FCC PART 15C
TEST REPORT
No.I21Z70658-EMC10

for

Samsung Electronics Co., Ltd.

Notebook PC

NP750XED

with

FCC ID: ZCANP750XED

Hardware Version: REV1.0

Software Version: Windows11

Issued Date: 2022-01-18

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I21Z70658-EMC10	Rev.0	1st edition	2022-01-18

CONTENTS

1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (ISED#: 24849). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location1: CTTL(BDA)

Address: No. 18A, Kangding Street, Beijing Economic-Technology Development Area, Beijing, 100176, P.R. China

Location2: CTTL (Huayuan North Road)

Address: No. 52 Huayuan North Road, Haidian District, Beijing 100191, P.R. China

1.3. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2021-12-10

Testing End Date: 2022-01-15

1.5. Signature

Li Yan

(Prepared this test report)

Zhang Ying

(Reviewed this test report)

Zhang Xia

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Samsung Electronics Co., Ltd.
Address:	19 Chapin Rd.,Building D Pine Brook, NJ 07058
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Fax:	/

2.2. Manufacturer Information

Company Name:	Samsung Electronics Co., Ltd.
Address:	Samsung R5, Maetan dong 129, Samsung ro Youngtong gu, Suwon city 443 742, Korea
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Fax:	/

3. PRODUCT INFORMATION

3.1. About EUT

Description	Notebook PC
Model name	NP750XED
FCC ID	ZCANP750XED

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of T CTTL-Telecommunication Technology Labs, CAICT

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	2170658UT11a	REV1.0	Windows11
EUT2	2170658UT16a	REV1.0	Windows11
EUT3	2170658UT21a	REV1.0	Windows11

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	SN	Remarks
AE1	Travel Adapter	/	/
AE2	Travel Adapter	/	/
AE3	Data Cable	/	/
AE4	battery	/	Inbuilt

AE1

Model	EP-TA845
Manufacturer	SOLUM CO.,LTD.
Length of cable	/

AE2

Model	EP-TA845
Manufacturer	DONGYANG E&P Inc
Length of cable	/

AE3

Model	/
Manufacturer	/

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment Under Test (EUT) was a Notebook PC with Bluetooth, Bluetooth Low Energy and 802.11 a/b/g/n/ac/ax capabilities in the 2.4 GHz and 5 GHz bands.

Antenna information

Item	Spec.	Vendor	Vendor P/N	Sample under test
Antenna	Main antenna (Chain A)	INNOWAVE	/	EUT1/EUT3
	Auxiliary antenna (Chain B)			
Antenna	Main antenna (Chain A)	SPEED	/	EUT2
	Auxiliary antenna (Chain B)			

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the Client.

For more EUT information please refers to the manufacturer's specifications or user's manual.

3.5. Test Configuration

For 802.11b/g modes the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, but not simultaneously.

For 802.11n20 & 802.11ax20 (20 MHz channel bandwidth), 802.11n40 & 802.11ax40 (40MHz channel bandwidth) modes the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, and also simultaneously(MIMO).

The software DRTU provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

3.6. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	2021
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES	2019

Note: The test methods have no deviation with standards.

5. SUMMARY OF TEST RESULTS

5.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Verdict
Radiated Spurious Emission	15.247, 15.205, 15.209	**P**
AC Power line Conducted Emission	15.107, 15.207	**P**

Please refer to **ANNEX C** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed by CTTL
BR	Re-use test data from basic model report.
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

5.2. Statements

The test cases as listed in section 5.1 of this report for the EUT specified in section 3 was performed by CTTL and according to the standards or reference documents listed in section 4.2 The EUT met all requirements of the standards or reference documents, and only the WLAN function was tested in this report.

5.3. Test Conditions

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage

For this report, if the test cases listed above are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	T nom	26℃
Voltage	V nom	4.0V
Humidity	H nom	20-75%

6. Test Facilities Utilized

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100376	R&S	1 year	2022-09-15
2	EMI Antenna	VULB9163	9163-514	Schwarzbeck	1 year	2022-03-22
3	EMI Antenna	3117	00119024	ETS-Lindgren	1 year	2022-04-11
4	EMI Antenna	LB-180400-25-C-KF	211008400006	A-INFO	1 year	2022-02-28
5	Loop Antenna	HFH2-Z2	829324/007	R&S	1 year	2022-12-22
6	Analytical Spectrometer	FSV40	101047	R&S	1 year	2022-06-02
7	Test Receiver	ESW44	103023	R&S	1 year	2022-06-02

AC Powerline Conducted Emission

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	LISN	ENV216	101459	R&S	1 year	2022-03-16
2	Test Receiver	ESCI	100766	R&S	1 year	2022-03-09

7. Measurement Uncertainty

Radiated Spurious Emission

(k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	5.40
1GHz ≤ f ≤18GHz	4.32
18GHz ≤ f ≤40GHz	5.26

AC Power-line Conducted Emission

Measurement Uncertainty : 3.10dB,k=2

ANNEX A: EUT parameters

Disclaimer: The antenna gain and setting power provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX B: Antenna Requirements

According to FCC 47 CFR § 15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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.”

(1) The antennas of the EUT are permanently attached.

(2) The EUT complies with the requirement of §15.203

ANNEX C: Detailed Test Results

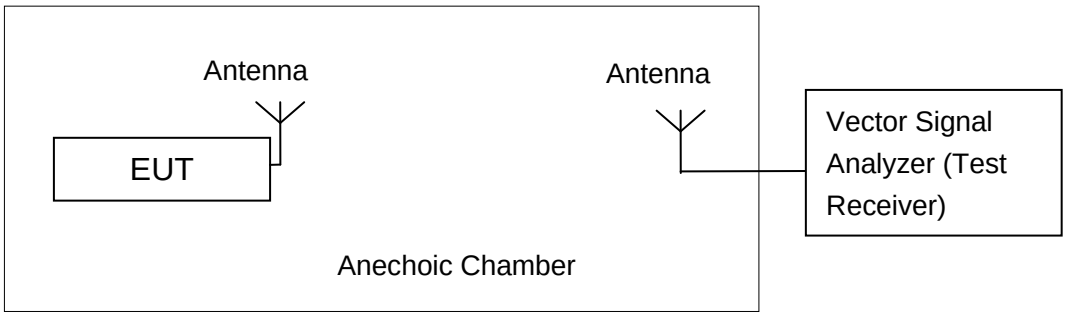
C.1. Radiated Spurious Emission

Specification Reference

FCC 47 CFR Part 15.247, 15.205, 15.209

Method of Measurement

Testing was performed in according with ANSI C63.10-2013 and KDB 558074.
The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.



Measurement Limit

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

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)).

Limit in restricted band:

Frequency (MHz)	Field strength(μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Frequency of emission (MHz)	Field strength(dBμV/m)	Measurement distance(m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Test settings

Frequency of emission (MHz)	RBW/VBW
30-1000	100kHz/300kHz
1000-4000	1MHz/3MHz
4000-18000	1MHz/3MHz
18000-26500	1MHz/3MHz

Sample Calculation

The measurement results are obtained as described below:
Result=P_{Mea}+$A_{Rpl=}$ P_{Mea}+Cable Loss+Antenna Factor
A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.
P_{Mea} is the field strength recorded from the instrument.

Test Notes

1. The EUT is operating at its maximum duty cycle and its maximum power control level.
2. Investigation has been done on all channel, modes and modulations/data rates. Only the radiated emissions of the configurations that produced the worst case emissions are reported in this section.
3.
For EUT1 with INNOWAVE antenna the measurements were performed separately in Chain A, Chain B, and MIMO (Chain A+B), and only the worst cases are shown in this report.
For EUT2 with SPEED antenna the measurements were performed separately in Chain A, Chain B, and MIMO (Chain A+B), and only the worst cases are shown in this report.

C.1.1 Radiated Spurious Emission- above 1GHz

INNOWAVE

The measurements were performed separately in Chain A, Chain B, and MIMO (Chain A+B), and only the worst cases are shown in this section.

Peak results

802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.614	60.65	3.48	31.87	25.29	74.00	13.35	H
2387.952	60.66	3.48	31.88	25.30	74.00	13.34	H
4823.500	46.39	-25.02	33.93	37.48	74.00	27.61	H
7235.000	41.84	-24.19	35.50	30.53	74.00	32.16	H
9548.000	42.42	-24.29	35.98	30.74	74.00	31.58	V
12055.000	47.88	-22.35	38.90	31.33	74.00	26.12	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2331.400	46.70	-31.73	31.81	46.63	74.00	27.30	H
2524.200	48.77	-30.20	32.04	46.92	74.00	25.23	H
4873.500	44.48	-25.30	33.95	35.83	74.00	29.52	V
7311.000	40.74	-25.01	35.50	30.25	74.00	33.26	H
9748.000	43.45	-24.11	37.10	30.46	74.00	30.55	V
12184.240	45.82	-22.52	38.90	29.44	74.00	28.18	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.895	60.82	3.41	31.98	25.43	74.00	13.18	H
2497.665	61.46	3.44	32.00	26.02	74.00	12.54	H
4920.000	47.48	-26.49	33.97	40.00	74.00	26.52	V
7386.000	43.87	-24.56	35.60	32.83	74.00	30.13	V
9848.000	45.19	-24.04	37.22	32.01	74.00	28.81	V
12310.000	48.03	-21.27	38.90	30.39	74.00	25.97	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.244	60.86	3.48	31.87	25.50	74.00	13.14	H
2389.366	61.38	3.48	31.88	26.02	74.00	12.62	H
4824.000	43.42	-25.03	33.93	34.51	74.00	30.58	H
7235.000	42.08	-24.19	35.50	30.77	74.00	31.92	V
9548.000	42.10	-24.29	35.98	30.41	74.00	31.90	H
12058.000	46.43	-22.41	38.90	29.94	74.00	27.57	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2327.400	47.26	-31.77	31.81	47.23	74.00	26.74	H
2511.000	48.70	-30.04	32.02	46.72	74.00	25.30	H
4874.000	43.06	-25.30	33.95	34.41	74.00	30.94	H
7311.000	40.69	-25.01	35.50	30.21	74.00	33.31	V
9748.000	44.45	-24.11	37.10	31.46	74.00	29.55	V
12185.050	47.63	-22.52	38.90	31.25	74.00	26.37	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.905	61.18	3.41	31.98	25.79	74.00	12.82	H
2496.420	61.28	3.43	32.00	25.86	74.00	12.72	H
4929.000	46.85	-26.57	33.97	39.45	74.00	27.15	H
7386.000	42.98	-24.56	35.60	31.94	74.00	31.02	H
9848.000	45.55	-24.04	37.22	32.37	74.00	28.45	V
12310.000	49.07	-21.27	38.90	31.44	74.00	24.93	V

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2372.860	61.30	3.33	31.86	26.11	74.00	12.70	H
2377.592	60.67	3.43	31.87	25.38	74.00	13.33	H
4824.000	41.74	-26.03	33.93	33.84	74.00	32.26	V
7236.000	43.65	-24.19	35.60	32.24	74.00	30.35	H
9648.000	45.52	-24.29	36.98	32.83	74.00	28.48	H
12058.000	49.13	-22.41	38.90	32.64	74.00	24.87	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2345.500	46.05	-31.58	31.83	45.81	74.00	27.95	H
2544.500	49.05	-30.44	32.08	47.41	74.00	24.95	H
4874.000	42.23	-25.30	33.95	33.59	74.00	31.77	H
7311.000	41.54	-25.01	35.50	31.05	74.00	32.46	H
9748.000	45.26	-24.11	37.10	32.27	74.00	28.74	H
12185.000	46.93	-22.52	38.90	30.55	74.00	27.07	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.760	60.43	3.40	31.98	25.05	74.00	13.57	H
2488.495	60.59	3.37	31.99	25.24	74.00	13.41	H
4924.000	42.83	-25.53	33.97	34.39	74.00	31.17	H
7385.000	41.66	-24.55	35.50	30.71	74.00	32.34	V
9848.000	43.73	-24.04	37.22	30.55	74.00	30.27	V
12312.000	48.17	-21.26	38.90	30.53	74.00	25.83	V

802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.720	64.56	3.48	31.88	29.21	74.00	9.44	H
2389.632	65.18	3.48	31.88	29.82	74.00	8.82	H
4844.000	40.28	-26.23	33.94	32.57	74.00	33.72	H
7266.000	45.25	-24.35	35.60	34.00	74.00	28.75	V
9688.000	45.55	-24.13	37.03	32.65	74.00	28.45	V
12110.000	48.84	-22.12	38.90	32.06	74.00	25.16	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2334.000	47.52	-31.71	31.82	47.41	74.00	26.48	H
2531.000	49.09	-30.28	32.05	47.31	74.00	24.91	H
4874.000	39.94	-26.30	33.95	32.29	74.00	34.06	V
7311.000	42.84	-25.01	35.60	32.25	74.00	31.16	H
9748.000	45.62	-24.11	37.10	32.63	74.00	28.38	H
12185.000	49.02	-22.52	38.90	32.64	74.00	24.98	V

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.100	66.73	3.41	31.98	31.34	74.00	7.27	H
2485.045	64.68	3.40	31.98	29.29	74.00	9.32	H
4904.000	42.36	-25.35	33.95	33.76	74.00	31.64	V
7355.000	43.02	-24.52	35.50	32.05	74.00	30.98	H
9808.000	44.15	-23.88	37.17	30.86	74.00	29.85	V
12250.000	47.92	-21.48	38.90	30.50	74.00	26.08	H

802.11ax-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.880	60.33	3.5	31.9	24.98	74.0	13.67	H
2388.806	60.51	3.5	31.9	25.15	74.0	13.49	H
4824.000	40.94	-26.0	33.9	33.03	74.0	33.06	H
7236.000	43.33	-24.2	35.6	31.92	74.0	30.67	H
9648.000	44.53	-24.3	37.0	31.84	74.0	29.47	H
12060.000	48.17	-22.4	38.9	31.68	74.0	25.84	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2345.200	47.49	-31.6	31.8	47.24	74.0	26.51	H
2525.400	47.59	-30.2	32.0	45.75	74.0	26.41	H
4873.000	42.36	-25.3	34.0	33.71	74.0	31.64	V
7312.000	41.01	-25.0	35.5	30.52	74.0	32.99	H
9748.100	46.51	-24.1	37.1	33.52	74.0	27.49	H
12185.500	48.00	-22.5	38.9	31.64	74.0	26.00	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.230	60.78	3.4	32.0	25.39	74.0	13.22	H
2497.510	61.40	3.4	32.0	25.96	74.0	12.60	H
4924.000	43.37	-25.5	34.0	34.93	74.0	30.63	V
7385.000	43.49	-24.6	35.5	32.54	74.0	30.52	V
9848.550	45.24	-24.0	37.2	32.06	74.0	28.76	H
12310.100	48.42	-21.3	38.9	30.78	74.0	25.58	V

802.11ax-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.646	66.88	3.5	31.9	31.52	74.0	7.12	H
2389.744	66.15	3.5	31.9	30.79	74.0	7.85	H
4844.000	40.50	-26.2	33.9	32.79	74.0	33.51	H
7266.000	43.35	-24.4	35.6	32.10	74.0	30.66	V
9688.000	45.96	-24.1	37.0	33.06	74.0	28.04	H
12110.000	48.59	-22.1	38.9	31.81	74.0	25.41	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2346.600	47.07	-31.6	31.8	46.81	74.0	26.93	H
2546.000	49.01	-30.5	32.1	47.39	74.0	24.99	H
4874.000	42.90	-25.3	34.0	34.25	74.0	32.10	V
7311.000	42.35	-25.0	35.5	31.86	74.0	31.55	V
9748.000	44.88	-24.1	37.1	31.89	74.0	29.12	H
12185.000	48.30	-22.5	38.9	31.92	74.0	25.70	V

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.625	64.13	3.4	32.0	28.74	74.0	9.87	H
2485.305	63.68	3.4	32.0	28.30	74.0	10.32	H
4904.000	42.48	-25.3	34.0	33.77	74.0	31.52	H
7355.000	43.61	-24.4	35.5	32.53	74.0	30.39	H
9808.000	44.87	-23.8	37.2	31.47	74.0	29.13	V
12250.000	49.64	-21.5	38.9	32.23	74.0	24.36	V

