FCC PART 15C
TEST REPORT
No.I22Z70451-EMC09

for

Samsung Electronics Co., Ltd.

Notebook PC

Model Name: NP750XFG, NP754XFG, NP750XFT, NP754XFT

With

FCC ID: ZCANP750XFG

Hardware Version: REV1.0

Software Version: Windows 11

Issued Date: 2022-12-08

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
I22Z70451-EMC09	Rev.0	1st edition	2022-12-08

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℃

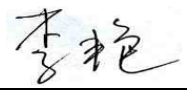
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2022-11-01

Testing End Date: 2022-12-07

1.5. Signature

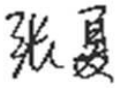


Li Yan

(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
Contact:	Jenni Chun
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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
Contact:	Sunghoon Cho
Email:	ggobi.cho@samsung.com
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Fax:	/

3. PRODUCT INFORMATION

3.1. About EUT

Description	Notebook PC
Model name	NP750XFG, NP754XFG, NP750XFT, NP754XFT
FCC ID	ZCANP750XFG

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	2270451UT23a	REV1.0	Windows 11
EUT2	2270451UT14a	REV1.0	Windows 11

*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	/	SOLUM CO.,LTD.
AE2	Travel Adapter	/	DONGYANG E&P Inc
AE3	Data Cable	/	/
AE4	battery	/	Inbuilt

*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
	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.

The differences in the model names are only for different marketing purposes.

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.	2020
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2020
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	15-35℃
Voltage	V nom	15.4V
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	2023-09-22
2	Test Receiver	ESW44	103015	R&S	1 year	2023-02-23
3	Test Receiver	ESU26	100235	R&S	1 year	2023-03-08
4	Loop Antenna	HFH2-Z2	829324/007	R&S	1 year	2022-12-22
5	EMI Antenna	VULB9163	01223	Schwarzbeck	1 year	2023-07-25
6	EMI Antenna	3117	00119024	ETS-Lindgren	1 year	2023-06-07
7	EMI Antenna	3115	00167252	ETS-Lindgren	1 year	2022-12-26
8	EMI Antenna	LB-180400 -25-C-KF	J211060826	A-INFO	1 year	2023-02-27

AC Power Line Conducted Emission

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	LISN	ENV216	101459	R&S	1 year	2023-03-26
2	Test Receiver	ESCI	100766	R&S	1 year	2023-03-02

Test Software

Test Item	Test Software and Version	Software Vendor
Radiated Continuous Emission	EMC32 V8.53.0	R&S
	EMC32 V10.60.20	R&S
Conducted Emission	EMC32 V8.53.0	R&S

7. Measurement Uncertainty

Radiated Spurious Emission

Measurement Uncertainty: (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	4.92
30MHz ≤ f ≤ 1GHz	5.15
1GHz ≤ f ≤18GHz	5.54
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

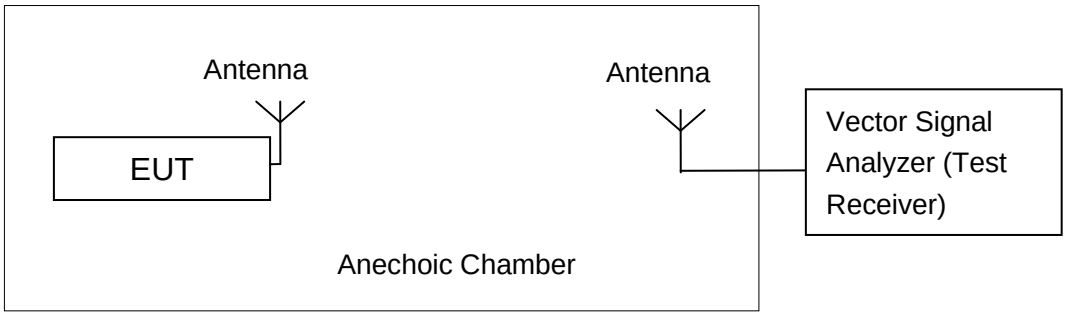
C.1. Radiated Spurious Emission

Specification Reference

FCC 47 CFR Part 15.247, 15.205, 15.209

Method of Measurement

Testing was performed in according with ANSI C63.10-2020 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)
2386.692	61.63	4.61	31.72	25.30	74.00	12.37	V
2389.366	61.42	4.61	31.75	25.06	74.00	12.58	V
4824.000	45.08	-35.93	33.80	47.21	74.00	28.92	V
7236.000	41.76	-34.54	35.54	40.75	74.00	32.24	V
9648.000	43.54	-33.48	36.80	40.22	74.00	30.46	H
12060.000	46.48	-31.76	38.86	39.37	74.00	27.52	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)
2350.650	45.94	-37.15	31.21	51.88	74.00	28.06	H
2516.450	46.38	-36.82	32.20	51.00	74.00	27.62	H
4874.000	43.11	-35.79	33.80	45.10	74.00	30.89	V
7311.000	42.01	-34.28	35.58	40.71	74.00	31.99	V
9748.000	43.79	-33.54	37.00	40.32	74.00	30.21	V
12185.000	45.28	-31.61	38.81	38.08	74.00	28.72	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)
2388.190	62.44	4.65	32.14	26.65	74.00	11.56	V
2388.484	61.27	4.61	31.74	24.92	74.00	12.73	H
4923.500	48.38	-35.70	33.85	50.24	74.00	25.62	V
7386.000	42.26	-34.09	35.50	40.85	74.00	31.74	V
9848.000	44.47	-33.44	37.10	40.81	74.00	29.53	H
12310.000	44.56	-31.47	38.81	37.23	74.00	29.44	V

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)
2345.826	61.83	4.53	31.22	26.08	74.00	12.17	H
2386.314	62.22	4.61	31.71	25.90	74.00	11.78	H
4824.000	43.09	-35.93	33.80	45.22	74.00	30.91	H
7236.000	42.74	-34.54	35.54	41.74	74.00	31.26	H
9648.000	43.72	-33.48	36.80	40.40	74.00	30.28	V
12060.000	45.96	-31.76	38.86	38.86	74.00	28.04	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)
2365.250	45.27	-36.87	31.42	50.73	74.00	28.73	V
2514.750	45.40	-36.79	32.20	49.98	74.00	28.60	V
4874.000	43.54	-35.79	33.80	45.53	74.00	30.46	V
7311.000	42.40	-34.28	35.58	41.10	74.00	31.60	H
9748.000	43.36	-33.54	37.00	39.90	74.00	30.64	H
12185.000	45.89	-31.61	38.81	38.69	74.00	28.11	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)
2483.845	62.18	4.65	32.14	25.39	74.00	11.82	H
2495.155	62.81	4.62	32.18	26.01	74.00	11.19	H
4925.000	45.01	-35.70	33.85	46.86	74.00	28.99	V
7386.000	42.88	-34.09	35.50	41.48	74.00	31.12	H
9848.000	44.01	-33.44	37.10	40.35	74.00	29.99	H
12310.000	45.99	-31.47	38.81	38.65	74.00	28.01	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)
2389.058	61.69	4.61	31.75	25.32	74.00	12.31	V
2389.814	61.33	4.61	31.76	24.96	74.00	12.67	V
4824.000	40.72	-35.93	33.80	42.85	74.00	33.28	V
7236.000	42.70	-34.54	35.54	41.70	74.00	31.30	H
9648.000	44.05	-33.48	36.80	40.74	74.00	29.95	H
12060.000	47.34	-31.76	38.86	40.24	74.00	26.66	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)
2368.500	45.11	-36.80	31.46	50.45	74.00	28.89	V
2515.350	45.79	-36.80	32.20	50.39	74.00	28.21	V
4874.000	41.22	-35.79	33.80	43.20	74.00	32.78	H
7311.000	42.74	-34.28	35.58	41.44	74.00	31.26	H
9748.000	43.48	-33.54	37.00	40.02	74.00	30.52	H
12185.000	46.61	-31.61	38.81	39.40	74.00	27.39	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)
2483.835	64.41	4.65	32.14	27.62	74.00	9.59	H
2483.935	62.83	4.65	32.14	26.04	74.00	11.17	V
4924.500	45.03	-35.70	33.85	46.88	74.00	28.97	V
7386.000	42.46	-34.09	35.50	41.05	74.00	31.54	V
9848.000	43.85	-33.44	37.10	40.20	74.00	30.15	H
12310.000	45.34	-31.47	38.81	38.00	74.00	28.66	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)
2389.254	62.54	4.61	31.75	26.18	74.00	11.46	H
2389.702	62.13	4.61	31.76	25.76	74.00	11.87	H
4844.000	40.54	-35.85	33.80	42.58	74.00	33.46	H
7266.000	41.40	-34.49	35.60	40.30	74.00	32.60	V
9688.000	43.68	-33.47	36.95	40.20	74.00	30.32	V
12110.000	44.69	-31.73	38.89	37.53	74.00	29.31	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)
2375.680	45.55	-36.64	31.56	50.63	74.00	28.45	V
2524.250	46.35	-36.94	32.20	51.09	74.00	27.65	V
4874.000	40.16	-35.79	33.80	42.15	74.00	33.84	H
7311.000	41.97	-34.28	35.58	40.67	74.00	32.03	V
9748.000	42.62	-33.54	37.00	39.15	74.00	31.38	V
12185.000	44.96	-31.61	38.81	37.75	74.00	29.04	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)
2484.060	63.50	4.65	32.14	26.71	74.00	10.50	H
2484.320	63.12	4.65	32.14	26.33	74.00	10.88	V
4904.000	39.86	-35.73	33.81	41.78	74.00	34.14	V
7356.000	41.42	-34.09	35.50	40.01	74.00	32.58	H
9808.000	42.16	-33.61	37.10	38.68	74.00	31.84	V
12260.000	46.14	-31.52	38.80	38.86	74.00	27.86	V

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)
2386.496	62.21	4.6	31.7	25.89	74.0	11.8	V
2389.884	61.36	4.6	31.8	24.98	74.0	12.6	H
4824.000	40.48	-35.9	33.8	42.61	74.0	33.5	H
7236.000	42.83	-34.5	35.5	41.82	74.0	31.2	H
9648.000	44.38	-33.5	36.8	41.07	74.0	29.6	H
12060.000	46.55	-31.8	38.9	39.45	74.0	27.4	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)
2375.450	47.35	-36.6	31.6	52.44	74.0	26.7	H
2500.750	46.55	-36.5	32.2	50.86	74.0	27.5	H
4874.000	41.33	-35.8	33.8	43.32	74.0	32.7	V
7311.000	43.03	-34.3	35.6	41.72	74.0	31.0	V
9748.000	44.00	-33.5	37.0	40.54	74.0	30.0	H
12185.000	45.52	-31.6	38.8	38.32	74.0	28.5	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)
2484.435	62.31	4.6	32.1	25.53	74.0	11.7	V
2484.465	62.45	4.6	32.1	25.66	74.0	11.6	V
4920.500	44.12	-35.7	33.8	45.99	74.0	29.9	H
7386.000	42.92	-34.1	35.5	41.51	74.0	31.1	H
9848.000	43.38	-33.4	37.1	39.72	74.0	30.6	H
12310.000	45.36	-31.5	38.8	38.02	74.0	28.6	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)
2386.902	61.95	4.6	31.7	25.63	74.0	12.0	V
2388.708	62.04	4.6	31.7	25.68	74.0	12.0	V
4844.000	40.14	-35.8	33.8	42.19	74.0	33.9	H
7266.000	42.00	-34.5	35.6	40.89	74.0	32.0	V
9688.000	42.56	-33.5	37.0	39.08	74.0	31.4	H
12110.000	44.28	-31.7	38.9	37.13	74.0	29.7	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)
2375.850	46.58	-36.6	31.6	51.65	74.0	27.4	H
2511.500	46.69	-36.7	32.2	51.21	74.0	27.3	H
4874.000	40.23	-35.8	33.8	42.22	74.0	33.8	H
7311.000	41.86	-34.3	35.6	40.56	74.0	32.1	H
9748.000	42.73	-33.5	37.0	39.26	74.0	31.3	V
12185.000	44.88	-31.6	38.8	37.68	74.0	29.1	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)
2483.770	62.98	4.7	32.1	26.19	74.0	11.0	H
2484.075	62.69	4.7	32.1	25.90	74.0	11.3	V
4904.000	39.91	-35.7	33.8	41.84	74.0	34.1	V
7356.000	41.52	-34.1	35.5	40.11	74.0	32.5	H
9808.000	42.25	-33.6	37.1	38.76	74.0	31.8	V
12260.000	46.33	-31.5	38.8	39.05	74.0	27.7	V

Average

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)
2389.650	48.41	4.61	31.76	12.04	54.00	5.59	V
2389.770	48.40	4.61	31.76	12.03	54.00	5.60	V
4823.800	36.88	-35.93	33.80	39.01	54.00	17.12	V
7236.100	30.21	-34.54	35.54	29.20	54.00	23.79	V
9648.100	31.98	-33.48	36.80	28.67	54.00	22.02	H
12060.100	34.17	-31.76	38.86	27.07	54.00	19.83	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)
2423.520	48.95	4.65	31.95	12.36	54.00	5.05	V
2450.490	48.95	4.67	32.00	12.28	54.00	5.05	V
4873.900	33.47	-35.79	33.80	35.46	54.00	20.53	H
7311.100	30.65	-34.28	35.58	29.35	54.00	23.35	V
9748.000	31.62	-33.54	37.00	28.16	54.00	22.38	V
12184.900	33.75	-31.61	38.82	26.54	54.00	20.25	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)
2491.650	48.55	4.63	32.17	11.75	54.00	5.45	V
2505.600	48.76	4.65	32.20	11.90	54.00	5.24	V
4923.700	43.97	-35.70	33.85	45.82	54.00	10.03	V
7386.100	30.92	-34.09	35.50	29.52	54.00	23.08	H
9847.900	32.05	-33.44	37.10	28.40	54.00	21.95	H
12310.000	33.62	-31.47	38.81	26.29	54.00	20.38	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)
2388.930	48.67	4.61	31.75	12.31	54.00	5.33	V
2390.000	48.82	4.62	31.76	12.45	54.00	5.18	V
4824.100	36.86	-35.93	33.80	38.99	54.00	17.14	V
7236.100	30.27	-34.54	35.54	29.26	54.00	23.73	V
9015.400	31.61	-33.75	36.26	29.10	54.00	22.39	H
1206.100	34.08	3.28	29.37	1.42	54.00	19.92	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)
2425.280	48.87	4.65	31.95	12.28	54.00	5.13	V
2450.000	48.76	4.67	32.00	12.08	54.00	5.24	V
4873.600	34.69	-35.79	33.80	36.68	54.00	19.31	H
7311.100	30.73	-34.28	35.58	29.43	54.00	23.27	H
9748.000	31.84	-33.54	37.00	28.37	54.00	22.16	V
12184.900	33.70	-31.61	38.82	26.50	54.00	20.30	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)
2483.500	48.68	4.65	32.13	11.89	54.00	5.32	V
2484.250	48.56	4.65	32.14	11.78	54.00	5.44	V
4923.100	31.61	-35.70	33.85	33.47	54.00	22.39	V
7386.100	30.95	-34.09	35.50	29.54	54.00	23.05	V
9847.900	32.01	-33.44	37.10	28.36	54.00	21.99	V
12310.000	33.60	-31.47	38.81	26.26	54.00	20.40	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)
2389.380	48.15	4.61	31.75	11.78	54.00	5.85	V
2389.830	48.20	4.62	31.76	11.83	54.00	5.80	V
4824.100	29.39	-35.93	33.80	31.52	54.00	24.61	V
7236.100	30.12	-34.54	35.54	29.11	54.00	23.88	H
9648.100	31.90	-33.48	36.80	28.59	54.00	22.10	H
12060.100	34.06	-31.76	38.86	26.96	54.00	19.94	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)
2418.180	48.57	4.65	31.94	11.99	54.00	5.43	V
2455.230	48.72	4.67	32.02	12.03	54.00	5.28	V
4873.900	29.40	-35.79	33.80	31.39	54.00	24.60	V
7311.100	30.64	-34.28	35.58	29.34	54.00	23.36	H
9748.000	31.51	-33.54	37.00	28.05	54.00	22.49	H
12184.900	33.56	-31.61	38.82	26.35	54.00	20.44	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)
2483.640	49.63	4.65	32.14	12.85	54.00	4.37	V
2484.450	48.11	4.65	32.14	11.32	54.00	4.89	V
4923.100	31.65	-35.70	33.85	33.51	54.00	22.35	H
7386.100	30.94	-34.09	35.50	29.53	54.00	23.06	H
9847.900	31.88	-33.44	37.10	28.22	54.00	22.12	H
12310.000	33.61	-31.47	38.81	26.28	54.00	20.39	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)
2389.890	49.02	4.62	31.76	12.65	54.00	4.98	V
2389.980	49.07	4.62	31.76	12.70	54.00	4.93	V
4843.900	28.89	-35.85	33.80	30.93	54.00	25.11	V
7266.100	30.56	-34.49	35.60	29.46	54.00	23.44	V
9688.000	31.98	-33.47	36.95	28.50	54.00	22.02	V
12109.900	33.81	-31.73	38.89	26.65	54.00	20.19	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)
2388.330	48.52	4.61	31.74	12.17	54.00	5.48	V
2484.510	48.62	4.65	32.14	11.84	54.00	5.38	V
4873.900	28.87	-35.79	33.80	30.86	54.00	25.13	V
7311.100	30.68	-34.28	35.58	29.38	54.00	23.32	V
9748.000	31.71	-33.54	37.00	28.25	54.00	22.29	V
12184.900	33.69	-31.61	38.82	26.48	54.00	20.31	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)
2483.700	49.10	4.65	32.14	12.31	54.00	4.90	V
2484.000	49.16	4.65	32.14	12.37	54.00	4.84	V
4873.900	28.87	-35.79	33.80	30.86	54.00	25.13	V
7311.100	30.68	-34.28	35.58	29.38	54.00	23.32	V
9748.000	31.71	-33.54	37.00	28.25	54.00	22.29	H
12184.900	33.69	-31.61	38.82	26.48	54.00	20.31	V

