



FCC PART 15C TEST REPORT No.I21Z70659-EMC10

for

Samsung Electronics Co., Ltd.

Notebook PC

NP750XEE

with

FCC ID: ZCANP750XEE

Hardware Version: REV1.0

Software Version: Windows11

Issued Date: 2022-01-26

Note:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
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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

Location: 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°C

Relative Humidity: 20-75%

1.4.Project date

Testing Start Date: 2021-12-10

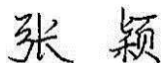
Testing End Date: 2022-01-24

1.5.Signature



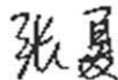
Li Yan

(Prepared this test report)



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(Reviewed this test report)



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Deputy Director of the laboratory

(Approved this test report)



2. Client Information

2.1. Applicant Information

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2.2. Manufacturer Information

Company Name: Samsung Electronics Co., Ltd.
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3. PRODUCT INFORMATION

3.1. About EUT

Description	Notebook PC
Model name	NP750XEE
FCC ID	ZCANP750XEE

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	2170659UT13a	REV1.0	Windows11
EUT2	2170659UT22a	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	Data Cable	/	/
AE3	battery	/	Inbuilt

AE1

Model	EP-TA865
Manufacturer	DONGYANG E&P Inc
Length of cable	/

AE2

Model	/
Manufacturer	/
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
	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	22-26°C
Voltage	V nom	15.4V
Humidity	H nom	20-75%

6. Test Facilities Utilized

Radiated emission test system

No.	Equipment	Model	Manufacturer	Serial Number	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	R&S	103023	1 year	2022-10-18
2	Analytical Spectrometer	FSW67	R&S	103290	1 year	2022-01-20
3	EMI Antenna	VULB 9163	SCHWARZBECK	01223	1 year	2022-03-22
4	EMI Antenna	3115	ETS-Lindgren	00167250	1 year	2022-07-01
5	EMI Antenna	3116	ETS-Lindgren	2663	1 year	2022-08-10
6	Loop Antenna	HFH2-Z2	R&S	829324/007	1 year	2022-12-22

Note: the Analytical Spectrometer which Serial Number is 103290 was before Calibration Due date when used.

AC Power Line Conducted Emission

No.	Equipment	Model	Manufacturer	Serial Number	Calibration Period	Calibration Due date
1	LISN	ENV216	R&S	101200	1 year	2022-05-30
2	Test Receiver	ESCI	R&S	100344	1 year	2022-02-23

7. Measurement Uncertainty

Radiated Spurious Emission

(k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
$30\text{MHz} \leq f \leq 1\text{GHz}$	5.16
$1\text{GHz} \leq f \leq 18\text{GHz}$	5.44
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.28

AC Power-line Conducted Emission

Measurement Uncertainty: 3.08dB,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

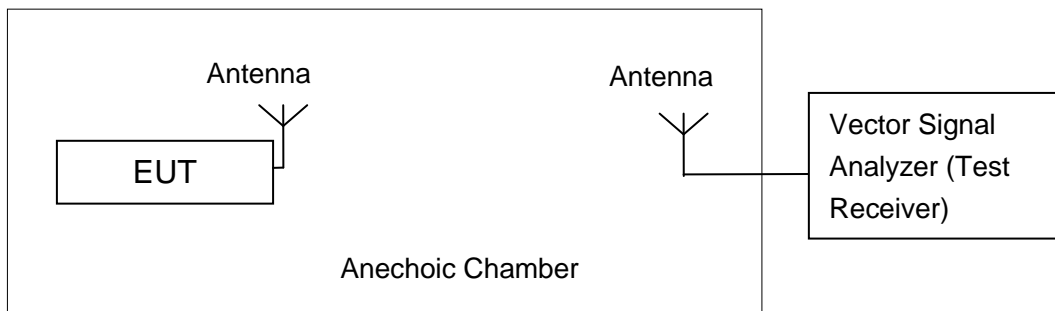
Specification Reference

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($\mu\text{V}/\text{m}$)	Measurement distance (m)
0.009 - 0.490	$2400/F(\text{kHz})$	300
0.490 - 1.705	$24000/F(\text{kHz})$	30
1.705 – 30.0	30	30

Frequency of emission (MHz)	Field strength(dB μ V/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/ Δ BW
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:

$$\text{Result} = P_{\text{Mea}} + A_{\text{Rpl}} = P_{\text{Mea}} + \text{Cable Loss} + \text{Antenna Factor}$$

