TEST REPORT

Application No.:	KSCR2409001900AT
FCC ID:	UCZ-SL300-Z
IC:	8575A-SL300Z
Name of Testing Laboratory preparing the Report:	Compliance Certification Services (Kunshan) Inc.
Address of Testing Laboratory preparing the Report:	No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.
Applicant:	Lorex Technology Inc.
Address of Applicant:	250 Royal Crest Court, Markham, ON L3R 3S1 Canada
Manufacturer:	Lorex Technology Inc.
Address of Manufacturer:	250 Royal Crest Court, Markham, ON L3R 3S1 Canada
Factory:	Kangyin Electronic technology Co.,Ltd
Address of Factory:	Lot D, D1 Street, Chau Son IZ, PhuLy City, HaNam Province, Vietnam
Equipment Under Test (EUT):	
EUT Name:	2K Wi-Fi Smart Lightbulb Camera
Model No.:	SL300-Z
Trade Mark:	Lorex
Standard(s) :	47 CFR Part 15, Subpart C 15.247 RSS-247 Issue 3, August 2023 RSS-Gen Issue 5 Amendment 2 (February 2021)
Date of Receipt:	2024-09-23
Date of Test:	2024-10-01 to 2024-10-04
Date of Issue:	2024-10-16
Test Result:	**Pass***

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

Revision Record			
Version	**Description**	***Date***	***Remark***
00	Original	2024-10-16	/

Authorized for issue by:				
Tested By		Kass Gao **Kass_Gao/Project Engineer**		
Approved By		Terry Hou **Terry Hou /Reviewer**		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**FCC Requirement**	**IC Requirement**	**Method**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	RSS-Gen Clause 6.8	N/A	Customer Declaration

N/A: Not applicable

Radio Spectrum Matter Part				
Item	**FCC Requirement**	**IC Requirement**	**Method**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.207	RSS-Gen Clause 8.8	ANSI C63.10 (2013) Section 6.2	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247a(2)	RSS-247 Clause 5.2(a)	ANSI C63.10 (2013) Section 11.8.1	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247(b)(3)	RSS-247 Clause 5.4(d)	ANSI C63.10 (2013) Section 11.9.1	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247(e)	RSS-247 Clause 5.2(b)	ANSI C63.10 (2013) Section 11.10.3	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247(d)	RSS-247 Clause 5.5	ANSI C63.10 (2013) Section 11.13.3.2	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247(d)	RSS-247 Clause 5.5	ANSI C63.10 (2013) Section 11.11	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.10.5	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.4,6.5,6.6	Pass
99% Bandwidth	-	RSS-Gen Section 6.7	ANSI C63.10 Section 6.9.3	Pass

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	AC 110-240V,50/60Hz
Test Voltage:	AC 120V/60Hz
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 (CCK, DQPSK, DBPSK), 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:	Dipole Antenna
Antenna Gain:	1.17dBi(Provided by the manufacturer)
S/N:	NV012410005751
Firmware Version:	V1.00.9110001.R.241021

4.2 Power level setting using in test

Channel	802.11b	802.11g	802.11n(HT20)	802.11ax(HE20)
	Ant 1	Ant 1	Ant 1	Ant 1
1	12	11	11	11
6	14	14	13	14
11	14	13	12	13

Channel	802.11n(HT40)	802.11ax(HE40)
	Ant 1	Ant 1
3	11	11
6	14	13
9	14	13

4.3 Description of Support Units

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

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	KS301101	01/15/2024	01/14/2025
2	LISN	R&S	ENV216	KS301197	01/15/2024	01/14/2025
3	LISN	Schwarzbeck	NNLK 8129	KS301091	01/15/2024	01/14/2025
4	Pulse Limiter	R&S	ESH3-Z2	KUS1902E001	01/15/2024	01/14/2025
5	CE test Cable	Thermax	/	CZ301102	01/15/2024	01/14/2025
6	Test Software	ESE	E3_V 6.111221a	/	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	01/15/2024	01/14/2025
4	Signal Generator	R&S	SMBV100B	KSEM032	03/19/2024	03/18/2025
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	03/19/2024	03/18/2025
10	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/12/2024	08/11/2025
11	Switcher	TST	FY562	KUS2001M001-4	01/15/2024	01/14/2025
12	Conducted Test Cable	Thermax	RF01-RF04	CZ301111-CZ301120	01/15/2024	01/14/2025
13	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	08/26/2024	08/25/2025
14	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	03/19/2024	03/18/2025
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	03/19/2024	03/18/2025
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	03/18/2023	03/17/2025
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E006	03/19/2024	03/18/2025
7	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	03/23/2024	08/22/2026
8	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	KS301186	04/07/2023	04/06/2025
9	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/07/2024	01/06/2026
10	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/15/2024	01/14/2025
11	Amplifier(18~40GHz)	PANSHAN TECHNOLOGY	LNA180400G40	KSEM038	08/12/2024	08/11/2025
12	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/12/2024	08/11/2025
13	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	03/21/2024	03/20/2025
14	Software	Faratronic	EZ_EMC-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 Dipole Antenna and no consideration of replacement. The best case gain of the antenna is 1.17dBi.

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		

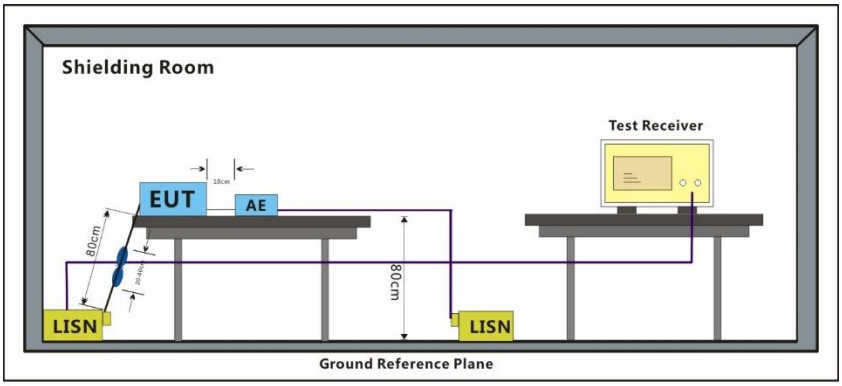
7.1.1 E.U.T. Operation

Operating Environment:
Temperature: 20.5 °C Humidity: 50.5 % 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; 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), 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.

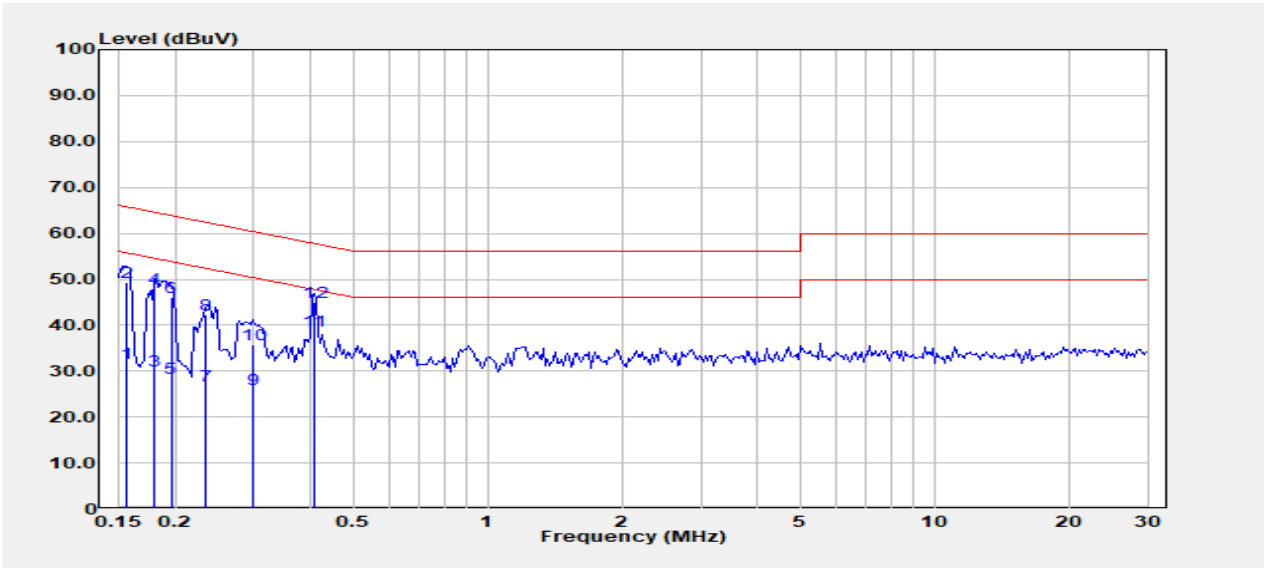
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.

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.

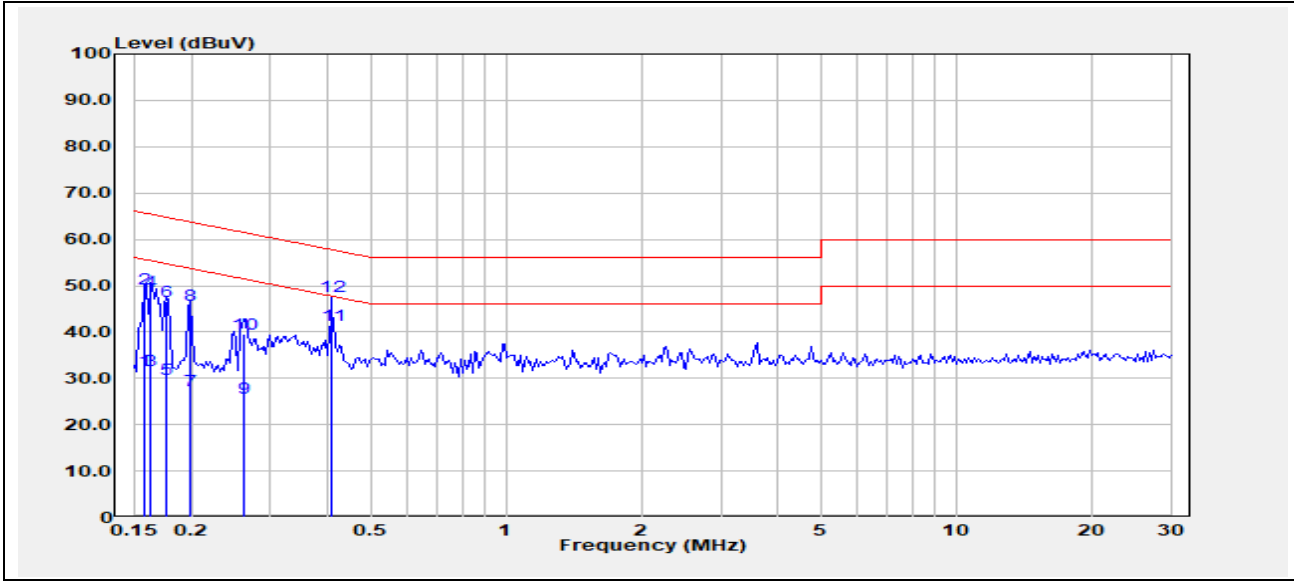
Remark: Level=Read Level+ Cable Loss+ LISN Factor

Test Mode: 00; Line: Live line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1560	11.38	20.23	31.61	55.67	-24.06	Average
2	0.1560	29.20	20.23	49.43	65.67	-16.24	QP
3	0.1799	10.08	20.13	30.21	54.49	-24.28	Average
4	0.1799	27.84	20.13	47.97	64.49	-16.52	QP
5	0.1957	8.36	20.07	28.43	53.79	-25.36	Average
6	0.1957	25.89	20.07	45.96	63.79	-17.83	QP
7	0.2349	6.70	20.06	26.76	52.27	-25.51	Average
8	0.2349	22.28	20.06	42.34	62.27	-19.93	QP
9	0.2989	5.85	20.08	25.93	50.27	-24.34	Average
10	0.2989	15.80	20.08	35.88	60.27	-24.39	QP
11	0.4096	18.70	20.06	38.76	47.66	-8.90	Average
12	0.4096	24.97	20.06	45.03	57.66	-12.63	QP

Test Mode: 00; Line: Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1568	11.49	20.17	31.66	55.63	-23.97	Average
2	0.1568	29.06	20.17	49.23	65.63	-16.40	QP
3	0.1628	11.55	20.16	31.71	55.32	-23.61	Average
4	0.1628	28.54	20.16	48.70	65.32	-16.62	QP
5	0.1762	9.75	20.14	29.89	54.66	-24.77	Average
6	0.1762	26.55	20.14	46.69	64.66	-17.97	QP
7	0.1979	7.23	20.12	27.35	53.70	-26.35	Average
8	0.1979	25.58	20.12	45.70	63.70	-18.00	QP
9	0.2625	5.74	20.09	25.83	51.35	-25.52	Average
10	0.2625	19.58	20.09	39.67	61.35	-21.68	QP
11	0.4112	21.49	20.09	41.58	47.63	-6.05	Average
12	0.4112	27.48	20.09	47.57	57.63	-10.06	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

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

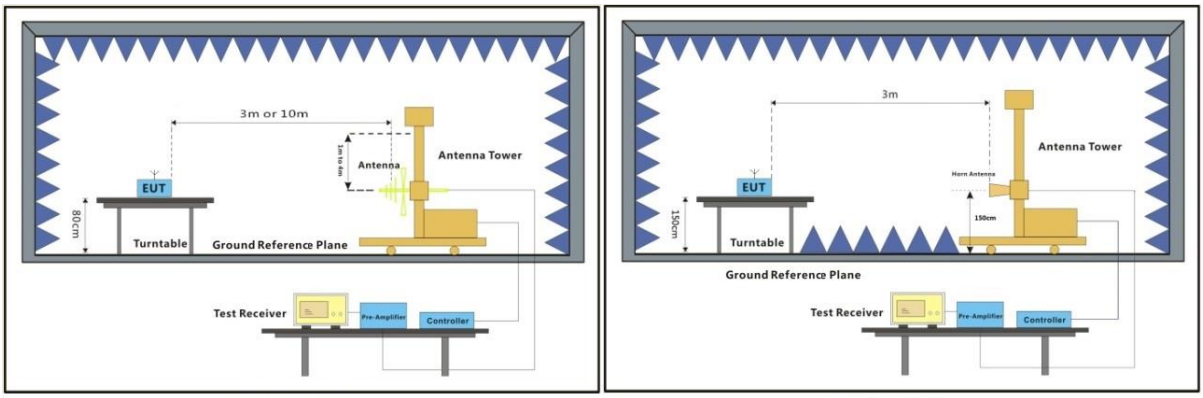
Operating Environment:

Temperature: 20.5 °C Humidity: 50.5 % 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 @ 13.5Mbps is the worst case of IEEE 802.11n(HT40) ; data rate @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram



30MHz-1GHz　　Above 1GHz

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.

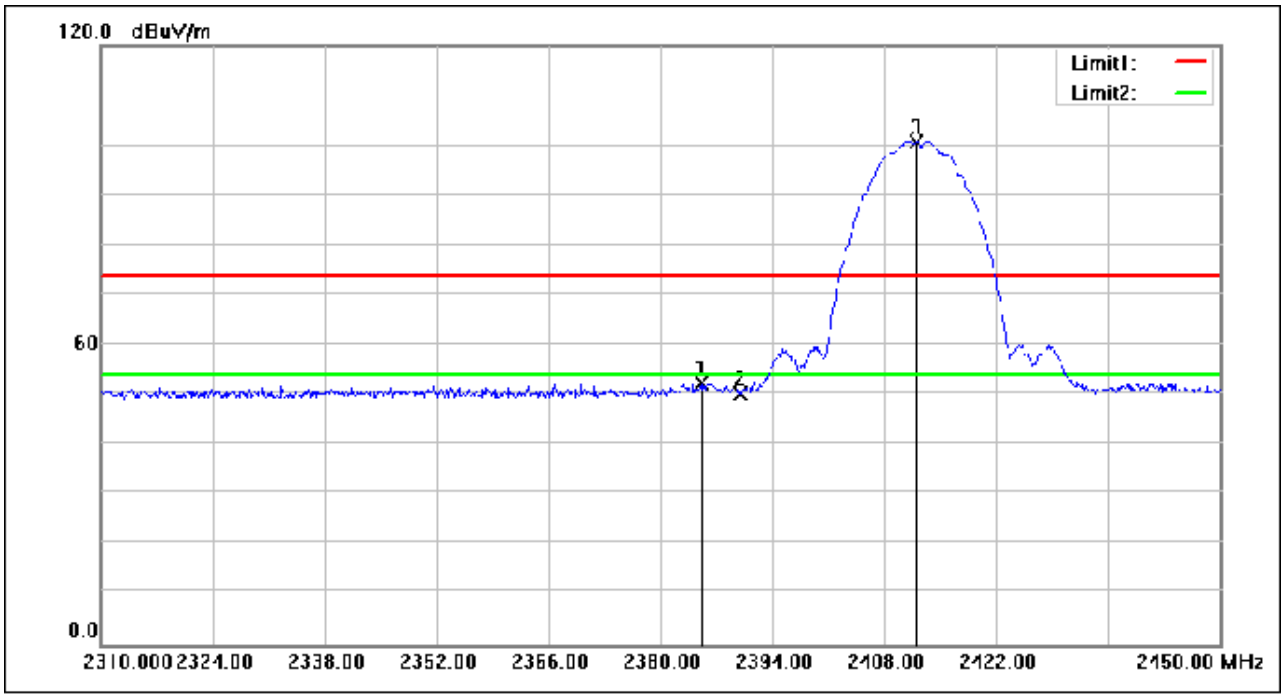
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

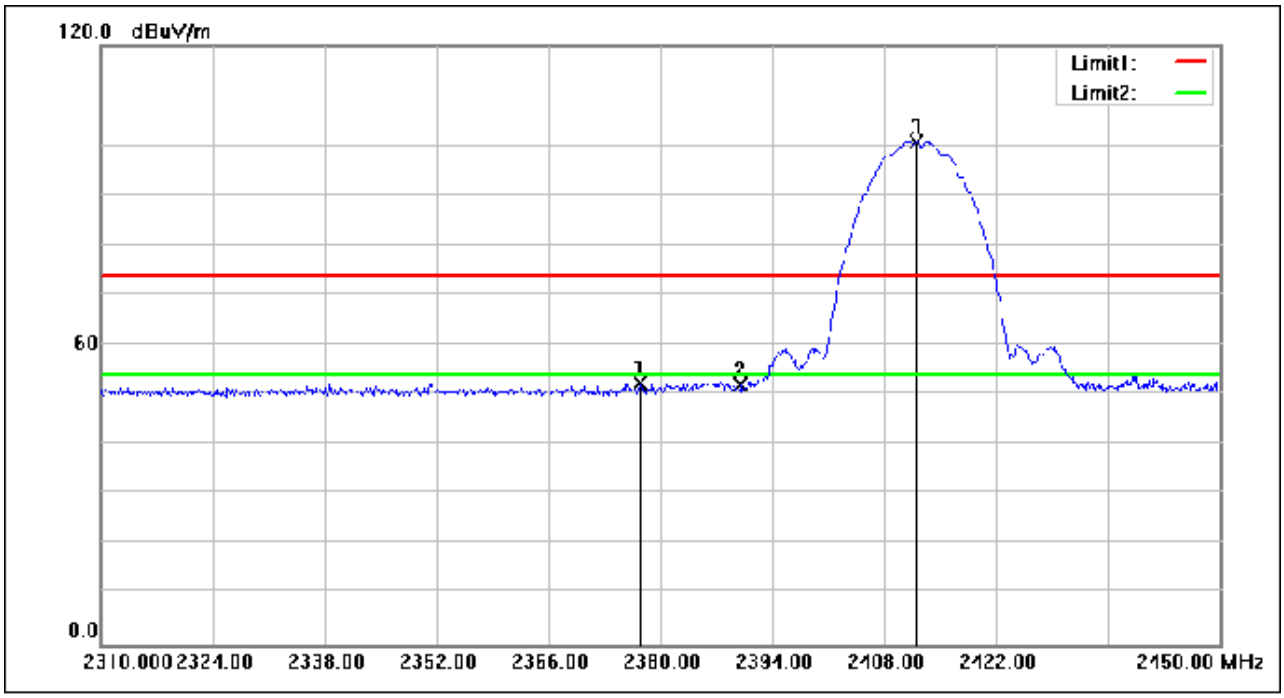
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level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

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



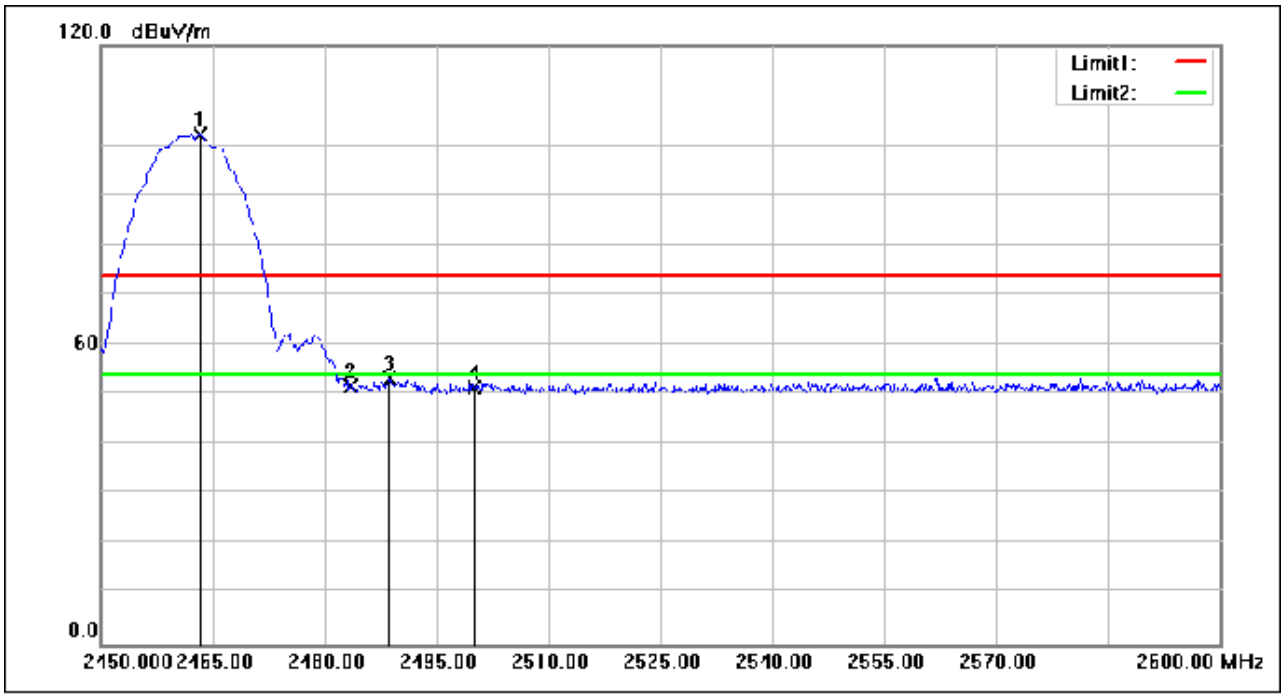
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.040	77.22	-24.73	52.49	74.00	-21.51	peak
2	2390.000	74.82	-24.71	50.11	74.00	-23.89	peak
3	2412.060	125.40	-24.60	100.80	74.00	26.80	peak

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



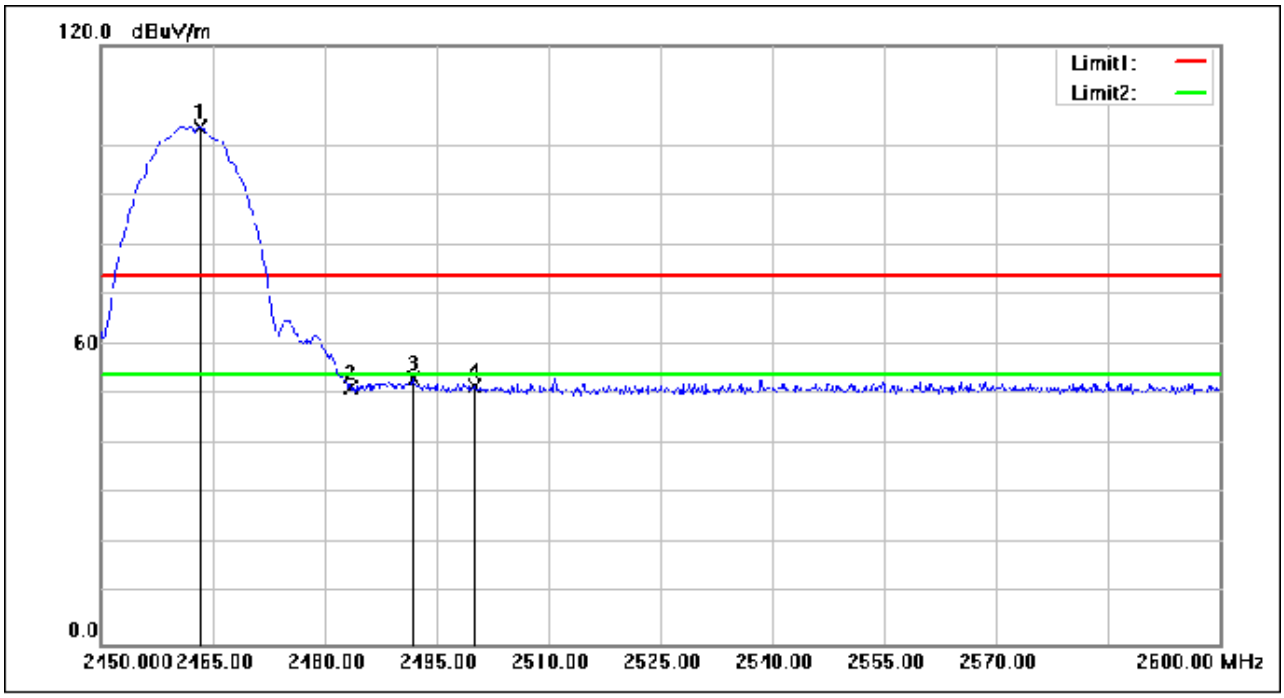
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2377.480	77.19	-24.77	52.42	74.00	-21.58	peak
2	2390.000	76.71	-24.71	52.00	74.00	-22.00	peak
3	2412.060	125.29	-24.60	100.69	74.00	26.69	peak

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



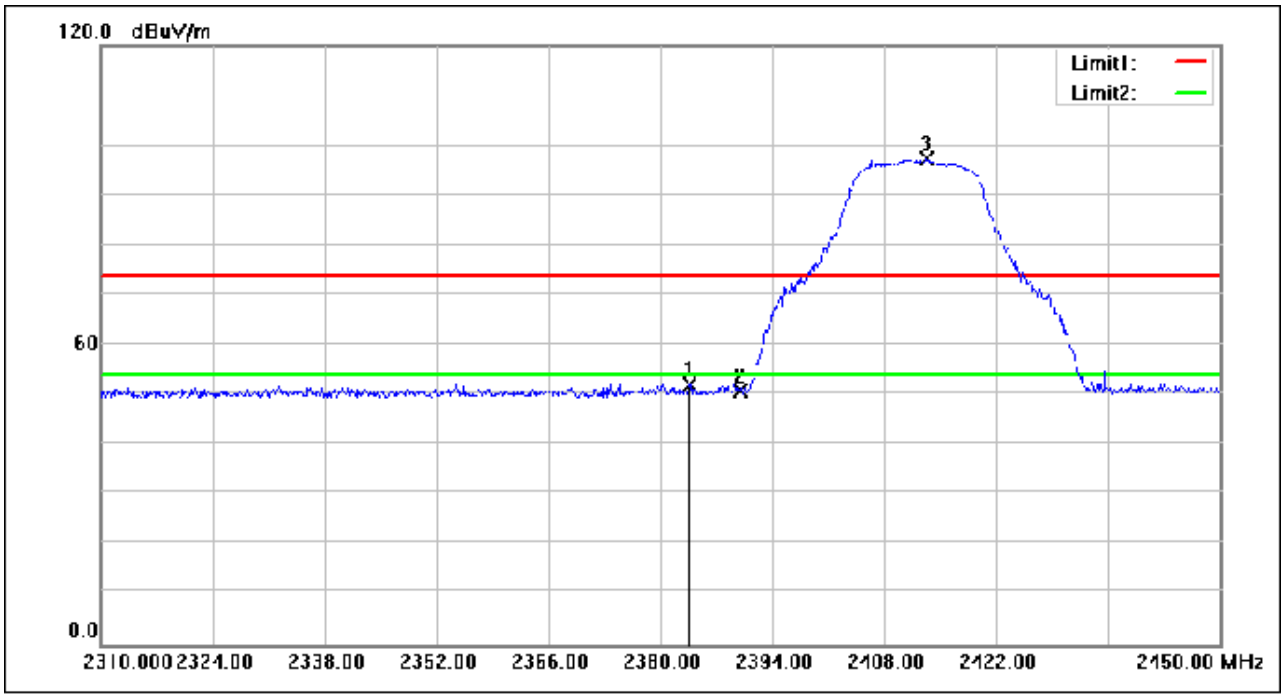
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.200	126.45	-24.37	102.08	74.00	28.08	peak
2	2483.500	76.09	-24.27	51.82	74.00	-22.18	peak
3	2488.700	77.39	-24.25	53.14	74.00	-20.86	peak
4	2500.000	75.55	-24.19	51.36	74.00	-22.64	peak

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



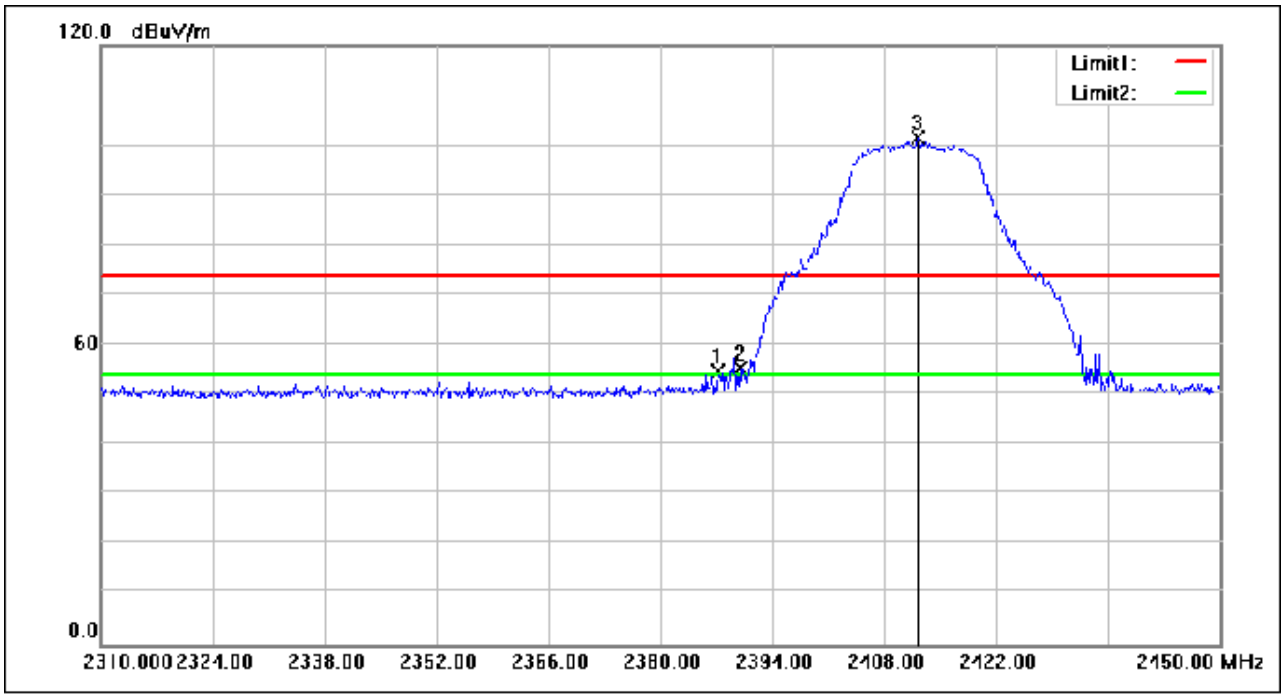
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.200	128.10	-24.37	103.73	74.00	29.73	peak
2	2483.500	75.58	-24.27	51.31	74.00	-22.69	peak
3	2491.850	77.51	-24.23	53.28	74.00	-20.72	peak
4	2500.000	75.89	-24.19	51.70	74.00	-22.30	peak

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



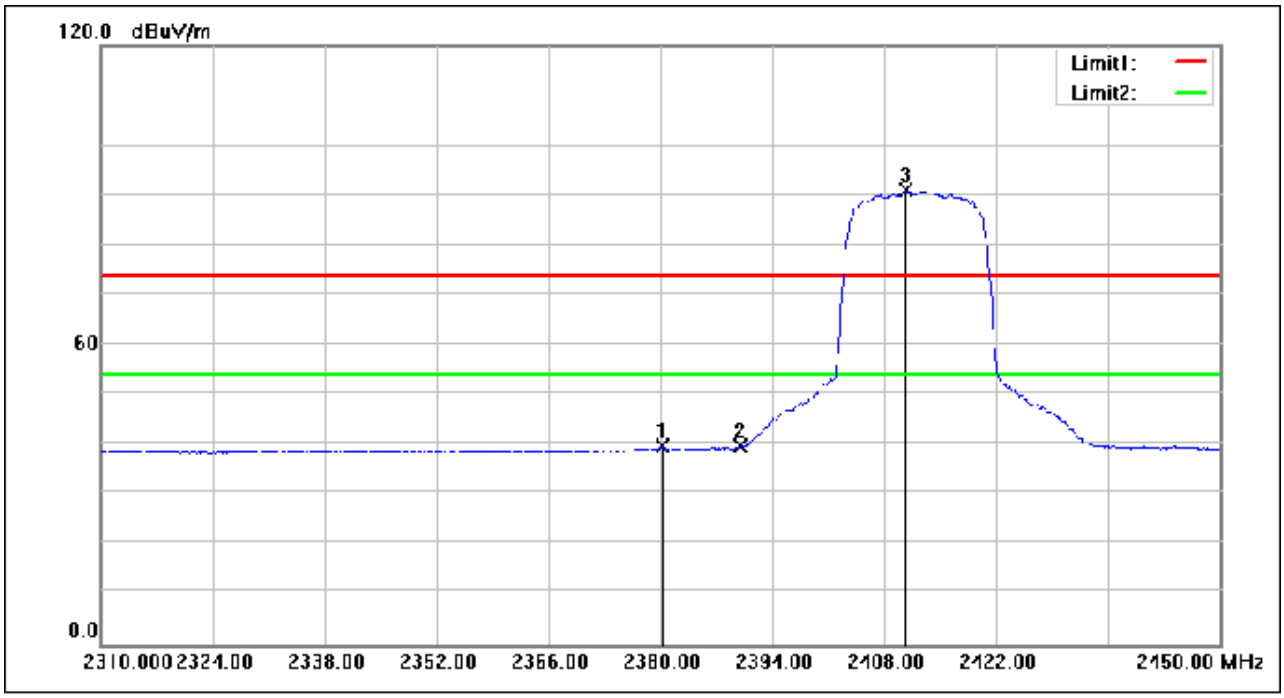
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2383.640	76.89	-24.73	52.16	74.00	-21.84	peak
2	2390.000	75.42	-24.71	50.71	74.00	-23.29	peak
3	2413.320	122.02	-24.60	97.42	74.00	23.42	peak

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



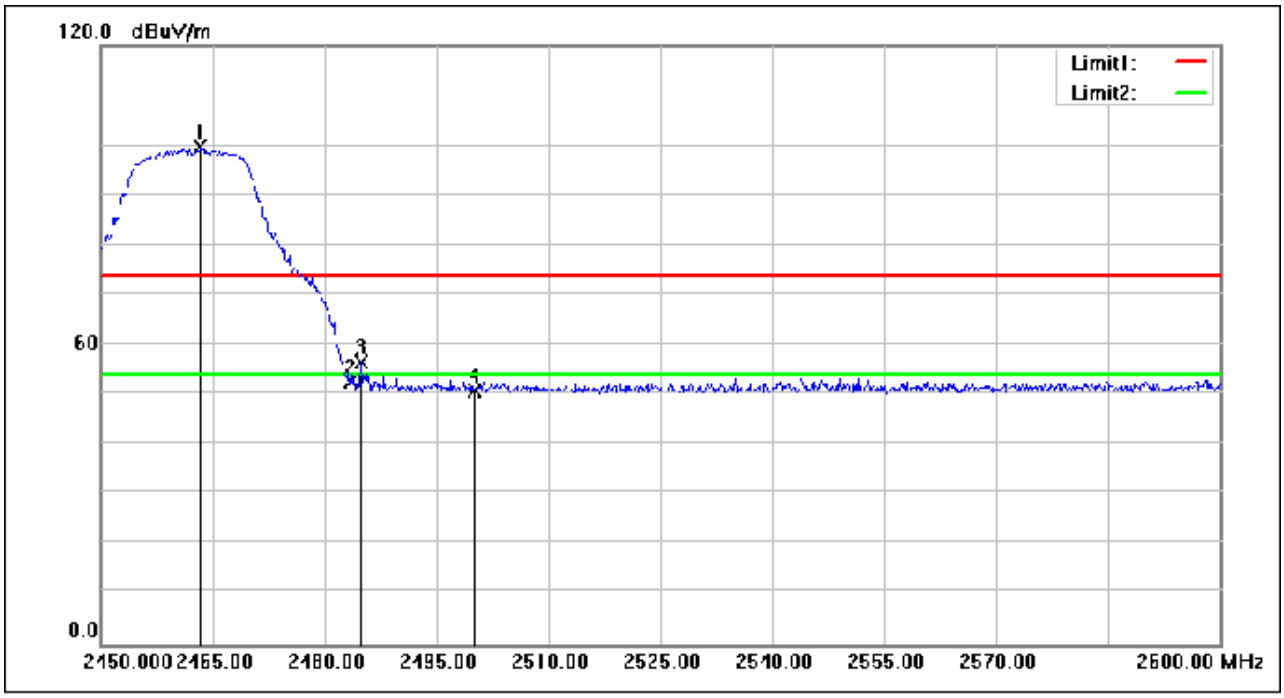
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.140	79.55	-24.72	54.83	74.00	-19.17	peak
2	2390.000	80.03	-24.71	55.32	74.00	-18.68	peak
3	2412.200	126.15	-24.60	101.55	74.00	27.55	peak

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



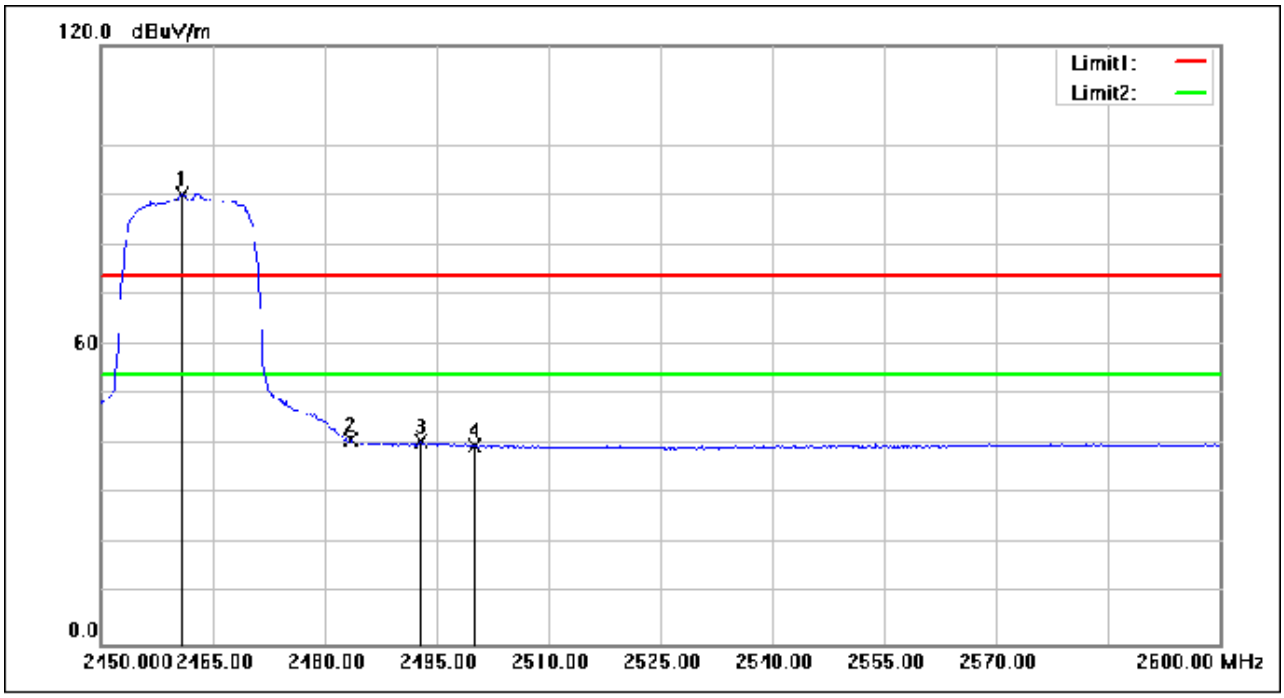
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2380.280	64.41	-24.75	39.66	54.00	-14.34	AVG
2	2390.000	64.48	-24.71	39.77	54.00	-14.23	AVG
3	2410.660	115.56	-24.61	90.95	54.00	36.95	AVG

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



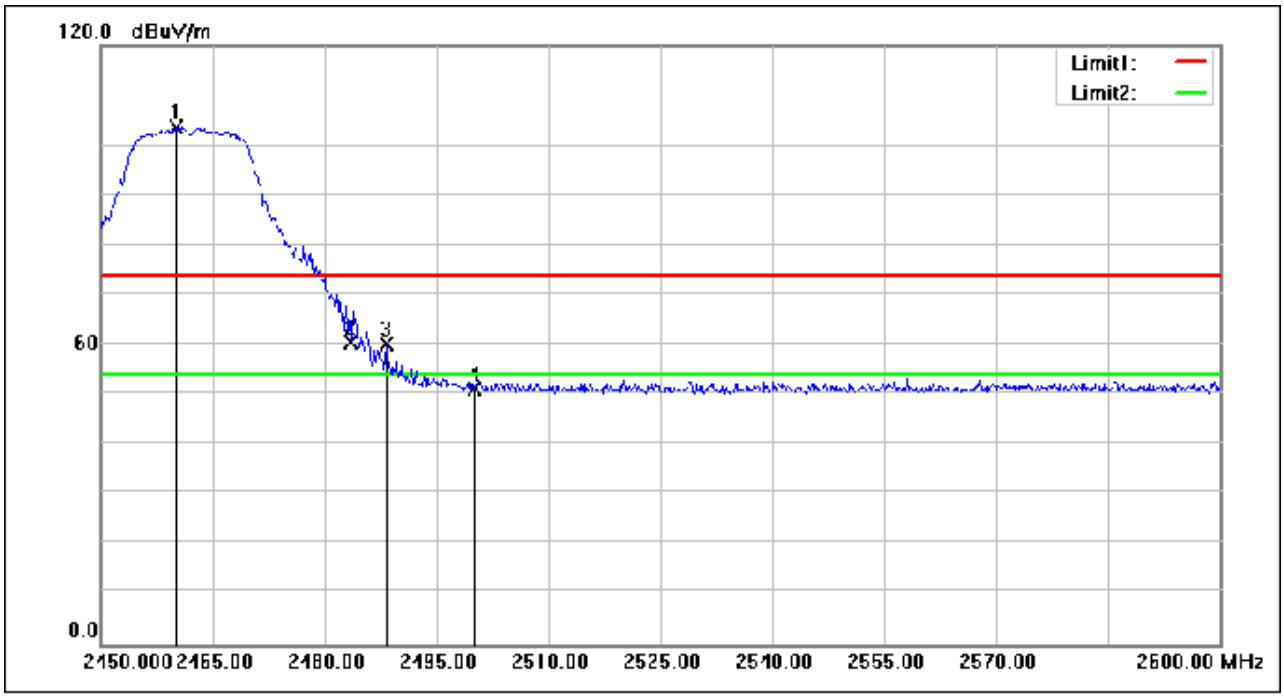
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.350	124.06	-24.37	99.69	74.00	25.69	peak
2	2483.500	76.92	-24.27	52.65	74.00	-21.35	peak
3	2484.800	80.81	-24.26	56.55	74.00	-17.45	peak
4	2500.000	75.03	-24.19	50.84	74.00	-23.16	peak