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)
2388.990	48.49	4.6	31.7	12.13	54.0	5.5	V
2389.770	48.59	4.6	31.8	12.22	54.0	5.4	V
4824.100	29.30	-35.9	33.8	31.43	54.0	24.7	H
7236.100	30.15	-34.5	35.5	29.14	54.0	23.9	H
9648.100	31.81	-33.5	36.8	28.50	54.0	22.2	H
12060.100	34.02	-31.8	38.9	26.91	54.0	20.0	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)
2415.720	48.93	4.6	31.9	12.35	54.0	5.1	V
2463.330	48.64	4.7	32.1	11.91	54.0	5.4	V
4873.900	29.29	-35.8	33.8	31.28	54.0	24.7	V
7311.100	30.66	-34.3	35.6	29.36	54.0	23.3	V
9748.000	31.64	-33.5	37.0	28.18	54.0	22.4	V
12184.900	33.58	-31.6	38.8	26.38	54.0	20.4	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)
2483.790	49.01	4.7	32.1	12.22	54.0	5.0	V
2483.910	49.51	4.7	32.1	12.72	54.0	4.5	V
4923.400	31.22	-35.7	33.8	33.08	54.0	22.8	V
7386.100	30.93	-34.1	35.5	29.52	54.0	23.1	V
9847.900	32.02	-33.4	37.1	28.36	54.0	22.0	V
12310.000	33.74	-31.5	38.8	26.40	54.0	20.3	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)
2386.710	48.32	4.6	31.7	12.00	54.0	5.7	V
2388.660	48.48	4.6	31.7	12.12	54.0	5.5	V
4843.900	28.99	-35.8	33.8	31.03	54.0	25.0	V
7266.100	30.52	-34.5	35.6	29.41	54.0	23.5	H
9688.000	31.95	-33.5	37.0	28.47	54.0	22.0	V
12109.900	33.88	-31.7	38.9	26.73	54.0	20.1	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)
2403.240	49.34	4.6	31.9	12.79	54.0	4.7	V
2467.500	48.97	4.7	32.1	12.22	54.0	5.0	V
4873.900	29.02	-35.8	33.8	31.01	54.0	25.0	V
7311.100	30.74	-34.3	35.6	29.44	54.0	23.3	H
9748.000	31.81	-33.5	37.0	28.35	54.0	22.2	V
12184.900	33.73	-31.6	38.8	26.53	54.0	20.3	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)
2484.040	49.69	4.6	32.1	12.90	54.0	4.3	V
2492.040	48.69	4.6	32.2	11.89	54.0	5.3	V
4873.900	29.13	-35.8	33.8	31.12	54.0	24.9	V
7311.100	30.56	-34.3	35.6	29.26	54.0	23.4	H
9748.000	31.82	-33.5	37.0	28.36	54.0	22.2	V
12184.900	33.76	-31.6	38.8	26.55	54.0	20.2	V

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)
2384.046	62.19	2.86	31.99	27.34	74.00	11.81	V
2388.596	61.91	2.86	32.00	27.04	74.00	12.09	H
4824.000	47.00	-33.24	34.13	46.11	74.00	27.00	V
7236.000	42.21	-30.88	35.80	37.29	74.00	31.79	V
9648.000	44.37	-30.46	36.71	38.11	74.00	29.63	H
12059.500	47.41	-28.71	38.74	37.38	74.00	26.59	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)
2356.600	46.00	-37.07	31.29	51.77	74.00	28.00	V
2506.400	46.28	-36.63	32.20	50.71	74.00	27.72	H
4874.500	43.99	-33.30	34.15	43.14	74.00	30.01	H
7311.000	41.85	-30.82	35.83	36.84	74.00	32.15	H
9747.500	44.15	-30.33	36.85	37.63	74.00	29.85	H
12185.000	45.49	-28.11	38.81	34.78	74.00	28.51	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)
2483.730	62.00	2.93	32.09	26.98	74.00	12.00	H
2485.575	63.02	2.93	32.09	28.00	74.00	10.98	V
4924.000	44.66	-33.53	34.17	44.01	74.00	29.34	H
7386.000	42.48	-31.45	35.86	38.08	74.00	31.52	V
9848.000	44.39	-30.18	36.99	37.58	74.00	29.61	V
12310.000	46.25	-27.75	38.89	35.12	74.00	27.75	V

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)
2389.030	61.94	2.87	32.00	27.07	74.00	12.06	H
2389.366	61.19	2.87	32.00	26.33	74.00	12.81	V
4832.500	44.48	-33.22	34.14	43.56	74.00	29.52	V
7235.500	42.45	-30.89	35.80	37.54	74.00	31.55	H
9648.000	43.91	-30.46	36.71	37.66	74.00	30.09	H
12059.500	45.95	-28.71	38.74	35.92	74.00	28.05	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)
2367.200	45.47	-36.83	31.44	50.86	74.00	28.53	H
2504.600	45.60	-36.59	32.20	49.99	74.00	28.40	H
4874.000	40.99	-33.30	34.15	40.14	74.00	33.01	H
7311.000	42.13	-30.82	35.83	37.12	74.00	31.87	H
9748.000	43.38	-30.33	36.85	36.86	74.00	30.62	H
12185.000	45.27	-28.11	38.81	34.56	74.00	28.73	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)
2484.055	63.38	2.93	32.09	28.36	74.00	10.62	H
2485.365	63.42	2.93	32.09	28.41	74.00	10.58	H
4924.000	41.64	-33.53	34.17	41.00	74.00	32.36	H
7386.500	44.52	-31.46	35.86	40.13	74.00	29.48	H
9848.500	43.47	-30.18	36.99	36.65	74.00	30.53	H
12310.500	45.22	-27.75	38.89	34.09	74.00	28.78	H

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)
2388.932	64.13	2.87	32.00	29.27	74.00	9.87	H
2389.716	65.06	2.87	32.00	30.20	74.00	8.94	H
4824.000	43.53	-33.24	34.13	42.64	74.00	30.47	H
7236.000	40.64	-30.88	35.80	35.73	74.00	33.36	H
9648.000	42.98	-30.46	36.71	36.72	74.00	31.02	V
12060.000	46.11	-28.70	38.74	36.08	74.00	27.89	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)
2365.600	45.05	-36.87	31.42	50.50	74.00	28.95	H
2505.600	45.92	-36.61	32.20	50.33	74.00	28.08	V
4874.000	41.30	-33.30	34.15	40.45	74.00	32.70	V
7311.000	42.34	-30.82	35.83	37.33	74.00	31.66	V
9748.000	44.53	-30.33	36.85	38.01	74.00	29.47	H
12185.000	45.71	-28.11	38.81	35.00	74.00	28.29	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)
2483.665	65.28	2.93	32.09	30.27	74.00	8.72	H
2483.875	65.32	2.93	32.09	30.30	74.00	8.68	H
4924.000	41.25	-33.53	34.17	40.61	74.00	32.75	H
7386.500	41.91	-31.46	35.86	37.51	74.00	32.09	H
9848.000	43.33	-30.18	36.99	36.52	74.00	30.67	H
12310.000	45.37	-27.75	38.89	34.23	74.00	28.63	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)
2388.736	63.20	2.86	32.00	28.34	74.00	10.80	V
2388.946	63.08	2.87	32.00	28.21	74.00	10.92	V
4844.000	42.06	-33.23	34.14	41.15	74.00	31.94	V
7266.000	42.16	-30.60	35.81	36.95	74.00	31.84	H
9688.000	46.80	-30.37	36.77	40.40	74.00	27.20	H
12110.000	46.69	-28.47	38.77	36.39	74.00	27.31	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)
2367.600	47.15	-36.82	31.45	52.52	74.00	26.85	V
2500.000	46.47	-36.50	32.20	50.77	74.00	27.53	H
4874.000	41.69	-33.30	34.15	40.84	74.00	32.31	H
7311.000	42.24	-30.82	35.83	37.23	74.00	31.76	H
9748.000	43.13	-30.33	36.85	36.61	74.00	30.87	V
12185.000	45.65	-28.11	38.81	34.94	74.00	28.35	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)
2483.830	63.57	2.93	32.09	28.55	74.00	10.43	V
2484.110	64.19	2.93	32.09	29.17	74.00	9.81	V
4874.000	40.62	-33.30	34.15	39.77	74.00	33.38	V
7311.000	41.81	-30.82	35.83	36.80	74.00	32.19	H
9748.000	43.56	-30.33	36.85	37.05	74.00	30.44	H
12185.000	45.17	-28.11	38.81	34.46	74.00	28.83	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)
2388.106	62.68	2.9	32.0	27.82	74.0	11.3	V
2388.876	63.05	2.9	32.0	28.18	74.0	11.0	H
4824.000	43.03	-33.2	34.1	42.14	74.0	31.0	V
7236.000	40.78	-30.9	35.8	35.87	74.0	33.2	H
9648.000	43.50	-30.5	36.7	37.25	74.0	30.5	H
12060.000	46.19	-28.7	38.7	36.15	74.0	27.8	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)
2372.800	45.45	-36.7	31.5	50.63	74.0	28.6	H
2504.200	46.05	-36.6	32.2	50.43	74.0	28.0	H
4874.000	41.69	-33.3	34.2	40.84	74.0	32.3	V
7311.000	42.24	-30.8	35.8	37.23	74.0	31.8	H
9748.000	43.13	-30.3	36.9	36.61	74.0	30.9	H
12185.000	45.65	-28.1	38.8	34.94	74.0	28.4	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)
2483.760	65.86	2.9	32.1	30.84	74.0	8.1	H
2483.895	65.43	2.9	32.1	30.42	74.0	8.6	H
4924.000	43.79	-33.5	34.2	43.15	74.0	30.2	H
7386.000	41.48	-31.5	35.9	37.07	74.0	32.5	V
9848.000	44.20	-30.2	37.0	37.39	74.0	29.8	H
12310.000	46.12	-27.8	38.9	34.98	74.0	27.9	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)
2385.614	63.52	2.9	32.0	28.66	74.0	10.5	V
2387.392	64.52	2.9	32.0	29.66	74.0	9.5	V
4844.000	41.16	-33.2	34.1	40.26	74.0	32.8	V
7266.000	42.50	-30.6	35.8	37.29	74.0	31.5	V
9688.000	44.02	-30.4	36.8	37.62	74.0	30.0	H
12110.500	46.04	-28.5	38.8	35.74	74.0	28.0	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)
2370.800	46.82	-36.7	31.5	52.07	74.0	27.2	V
2501.000	46.89	-36.5	32.2	51.21	74.0	27.1	V
4873.500	43.02	-33.3	34.2	42.17	74.0	31.0	V
7311.500	42.07	-30.8	35.8	37.06	74.0	31.9	H
9747.500	42.98	-30.3	36.9	36.46	74.0	31.0	H
12185.000	45.96	-28.1	38.8	35.25	74.0	28.0	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)
2483.570	63.60	2.9	32.1	28.58	74.0	10.4	V
2487.040	63.75	2.9	32.1	28.73	74.0	10.2	H
4924.000	43.52	-33.5	34.2	42.88	74.0	30.5	H
7356.000	42.19	-31.2	35.8	37.52	74.0	31.8	V
9808.500	44.09	-30.3	36.9	37.47	74.0	29.9	H
12260.000	45.67	-27.9	38.9	34.69	74.0	28.3	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)
2385.270	48.95	2.86	31.99	14.09	54.00	5.05	V
2388.240	48.16	2.86	32.00	13.29	54.00	5.84	V
4823.800	42.33	-33.24	34.13	41.43	54.00	11.67	H
7236.100	29.96	-30.88	35.80	25.05	54.00	24.04	H
9648.100	31.93	-30.46	36.71	25.67	54.00	22.07	H
12060.100	34.01	-28.70	38.74	23.98	54.00	19.99	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)
2386.080	48.07	2.86	32.00	13.21	54.00	5.93	V
2483.700	48.46	2.93	32.09	13.44	54.00	5.54	V
4873.900	37.30	-33.30	34.15	36.45	54.00	16.70	V
7311.100	30.40	-30.82	35.83	25.39	54.00	23.60	V
9748.000	31.72	-30.33	36.85	25.20	54.00	22.28	H
12184.900	33.68	-28.11	38.81	22.98	54.00	20.32	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)
2483.730	48.56	2.93	32.09	13.54	54.00	5.44	V
2486.100	48.53	2.93	32.09	13.51	54.00	5.47	V
4923.700	36.54	-33.53	34.17	35.89	54.00	17.46	V
7386.100	30.78	-31.46	35.86	26.38	54.00	23.22	V
9847.900	31.98	-30.18	36.99	25.17	54.00	22.02	V
12310.000	33.80	-27.75	38.89	22.67	54.00	20.20	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)
2384.660	49.25	2.86	32.00	14.39	54.00	4.75	V
2389.890	48.26	2.87	32.00	13.40	54.00	5.74	V
4823.200	31.53	-33.24	34.13	30.63	54.00	22.47	H
7236.100	29.95	-30.88	35.80	25.04	54.00	24.05	V
9648.100	32.05	-30.46	36.71	25.80	54.00	21.95	H
12060.100	34.08	-28.70	38.74	24.05	54.00	19.92	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)
2389.470	48.17	2.87	32.00	13.31	54.00	5.83	V
2484.150	48.51	2.93	32.09	13.49	54.00	5.49	V
4872.700	30.09	-33.30	34.15	29.23	54.00	23.91	H
7311.100	30.50	-30.82	35.83	25.49	54.00	23.50	H
9748.000	31.59	-30.33	36.85	25.07	54.00	22.41	V
12184.900	33.71	-28.11	38.81	23.00	54.00	20.29	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)
2483.550	50.16	2.93	32.09	15.14	54.00	3.84	V
2483.790	50.60	2.93	32.09	15.58	54.00	3.40	V
4924.000	29.69	-33.53	34.17	29.05	54.00	24.31	V
7386.100	30.79	-31.46	35.86	26.39	54.00	23.21	V
9847.900	31.80	-30.18	36.99	24.98	54.00	22.20	H
12310.000	33.80	-27.75	38.89	22.67	54.00	20.20	H

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)
2389.530	49.14	2.87	32.00	14.28	54.00	4.86	V
2389.980	49.20	2.87	32.00	14.34	54.00	4.80	V
4824.100	31.44	-33.24	34.13	30.55	54.00	22.56	V
7236.100	29.96	-30.88	35.80	25.04	54.00	24.04	H
9648.100	31.93	-30.46	36.71	25.68	54.00	22.07	V
12060.100	34.15	-28.70	38.74	24.12	54.00	19.85	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)
2411.970	48.97	2.88	32.02	48.97	2.88	32.02	V
2463.600	49.04	2.92	32.07	49.04	2.92	32.07	V
4873.900	29.98	-33.30	34.15	29.98	-33.30	34.15	V
7311.100	30.61	-30.82	35.83	30.61	-30.82	35.83	H
9748.000	31.66	-30.33	36.85	31.66	-30.33	36.85	V
12184.900	33.69	-28.11	38.81	33.69	-28.11	38.81	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)
2483.520	49.74	2.93	32.09	14.73	54.00	4.26	V
2483.580	50.70	2.93	32.09	15.68	54.00	3.30	V
4924.000	29.69	-33.53	34.17	29.05	54.00	24.31	H
7386.100	30.71	-31.46	35.86	26.31	54.00	23.29	H
9847.900	32.05	-30.18	36.99	25.23	54.00	21.95	V
12310.000	33.87	-27.75	38.89	22.74	54.00	20.13	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)
2389.890	49.17	2.87	32.00	14.31	54.00	4.83	V
2389.950	49.19	2.87	32.00	14.32	54.00	4.81	V
4873.900	28.59	-33.30	34.15	27.73	54.00	25.41	V
7311.100	30.58	-30.82	35.83	25.57	54.00	23.42	H
9748.000	31.72	-30.33	36.85	25.20	54.00	22.28	V
12184.900	33.75	-28.11	38.81	23.05	54.00	20.25	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)
2397.270	49.73	2.87	32.01	14.86	54.00	4.27	V
2478.300	49.44	2.93	32.08	14.43	54.00	4.56	V
4873.600	30.49	-33.30	34.15	29.64	54.00	23.51	V
7311.100	30.51	-30.82	35.83	25.50	54.00	23.49	V
9748.000	31.67	-30.33	36.85	25.15	54.00	22.33	V
12184.900	33.90	-28.11	38.81	23.19	54.00	20.10	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)
2483.510	50.85	2.93	32.09	15.83	54.00	3.15	V
2483.580	50.52	2.93	32.09	15.51	54.00	3.48	V
4904.200	30.68	-33.43	34.16	29.94	54.00	23.32	V
7356.100	30.65	-31.17	35.84	25.98	54.00	23.35	V
9808.000	31.76	-30.32	36.94	25.15	54.00	22.24	V
12259.900	33.88	-27.88	38.86	22.90	54.00	20.12	V

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)
2386.830	48.22	2.9	32.0	13.36	54.0	5.8	V
2389.440	48.33	2.9	32.0	13.46	54.0	5.7	V
4825.300	31.89	-33.2	34.1	31.00	54.0	22.1	H
7236.100	29.99	-30.9	35.8	25.08	54.0	24.0	H
9648.100	32.04	-30.5	36.7	25.79	54.0	22.0	H
12060.100	34.28	-28.7	38.7	24.25	54.0	19.7	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)
2390.340	49.51	2.9	32.0	14.64	54.0	4.5	V
2469.390	50.30	2.9	32.1	15.30	54.0	3.7	V
4873.600	30.49	-33.3	34.2	29.64	54.0	23.5	V
7311.100	30.51	-30.8	35.8	25.50	54.0	23.5	H
9748.000	31.67	-30.3	36.9	25.15	54.0	22.3	V
12184.900	33.90	-28.1	38.8	23.19	54.0	20.1	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)
2483.535	50.26	2.9	32.1	15.24	54.0	3.7	V
2483.825	50.24	2.9	32.1	15.23	54.0	3.8	V
4927.300	30.67	-33.5	34.2	30.04	54.0	23.3	H
7386.100	30.67	-31.5	35.9	26.27	54.0	23.3	V
9847.900	31.90	-30.2	37.0	25.09	54.0	22.1	H
12310.000	33.81	-27.8	38.9	22.67	54.0	20.2	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)
2389.680	49.25	2.9	32.0	14.38	54.0	4.8	V
2389.800	49.22	2.9	32.0	14.35	54.0	4.8	V
4843.900	30.00	-33.2	34.1	29.10	54.0	24.0	V
7266.100	30.41	-30.6	35.8	25.20	54.0	23.6	V
9688.000	32.06	-30.4	36.8	25.66	54.0	21.9	V
12109.900	33.91	-28.5	38.8	23.61	54.0	20.1	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)
2483.550	49.31	2.9	32.1	14.29	54.0	4.7	V
2483.790	49.29	2.9	32.1	14.27	54.0	4.7	V
4904.800	30.44	-33.4	34.2	29.71	54.0	23.6	V
7356.100	30.68	-31.2	35.8	26.01	54.0	23.3	H
9808.000	31.80	-30.3	36.9	25.19	54.0	22.2	H
12259.900	33.74	-27.9	38.9	22.76	54.0	20.3	H

