



FCC PART 15 TEST REPORT No. I21Z70658-EMC12

for

Samsung Electronics Co., Ltd.

Notebook PC

NP750XED

with

FCC ID: ZCANP750XED

Hardware Version: REV1.0

Software Version: Windows11

Issued Date: 2022-01-18

Note:

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

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

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REPORT HISTORY

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I21Z70658-EMC12	Rev.0	1st edition	2022-01-18

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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

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°C

Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2021-12-10

Testing End Date: 2022-01-15

1.5. Signature



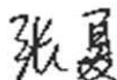
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(Prepared this test report)



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(Reviewed this test report)



Zhang Xia

Deputy Director of the laboratory
(Approved this test report)



2. CLIENT INFORMATION

2.1. Applicant Information

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2.2. Manufacturer Information

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Telephone: +82-10-2722-4159
Fax: /

3. PRODUCT INFORMATION

3.1. About EUT

Description	Notebook PC
Model name	NP750XED
FCC ID	ZCANP750XED

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

3.2. Internal Identification of EUT used during the test

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

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

3.3. Internal Identification of AE used during the test

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

AE1

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

AE2

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

AE3

Model	/
Manufacturer	/

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

3.4. General Description

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

Antenna information

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

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

Samples undergoing test were selected by the Client.

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

3.5. Test Configuration

For 802.11a mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, but not simultaneously.

For 802.11n20 & 802.11ac20 & 802.11ax20 (20 MHz channel bandwidth), 802.11n40 & 802.11ac40 & 802.11ax40 (40MHz channel bandwidth) and 802.11ac80 & 802.11ax80 (80MHz 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 and E: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.407 General technical requirements	2021
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12

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 Part15	Verdict
Radiated Spurious Emission	15.407, 15.205, 15.209	P
AC Power line Conducted Emission	15.407, 15.207	P

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

Terms used in Verdict column

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

5.2. Statements

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

5.3. Test Conditions

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

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

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

6. TEST EQUIPMENTS UTILIZED

Radiated emission test system

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

AC Powerline Conducted Emission

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	LISN	ENV216	101459	R&S	1 year	2021-04-09
2	Test Receiver	ESCI	100766	R&S	1 year	2022-03-09

7. Measurement Uncertainty

Radiated Spurious Emission

(k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
$30\text{MHz} \leq f \leq 1\text{GHz}$	5.40
$1\text{GHz} \leq f \leq 18\text{GHz}$	4.32
$18\text{GHz} \leq f \leq 40\text{GHz}$	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, §15.407:

“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, §15.407.

ANNEX C: Detailed Test Results

C.1. Radiated Spurious Emission

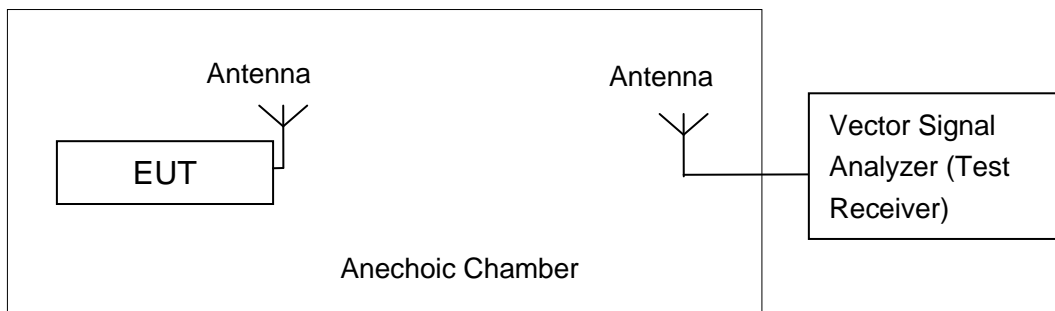
Specification Reference

FCC 47 CFR Part 15, Clause 15.407 (b) Clause 15.205 Clause 15.209

Method of Measurement

Testing was performed in accordance with ANSI C63.10-2013 and KDB 789033.

The radiated emission test is performed in a 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 the 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 (dBm/MHz)	
FCC 47 CFR Part 15.407	at the band edge	27
	at 5 MHz above or below the band edge	15.6
	at 25 MHz above or below the band edge	10
	at 75 MHz or more above or below the band edge	-27
	Note: Increasing linearly from point to point.	

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(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/VBW
30-1000	100kHz/300kHz
1000-4000	1MHz/3MHz
4000-18000	1MHz/3MHz
18000-26500	1MHz/3MHz
26500-40000	1MHz/3MHz

Sample Calculation

1. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20 \log(D) + 104.77$$

Where:

E is the field strength in dB μ V/m

D is the measurement distance in meters

EIRP is the equivalent isotropically radiated power in dbm

2. 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.

Average Results:

802.11a

Channel 149

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)
5447.600	43.55	-15.02	34.45	24.12	54.00	10.45	V
5451.800	43.58	-15.01	34.45	24.14	54.00	10.42	V
11490.400	33.70	-25.77	38.20	21.27	54.00	20.30	V
16056.000	39.62	-20.03	40.76	18.90	54.00	14.38	H
17751.200	40.22	-18.83	40.50	19.25	54.00	13.78	H
17941.600	39.98	-19.69	40.35	19.13	54.00	14.02	V

Channel 157

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)
5448.900	44.91	-15.01	34.45	25.47	54.00	9.09	V
5456.400	44.99	-15.03	34.46	25.56	54.00	9.01	V
11570.400	34.89	-24.94	38.30	21.53	54.00	19.11	H
16036.000	39.58	-20.02	40.74	18.86	54.00	14.42	H
17750.400	40.91	-18.83	40.50	19.24	54.00	13.09	H
17768.800	40.91	-18.98	40.48	19.40	54.00	13.09	V

Channel 165

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)
5445.400	43.51	-15.03	34.45	24.09	54.00	10.49	V
5453.600	43.50	-15.02	34.46	24.07	54.00	10.50	V
11650.400	35.69	-24.62	38.41	21.90	54.00	18.31	H
16042.400	39.79	-20.01	40.74	19.06	54.00	14.21	V
17772.000	40.10	-19.00	40.48	19.43	54.00	13.90	H
17941.600	40.11	-19.69	40.35	19.26	54.00	13.89	H

802.11n-HT20

Channel 149

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)
5447.800	43.54	-15.02	34.45	24.11	54.00	10.46	V
5456.400	43.58	-15.03	34.46	24.16	54.00	10.42	V
11490.400	33.78	-25.77	38.20	21.35	54.00	20.22	H
16022.400	39.80	-20.02	40.72	19.10	54.00	14.20	H
17758.400	40.14	-18.89	40.49	19.24	54.00	13.86	H
17922.400	39.75	-19.13	40.36	19.22	54.00	14.25	V

Channel 157

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)
5452.500	45.00	-15.01	34.45	25.56	54.00	9.00	H
5451.700	44.59	-15.03	34.46	25.16	54.00	9.41	H
11570.400	34.77	-24.94	38.30	21.40	54.00	19.23	V
16011.200	39.56	-20.03	40.71	18.88	54.00	14.44	V
17738.400	40.82	-18.87	40.51	19.18	54.00	13.18	H
17768.800	40.97	-18.98	40.48	19.46	54.00	13.03	V

Channel 165

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)
5449.400	43.60	-15.01	34.45	24.16	54.00	10.40	H
5459.400	43.53	-15.05	34.46	24.12	54.00	10.47	H
11650.400	35.58	-24.62	38.41	21.79	54.00	19.12	V
16036.000	39.77	-20.02	40.74	19.06	54.00	14.23	V
17752.000	40.28	-18.84	40.50	19.42	54.00	13.72	V
17942.400	40.05	-19.68	40.35	19.18	54.00	13.95	H

802.11n-HT40

Channel 151

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)
5452.600	43.95	-15.02	34.45	24.51	54.00	10.05	V
5455.400	44.02	-15.03	34.46	24.59	54.00	9.98	V
11510.400	34.00	-25.64	38.21	21.43	54.00	20.00	H
16031.200	39.53	-20.02	40.73	18.82	54.00	14.47	V
17731.200	40.81	-18.90	40.51	19.19	54.00	13.19	H
17764.100	40.80	-18.94	40.49	19.26	54.00	13.20	V

Channel 159

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)
5447.400	43.85	-15.02	34.45	24.42	54.00	10.15	V
5451.600	43.86	-15.01	34.45	24.42	54.00	10.14	V
11590.400	34.43	-25.50	38.33	21.60	54.00	19.57	V
16035.200	39.65	-20.02	40.74	18.93	54.00	14.35	H
17766.400	40.22	-18.96	40.49	19.49	54.00	13.78	V
17943.200	39.97	-19.66	40.34	18.39	54.00	14.03	H

802.11ac-HT20

Channel 149

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)
5453.000	43.79	-15.02	34.45	24.36	54.00	10.21	V
5457.800	43.75	-15.04	34.46	24.33	54.00	10.25	V
11490.400	33.74	-25.77	38.20	21.31	54.00	20.26	V
16028.800	39.82	-20.02	40.73	19.11	54.00	14.18	V
17754.400	40.28	-18.86	40.50	19.44	54.00	13.72	V
17920.000	39.86	-19.18	40.36	19.47	54.00	14.14	V

Channel 157

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)
5449.400	45.97	-15.01	34.45	26.53	54.00	8.03	V
5454.200	45.78	-15.02	34.46	26.35	54.00	8.22	H
11570.400	34.81	-24.94	38.30	21.45	54.00	19.19	H
16030.010	39.71	-20.02	40.73	19.00	54.00	14.29	V
17744.800	40.88	-18.84	40.50	19.22	54.00	13.12	H
17756.800	40.86	-18.88	40.49	19.24	54.00	13.14	V

Channel 165

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)
5448.000	43.75	-15.02	34.45	24.31	54.00	10.25	V
5454.800	43.77	-15.03	34.46	24.35	54.00	10.23	V
11650.400	35.51	-24.62	38.41	21.72	54.00	19.19	H
16020.800	39.83	-20.02	40.72	19.14	54.00	14.17	H
17504.000	40.28	-19.66	40.70	18.34	54.00	13.72	H
17921.600	39.98	-19.15	40.36	19.66	54.00	14.02	V

802.11ac-HT40

Channel 151

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)
5450.200	44.16	-15.01	34.45	24.71	54.00	9.84	V
5459.200	44.09	-15.05	34.46	24.68	54.00	9.91	V
11510.400	33.92	-25.64	38.21	21.35	54.00	20.08	H
16017.600	39.55	-20.03	40.72	18.86	54.00	14.45	V
17750.400	41.11	-18.83	40.50	19.44	54.00	12.89	H
17764.090	40.98	-18.94	40.49	19.44	54.00	13.02	H

Channel 159

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)
5451.000	44.09	-15.01	34.45	24.65	54.00	9.91	V
5455.800	44.07	-15.03	34.46	24.65	54.00	9.93	V
11590.400	34.47	-25.50	38.33	21.64	54.00	19.53	V
16036.800	39.87	-20.02	40.74	19.15	54.00	14.13	H
17736.000	40.35	-18.88	40.51	19.62	54.00	13.65	H
17936.800	40.07	-18.88	40.35	19.30	54.00	13.93	V

802.11ac-HT80

Channel 155

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)
5448.200	44.23	-15.02	34.45	24.79	54.00	9.77	V
5456.600	44.16	-15.04	34.46	24.73	54.00	9.84	V
11550.500	35.16	-24.38	38.27	21.26	54.00	18.84	H
16023.500	39.88	-20.02	40.72	19.18	54.00	14.12	V
17751.400	40.78	-18.83	40.50	19.11	54.00	13.22	V
17763.000	40.82	-18.94	40.49	19.27	54.00	13.18	H

802.11ax-HT20

Channel 149

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)
5448.600	44.0	-15.0	34.5	24.60	54.0	9.97	V
5455.200	43.9	-15.0	34.5	24.52	54.0	10.05	V
11490.400	34.2	-25.8	38.2	21.82	54.0	19.75	V
16002.400	39.9	-20.0	40.7	19.18	54.0	14.15	H
17752.000	40.5	-18.8	40.5	18.87	54.0	13.47	V
17925.600	40.2	-19.1	40.4	18.91	54.0	13.81	V

Channel 157

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)
5444.600	45.5	-15.0	34.4	26.11	54.0	8.48	V
5452.200	45.6	-15.0	34.5	26.14	54.0	8.42	H
11570.500	34.7	-24.9	38.3	21.37	54.0	19.27	H
16045.000	40.4	-20.0	40.7	19.65	54.0	13.62	H
17751.400	40.8	-18.8	40.5	19.15	54.0	13.18	H
17775.250	40.6	-19.0	40.5	19.17	54.0	13.38	H

Channel 165

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)
5446.800	43.8	-15.0	34.4	24.41	54.0	10.16	V
5456.200	43.8	-15.0	34.5	24.41	54.0	10.16	V
11650.400	35.4	-24.6	38.4	21.64	54.0	19.28	V
16028.800	39.9	-20.0	40.7	19.16	54.0	14.13	H
17756.000	40.3	-18.9	40.5	19.45	54.0	13.72	H
17950.400	39.8	-19.4	40.3	18.11	54.0	14.19	V

802.11ax-HT40

Channel 151

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)
5444.200	44.1	-15.0	34.4	24.66	54.0	9.94	V
5450.000	44.2	-15.0	34.5	24.78	54.0	9.78	V
11511.000	34.0	-25.6	38.2	21.41	54.0	20.02	H
16029.600	39.6	-20.0	40.7	18.89	54.0	14.40	V
17750.500	41.0	-18.8	40.5	19.28	54.0	13.04	H
17776.500	40.6	-19.0	40.5	19.17	54.0	13.39	V

Channel 159

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)
5449.200	44.0	-15.0	34.5	24.58	54.0	9.98	V
5450.600	44.1	-15.0	34.5	24.65	54.0	9.90	V
11590.400	34.4	-25.5	38.3	21.60	54.0	19.57	H
16036.000	39.9	-20.0	40.7	19.14	54.0	14.14	H
17756.000	40.3	-18.9	40.5	19.48	54.0	13.70	V
17943.200	40.0	-19.7	40.3	19.13	54.0	13.98	H

802.11ax-HT80

Ch155

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)
5448.200	44.2	-15.0	34.5	24.79	54.0	9.77	V
5456.600	44.2	-15.0	34.5	24.73	54.0	9.84	V
11550.500	35.2	-24.4	38.3	21.26	54.0	18.85	H
16023.500	39.9	-20.0	40.7	19.18	54.0	14.12	V
17751.400	40.8	-18.8	40.5	19.11	54.0	13.22	V
17763.000	40.8	-18.9	40.5	19.27	54.0	13.18	H

Peak Results:
802.11a

Channel 149

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)
5651.219	57.35	-15.84	34.69	38.50	69.10	11.76	V
5654.968	58.17	-15.87	34.69	39.35	71.88	13.70	V
11490.200	45.25	-25.76	38.20	32.81	74.00	28.75	H
16485.300	54.05	-19.64	41.19	32.50	68.30	14.25	H
17234.950	50.56	-19.20	40.96	28.80	68.30	17.73	H
17636.450	54.69	-18.20	40.59	32.30	68.30	13.61	V

Channel 157

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)
5745.000	59.14	-16.08	34.80	40.43	68.30	9.16	H
5817.080	60.15	-15.58	34.89	40.85	68.30	8.15	V
11568.600	47.05	-24.93	38.30	33.68	74.00	26.95	V
16658.950	54.30	-19.26	41.20	32.36	68.30	14.00	H
17401.800	53.41	-18.78	40.84	31.34	68.30	14.89	V
17428.800	54.92	-18.68	40.77	32.83	68.30	13.38	H

Channel 165

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)
5922.918	58.42	-14.95	35.01	38.37	69.74	11.32	V
5923.724	58.78	-14.95	35.01	38.72	69.14	10.36	H
11650.250	47.48	-24.62	38.41	33.69	74.00	26.52	H
16680.000	54.43	-19.35	41.20	32.58	68.30	13.87	V
17474.750	51.78	-18.90	40.72	29.96	68.30	16.52	V
17638.650	53.73	-18.20	40.59	31.34	68.30	14.57	V

802.11n-HT20

Channel 149

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)
5654.014	58.14	-15.86	34.69	39.31	71.17	13.03	H
5655.618	58.61	-15.87	34.69	39.79	72.36	13.75	H
11490.200	44.92	-25.76	38.20	32.48	74.00	29.08	V
16551.300	53.78	-19.72	41.20	32.30	68.30	14.52	H
17234.950	51.49	-19.20	40.96	29.73	68.30	16.80	H
17636.450	54.37	-18.20	40.59	31.98	68.30	13.93	H