Average results

802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.211	46.74	3.48	31.88	11.38	54.00	7.26	H
2389.990	46.63	3.48	31.88	11.27	54.00	7.37	H
4823.950	43.96	-25.03	33.93	35.05	54.00	10.04	V
7235.960	31.26	-24.19	35.50	19.96	54.00	22.74	H
9547.940	31.21	-24.29	35.98	19.52	54.00	22.79	V
12059.950	35.76	-22.41	38.90	19.28	54.00	18.24	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2418.680	49.91	3.40	31.91	14.60	54.00	4.09	H
2450.771	50.58	3.50	31.95	15.13	54.00	3.42	H
4873.450	38.98	-25.30	33.95	30.33	54.00	15.02	H
7311.600	30.00	-25.01	35.50	19.51	54.00	24.00	H
9747.850	32.57	-24.11	37.10	19.57	54.00	21.43	H
12185.050	35.58	-22.52	38.90	19.19	54.00	18.42	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.508	46.65	3.42	31.98	11.25	54.00	7.35	H
2484.211	46.70	3.41	31.98	11.31	54.00	7.30	H
4923.000	35.83	-26.52	33.97	28.38	54.00	18.17	H
7386.000	32.84	-24.56	35.60	21.81	54.00	21.16	V
9848.250	34.52	-24.04	37.22	21.34	54.00	19.48	V
12309.750	37.78	-21.27	38.90	20.15	54.00	16.22	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.059	46.70	3.48	31.88	11.34	54.00	7.30	H
2389.971	46.66	3.48	31.88	11.29	54.00	7.34	H
4823.500	34.47	-25.02	33.93	25.56	54.00	19.53	H
7235.650	31.56	-24.19	35.50	20.25	54.00	22.44	V
9547.960	31.57	-24.29	35.98	19.88	54.00	22.43	H
12059.950	36.00	-22.41	38.90	19.51	54.00	18.00	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2419.535	49.38	3.40	31.91	14.07	54.00	4.62	H
2456.775	49.48	3.47	31.95	14.06	54.00	4.52	H
4872.550	33.01	-25.30	33.95	24.36	54.00	20.99	H
7311.100	30.61	-25.01	35.50	20.12	54.00	23.39	V
9747.850	33.12	-24.11	37.10	20.12	54.00	20.88	H
12185.050	35.97	-22.52	38.90	19.59	54.00	18.03	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.508	47.10	3.42	31.98	11.71	54.00	6.90	H
2484.154	46.97	3.41	31.98	11.58	54.00	7.03	H
4926.750	35.39	-26.55	33.97	27.97	54.00	18.61	V
7386.000	32.68	-24.56	35.60	21.64	54.00	21.32	V
9848.250	34.38	-24.04	37.22	21.21	54.00	19.62	H
12309.750	37.65	-21.27	38.90	20.01	54.00	16.35	V

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.097	46.88	3.48	31.88	11.52	54.00	7.12	H
2389.990	46.87	3.48	31.88	11.50	54.00	7.13	H
4824.000	31.16	-26.03	33.93	23.25	54.00	22.84	V
7236.000	32.97	-24.19	35.60	21.56	54.00	21.03	V
9648.000	34.15	-24.29	36.98	21.46	54.00	19.85	H
12060.000	37.33	-22.41	38.90	20.84	54.00	16.67	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2418.433	48.71	3.40	31.91	13.40	54.00	5.29	H
2455.939	49.71	3.47	31.95	14.28	54.00	4.29	H
4873.900	32.20	-25.30	33.95	23.55	54.00	21.80	H
7311.100	30.92	-25.01	35.50	20.43	54.00	23.08	V
9747.850	33.44	-24.11	37.10	20.45	54.00	20.56	H
12185.050	36.19	-22.52	38.90	19.81	54.00	17.81	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.500	47.14	3.42	31.98	11.74	54.00	6.86	H
2484.192	47.03	3.41	31.98	11.64	54.00	6.97	H
4873.900	32.20	-25.30	33.95	23.55	54.00	21.80	H
7311.100	30.92	-25.01	35.50	20.43	54.00	23.08	V
9747.850	33.44	-24.11	37.10	20.45	54.00	20.56	H
12185.050	36.19	-22.52	38.90	19.81	54.00	17.81	H

802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.496	48.97	3.48	31.88	13.60	54.00	5.03	H
2389.895	49.17	3.48	31.88	13.81	54.00	4.83	H
4844.250	30.85	-26.23	33.94	23.14	54.00	23.15	H
7266.000	33.01	-24.35	35.60	21.77	54.00	20.99	V
9687.750	34.47	-24.13	37.03	21.57	54.00	19.53	H
12110.250	37.70	-22.12	38.90	20.92	54.00	16.30	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2408.325	48.65	3.39	31.90	13.36	54.00	5.35	H
2466.256	48.49	3.48	31.96	13.04	54.00	5.51	H
4874.250	30.66	-26.30	33.95	23.02	54.00	23.34	H
7311.000	32.01	-25.01	35.60	21.42	54.00	21.99	V
9747.750	34.73	-24.11	37.10	21.73	54.00	19.27	H
12185.250	37.30	-22.52	38.90	20.92	54.00	16.70	H

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.508	49.67	3.42	31.98	14.27	54.00	4.33	H
2484.021	49.62	3.41	31.98	14.22	54.00	4.38	H
4904.050	33.06	-25.35	33.95	24.46	54.00	20.94	H
7355.100	32.56	-24.52	35.50	21.59	54.00	21.44	V
9808.150	34.01	-23.88	37.17	20.71	54.00	19.99	H
12250.200	37.01	-21.48	38.90	19.60	54.00	16.99	H

802.11ax-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.546	46.85	3.5	31.9	11.49	54.0	7.15	H
2389.990	46.88	3.5	31.9	11.51	54.0	7.13	H
4824.000	31.03	-26.0	33.9	23.13	54.0	22.97	H
7236.000	32.97	-24.2	35.6	21.56	54.0	21.04	V
9648.000	34.25	-24.3	37.0	21.56	54.0	19.75	V
12060.000	37.32	-22.4	38.9	20.84	54.0	16.68	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2419.041	49.23	3.4	31.9	13.92	54.0	4.78	H
2456.528	49.44	3.5	32.0	14.02	54.0	4.56	H
4873.900	32.53	-25.3	34.0	23.88	54.0	22.47	H
7311.100	31.40	-25.0	35.5	20.91	54.0	22.51	H
9748.850	33.80	-24.1	37.1	20.81	54.0	20.20	V
12185.050	36.47	-22.5	38.9	20.09	54.0	17.53	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.508	47.25	3.4	32.0	11.86	54.0	6.75	H
2483.888	47.27	3.4	32.0	11.88	54.0	6.73	H
4923.850	32.82	-25.5	34.0	24.38	54.0	21.18	V
7385.800	32.25	-24.6	35.5	21.31	54.0	21.75	H
9848.200	33.73	-24.0	37.2	20.55	54.0	20.27	V
12310.150	37.17	-21.3	38.9	19.53	54.0	16.83	H

802.11ax-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.344	49.27	3.5	31.9	13.91	54.0	4.73	H
2389.990	49.31	3.5	31.9	13.94	54.0	4.70	H
4844.250	30.87	-26.2	33.9	23.16	54.0	23.13	H
7266.000	33.00	-24.4	35.6	21.75	54.0	21.00	H
9687.750	34.36	-24.1	37.0	21.46	54.0	19.64	H
12110.250	37.56	-22.1	38.9	20.78	54.0	16.44	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2408.325	48.06	3.4	31.9	12.77	54.0	5.94	H
2464.660	48.68	3.5	32.0	13.25	54.0	5.32	H
4873.900	32.47	-25.3	34.0	23.82	54.0	21.53	V
7311.100	31.74	-25.0	35.5	21.25	54.0	22.26	V
9747.850	34.20	-24.1	37.1	21.21	54.0	19.80	H
12185.050	36.83	-22.5	38.9	20.44	54.0	17.18	V

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.508	48.92	3.4	32.0	13.52	54.0	5.08	H
2483.812	48.78	3.4	32.0	13.39	54.0	5.22	H
4904.050	32.96	-25.4	34.0	24.36	54.0	21.04	H
7355.100	32.81	-24.5	35.5	21.83	54.0	21.20	V
9808.150	34.25	-23.9	37.2	20.96	54.0	19.75	H
12250.200	37.45	-21.5	38.9	20.03	54.0	16.55	H

Note: the spurious emission above 18G is noise only.

Conclusion: Pass

SPEED

The measurements were performed separately in Chain A, Chain B, and MIMO (Chain A+B), and only the worst cases are shown in this section.

Peak results

802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.756	60.79	3.48	31.88	25.44	74.00	13.21	H
2389.898	61.02	3.48	31.88	25.66	74.00	12.98	H
4823.500	45.39	-26.02	33.93	37.48	74.00	28.61	H
7236.000	42.04	-24.19	35.60	30.63	74.00	31.96	H
9648.000	43.42	-24.29	36.98	30.74	74.00	30.58	V
12060.000	46.62	-22.41	38.90	30.13	74.00	27.38	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2374.600	45.61	-31.73	31.81	45.53	74.00	28.39	H
2521.600	47.77	-30.20	32.04	45.92	74.00	26.23	H
4873.500	44.48	-26.30	33.95	36.83	74.00	29.52	V
7311.000	40.85	-25.01	35.60	30.26	74.00	33.15	H
9748.000	43.46	-24.11	37.10	30.47	74.00	30.54	V
12185.000	45.88	-22.52	38.90	29.50	74.00	28.12	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2487.450	61.22	3.38	31.99	25.85	74.00	12.78	H
2488.090	61.37	3.37	31.99	26.01	74.00	12.63	H
4921.000	47.87	-25.49	33.96	39.40	74.00	26.13	V
7386.000	43.69	-24.55	35.50	32.74	74.00	30.31	V
9848.000	45.50	-24.04	37.22	32.32	74.00	28.50	V
12310.000	49.13	-21.26	38.90	31.48	74.00	24.87	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.440	60.69	3.48	31.88	25.33	74.00	13.31	H
2387.266	60.35	3.48	31.88	24.99	74.00	13.65	H
4824.000	42.41	-26.03	33.93	34.50	74.00	31.59	H
7236.000	42.18	-24.19	35.60	30.77	74.00	31.82	V
9648.000	43.09	-24.29	36.98	30.40	74.00	30.91	H
12060.000	46.30	-22.41	38.90	29.81	74.00	27.70	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2342.200	47.31	-31.77	31.86	47.23	74.00	26.69	H
2509.200	47.68	-30.06	32.02	45.72	74.00	26.32	H
4874.000	42.06	-26.30	33.95	34.41	74.00	31.94	H
7311.000	40.79	-25.01	35.60	30.21	74.00	33.21	V
9748.000	44.45	-24.11	37.10	31.46	74.00	29.55	V
12185.000	47.43	-22.52	38.90	31.05	74.00	26.57	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.620	60.67	3.41	31.98	25.27	74.00	13.33	H
2483.850	60.39	3.41	31.98	25.00	74.00	13.61	H
4924.000	47.87	-25.55	33.97	39.45	74.00	26.13	H
7386.000	42.89	-24.55	35.50	31.94	74.00	31.11	H
9848.000	45.55	-24.04	37.22	32.37	74.00	28.45	V
12310.000	49.08	-21.26	38.90	31.44	74.00	24.92	V

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2379.986	61.31	3.48	31.87	25.96	74.00	12.69	H
2382.478	60.95	3.48	31.87	25.60	74.00	13.05	H
4824.000	42.74	-25.03	33.93	33.84	74.00	31.26	V
7236.000	43.55	-24.19	35.50	32.24	74.00	30.45	H
9648.000	44.53	-24.29	35.98	32.84	74.00	29.47	H
12060.000	48.93	-22.41	38.90	32.44	74.00	25.07	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2345.600	47.05	-31.58	31.83	46.81	74.00	26.95	H
2544.600	49.05	-30.44	32.08	47.41	74.00	24.95	H
4874.000	41.34	-26.30	33.95	33.69	74.00	32.66	H
7311.000	41.64	-25.01	35.60	31.05	74.00	32.36	H
9748.000	45.26	-24.11	37.10	32.27	74.00	28.74	H
12185.000	47.03	-22.52	38.90	30.65	74.00	26.97	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.680	61.32	3.41	31.98	25.93	74.00	12.68	H
2485.125	61.00	3.40	31.98	25.62	74.00	13.00	H
4924.000	41.83	-26.53	33.97	34.39	74.00	32.17	H
7386.000	41.75	-24.56	35.60	30.71	74.00	32.25	V
9848.000	43.84	-24.04	37.22	30.66	74.00	30.16	V
12310.000	48.26	-21.27	38.90	30.63	74.00	25.74	V

802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.020	64.30	3.48	31.87	28.94	74.00	9.70	V
2389.912	64.18	3.48	31.88	28.82	74.00	9.82	H
4844.000	41.58	-25.23	33.94	32.87	74.00	32.42	H
7255.000	45.27	-24.35	35.50	34.12	74.00	28.73	V
9588.000	45.49	-24.13	37.03	32.59	74.00	28.51	V
12110.000	49.44	-22.12	38.90	32.66	74.00	24.56	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2334.000	47.52	-31.71	31.82	47.41	74.00	26.48	H
2531.000	49.09	-30.28	32.05	47.31	74.00	24.91	H
4874.000	41.34	-25.30	33.95	32.69	74.00	32.66	V
7311.000	43.54	-25.01	35.50	33.05	74.00	30.46	H
9748.000	46.12	-24.11	37.10	33.13	74.00	27.88	H
12185.000	49.92	-22.52	38.90	33.54	74.00	24.08	V

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2485.200	63.95	3.40	31.98	28.56	74.00	10.05	H
2486.390	63.44	3.39	31.99	28.06	74.00	10.56	H
4904.000	41.38	-26.35	33.96	33.77	74.00	32.62	V
7356.000	43.02	-24.62	35.60	32.05	74.00	30.98	H
9808.000	44.16	-23.88	37.17	30.87	74.00	29.84	V
12260.000	47.92	-21.48	38.90	30.50	74.00	26.08	H

802.11ax-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.740	60.22	2.6	27.7	29.93	74.0	13.8	V
2389.713	60.43	2.6	27.7	30.15	74.0	13.6	V
4826.719	42.42	-37.8	32.1	48.20	74.0	31.6	V
7236.094	41.56	-36.9	35.8	42.68	74.0	32.4	H
9647.813	43.99	-35.7	37.8	41.93	74.0	30.0	H
12060.000	46.99	-34.4	39.1	42.37	74.0	27.0	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
1244.875	38.23	-41.2	24.2	55.26	74.0	35.8	V
2560.250	41.65	-40.0	27.9	53.81	74.0	32.3	V
4874.063	39.91	-37.8	32.2	45.51	74.0	34.1	H
7311.094	42.73	-36.9	36.0	43.67	74.0	31.3	V
9748.125	45.97	-35.7	37.8	43.84	74.0	28.0	H
12185.156	47.34	-34.8	39.0	43.10	74.0	26.7	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2488.331	60.63	2.7	27.7	30.26	74.0	13.4	V
2492.550	60.61	2.7	27.7	30.20	74.0	13.4	V
4924.219	41.35	-38.1	32.3	47.17	74.0	32.7	H
7386.094	43.07	-36.8	36.1	43.69	74.0	30.9	V
9847.969	45.13	-35.6	37.8	42.94	74.0	28.9	H
12309.844	47.37	-34.7	38.9	43.15	74.0	26.6	V

802.11ax-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.108	66.72	2.6	27.7	36.44	74.0	7.3	H
2388.370	66.59	2.6	27.7	36.31	74.0	7.4	H
4844.063	39.34	-37.9	32.1	45.09	74.0	34.7	V
7266.094	41.77	-36.9	35.8	42.78	74.0	32.2	V
9688.125	44.78	-35.7	37.8	42.68	74.0	29.2	V
12110.156	46.51	-34.4	39.0	41.91	74.0	27.5	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
1244.875	38.23	-41.2	24.2	55.26	74.0	35.8	H
2560.250	41.65	-40.0	27.9	53.81	74.0	32.3	V
4874.063	39.58	-37.8	32.2	45.18	74.0	34.4	H
7311.094	41.49	-36.9	36.0	42.42	74.0	32.5	H
9748.125	45.44	-35.7	37.8	43.32	74.0	28.6	H
12185.156	47.52	-34.8	39.0	43.29	74.0	26.5	H

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.181	66.67	2.6	27.7	36.32	74.0	7.3	H
2486.650	65.96	2.7	27.7	35.60	74.0	8.0	V
4904.063	39.63	-37.9	32.3	45.31	74.0	34.4	V
7356.094	42.69	-36.9	36.1	43.52	74.0	31.3	V
9808.125	44.93	-35.7	37.8	42.79	74.0	29.1	V
12260.156	46.47	-34.8	38.9	42.29	74.0	27.5	H

