	-27.02	peak
3	14371.350	52.88	-5.28	47.60	74.00	-26.40	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8618.550	53.51	-8.37	45.14	74.00	-28.86	peak
2	10854.900	51.73	-6.29	45.44	74.00	-28.56	peak
3	14270.200	51.78	-5.28	46.50	74.00	-27.50	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6258.100	53.79	-12.63	41.16	74.00	-32.84	peak
2	8778.350	54.42	-8.14	46.28	74.00	-27.72	peak
3	11431.200	53.10	-6.45	46.65	74.00	-27.35	peak

7.5 Conducted Average Output Power

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

Test Method: ANSI C63.10 (2013) 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

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C

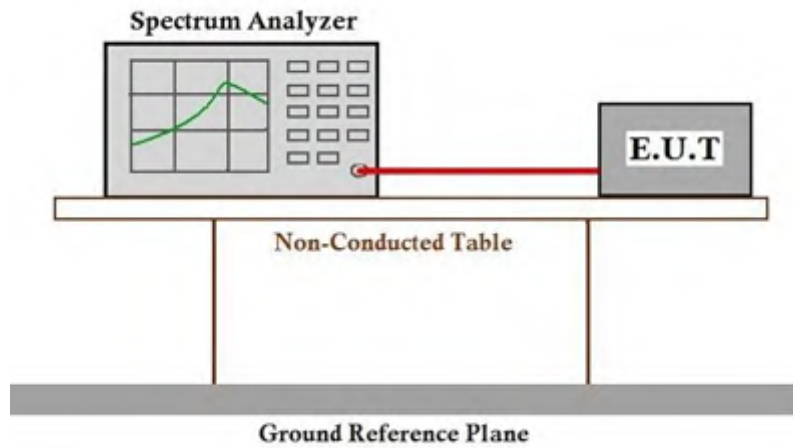
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 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

7.6 Minimum 6dB Bandwidth

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

Test Method: ANSI C63.10 (2013) Section 11.8.1

Limit:

≥500 kHz

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C

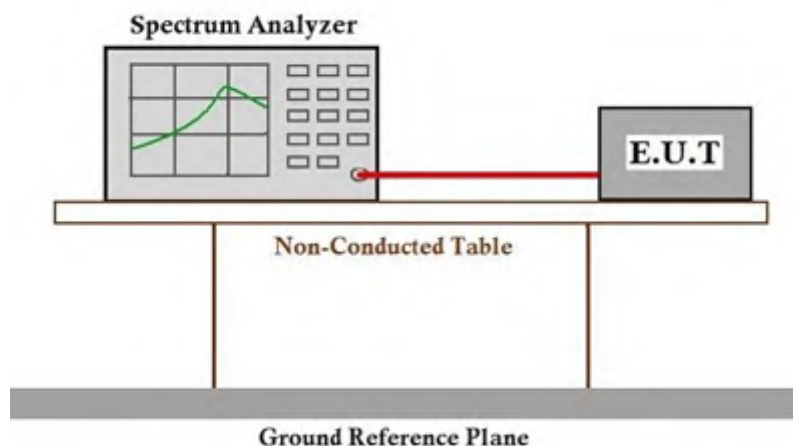
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). 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 Power Spectrum Density

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

Test Method: ANSI C63.10 (2013) Section 11.10.2

Limit:

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

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C

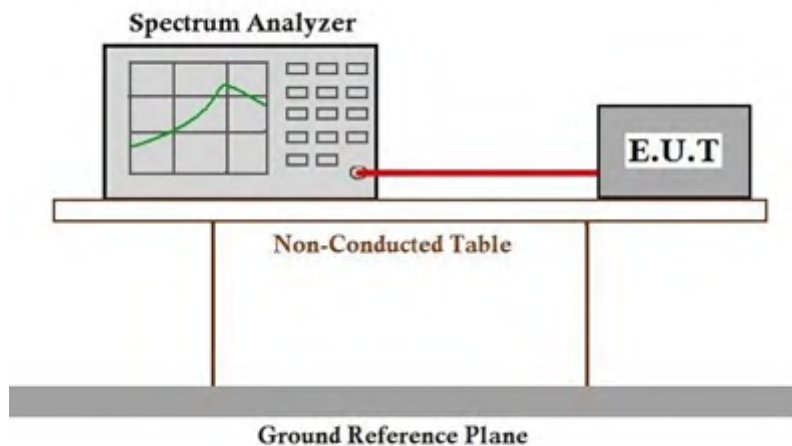
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). 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 Band Edges Measurement

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

Test Method: ANSI C63.10 (2013) Section 11.13.3.2

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: 21.3 °C

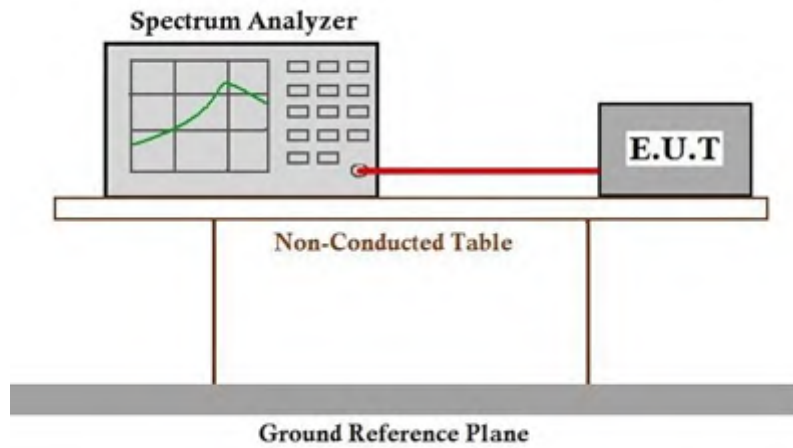
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). 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

7.9 Conducted Spurious Emissions

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

Test Method: ANSI C63.10 (2013) 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)).

7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C

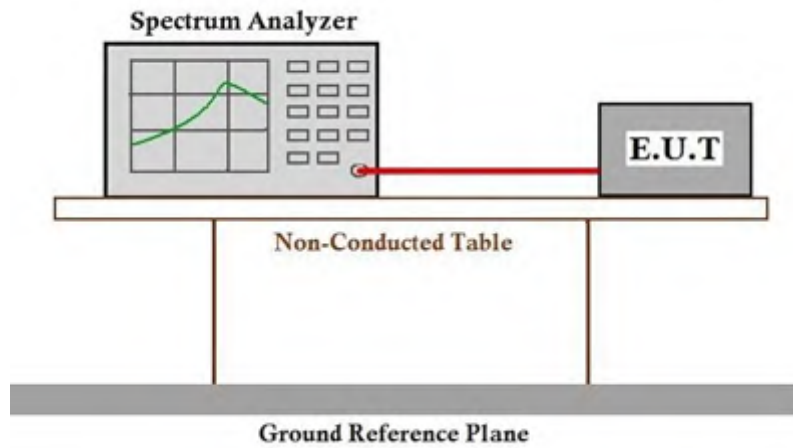
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	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); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details



Report No.: KSCR250600129001

Page: 79 of 155

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2506001290AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for KSCR2506001290AT

10 Appendix

1. Duty Cycle

1.1 Test Result

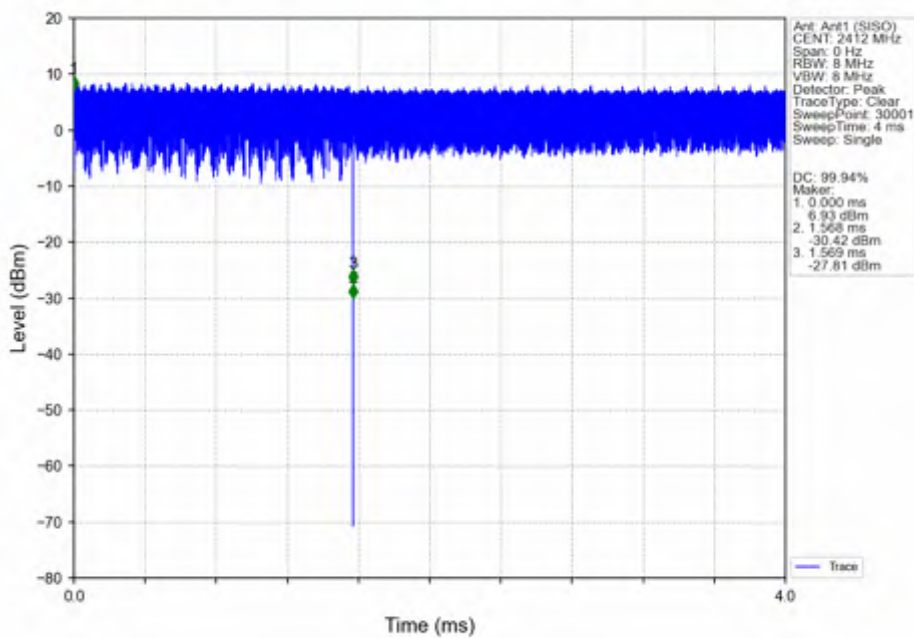
1.1.1 Ant1

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	/	/	1.568	1.569	99.94	0.00	0.00
		2437	/	/	16.770	16.777	99.96	0.00	0.00
		2462	/	/	16.770	16.776	99.96	0.00	0.00
802.11g	SISO	2412	/	/	100.000	100.000	100.00	0.00	0.00
		2437	/	/	100.000	100.000	100.00	0.00	0.00
		2462	/	/	100.000	100.000	100.00	0.00	0.00
802.11n (HT20)	SISO	2412	/	/	100.000	100.000	100.00	0.00	0.00
		2437	/	/	100.000	100.000	100.00	0.00	0.00
		2462	/	/	100.000	100.000	100.00	0.00	0.00
802.11n (HT40)	SISO	2422	/	/	100.000	100.000	100.00	0.00	0.00
		2437	/	/	100.000	100.000	100.00	0.00	0.00
		2452	/	/	100.000	100.000	100.00	0.00	0.00
802.11ax (HE20)	SISO	2412	SU	/	100.000	100.000	100.00	0.00	0.00
		2437	SU	/	100.000	100.000	100.00	0.00	0.00
		2462	SU	/	100.000	100.000	100.00	0.00	0.00
802.11ax (HE40)	SISO	2422	SU	/	100.000	100.000	100.00	0.00	0.00
		2437	SU	/	100.000	100.000	100.00	0.00	0.00
		2452	SU	/	100.000	100.000	100.00	0.00	0.00

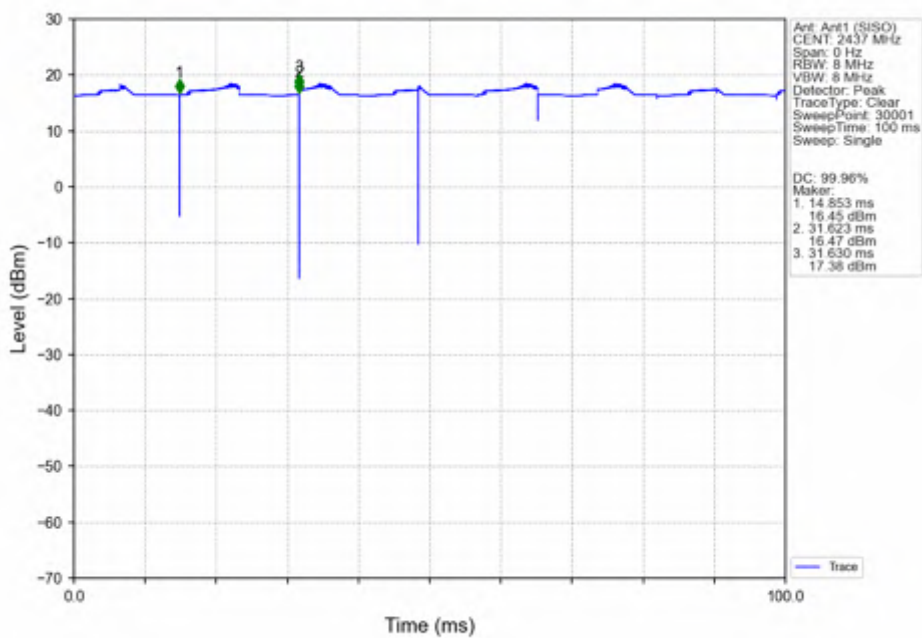
1.2 Test Graph

1.2.1 Ant1

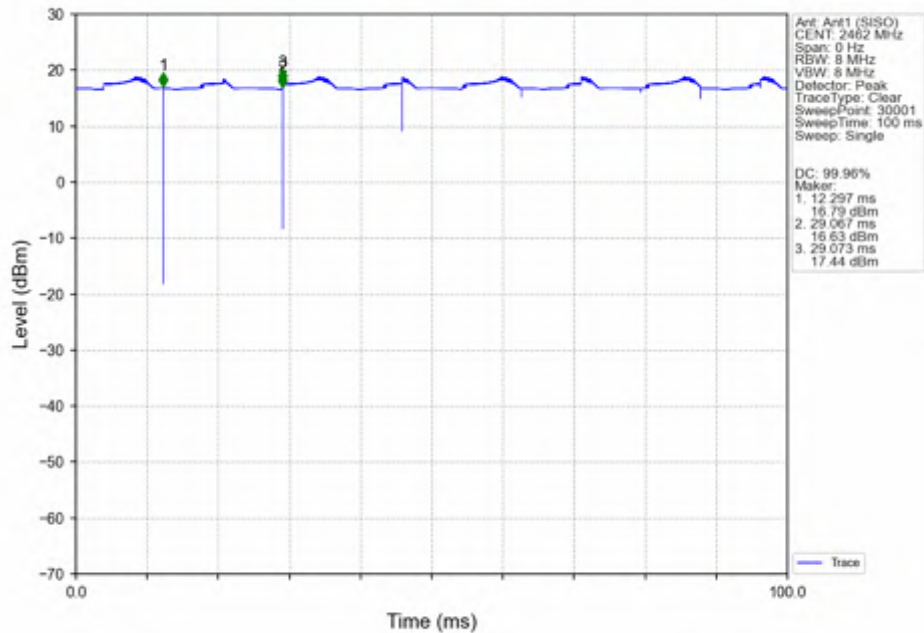
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



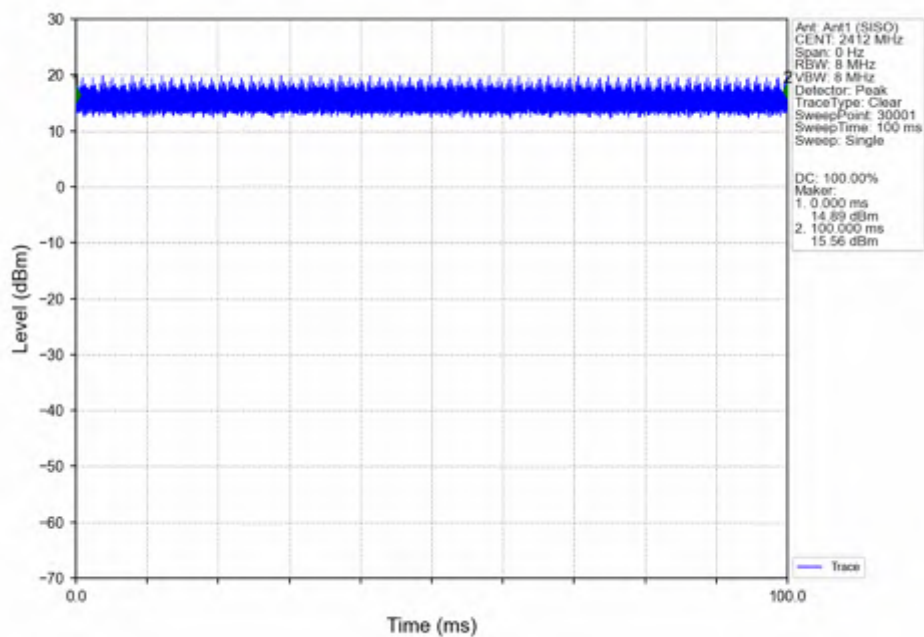
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



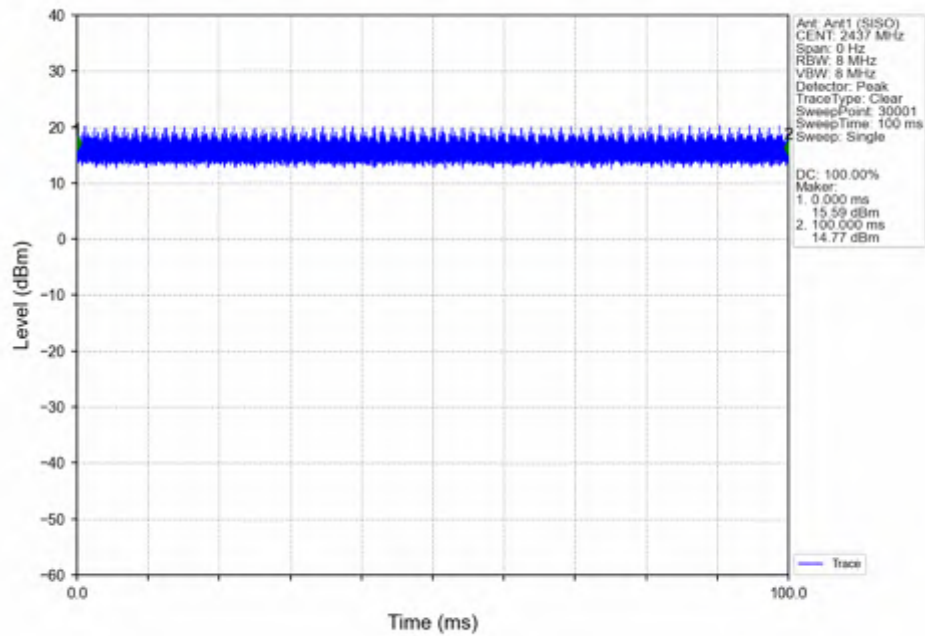
802.11b HCH 2462MHz Ant1 (SISO) NTN



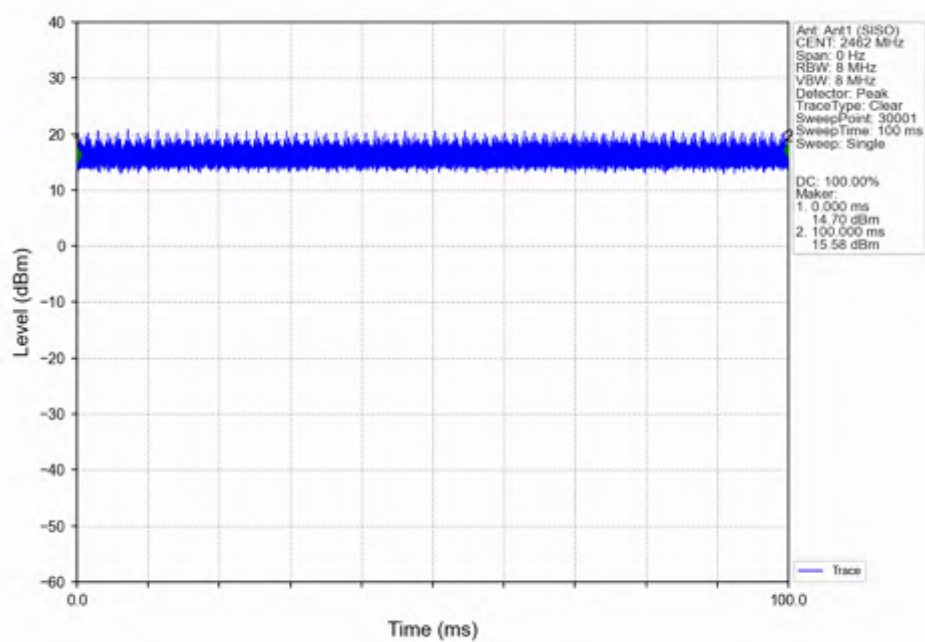
802.11g LCH 2412MHz Ant1 (SISO) NTN



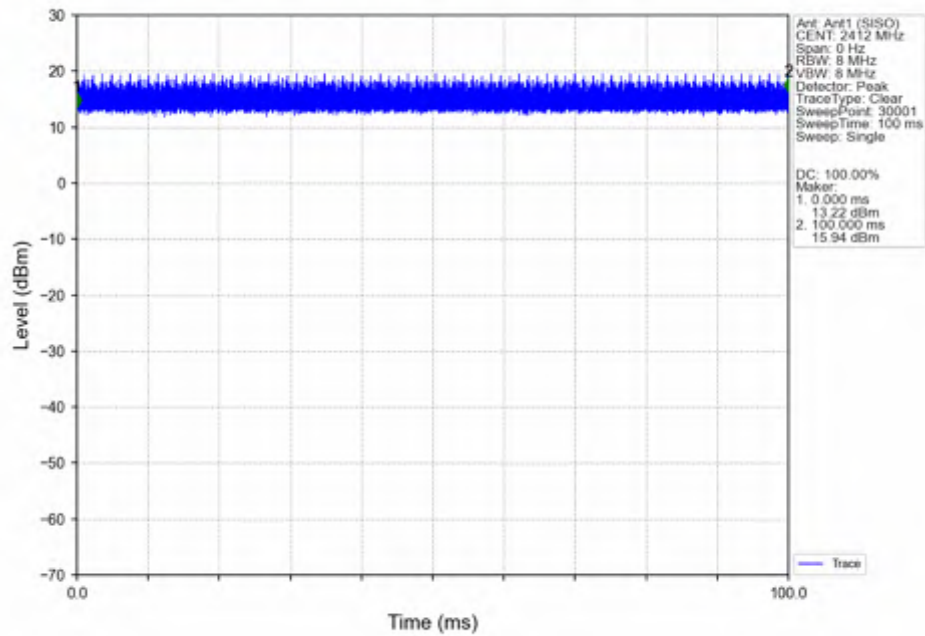
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



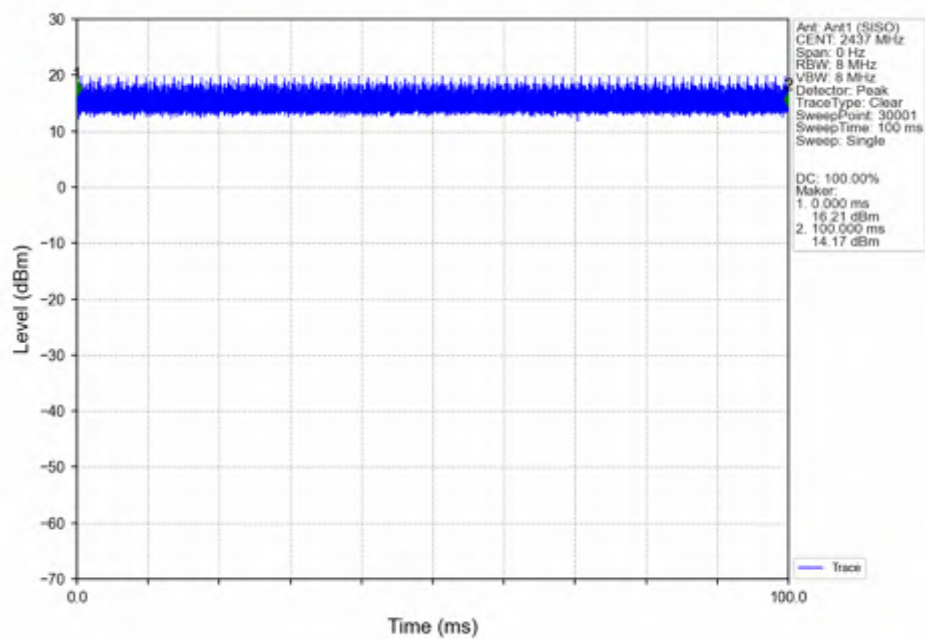
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



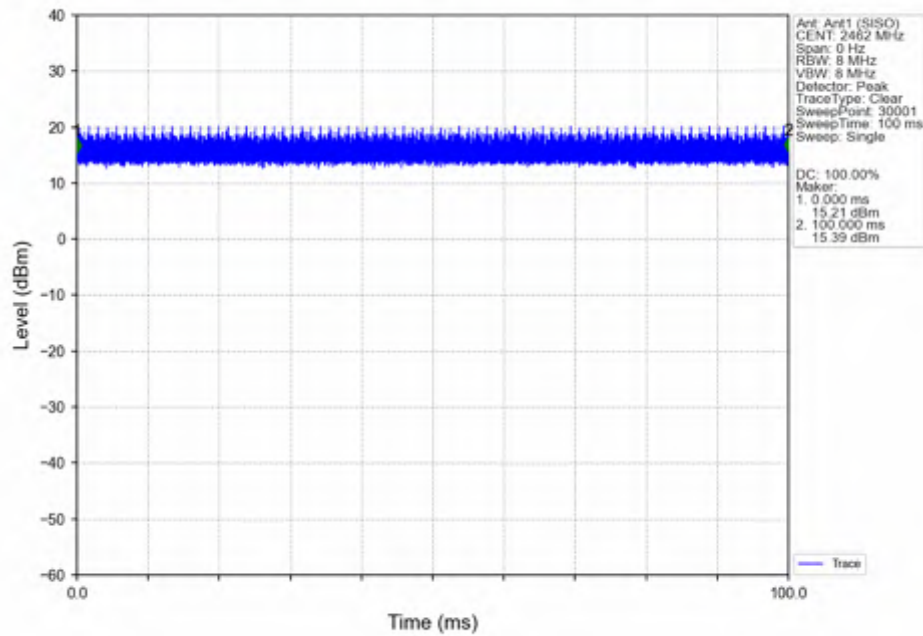
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



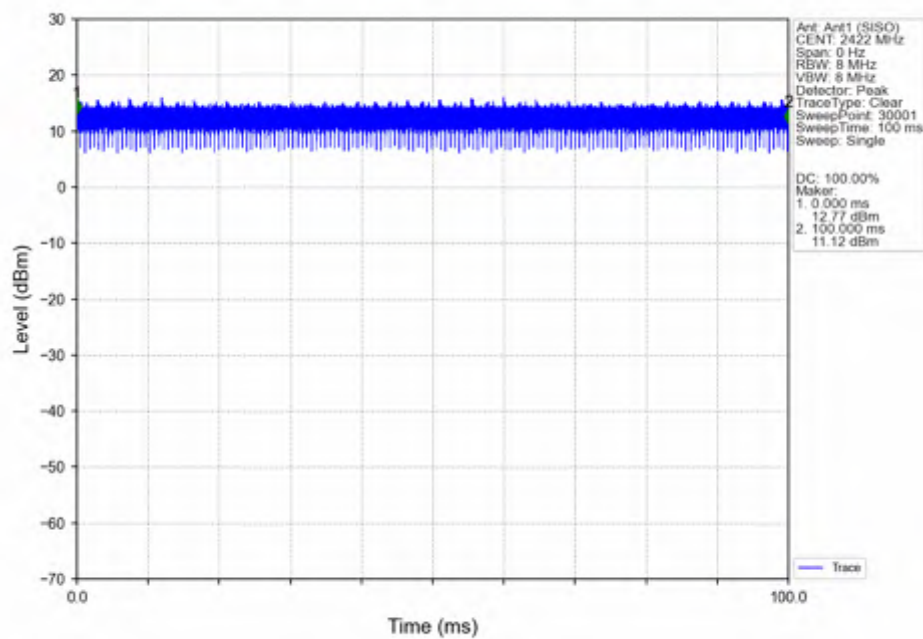
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



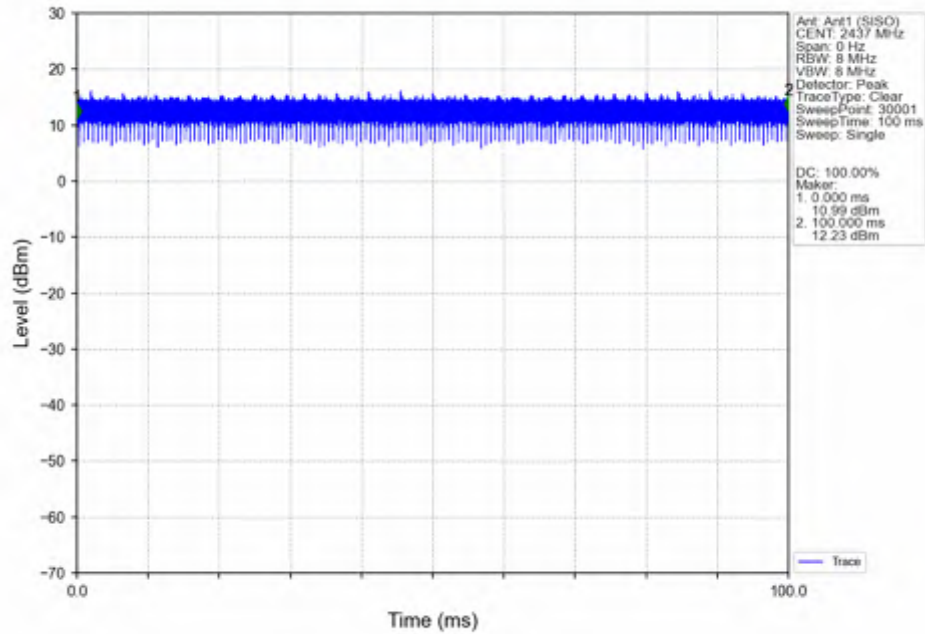
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



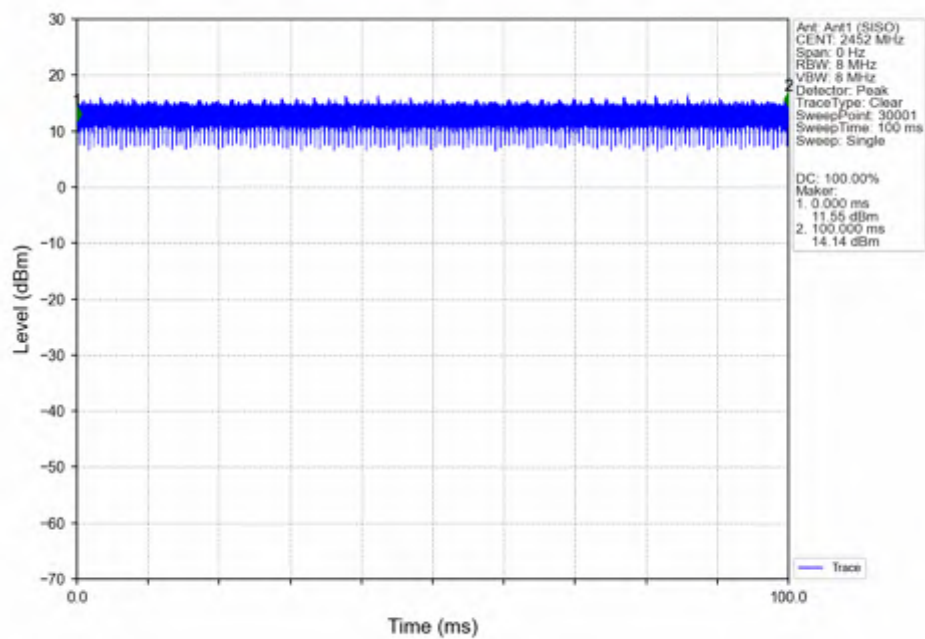
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



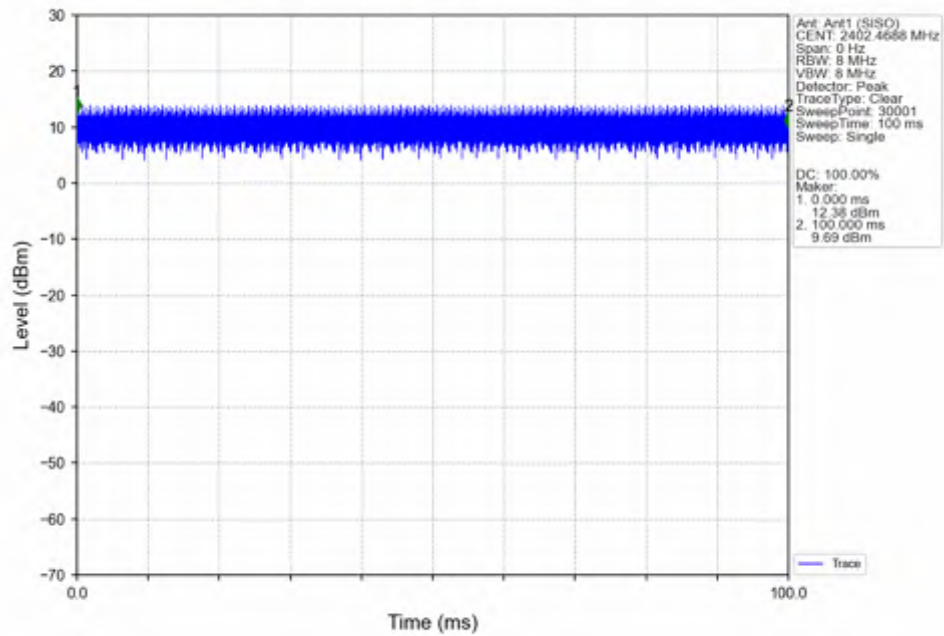
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



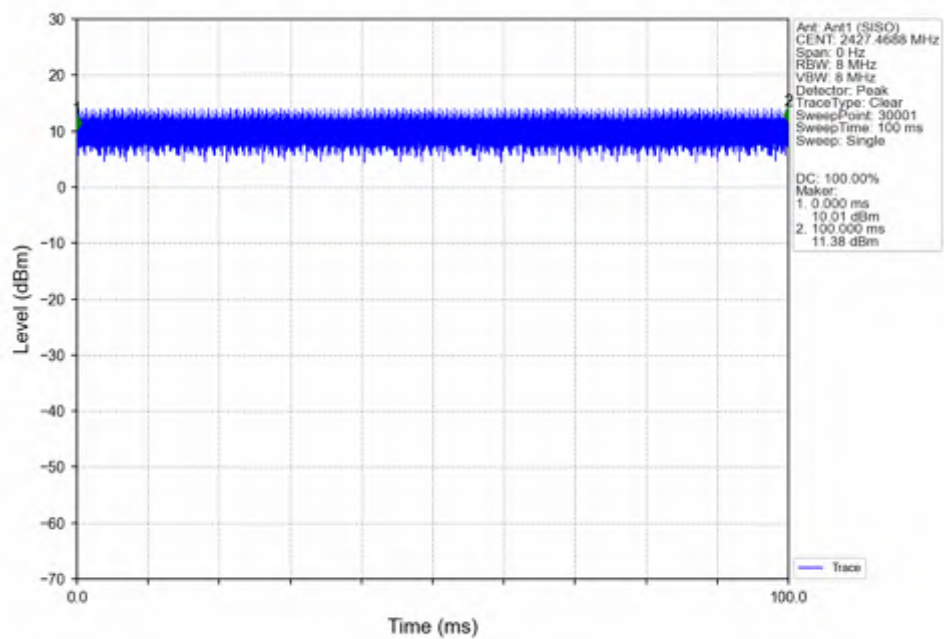
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