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)
17996.000	53.83	-25.50	46.70	32.63	74.00	20.17	H
14087.500	51.08	-29.40	41.70	38.88	74.00	22.92	H
12835.500	49.23	-30.70	39.10	40.73	74.00	24.77	H
9153.000	47.46	-33.80	38.10	43.26	74.00	26.54	H
7513.500	46.06	-34.50	36.80	43.76	74.00	27.94	H
2376.300	56.36	-20.10	28.00	48.36	74.00	17.64	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)
17998.500	54.17	-25.50	46.70	32.97	74.00	19.83	V
14173.000	50.47	-29.00	42.00	37.47	74.00	23.53	V
12919.500	49.26	-30.50	39.20	40.56	74.00	24.74	V
9119.000	47.65	-33.80	38.10	43.45	74.00	26.35	V
7199.000	45.88	-35.50	36.40	44.98	74.00	28.12	H
4885.500	41.58	-37.20	33.20	45.58	74.00	32.42	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)
17929.000	53.61	-25.50	46.70	32.41	74.00	20.39	H
14209.500	50.57	-29.00	42.00	37.57	74.00	23.43	H
12665.000	49.07	-30.50	39.10	40.47	74.00	24.93	V
9898.000	46.87	-33.50	38.10	42.27	74.00	27.13	V
7973.000	45.49	-34.80	37.10	43.19	74.00	28.51	H
2489.400	56.67	-20.00	28.30	48.37	74.00	17.33	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)
17605.500	53.76	-25.70	46.00	33.56	74.00	20.24	H
14148.000	51.37	-29.00	42.00	38.37	74.00	22.63	V
12774.000	49.47	-30.70	39.10	40.97	74.00	24.53	V
8637.000	47.41	-34.40	37.90	43.81	74.00	26.59	V
7972.000	46.80	-34.80	37.10	44.50	74.00	27.20	H
2346.000	56.42	-20.10	28.00	48.52	74.00	17.58	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)
17588.500	54.11	-25.70	46.00	33.91	74.00	19.89	H
14130.000	50.55	-29.00	42.00	37.55	74.00	23.45	V
12041.000	48.77	-31.60	39.00	41.37	74.00	25.23	H
9206.000	46.71	-33.70	38.00	42.41	74.00	27.29	V
7793.500	45.77	-35.10	37.00	43.87	74.00	28.23	H
4701.500	40.82	-37.40	32.90	45.32	74.00	33.18	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)
17965.500	53.98	-25.50	46.70	32.78	74.00	20.02	V
14065.500	51.06	-29.40	41.70	38.86	74.00	22.94	V
12873.500	49.19	-30.70	39.10	40.69	74.00	24.81	H
8832.000	46.75	-33.90	38.10	42.55	74.00	27.25	V
7807.000	45.58	-35.10	37.00	43.68	74.00	28.42	V
2486.700	56.43	-20.00	28.30	48.13	74.00	17.57	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)
17412.500	54.06	-26.90	45.20	35.66	74.00	19.94	H
13701.000	50.92	-29.10	40.90	39.12	74.00	23.08	V
12864.000	49.14	-30.70	39.10	40.64	74.00	24.86	H
9147.500	47.05	-33.80	38.10	42.85	74.00	26.95	V
7421.000	46.38	-35.20	36.70	44.78	74.00	27.62	H
2357.200	56.42	-20.10	28.00	48.42	74.00	17.58	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)
17967.000	53.76	-25.50	46.70	32.56	74.00	20.24	V
14126.000	51.27	-29.00	42.00	38.27	74.00	22.73	V
12930.000	49.06	-30.50	39.20	40.36	74.00	24.94	H
9499.500	47.17	-33.20	37.90	42.47	74.00	26.83	H
7961.000	45.67	-34.80	37.10	43.37	74.00	28.33	V
4713.000	41.20	-37.40	32.90	45.70	74.00	32.80	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)
17970.500	54.22	-25.50	46.70	33.02	74.00	19.78	H
14782.000	50.37	-28.30	41.30	37.37	74.00	23.63	H
12779.000	48.77	-30.70	39.10	40.27	74.00	25.23	V
8694.000	47.61	-34.40	38.00	44.01	74.00	26.39	H
7930.500	46.16	-34.80	37.10	43.86	74.00	27.84	H
2485.700	57.17	-20.00	28.30	48.87	74.00	16.83	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)
17973.500	53.53	-25.50	46.70	32.33	74.00	20.47	V
13635.500	51.21	-29.50	40.40	40.31	74.00	22.79	V
12798.000	50.00	-30.70	39.10	41.50	74.00	24.00	V
9006.500	47.19	-33.30	38.20	42.29	74.00	26.81	H
7909.000	45.79	-34.90	37.10	43.59	74.00	28.21	V
2388.200	63.73	-20.00	28.10	55.73	74.00	10.27	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)
17975.000	54.60	-25.50	46.70	33.40	74.00	19.40	V
14128.000	50.44	-29.00	42.00	37.44	74.00	23.56	V
12753.000	49.96	-30.50	39.10	41.36	74.00	24.04	V
9120.000	47.04	-33.80	38.10	42.84	74.00	26.96	H
7792.500	45.78	-35.10	37.00	43.88	74.00	28.22	H
4941.000	41.03	-37.10	33.30	44.83	74.00	32.97	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)
17591.000	54.40	-25.70	46.00	34.20	74.00	19.60	H
13722.000	50.53	-29.10	40.90	38.73	74.00	23.47	H
12364.000	49.08	-31.10	38.90	41.28	74.00	24.92	H
9113.000	46.92	-33.80	38.10	42.72	74.00	27.08	H
7787.000	45.73	-35.10	37.00	43.83	74.00	28.27	H
2485.200	63.68	-20.00	28.30	55.38	74.00	10.32	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)
17589.500	53.47	-25.70	46.00	33.27	74.0	20.53	V
13784.500	50.82	-29.10	40.90	39.02	74.0	23.18	V
12790.000	49.75	-30.70	39.10	41.25	74.0	24.25	V
9790.500	47.05	-33.50	38.00	42.55	74.0	26.95	V
7251.500	45.42	-35.00	36.50	43.82	74.0	28.58	V
2353.200	57.28	-20.10	28.00	49.28	74.0	16.72	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)
17970.000	54.01	-25.50	46.70	32.81	74.0	19.99	V
14159.000	50.37	-29.00	42.00	37.37	74.0	23.63	V
12911.500	48.84	-30.50	39.20	40.14	74.0	25.16	H
9110.500	46.92	-33.80	38.10	42.72	74.0	27.08	H
7411.500	46.33	-35.20	36.70	44.73	74.0	27.67	V
4766.500	40.66	-37.30	33.00	44.96	74.0	33.34	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)
17976.500	53.47	-25.50	46.70	32.27	74.0	20.53	V
14144.500	51.29	-29.00	42.00	38.29	74.0	22.71	H
12850.000	49.49	-30.70	39.10	40.99	74.0	24.51	V
9544.000	47.22	-33.20	37.90	42.52	74.0	26.78	V
7766.500	46.18	-35.10	37.00	44.28	74.0	27.82	H
2485.300	57.53	-20.00	28.30	49.23	74.0	16.47	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)
17934.000	53.88	-25.50	46.70	32.68	74.0	20.12	V
13696.500	50.75	-29.10	40.90	38.95	74.0	23.25	H
12854.000	49.53	-30.70	39.10	41.03	74.0	24.47	H
9702.500	46.64	-33.00	38.00	41.64	74.0	27.36	H
7523.500	45.98	-34.50	36.80	43.68	74.0	28.02	V
2389.700	60.59	-20.00	28.10	52.59	74.0	13.41	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)
17802.500	54.17	-25.50	46.70	32.97	74.0	19.83	V
14178.500	50.82	-29.00	42.00	37.82	74.0	23.18	H
11906.500	48.81	-31.80	39.00	41.61	74.0	25.19	V
9087.500	47.24	-33.80	38.10	42.84	74.0	26.76	V
7053.000	45.68	-35.40	36.20	44.78	74.0	28.32	H
4625.000	41.15	-37.30	32.70	45.85	74.0	32.85	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)
17911.000	53.97	-25.50	46.70	32.77	74.0	20.03	V
14265.500	51.09	-28.40	42.30	37.19	74.0	22.91	H
12746.500	49.13	-30.50	39.10	40.53	74.0	24.87	H
9092.500	46.63	-33.80	38.10	42.23	74.0	27.37	H
7803.500	46.05	-35.10	37.00	44.15	74.0	27.95	V
2488.300	61.49	-20.00	28.30	53.19	74.0	12.51	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)
17402.000	42.50	-26.90	45.20	24.10	54.00	11.50	V
14170.500	39.50	-29.00	42.00	26.50	54.00	14.50	V
12920.000	37.39	-30.50	39.20	28.69	54.00	16.61	V
9648.500	35.44	-33.10	38.00	30.54	54.00	18.56	V
4823.500	35.28	-37.50	33.10	39.58	54.00	18.72	V
2385.700	42.94	-20.00	28.10	34.94	54.00	11.06	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)
17945.000	42.70	-25.50	46.70	21.50	54.00	11.30	H
14182.500	39.03	-29.00	42.00	26.03	54.00	14.97	H
12845.000	37.46	-30.70	39.10	28.96	54.00	16.54	H
9748.000	35.42	-33.00	38.00	30.42	54.00	18.58	V
7869.000	34.09	-34.90	37.10	31.89	54.00	19.91	V
4874.000	33.45	-37.20	33.20	37.45	54.00	20.55	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)
17989.500	42.69	-25.50	46.70	21.49	54.00	11.31	V
14194.500	39.10	-29.00	42.00	26.10	54.00	14.90	V
12917.000	37.53	-30.50	39.20	28.83	54.00	16.47	V
4924.000	36.67	-37.10	33.30	40.47	54.00	17.33	V
8887.500	35.21	-33.50	38.10	30.61	54.00	18.79	V
2494.900	43.07	-20.00	28.30	34.77	54.00	10.93	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)
17995.000	42.70	-25.50	46.70	21.50	54.00	11.30	H
14175.000	39.26	-29.00	42.00	26.26	54.00	14.74	V
12885.500	37.60	-30.70	39.10	29.10	54.00	16.40	V
9090.000	35.28	-33.80	38.10	30.88	54.00	18.72	V
7803.500	33.99	-35.10	37.00	32.09	54.00	20.01	V
2389.800	42.81	-20.00	28.10	34.81	54.00	11.19	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)
17999.000	42.51	-25.50	46.70	21.31	54.00	11.49	V
14160.000	39.08	-29.00	42.00	26.08	54.00	14.92	H
12771.000	37.62	-30.50	39.10	29.02	54.00	16.38	H
9103.500	35.12	-33.80	38.10	30.72	54.00	18.88	H
7980.000	34.43	-34.80	37.10	32.13	54.00	19.57	H
4873.000	29.41	-37.20	33.20	33.41	54.00	24.59	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)
17979.500	42.46	-25.50	46.70	21.26	54.00	11.54	V
14099.500	39.19	-29.40	41.70	26.99	54.00	14.81	H
12858.000	37.46	-30.70	39.10	28.96	54.00	16.54	H
8989.000	35.16	-33.30	38.20	30.26	54.00	18.84	H
7991.500	34.19	-34.80	37.10	31.89	54.00	19.81	H
2485.000	43.77	-20.00	28.30	35.47	54.00	10.23	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)
17979.500	42.16	-25.50	46.70	20.96	54.00	11.84	V
14166.000	39.41	-29.00	42.00	26.41	54.00	14.59	V
12898.500	37.47	-30.70	39.10	28.97	54.00	16.53	V
9862.500	35.03	-33.50	38.10	30.43	54.00	18.97	V
7975.500	34.22	-34.80	37.10	31.92	54.00	19.78	H
2370.400	42.81	-20.10	28.00	34.81	54.00	11.19	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)
17996.000	42.67	-25.50	46.70	21.47	54.00	11.33	H
14197.500	39.09	-29.00	42.00	26.09	54.00	14.91	V
12858.000	37.51	-30.70	39.10	29.01	54.00	16.49	H
9718.500	35.43	-33.00	38.00	30.43	54.00	18.57	V
7994.500	34.35	-34.80	37.10	32.05	54.00	19.65	H
4987.500	29.55	-36.60	33.40	32.75	54.00	24.45	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)
17964.000	42.26	-25.50	46.70	21.06	54.00	11.74	H
14188.000	39.08	-29.00	42.00	26.08	54.00	14.92	V
12834.000	37.80	-30.70	39.10	29.30	54.00	16.20	V
9751.000	35.16	-33.00	38.00	30.16	54.00	18.84	V
7215.000	34.13	-35.50	36.40	33.23	54.00	19.87	H
2485.000	43.73	-20.00	28.30	35.43	54.00	10.27	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)
17991.500	42.36	-25.50	46.70	21.16	54.00	11.64	H
14186.500	39.14	-29.00	42.00	26.14	54.00	14.86	V
12831.000	37.89	-30.70	39.10	29.39	54.00	16.11	H
9104.500	35.43	-33.80	38.10	31.03	54.00	18.57	H
7985.500	34.29	-34.80	37.10	31.99	54.00	19.71	H
2390.000	48.12	-20.00	28.10	40.12	54.00	5.88	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)
17987.500	42.42	-25.50	46.70	21.22	54.00	11.58	V
14169.500	39.06	-29.00	42.00	26.06	54.00	14.94	H
12842.000	37.40	-30.70	39.10	28.90	54.00	16.60	H
9108.500	35.33	-33.80	38.10	31.13	54.00	18.67	H
7999.000	34.27	-34.80	37.10	31.97	54.00	19.73	H
4797.000	29.40	-37.30	33.00	33.60	54.00	24.60	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)
17606.500	42.58	-25.70	46.00	22.38	54.00	11.42	V
14192.000	39.23	-29.00	42.00	26.23	54.00	14.77	H
12852.500	37.47	-30.70	39.10	28.97	54.00	16.53	H
9217.000	35.26	-33.70	38.00	30.96	54.00	18.74	V
7997.000	34.10	-34.80	37.10	31.80	54.00	19.90	V
2485.100	50.11	-20.00	28.30	41.81	54.00	3.89	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)
17996.500	42.76	-25.50	46.70	21.56	54.0	11.24	V
14191.500	39.07	-29.00	42.00	26.07	54.0	14.93	V
12845.000	37.73	-30.70	39.10	29.23	54.0	16.27	V
9227.500	35.23	-33.70	38.00	30.93	54.0	18.77	V
7888.500	34.14	-34.90	37.10	31.94	54.0	19.86	H
2386.000	42.77	-20.00	28.10	34.77	54.0	11.23	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)
17951.500	42.37	-25.50	46.70	21.17	54.0	11.63	H
14200.500	39.43	-29.00	42.00	26.43	54.0	14.57	H
12845.500	37.58	-30.70	39.10	29.08	54.0	16.42	H
9211.500	35.21	-33.70	38.00	30.91	54.0	18.79	H
7994.000	34.34	-34.80	37.10	32.04	54.0	19.66	V
4968.000	29.34	-36.60	33.40	32.54	54.0	24.66	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)
17993.000	42.49	-25.50	46.70	21.29	54.0	11.51	V
14188.500	39.12	-29.00	42.00	26.12	54.0	14.88	V
12910.500	37.69	-30.50	39.20	28.99	54.0	16.31	V
9100.500	35.19	-33.80	38.10	30.79	54.0	18.81	V
7806.500	34.19	-35.10	37.00	32.29	54.0	19.81	V
2485.100	43.57	-20.00	28.30	35.27	54.0	10.43	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)
17593.000	42.49	-25.70	46.00	22.29	54.0	11.51	V
14162.500	39.36	-29.00	42.00	26.36	54.0	14.64	H
12878.500	37.40	-30.70	39.10	28.9	54.0	16.6	H
9087.500	35.17	-33.80	38.10	30.77	54.0	18.83	V
7613.000	34.21	-35.00	36.90	32.41	54.0	19.79	V
2389.900	47.33	-20.00	28.10	39.33	54.0	6.67	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)
17964.500	42.39	-25.50	46.70	21.19	54.0	11.61	V
14211.000	39.20	-29.00	42.00	26.2	54.0	14.8	V
12863.500	37.51	-30.70	39.10	29.01	54.0	16.49	H
9708.000	35.30	-33.00	38.00	30.3	54.0	18.7	V
7795.500	34.27	-35.10	37.00	32.37	54.0	19.73	V
4847.500	29.40	-37.50	33.10	33.7	54.0	24.6	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)
17994.000	42.61	-25.50	46.70	21.41	54.0	11.39	V
14168.000	39.31	-29.00	42.00	26.31	54.0	14.69	H
12865.000	37.56	-30.70	39.10	29.06	54.0	16.44	V
9114.000	35.24	-33.80	38.10	31.04	54.0	18.76	V
7998.000	34.57	-34.80	37.10	32.27	54.0	19.43	H
2485.600	48.30	-20.00	28.30	40	54.0	5.7	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)
17977.000	54.76	-25.50	46.70	33.56	74.0	19.24	V
13566.500	50.84	-29.50	40.40	39.94	74.0	23.16	H
12858.500	49.21	-30.70	39.10	40.71	74.0	24.79	V
9728.500	46.76	-33.00	38.00	41.76	74.0	27.24	H
7605.500	46.13	-35.00	36.90	44.33	74.0	27.87	V
2345.200	56.73	-20.10	28.00	48.83	74.0	17.27	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)
17985.500	54.12	-25.50	46.70	32.92	74.0	19.88	H
14193.000	50.98	-29.00	42.00	37.98	74.0	23.02	H
12859.000	49.08	-30.70	39.10	40.58	74.0	24.92	H
9619.500	47.39	-33.10	38.00	42.49	74.0	26.61	H
7210.000	46.43	-35.50	36.40	45.53	74.0	27.57	V
4693.500	41.24	-37.40	32.90	45.74	74.0	32.76	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)
17576.500	53.93	-25.70	46.00	33.73	74.0	20.07	H
13663.000	51.36	-29.50	40.40	40.46	74.0	22.64	V
12446.000	49.47	-31.20	38.90	41.77	74.0	24.53	V
9073.000	47.19	-33.80	38.10	42.79	74.0	26.81	H
7883.500	45.53	-34.90	37.10	43.33	74.0	28.47	H
2488.100	56.37	-20.00	28.30	48.07	74.0	17.63	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)
17967.000	55.26	-25.50	46.70	34.06	74.00	18.74	V
13603.000	50.90	-29.50	40.40	40.00	74.00	23.10	H
12666.500	49.09	-30.50	39.10	40.49	74.00	24.91	V
8975.500	46.76	-33.30	38.20	41.86	74.00	27.24	H
7790.000	45.65	-35.10	37.00	43.75	74.00	28.35	V
2344.600	56.69	-20.10	28.00	48.79	74.00	17.31	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)
17992.000	54.39	-25.50	46.70	33.19	74.00	19.61	H
13798.500	50.85	-29.10	40.90	39.05	74.00	23.15	V
12753.000	50.64	-30.50	39.10	42.04	74.00	23.36	V
9102.000	46.75	-33.80	38.10	42.35	74.00	27.25	H
7980.500	46.18	-34.80	37.10	43.88	74.00	27.82	V
4850.500	41.41	-37.50	33.10	45.71	74.00	32.59	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)
17976.500	53.51	-25.50	46.70	32.31	74.00	20.49	V
14183.000	50.92	-29.00	42.00	37.92	74.00	23.08	H
12917.000	50.01	-30.50	39.20	41.31	74.00	23.99	H
9125.000	47.04	-33.80	38.10	42.84	74.00	26.96	V
7115.500	45.71	-35.40	36.30	44.81	74.00	28.29	H
2485.100	56.46	-20.00	28.30	48.16	74.00	17.54	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)
17311.500	54.01	-25.90	44.40	35.61	74.00	19.99	H
14177.500	50.85	-29.00	42.00	37.85	74.00	23.15	H
12641.500	48.94	-31.00	39.00	41.04	74.00	25.06	V
7213.000	47.65	-35.50	36.40	46.75	74.00	26.35	H
9775.000	46.81	-33.50	38.00	42.31	74.00	27.19	H
2358.000	56.26	-20.10	28.00	48.26	74.00	17.74	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)
17196.000	53.82	-26.60	43.40	37.02	74.00	20.18	V
13615.500	51.27	-29.50	40.40	40.37	74.00	22.73	V
12877.000	48.88	-30.70	39.10	40.38	74.00	25.12	H
9897.500	46.97	-33.50	38.10	42.37	74.00	27.03	H
7323.000	46.16	-35.10	36.60	44.66	74.00	27.84	H
4715.000	41.25	-37.40	32.90	45.75	74.00	32.75	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)
17615.000	54.40	-25.70	46.00	34.20	74.00	19.60	H
13759.500	51.17	-29.10	40.90	39.37	74.00	22.83	H
12904.000	48.96	-30.50	39.20	40.26	74.00	25.04	H
9325.000	47.16	-33.90	38.00	43.06	74.00	26.84	V
7878.500	46.49	-34.90	37.10	44.29	74.00	27.51	H
2497.000	57.17	-20.00	28.30	48.87	74.00	16.83	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)
17211.000	54.52	-26.60	43.40	37.72	74.00	19.48	H
14021.500	51.56	-29.40	41.70	39.36	74.00	22.44	H
12999.000	49.73	-30.50	39.20	41.03	74.00	24.27	V
9968.000	47.38	-33.60	38.10	42.88	74.00	26.62	V
7877.000	46.40	-34.90	37.10	44.20	74.00	27.60	H
2387.200	67.17	-20.00	28.10	59.17	74.00	6.83	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)
17810.500	54.21	-25.50	46.70	33.01	74.00	19.79	V
13300.500	50.70	-29.50	39.70	40.50	74.00	23.30	V
12374.500	49.34	-31.10	38.90	41.54	74.00	24.66	V
9191.000	47.37	-33.80	38.10	43.17	74.00	26.63	V
7211.500	45.90	-35.50	36.40	45.00	74.00	28.10	V
4671.000	41.19	-37.50	32.80	45.89	74.00	32.81	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)
17570.500	54.17	-25.70	46.00	33.97	74.00	19.83	H
13747.000	50.85	-29.10	40.90	39.05	74.00	23.15	V
12744.000	49.09	-30.50	39.10	40.49	74.00	24.91	V
9600.500	46.49	-33.10	38.00	41.59	74.00	27.51	V
7867.500	45.87	-34.90	37.10	43.67	74.00	28.13	H
2486.300	63.79	-20.00	28.30	55.49	74.00	10.21	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)
17601.500	54.00	-25.70	46.00	33.80	74.00	20.00	H
14110.000	50.59	-29.00	42.00	37.59	74.00	23.41	H
12914.000	49.36	-30.50	39.20	40.66	74.00	24.64	H
9212.000	46.99	-33.70	38.00	42.69	74.00	27.01	H
7210.000	45.68	-35.50	36.40	44.78	74.00	28.32	H
2383.400	56.45	-20.00	28.10	48.45	74.00	17.55	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)
17956.500	54.50	-25.50	46.70	33.30	74.00	19.50	V
13811.000	50.86	-29.10	40.90	39.06	74.00	23.14	V
12846.500	49.95	-30.70	39.10	41.45	74.00	24.05	H
8630.000	47.69	-34.40	37.90	44.09	74.00	26.31	H
7603.500	46.38	-35.00	36.90	44.58	74.00	27.62	V
4786.000	41.31	-37.30	33.00	45.51	74.00	32.69	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)
17994.000	55.54	-25.50	46.70	34.34	74.00	18.46	V
13670.500	50.77	-29.50	40.40	39.87	74.00	23.23	V
12846.000	48.78	-30.70	39.10	40.28	74.00	25.22	H
9982.000	47.17	-33.60	38.10	42.67	74.00	26.83	H
7211.500	45.42	-35.50	36.40	44.52	74.00	28.58	V
2495.700	56.41	-20.00	28.30	48.11	74.00	17.59	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)
17966.000	54.44	-25.50	46.70	33.24	74.00	19.56	V
14199.000	51.06	-29.00	42.00	38.06	74.00	22.94	H
12899.500	49.47	-30.70	39.10	40.97	74.00	24.53	V
9551.500	47.79	-33.20	37.90	43.09	74.00	26.21	H
7545.000	46.24	-35.00	36.90	44.44	74.00	27.76	H
2390.000	66.41	-20.00	28.10	58.41	74.00	7.59	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)
17209.000	54.35	-26.60	43.40	37.55	74.00	19.65	H
13763.500	50.72	-29.10	40.90	38.92	74.00	23.28	H
12832.000	49.02	-30.70	39.10	40.52	74.00	24.98	H
9970.000	46.76	-33.60	38.10	42.26	74.00	27.24	V
7023.000	46.52	-35.20	36.10	45.62	74.00	27.48	V
4936.500	41.04	-37.10	33.30	44.84	74.00	32.96	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)
17419.000	54.27	-26.90	45.20	35.87	74.00	19.73	H
14195.500	50.92	-29.00	42.00	37.92	74.00	23.08	V
12893.500	49.15	-30.70	39.10	40.65	74.00	24.85	H
9631.500	46.63	-33.10	38.00	41.73	74.00	27.37	H
7107.000	45.40	-35.40	36.30	44.50	74.00	28.60	H
2485.100	64.58	-20.00	28.30	56.28	74.00	9.42	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)
17979.500	42.57	-25.50	46.70	21.37	54.00	11.43	V
14187.000	39.11	-29.00	42.00	26.11	54.00	14.89	V
12867.500	37.53	-30.70	39.10	29.03	54.00	16.47	H
9200.500	35.31	-33.70	38.00	31.01	54.00	18.69	H
7972.000	34.17	-34.80	37.10	31.87	54.00	19.83	V
2386.300	42.96	-20.00	28.10	34.96	54.00	11.04	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)
17990.500	42.57	-25.50	46.70	21.37	54.00	11.43	H
14180.000	39.23	-29.00	42.00	26.23	54.00	14.77	H
12844.000	37.70	-30.70	39.10	29.2	54.00	16.3	H
9117.000	35.34	-33.80	38.10	31.14	54.00	18.66	V
7991.000	34.13	-34.80	37.10	31.83	54.00	19.87	V
4984.000	29.55	-36.60	33.40	32.75	54.00	24.45	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)
17979.500	42.56	-25.50	46.70	21.36	54.00	11.44	V
14196.000	39.24	-29.00	42.00	26.24	54.00	14.76	H
12879.500	37.69	-30.70	39.10	29.19	54.00	16.31	H
9103.500	35.16	-33.80	38.10	30.76	54.00	18.84	V
7874.000	34.34	-34.90	37.10	32.14	54.00	19.66	H
2488.000	43.16	-20.00	28.30	34.86	54.00	10.84	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)
17403.500	42.45	-26.90	45.20	24.05	54.00	11.55	H
14174.500	39.14	-29.00	42.00	26.14	54.00	14.86	V
12751.000	37.65	-30.50	39.10	29.05	54.00	16.35	V
9104.000	35.19	-33.80	38.10	30.79	54.00	18.81	V
7991.000	34.29	-34.80	37.10	31.99	54.00	19.71	V
2371.000	42.89	-20.10	28.00	34.89	54.00	11.11	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)
17983.500	42.45	-25.50	46.70	21.25	54.00	11.55	H
14196.000	39.46	-29.00	42.00	26.46	54.00	14.54	H
12849.500	37.85	-30.70	39.10	29.35	54.00	16.15	H
9967.500	35.31	-33.60	38.10	30.81	54.00	18.69	H
7888.500	34.47	-34.90	37.10	32.27	54.00	19.53	V
4777.500	29.46	-37.30	33.00	33.66	54.00	24.54	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)
17406.000	42.56	-26.90	45.20	24.16	54.00	11.44	V
14179.500	39.26	-29.00	42.00	26.26	54.00	14.74	V
12875.500	37.69	-30.70	39.10	29.19	54.00	16.31	H
9097.000	35.42	-33.80	38.10	31.02	54.00	18.58	V
7881.500	34.26	-34.90	37.10	32.06	54.00	19.74	H
2485.100	43.29	-20.00	28.30	34.99	54.00	10.71	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)
17989.000	42.40	-25.50	46.70	21.20	54.00	11.60	H
14193.500	39.29	-29.00	42.00	26.29	54.00	14.71	H
12844.500	37.59	-30.70	39.10	29.09	54.00	16.41	H
9086.500	35.26	-33.80	38.10	30.86	54.00	18.74	H
7992.500	34.18	-34.80	37.10	31.88	54.00	19.82	V
2370.800	42.93	-20.10	28.00	34.93	54.00	11.07	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)
17994.500	42.72	-25.50	46.70	21.52	54.00	11.28	H
14186.000	39.26	-29.00	42.00	26.26	54.00	14.74	V
12877.000	37.58	-30.70	39.10	29.08	54.00	16.42	H
9093.000	35.33	-33.80	38.10	30.93	54.00	18.67	V
7998.000	34.63	-34.80	37.10	32.33	54.00	19.37	V
4946.500	29.67	-37.10	33.30	33.47	54.00	24.33	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)
17995.500	43.01	-25.50	46.70	21.81	54.00	10.99	H
14203.500	39.25	-29.00	42.00	26.25	54.00	14.75	V
12849.000	37.64	-30.70	39.10	29.14	54.00	16.36	H
9107.500	35.16	-33.80	38.10	30.96	54.00	18.84	H
7967.000	34.36	-34.80	37.10	32.06	54.00	19.64	H
2485.000	43.24	-20.00	28.30	34.94	54.00	10.76	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)
17589.500	42.79	-25.70	46.00	22.59	54.00	11.21	H
14193.000	39.18	-29.00	42.00	26.18	54.00	14.82	V
12848.500	37.69	-30.70	39.10	29.19	54.00	16.31	V
9217.500	35.43	-33.70	38.00	31.13	54.00	18.57	H
7991.000	34.22	-34.80	37.10	31.92	54.00	19.78	V
2389.700	51.52	-20.00	28.10	43.52	54.00	2.48	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)
17998.000	42.57	-25.50	46.70	21.37	54.00	11.43	V
14178.000	39.61	-29.00	42.00	26.61	54.00	14.39	H
12844.500	37.62	-30.70	39.10	29.12	54.00	16.38	V
9102.000	35.37	-33.80	38.10	30.97	54.00	18.63	H
7886.500	34.38	-34.90	37.10	32.18	54.00	19.62	H
4927.000	29.77	-37.10	33.30	33.57	54.00	24.23	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)
17991.000	43.09	-25.50	46.70	21.89	54.00	10.91	V
14181.500	39.45	-29.00	42.00	26.45	54.00	14.55	V
12849.500	37.45	-30.70	39.10	28.95	54.00	16.55	V
9101.000	35.44	-33.80	38.10	31.04	54.00	18.56	H
7312.000	34.28	-35.00	36.50	32.68	54.00	19.72	H
2485.000	48.89	-20.00	28.30	40.59	54.00	5.11	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)
17979.500	42.58	-25.50	46.70	21.38	54.00	11.42	V
14185.000	39.21	-29.00	42.00	26.21	54.00	14.79	V
12842.000	37.77	-30.70	39.10	29.27	54.00	16.23	V
9102.000	35.52	-33.80	38.10	31.12	54.00	18.48	H
7993.500	34.31	-34.80	37.10	32.01	54.00	19.69	H
2359.200	42.83	-20.10	28.00	34.83	54.00	11.17	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)
17998.000	42.63	-25.50	46.70	21.43	54.00	11.37	V
14209.500	39.34	-29.00	42.00	26.34	54.00	14.66	H
12856.000	37.62	-30.70	39.10	29.12	54.00	16.38	H
9099.000	35.33	-33.80	38.10	30.93	54.00	18.67	H
7894.000	34.27	-34.90	37.10	32.07	54.00	19.73	H
4779.500	29.67	-37.30	33.00	33.87	54.00	24.33	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)
17993.500	42.43	-25.50	46.70	21.23	54.00	11.57	V
14160.500	39.26	-29.00	42.00	26.26	54.00	14.74	H
12774.500	37.66	-30.70	39.10	29.16	54.00	16.34	V
9207.500	35.31	-33.70	38.00	31.01	54.00	18.69	V
7991.500	34.15	-34.80	37.10	31.85	54.00	19.85	H
2495.800	43.19	-20.00	28.30	34.89	54.00	10.81	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)
17980.000	42.96	-25.50	46.70	21.76	54.00	11.04	V
14151.500	39.13	-29.00	42.00	26.13	54.00	14.87	H
12877.500	37.57	-30.70	39.10	29.07	54.00	16.43	V
9226.500	35.4	-33.70	38.00	31.10	54.00	18.6	H
7993.500	34.52	-34.80	37.10	32.22	54.00	19.48	H
2389.900	50.57	-20.00	28.10	42.57	54.00	3.43	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)
17994.000	42.61	-25.50	46.70	21.41	54.00	11.39	H
14182.500	39.22	-29.00	42.00	26.22	54.00	14.78	V
12923.500	37.5	-30.50	39.20	28.80	54.00	16.5	V
8992.500	35.19	-33.30	38.20	30.29	54.00	18.81	H
7217.000	34.26	-35.50	36.40	33.36	54.00	19.74	H
4830.500	29.49	-37.50	33.10	33.79	54.00	24.51	V