Average results

802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.297	47.25	3.48	31.87	11.89	54.00	6.75	H
2388.033	47.18	3.48	31.88	11.82	54.00	6.82	H
4823.950	42.96	-26.03	33.93	35.05	54.00	11.04	V
7235.950	31.36	-24.19	35.60	19.96	54.00	22.64	H
9647.950	32.31	-24.29	36.98	19.62	54.00	21.69	V
12059.950	35.76	-22.41	38.90	19.28	54.00	18.24	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2417.880	49.91	3.40	31.91	14.60	54.00	4.09	H
2451.660	49.98	3.50	31.95	14.53	54.00	4.02	H
4873.450	37.98	-26.30	33.95	30.33	54.00	16.02	H
7311.000	30.20	-25.01	35.60	19.61	54.00	23.80	H
9747.850	32.57	-24.11	37.10	19.57	54.00	21.43	V
12185.050	35.58	-22.52	38.90	19.19	54.00	18.42	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2487.745	47.66	3.37	31.99	12.30	54.00	6.34	H
2488.695	47.59	3.37	31.99	12.24	54.00	6.41	H
4924.000	35.83	-26.52	33.97	28.38	54.00	18.17	H
7386.000	32.84	-24.56	35.60	21.81	54.00	21.16	V
9848.000	34.52	-24.04	37.22	21.34	54.00	19.48	V
12310.000	37.78	-21.27	38.90	20.15	54.00	16.22	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.520	47.30	3.48	31.88	11.94	54.00	6.70	H
2389.515	47.31	3.48	31.88	11.95	54.00	6.69	H
4823.500	33.58	-26.02	33.93	25.67	54.00	20.42	H
7235.950	31.67	-24.19	35.60	20.26	54.00	22.33	V
9647.950	32.57	-24.29	36.98	19.88	54.00	21.43	H
12059.950	36.00	-22.41	38.90	19.51	54.00	18.00	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2418.840	49.38	3.40	31.91	14.07	54.00	4.62	H
2452.280	49.48	3.47	31.95	14.06	54.00	4.52	H
4872.550	32.01	-26.30	33.95	24.36	54.00	21.99	H
7311.100	30.71	-25.01	35.60	20.12	54.00	23.29	V
9747.850	33.12	-24.11	37.10	20.12	54.00	20.88	H
12185.050	36.07	-22.52	38.90	19.69	54.00	17.93	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.698	47.56	3.41	31.98	12.16	54.00	6.44	H
2484.002	47.49	3.41	31.98	12.10	54.00	6.51	H
4924.000	35.39	-26.55	33.97	27.97	54.00	18.61	V
7386.000	32.68	-24.56	35.60	21.64	54.00	21.32	V
9848.000	34.38	-24.04	37.22	21.21	54.00	19.62	H
12310.000	37.64	-21.27	38.90	20.01	54.00	16.36	V

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.572	47.27	3.48	31.88	11.91	54.00	6.73	H
2389.990	47.33	3.48	31.88	11.97	54.00	6.67	H
4824.000	32.16	-26.03	33.93	24.25	54.00	21.84	V
7236.000	32.93	-24.19	35.60	21.52	54.00	21.07	V
9648.000	34.15	-24.29	36.98	21.46	54.00	19.85	H
12060.000	37.23	-22.41	38.90	20.74	54.00	16.77	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2418.812	48.22	3.40	31.91	12.91	54.00	5.78	H
2454.419	48.29	3.48	31.95	12.86	54.00	5.71	H
4873.900	31.20	-26.30	33.95	23.55	54.00	22.80	H
7311.100	31.02	-25.01	35.60	20.43	54.00	22.98	V
9747.850	33.44	-24.11	37.10	20.45	54.00	20.56	V
12185.050	36.19	-22.52	38.90	19.81	54.00	17.81	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.508	47.65	3.42	31.98	12.25	54.00	6.35	H
2483.907	47.61	3.41	31.98	12.22	54.00	6.39	H
4923.850	31.61	-26.53	33.97	24.17	54.00	22.39	V
7385.800	31.99	-24.56	35.60	20.96	54.00	22.01	H
9848.200	33.48	-24.04	37.22	20.31	54.00	20.52	V
12310.150	36.97	-21.26	38.90	19.34	54.00	17.03	V

802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.648	49.25	3.48	31.88	13.89	54.00	4.75	V
2389.971	49.32	3.48	31.88	13.96	54.00	4.68	V
4844.250	31.85	-26.23	33.94	24.14	54.00	22.15	H
7266.000	33.01	-24.35	35.60	21.77	54.00	20.99	V
9687.750	34.47	-24.13	37.03	21.57	54.00	19.53	H
12110.250	37.70	-22.12	38.90	20.92	54.00	16.30	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2407.140	48.40	3.38	31.90	13.12	54.00	5.60	H
2465.477	48.43	3.48	31.96	12.99	54.00	5.57	H
4874.250	31.66	-26.30	33.95	24.02	54.00	22.34	H
7311.000	32.01	-25.01	35.60	21.42	54.00	21.99	V
9747.750	34.73	-24.11	37.10	21.73	54.00	19.27	H
12185.250	37.30	-22.52	38.90	20.92	54.00	16.70	H

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.565	49.60	3.41	31.98	14.20	54.00	4.40	H
2484.002	49.51	3.41	31.98	14.12	54.00	4.49	H
4904.050	32.07	-26.35	33.96	24.46	54.00	21.93	H
7356.100	32.56	-24.62	35.60	21.59	54.00	21.44	V
9808.150	34.01	-23.88	37.17	20.71	54.00	19.99	H
12260.200	37.11	-21.48	38.90	19.70	54.00	16.89	H

802.11ax-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2383.625	45.85	2.6	27.7	15.57	54.0	8.1	V
2389.300	46.07	2.6	27.7	15.79	54.0	7.9	V
4822.500	30.11	-37.8	32.1	35.88	54.0	23.9	V
7236.250	31.48	-36.9	35.8	32.61	54.0	22.5	V
9648.125	34.24	-35.7	37.8	32.17	54.0	19.8	V
12060.000	36.09	-34.4	39.1	31.47	54.0	17.9	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2418.075	46.41	2.6	27.7	16.12	54.0	7.6	V
2456.200	47.17	2.6	27.7	16.88	54.0	6.8	V
4871.875	29.99	-37.8	32.2	35.60	54.0	24.0	H
7311.250	31.38	-36.9	36.0	32.31	54.0	22.6	H
9748.125	34.27	-35.7	37.8	32.15	54.0	19.7	H
12185.000	36.46	-34.8	39.0	32.22	54.0	17.5	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.525	45.41	2.6	27.7	15.07	54.0	8.6	V
2483.965	45.82	2.6	27.7	15.47	54.0	8.2	V
4923.750	29.34	-38.1	32.3	35.16	54.0	24.7	V
7386.250	32.04	-36.8	36.1	32.66	54.0	22.0	H
9848.125	34.62	-35.6	37.8	32.43	54.0	19.4	H
12310.000	36.31	-34.7	38.9	32.10	54.0	17.7	V

802.11ax-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.475	48.97	2.6	27.7	18.68	54.0	5.0	V
2389.905	49.96	2.6	27.7	19.67	54.0	4.0	V
4843.750	29.37	-37.9	32.1	35.13	54.0	24.6	V
7266.250	31.45	-36.9	35.8	32.46	54.0	22.5	V
9688.125	34.05	-35.7	37.8	31.95	54.0	19.9	H
12110.000	36.15	-34.4	39.0	31.55	54.0	17.8	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2399.725	46.72	2.6	27.7	16.43	54.0	7.3	V
2467.600	46.84	2.6	27.7	16.57	54.0	7.2	V
4873.750	29.40	-37.8	32.2	35.00	54.0	24.6	H
7311.250	31.71	-36.9	36.0	32.64	54.0	22.3	V
9748.125	34.70	-35.7	37.8	32.57	54.0	19.3	V
12185.000	36.84	-34.8	39.0	32.60	54.0	17.2	V

Ch9

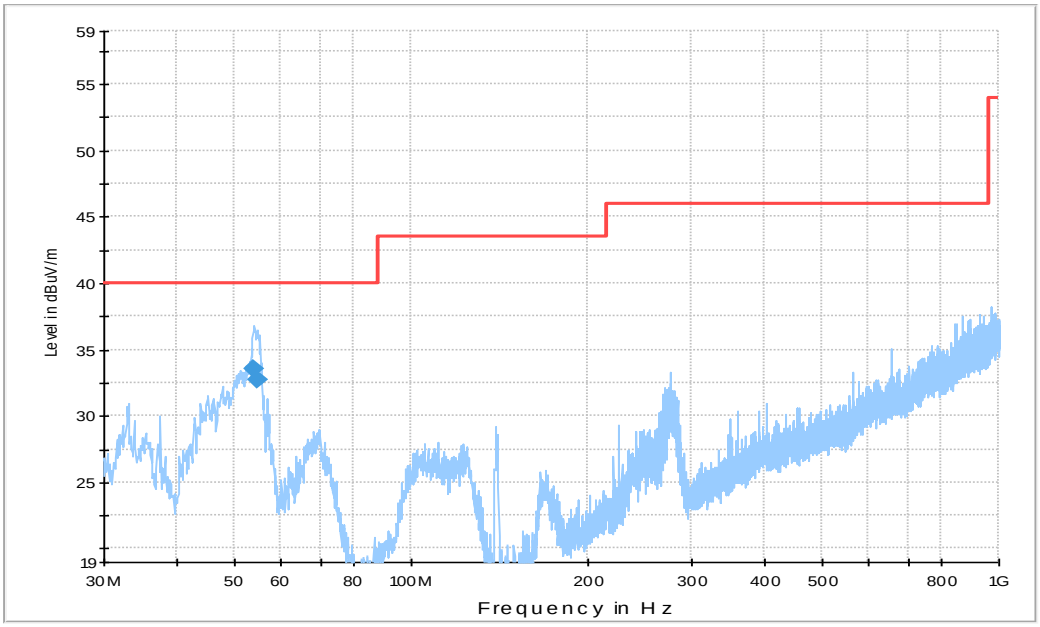
Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.600	49.85	2.6	27.7	19.51	54.0	4.2	V
2484.175	49.82	2.6	27.7	19.47	54.0	4.2	V
4903.750	28.87	-37.9	32.3	34.55	54.0	25.1	H
7356.250	31.62	-36.9	36.1	32.44	54.0	22.4	V
9808.125	34.58	-35.7	37.8	32.44	54.0	19.4	H
12260.000	35.94	-34.8	38.9	31.75	54.0	18.1	V

Note: the spurious emission above 18G is noise only.

Conclusion: Pass

C.1.2 Radiated Spurious Emission- Below 1GHz

WOSRT CASE BELOW 1GHz



Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
54.153000	33.5	100.0	V	100.0	-0.2	6.5	40.0
54.832000	32.7	100.0	V	112.0	-0.2	7.3	40.0

BELOW 30MHz

No emissions were found within 20dB of the limit below 30MHz.

C.1.3 Band Edges Compliance– Radiated

INNOWAVE

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.1	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.2	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.3	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.4	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.5	P
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.6	P
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.7	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.8	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.9	P
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.10	P
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.11	P
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.12	P

802.11ax-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.13	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.14	P

802.11ax-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ax(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.15	P
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.16	P
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.17	P
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.18	P

The measurements were performed separately in Chain A, Chain B, and MIMO (Chain A+B), and only the worst cases are shown in this section.

Conclusion: PASS

SPEED

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.19	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.20	**P**

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.21	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.22	**P**

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.23	**P**
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.24	**P**
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.25	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.26	**P**

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.27	**P**
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.28	**P**
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.29	**P**
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.30	**P**

802.11ax-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.31	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.32	**P**

802.11ax-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ax(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.33	**P**
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.34	**P**
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.35	**P**
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.36	**P**

The measurements were performed separately in Chain A, Chain B, and MIMO (Chain A+B), and only the worst cases are shown in this section.

Conclusion: PASS

Test graphs as below:

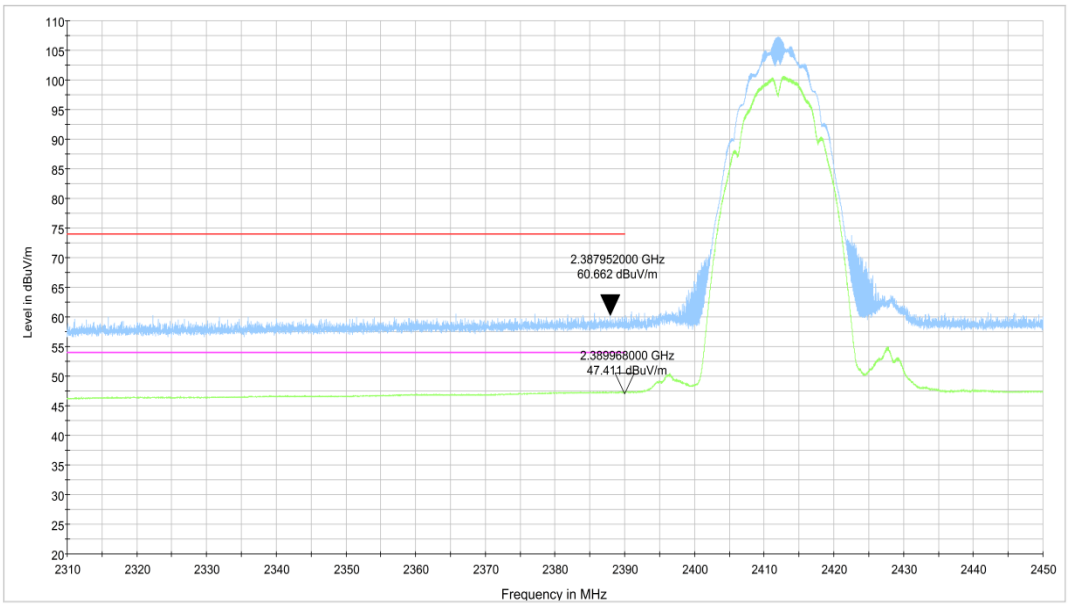


Fig.C.1.3.1 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz**

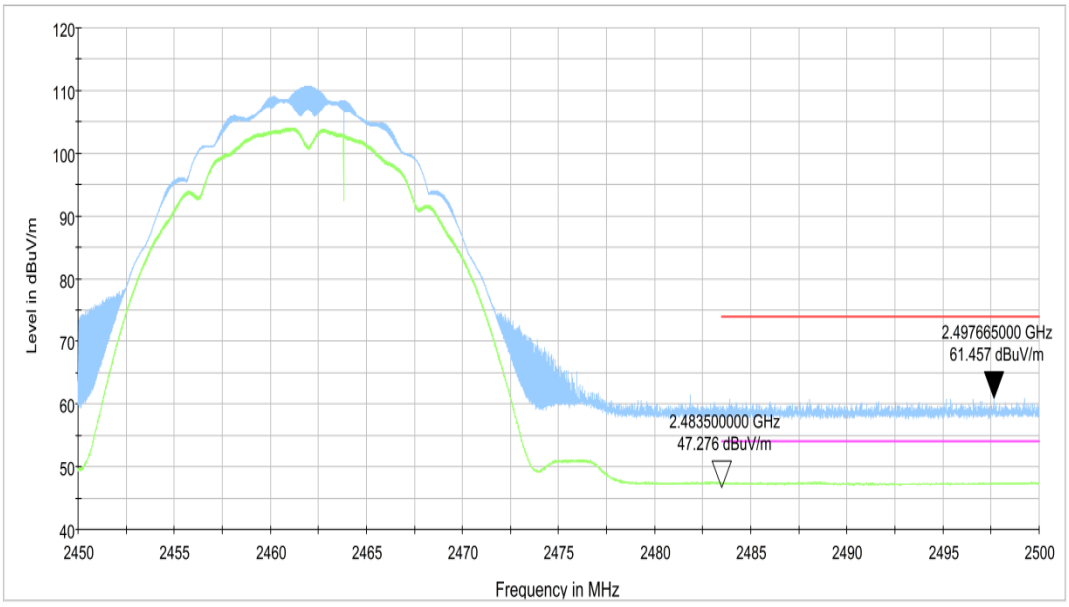


Fig.C.1.3.2 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

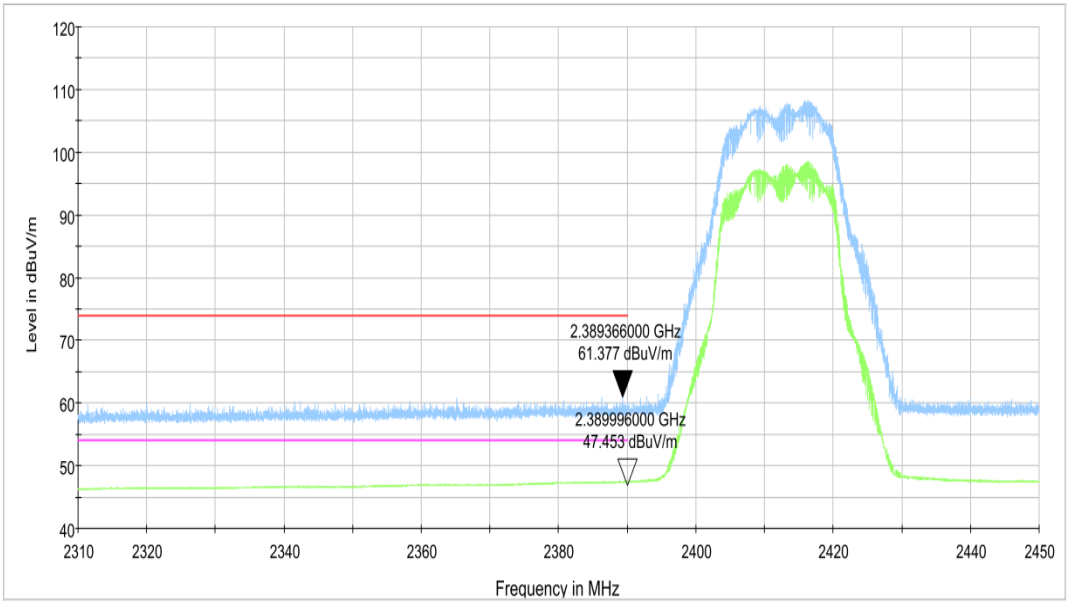


Fig.C.1.3.3 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz**

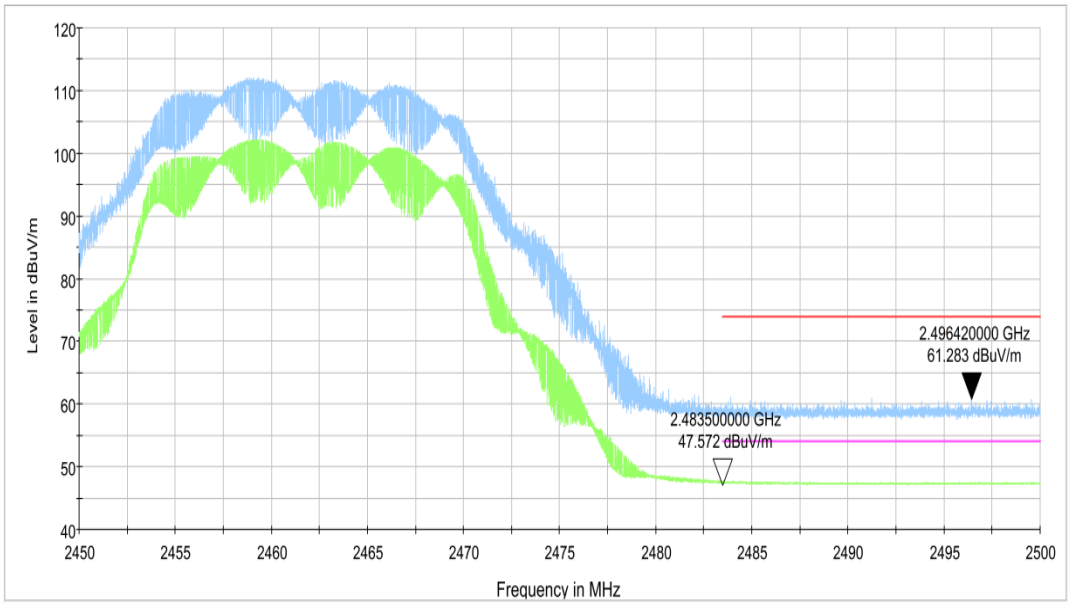


Fig.C.1.3.4 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

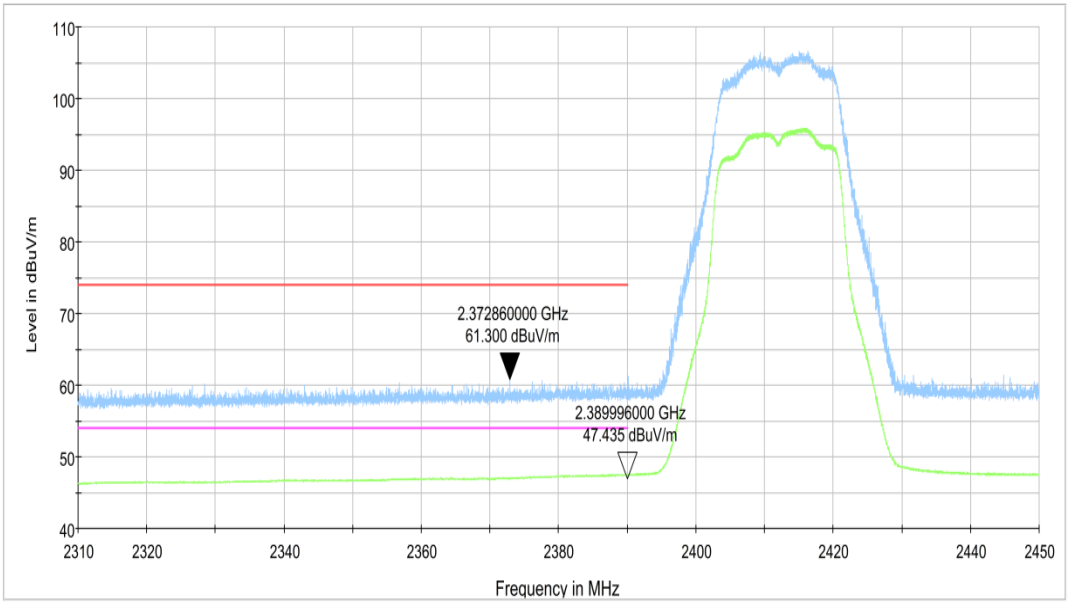


Fig.C.1.3.5 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz**

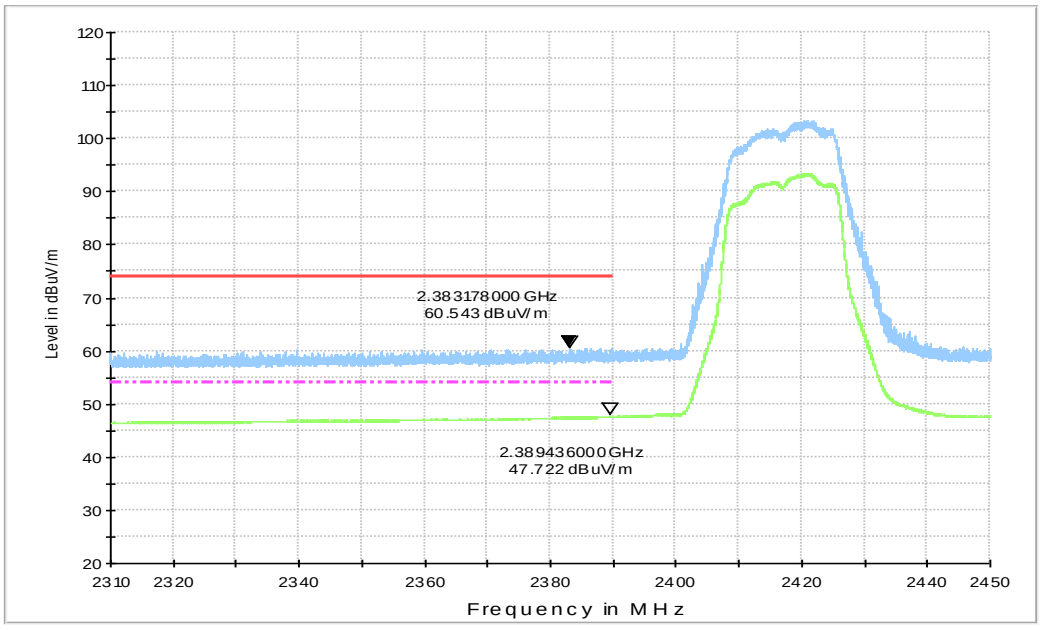


Fig.C.1.3.6 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch2, 2.31 GHz - 2.45GHz**

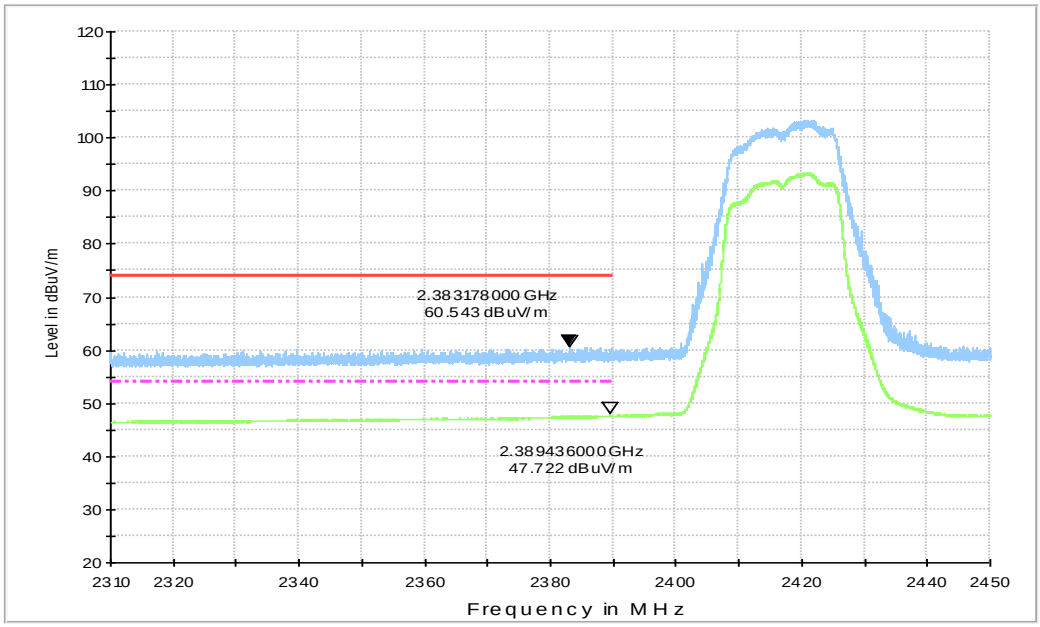


Fig.C.1.3.7 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch10, 2.45 GHz - 2.50GHz**

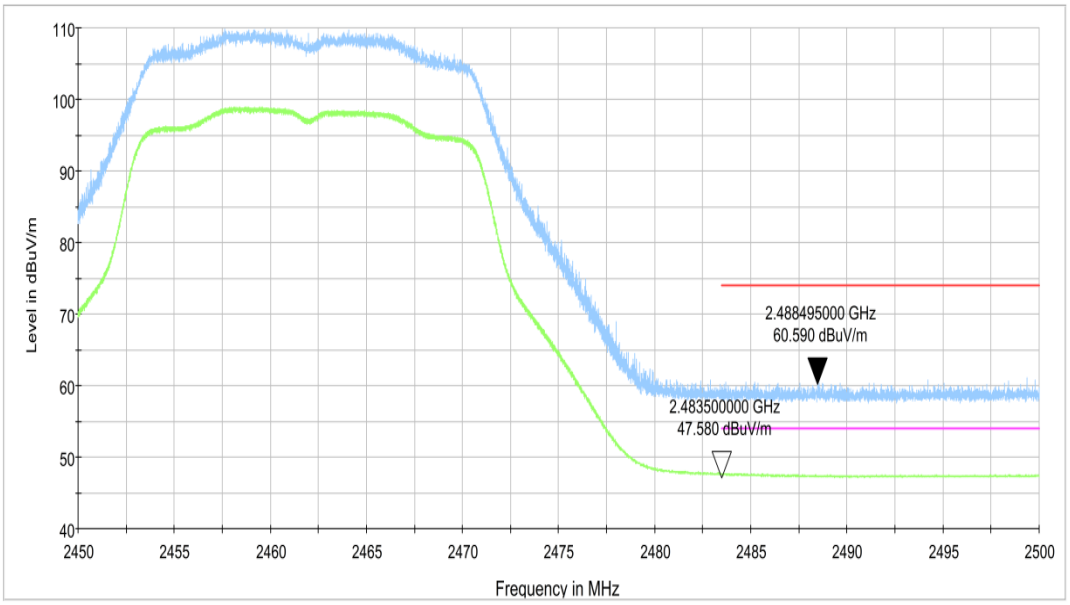


Fig.C.1.3.8 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

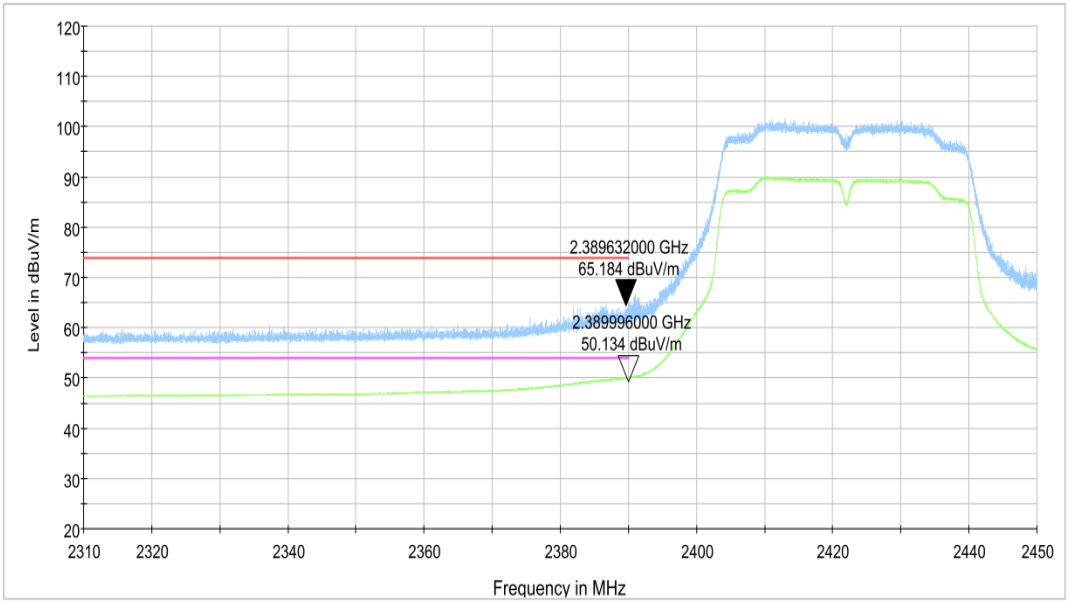


Fig.C.1.3.9 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz**

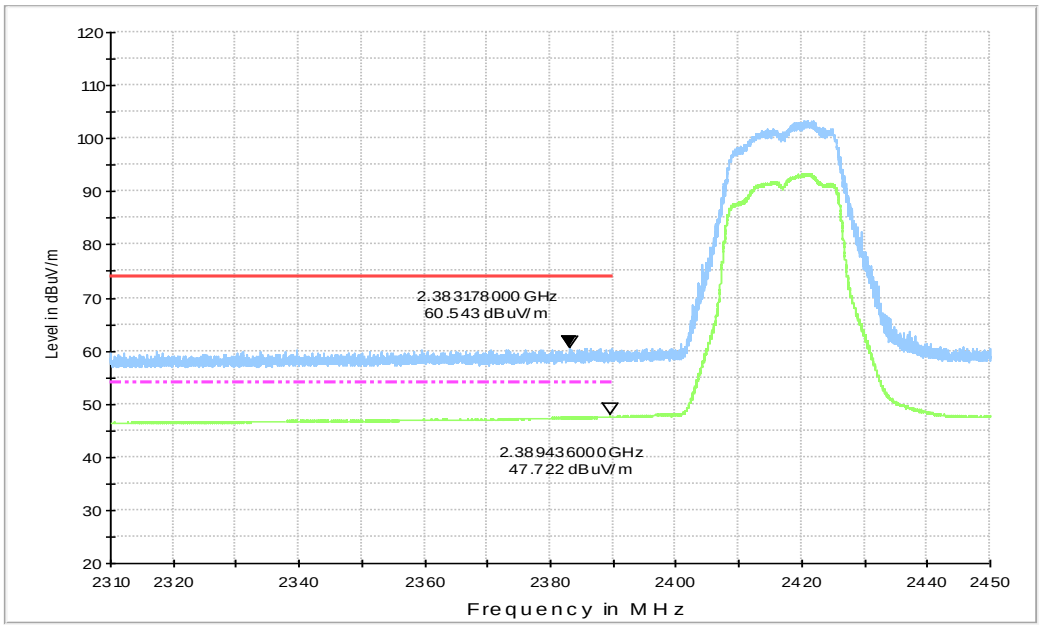


Fig.C.1.3.10 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch4, 2.31 GHz - 2.45GHz**