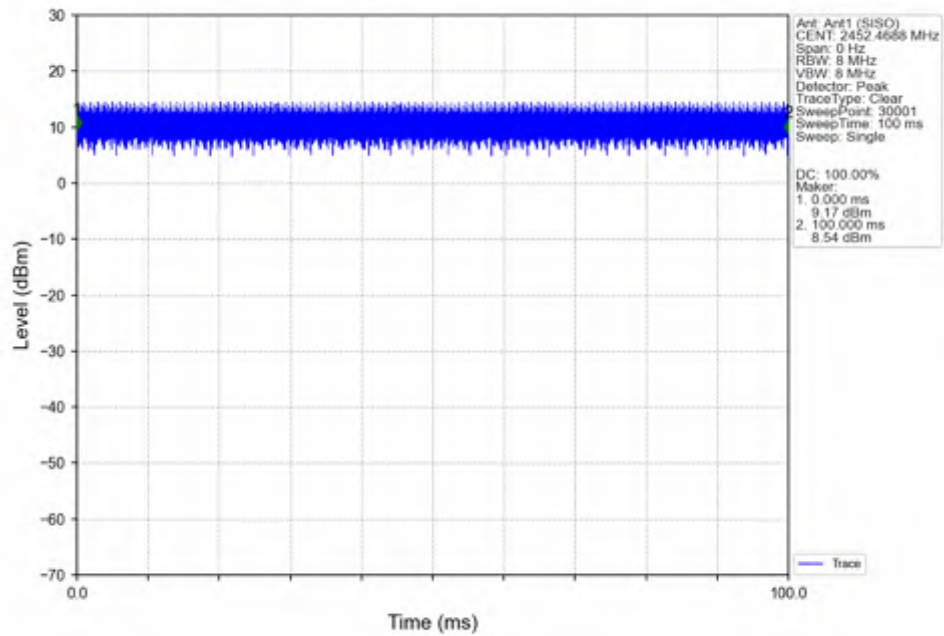
802.11ax(HE20) LCH 2412MHz SU / Ant1 (SISO) NTN



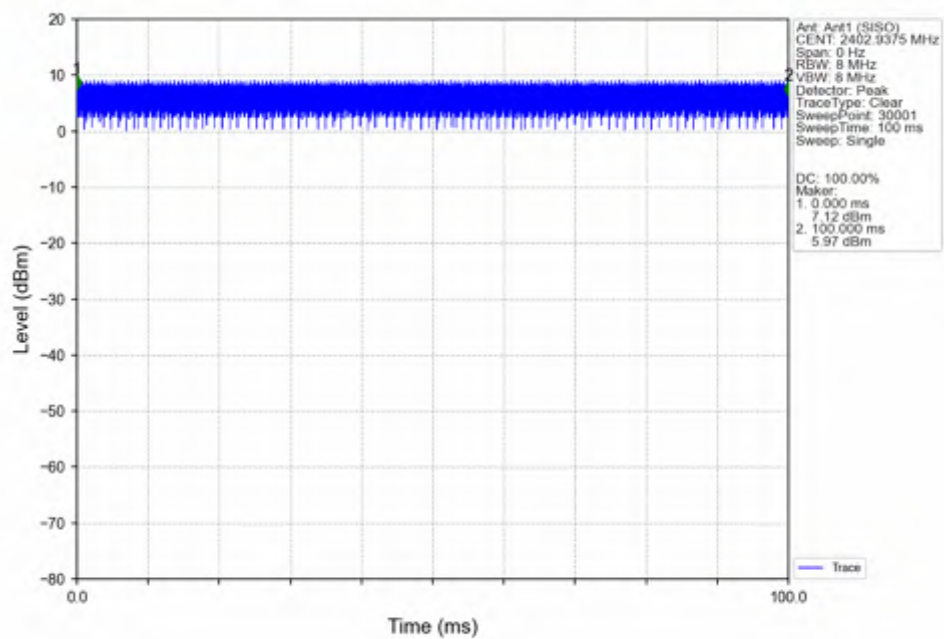
802.11ax(HE20) MCH 2437MHz SU / Ant1 (SISO) NTN



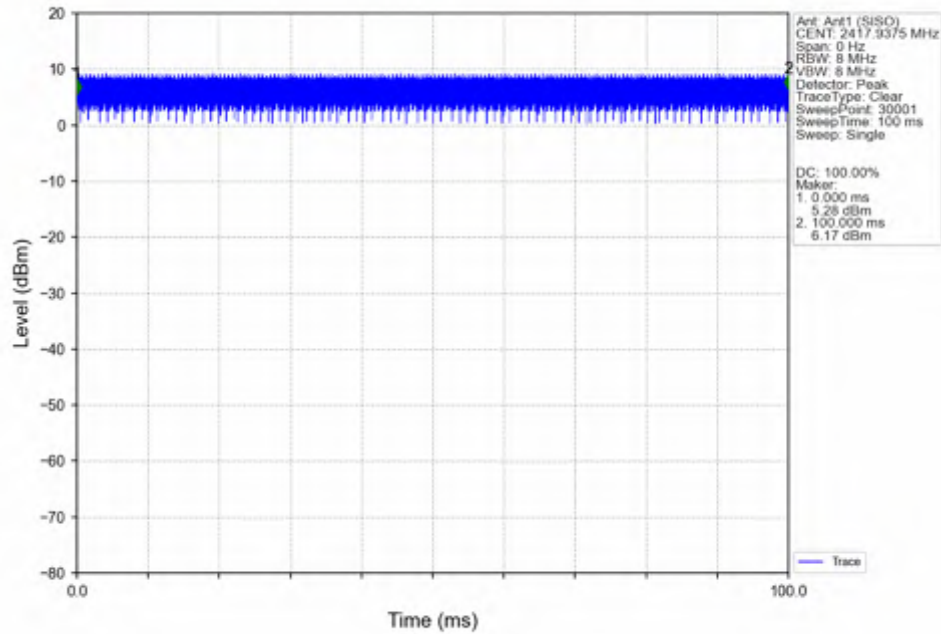
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTN



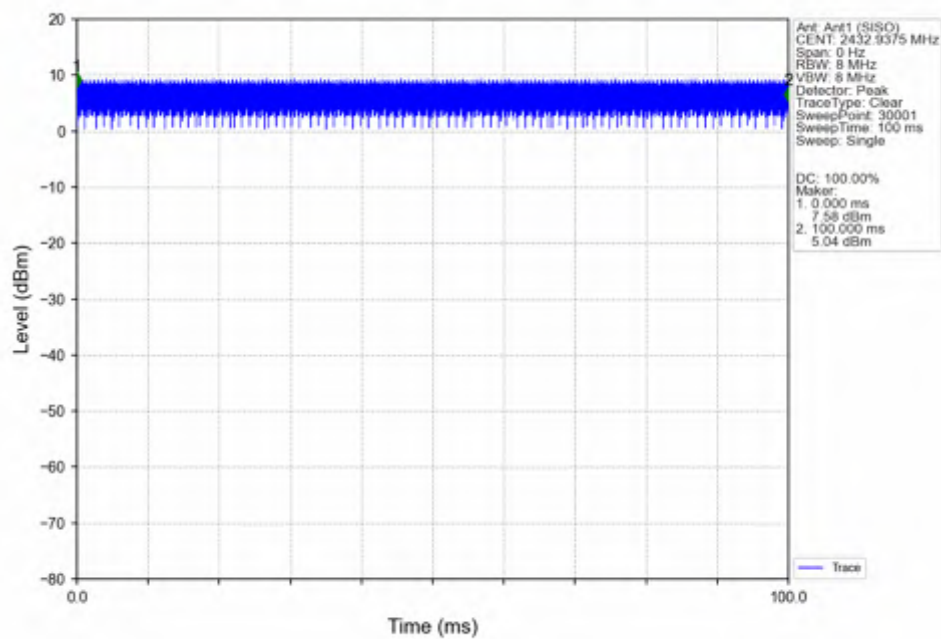
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) MCH_2437MHz_SU / Ant1 (SISO) NTN



802.11ax(HE40) HCH_2452MHz_SU / Ant1 (SISO) NTN



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	14.890	/	Pass
		2437	/	/	1	14.879	/	Pass
		2462	/	/	1	14.881	/	Pass
802.11g	SISO	2412	/	/	1	16.693	/	Pass
		2437	/	/	1	16.703	/	Pass
		2462	/	/	1	16.694	/	Pass
802.11n (HT20)	SISO	2412	/	/	1	17.693	/	Pass
		2437	/	/	1	17.686	/	Pass
		2462	/	/	1	17.692	/	Pass
802.11n (HT40)	SISO	2422	/	/	1	35.690	/	Pass
		2437	/	/	1	35.718	/	Pass
		2452	/	/	1	35.694	/	Pass
802.11ax (HE20)	SISO	2412	SU	/	1	18.996	/	Pass
		2437	SU	/	1	18.993	/	Pass
		2462	SU	/	1	18.982	/	Pass
802.11ax (HE40)	SISO	2422	SU	/	1	37.674	/	Pass
		2437	SU	/	1	37.697	/	Pass
		2452	SU	/	1	37.626	/	Pass

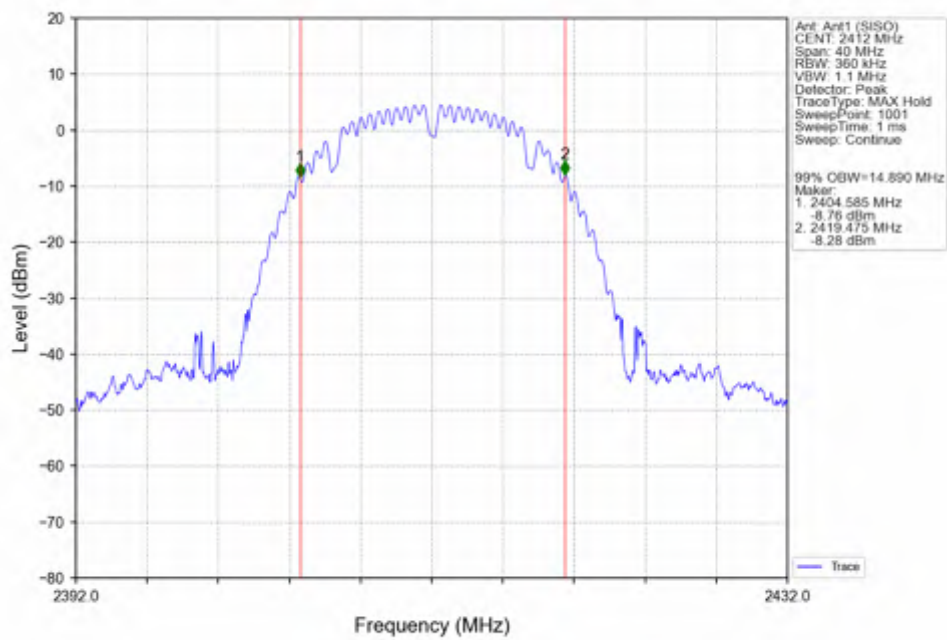
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	10.122	≥ 0.5	Pass
		2437	/	/	1	10.131	≥ 0.5	Pass
		2462	/	/	1	10.139	≥ 0.5	Pass
802.11g	SISO	2412	/	/	1	15.858	≥ 0.5	Pass
		2437	/	/	1	15.854	≥ 0.5	Pass
		2462	/	/	1	15.827	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	/	/	1	16.347	≥ 0.5	Pass
		2437	/	/	1	16.568	≥ 0.5	Pass
		2462	/	/	1	16.097	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	/	/	1	35.119	≥ 0.5	Pass
		2437	/	/	1	35.130	≥ 0.5	Pass
		2452	/	/	1	35.082	≥ 0.5	Pass
802.11ax (HE20)	SISO	2412	SU	/	1	18.360	≥ 0.5	Pass
		2437	SU	/	1	18.236	≥ 0.5	Pass
		2462	SU	/	1	18.721	≥ 0.5	Pass
802.11ax (HE40)	SISO	2422	SU	/	1	35.148	≥ 0.5	Pass
		2437	SU	/	1	35.159	≥ 0.5	Pass
		2452	SU	/	1	35.127	≥ 0.5	Pass

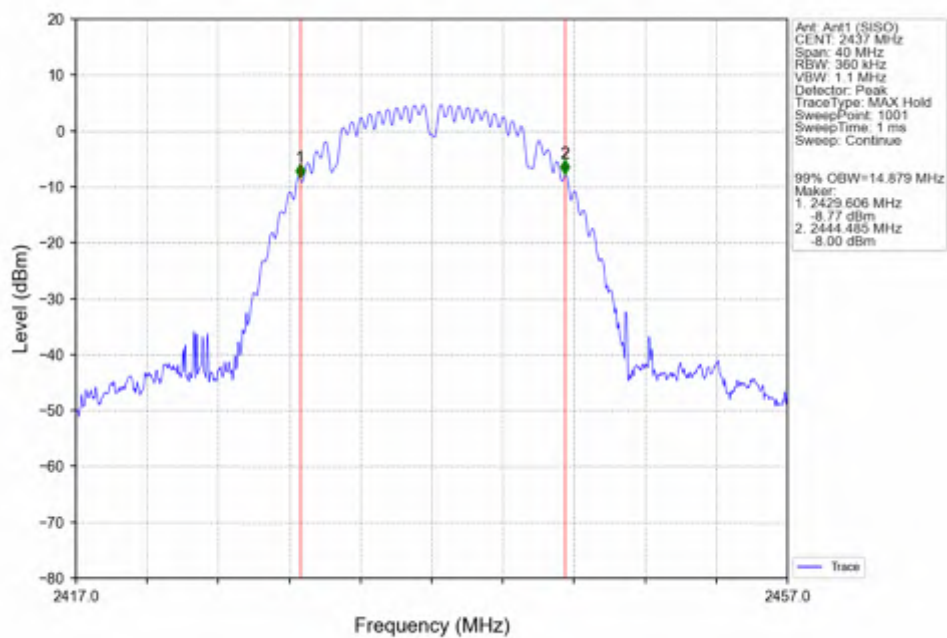
2.2 Test Graph

2.2.1 OBW

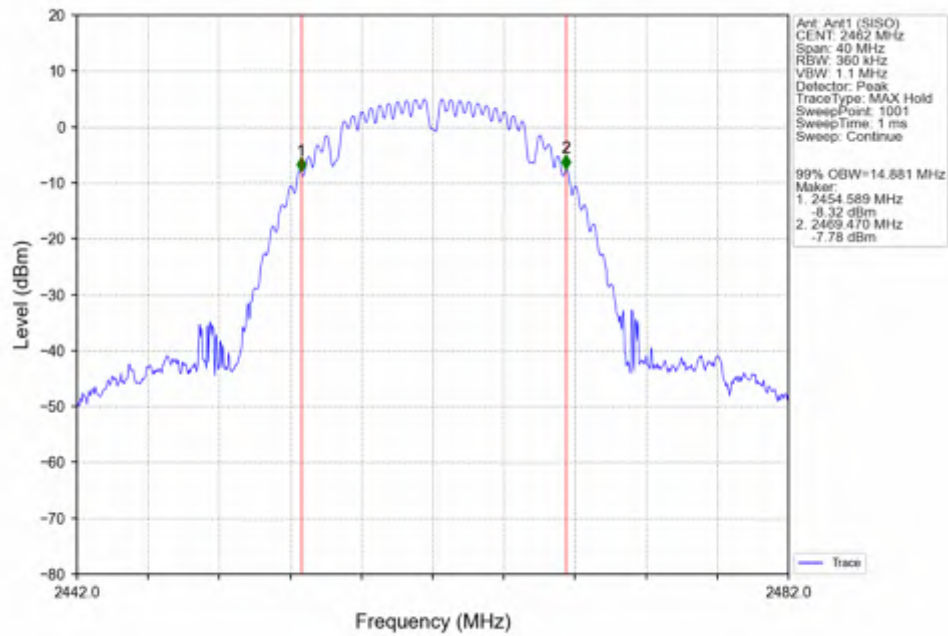
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



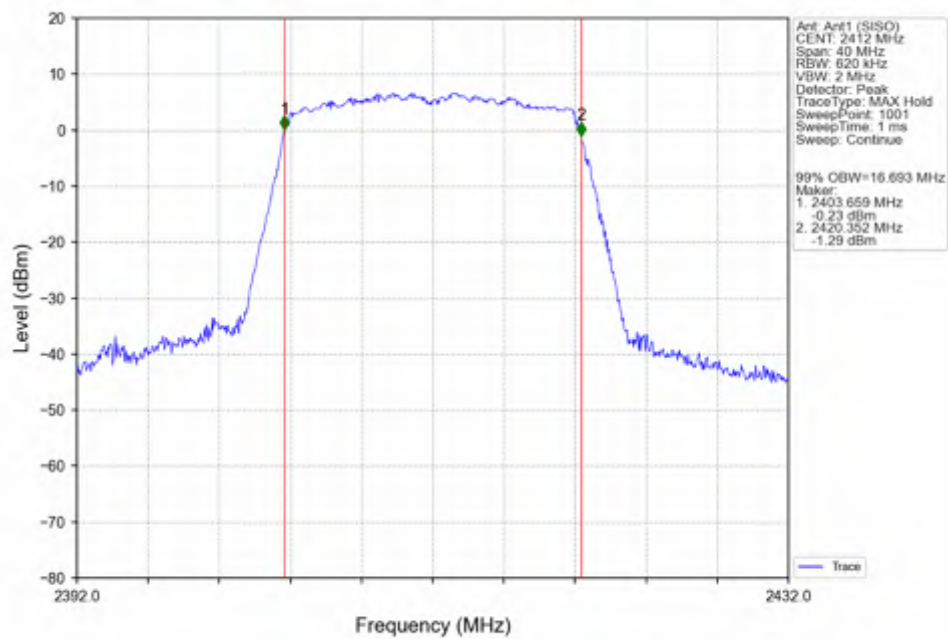
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



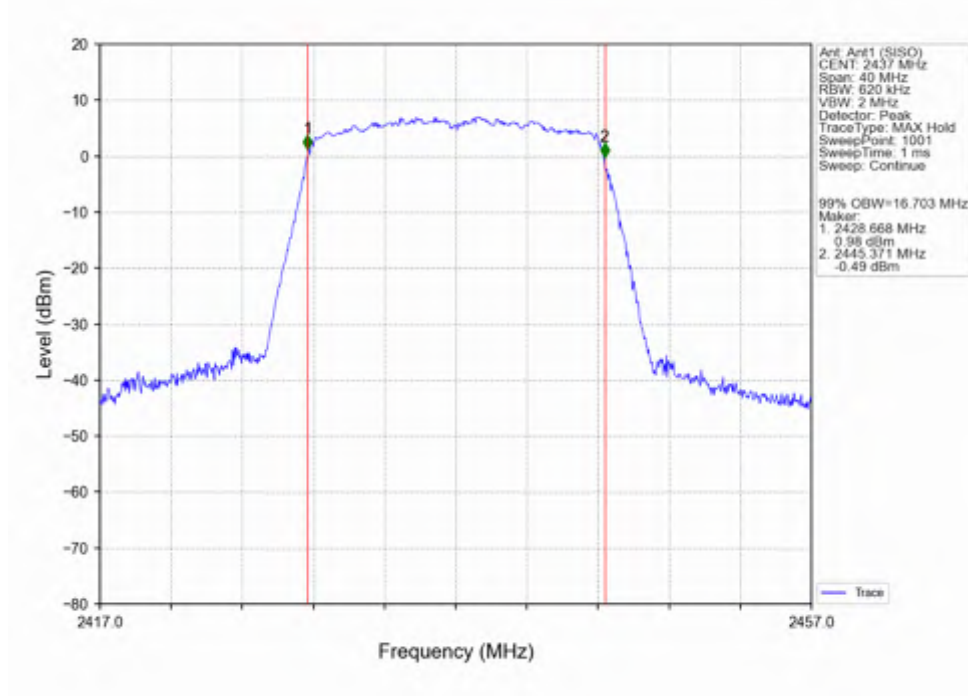
802.11b HCH 2462MHz Ant1 (SISO) NTN



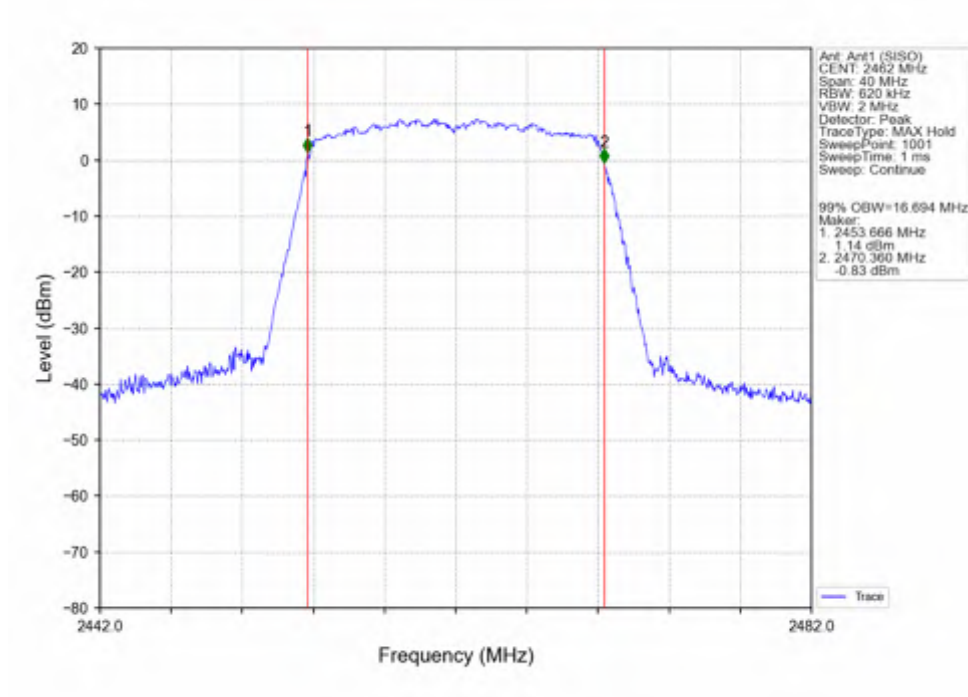
802.11g LCH 2412MHz Ant1 (SISO) NTN



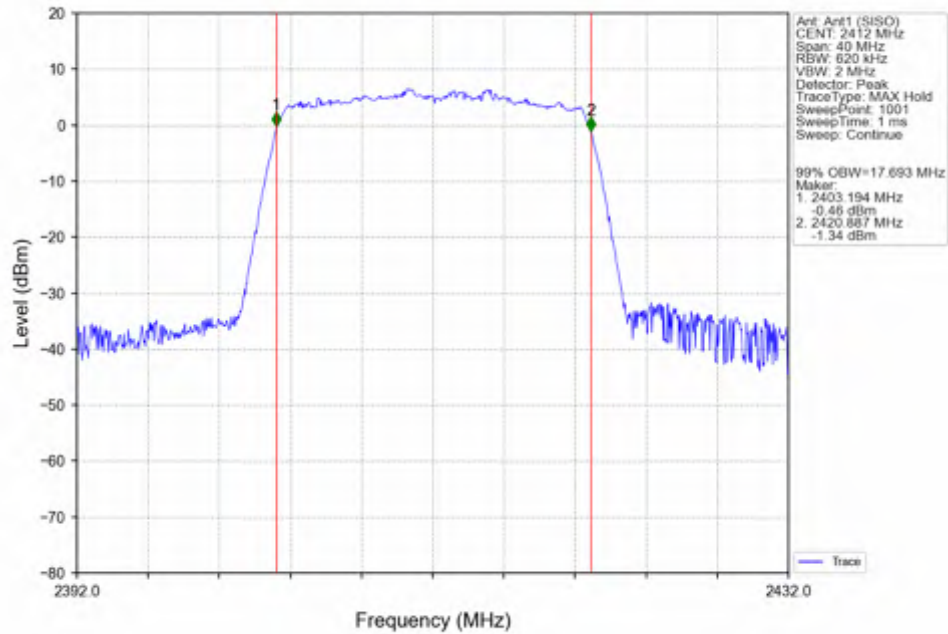
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



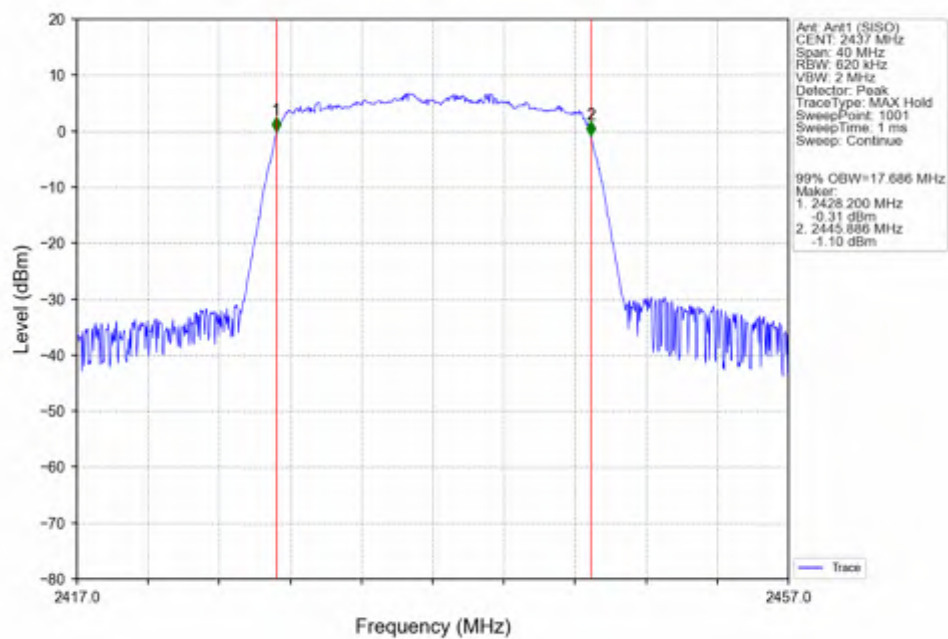
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



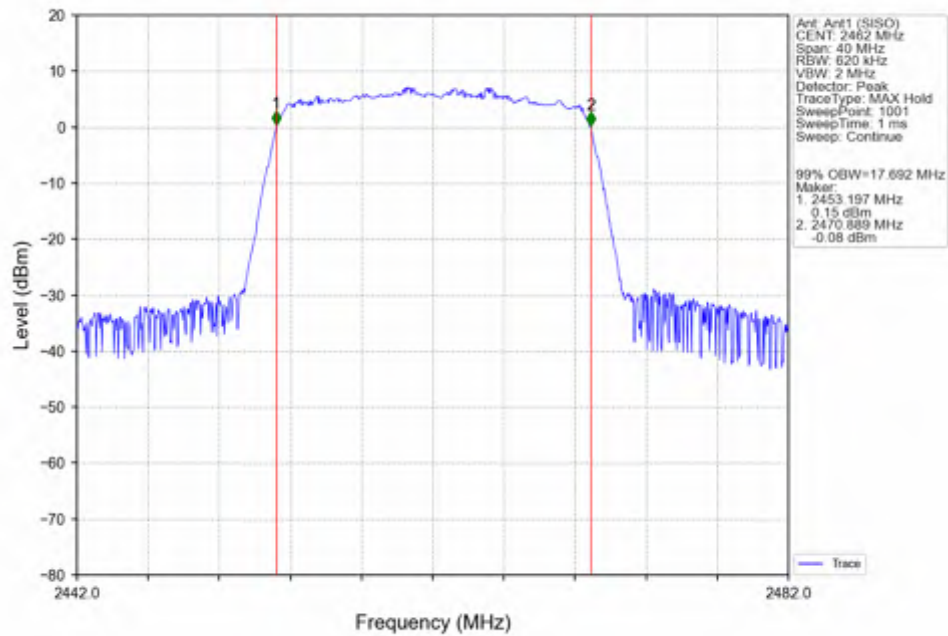
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



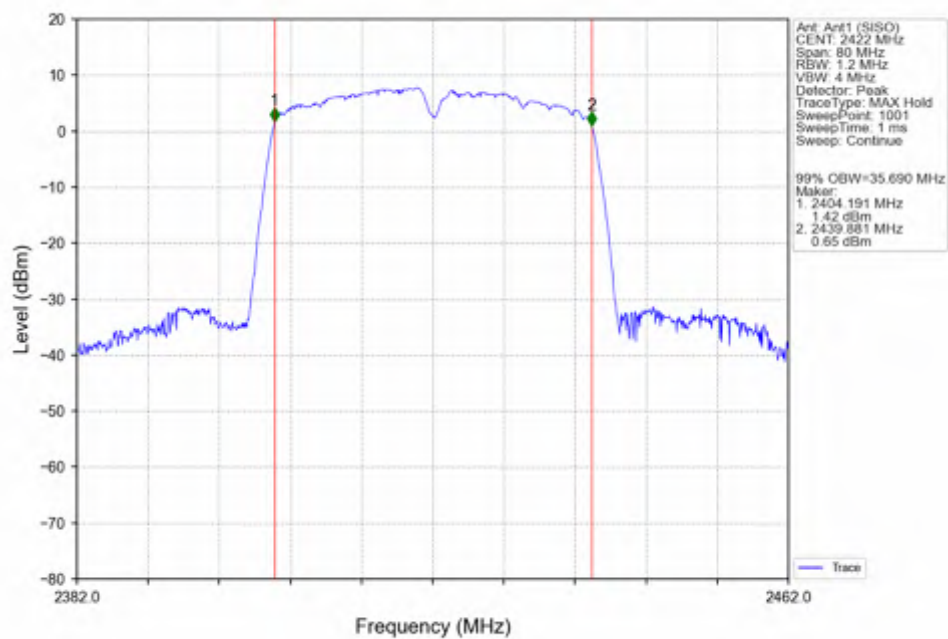
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



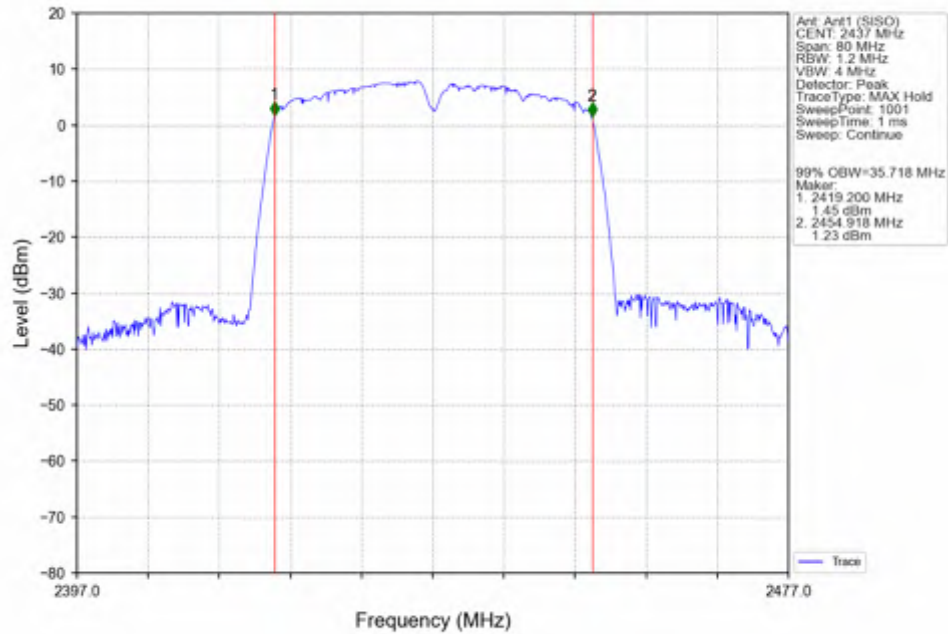
802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV



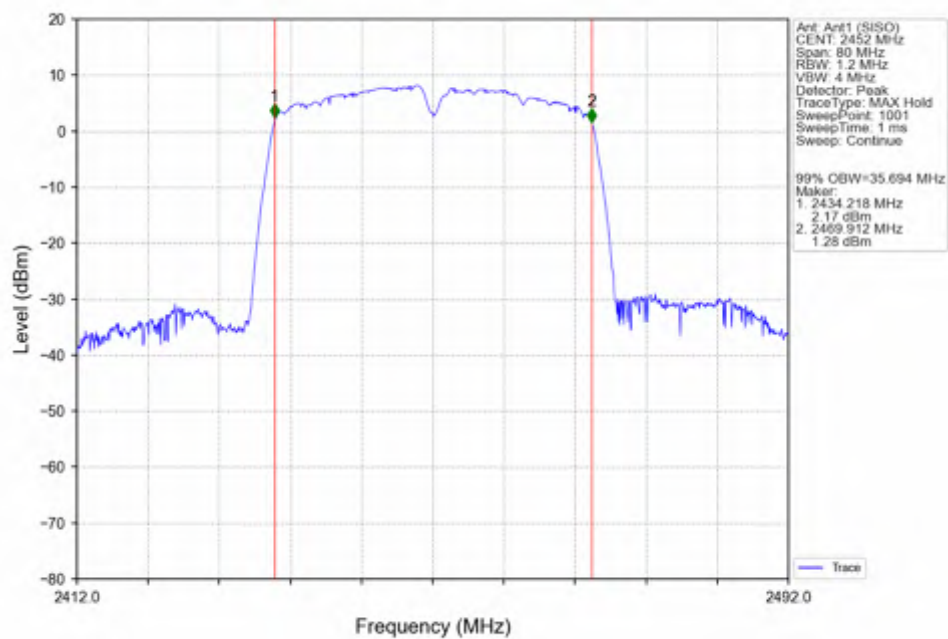
802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV



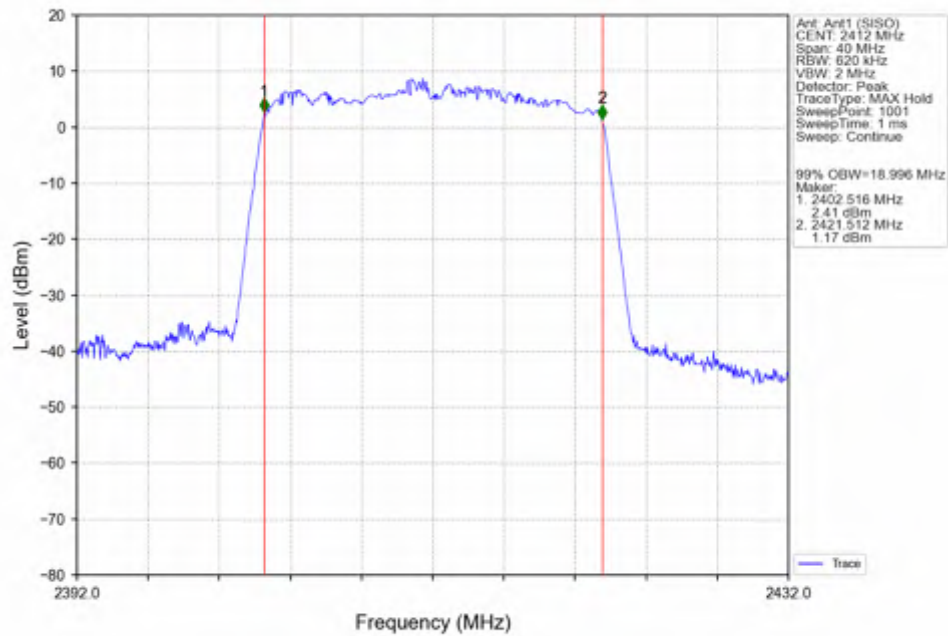
802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTN



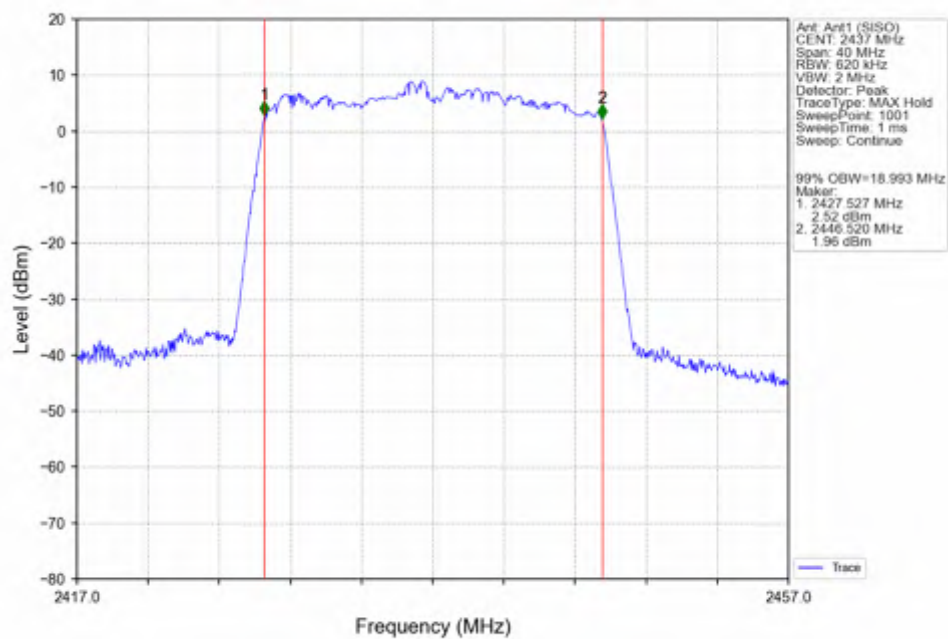
802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTN



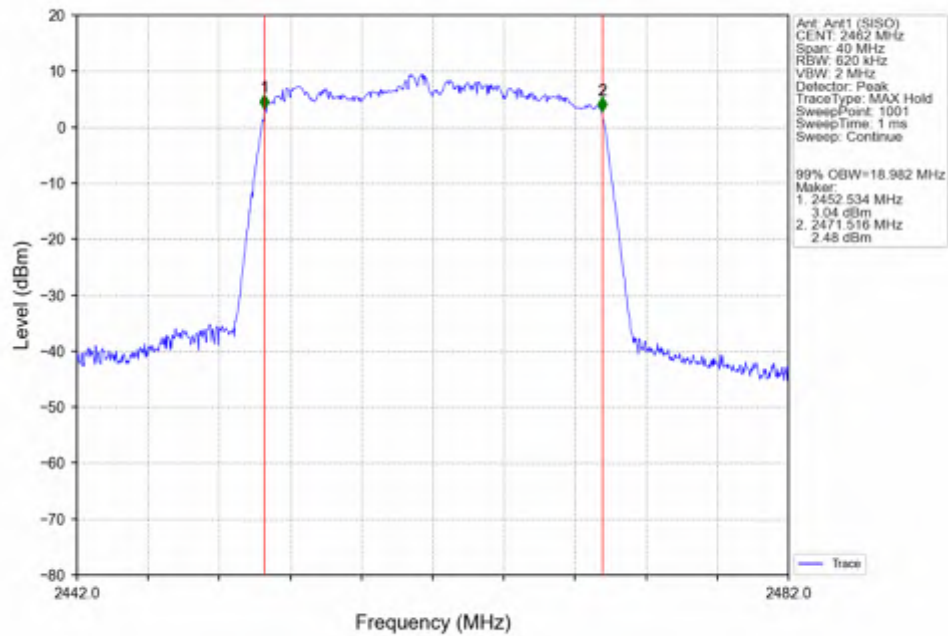
802.11ax(HE20) LCH 2412MHz SU / Ant1 (SISO) NTN



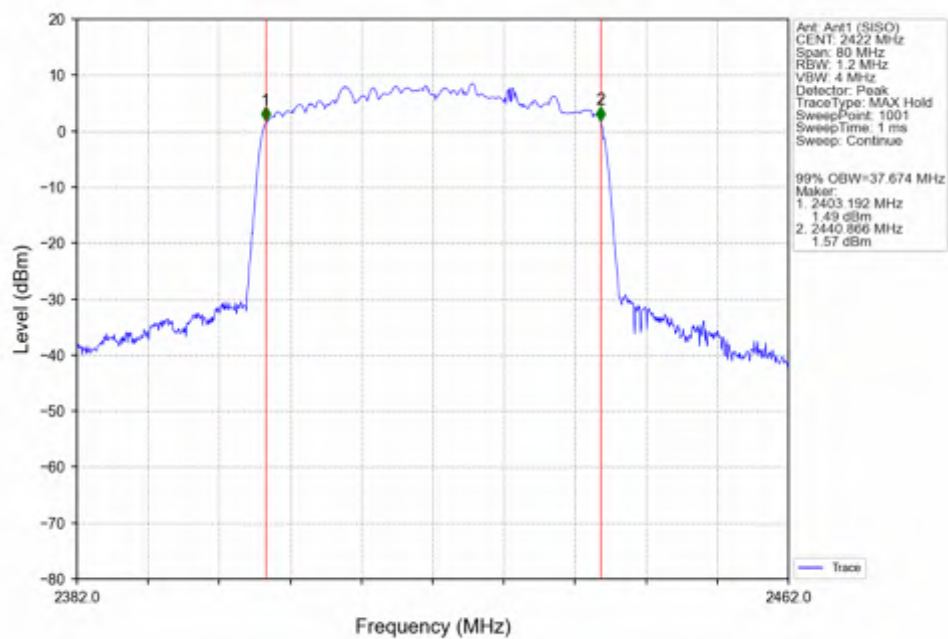
802.11ax(HE20) MCH 2437MHz SU / Ant1 (SISO) NTN



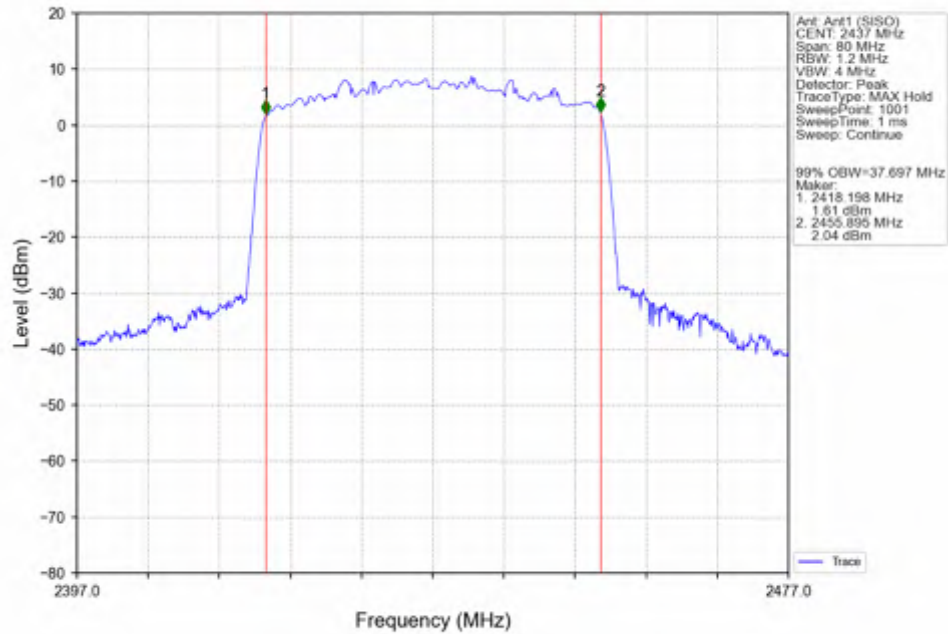
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTN



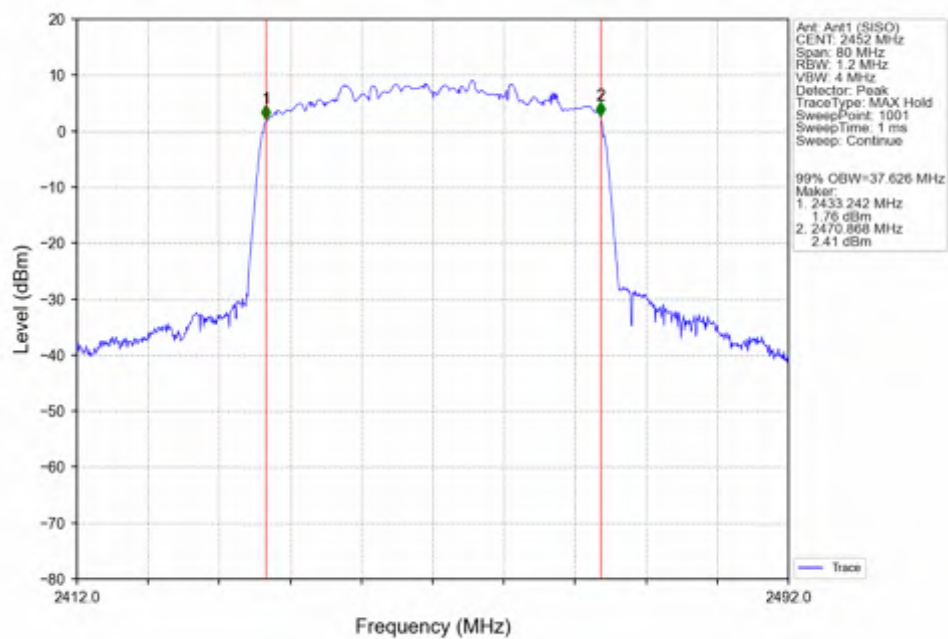
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) MCH 2437MHz SU / Ant1 (SISO) NTN

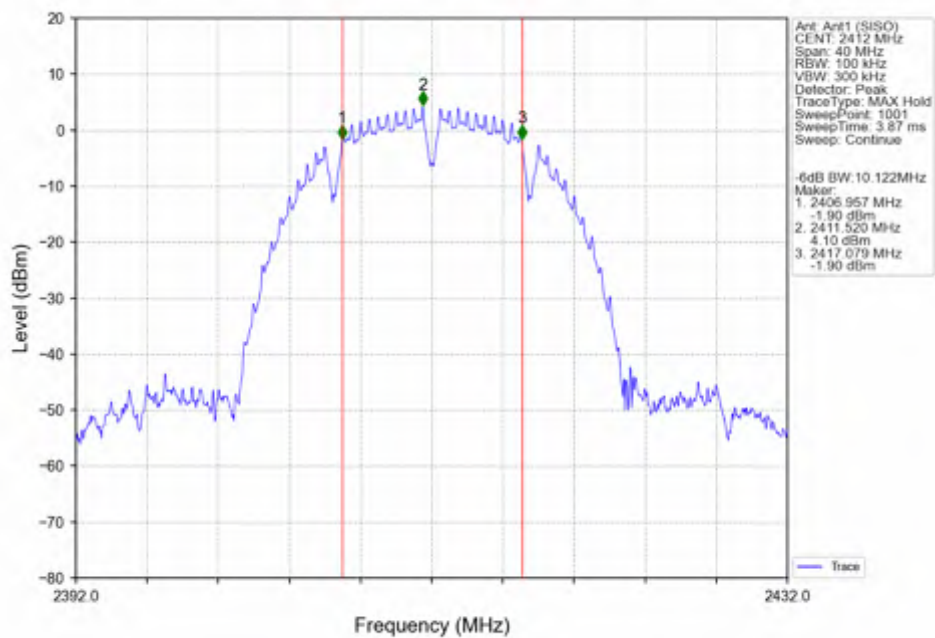


802.11ax(HE40) HCH 2452MHz SU / Ant1 (SISO) NTN

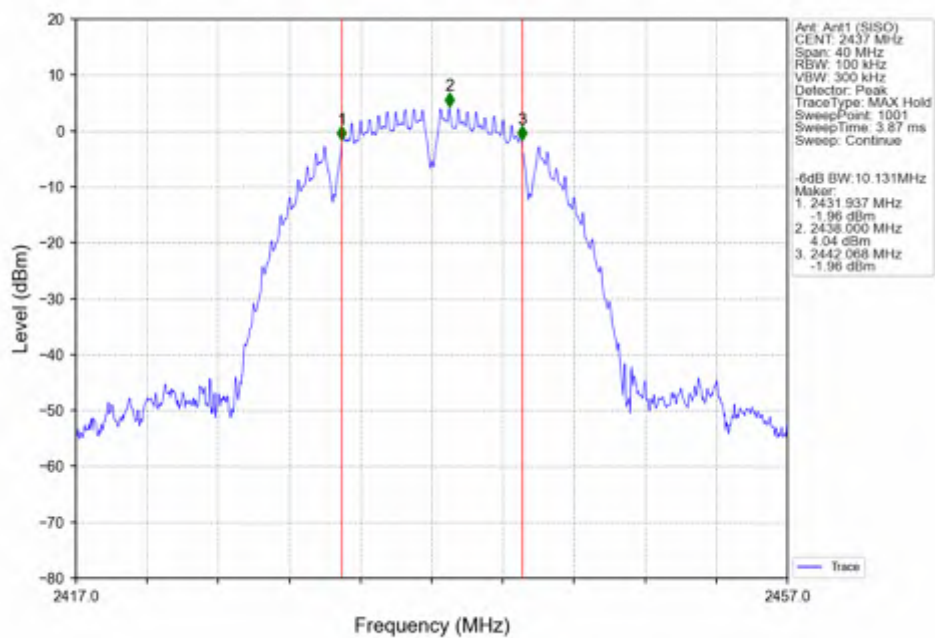


2.2.2 6dB BW

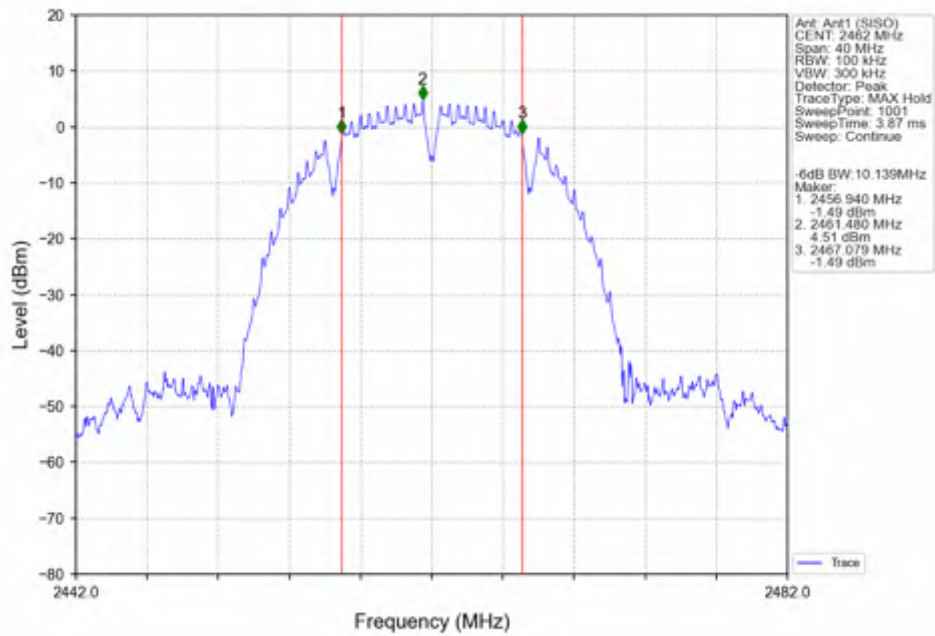
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



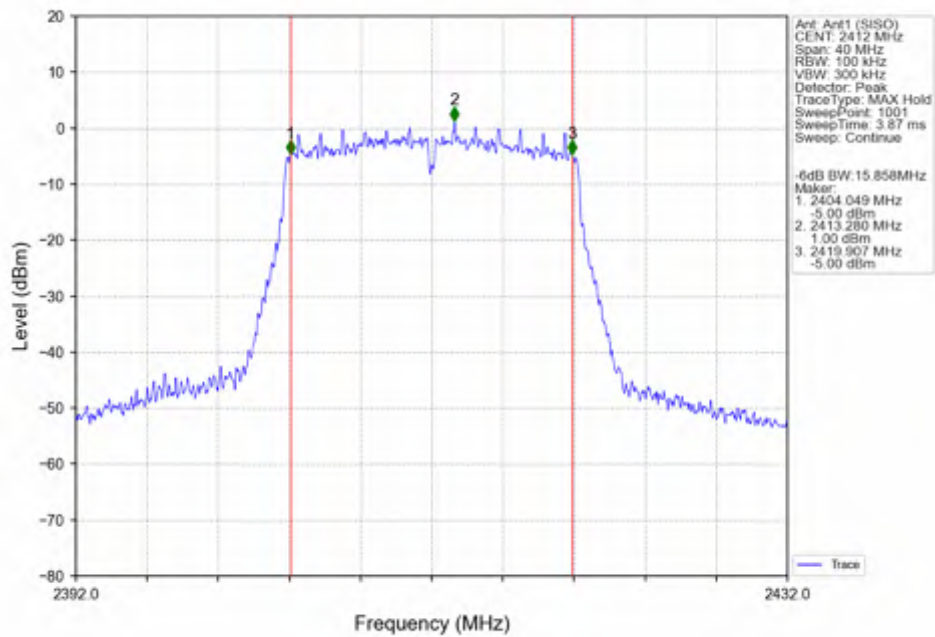
802.11b MCH 2437MHz_Ant1 (SISO)_NTNV



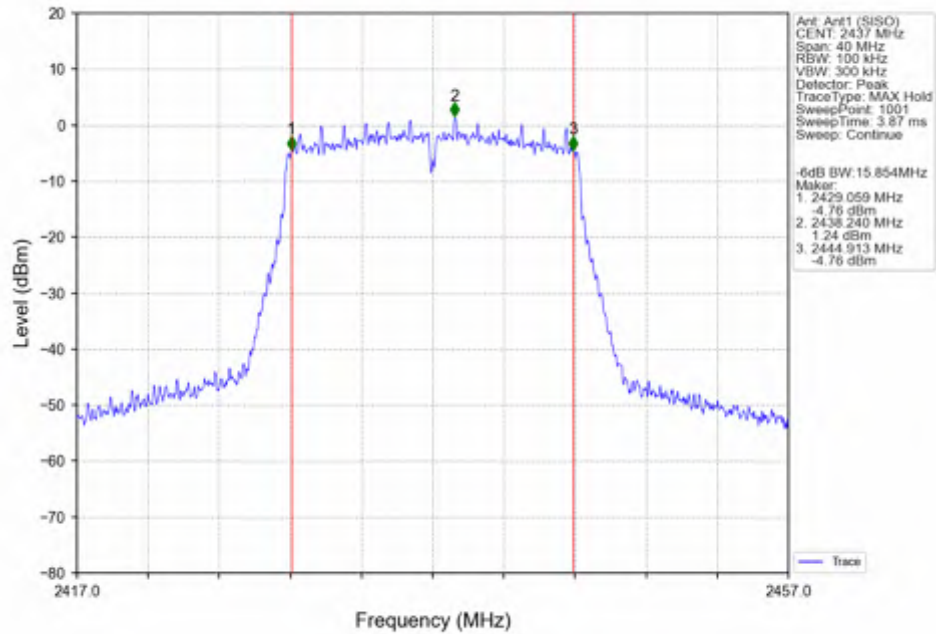
802.11b HCH 2462MHz Ant1 (SISO) NTN



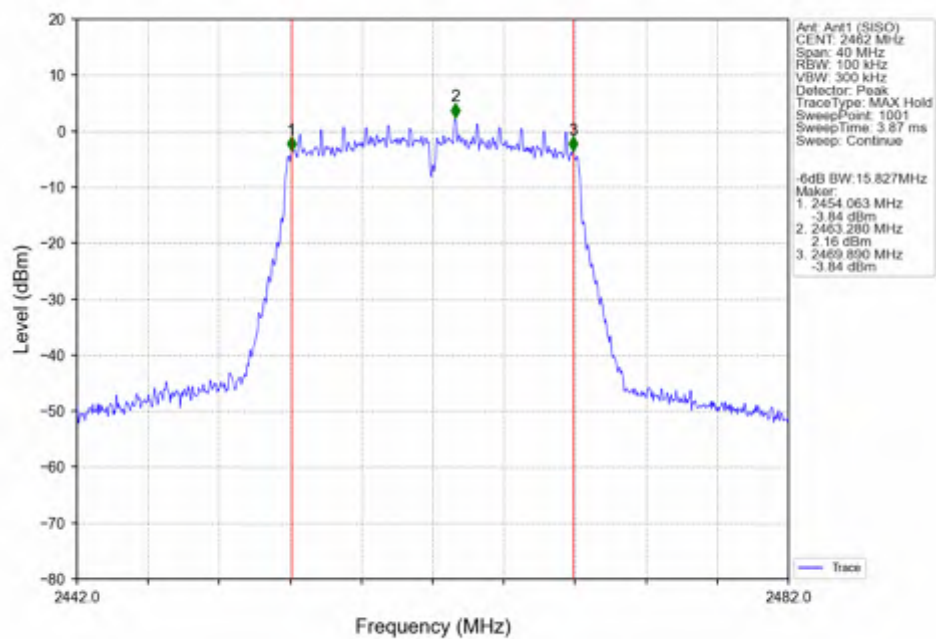
802.11g LCH 2412MHz Ant1 (SISO) NTN



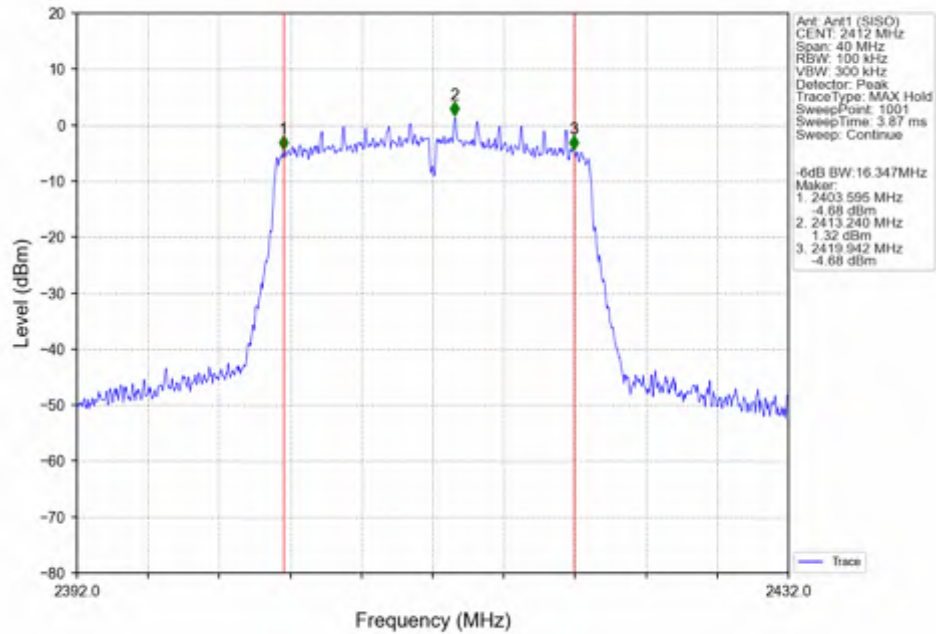
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



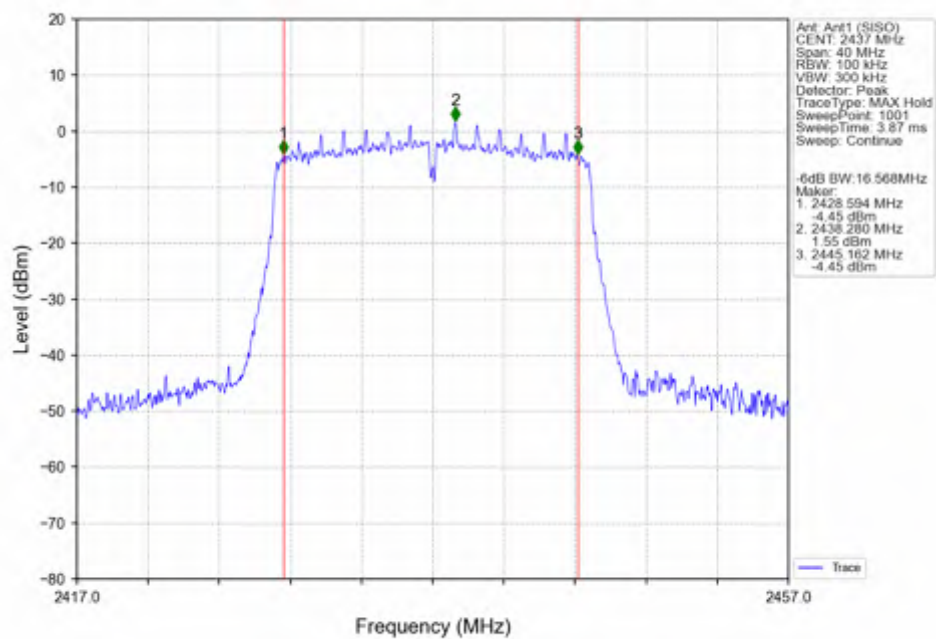
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



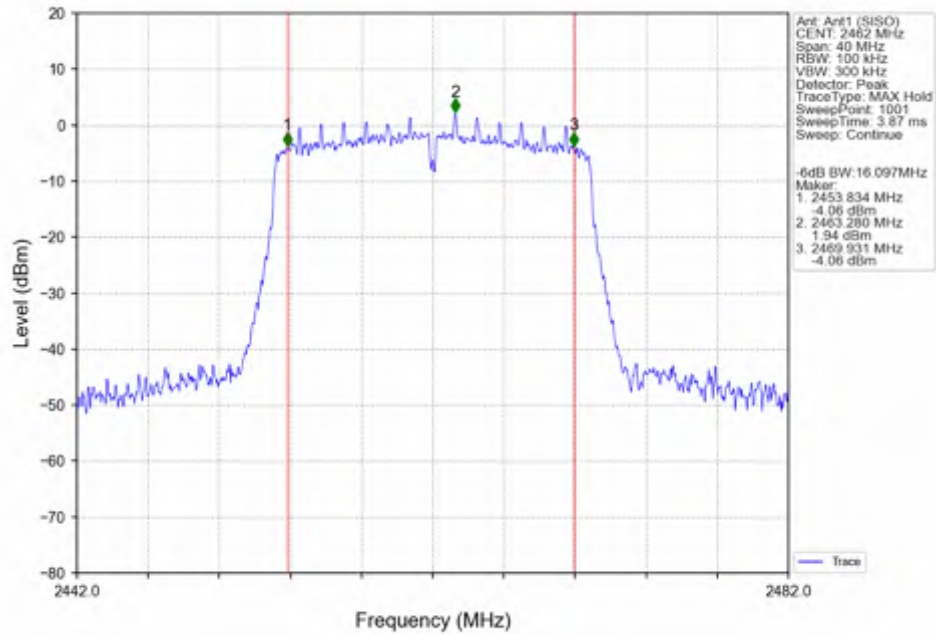
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



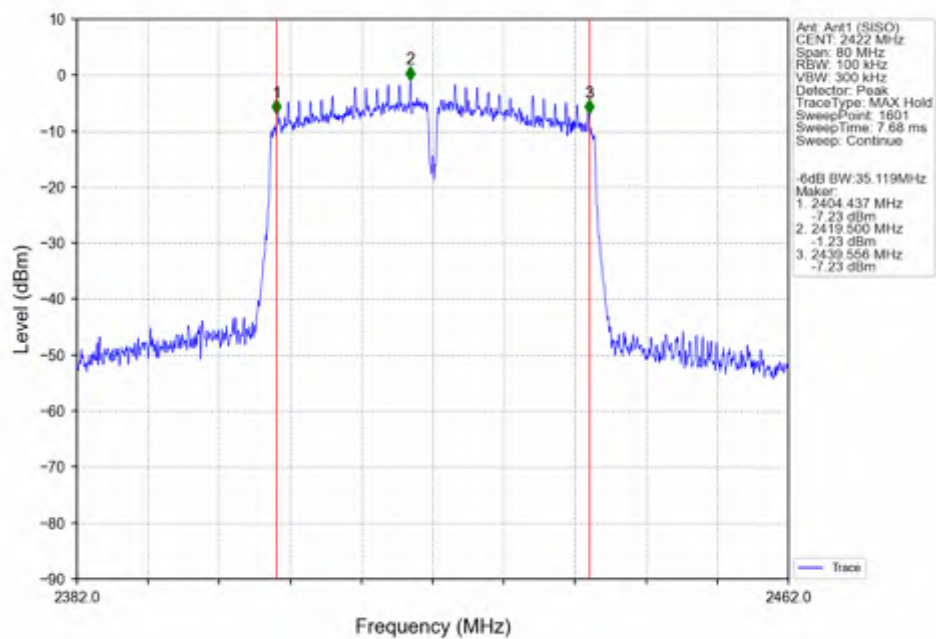
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



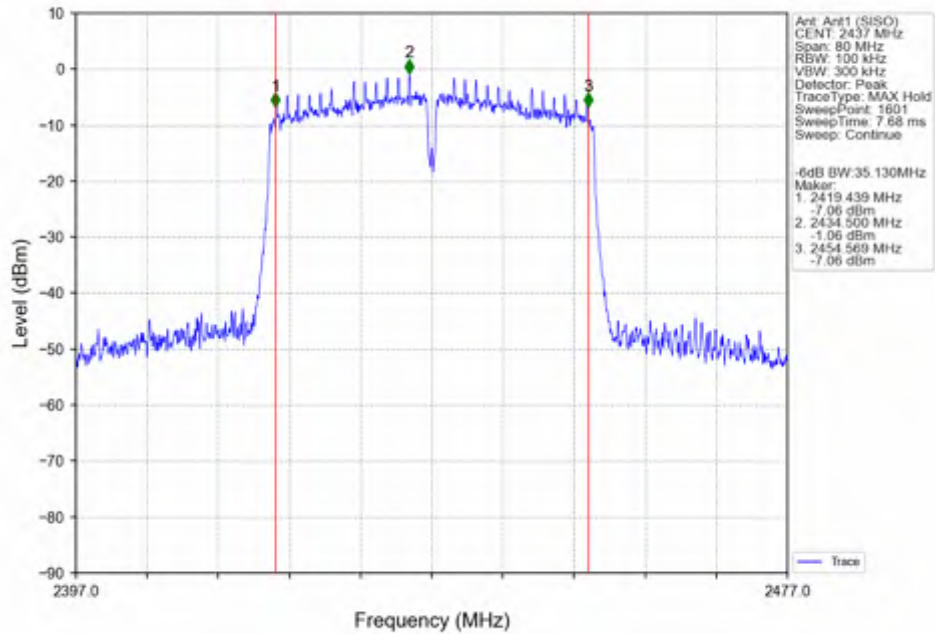
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



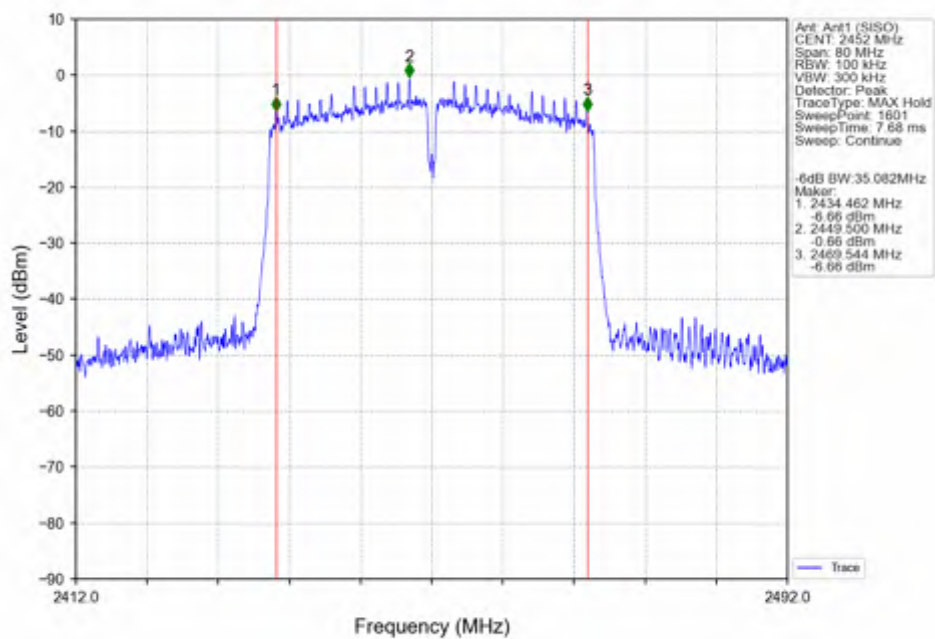
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



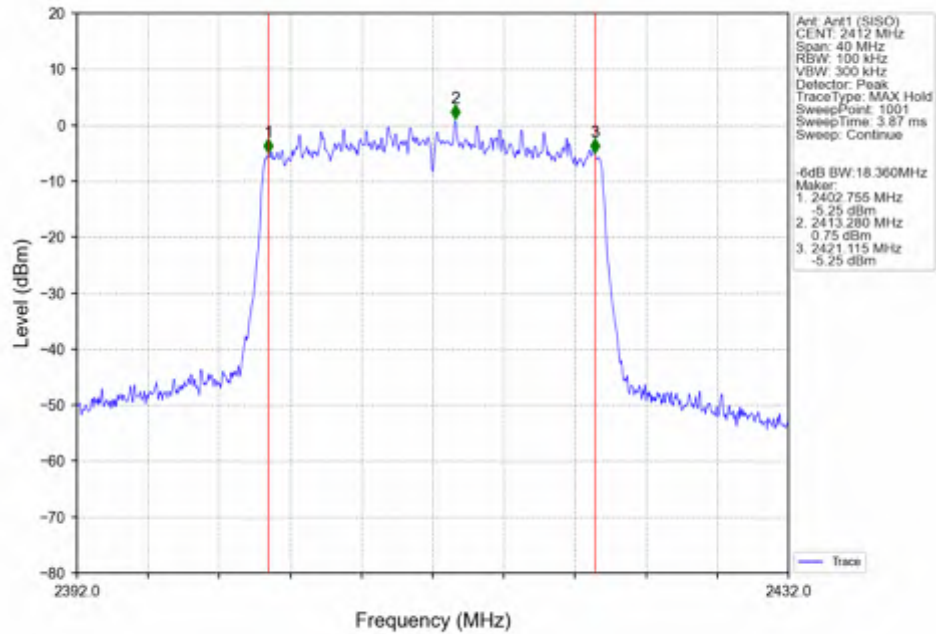
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



