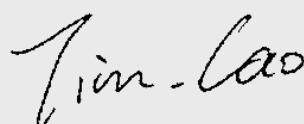


Test report No:
2670592R.701

TEST REPORT

Product Name	Industrial Wireless Router
Trademark	
Model and /or type reference	IR602, IR652, IR692
FCC ID	2BPWU-IR602
Applicant's name / address	InHand Networks, Inc. 3650 Concorde Pkwy, Suite 200, Chantilly, VA 20151, USA
Test method requested, standard	47 CFR FCC Part 15 (Section 15.247) ANSI C63.10: 2020
Verdict Summary	IN COMPLIANCE
Tested By (name / position & signature)	Tim Cao/ Project Manager 
Approved by (name / position & signature)	Frank He/ Technical Manager 
Date of issue	2026-09-17
Report Version	V1.0
Report template No.	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 668, Jiangling Nanxiang Road, Wujiang District, Suzhou City, Jiangsu Province, 215200
Test Facility	A2LA (Certificate No. 3235.01) CNAS (Certificate No. L5313) FCC - Designation Number: CN1199 Test Firm Registration Number: 566524 ISED - CAB identifier: CN0040 IC#: 4075B
Date(receive sample)	Jul. 27, 2026
Date (start test)	Aug. 03, 2026
Date (finish test)	Aug. 31, 2026

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
PK	: Peak
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured
RMS	: Root Mean Squar
NT	: Normal Temperature
HT	: High Extreme Test Temperature
LT	: Low Extreme Test Temperature
NV	: Normal Voltage
HV	: High Extreme Test Voltage
LV	: Low Extreme Test Voltage

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2670592R.701	V1.0	Initial issue of report.	2026-09-17

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 15 (Section 15.247)
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, it is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:

- Chapter 1 General Information.

USED EQUIPMENT

AC Power Line Conducted Emission / SR001

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2026.01.04	2027.01.03
Two-Line V-Network	R&S	ENV 216	101044	2025.09.20	2026.09.19
Two-Line V-Network	R&S	ENV 216	101189	2026.04.26	2027.04.25
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2026.03.09	2027.03.08
Coaxial Cable	Huber+Suhner	RG 223	TR1-C1	2026.03.09	2027.03.08
Impedance Stabilization Network	Teseq GmbH	ISN T800	57318	2026.01.11	2027.01.10
Temperature/Humidity Meter	RTS	RTS-1909	THM-011	2026.04.29	2027.04.28
Dekra test software	Dekra	N/A	N/A	N/A	N/A

Conducted Test/ SR012

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Wireless Connectivity Tester	R&S	CMW 270	102593	2026.01.24	2027.01.23
Coaxial Cable	N/A	N/A	2477	2026.01.11	2027.01.10
Coaxial Cable	N/A	N/A	2478	2026.01.11	2027.01.10
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2026.01.11	2027.01.10
Temperature/Humidity Meter	RTS	RTS-1909	THM-032	2026.04.29	2027.04.28
Test system					
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MAX Signal Analyzer	Keysight	N9010A	MY48030494	2025.09.20	2026.09.19
RF Control Unit	Tonscend	JS0806-2	22G8060594	2025.12.07	2026.12.06
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2026.01.18	2027.01.17
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2026.01.18	2027.01.17
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2026.01.18	2027.01.17
Test Software	Tonscend	TS1120	JS1120-3	N/A	N/A

Radiated Emission(9KHz-1GHz) / AC002

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100176	2026.01.24	2027.01.23
Loop Antenna	R&S	HFH2-Z2E	101149	2026.03.16	2027.03.15
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2025.08.26	2026.08.25
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2026.08.13	2027.08.12
Temperature/Humidity Meter	RTS	RTS-1909	THM-021	2026.04.29	2027.04.28
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2025.08.16	2026.08.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2026.08.09	2027.08.08
Cable	Lair Microwave	LA550-NMNM-12M	25080609001	2025.08.16	2026.08.15
Cable	Lair Microwave	LA550-NMNM-12M	25080609001	2026.08.09	2027.08.08
Dekra test software	Dekra	N/A	N/A	N/A	N/A

Radiated Emission Band Edge / AC003

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MXA Signal Analyzer	Keysight	N9020B	MY60112218	2026.01.18	2027.01.17
Horn Antenna	ETS-Lindgren	3117	00167055	2025.08.14	2026.08.13
Horn Antenna	ETS-Lindgren	3117	00167055	2026.08.07	2027.08.06
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2026.03.01	2027.02.28
Pre-amplifier	Tonscend	TAP01840048	806JSAP042906251036	2026.01.24	2027.01.23
Pre-amplifier	Tonscend	PA0118-43	JSPA21029	2026.06.18	2027.06.17
Filter Switch Box	MVE	MSW-F196	C070001S	2026.01.24	2027.01.23
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2026.01.24	2027.01.23
Coaxial Cable	Lair Microwave	LA800-NMNWM-6.5M	502201001001	2026.01.11	2027.01.10
Temperature/Humidity Meter	RTS	RTS-1909	THM-024	2026.04.29	2027.04.28
Test Software	Tonscend	JS36	N/A	N/A	N/A

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.8 dB 150kHz~30MHz: 2.4 dB
Peak Power Output	± 1.3 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.5 dB 300MHz~1GHz: 3.6 dB Vertical: 30MHz~200MHz: 3.6 dB 300MHz~1GHz: 3.5 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.0 dB Vertical: 1GHz~18GHz: 4.8 dB Horizontal: 18GHz~26.5GHz: 5.3 dB Vertical: 18GHz~26.5GHz: 4.9 dB
RF antenna conducted test	± 1.3 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 1.0 kHz
Occupied Bandwidth	± 1.0 kHz
Power Density	± 1.3 dB

1 GENERAL INFORMATION

Product Name	Industrial Wireless Router	
Model No.....	IR602, IR652, IR692 The only difference is that the products are used in different markets.	
Trademark.....		
FCC ID	2BPWU-IR602	
Manufacturer	InHand Networks, Inc.	
Manufacturer Address.....	3650 Concorde Pkwy, Suite 200, Chantilly, VA 20151, USA	
Power Supply	12Vdc	
Hardware version.....	V1.1	
Software version	V2.0	
Wireless specifiction	Wi-Fi 802.11b/g/n/ax	
Operating frequency range(s).....	2400~2483.5MHz	
Type of modulation	802.11b: DSSS-DBPSK, DQPSK, CCK 802.11g/n: OFDM-BPSK, QPSK, 16QAM, 64QAM 802.11ax: OFDMA -BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024 QAM	
Channel Spacing.....	802.11b/g/n/ax: 20MHz 802.11n/ax: 40MHz	
Device category	☐	Fixed point-to-point
	☐	Emit multiple directional beams, simultaneously or sequentially
	☒	Other cases
Antenna type.....	PIFA	
Antenna Gain	SISO-Ant 0, 1: 2.69 dBi MIMO directional gain for power: 2.69 dBi MIMO directional gain for PSD: 5.7 dBi	
Note: 1.The device does not support partial RU. 2. Test model is IR602.		

Remark:

- As above information is provided and confirmed by the applicant. DEKRA is not liable to the accuracy, suitability, reliability or/and integrity of the information.
- This device is equipped with two Wi-Fi 2.4GHz antennas. We tested the output power of both chains separately. When testing other conduction test items, only the chain with higher power was selected for testing. When testing radiated spurious emissions, we tested the data of both antenna chains and MIMO mode, but only the data of the MIMO, was shown in the report.

2 DESCRIPTION OF TEST SETUP

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) POE	N/A	N/A	N/A
(3) Ethernet cable	N/A	N/A	N/A
(4) Ethernet cable	N/A	N/A	N/A
Software	Type / Version	Manufacturer	Supplied by
QATool	N/A	N/A	N/A

Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2) Ethernet cable	1	☒	☒
(3) Ethernet cable	8	☒	☒

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2020	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01V05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247
KDB 662911 D01V02r01	2020	Provision to Allow Measurement of Directional Gain of Multi-Antenna Systems for Compliance Verification

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

Requirement – Test Item of FCC	Standard(s)	Verdict	Remark
DTS Bandwidth	FCC 15.247(a)(2)	PASS	Please refer to appendix for test data
Maximum conducted output power	15.247 (b)(3)	PASS	
Maximum power spectral density	FCC 15.247(e)	PASS	
Band edge measurements	FCC 15.247(d) FCC 15.205 FCC 15.209	PASS	
Conducted Spurious Emission	FCC 15.247(d), FCC 15.209	PASS	
Duty cycle	ANSI C63.10:2013	PASS	
Emissions in Restricted Bands	FCC 15.205 FCC 15.209	PASS	
AC Power Line Conducted Emission	FCC 15.207	PASS	
Antenna Requirement	FCC 15.203	PASS	---

3.4 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting		
			SISO-Ant0	SISO-Ant1	MIMO
11b	1	2412	21	21	N/A
	6	2437	21	21	N/A
	11	2462	20	20	N/A
11g	1	2412	18	18	N/A
	6	2437	18	18	N/A
	11	2462	18	18	N/A
11n (20MHz)	1	2412	19	19	19
	6	2437	19	19	19
	11	2462	19	19	19
11n (40MHz)	3	2422	18	18	18
	6	2437	18	18	18
	9	2452	18	18	18
11ax (20MHz)	1	2412	18	18	18
	6	2437	18	18	18
	11	2462	18	18	18
11ax (40MHz)	3	2422	18.5	18.5	18.5
	6	2437	18.5	18.5	18.5
	9	2452	18.5	18.5	18.5

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: Pass

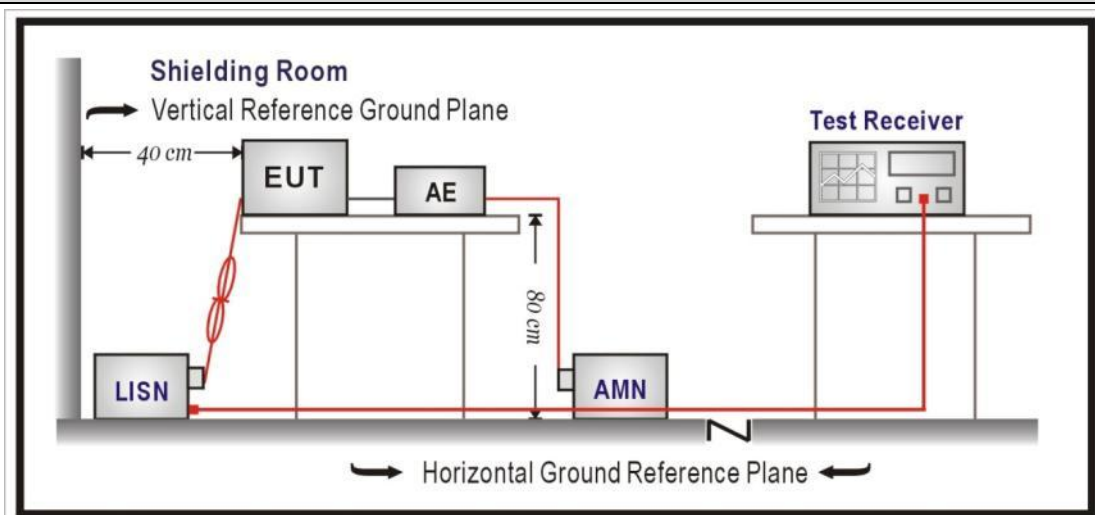
4.1.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾]	Limit: AV [dB(μV) ¹⁾]
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

4.1.2 Test Setup



4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.2 Emissions in restricted frequency bands**VERDICT: PASS****4.2.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.205; 15.209
-----------------	--

Restricted Bands of operation for FCC

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	Above 38.6
13.36 – 13.41	--	--	--

Restricted Band Emissions Limit

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 ^(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 ^(Note 1)
1.705 - 30	30	29.5	30 ^(Note 1)
30 - 88	100	40	3 ^(Note 2)
88 - 216	150	43.5	3 ^(Note 2)
216 - 960	200	46	3 ^(Note 2)
Above 960	500	54	3 ^(Note 2)

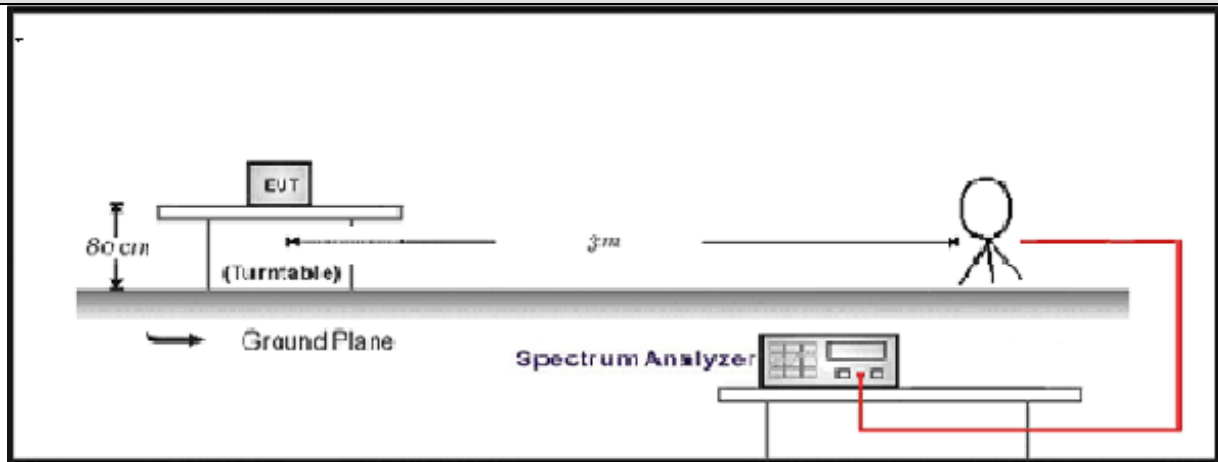
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated

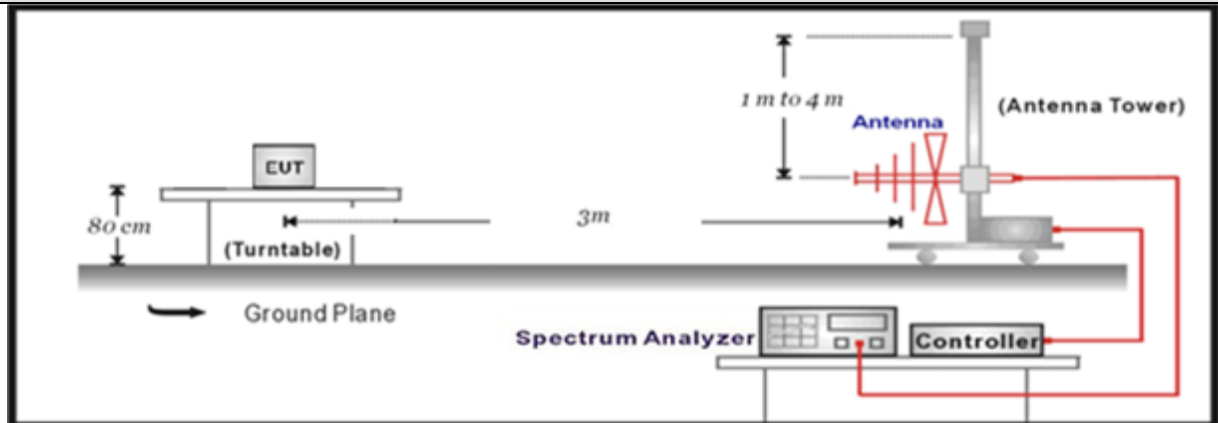
that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

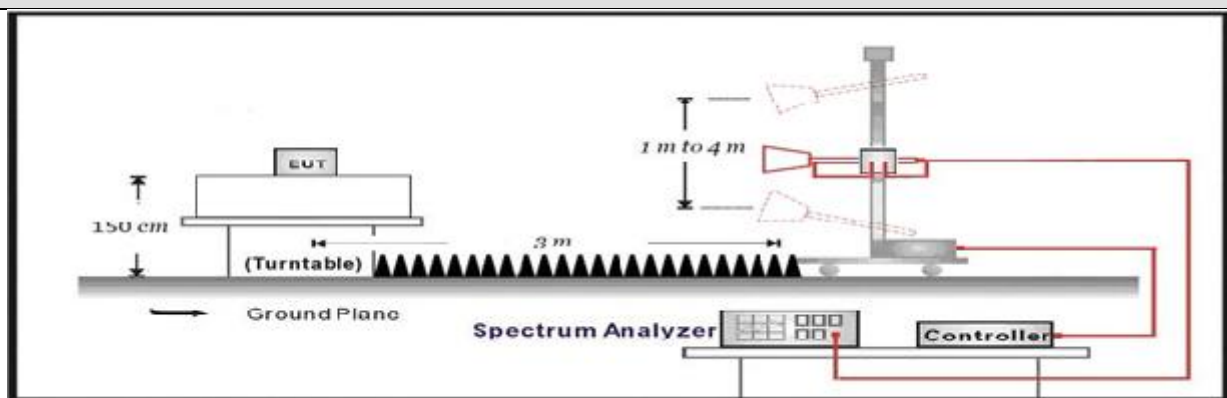
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.2.3 Test Procedure

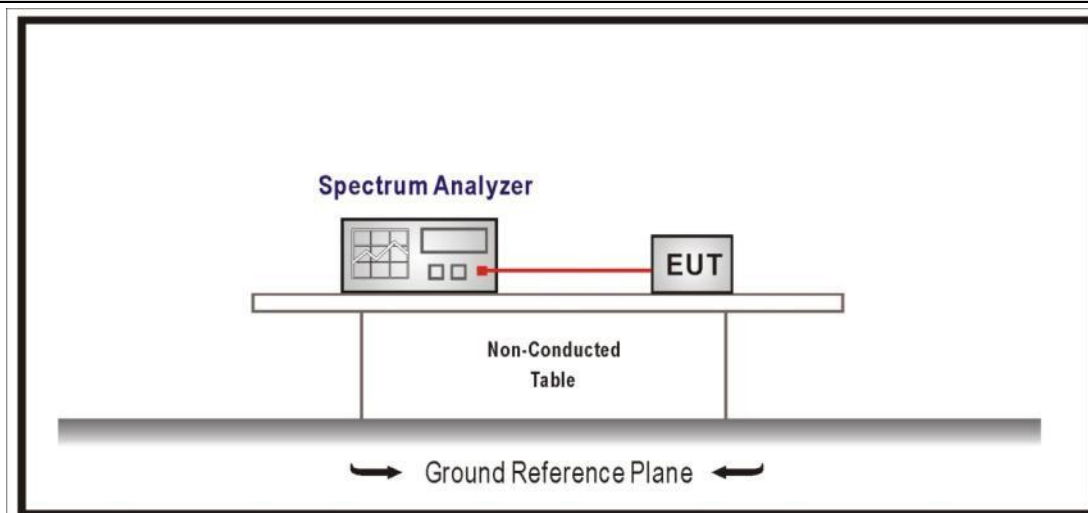
	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	6.3	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10	11.12.2	Antenna-port conducted measurements
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
	☐	ANSI C63.10	11.12.2.4	Peak power measurement procedure
	☐	ANSI C63.10	11.12.2.5	Average power measurement procedures
	☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
	☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
	☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

4.3 Emissions in non-restricted frequency band**VERDICT: PASS****4.3.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)	
RF Output power (Detection methods)	Limit(dB)	
RF Output power(Average detector)	30dBc(Note1)	
RF Output power(PK detector)	20dBc(Note2)	

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

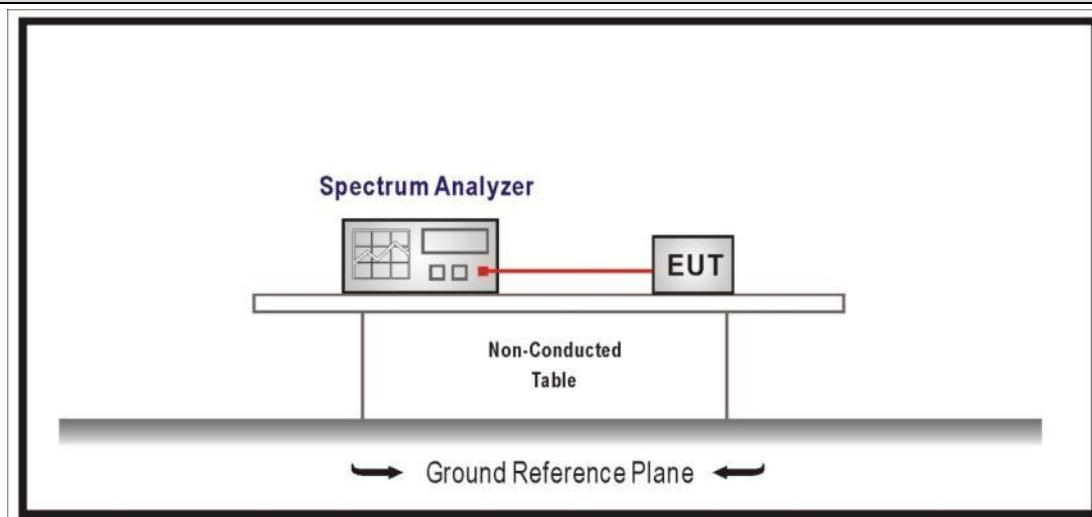
Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

4.3.2 Test Setup**4.3.3 Test Procedure**

References Rule		Chapter	Description
☒	ANSI C63.10	11.11	Emissions in non-restricted frequency bands
	☒ ANSI C63.10	11.11.1	General
	☒ ANSI C63.10	11.11.2	Reference level measurement
	☒ ANSI C63.10	11.11.3	Emission level measurement

4.4 Duty cycle**VERDICT: PASS****4.4.1 Limit**

N/A

4.4.2 Test Setup**4.4.3 Test Procedure**

References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

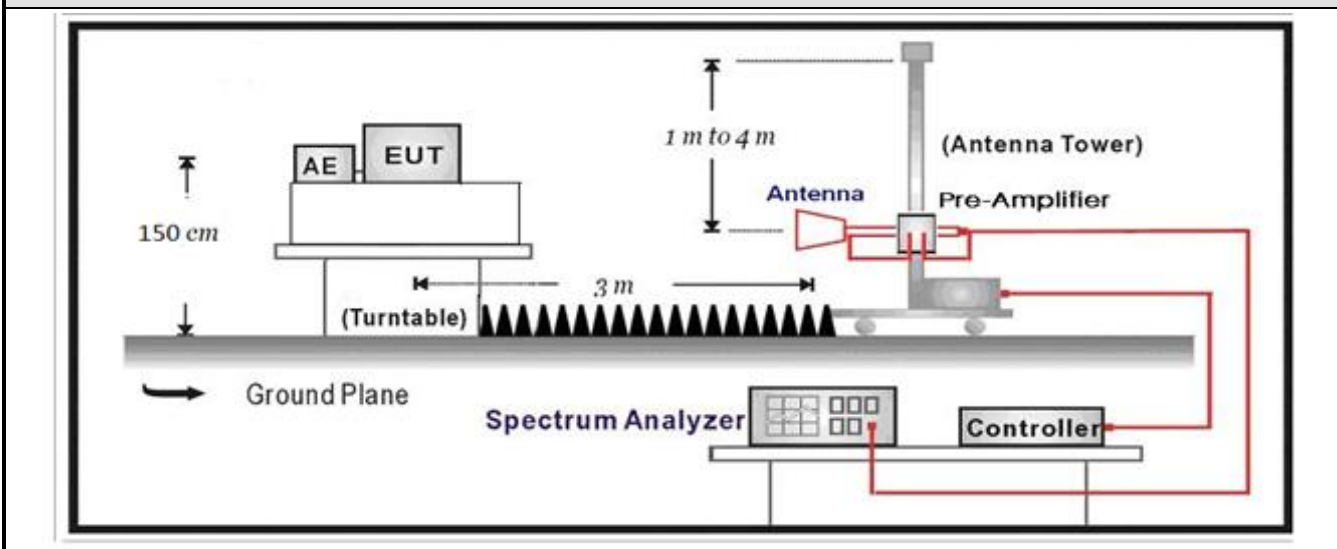
4.5 Radiated Emission Band Edge**VERDICT: PASS****4.5.1 Limit**

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.205, 15.209		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

4.5.2 Test Setup

Above 1GHz Test Setup:



4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.10	Band-edge testing
	☒ ANSI C63.10	6.10.5	Restricted-band band-edge measurements
	☐ ANSI C63.10	6.10.6	Marker-delta method
☒	ANSI C63.10	11.12	Emissions in restricted frequency bands
	☒ ANSI C63.10	11.12.1	Radiated emission measurements
	☒ ANSI C63.10	6.3	Radiated spurious emission test
☐	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

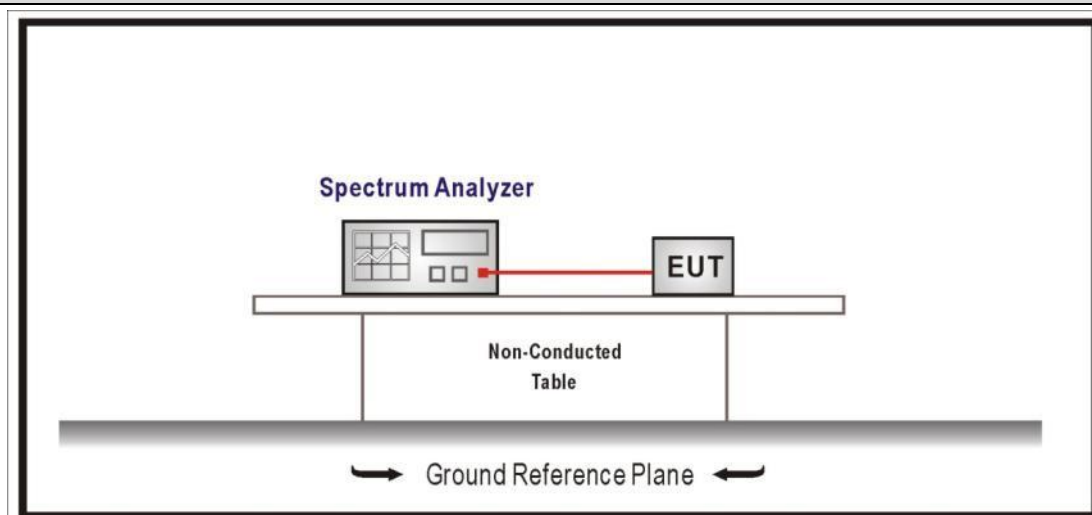
4.6 DTS Bandwidth**VERDICT: PASS****4.6.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
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Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

Standard	ANSI C63.10 Paragraph 6.7
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The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs. The occupied bandwidth should be within the required frequency range.

4.6.2 Test Setup**4.6.3 Test Procedure**

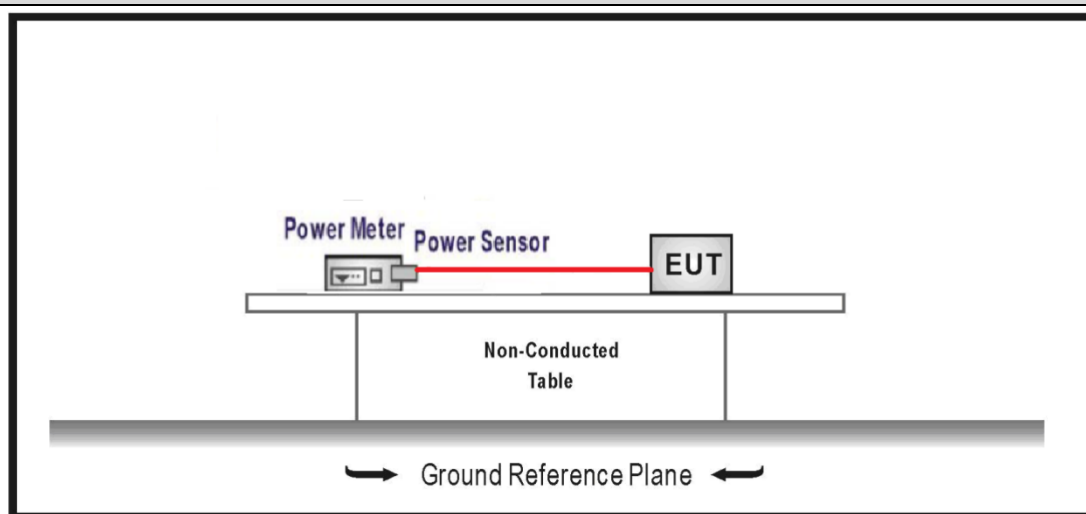
	Reference Rule	Chapter	Description
☒	ANSI C63.10	11.8	DTS bandwidth
	☐ ANSI C63.10	11.8.1	Option 1
	☒ ANSI C63.10	11.8.2	Option 2
☒	ANSI C63.10	6.9	Occupied bandwidth
	☐ ANSI C63.10	6.9.2	relative measurement procedure
	☒ ANSI C63.10	6.9.3	power bandwidth (99%) measurement procedure

4.7 Fundamental emission output power**VERDICT: PASS****4.7.1 Limit**

Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
☒	GTX <6dBi	Pout≤30dBm
☐	GTX >6dBi	
☐	Non-Fix point-point	Pout≤30-(GTX -6)
☐	Fix point-point	Pout≤30-[(GTX-6)]/3
☐	Point-to-multipoint	Pout≤30-(GTX-6)
☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
☐	Avgregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
☐	single directional beam	Pout≤30-[(GTX-6)]/3+8dB

Note 1 : GTX directional gain of transmitting antennas.

Note 2 : Pout is maximum conducted output power .

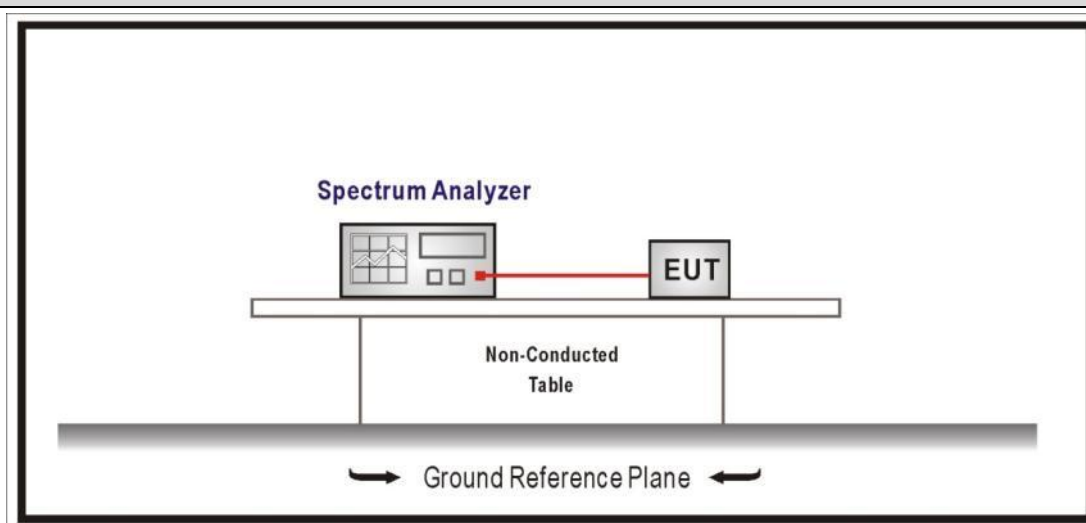
4.7.2 Test Setup

4.7.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.9	Fundamental emission output power
	☐	ANSI C63.10		Maximum peak conducted output power
	☐	ANSI C63.10	11.9.1.1	RBW $\geq$ DTS bandwidth
		ANSI C63.10	11.9.1.2	Integrated band power method
		ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method
	☒	ANSI C63.10		Maximum conducted (average) output power
	☐	ANSI C63.10	11.9.2.2	Measurement using a spectrum analyzer (SA)
		☐ ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle $\geq$ 98%)
		☐ ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle $\geq$ 98%)
		☐ ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle $\leq$ 98%)
		☐ ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle $\leq$ 98%)
		☐ ANSI C63.10	11.9.2.2.4	Method AVGSA-3
		☐ ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☒ ANSI C63.10	11.9.2.3	Measurement using a power meter (PM)
	☐	☒ ANSI C63.10	11.9.2.3.1	Method AVGPM
		☐ ANSI C63.10	11.9.2.3.2	Method AVGPM-G

4.8 Power Density**VERDICT: PASS****4.8.1 Limit:****Standard**

FCC Part 15 Subpart C Paragraph 15.247 (e)

Power Spectral Density $\leq 8 \text{ dBm}/3 \text{ kHz}$ **4.8.2 Test Setup****4.8.3 Test Procedure**

	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

4.9 Antenna Requirement	VERDICT: PASS
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4.9.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.203
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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.	

4.9.2 Antenna Connector Construction:	
☐	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☒	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document "Internal Photograph" to show the antenna connector.	