Channel 157

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)
5770.000	59.75	-15.96	34.83	40.88	68.30	8.55	H
5808.000	59.24	-15.62	34.88	39.98	68.30	9.06	H
11568.600	47.24	-24.93	38.30	33.87	74.00	26.76	V
16623.700	54.57	-19.53	41.20	32.90	68.30	13.73	V
17097.450	55.51	-19.01	41.10	33.42	68.30	12.79	V
17401.800	52.32	-18.78	40.84	30.25	68.30	15.98	V

Channel 165

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)
5923.597	58.64	-14.95	35.01	38.57	69.24	10.60	H
5924.891	58.41	-14.94	35.01	38.34	68.28	9.87	H
11650.250	46.42	-24.62	38.41	32.63	74.00	27.58	H
16470.450	54.04	-19.65	41.17	32.52	68.30	14.26	V
17088.650	54.94	-19.07	41.11	32.90	68.30	13.36	H
17474.500	52.47	-18.90	40.73	30.65	68.30	15.83	V

802.11n-HT40

Channel 151

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)
5650.799	57.67	-15.84	34.69	38.82	68.79	11.12	H
5652.012	58.09	-15.85	34.69	39.25	69.69	11.60	V
11510.000	45.11	-25.65	38.21	32.55	74.00	28.89	H
16978.650	54.78	-19.07	41.20	32.65	68.30	13.52	H
17265.200	51.40	-19.16	40.93	29.63	68.30	16.90	V
17586.500	54.99	-18.26	40.63	32.62	68.30	13.31	V

Channel 159

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)
5923.511	58.76	-14.95	35.01	38.69	69.30	10.55	H
5924.316	59.19	-14.94	35.01	39.12	68.71	9.52	V
11589.750	45.99	-25.48	38.33	33.14	74.00	28.01	V
16949.500	54.46	-18.98	41.20	32.24	68.30	13.84	H
17107.900	54.40	-19.06	41.09	32.37	68.30	13.90	H
17385.100	51.82	-18.49	40.81	29.50	68.30	16.48	V

802.11ac-HT20

Channel 149

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)
5651.328	57.71	-15.84	34.69	38.86	69.18	11.47	V
5654.560	57.92	-15.86	34.69	39.09	71.57	13.66	V
11490.200	45.25	-25.76	38.20	32.82	74.00	28.75	V
16656.900	53.91	-19.25	41.20	31.95	68.30	14.39	V
17234.950	51.20	-19.20	40.96	29.43	68.30	17.10	H
17600.700	54.16	-18.11	40.62	31.65	68.30	14.14	V

Channel 157

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)
5759.000	61.65	-16.02	34.82	42.86	68.30	6.65	H
5820.200	60.97	-15.59	34.89	41.68	68.30	7.33	H
11569.950	46.06	-24.93	38.30	32.69	74.00	27.94	V
17401.800	51.65	-18.78	40.84	29.58	68.30	16.65	H
17411.000	54.68	-18.60	40.78	32.50	68.30	13.62	V
17638.650	54.81	-18.20	40.59	32.42	68.30	13.49	V

Channel 165

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)
5924.247	58.80	-14.95	35.01	38.73	68.76	9.96	H
5924.787	58.56	-14.94	35.01	38.49	68.36	9.80	H
11650.250	47.19	-24.62	38.41	33.39	74.00	26.81	V
16443.500	53.67	-19.65	41.14	32.18	68.30	14.63	H
17168.400	54.72	-19.24	41.03	32.93	68.30	13.58	H
17474.750	51.22	-18.90	40.72	29.40	68.30	17.08	H

802.11ac-HT40

Channel 151

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)
5651.391	57.22	-15.84	34.69	38.38	69.23	12.01	V
5652.294	57.51	-15.85	34.69	38.67	69.90	12.39	V
11510.000	46.55	-25.65	38.21	34.00	74.00	27.45	V
16717.950	54.76	-19.23	41.20	32.79	68.30	13.54	H
17105.150	54.92	-19.04	41.09	32.86	68.30	13.38	V
17265.200	52.20	-19.16	40.93	30.43	68.30	16.10	V

Channel 159

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)
5922.941	59.14	-14.95	35.01	39.08	69.72	10.58	H
5924.368	59.61	-14.94	35.01	39.54	68.67	9.06	V
11589.750	46.48	-25.48	38.33	33.63	74.00	27.52	V
16921.450	54.95	-18.99	41.20	32.75	68.30	13.35	V
16987.450	54.92	-19.10	41.20	32.82	68.30	13.38	V
17385.100	51.85	-18.49	40.81	29.52	68.30	16.45	V

802.11ac-HT80

Channel 155

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)
5650.069	57.80	-15.84	34.69	38.95	68.25	10.45	H
5650.253	57.51	-15.84	34.69	38.66	68.39	10.87	H
11550.050	46.28	-24.37	38.27	32.38	74.00	27.72	V
16651.900	54.21	-19.22	41.20	32.23	68.30	14.09	H
17035.800	54.34	-19.28	41.16	32.46	68.30	13.96	V
17325.150	53.38	-18.84	40.87	31.35	68.30	14.92	H

802.11ax-HT20

Channel 149

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)
5650.109	57.9	-15.8	34.7	39.06	68.3	10.37	H
5651.576	58.0	-15.8	34.7	39.14	69.4	11.38	V
11490.200	46.0	-25.8	38.2	33.57	74.0	28.00	V
16710.800	54.1	-19.3	41.2	32.20	68.3	14.21	V
17234.950	52.6	-19.2	41.0	30.86	68.3	15.67	H
17637.550	54.2	-18.2	40.6	31.83	68.3	14.08	H

Channel 157

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)
5757.200	61.3	-16.0	34.8	42.54	68.3	6.96	H
5813.200	60.0	-15.6	34.9	40.78	68.3	8.25	V
11568.600	46.9	-24.9	38.3	33.56	74.0	27.07	H
16997.900	54.4	-19.1	41.2	32.35	68.3	13.88	H
17037.500	54.3	-19.3	41.2	32.47	68.3	13.96	H
17401.800	52.4	-18.8	40.8	30.32	68.3	15.91	H

Channel 165

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)
5923.189	58.9	-15.0	35.0	38.84	69.5	10.64	H
5924.465	58.8	-14.9	35.0	38.70	68.6	9.82	H
11650.250	46.9	-24.6	38.4	33.15	74.0	27.06	V
16655.250	54.6	-19.2	41.2	32.66	68.3	13.68	V
17078.200	54.9	-19.1	41.1	32.88	68.3	13.45	H
17474.750	52.4	-18.9	40.7	30.57	68.3	15.91	V

802.11ax-HT40

Channel 151

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)
5650.144	58.9	-15.8	34.7	40.08	68.3	9.38	V
5651.995	58.6	-15.8	34.7	39.78	69.7	11.06	V
11510.000	45.9	-25.7	38.2	33.38	74.0	28.06	H
16368.800	54.5	-19.3	41.1	32.72	68.3	13.82	H
16977.850	54.6	-19.1	41.2	32.45	68.3	13.72	H
17265.600	52.8	-19.2	40.9	31.00	68.3	15.53	V

Channel 159

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)
5923.114	60.0	-15.0	35.0	39.96	69.6	9.57	H
5923.459	59.6	-14.9	35.0	39.57	69.3	9.71	H
11589.750	47.0	-25.5	38.3	34.12	74.0	27.04	H
17232.200	54.7	-19.2	41.0	32.91	68.3	13.61	V
17385.100	51.8	-18.5	40.8	29.49	68.3	16.48	H
17595.200	54.6	-18.2	40.6	32.19	68.3	13.65	H

802.11ax-HT80

Ch155

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)
5650.069	57.8	-15.8	34.7	38.95	68.3	10.45	H
5650.253	57.5	-15.8	34.7	38.66	68.4	10.87	H
11550.050	46.3	-24.4	38.3	32.38	74.0	27.72	V
16651.900	54.2	-19.2	41.2	32.23	68.3	14.09	H
17035.800	54.3	-19.3	41.2	32.46	68.3	13.96	V
17325.150	53.4	-18.8	40.9	31.35	68.3	14.92	H

Note: the spurious emission above 18G is noise only

Conclusion: pass

SPEED

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

Average Results:

802.11a

Channel 149

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)
5449.800	45.10	-15.01	34.45	25.65	54.00	8.90	V
5455.400	44.98	-15.03	34.46	25.56	54.00	9.02	V
11489.400	34.32	-25.77	38.20	21.89	54.00	19.68	V
16055.800	39.62	-20.03	40.76	18.90	54.00	14.38	H
17754.200	40.82	-18.83	40.50	19.15	54.00	13.18	H
17942.500	40.58	-18.79	40.35	19.03	54.00	13.42	V

Channel 157

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)
5449.200	44.61	-15.01	34.45	25.17	54.00	9.39	V
5455.400	44.69	-15.03	34.46	25.26	54.00	9.31	V
11570.400	34.89	-24.94	38.30	21.53	54.00	19.11	V
16036.000	39.58	-20.02	40.74	18.86	54.00	14.42	V
17750.400	40.21	-18.83	40.50	18.54	54.00	13.79	H
17768.800	40.11	-18.98	40.48	18.60	54.00	13.89	V

Channel 165

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)
5449.600	45.18	-15.01	34.45	25.74	54.00	8.82	V
5455.600	45.10	-15.03	34.46	25.68	54.00	8.90	V
11650.400	35.98	-24.62	38.41	22.19	54.00	18.02	H
16042.400	39.79	-20.01	40.74	19.06	54.00	14.21	V
17772.000	40.70	-19.00	40.48	19.23	54.00	13.30	H
17942.500	40.71	-18.79	40.35	19.16	54.00	13.29	H

802.11n-HT20

Channel 149

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)
5451.800	45.24	-15.01	34.45	25.80	54.00	8.76	V
5455.200	45.20	-15.03	34.46	25.78	54.00	8.80	V
11489.400	33.78	-25.77	38.20	21.35	54.00	20.22	H
16022.400	39.80	-20.02	40.72	19.10	54.00	14.20	H
17758.400	40.74	-18.89	40.49	19.14	54.00	13.26	H
17922.400	40.35	-19.13	40.36	19.12	54.00	13.65	V

Channel 157

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)
5451.400	44.00	-15.01	34.45	24.56	54.00	10.00	V
5455.600	44.50	-15.03	34.46	25.07	54.00	9.50	V
11570.400	34.77	-24.94	38.30	21.40	54.00	19.23	V
16011.200	39.56	-20.03	40.71	18.88	54.00	14.44	V
17738.400	40.12	-18.87	40.51	18.48	54.00	13.88	H
17768.800	40.16	-18.98	40.48	18.66	54.00	13.84	V

Channel 165

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)
5450.600	45.18	-15.01	34.45	25.74	54.00	8.82	V
5456.800	45.15	-15.04	34.46	25.72	54.00	8.85	V
11650.400	35.78	-24.62	38.41	21.99	54.00	18.22	V
16036.000	39.77	-20.02	40.74	19.06	54.00	14.23	V
17752.000	40.88	-18.84	40.50	19.22	54.00	13.12	V
17942.400	40.66	-18.78	40.35	19.08	54.00	13.34	H

802.11n-HT40

Channel 151

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)
5445.400	45.36	-15.03	34.45	25.94	54.00	8.64	V
5457.200	45.39	-15.04	34.46	25.97	54.00	8.61	V
11510.400	34.00	-25.64	38.21	21.43	54.00	20.00	V
16031.200	39.53	-20.02	40.73	18.82	54.00	14.47	V
17731.200	40.11	-18.90	40.51	18.49	54.00	13.89	H
17764.000	40.10	-18.94	40.49	18.56	54.00	13.90	V

Channel 159

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)
5421.400	45.21	-15.16	34.42	25.94	54.00	8.79	V
5447.000	45.41	-15.02	34.45	25.99	54.00	8.59	V
11590.400	35.07	-25.50	38.33	22.24	54.00	18.93	V
16035.200	39.65	-20.02	40.74	18.93	54.00	14.35	H
17766.400	40.82	-18.96	40.49	19.29	54.00	13.18	V
17943.200	39.97	-18.76	40.34	18.39	54.00	14.03	H

802.11ac-HT20

Channel 149

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)
5446.400	45.17	-15.03	34.45	25.74	54.00	8.83	V
5452.200	45.21	-15.02	34.45	25.77	54.00	8.79	V
11489.400	34.28	-25.77	38.20	21.85	54.00	19.72	V
16028.800	39.82	-20.02	40.73	19.11	54.00	14.18	V
17754.400	40.88	-18.86	40.50	19.24	54.00	13.12	V
17921.500	40.46	-19.18	40.36	19.27	54.00	13.54	V

Channel 157

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)
5449.400	45.37	-15.01	34.45	25.93	54.00	8.63	V
5454.200	45.38	-15.02	34.46	25.95	54.00	8.62	V
11570.400	34.81	-24.94	38.30	21.45	54.00	19.19	V
16030.400	39.71	-20.02	40.73	19.00	54.00	14.29	V
17744.800	40.18	-18.84	40.50	18.52	54.00	13.82	H
17756.800	40.16	-18.88	40.49	18.54	54.00	13.84	V

Channel 165

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)
5442.400	45.09	-15.05	34.44	25.69	54.00	8.91	V
5451.200	45.33	-15.01	34.45	25.88	54.00	8.67	V
11650.400	35.81	-24.62	38.41	22.02	54.00	18.19	H
16020.800	39.83	-20.02	40.72	19.14	54.00	14.17	H
17504.000	40.28	-18.76	40.70	18.34	54.00	13.72	H
17921.650	39.97	-19.15	40.36	18.76	54.00	14.03	V

802.11ac-HT40

Channel 151

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)
5449.800	45.49	-15.01	34.45	26.04	54.00	8.51	V
5454.600	45.40	-15.03	34.46	25.97	54.00	8.60	V
11510.400	33.92	-25.64	38.21	21.35	54.00	20.08	H
16017.600	39.55	-20.03	40.72	18.86	54.00	14.45	V
17750.400	40.31	-18.83	40.50	18.64	54.00	13.69	V
17764.800	40.18	-18.94	40.49	18.64	54.00	13.82	H

Channel 159

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)
5446.600	45.45	-15.02	34.45	26.02	54.00	8.55	V
5450.400	45.44	-15.01	34.45	26.00	54.00	8.56	V
11590.400	35.16	-25.50	38.33	22.33	54.00	18.84	V
16036.800	39.87	-20.02	40.74	19.15	54.00	14.13	H
17736.000	40.35	-18.88	40.51	18.72	54.00	13.65	H
17936.800	40.67	-18.88	40.35	19.20	54.00	13.33	V

802.11ac-HT80

Channel 155

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)
5924.115	58.7	-14.9	35.0	38.64	68.9	10.15	V
5924.379	59.0	-14.9	35.0	38.96	68.7	9.63	V
11550.150	46.3	-24.4	38.3	32.38	74.0	27.72	V
16651.400	54.6	-19.2	41.2	32.61	68.3	13.71	V
17035.850	54.6	-19.3	41.2	32.69	68.3	13.73	H
17325.150	52.6	-18.8	40.9	30.55	68.3	15.72	H

802.11ax-HT20

Channel 149

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)
5445.600	45.2	-15.0	34.4	25.77	54.0	8.81	V
5453.600	45.3	-15.0	34.5	25.85	54.0	8.71	V
11489.400	34.8	-25.8	38.2	22.42	54.0	19.15	V
16002.400	39.9	-20.0	40.7	19.18	54.0	14.15	H
17752.000	40.5	-18.8	40.5	18.87	54.0	13.47	V
17923.600	40.2	-19.1	40.4	18.91	54.0	13.81	V

Channel 157

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)
5444.600	45.3	-15.0	34.4	25.91	54.0	8.68	V
5452.200	45.3	-15.0	34.5	25.85	54.0	8.71	V
11570.400	34.7	-24.9	38.3	21.37	54.0	19.27	V
16044.000	39.5	-20.0	40.7	18.75	54.0	14.52	H
17750.400	40.1	-18.8	40.5	18.45	54.0	13.88	H
17775.200	39.9	-19.0	40.5	18.47	54.0	14.08	H

Channel 165

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)
5449.400	45.3	-15.0	34.5	25.85	54.0	8.71	V
5453.600	45.3	-15.0	34.5	25.89	54.0	8.68	V
11650.400	36.0	-24.6	38.4	22.24	54.0	17.98	V
16028.800	39.9	-20.0	40.7	19.16	54.0	14.13	H
17756.000	40.9	-18.9	40.5	19.25	54.0	13.12	H
17948.000	39.2	-19.2	40.3	18.11	54.0	14.79	V

802.11ax-HT40

Channel 151

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)
5445.200	45.4	-15.0	34.4	26.01	54.0	8.58	V
5455.000	45.5	-15.0	34.5	26.05	54.0	8.52	V
11510.400	34.0	-25.6	38.2	21.41	54.0	20.02	H
16029.600	39.6	-20.0	40.7	18.89	54.0	14.40	V
17750.400	40.3	-18.8	40.5	18.58	54.0	13.74	H
17776.000	39.9	-19.0	40.5	18.47	54.0	14.09	V