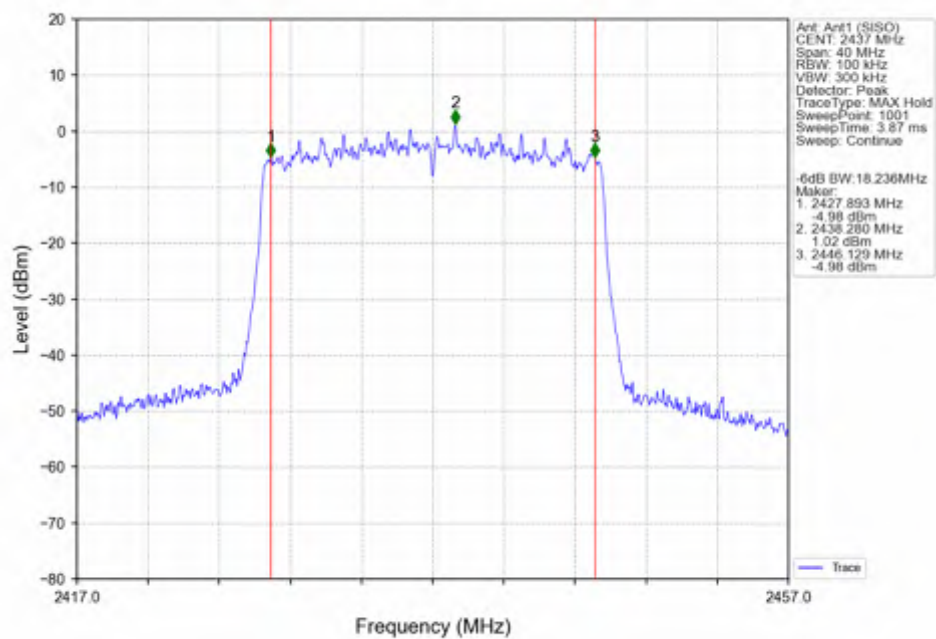
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



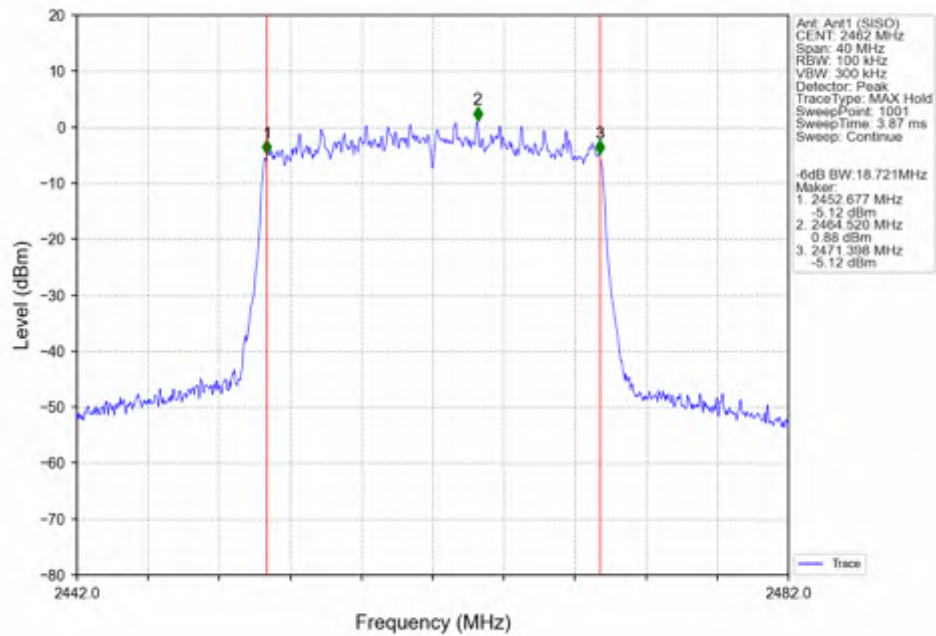
802.11ax(HE20) LCH 2412MHz SU / Ant1 (SISO) NTN



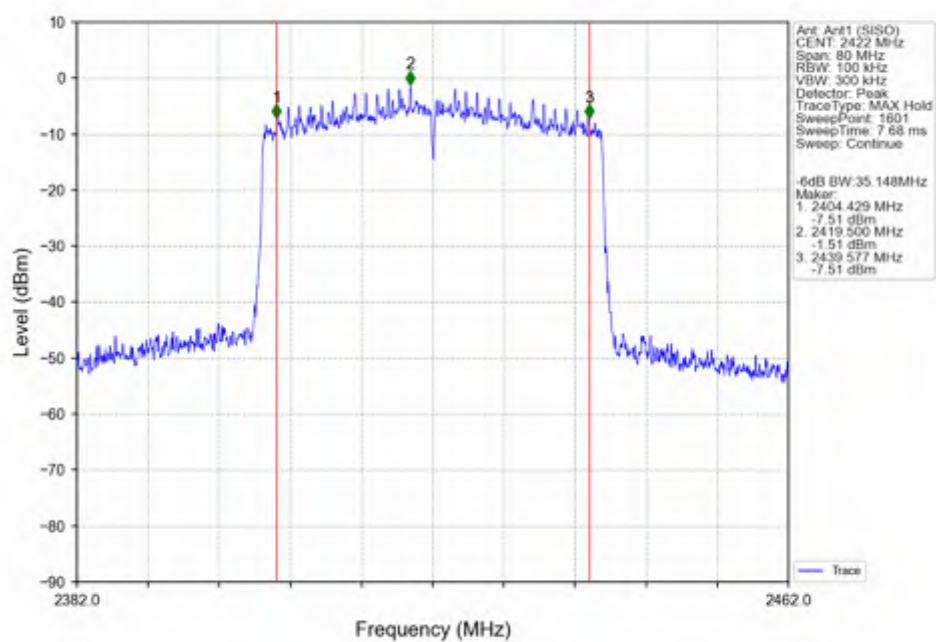
802.11ax(HE20) MCH 2437MHz SU / Ant1 (SISO) NTN



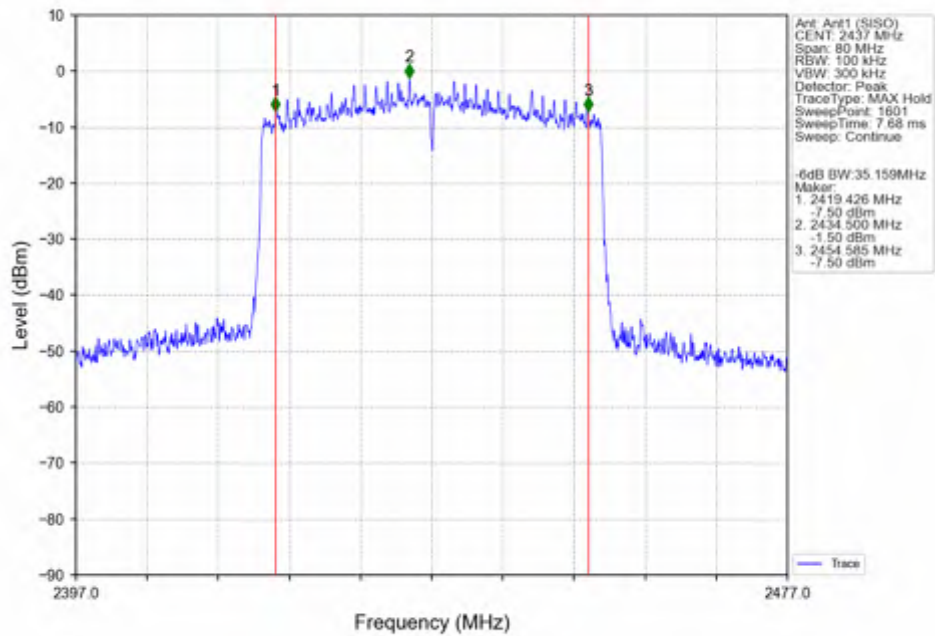
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTN



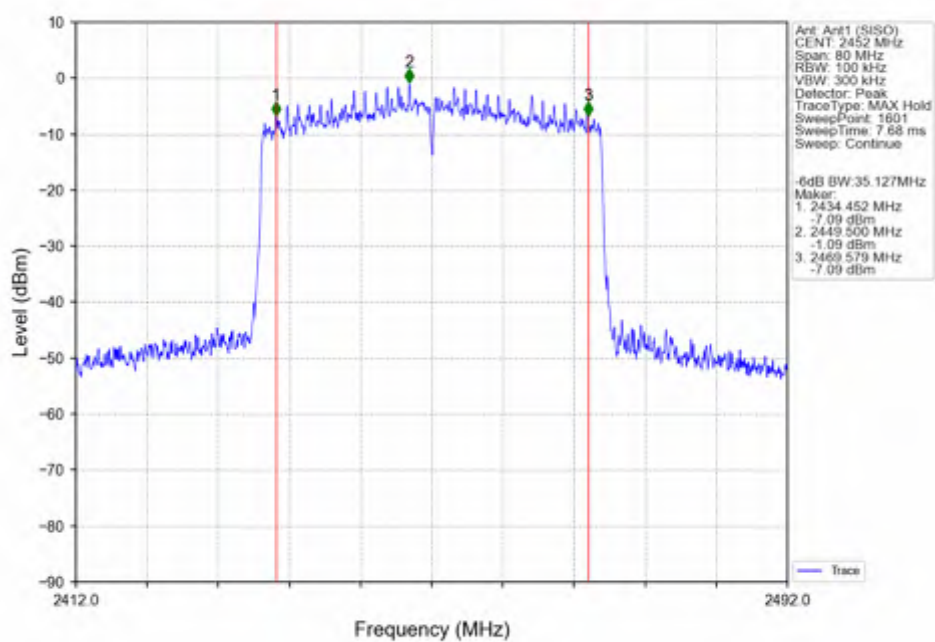
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) MCH_2437MHz_SU / Ant1 (SISO) NTN



802.11ax(HE40) HCH_2452MHz_SU / Ant1 (SISO) NTN



3. Maximum Conducted Output Power

3.1 Test Result

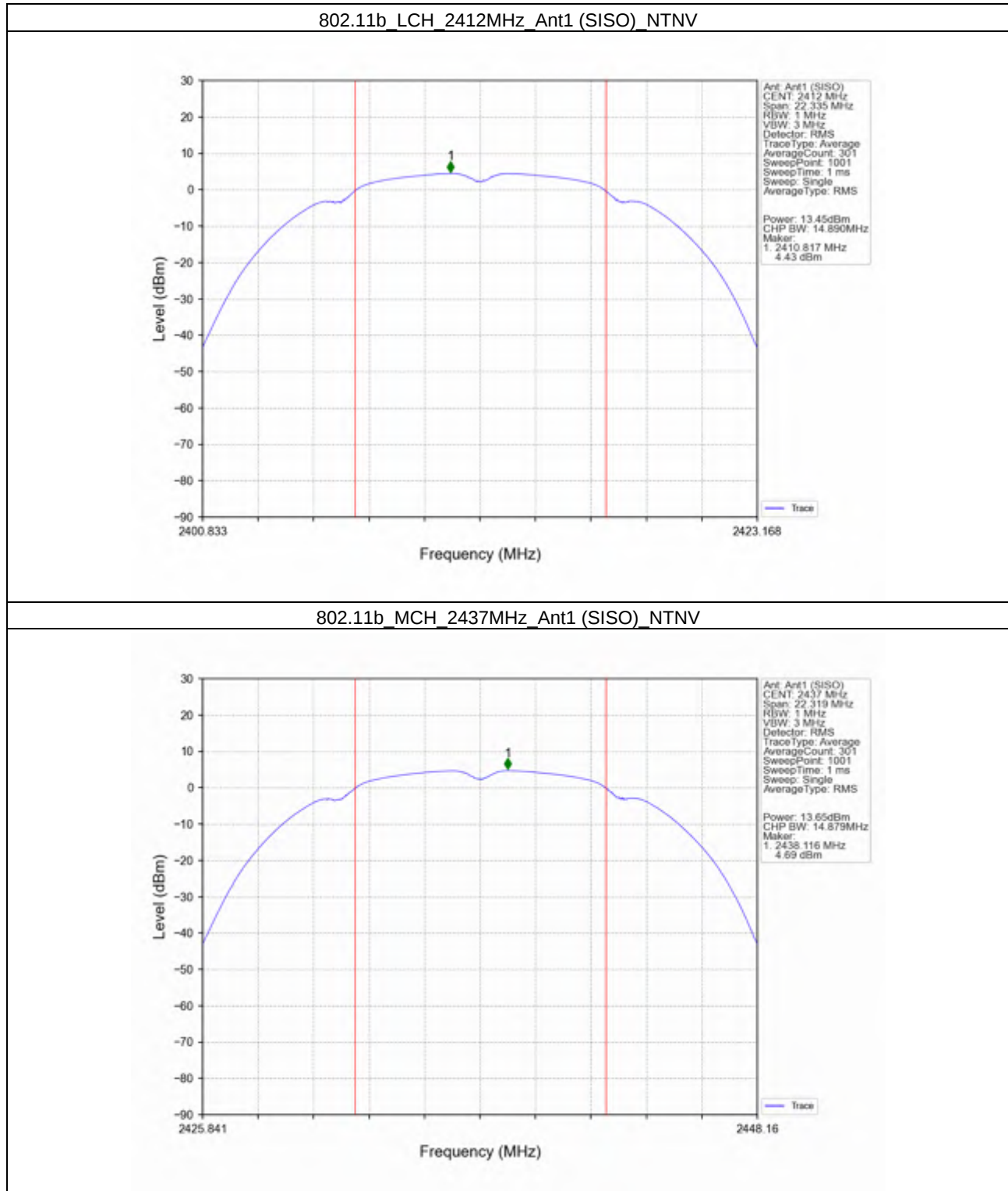
3.1.1 Power

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Average Conducted Output Power (dBm)		Verdict
					ANT1	Limit	
802.11b	SISO	2412	/	/	13.45	<=30	Pass
		2437	/	/	13.65	<=30	Pass
		2462	/	/	13.96	<=30	Pass
802.11g	SISO	2412	/	/	12.01	<=30	Pass
		2437	/	/	12.37	<=30	Pass
		2462	/	/	12.70	<=30	Pass
802.11n (HT20)	SISO	2412	/	/	11.83	<=30	Pass
		2437	/	/	12.17	<=30	Pass
		2462	/	/	12.51	<=30	Pass
802.11n (HT40)	SISO	2422	/	/	11.72	<=30	Pass
		2437	/	/	11.88	<=30	Pass
		2452	/	/	12.16	<=30	Pass
802.11ax (HE20)	SISO	2412	SU	/	11.44	<=30	Pass
		2437	SU	/	11.64	<=30	Pass
		2462	SU	/	12.17	<=30	Pass
802.11ax (HE40)	SISO	2422	SU	/	11.72	<=30	Pass
		2437	SU	/	11.88	<=30	Pass
		2452	SU	/	12.16	<=30	Pass

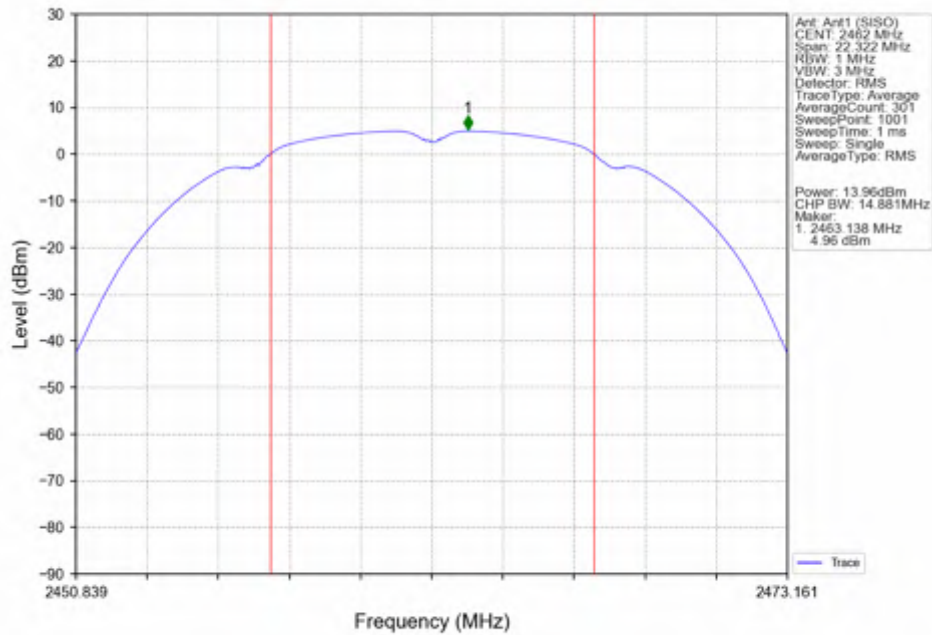
Note1: Antenna Gain: Ant1: 3.94dBi;

3.2 Test Graph

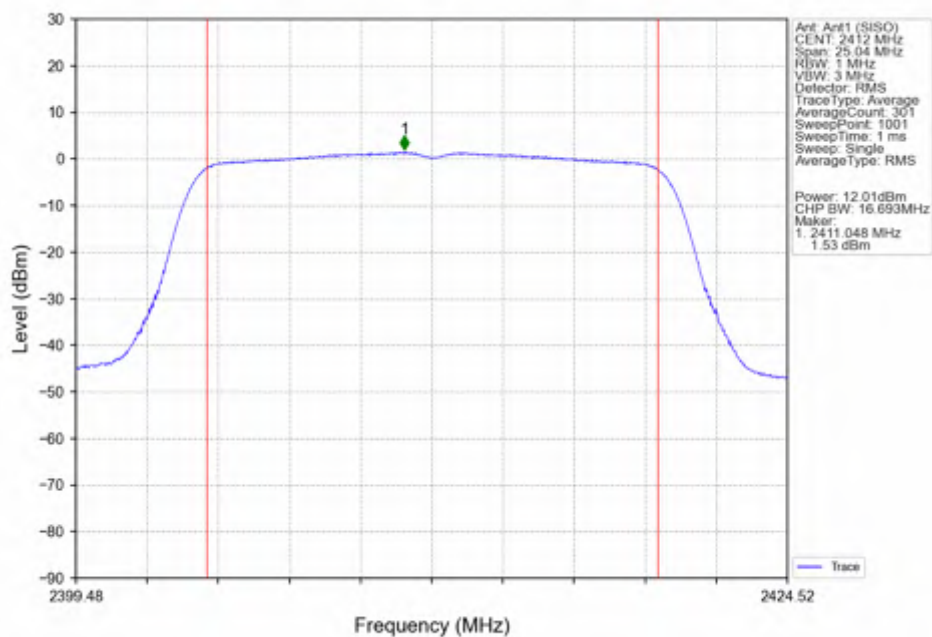
3.2.1 Power



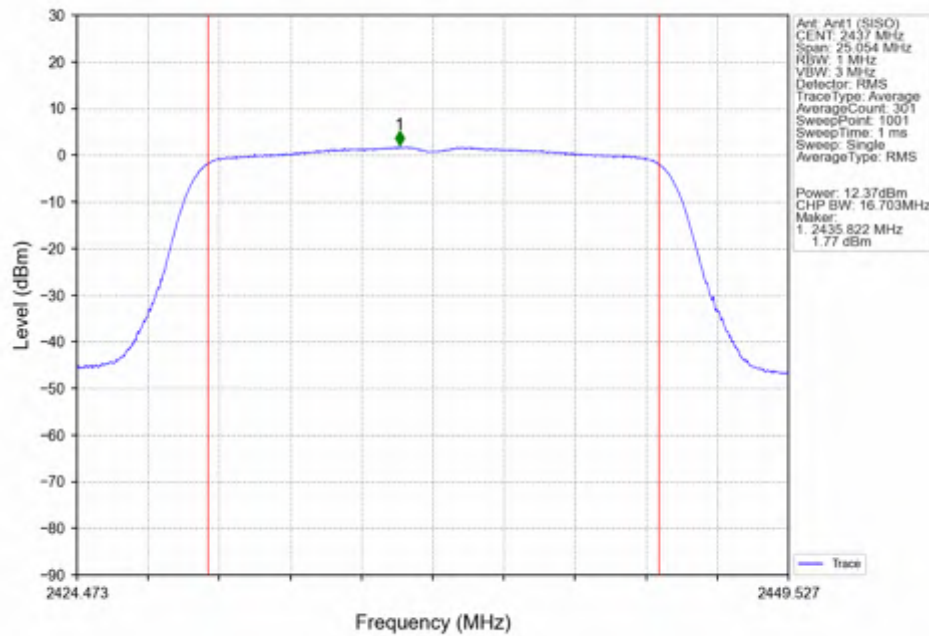
802.11b HCH 2462MHz Ant1 (SISO) NTN



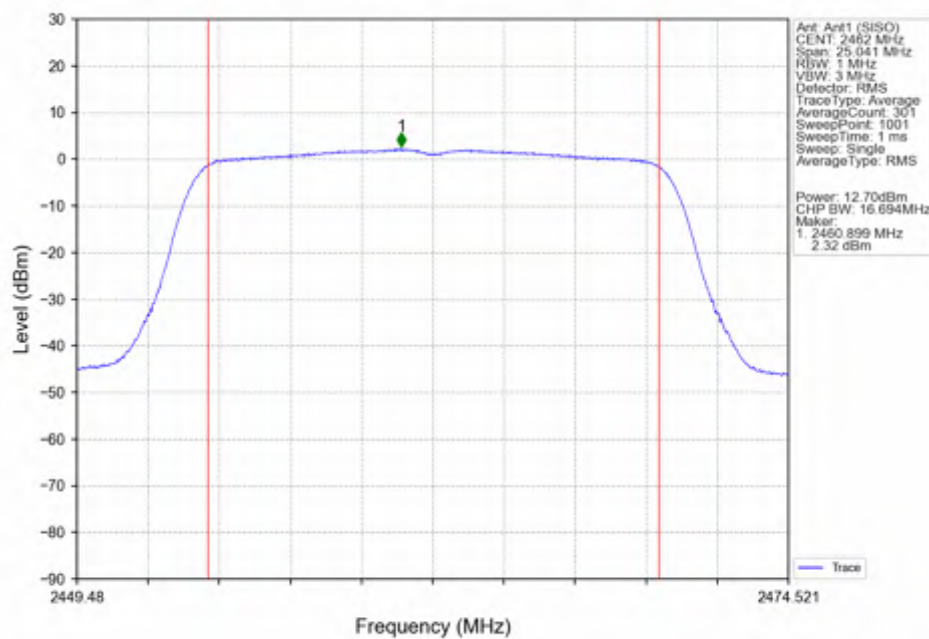
802.11g LCH 2412MHz Ant1 (SISO) NTN



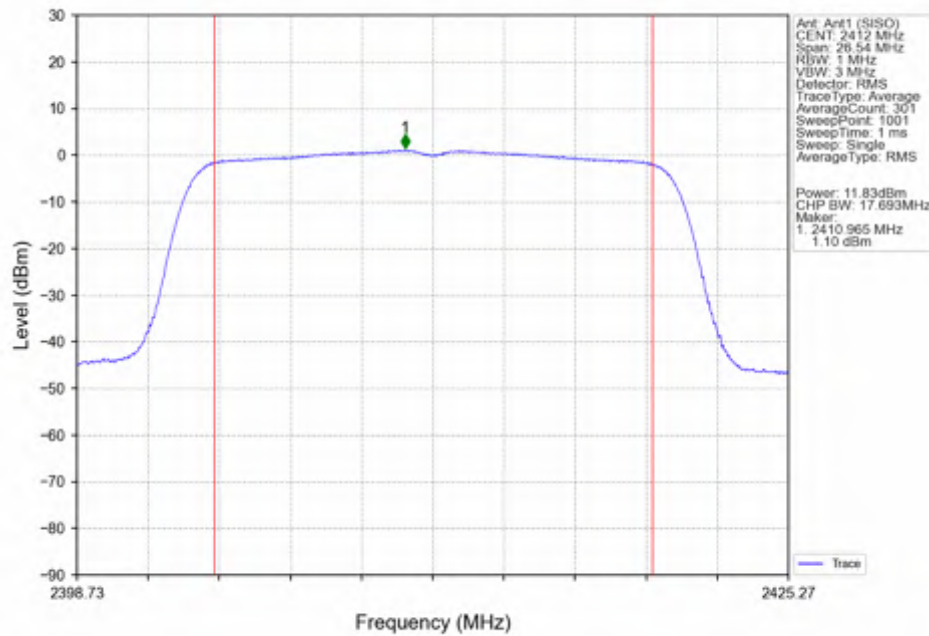
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



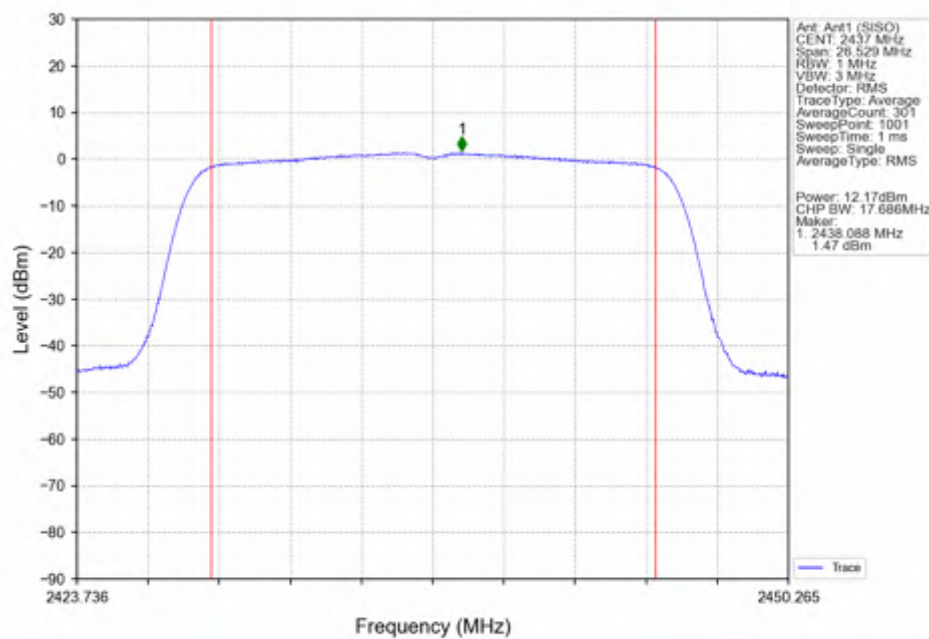
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



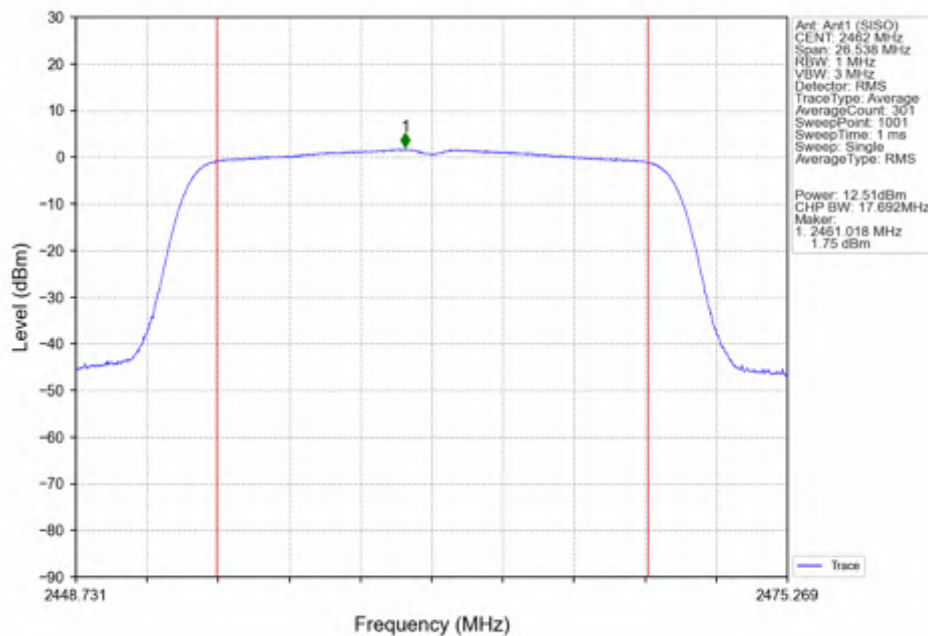
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



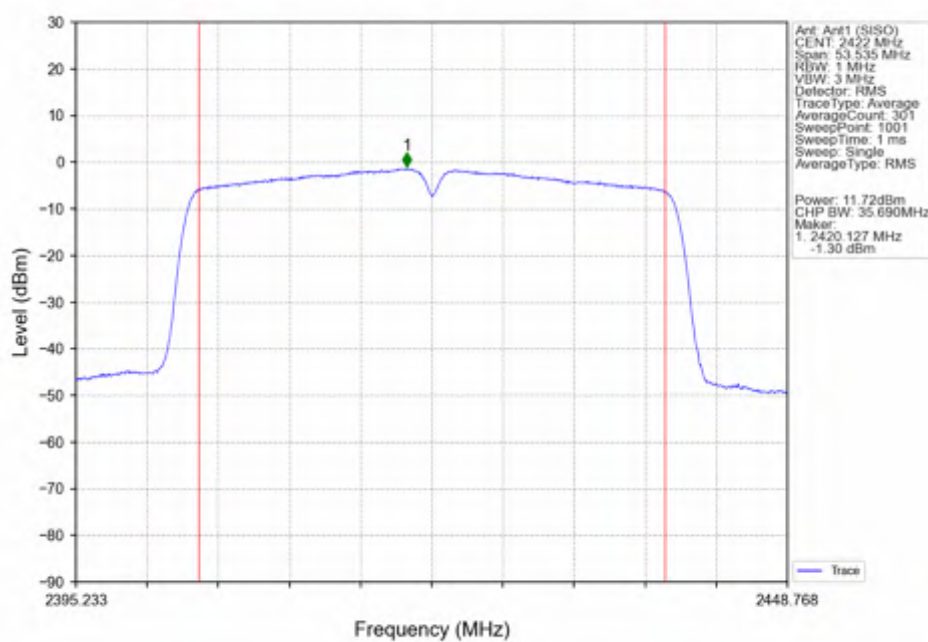
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



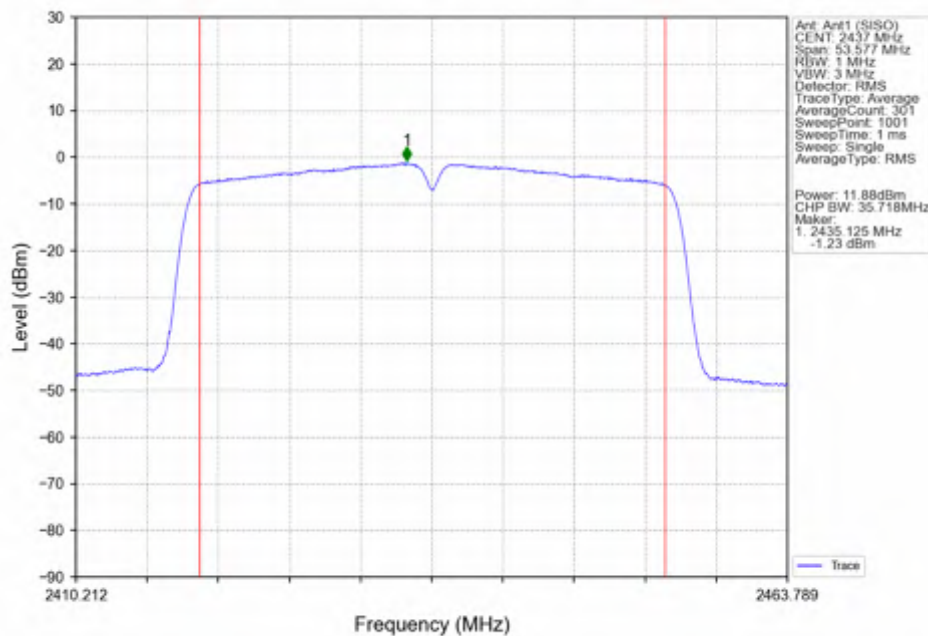
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



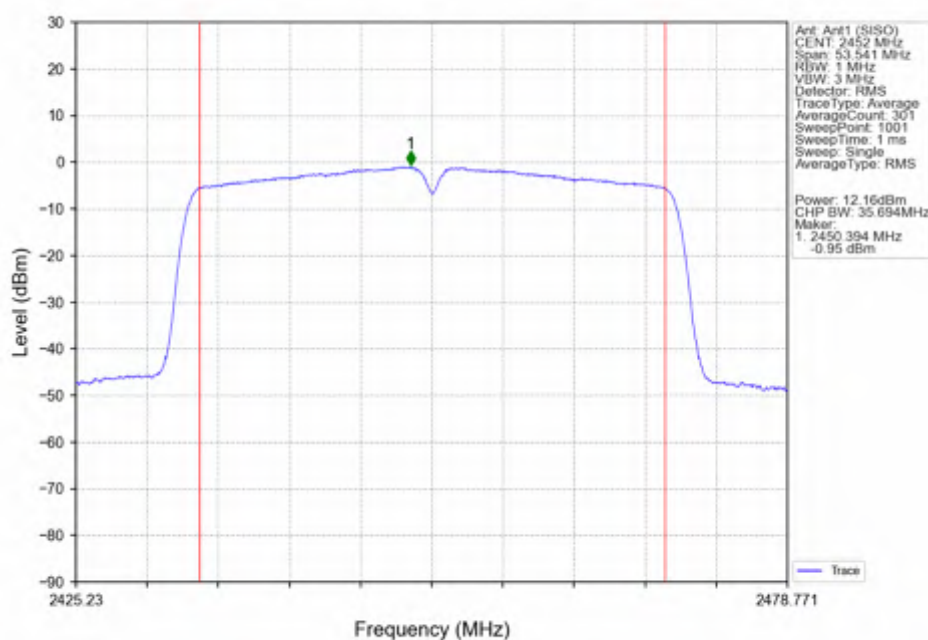
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



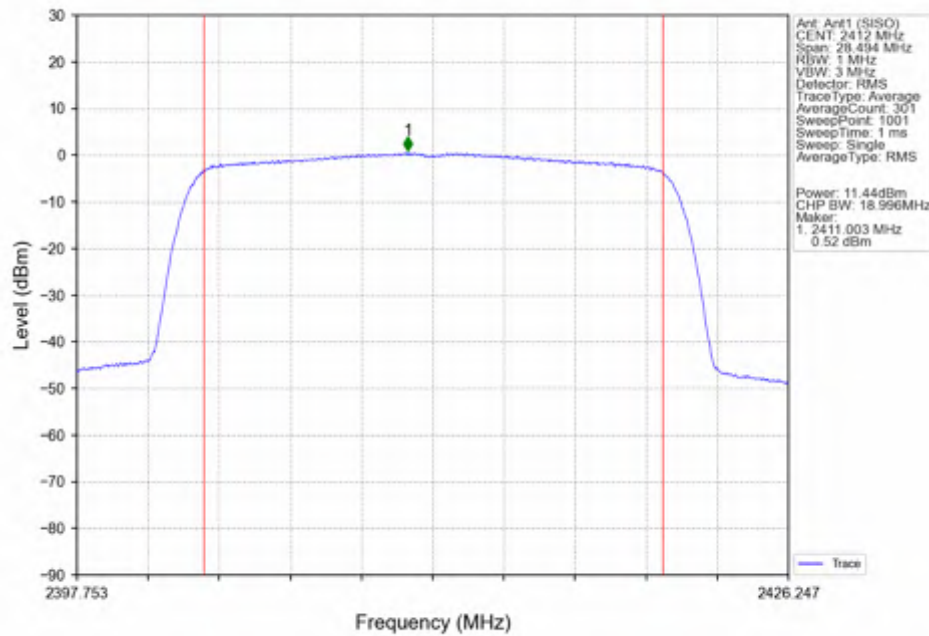
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