Ch9

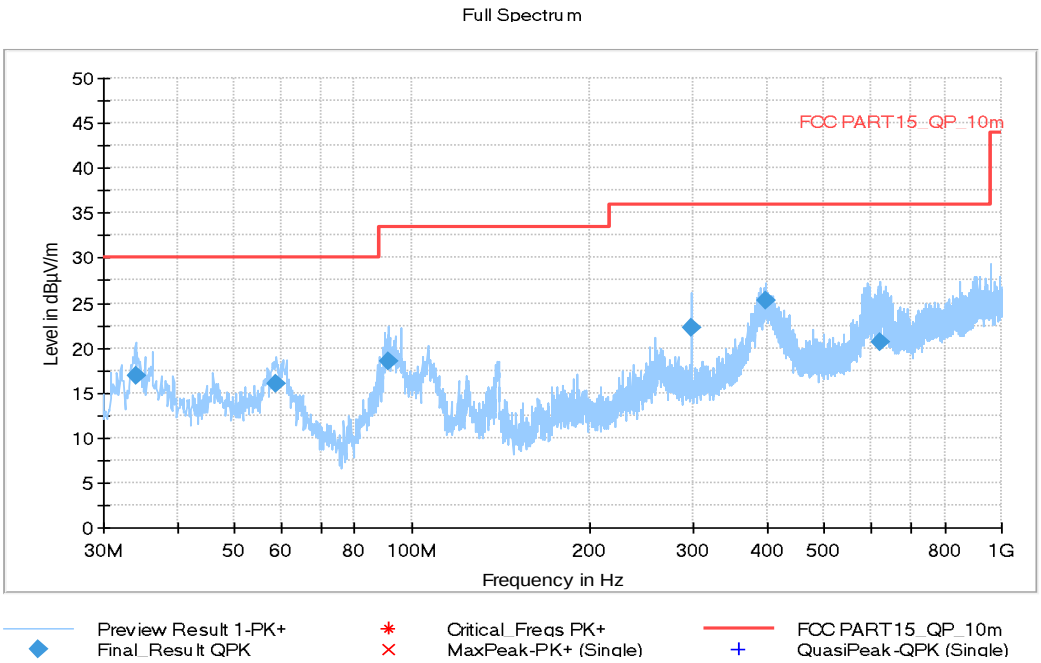
Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.610	50.55	2.93	32.09	15.33	54.00	3.45	V
2484.480	50.02	2.93	32.09	15.01	54.00	3.98	V
4873.900	29.65	-33.3	34.2	28.80	54.00	24.4	H
7311.100	30.56	-30.8	35.8	25.55	54.00	23.4	H
9748.000	31.69	-30.3	36.9	25.17	54.00	22.3	H
12184.900	33.83	-28.1	38.8	23.13	54.00	20.2	H

Note: the spurious emission above 18G is noise only and did not show on the report.

Conclusion: Pass

C.1.2 Radiated Spurious Emission- Below 1GHz

WOSRT CASE BELOW 1GHz



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)
33.97700	16.86	30.00	13.14	120.000	100.0	V	-18.0
59.00300	16.08	30.00	13.92	120.000	100.0	V	35.0
91.30400	18.46	33.52	15.06	120.000	108.0	V	-43.0
296.9440	22.23	36.02	13.79	120.000	100.0	V	-44.0
399.3760	25.34	36.02	10.68	120.000	185.0	H	162.0
624.1250	20.57	36.02	15.45	120.000	212.0	H	72.0

Note: 10 meters' limit is got by converting from 3 meters test distance.

Limit (10m) = limit (3m) + 20(log (3/10))

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(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.4	P
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.5	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.6	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.7	P
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.8	P
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.9	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.10	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.11	P
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.12	P
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.13	P
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.14	P

802.11ax-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.15	P
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.16	
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.17	
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.18	P

802.11ax-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ax(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.19	P
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.20	P
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.21	P
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.22	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.1.3.23	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.24	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.25	P
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.26	P
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.27	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.28	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.29	P
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.30	P
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.31	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.32	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.33	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

802.11ax-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.C.1.3.37	P
	Power(ch2)	2.31GHz ~2.43GHz	Fig.C.1.3.38	
	Power(ch10)	2.45GHz ~2.5GHz	Fig.C.1.3.39	
	Power(ch11)	2.45GHz ~2.5GHz	Fig.C.1.3.40	P

802.11ax-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ax(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.C.1.3.41	P
	Power(ch4)	2.31GHz ~2.43GHz	Fig.C.1.3.42	P
	Power(ch8)	2.45GHz ~2.5GHz	Fig.C.1.3.43	P
	Power(ch9)	2.45GHz ~2.5GHz	Fig.C.1.3.44	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:

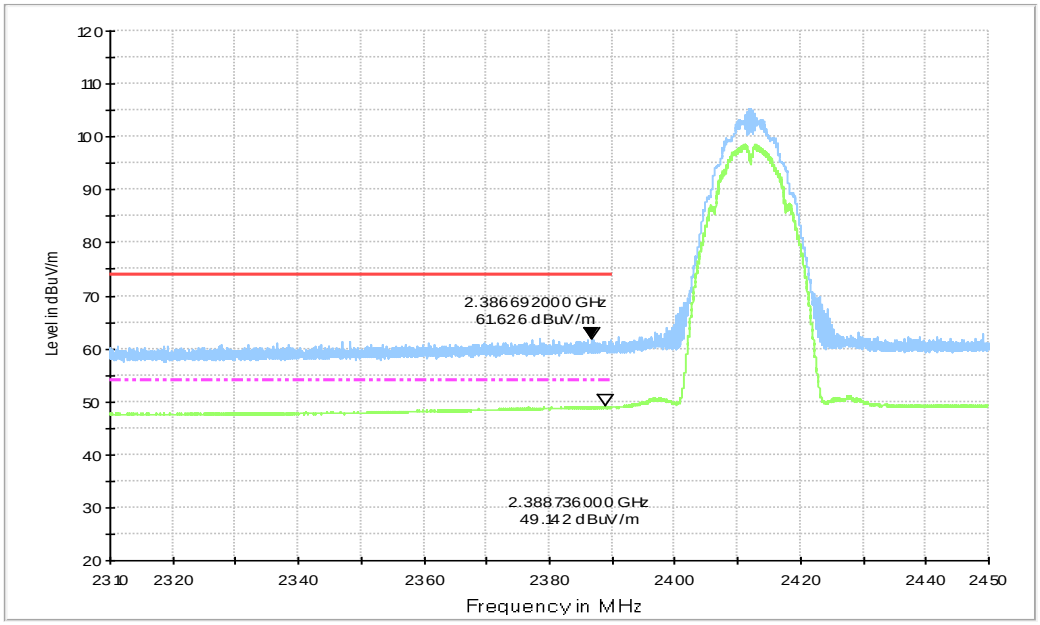


Fig.C.1.3.1 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz**

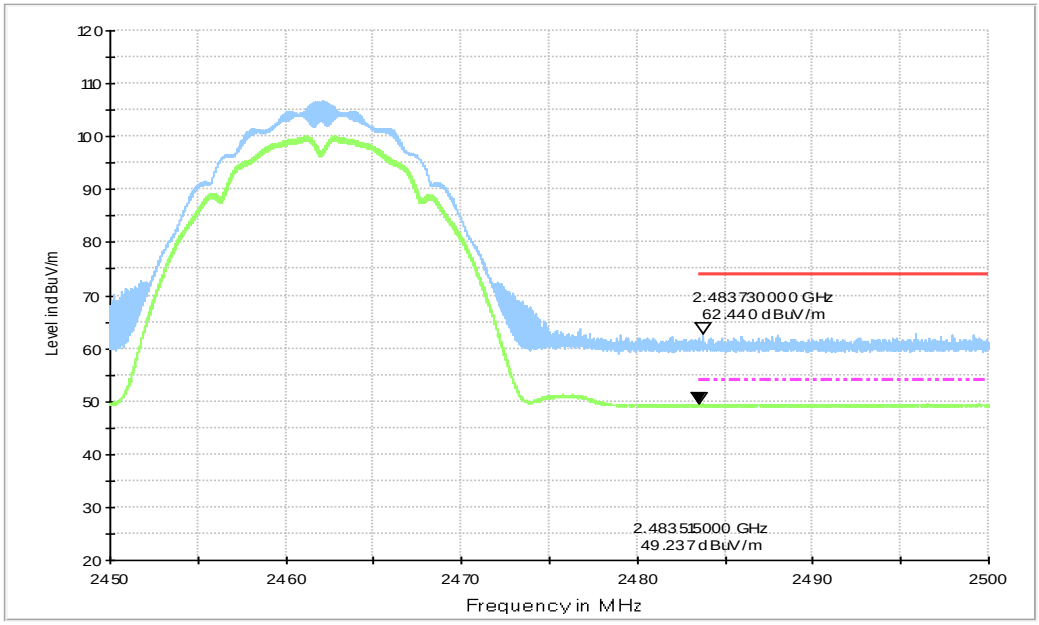


Fig.C.1.3.2 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

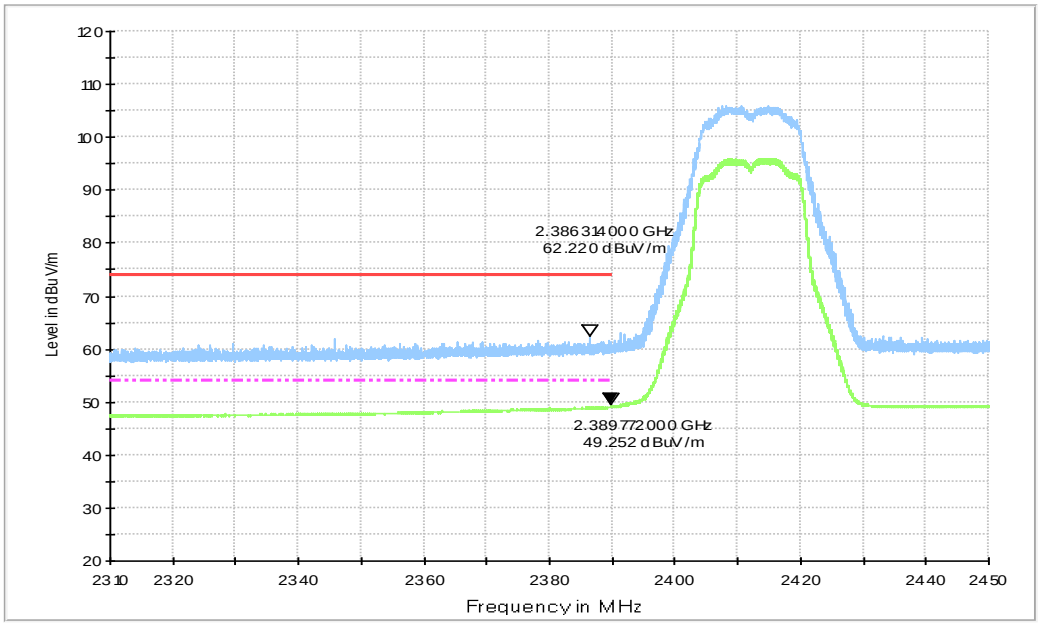


Fig.C.1.3.3 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz**

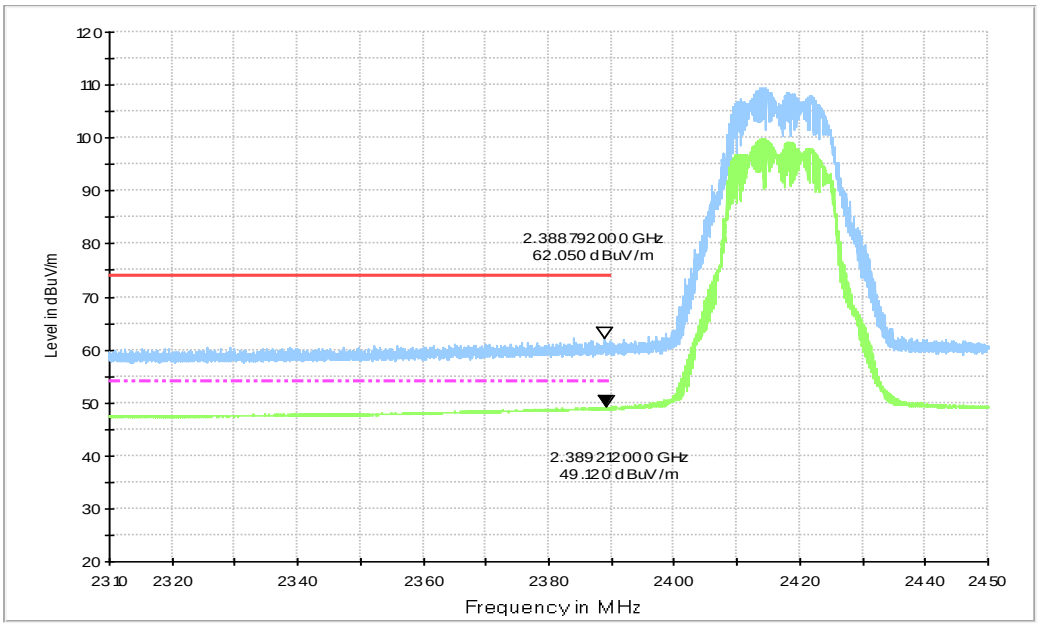


Fig.C.1.3.4 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch2, 2.31 GHz - 2.45GHz**

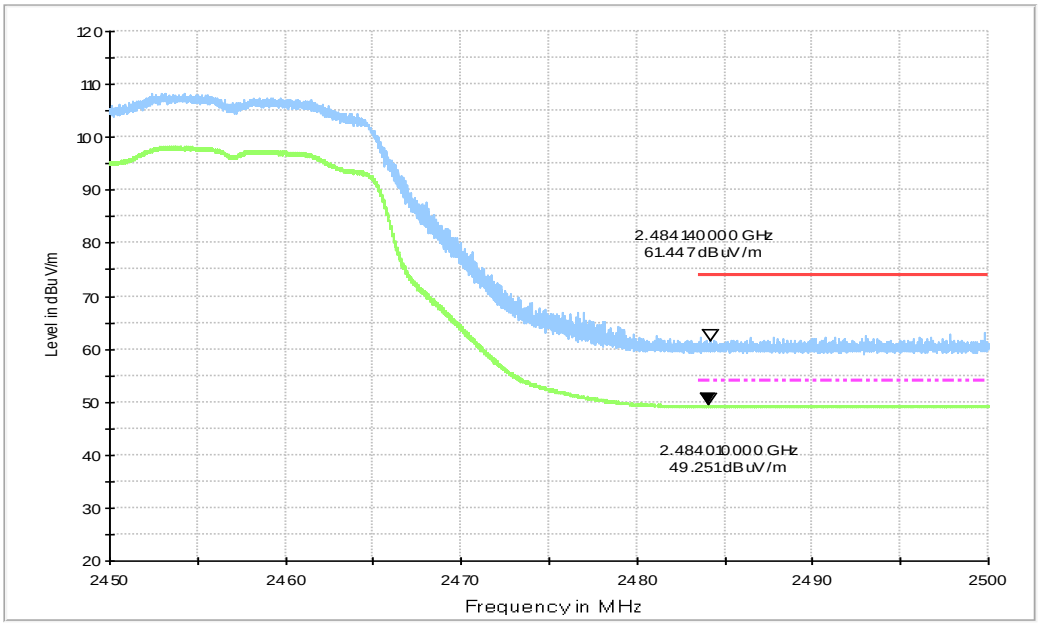


Fig.C.1.3.5 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch10, 2.45 GHz - 2.50GHz**