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

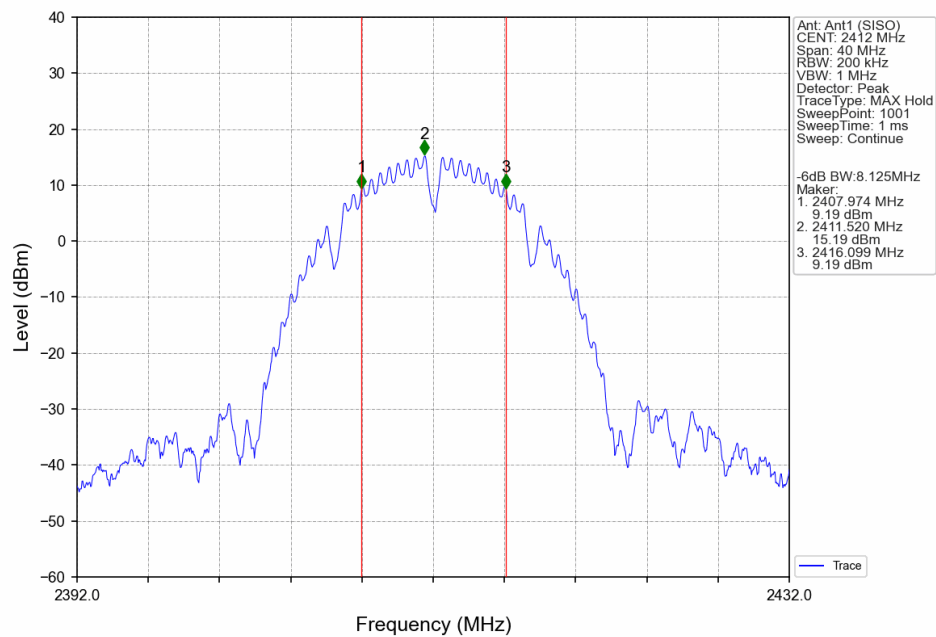
Appendix A: Test results of DTS Bandwidth

6dB bandwidth:

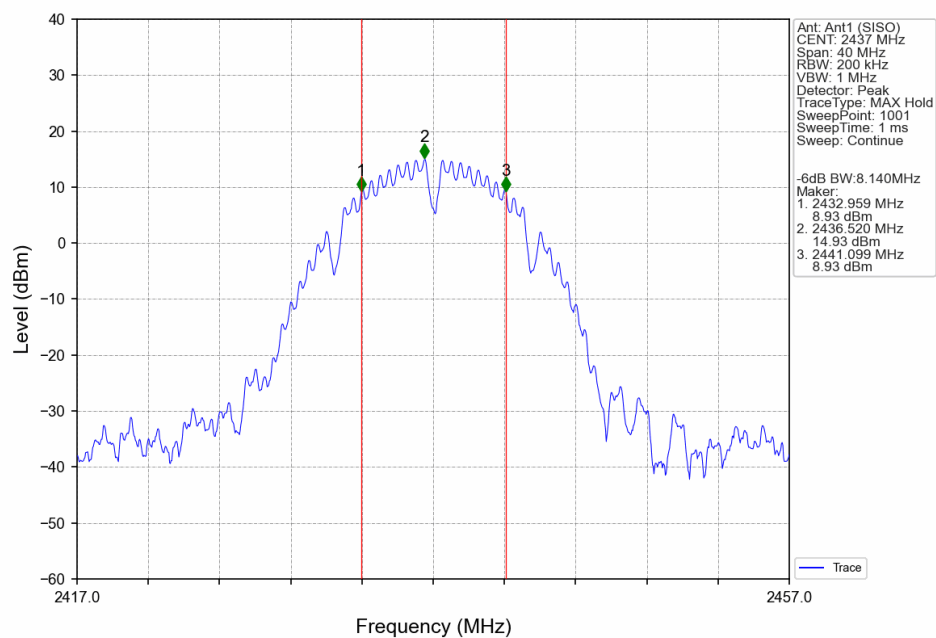
Test Mode	Frequency[MHz]	DTS BW [MHz]	Limit[MHz]	Verdict
11B	2412	8.125	0.5	PASS
11B	2437	8.140	0.5	PASS
11B	2462	8.165	0.5	PASS
11G	2412	16.352	0.5	PASS
11G	2437	16.309	0.5	PASS
11G	2462	16.264	0.5	PASS
11N20	2412	17.569	0.5	PASS
11N20	2437	17.507	0.5	PASS
11N20	2462	17.382	0.5	PASS
11N40	2422	35.951	0.5	PASS
11N40	2437	35.810	0.5	PASS
11N40	2452	35.827	0.5	PASS
11AX20	2412	19.015	0.5	PASS
11AX20	2437	18.911	0.5	PASS
11AX20	2462	18.727	0.5	PASS
11AX40	2422	36.129	0.5	PASS
11AX40	2437	37.292	0.5	PASS
11AX40	2452	37.308	0.5	PASS

Note: We have evaluated each antenna, only worst data shown in report.

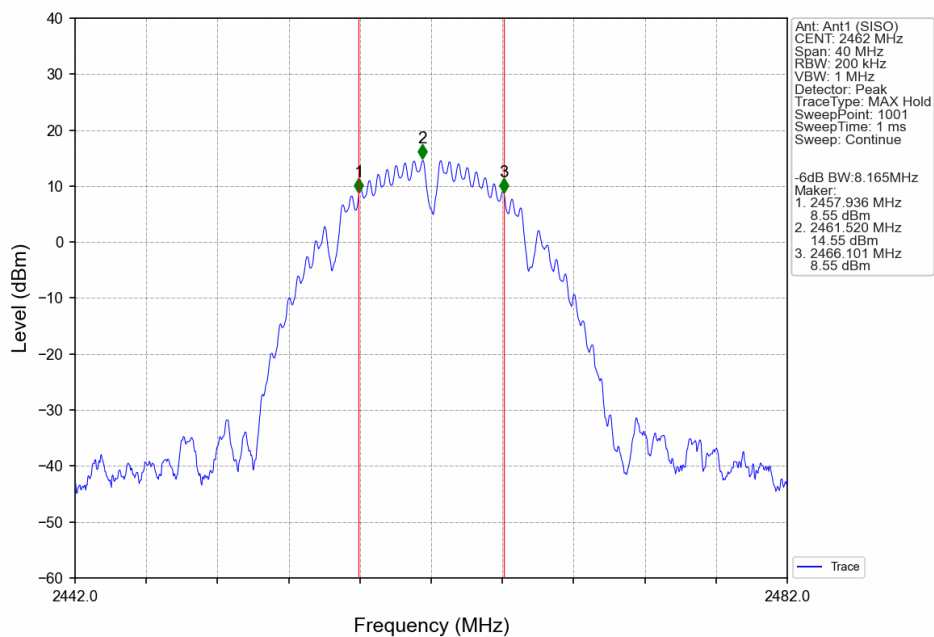
802.11b_LCH_2412MHz__NTNV



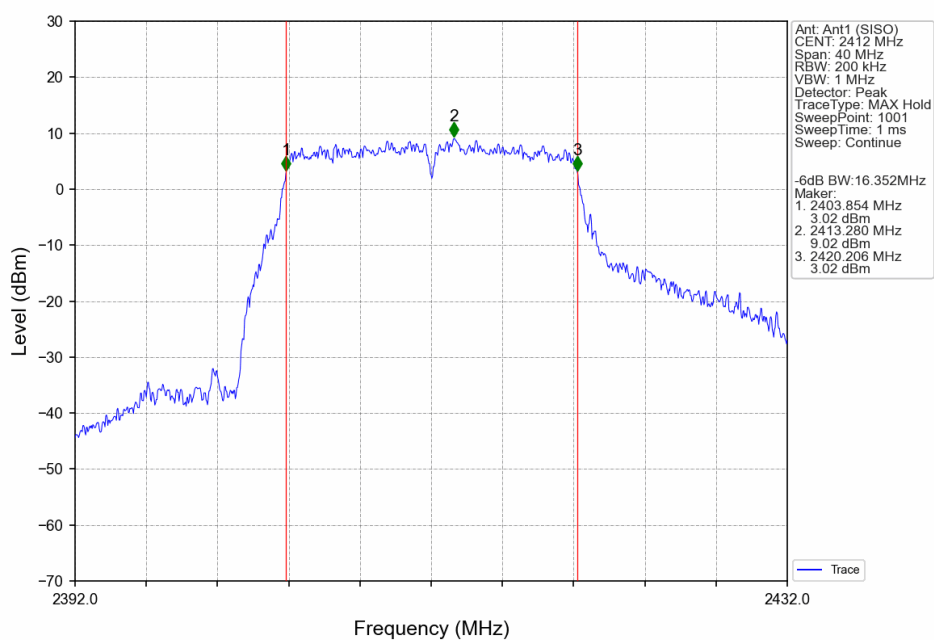
802.11b_MCH_2437MHz__NTNV



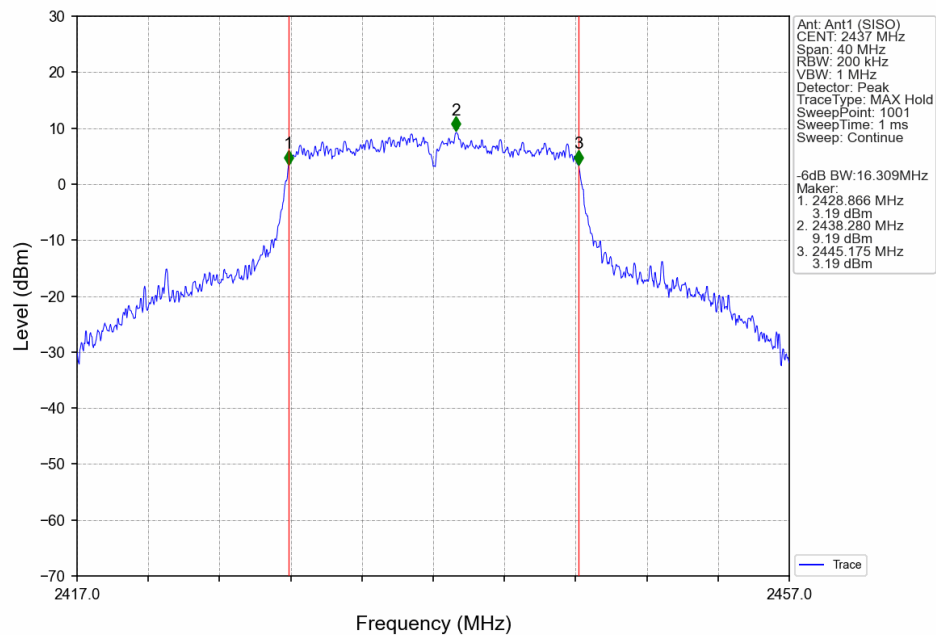
802.11b_HCH_2462MHz__NTNV



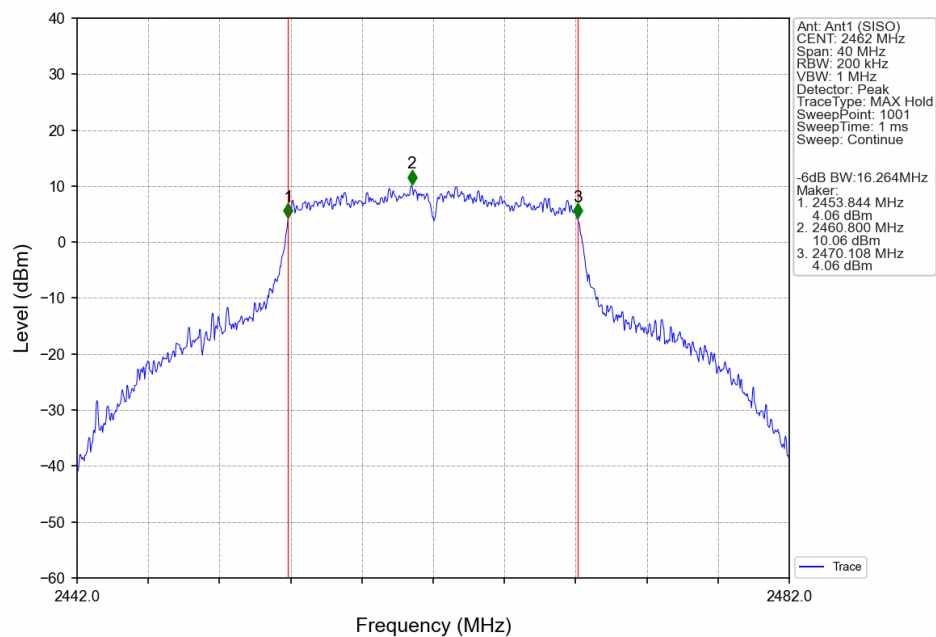
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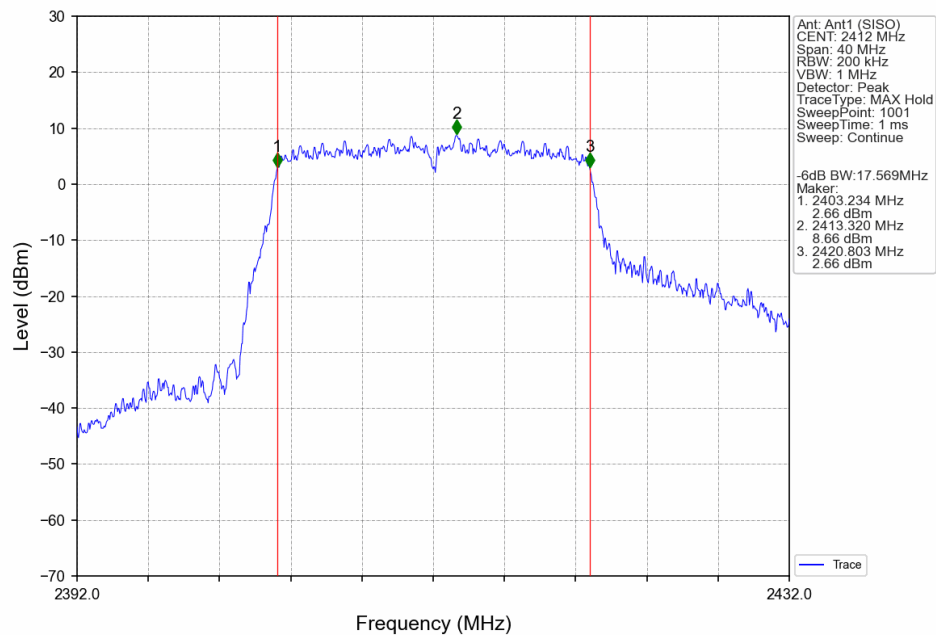
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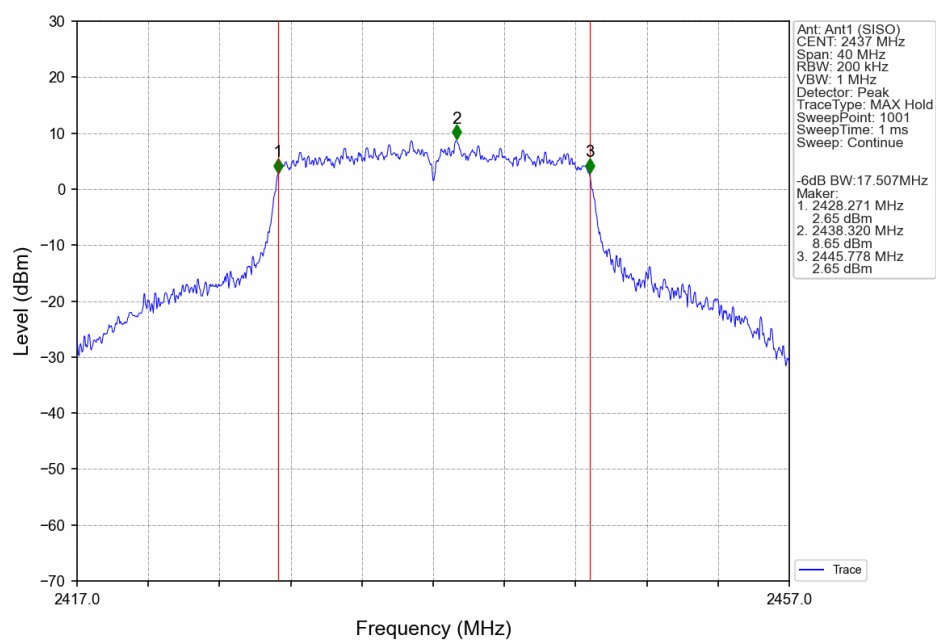
802.11g_HCH_2462MHz__NTNV



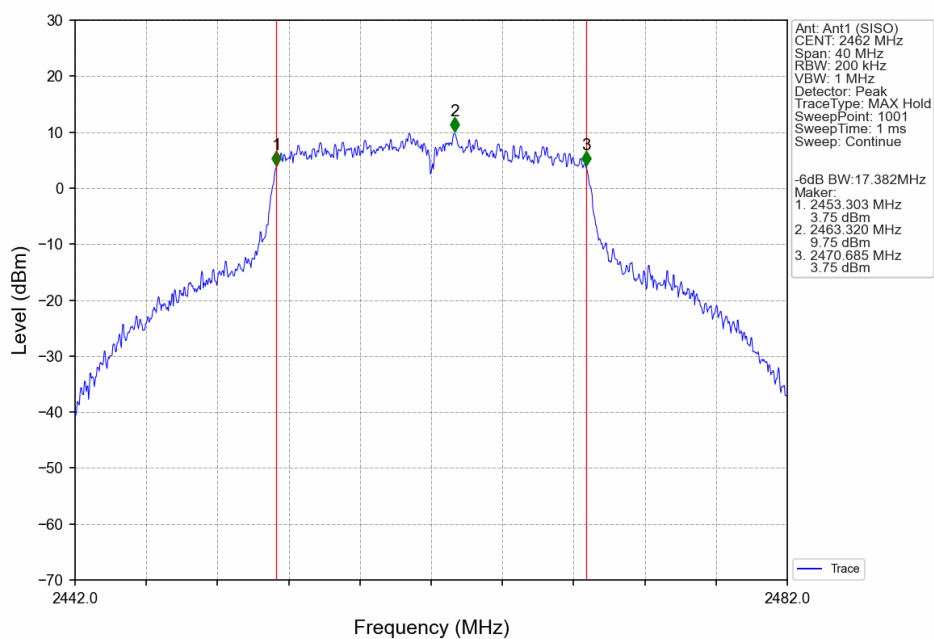
802.11n(HT20)_LCH_2412MHz__NTNV



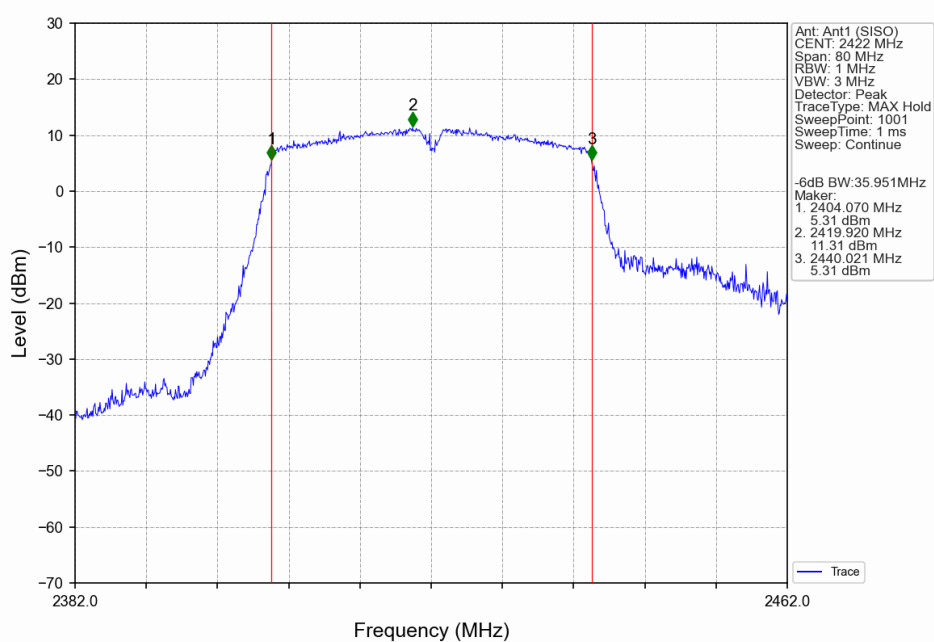
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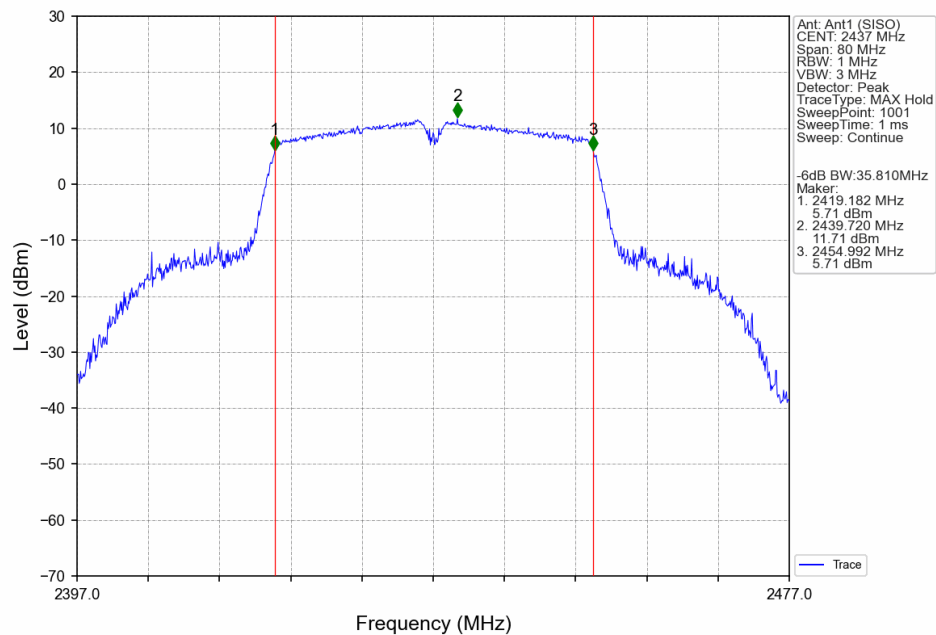
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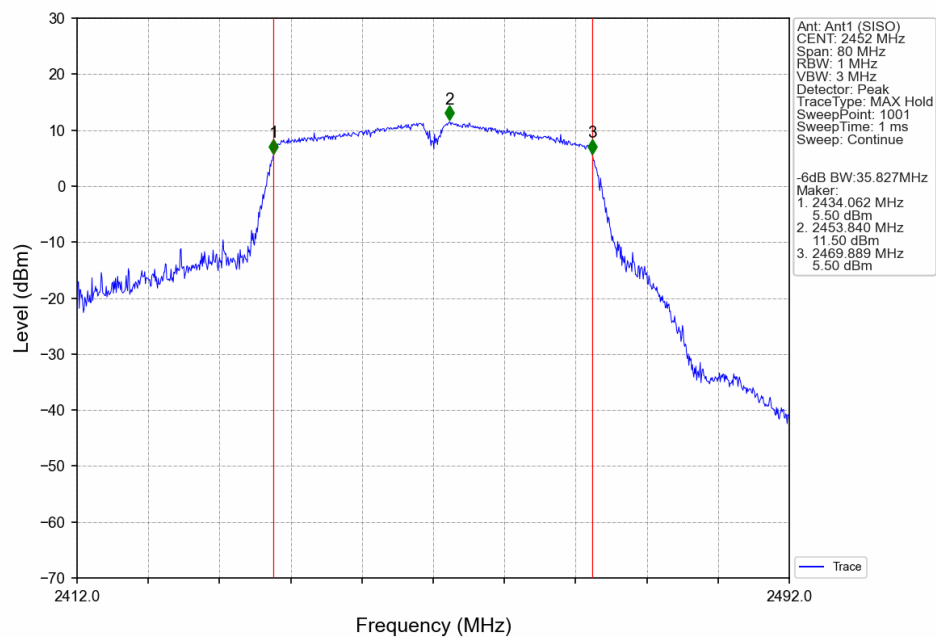
802.11n(HT40)_LCH_2422MHz__NTNV



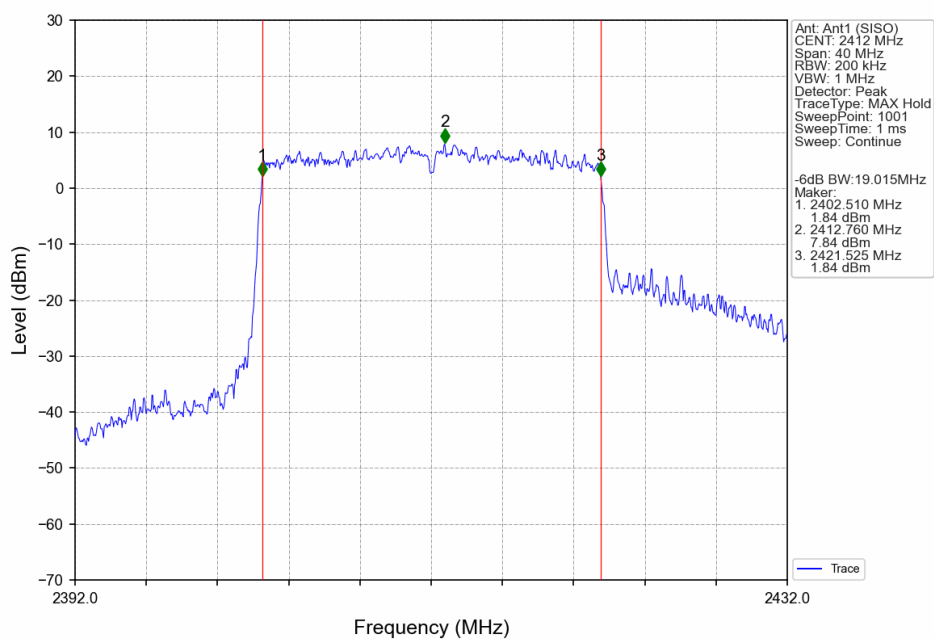
802.11n(HT40)_MCH_2437MHz__NTNV



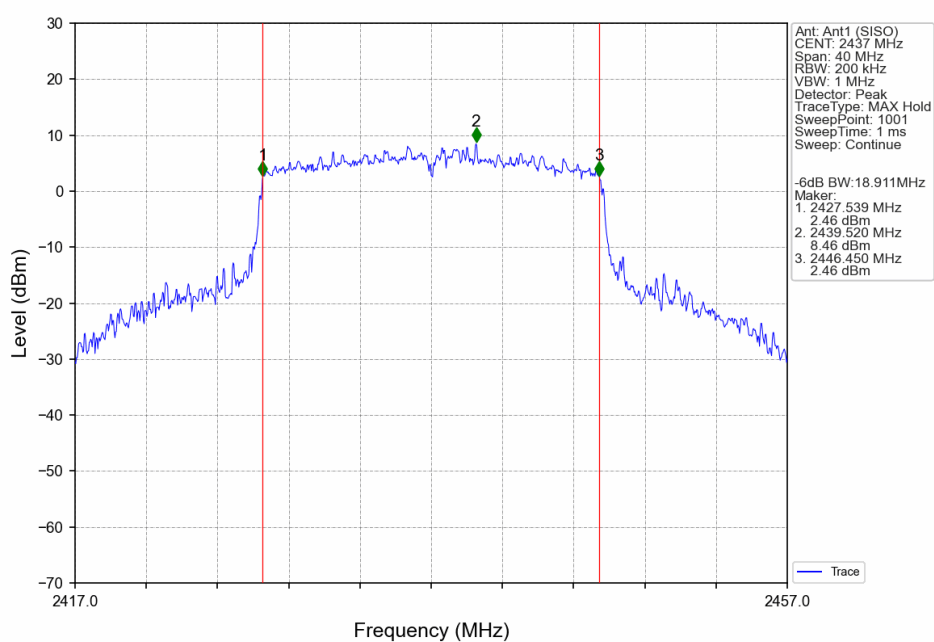
802.11n(HT40)_HCH_2452MHz__NTNV



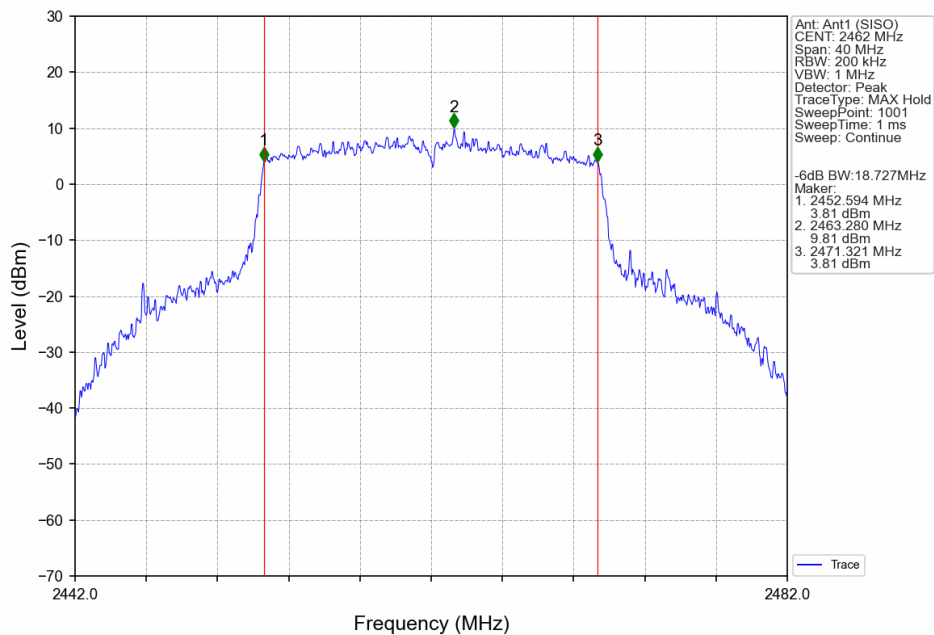
802.11ax(HEW20)_LCH_2412MHz_SU_ / __NTNV



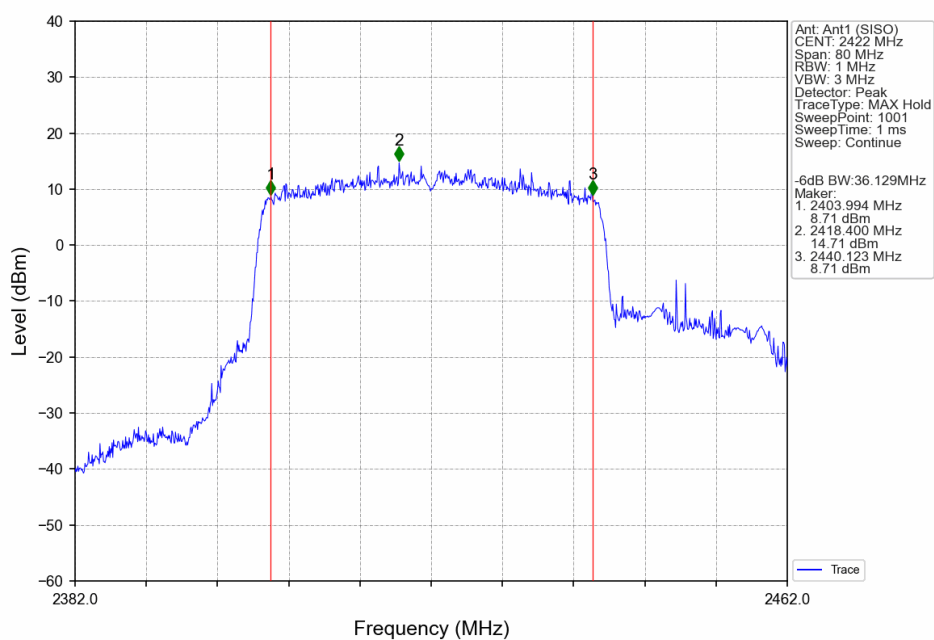
802.11ax(HEW20)_MCH_2437MHz_SU_ / __NTNV



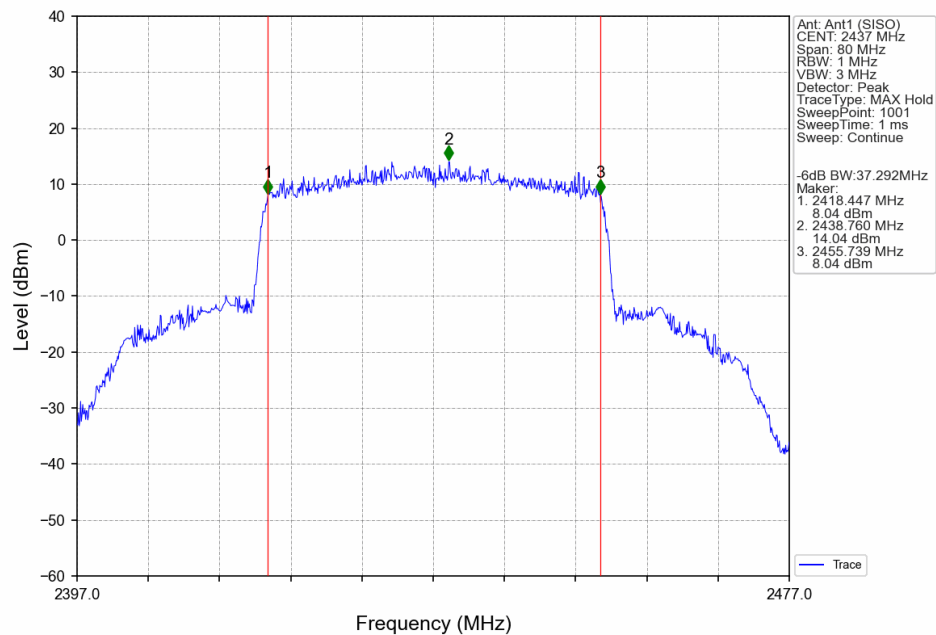
802.11ax(HEW20)_HCH_2462MHz_SU_ / __NTNV



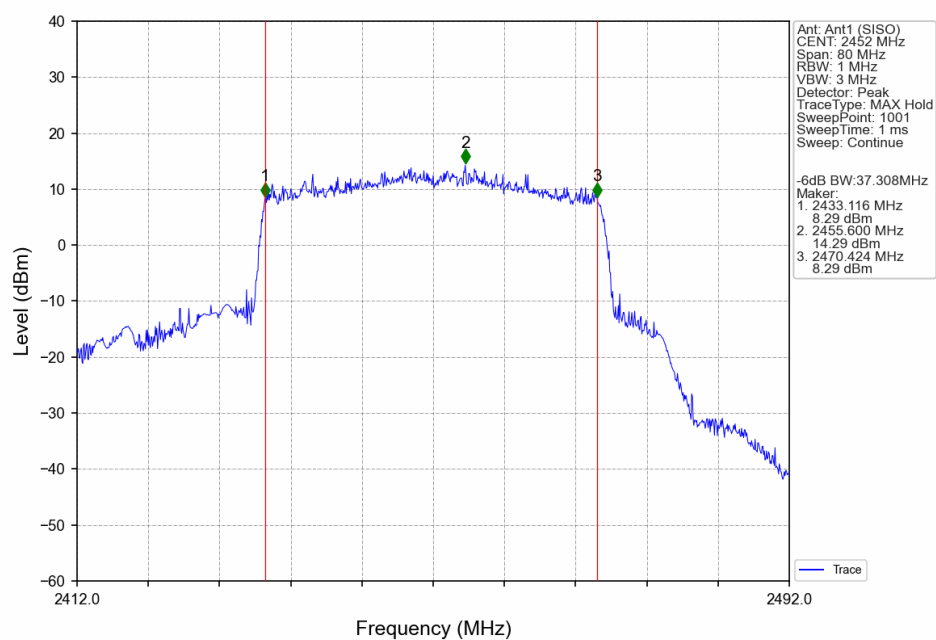
802.11ax(HEW40)_LCH_2422MHz_SU_ / __NTNV



802.11ax(HEW40)_MCH_2437MHz_SU_/_NTNV



802.11ax(HEW40)_HCH_2452MHz_SU_/_NTNV

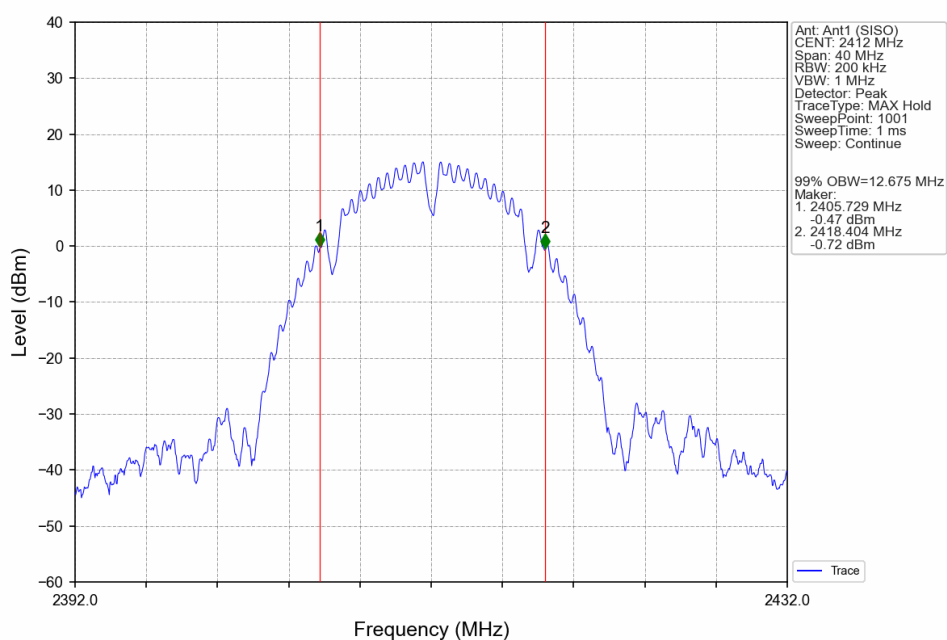


99% Occupied bandwidth:

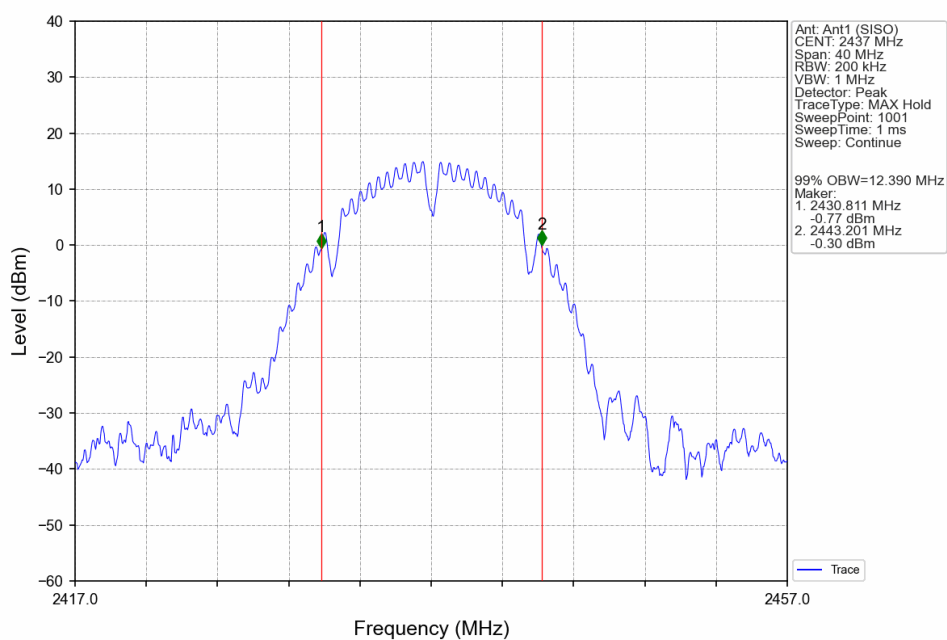
TestMode	Channel Frequency[MHz]	OCB [MHz]	Limit[MHz]	Verdict
11B	2412	12.675	Within band	Pass
11B	2437	12.390	Within band	Pass
11B	2462	12.688	Within band	Pass
11G	2412	16.893	Within band	Pass
11G	2437	16.687	Within band	Pass
11G	2462	16.692	Within band	Pass
11N20	2412	17.902	Within band	Pass
11N20	2437	17.852	Within band	Pass
11N20	2462	17.835	Within band	Pass
11N40	2422	36.817	Within band	Pass
11N40	2437	37.026	Within band	Pass
11N40	2452	36.788	Within band	Pass
11AX20	2412	18.935	Within band	Pass
11AX20	2437	19.066	Within band	Pass
11AX20	2462	19.051	Within band	Pass
11AX40	2422	37.939	Within band	Pass
11AX40	2437	38.030	Within band	Pass
11AX40	2452	37.839	Within band	Pass

Note: We have evaluated each antenna, only worst data shown in report.