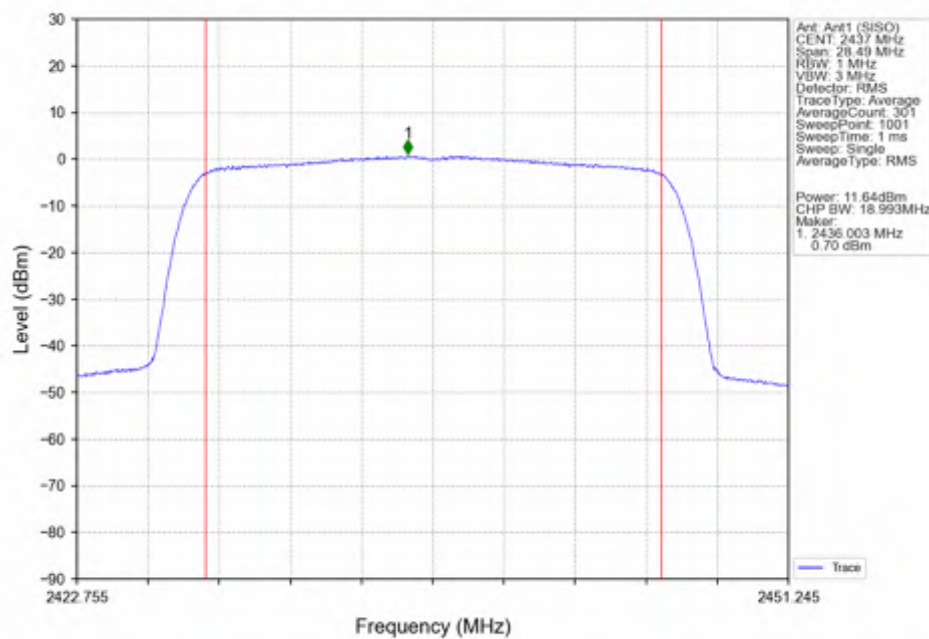
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



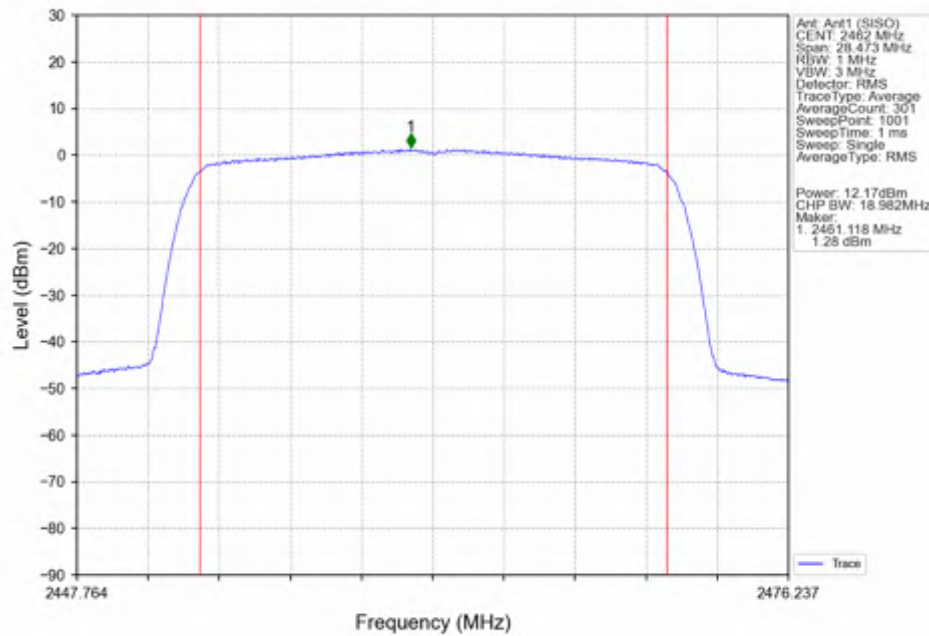
802.11ax(HE20) LCH 2412MHz SU / Ant1 (SISO) NTN



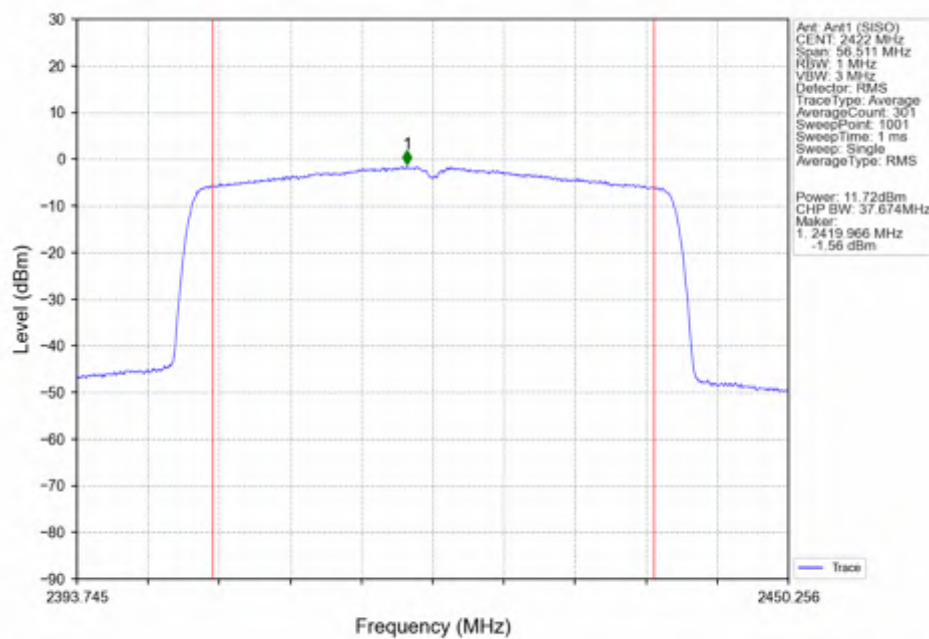
802.11ax(HE20) MCH 2437MHz SU / Ant1 (SISO) NTN



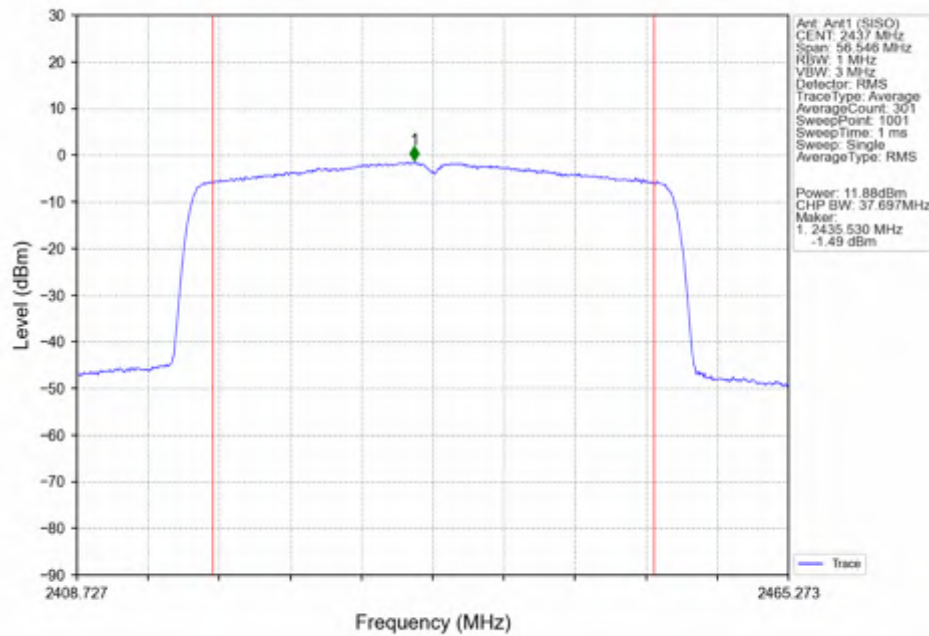
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTN



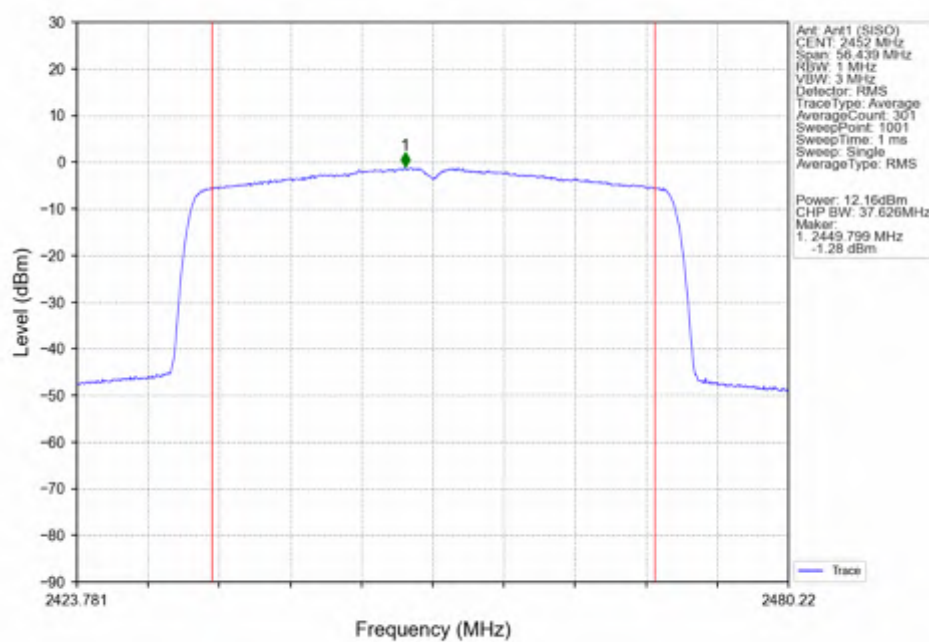
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) MCH 2437MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) HCH 2452MHz SU / Ant1 (SISO) NTN



4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

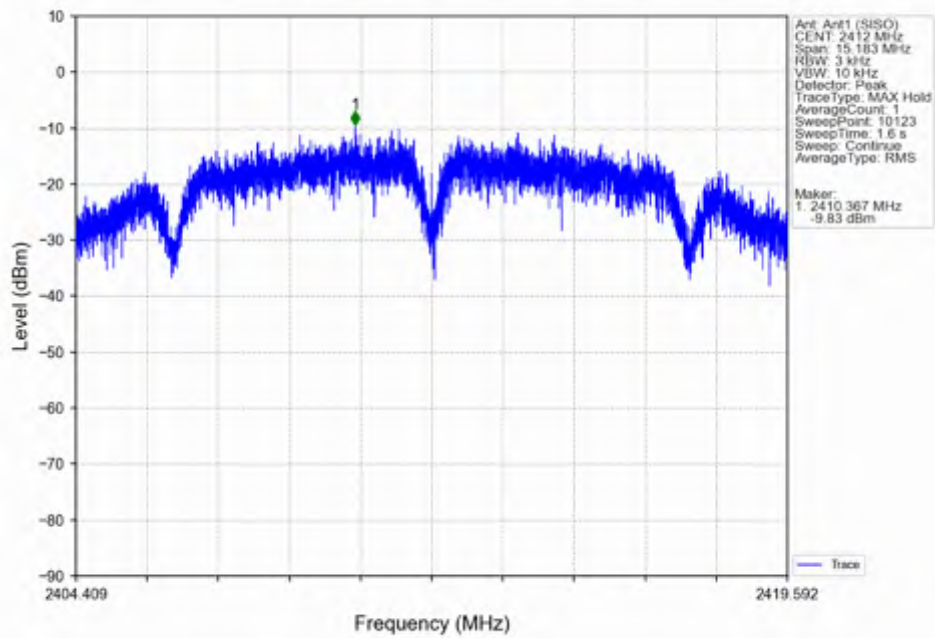
Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/3kHz)		Verdict
					ANT1	Limit	
802.11b	SISO	2412	/	/	-9.83	<=8	Pass
		2437	/	/	-10.11	<=8	Pass
		2462	/	/	-9.33	<=8	Pass
802.11g	SISO	2412	/	/	-12.92	<=8	Pass
		2437	/	/	-13.23	<=8	Pass
		2462	/	/	-12.60	<=8	Pass
802.11n (HT20)	SISO	2412	/	/	-13.01	<=8	Pass
		2437	/	/	-12.59	<=8	Pass
		2462	/	/	-12.45	<=8	Pass
802.11n (HT40)	SISO	2422	/	/	-15.89	<=8	Pass
		2437	/	/	-15.62	<=8	Pass
		2452	/	/	-15.15	<=8	Pass
802.11ax (HE20)	SISO	2412	SU	/	-15.16	<=8	Pass
		2437	SU	/	-13.46	<=8	Pass
		2462	SU	/	-13.90	<=8	Pass
802.11ax (HE40)	SISO	2422	SU	/	-16.64	<=8	Pass
		2437	SU	/	-16.42	<=8	Pass
		2452	SU	/	-16.09	<=8	Pass

Note1: Antenna Gain: Ant1: 3.94dBi;

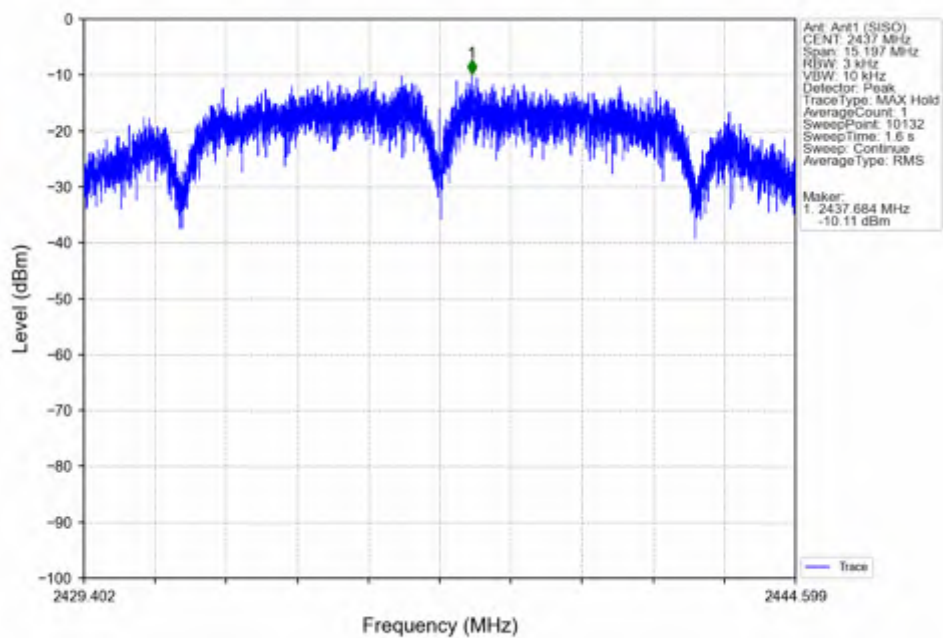
4.2 Test Graph

4.2.1 PSD

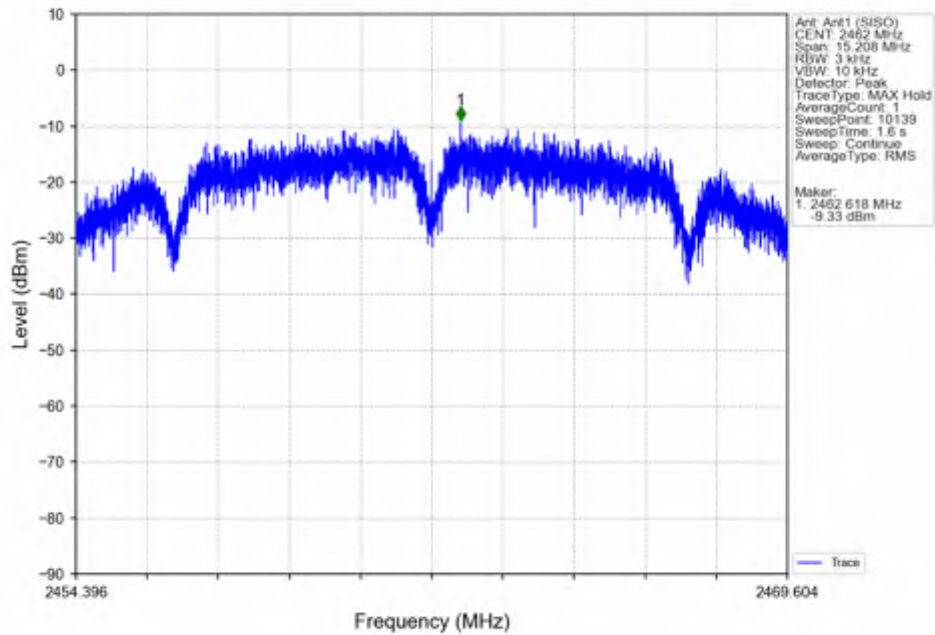
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



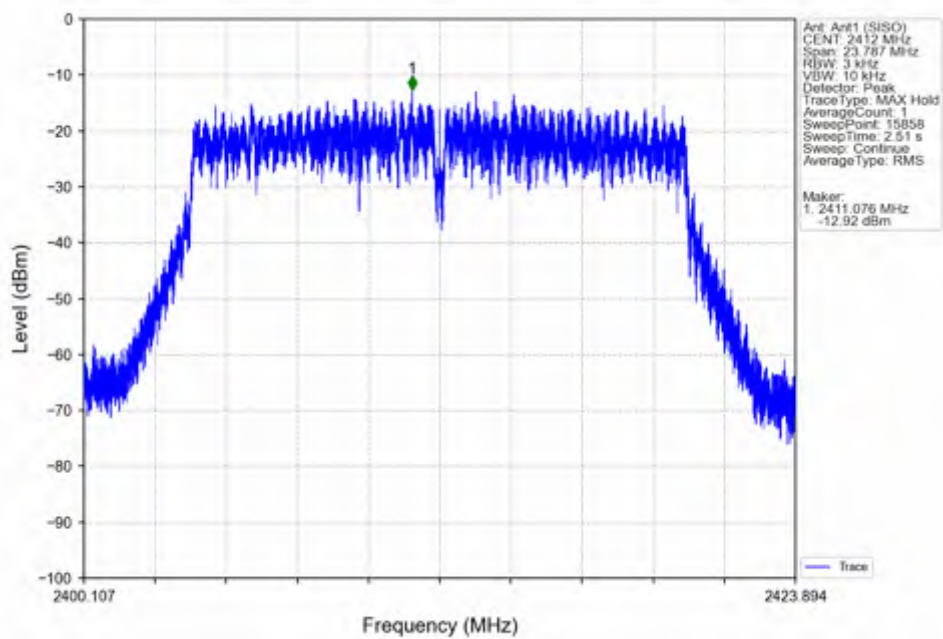
802.11b MCH 2437MHz_Ant1 (SISO)_NTNV



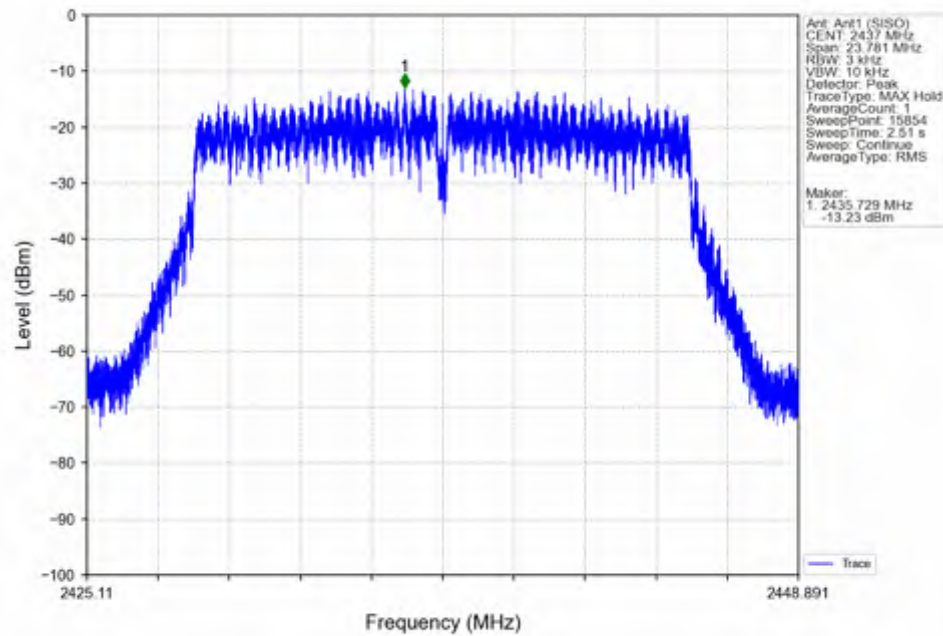
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



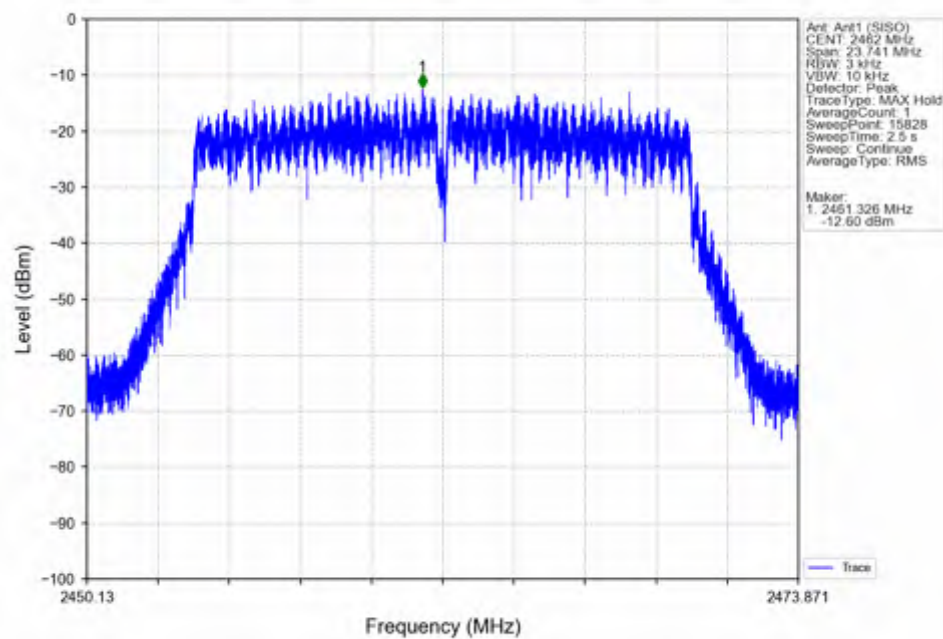
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



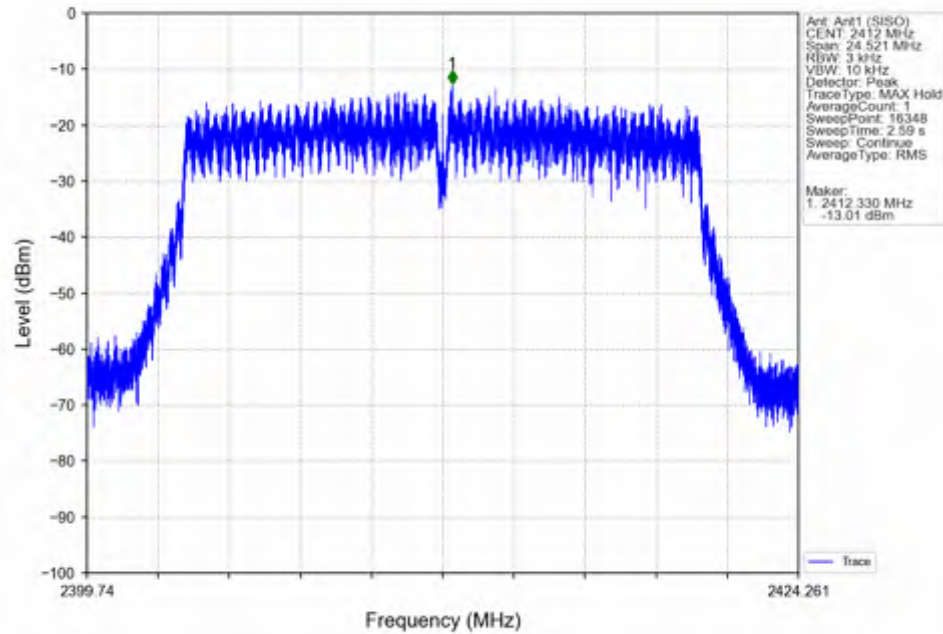
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



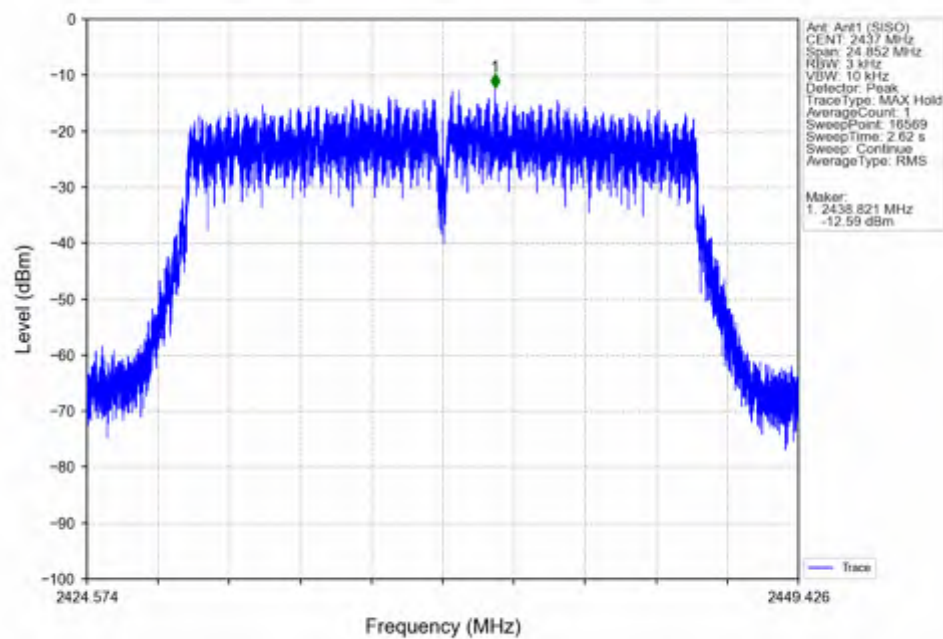
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



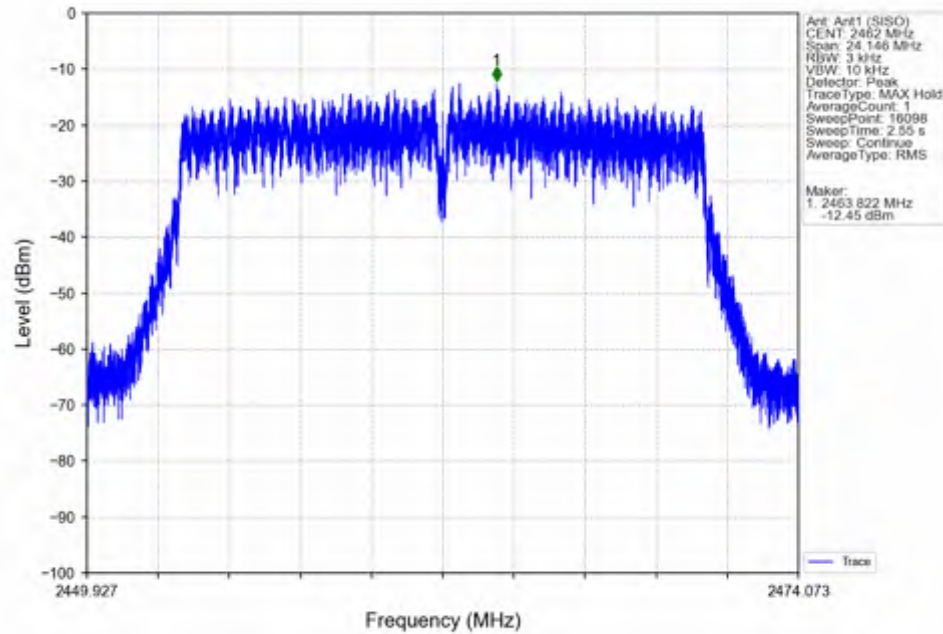
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



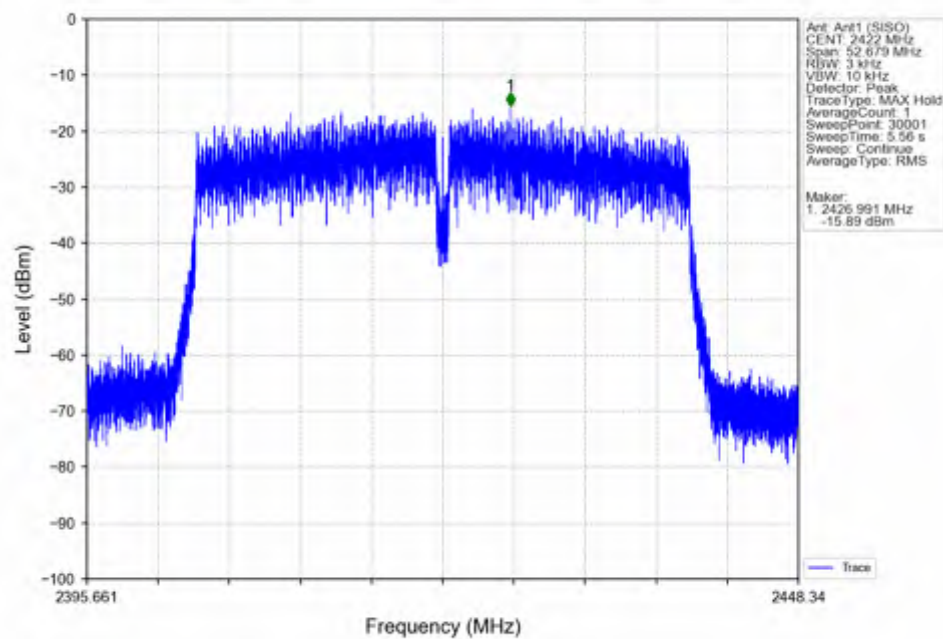
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



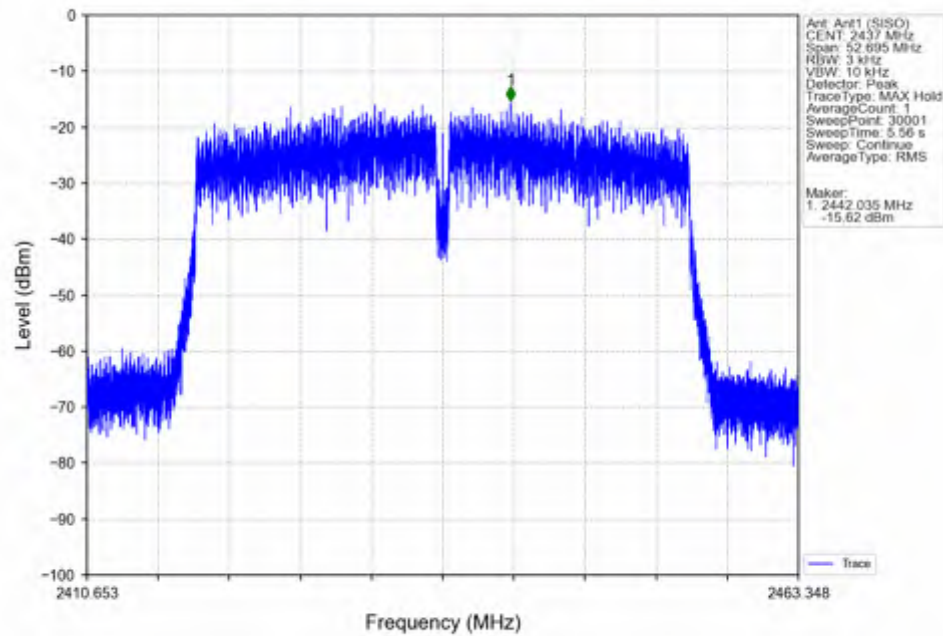
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



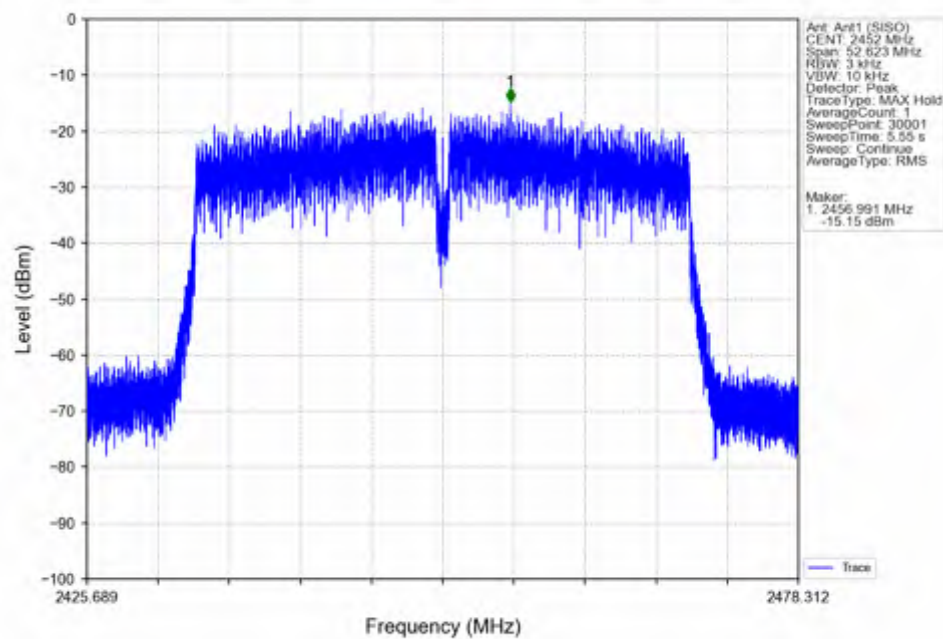
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



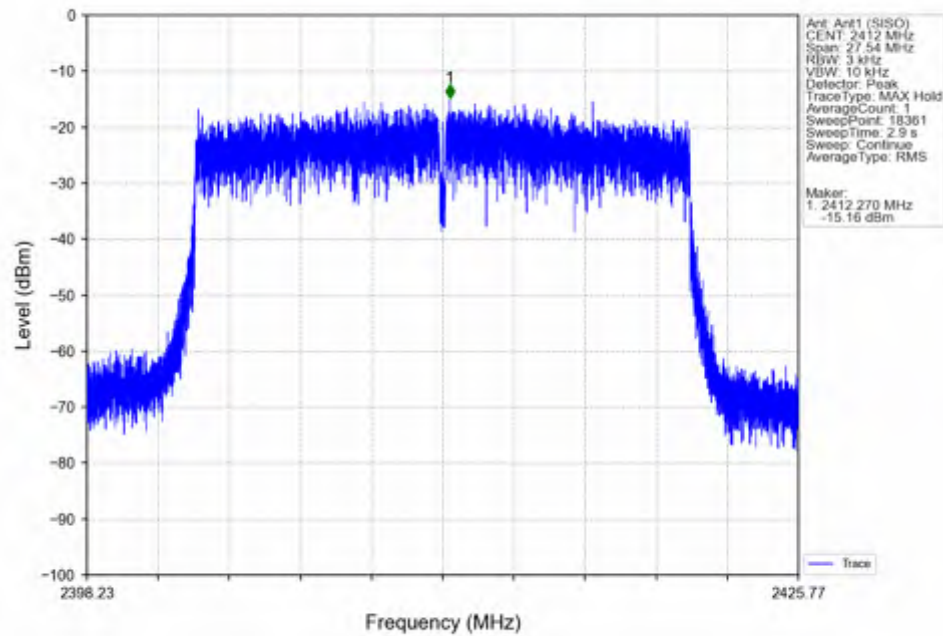
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