Ch9

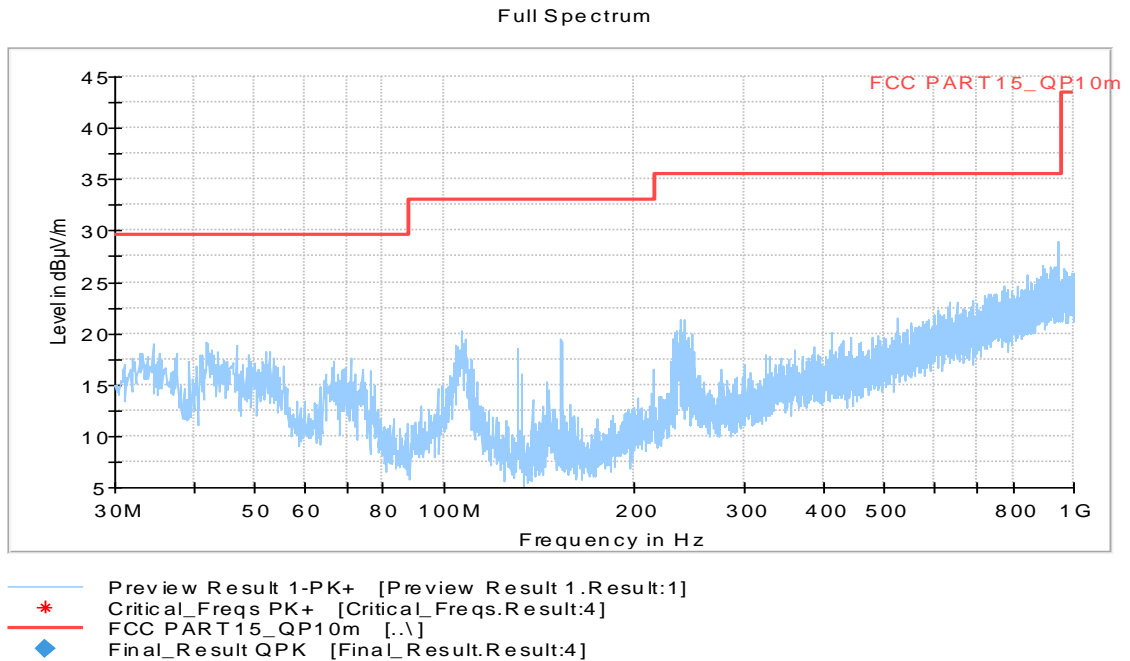
Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17946.000	42.5	-25.50	46.70	21.30	54.00	11.5	H
14178.500	39.39	-29.00	42.00	26.39	54.00	14.61	V
12905.500	37.37	-30.50	39.20	28.67	54.00	16.63	H
9011.500	35.23	-33.30	38.20	30.33	54.00	18.77	H
7995.500	34.41	-34.80	37.10	32.11	54.00	19.59	V
2485.000	49.7	-20.00	28.30	41.40	54.00	4.3	H

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

Conclusion: Pass

C.1.2 Radiated Spurious Emission- Below 1GHz

WOSRT CASE BELOW 1GHz



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

$$\text{Limit (10m)} = \text{limit (3m)} + 20(\log (3/10))$$

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(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:

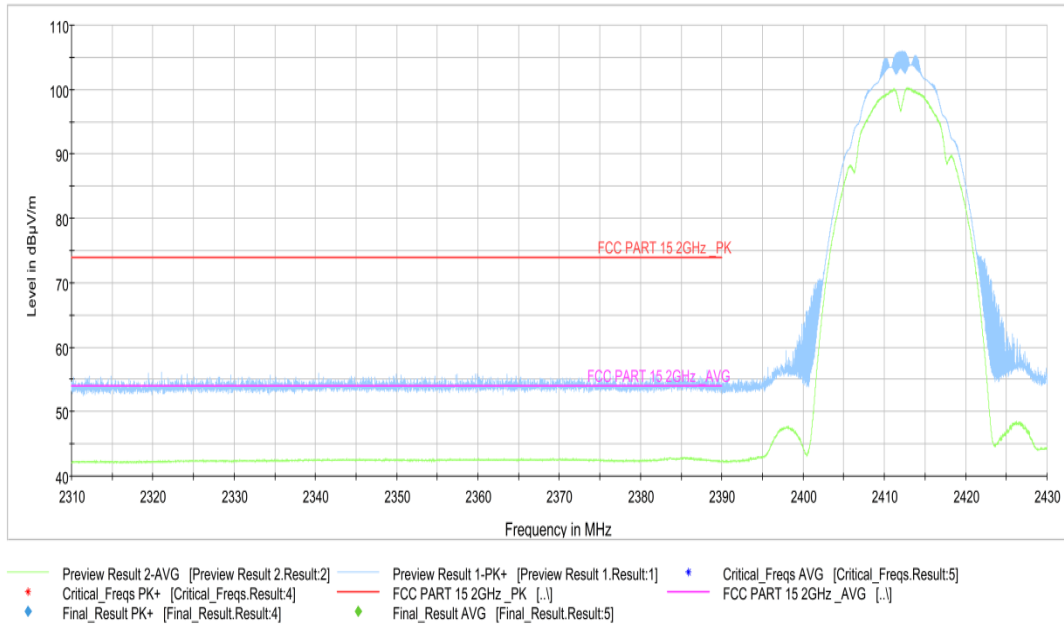


Fig.C.1.3.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz

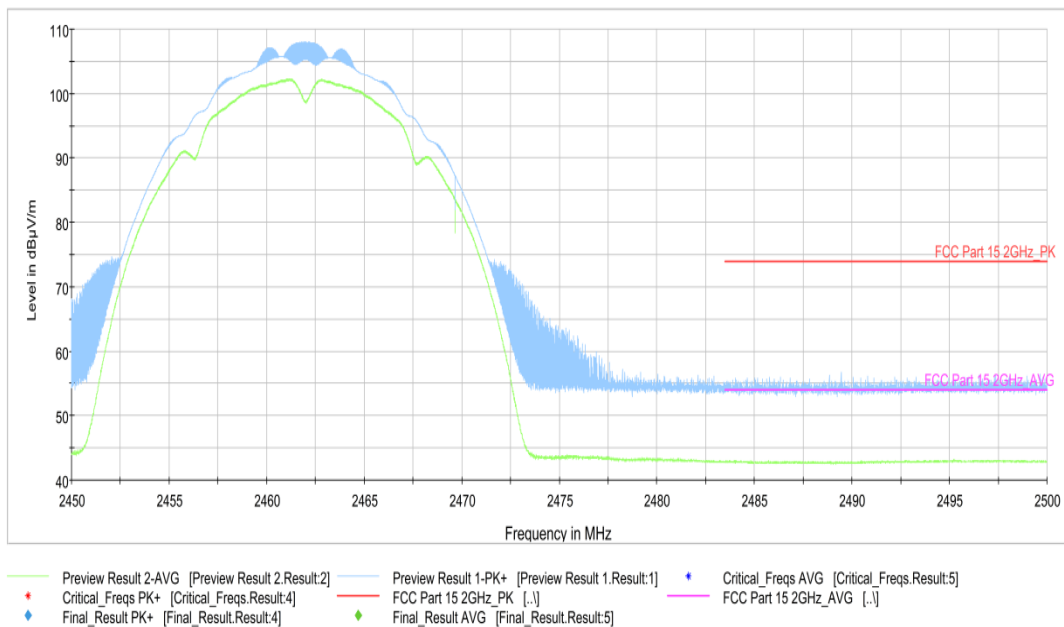


Fig.C.1.3.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

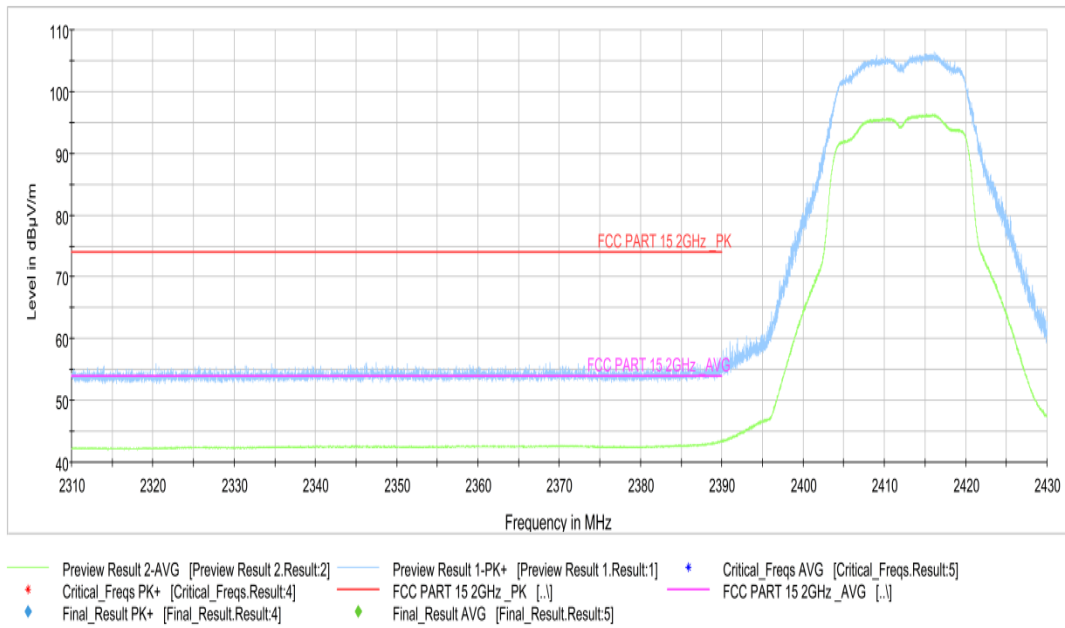


Fig.C.1.3.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz

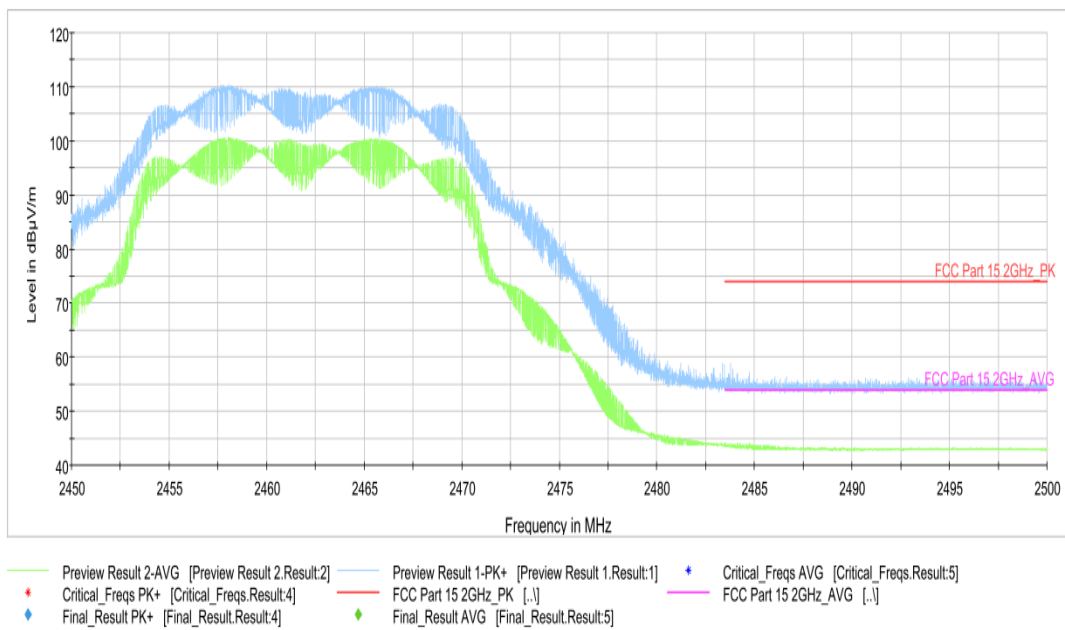


Fig.C.1.3.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

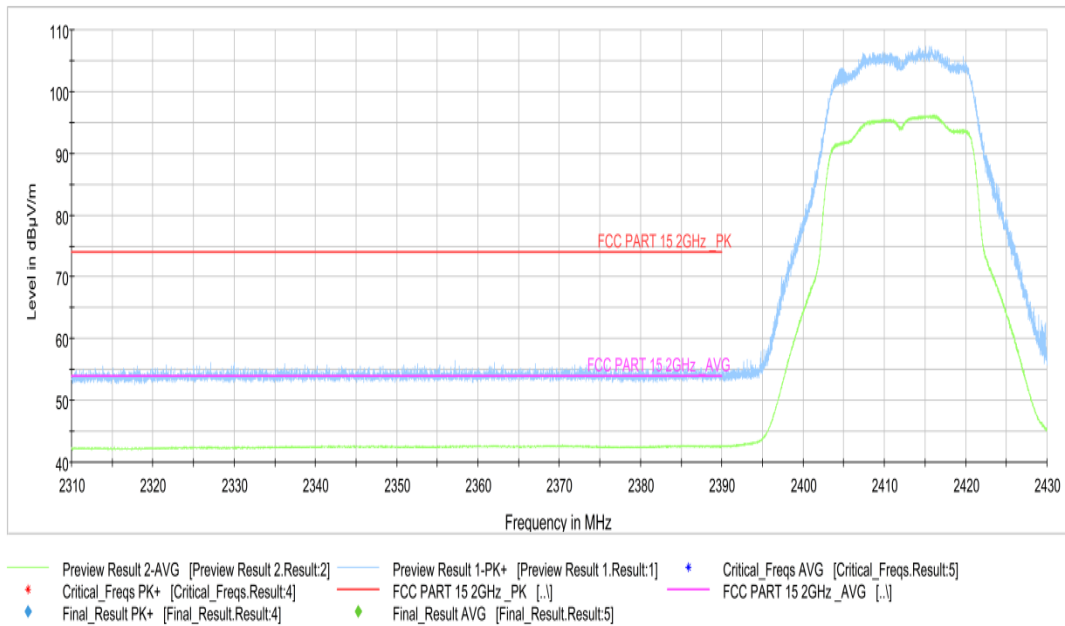


Fig.C.1.3.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz

Full Spectrum

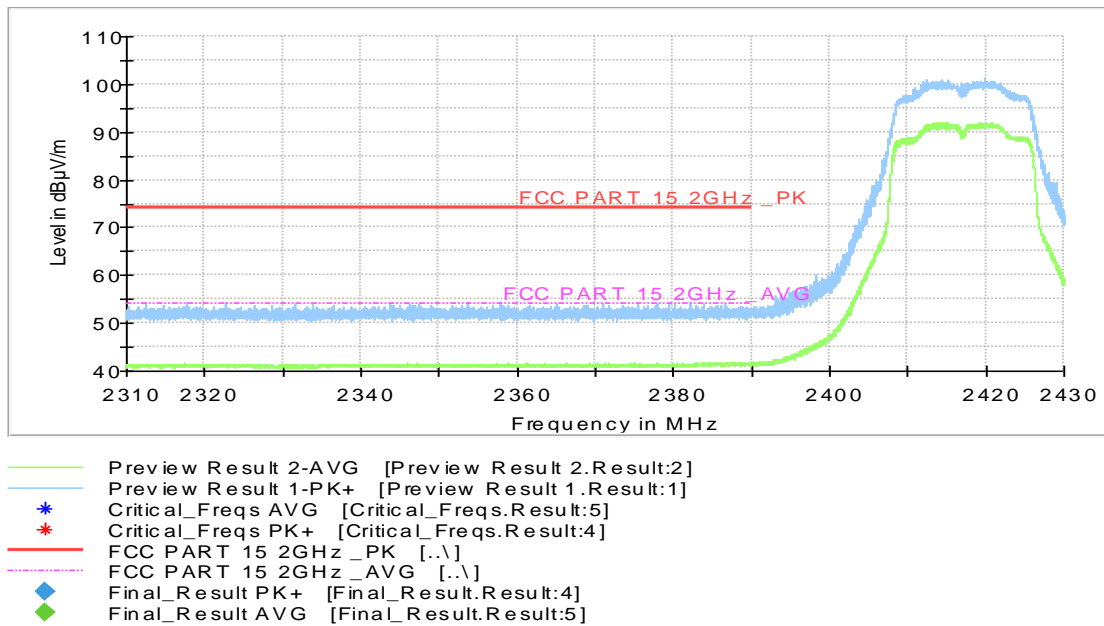


Fig.C.1.3.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch2, 2.31 GHz - 2.45GHz

Full Spectrum

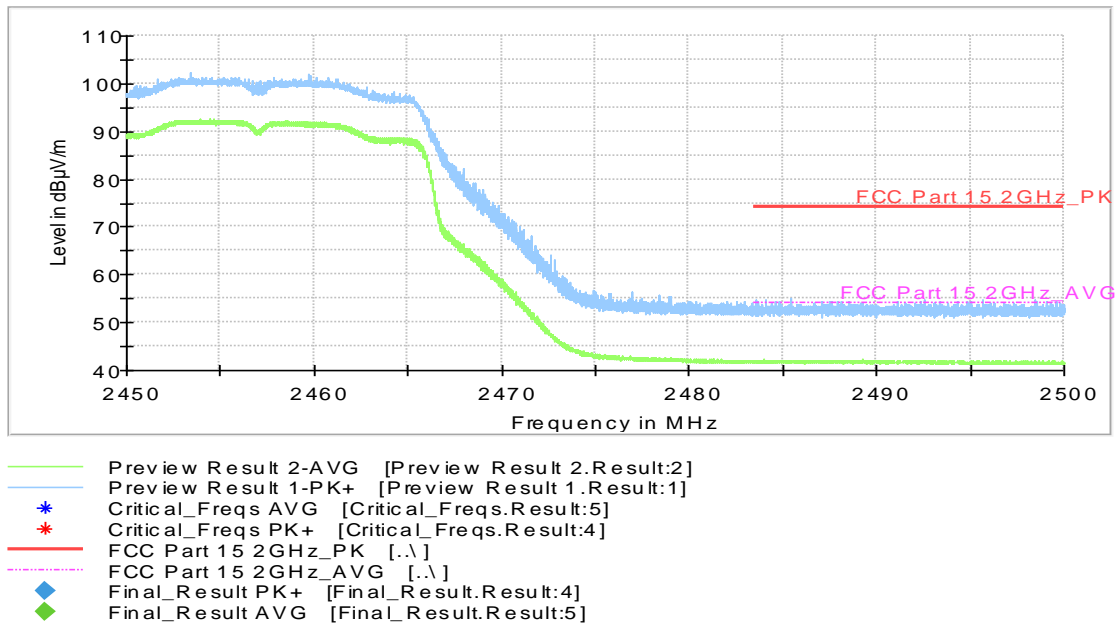


Fig.C.1.3.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch10, 2.45 GHz - 2.50GHz

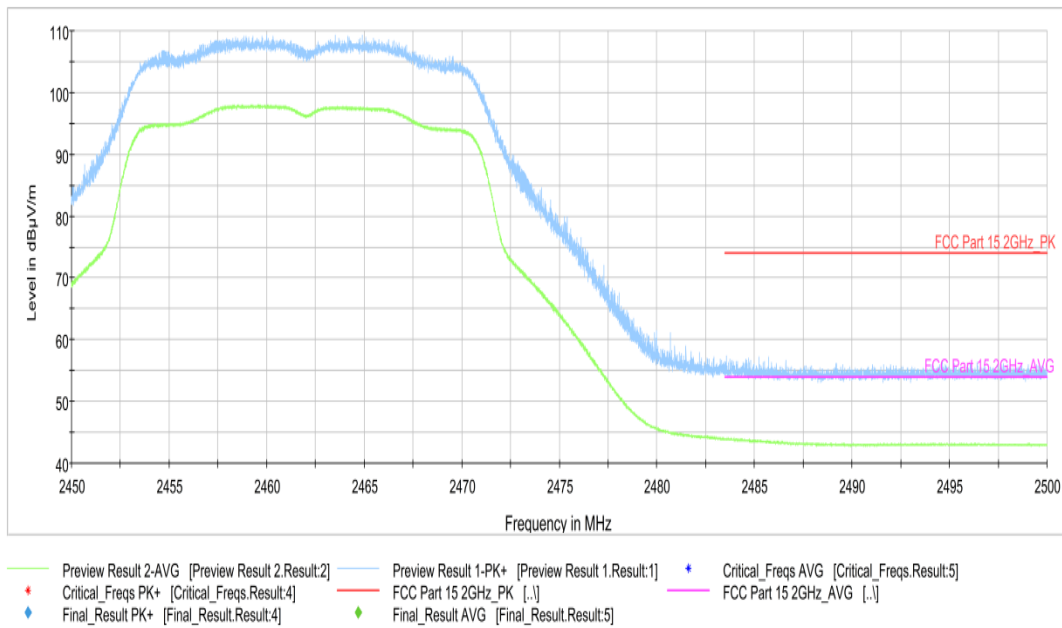


Fig.C.1.3.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

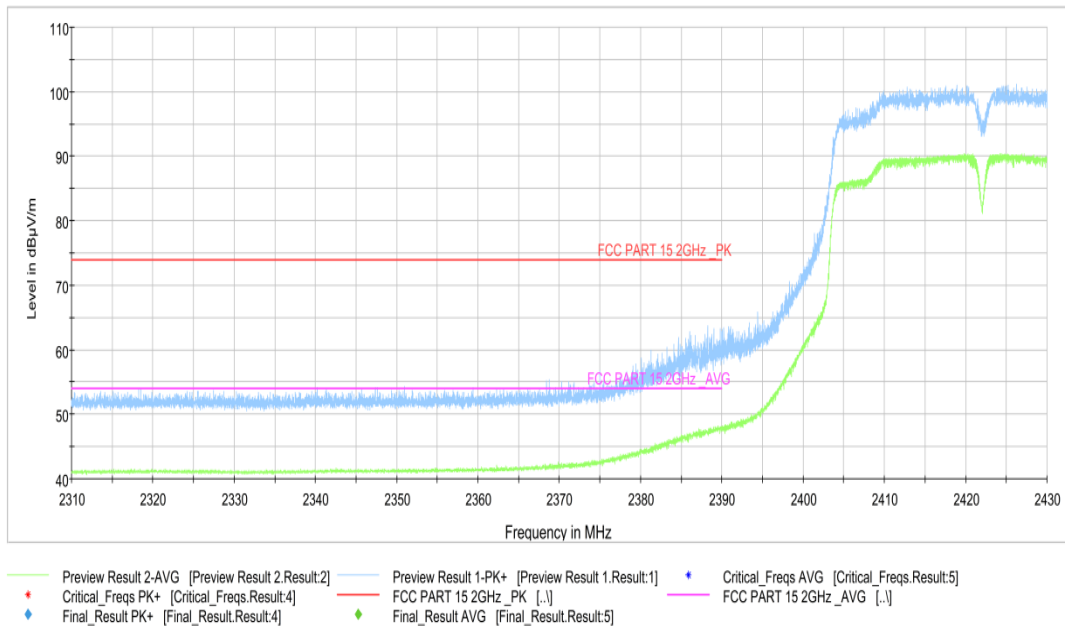


Fig.C.1.3.9 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz

Full Spectrum

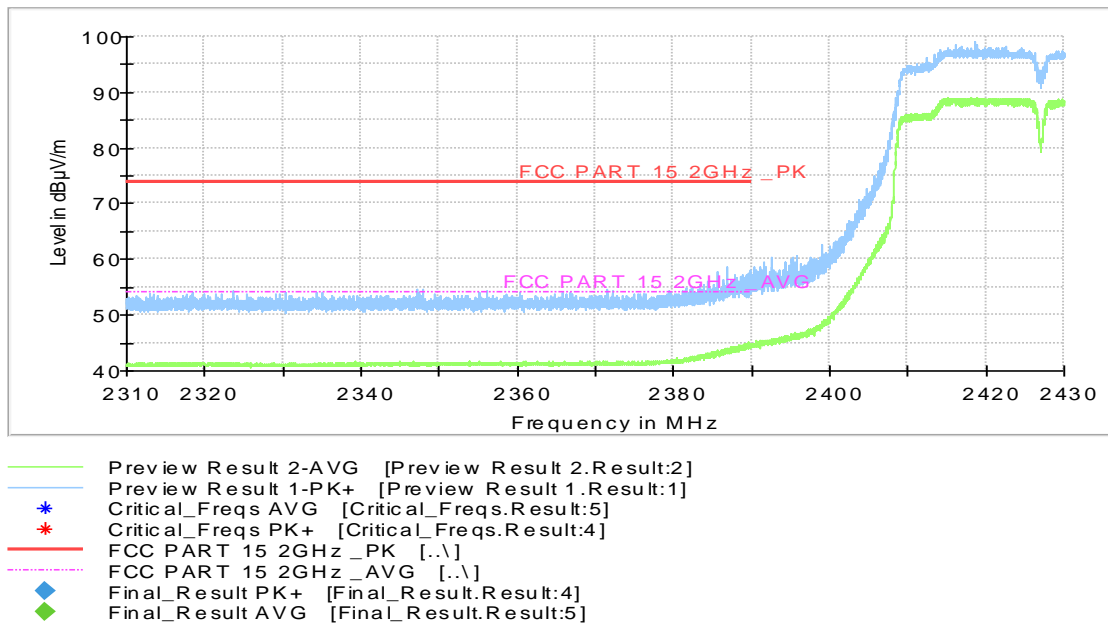


Fig.C.1.3.10 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch4, 2.31 GHz - 2.45GHz

Full Spectrum

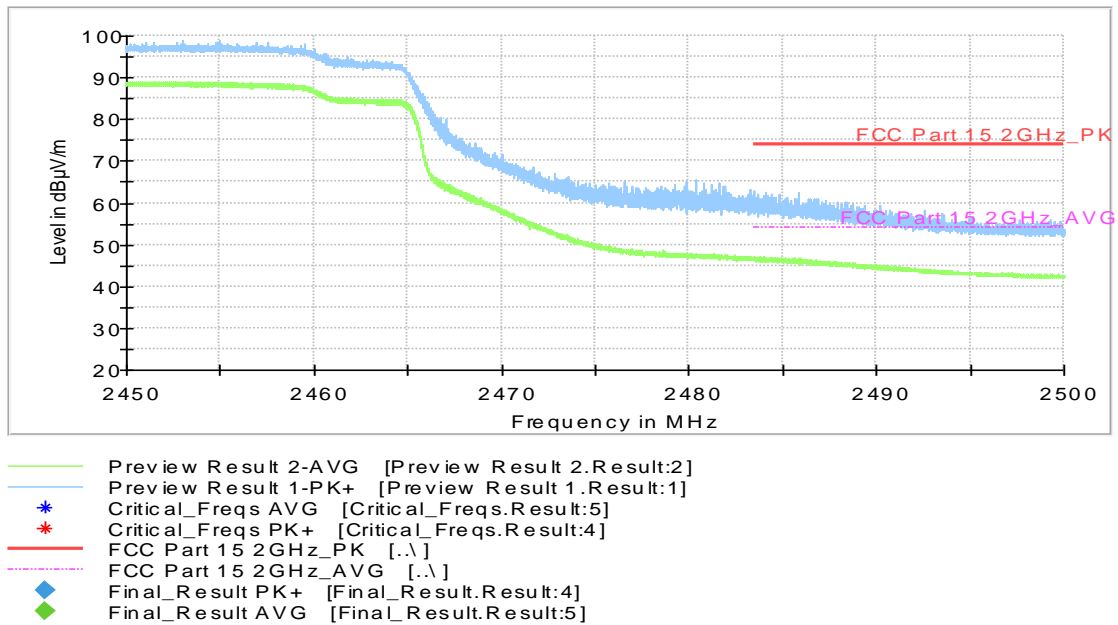


Fig.C.1.3.11 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch8, 2.45 GHz - 2.50GHz