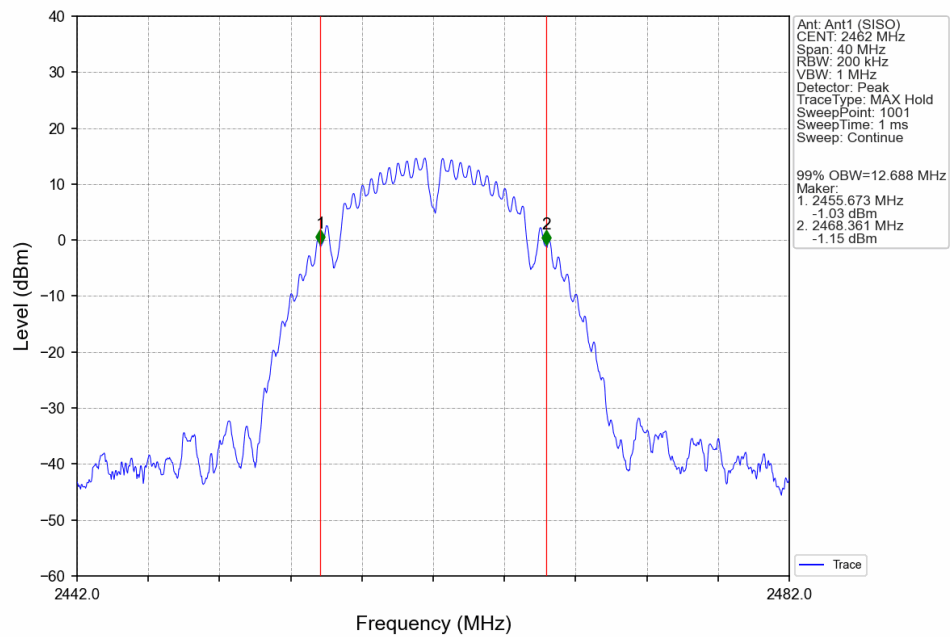
802.11b_LCH_2412MHz_NTNV



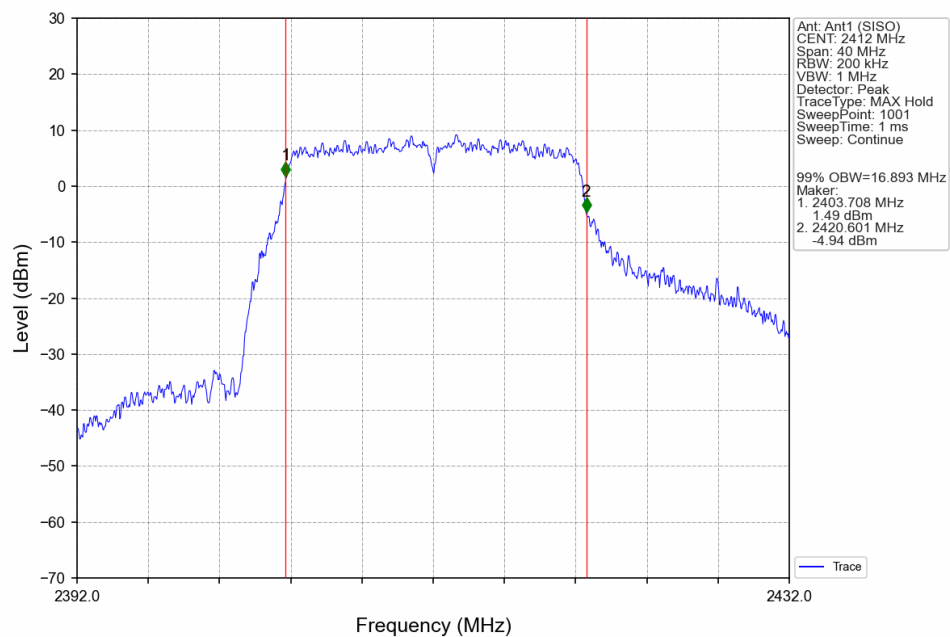
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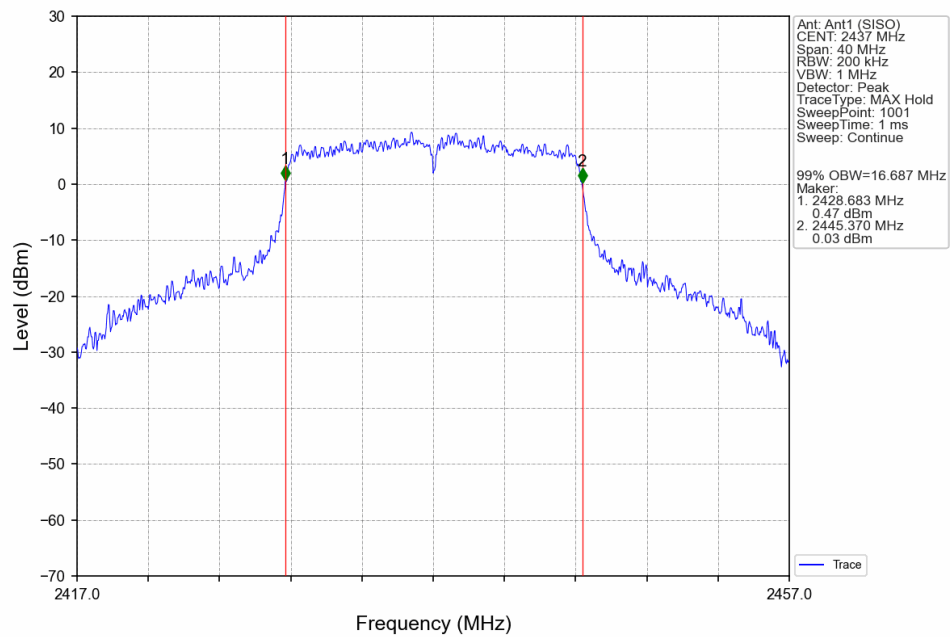
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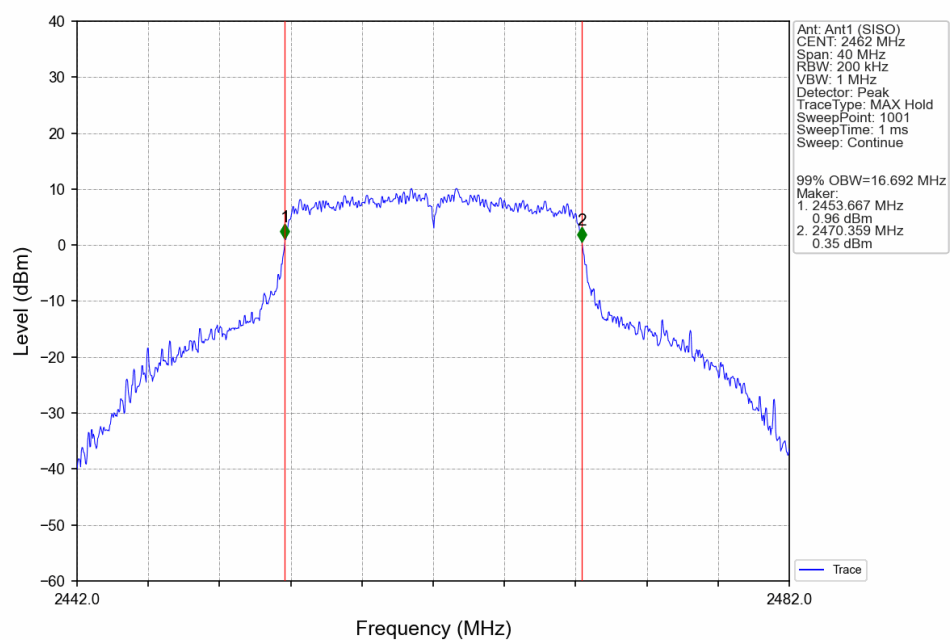
802.11g_LCH_2412MHz_NTNV



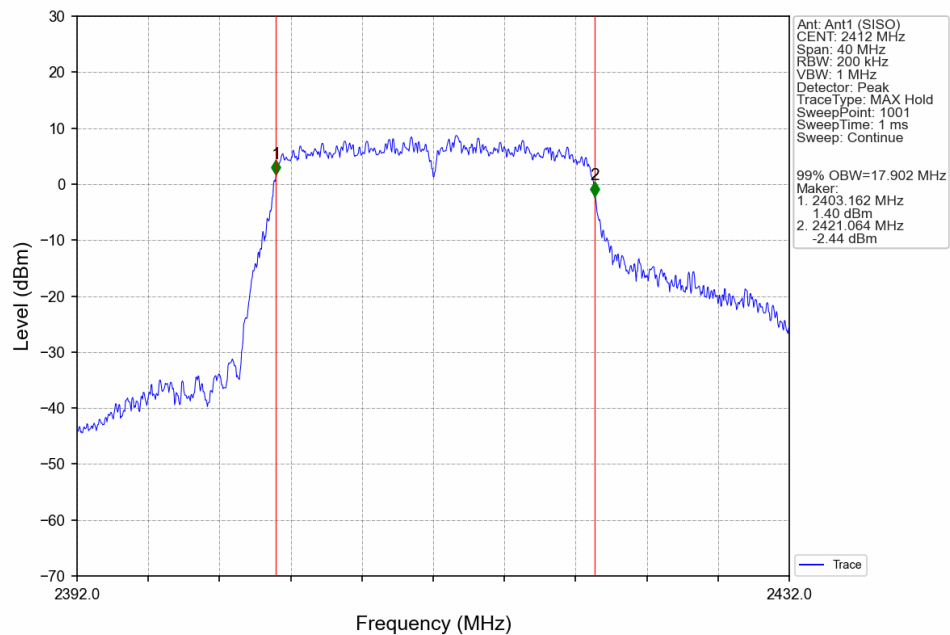
802.11g_MCH_2437MHz_NTNV



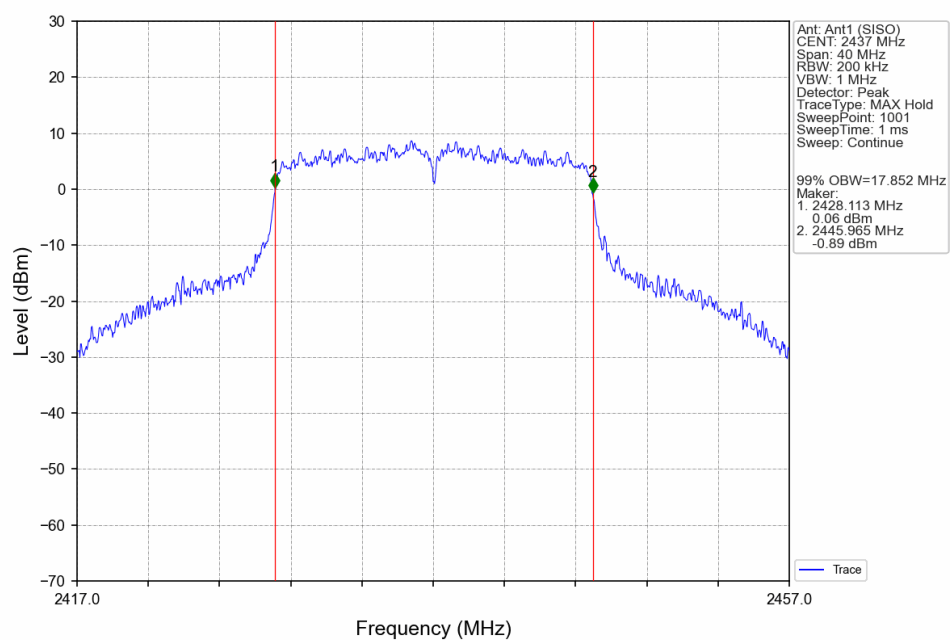
802.11g_HCH_2462MHz_NTNV



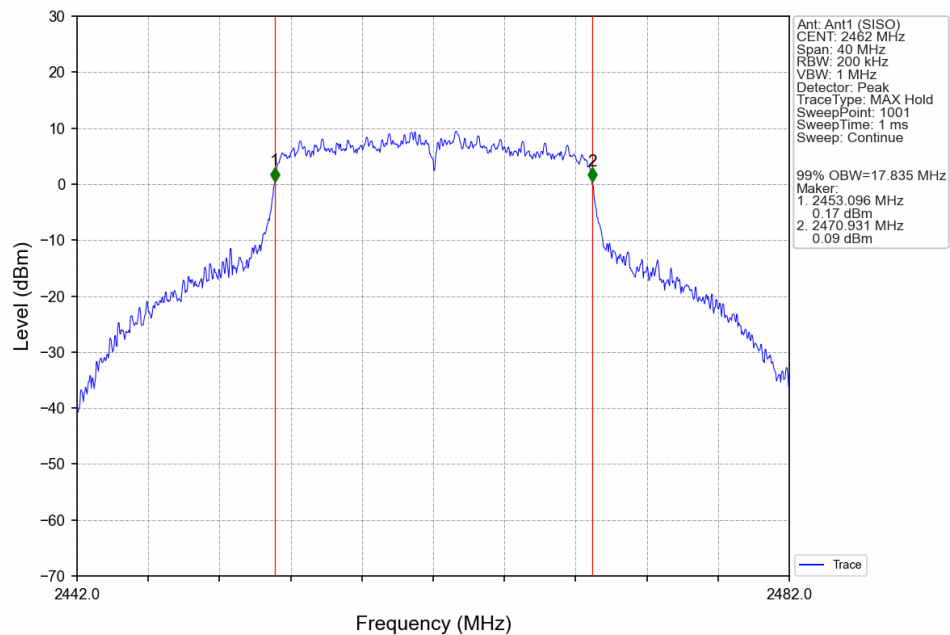
802.11n(HT20)_LCH_2412MHz_NTNV



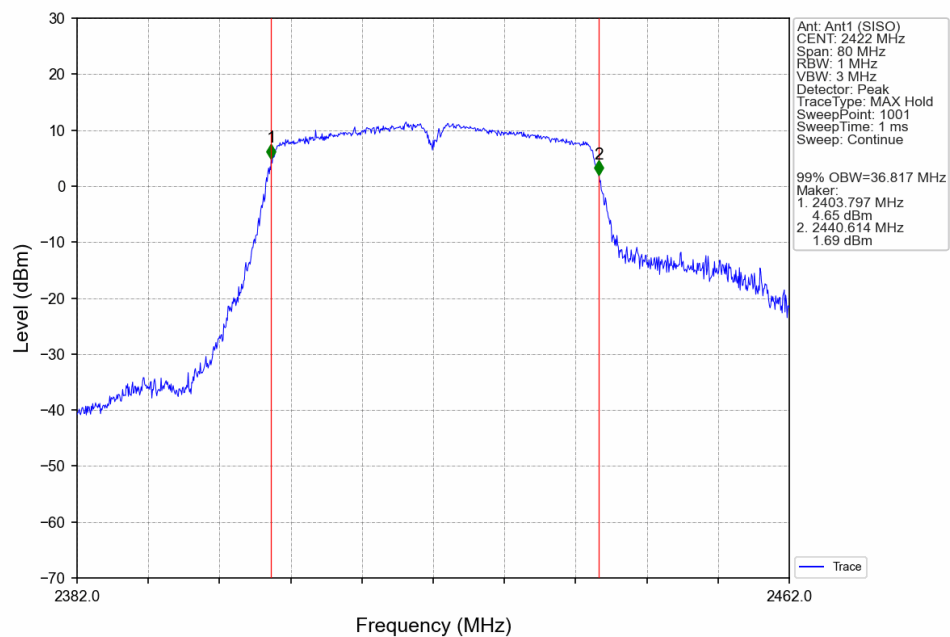
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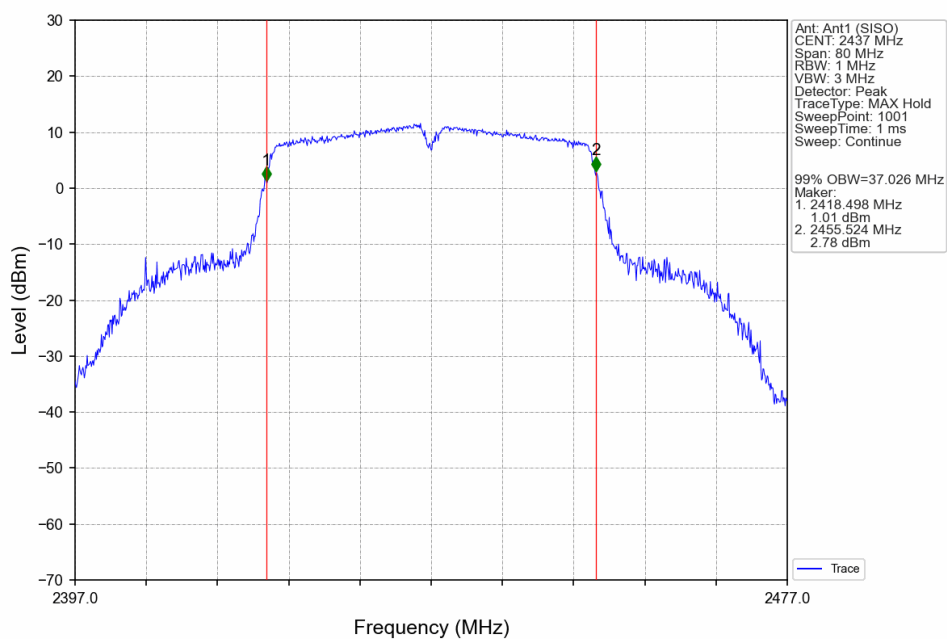
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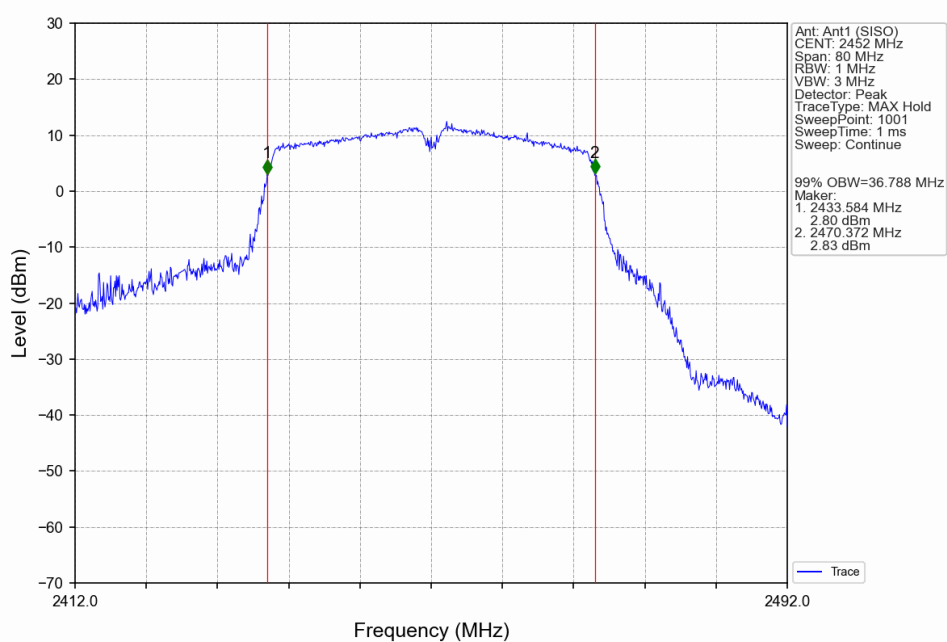
802.11n(HT40)_LCH_2422MHz_NTNV



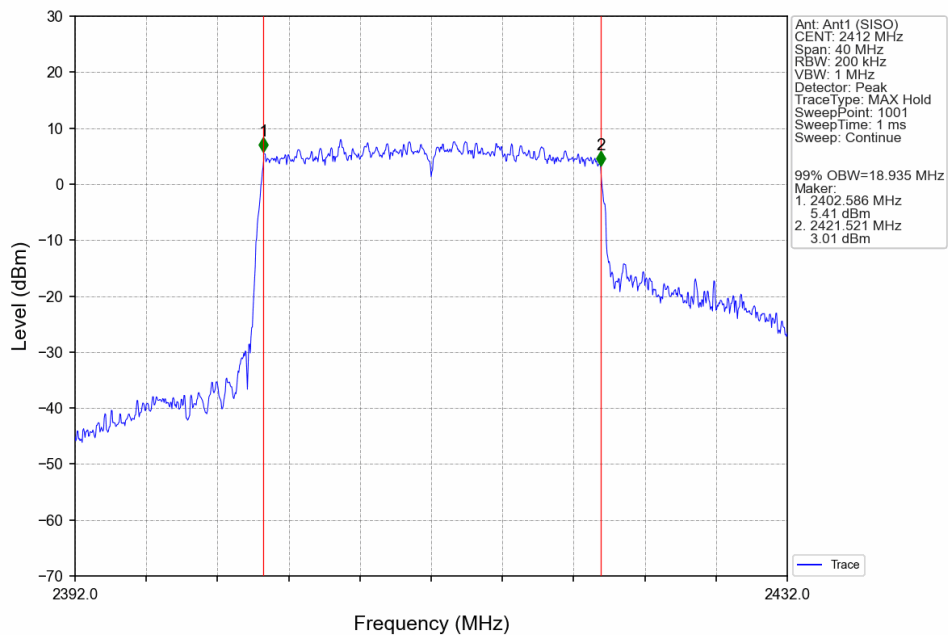
802.11n(HT40)_MCH_2437MHz_NTNV



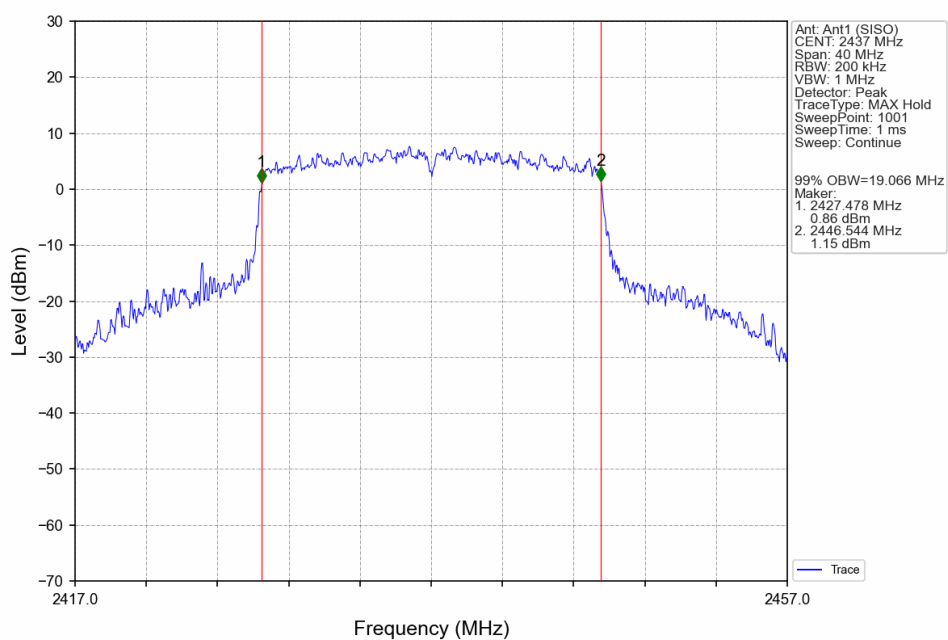
802.11n(HT40)_HCH_2452MHz_NTNV



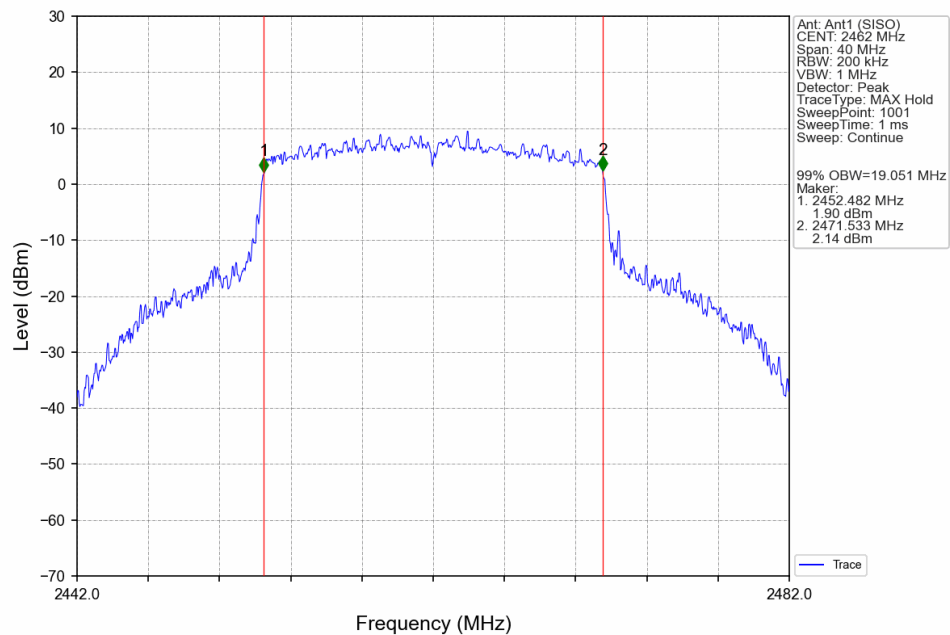
802.11ax(HEW20)_LCH_2412MHz_SU_/_NTNV



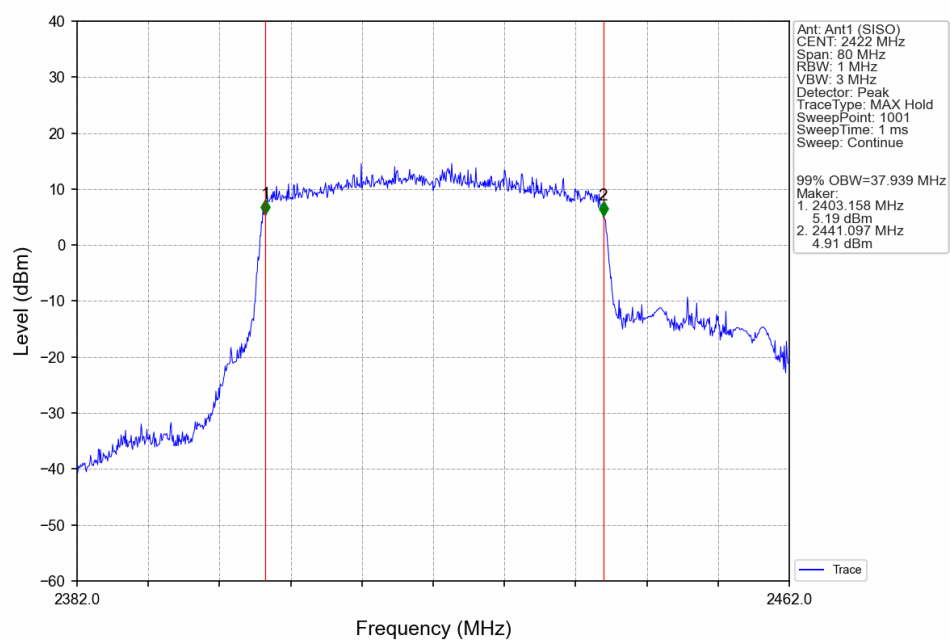
802.11ax(HEW20)_MCH_2437MHz_SU_/_NTNV



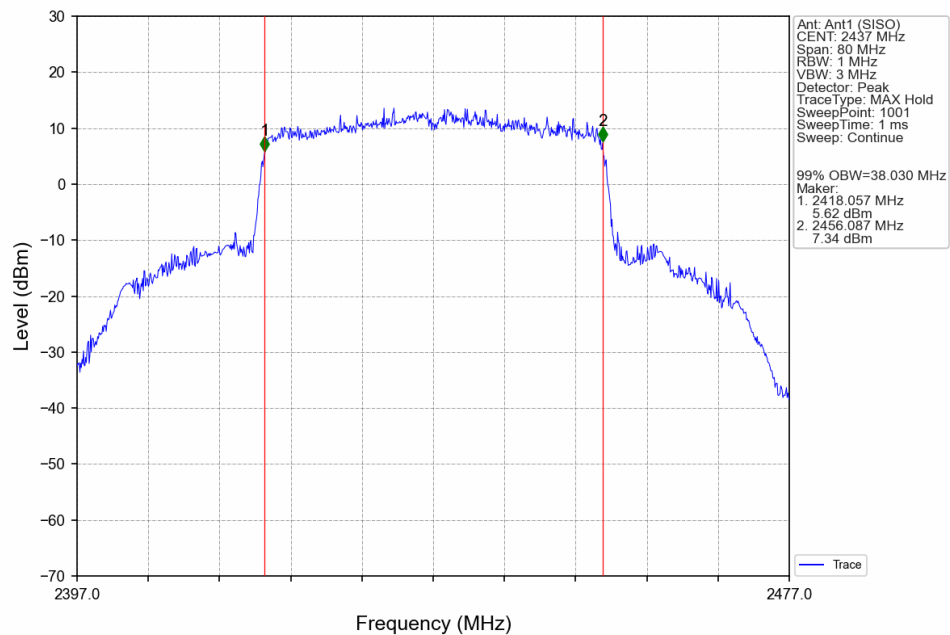
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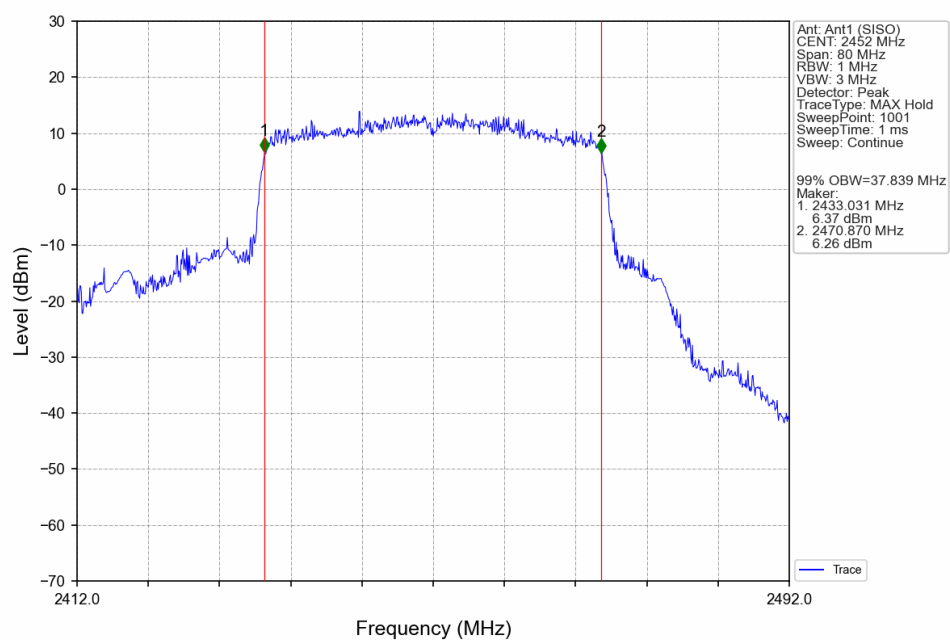
802.11ax(HEW40)_LCH_2422MHz_SU_/_NTNV



802.11ax(HEW40)_MCH_2437MHz_SU_/_NTNV



802.11ax(HEW40)_HCH_2452MHz_SU_/_NTNV



Appendix B: Test results of Maximum conducted output power

Mode	Channel	Frequency (MHz)	Output power (dBm)			Output power Limit (dBm)	Verdict
			Ant 0	Ant 1	MIMO 0+1		
11b	1	2412	24.89	25.18	N/A	≤30	Pass
	6	2437	24.69	25.13	N/A	≤30	Pass
	11	2462	24.41	24.80	N/A	≤30	Pass
11g	3	2422	25.74	26.17	N/A	≤30	Pass
	6	2437	25.52	26.05	N/A	≤30	Pass
	9	2452	26.05	26.87	N/A	≤30	Pass
11n(20MHz)	1	2412	25.21	25.65	28.45	≤30	Pass
	6	2437	24.97	25.50	28.25	≤30	Pass
	11	2462	25.49	26.32	28.94	≤30	Pass
11n(40MHz)	3	2422	24.53	24.61	27.58	≤30	Pass
	6	2437	24.07	24.60	27.35	≤30	Pass
	9	2452	24.03	24.68	27.38	≤30	Pass
11ax(20MHz)	1	2412	25.23	25.77	28.52	≤30	Pass
	6	2437	24.80	25.58	28.22	≤30	Pass
	11	2462	25.36	26.42	28.93	≤30	Pass
11ax(40MHz)	3	2422	25.41	25.99	28.72	≤30	Pass
	6	2437	25.21	26.01	28.64	≤30	Pass
	9	2452	25.16	26.06	28.64	≤30	Pass

Appendix C: Test results of Maximum power spectral density

Test Mode	Frequency[MHz]	Result	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	2412	4.56dBm/10kHz	-0.67	≤8.00	PASS
11B	2437	5.22dBm/10kHz	-0.01	≤8.00	PASS
11B	2462	4.39dBm/10kHz	-0.84	≤8.00	PASS
11G	2412	3.32dBm/30kHz	-6.68	≤8.00	PASS
11G	2437	3.17dBm/30kHz	-6.83	≤8.00	PASS
11G	2462	3.99dBm/30kHz	-6.01	≤8.00	PASS

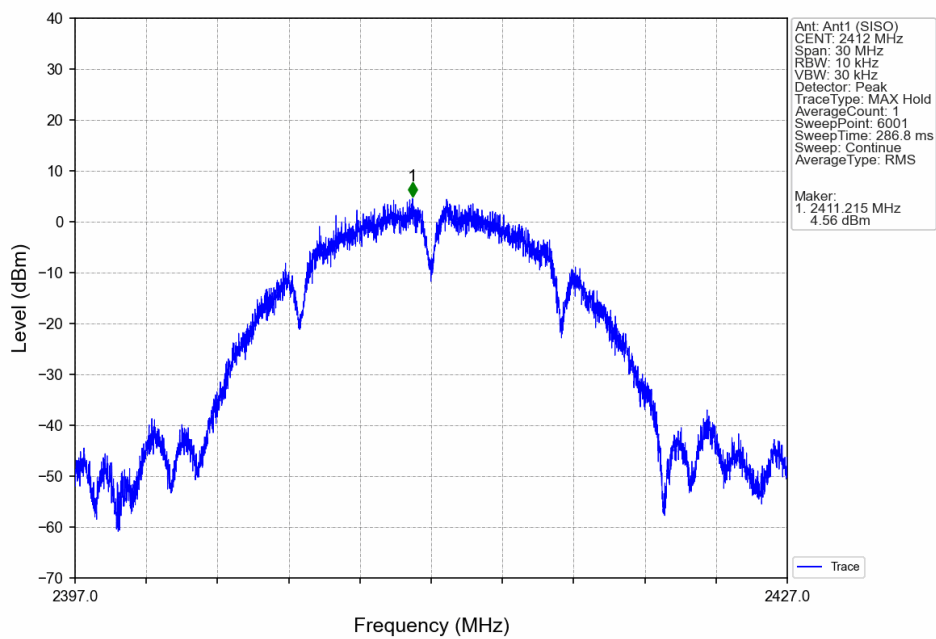
Note: Only the highest power chain date shown in this report.