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



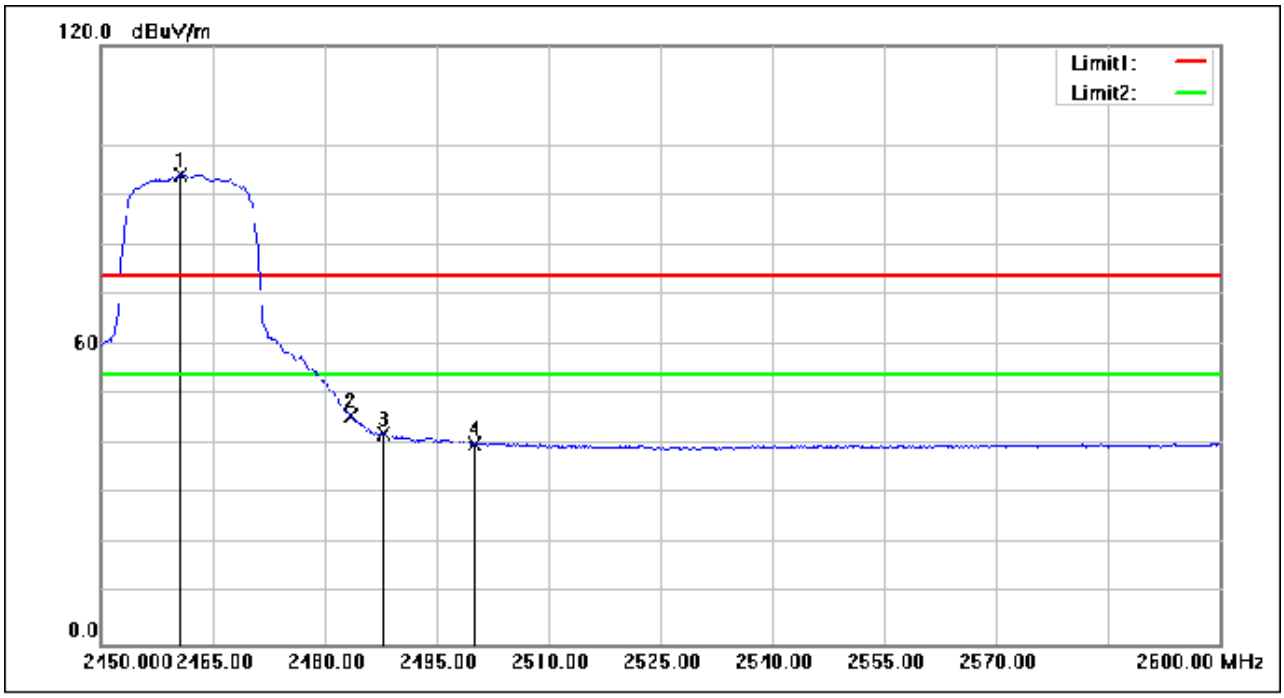
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.950	114.54	-24.38	90.16	54.00	36.16	AVG
2	2483.500	65.08	-24.27	40.81	54.00	-13.19	AVG
3	2492.900	64.74	-24.22	40.52	54.00	-13.48	AVG
4	2500.000	63.87	-24.19	39.68	54.00	-14.32	AVG

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



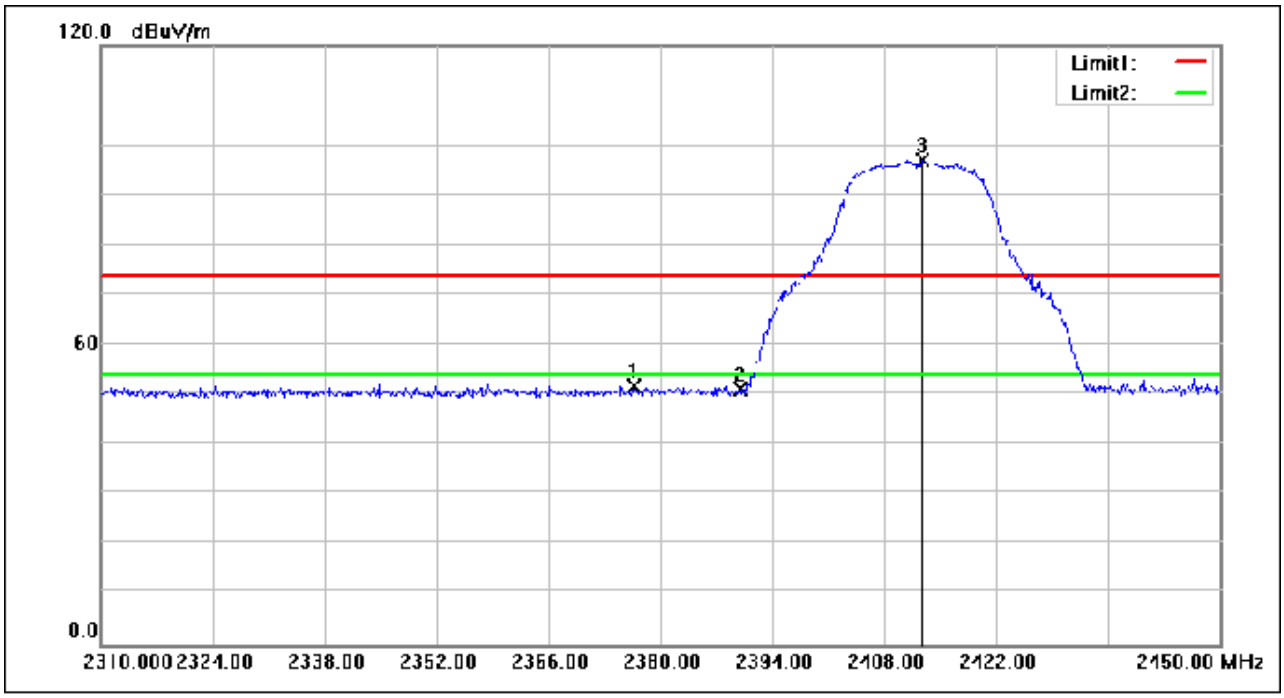
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.050	128.14	-24.38	103.76	74.00	29.76	peak
2	2483.500	84.87	-24.27	60.60	74.00	-13.40	peak
3	2488.250	84.50	-24.25	60.25	74.00	-13.75	peak
4	2500.000	75.36	-24.19	51.17	74.00	-22.83	peak

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



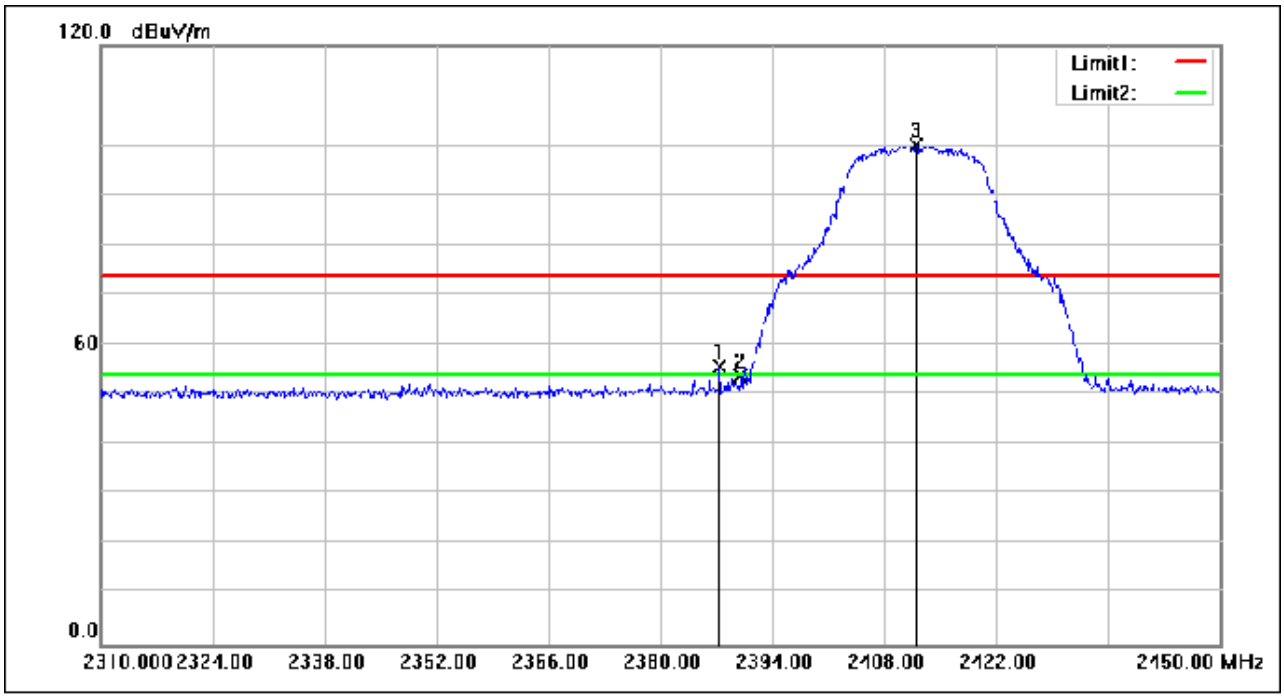
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.650	118.47	-24.38	94.09	54.00	40.09	AVG
2	2483.500	70.04	-24.27	45.77	54.00	-8.23	AVG
3	2487.950	66.52	-24.25	42.27	54.00	-11.73	AVG
4	2500.000	64.37	-24.19	40.18	54.00	-13.82	AVG

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



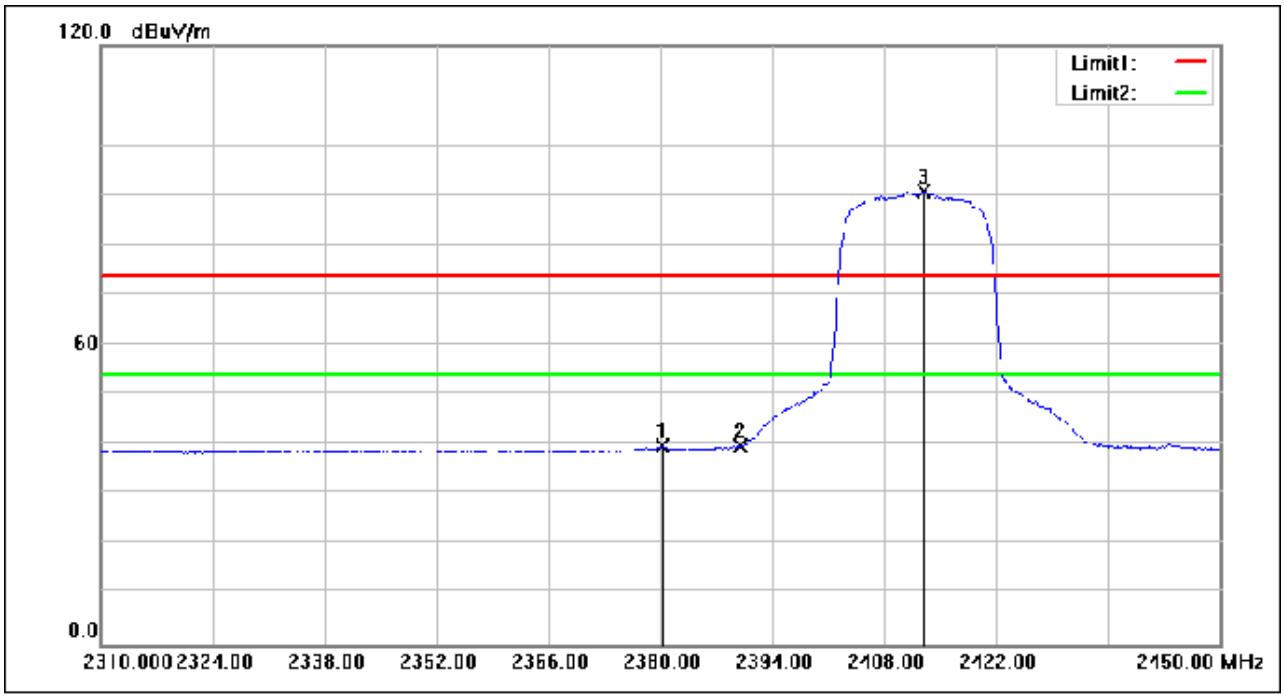
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2376.640	76.66	-24.77	51.89	74.00	-22.11	peak
2	2390.000	75.94	-24.71	51.23	74.00	-22.77	peak
3	2412.760	121.56	-24.60	96.96	74.00	22.96	peak

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



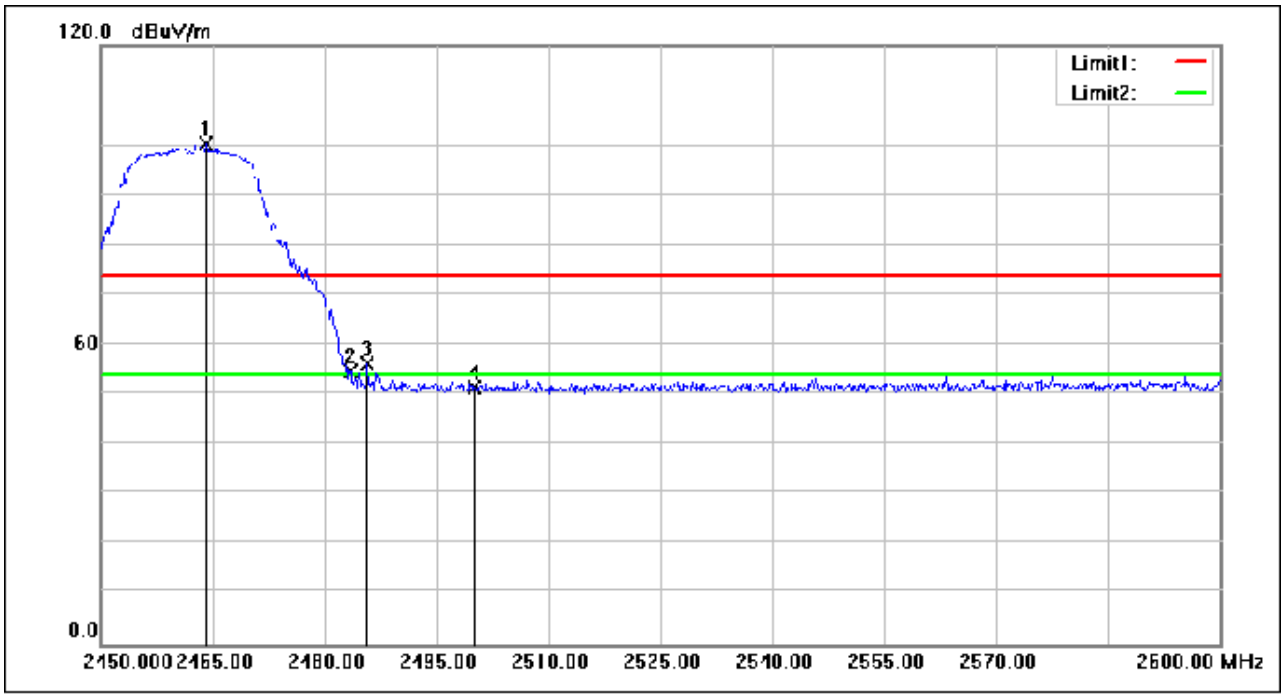
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.420	80.50	-24.72	55.78	74.00	-18.22	peak
2	2390.000	78.47	-24.71	53.76	74.00	-20.24	peak
3	2411.920	124.66	-24.60	100.06	74.00	26.06	peak

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



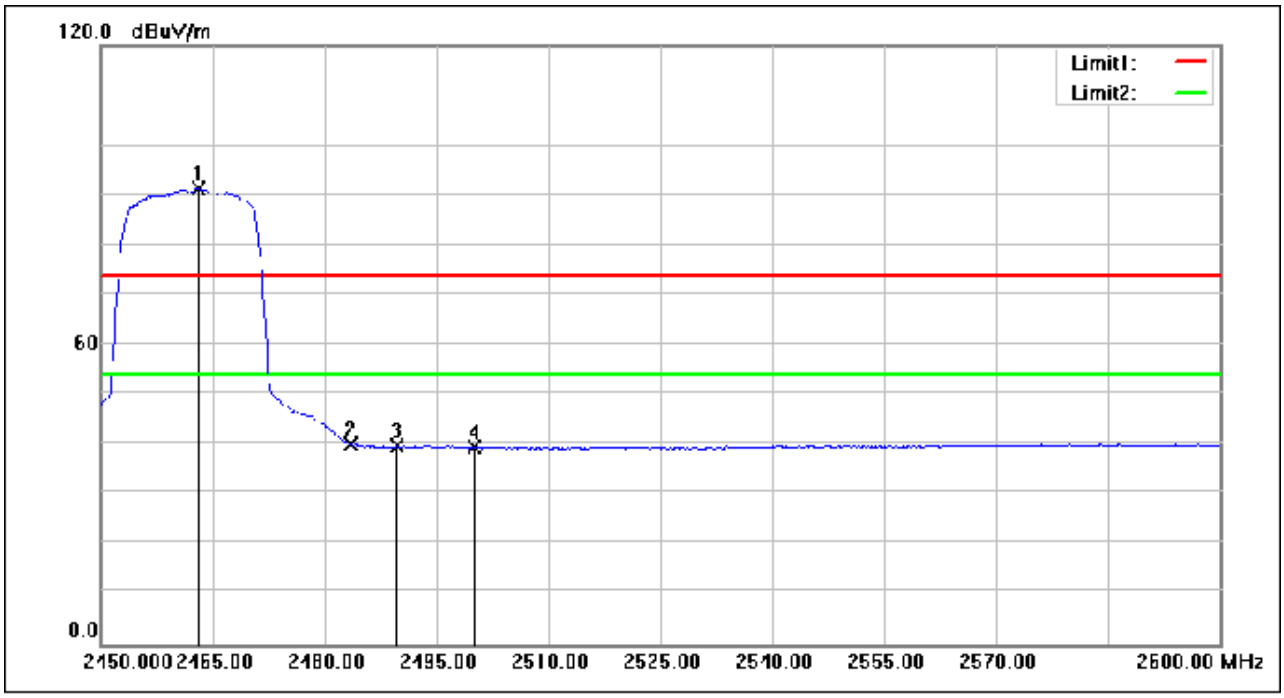
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2380.280	64.43	-24.75	39.68	54.00	-14.32	AVG
2	2390.000	64.48	-24.71	39.77	54.00	-14.23	AVG
3	2412.900	115.31	-24.60	90.71	54.00	36.71	AVG

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



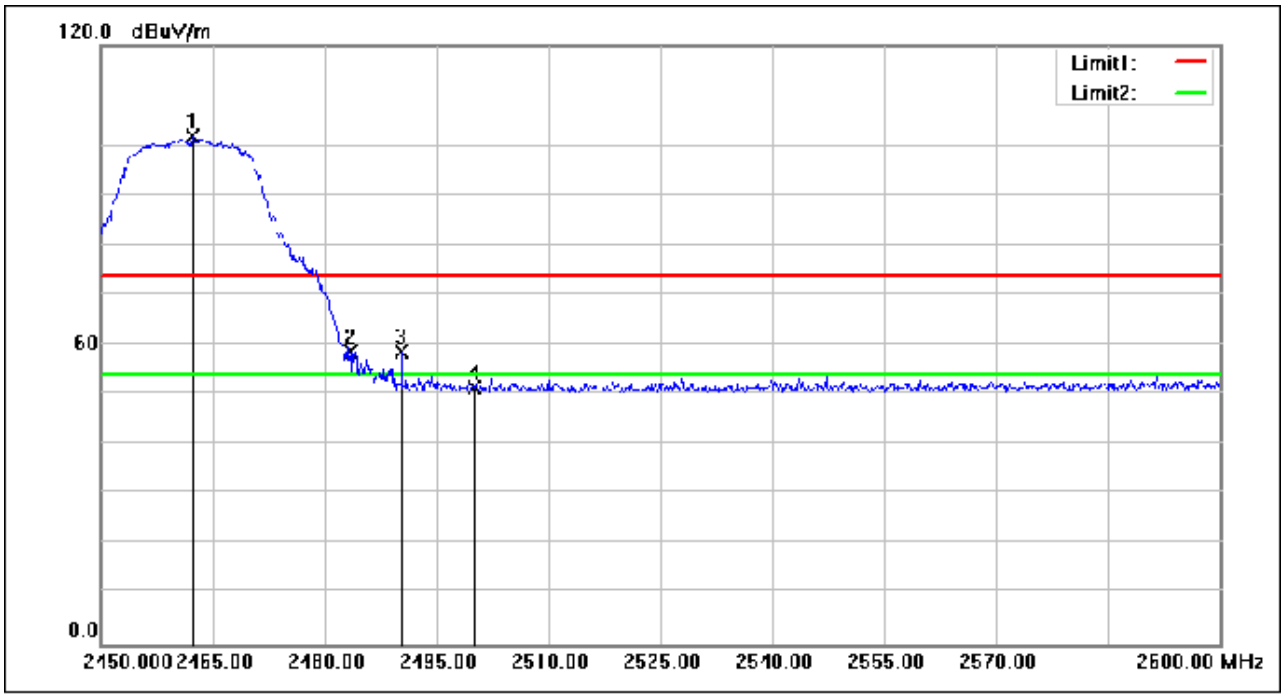
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2464.100	124.63	-24.36	100.27	74.00	26.27	peak
2	2483.500	79.16	-24.27	54.89	74.00	-19.11	peak
3	2485.700	80.42	-24.26	56.16	74.00	-17.84	peak
4	2500.000	75.52	-24.19	51.33	74.00	-22.67	peak

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



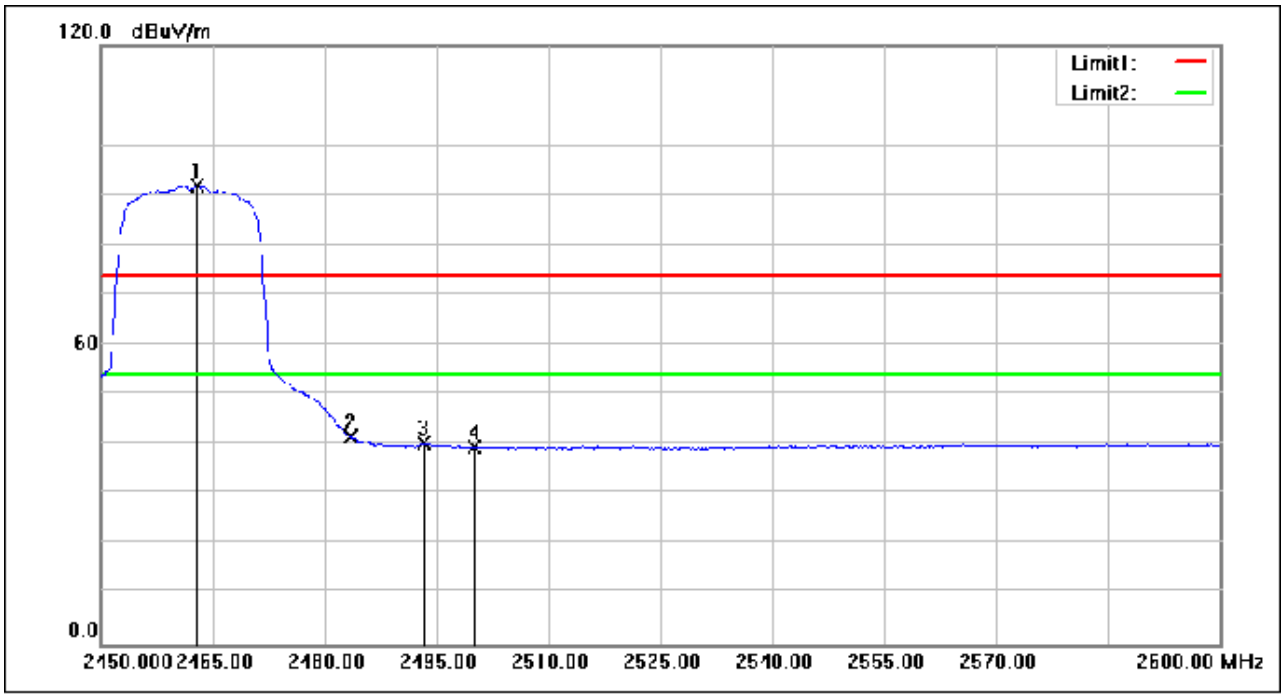
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.050	115.84	-24.37	91.47	54.00	37.47	AVG
2	2483.500	64.28	-24.27	40.01	54.00	-13.99	AVG
3	2489.600	64.12	-24.24	39.88	54.00	-14.12	AVG
4	2500.000	63.50	-24.19	39.31	54.00	-14.69	AVG

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



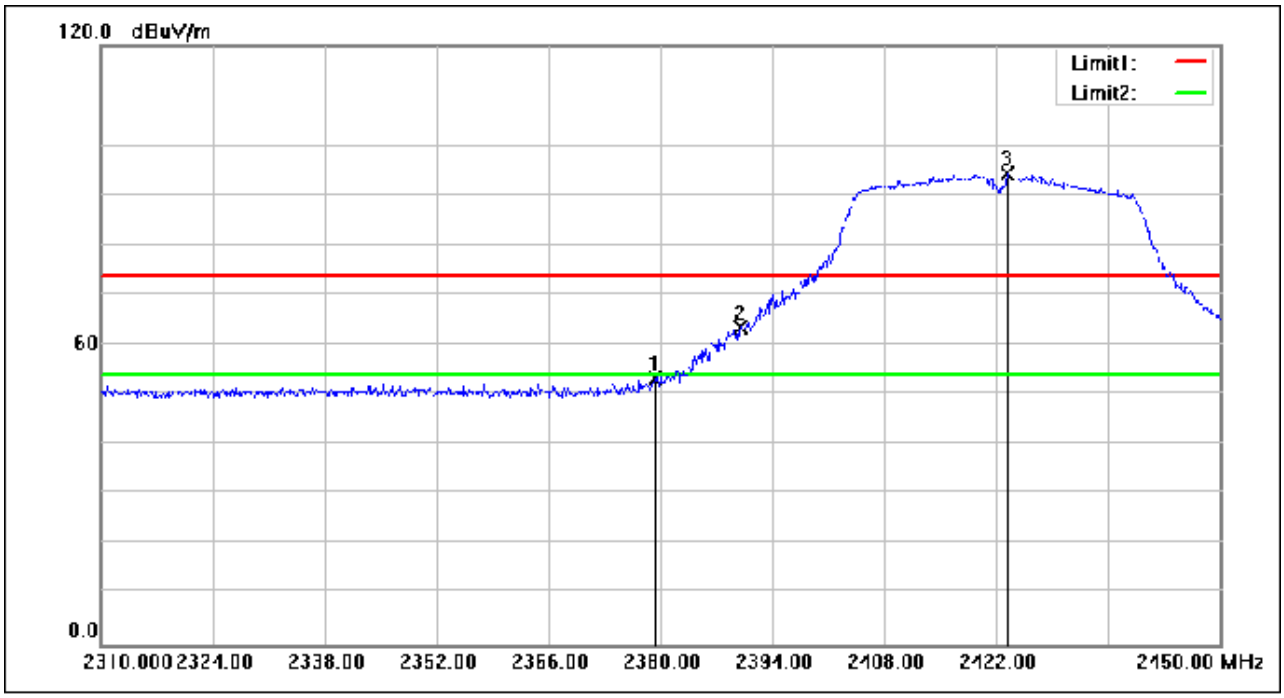
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.300	126.29	-24.37	101.92	74.00	27.92	peak
2	2483.500	82.81	-24.27	58.54	74.00	-15.46	peak
3	2490.350	83.00	-24.24	58.76	74.00	-15.24	peak
4	2500.000	75.51	-24.19	51.32	74.00	-22.68	peak

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



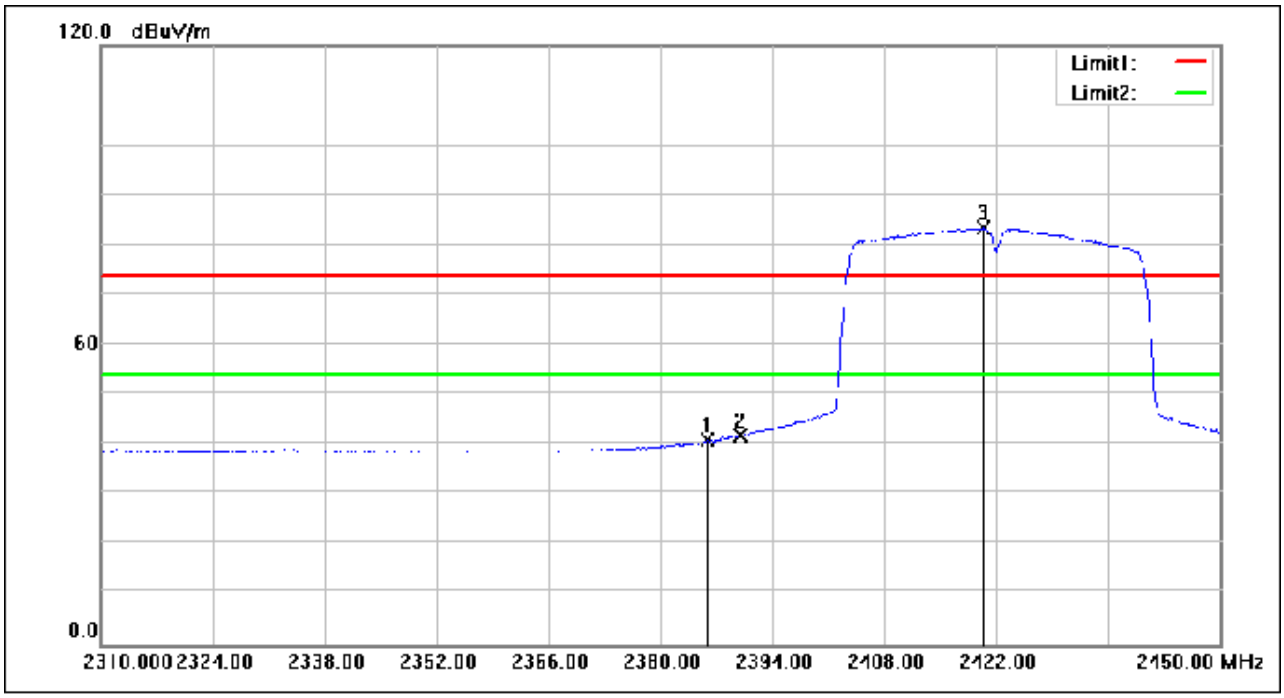
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.900	116.23	-24.37	91.86	54.00	37.86	AVG
2	2483.500	65.76	-24.27	41.49	54.00	-12.51	AVG
3	2493.350	64.42	-24.22	40.20	54.00	-13.80	AVG
4	2500.000	63.57	-24.19	39.38	54.00	-14.62	AVG

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



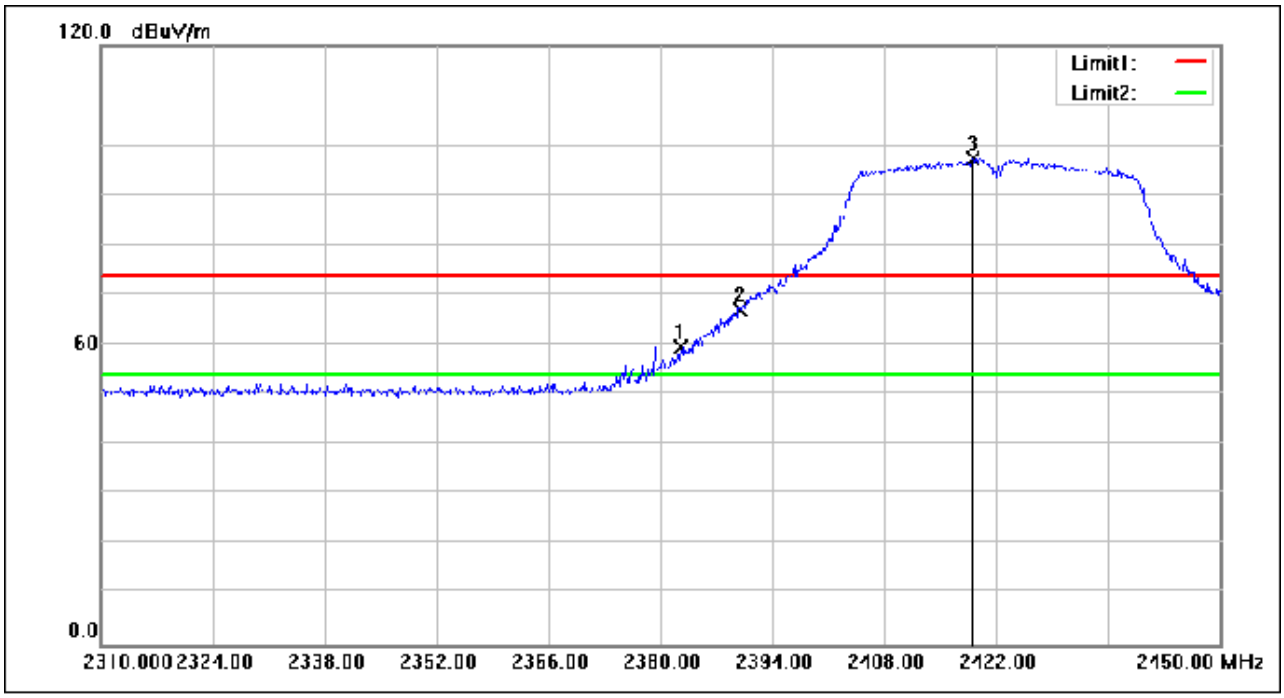
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2379.300	77.91	-24.75	53.16	74.00	-20.84	peak
2	2390.000	88.22	-24.71	63.51	74.00	-10.49	peak
3	2423.400	118.93	-24.55	94.38	74.00	20.38	peak

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



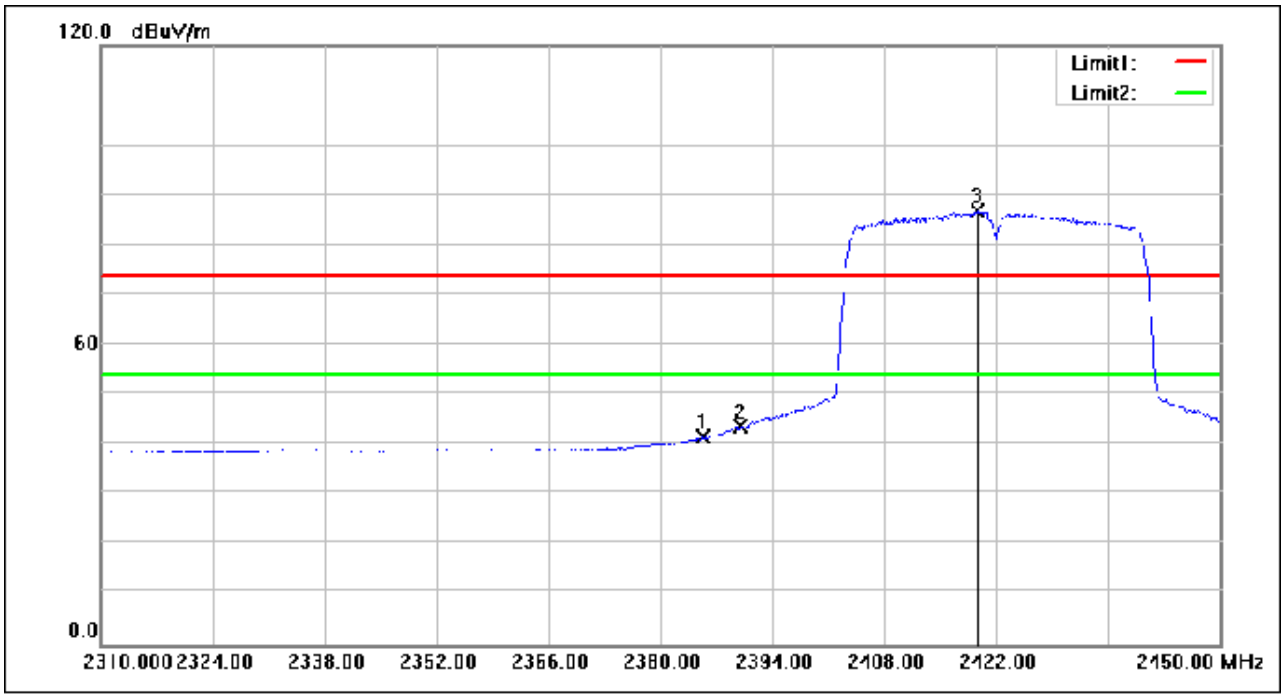
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.880	65.63	-24.72	40.91	54.00	-13.09	AVG
2	2390.000	66.57	-24.71	41.86	54.00	-12.14	AVG
3	2420.460	108.16	-24.57	83.59	54.00	29.59	AVG

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



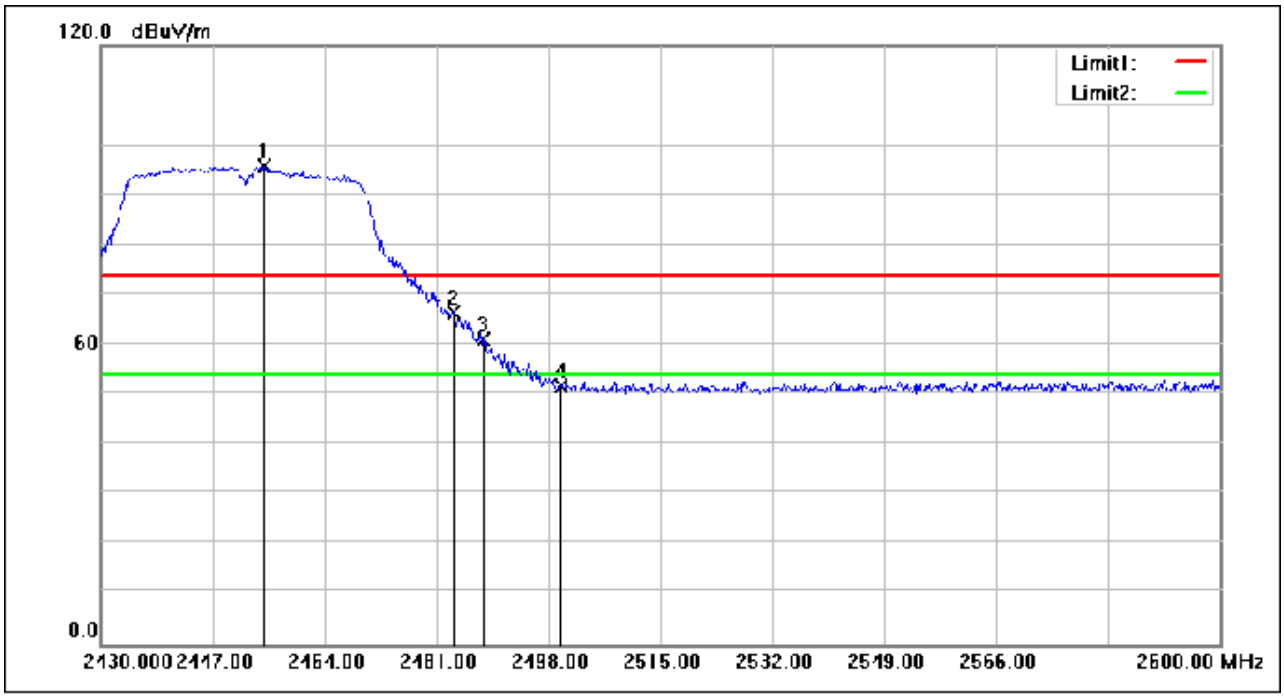
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2382.520	84.34	-24.74	59.60	74.00	-14.40	peak
2	2390.000	91.63	-24.71	66.92	74.00	-7.08	peak
3	2419.060	122.04	-24.57	97.47	74.00	23.47	peak

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



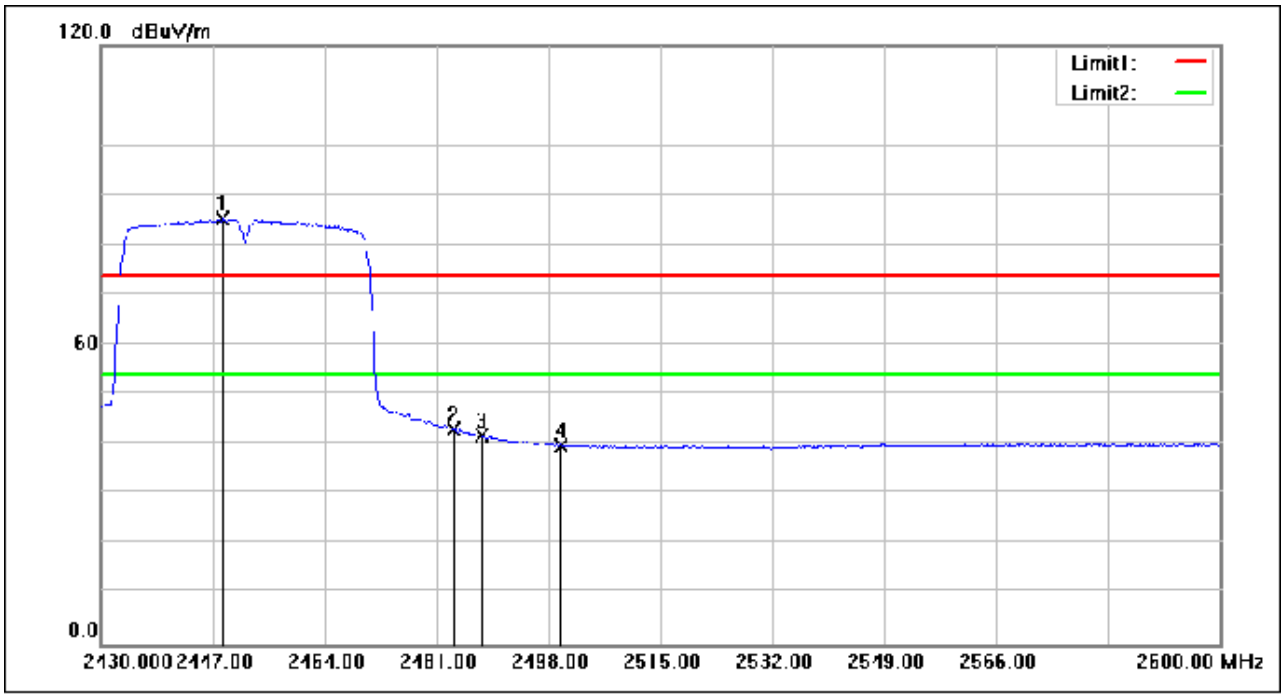
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.320	66.21	-24.73	41.48	54.00	-12.52	AVG
2	2390.000	68.22	-24.71	43.51	54.00	-10.49	AVG
3	2419.620	111.28	-24.57	86.71	54.00	32.71	AVG

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



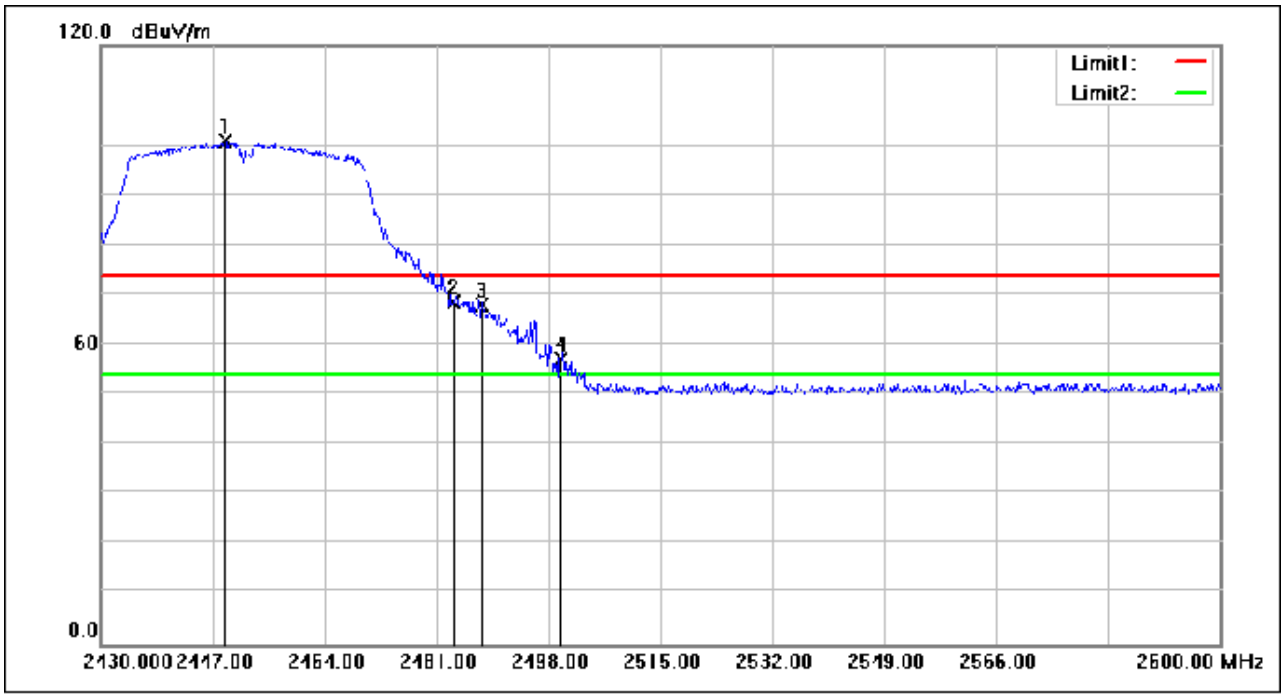
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2454.820	120.24	-24.40	95.84	74.00	21.84	peak
2	2483.500	90.64	-24.27	66.37	74.00	-7.63	peak
3	2488.140	85.32	-24.25	61.07	74.00	-12.93	peak
4	2500.000	76.03	-24.19	51.84	74.00	-22.16	peak