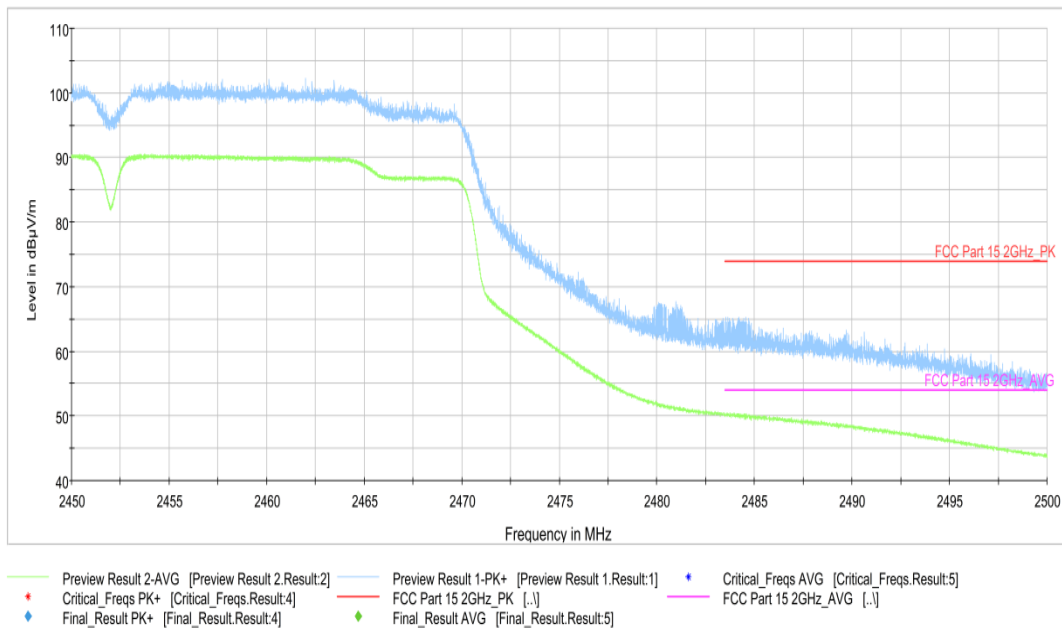


Fig.C.1.3.12 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

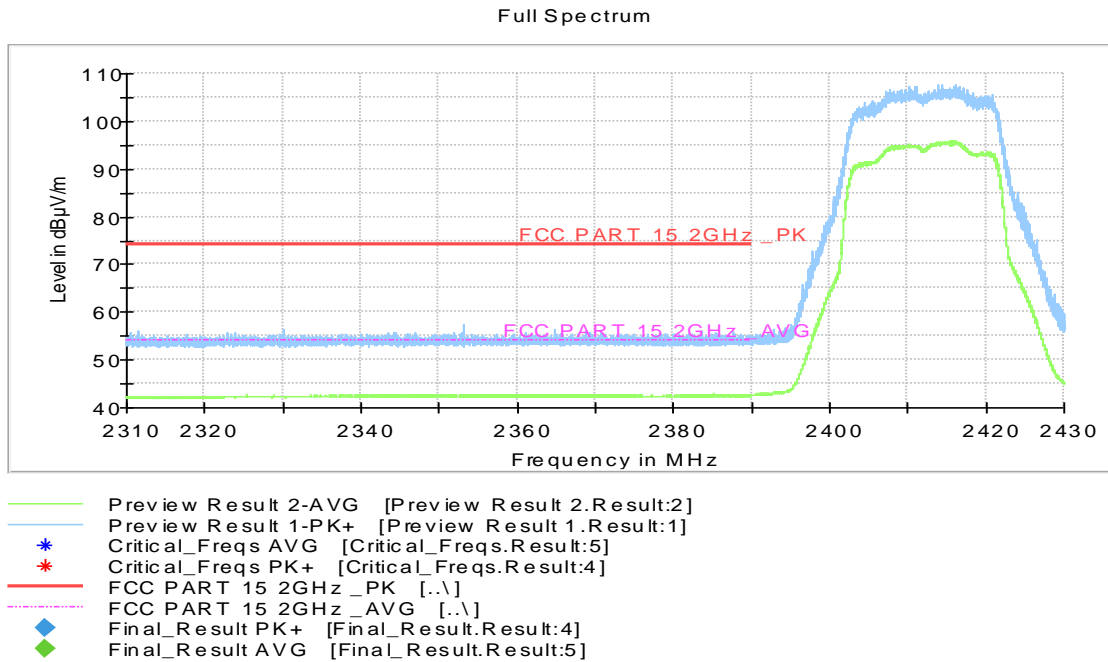


Fig.C.1.3.13 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, 2.31GHz - 2.45GHz

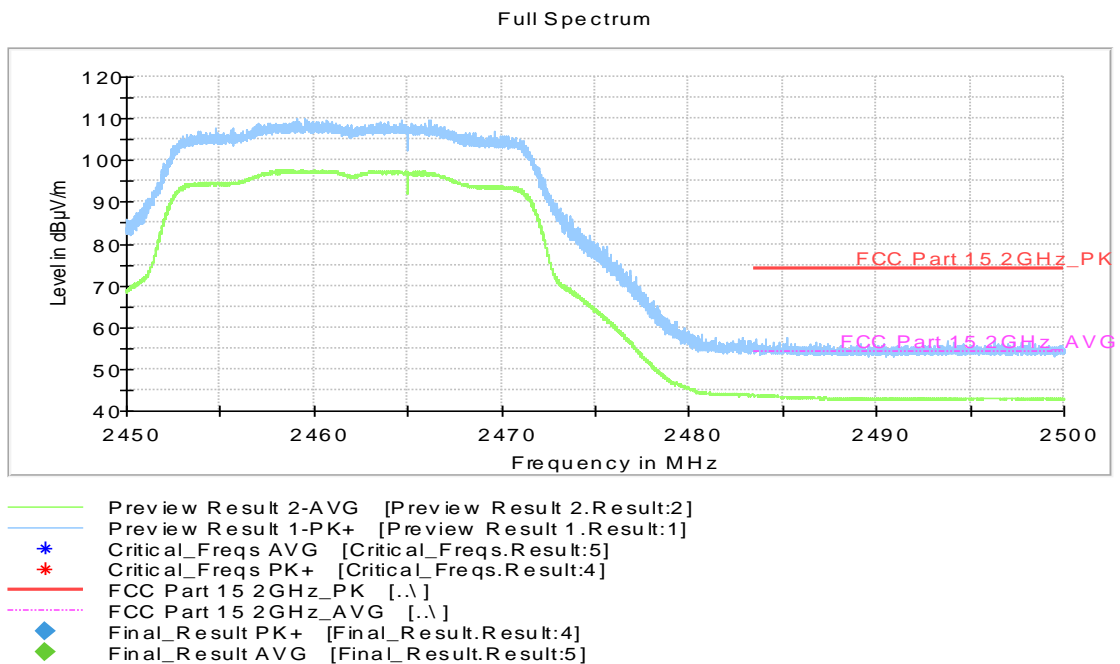


Fig.C.1.3.14 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, 2.45 GHz - 2.50GHz

Full Spectrum

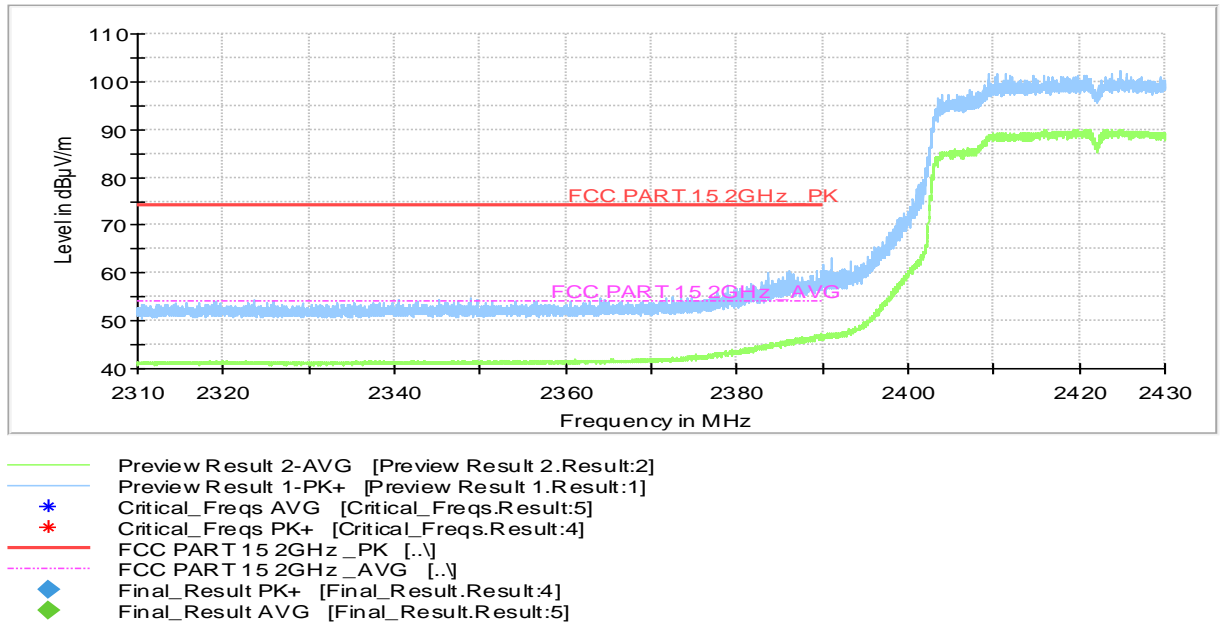


Fig.C.1.3.15 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, 2.31GHz - 2.45GHz

Full Spectrum

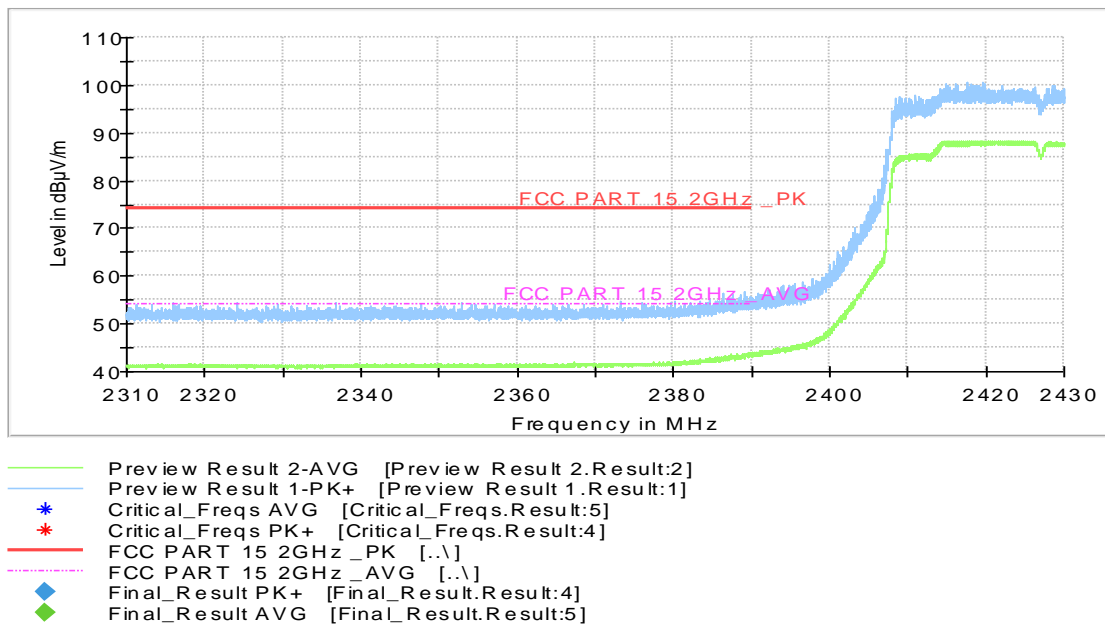


Fig.C.1.3.16 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch2, 2.31GHz - 2.45GHz

Full Spectrum

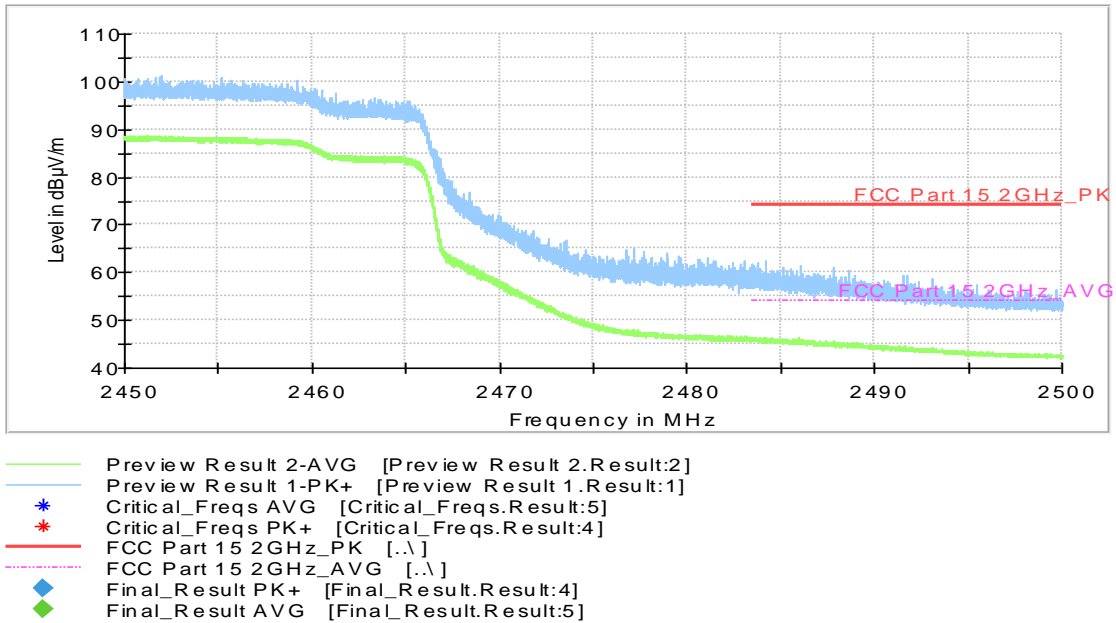


Fig.C.1.3.17 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch8, 2.45 GHz - 2.50GHz

Full Spectrum

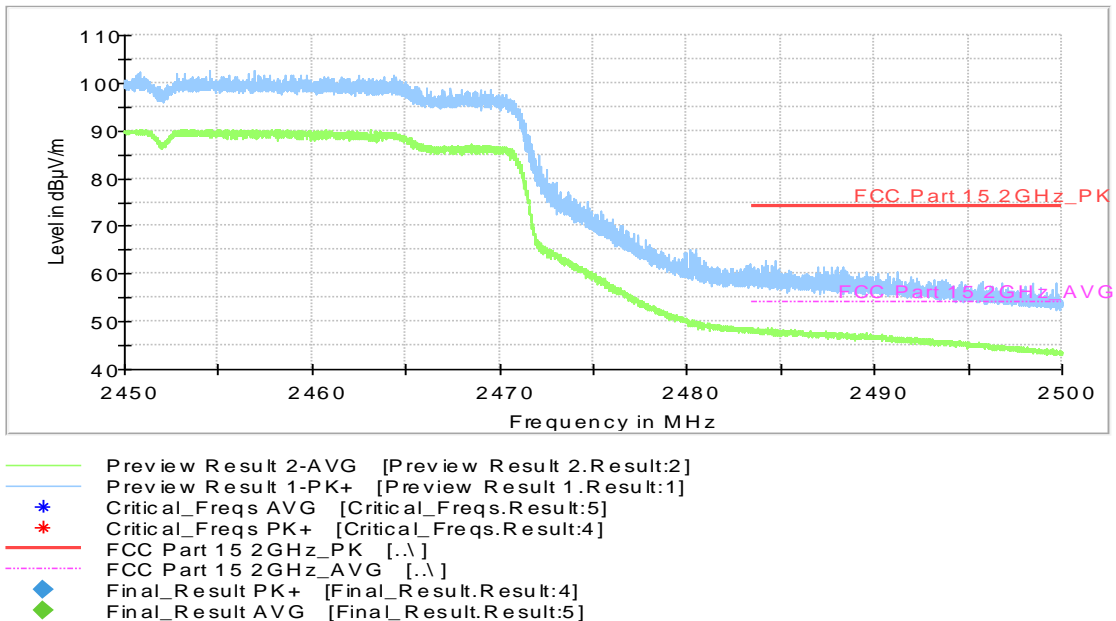


Fig.C.1.3.18 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, 2.45 GHz - 2.50GHz