Test Mode	RU Configuration	Frequency[MHz]	SISO Result	SISO Result[dBm/3kHz]	SISO Limit[dBm/3kHz]	MIMO Result[dBm/3kHz]	MIMO Limit[dBm/3kHz]	Verdict
11N20	N/A	2412	7.84dBm/100kHz	-7.39	≤8.00	-4.38	≤8.00	PASS
11N20	N/A	2437	7.92dBm/100kHz	-7.31	≤8.00	-4.30	≤8.00	PASS
11N20	N/A	2462	4.10dBm/30kHz	-5.90	≤8.00	-2.89	≤8.00	PASS
11N40	N/A	2422	3.67dBm/100kHz	-11.56	≤8.00	-8.55	≤8.00	PASS
11N40	N/A	2437	3.80dBm/100kHz	-11.43	≤8.00	-8.42	≤8.00	PASS
11N40	N/A	2452	3.89dBm/100kHz	-11.34	≤8.00	-8.33	≤8.00	PASS
11AX20	Full RU	2412	6.75dBm/100kHz	-8.48	≤8.00	-5.47	≤8.00	PASS
11AX20	Full RU	2437	6.72dBm/100kHz	-8.51	≤8.00	-5.50	≤8.00	PASS
11AX20	Full RU	2462	7.51dBm/100kHz	-7.72	≤8.00	-4.71	≤8.00	PASS
11AX40	N/A	2422	4.34dBm/100kHz	-10.89	≤8.00	-7.88	≤8.00	PASS
11AX40	N/A	2437	4.26dBm/100kHz	-10.97	≤8.00	-7.96	≤8.00	PASS
11AX40	N/A	2452	4.64dBm/100kHz	-10.59	≤8.00	-7.58	≤8.00	PASS

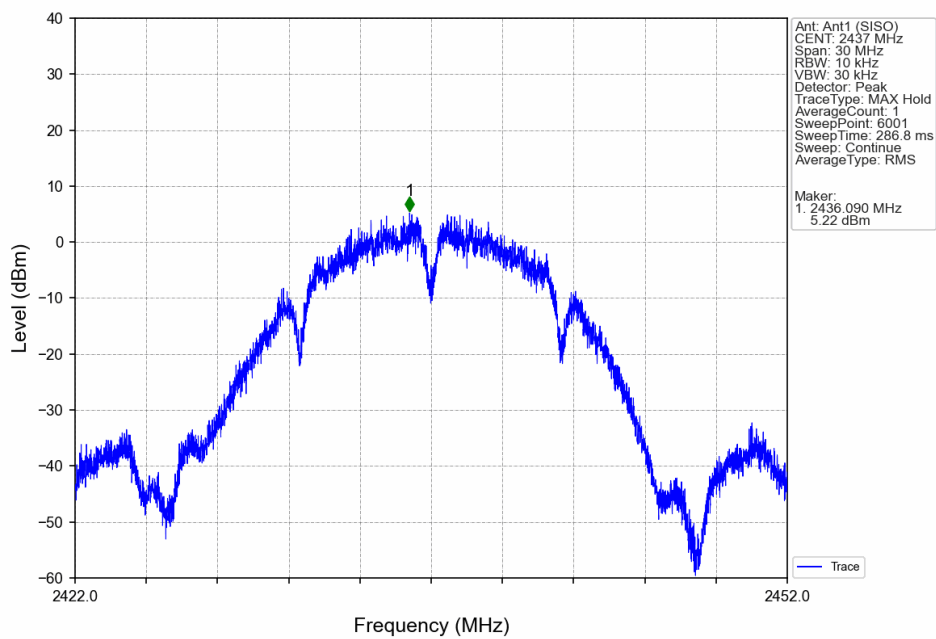
Note 1: The SISO PSD data is measure by highest power chain.

Note 2: The MIMO PSD is calculate form SISO PSD, which is tight than real result: $\text{MIMO PSD} = \text{SISO PSD} + 10\log(n) = \text{SISO PSD} + 3.01$ $n = \text{chain number}$.

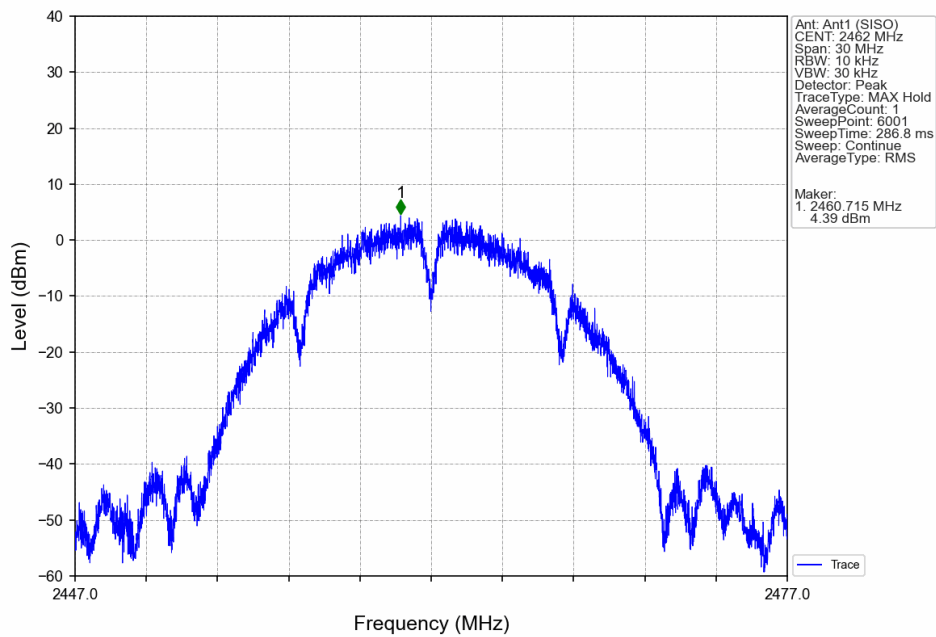
802.11b_LCH_2412MHz__NTNV



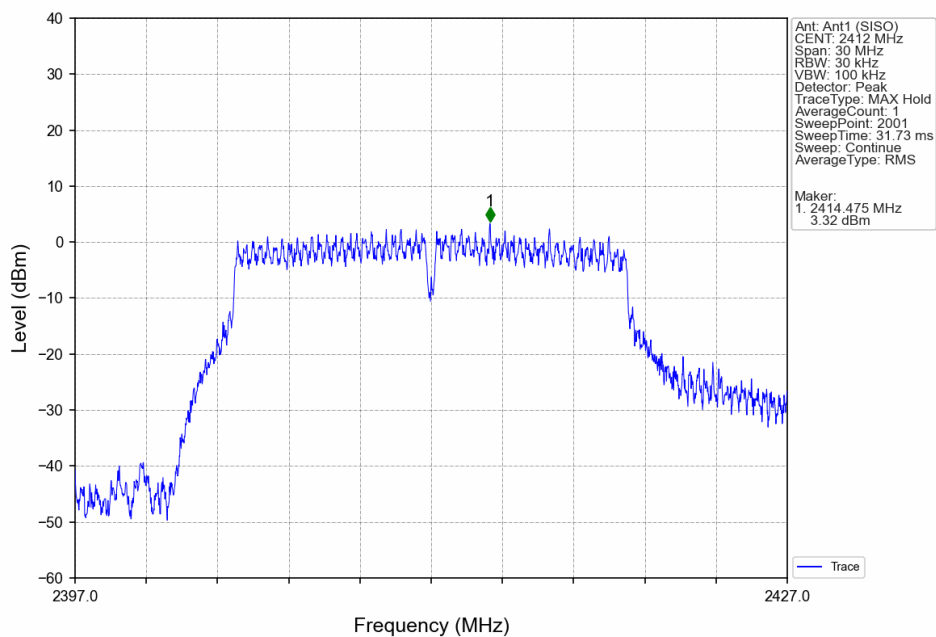
802.11b_MCH_2437MHz__NTNV



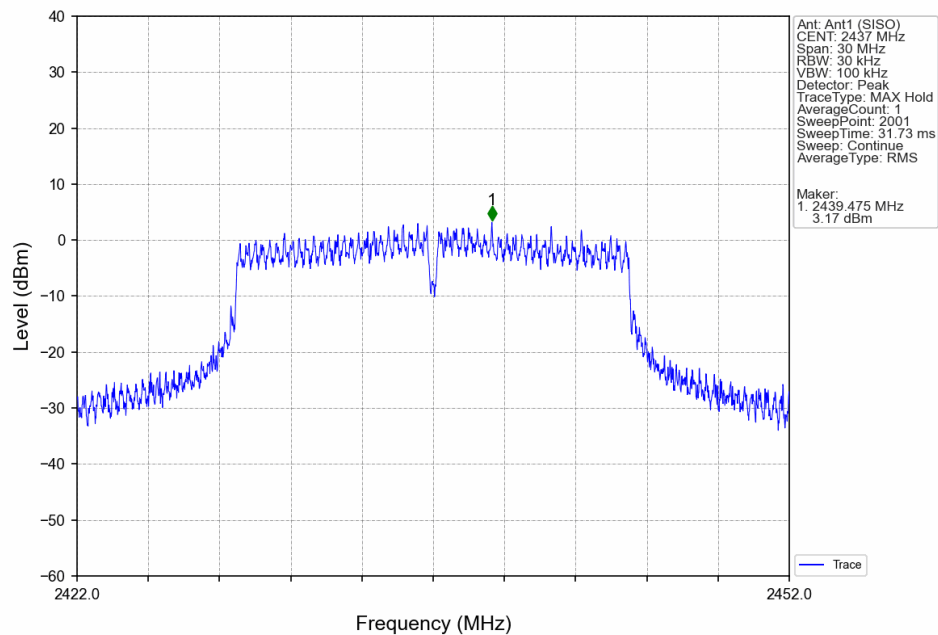
802.11b_HCH_2462MHz__NTNV



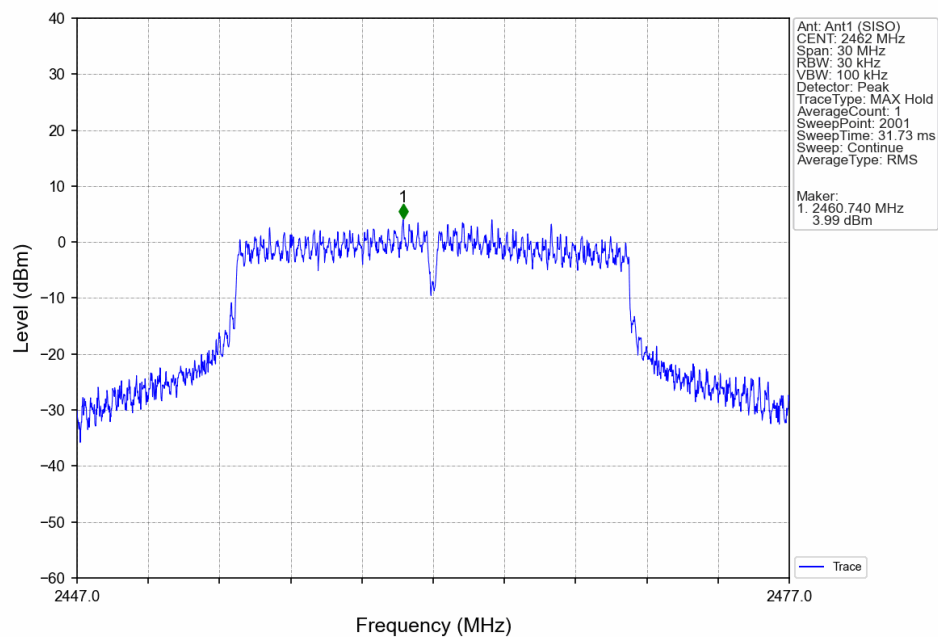
802.11g_LCH_2412MHz__NTNV



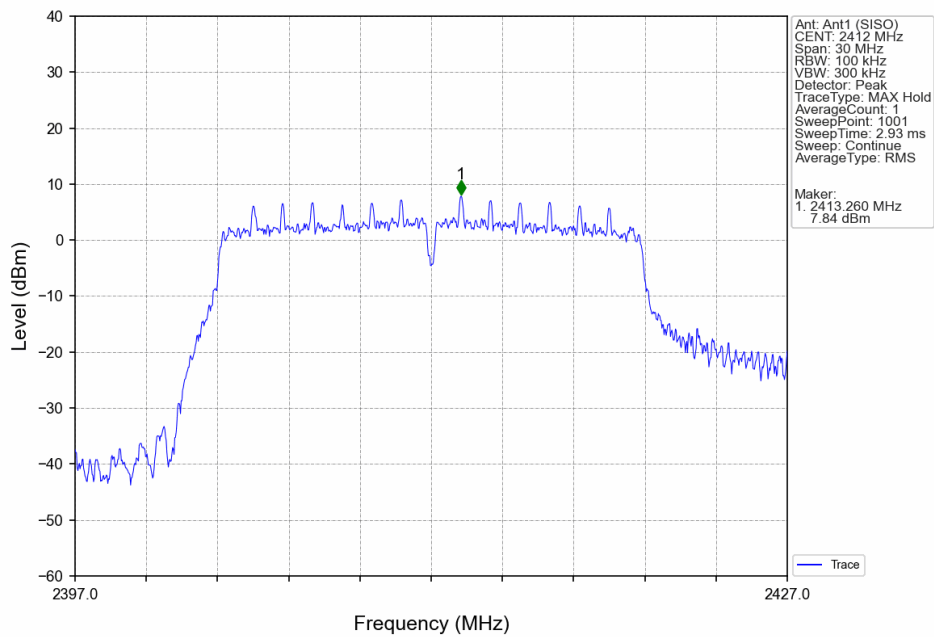
802.11g_MCH_2437MHz__NTNV



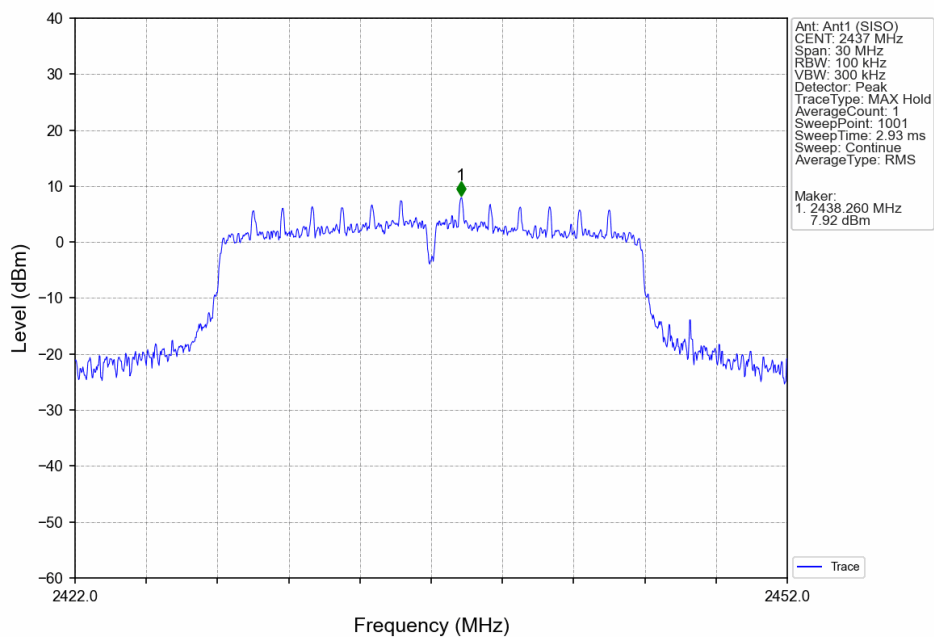
802.11g_HCH_2462MHz__NTNV



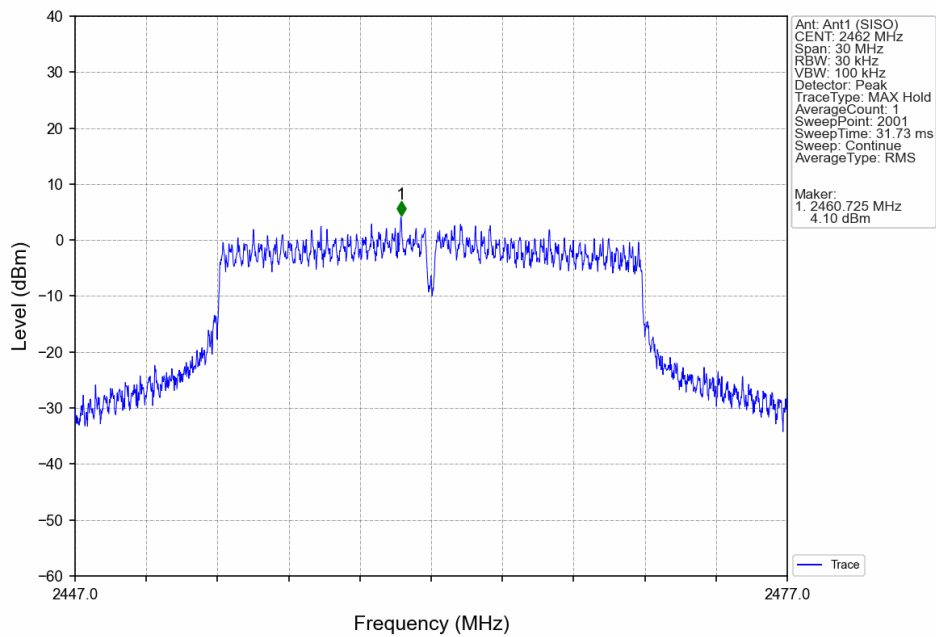
802.11n(HT20)_LCH_2412MHz__NTNV



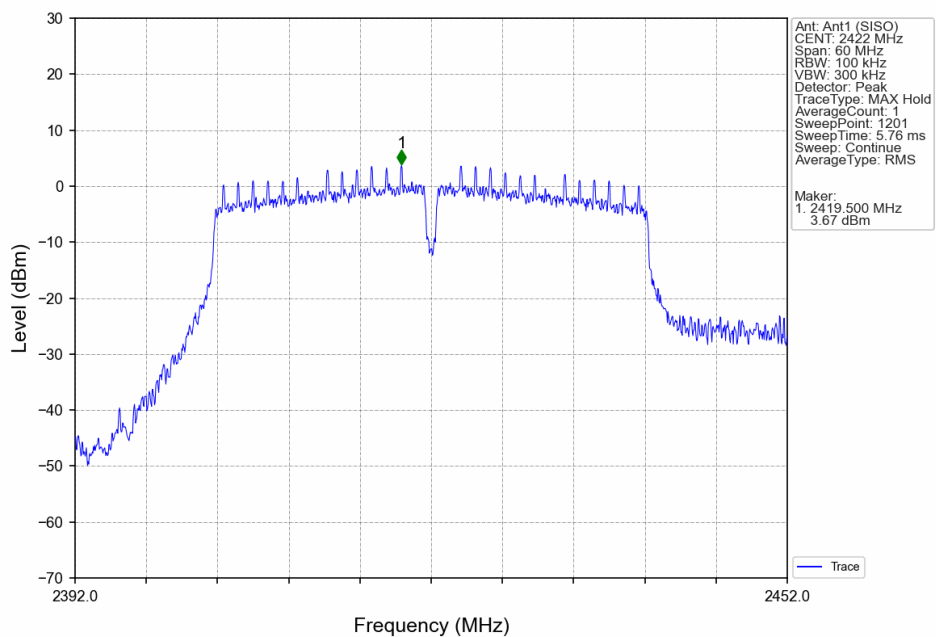
802.11n(HT20)_MCH_2437MHz__NTNV



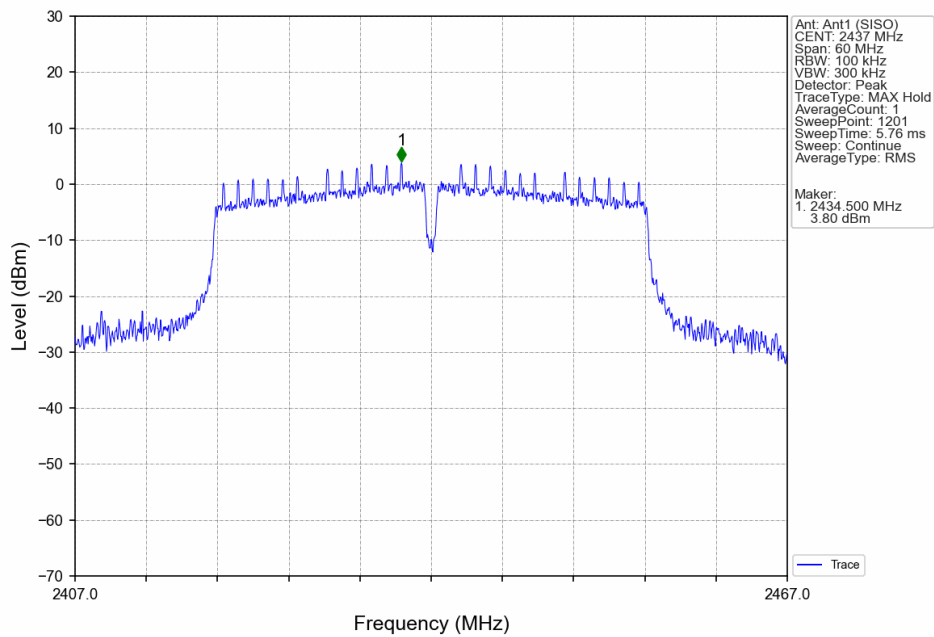
802.11n(HT20)_HCH_2462MHz__NTNV



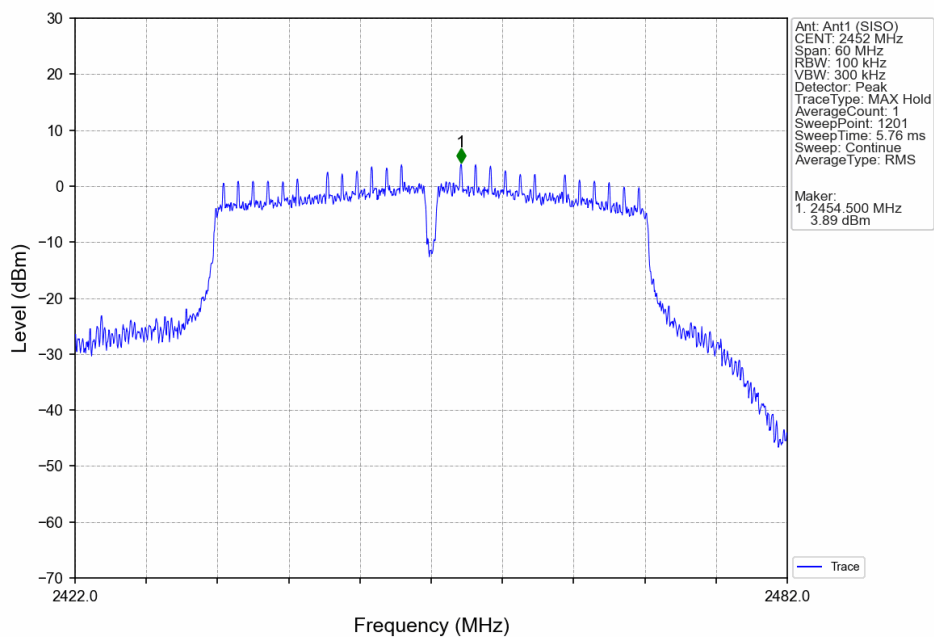
802.11n(HT40)_LCH_2422MHz__NTNV



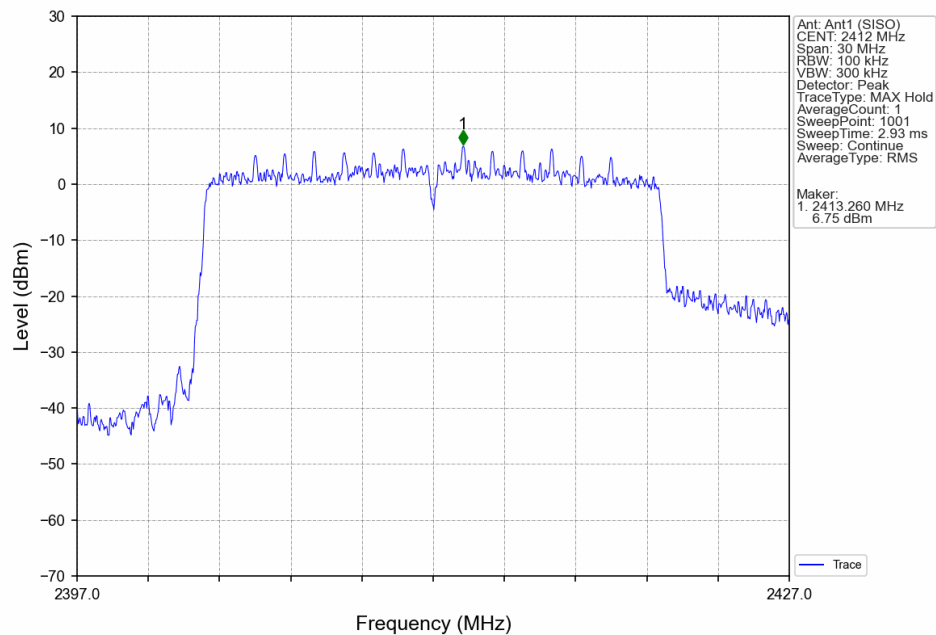
802.11n(HT40)_MCH_2437MHz__NTNV



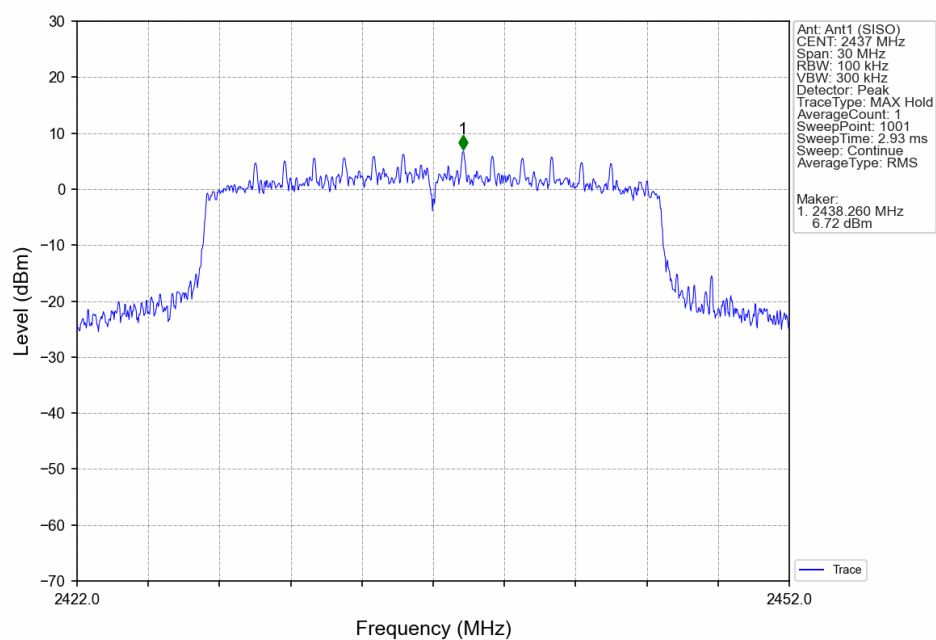
802.11n(HT40)_HCH_2452MHz__NTNV



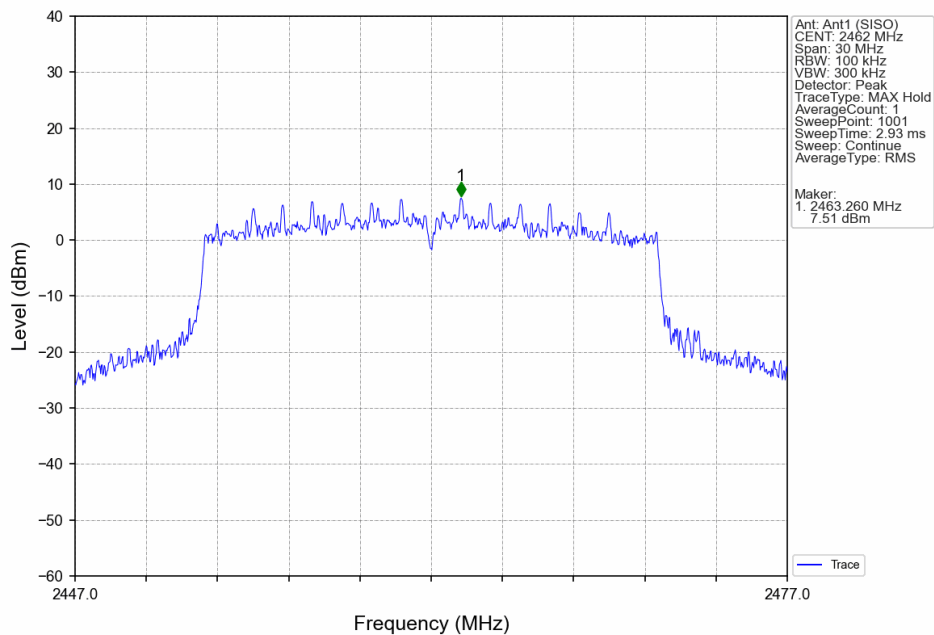
802.11ax(HEW20)_LCH_2412MHz_SU_ / __NTNV