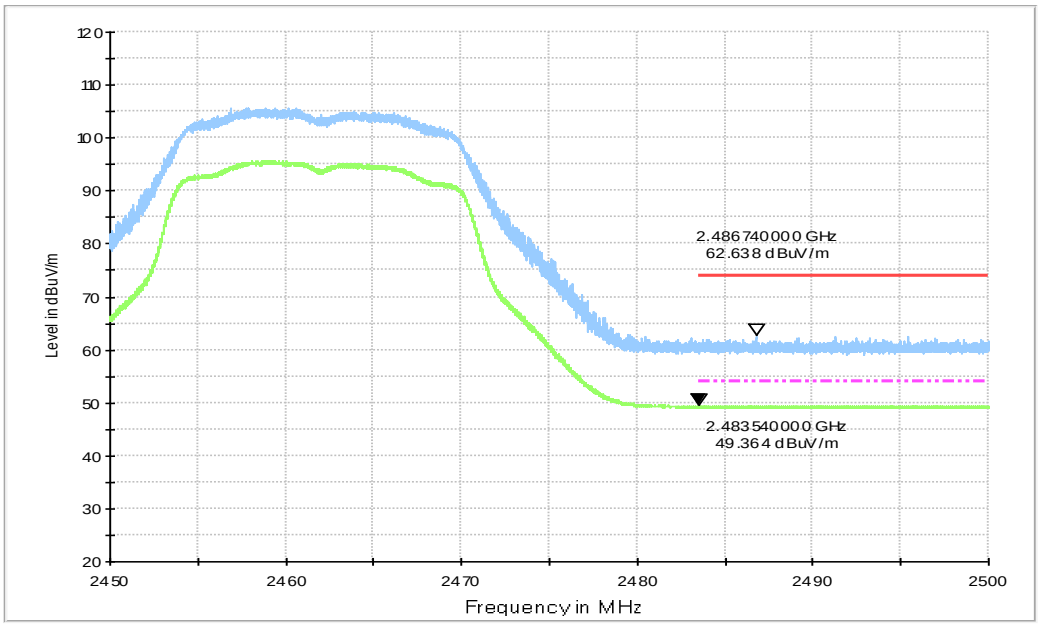


Fig.C.1.3.6 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

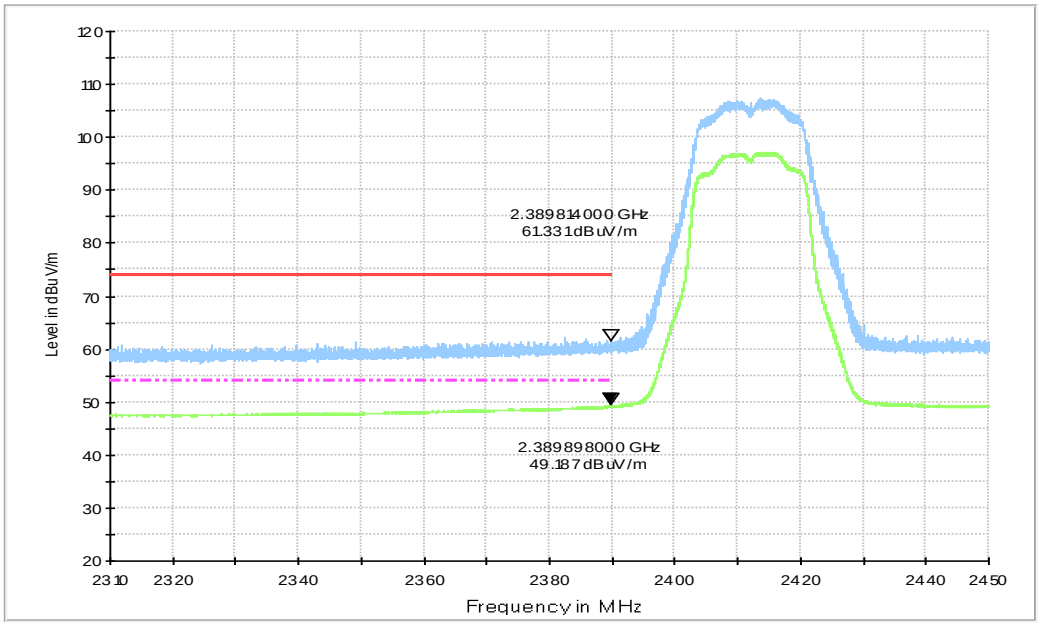


Fig.C.1.3.7 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz**

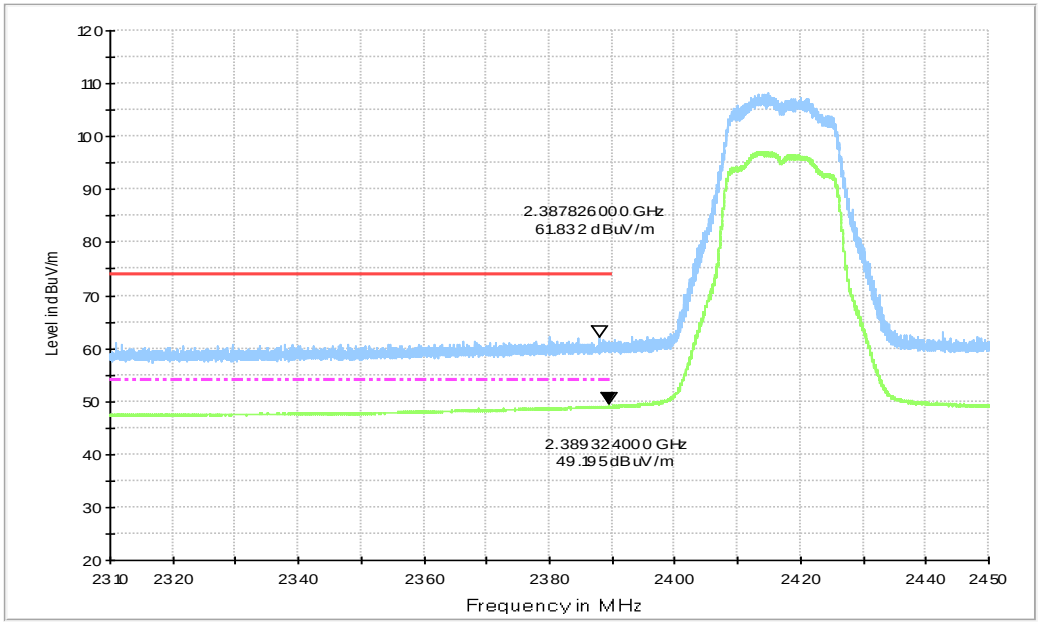


Fig.C.1.3.8 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch2, 2.31 GHz - 2.45GHz**

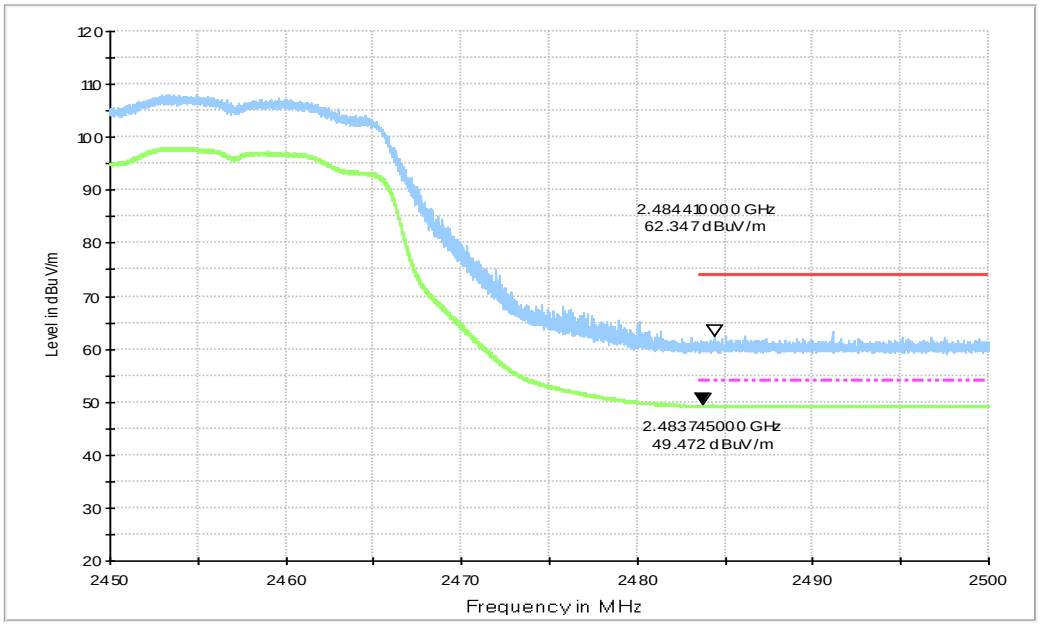


Fig.C.1.3.9 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch10, 2.45 GHz - 2.50GHz**

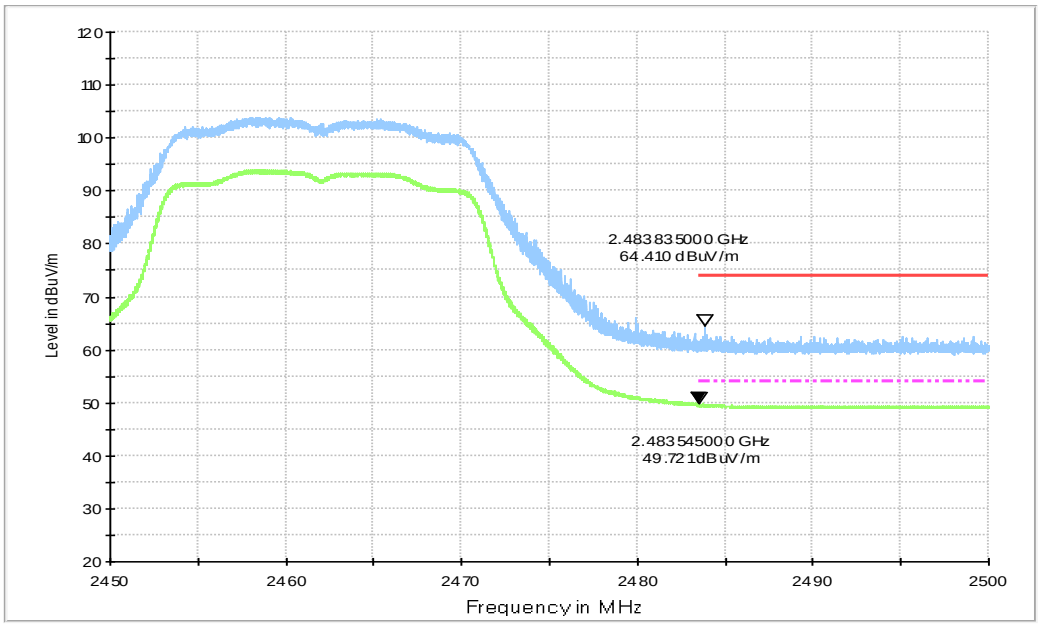


Fig.C.1.3.10 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

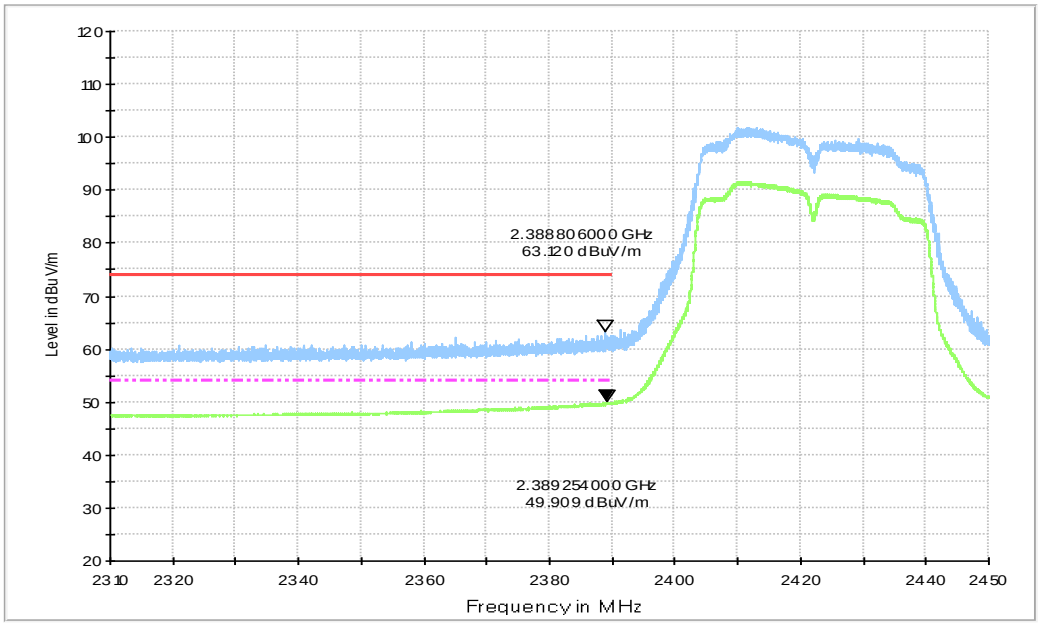


Fig.C.1.3.11 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz**

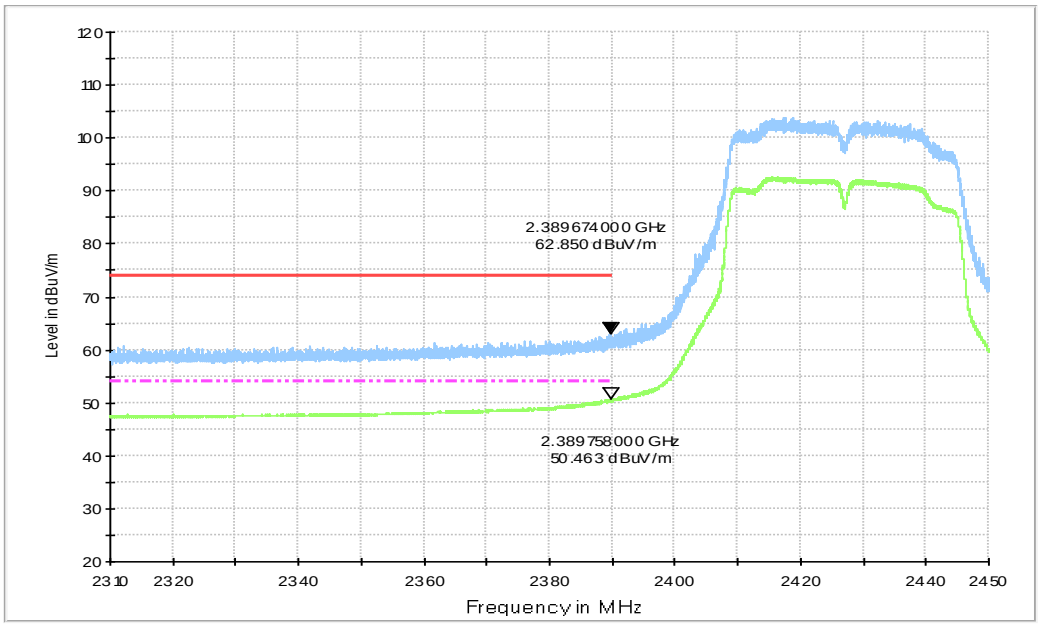


Fig.C.1.3.12 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch4, 2.31 GHz - 2.45GHz**

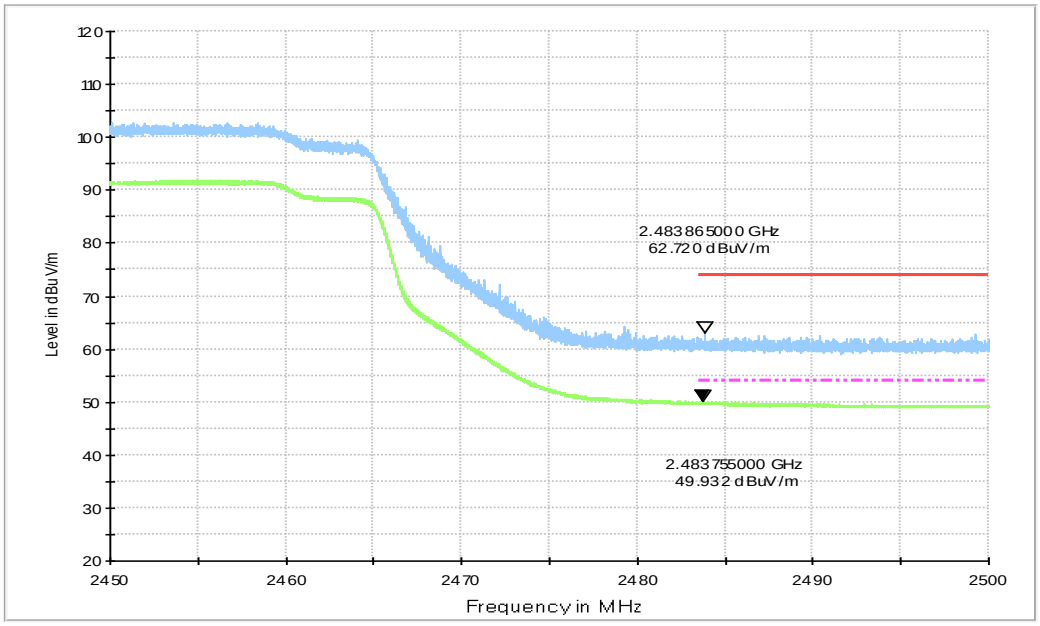


Fig.C.1.3.13 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch8, 2.45 GHz - 2.50GHz**

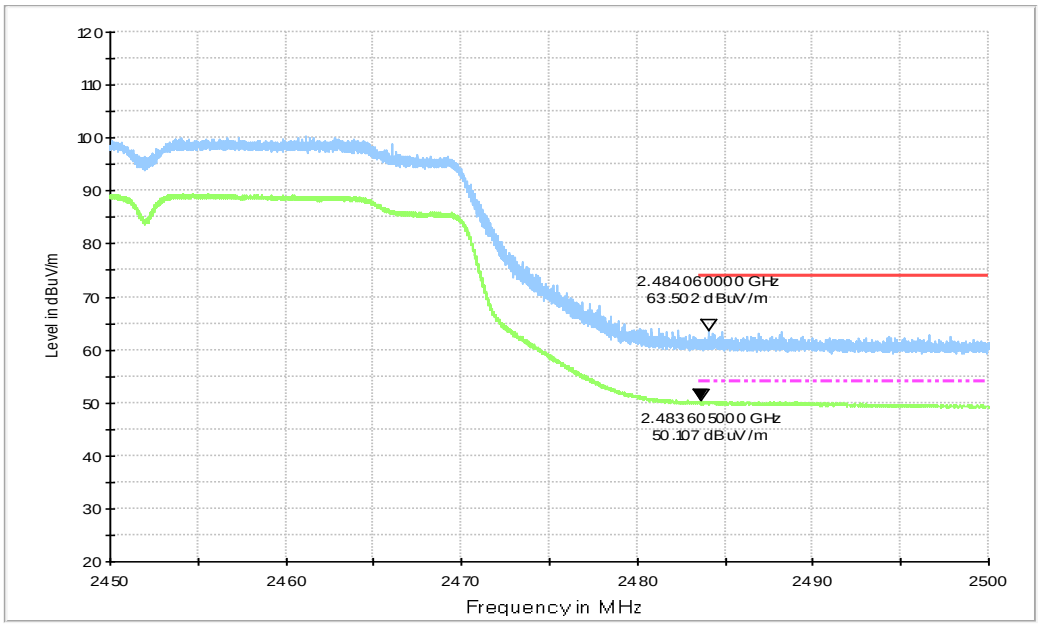


Fig.C.1.3.14 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**

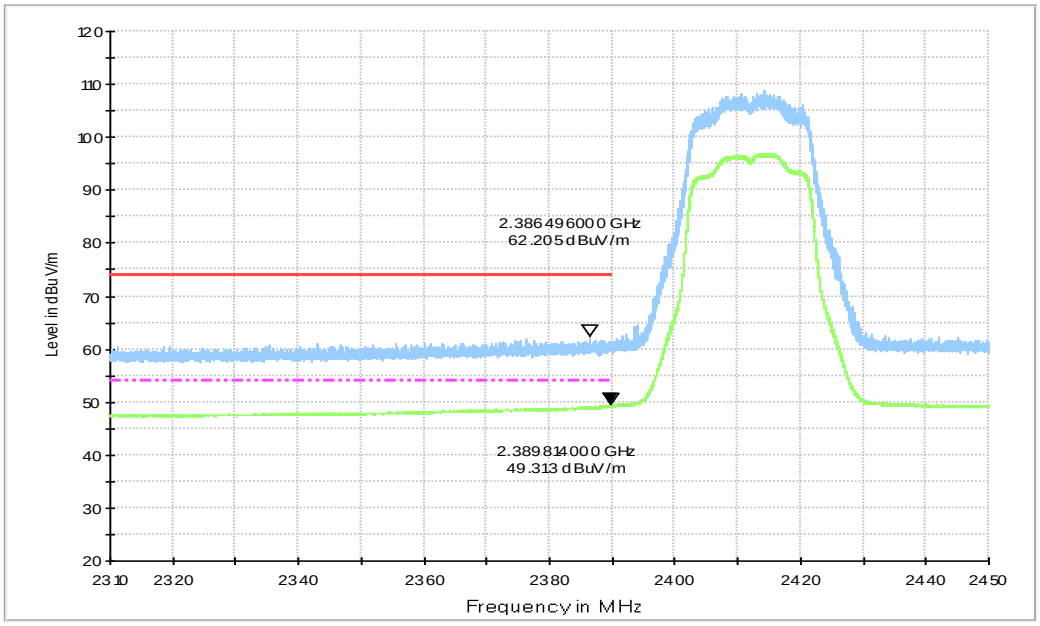


Fig.C.1.3.15 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, 2.31GHz - 2.45GHz**