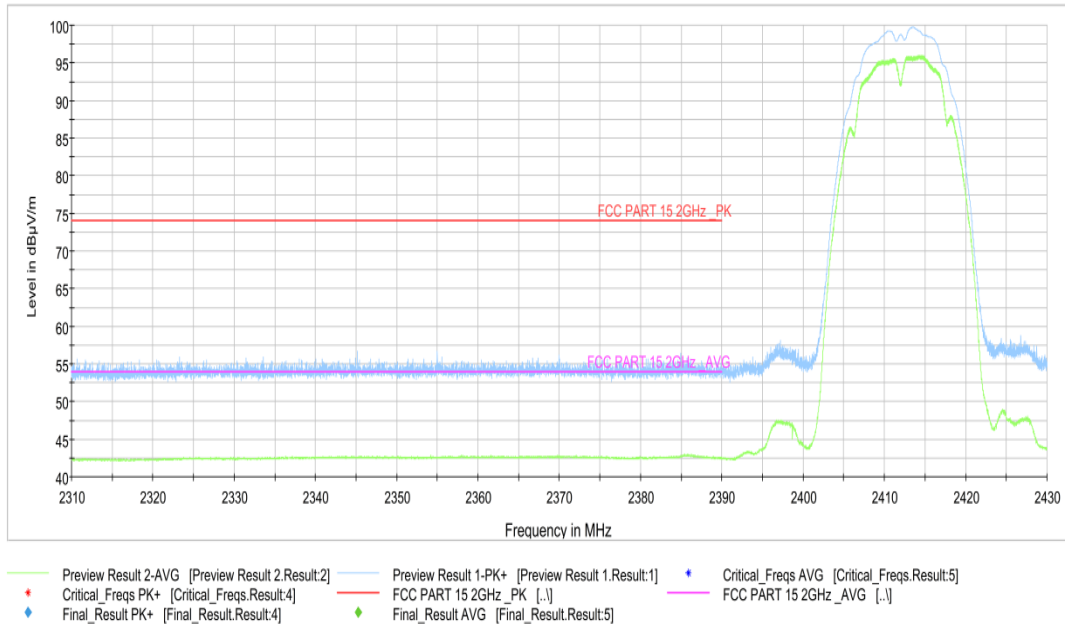


Fig.C.1.3.19 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz

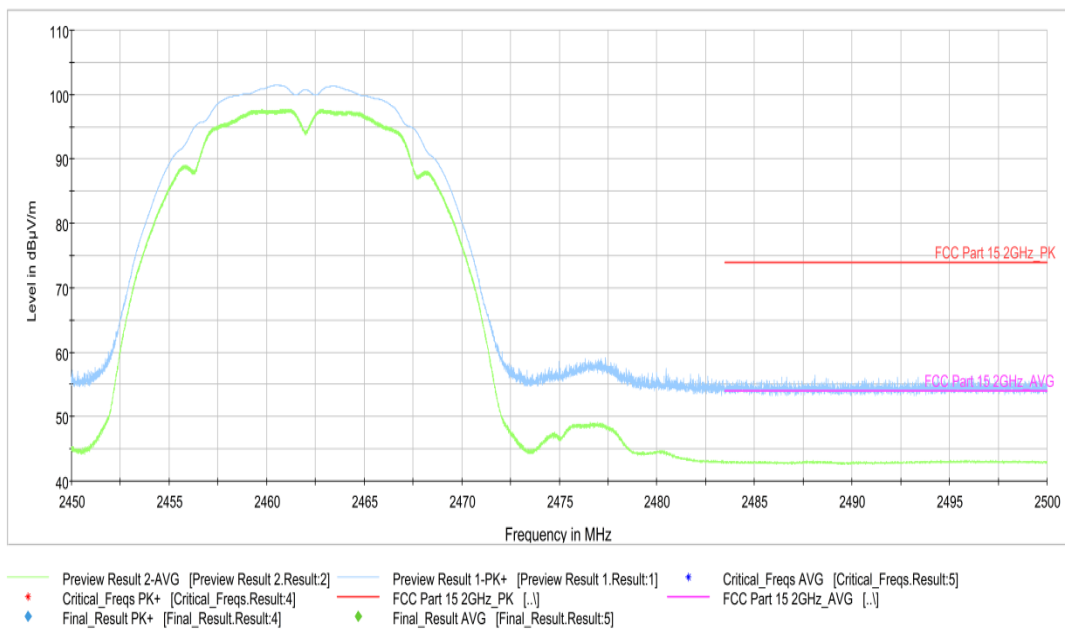


Fig.C.1.3.20 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

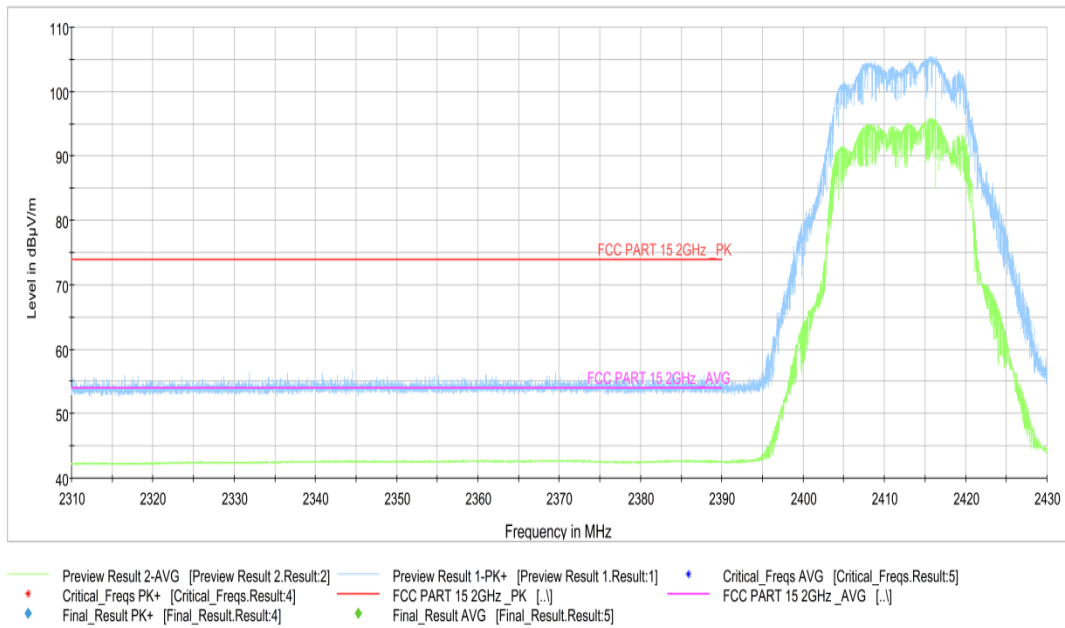


Fig.C.1.3.21 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz

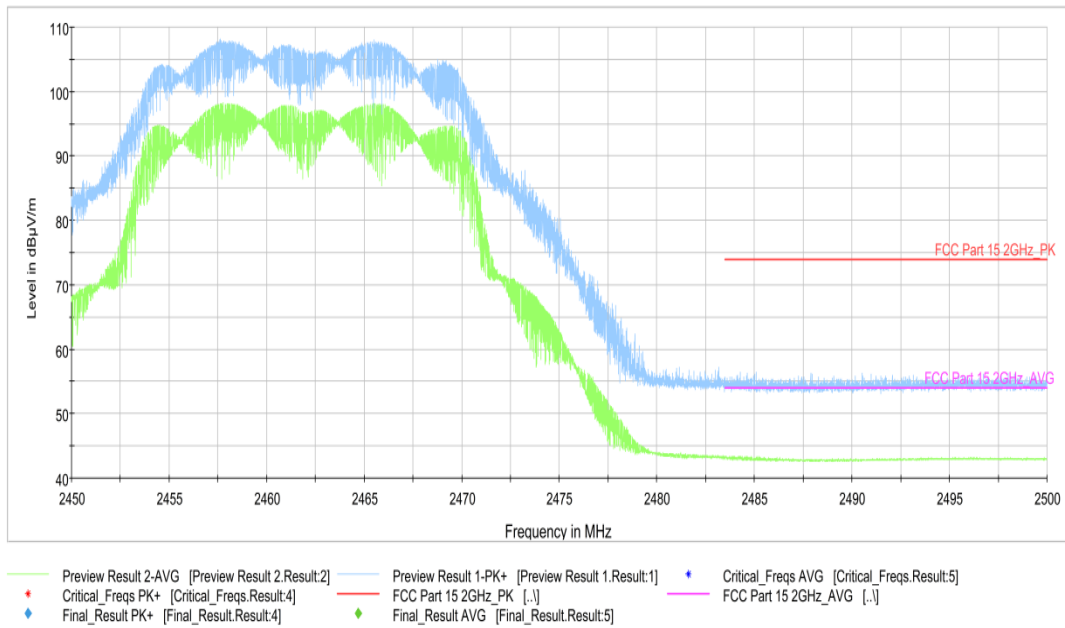


Fig.C.1.3.22 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

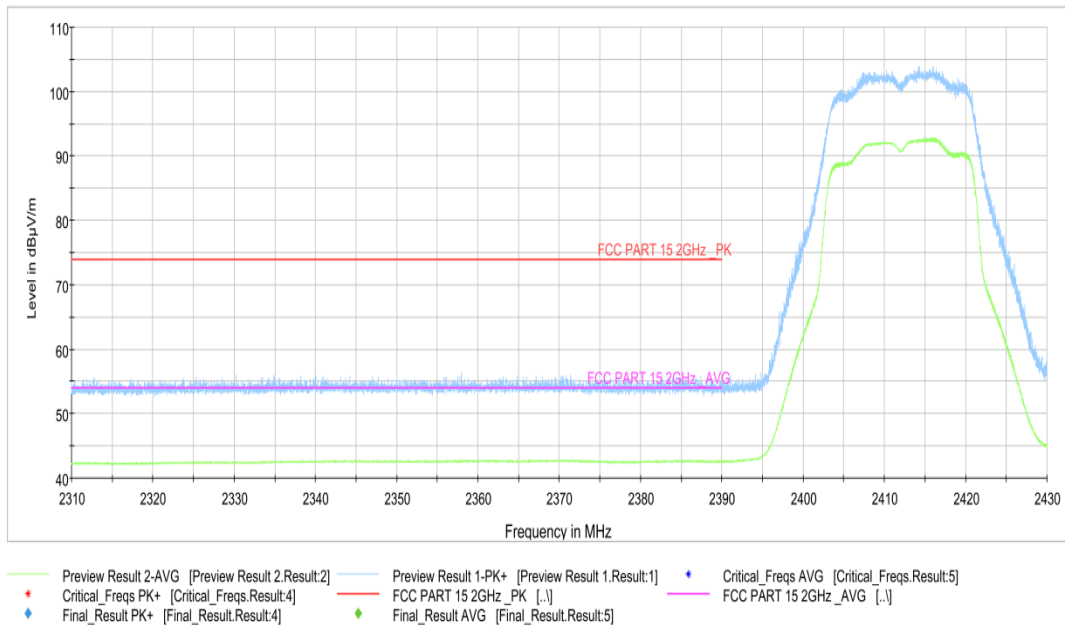


Fig.C.1.3.23 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz

Full Spectrum

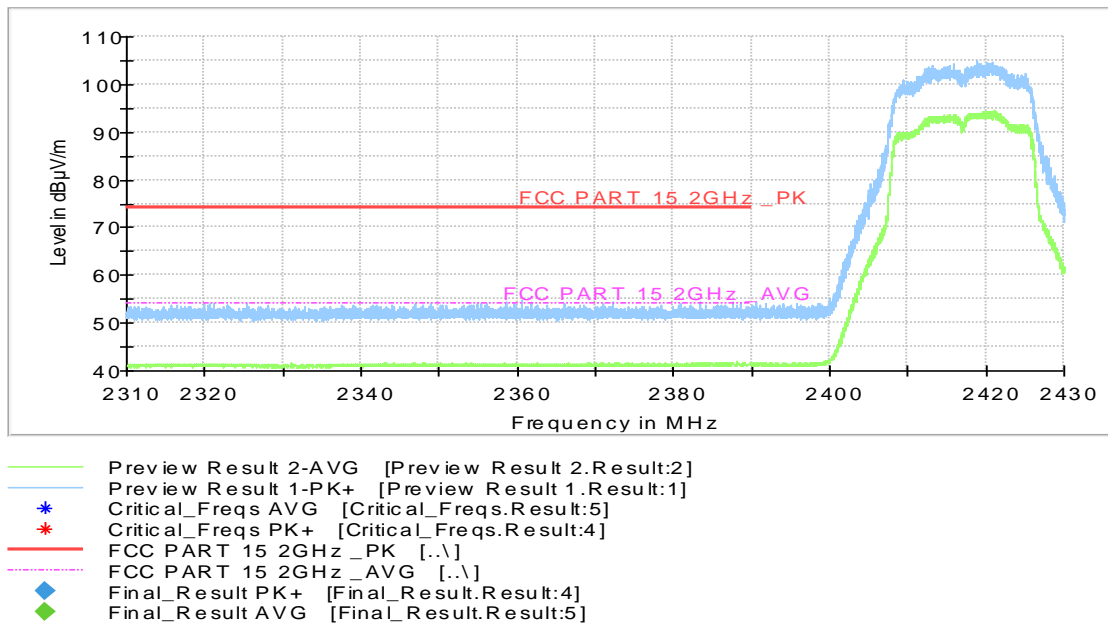


Fig.C.1.3.24 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch2, 2.31 GHz - 2.45GHz

Full Spectrum

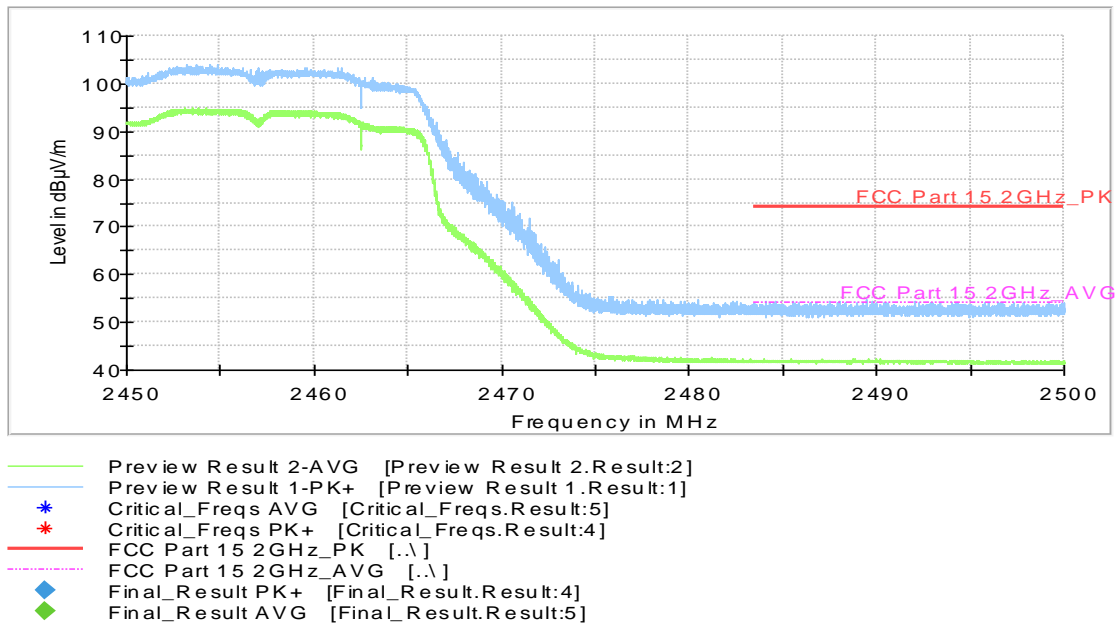


Fig.C.1.3.25 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch10, 2.45 GHz - 2.50GHz