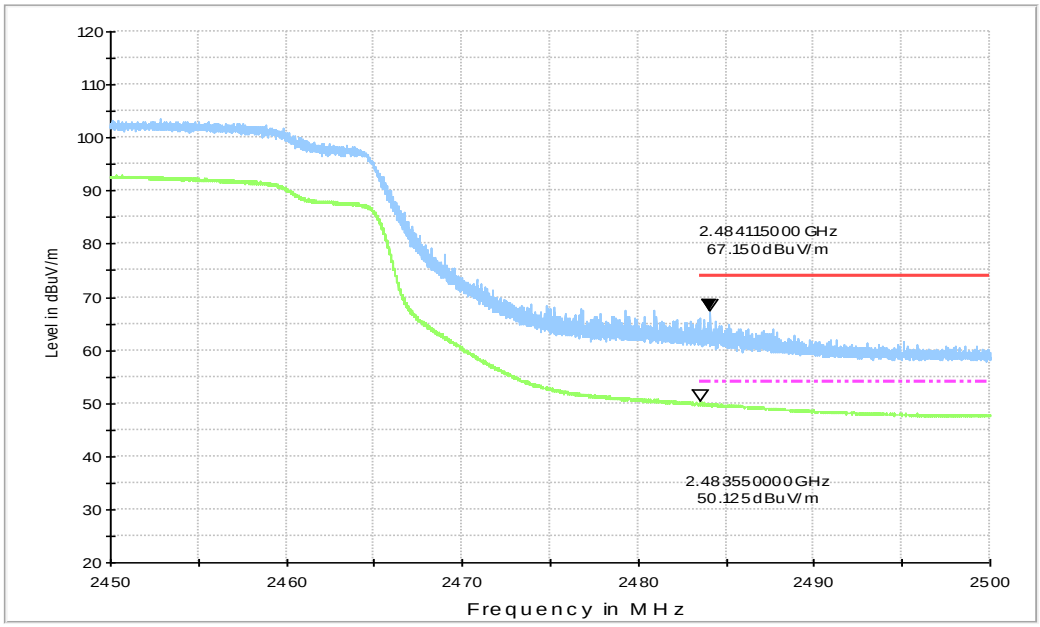


Fig.C.1.3.11 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch8, 2.45 GHz - 2.50GHz**

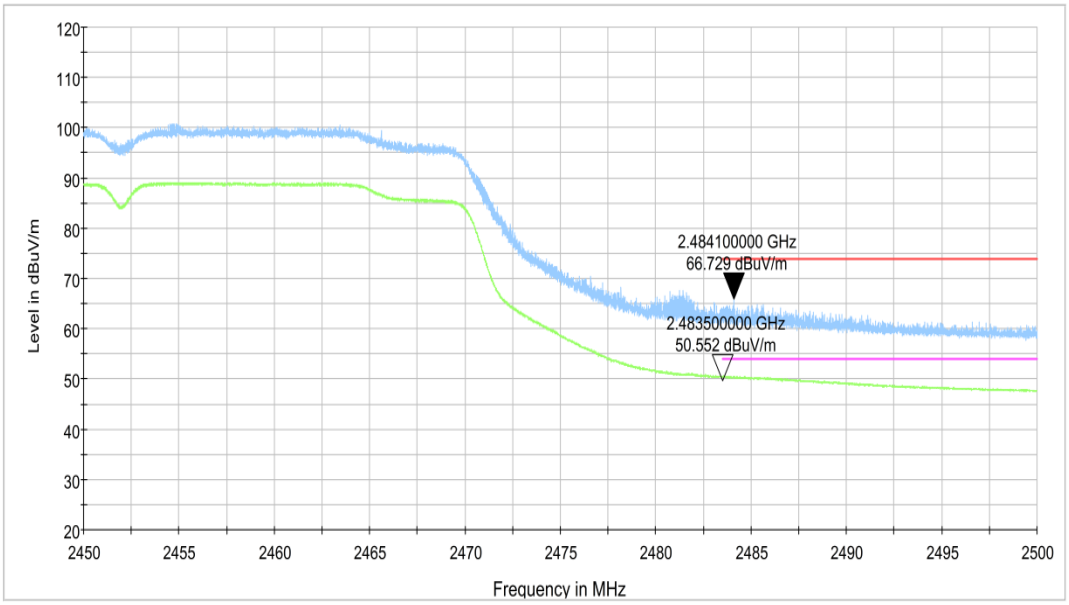


Fig.C.1.3.12 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**

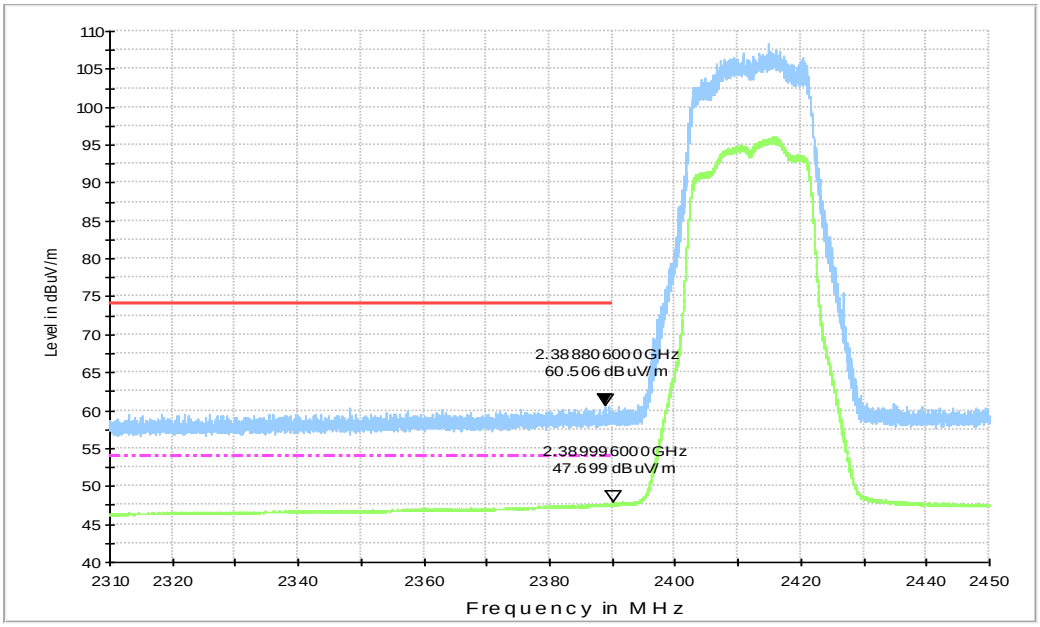


Fig.C.1.3.13 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, 2.31GHz - 2.45GHz**

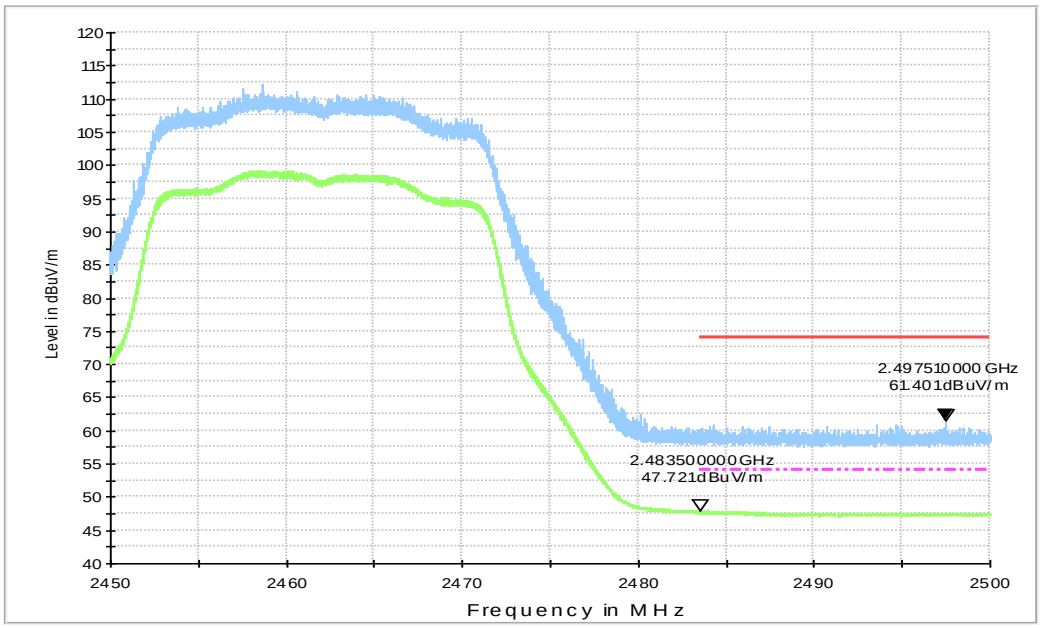


Fig.C.1.3.14 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, 2.45 GHz - 2.50GHz**

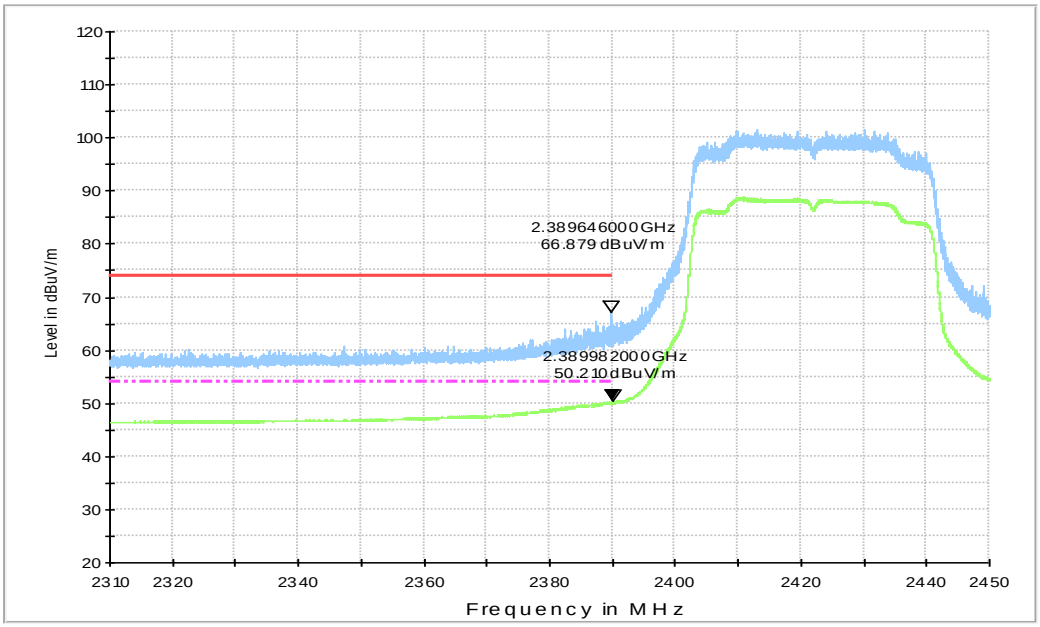


Fig.C.1.3.15 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, 2.31GHz - 2.45GHz**

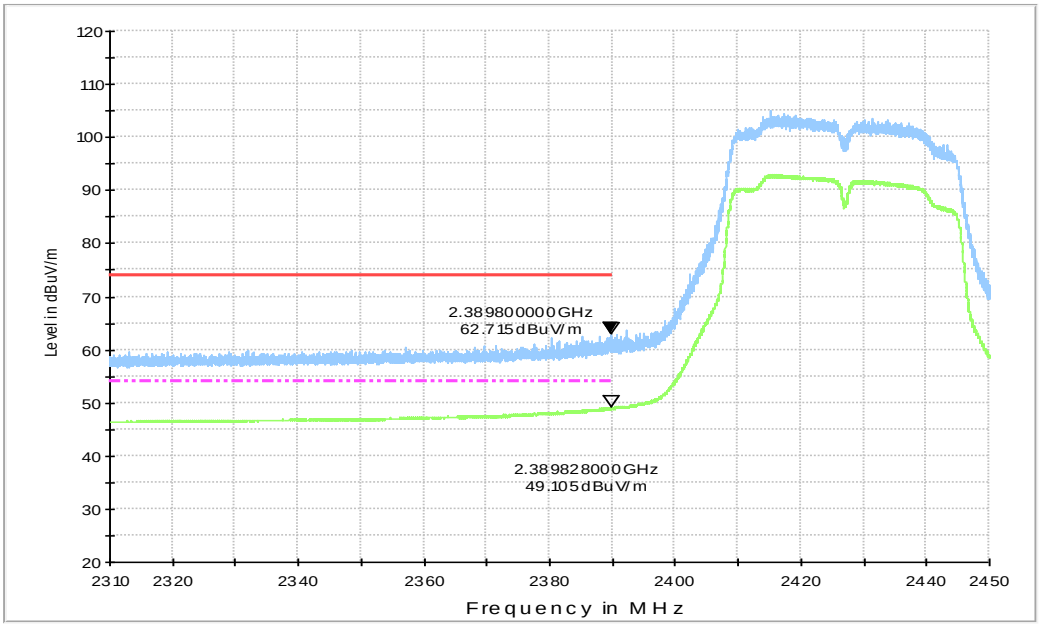


Fig.C.1.3.16 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch2, 2.31GHz - 2.45GHz**

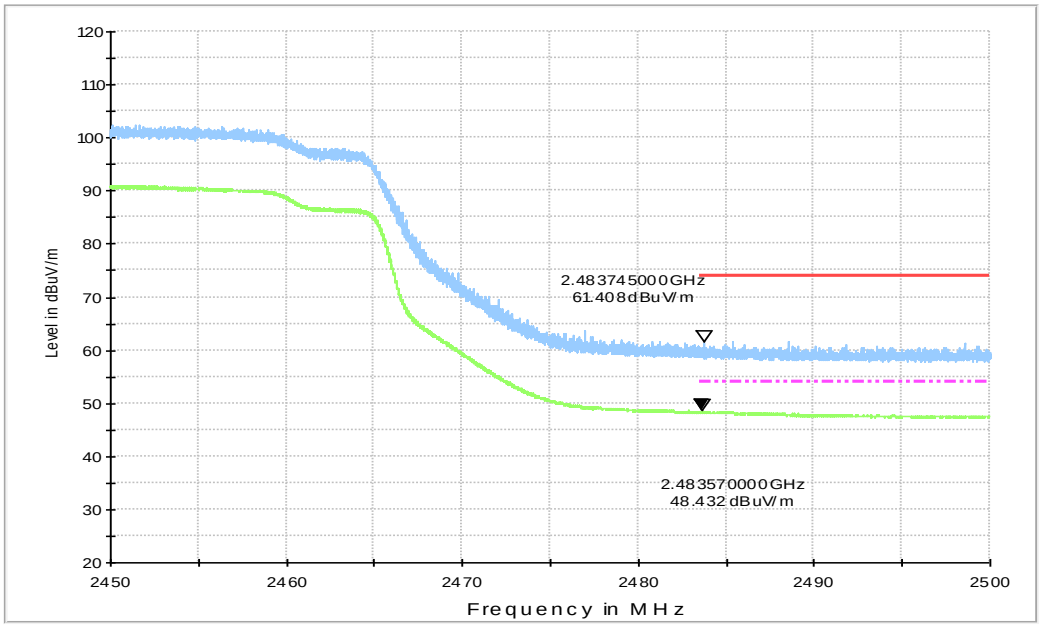


Fig.C.1.3.17 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch8, 2.45 GHz - 2.50GHz**