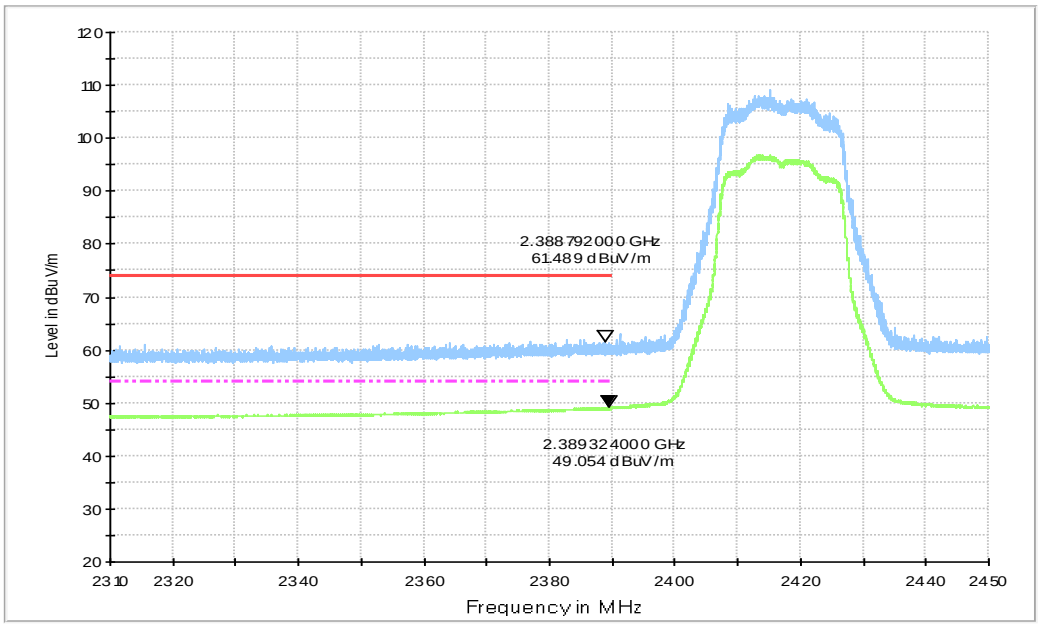


Fig.C.1.3.16 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch2, 2.31GHz - 2.45GHz**

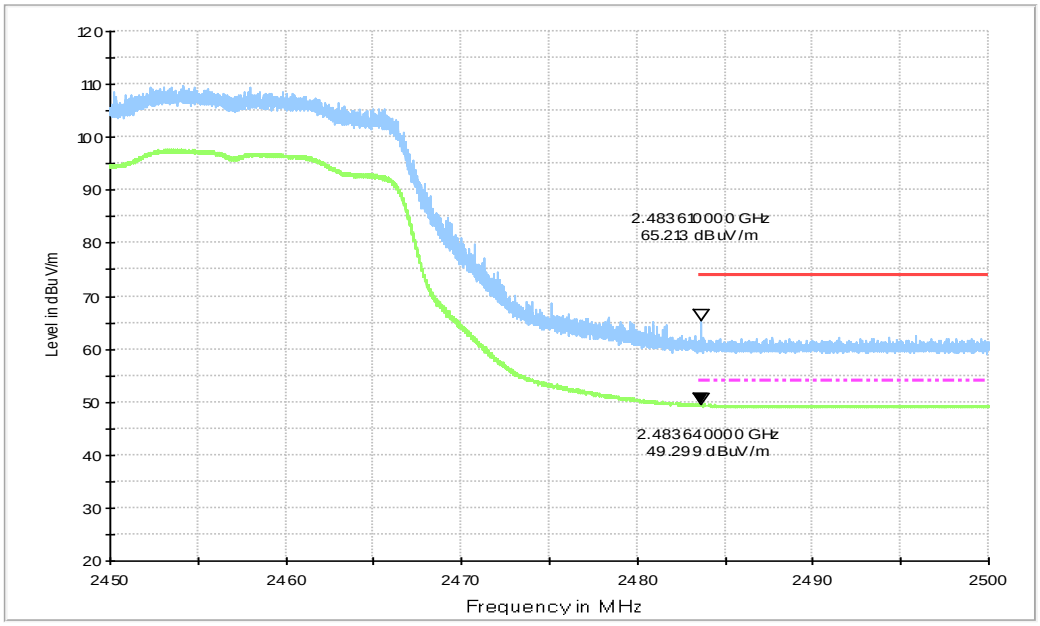


Fig.C.1.3.17 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch10, 2.45 GHz - 2.50GHz**

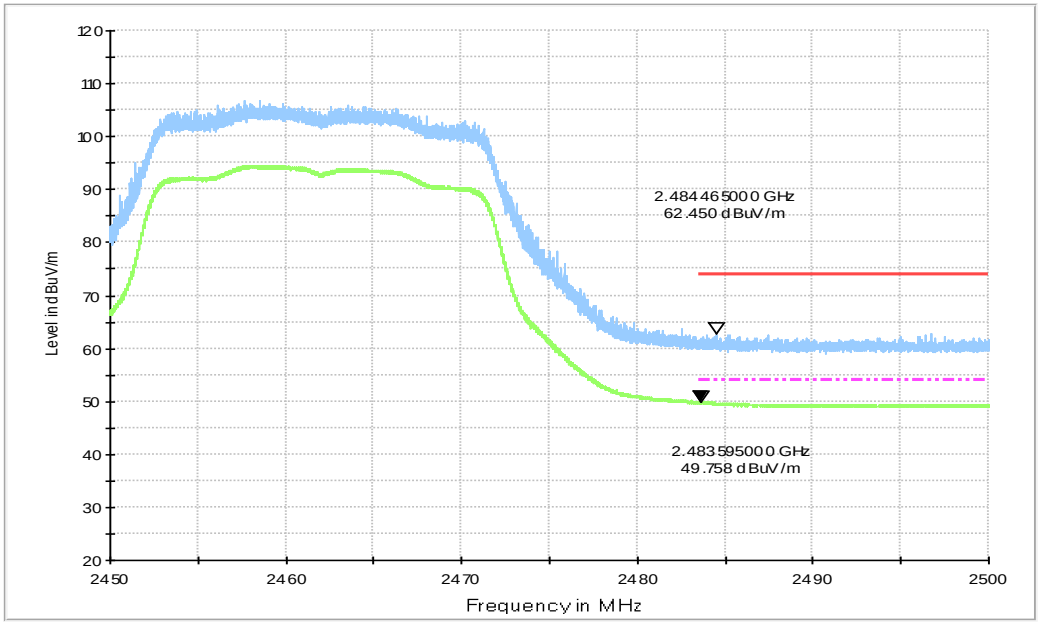


Fig.C.1.3.18 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, 2.45 GHz - 2.50GHz**

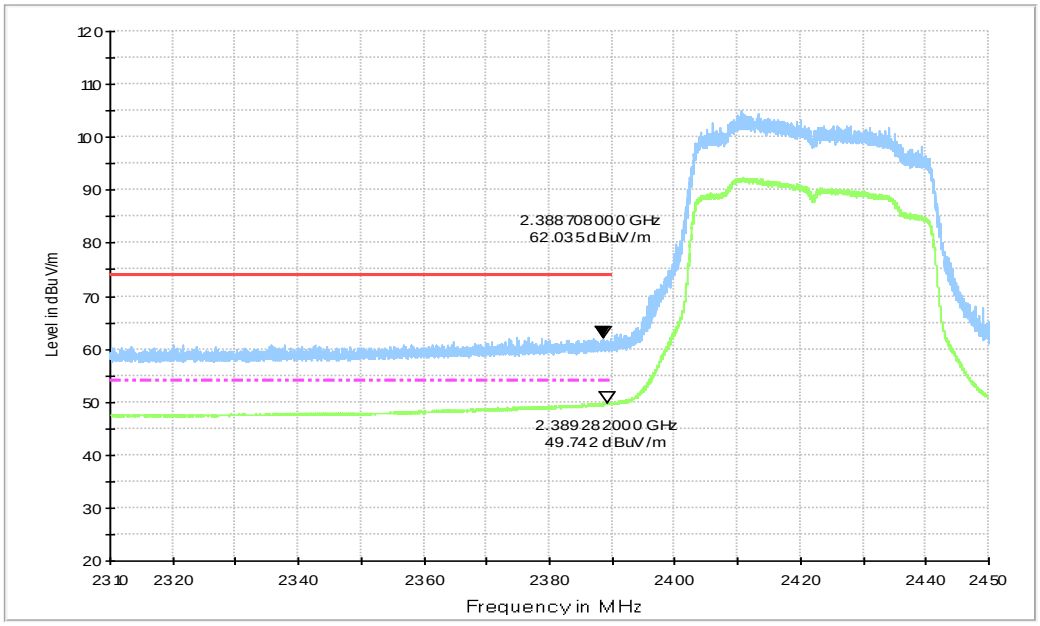


Fig.C.1.3.19 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, 2.31GHz - 2.45GHz**

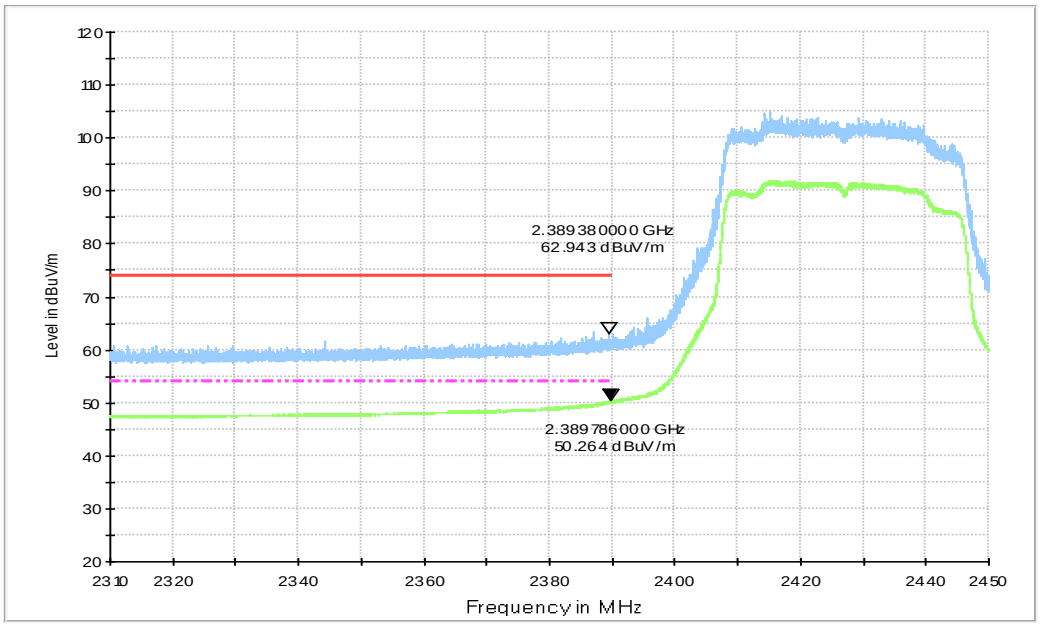


Fig.C.1.3.20 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch4, 2.45 GHz - 2.50GHz**

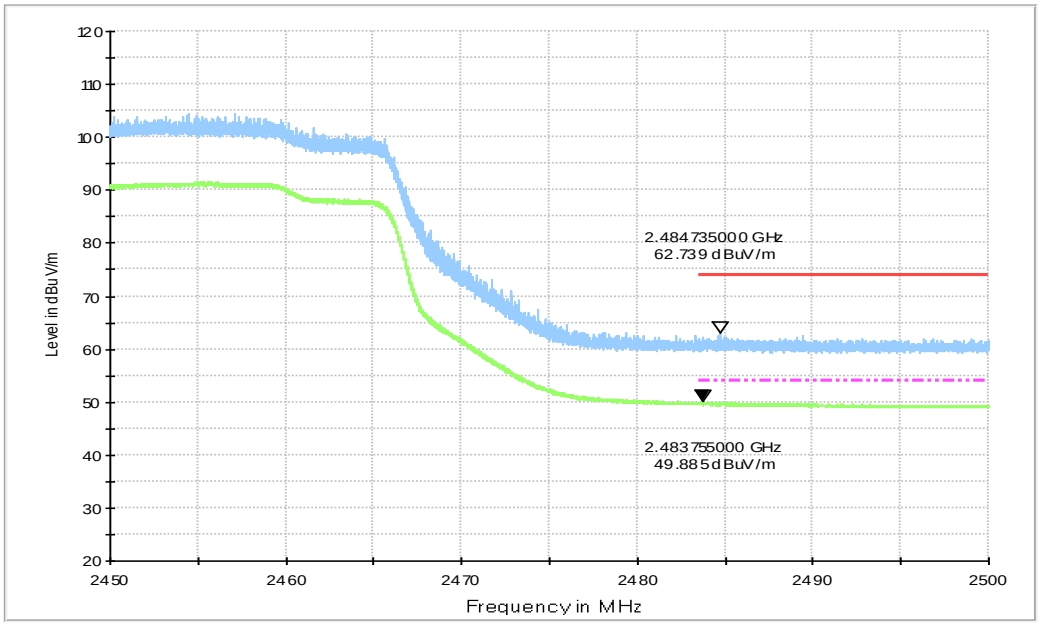


Fig.C.1.3.21 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch8, 2.45 GHz - 2.50GHz**

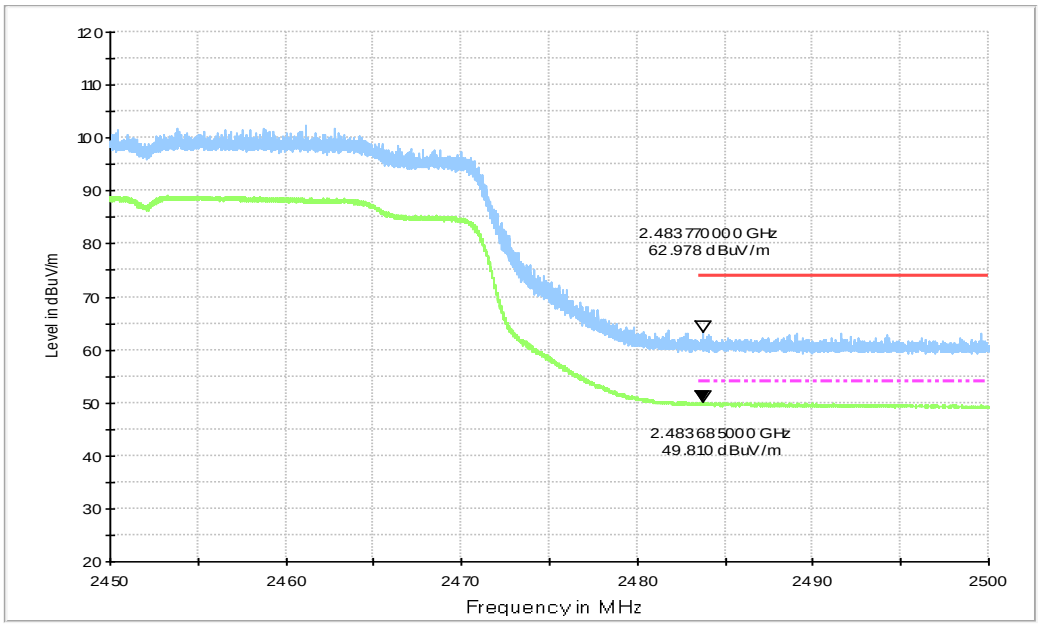


Fig.C.1.3.22 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, 2.45 GHz - 2.50GHz**