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



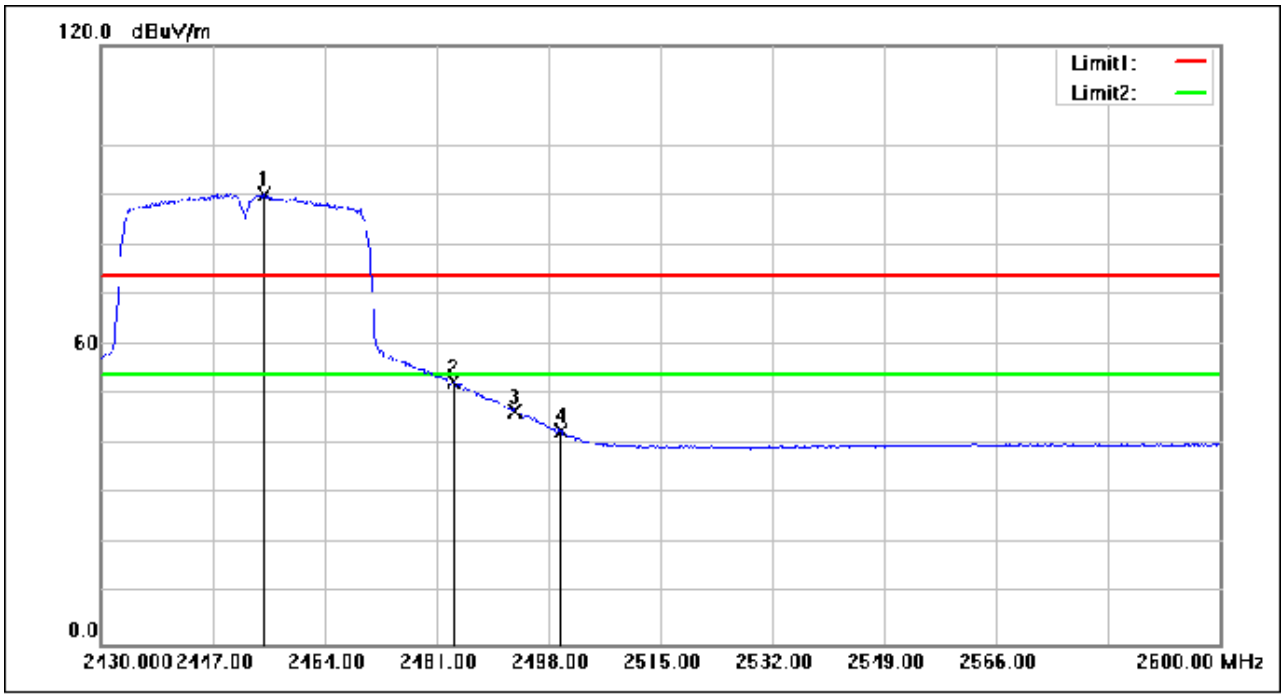
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2448.530	109.71	-24.44	85.27	54.00	31.27	AVG
2	2483.500	67.42	-24.27	43.15	54.00	-10.85	AVG
3	2487.800	66.20	-24.25	41.95	54.00	-12.05	AVG
4	2500.000	64.01	-24.19	39.82	54.00	-14.18	AVG

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



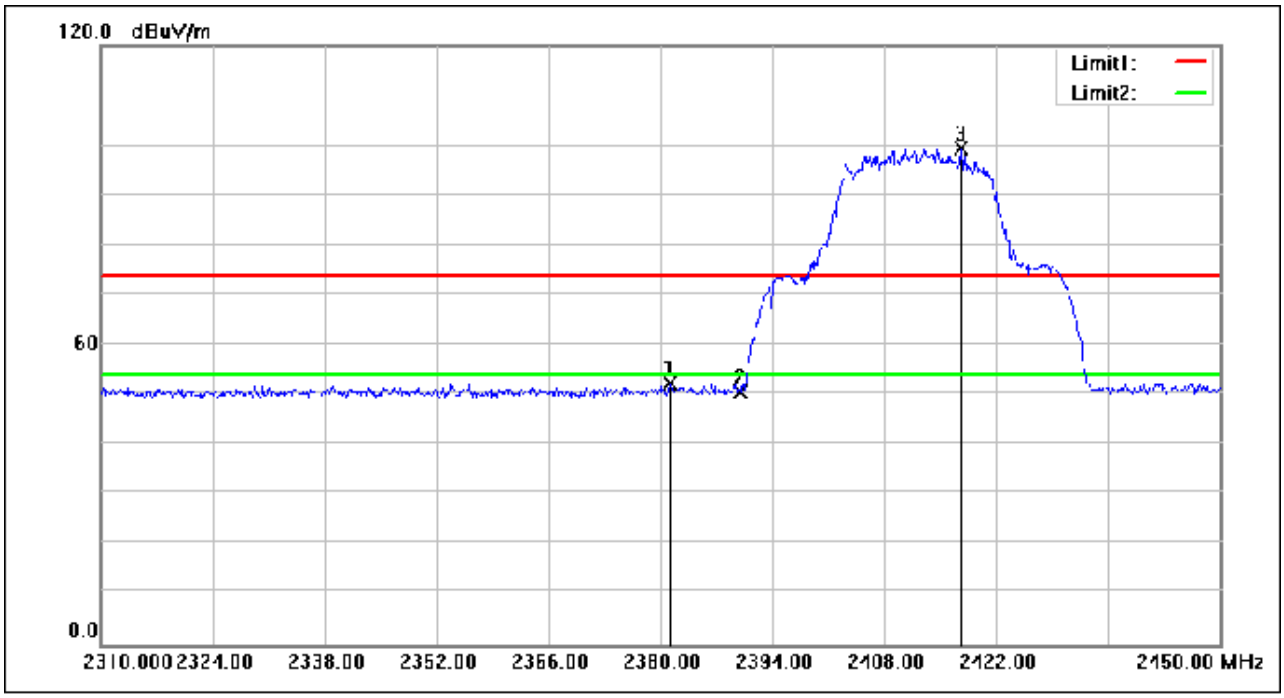
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2448.870	125.32	-24.43	100.89	74.00	26.89	peak
2	2483.500	92.96	-24.27	68.69	74.00	-5.31	peak
3	2487.970	92.19	-24.25	67.94	74.00	-6.06	peak
4	2500.000	81.35	-24.19	57.16	74.00	-16.84	peak

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



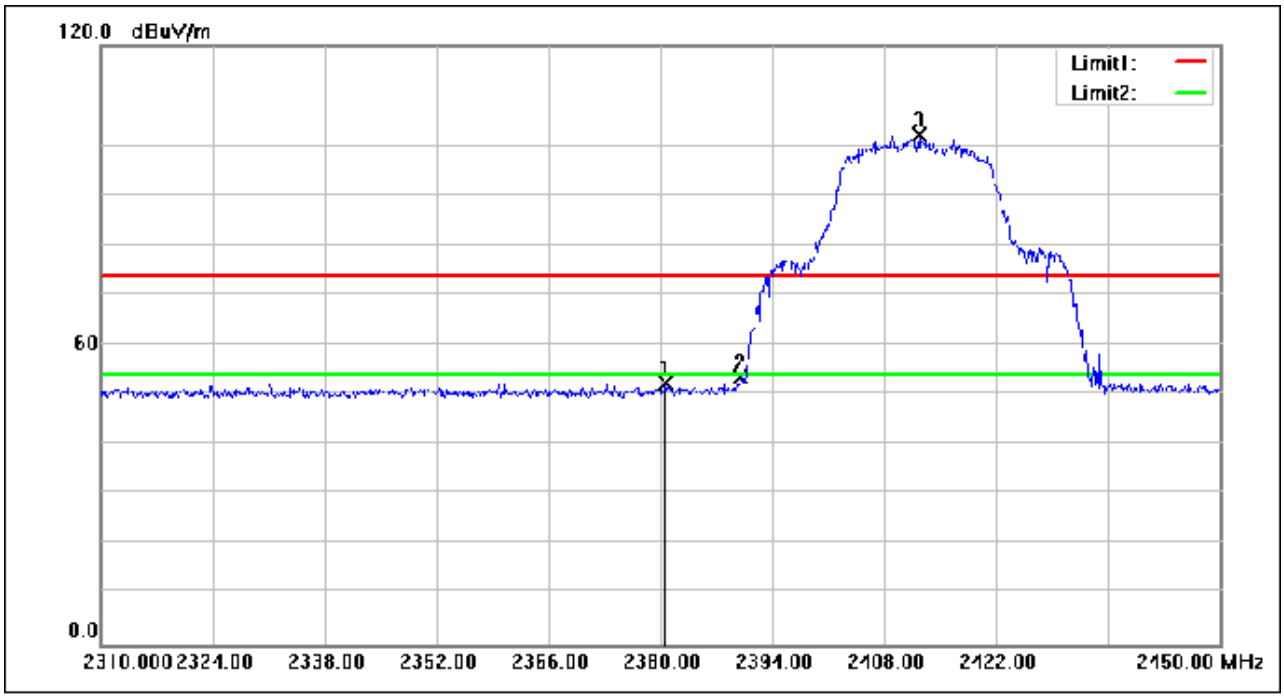
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2454.820	114.52	-24.40	90.12	54.00	36.12	AVG
2	2483.500	76.87	-24.27	52.60	54.00	-1.40	AVG
3	2492.900	70.97	-24.22	46.75	54.00	-7.25	AVG
4	2500.000	66.82	-24.19	42.63	54.00	-11.37	AVG

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:Low



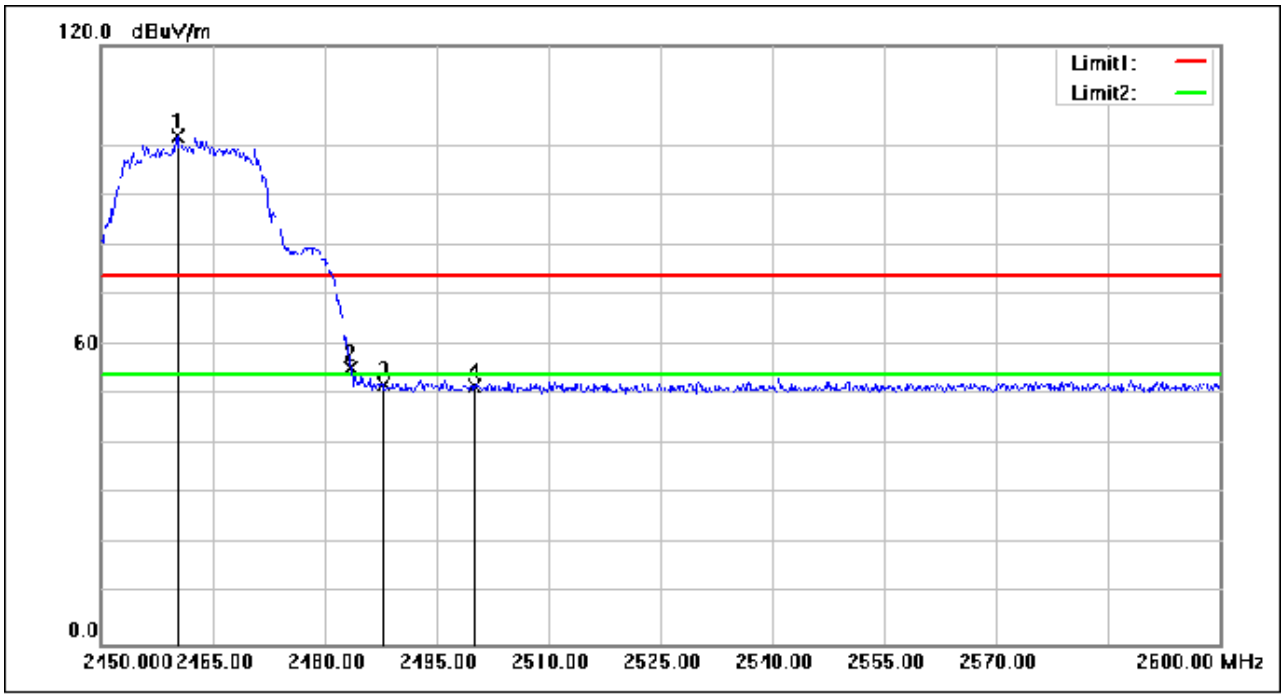
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2381.120	77.16	-24.74	52.42	74.00	-21.58	peak
2	2390.000	75.34	-24.71	50.63	74.00	-23.37	peak
3	2417.660	124.16	-24.58	99.58	74.00	25.58	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:Low



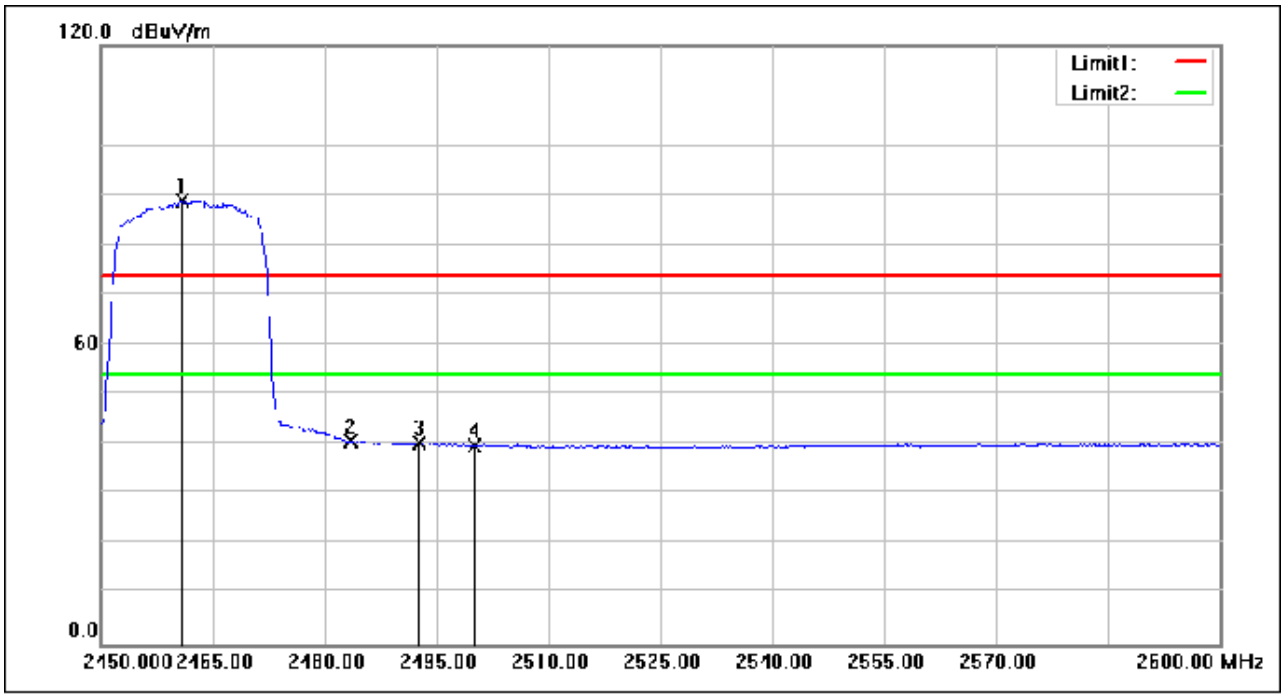
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2380.700	77.15	-24.75	52.40	74.00	-21.60	peak
2	2390.000	78.25	-24.71	53.54	74.00	-20.46	peak
3	2412.340	126.82	-24.60	102.22	74.00	28.22	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.200	126.10	-24.38	101.72	74.00	27.72	peak
2	2483.500	79.71	-24.27	55.44	74.00	-18.56	peak
3	2487.800	76.42	-24.25	52.17	74.00	-21.83	peak
4	2500.000	76.00	-24.19	51.81	74.00	-22.19	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:High

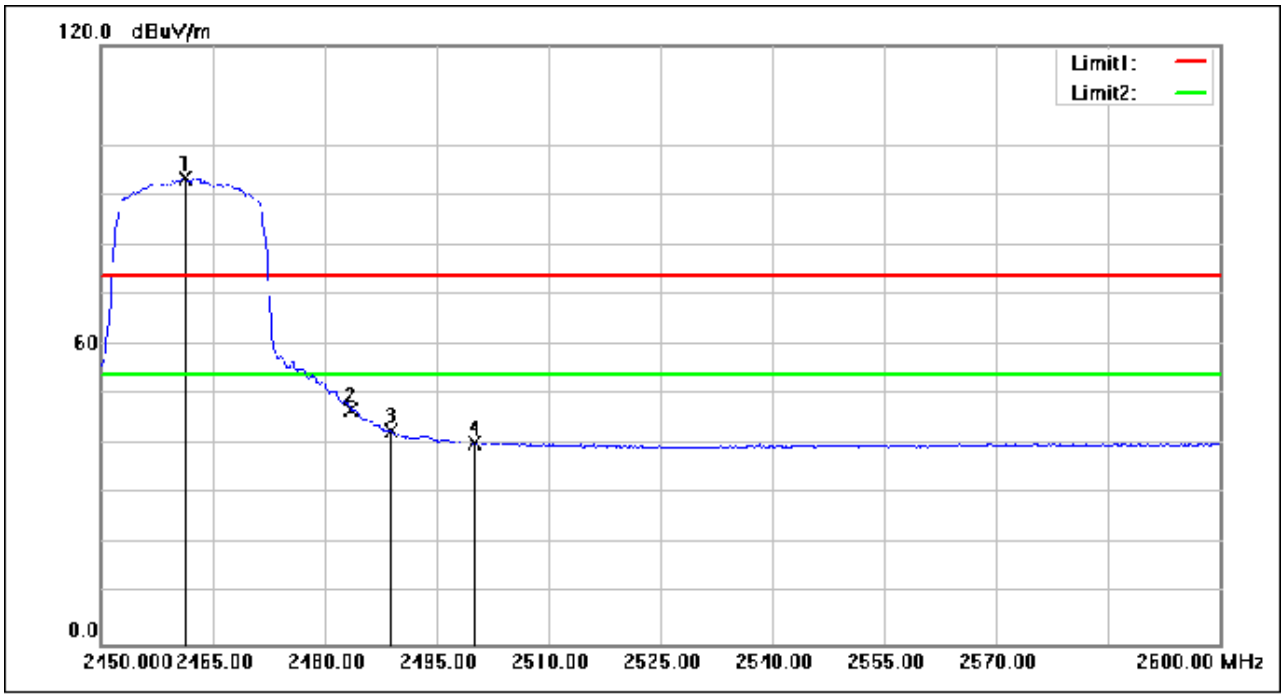


No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.950	113.23	-24.38	88.85	54.00	34.85	AVG
2	2483.500	64.99	-24.27	40.72	54.00	-13.28	AVG
3	2492.600	64.71	-24.23	40.48	54.00	-13.52	AVG
4	2500.000	63.91	-24.19	39.72	54.00	-14.28	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:High

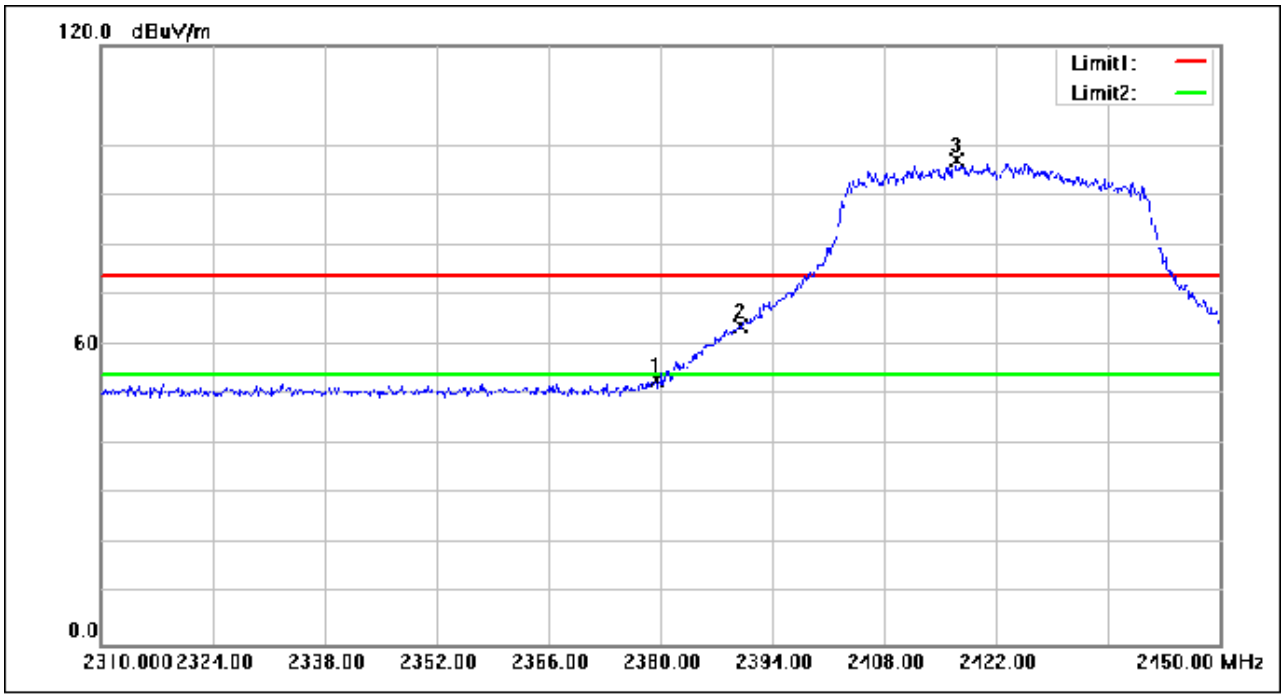
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.450	129.68	-24.37	105.31	74.00	31.31	peak
2	2483.500	90.32	-24.27	66.05	74.00	-7.95	peak
3	2485.850	88.24	-24.26	63.98	74.00	-10.02	peak
4	2500.000	75.72	-24.19	51.53	74.00	-22.47	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:High



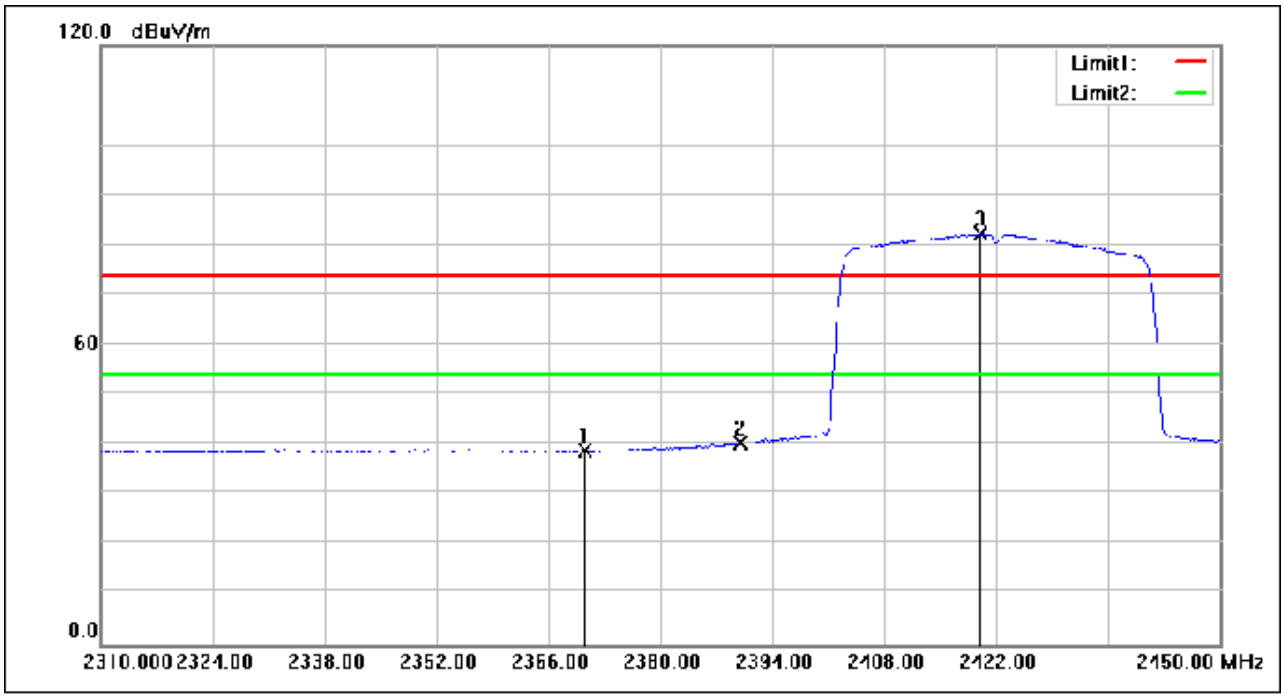
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.250	117.96	-24.37	93.59	54.00	39.59	AVG
2	2483.500	71.37	-24.27	47.10	54.00	-6.90	AVG
3	2488.850	67.04	-24.24	42.80	54.00	-11.20	AVG
4	2500.000	64.42	-24.19	40.23	54.00	-13.77	AVG

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:Low



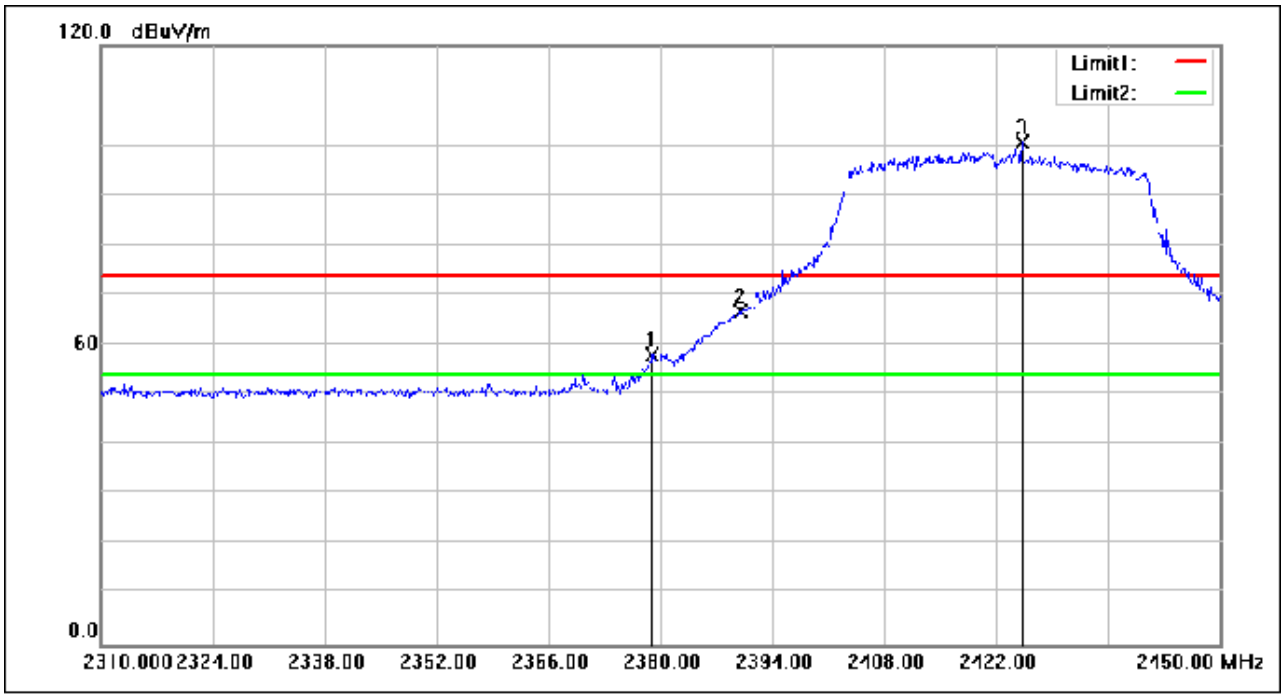
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2379.440	77.81	-24.75	53.06	74.00	-20.94	peak
2	2390.000	88.53	-24.71	63.82	74.00	-10.18	peak
3	2416.960	121.51	-24.58	96.93	74.00	22.93	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:Low



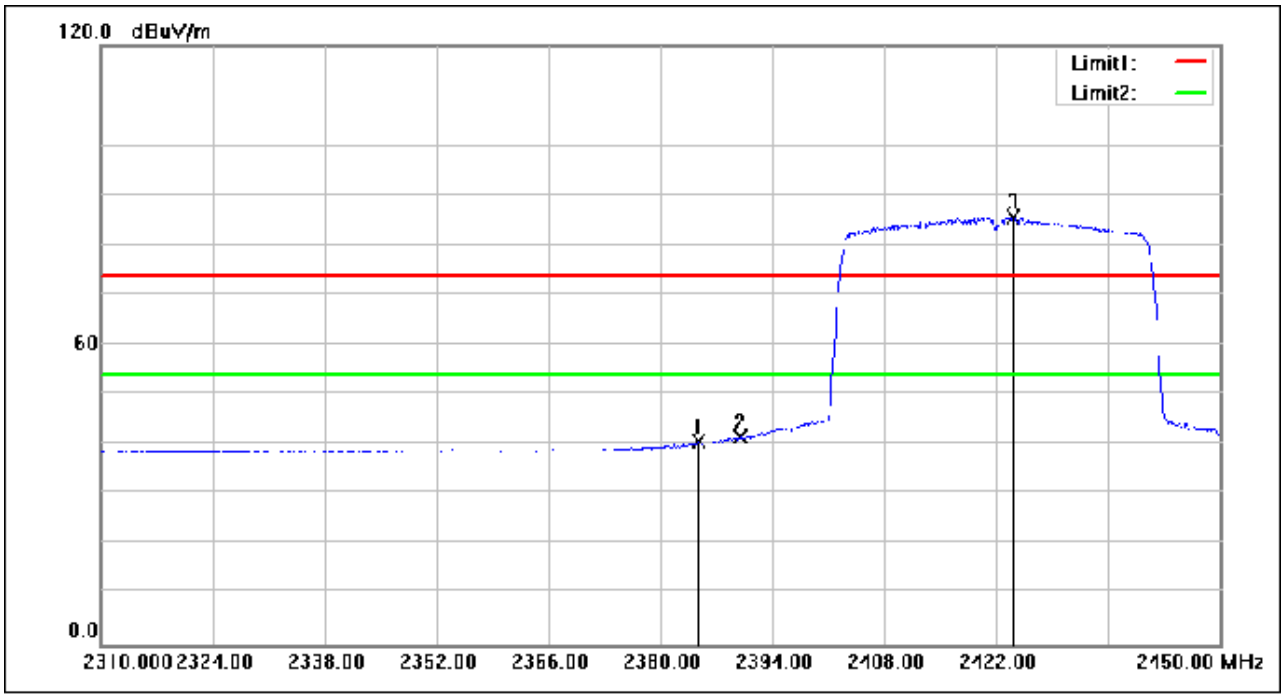
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2370.480	63.76	-24.80	38.96	54.00	-15.04	AVG
2	2390.000	65.03	-24.71	40.32	54.00	-13.68	AVG
3	2420.040	106.91	-24.57	82.34	54.00	28.34	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:Low



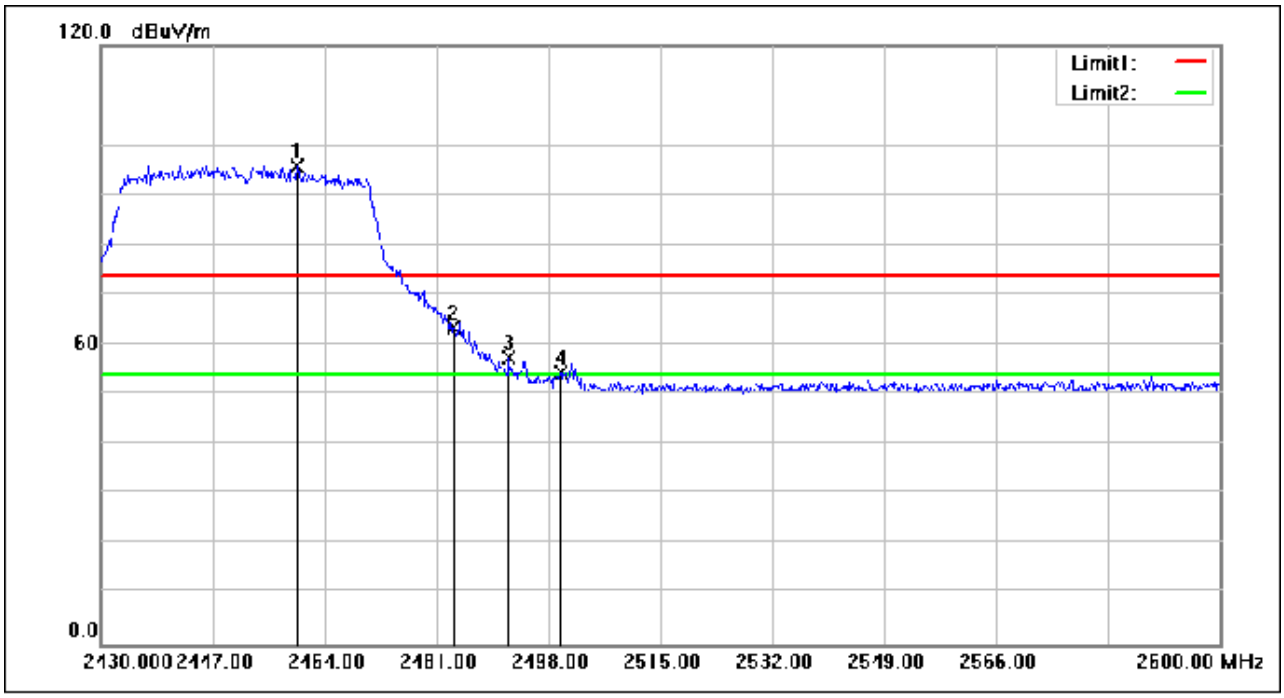
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2379.020	82.86	-24.75	58.11	74.00	-15.89	peak
2	2390.000	91.60	-24.71	66.89	74.00	-7.11	peak
3	2425.220	125.13	-24.54	100.59	74.00	26.59	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:Low



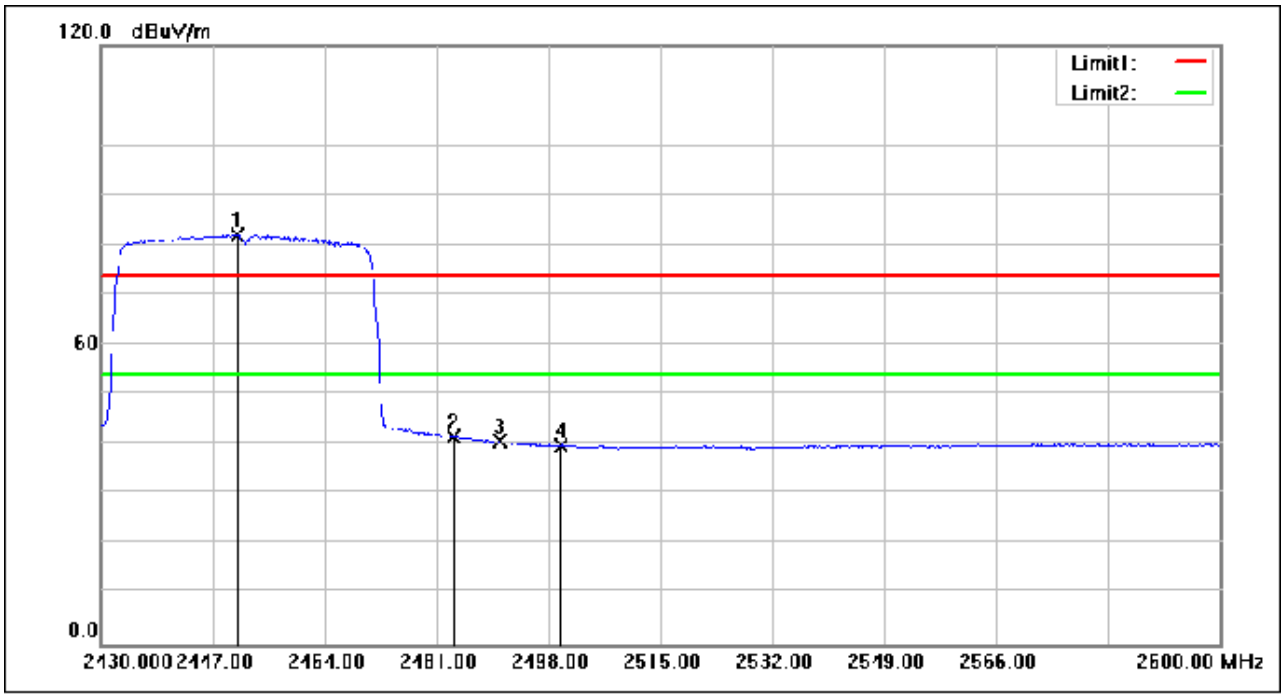
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.760	65.24	-24.73	40.51	54.00	-13.49	AVG
2	2390.000	66.26	-24.71	41.55	54.00	-12.45	AVG
3	2424.100	110.11	-24.54	85.57	54.00	31.57	AVG

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:High



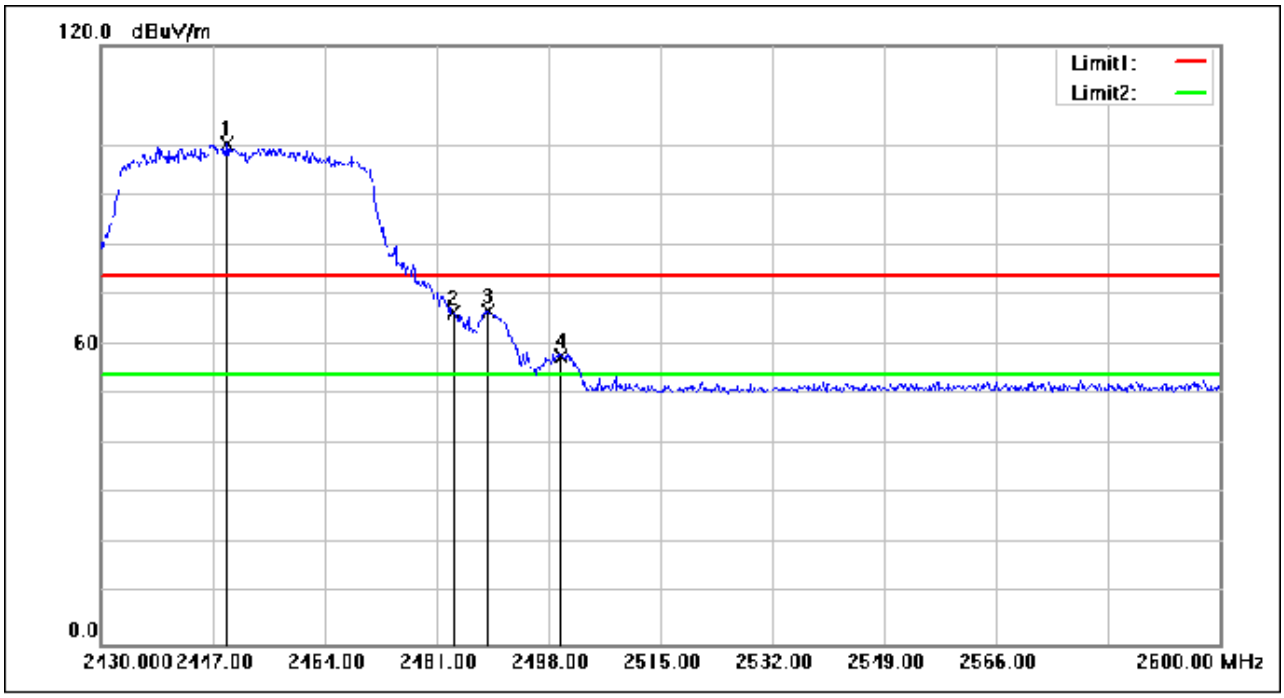
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2459.750	120.36	-24.38	95.98	74.00	21.98	peak
2	2483.500	87.70	-24.27	63.43	74.00	-10.57	peak
3	2491.880	81.63	-24.23	57.40	74.00	-16.60	peak
4	2500.000	78.74	-24.19	54.55	74.00	-19.45	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:High



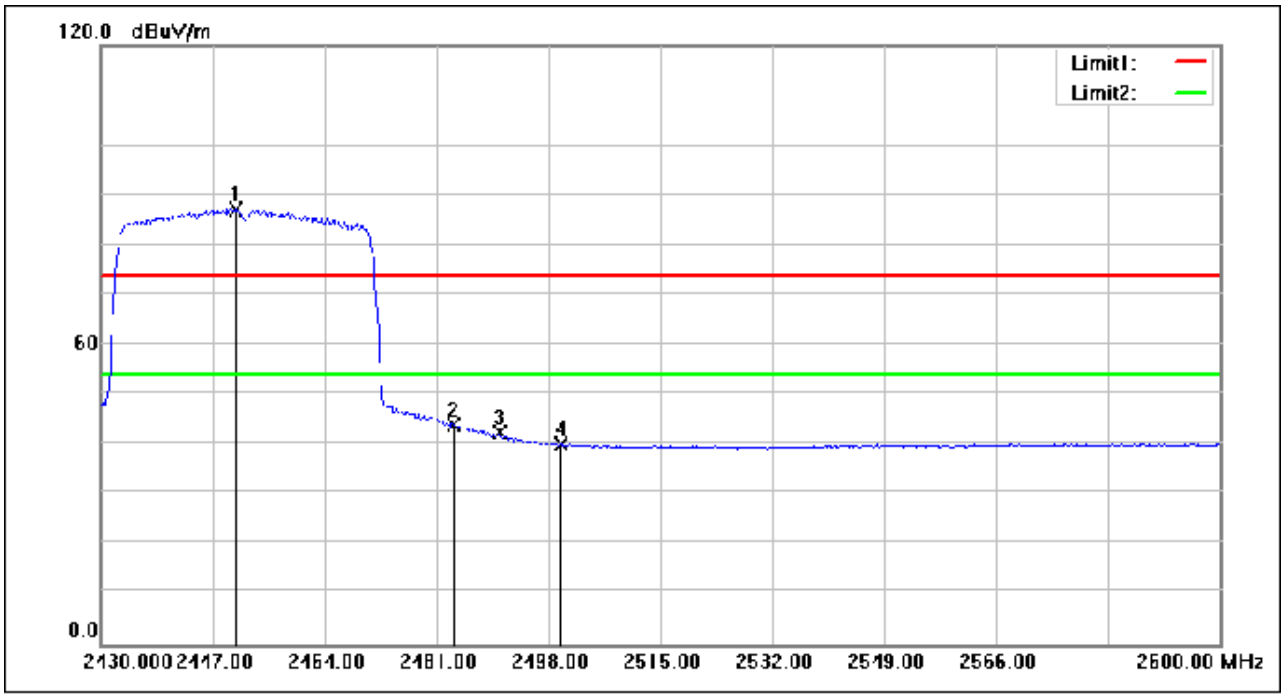
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2450.740	106.59	-24.42	82.17	54.00	28.17	AVG
2	2483.500	65.87	-24.27	41.60	54.00	-12.40	AVG
3	2490.690	64.84	-24.24	40.60	54.00	-13.40	AVG
4	2500.000	63.90	-24.19	39.71	54.00	-14.29	AVG

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2449.210	124.89	-24.43	100.46	74.00	26.46	peak
2	2483.500	90.62	-24.27	66.35	74.00	-7.65	peak
3	2488.820	90.86	-24.24	66.62	74.00	-7.38	peak
4	2500.000	81.88	-24.19	57.69	74.00	-16.31	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2450.400	111.52	-24.42	87.10	54.00	33.10	AVG
2	2483.500	68.22	-24.27	43.95	54.00	-10.05	AVG
3	2490.520	66.62	-24.24	42.38	54.00	-11.62	AVG
4	2500.000	64.20	-24.19	40.01	54.00	-13.99	AVG

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

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

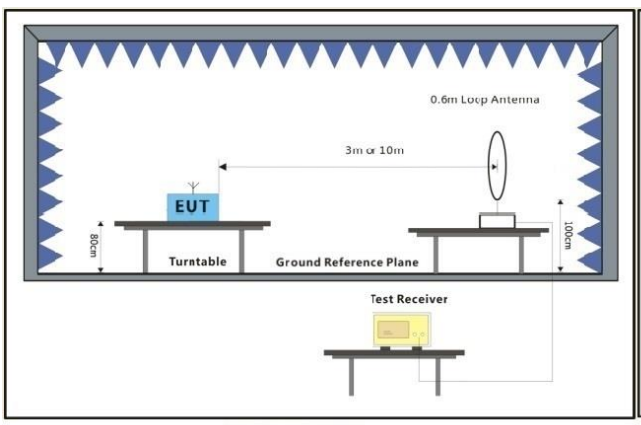
7.3.1 E.U.T. Operation

Operating Environment:
Temperature: 20.5 °C Humidity: 50.5 % RH Atmospheric Pressure: 1010 mbar

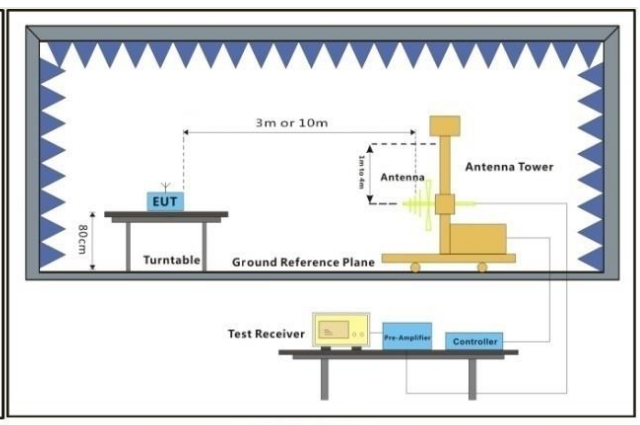
7.3.2 Test Mode Description

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; 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), 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



Below 30MHz



30MHz-1GHz

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.