Channel 159

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)
5448.800	45.5	-15.0	34.5	26.08	54.0	8.49	V
5456.200	45.5	-15.0	34.5	26.09	54.0	8.49	V
11590.400	35.1	-25.5	38.3	22.31	54.0	18.86	H
16036.000	39.9	-20.0	40.7	19.14	54.0	14.14	H
17756.000	40.9	-18.9	40.5	19.28	54.0	13.10	V
17943.010	40.6	-18.8	40.3	19.03	54.0	13.38	H

802.11ax-HT80

Channel 155

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)
5423.000	42.5	-27.7	32.8	37.46	54.0	11.5	V
5426.500	42.5	-27.7	32.8	37.48	54.0	11.5	V
11549.875	35.5	-35.0	39.2	31.27	54.0	18.5	H
16168.500	39.0	-32.9	39.6	32.32	54.0	15.0	H
17839.813	42.3	-31.5	41.9	31.82	54.0	11.7	H
17903.750	42.1	-31.3	41.8	31.58	54.0	11.9	H

Peak Results:
802.11a

Channel 149

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)
5650.356	59.20	-15.84	34.69	40.35	68.46	9.27	H
5651.777	58.71	-15.85	34.69	39.87	69.51	10.80	V
11490.200	45.75	-25.76	38.20	33.31	74.00	28.25	H
16485.300	54.05	-19.64	41.19	32.50	68.30	14.25	H
17234.950	50.56	-19.20	40.96	29.80	68.30	17.73	H
17636.450	54.69	-18.20	40.59	32.30	68.30	13.61	V

Channel 157

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)
5742.000	59.14	-16.08	34.80	40.43	68.30	9.16	H
5817.200	59.25	-15.58	34.89	39.95	68.30	9.05	V
11569.950	47.15	-24.93	38.30	33.78	74.00	26.85	V
16659.100	54.30	-19.26	41.20	32.36	68.30	14.00	H
17354.850	53.41	-18.78	40.84	31.34	68.30	14.89	V
17424.150	54.92	-19.28	40.77	33.33	68.30	13.38	H

Channel 165

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)
5922.648	59.99	-14.95	35.01	39.93	69.94	9.95	H
5924.592	60.06	-14.94	35.01	39.99	68.50	8.44	V
11650.250	47.48	-24.62	38.41	33.69	74.00	26.52	H
16680.000	54.43	-19.35	41.20	32.68	68.30	13.87	V
17474.750	51.78	-18.90	40.72	30.96	68.30	16.52	H
17638.650	53.73	-18.20	40.59	31.34	68.30	14.57	H

802.11n-HT20

Channel 149

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)
5650.322	58.67	-15.84	34.69	39.83	68.44	9.76	H
5650.420	58.63	-15.84	34.69	39.78	68.51	9.88	H
11490.200	44.92	-25.76	38.20	32.48	74.00	29.08	V
16551.300	53.78	-19.72	41.20	32.30	68.30	14.52	H
17234.950	51.49	-19.20	40.96	30.73	68.30	16.80	H
17636.450	54.37	-18.20	40.59	31.98	68.30	13.93	H

Channel 157

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)
5766.000	59.44	-15.96	34.83	40.57	68.30	8.86	H
5812.000	58.87	-15.62	34.88	39.61	68.30	9.43	H
11569.950	47.14	-24.93	38.30	33.77	74.00	26.86	V
16623.900	54.48	-19.53	41.20	33.31	68.30	13.81	V
17097.450	55.51	-19.01	41.10	33.42	68.30	12.79	V
17354.850	51.72	-18.78	40.84	30.65	68.30	16.58	V

Channel 165

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)
5924.373	59.44	-14.94	35.01	39.37	68.66	9.22	V
5924.862	59.13	-14.94	35.01	39.06	68.30	9.17	V
11650.250	46.42	-24.62	38.41	32.63	74.00	27.58	H
16470.450	54.04	-19.65	41.17	32.52	68.30	14.26	V
17088.650	54.94	-19.07	41.11	33.40	68.30	13.36	H
17474.500	52.47	-18.90	40.73	30.65	68.30	15.83	V

802.11n-HT40

Channel 151

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)
5650.506	58.42	-15.84	34.69	39.57	68.57	10.16	V
5650.840	58.20	-15.84	34.69	39.35	68.82	10.63	H
11510.000	45.11	-25.65	38.21	32.55	74.00	28.89	H
16978.650	54.78	-19.07	41.20	32.65	68.30	13.52	H
17265.200	51.40	-19.16	40.93	30.63	68.30	16.90	V
17586.400	54.99	-18.26	40.63	32.62	68.30	13.31	V

Channel 159

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)
5924.293	59.08	-14.94	35.01	39.02	68.72	9.64	H
5924.782	59.41	-14.94	35.01	39.34	68.36	8.95	V
11589.750	45.99	-25.48	38.33	33.14	74.00	28.01	H
16949.500	54.46	-18.98	41.20	32.24	68.30	13.84	H
17107.900	54.40	-19.06	41.09	32.37	68.30	13.90	H
17385.100	51.82	-18.49	40.81	30.50	68.30	16.48	V

802.11ac-HT20

Channel 149

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)
5651.806	58.88	-15.85	34.69	40.04	69.54	10.65	H
5651.926	59.85	-15.85	34.69	41.01	69.63	9.77	V
11490.200	45.25	-25.76	38.20	33.32	74.00	28.75	V
16656.900	53.91	-19.25	41.20	31.95	68.30	14.39	V
17234.950	51.20	-19.20	40.96	30.43	68.30	17.10	H
17600.700	54.16	-18.11	40.62	31.65	68.30	14.14	V

Channel 157

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)
5757.200	61.07	-16.02	34.82	42.28	68.30	7.23	H
5816.000	59.77	-15.59	34.89	40.48	68.30	8.53	H
11569.950	46.06	-24.93	38.30	32.69	74.00	27.94	V
17354.850	51.65	-18.78	40.84	30.88	68.30	16.65	H
17418.100	54.68	-19.20	40.78	32.50	68.30	13.62	V
17638.650	54.81	-18.20	40.59	32.42	68.30	13.49	V

Channel 165

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)
5924.707	58.82	-14.94	35.01	38.75	68.42	9.60	V
5924.914	58.95	-14.94	35.01	38.88	68.26	9.31	H
11650.250	47.19	-24.62	38.41	33.39	74.00	26.81	V
16443.500	53.67	-19.65	41.14	32.18	68.30	14.63	H
17168.400	54.72	-19.24	41.03	32.93	68.30	13.58	H
17474.750	51.22	-18.90	40.72	30.40	68.30	17.08	H

802.11ac-HT40

Channel 151

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)
5650.138	57.72	-15.84	34.69	38.87	68.30	10.58	H
5650.190	57.68	-15.84	34.69	38.83	68.34	10.66	H
11510.000	46.55	-25.65	38.21	34.00	74.00	27.45	V
16717.950	54.76	-19.23	41.20	32.79	68.30	13.54	H
17105.150	54.92	-19.04	41.09	33.36	68.30	13.38	V
17265.200	52.20	-19.16	40.93	30.43	68.30	16.10	V

Channel 159

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)
5924.690	59.16	-14.94	35.01	39.09	68.43	9.27	V
5924.943	59.67	-14.94	35.01	39.60	68.24	8.57	V
11589.750	46.48	-25.48	38.33	33.63	74.00	27.52	V
16921.450	54.95	-18.99	41.20	32.75	68.30	13.35	V
16987.450	54.92	-19.10	41.20	33.32	68.30	13.38	H
17385.100	51.85	-18.49	40.81	30.82	68.30	16.45	H

802.11ac-HT80

Channel 155

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)
5924.115	58.7	-14.9	35.0	38.64	68.9	10.15	V
5924.379	59.0	-14.9	35.0	38.96	68.7	9.63	V
11550.150	46.3	-24.4	38.3	32.38	74.0	27.72	V
16651.400	54.6	-19.2	41.2	32.61	68.3	13.71	V
17035.850	54.6	-19.3	41.2	32.69	68.3	13.73	H
17325.150	52.6	-18.8	40.9	30.55	68.3	15.72	H

802.11ax-HT20

Channel 149

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)
5650.564	58.3	-15.8	34.7	39.45	68.6	10.32	H
5650.897	58.2	-15.8	34.7	39.31	68.9	10.71	V
11490.200	46.0	-25.8	38.2	33.57	74.0	28.00	V
16710.800	54.1	-19.3	41.2	32.20	68.3	14.21	V
17234.950	52.6	-19.2	41.0	30.86	68.3	15.67	H
17637.550	54.2	-18.2	40.6	31.83	68.3	14.08	H

Channel 157

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)
5757.200	61.3	-16.0	34.8	42.54	68.3	6.96	H
5813.200	60.0	-15.6	34.9	40.78	68.3	8.25	V
11569.950	46.9	-24.9	38.3	33.56	74.0	27.07	H
16997.900	54.4	-19.1	41.2	32.35	68.3	13.88	H
17037.500	54.3	-19.3	41.2	32.47	68.3	13.96	H
17354.850	52.4	-18.8	40.8	30.32	68.3	15.91	H

Channel 165

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)
5924.540	58.7	-14.9	35.0	38.63	68.5	9.84	H
5924.713	60.1	-14.9	35.0	40.05	68.4	8.29	H
11650.250	46.9	-24.6	38.4	33.15	74.0	27.06	V
16655.250	54.6	-19.2	41.2	32.66	68.3	13.68	V
17078.200	54.9	-19.1	41.1	33.38	68.3	13.45	H
17474.750	52.4	-18.9	40.7	30.57	68.3	15.91	V

802.11ax-HT40

Channel 151

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)
5650.932	57.5	-15.8	34.7	38.70	68.9	11.34	H
5651.052	59.7	-15.8	34.7	40.84	69.0	9.29	V
11510.000	45.9	-25.7	38.2	33.38	74.0	28.06	H
16368.700	54.5	-19.3	41.1	32.72	68.3	13.82	H
16977.550	54.6	-19.1	41.2	32.45	68.3	13.72	H
17265.200	51.8	-19.2	40.9	31.00	68.3	16.53	V

Channel 159

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)
5924.799	59.0	-14.9	35.0	38.89	68.3	9.38	V
5924.908	59.1	-14.9	35.0	39.01	68.3	9.19	H
11589.750	47.0	-25.5	38.3	34.12	74.0	27.04	H
17232.000	54.7	-19.2	41.0	32.91	68.3	13.61	V
17379.000	51.8	-18.5	40.8	30.49	68.3	16.48	V
17594.010	54.6	-18.2	40.6	32.19	68.3	13.65	H

802.11ax-HT80

Channel 155

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)
5650.098	57.7	-15.8	34.7	38.81	68.3	10.61	V
5650.167	57.3	-15.8	34.7	38.50	68.3	10.97	V
11552.150	46.4	-24.4	38.3	32.48	74.0	27.62	V
16652.400	54.6	-19.2	41.2	32.65	68.3	13.67	V
17034.850	54.7	-19.3	41.2	32.81	68.3	13.61	H
17325.150	53.9	-18.8	40.9	31.85	68.3	14.42	H

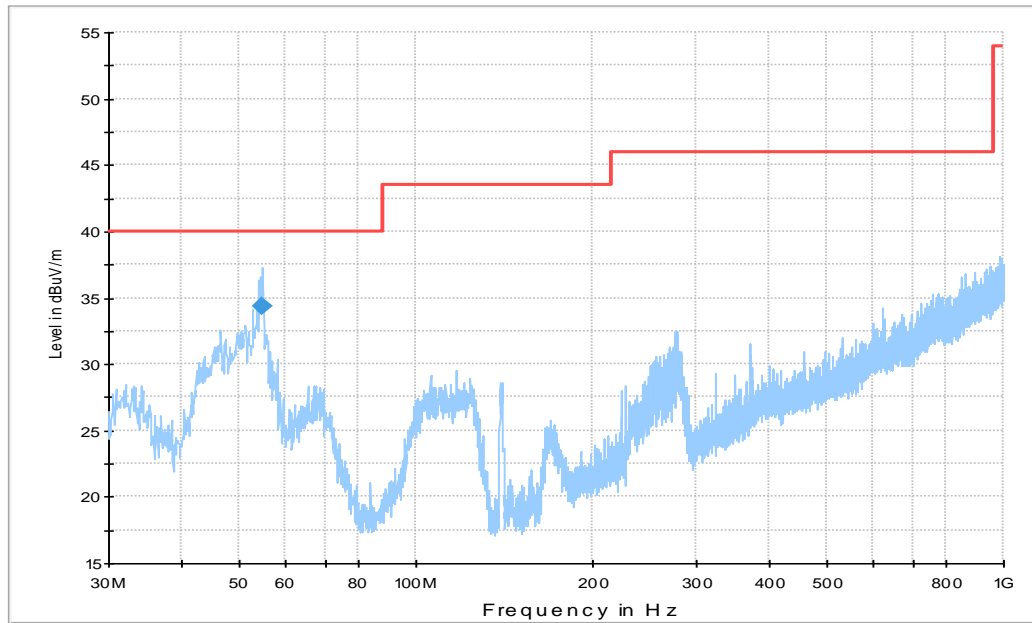
Note: the spurious emission above 18G is noise only

Conclusion: pass

C.1.2 Radiated Spurious Emission- Below 1GHz

WOSRT CASE BELOW 1GHz

- FCC Part 15C 30-1G Limit
- Peak Preview Result
- ◆ Final Result QPK



Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
54.735000	34.4	100.0	V	94.0	-0.2	5.6	40.0

BELOW 30MHz

There are no emissions found below 30MHz with in 20dB of the limit.

C.1.3 Band Edges Compliance– Radiated

Measurement Result:

INNOWAVE:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz(CH149)	Fig.1	P
	5825 MHz(CH165)	Fig.2	P
802.11n HT20	5745 MHz(CH149)	Fig.3	P
	5825 MHz(CH165)	Fig.4	P
802.11n HT40	5755 MHz(CH151)	Fig.5	P
	5795 MHz(CH159)	Fig.6	P
802.11ac HT20	5745 MHz(CH149)	Fig.7	P
	5825 MHz(CH165)	Fig.8	P
802.11ac HT40	5755 MHz(CH151)	Fig.9	P
	5795 MHz(CH159)	Fig.10	P
802.11ac HT80	5775 MHz(CH155)	Fig.11 Fig.12	P
802.11ax HT20	5745 MHz(CH149)	Fig.13	P
	5825 MHz(CH165)	Fig.14	P
802.11ax HT40	5755 MHz(CH151)	Fig.15	P
	5795 MHz(CH159)	Fig.16	P
802.11ax HT80	5775 MHz(CH155)	Fig.17 Fig.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:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz(CH149)	Fig.19	P
	5825 MHz(CH165)	Fig.20	P
802.11n HT20	5745 MHz(CH149)	Fig.21	P
	5825 MHz(CH165)	Fig.22	P
802.11n HT40	5755 MHz(CH151)	Fig.23	P
	5795 MHz(CH159)	Fig.24	P
802.11ac HT20	5745 MHz(CH149)	Fig.25	P
	5825 MHz(CH165)	Fig.26	P
802.11ac HT40	5755 MHz(CH151)	Fig.27	P
	5795 MHz(CH159)	Fig.28	P
802.11ac HT80	5775 MHz(CH155)	Fig.29 Fig.30	P
802.11ax HT20	5745 MHz(CH149)	Fig.31	P
	5825 MHz(CH165)	Fig.32	P
802.11ax HT40	5755 MHz(CH151)	Fig.33	P
	5795 MHz(CH159)	Fig.34	P
802.11ax HT80	5775 MHz(CH155)	Fig.35 Fig.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:

— Peak Limits
— Peak Result

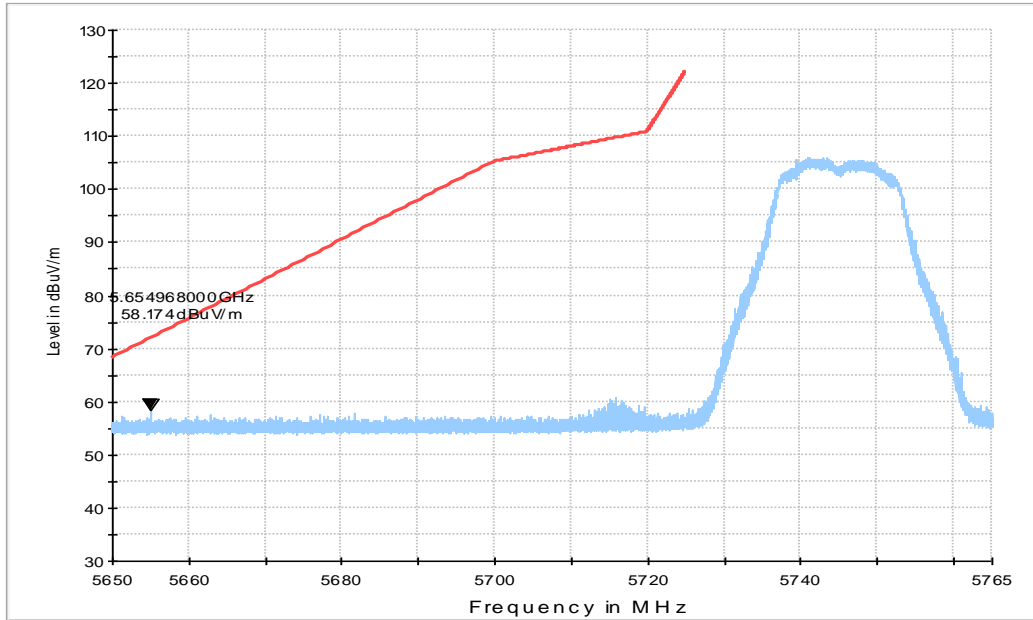


Fig. 1 Band Edges (802.11a,CH149, 5745MHz)