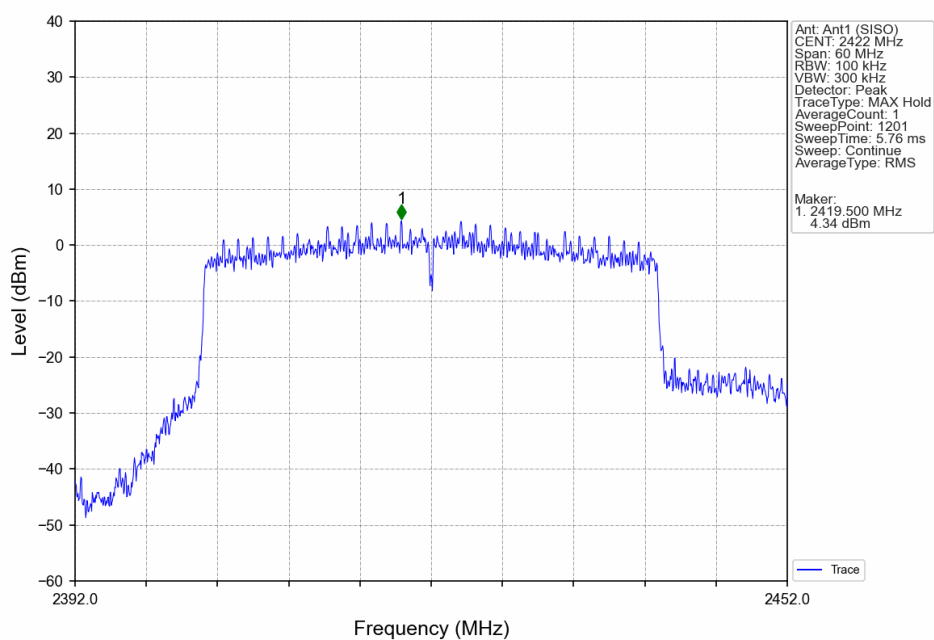
802.11ax(HEW20)_MCH_2437MHz_SU_ / __NTNV



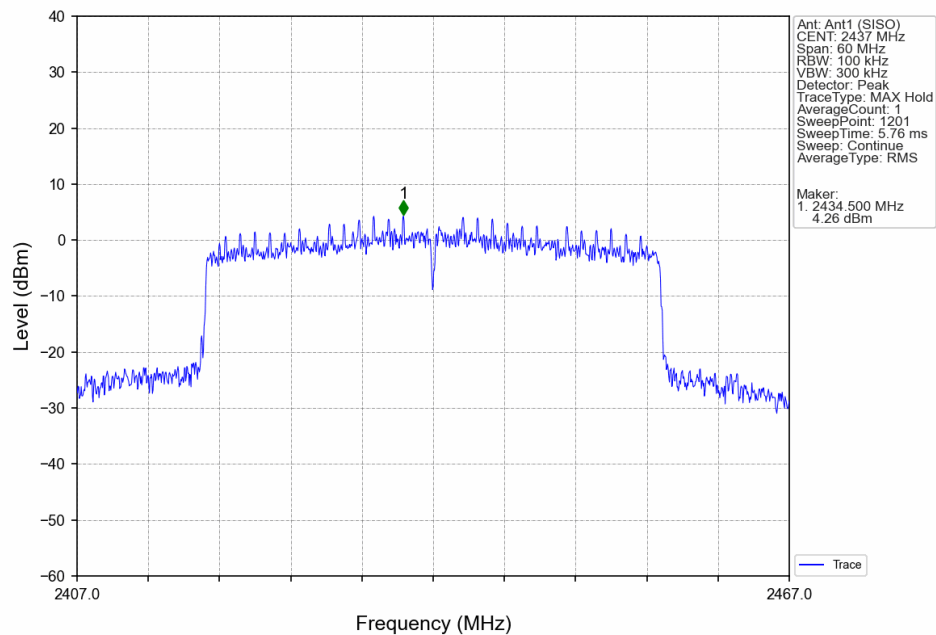
802.11ax(HEW20)_HCH_2462MHz_SU_ / __NTNV



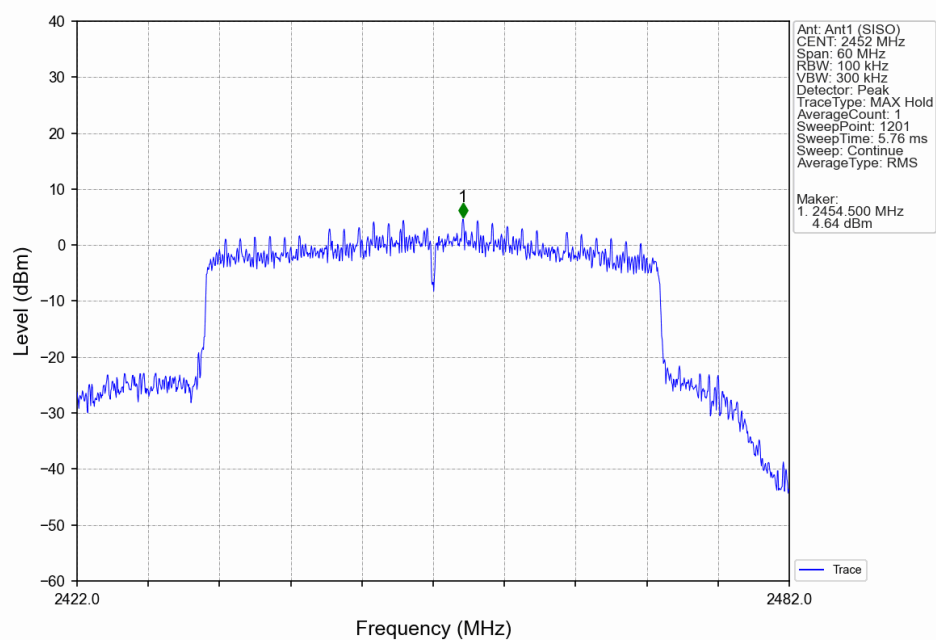
802.11ax(HEW40)_LCH_2422MHz_SU_ / __NTNV



802.11ax(HEW40)_MCH_2437MHz_SU_ / __NTNV

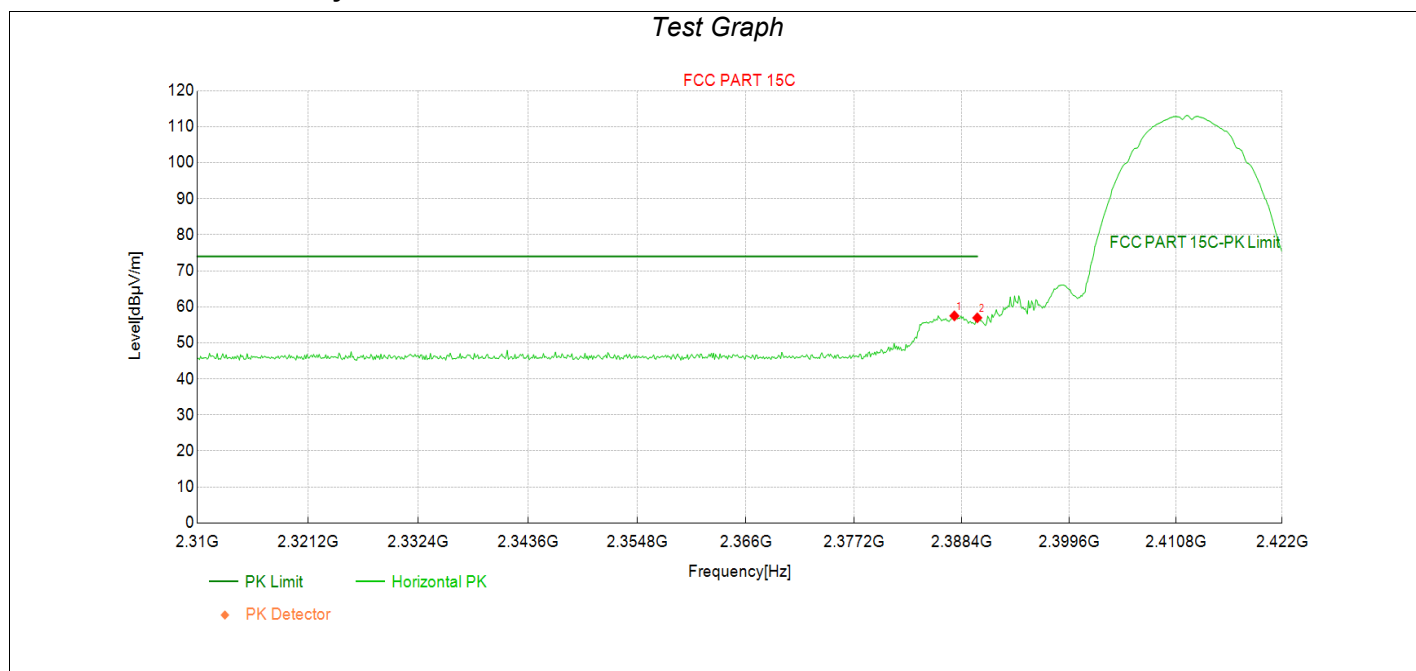


802.11ax(HEW40)_HCH_2452MHz_SU_ / __NTNV



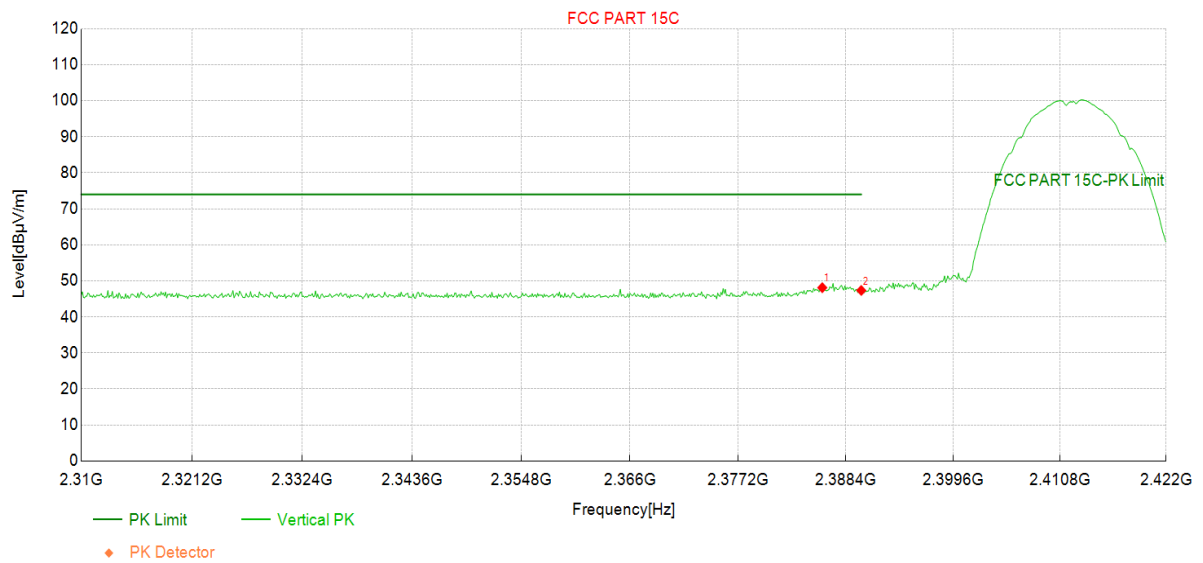
Appendix D: Test results of Band edge measurements

Transmit at 2412MHz by 802.11b with Ant2

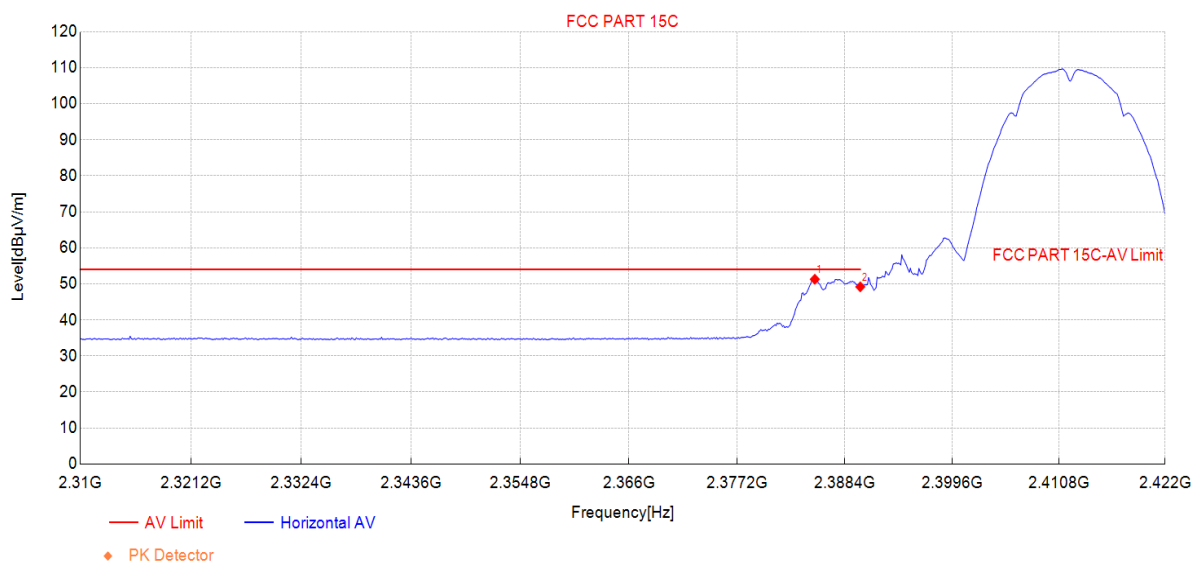


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.62	57.1	57.49	0.410	74.00	16.51	PK	Horizo	PASS
2	2390.00	56.5	56.95	0.420	74.00	17.05	PK	Horizo	PASS

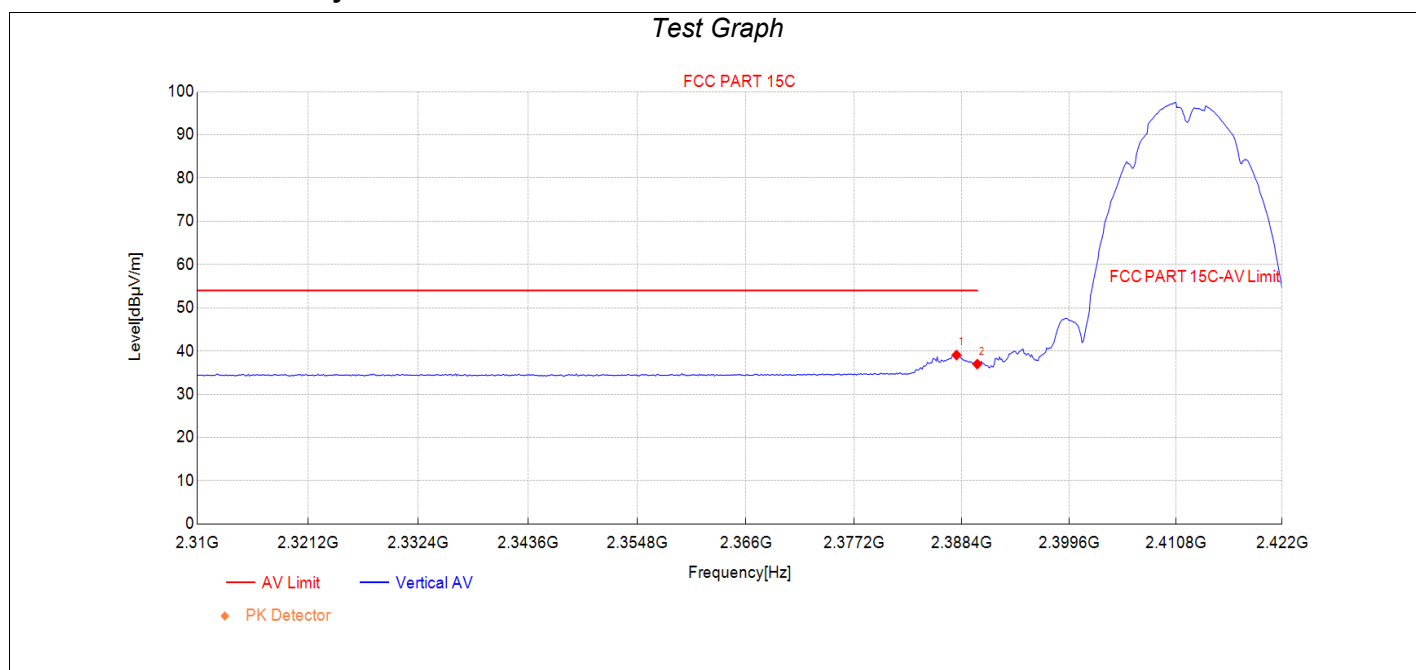
Transmit at 2412MHz by 802.11b with Ant2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2385.94	47.7	48.11	0.410	74.00	25.89	PK	Vertic	PASS
2	2390.00	46.9	47.34	0.420	74.00	26.66	PK	Vertic	PASS

Transmit at 2412MHz by 802.11b with Ant2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2385.26	50.9	51.28	0.410	54.00	2.72	AV	Horizo	PASS
2	2390.00	48.8	49.18	0.420	54.00	4.82	AV	Horizo	PASS

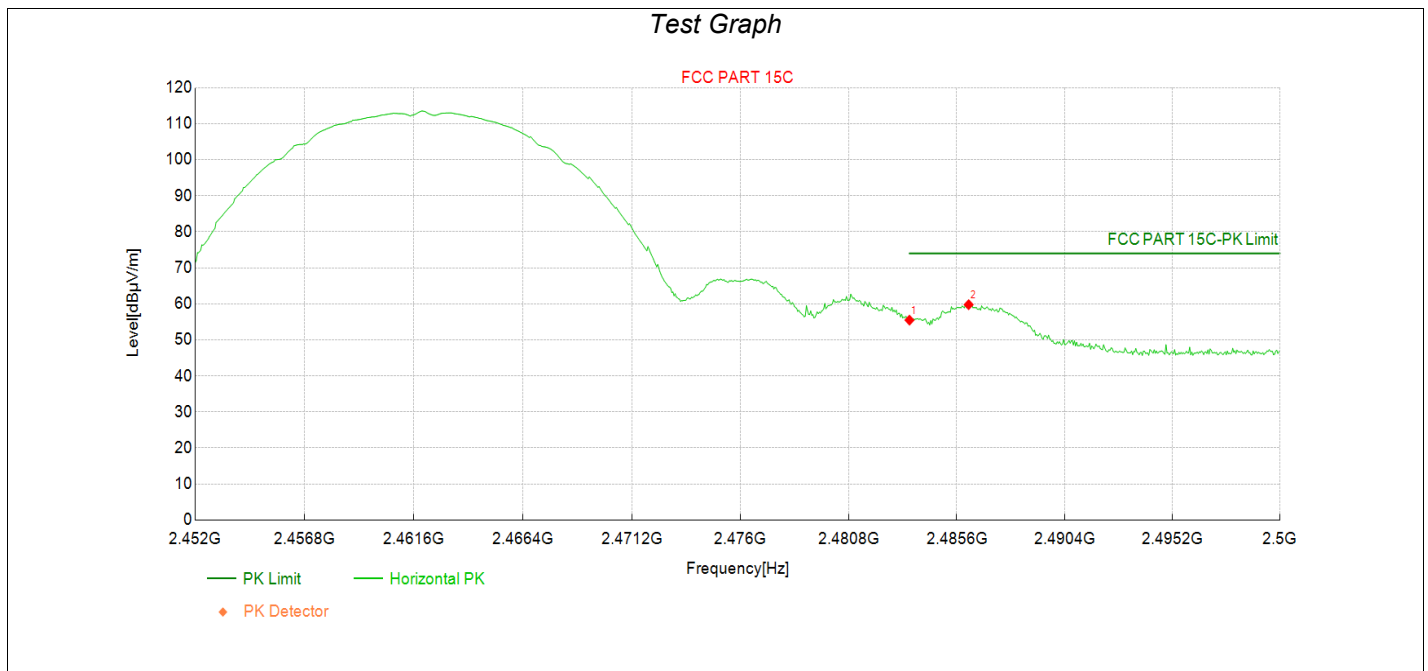
Transmit at 2412MHz by 802.11b with Ant2



Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.84	38.7	39.08	0.410	54.00	14.92	AV	Vertic	PASS
2	2390.00	36.6	36.98	0.420	54.00	17.02	AV	Vertic	PASS

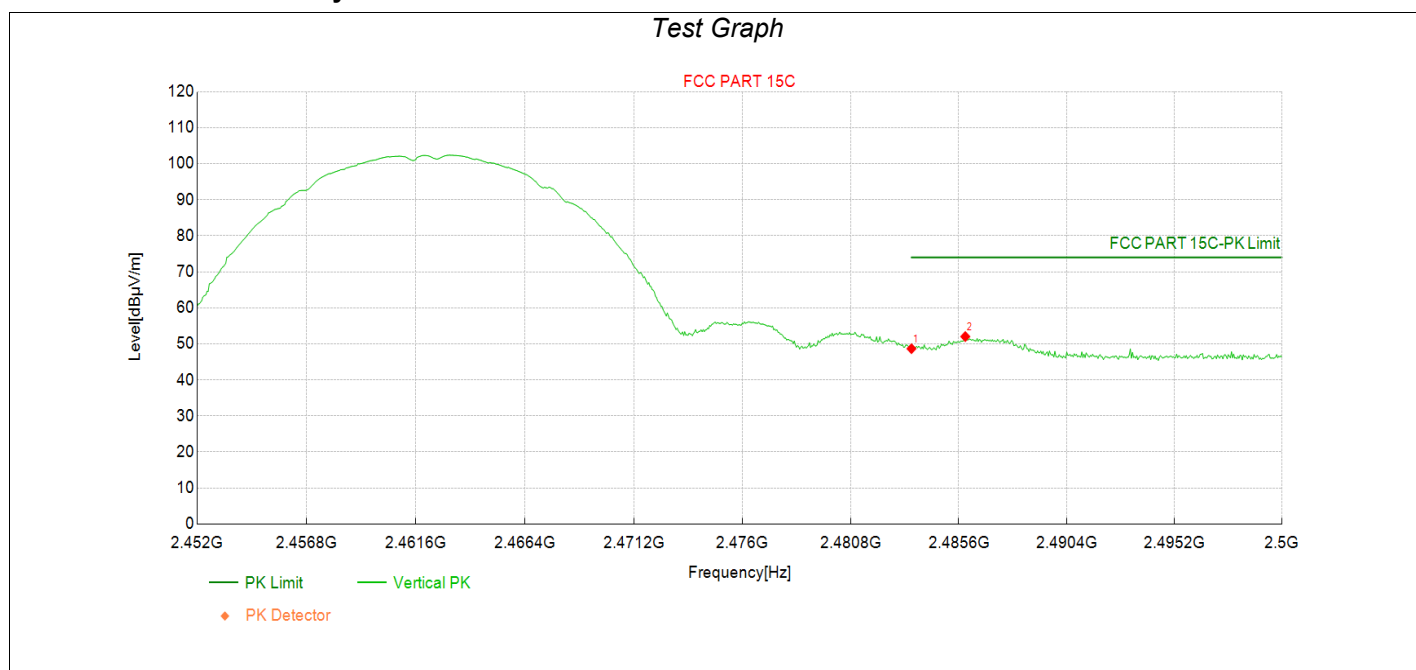
Transmit at 2462MHz by 802.11b with Ant2



Data List

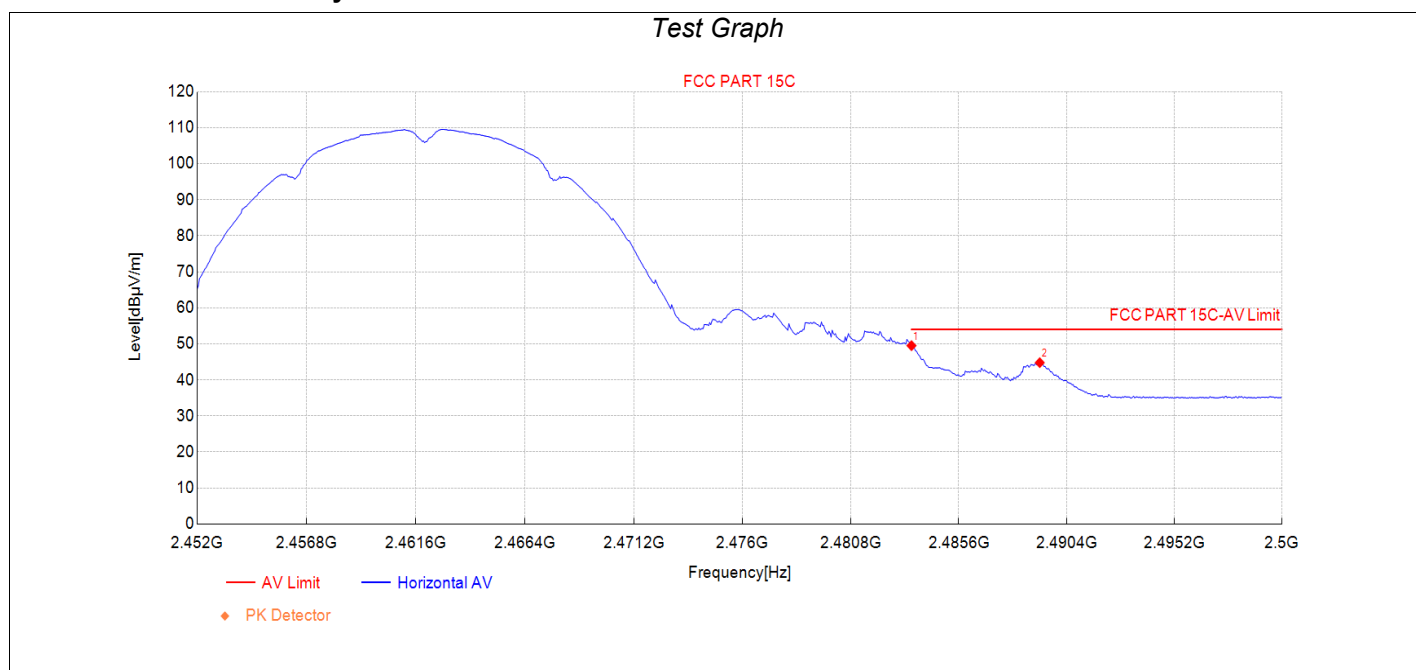
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	55.0	55.47	0.520	74.00	18.53	PK	Horizo	PASS
2	2486.13	59.3	59.77	0.520	74.00	14.23	PK	Horizo	PASS

Transmit at 2462MHz by 802.11b with Ant2



Data List

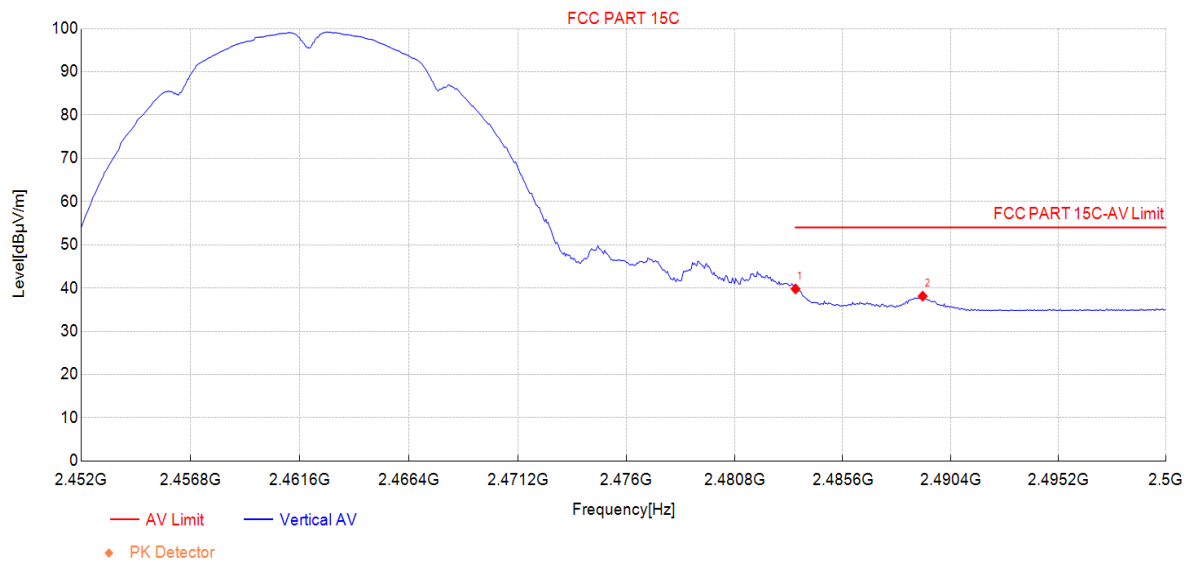
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	48.1	48.66	0.520	74.00	25.34	PK	Vertic	PASS
2	2485.89	51.5	52.02	0.520	74.00	21.98	PK	Vertic	PASS

Transmit at 2462MHz by 802.11b with Ant2**Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	49.0	49.50	0.520	54.00	4.50	AV	Horizo	PASS
2	2489.20	44.2	44.78	0.540	54.00	9.22	AV	Horizo	PASS

Transmit at 2462MHz by 802.11b with Ant2

Test Graph

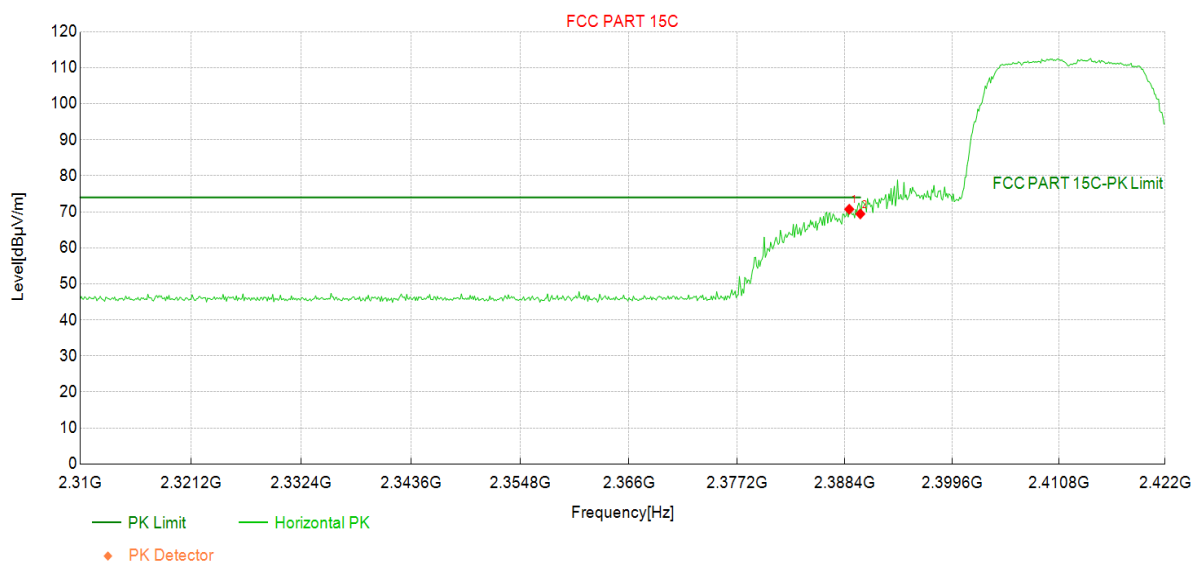


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	39.3	39.81	0.520	54.00	14.19	AV	Vertic	PASS
2	2489.15	37.6	38.13	0.540	54.00	15.87	AV	Vertic	PASS

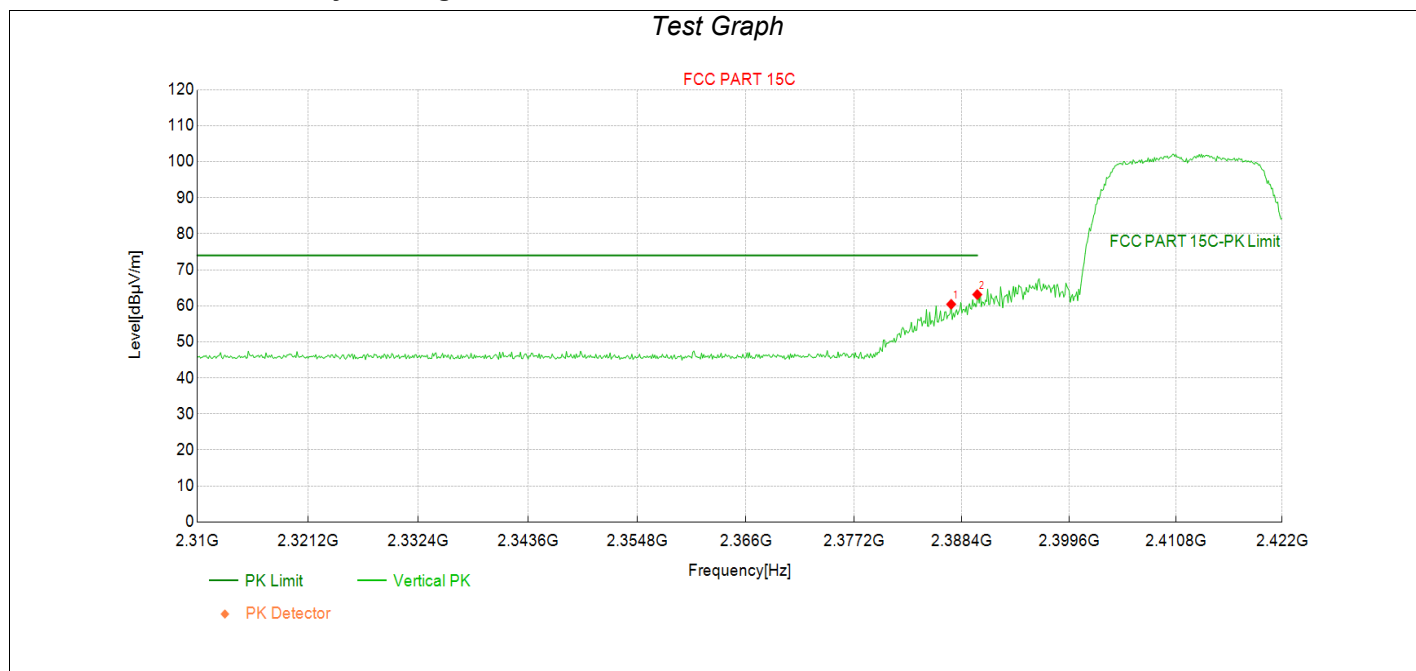
Transmit at 2412MHz by 802.11g with Ant2