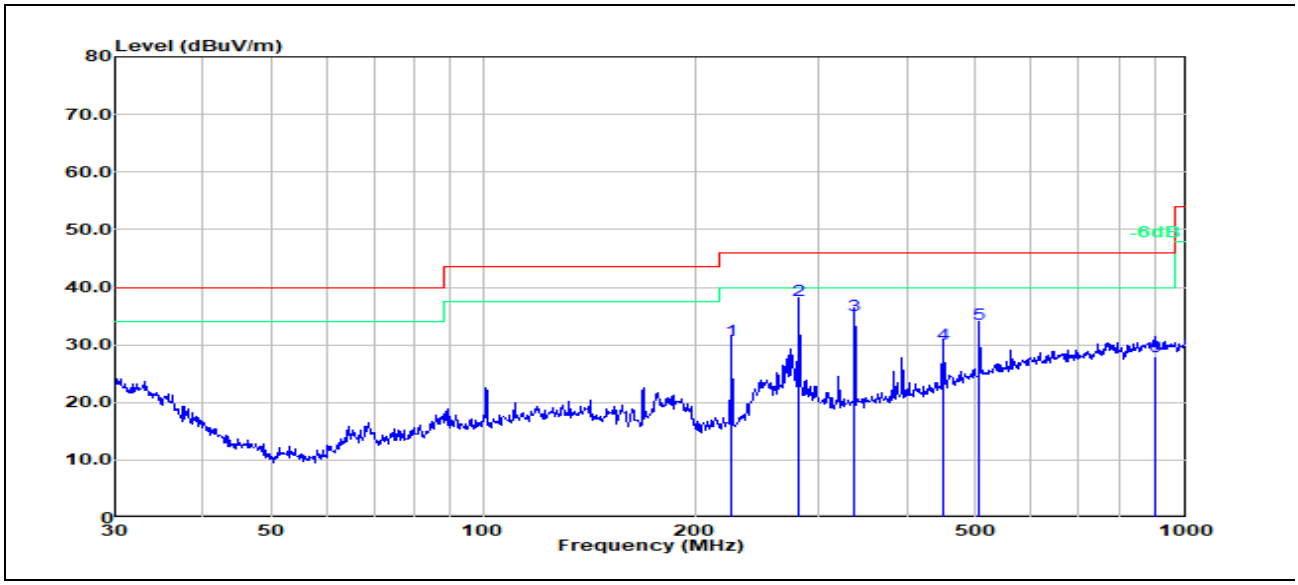
i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

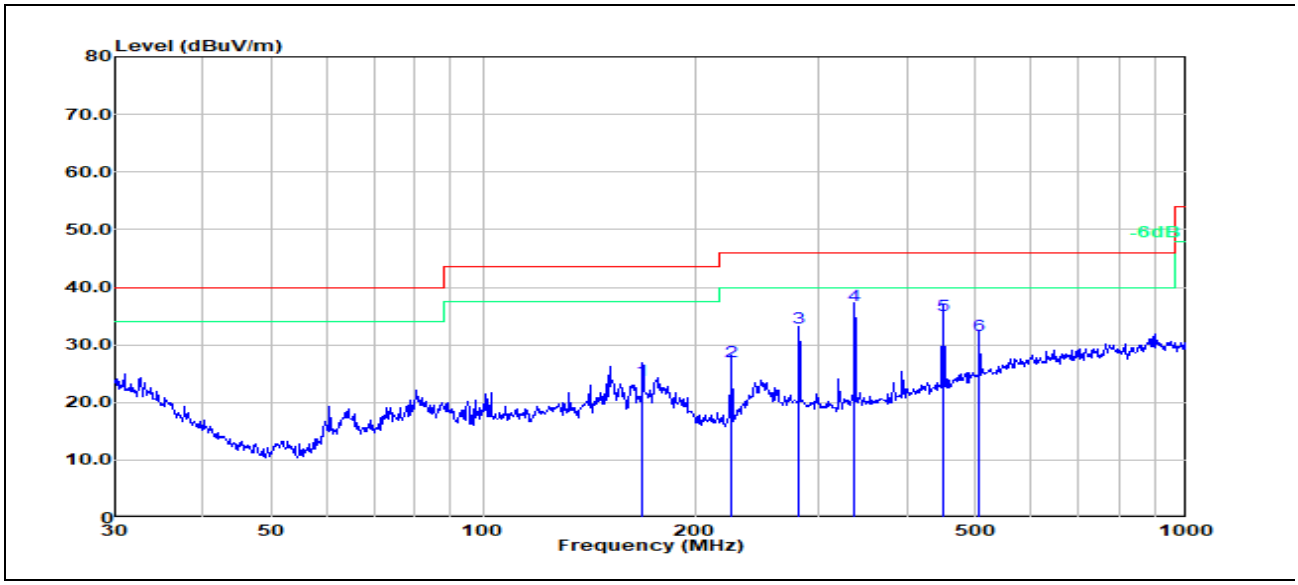
2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

Test Mode: 00; Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	225.3080	17.90	12.84	30.74	46.00	-15.26	100	90	Peak
2	281.0080	22.21	15.48	37.69	46.00	-8.31	100	286	Peak
3	337.2160	18.95	16.22	35.17	46.00	-10.83	100	70	Peak
4	449.5560	10.97	19.25	30.22	46.00	-15.78	200	35	Peak
5	506.4790	12.58	21.00	33.58	46.00	-12.42	200	207	Peak
6	900.1470	2.01	25.91	27.92	46.00	-18.08	194	360	Peak

Test Mode: 00; Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	168.4140	12.71	11.23	23.94	43.50	-19.56	100	80	QP
2	225.3080	14.32	12.84	27.16	46.00	-18.84	160	360	QP
3	281.0080	17.50	15.48	32.98	46.00	-13.02	200	21	QP
4	337.2160	20.56	16.22	36.78	46.00	-9.22	100	42	QP
5	451.1350	15.85	19.21	35.06	46.00	-10.94	100	80	QP
6	506.4790	10.64	21.00	31.64	46.00	-14.36	100	300	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

Limit:

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

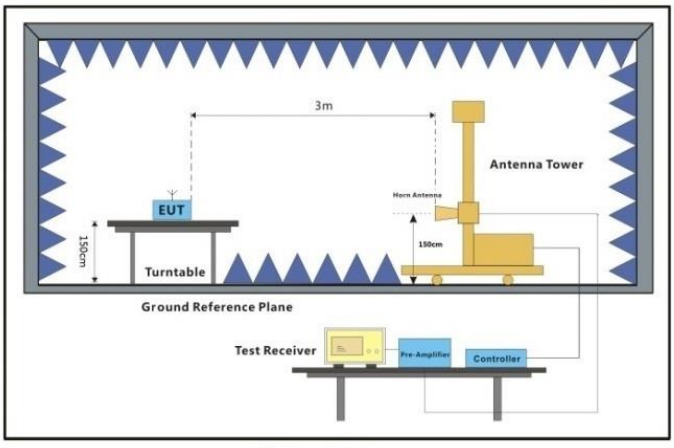
7.4.1 E.U.T. Operation

Operating Environment:
Temperature: 20.5 °C Humidity: 50.5 % 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 @ 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



Above 1GHz

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.

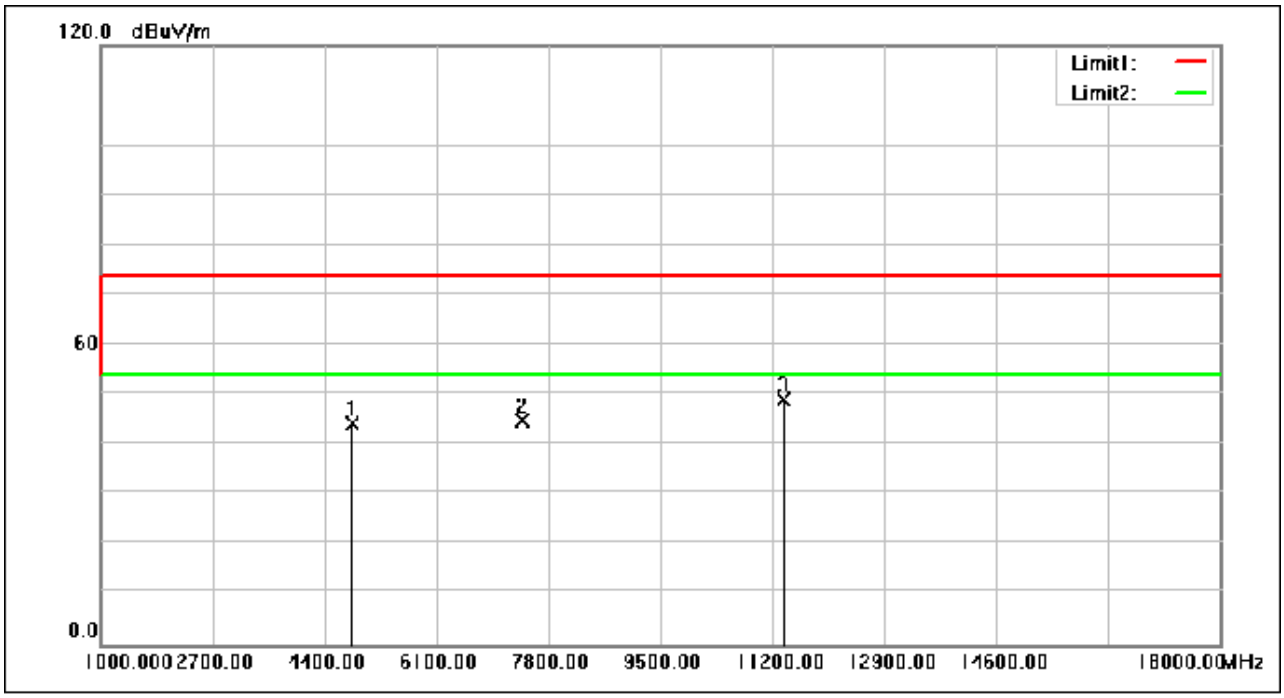
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

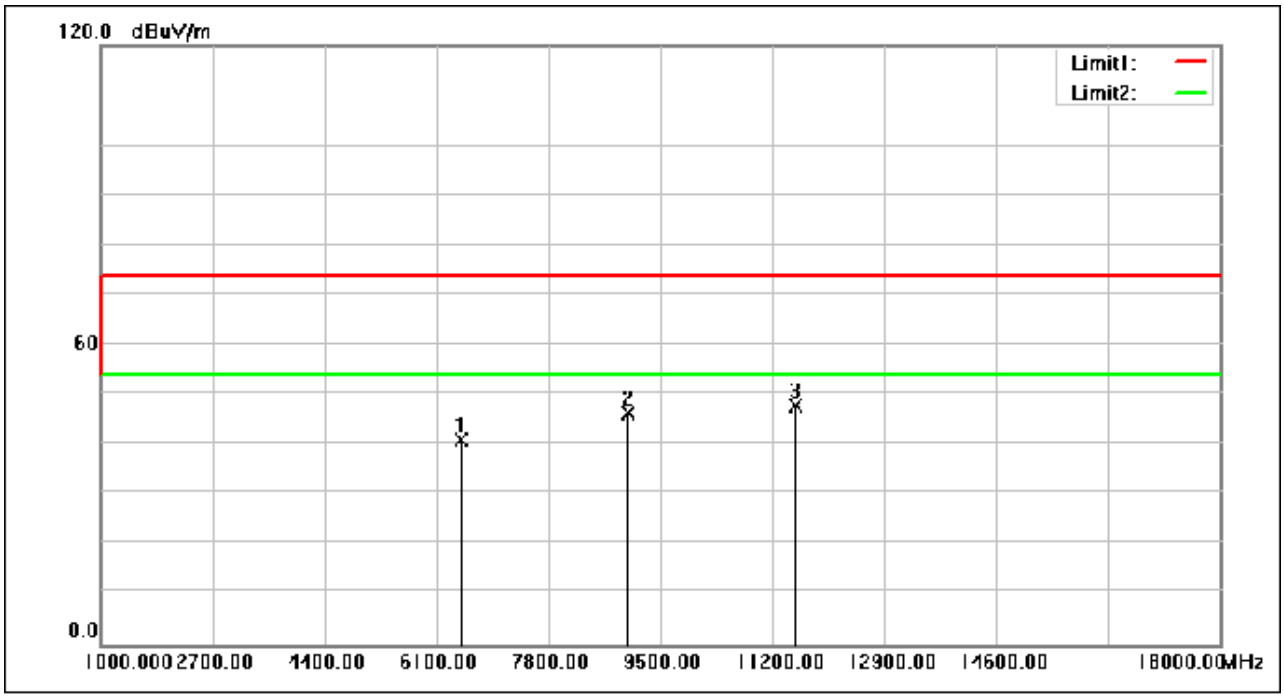
3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions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

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



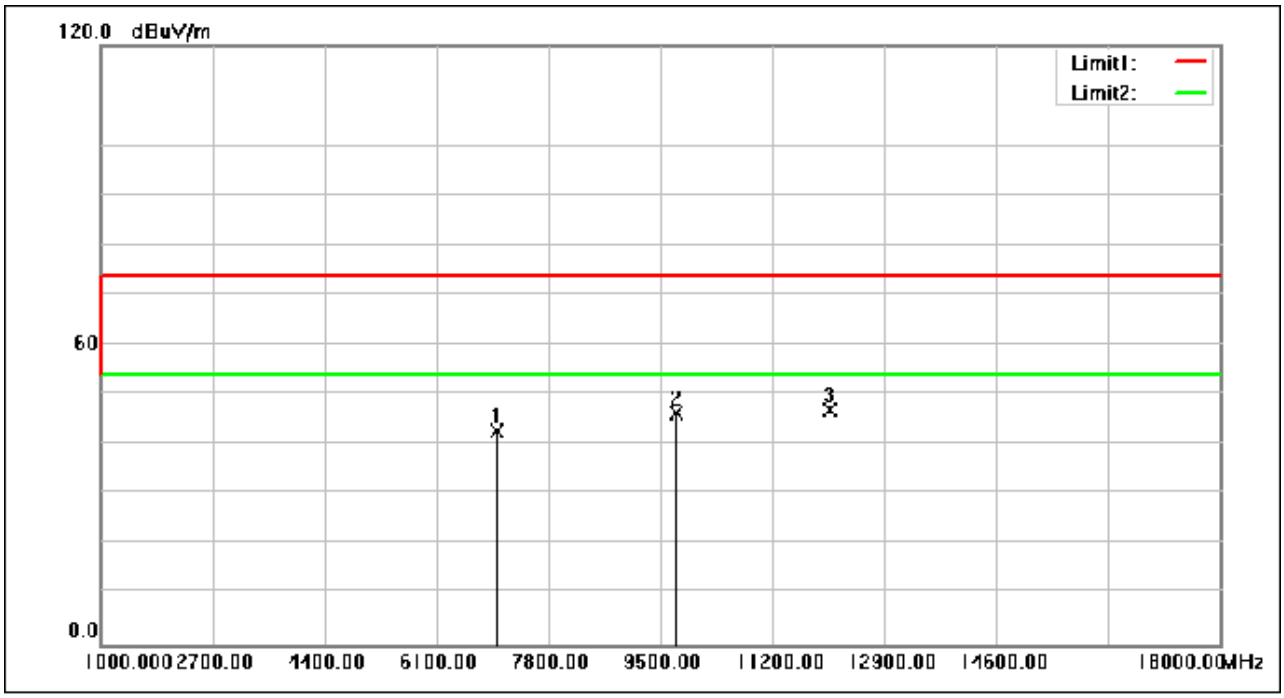
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4823.640	62.80	-18.55	44.25	74.00	-29.75	peak
2	7418.520	56.29	-11.36	44.93	74.00	-29.07	peak
3	11382.240	55.37	-6.46	48.91	74.00	-25.09	peak

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



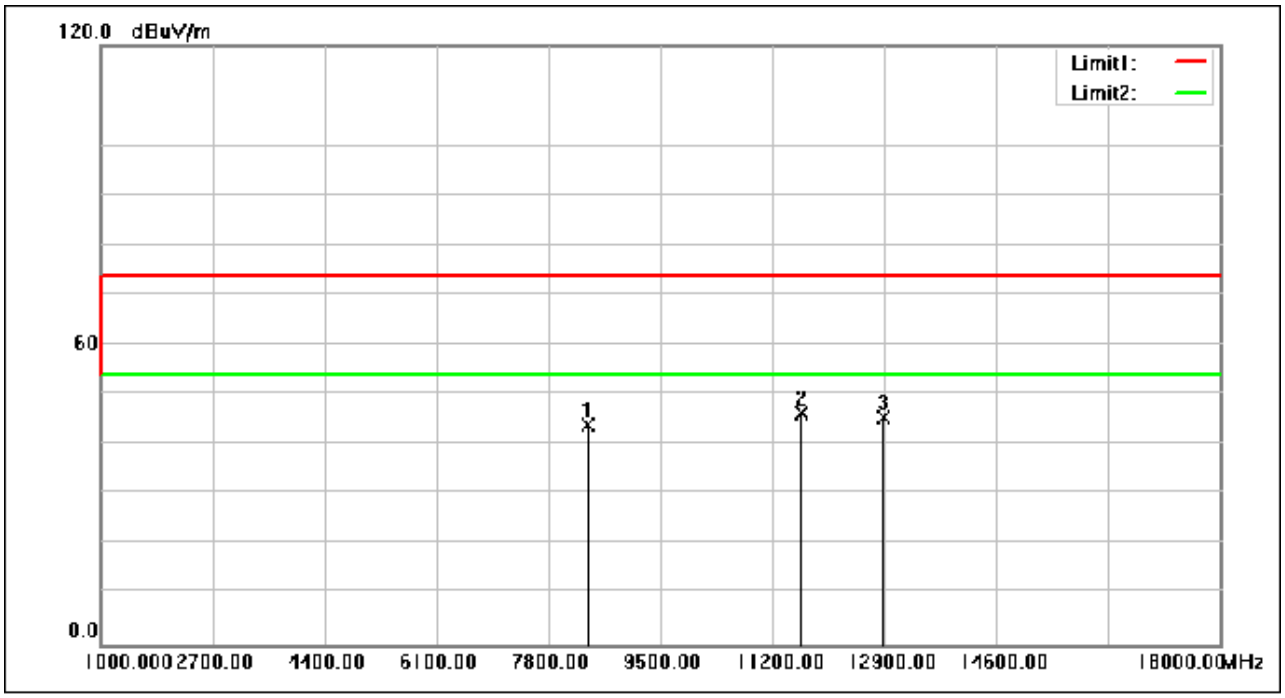
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6476.040	54.41	-13.35	41.06	74.00	-32.94	peak
2	9017.200	55.25	-8.86	46.39	74.00	-27.61	peak
3	11542.720	54.09	-6.33	47.76	74.00	-26.24	peak

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



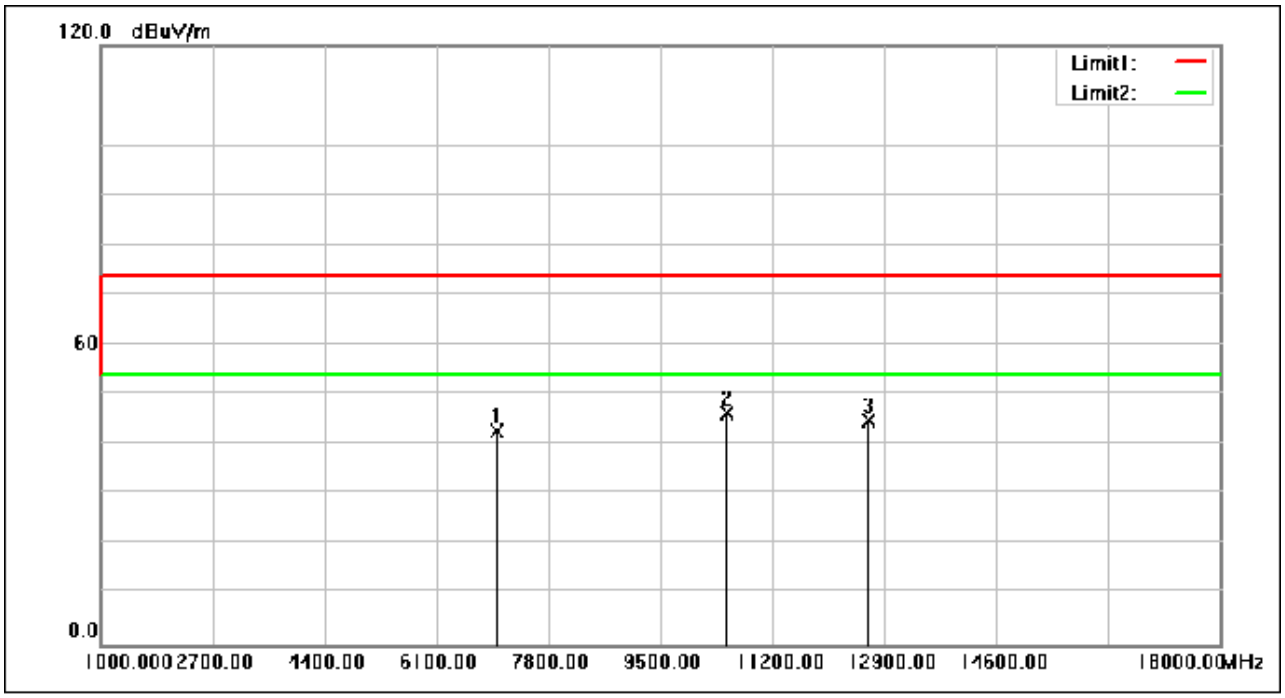
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7030.240	54.22	-11.56	42.66	74.00	-31.34	peak
2	9739.360	53.80	-7.50	46.30	74.00	-27.70	peak
3	12080.600	52.79	-5.92	46.87	74.00	-27.13	peak

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



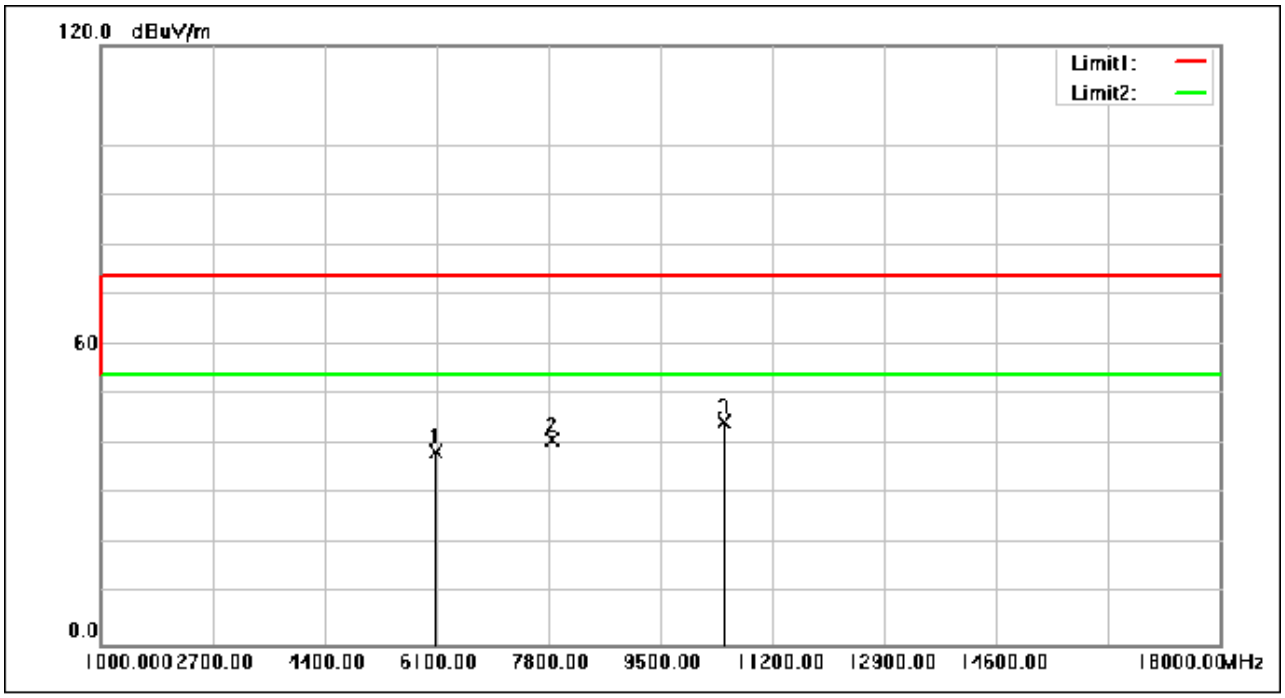
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8411.320	53.91	-9.90	44.01	74.00	-29.99	peak
2	11642.680	52.72	-6.25	46.47	74.00	-27.53	peak
3	12897.960	51.84	-6.30	45.54	74.00	-28.46	peak

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



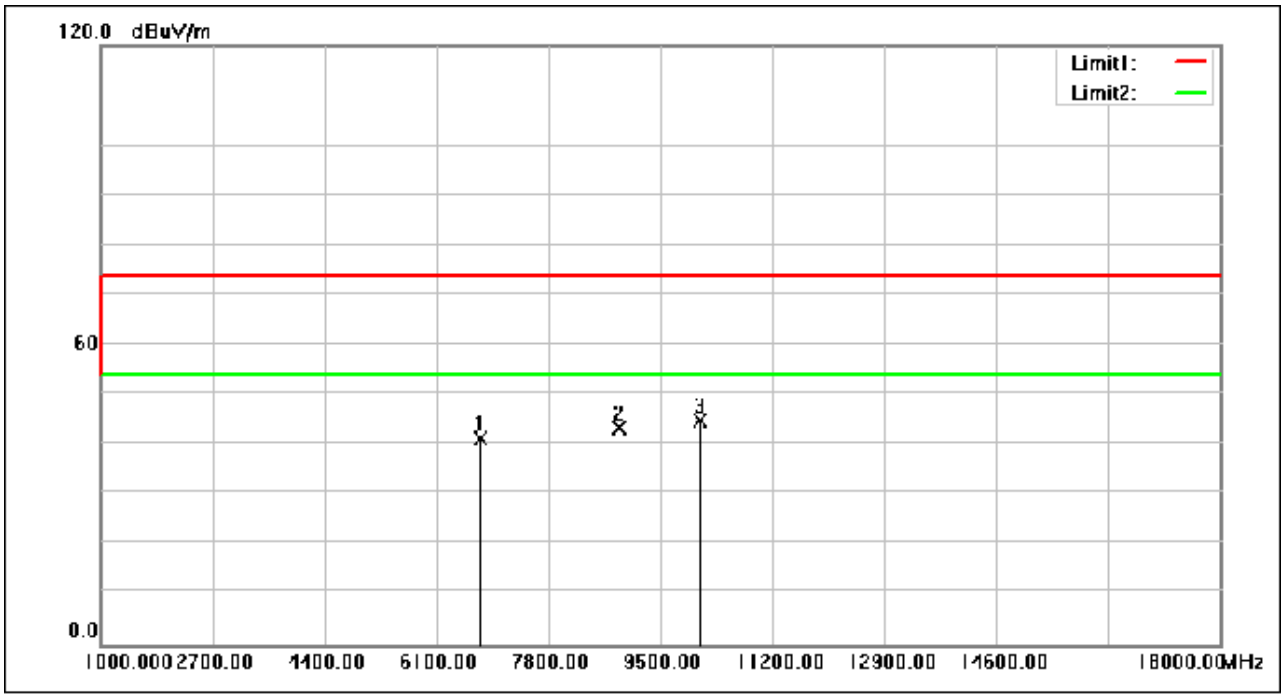
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7018.000	54.39	-11.55	42.84	74.00	-31.16	peak
2	10504.360	53.42	-7.04	46.38	74.00	-27.62	peak
3	12667.440	51.10	-6.19	44.91	74.00	-29.09	peak

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



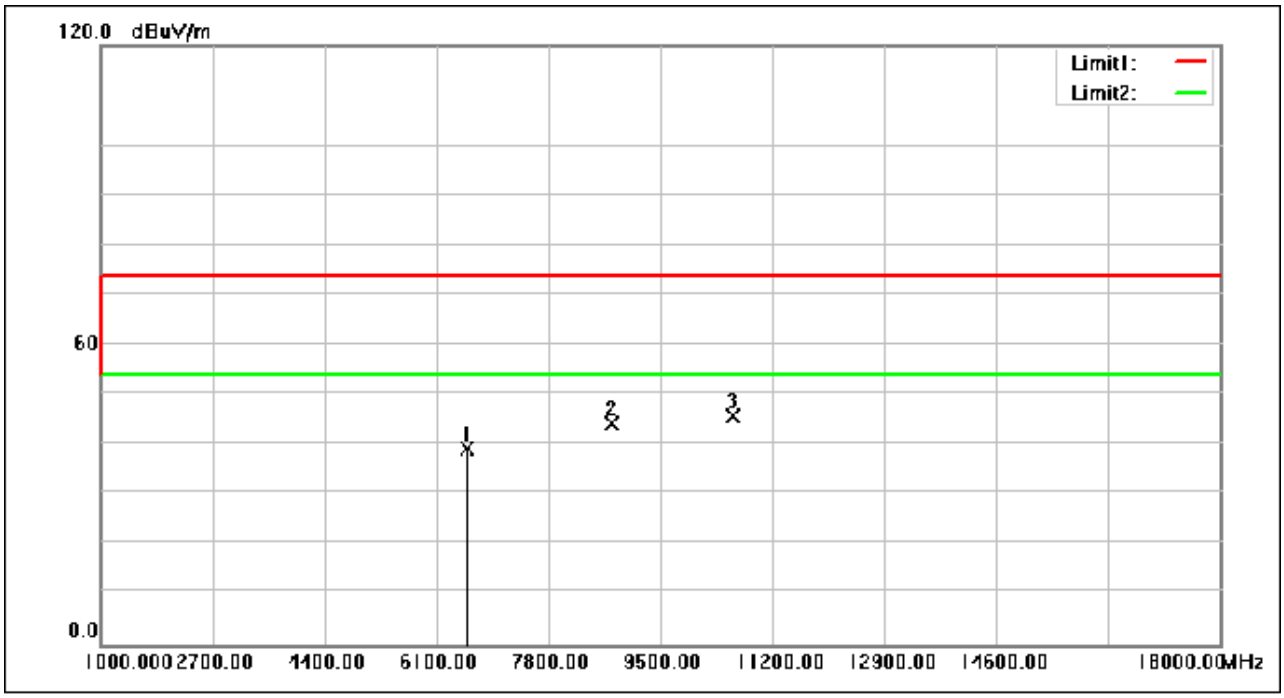
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6092.520	53.79	-15.34	38.45	74.00	-35.55	peak
2	7858.480	51.63	-10.79	40.84	74.00	-33.16	peak
3	10473.080	51.58	-7.06	44.52	74.00	-29.48	peak

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



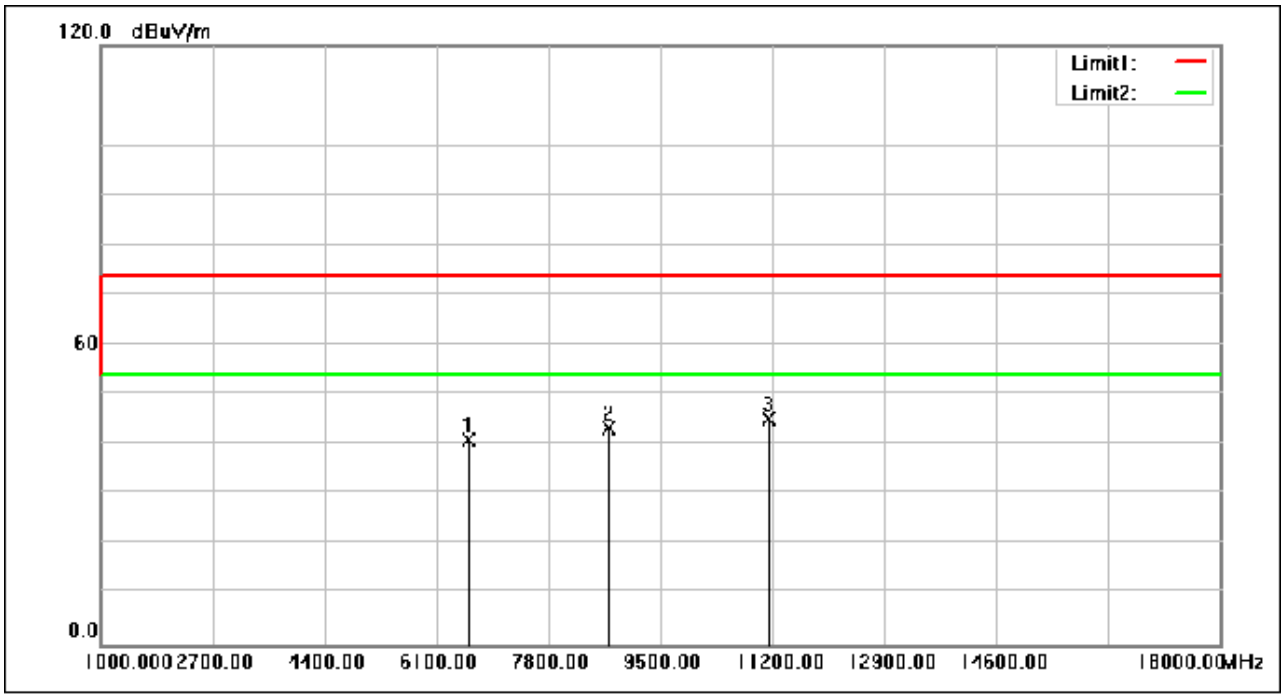
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6773.880	53.26	-11.96	41.30	74.00	-32.70	peak
2	8878.480	52.42	-9.13	43.29	74.00	-30.71	peak
3	10096.360	52.04	-7.27	44.77	74.00	-29.23	peak

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



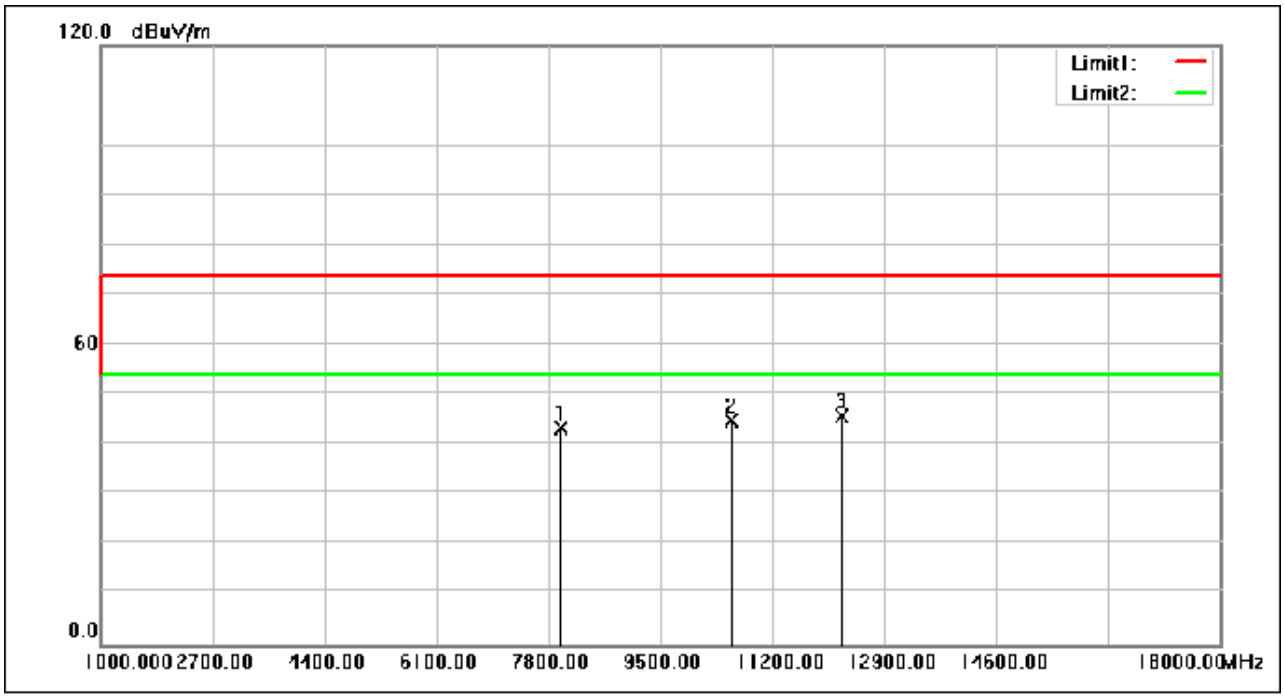
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6574.640	52.06	-12.84	39.22	74.00	-34.78	peak
2	8776.480	53.58	-9.30	44.28	74.00	-29.72	peak
3	10617.240	52.62	-6.97	45.65	74.00	-28.35	peak

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



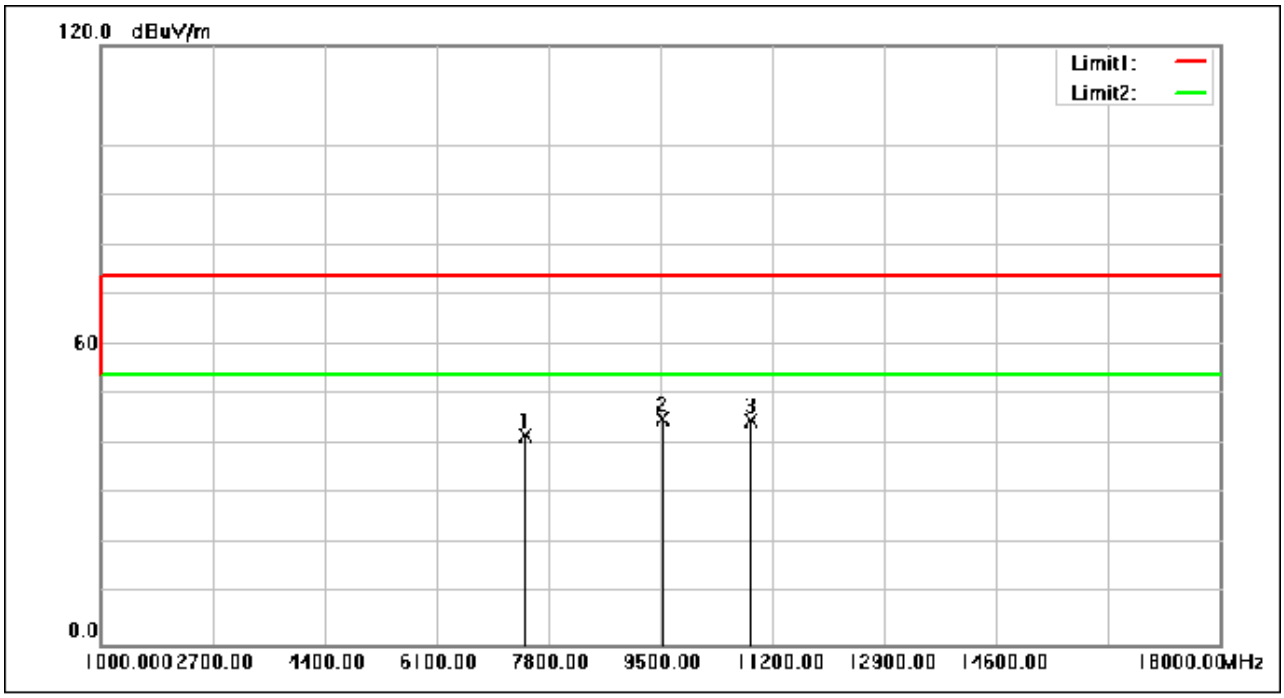
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6594.360	53.56	-12.74	40.82	74.00	-33.18	peak
2	8724.120	52.86	-9.38	43.48	74.00	-30.52	peak
3	11155.800	51.66	-6.63	45.03	74.00	-28.97	peak

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



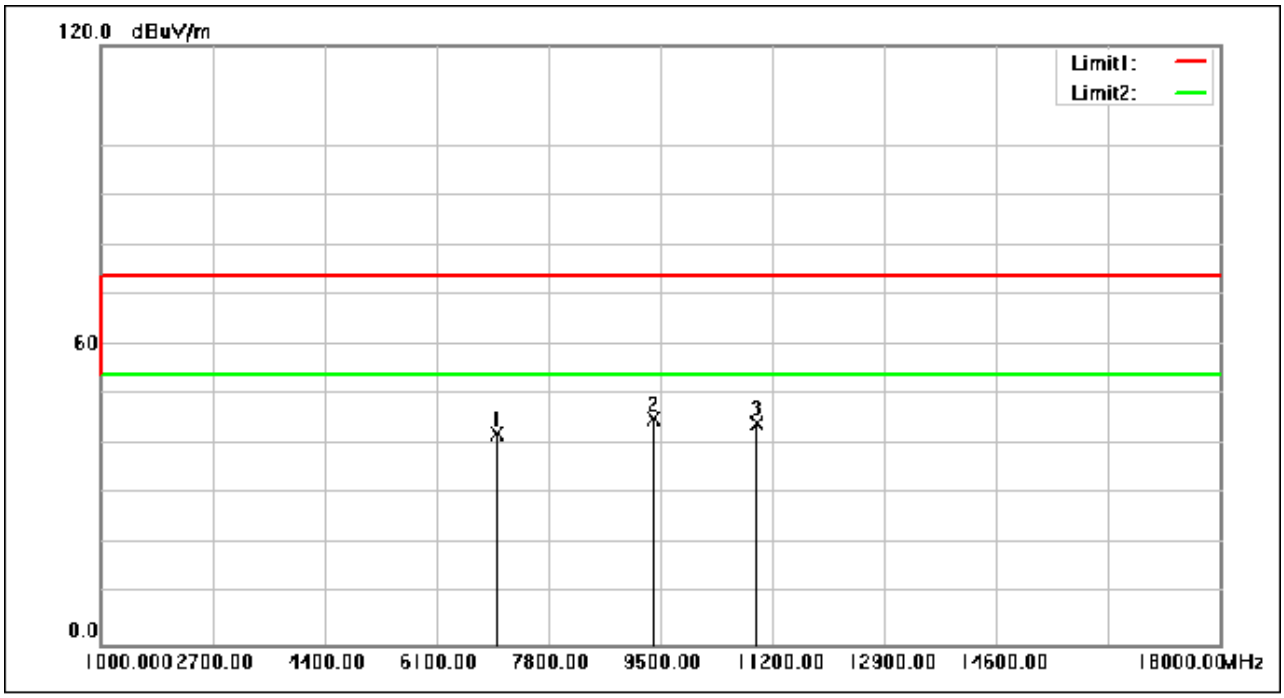
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7987.680	54.03	-10.62	43.41	74.00	-30.59	peak
2	10575.760	51.73	-7.00	44.73	74.00	-29.27	peak
3	12258.760	51.63	-6.00	45.63	74.00	-28.37	peak

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



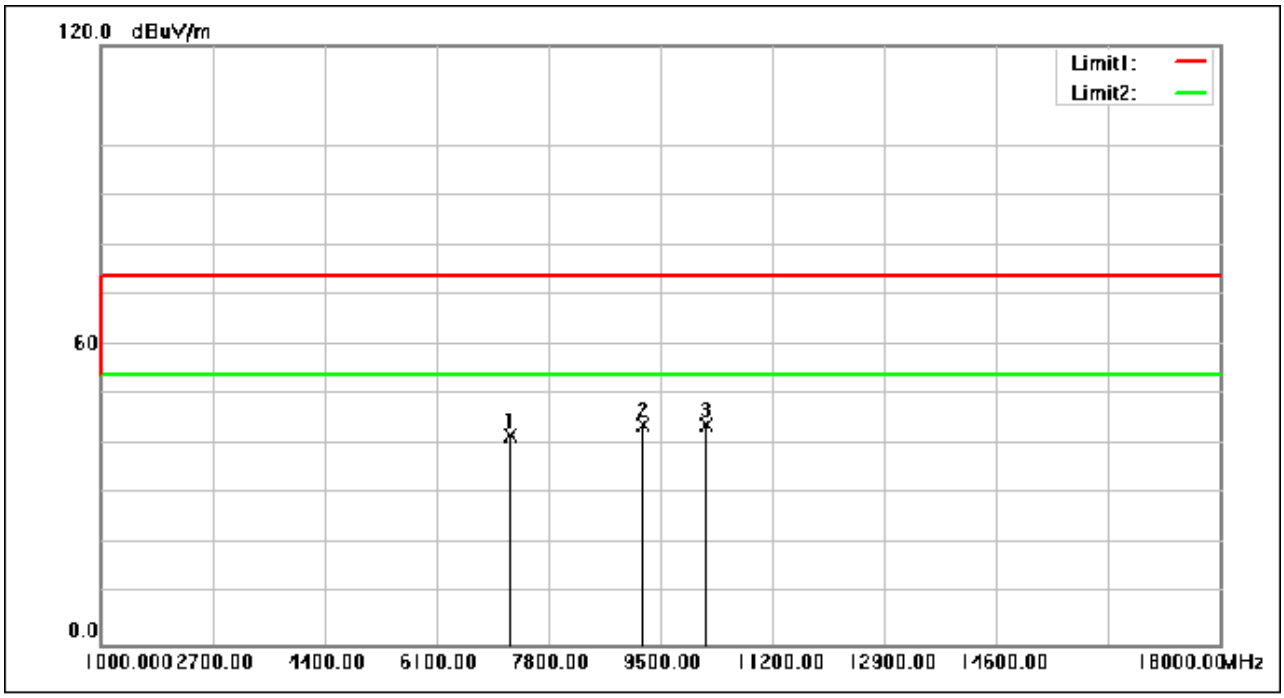
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7459.320	53.28	-11.31	41.97	74.00	-32.03	peak
2	9540.120	53.01	-7.87	45.14	74.00	-28.86	peak
3	10877.000	51.79	-6.83	44.96	74.00	-29.04	peak