— Peak Limits
— Peak Result

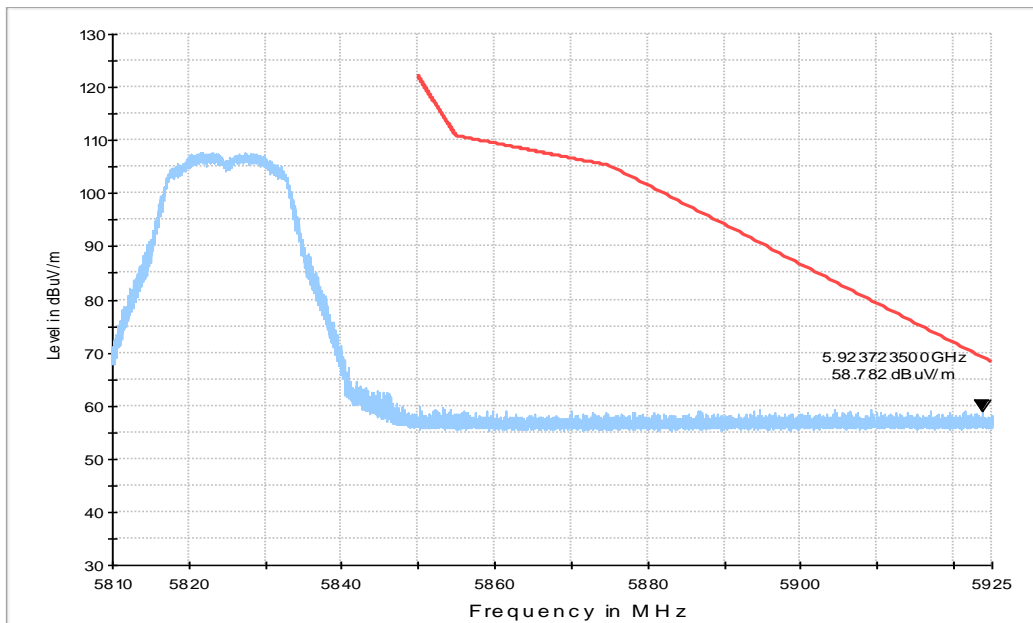


Fig. 2 Band Edges (802.11a, CH165, 5825MHz)

— Peak Limits
— Peak Result

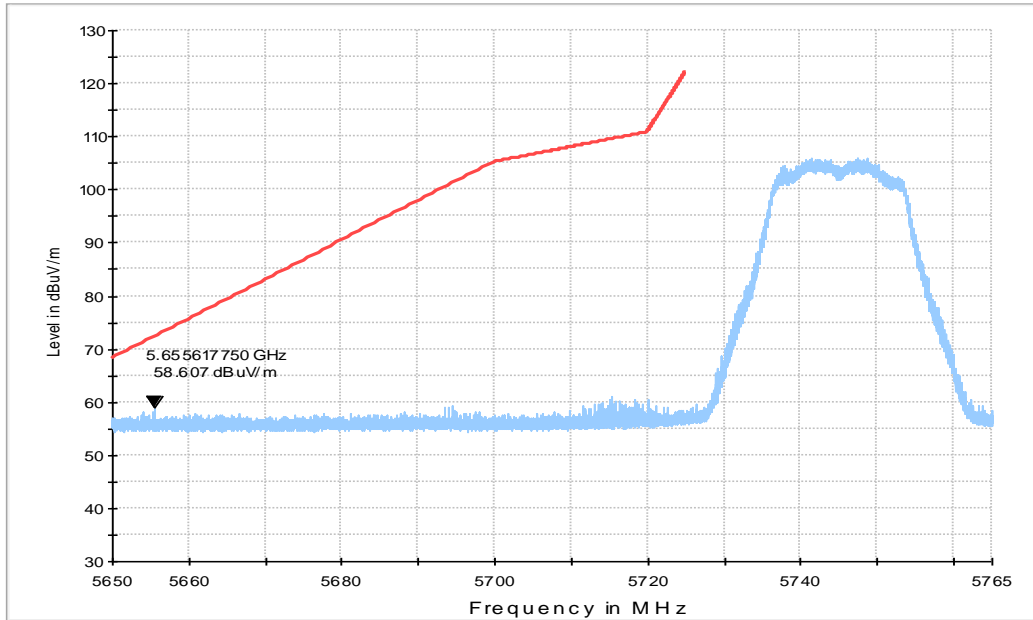


Fig. 3 Band Edges (802.11n-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

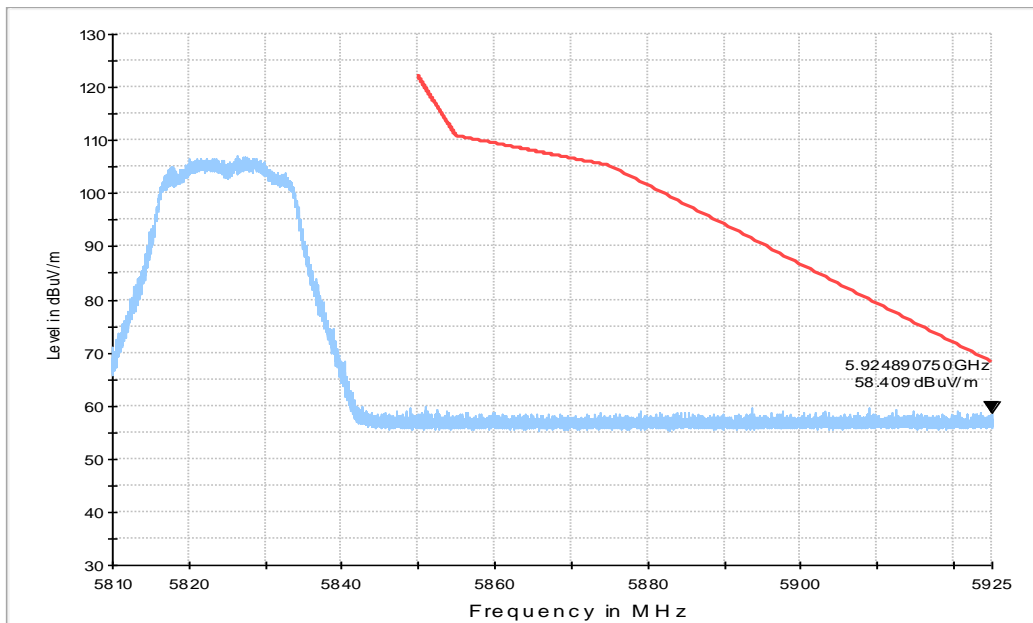


Fig. 4 Band Edges (802.11n-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

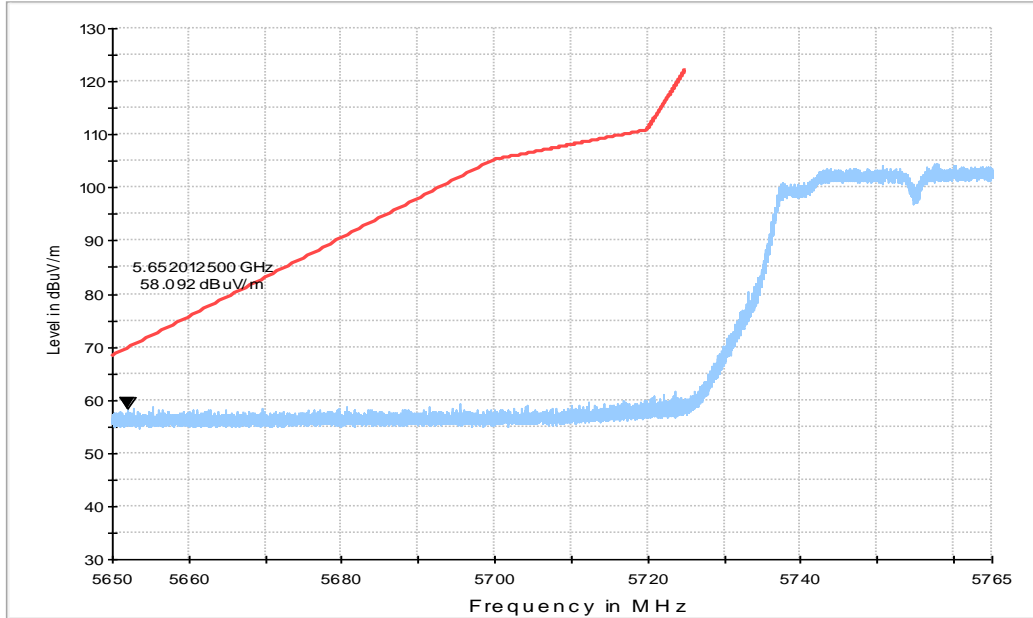


Fig. 5 Band Edges (802.11n-HT40, CH151, 5755MHz)

— Peak Limits
— Peak Result

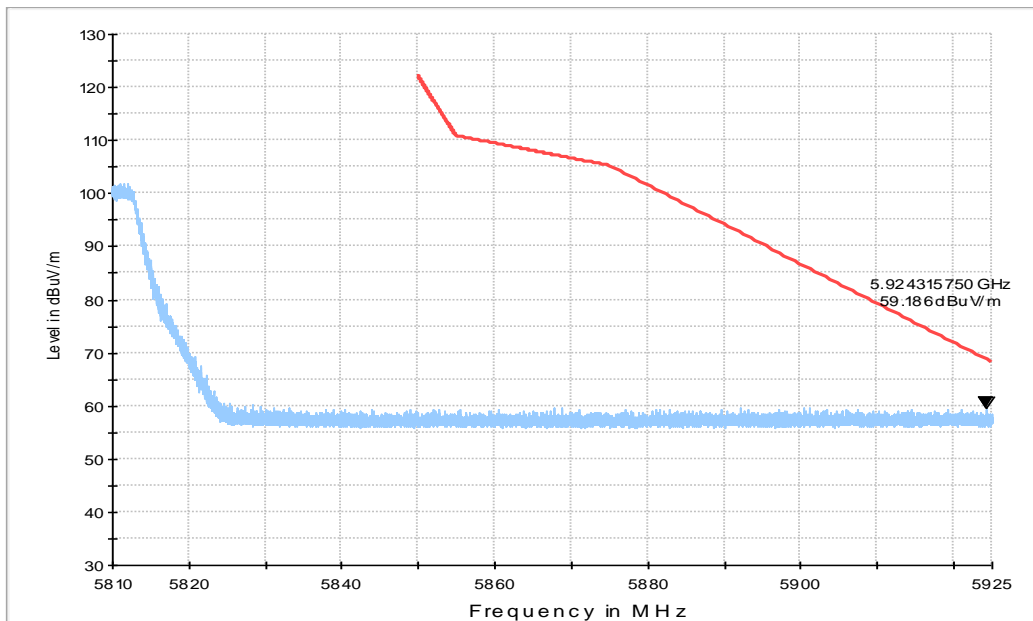


Fig. 6 Band Edges (802.11n-HT40, CH159, 5795MHz)

— Peak Limits
— Peak Result

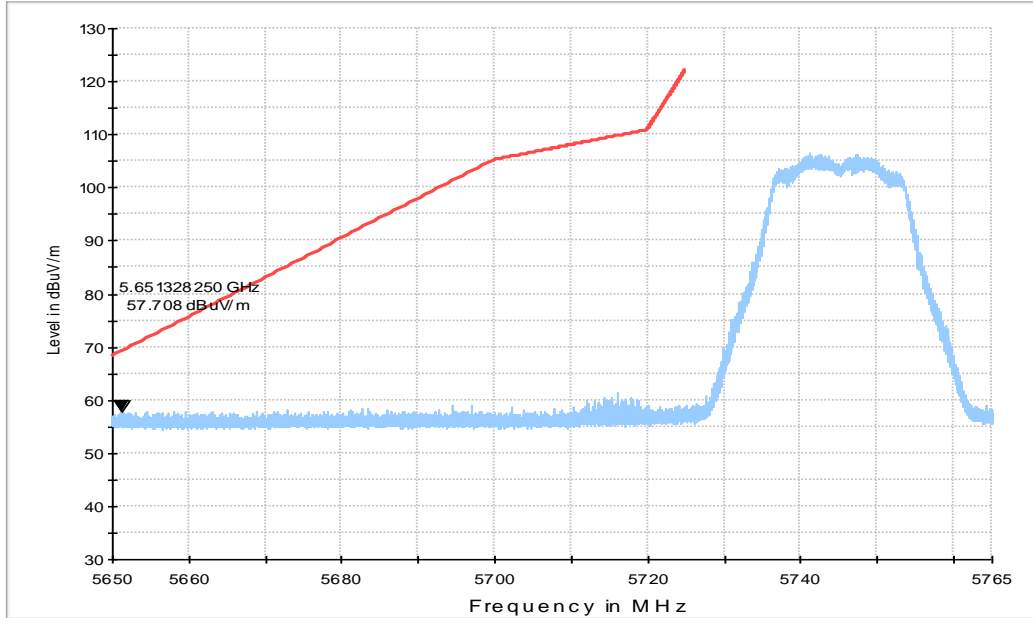


Fig. 7 Band Edges (802.11ac-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

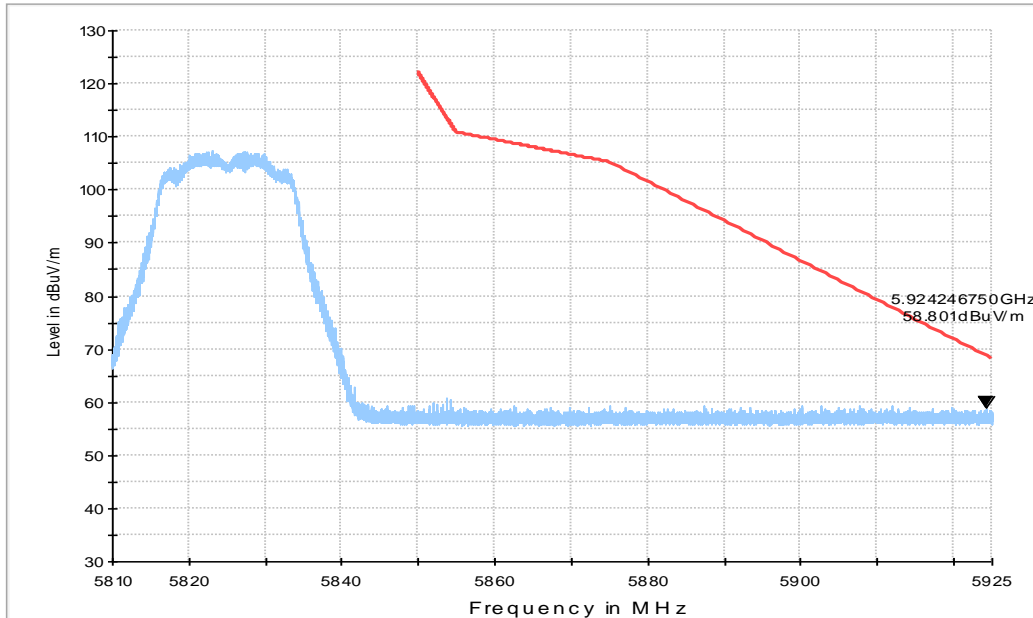


Fig. 8 Band Edges (802.11ac-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