Test Graph



Data List

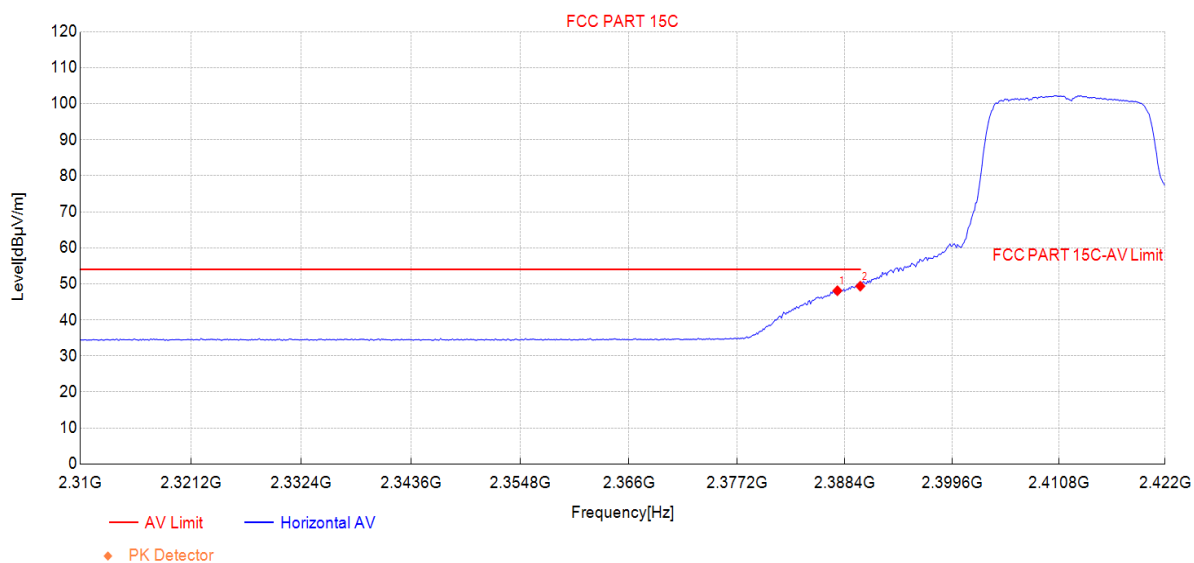
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2388.85	70.3	70.70	0.420	74.00	3.30	PK	Horizo	PASS
2	2390.00	69.0	69.41	0.420	74.00	4.59	PK	Horizo	PASS

Transmit at 2412MHz by 802.11g with Ant2**Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.28	60.0	60.43	0.410	74.00	13.57	PK	Vertic	PASS
2	2390.00	62.7	63.12	0.420	74.00	10.88	PK	Vertic	PASS

Transmit at 2412MHz by 802.11g with Ant2

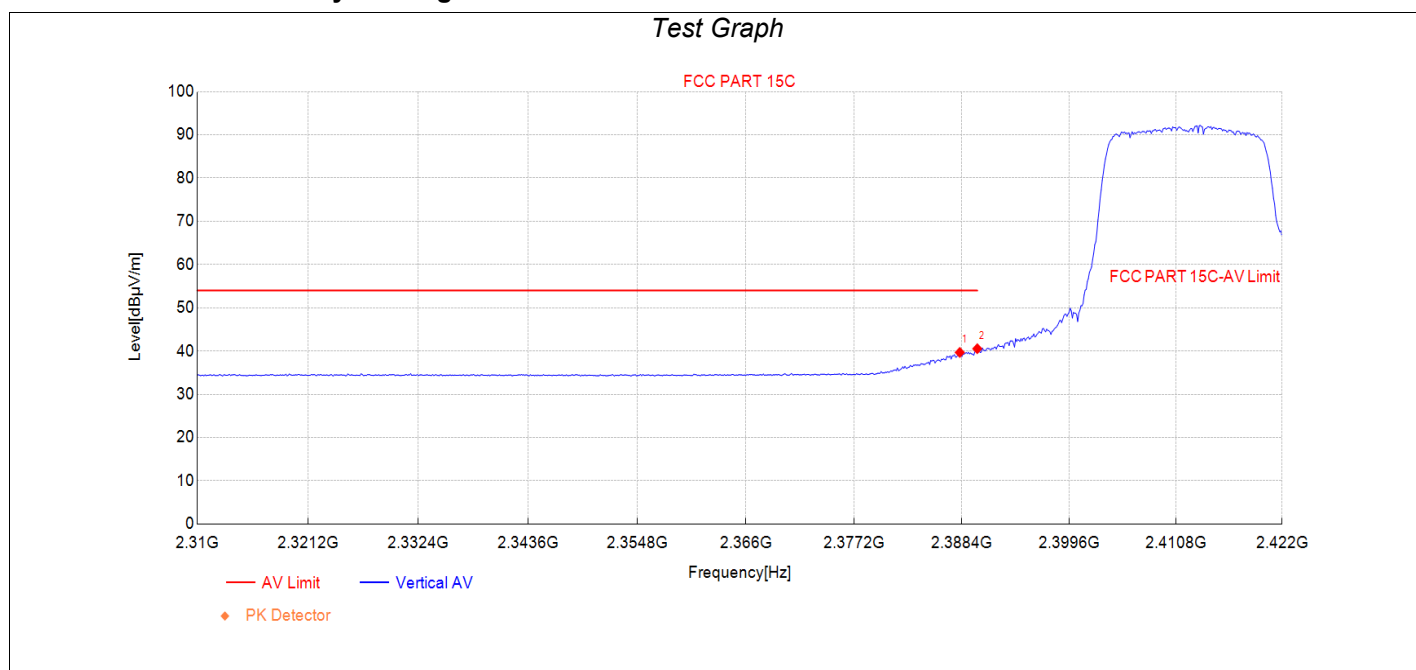
Test Graph



Data List

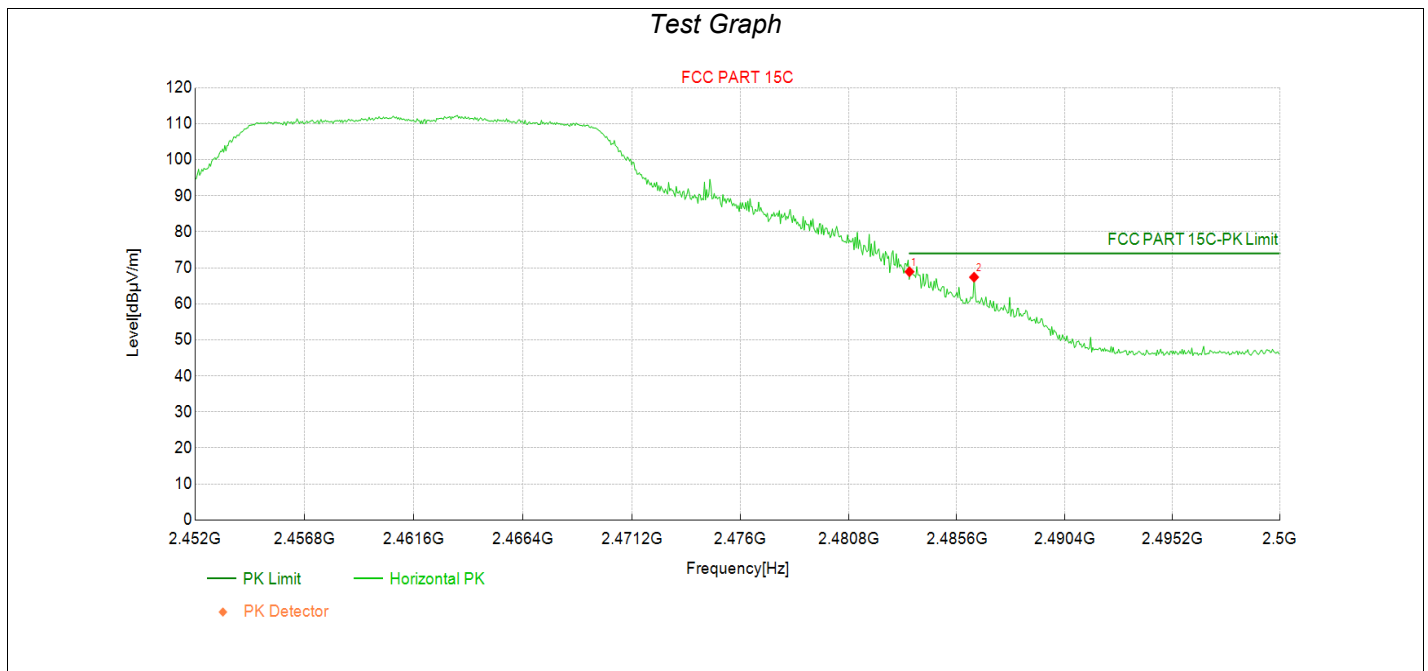
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.62	47.7	48.10	0.410	54.00	5.90	AV	Horizo	PASS
2	2390.00	48.9	49.36	0.420	54.00	4.64	AV	Horizo	PASS

Transmit at 2412MHz by 802.11g with Ant2

**Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2388.18	39.3	39.68	0.410	54.00	14.32	AV	Vertic	PASS
2	2390.00	40.1	40.55	0.420	54.00	13.45	AV	Vertic	PASS

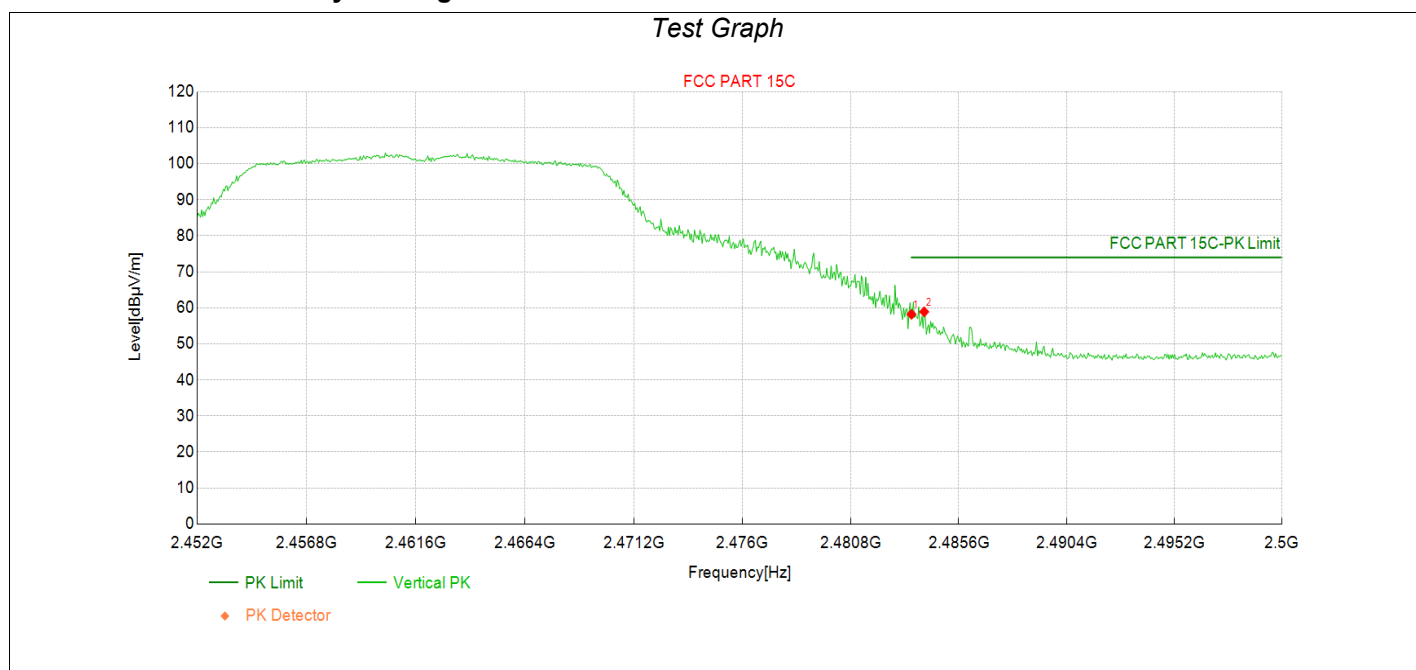
Transmit at 2462MHz by 802.11g with Ant2



Data List

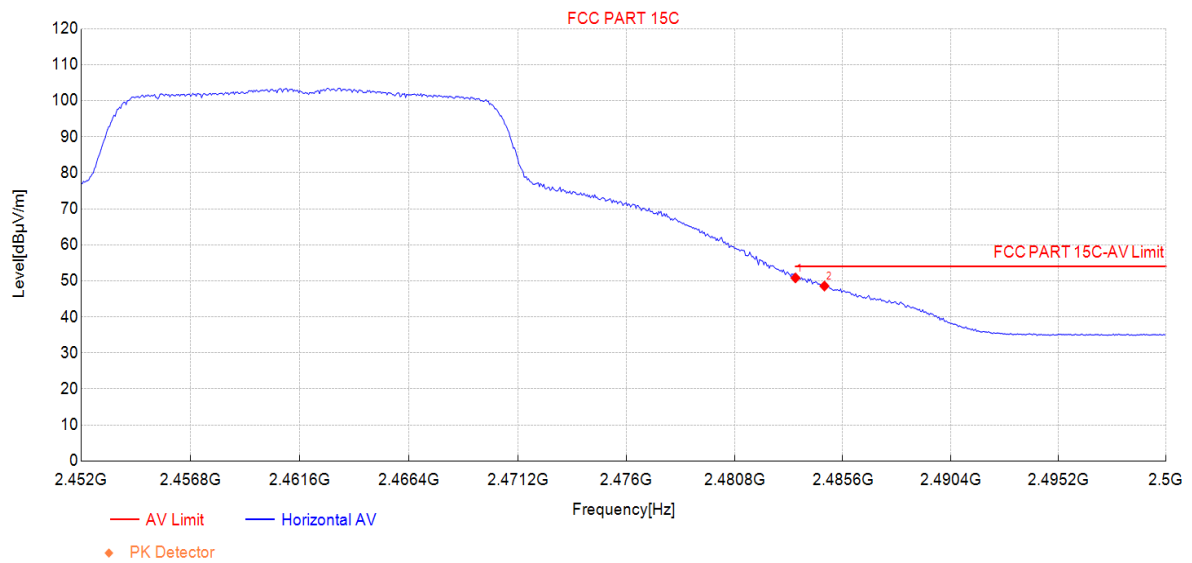
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	68.4	68.90	0.520	74.00	5.10	PK	Horizo	PASS
2	2486.37	66.9	67.39	0.520	74.00	6.61	PK	Horizo	PASS

Transmit at 2462MHz by 802.11g with Ant2



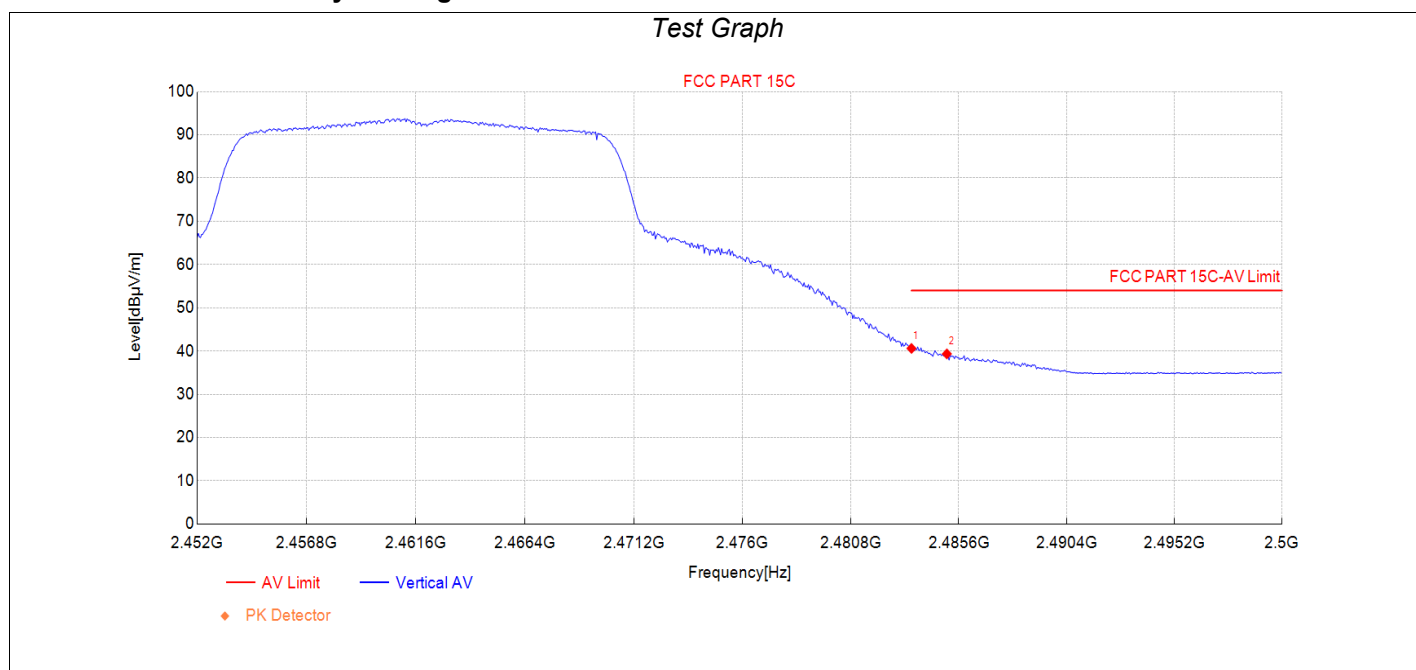
Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	57.7	58.21	0.520	74.00	15.79	PK	Vertic	PASS
2	2484.06	58.4	58.90	0.520	74.00	15.10	PK	Vertic	PASS

Transmit at 2462MHz by 802.11g with Ant2*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	50.3	50.81	0.520	54.00	3.19	AV	Horizo	PASS
2	2484.78	48.0	48.56	0.520	54.00	5.44	AV	Horizo	PASS

Transmit at 2462MHz by 802.11g with Ant2

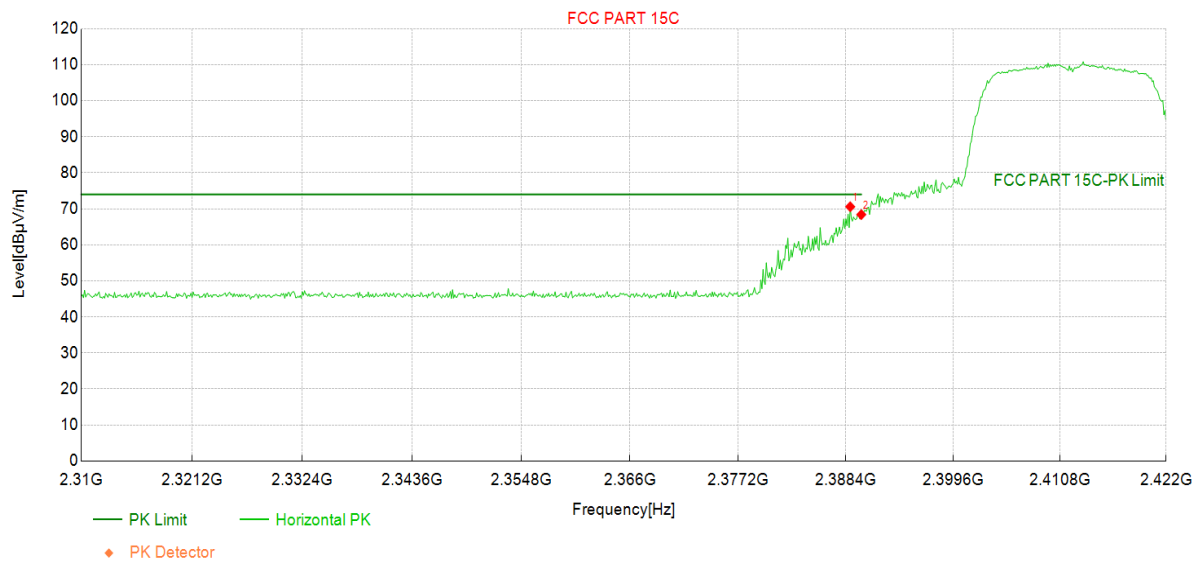


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	40.1	40.61	0.520	54.00	13.39	AV	Vertic	PASS
2	2485.07	38.8	39.35	0.520	54.00	14.65	AV	Vertic	PASS

Transmit at 2412MHz by 802.11n(20MHz) with Ant1+2

Test Graph

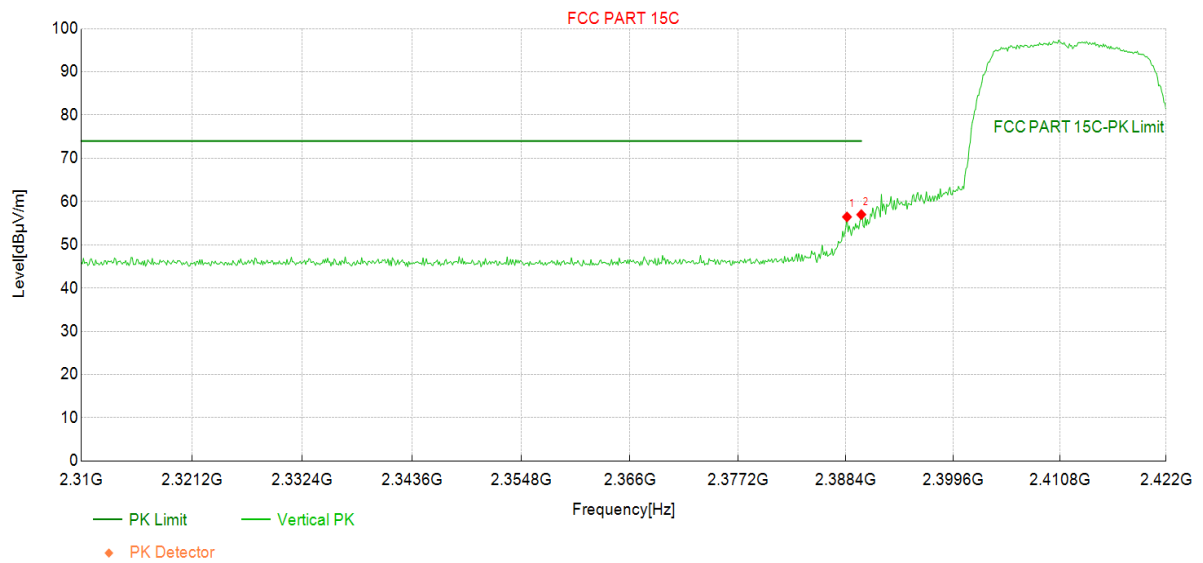


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2388.85	70.2	70.57	0.420	74.00	3.43	PK	Horizo	PASS
2	2390.00	68.0	68.39	0.420	74.00	5.61	PK	Horizo	PASS

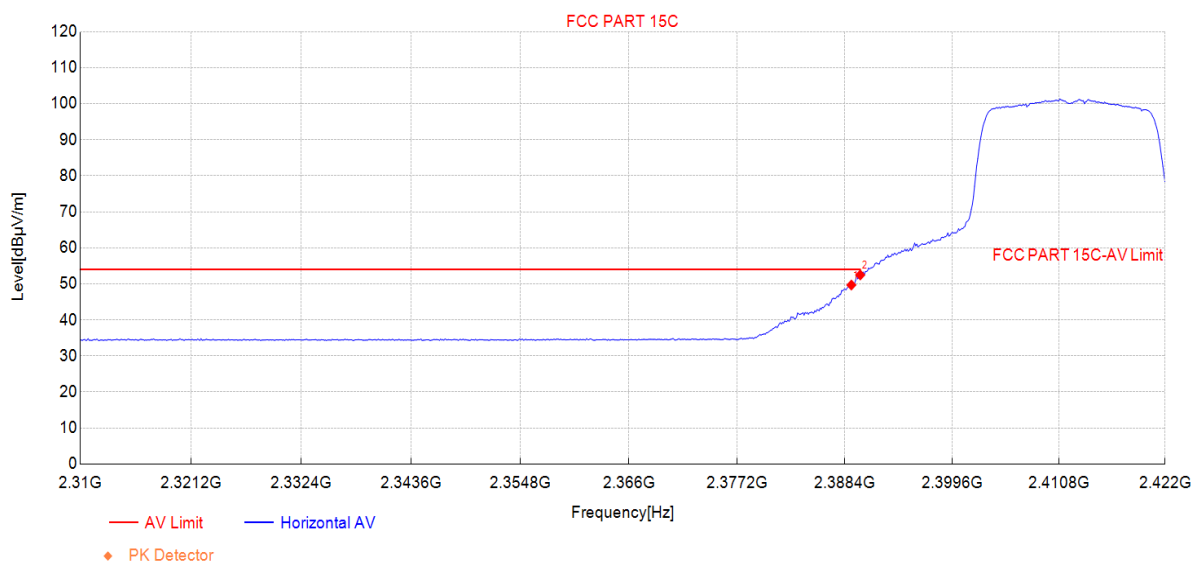
Transmit at 2412MHz by 802.11n(20MHz) with Ant1+2

Test Graph

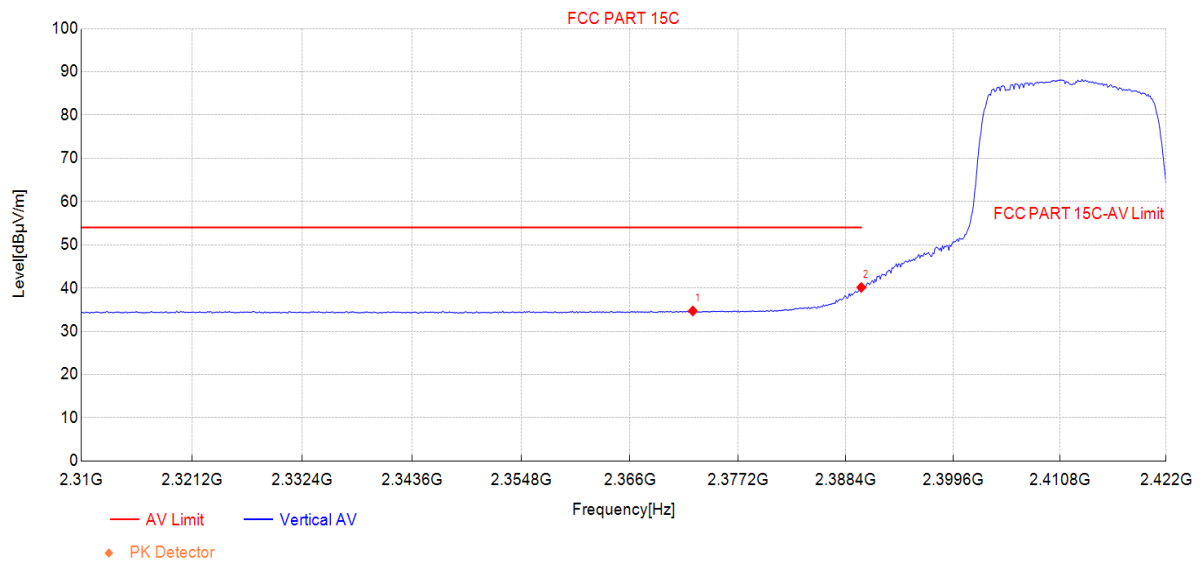


Data List

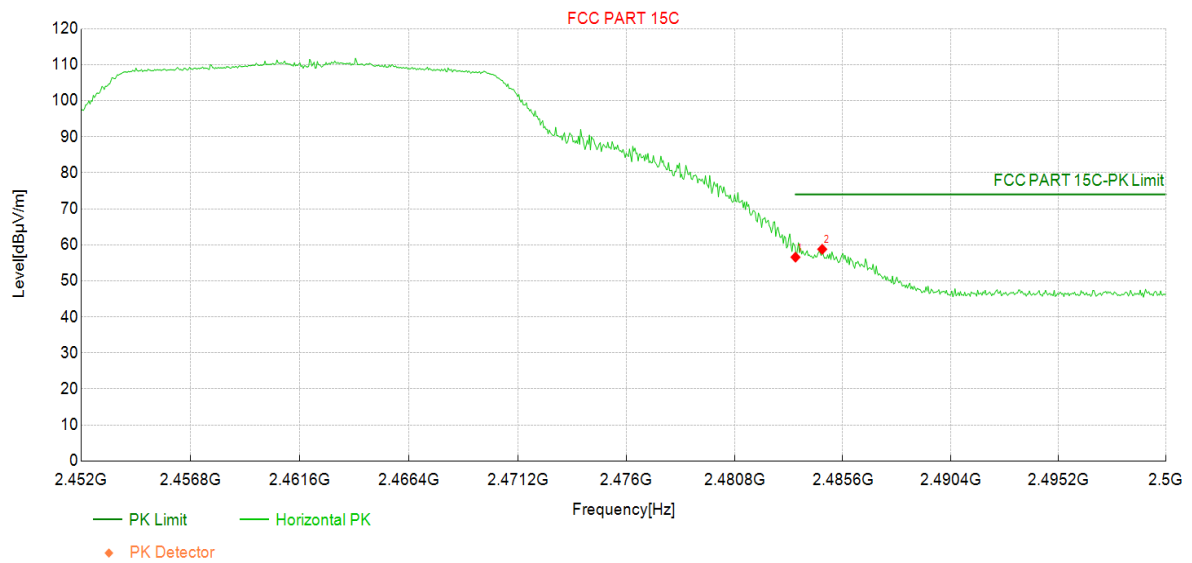
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2388.51	56.0	56.45	0.420	74.00	17.55	PK	Vertic	PASS
2	2390.00	56.6	56.99	0.420	74.00	17.01	PK	Vertic	PASS

Transmit at 2412MHz by 802.11n(20MHz) with Ant1+2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2389.07	49.3	49.68	0.420	54.00	4.32	AV	Horizo	PASS
2	2390.00	52.1	52.47	0.420	54.00	1.53	AV	Horizo	PASS

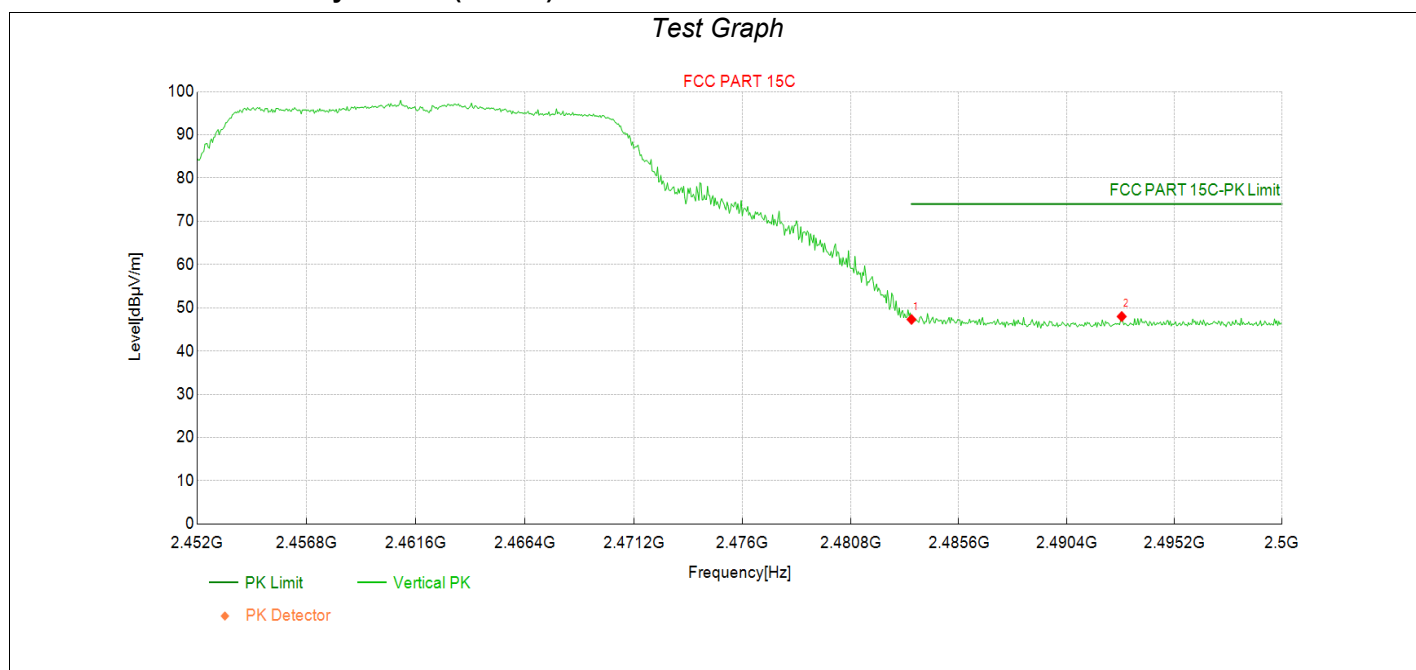
Transmit at 2412MHz by 802.11n(20MHz) with Ant1+2*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2372.50	34.3	34.70	0.400	54.00	19.30	AV	Vertic	PASS
2	2390.00	39.7	40.14	0.420	54.00	13.86	AV	Vertic	PASS

Transmit at 2462MHz by 802.11n(20MHz) with Ant1+2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	56.1	56.57	0.520	74.00	17.43	PK	Horizo	PASS
2	2484.69	58.3	58.78	0.520	74.00	15.22	PK	Horizo	PASS

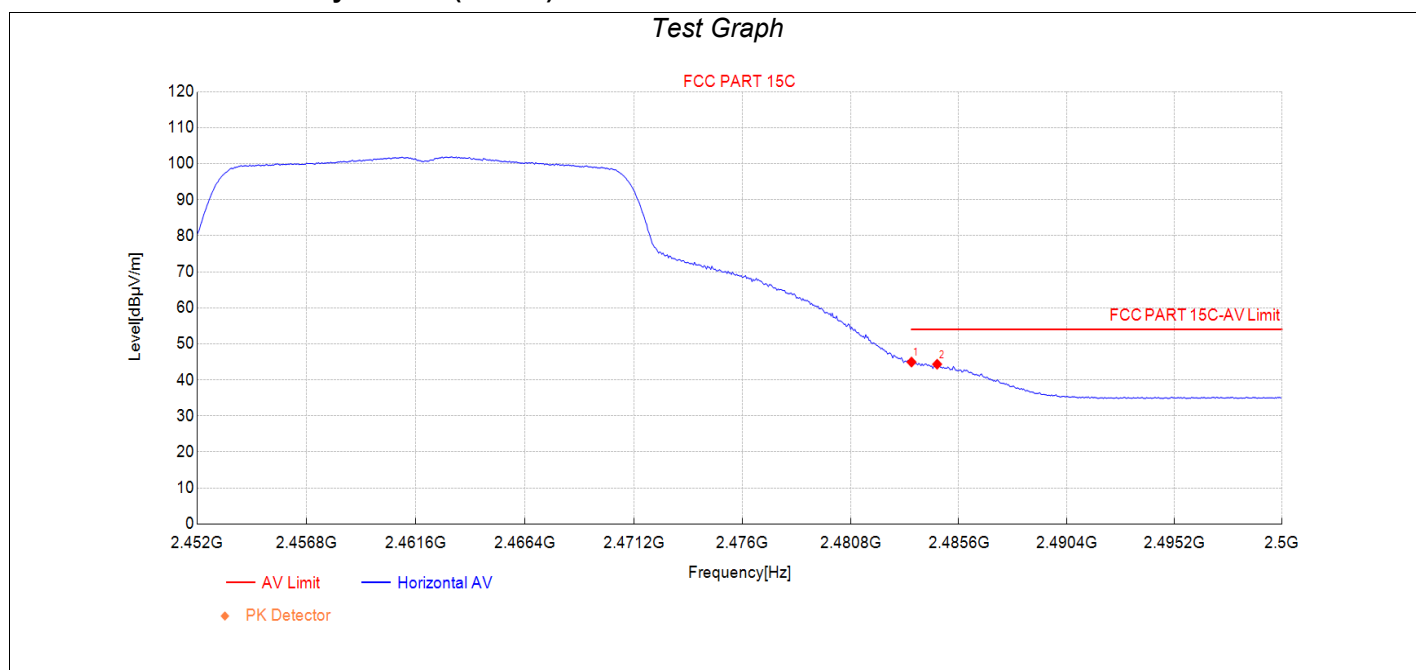
Transmit at 2462MHz by 802.11n(20MHz) with Ant1+2



Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	46.8	47.31	0.520	74.00	26.69	PK	Vertic	PASS
2	2492.85	47.5	47.99	0.540	74.00	26.01	PK	Vertic	PASS

Transmit at 2462MHz by 802.11n(20MHz) with Ant1+2

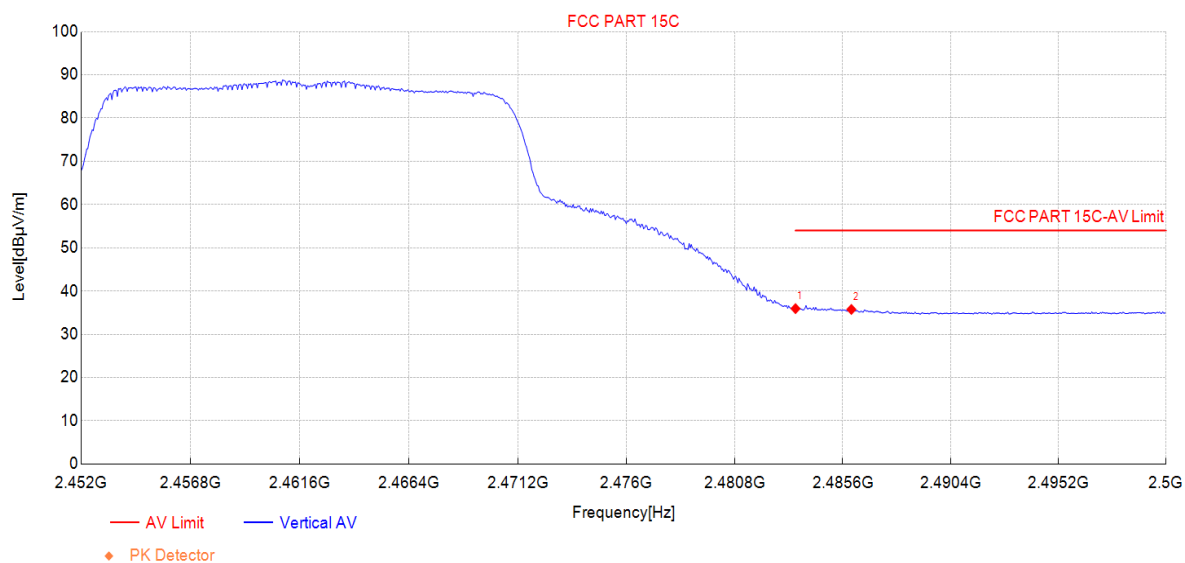


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	44.4	44.95	0.520	54.00	9.05	AV	Horizo	PASS
2	2484.64	43.8	44.35	0.520	54.00	9.65	AV	Horizo	PASS

Transmit at 2462MHz by 802.11n(20MHz) with Ant1+2

Test Graph

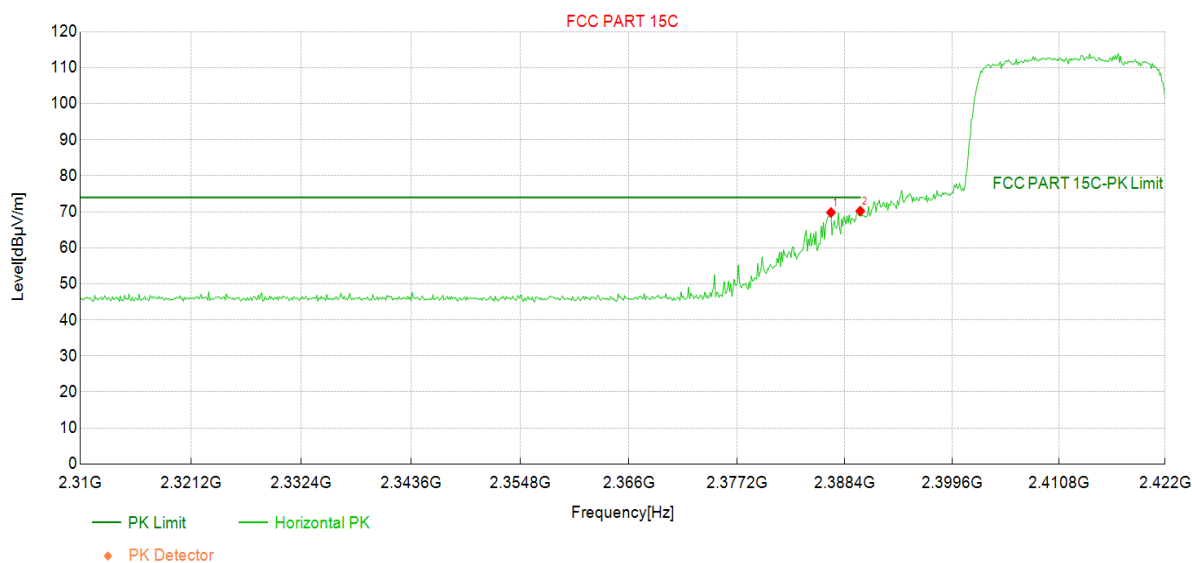


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	35.4	35.94	0.520	54.00	18.06	AV	Vertic	PASS
2	2485.98	35.2	35.75	0.520	54.00	18.25	AV	Vertic	PASS

Transmit at 2412MHz by 802.11ax(20MHz) with Ant1+2

Test Graph

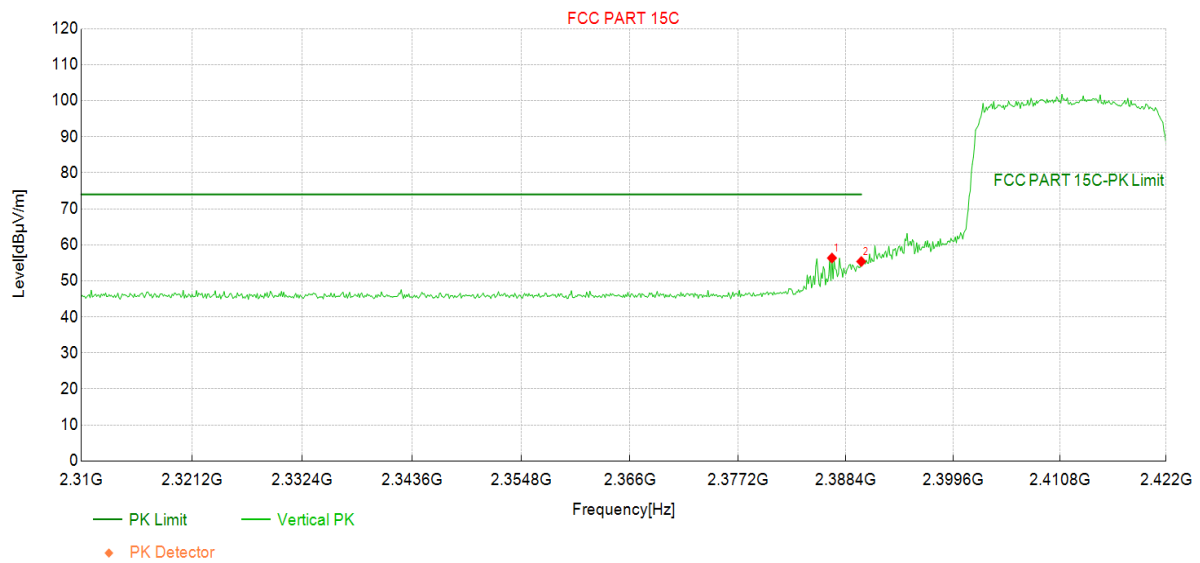


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2386.94	69.4	69.80	0.410	74.00	4.20	PK	Horizo	PASS
2	2390.00	69.8	70.19	0.420	74.00	3.81	PK	Horizo	PASS

Transmit at 2412MHz by 802.11ax(20MHz) with Ant1+2

Test Graph

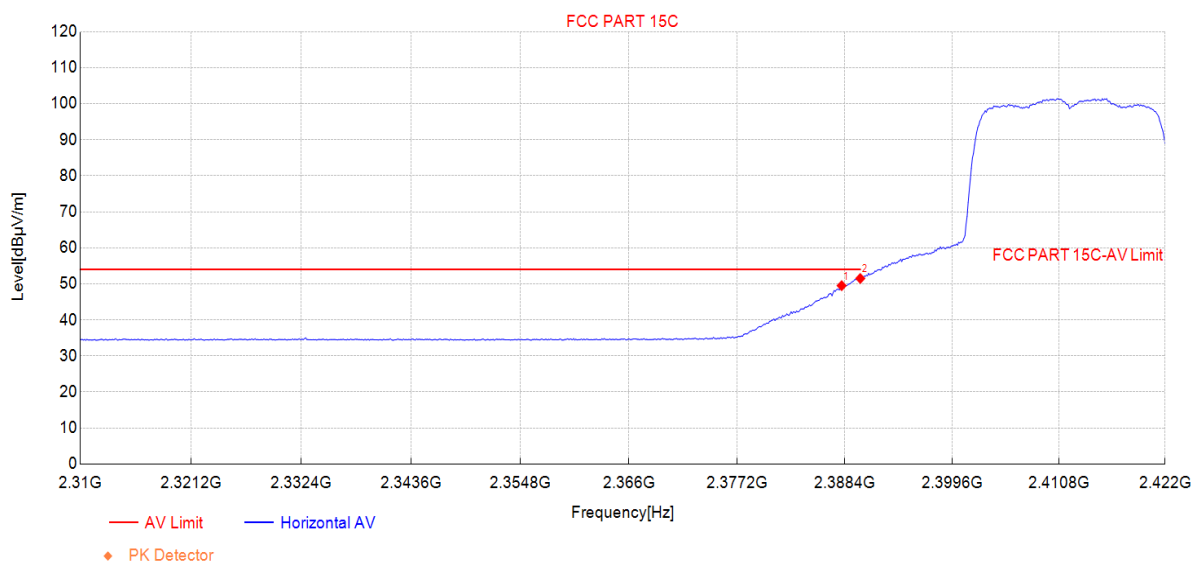


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2386.94	55.9	56.34	0.410	74.00	17.66	PK	Vertic	PASS
2	2390.00	54.9	55.36	0.420	74.00	18.64	PK	Vertic	PASS

Transmit at 2412MHz by 802.11ax(20MHz) with Ant1+2

Test Graph

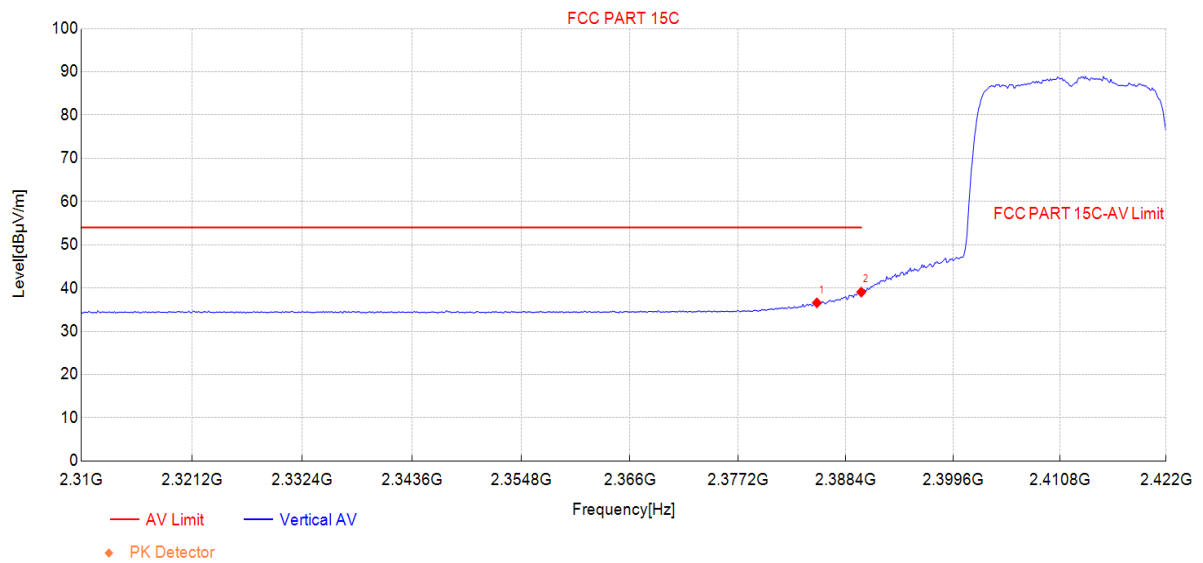


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2388.06	49.1	49.50	0.410	54.00	4.50	AV	Horizo	PASS
2	2390.00	51.1	51.50	0.420	54.00	2.50	AV	Horizo	PASS

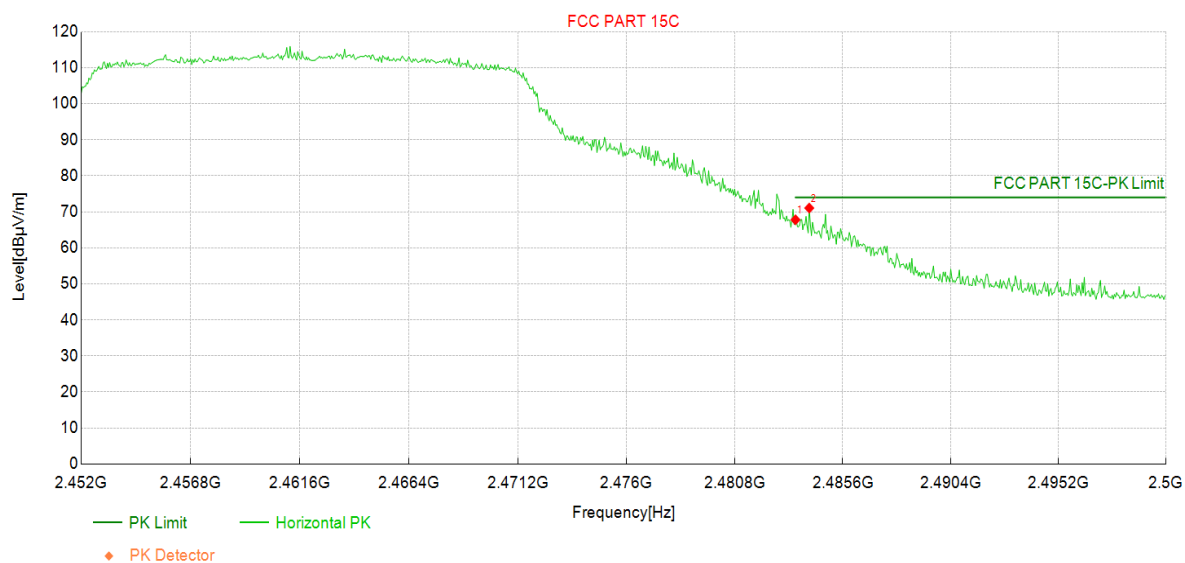
Transmit at 2412MHz by 802.11ax(20MHz) with Ant1+2

Test Graph



Data List

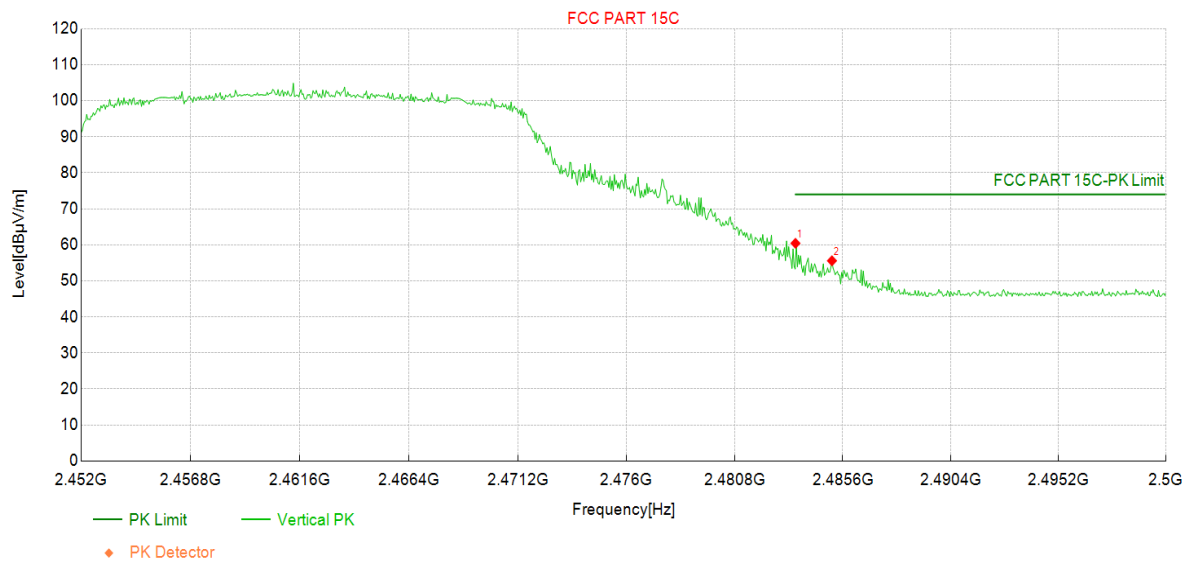
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2385.38	36.2	36.58	0.410	54.00	17.42	AV	Vertic	PASS
2	2390.00	38.7	39.07	0.420	54.00	14.93	AV	Vertic	PASS

Transmit at 2462MHz by 802.11ax(20MHz) with Ant1+2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	67.3	67.78	0.520	74.00	6.22	PK	Horizo	PASS
2	2484.11	70.5	71.03	0.520	74.00	2.97	PK	Horizo	PASS

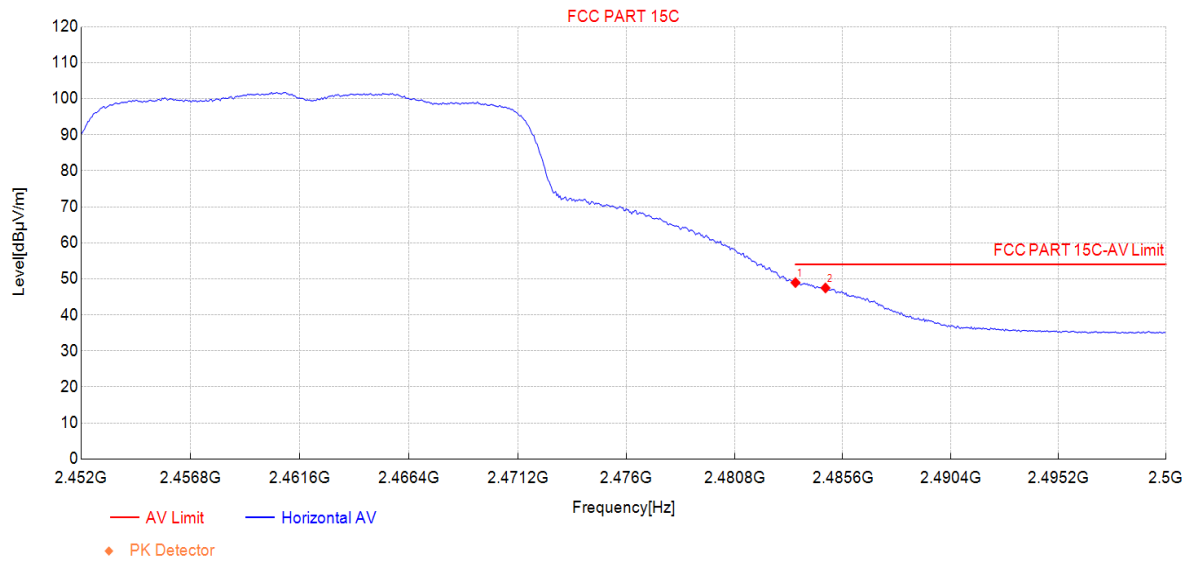
Transmit at 2462MHz by 802.11ax(20MHz) with Ant1+2

Test Graph

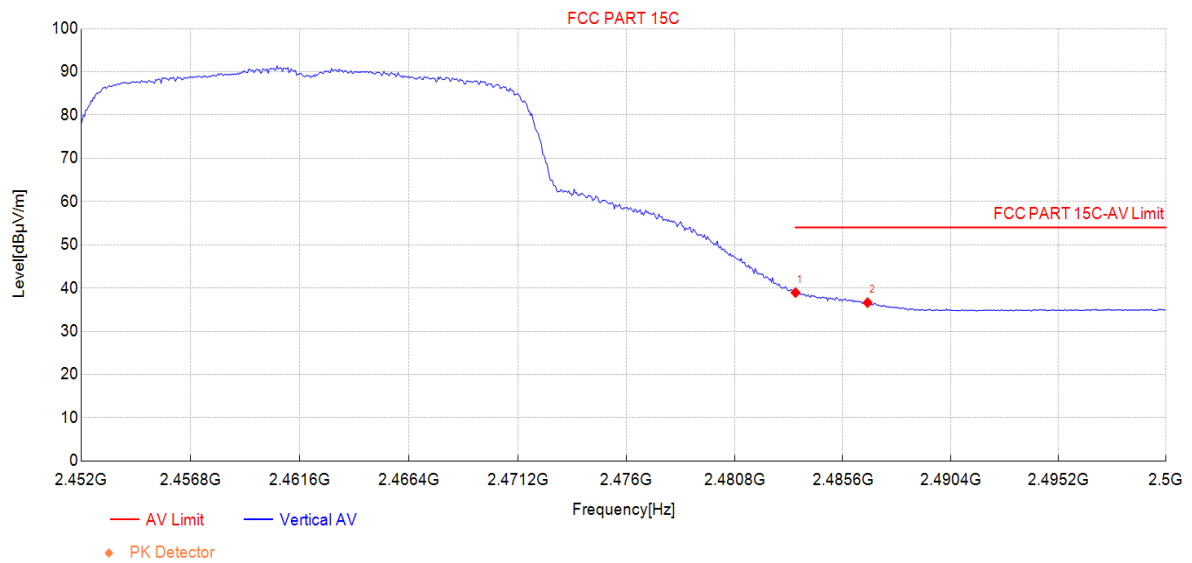


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	59.9	60.42	0.520	74.00	13.58	PK	Vertic	PASS
2	2485.12	55.1	55.57	0.520	74.00	18.43	PK	Vertic	PASS

Transmit at 2462MHz by 802.11ax(20MHz) with Ant1+2*Test Graph***Data List**

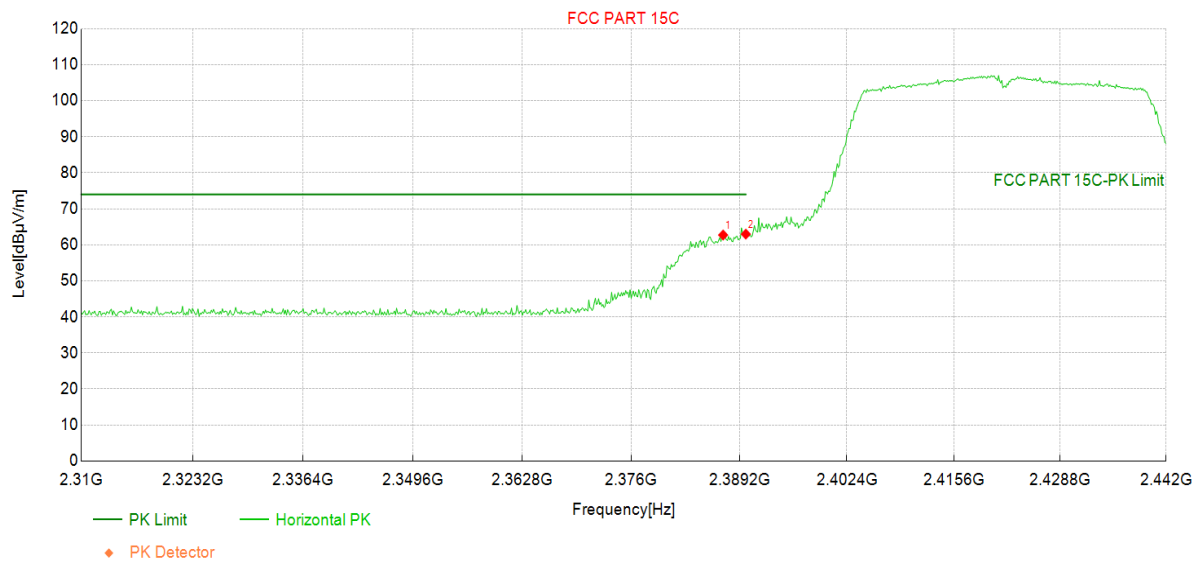
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	48.4	48.96	0.520	54.00	5.04	AV	Horizo	PASS
2	2484.83	47.0	47.48	0.520	54.00	6.52	AV	Horizo	PASS

Transmit at 2462MHz by 802.11ax(20MHz) with Ant1+2*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	38.4	38.95	0.520	54.00	15.05	AV	Vertic	PASS
2	2486.70	36.1	36.62	0.520	54.00	17.38	AV	Vertic	PASS

Transmit at 2422MHz by 802.11n(40MHz) with Ant1+2

Test Graph

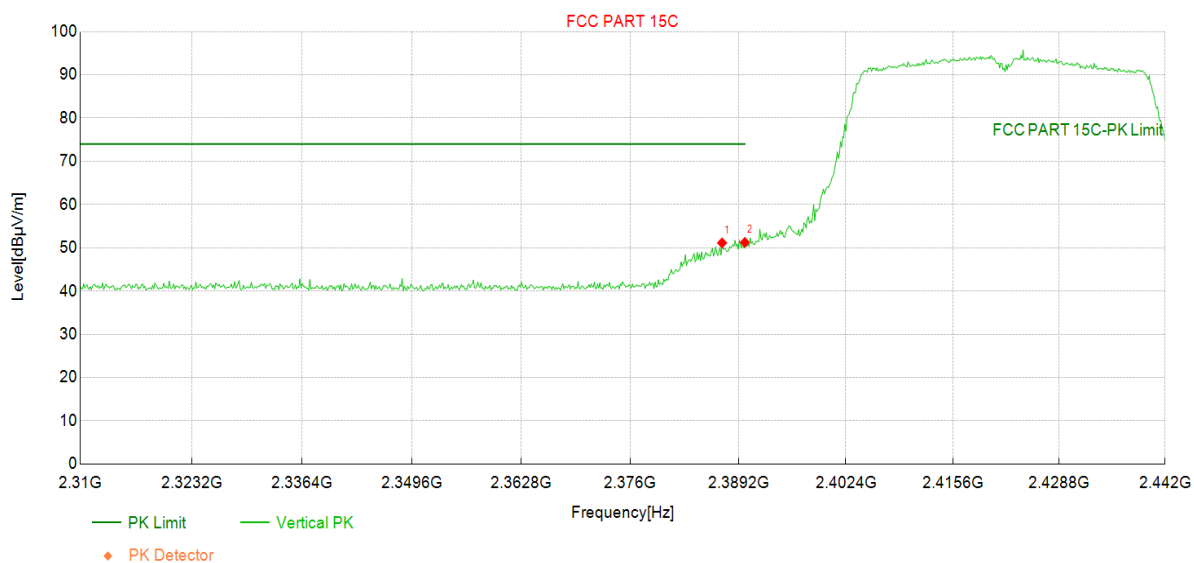


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.22	62.3	62.72	0.410	74.00	11.28	PK	Horizo	PASS
2	2390.00	62.6	62.97	0.420	74.00	11.03	PK	Horizo	PASS

Transmit at 2422MHz by 802.11n(40MHz) with Ant1+2

Test Graph

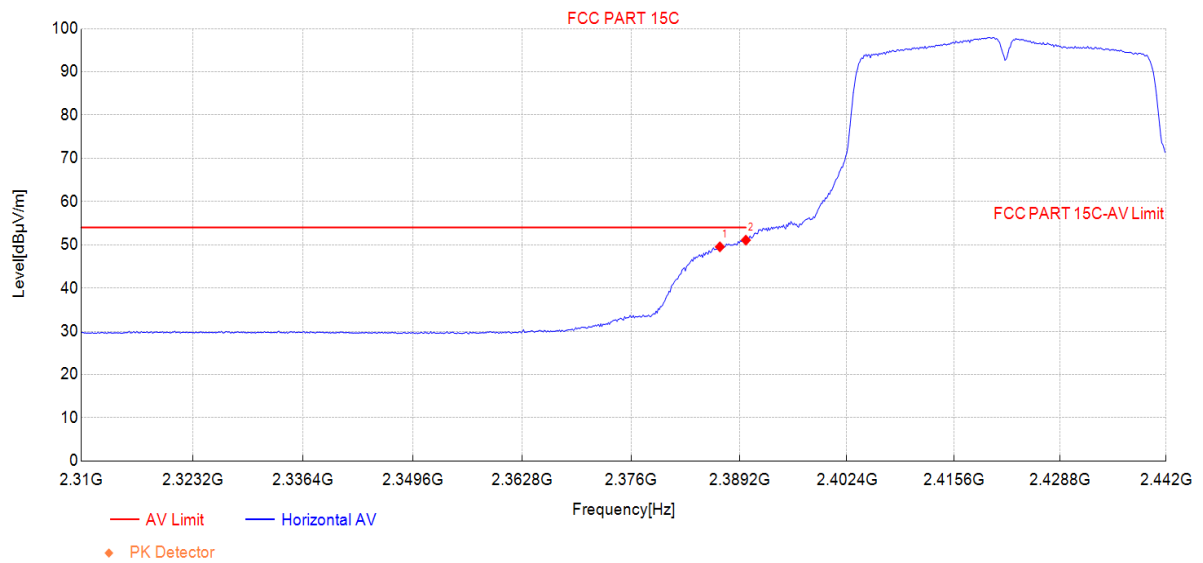


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.22	50.7	51.14	0.410	74.00	22.86	PK	Vertic	PASS
2	2390.00	50.8	51.26	0.420	74.00	22.74	PK	Vertic	PASS

Transmit at 2422MHz by 802.11n(40MHz) with Ant1+2

Test Graph

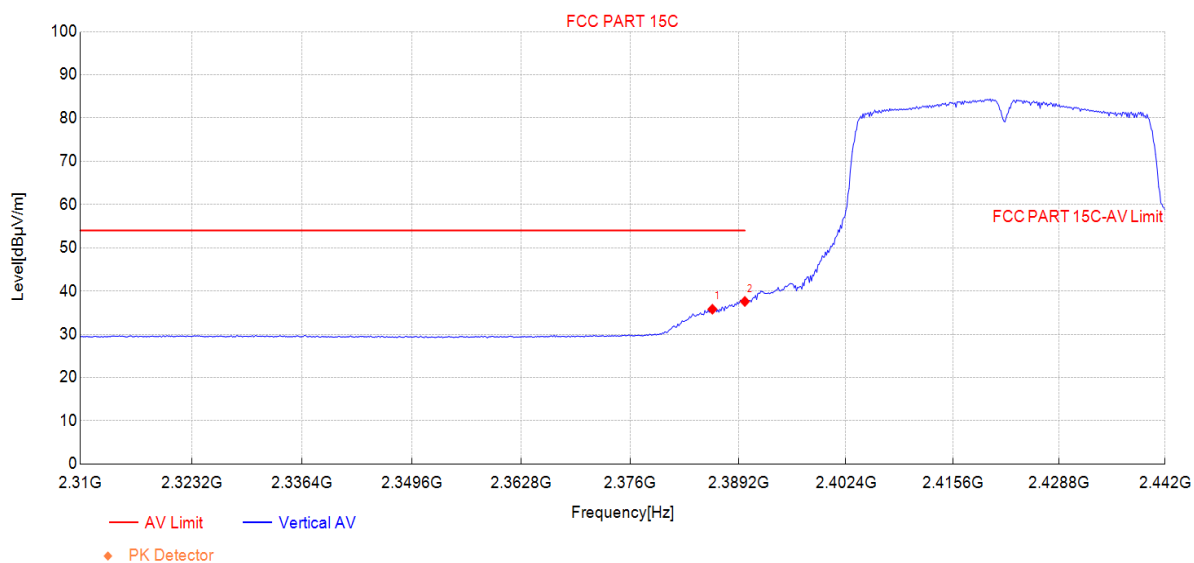


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2386.82	49.1	49.54	0.410	54.00	4.46	AV	Horizo	PASS
2	2390.00	50.7	51.08	0.420	54.00	2.92	AV	Horizo	PASS

Transmit at 2422MHz by 802.11n(40MHz) with Ant1+2

Test Graph

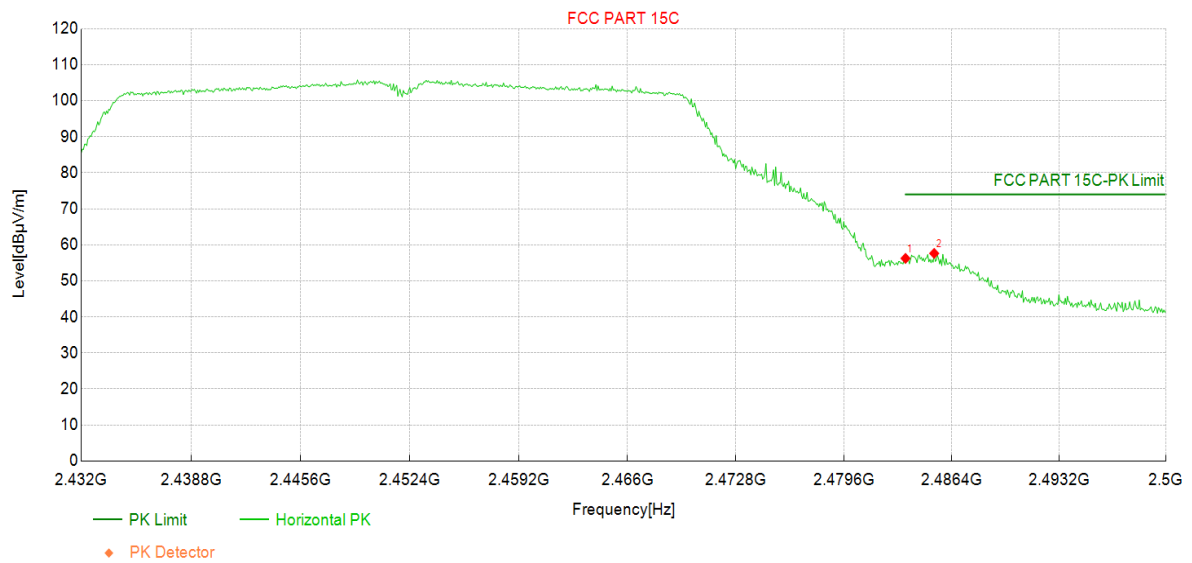


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2386.03	35.4	35.80	0.410	54.00	18.20	AV	Vertic	PASS
2	2390.00	37.2	37.59	0.420	54.00	16.41	AV	Vertic	PASS