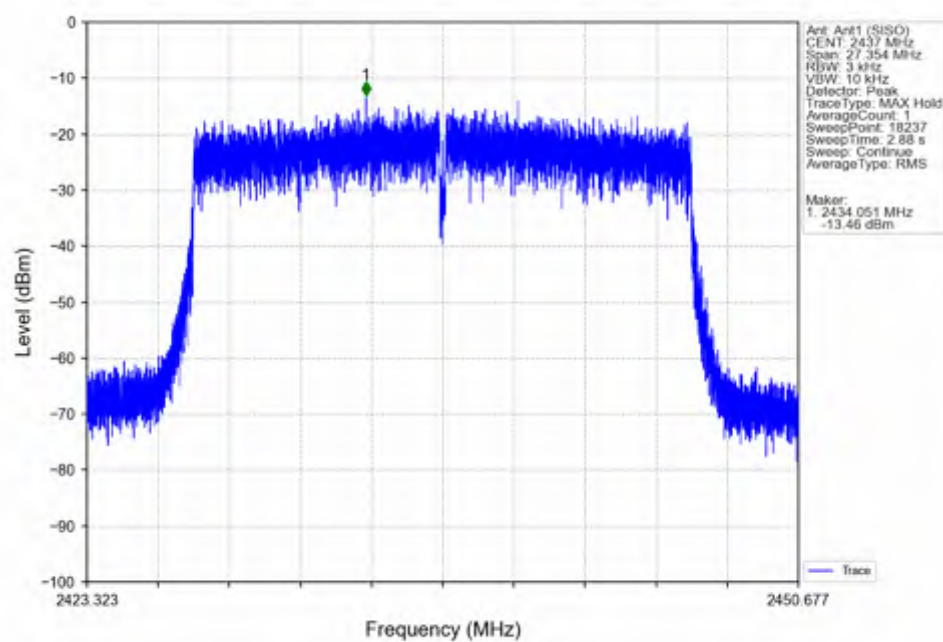
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



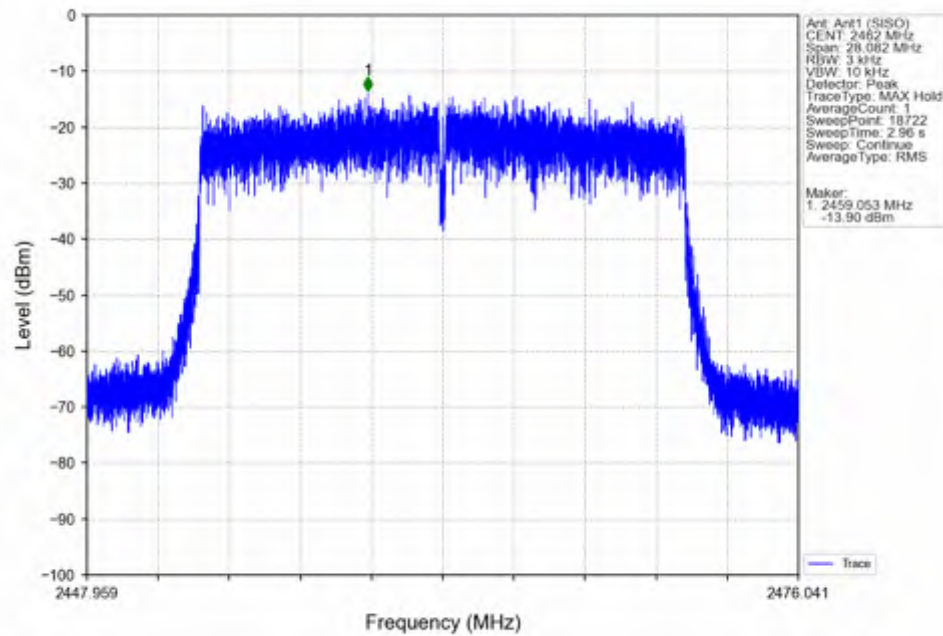
802.11ax(HE20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



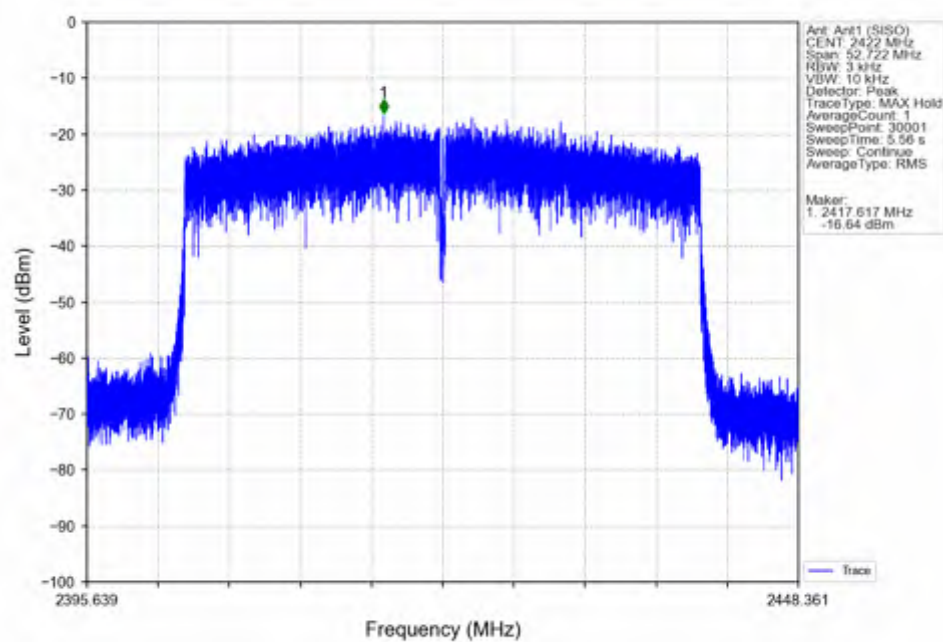
802.11ax(HE20)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



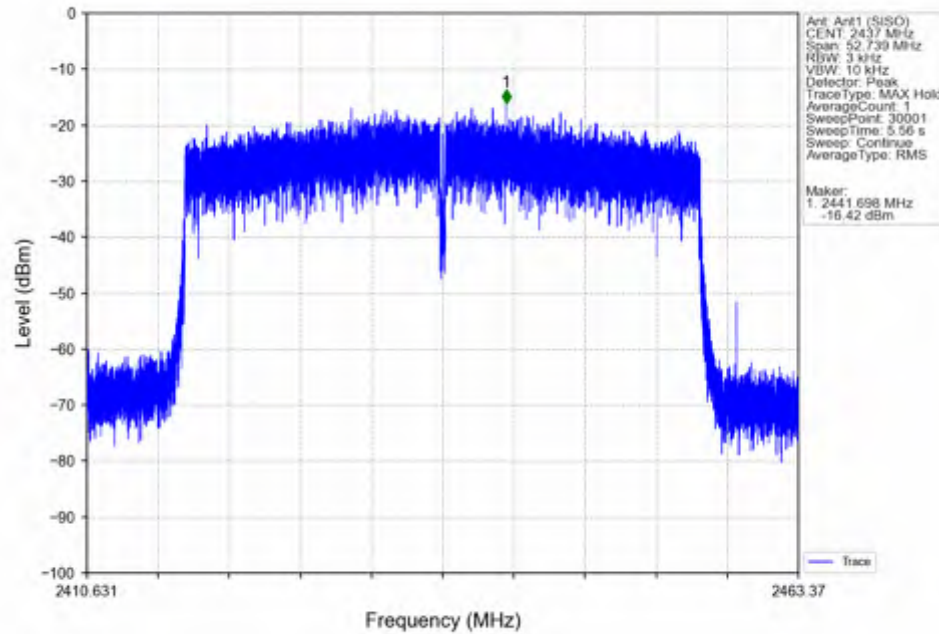
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTN



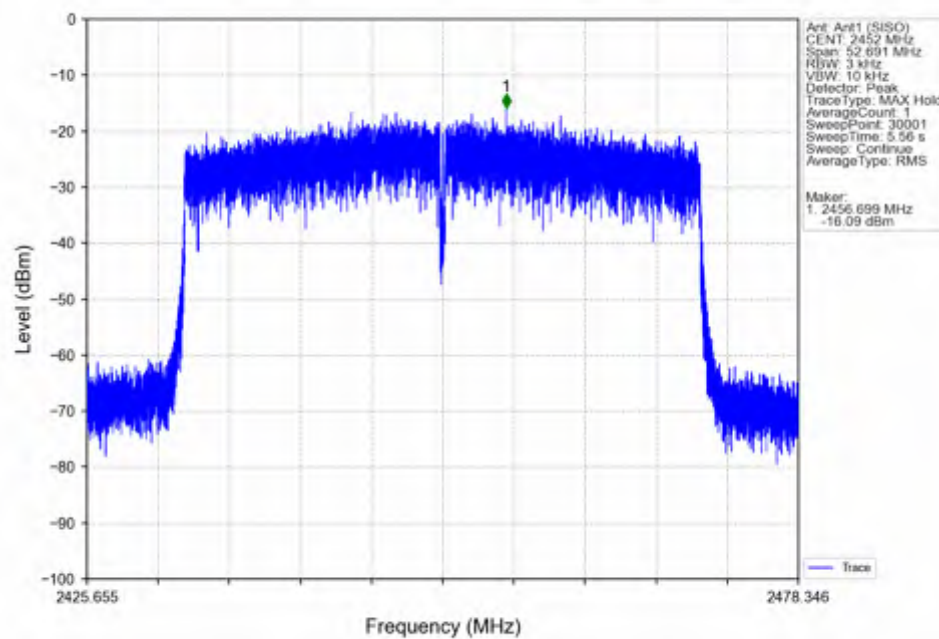
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) MCH_2437MHz_SU / Ant1 (SISO) NTN



802.11ax(HE40) HCH_2452MHz_SU / Ant1 (SISO) NTN



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Level of Reference (dBm)
802.11b	SISO	2412	/	/	1	4.05
		2437	/	/	1	4.38
		2462	/	/	1	4.66
802.11g	SISO	2412	/	/	1	1.24
		2437	/	/	1	1.15
		2462	/	/	1	2.11
802.11n (HT20)	SISO	2412	/	/	1	1.25
		2437	/	/	1	1.76
		2462	/	/	1	1.72
802.11n (HT40)	SISO	2422	/	/	1	-1.13
		2437	/	/	1	-1.16
		2452	/	/	1	-0.93
802.11ax (HE20)	SISO	2412	SU	/	1	0.78
		2437	SU	/	1	0.75
		2462	SU	/	1	1.51
802.11ax (HE40)	SISO	2422	SU	/	1	-1.55
		2437	SU	/	1	-1.75
		2452	SU	/	1	-1.11

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 CSE

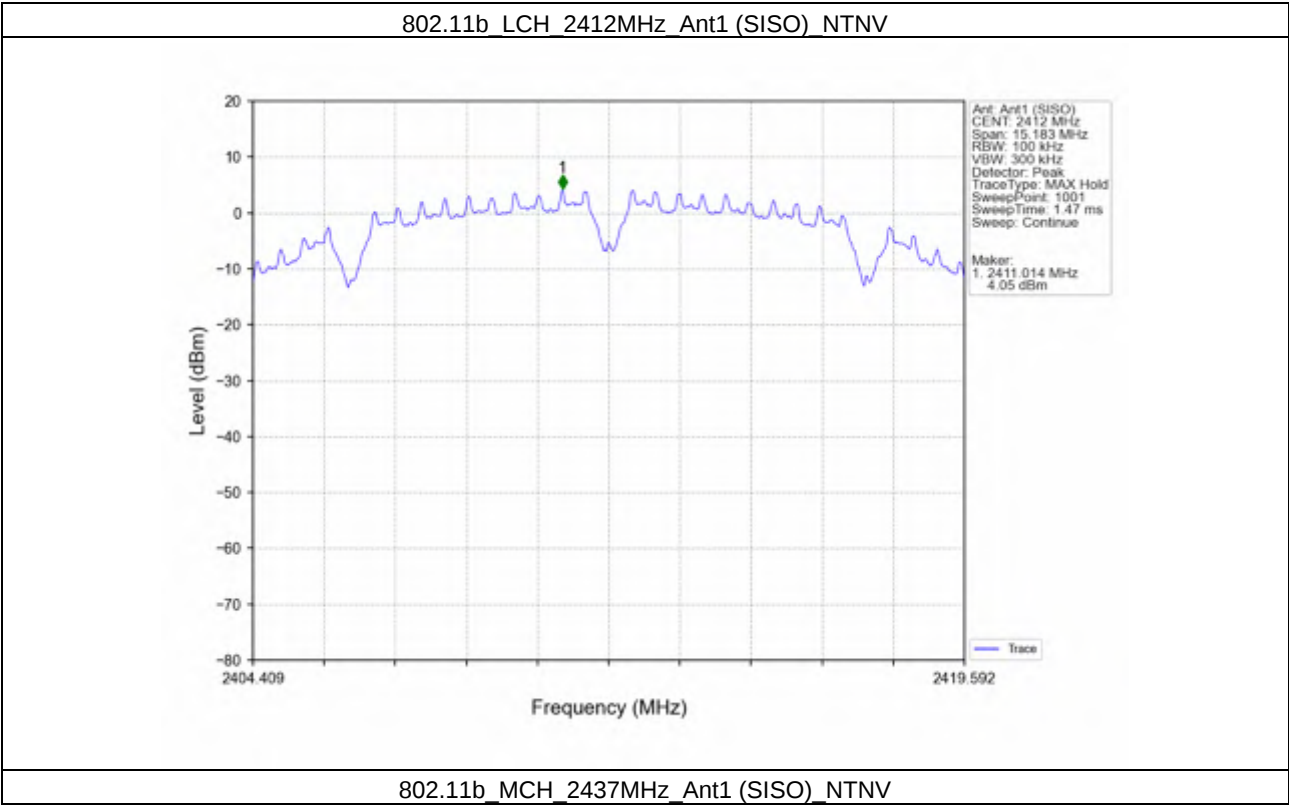
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	4.66	-25.34	Pass
		2437	/	/	1	4.66	-25.34	Pass
		2462	/	/	1	4.66	-25.34	Pass
802.11g	SISO	2412	/	/	1	2.11	-27.89	Pass
		2437	/	/	1	2.11	-27.89	Pass
		2462	/	/	1	2.11	-27.89	Pass
802.11n (HT20)	SISO	2412	/	/	1	1.76	-28.24	Pass
		2437	/	/	1	1.76	-28.24	Pass
		2462	/	/	1	1.76	-28.24	Pass
802.11n (HT40)	SISO	2422	/	/	1	-0.93	-30.93	Pass
		2437	/	/	1	-0.93	-30.93	Pass
		2452	/	/	1	-0.93	-30.93	Pass
802.11ax (HE20)	SISO	2412	SU	/	1	1.51	-28.49	Pass
		2437	SU	/	1	1.51	-28.49	Pass
		2462	SU	/	1	1.51	-28.49	Pass
802.11ax	SISO	2422	SU	/	1	-1.11	-31.11	Pass

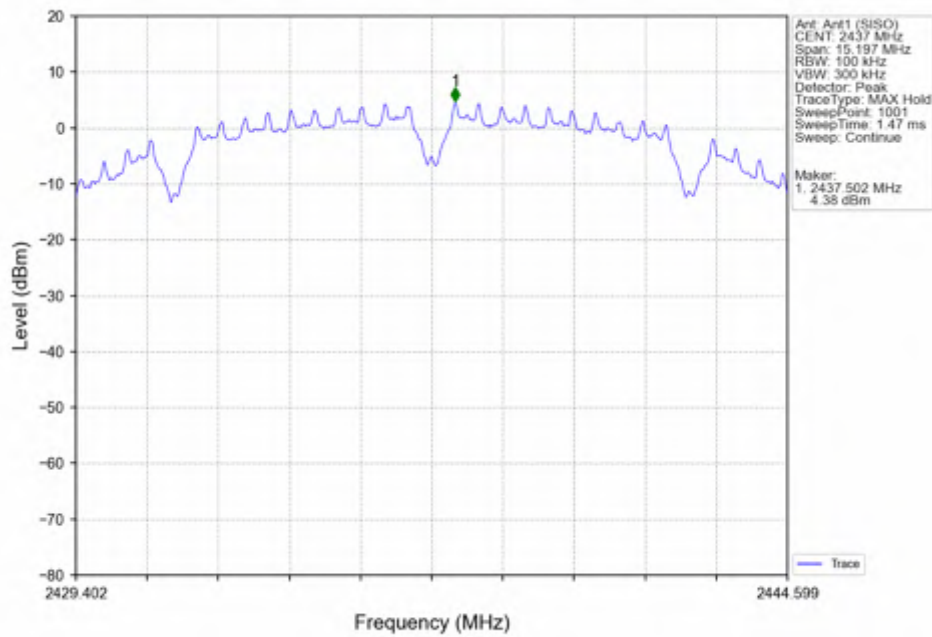


(HE40)	2437	SU	/	1	-1.11	-31.11	Pass
	2452	SU	/	1	-1.11	-31.11	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.							

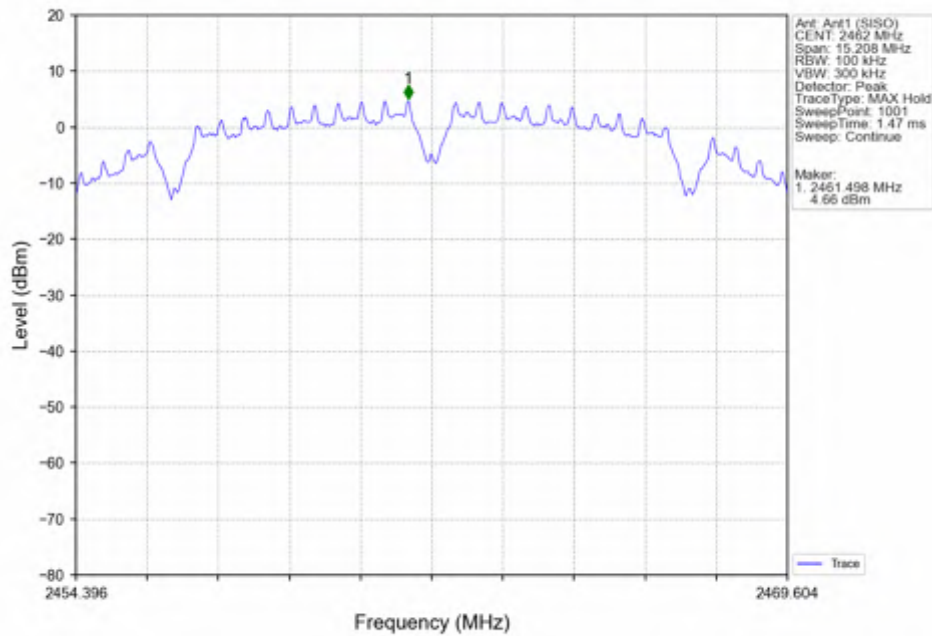
5.2 Test Graph

5.2.1 Ref

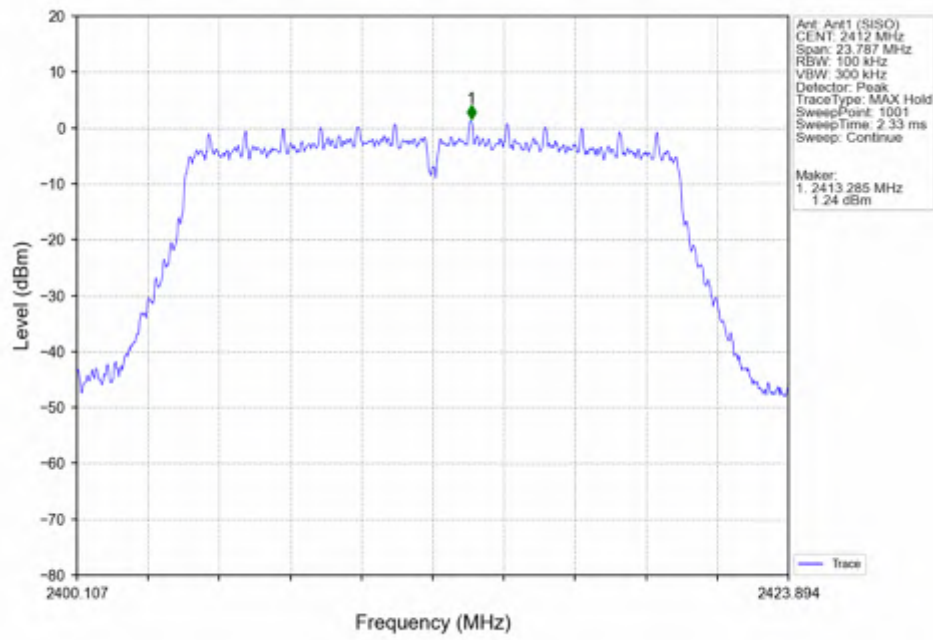




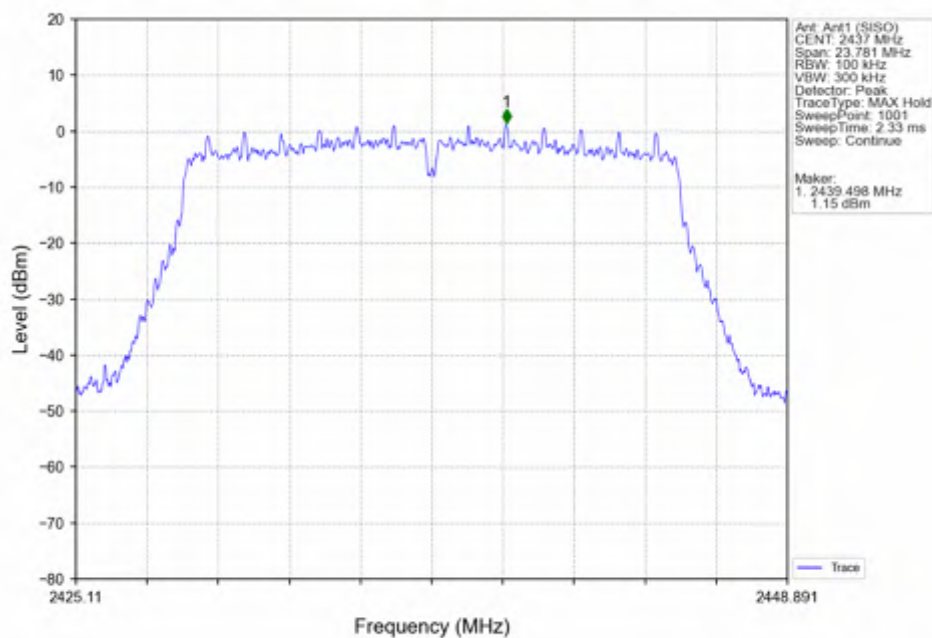
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



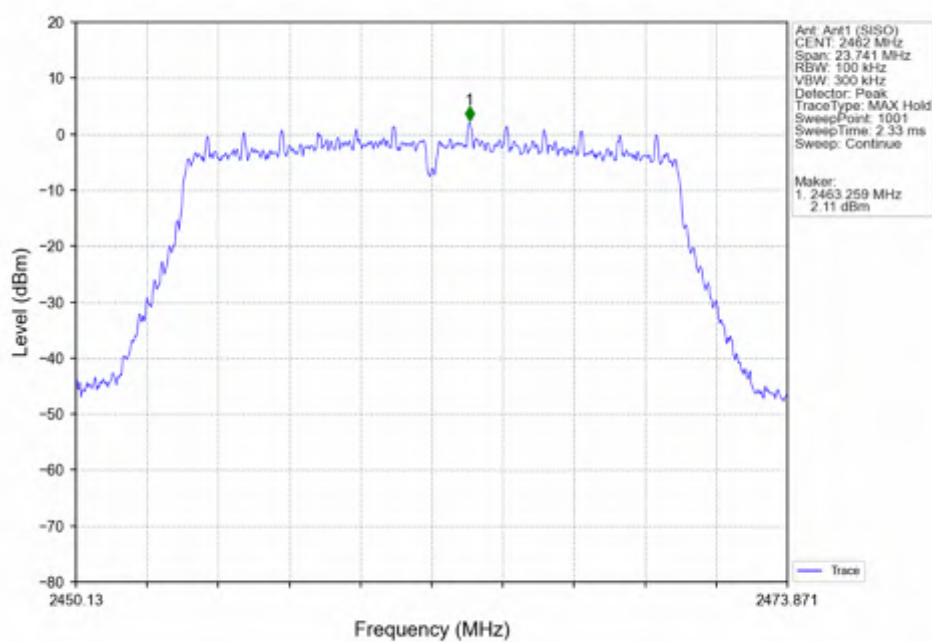
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



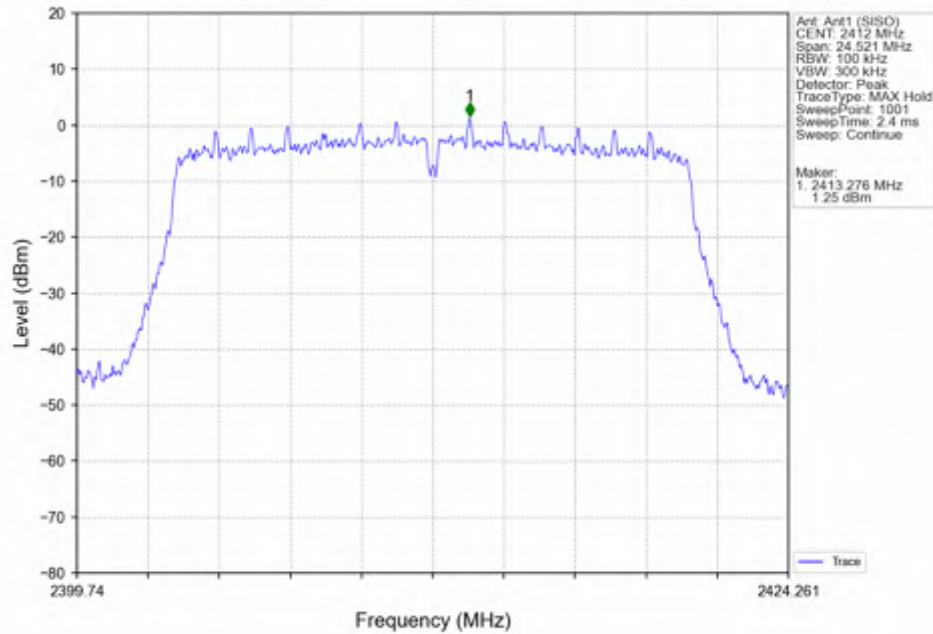
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



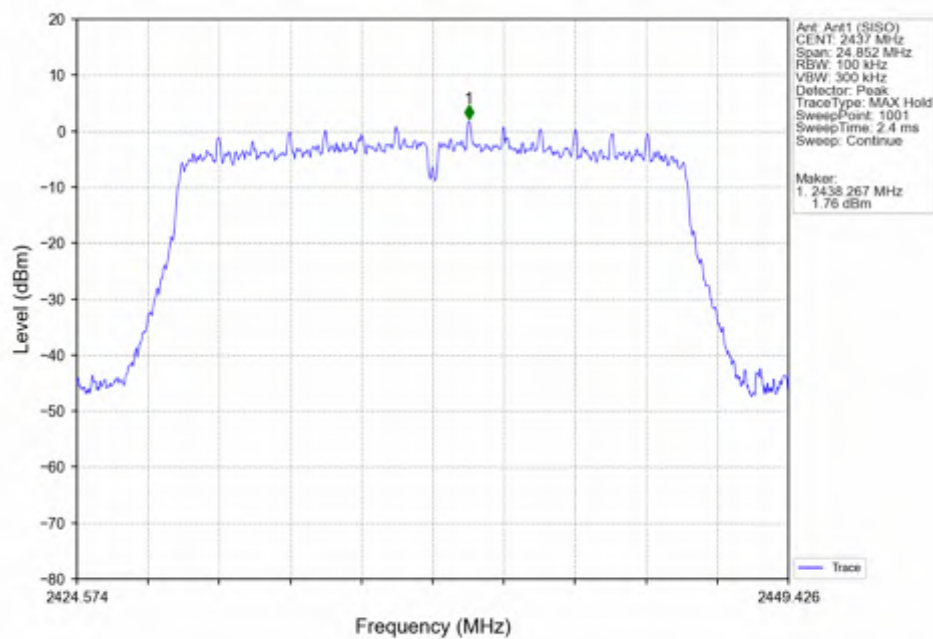
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



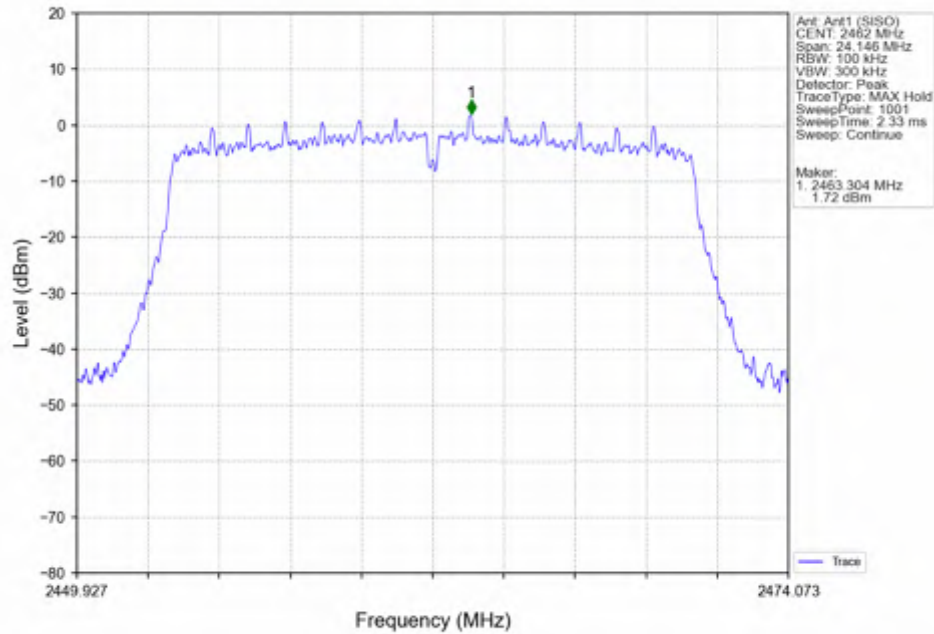
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



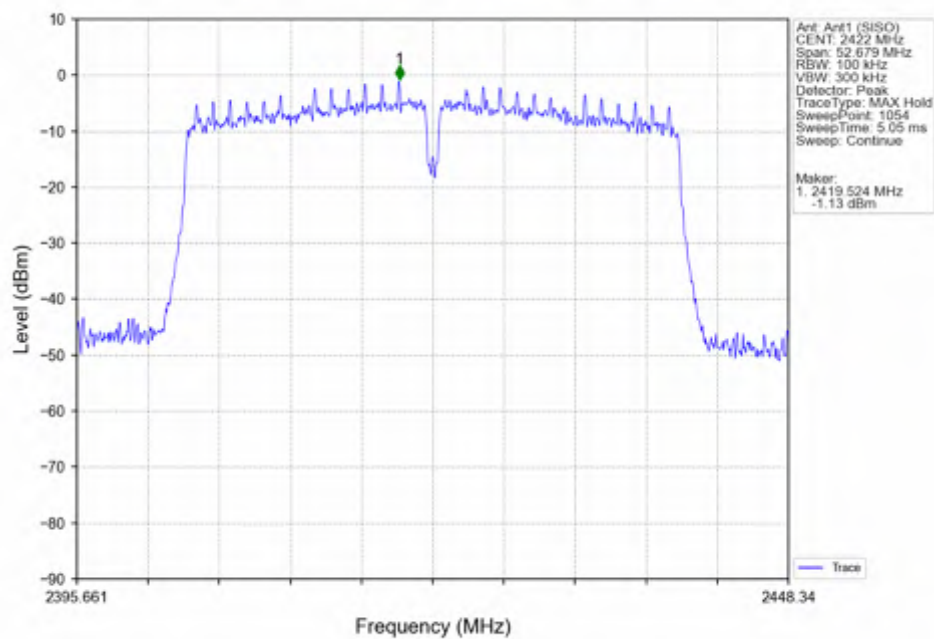
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



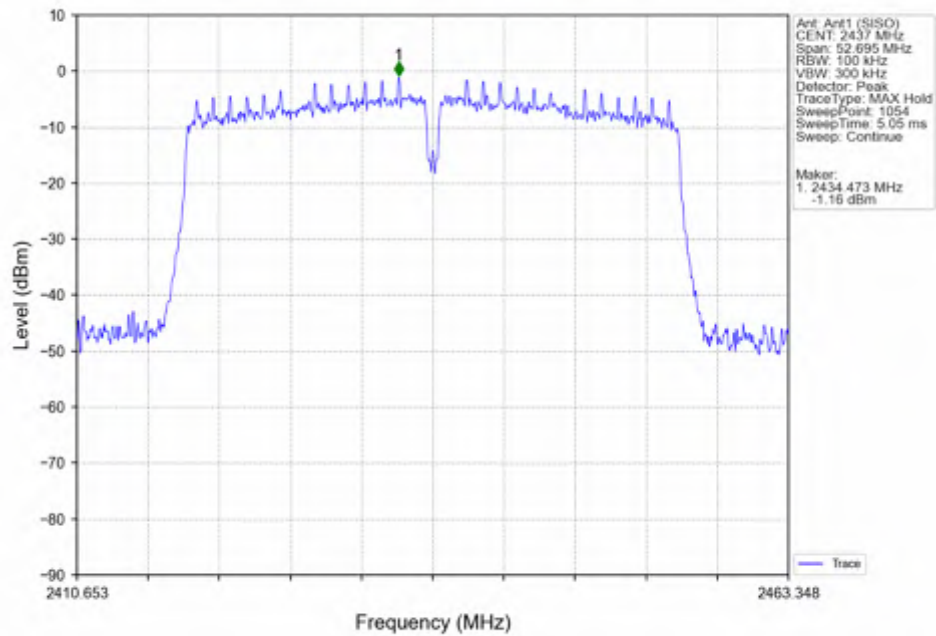
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



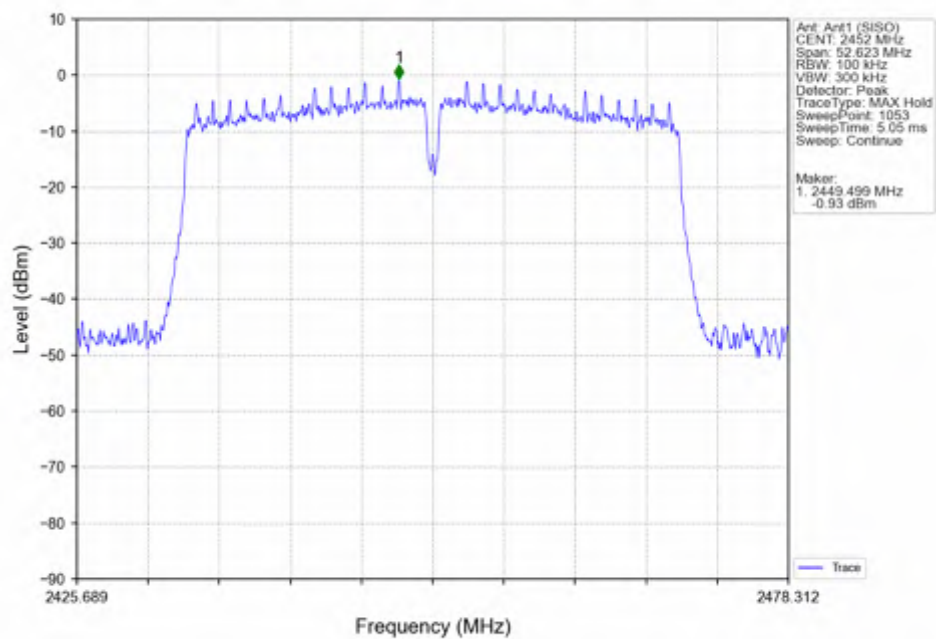
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