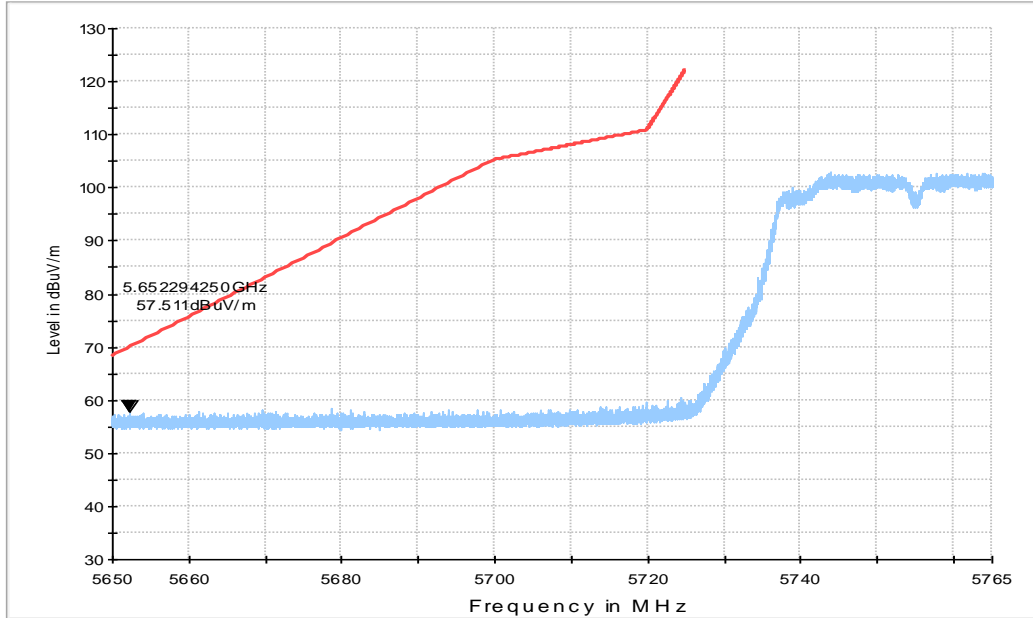


Fig. 9 Band Edges (802.11ac-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

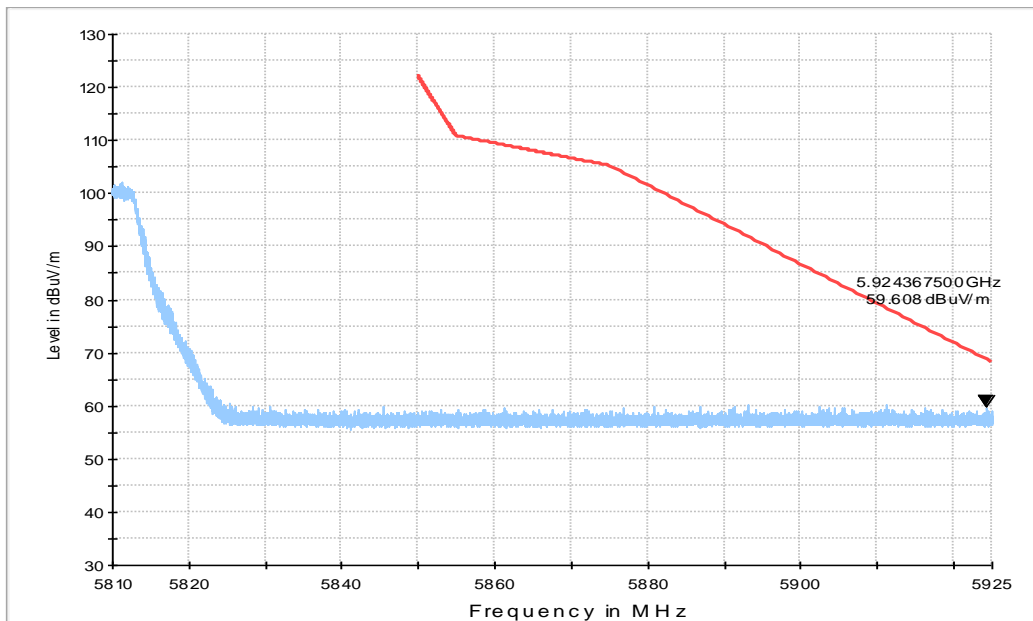


Fig. 10 Band Edges (802.11ac-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

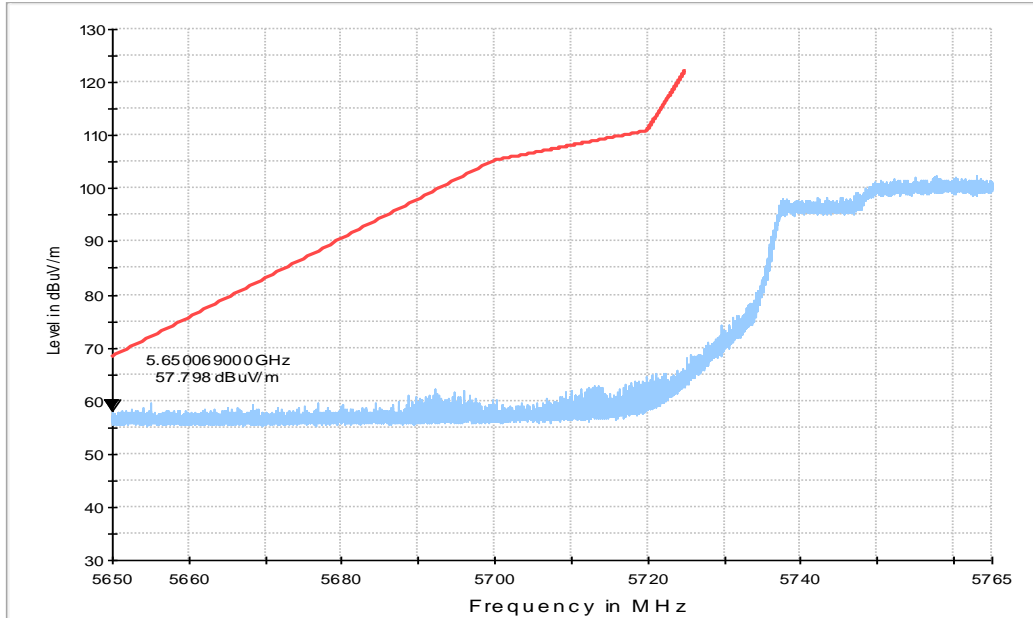


Fig. 11 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

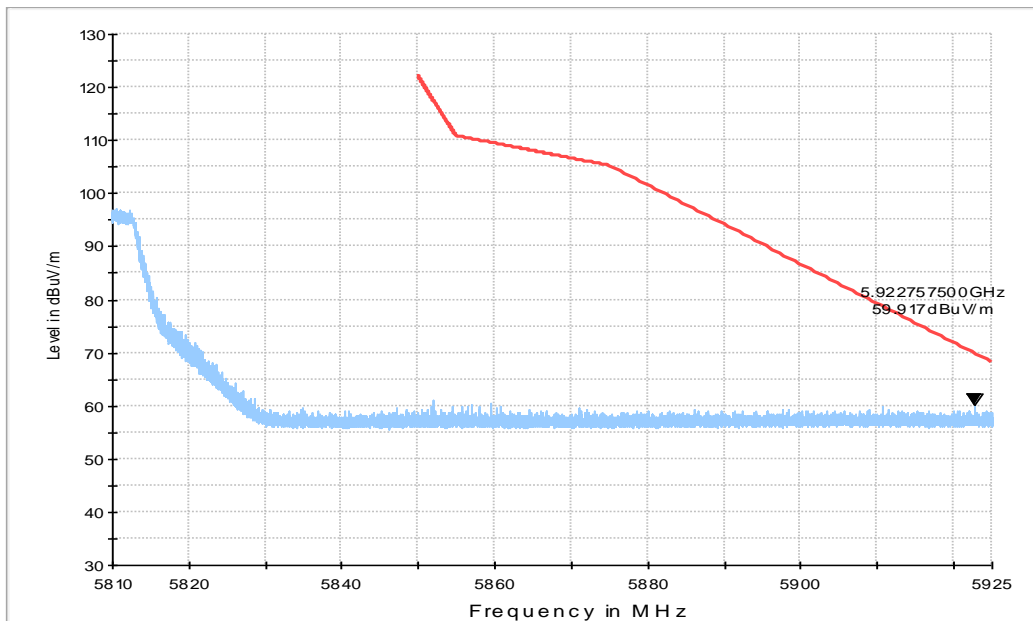


Fig. 12 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

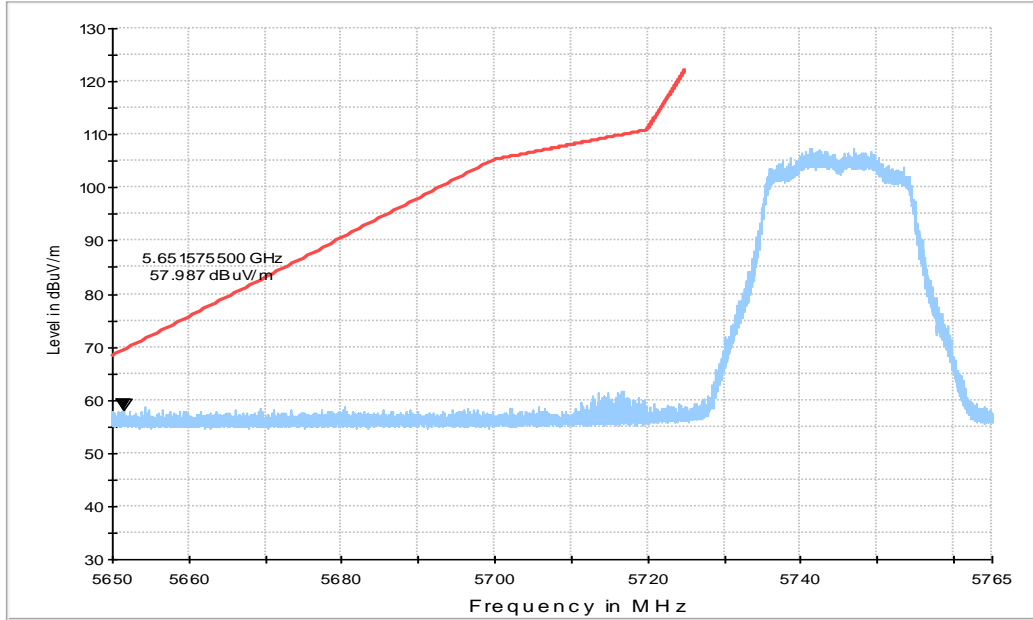


Fig. 13 Band Edges (802.11ax-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

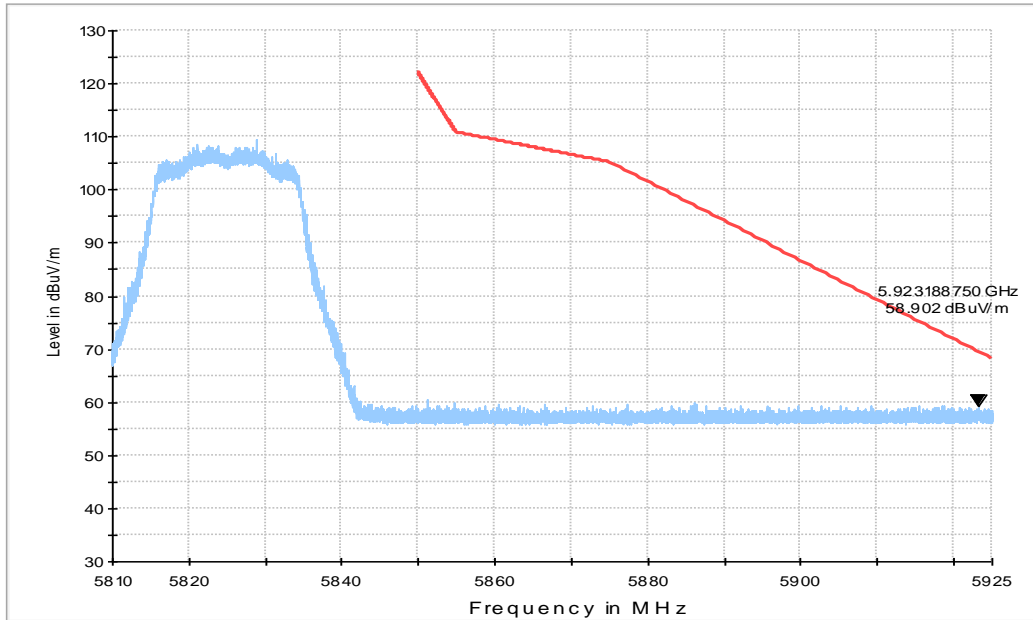


Fig. 14 Band Edges (802.11ax-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

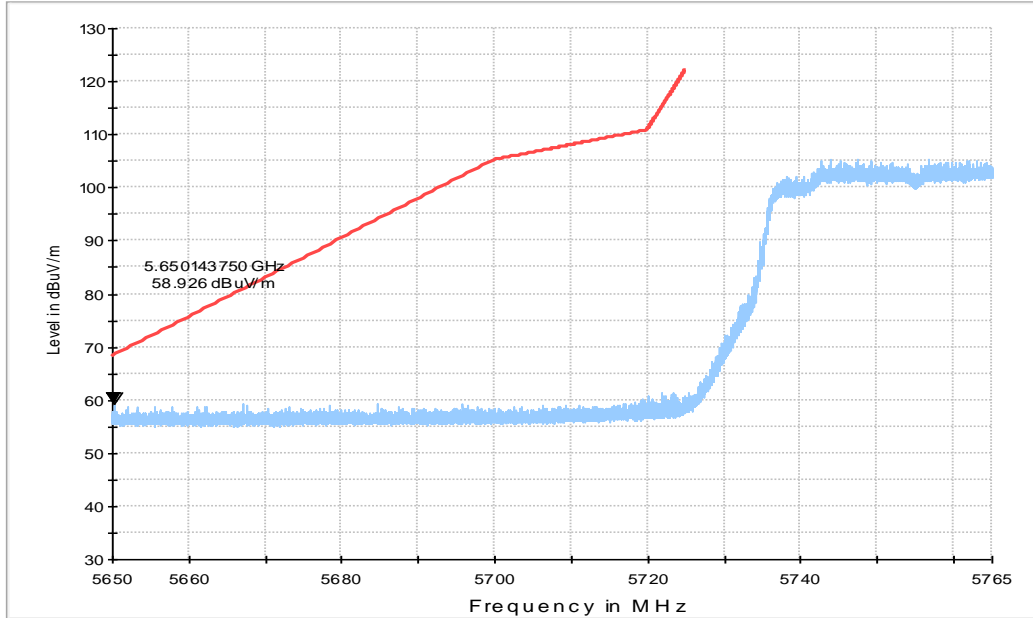


Fig. 15 Band Edges (802.11ax-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

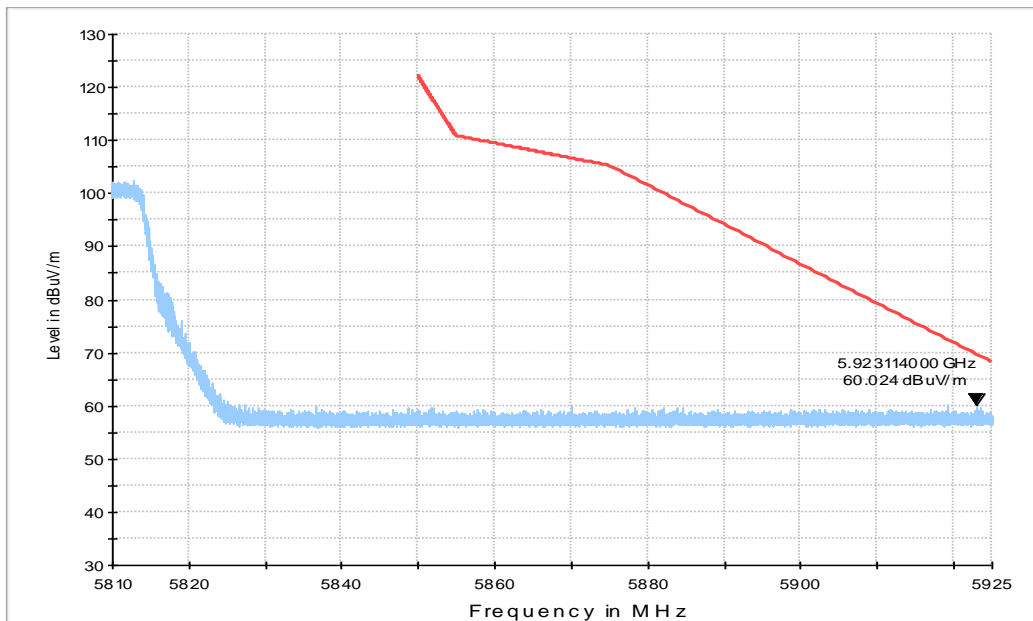


Fig. 16 Band Edges (802.11ax-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