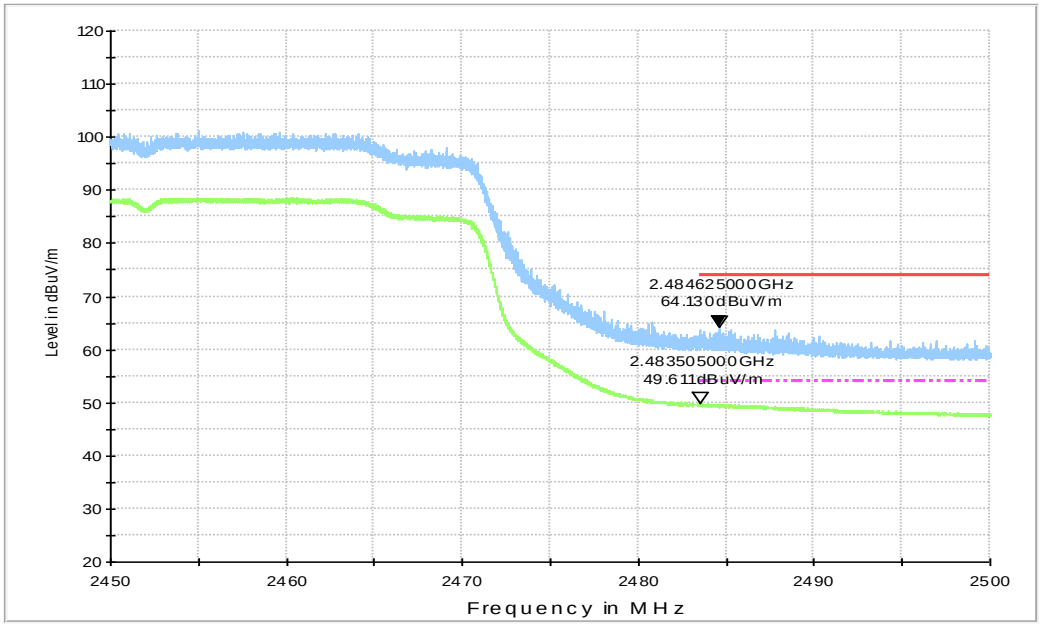


Fig.C.1.3.18 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, 2.45 GHz - 2.50GHz**

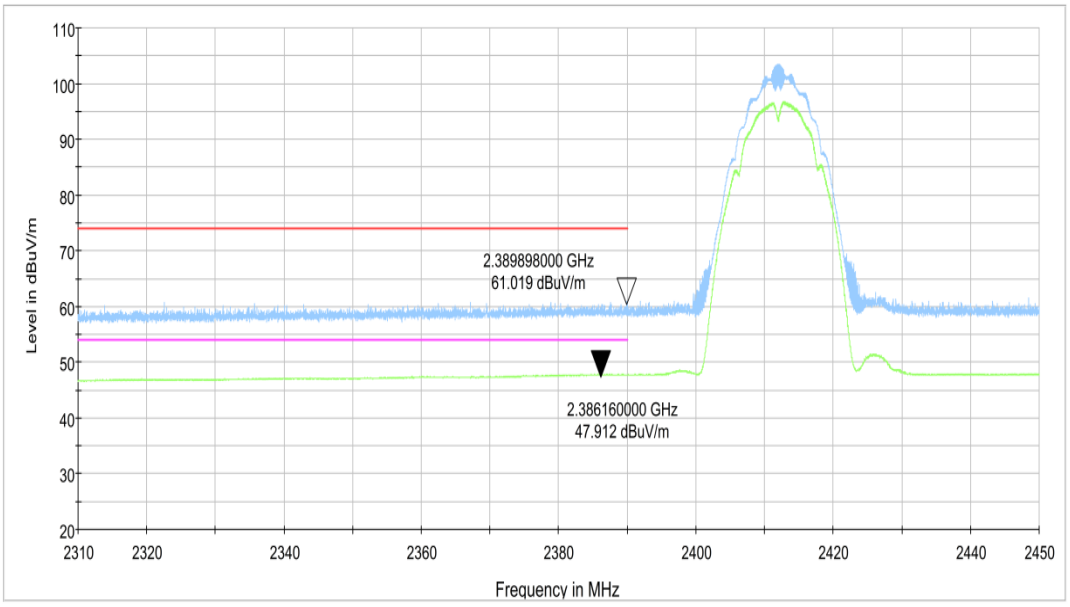


Fig.C.1.3.19 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz**

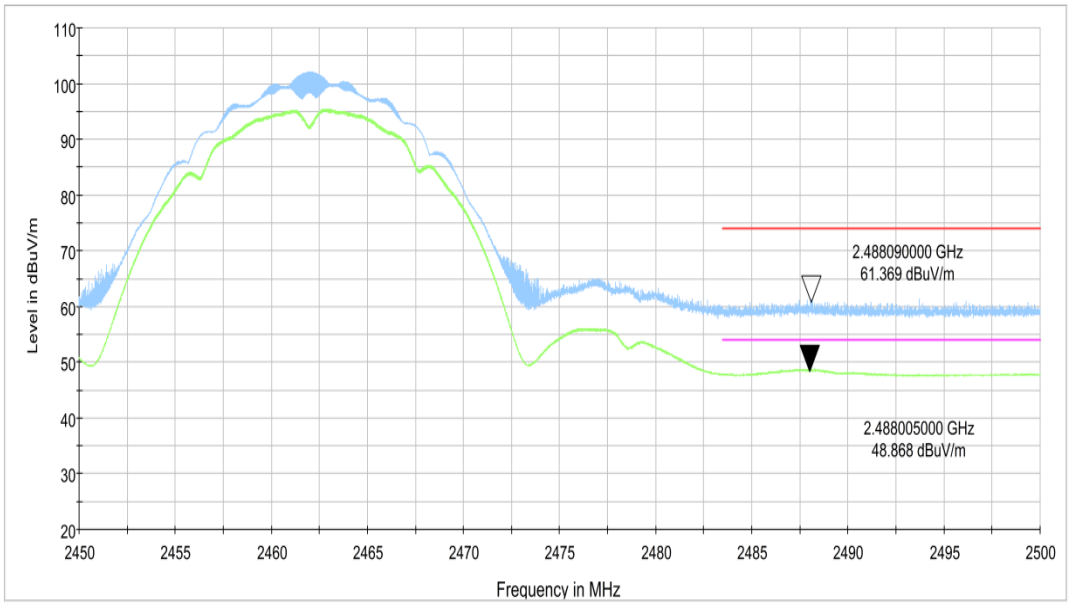


Fig.C.1.3.20 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

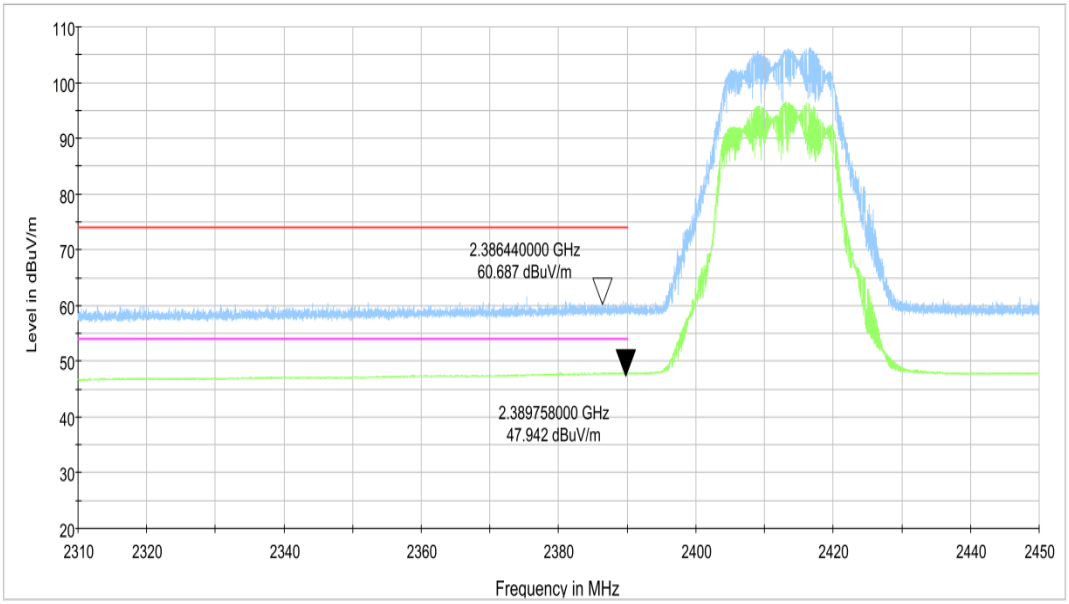


Fig.C.1.3.21 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz**

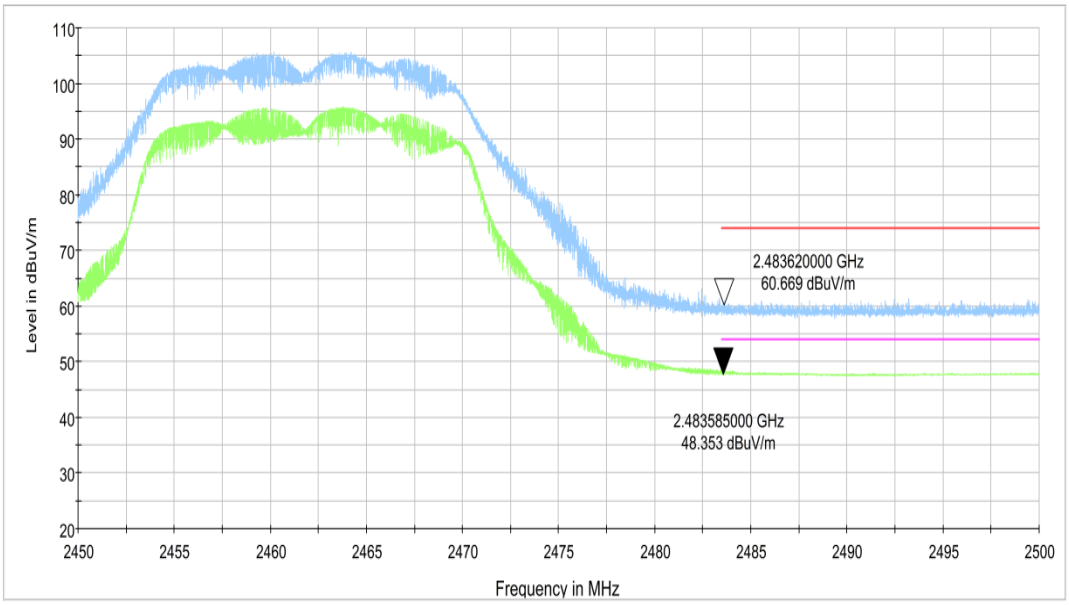


Fig.C.1.3.22 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

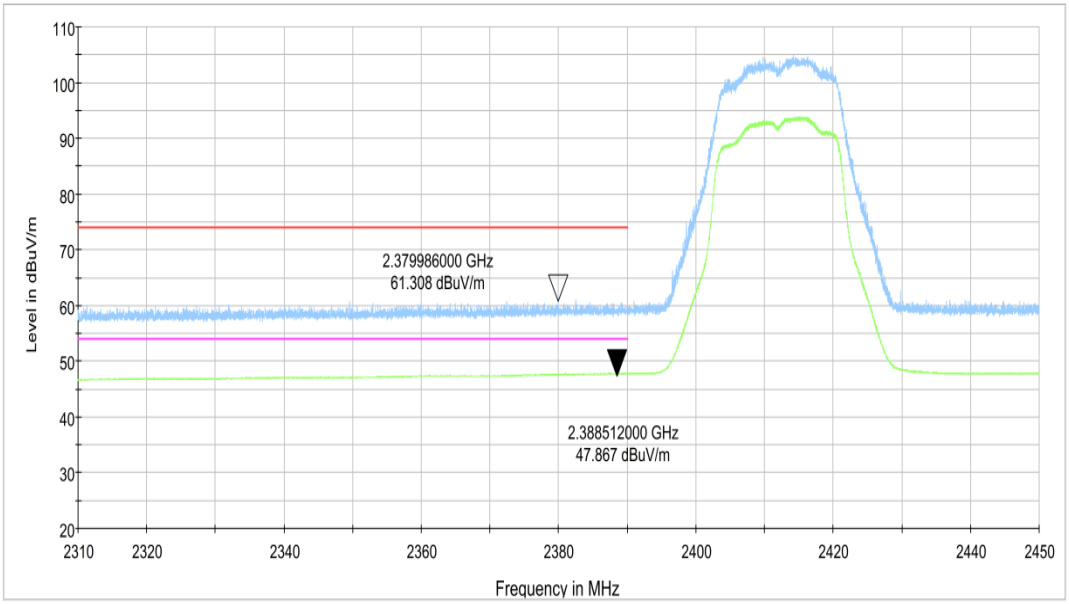


Fig.C.1.3.23 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz**

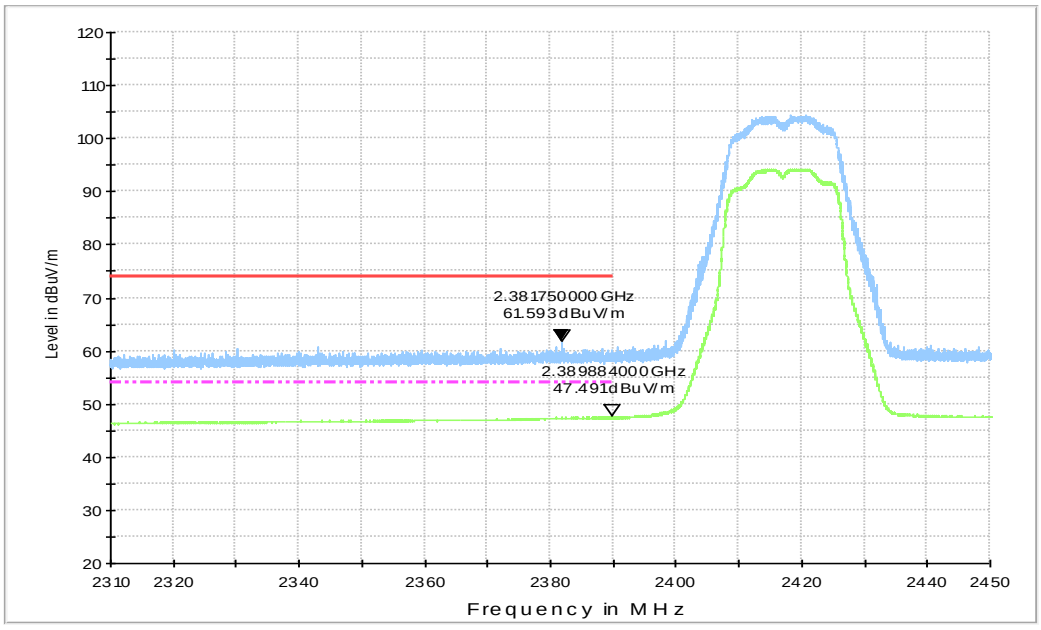


Fig.C.1.3.24 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch2, 2.31 GHz - 2.45GHz**

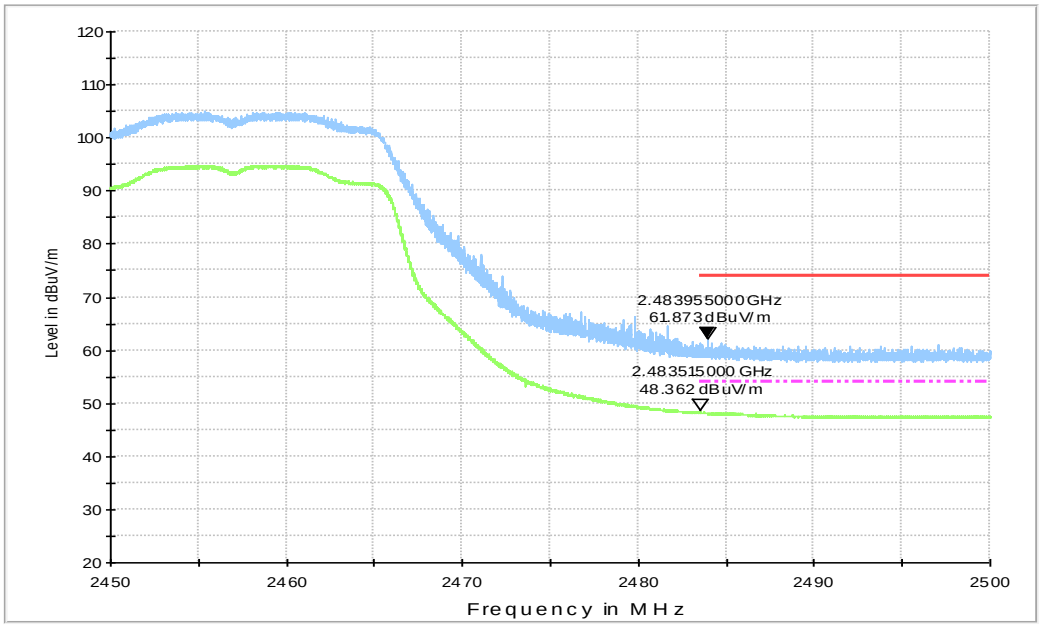


Fig.C.1.3.25 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch10, 2.45 GHz - 2.50GHz**