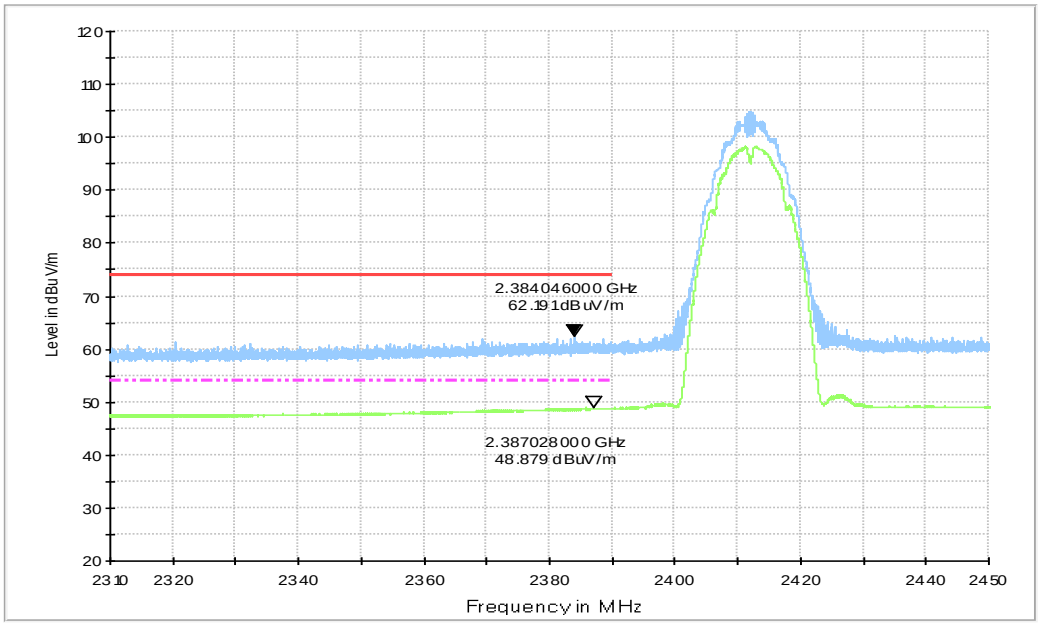


Fig.C.1.3.23 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz**

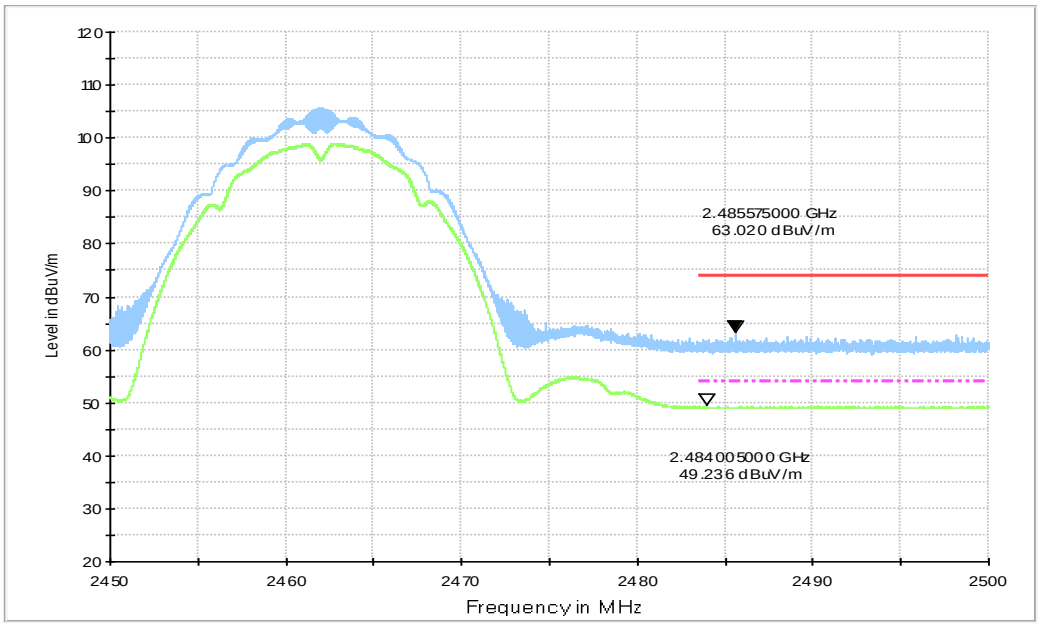


Fig.C.1.3.24 **Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

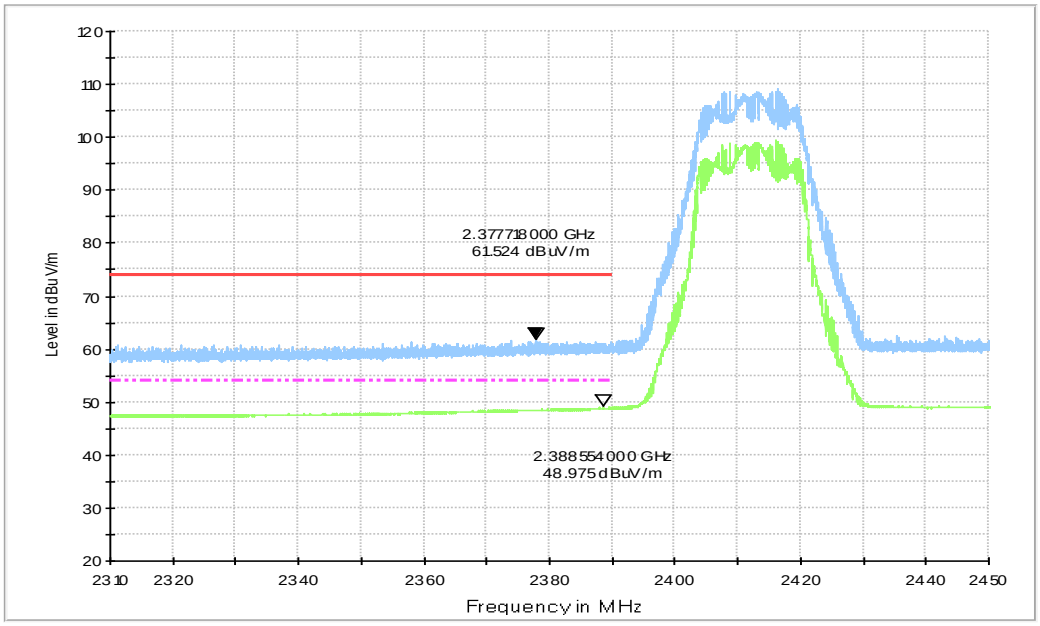


Fig.C.1.3.25 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz**

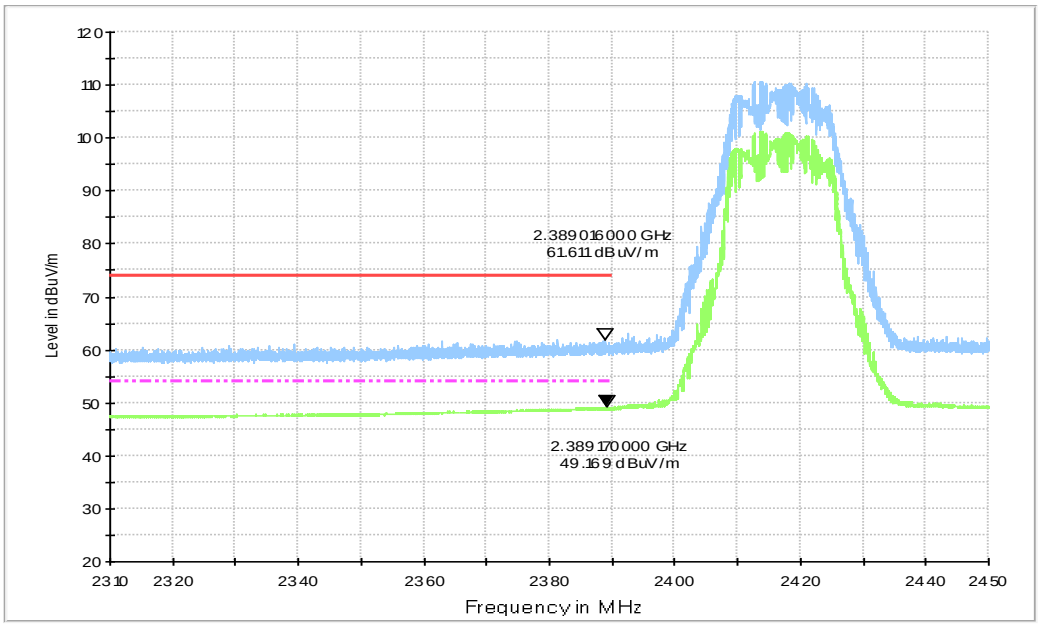


Fig.C.1.3.26 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch2, 2.31 GHz - 2.45GHz**

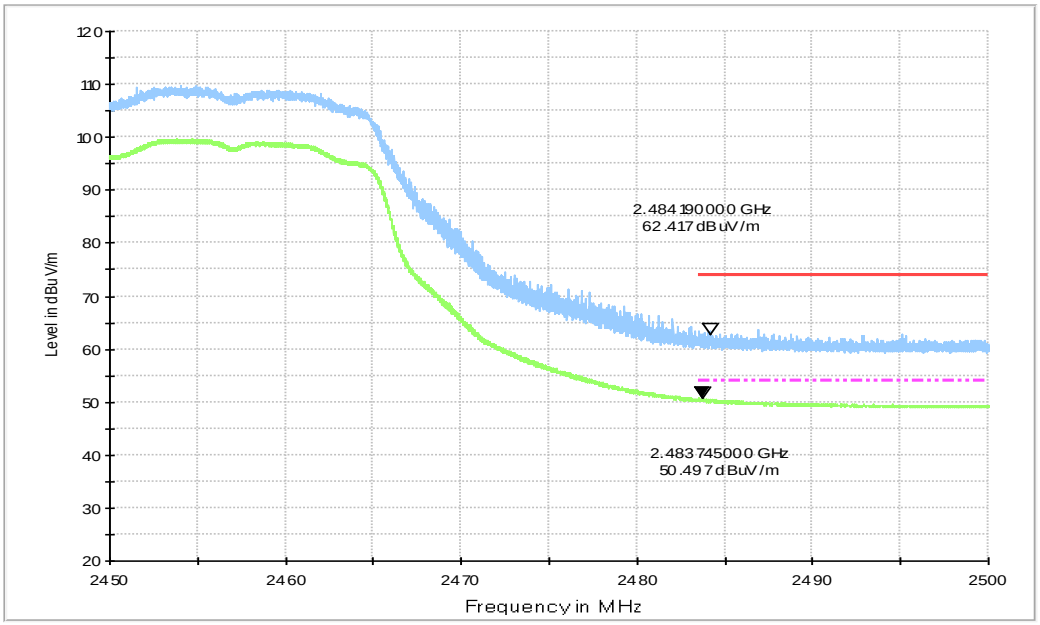


Fig.C.1.3.27 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch10, 2.45 GHz - 2.50GHz**

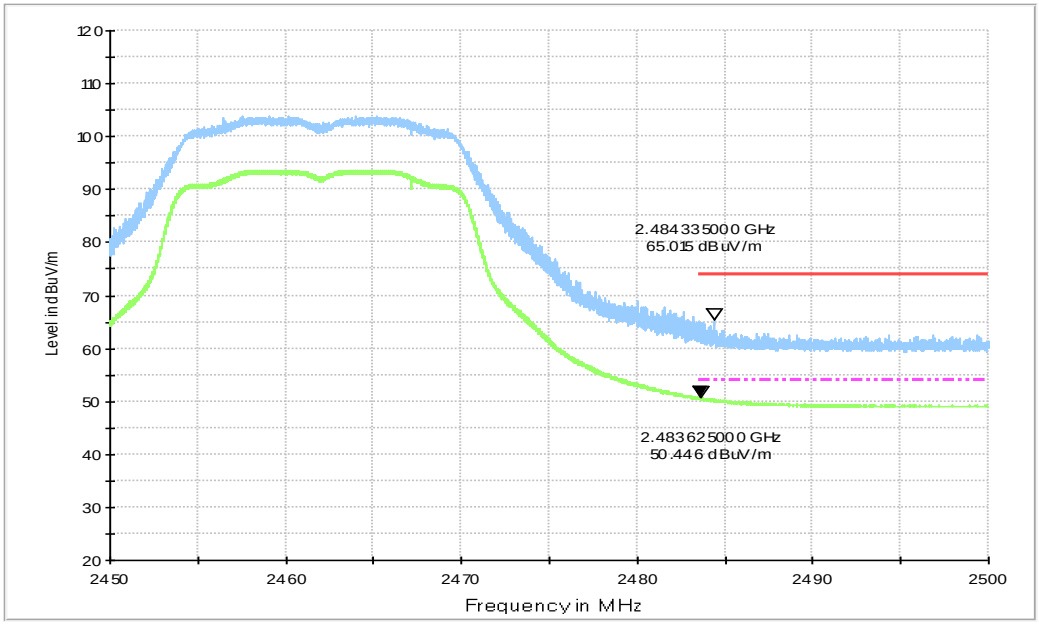


Fig.C.1.3.28 **Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

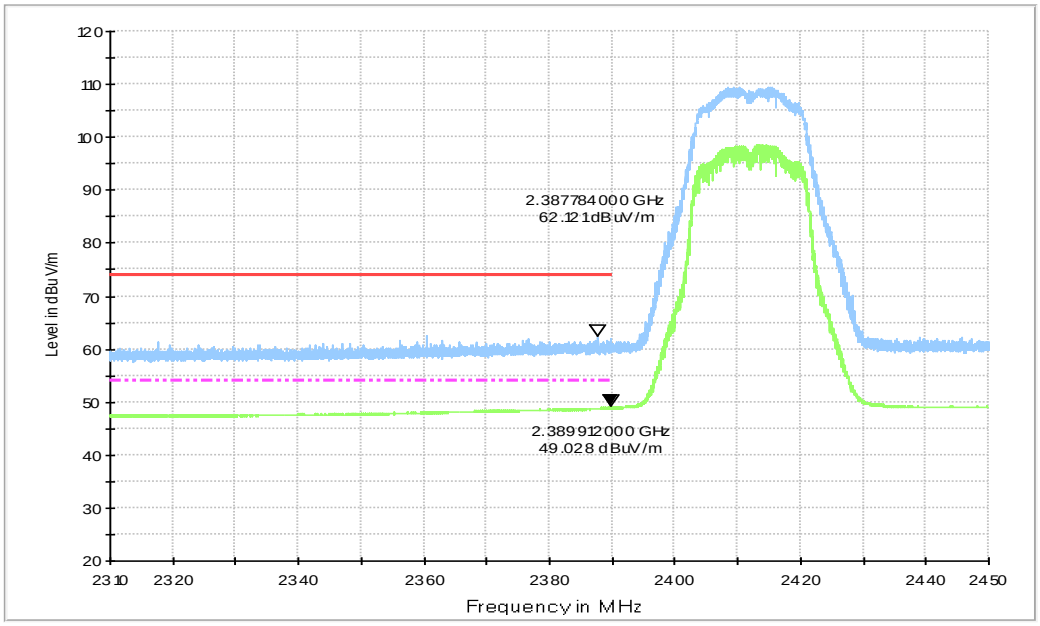


Fig.C.1.3.29 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz**

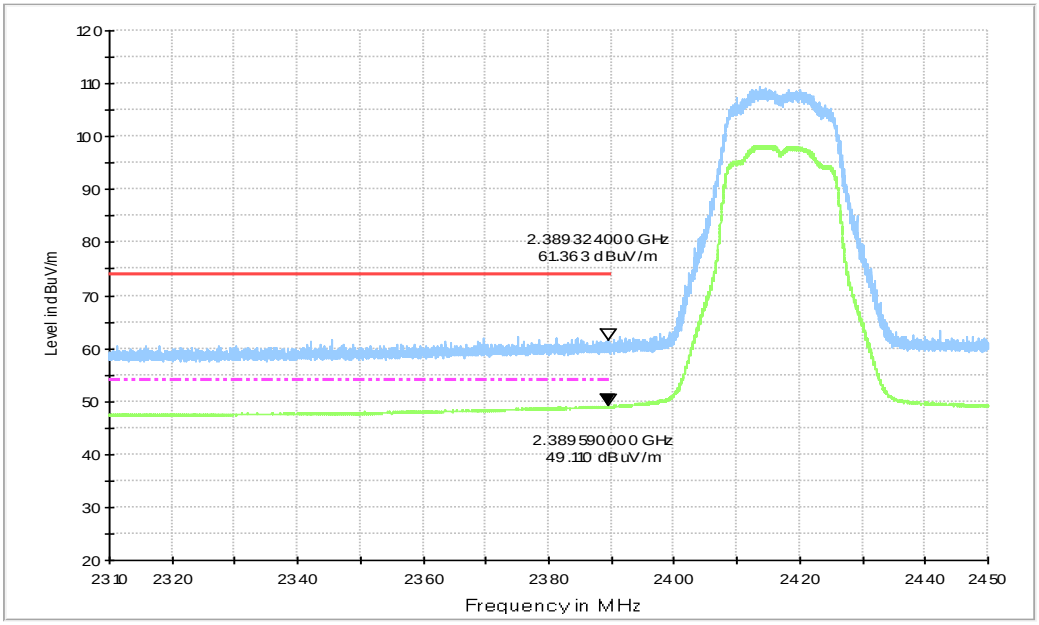


Fig.C.1.3.30 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch2, 2.31 GHz - 2.45GHz**

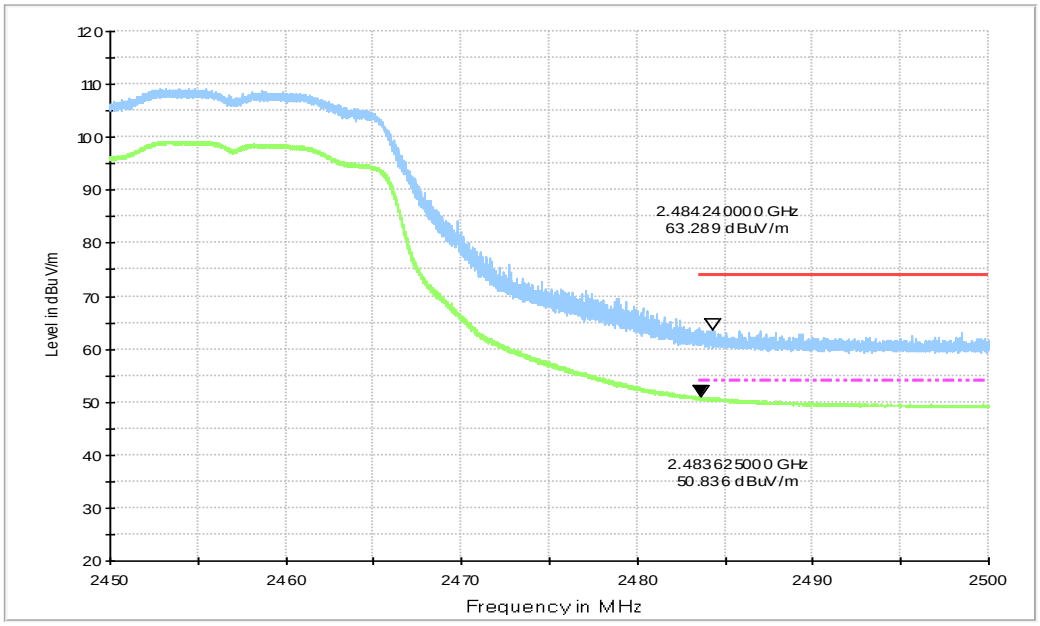


Fig.C.1.3.31 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch10, 2.45 GHz - 2.50GHz**