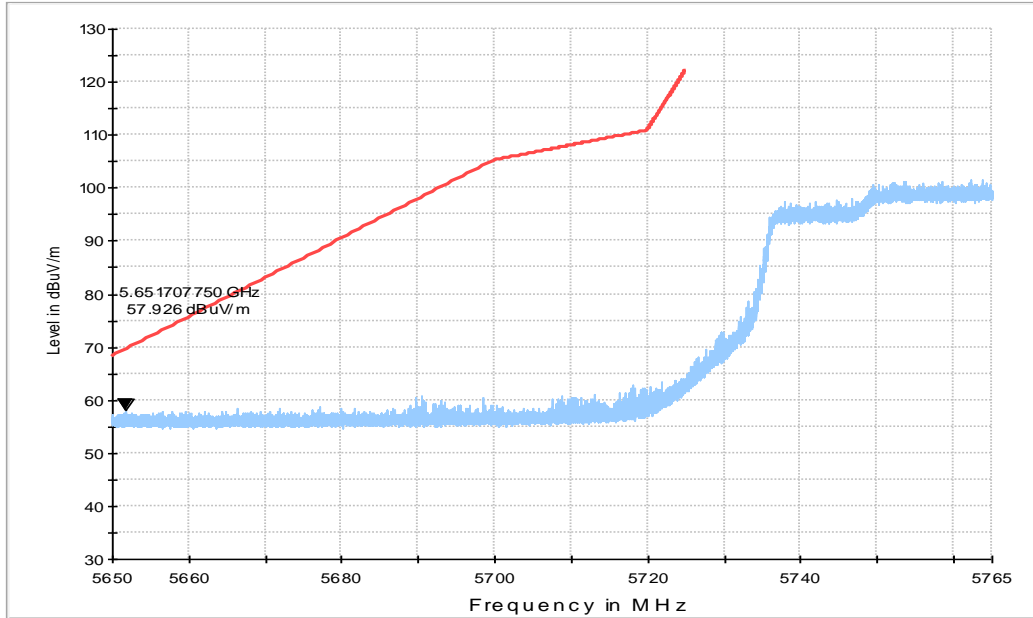


Fig. 17 Band Edges (802.11ax-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

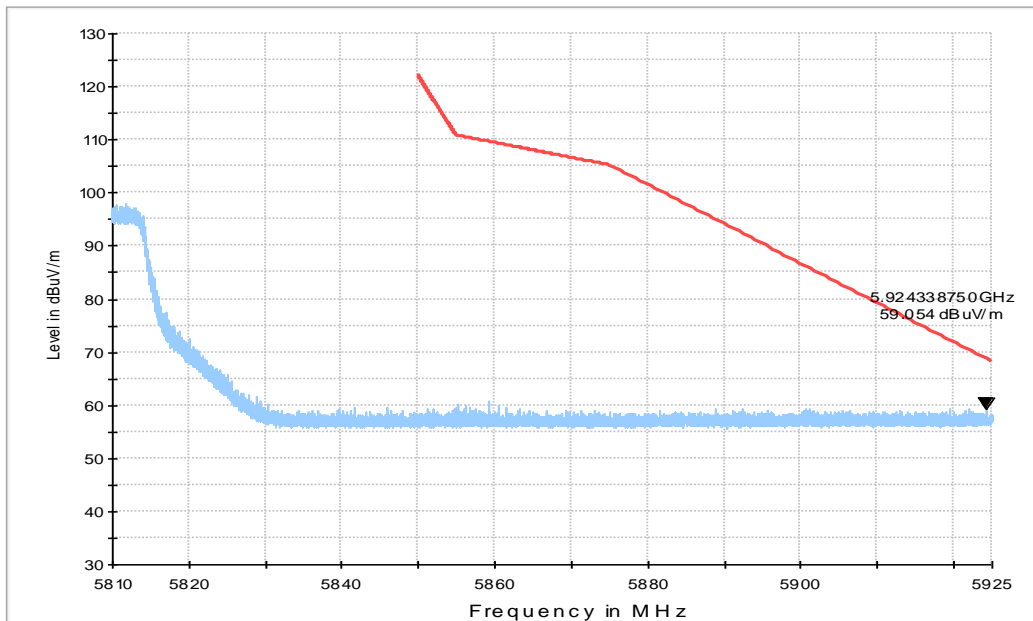


Fig. 18 Band Edges (802.11ax-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

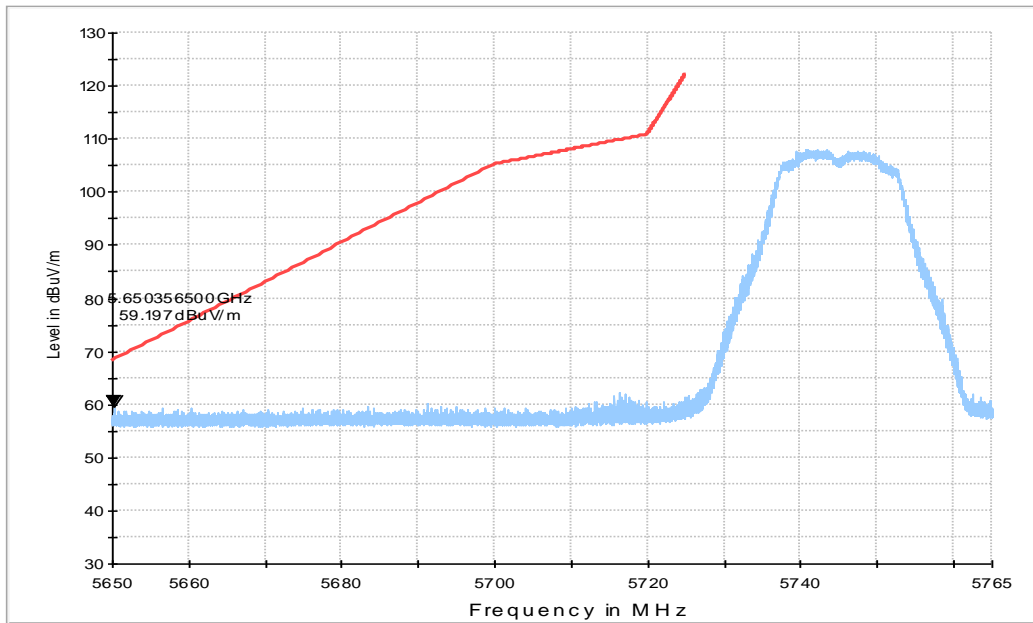


Fig. 19 Band Edges (802.11a, CH149, 5745MHz)

— Peak Limits
— Peak Result

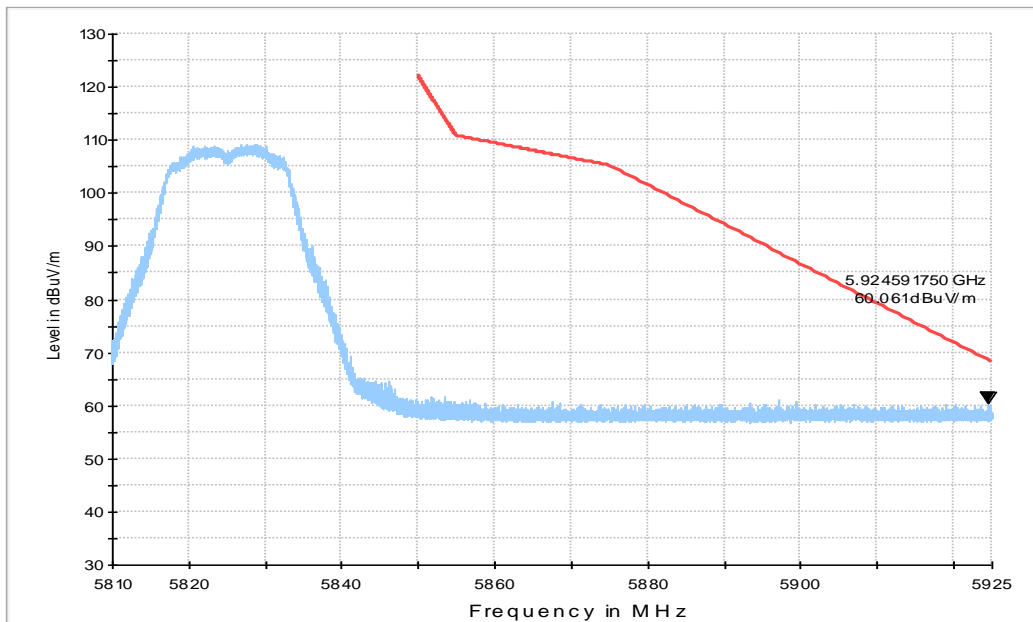


Fig. 20 Band Edges (802.11a, CH165, 5825MHz)

— Peak Limits
— Peak Result

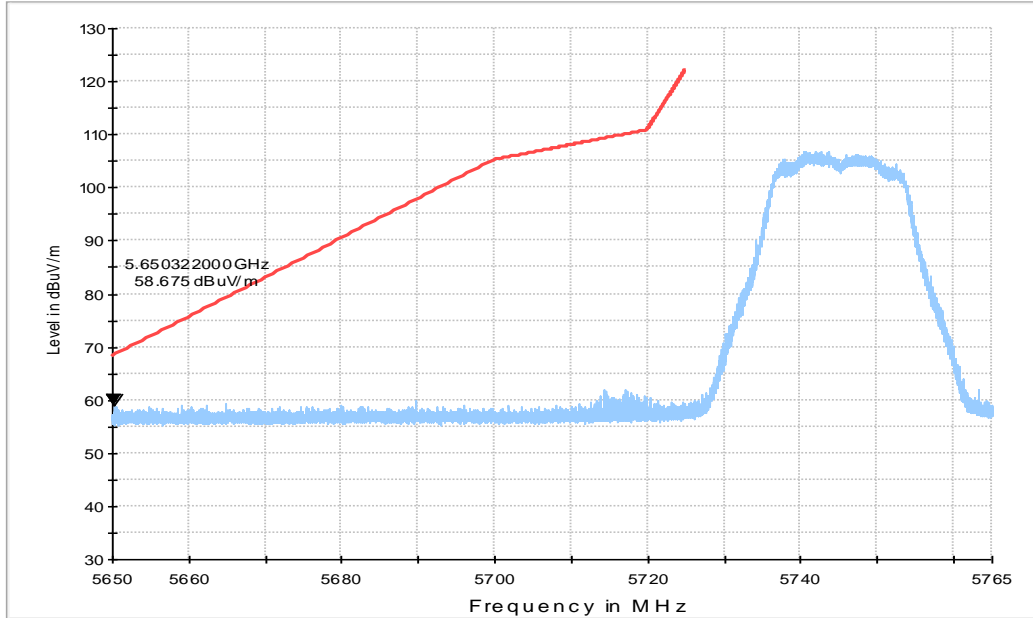


Fig. 21 Band Edges (802.11n-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

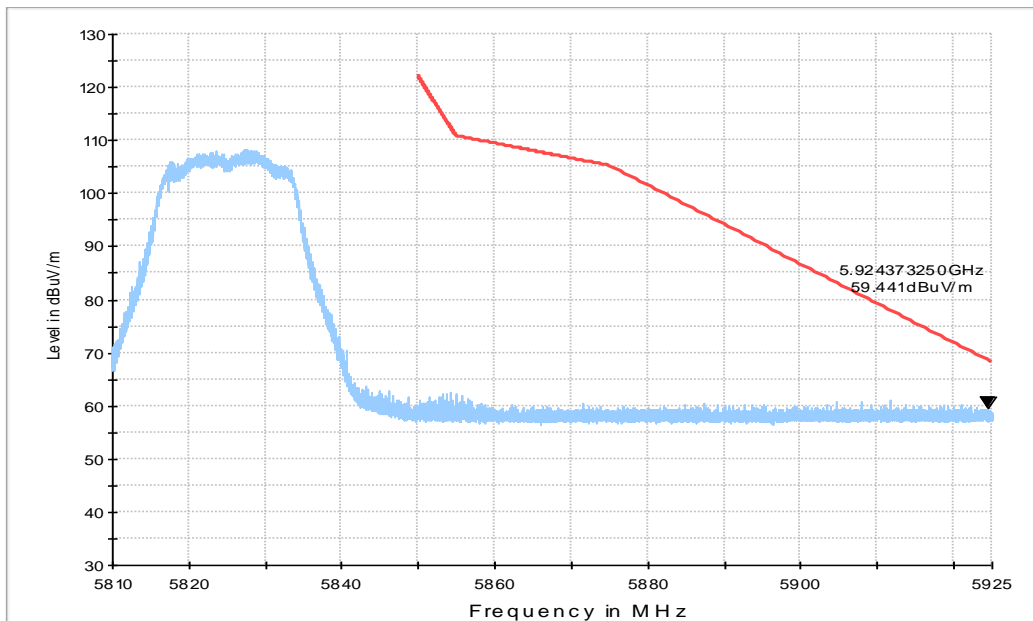


Fig. 22 Band Edges (802.11n-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

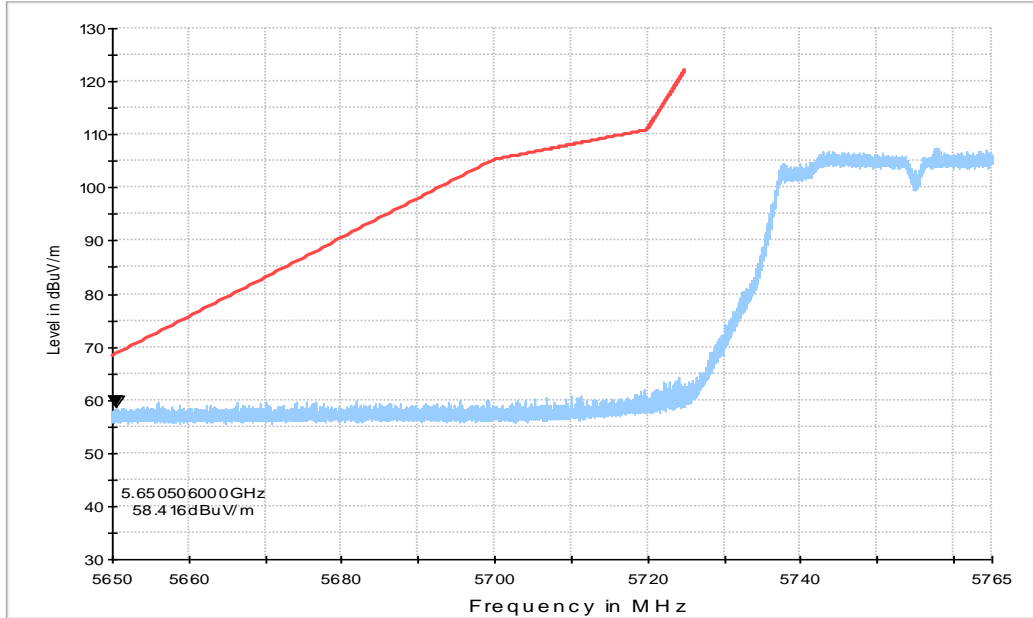


Fig. 23 Band Edges (802.11n-HT40, CH151, 5755MHz)

— Peak Limits
— Peak Result

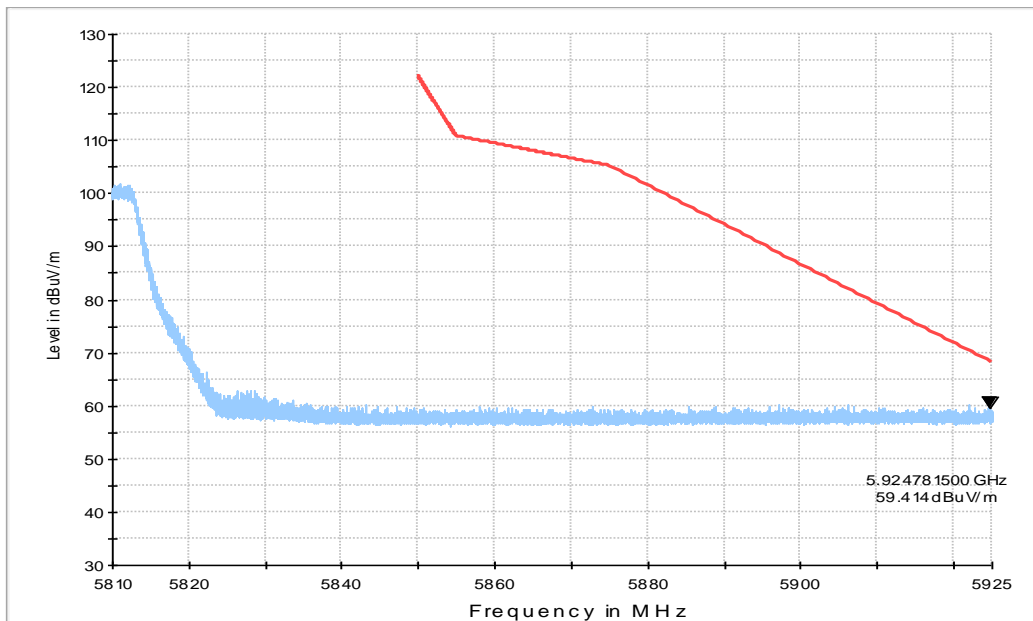


Fig. 24 Band Edges (802.11n-HT40, CH159, 5795MHz)