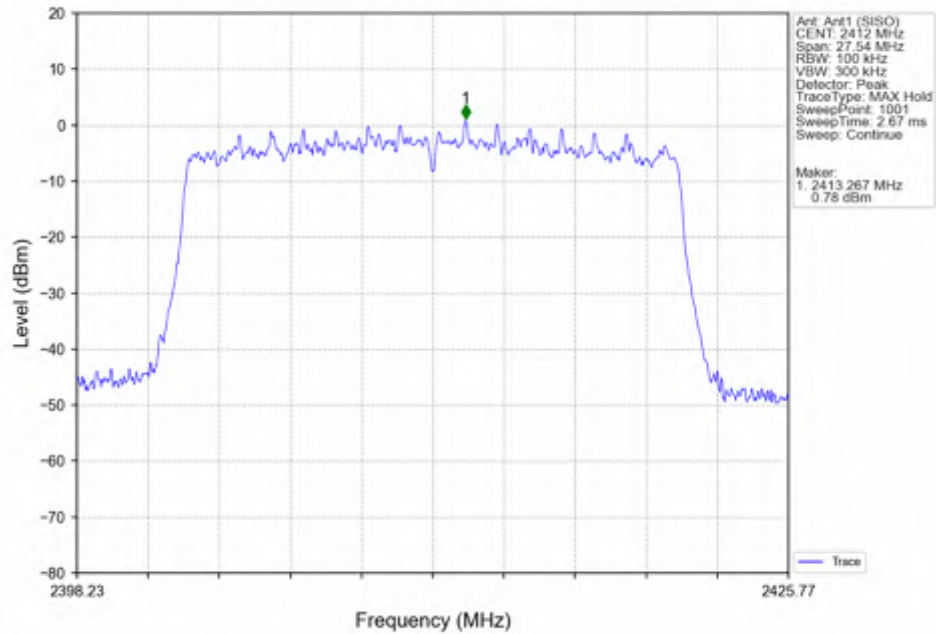
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



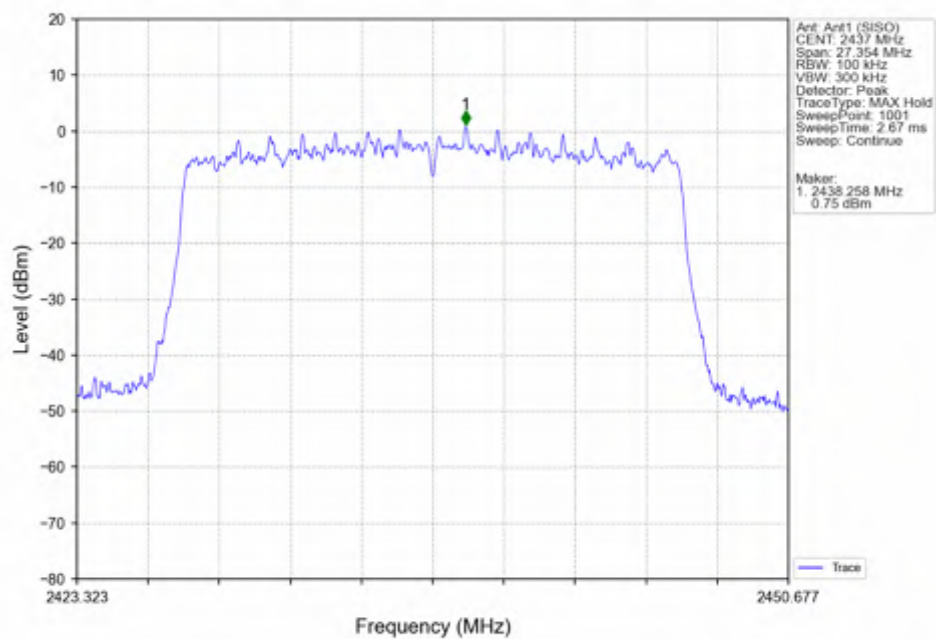
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



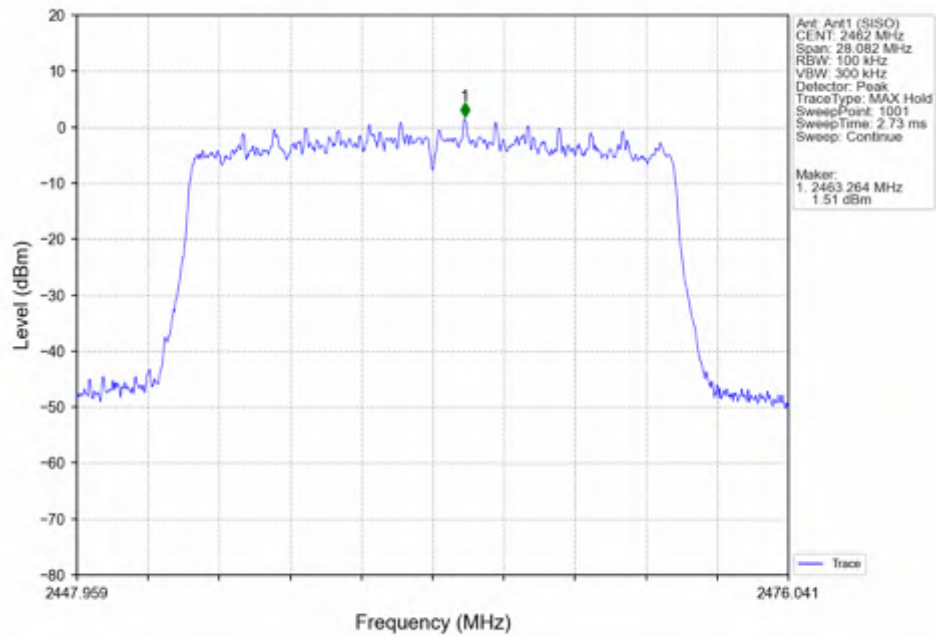
802.11ax(HE20) LCH 2412MHz SU / Ant1 (SISO) NTN



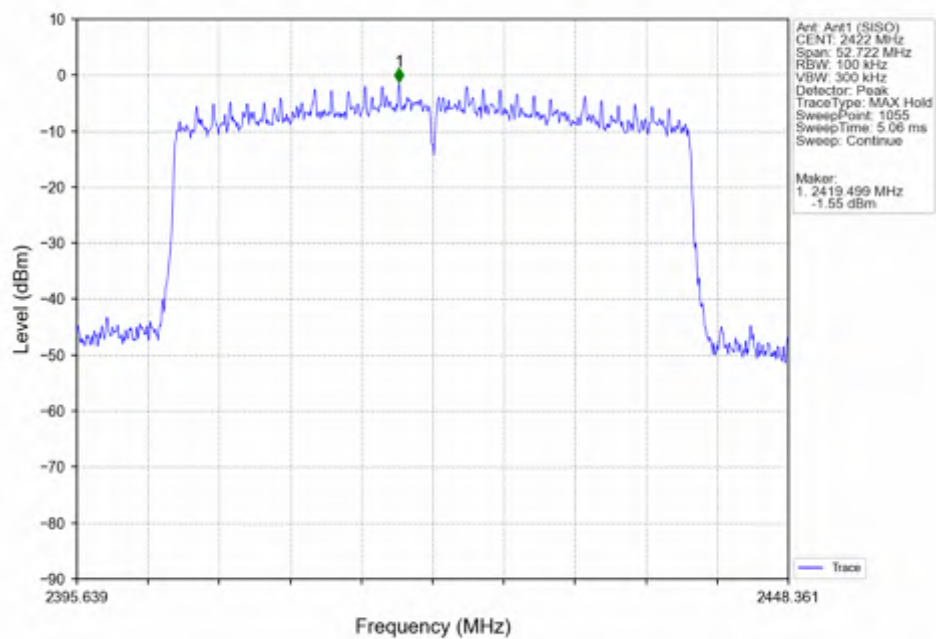
802.11ax(HE20) MCH 2437MHz SU / Ant1 (SISO) NTN



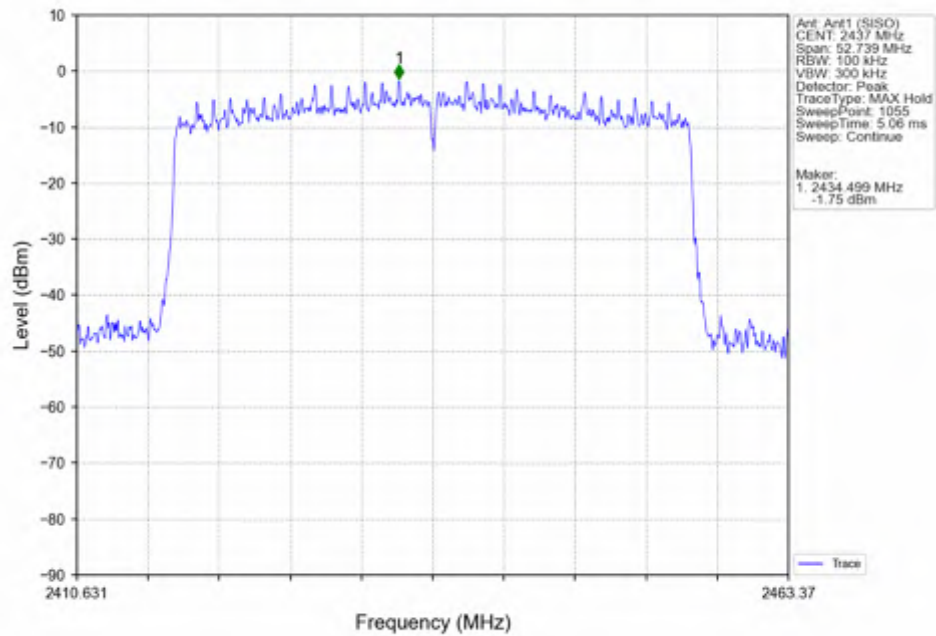
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTN



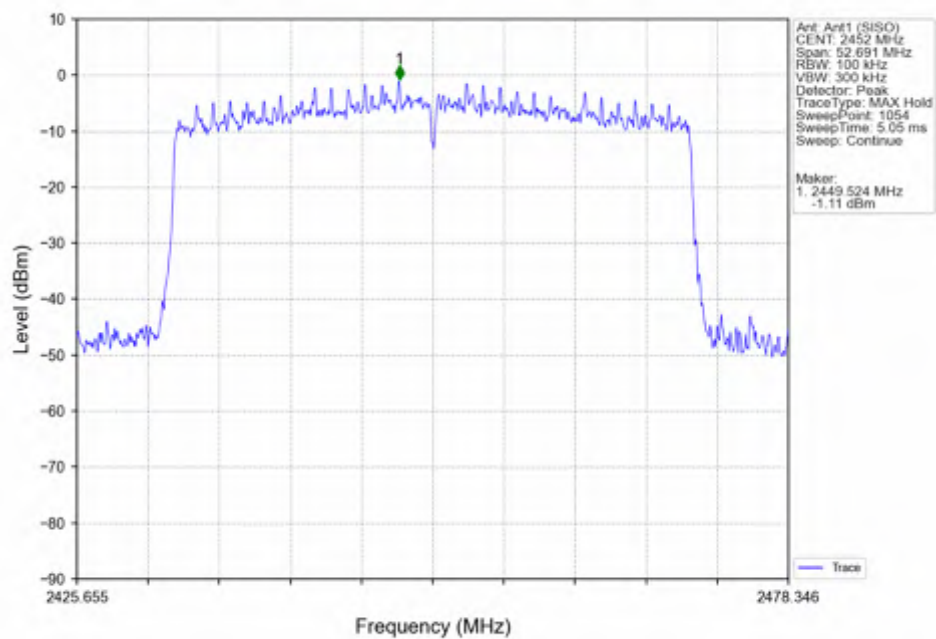
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) MCH_2437MHz_SU / Ant1 (SISO) NTN

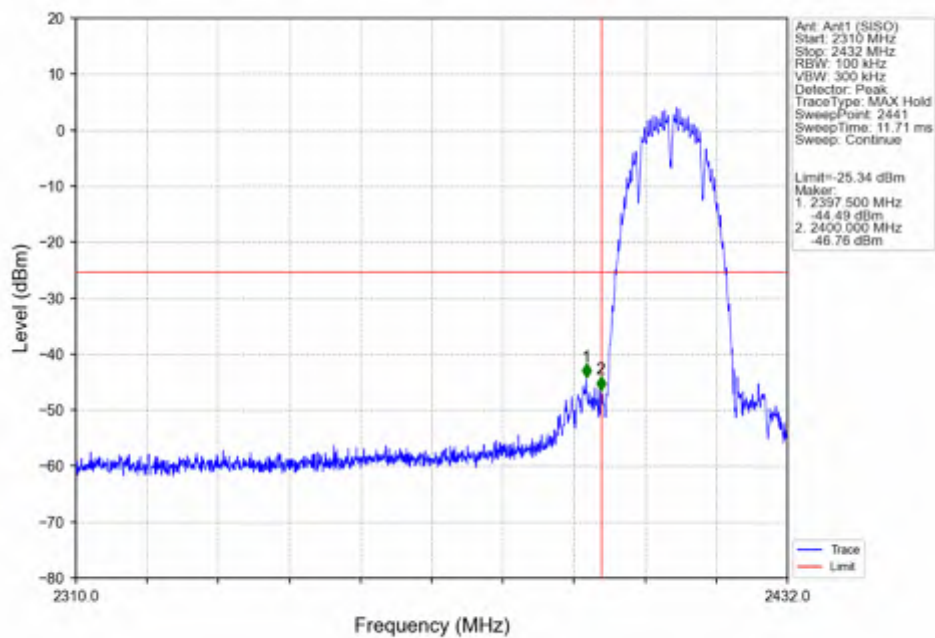


802.11ax(HE40) HCH_2452MHz_SU / Ant1 (SISO) NTN

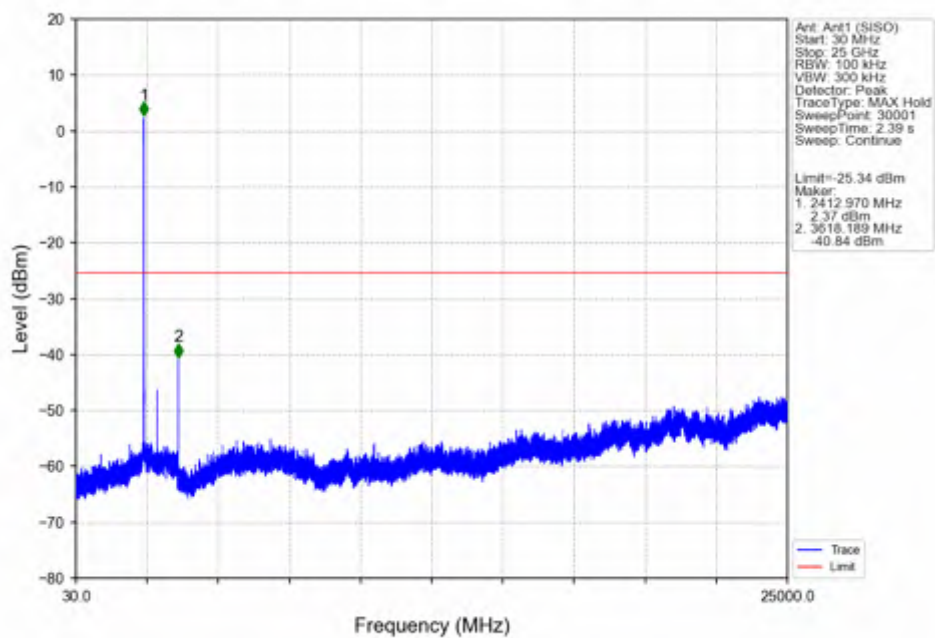


5.2.2 CSE

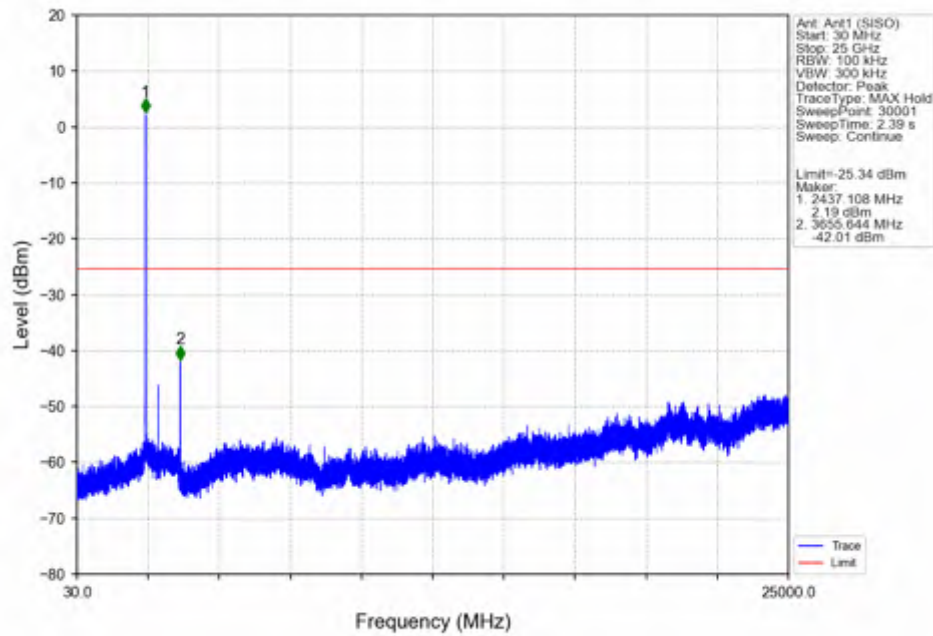
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



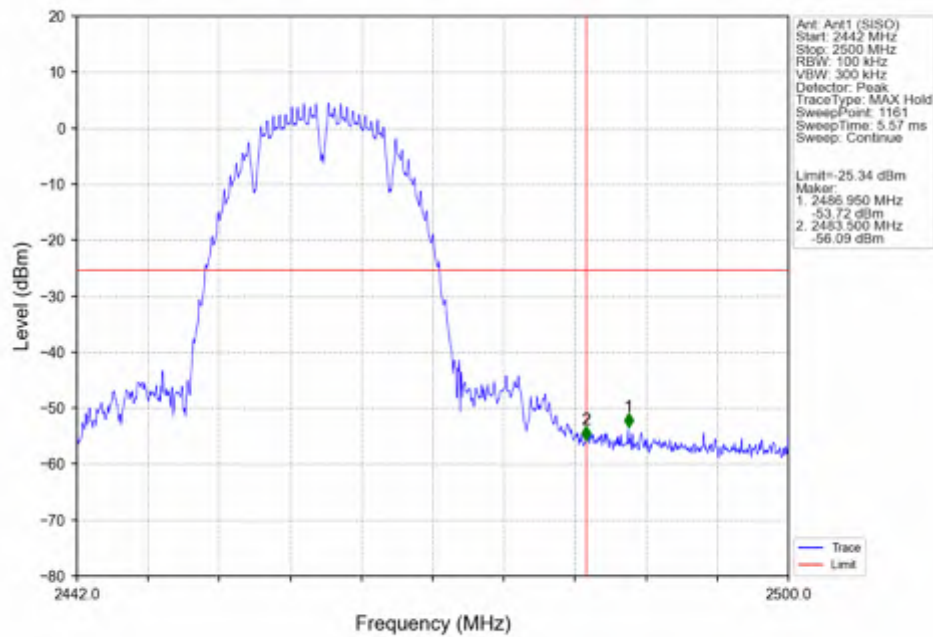
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



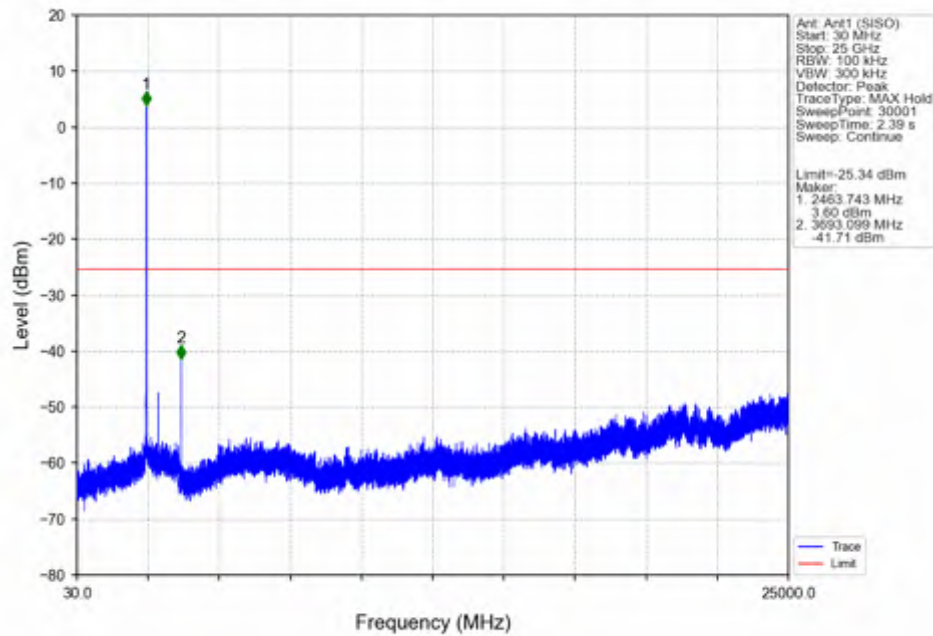
802.11b MCH 2437MHz Ant1 (SISO) NTN



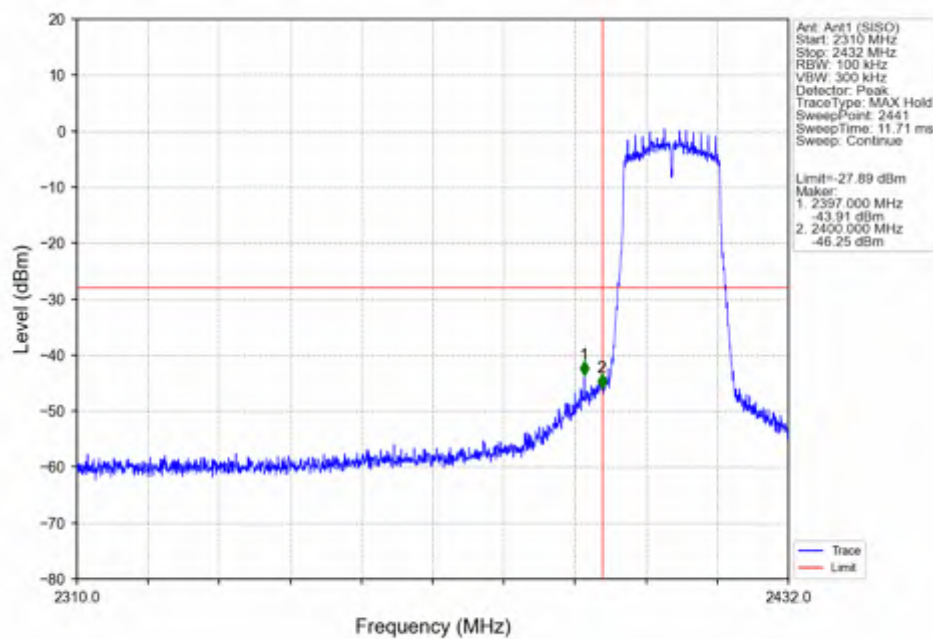
802.11b HCH 2462MHz Ant1 (SISO) NTN



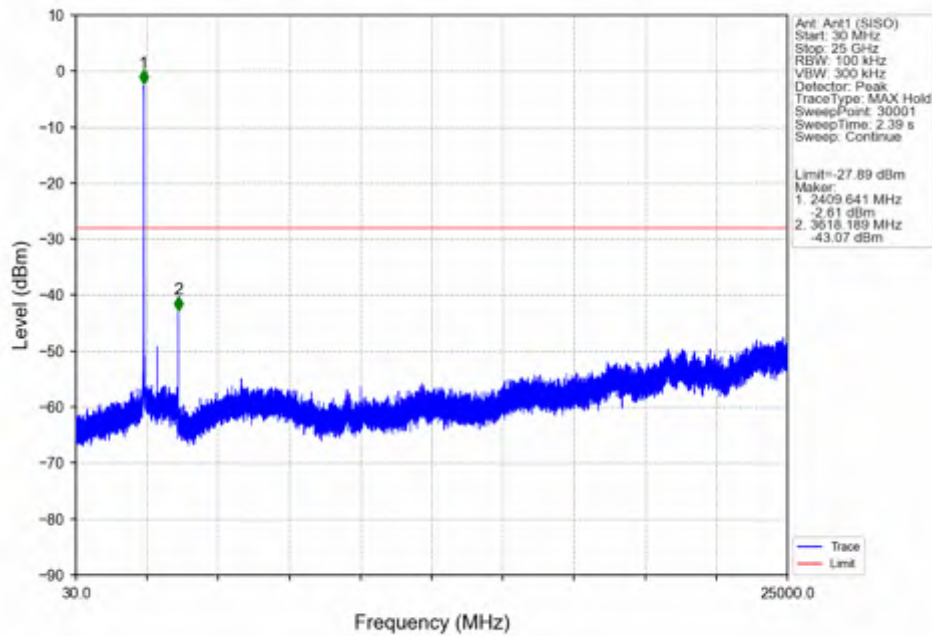
802.11b HCH 2462MHz_Ant1 (SISO)_NTNV



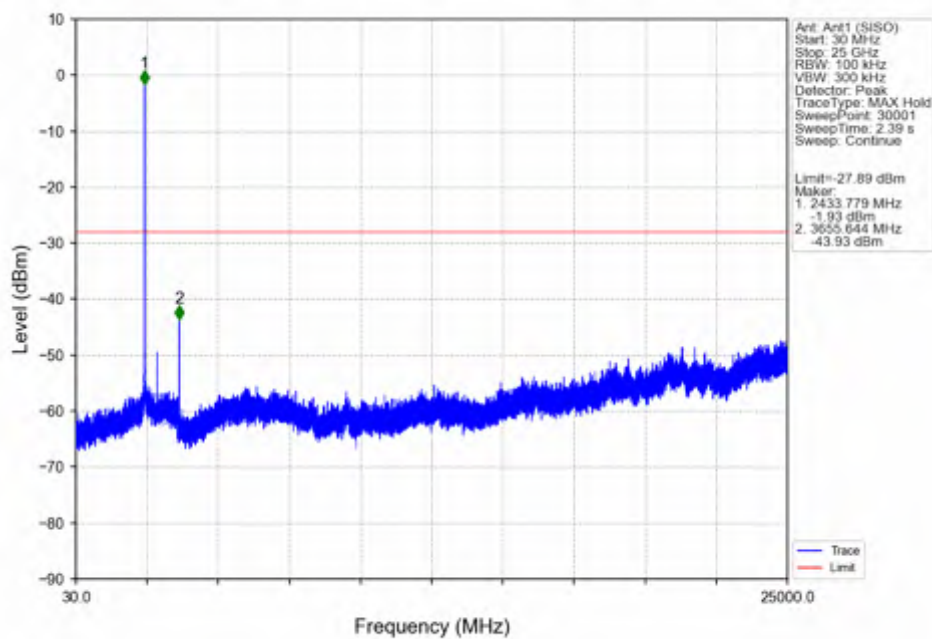
802.11g LCH 2412MHz_Ant1 (SISO)_NTNV



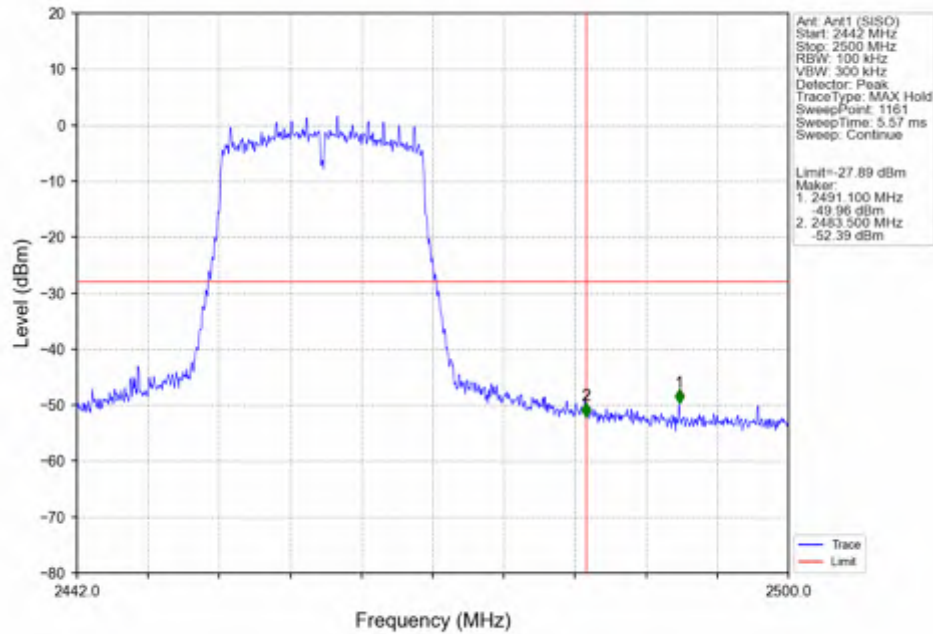
802.11g LCH 2412MHz_Ant1 (SISO) NTN



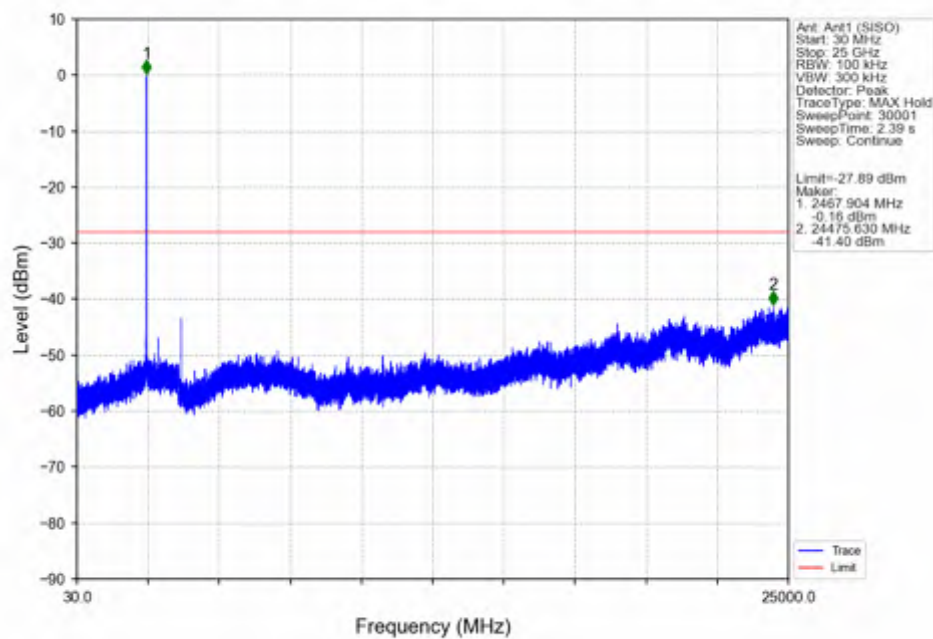
802.11g MCH 2437MHz_Ant1 (SISO) NTN



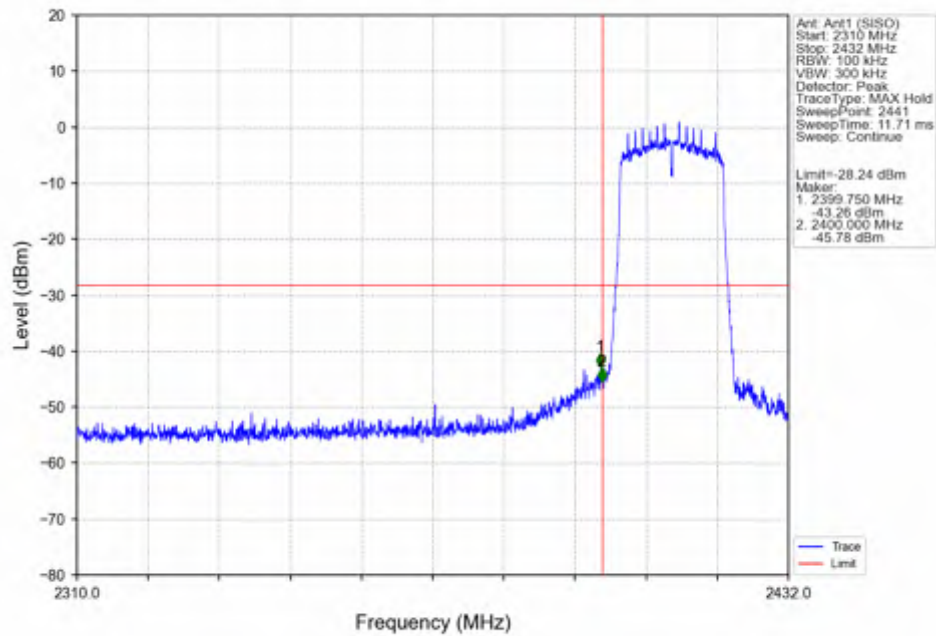
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



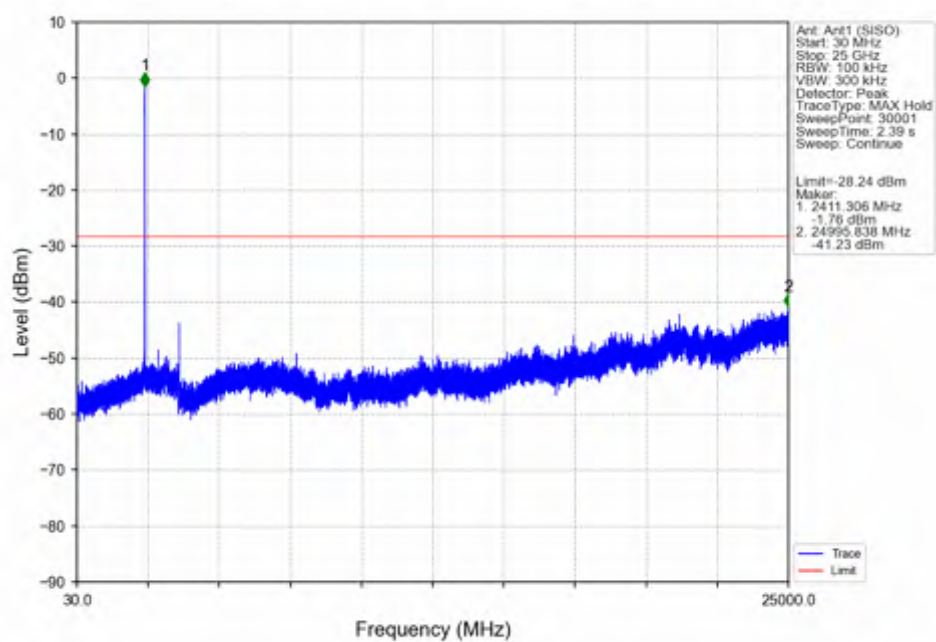
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