Transmit at 2452MHz by 802.11n(40MHz) with Ant1+2

Test Graph

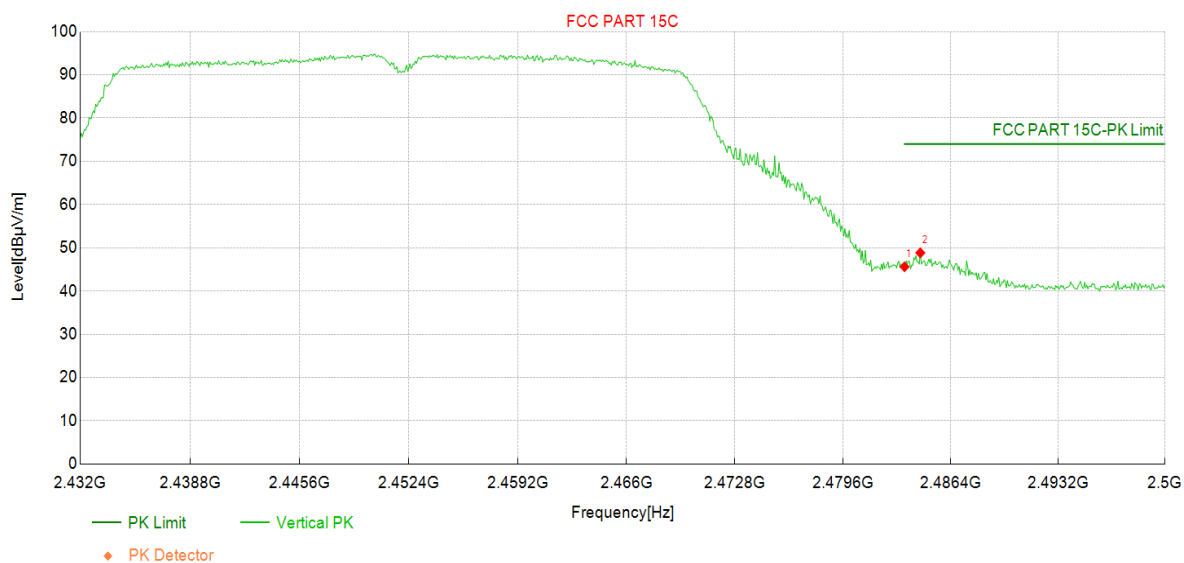


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	55.7	56.24	0.520	74.00	17.76	PK	Horizo	PASS
2	2485.31	57.1	57.62	0.520	74.00	16.38	PK	Horizo	PASS

Transmit at 2452MHz by 802.11n(40MHz) with Ant1+2

Test Graph

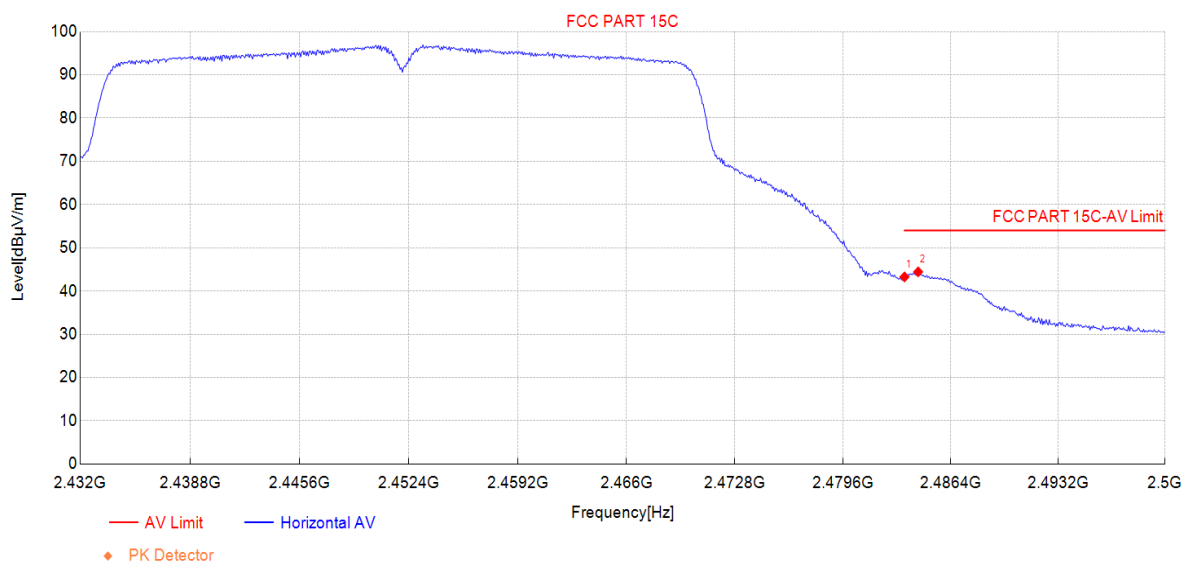


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	45.1	45.61	0.520	74.00	28.39	PK	Vertic	PASS
2	2484.50	48.3	48.84	0.520	74.00	25.16	PK	Vertic	PASS

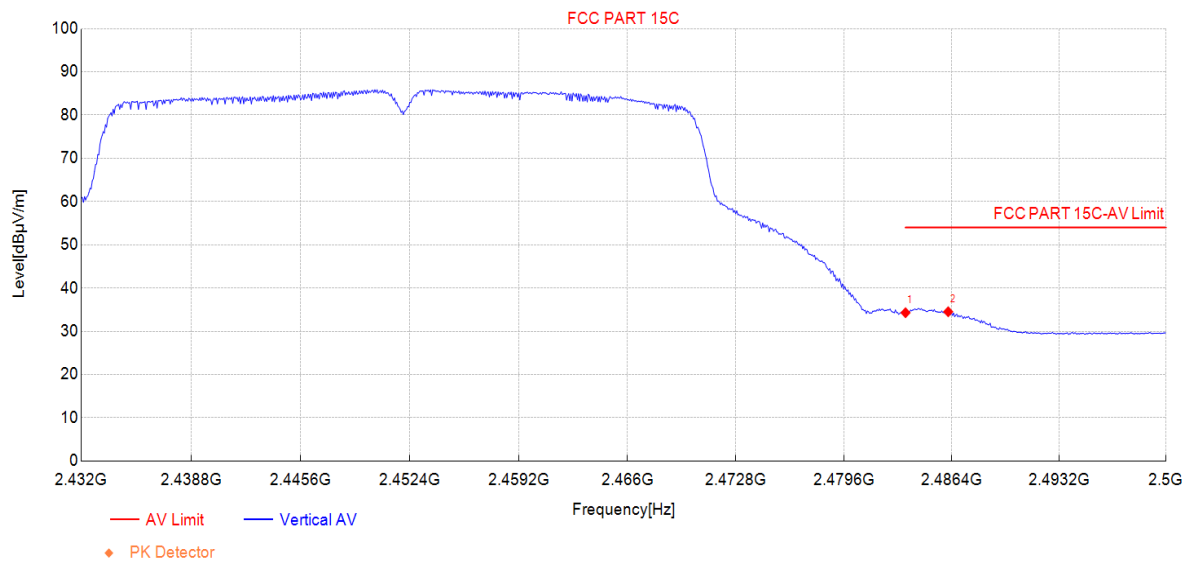
Transmit at 2452MHz by 802.11n(40MHz) with Ant1+2

Test Graph



Data List

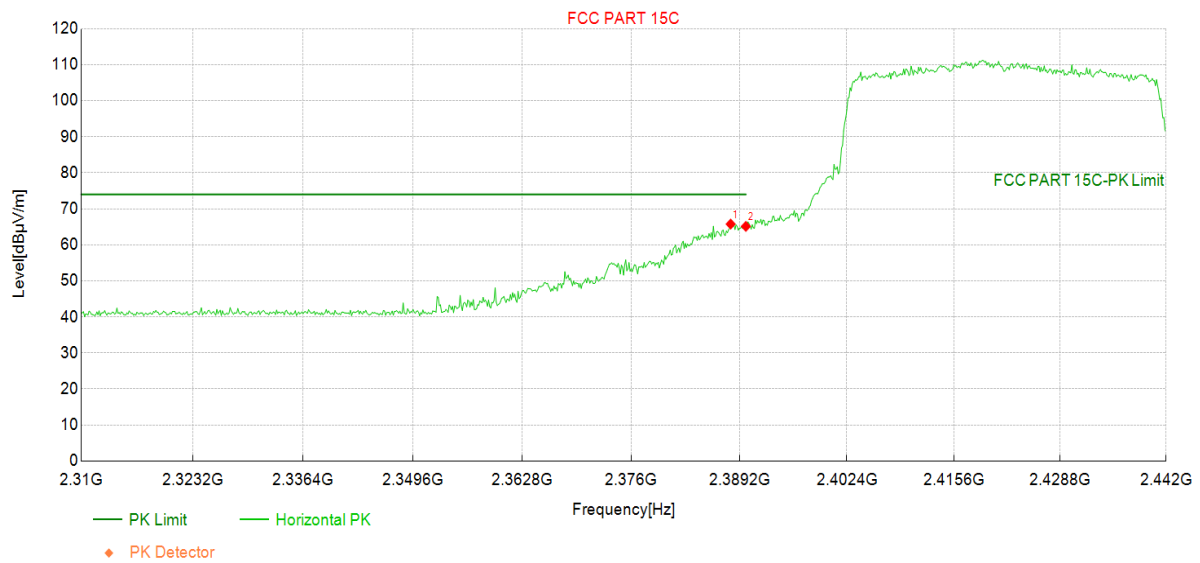
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	42.8	43.27	0.520	54.00	10.73	AV	Horizo	PASS
2	2484.36	43.9	44.44	0.520	54.00	9.56	AV	Horizo	PASS

Transmit at 2452MHz by 802.11n(40MHz) with Ant1+2*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	33.8	34.30	0.520	54.00	19.70	AV	Vertic	PASS
2	2486.20	34.0	34.52	0.520	54.00	19.48	AV	Vertic	PASS

Transmit at 2422MHz by 802.11ax(40MHz) with Ant1+2

Test Graph

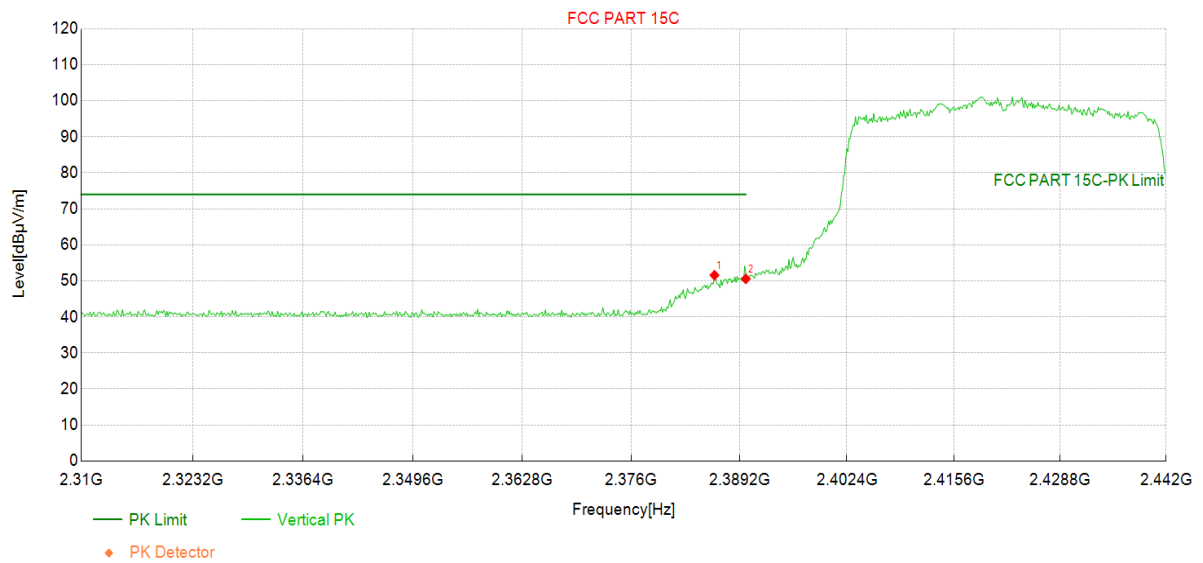


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2388.14	65.4	65.76	0.410	74.00	8.24	PK	Horizo	PASS
2	2390.00	64.7	65.11	0.420	74.00	8.89	PK	Horizo	PASS

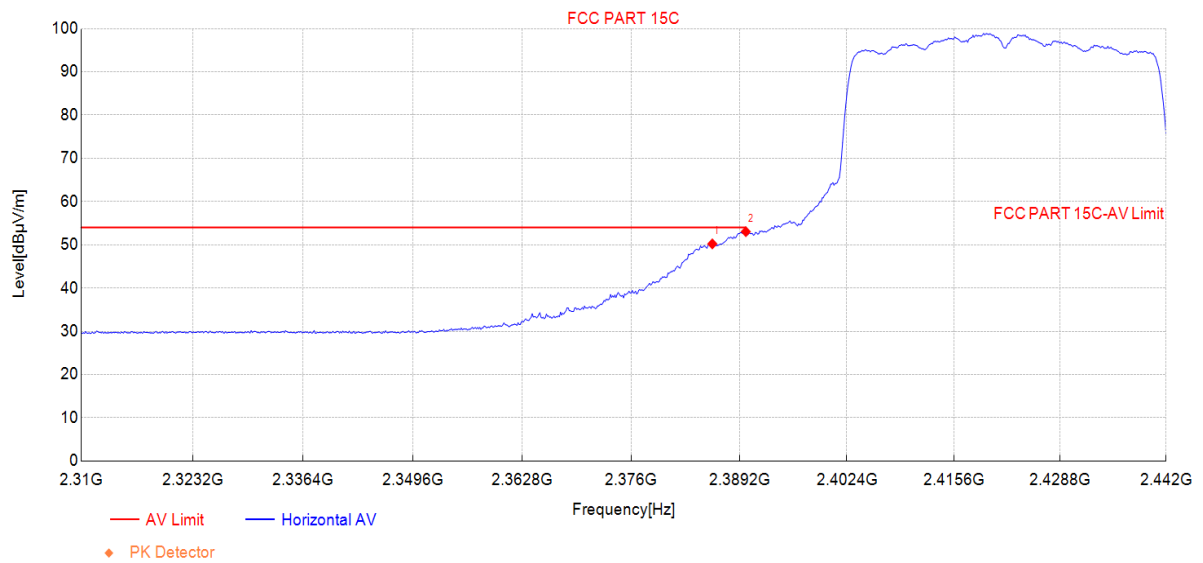
Transmit at 2422MHz by 802.11ax(40MHz) with Ant1+2

Test Graph

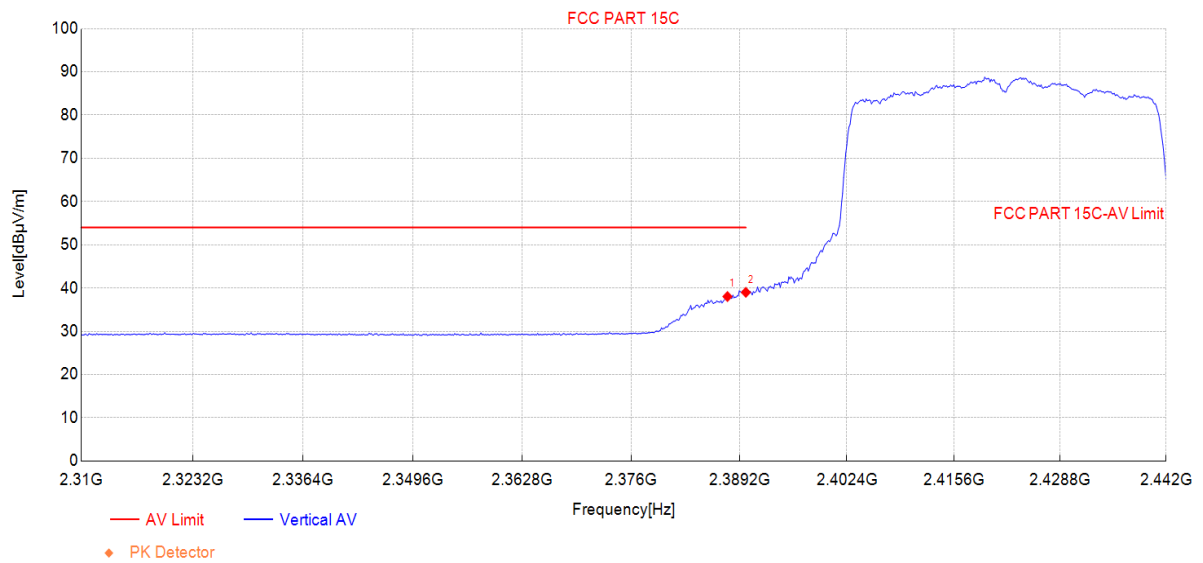


Data List

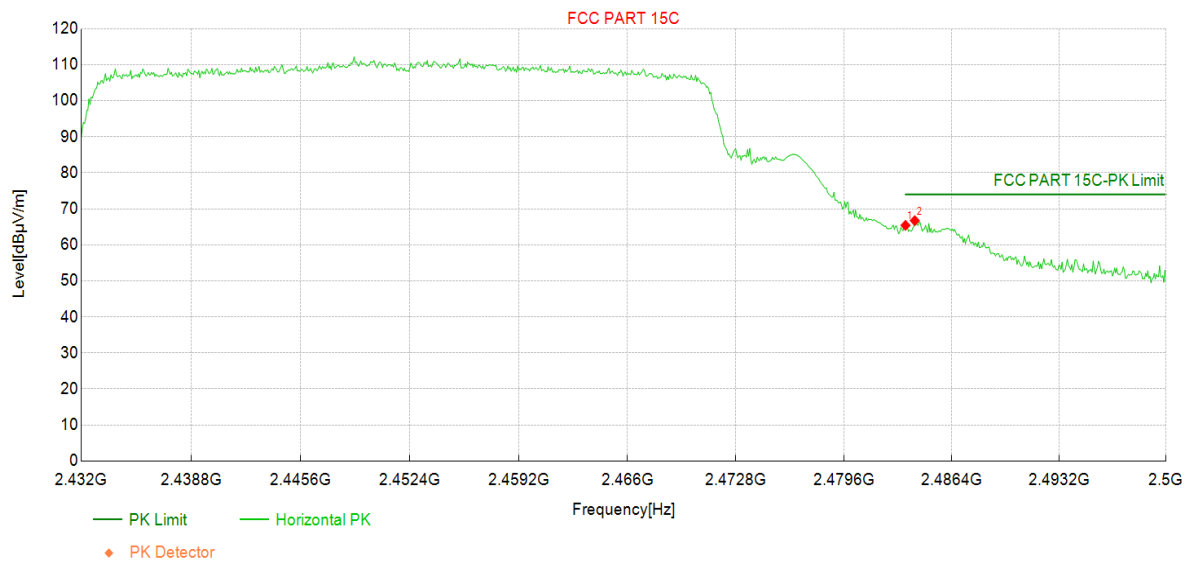
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2386.16	51.2	51.56	0.410	74.00	22.44	PK	Vertic	PASS
2	2390.00	50.1	50.56	0.420	74.00	23.44	PK	Vertic	PASS

Transmit at 2422MHz by 802.11ax(40MHz) with Ant1+2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2385.90	49.8	50.22	0.410	54.00	3.78	AV	Horizo	PASS
2	2390.00	52.6	53.04	0.420	54.00	0.96	AV	Horizo	PASS

Transmit at 2422MHz by 802.11ax(40MHz) with Ant1+2*Test Graph***Data List**

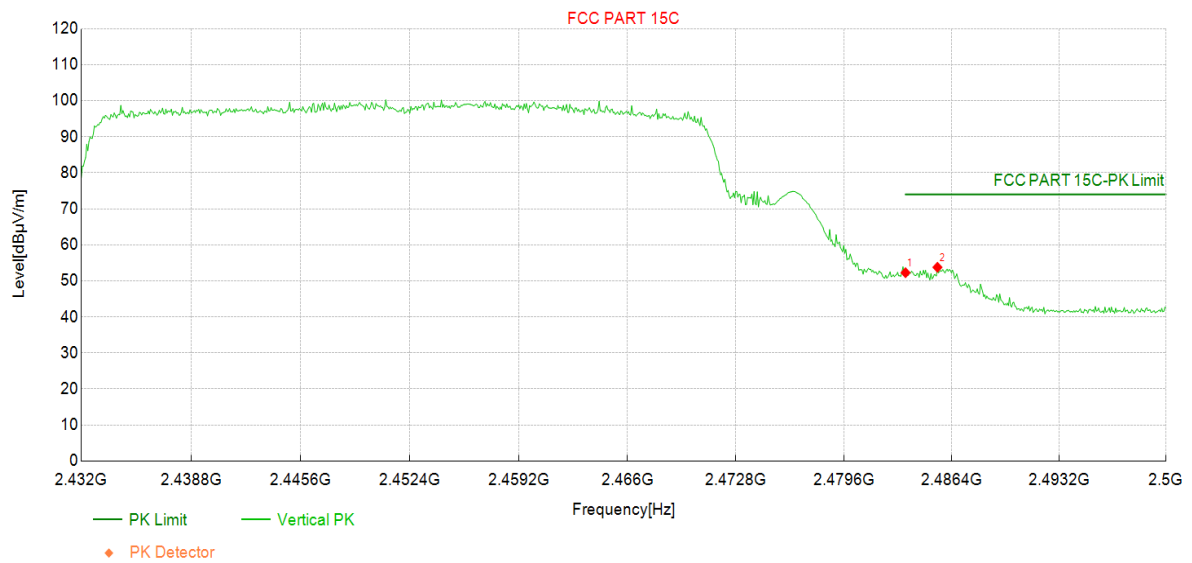
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2387.75	37.6	38.04	0.410	54.00	15.96	AV	Vertic	PASS
2	2390.00	38.6	39.01	0.420	54.00	14.99	AV	Vertic	PASS

Transmit at 2452MHz by 802.11ax(40MHz) with Ant1+2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	64.9	65.40	0.520	74.00	8.60	PK	Horizo	PASS
2	2484.09	66.2	66.71	0.520	74.00	7.29	PK	Horizo	PASS

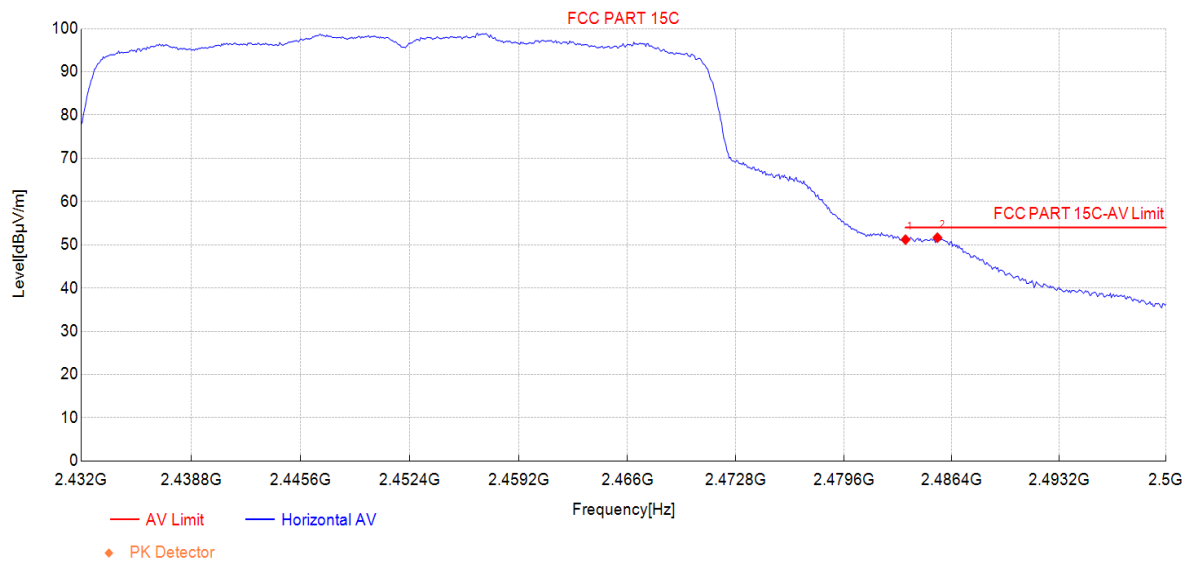
Transmit at 2452MHz by 802.11ax(40MHz) with Ant1+2

Test Graph

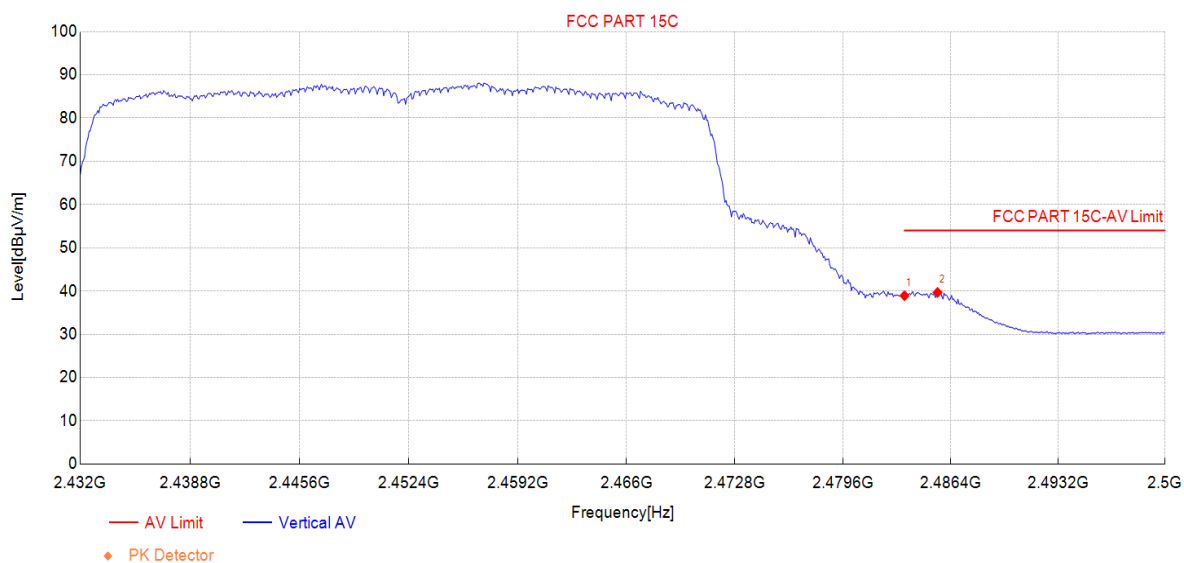


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	51.8	52.27	0.520	74.00	21.73	PK	Vertic	PASS
2	2485.52	53.2	53.76	0.520	74.00	20.24	PK	Vertic	PASS

Transmit at 2452MHz by 802.11ax(40MHz) with Ant1+2*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	50.7	51.20	0.520	54.00	2.80	AV	Horizo	PASS
2	2485.52	51.1	51.65	0.520	54.00	2.35	AV	Horizo	PASS

Transmit at 2452MHz by 802.11ax(40MHz) with Ant1+2**Test Graph****Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	38.4	38.93	0.520	54.00	15.07	AV	Vertic	PASS
2	2485.58	39.2	39.69	0.520	54.00	14.31	AV	Vertic	PASS

Note:

1. Level = Reading + Factor
2. Margin = Limit – Level
3. Only the worst antenna combination data is included in the report.

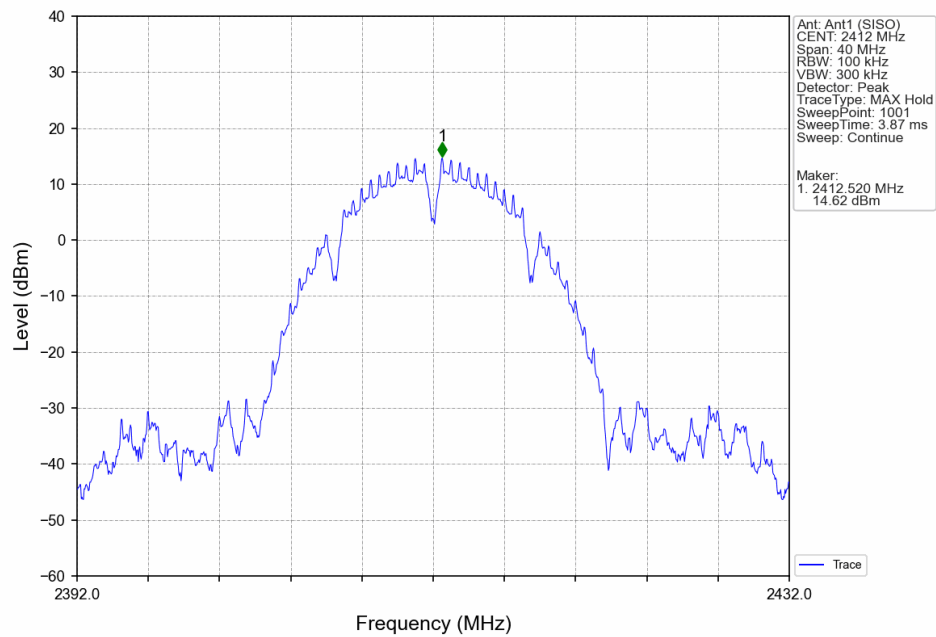
Appendix E: Test results of Conducted Spurious Emission

Reference level measurement:

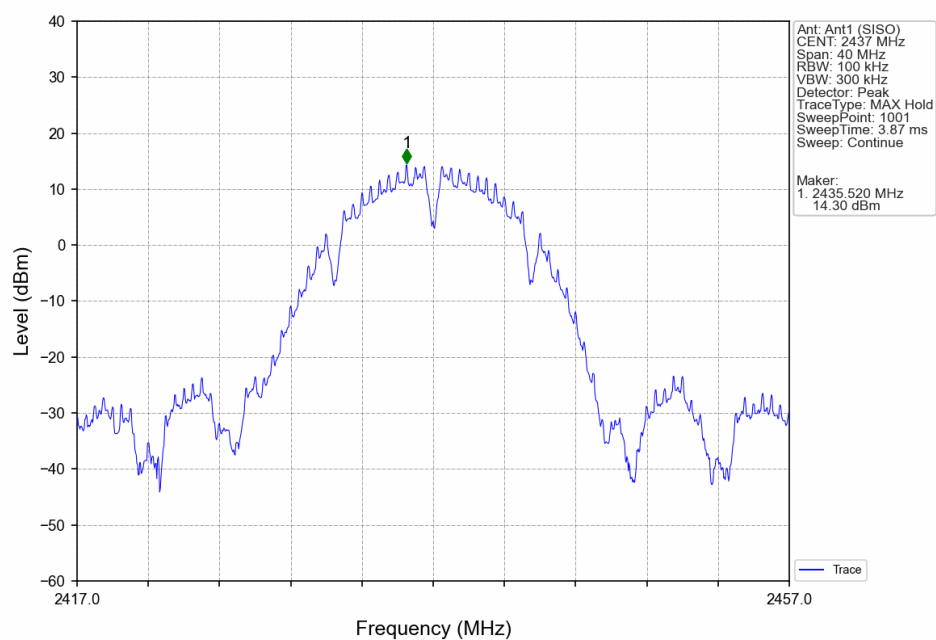
Mode	Frequency (MHz)	Level of Reference (dBm)
802.11b	2412	14.62
	2437	14.30
	2462	14.18
802.11g	2412	8.23
	2437	8.41
	2462	9.25
802.11n (HT20)	2412	7.86
	2437	7.96
	2462	8.73
802.11n (HT40)	2422	3.68
	2437	3.76
	2452	3.87
802.11ax (HEW20)	2412	6.73
	2437	6.71
	2462	7.52
802.11ax (HEW40)	2422	4.34
	2437	4.23
	2452	4.55

Note: We have evaluated each antenna and both SISO and MIMO mode, only worst data shown in report.

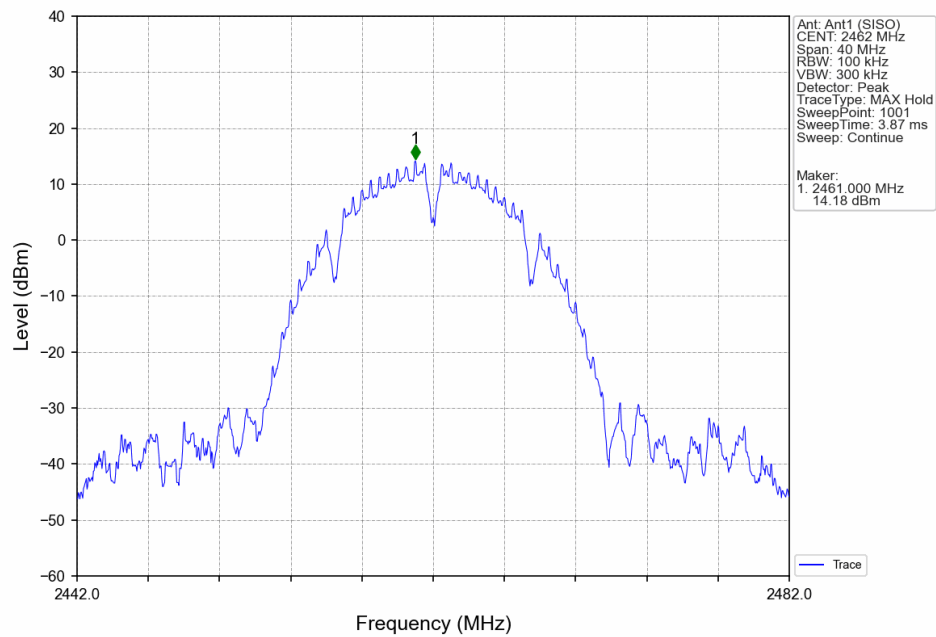
802.11b_LCH_2412MHz__NTNV



802.11b_MCH_2437MHz__NTNV



802.11b_HCH_2462MHz__NTNV



802.11g_LCH_2412MHz__NTNV