— Peak Limits
— Peak Result

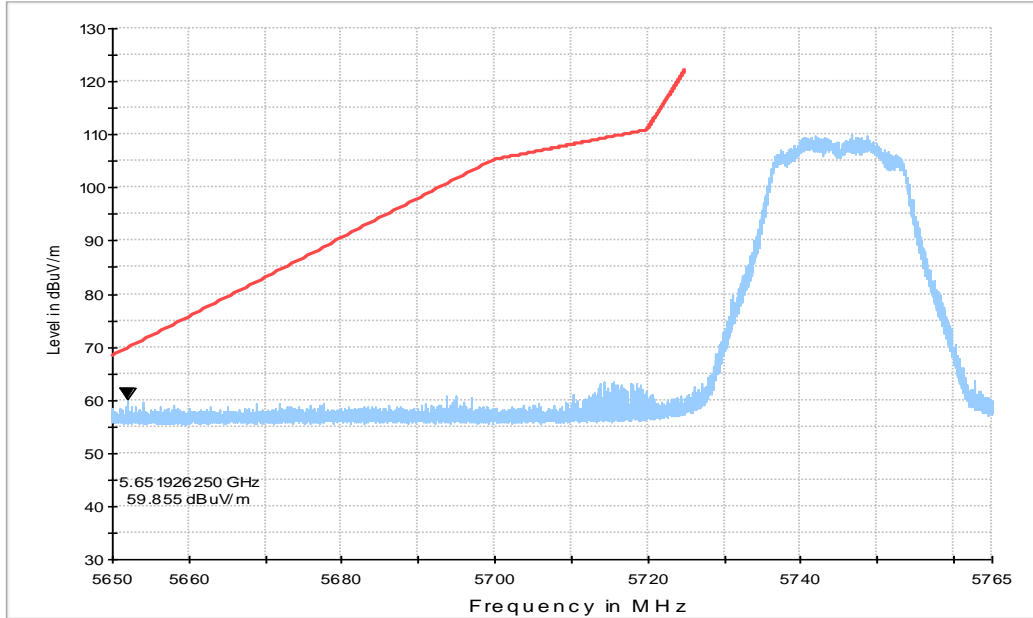


Fig. 25 Band Edges (802.11ac-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

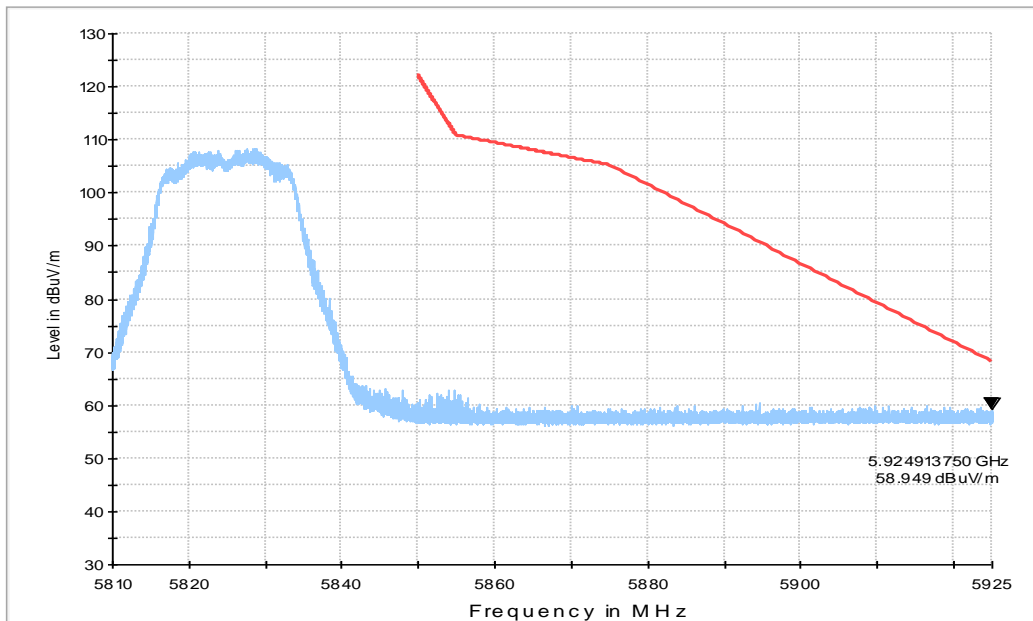


Fig. 26 Band Edges (802.11ac-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

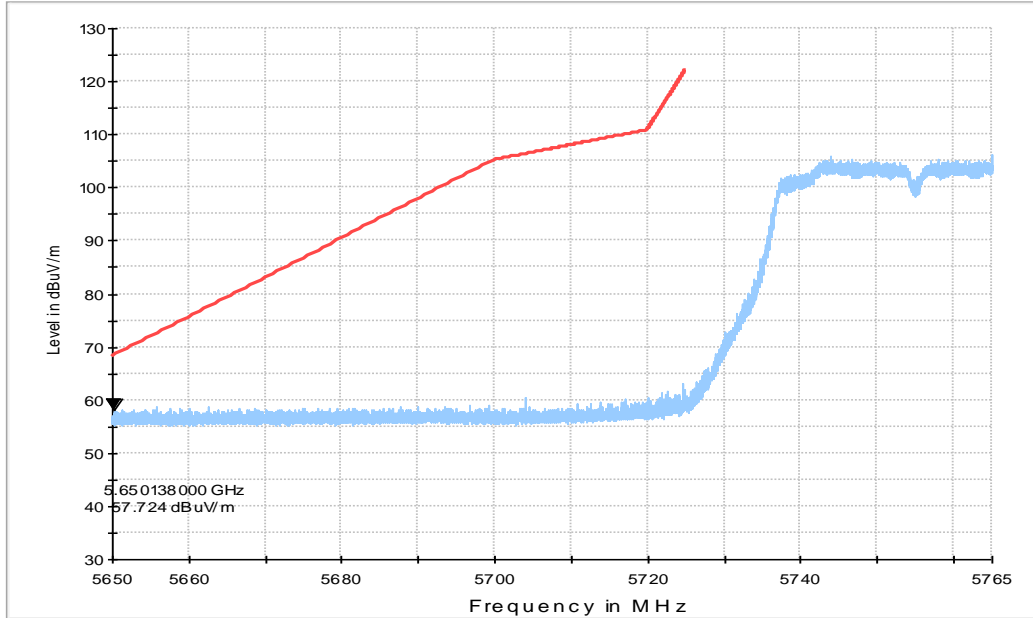


Fig. 27 Band Edges (802.11ac-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

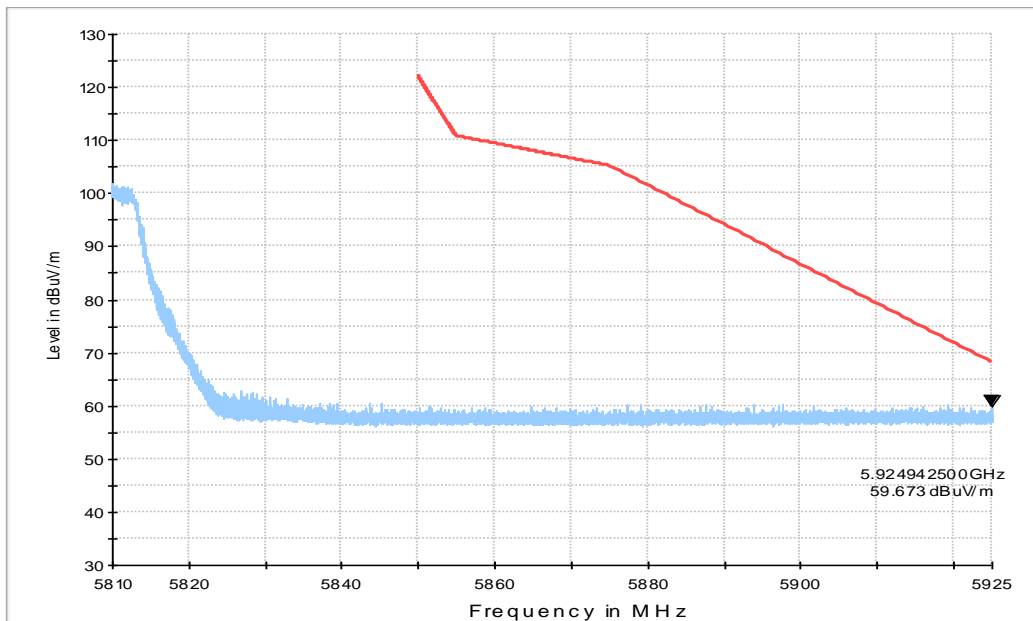


Fig. 28 Band Edges (802.11ac-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

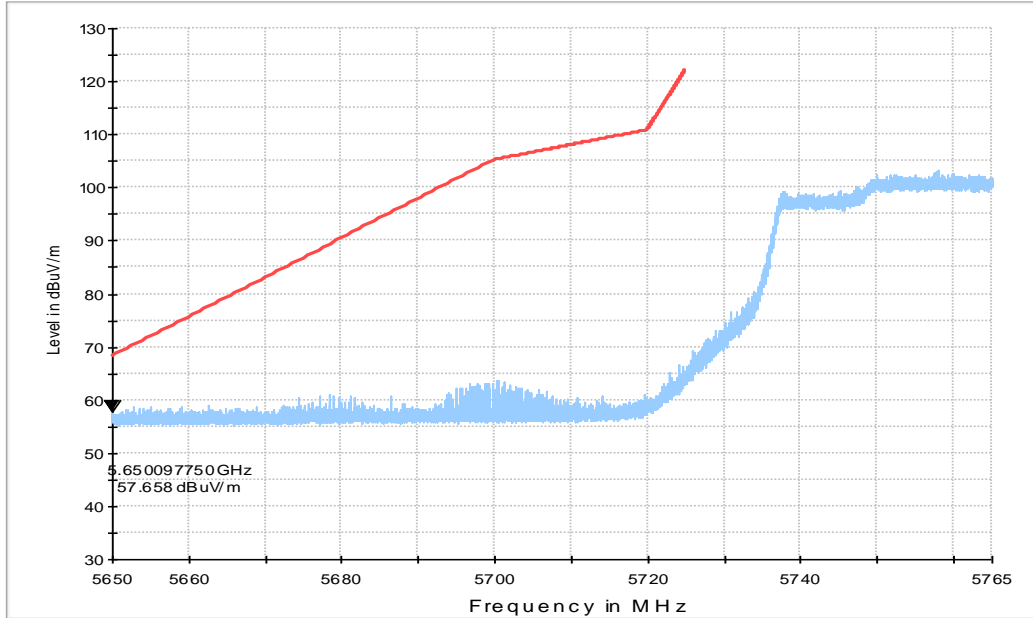


Fig. 29 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

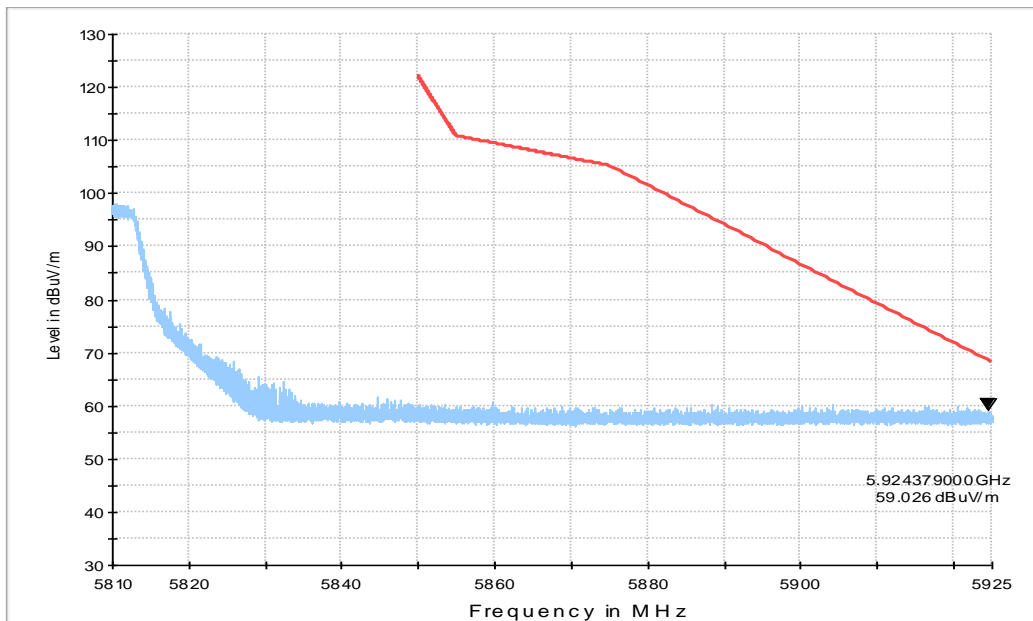


Fig. 30 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

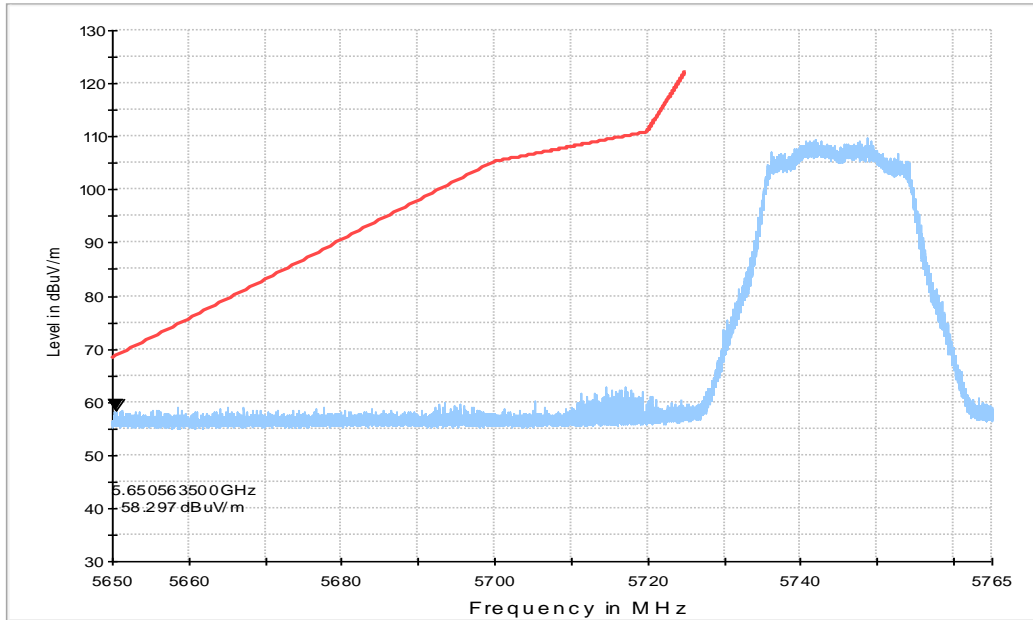


Fig. 31 Band Edges (802.11ax-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

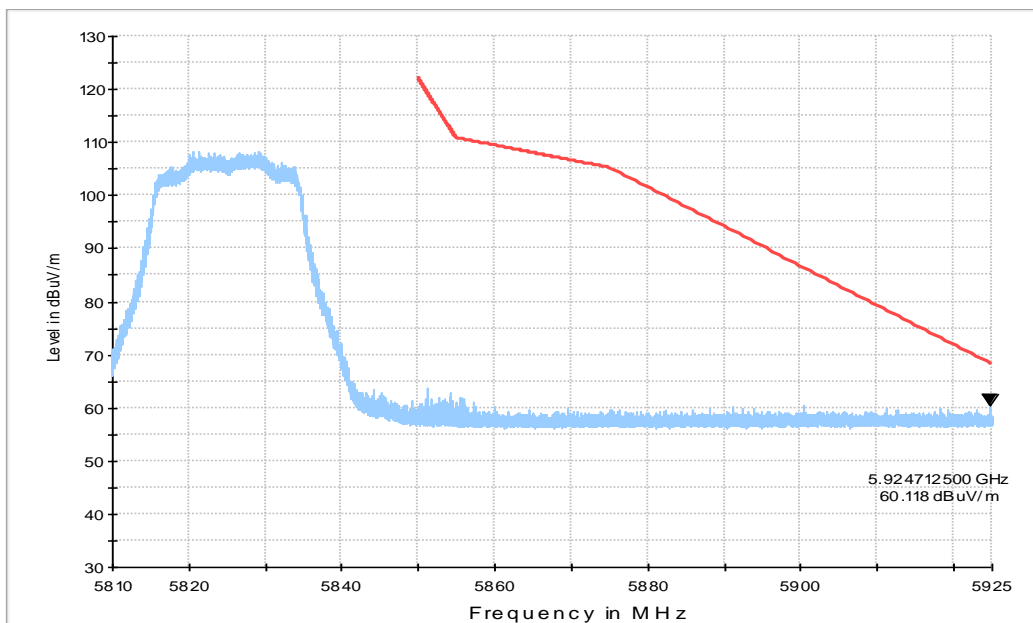


Fig. 32 Band Edges (802.11ax-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