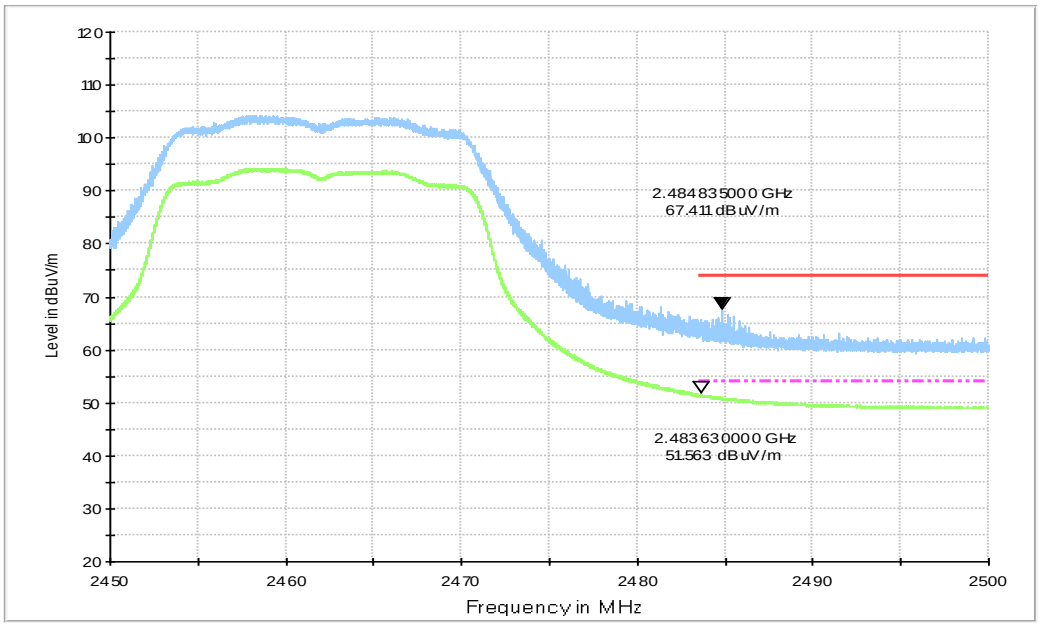


Fig.C.1.3.32 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

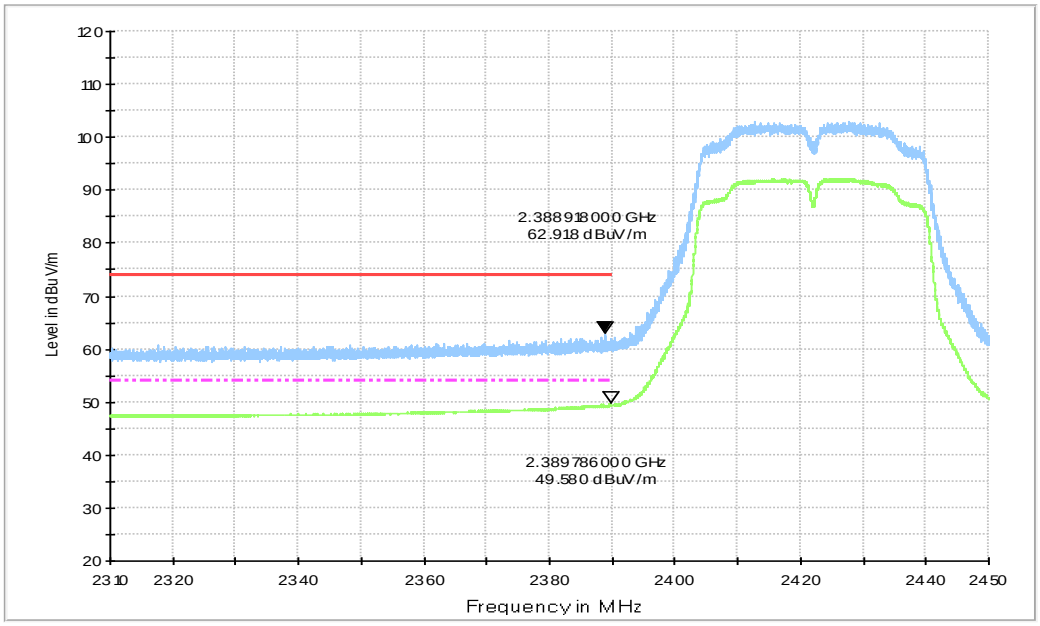


Fig.C.1.3.33 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz**

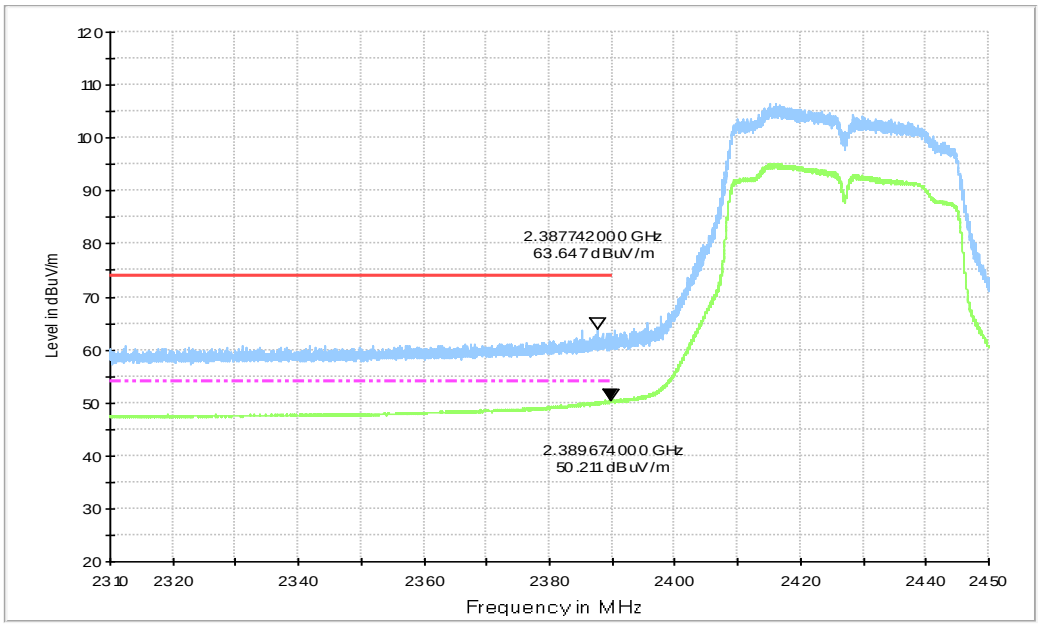


Fig.C.1.3.34 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch4, 2.31 GHz - 2.45GHz**

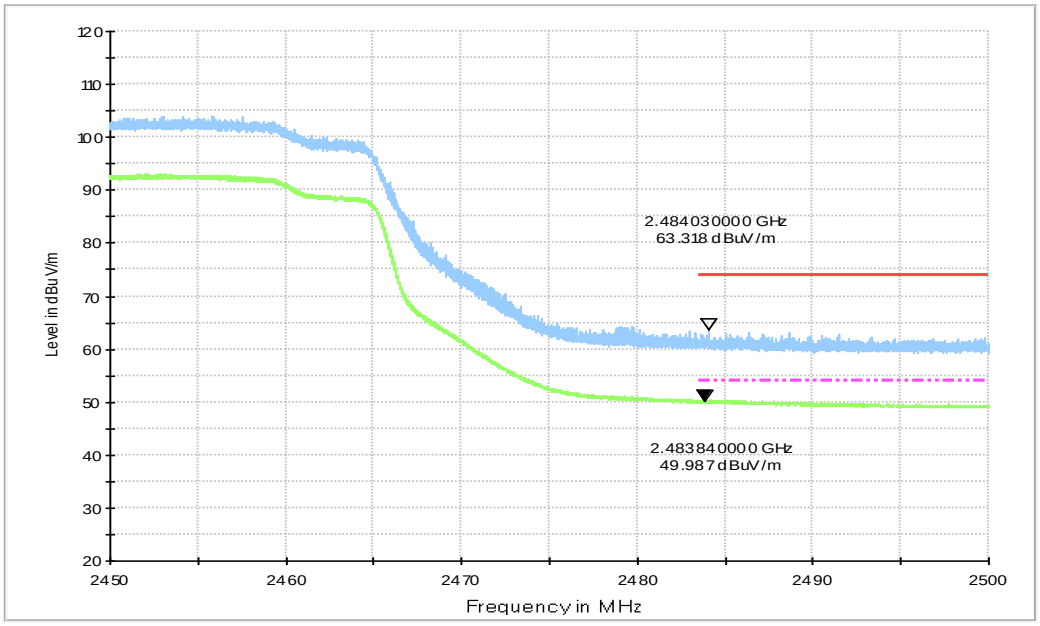


Fig.C.1.3.35 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch8, 2.45 GHz - 2.50GHz**

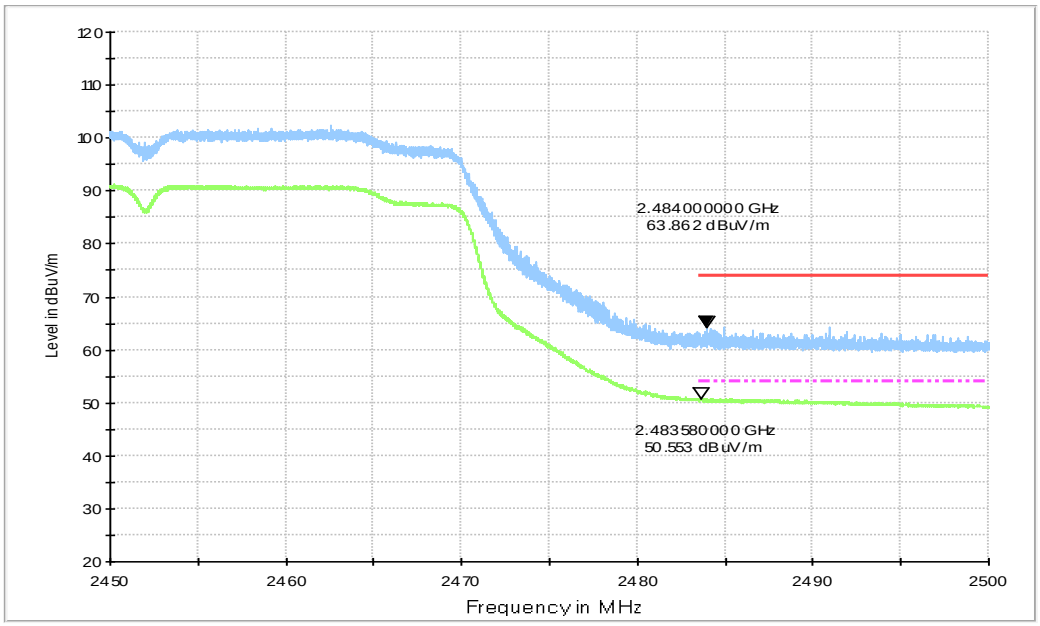


Fig.C.1.3.36 **Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**

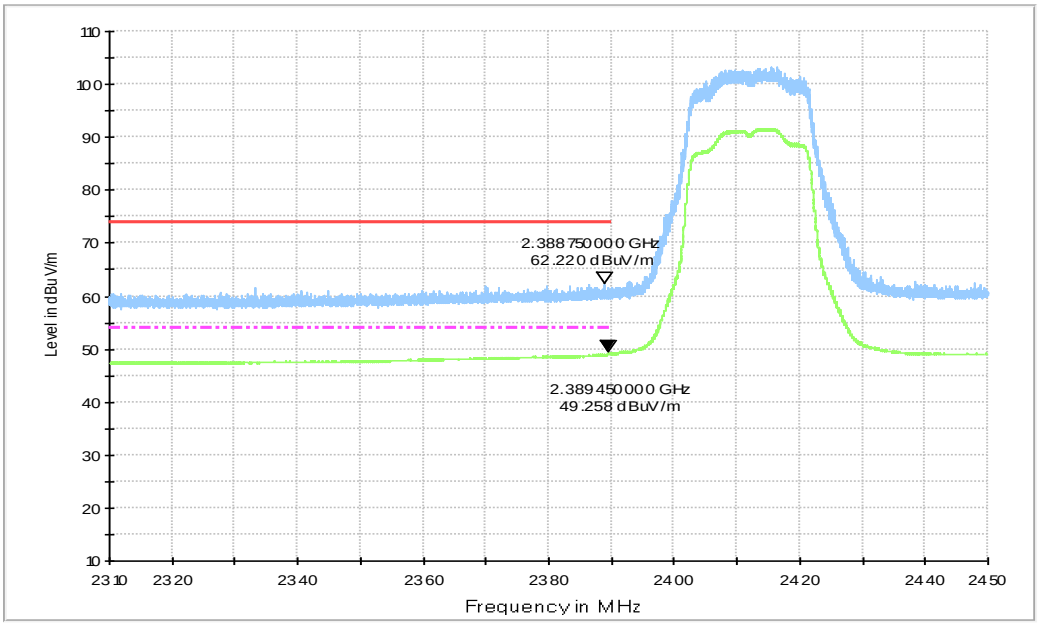


Fig.C.1.3.37 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, 2.31GHz - 2.45GHz**

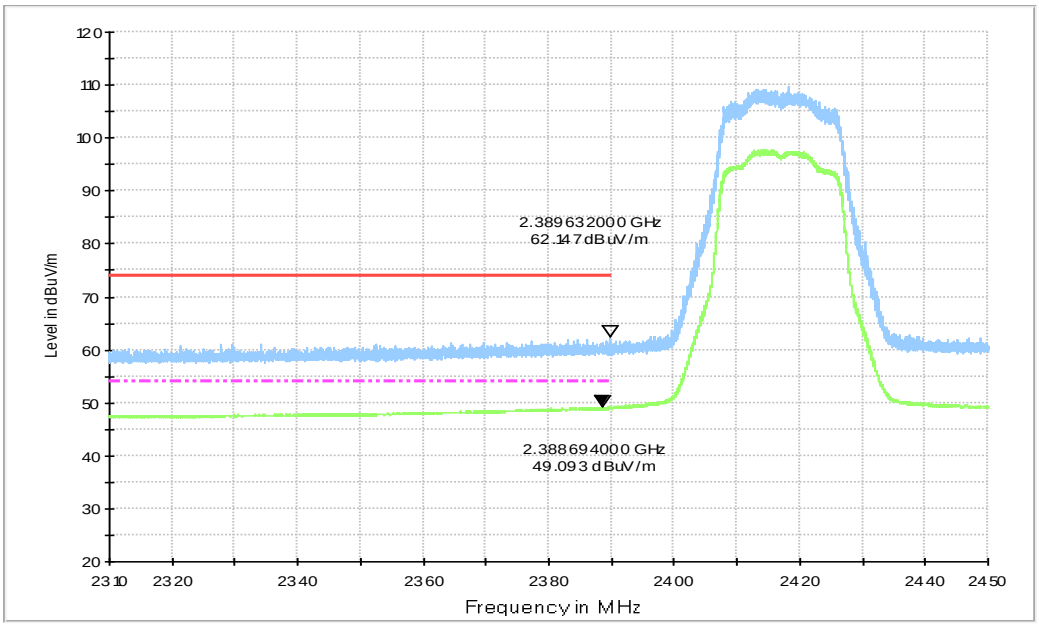


Fig.C.1.3.38 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch2, 2.31GHz - 2.45GHz**

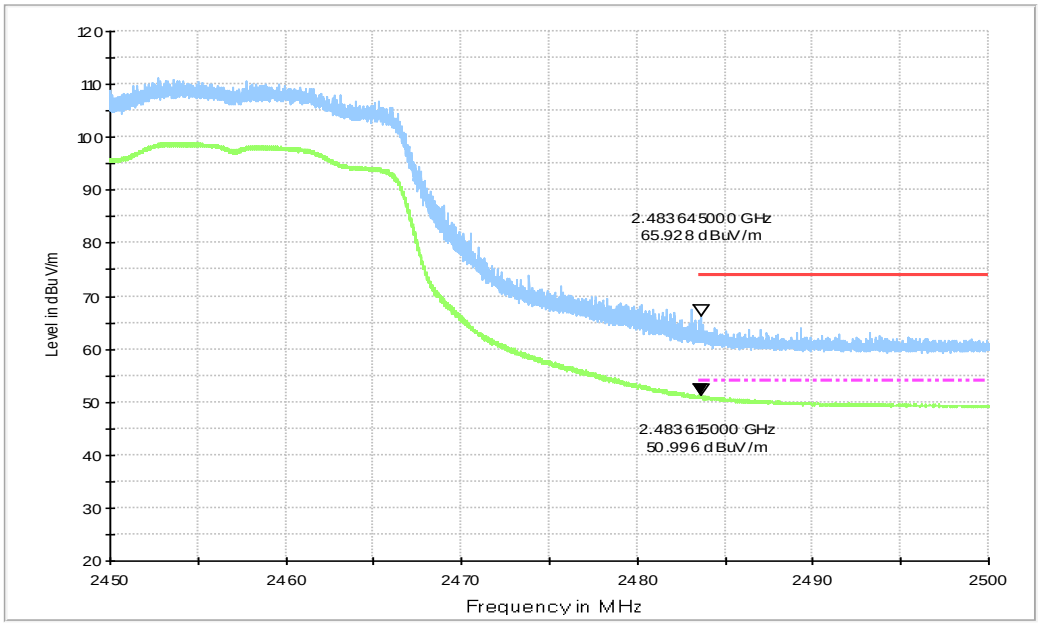


Fig.C.1.3.39 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch10, 2.45 GHz - 2.50GHz**

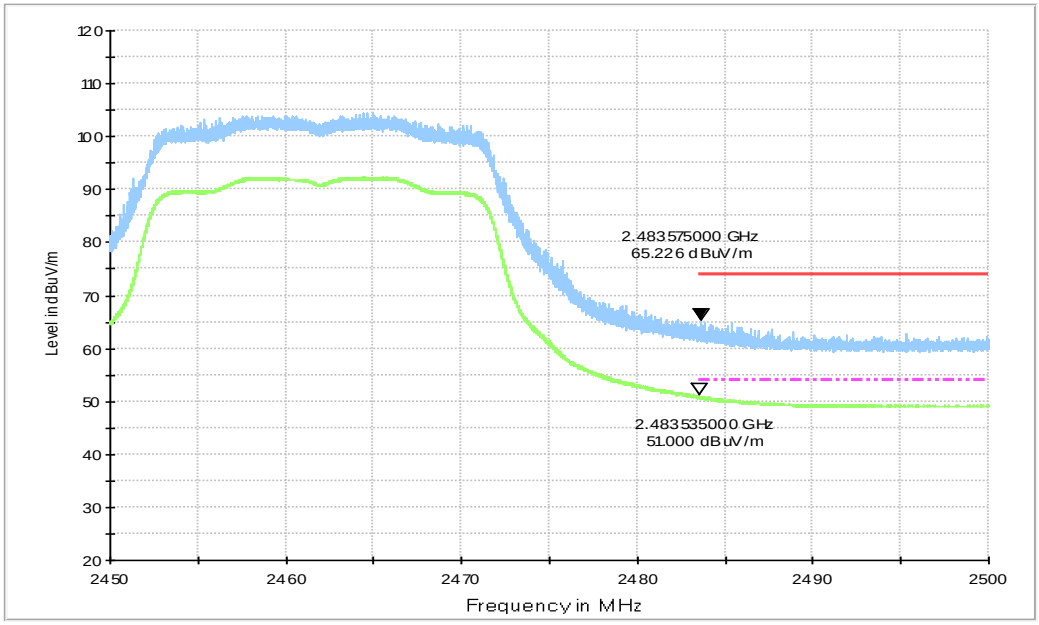


Fig.C.1.3.40 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, 2.45 GHz - 2.50GHz**