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



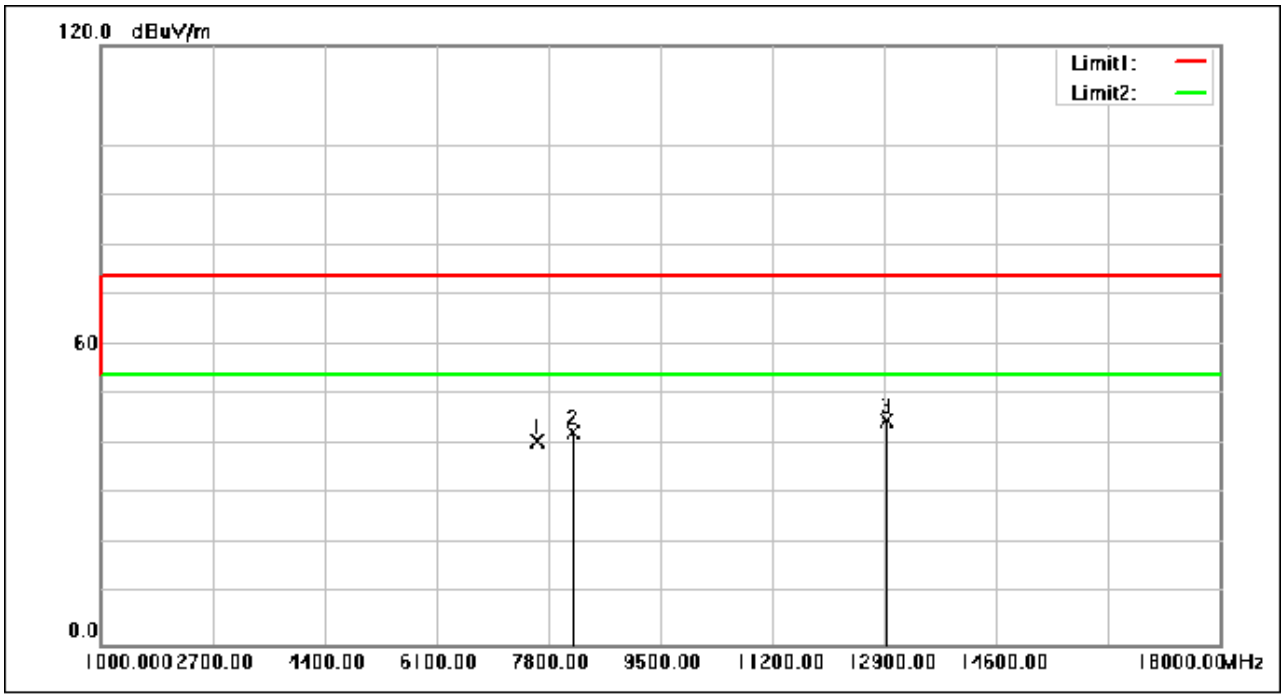
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7030.240	53.75	-11.56	42.19	74.00	-31.81	peak
2	9400.040	53.42	-8.14	45.28	74.00	-28.72	peak
3	10974.240	51.08	-6.78	44.30	74.00	-29.70	peak

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



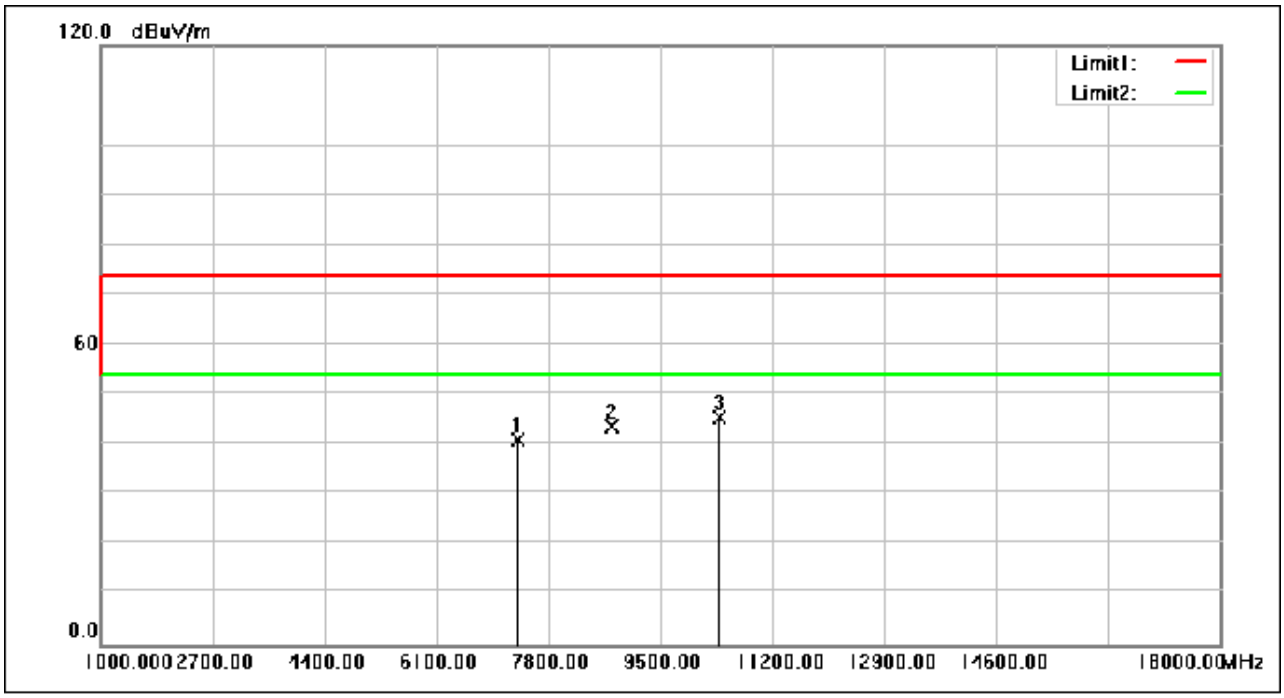
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7233.560	53.31	-11.47	41.84	74.00	-32.16	peak
2	9249.760	52.33	-8.42	43.91	74.00	-30.09	peak
3	10207.880	51.08	-7.20	43.88	74.00	-30.12	peak

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



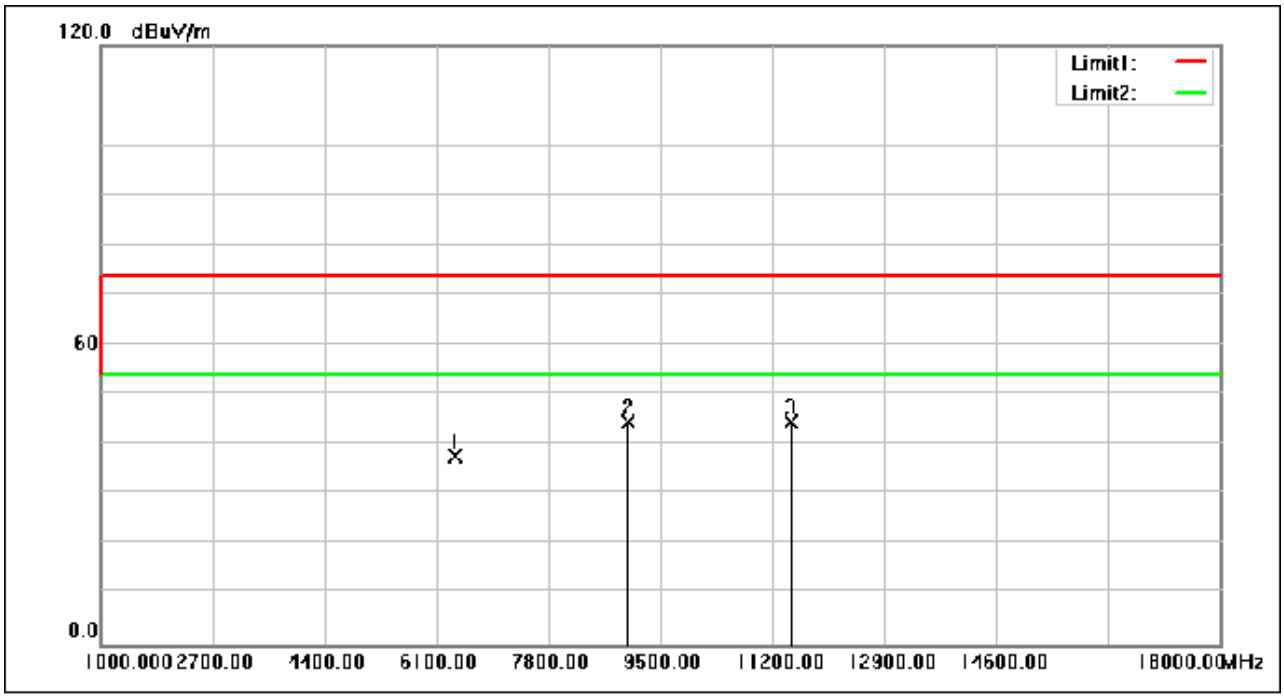
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7640.200	51.77	-11.08	40.69	74.00	-33.31	peak
2	8179.440	52.64	-10.29	42.35	74.00	-31.65	peak
3	12938.080	51.26	-6.31	44.95	74.00	-29.05	peak

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



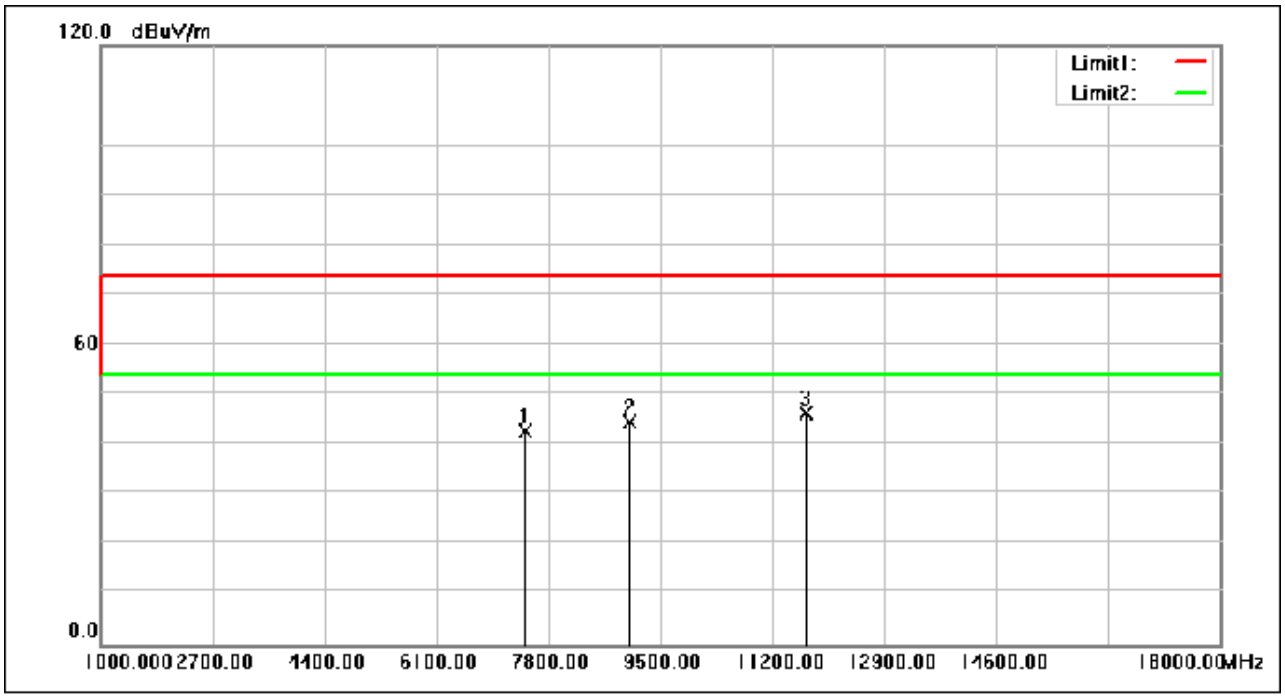
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7341.000	52.50	-11.42	41.08	74.00	-32.92	peak
2	8773.760	52.83	-9.30	43.53	74.00	-30.47	peak
3	10402.360	52.64	-7.10	45.54	74.00	-28.46	peak

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



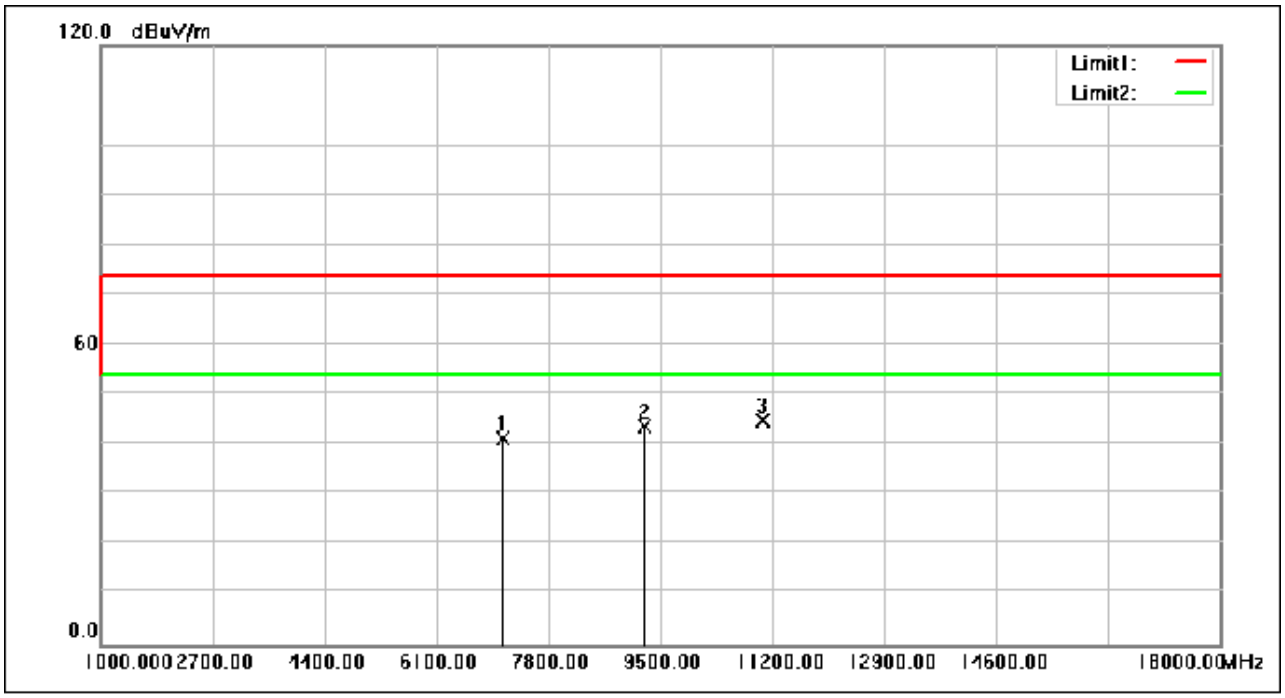
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6401.240	51.29	-13.74	37.55	74.00	-36.45	peak
2	9011.080	53.37	-8.88	44.49	74.00	-29.51	peak
3	11503.280	50.85	-6.36	44.49	74.00	-29.51	peak

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



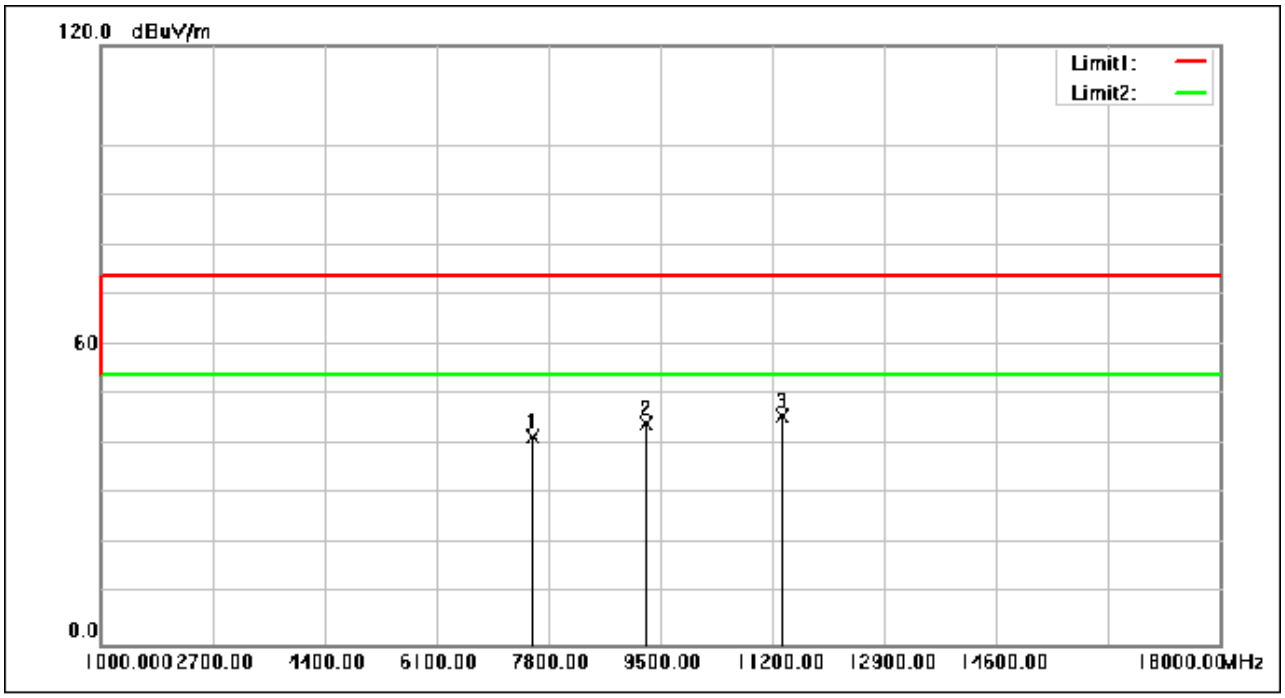
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7453.200	54.22	-11.32	42.90	74.00	-31.10	peak
2	9045.760	53.23	-8.81	44.42	74.00	-29.58	peak
3	11723.600	52.53	-6.18	46.35	74.00	-27.65	peak

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



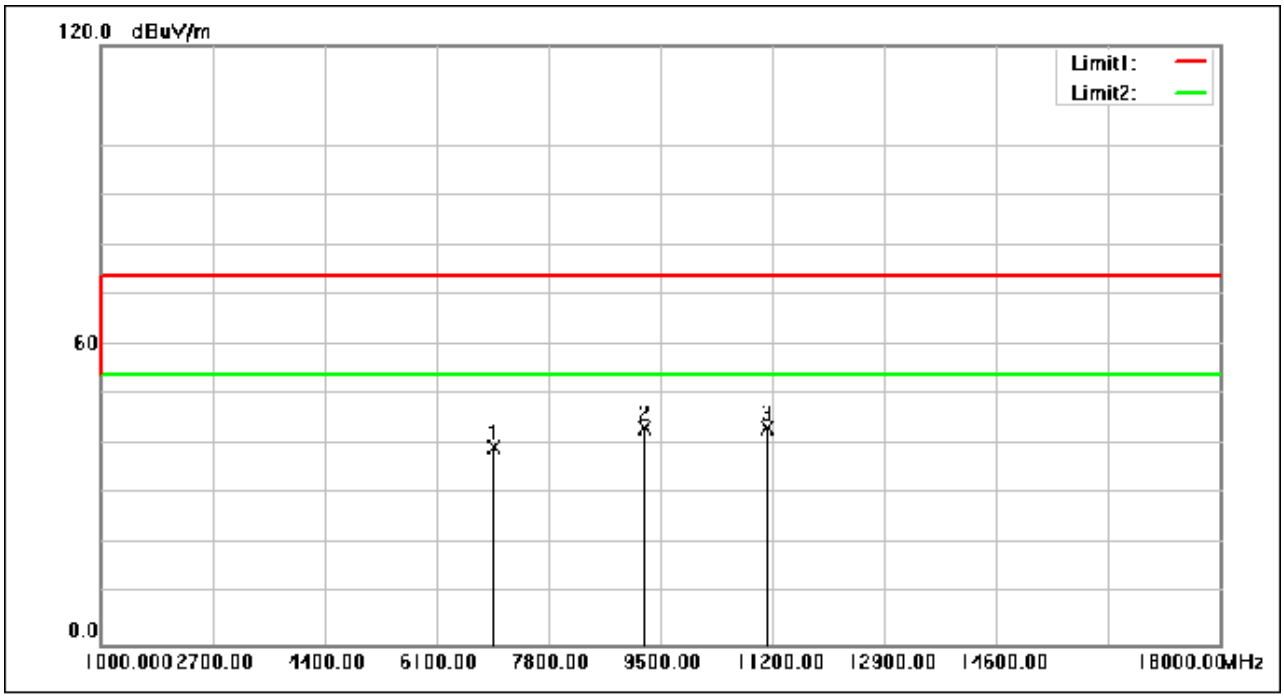
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7104.360	52.72	-11.52	41.20	74.00	-32.80	peak
2	9263.360	52.19	-8.40	43.79	74.00	-30.21	peak
3	11049.720	51.51	-6.72	44.79	74.00	-29.21	peak

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



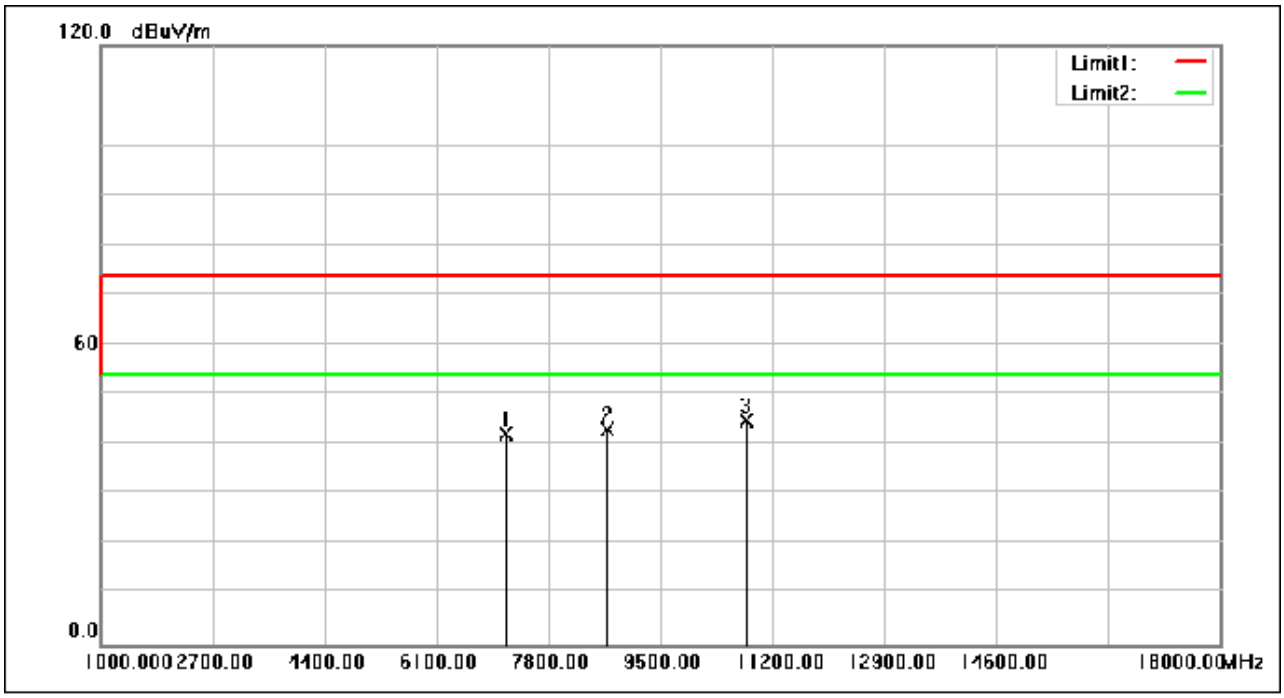
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7572.200	52.70	-11.16	41.54	74.00	-32.46	peak
2	9292.600	52.48	-8.35	44.13	74.00	-29.87	peak
3	11368.640	52.27	-6.46	45.81	74.00	-28.19	peak

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



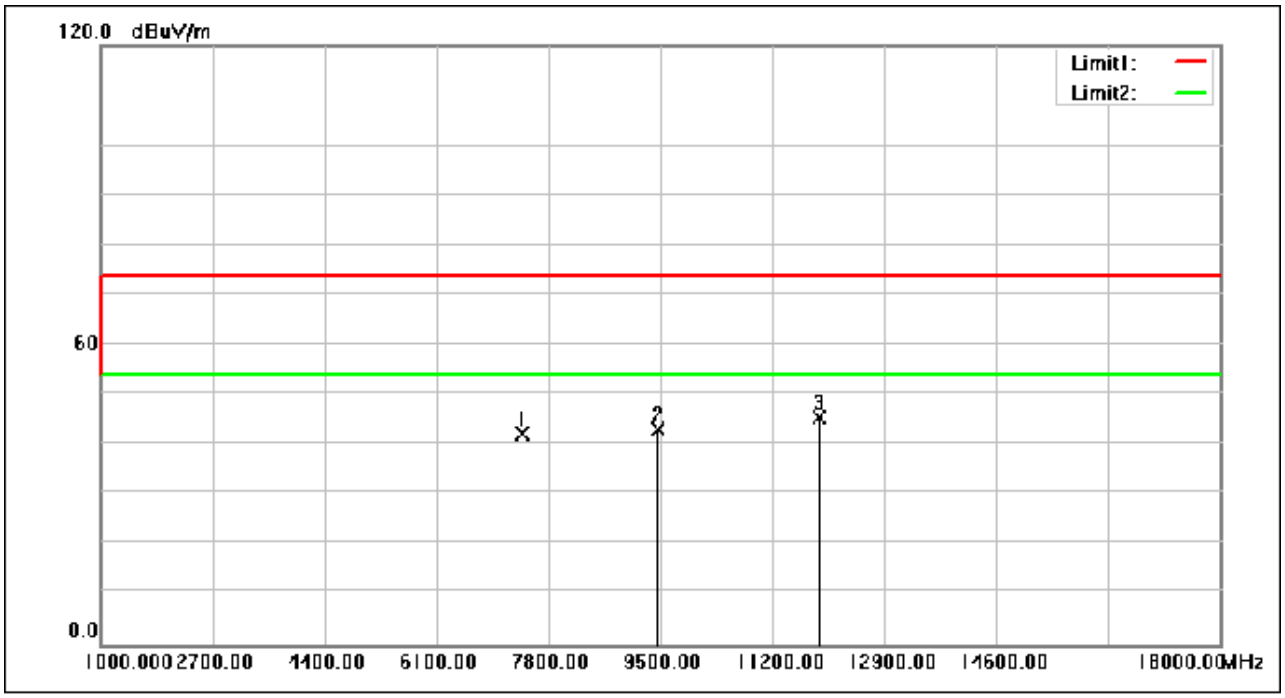
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6981.280	50.98	-11.60	39.38	74.00	-34.62	peak
2	9274.920	51.74	-8.38	43.36	74.00	-30.64	peak
3	11126.560	50.01	-6.66	43.35	74.00	-30.65	peak

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



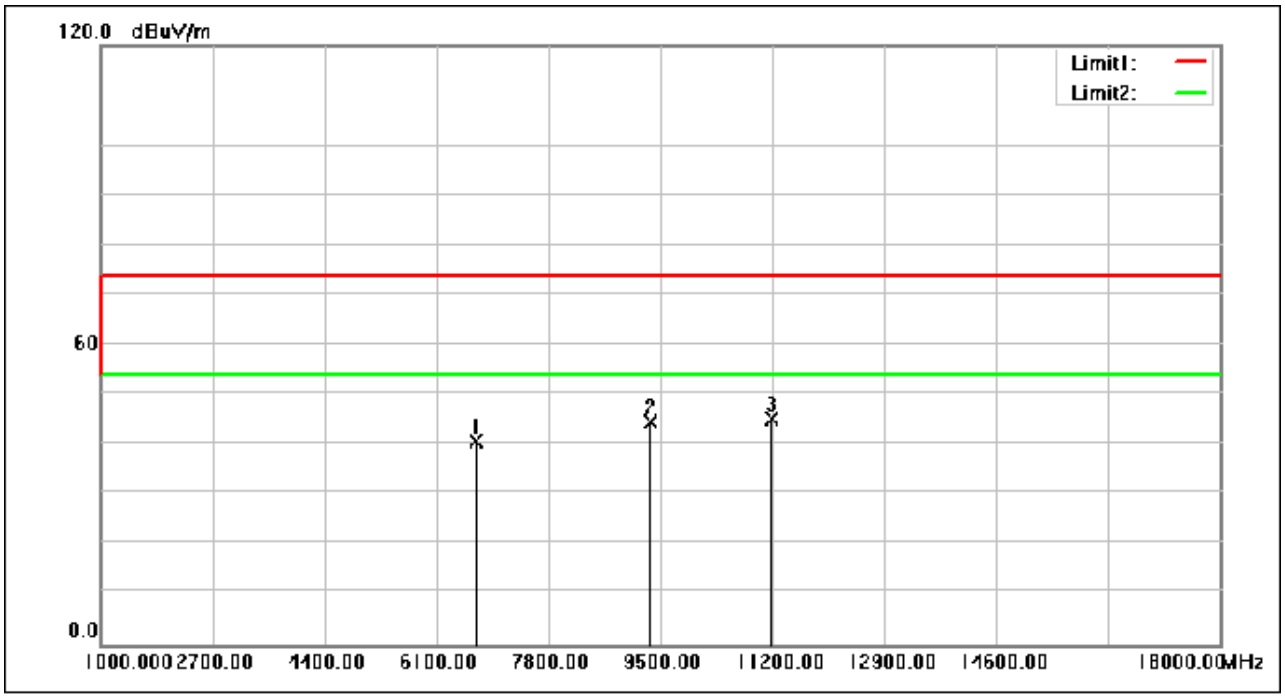
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7154.680	53.61	-11.50	42.11	74.00	-31.89	peak
2	8706.440	52.42	-9.41	43.01	74.00	-30.99	peak
3	10819.880	51.82	-6.86	44.96	74.00	-29.04	peak

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



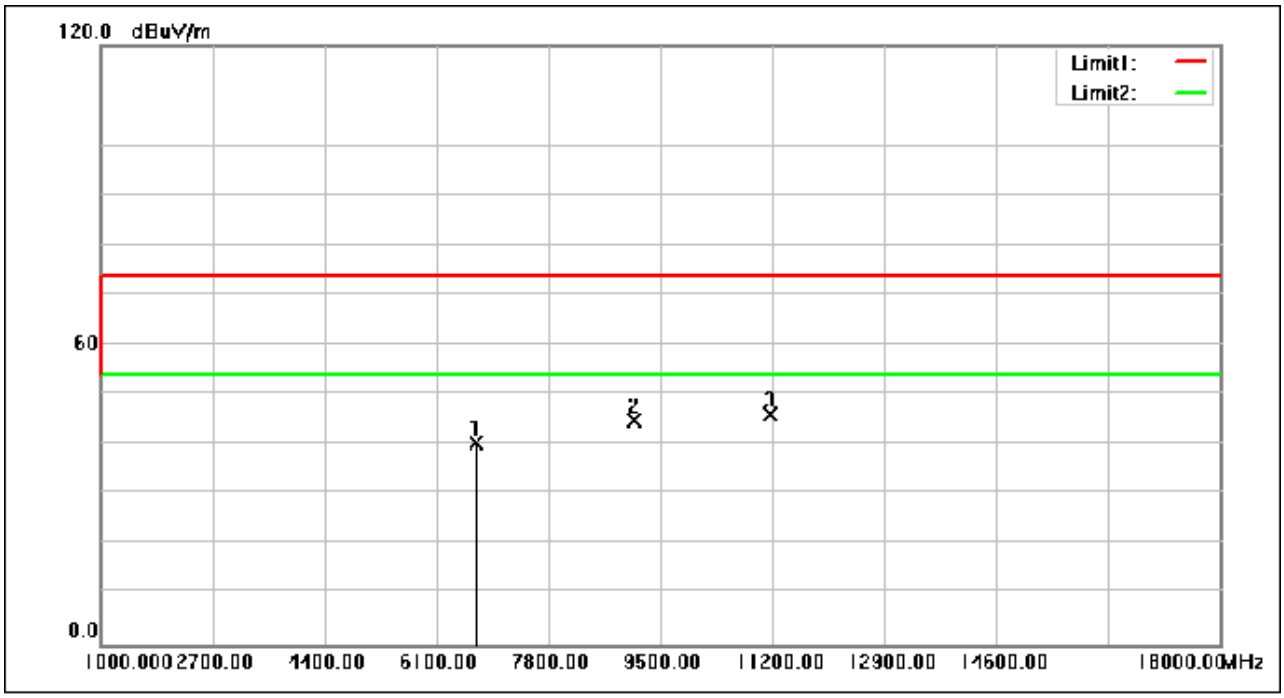
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7412.400	53.65	-11.37	42.28	74.00	-31.72	peak
2	9480.960	51.18	-7.99	43.19	74.00	-30.81	peak
3	11924.200	51.43	-6.02	45.41	74.00	-28.59	peak

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



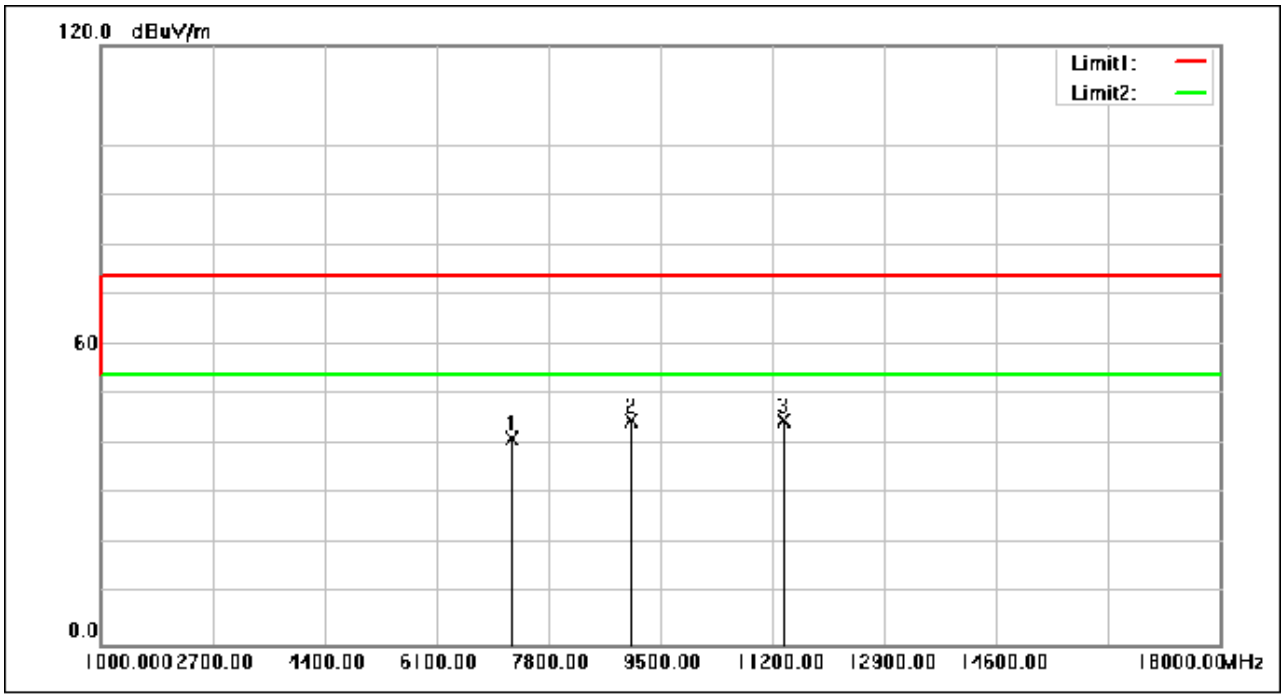
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6706.560	52.93	-12.14	40.79	74.00	-33.21	peak
2	9357.880	52.73	-8.23	44.50	74.00	-29.50	peak
3	11185.040	51.80	-6.61	45.19	74.00	-28.81	peak

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



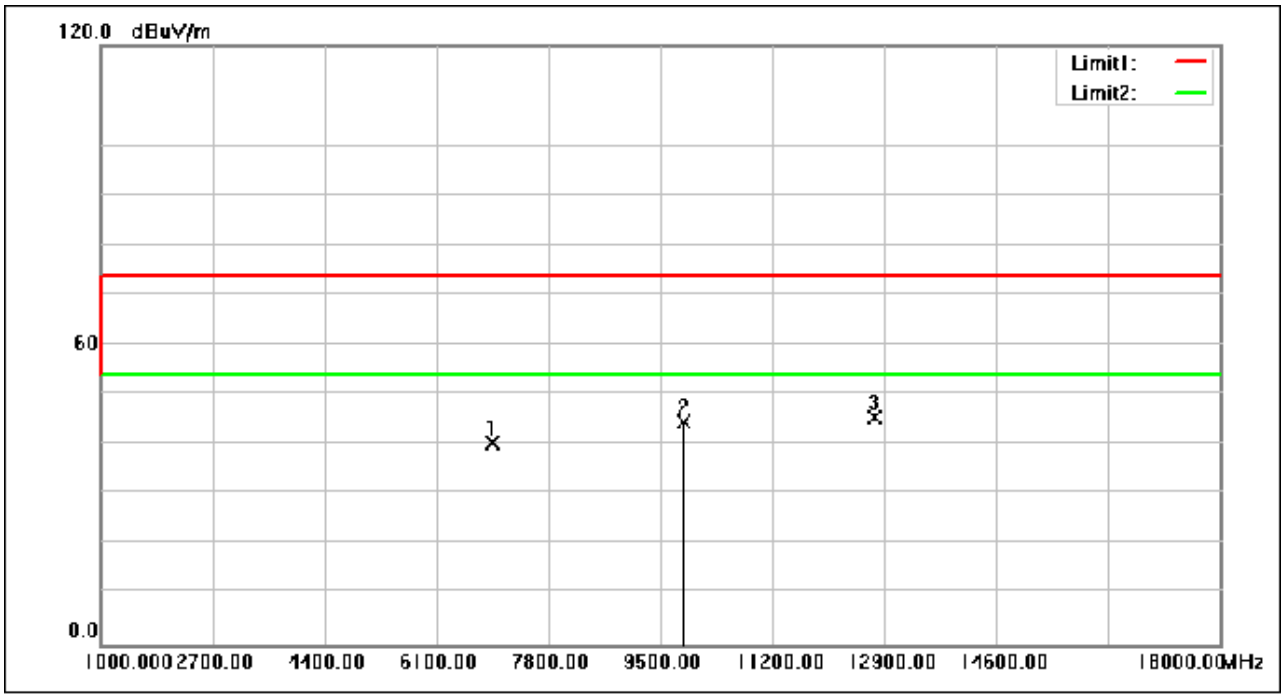
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6699.760	52.51	-12.18	40.33	74.00	-33.67	peak
2	9120.560	53.65	-8.67	44.98	74.00	-29.02	peak
3	11180.280	52.66	-6.62	46.04	74.00	-27.96	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:Low



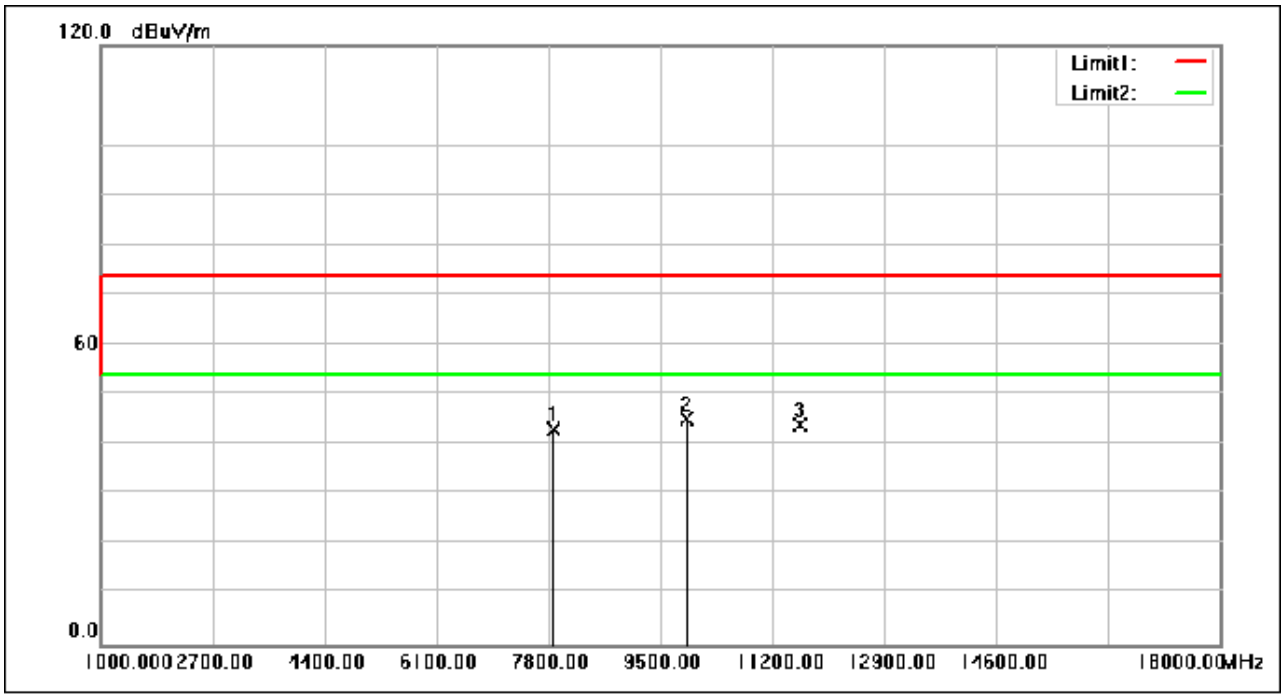
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7251.240	52.58	-11.46	41.12	74.00	-32.88	peak
2	9070.240	53.77	-8.77	45.00	74.00	-29.00	peak
3	11376.120	51.37	-6.45	44.92	74.00	-29.08	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:Low



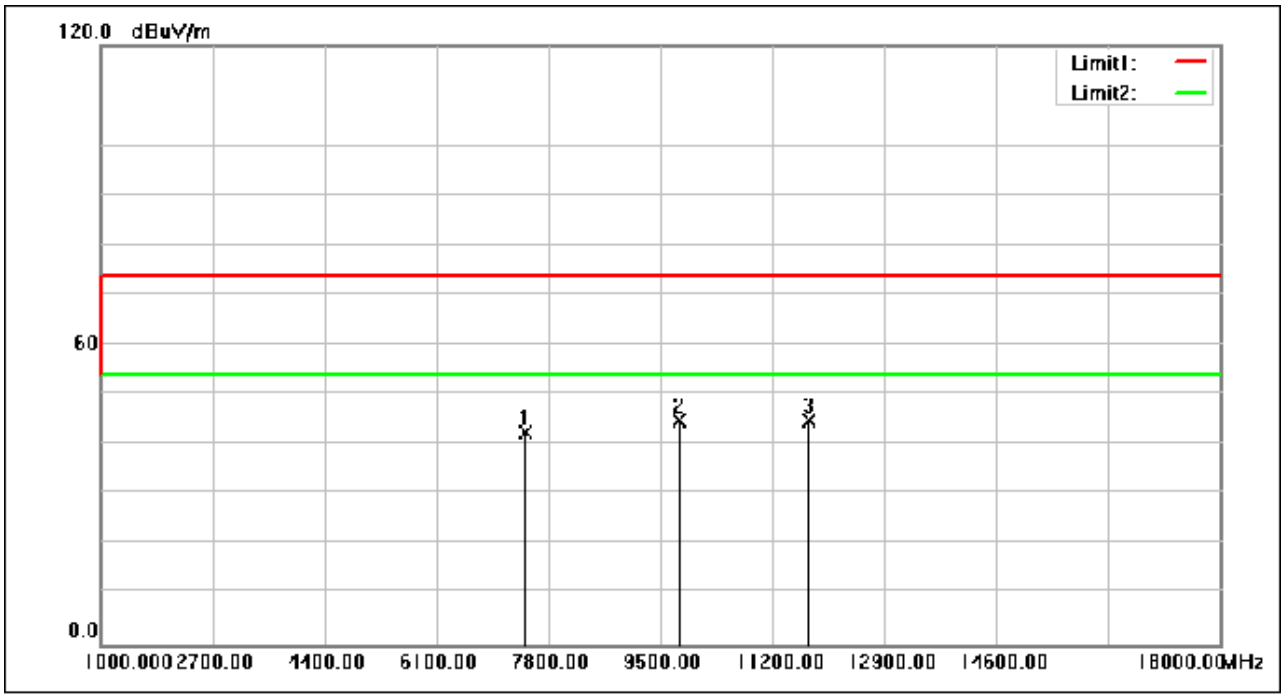
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6952.720	52.07	-11.65	40.42	74.00	-33.58	peak
2	9867.880	51.84	-7.30	44.54	74.00	-29.46	peak
3	12763.320	51.68	-6.23	45.45	74.00	-28.55	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:middle