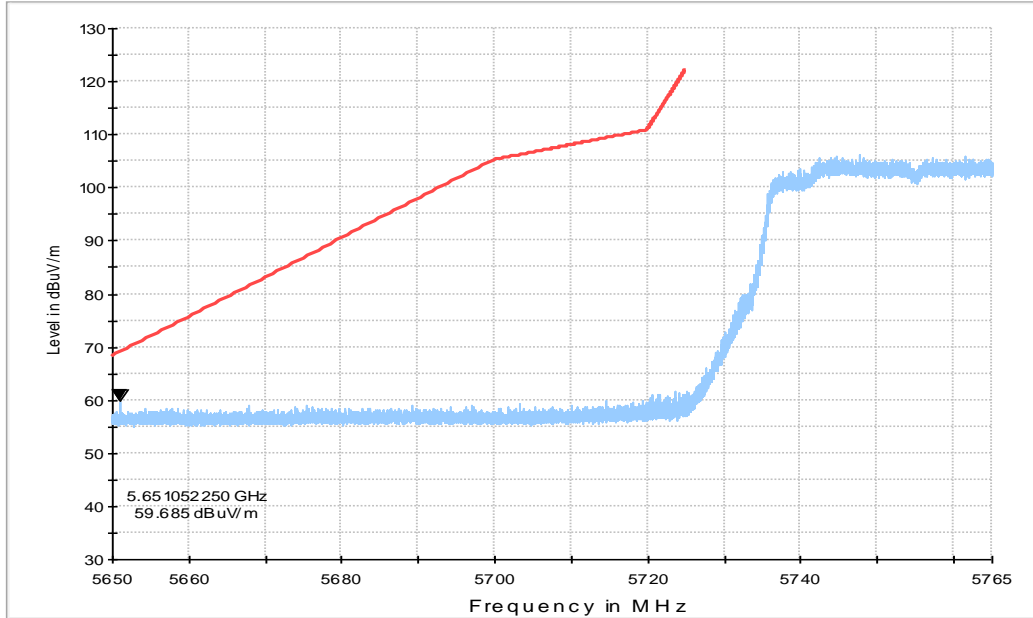


Fig. 33 Band Edges (802.11ax-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

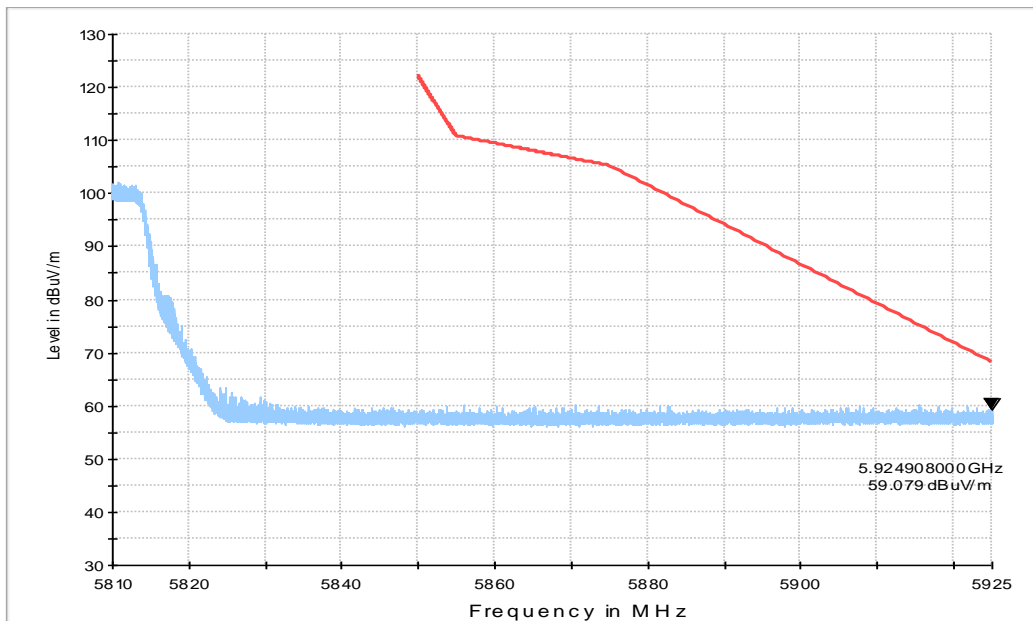


Fig. 34 Band Edges (802.11ax-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

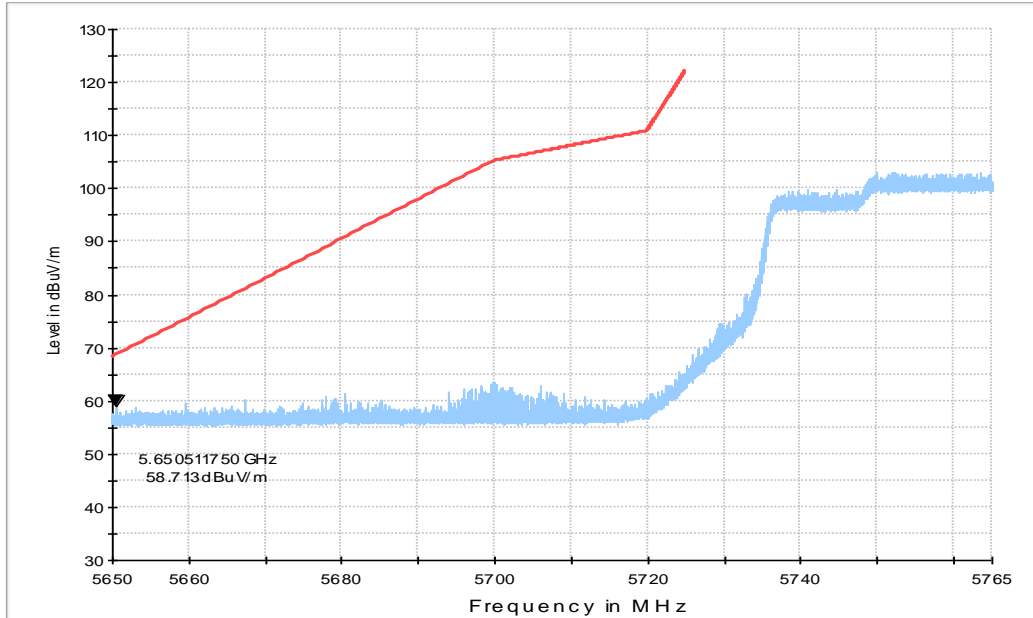


Fig. 35 Band Edges (802.11ax-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

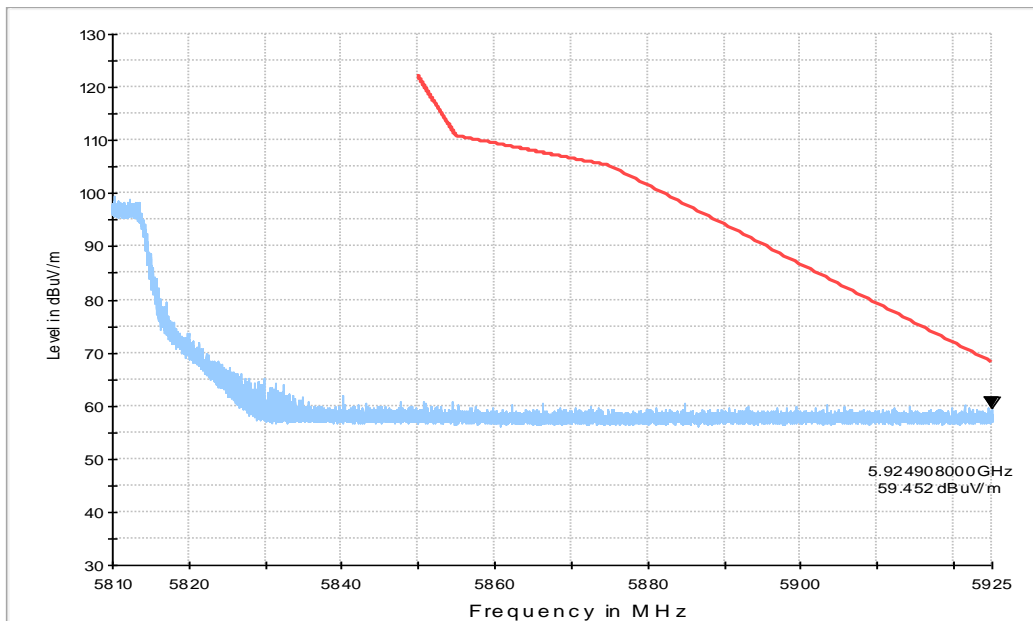


Fig. 36 Band Edges (802.11ax-HT80, CH155, 5775MHz)

C.2. AC Power-line Conducted Emission

Reference

FCC 47 CFR Part 15, Clause 15.407 Clause 15.207

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.

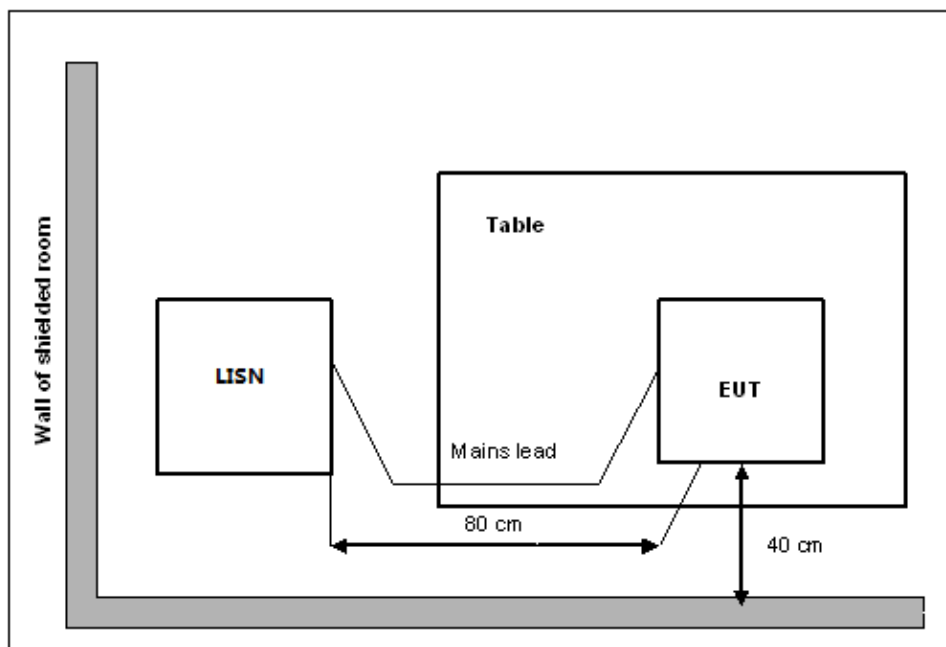
The measurement bandwidth is:

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		
		802.11a	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		
		802.11a	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:

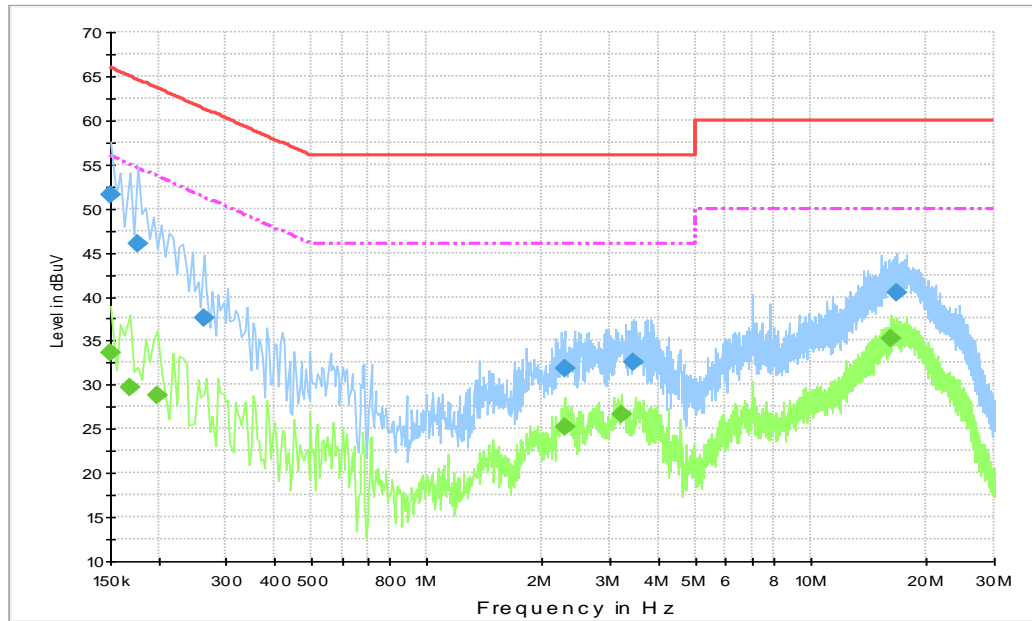


Fig.C.2.1 AC Power line Conducted Emission-802.11a

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	51.5	5000.	9.000	L1	19.8	14.5	66.0
0.177000	46.0	5000.	9.000	N	20.1	18.6	64.6
0.262500	37.5	5000.	9.000	L1	19.8	23.8	61.4
2.278500	31.9	5000.	9.000	N	19.6	24.1	56.0
3.457500	32.5	5000.	9.000	N	19.6	23.5	56.0
16.755000	40.5	5000.	9.000	N	19.8	19.5	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	33.7	5000.0	9.000	N	19.8	22.3	56.0
0.168000	29.8	5000.0	9.000	L1	20.1	25.3	55.1
0.199500	28.8	5000.0	9.000	L1	19.9	24.9	53.6
2.278500	25.1	5000.0	9.000	N	19.6	20.9	46.0
3.210000	26.6	5000.0	9.000	N	19.6	19.4	46.0
16.120500	35.3	5000.0	9.000	N	19.8	14.7	50.0

Idle:

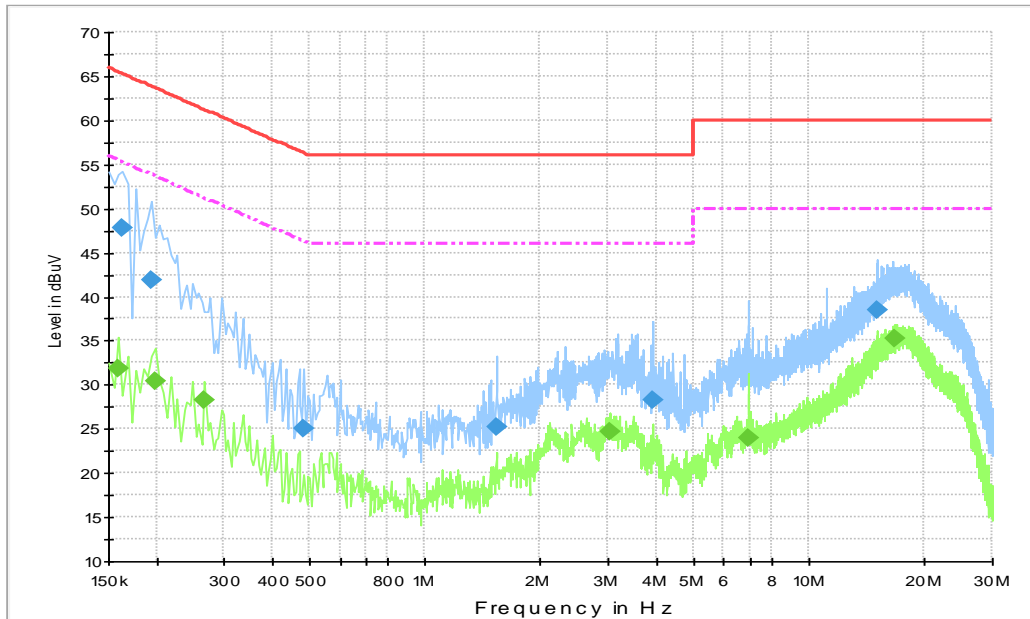


Fig.C.2.2 AC Power line Conducted Emission-Idle

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.163500	47.7	5000.	9.000	N	20.0	17.5	65.3
0.195000	41.9	5000.	9.000	L1	19.9	21.9	63.8
0.483000	25.0	5000.	9.000	L1	19.9	31.2	56.3
1.536000	25.3	5000.	9.000	N	19.7	30.7	56.0
3.912000	28.3	5000.	9.000	N	19.6	27.7	56.0
15.117000	38.4	5000.	9.000	N	19.8	21.6	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	31.9	5000.0	9.000	N	20.0	23.6	55.5
0.199500	30.5	5000.0	9.000	N	19.9	23.1	53.6
0.267000	28.2	5000.0	9.000	N	19.8	23.0	51.2
3.039000	24.7	5000.0	9.000	N	19.6	21.3	46.0
6.958500	24.0	5000.0	9.000	N	19.7	26.0	50.0
16.719000	35.3	5000.0	9.000	N	19.8	14.7	50.0

*** END OF REPORT BODY ***