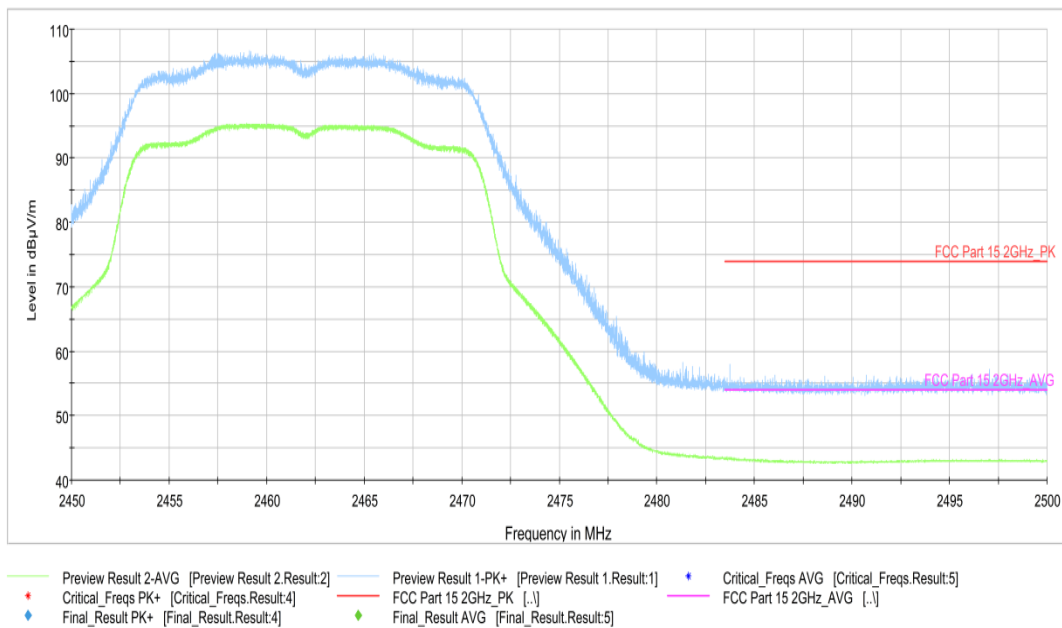


Fig.C.1.3.26 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

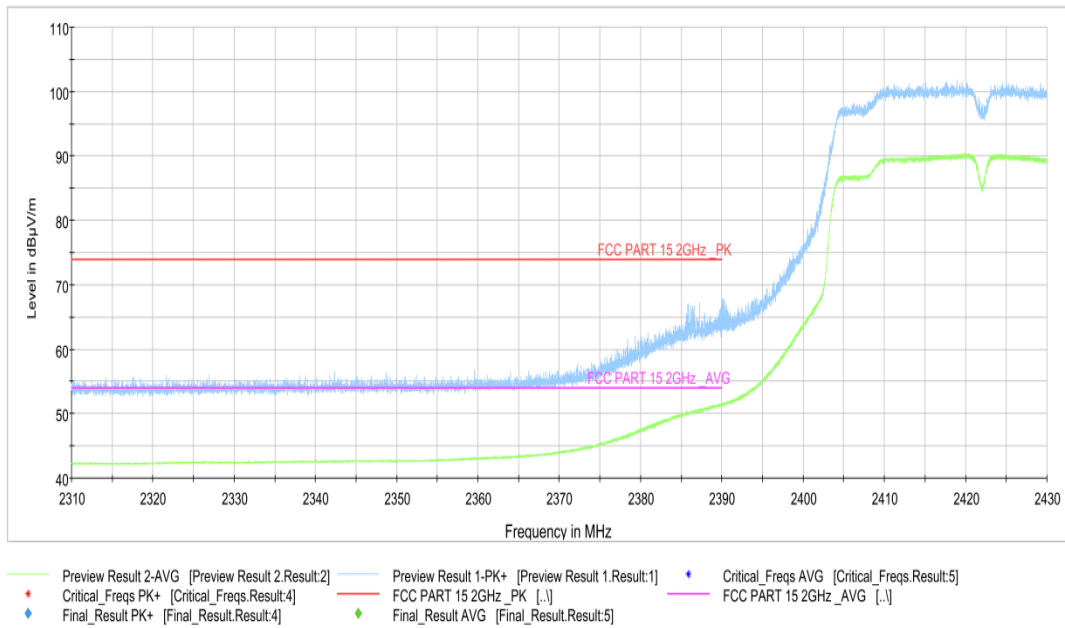


Fig.C.1.3.27 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz

Full Spectrum

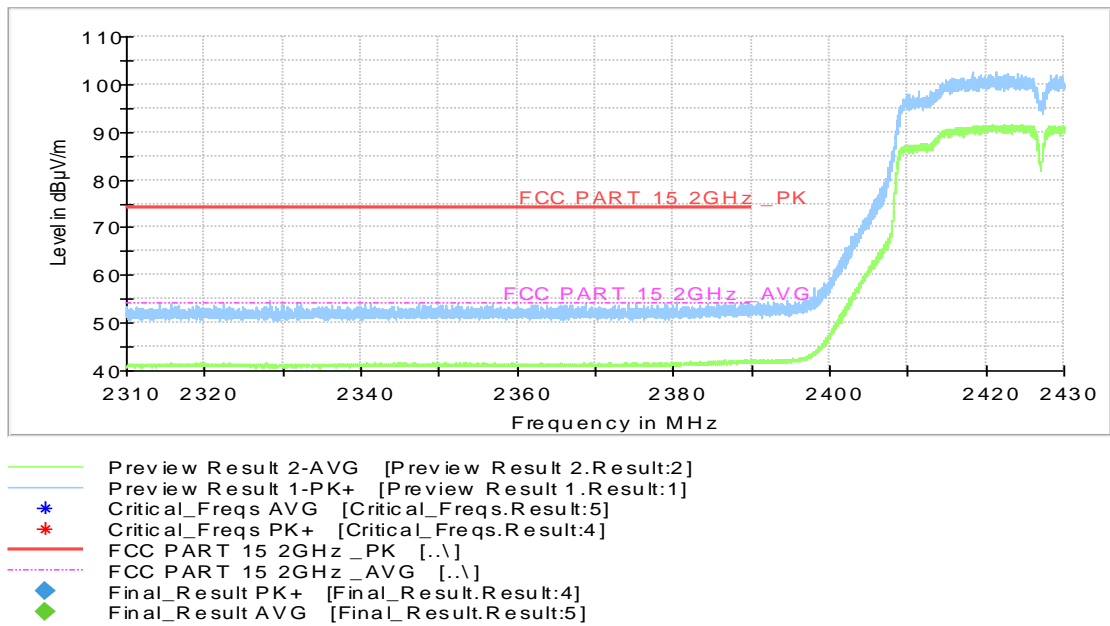


Fig.C.1.3.28 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch2, 2.31 GHz - 2.45GHz

Full Spectrum

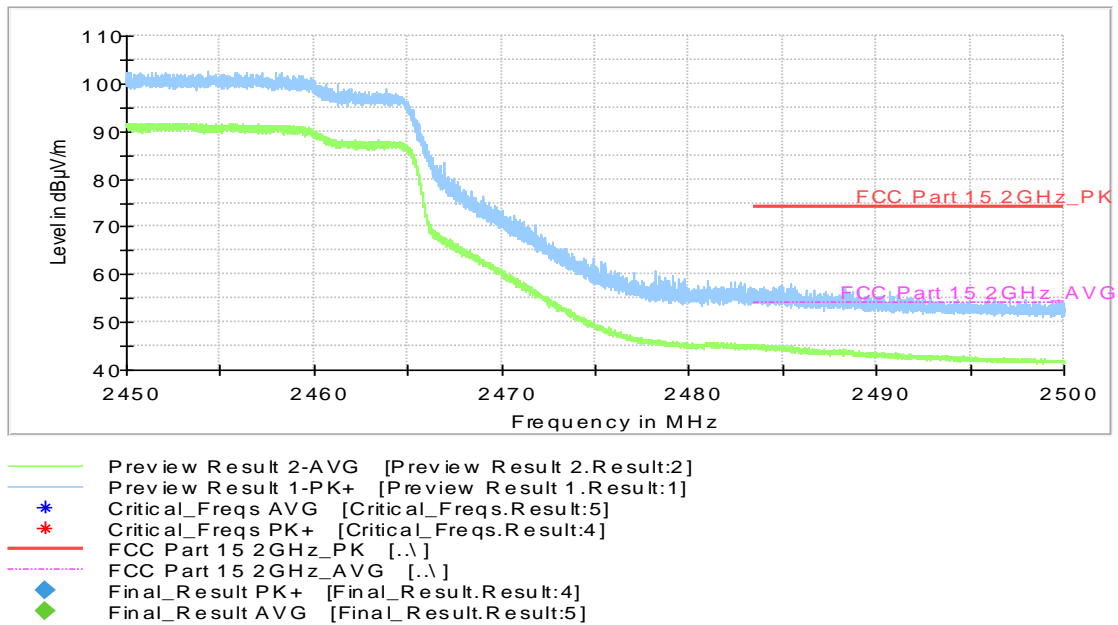


Fig.C.1.3.29 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch8, 2.45 GHz - 2.50GHz

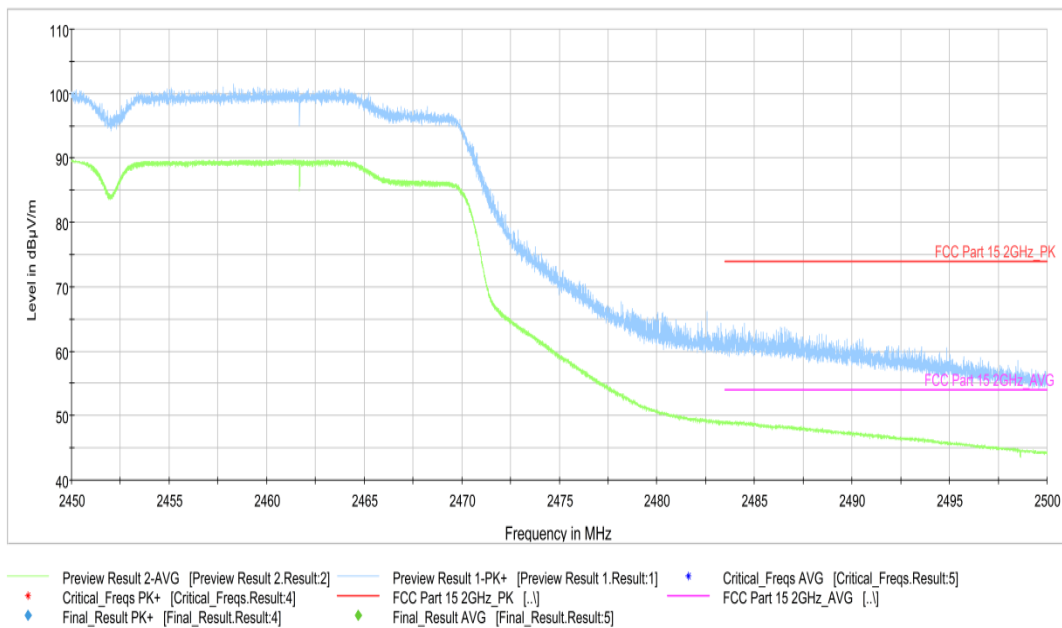


Fig.C.1.3.30 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

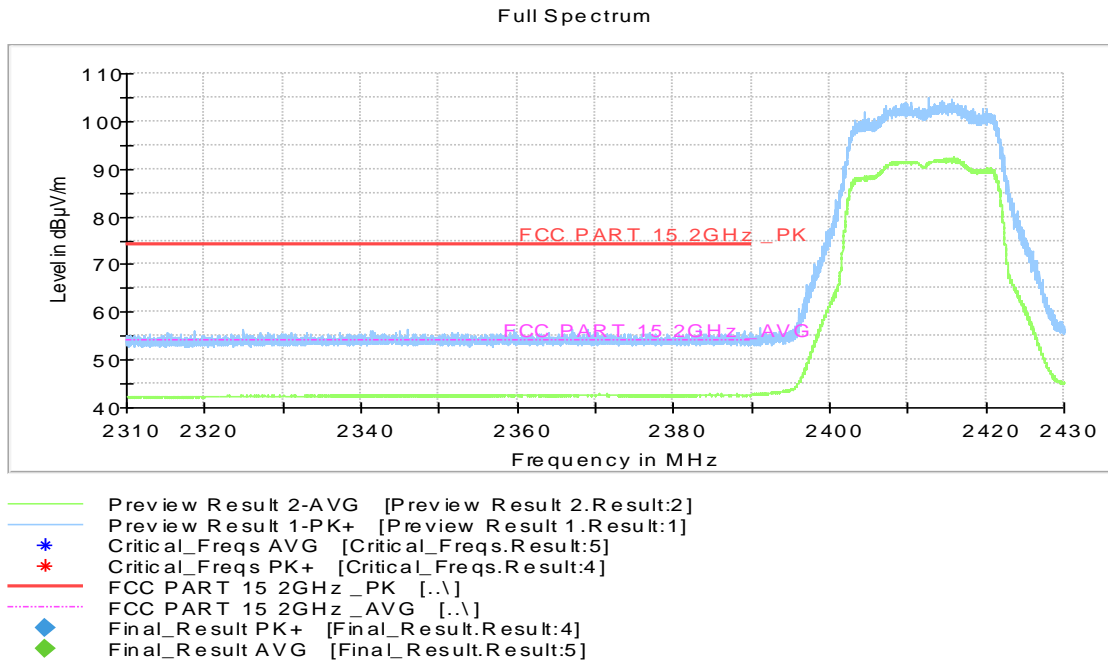


Fig.C.1.3.31 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, 2.31GHz - 2.45GHz

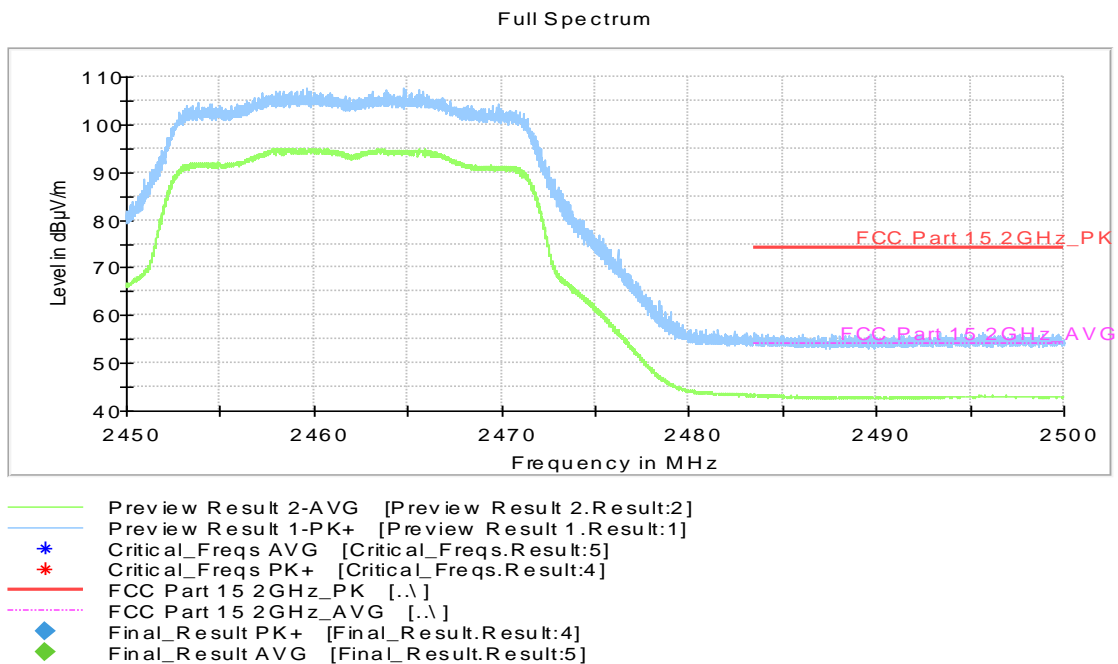


Fig.C.1.3.32 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, 2.45 GHz - 2.50GHz