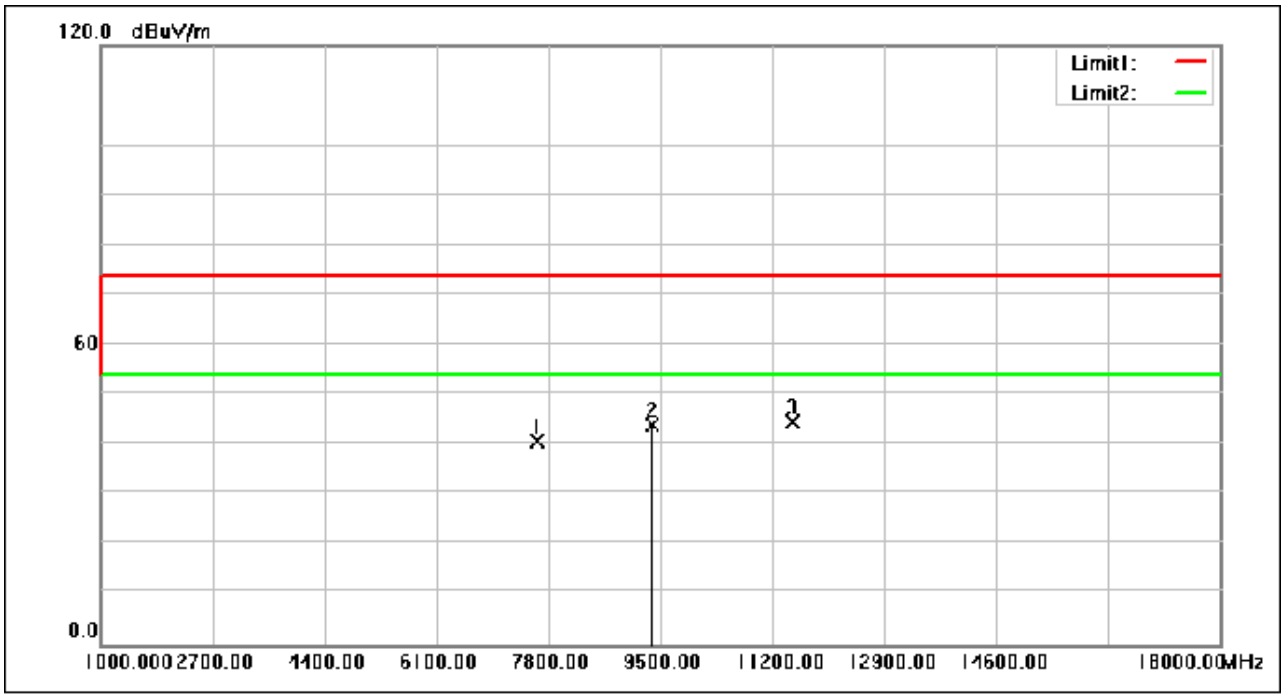
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7897.240	53.93	-10.74	43.19	74.00	-30.81	peak
2	9895.760	52.43	-7.31	45.12	74.00	-28.88	peak
3	11635.880	50.29	-6.25	44.04	74.00	-29.96	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:middle



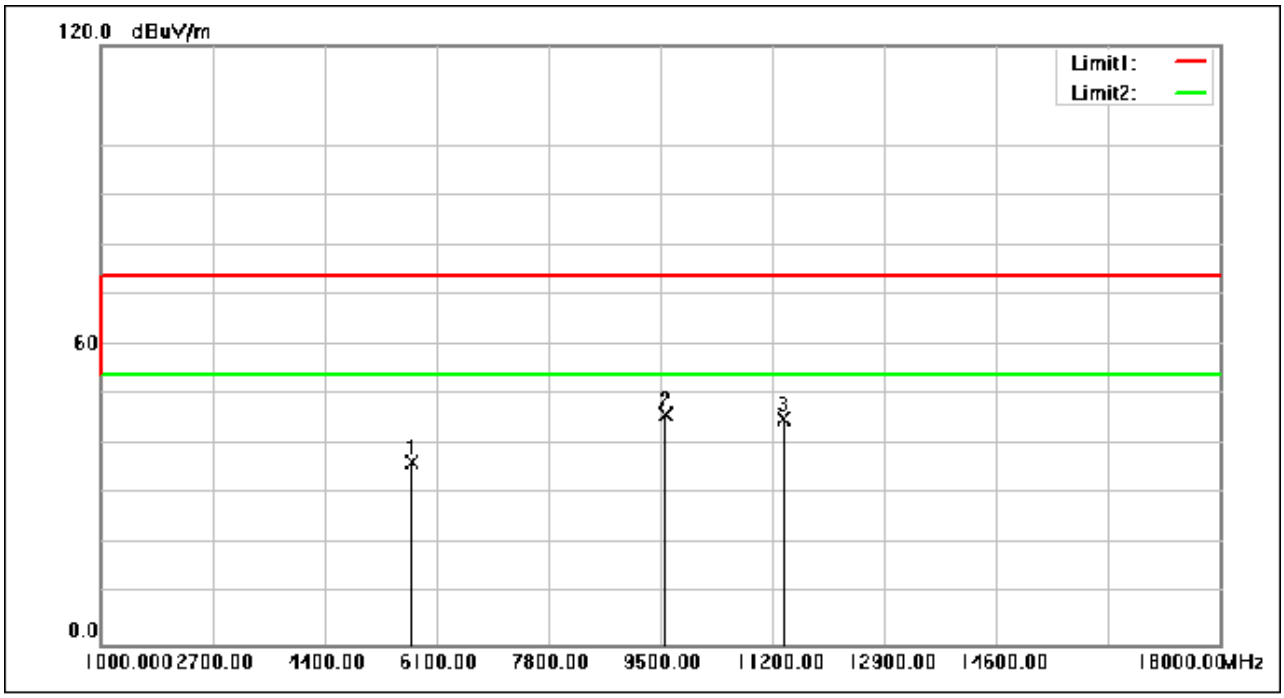
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7451.840	53.82	-11.32	42.50	74.00	-31.50	peak
2	9804.640	52.26	-7.38	44.88	74.00	-29.12	peak
3	11777.320	50.98	-6.13	44.85	74.00	-29.15	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:High



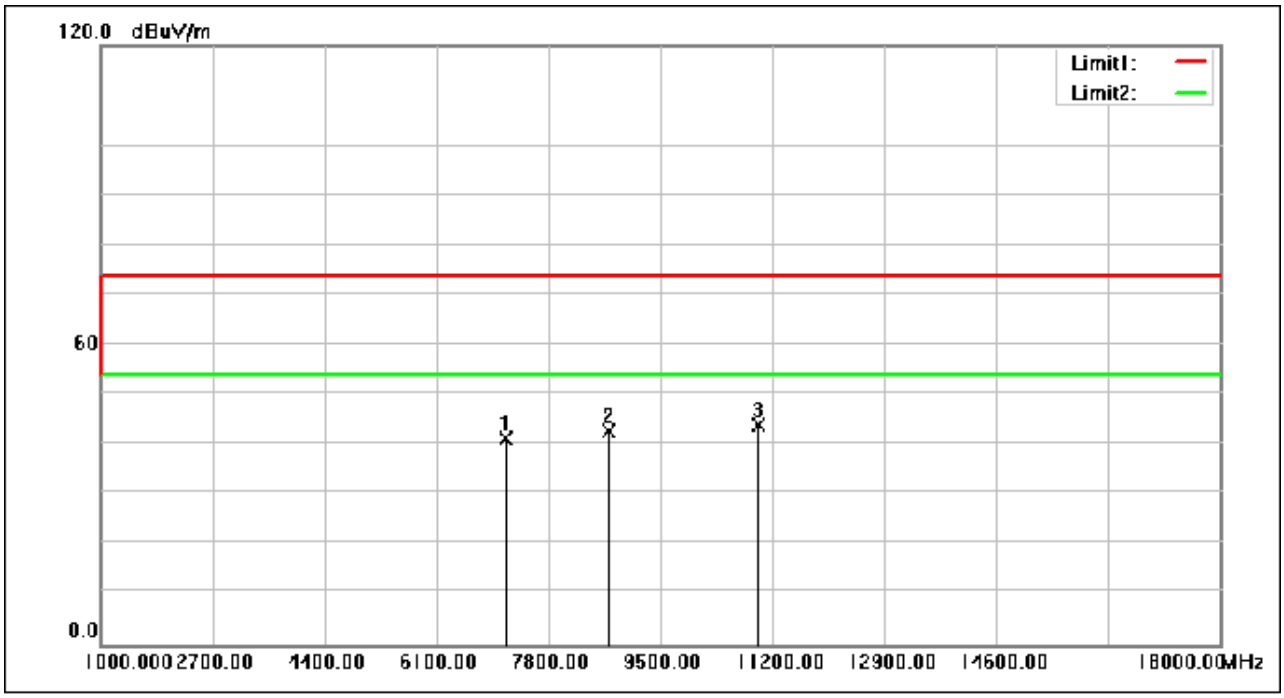
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7637.480	51.80	-11.08	40.72	74.00	-33.28	peak
2	9389.840	52.26	-8.16	44.10	74.00	-29.90	peak
3	11518.920	50.93	-6.34	44.59	74.00	-29.41	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:20MHz; Channel:High



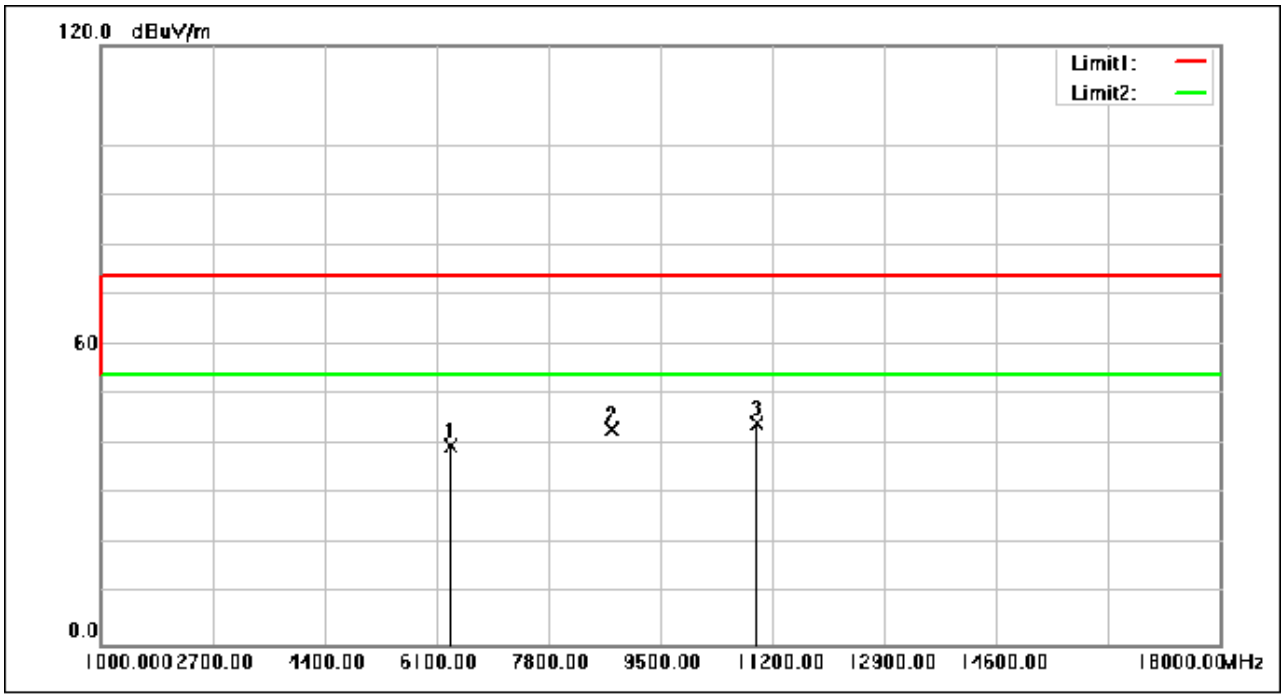
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5736.880	53.27	-16.87	36.40	74.00	-37.60	peak
2	9597.920	53.73	-7.77	45.96	74.00	-28.04	peak
3	11379.520	51.65	-6.46	45.19	74.00	-28.81	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:Low



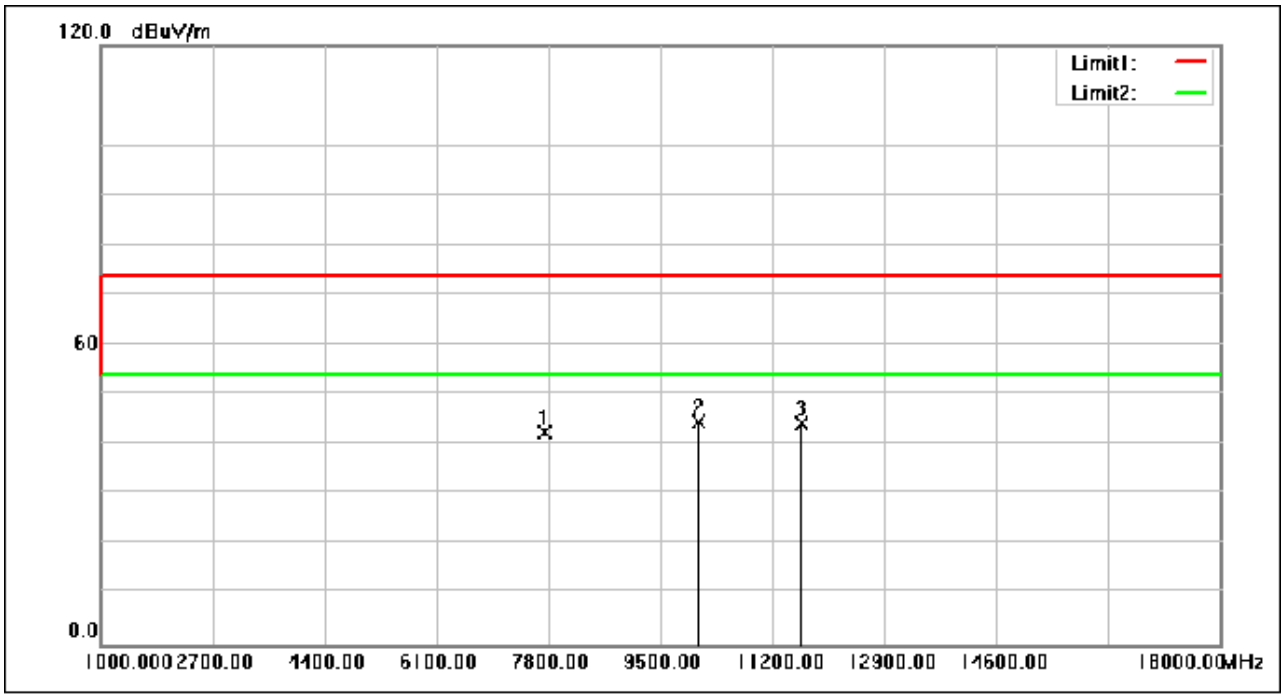
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7161.480	52.66	-11.49	41.17	74.00	-32.83	peak
2	8730.920	51.99	-9.37	42.62	74.00	-31.38	peak
3	10991.920	50.69	-6.77	43.92	74.00	-30.08	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:Low



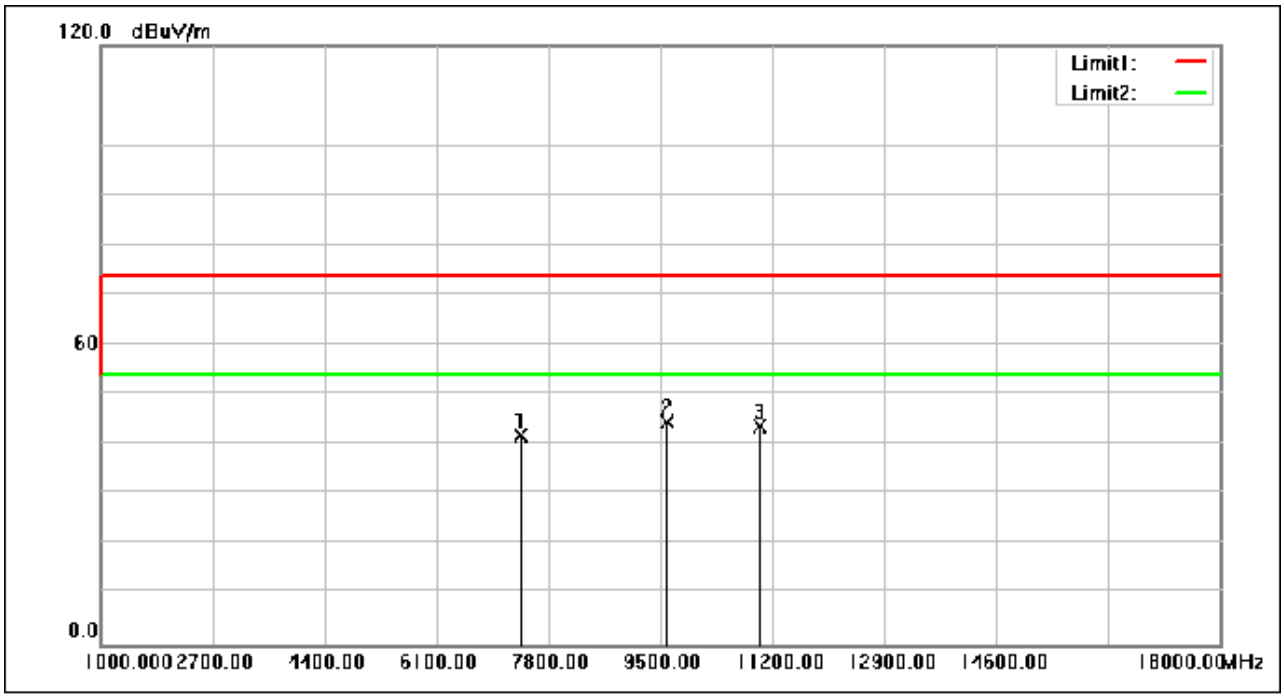
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6324.400	53.85	-14.14	39.71	74.00	-34.29	peak
2	8775.120	52.42	-9.30	43.12	74.00	-30.88	peak
3	10970.840	51.03	-6.78	44.25	74.00	-29.75	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:middle



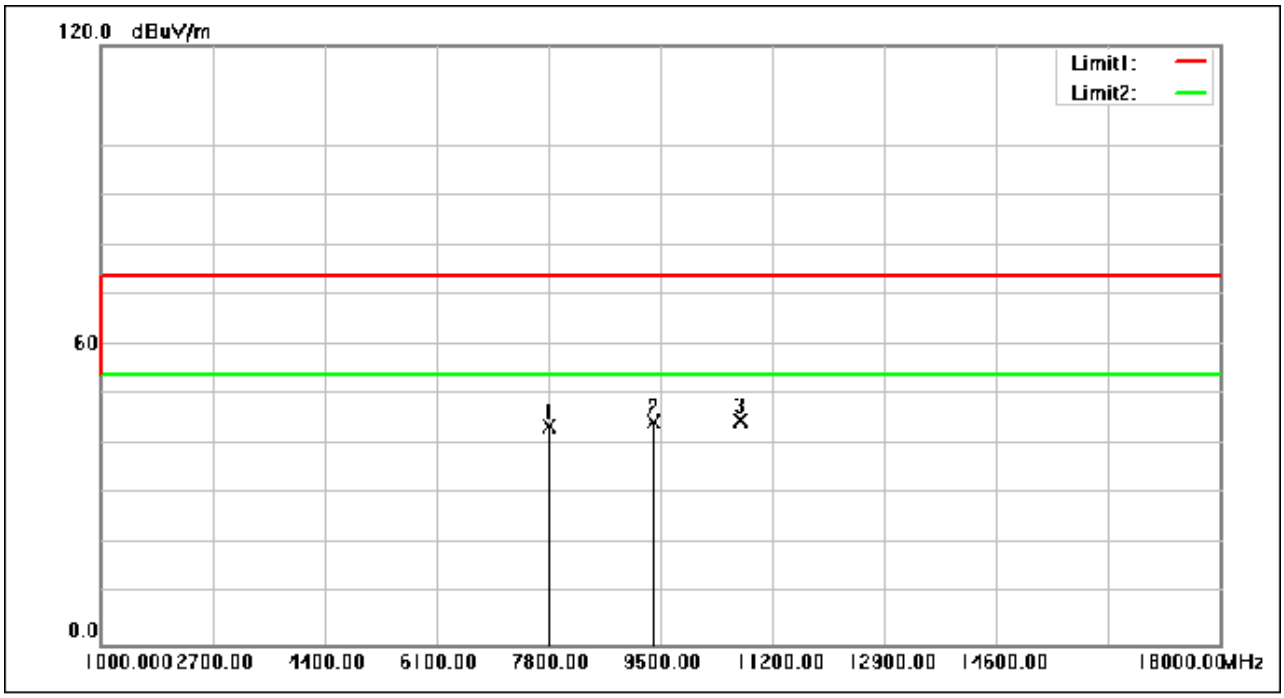
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7751.040	53.27	-10.93	42.34	74.00	-31.66	peak
2	10084.800	51.97	-7.28	44.69	74.00	-29.31	peak
3	11655.600	50.48	-6.23	44.25	74.00	-29.75	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:middle



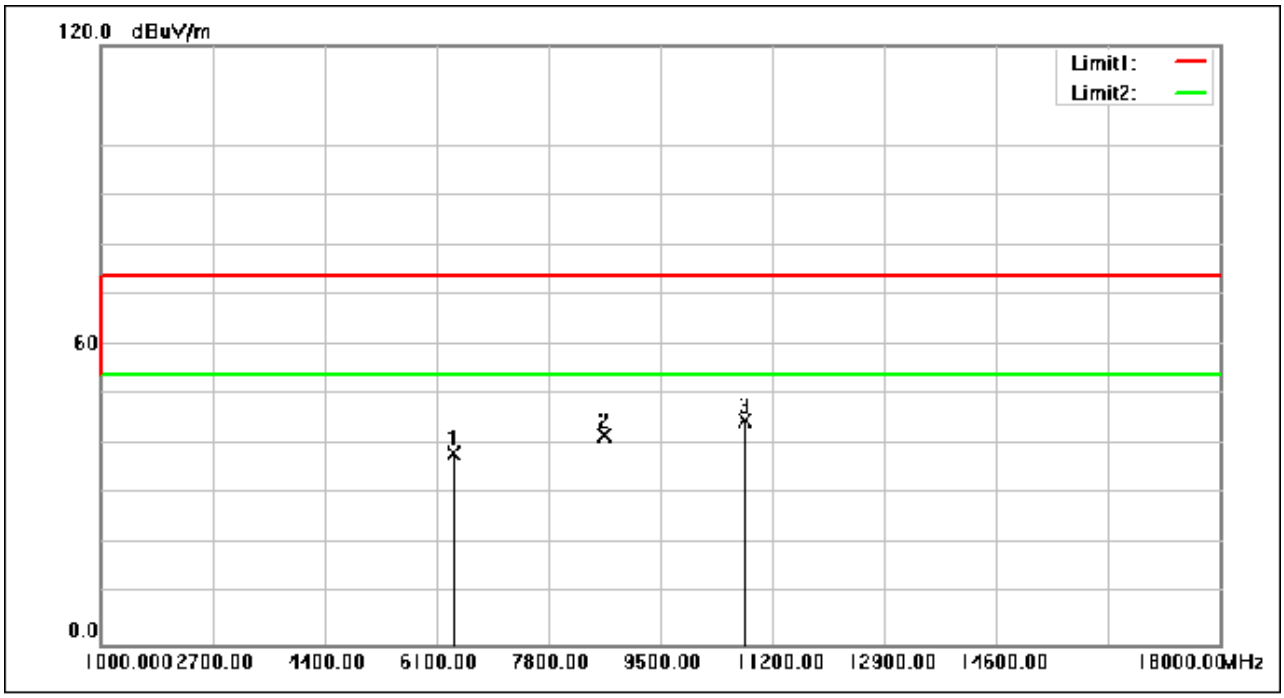
No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7391.320	53.29	-11.40	41.89	74.00	-32.11	peak
2	9604.040	52.35	-7.76	44.59	74.00	-29.41	peak
3	11025.920	50.53	-6.74	43.79	74.00	-30.21	peak

Test Mode: 00; Polarity: Horizontal; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7819.040	54.43	-10.84	43.59	74.00	-30.41	peak
2	9405.480	52.58	-8.13	44.45	74.00	-29.55	peak
3	10722.640	51.81	-6.91	44.90	74.00	-29.10	peak

Test Mode: 00; Polarity: Vertical; Modulation:802.11ax(Full RU0); Bandwidth:40MHz; Channel:High



No.	Frequency (MHz)	Reading (dBuV/m)	Correction factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6355.680	52.15	-13.98	38.17	74.00	-35.83	peak
2	8665.640	51.18	-9.48	41.70	74.00	-32.30	peak
3	10786.560	51.84	-6.87	44.97	74.00	-29.03	peak

7.5 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)
Test Method: ANSI C63.10 (2013) Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ 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

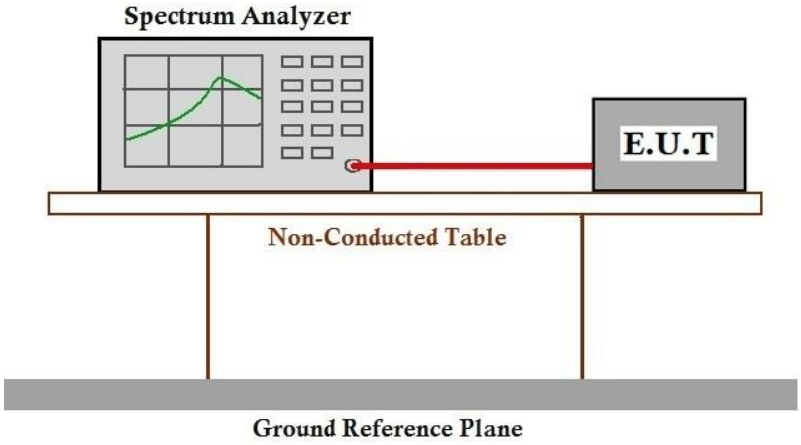
7.5.1 E.U.T. Operation

Operating Environment:
Temperature: 20.5 °C Humidity: 50.5 % 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

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

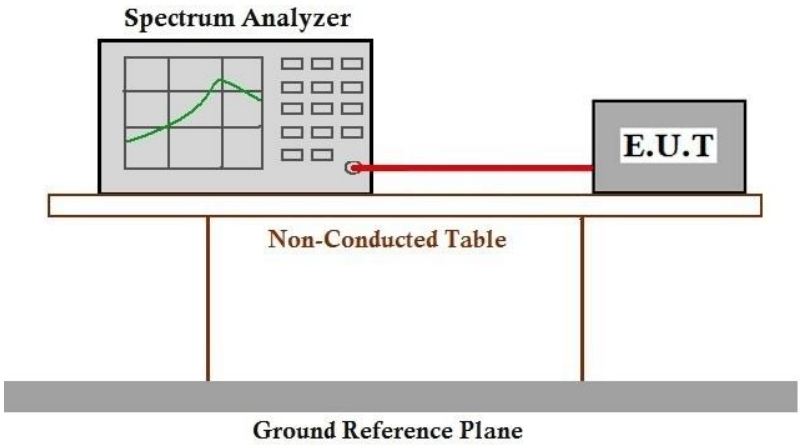
Operating Environment:

Temperature: 20.5 °C Humidity: 50.5 % 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.7 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

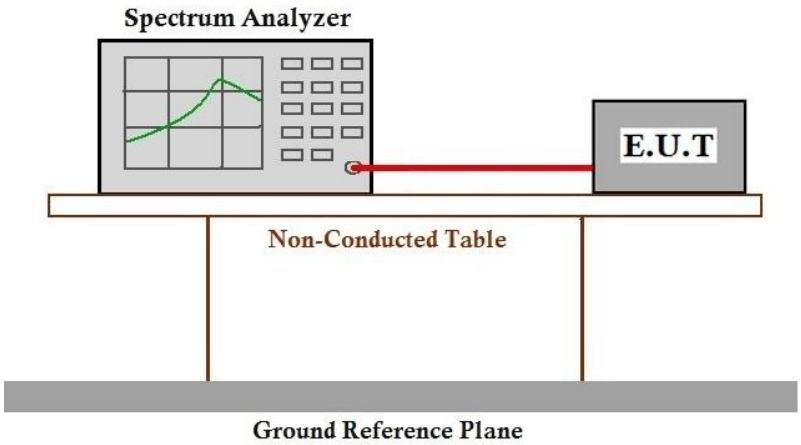
7.7.1 E.U.T. Operation

Operating Environment:
Temperature: 20.5 °C Humidity: 50.5 % 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 Conducted 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

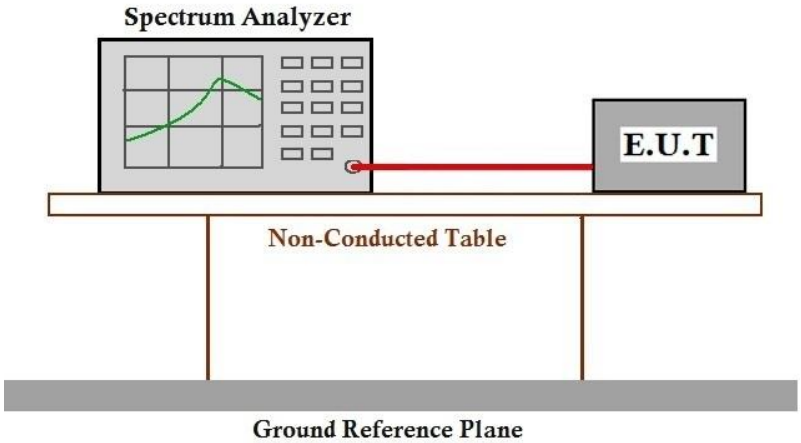
Operating Environment:

Temperature: 20.5 °C Humidity: 50.5 % 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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

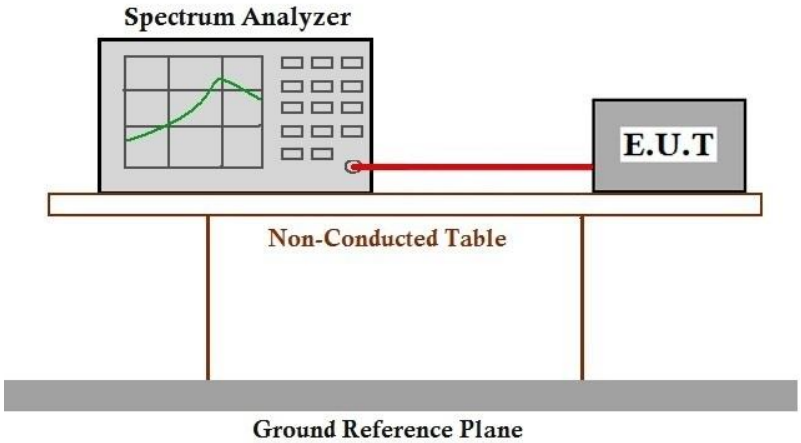
Operating Environment:

Temperature: 20.5 °C Humidity: 50.5 % 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.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

7.10 99% Bandwidth

Test Requirement RSS-Gen Section 6.7
Test Method: ANSI C63.10 (2013) Section 6.9.3

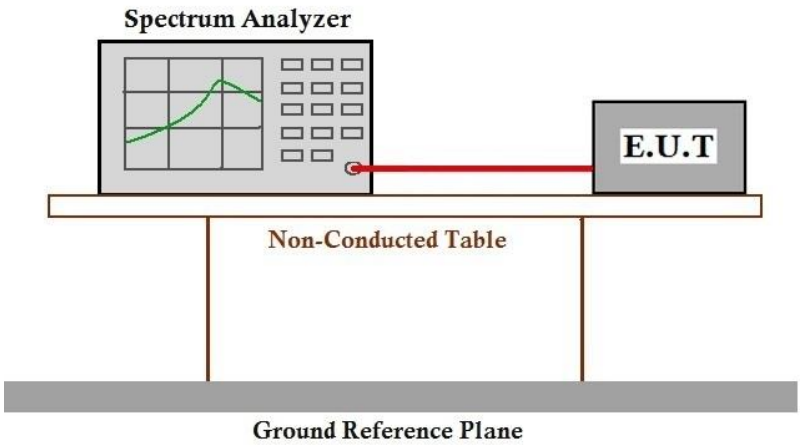
7.10.1 E.U.T. Operation

Operating Environment:
Temperature: 25.7 °C Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

7.10.1 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 @ 8.6Mbps is the worst case of IEEE 802.11ax(HE20); data rate @ 17.2Mbps is the worst case of IEEE 802.11ax(HE40), final test modes are considering the modulation and worse data rates.Only the data of worst case is recorded in the report.

7.10.2 Test Setup Diagram



7.10.3 Measurement Procedure and Data

Please Refer to Appendix for Details

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2409001900AT

9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for KSCR2409001900AT

10 Appendix

1. Duty Cycle

1.1 Test Result

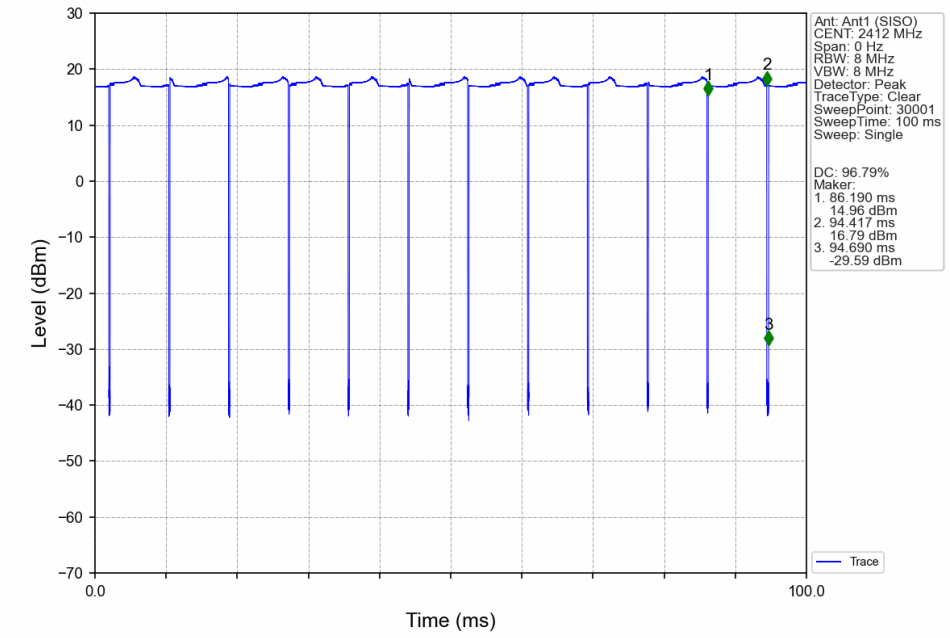
1.1.1 Ant1

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	/	/	8.227	8.500	96.79	0.14	1.11
		2437	/	/	8.250	8.404	98.17	0.08	0.00
		2462	/	/	8.223	8.403	97.86	0.09	0.00
802.11g	SISO	2412	/	/	1.364	1.550	88.00	0.56	0.03
		2437	/	/	1.365	1.550	88.06	0.55	0.03
		2462	/	/	1.365	1.550	88.06	0.55	0.03
802.11n (HT20)	SISO	2412	/	/	1.276	1.461	87.34	0.59	0.03
		2437	/	/	1.277	1.463	87.29	0.59	0.03
		2462	/	/	1.276	1.462	87.28	0.59	0.03
802.11n (HT40)	SISO	2422	/	/	0.637	0.822	77.49	1.11	0.06
		2437	/	/	0.637	0.822	77.49	1.11	0.00
		2452	/	/	0.637	0.822	77.49	1.11	0.03
802.11ax (HEW20)	SISO	2412	RU242	Left	0.996	1.182	84.26	0.74	0.03
		2437	RU242	Left	0.996	1.182	84.26	0.74	0.03
		2462	RU242	Left	0.997	1.182	84.35	0.74	0.03
802.11ax (HEW40)	SISO	2422	RU484	Left	0.528	0.714	73.95	1.31	0.02
		2437	RU484	Left	0.528	0.714	73.95	1.31	0.03
		2452	RU484	Left	0.528	0.713	74.05	1.30	0.03

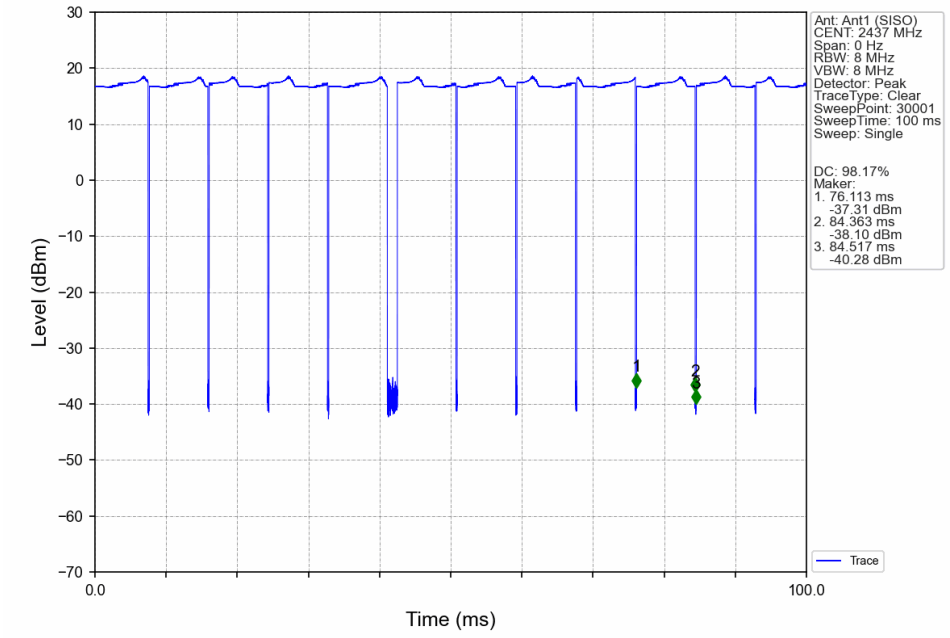
1.2 Test Graph

1.2.1 Ant1

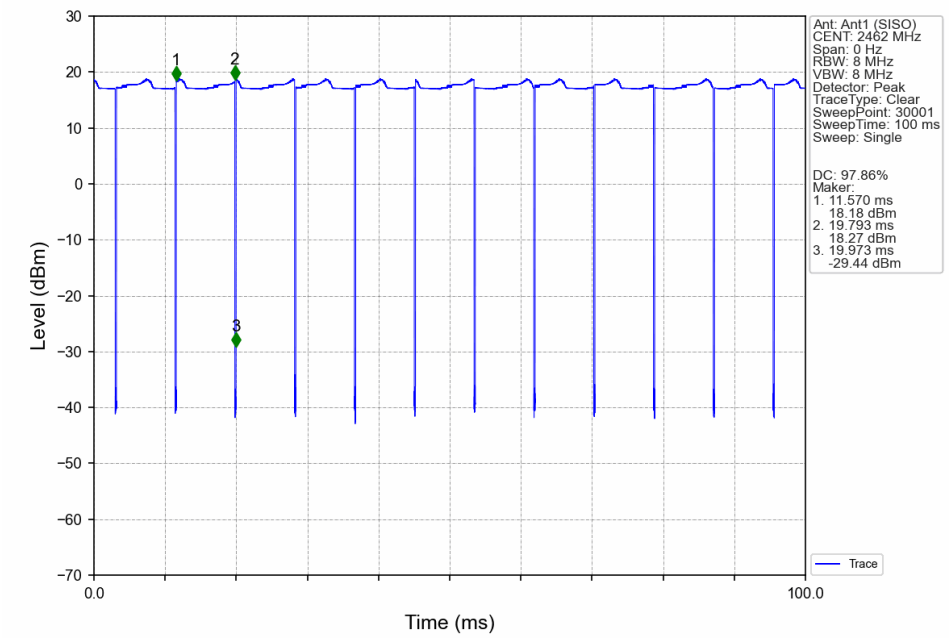
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



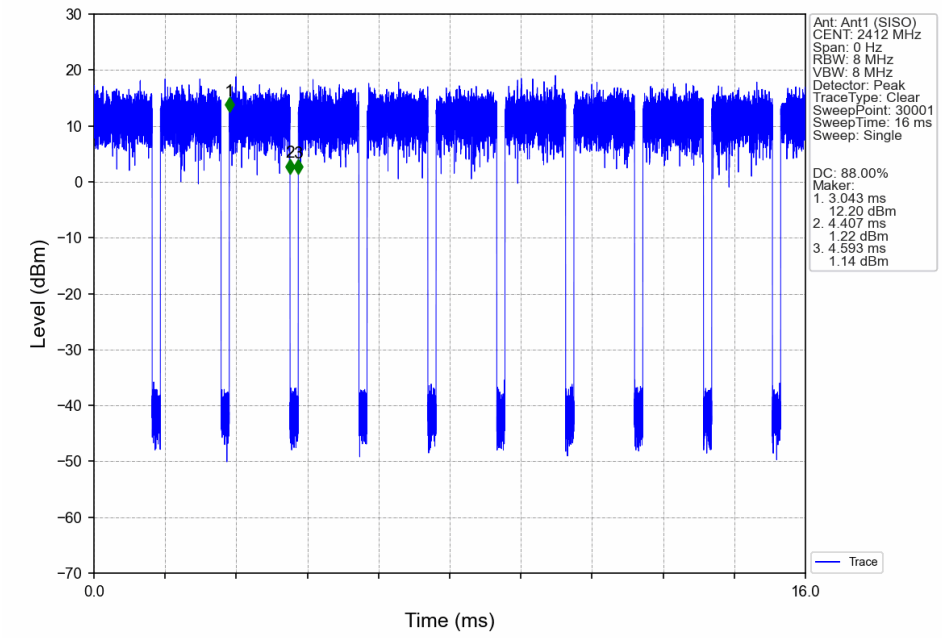
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



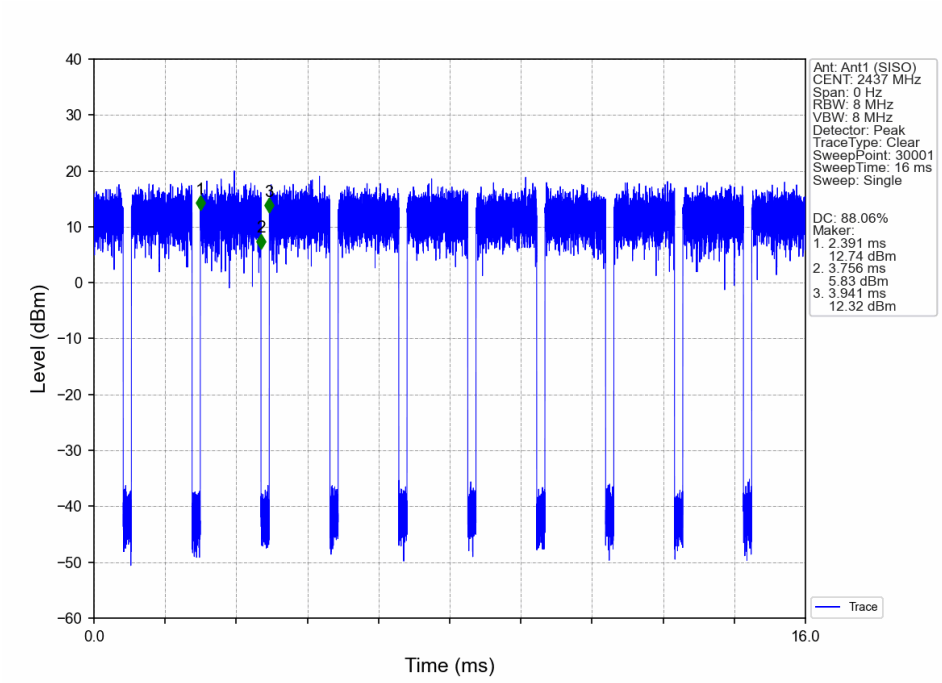
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



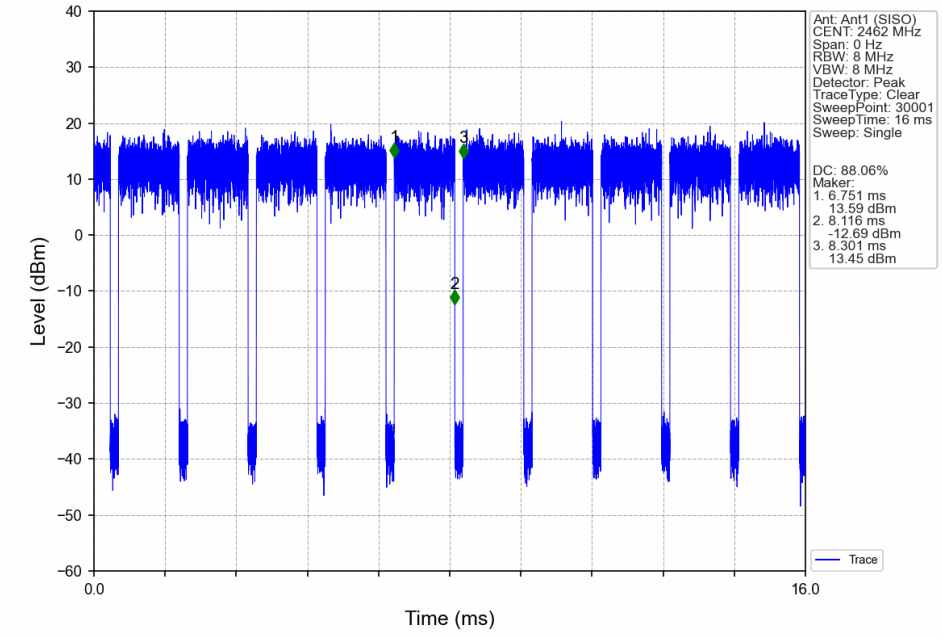
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



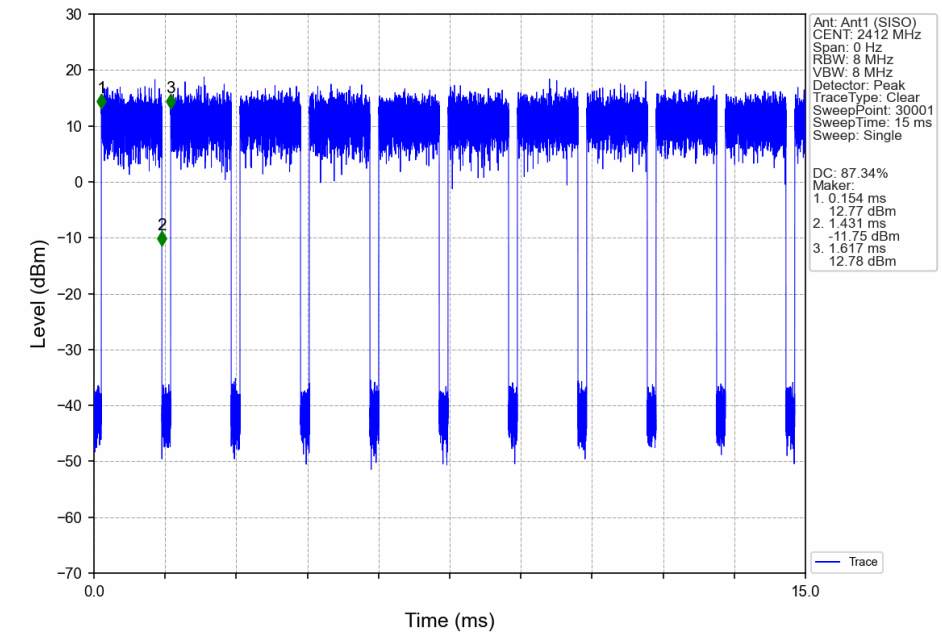
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