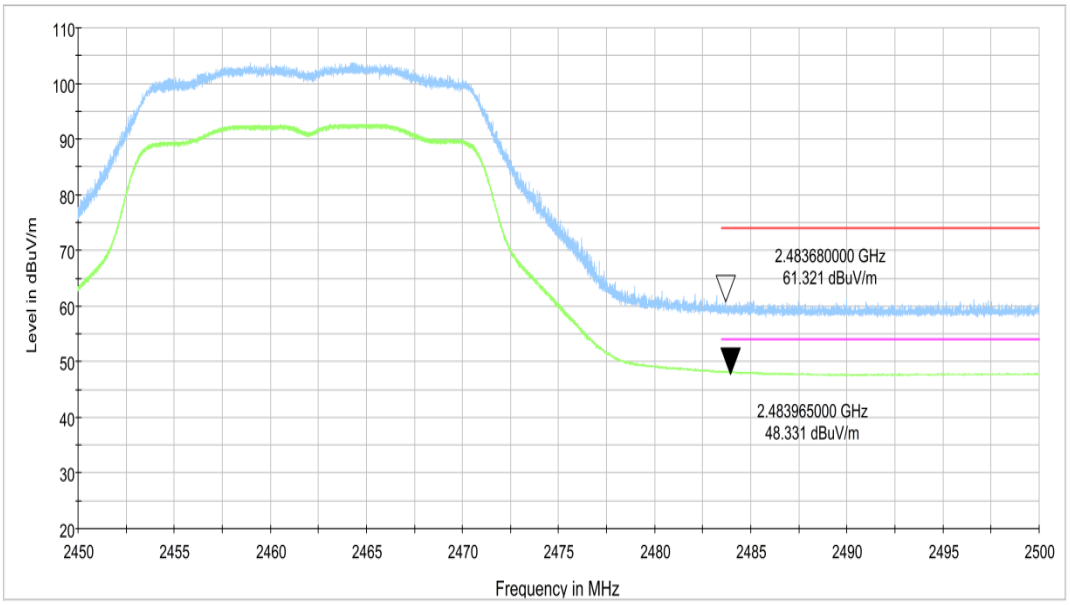


Fig.C.1.3.26 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

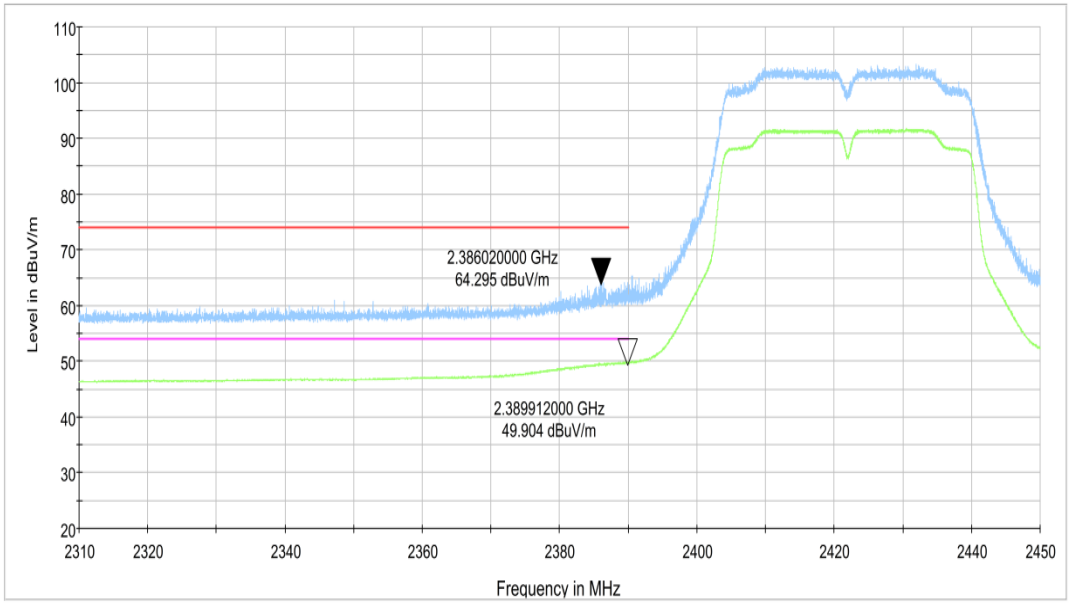


Fig.C.1.3.27 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz**

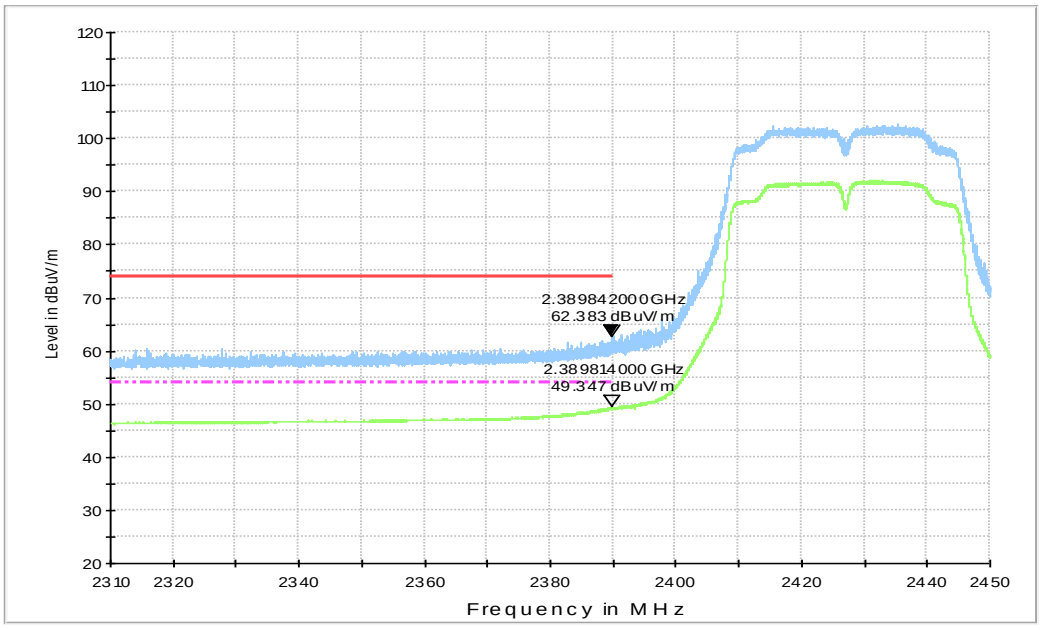


Fig.C.1.3.28 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch2, 2.31 GHz - 2.45GHz**

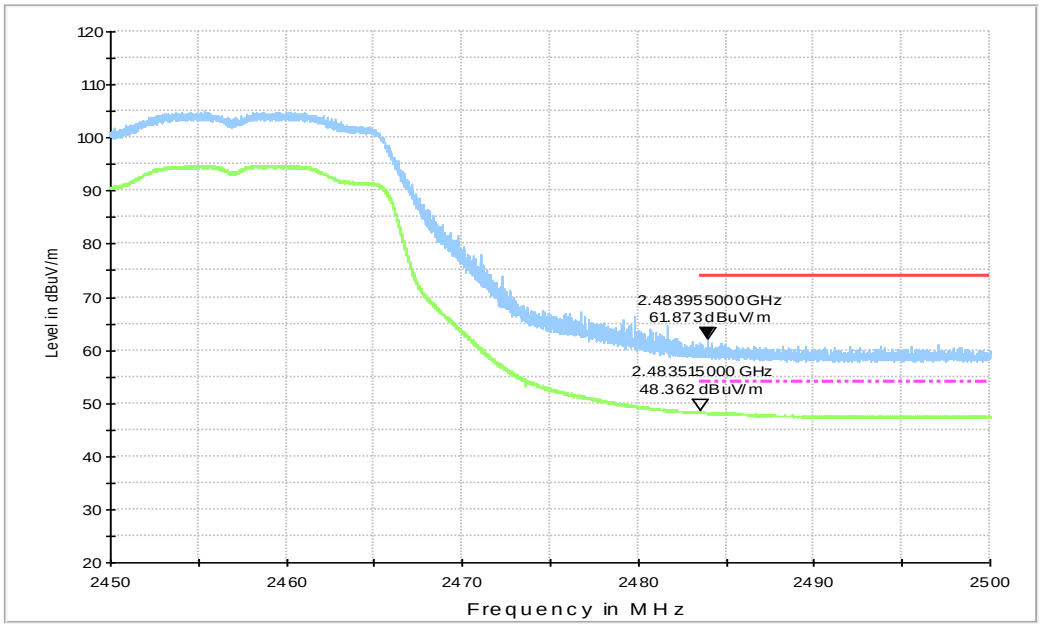


Fig.C.1.3.29 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch8, 2.45 GHz - 2.50GHz**

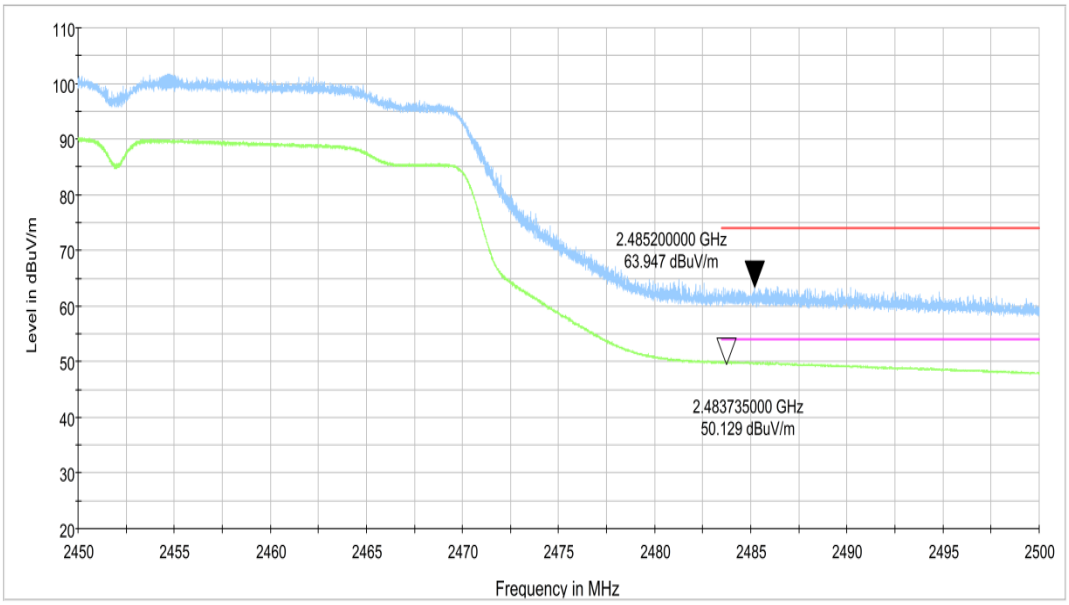


Fig.C.1.3.30 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**

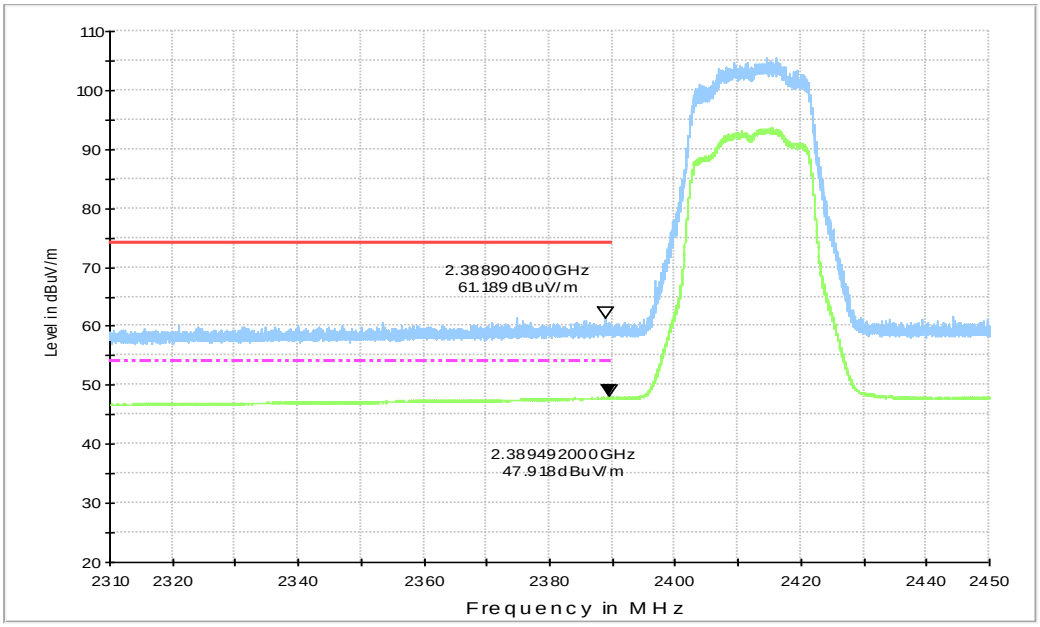


Fig.C.1.3.31 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, 2.31GHz - 2.45GHz**

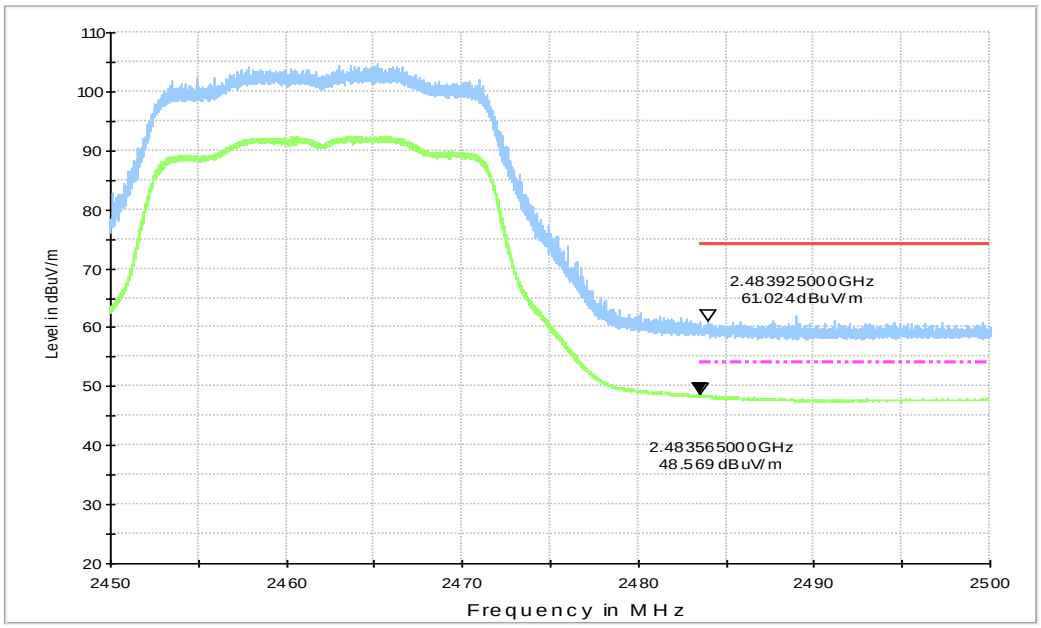


Fig.C.1.3.32 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, 2.45 GHz - 2.50GHz**

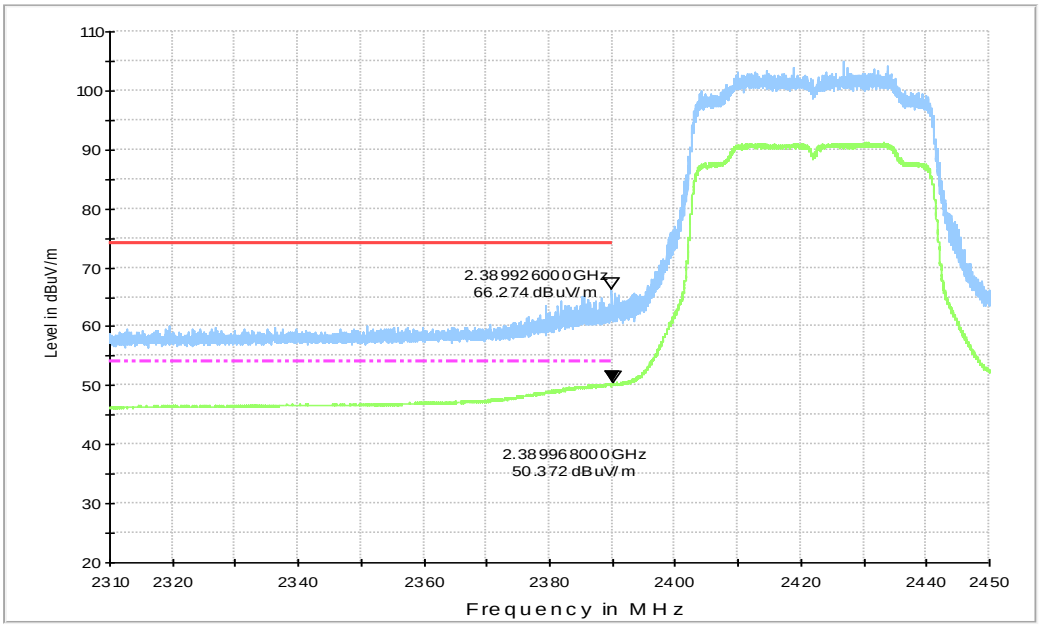


Fig.C.1.3.33 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, 2.31GHz - 2.45GHz**