Full Spectrum

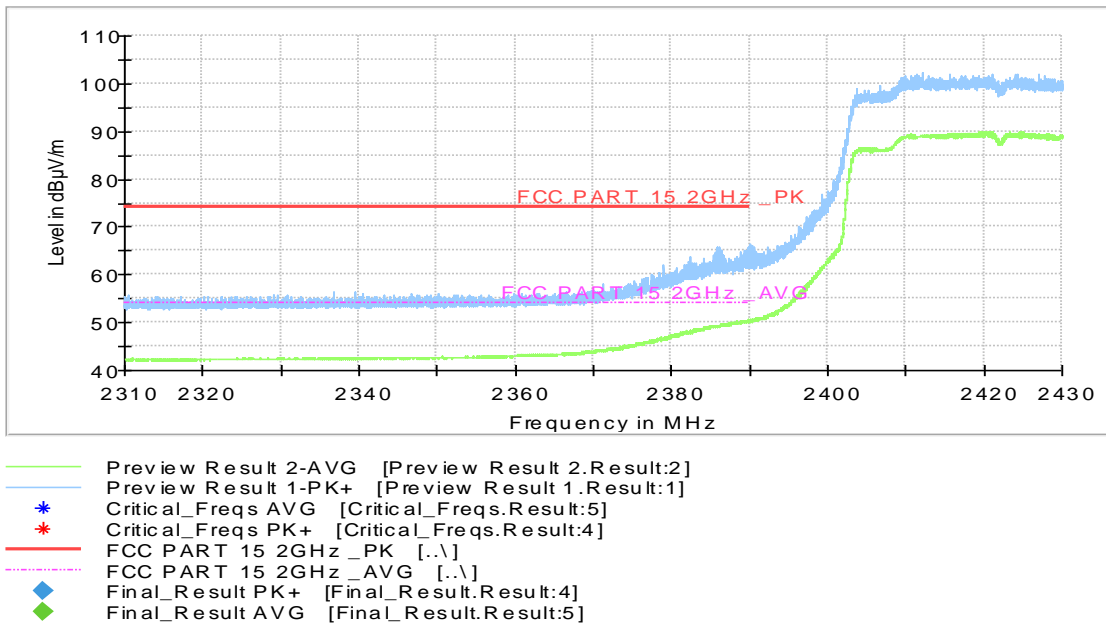


Fig.C.1.3.33 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, 2.31GHz - 2.45GHz

Full Spectrum

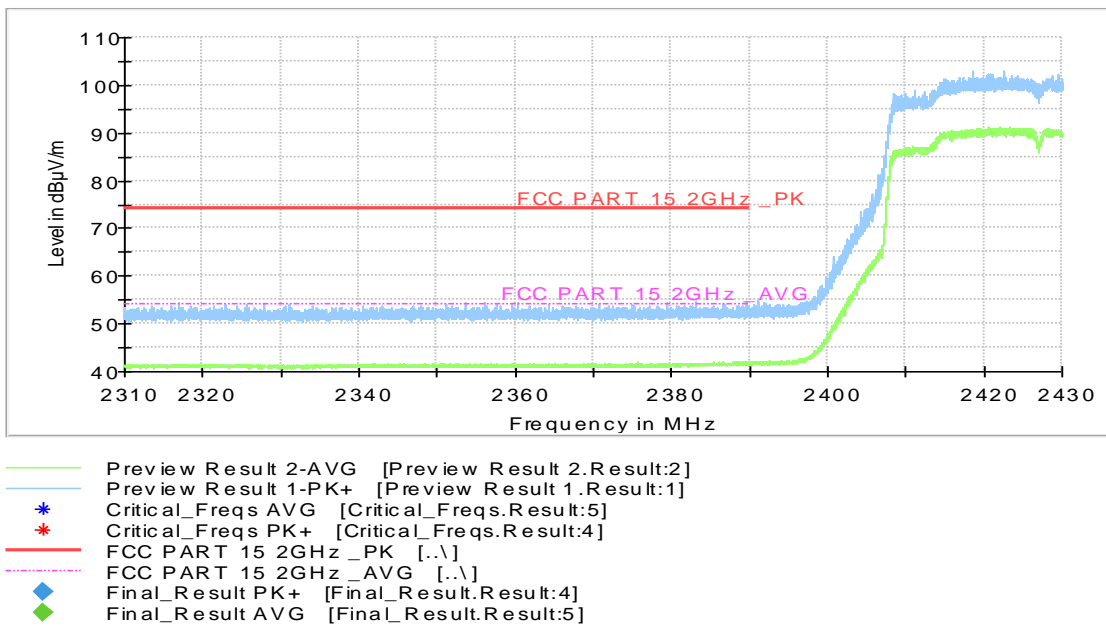


Fig.C.1.3.34 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch2, 2.31GHz - 2.45GHz

Full Spectrum

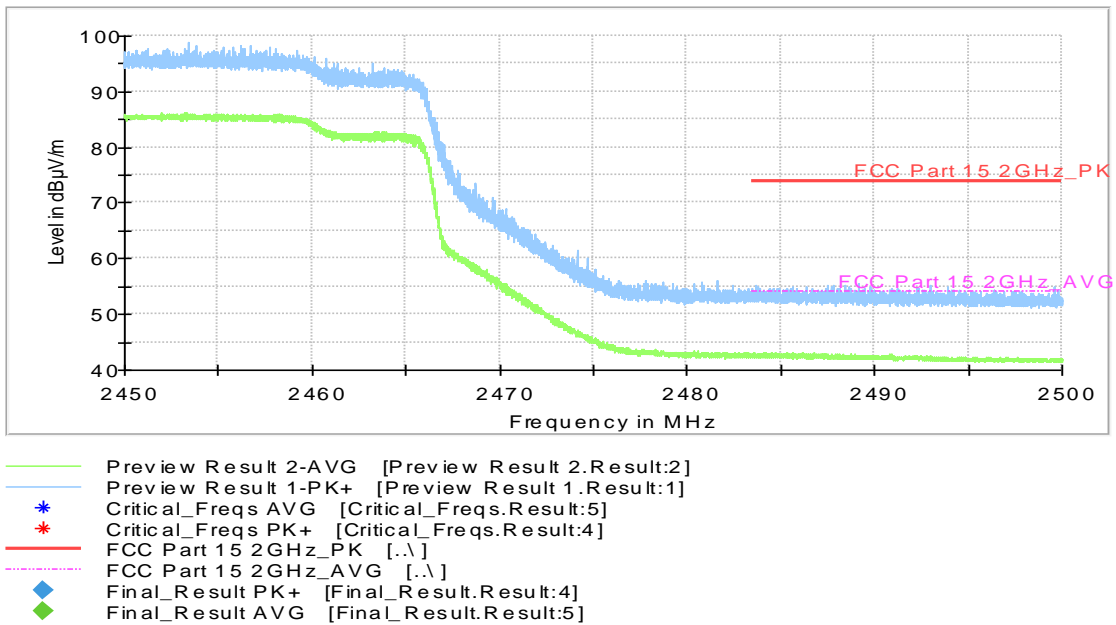


Fig.C.1.3.35 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch8, 2.45 GHz - 2.50GHz

Full Spectrum

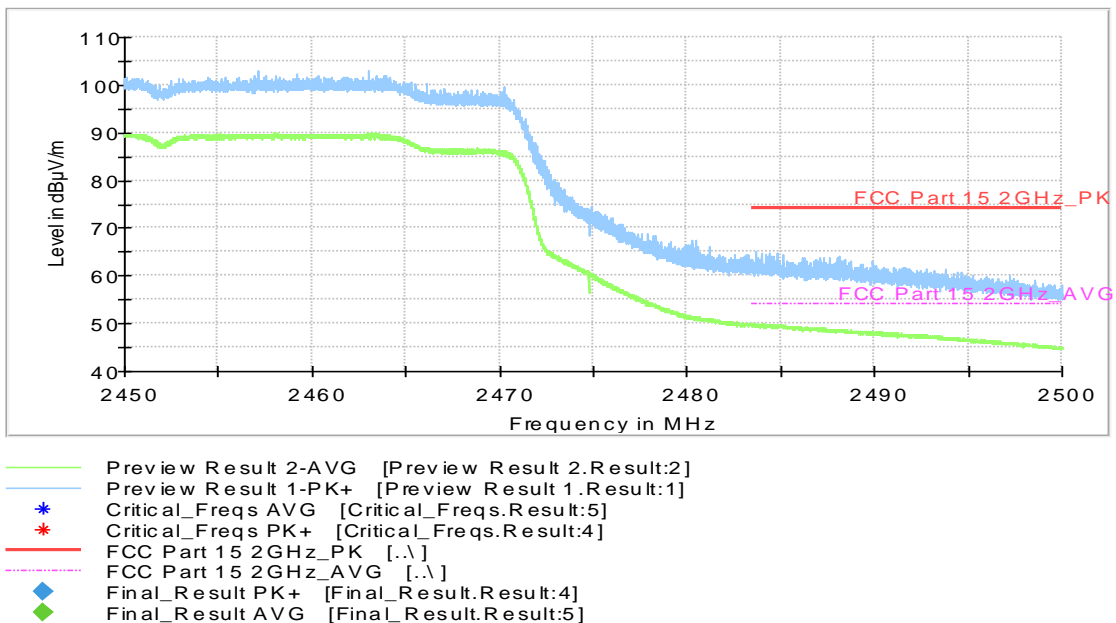


Fig.C.1.3.36 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, 2.45 GHz - 2.50GHz

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.

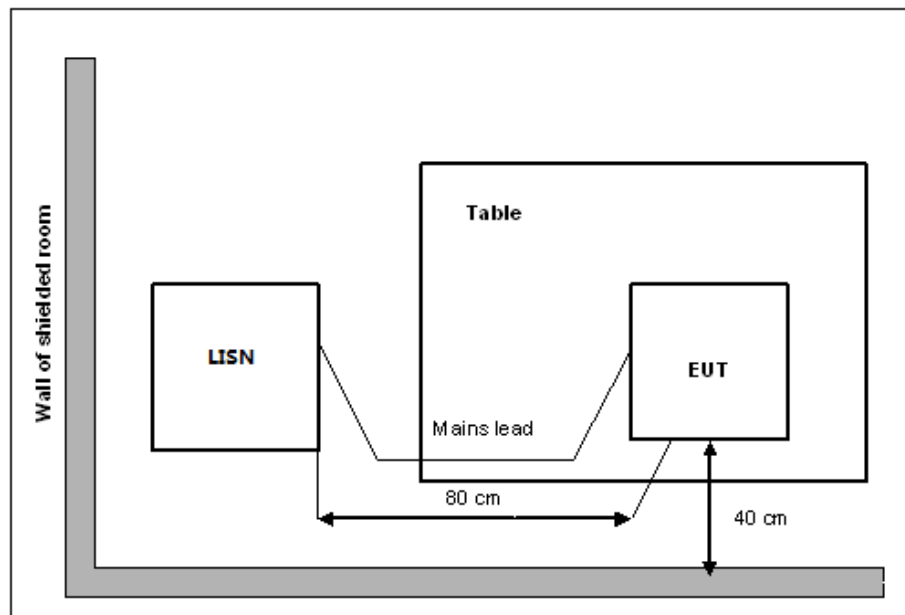
The measurement bandwidth is:

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 (dB μ V)	Result (dB μ V)		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 (dB μ V)	Result (dB μ V)		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:

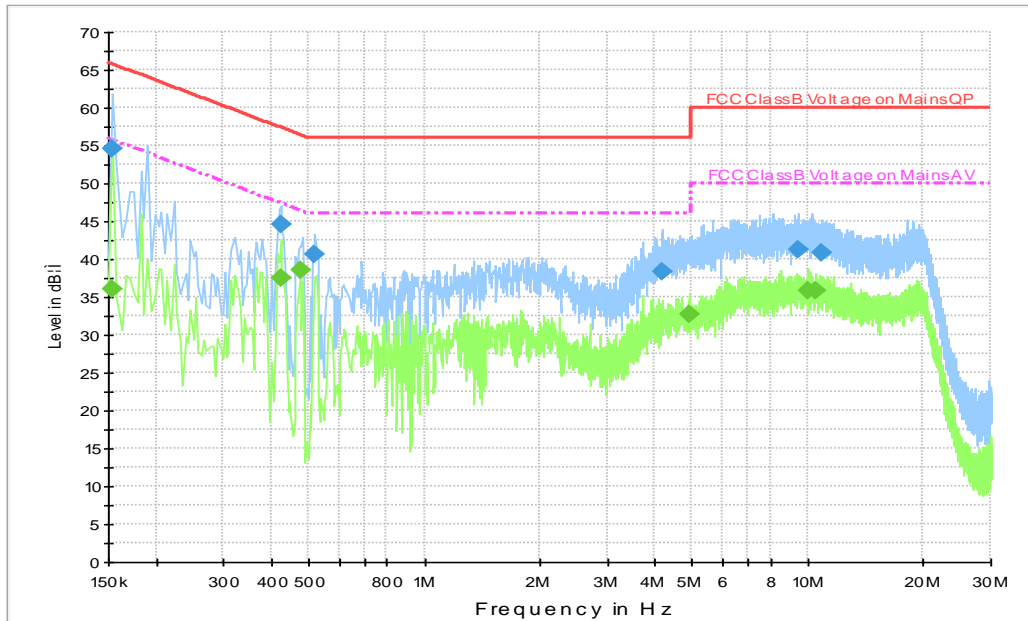


Fig.C.2.1 AC Powerline Conducted Emission-802.11b

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)
0.154000	54.5	2000.	9.000	L1	20.1	11.3	65.8
0.422000	44.6	2000.	9.000	L1	19.9	12.8	57.4
0.518000	40.6	2000.	9.000	L1	19.9	15.4	56.0
4.174000	38.3	2000.	9.000	N	19.7	17.7	56.0
9.450000	41.2	2000.	9.000	N	19.7	18.8	60.0
10.842000	40.9	2000.	9.000	N	19.8	19.1	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	36.1	2000.0	9.000	L1	20.1	19.6	55.8
0.422000	37.4	2000.0	9.000	L1	19.9	10.0	47.4
0.474000	38.6	2000.0	9.000	N	20.0	7.8	46.4
4.938000	32.8	2000.0	9.000	N	19.7	13.2	46.0
10.018000	35.9	2000.0	9.000	N	19.8	14.1	50.0
10.454000	35.9	2000.0	9.000	N	19.8	14.1	50.0

Idle:

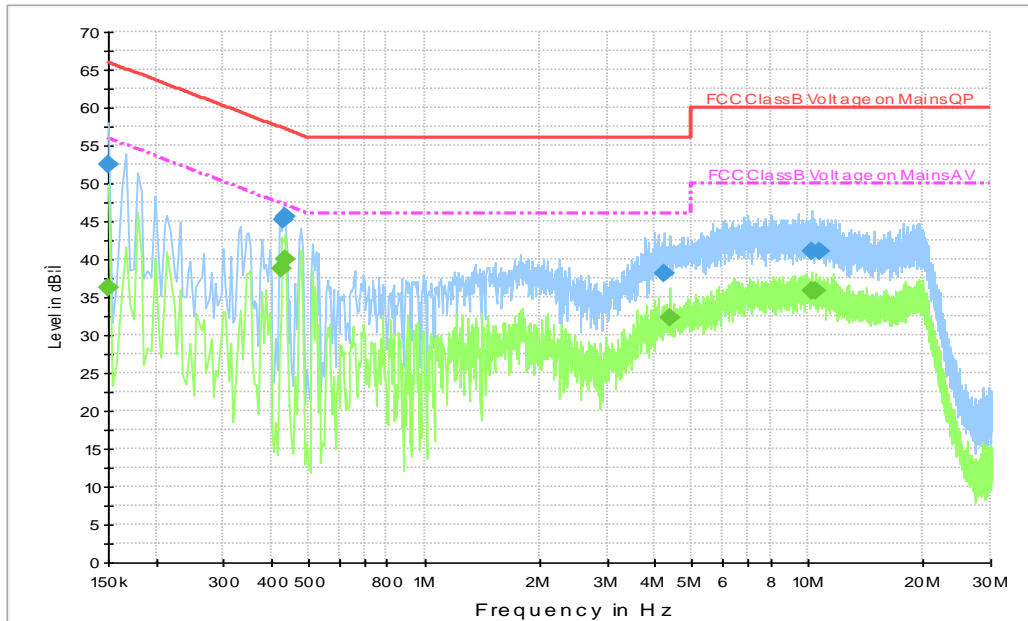


Fig.C.2.2 AC Powerline Conducted Emission-Idle

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)
0.150000	52.6	2000.	9.000	L1	20.2	13.4	66.0
0.430000	45.2	2000.	9.000	L1	19.9	12.1	57.3
0.434000	45.6	2000.	9.000	L1	19.9	11.6	57.2
4.222000	38.1	2000.	9.000	N	19.7	17.9	56.0
10.282000	41.0	2000.	9.000	N	19.8	19.0	60.0
10.758000	41.0	2000.	9.000	N	19.8	19.0	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	36.2	2000.0	9.000	L1	20.2	19.8	56.0
0.426000	38.8	2000.0	9.000	L1	19.9	8.5	47.3
0.434000	40.1	2000.0	9.000	L1	19.9	7.1	47.2
4.378000	32.3	2000.0	9.000	N	19.7	13.7	46.0
10.270000	35.8	2000.0	9.000	N	19.8	14.2	50.0
10.466000	35.9	2000.0	9.000	N	19.8	14.1	50.0

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