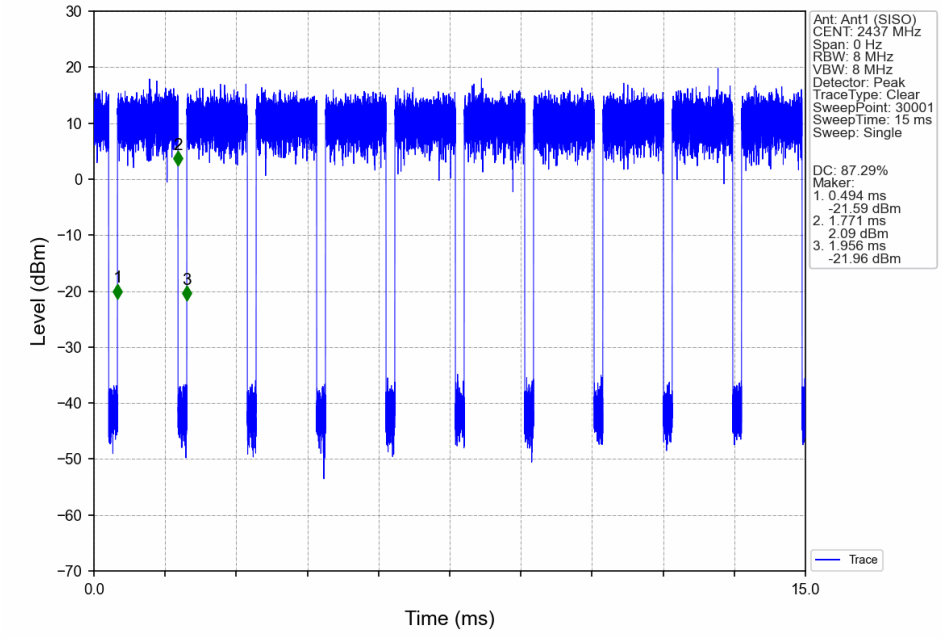
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



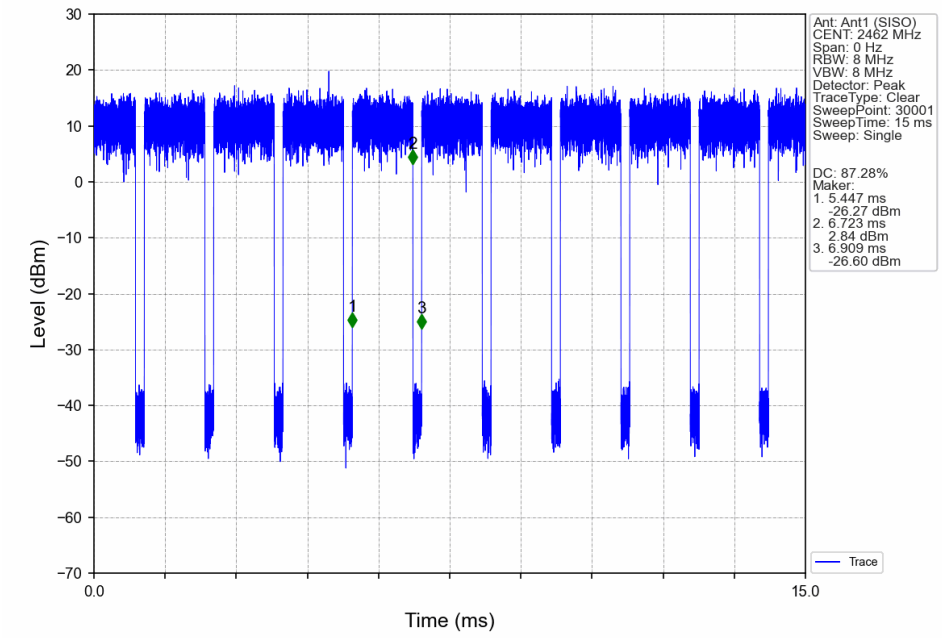
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



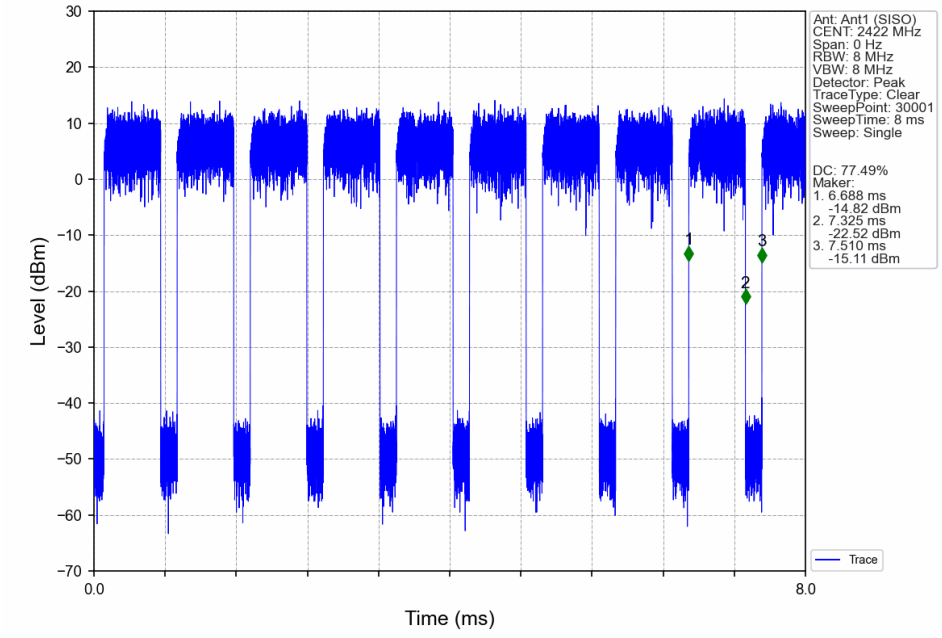
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



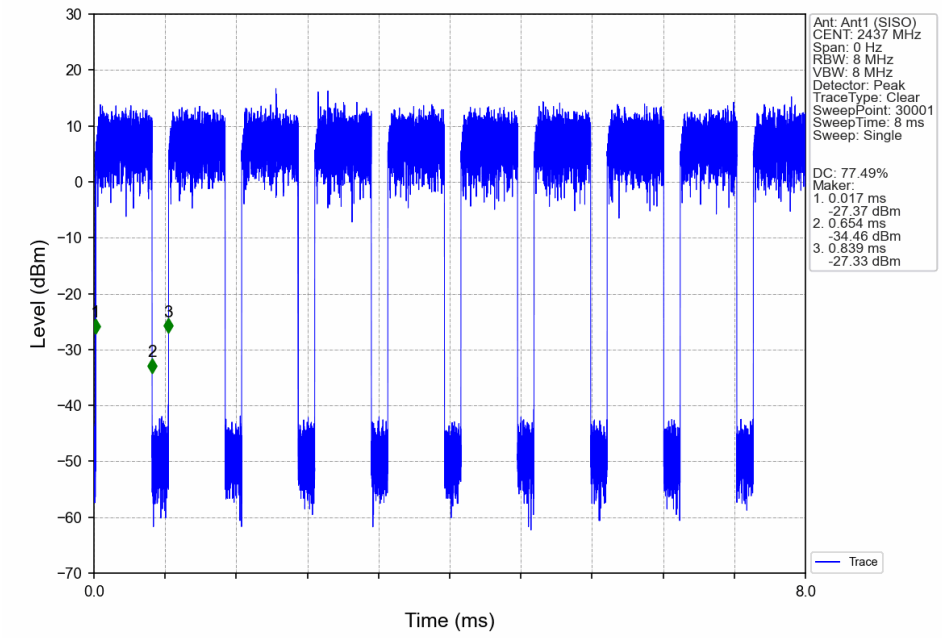
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



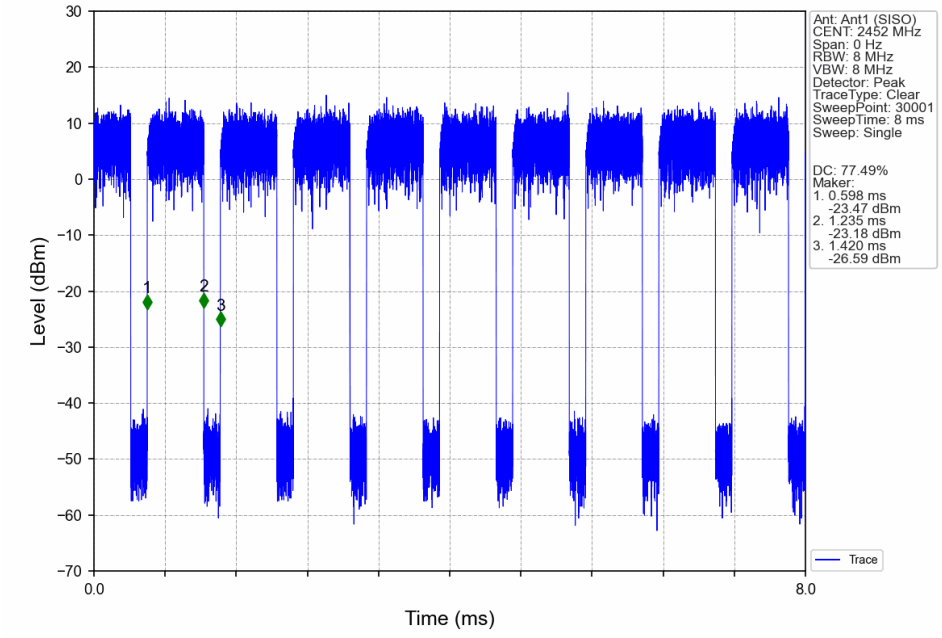
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



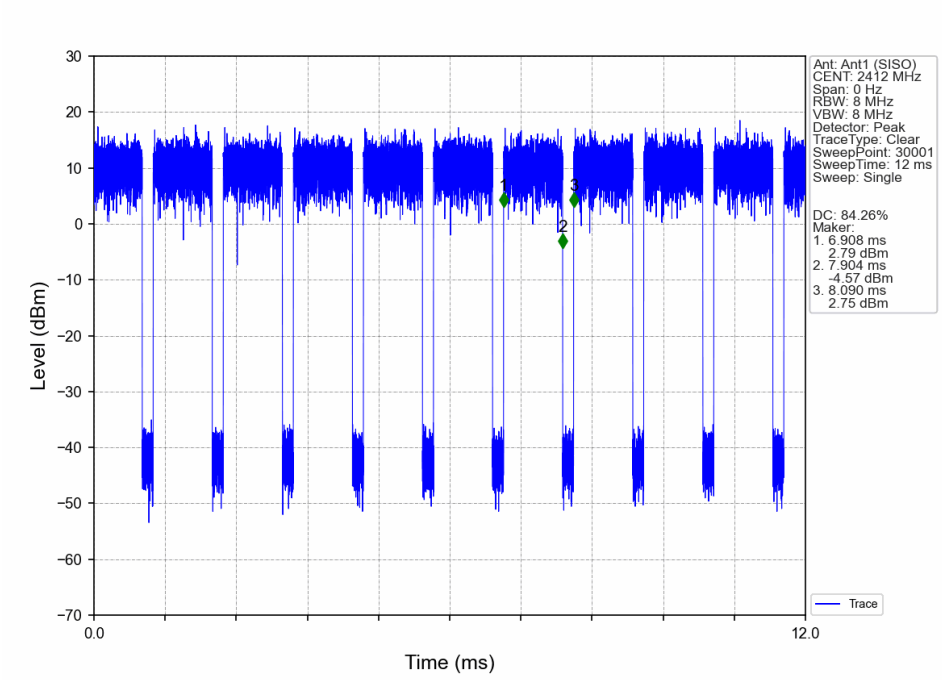
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



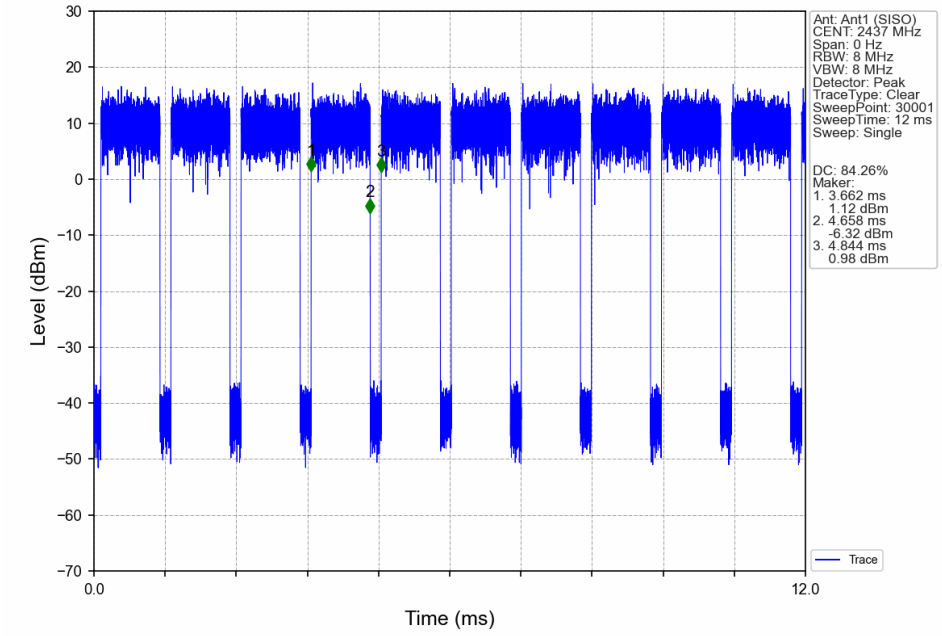
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



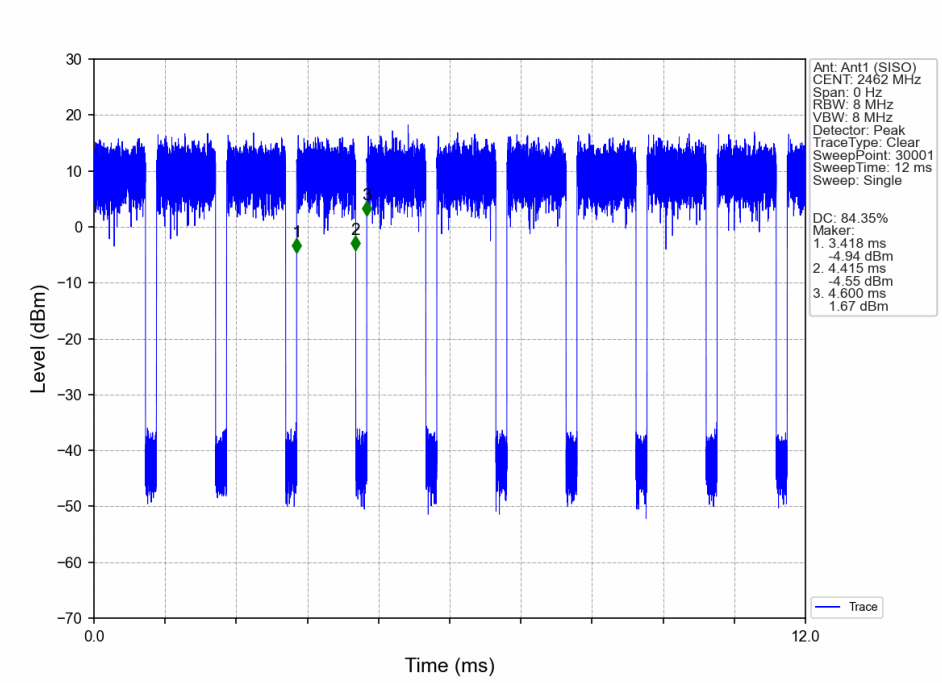
802.11ax(HEW20)_LCH_2412MHz_RU242_Left_Ant1 (SISO)_NTNV



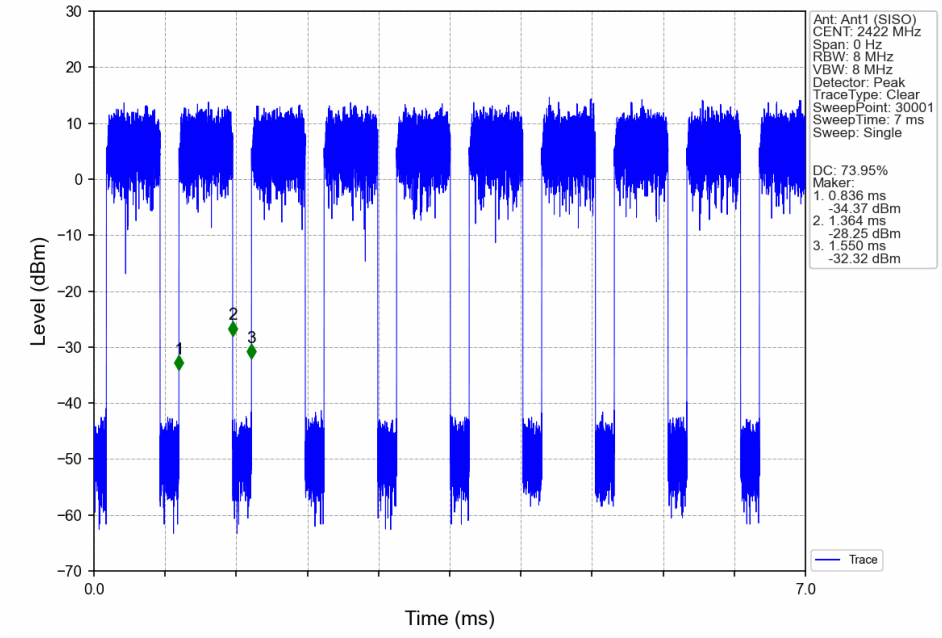
802.11ax(HEW20)_MCH_2437MHz_RU242_Left_Ant1 (SISO)_NTNV



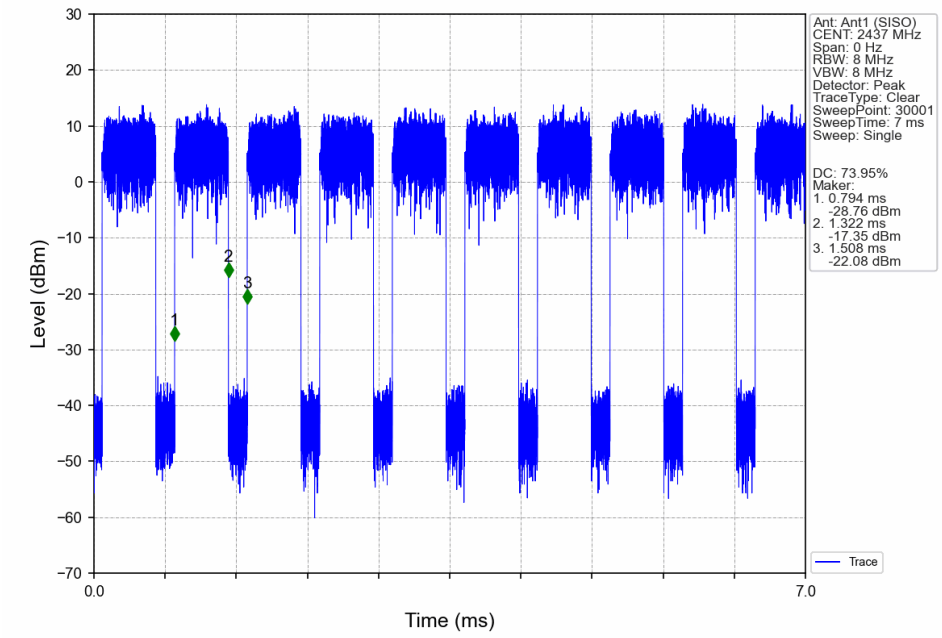
802.11ax(HEW20)_HCH_2462MHz_RU242_Left_Ant1 (SISO)_NTNV



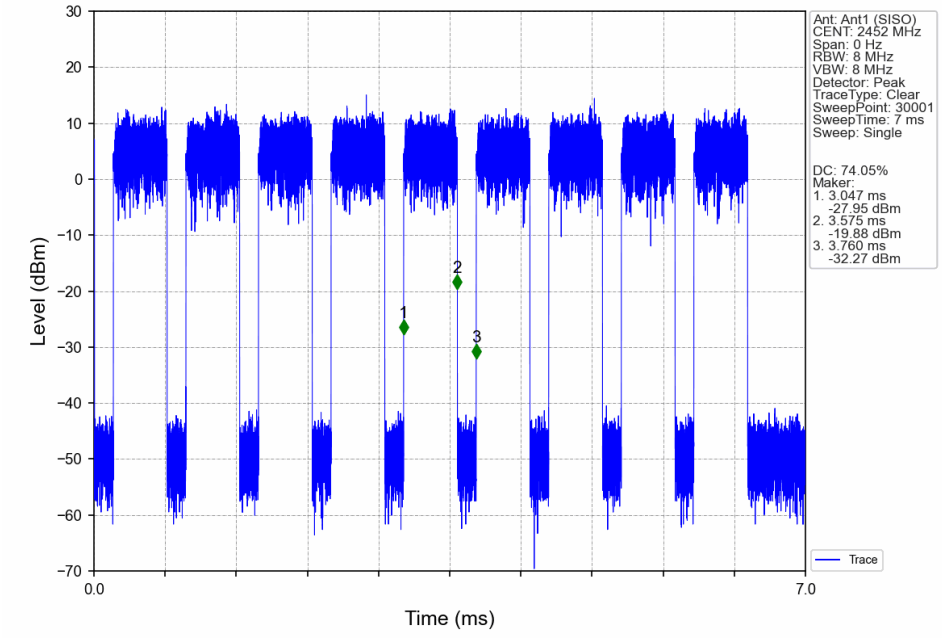
802.11ax(HEW40)_LCH_2422MHz_RU484_Left_Ant1 (SISO)_NTNV



802.11ax(HEW40)_MCH_2437MHz_RU484_Left_Ant1 (SISO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_RU484_Left_Ant1 (SISO)_NTNV



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	14.235	/	Pass
		2437	/	/	1	14.232	/	Pass
		2462	/	/	1	14.248	/	Pass
802.11g	SISO	2412	/	/	1	18.787	/	Pass
		2437	/	/	1	18.708	/	Pass
		2462	/	/	1	18.774	/	Pass
802.11n (HT20)	SISO	2412	/	/	1	19.892	/	Pass
		2437	/	/	1	19.806	/	Pass
		2462	/	/	1	19.732	/	Pass
802.11n (HT40)	SISO	2422	/	/	1	38.505	/	Pass
		2437	/	/	1	38.489	/	Pass
		2452	/	/	1	38.596	/	Pass
802.11ax (HEW20)	SISO	2412	RU242	Left	1	19.977	/	Pass
		2437	RU242	Left	1	19.963	/	Pass
		2462	RU242	Left	1	20.017	/	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	1	38.920	/	Pass
		2437	RU484	Left	1	39.064	/	Pass
		2452	RU484	Left	1	38.845	/	Pass

2.1.2 6dB BW

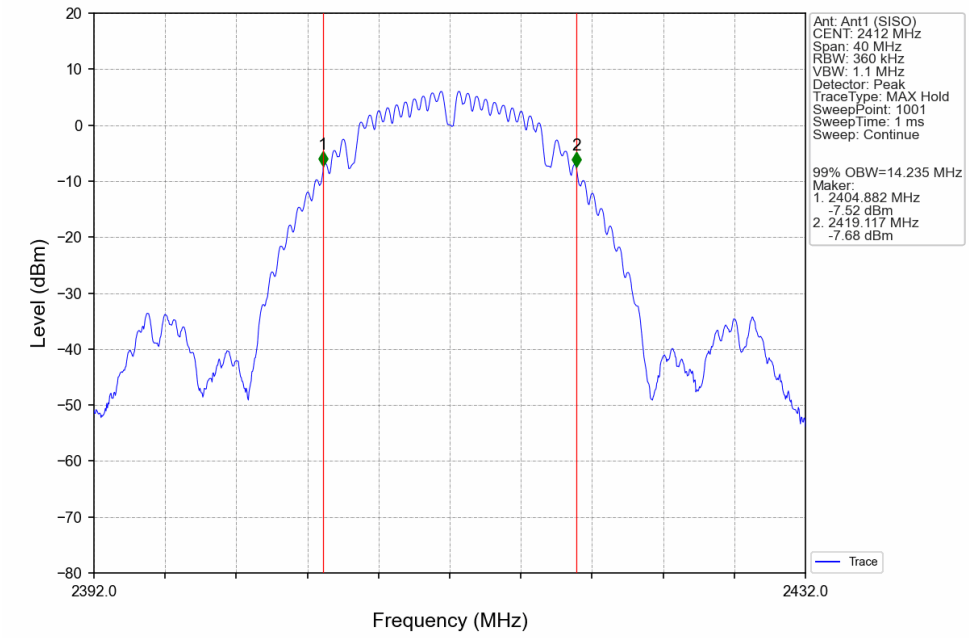
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	10.079	>=0.5	Pass
		2437	/	/	1	9.610	>=0.5	Pass
		2462	/	/	1	10.063	>=0.5	Pass
802.11g	SISO	2412	/	/	1	15.462	>=0.5	Pass
		2437	/	/	1	15.168	>=0.5	Pass
		2462	/	/	1	15.169	>=0.5	Pass
802.11n (HT20)	SISO	2412	/	/	1	15.169	>=0.5	Pass
		2437	/	/	1	15.152	>=0.5	Pass
		2462	/	/	1	15.462	>=0.5	Pass
802.11n (HT40)	SISO	2422	/	/	1	35.175	>=0.5	Pass
		2437	/	/	1	35.173	>=0.5	Pass
		2452	/	/	1	35.164	>=0.5	Pass
802.11ax	SISO	2412	RU242	Left	1	16.045	>=0.5	Pass

(HEW20)		2437	RU242	Left	1	17.677	>=0.5	Pass
		2462	RU242	Left	1	16.729	>=0.5	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	1	36.129	>=0.5	Pass
		2437	RU484	Left	1	36.904	>=0.5	Pass
		2452	RU484	Left	1	36.367	>=0.5	Pass

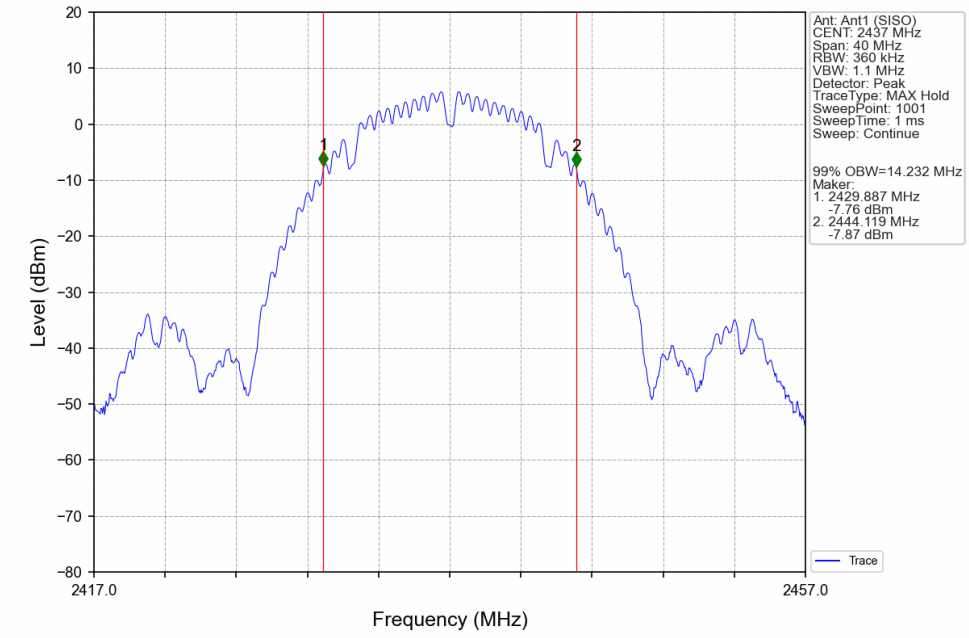
2.2 Test Graph

2.2.1 OBW

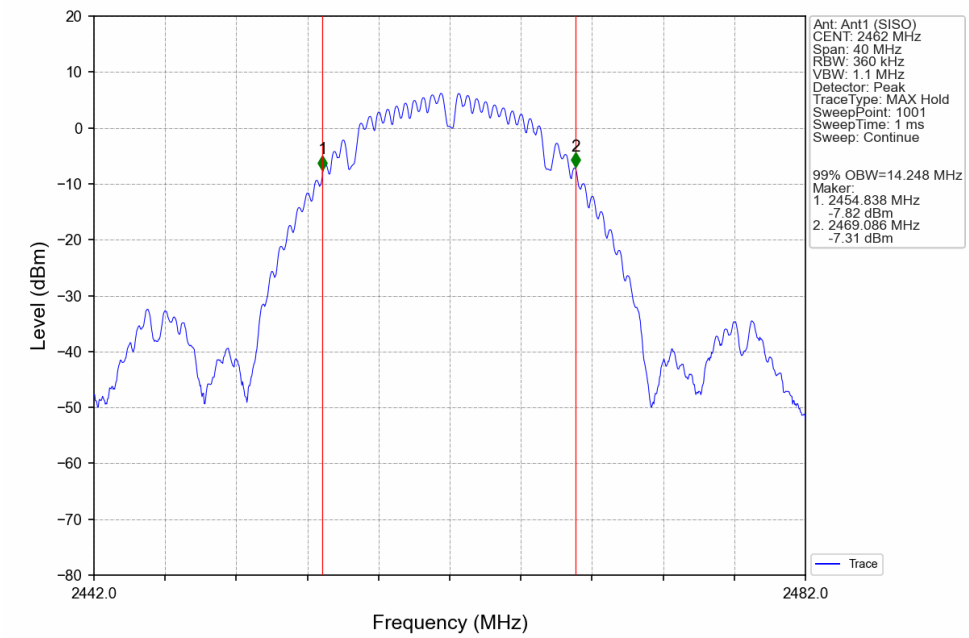
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



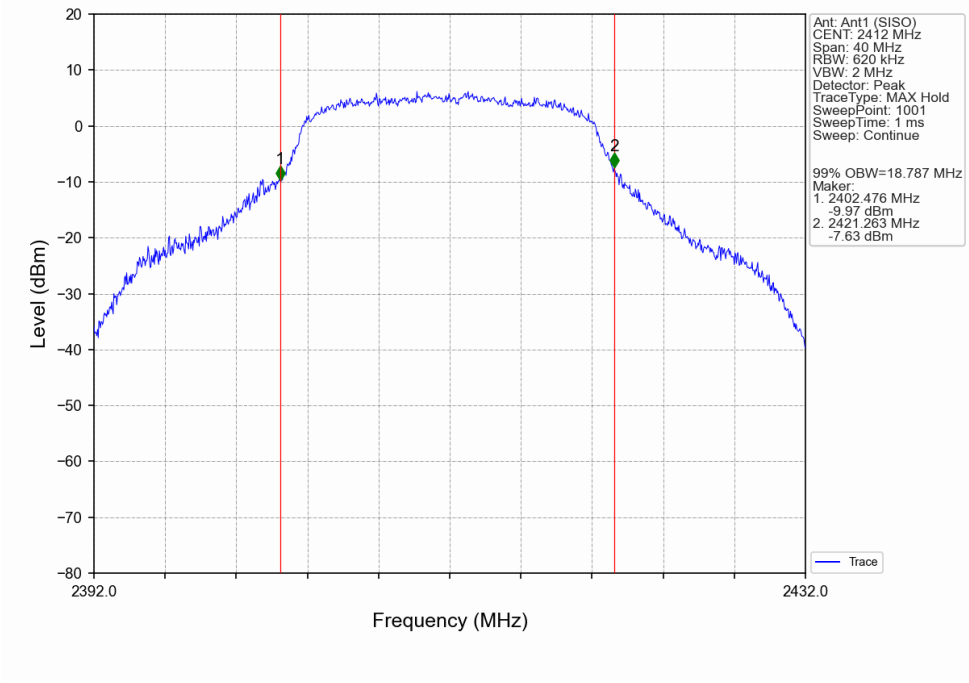
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



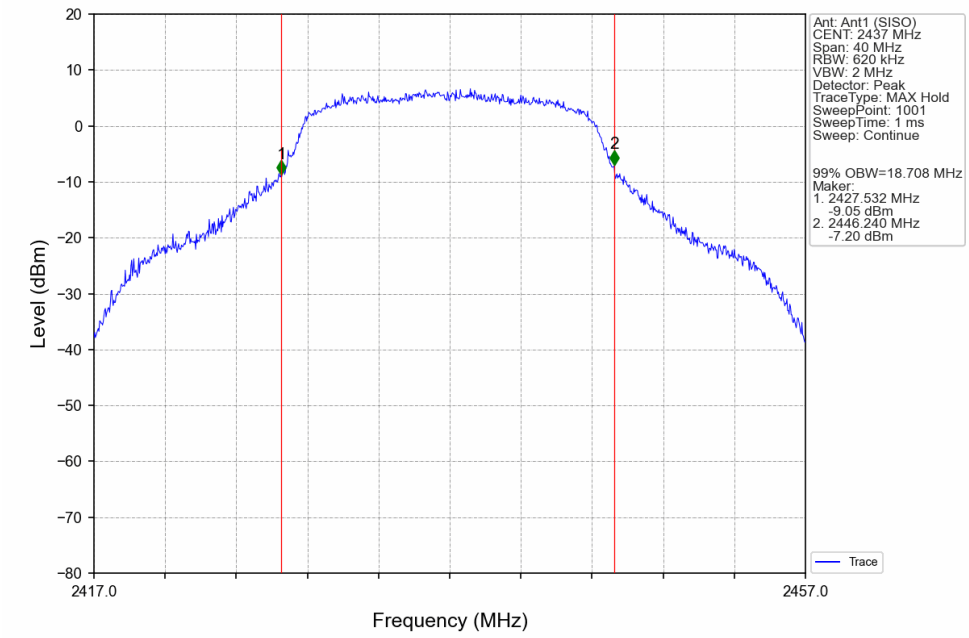
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



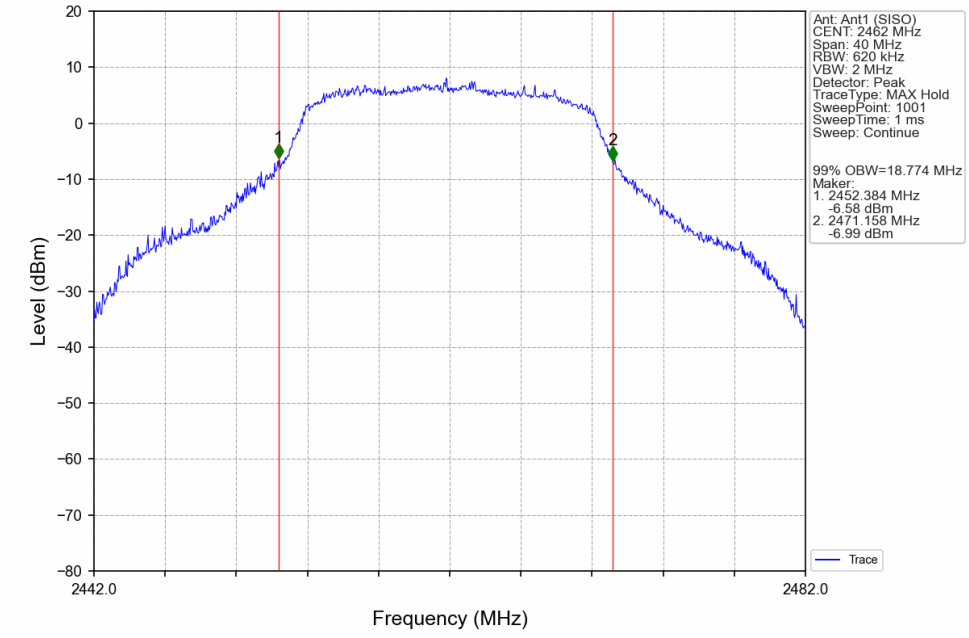
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



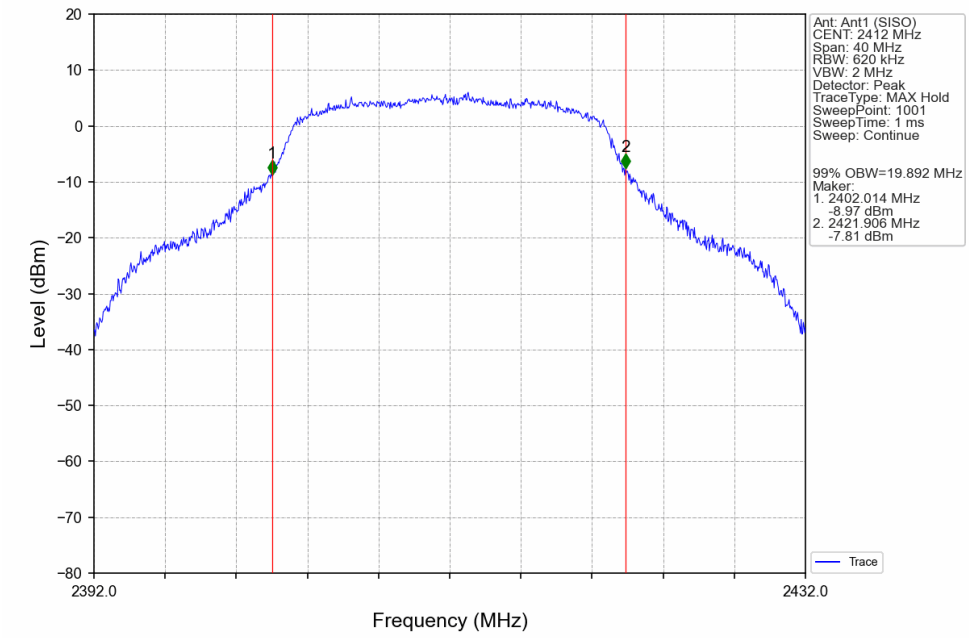
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



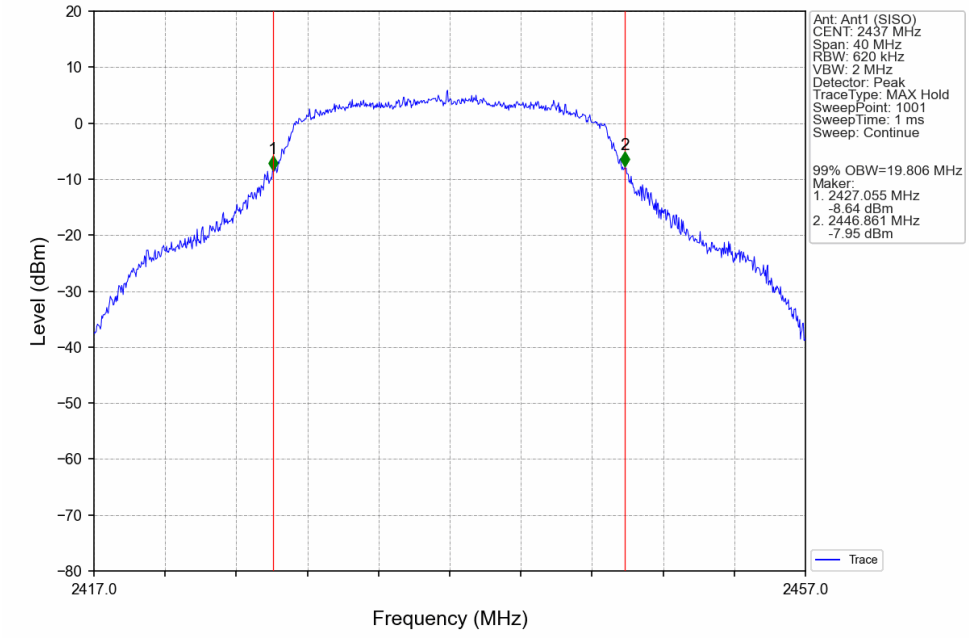
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



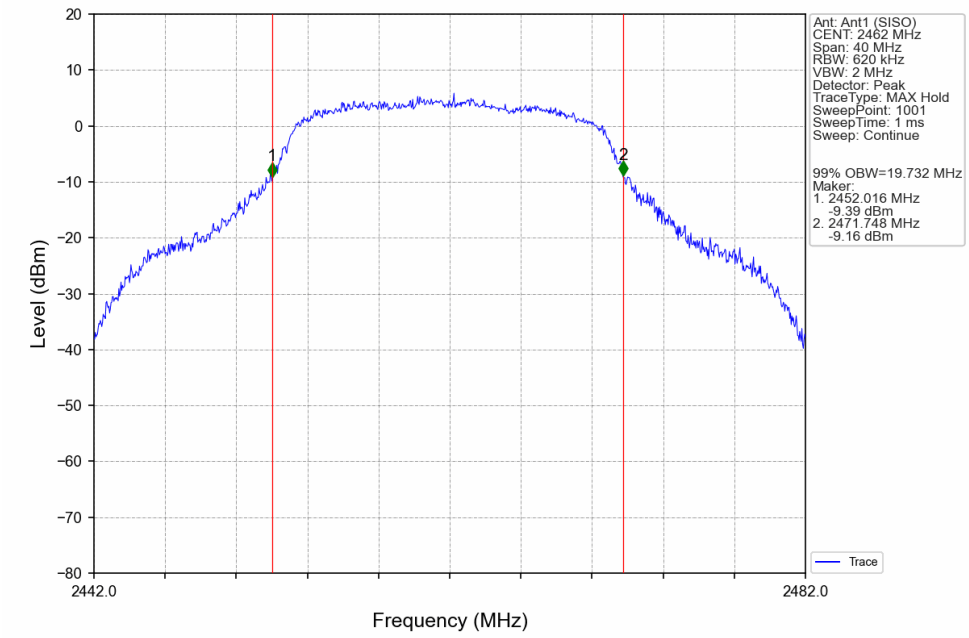
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



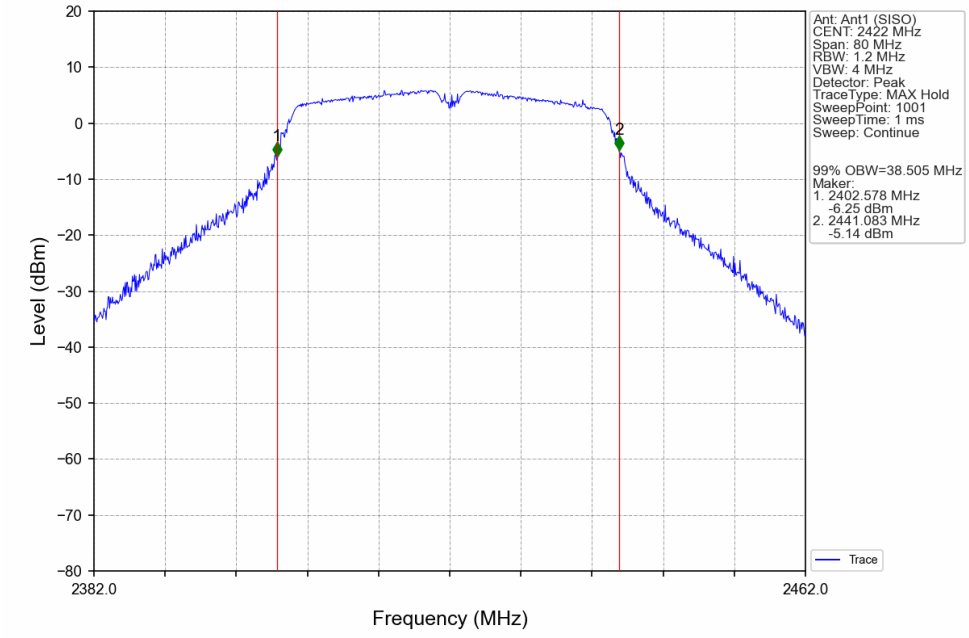
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



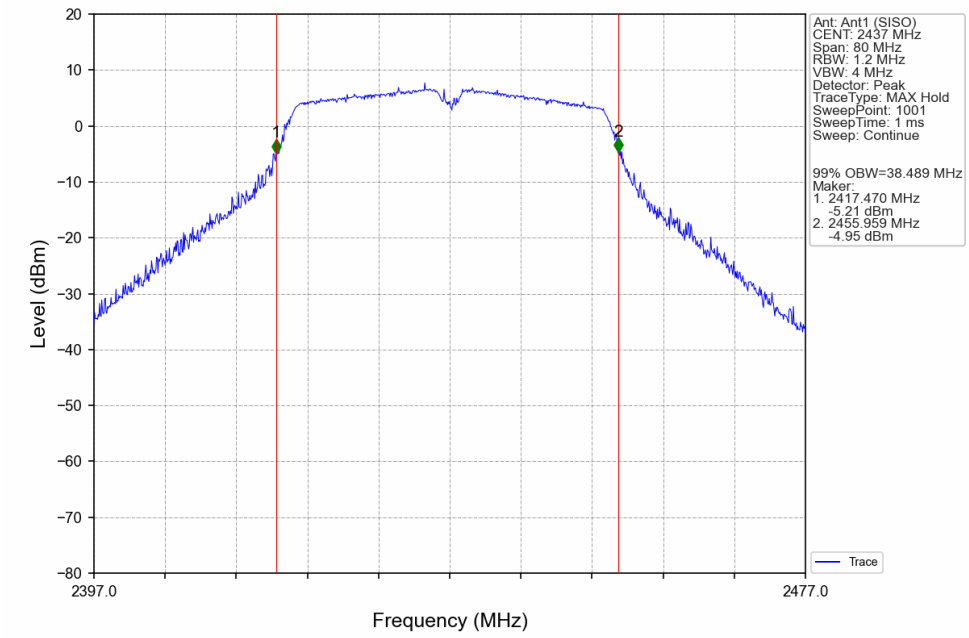
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