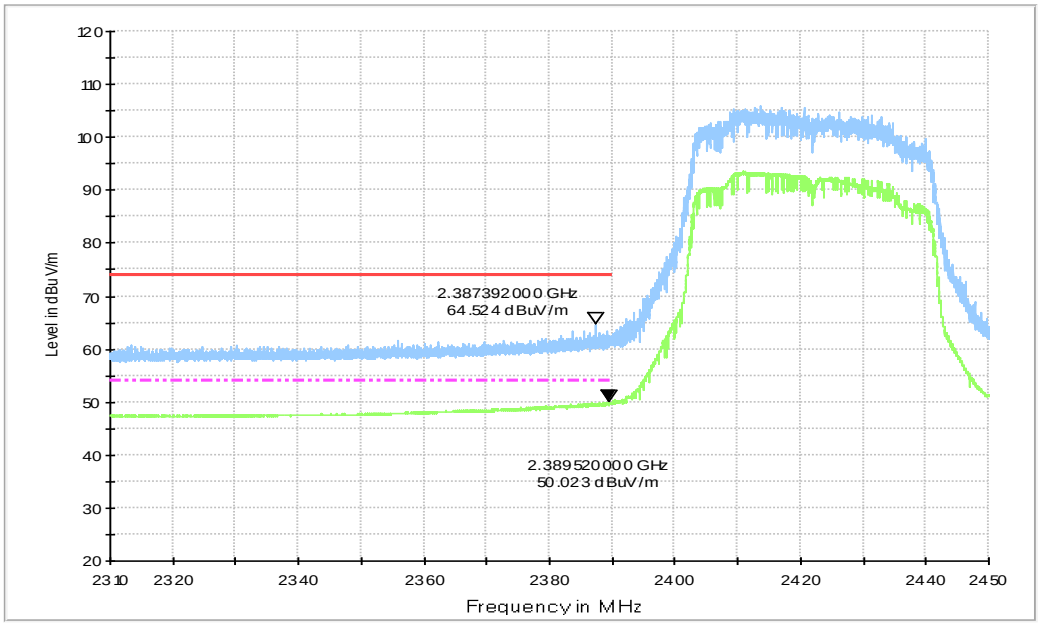


Fig.C.1.3.41 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, 2.31GHz - 2.45GHz**

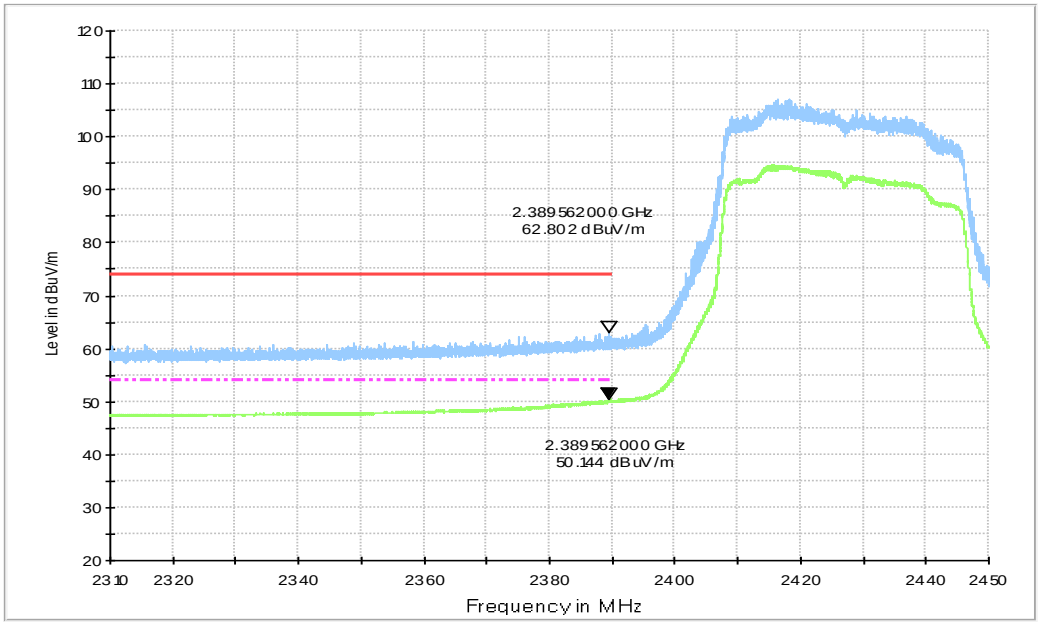


Fig.C.1.3.42 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch4, 2.31GHz - 2.45GHz**

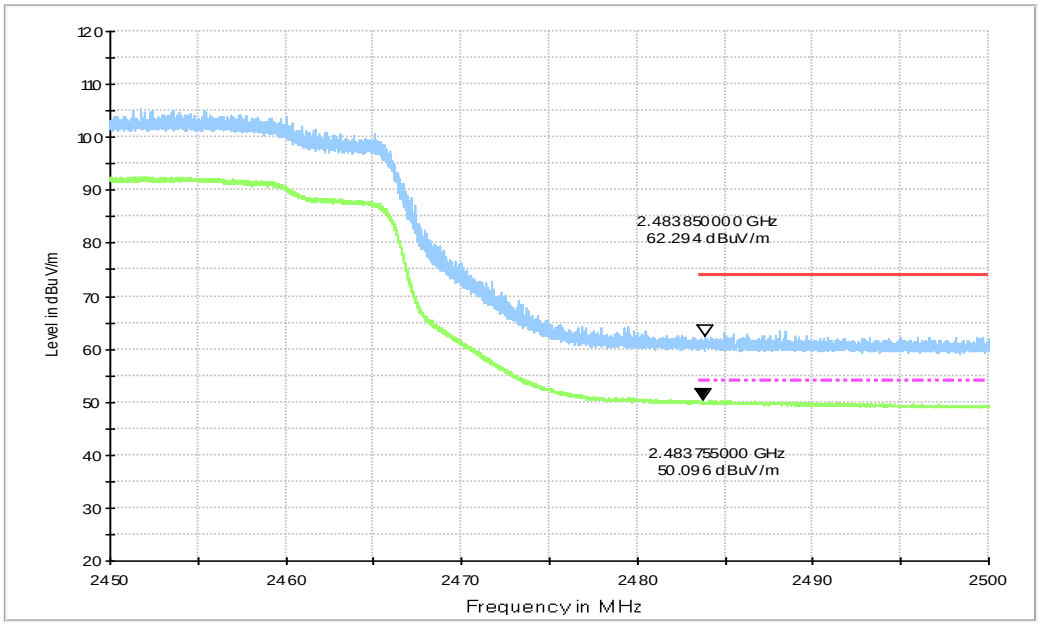


Fig.C.1.3.43 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch8, 2.45 GHz - 2.50GHz**

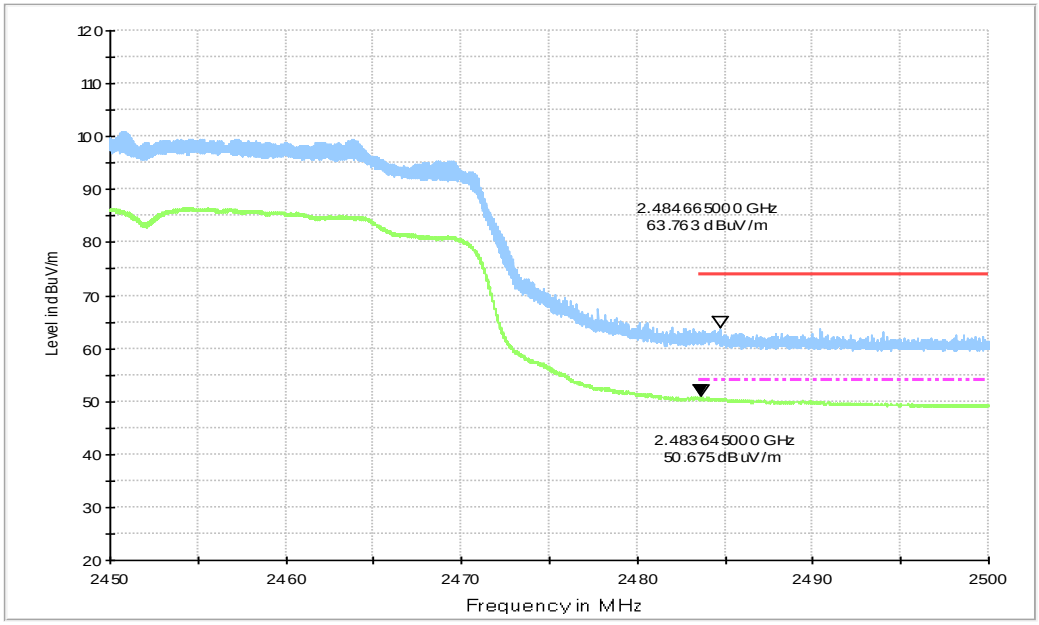


Fig.C.1.3.44 **Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, 2.45 GHz - 2.50GHz**

C.2. AC Power-line Conducted Emission

Specification Reference

FCC 47 CFR Part 15.207, Part 115.107

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.

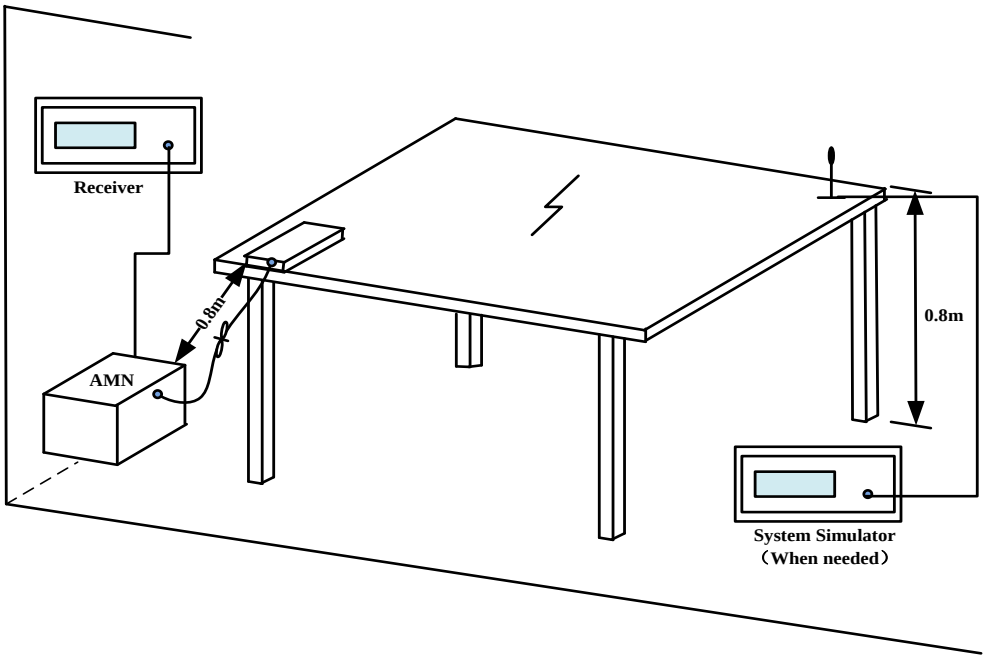
The measurement bandwidth is:

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 transmitting state.

The EUT is powered by an AC/DC 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 investigated and the worst results shown here.

Conclusion: Pass

Test graphs as below:

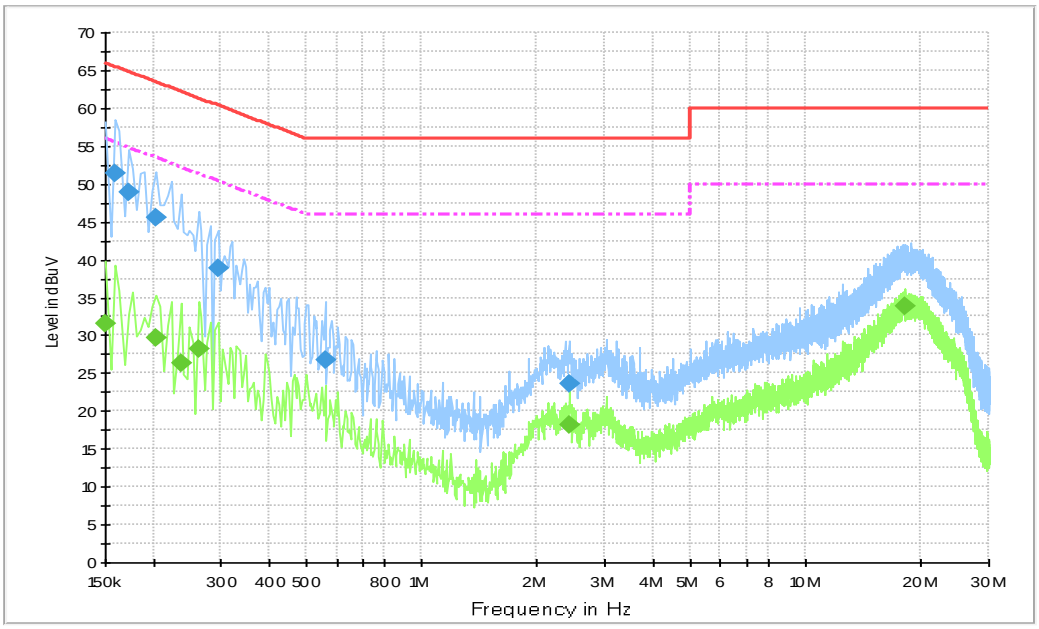


Fig.C.2.1 AC Powerline Conducted Emission-802.11b

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)
0.159000	51.3	5000.0	9.000	N	19.9	14.2	65.5
0.172500	48.8	5000.0	9.000	N	19.8	16.0	64.8
0.204000	45.6	5000.0	9.000	N	19.7	17.9	63.4
0.294000	38.9	5000.0	9.000	N	19.7	21.5	60.4
0.559500	26.8	5000.0	9.000	N	19.8	29.2	56.0
2.427000	23.6	5000.0	9.000	L1	19.6	32.4	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	31.6	5000.0	9.000	L1	20.0	24.4	56.0
0.204000	29.7	5000.0	9.000	L1	19.7	23.7	53.4
0.235500	26.2	5000.0	9.000	L1	19.8	26.0	52.3
0.262500	28.2	5000.0	9.000	L1	19.8	23.1	51.4
2.427000	18.2	5000.0	9.000	L1	19.6	27.8	46.0
18.105000	33.9	5000.0	9.000	L1	19.9	16.1	50.0

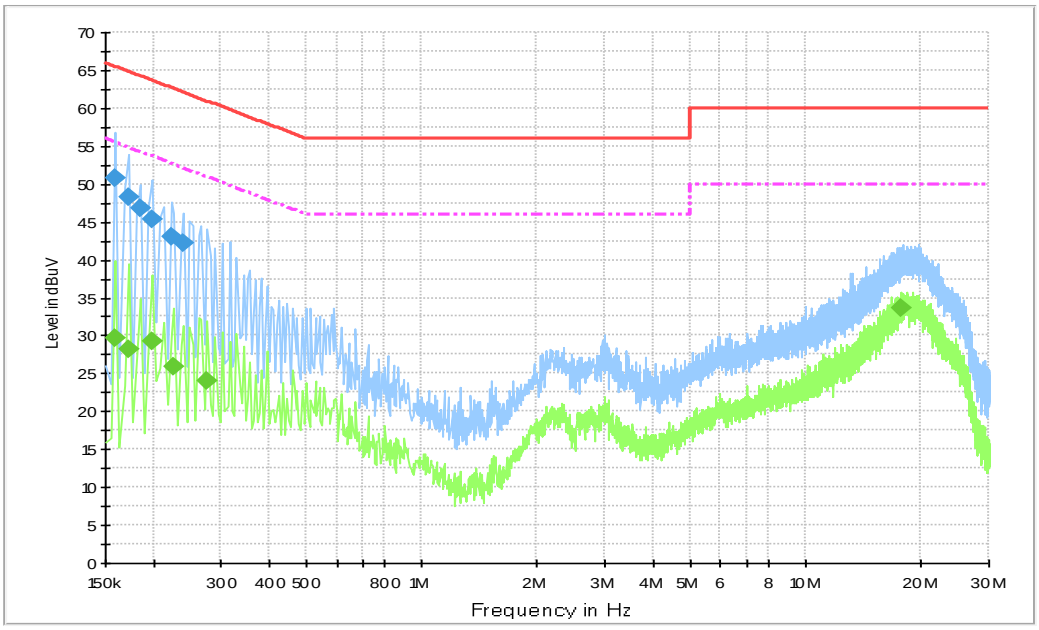


Fig.C.2.2 AC Powerline Conducted Emission-Idle

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)
0.159000	50.8	5000.0	9.000	L1	19.9	14.7	65.5
0.172500	48.2	5000.0	9.000	N	19.8	16.7	64.8
0.186000	46.9	5000.0	9.000	L1	19.8	17.3	64.2
0.199500	45.4	5000.0	9.000	L1	19.7	18.2	63.6
0.222000	43.1	5000.0	9.000	L1	19.8	19.6	62.7
0.240000	42.1	5000.0	9.000	L1	19.8	20.0	62.1

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.159000	29.6	5000.0	9.000	N	19.9	25.9	55.5
0.172500	28.1	5000.0	9.000	N	19.8	26.7	54.8
0.199500	29.3	5000.0	9.000	N	19.7	24.3	53.6
0.226500	25.9	5000.0	9.000	N	19.8	26.6	52.6
0.276000	24.1	5000.0	9.000	N	19.8	26.8	50.9
17.808000	33.6	5000.0	9.000	L1	19.9	16.4	50.0

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