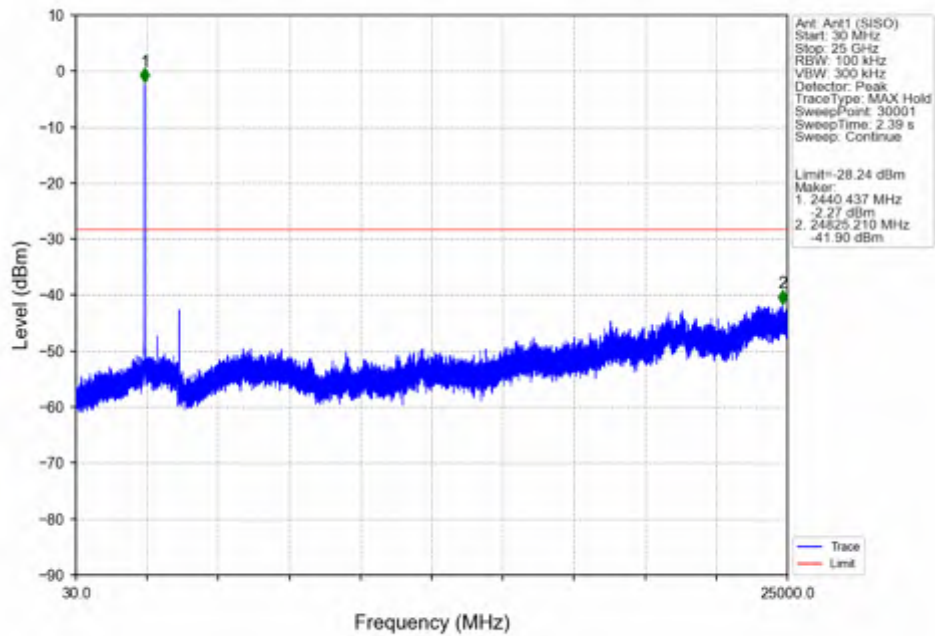
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



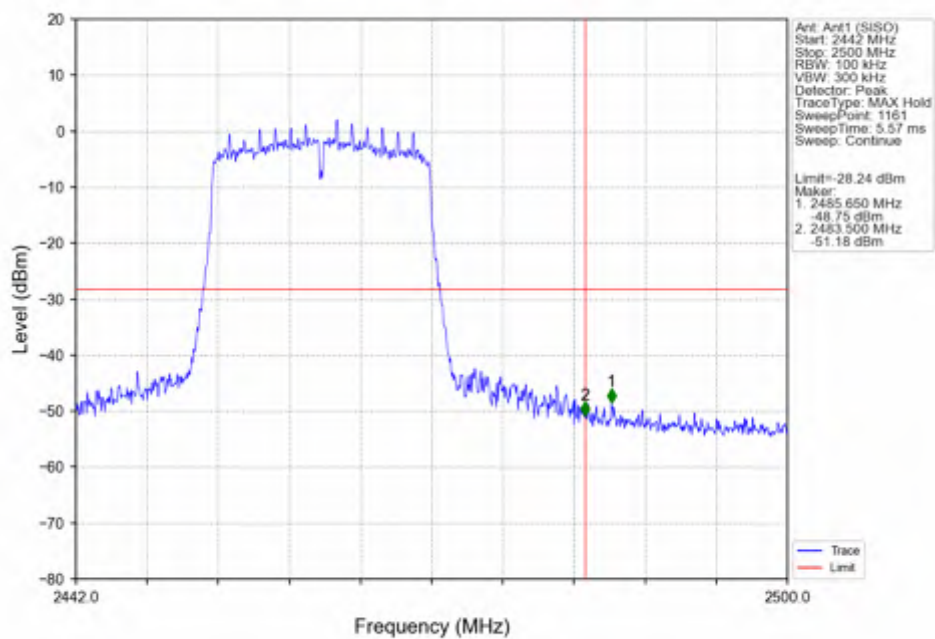
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



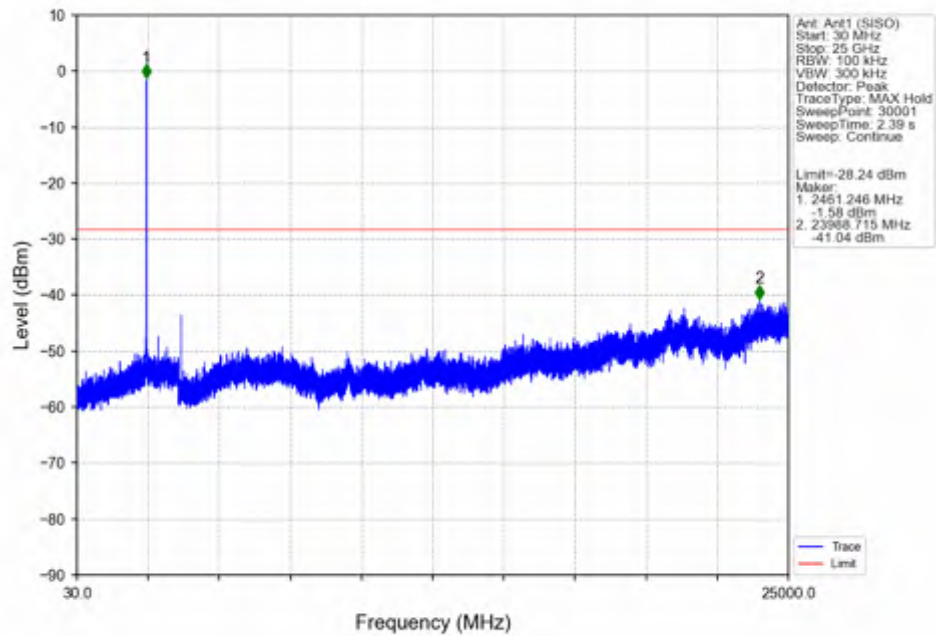
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



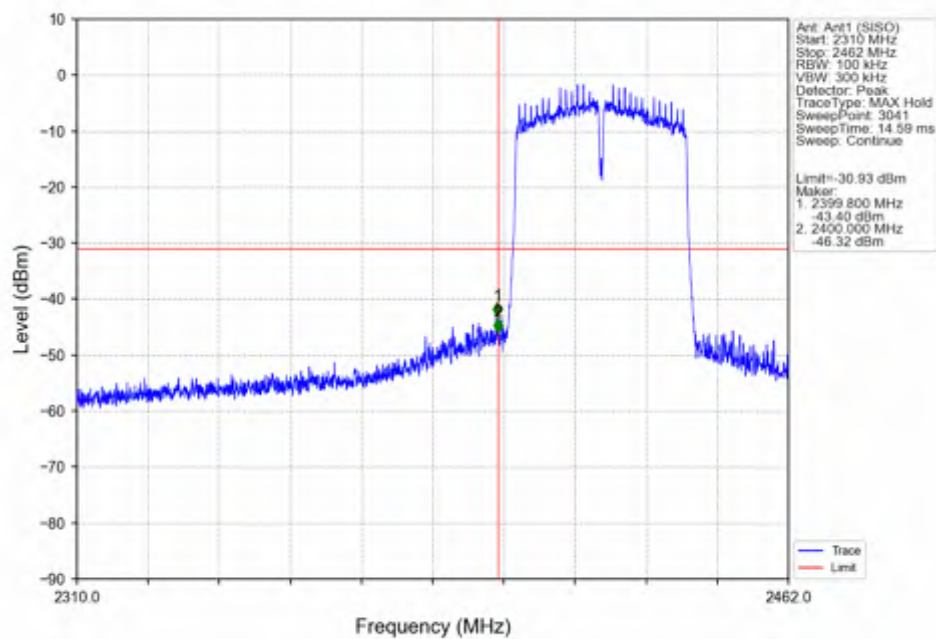
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



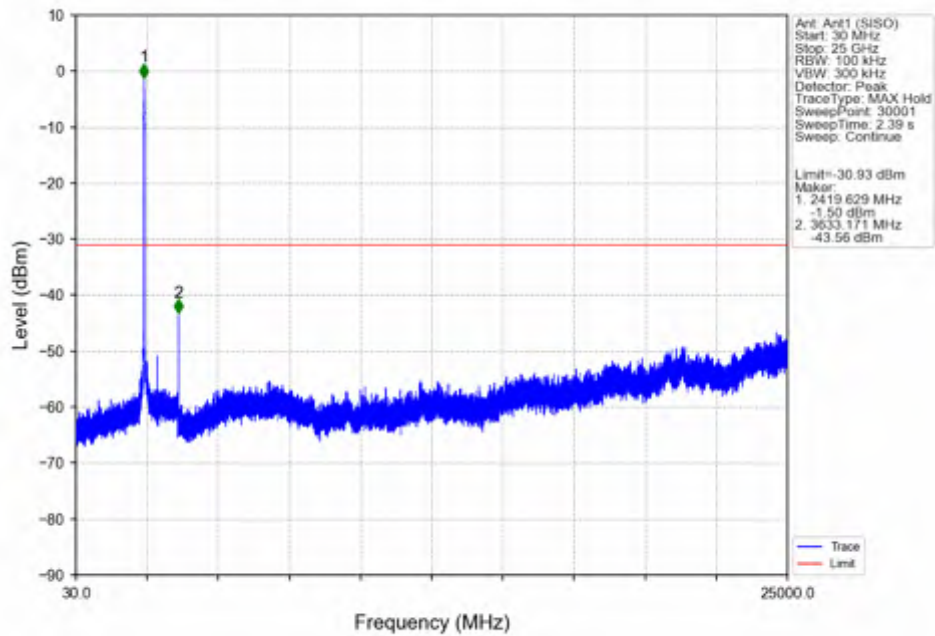
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



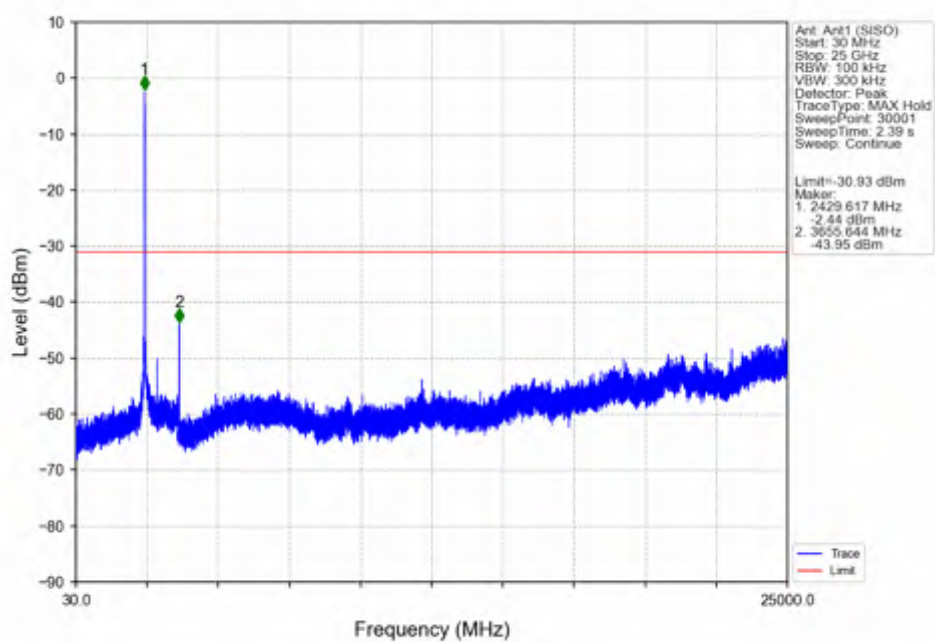
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



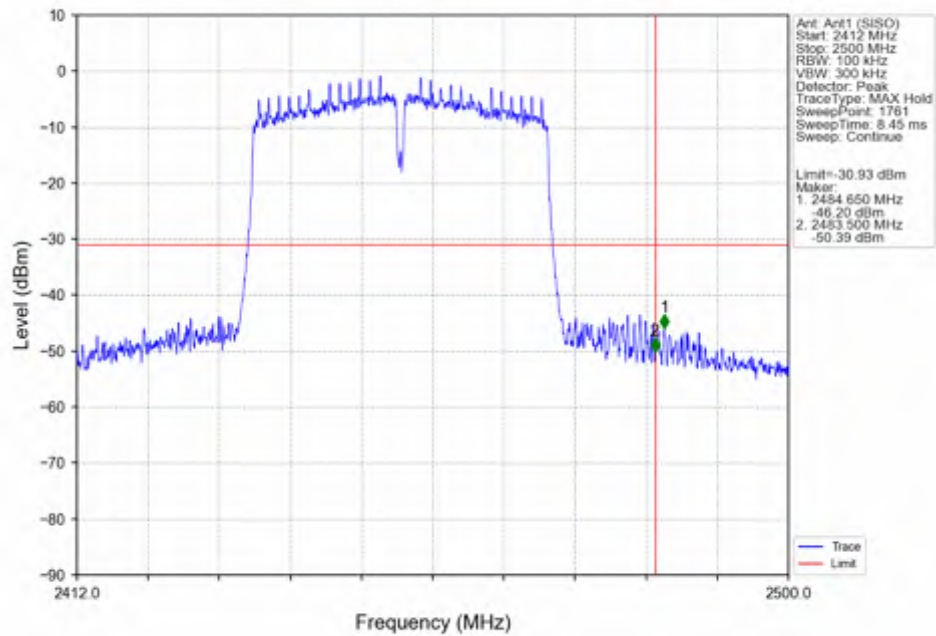
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



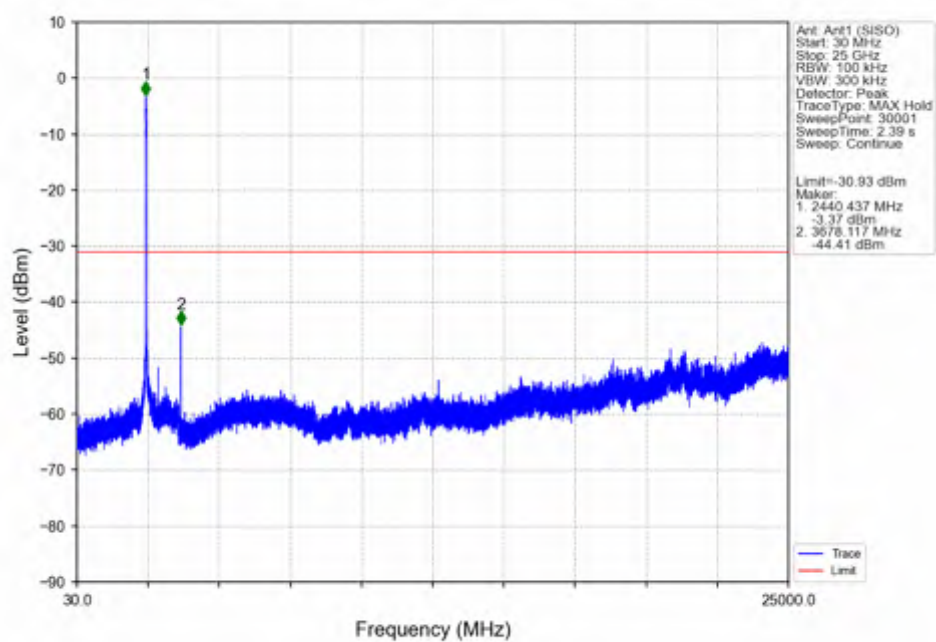
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



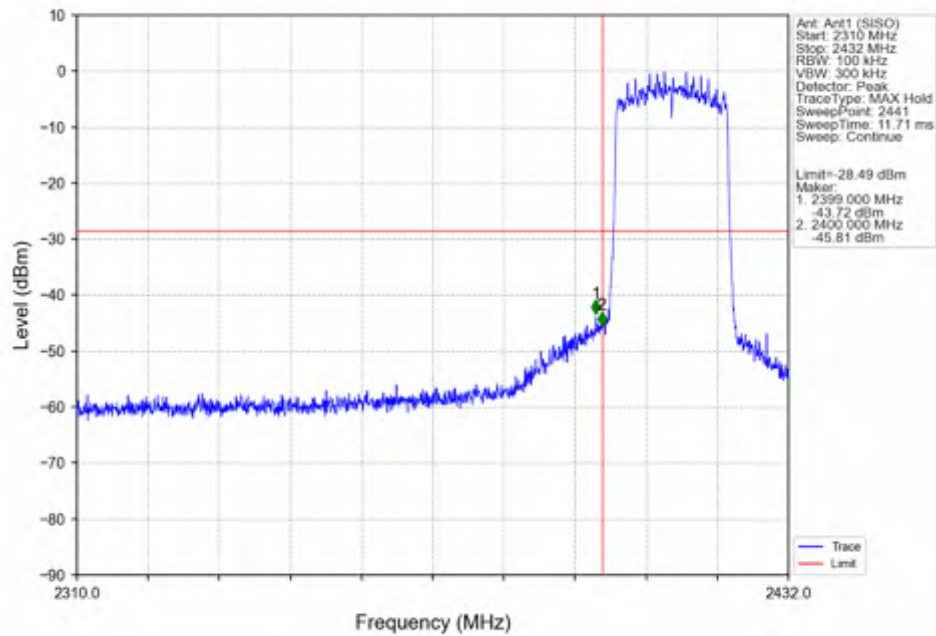
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



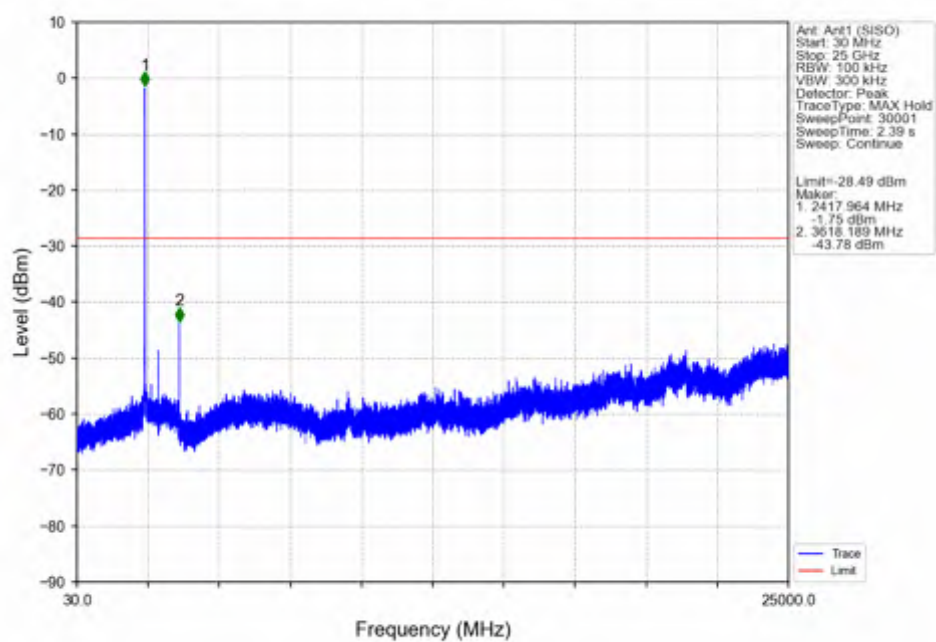
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



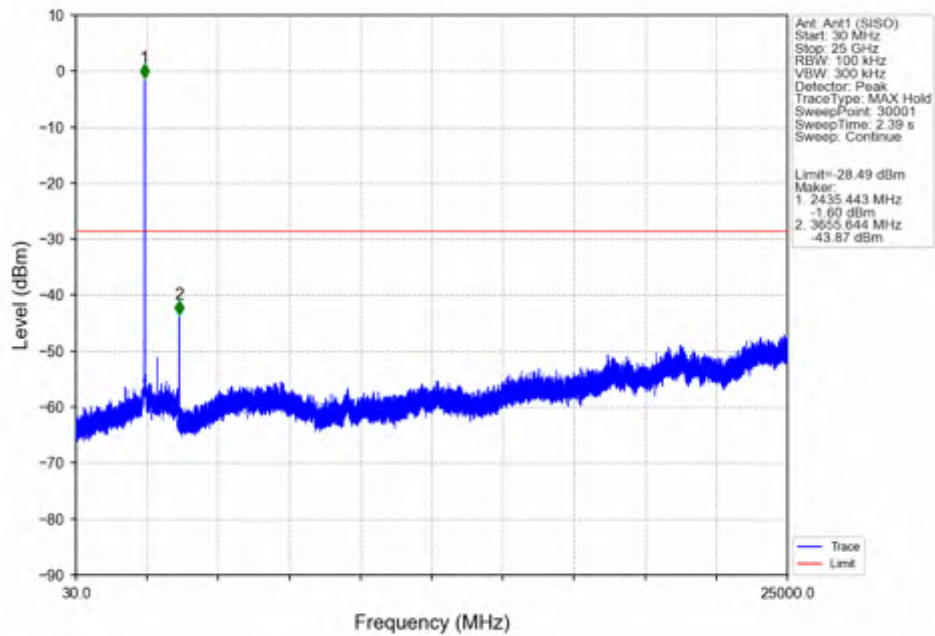
802.11ax(HE20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



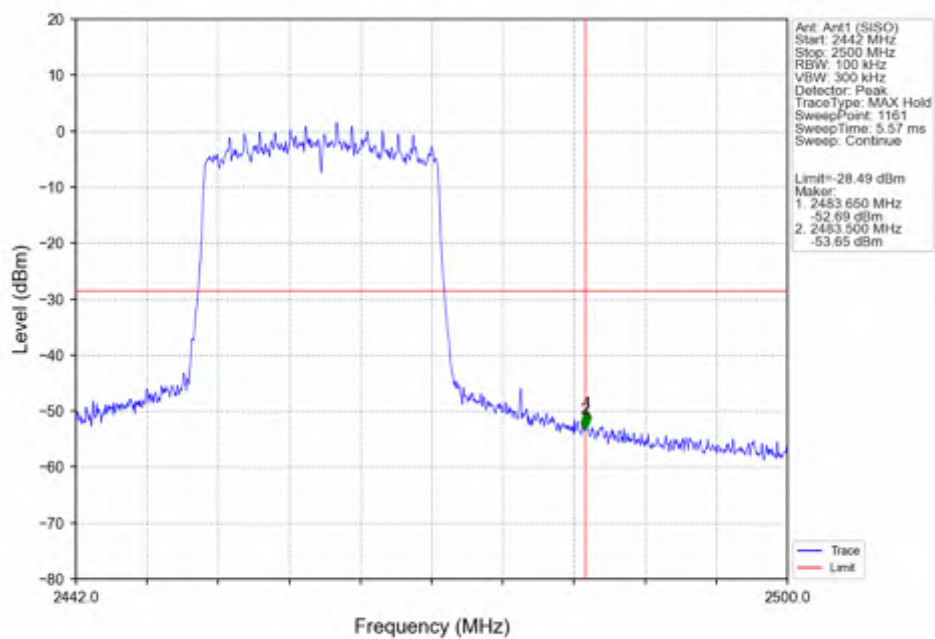
802.11ax(HE20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



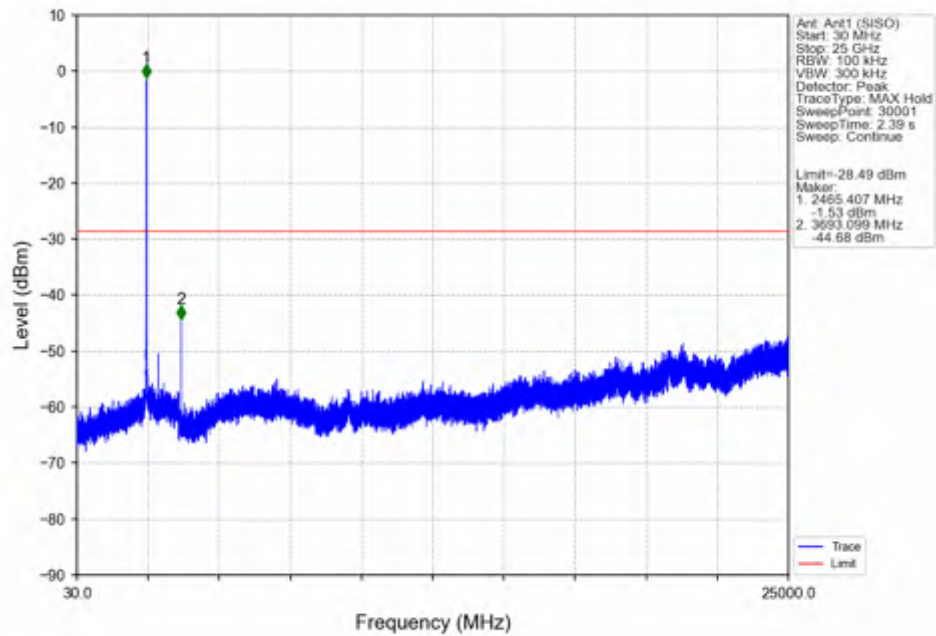
802.11ax(HE20) MCH_2437MHz_SU / Ant1 (SISO) NTN



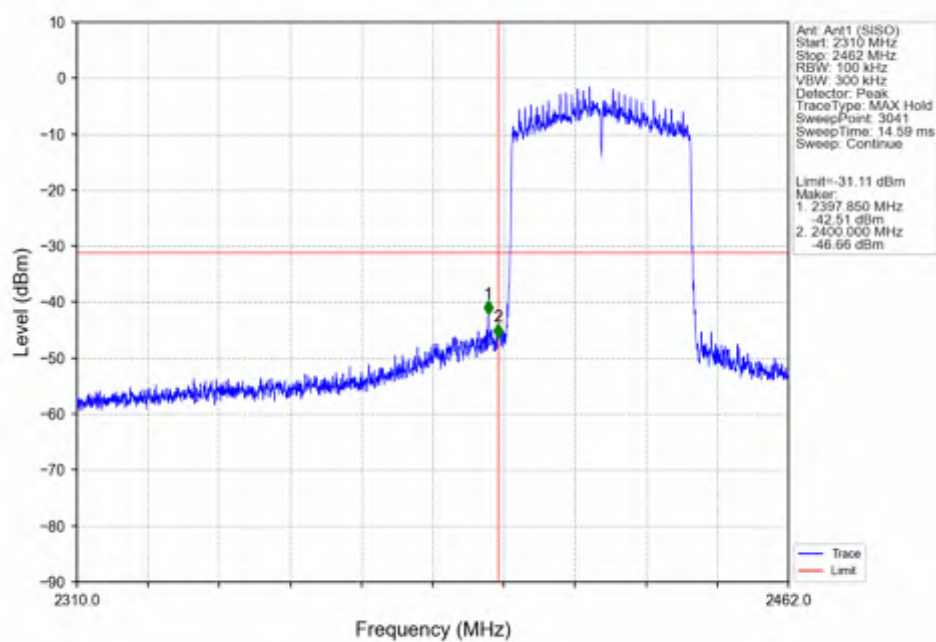
802.11ax(HE20) HCH_2462MHz_SU / Ant1 (SISO) NTN



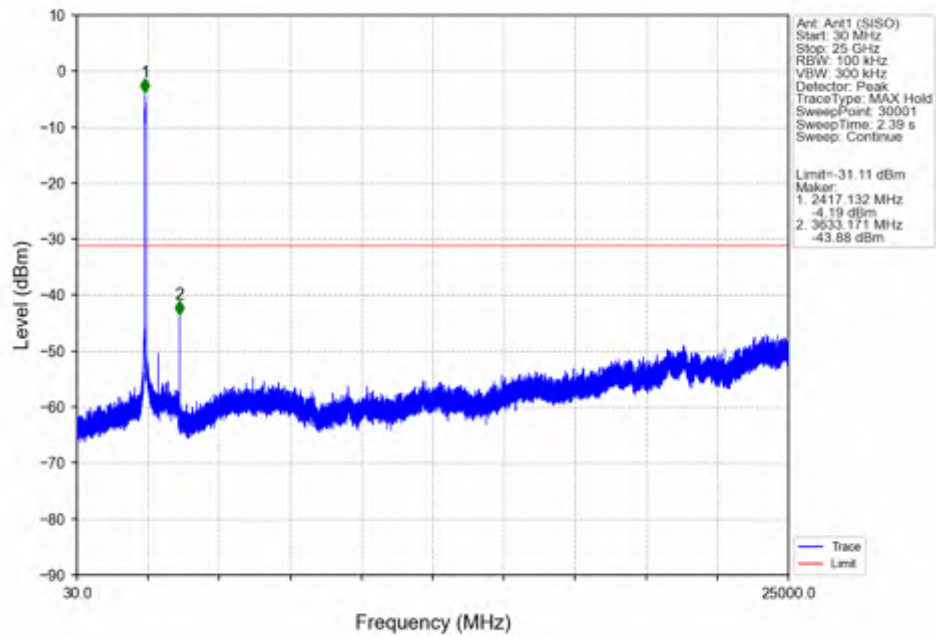
802.11ax(HE20) HCH 2462MHz SU / Ant1 (SISO) NTNV



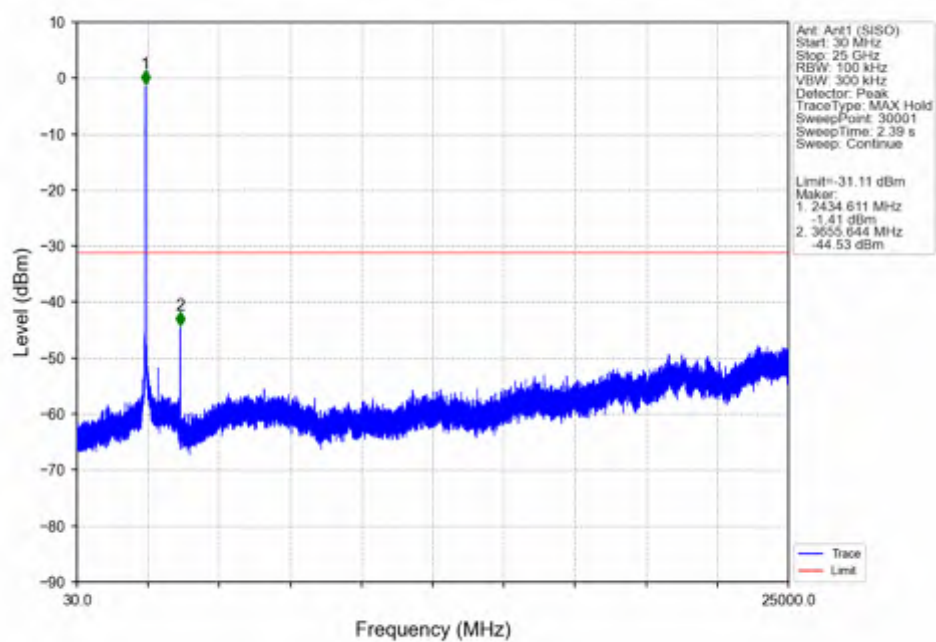
802.11ax(HE40) LCH 2422MHz SU / Ant1 (SISO) NTNV



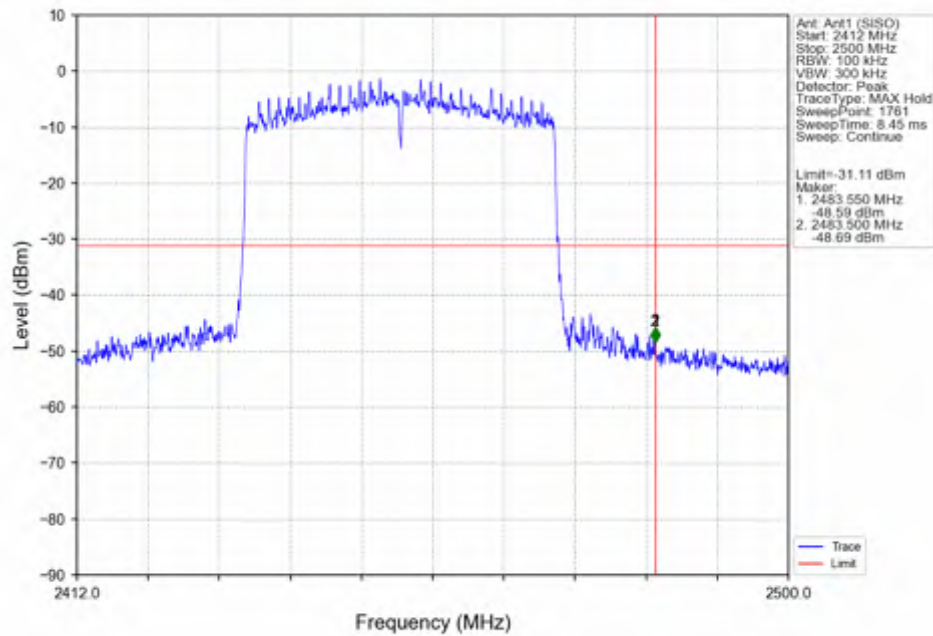
802.11ax(HE40) LCH_2422MHz_SU / Ant1 (SISO) NTN



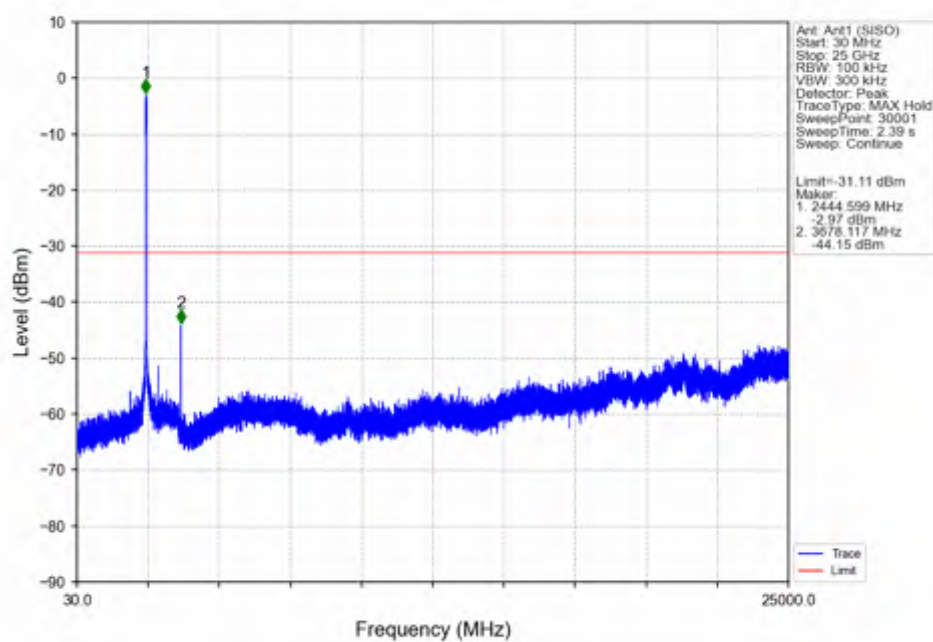
802.11ax(HE40) MCH_2437MHz_SU / Ant1 (SISO) NTN



802.11ax(HE40) HCH 2452MHz SU / Ant1 (SISO) NTN



802.11ax(HE40) HCH 2452MHz SU / Ant1 (SISO) NTN



- End of the Report -