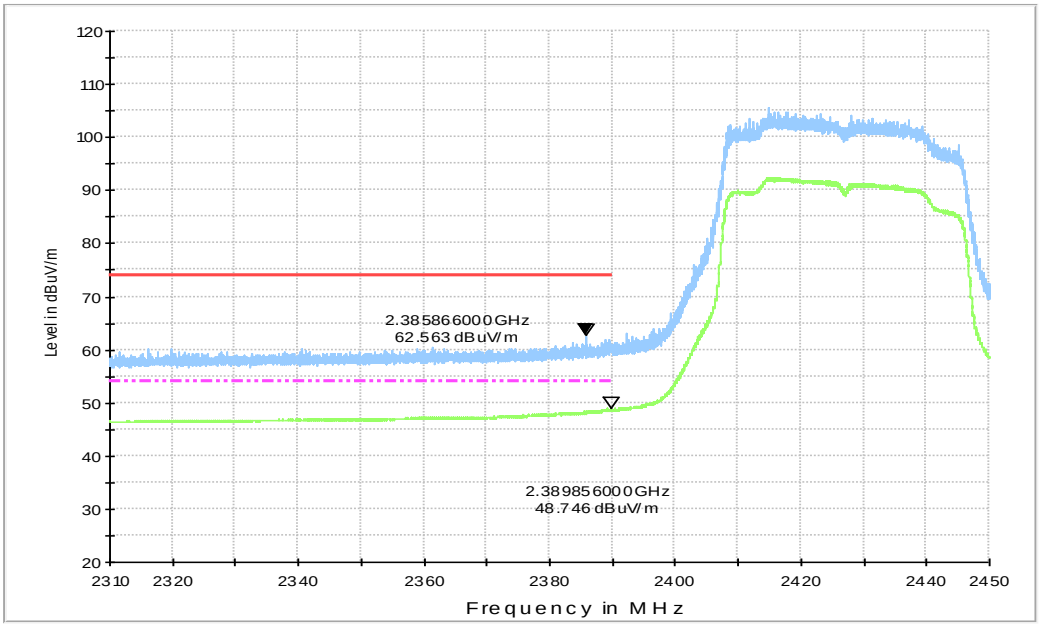


Fig.C.1.3.34 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch2, 2.31GHz - 2.45GHz**

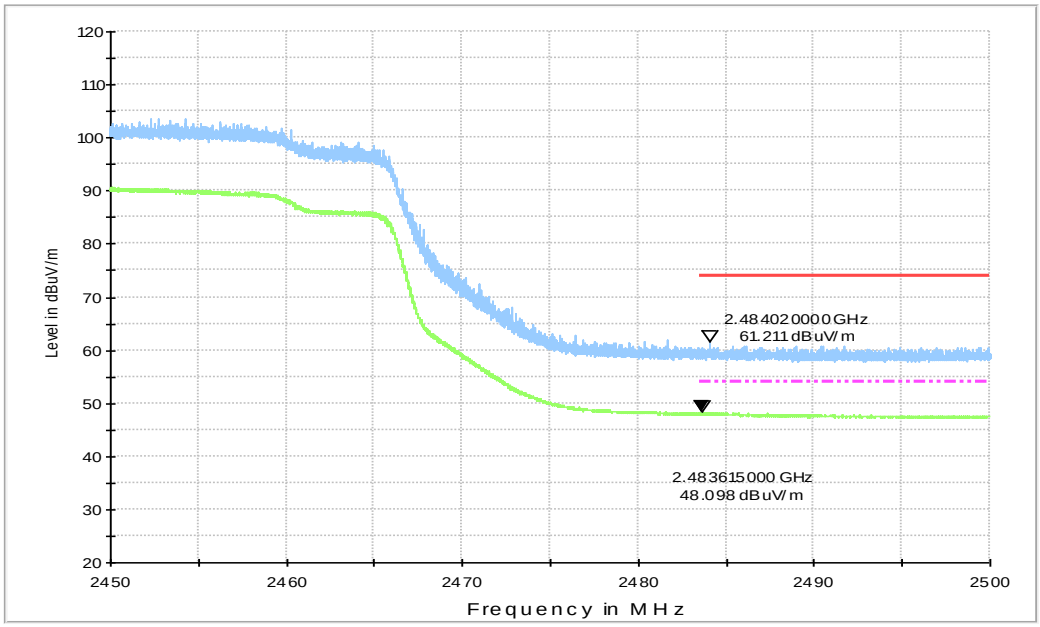


Fig.C.1.3.35 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch8, 2.45 GHz - 2.50GHz**

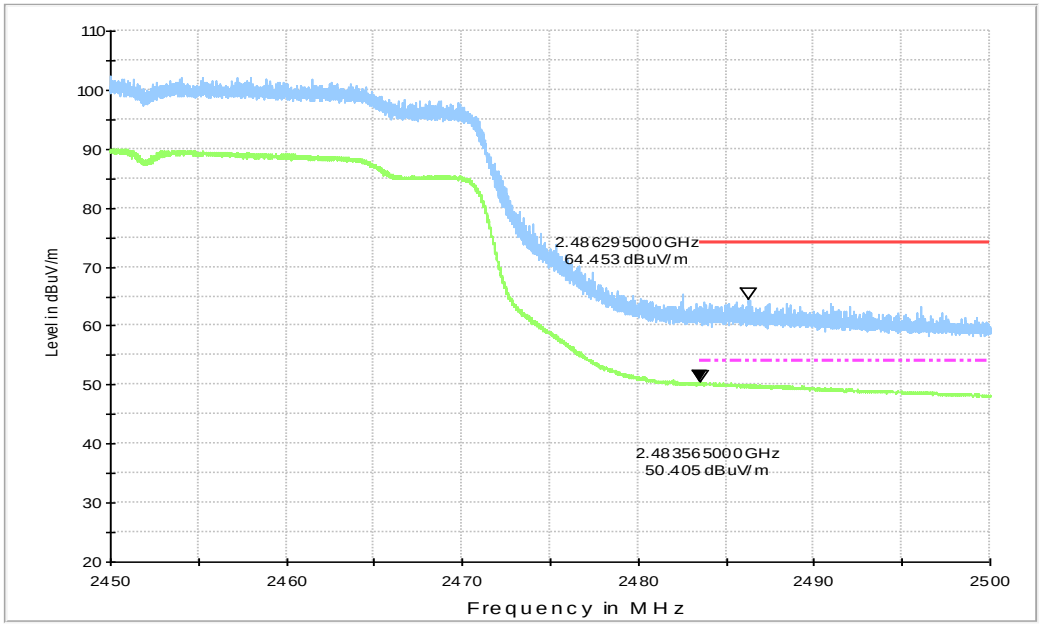


Fig.C.1.3.36 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, 2.45 GHz - 2.50GHz**

C.2. AC Power-line Conducted Emission

Specification Reference

FCC 47 CFR Part 15.207, 15.107

Method of Measurement

See Clause 6.2 of ANSI C63.10-2013 specifically.

See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

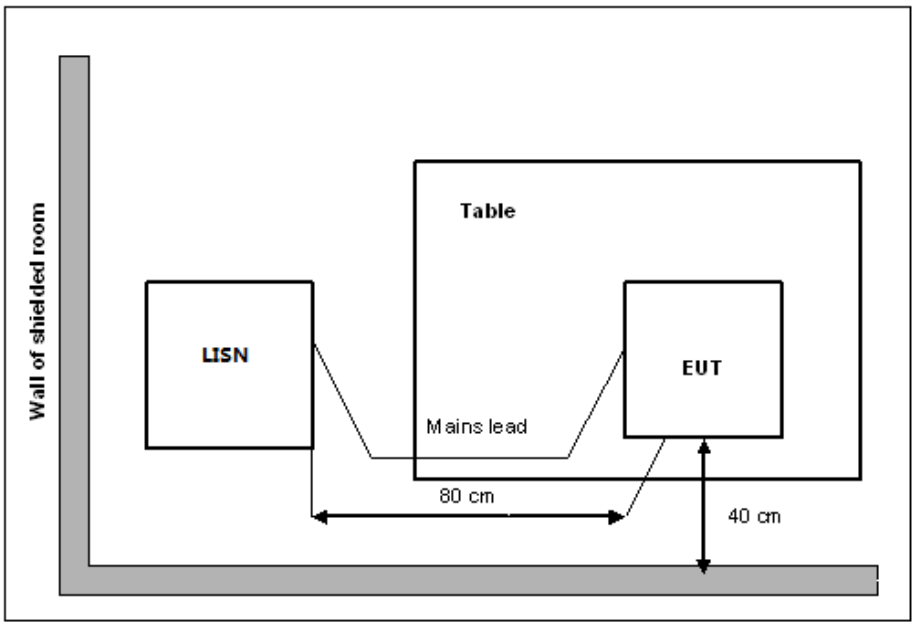
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth	Sweep Time(s)
0.15-30	9kHz	1

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Measurement Setup



EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state.

The EUT is powered by an AC/travel adapter.

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	66 to 56	Fig.C.2.1	Fig.C.2.2	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	56 to 46	Fig.C.2.1	Fig.C.2.2	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Note: all modes have been tested and the worst results shown here.

Conclusion: Pass

Test graphs as below:

Traffic:

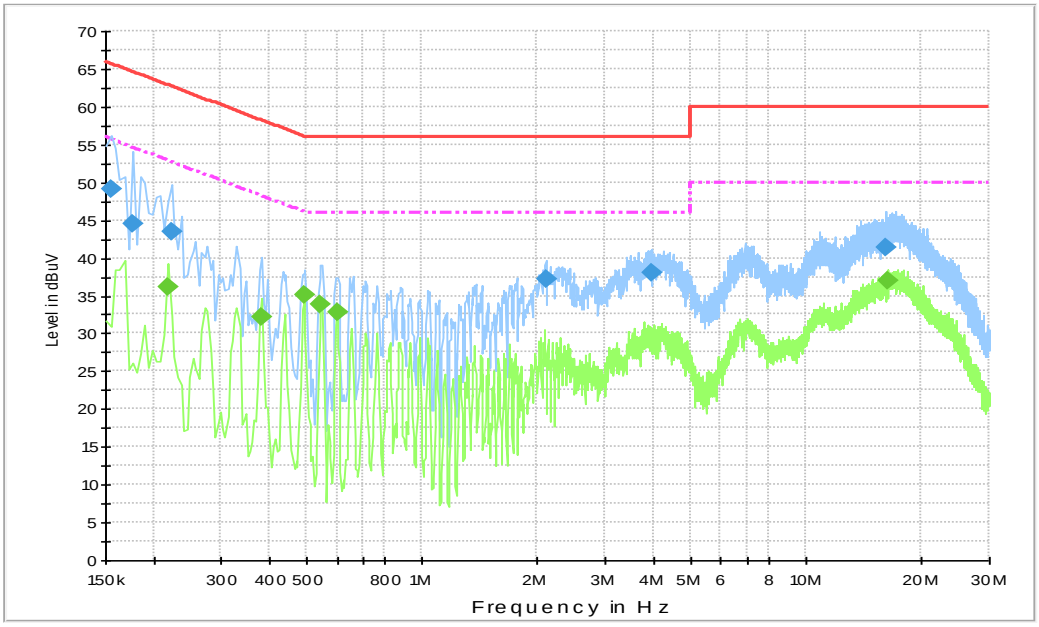


Fig.C.2.1 AC Powerline Conducted Emission-802.11b

Note1: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	49.1	5000.	9.000	N	19.9	16.6	65.8
0.177000	44.6	5000.	9.000	L1	20.1	20.1	64.6
0.222000	43.5	5000.	9.000	N	19.9	19.3	62.7
2.098500	37.2	5000.	9.000	L1	19.7	18.8	56.0
3.970500	38.1	5000.	9.000	L1	19.6	17.9	56.0
16.161000	41.3	5000.	9.000	L1	19.8	18.7	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.217500	36.1	5000.0	9.000	L1	19.9	16.8	52.9
0.384000	32.3	5000.0	9.000	L1	19.9	15.9	48.2
0.492000	35.2	5000.0	9.000	L1	19.9	11.0	46.1
0.546000	33.9	5000.0	9.000	L1	19.9	12.1	46.0
0.600000	32.8	5000.0	9.000	L1	19.8	13.2	46.0
16.368000	36.9	5000.0	9.000	L1	19.8	13.1	50.0

Idle:

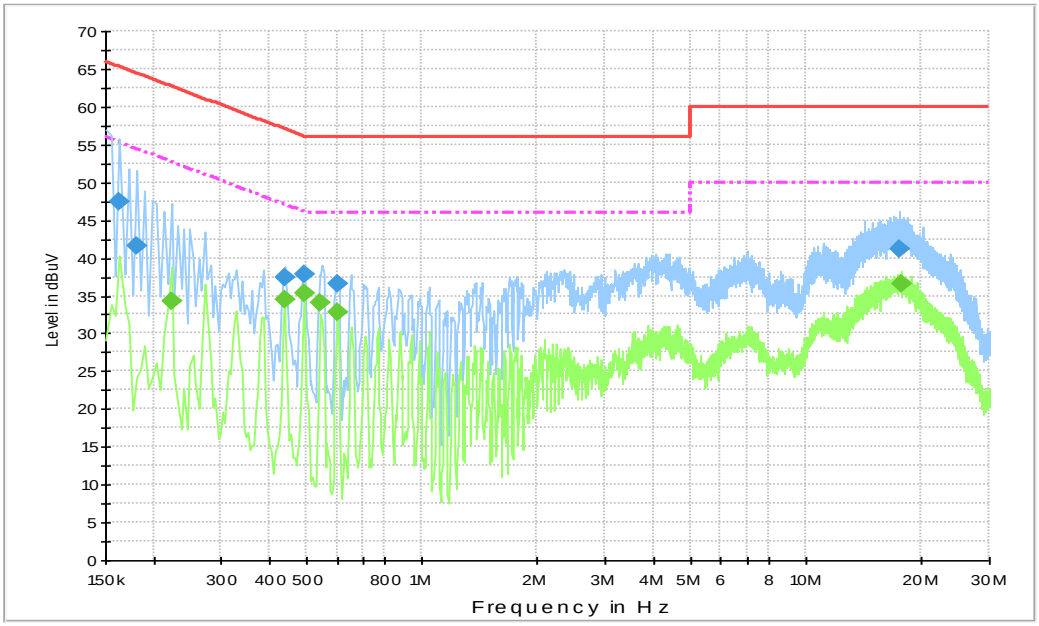


Fig.C.2.2 AC Powerline Conducted Emission-Idle

Note1: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	47.4	5000.	9.000	N	20.0	17.9	65.3
0.181500	41.6	5000.	9.000	L1	20.1	22.8	64.4
0.438000	37.5	5000.	9.000	L1	19.9	19.6	57.1
0.496500	37.8	5000.	9.000	L1	19.9	18.3	56.1
0.600000	36.5	5000.	9.000	L1	19.8	19.5	56.0
17.583000	41.1	5000.	9.000	L1	19.8	18.9	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.222000	34.3	5000.0	9.000	L1	19.9	18.5	52.7
0.438000	34.4	5000.0	9.000	L1	19.9	12.7	47.1
0.492000	35.2	5000.0	9.000	L1	19.9	10.9	46.1
0.546000	34.1	5000.0	9.000	L1	19.9	11.9	46.0
0.600000	32.9	5000.0	9.000	L1	19.8	13.1	46.0
17.646000	36.5	5000.0	9.000	L1	19.8	13.5	50.0

***** END OF REPORT BODY *****