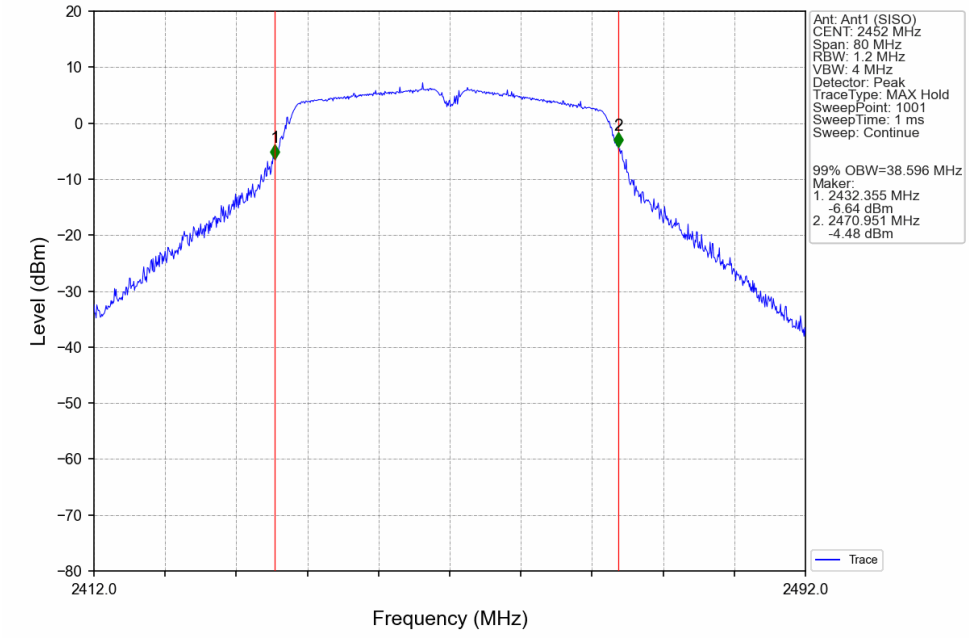
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



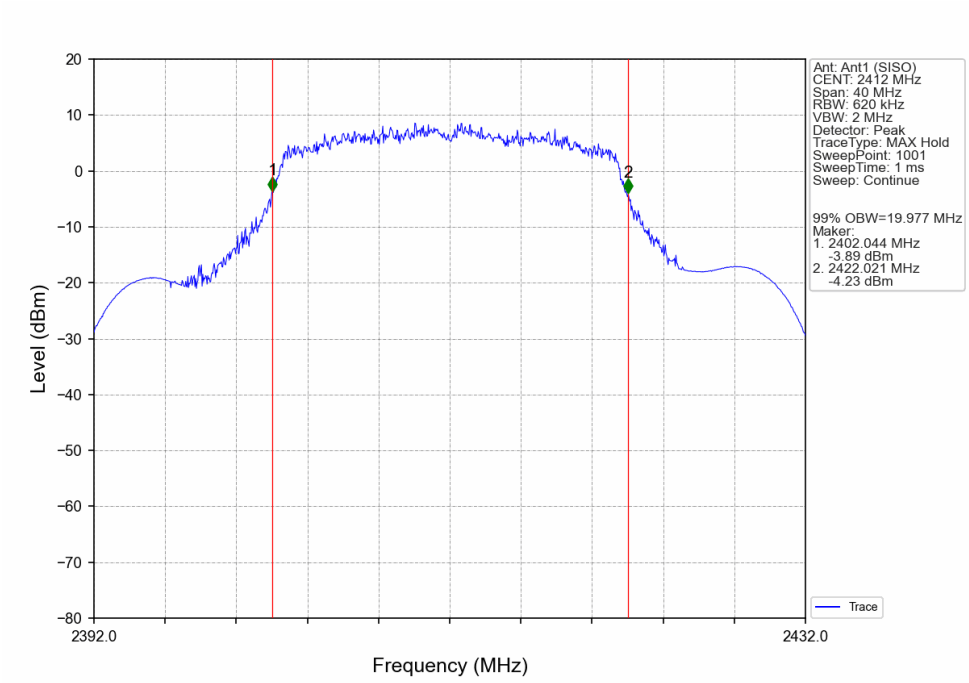
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



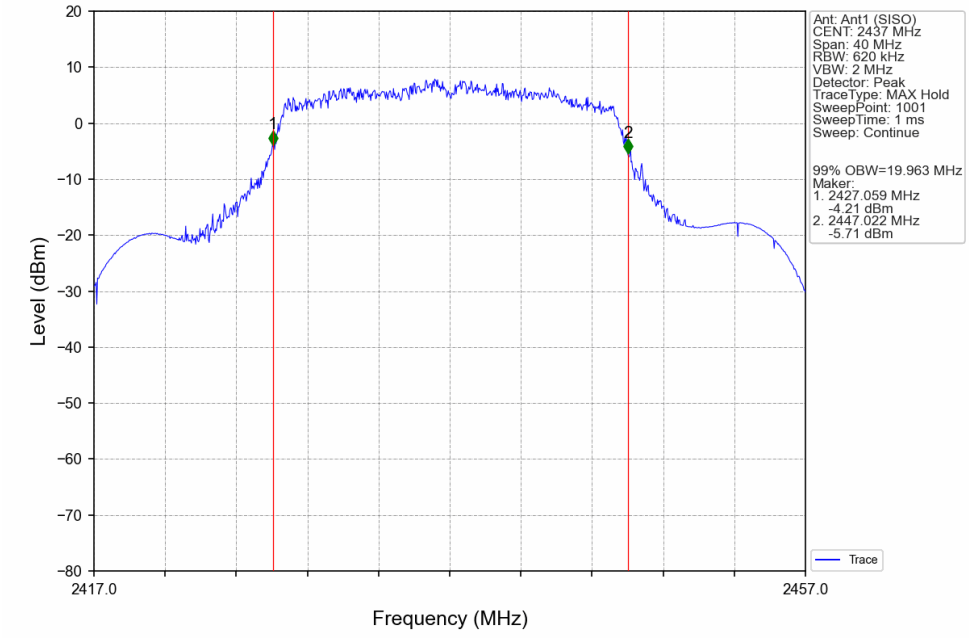
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



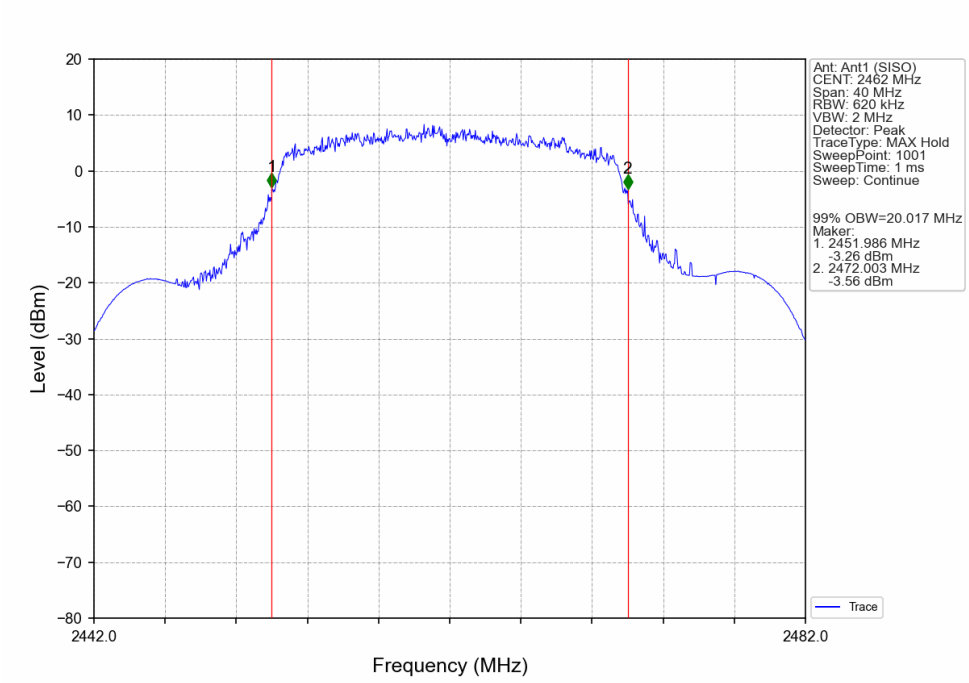
802.11ax(HEW20)_LCH_2412MHz_RU242_Left_Ant1 (SISO)_NTNV



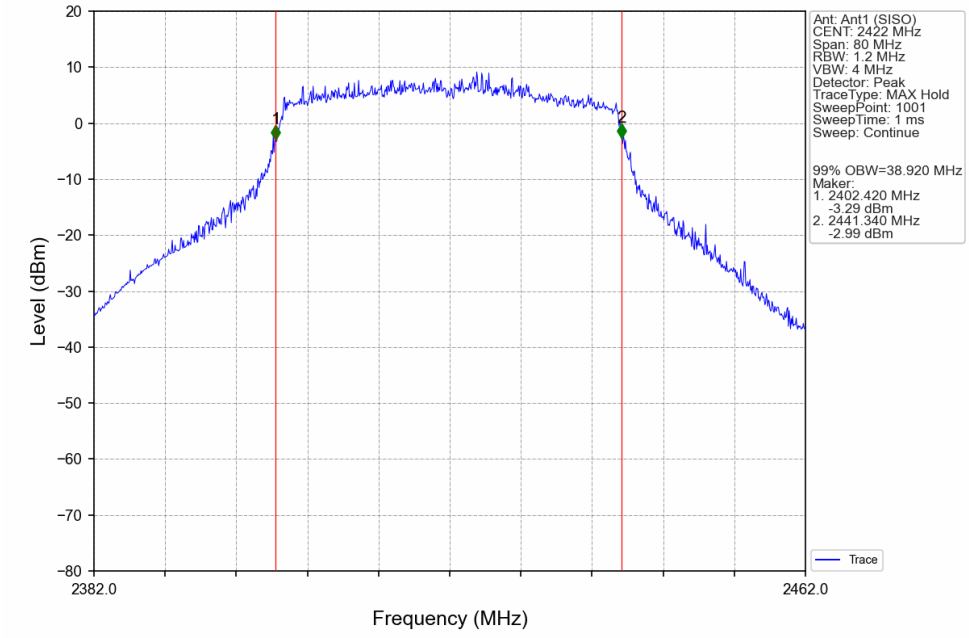
802.11ax(HEW20)_MCH_2437MHz_RU242_Left_Ant1 (SISO)_NTNV



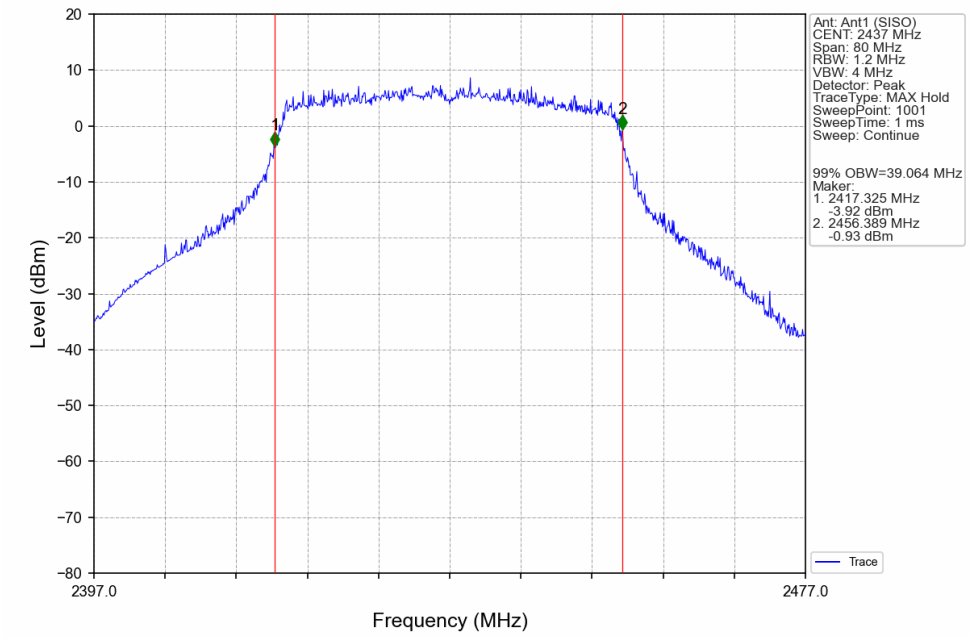
802.11ax(HEW20)_HCH_2462MHz_RU242_Left_Ant1 (SISO)_NTNV



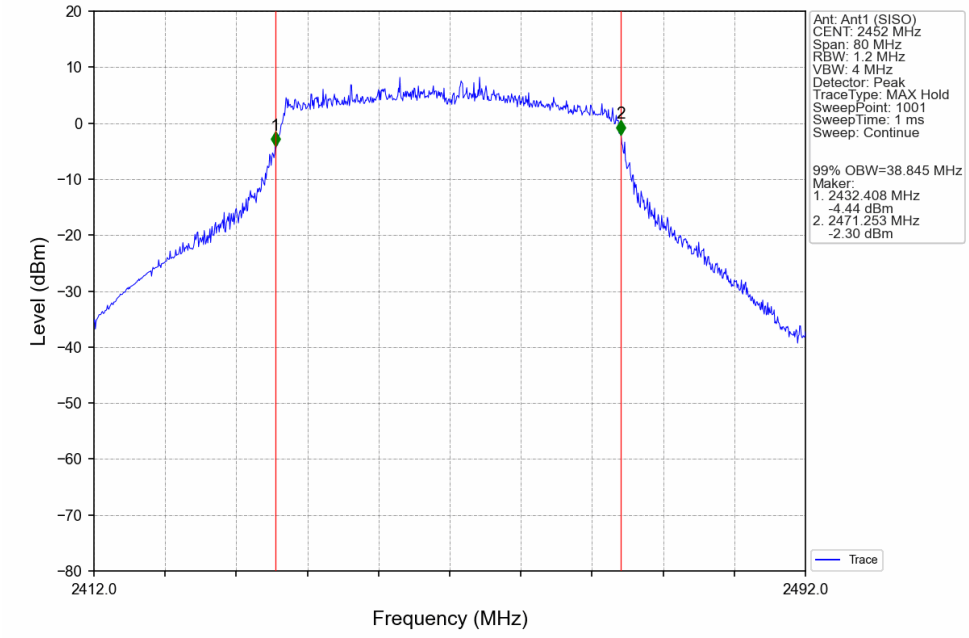
802.11ax(HEW40)_LCH_2422MHz_RU484_Left_Ant1 (SISO)_NTNV



802.11ax(HEW40)_MCH_2437MHz_RU484_Left_Ant1 (SISO)_NTNV

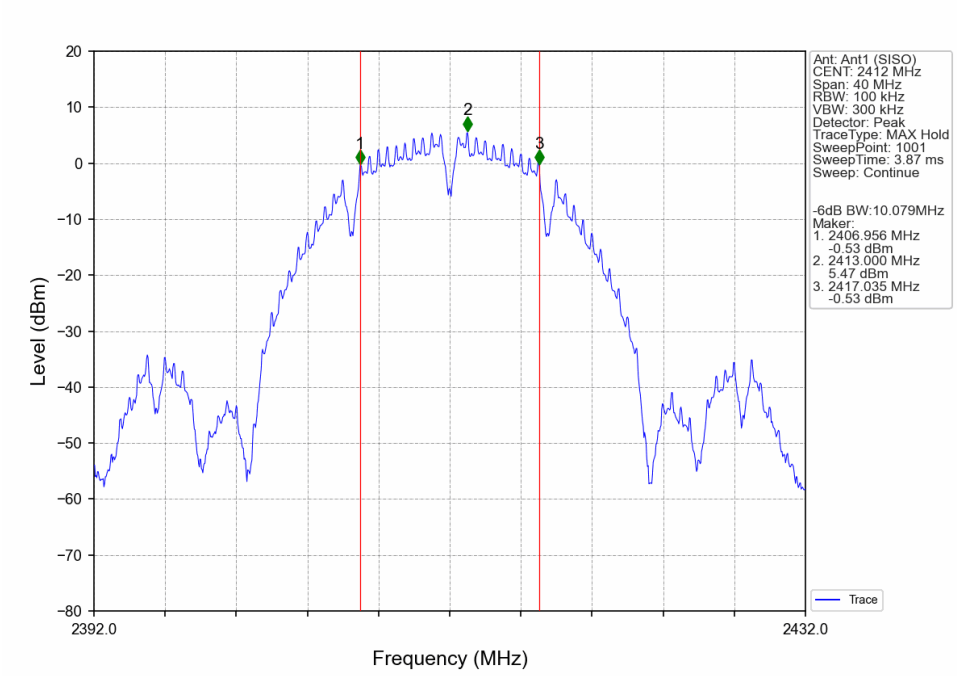


802.11ax(HEW40)_HCH_2452MHz_RU484_Left_Ant1 (SISO)_NTNV

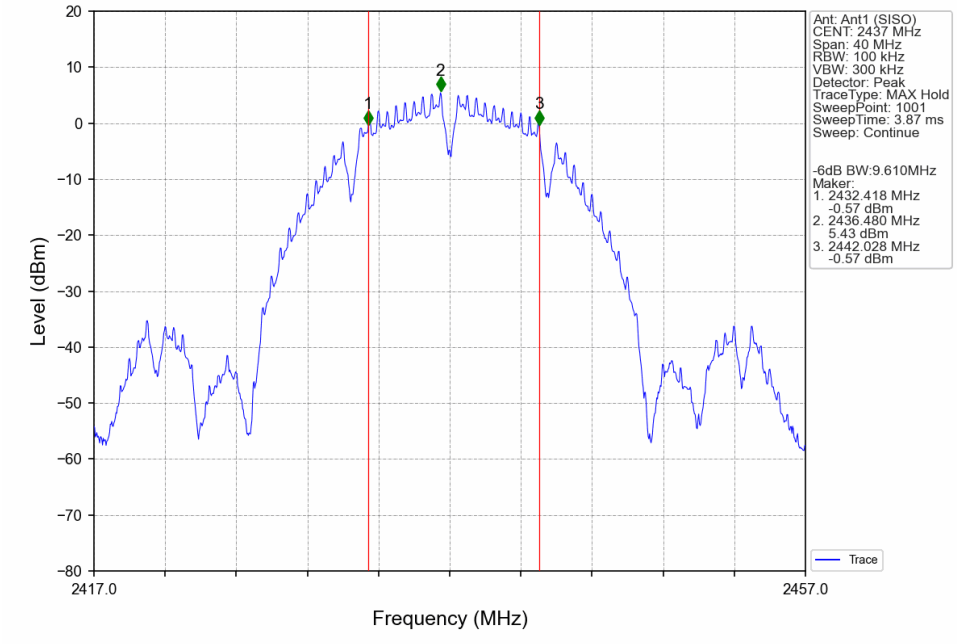


2.2.2 6dB BW

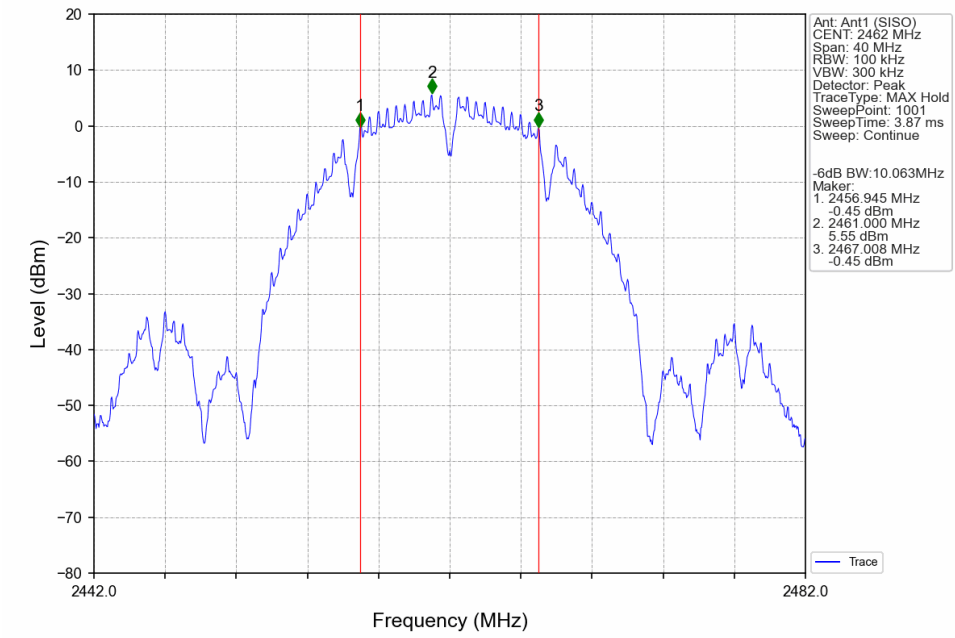
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



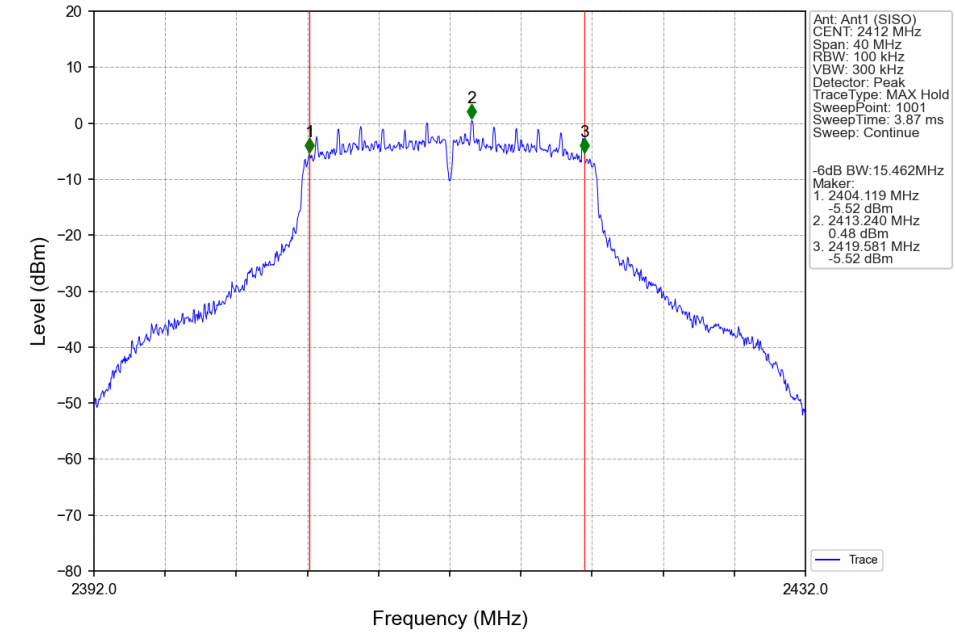
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



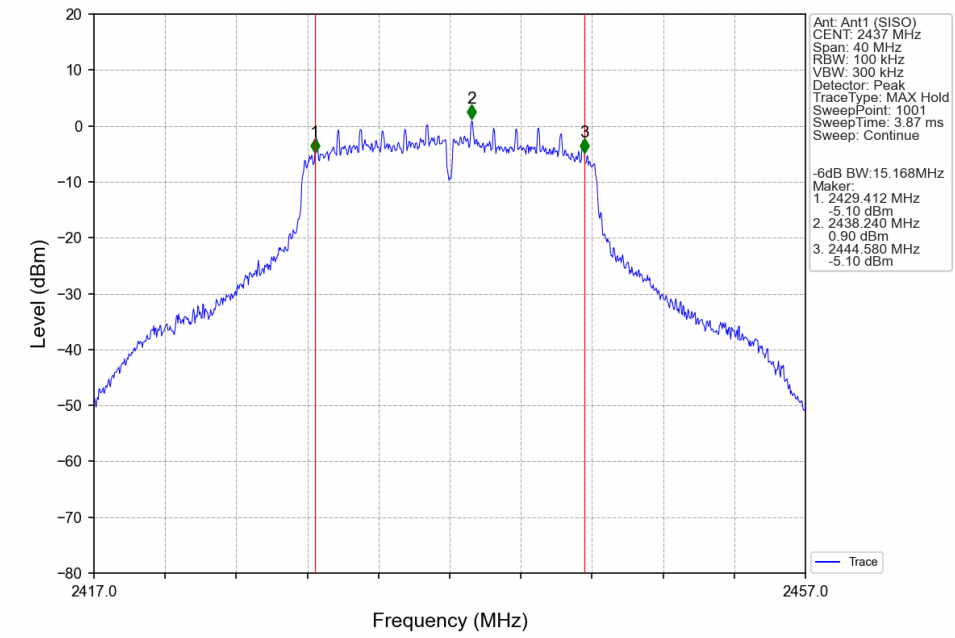
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



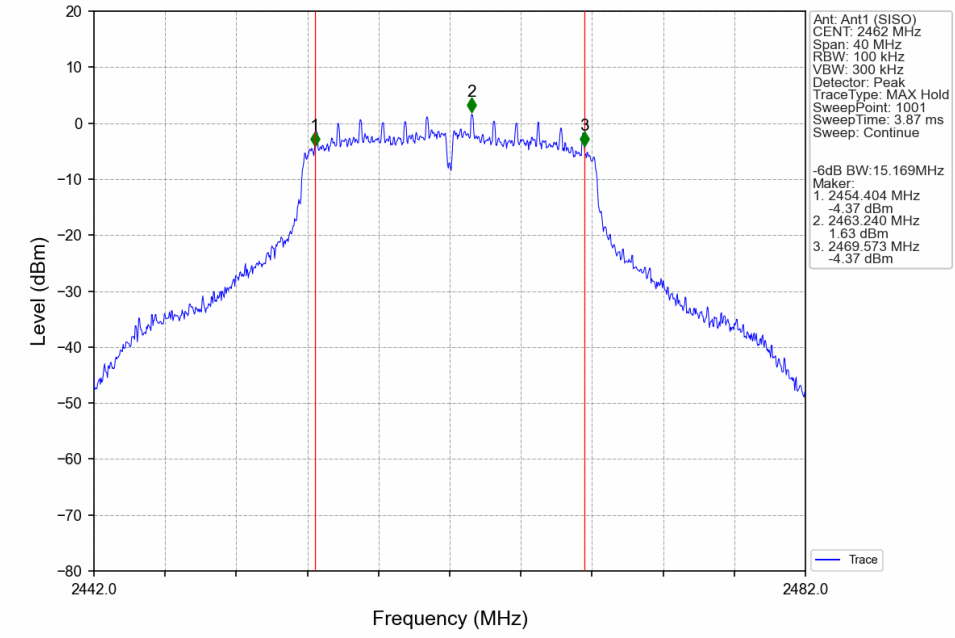
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



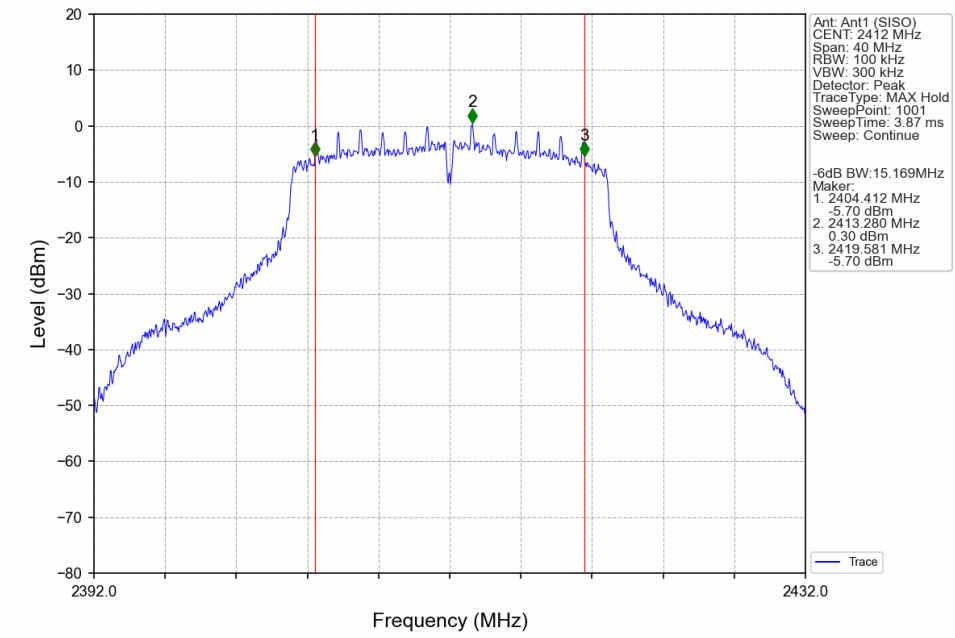
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



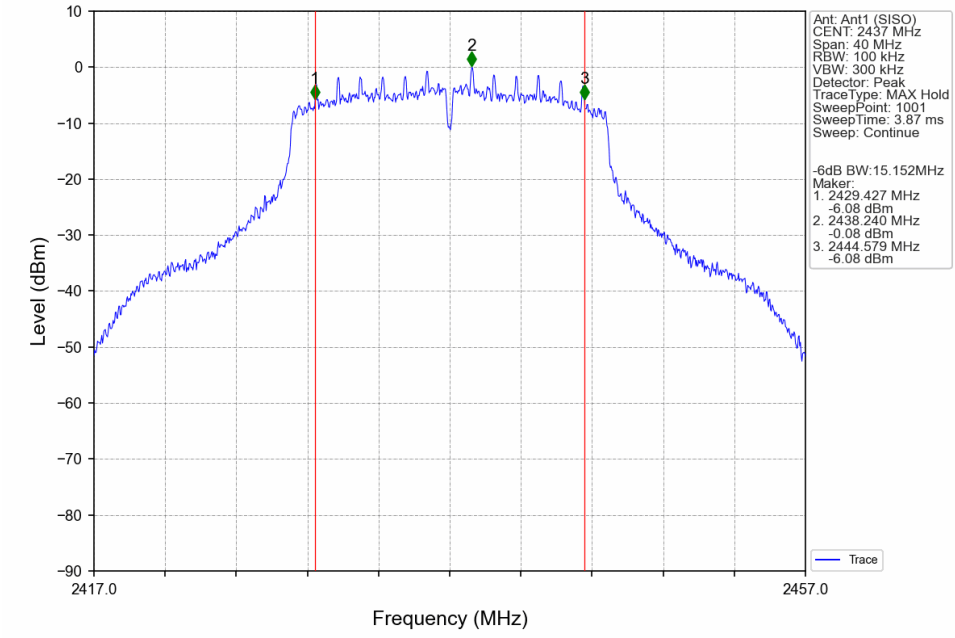
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



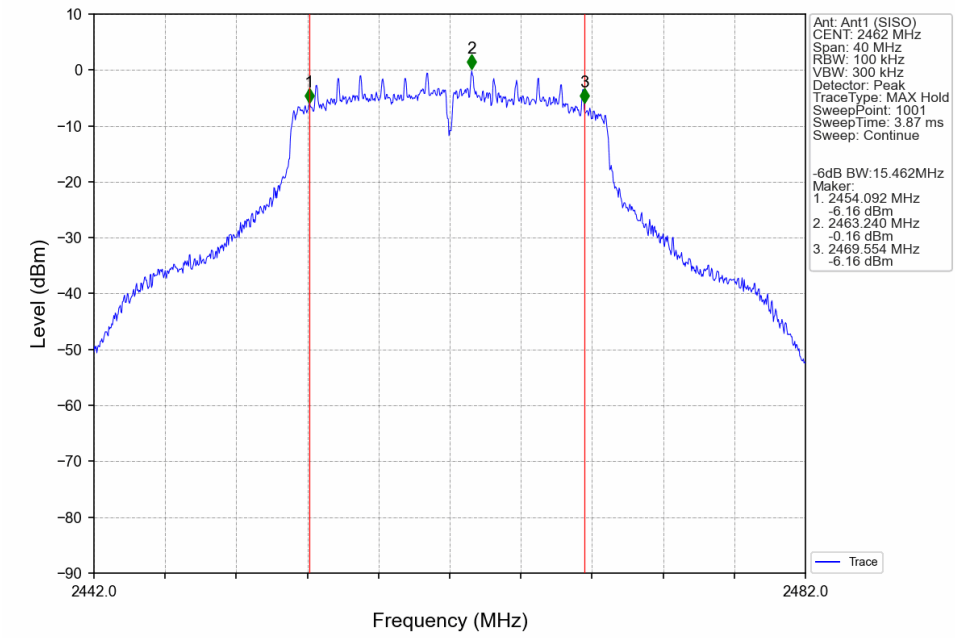
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



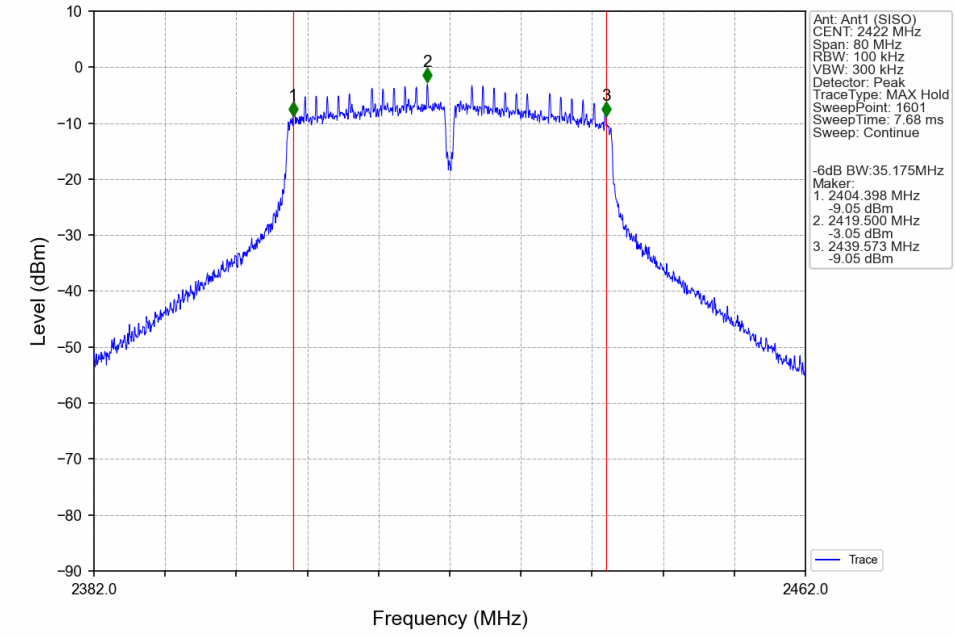
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



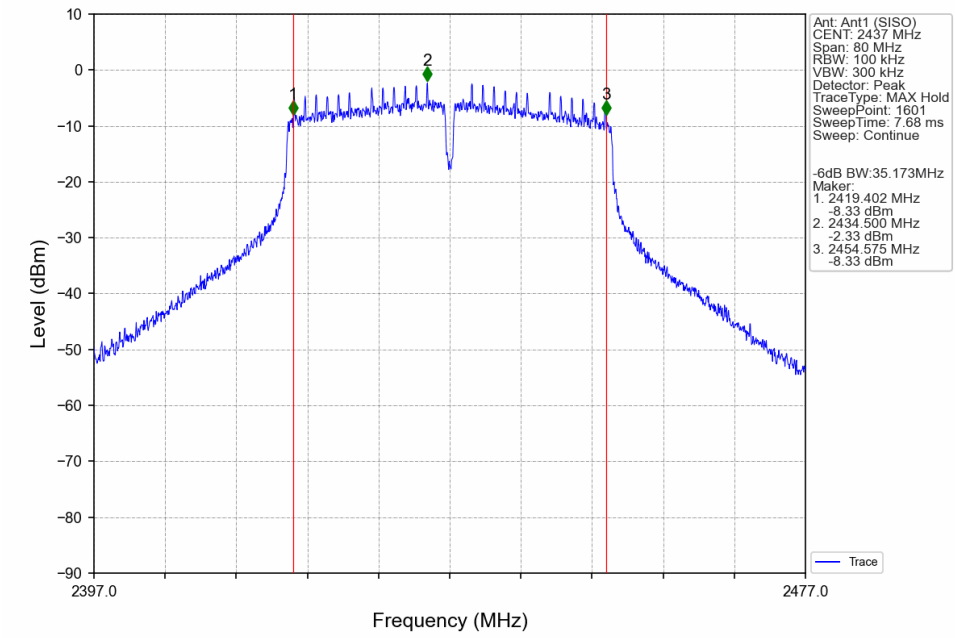
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



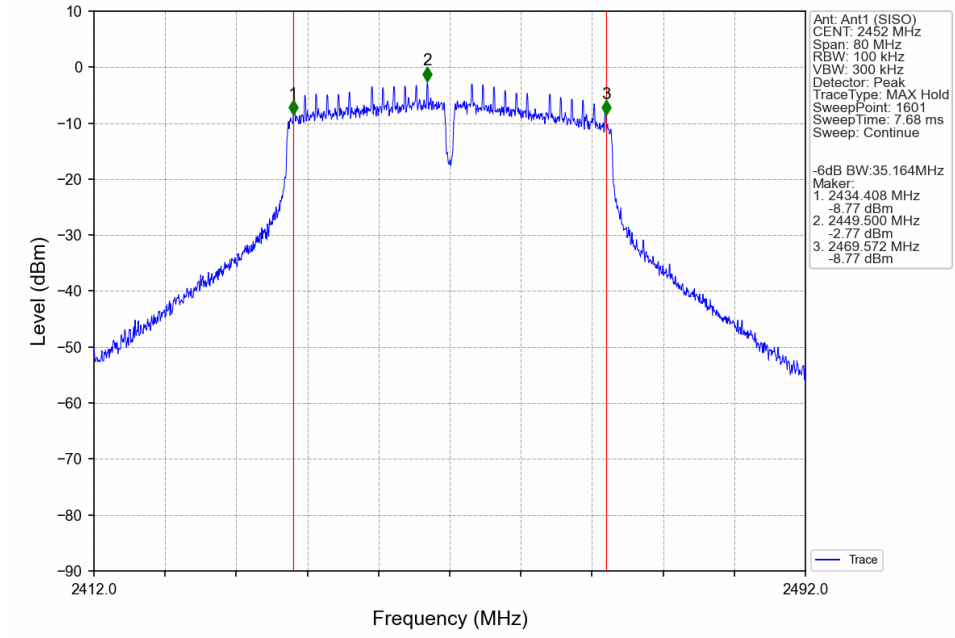
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



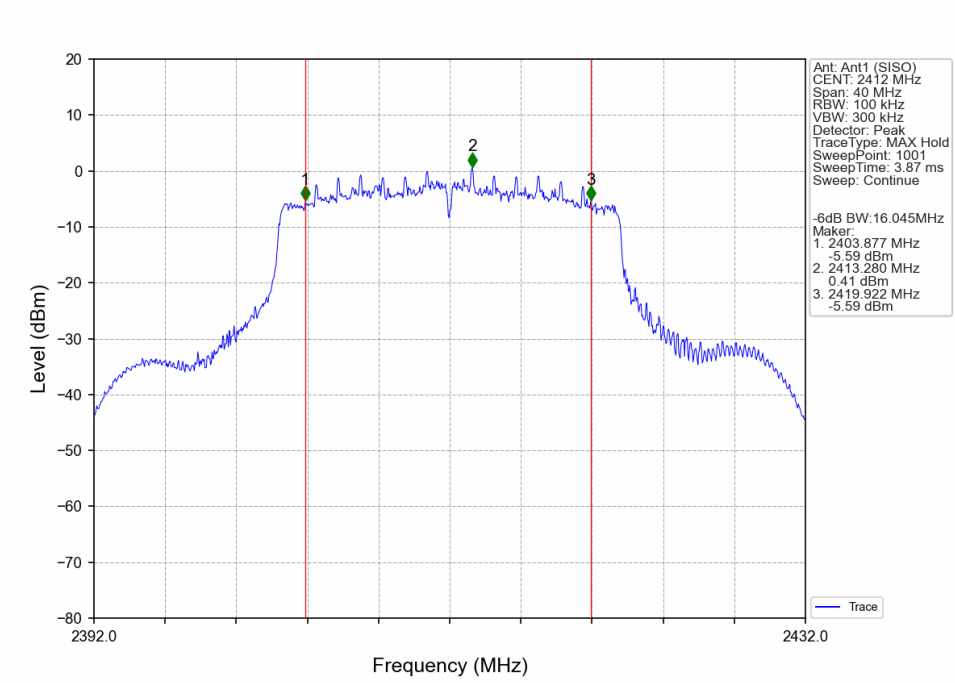
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



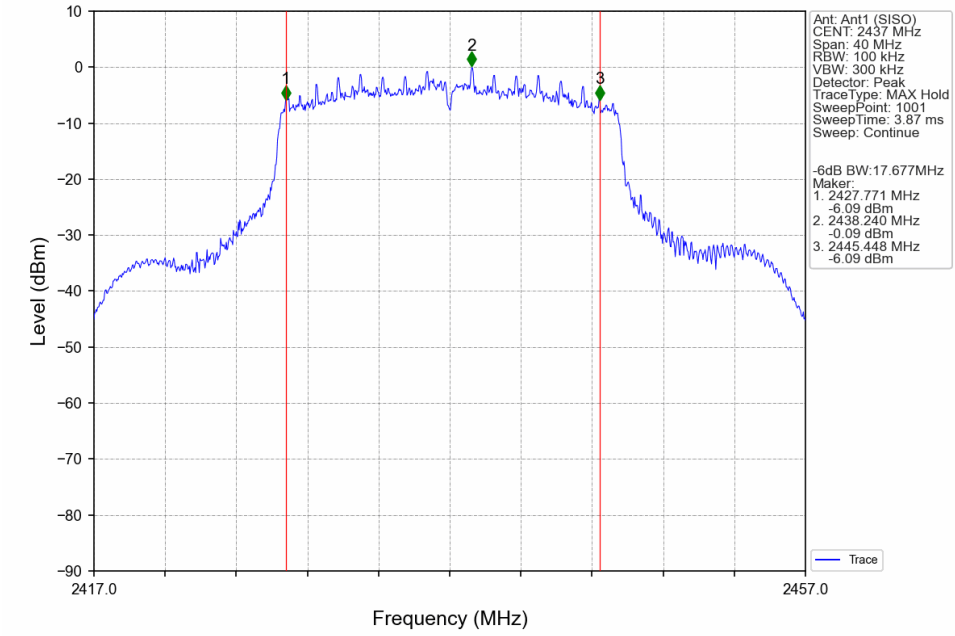
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



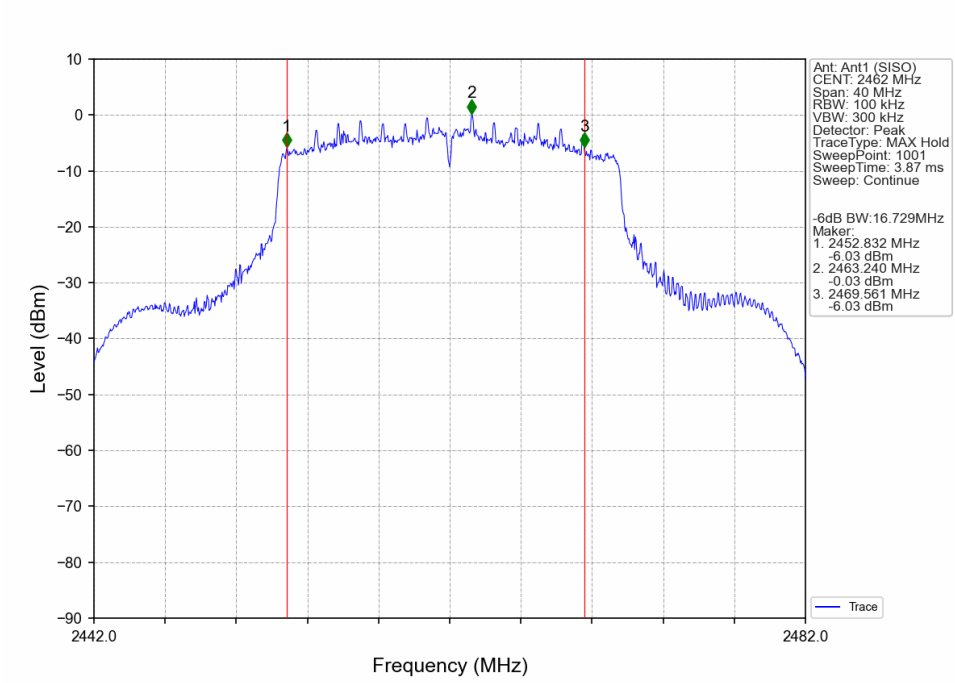
802.11ax(HEW20)_LCH_2412MHz_RU242_Left_Ant1 (SISO)_NTNV



802.11ax(HEW20)_MCH_2437MHz_RU242_Left_Ant1 (SISO)_NTNV



802.11ax(HEW20)_HCH_2462MHz_RU242_Left_Ant1 (SISO)_NTNV



802.11ax(HEW40)_LCH_2422MHz_RU484_Left_Ant1 (SISO)_NTNV