



FCC PART 15 TEST REPORT No. I21Z70396-EMC06

for

Samsung Electronics Co., Ltd.

Notebook PC

NP750TDA

with

FCC ID: ZCANP750TDA

Hardware Version: REV1.0

Software Version: Windows11-Pro

Issued Date: 2021-09-10

Note:

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

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

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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

Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504

Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn



No. I21Z70396-EMC06

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I21Z70396-EMC06	Rev.0	1st edition	2021-09-10

CONTENTS

1. TEST LATORATORY.....	4
1.1. INTRODUCTION & ACCREDITATION	4
1.2. TESTING LOCATION	4
1.3. TESTINGENVIRONMENT	4
1.4. PROJECT DATE	4
1.5. SIGNATURE	4
2. CLIENT INFORMATION.....	5
2.1. APPLICANT INFORMATION	5
2.2. MANUFACTURER INFORMATION	5
3. PRODUCT INFORMATION	6
3.1. ABOUT EUT	6
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	6
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST	6
3.4. GENERAL DESCRIPTION.....	7
3.5. TEST CONFIGURATION	7
3.6. INTERPRETATION OF THE TEST ENVIRONMENT.....	7
4. REFERENCE DOCUMENTS.....	8
4.1. DOCUMENTS SUPPLIED BY APPLICANT	8
4.2. REFERENCE DOCUMENTS FOR TESTING.....	8
5. SUMMARY OF TEST RESULTS.....	9
5.1. SUMMARY OF TEST RESULTS.....	9
5.2. STATEMENTS.....	9
5.3. TEST CONDITIONS	9
6. TEST EQUIPMENTS UTILIZED	10
7. MEASUREMENT UNCERTAINTY	11
ANNEX A: EUT PARAMETERS.....	12
ANNEX B: ANTENNA REQUIREMENTS	12
ANNEX C: DETAILED TEST RESULTS.....	13
C.1. RADIATED SPURIOUS EMISSION.....	13
C.1.1 RADIATED SPURIOUS EMISSION- ABOVE 1GHZ	15
C.1.2 RADIATED SPURIOUS EMISSION- BELOW 1GHZ	43
C.1.3 BAND EDGES COMPLIANCE– RADIATED	44
C.2. AC POWER-LINE CONDUCTED EMISSION	64

1. TEST LATORATORY

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(BDA)

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

1.3. TestingEnvironment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2021-08-10

Testing End Date: 2021-09-08

1.5. Signature



Li Yan

(Prepared this test report)



Zhang Ying

(Reviewed this test report)



Zhang Xia

Deputy Director of the laboratory

(Approved this test report)



No. I21Z70396-EMC06

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name: Samsung Electronics Co., Ltd.
Address: 19 Chapin Rd., Building D Pine Brook, NJ 07058
Contact: Jenni Chun
Email: j1.chun@samsung.com
Telephone: +1-201-937-4203
Fax: /

2.2. Manufacturer Information

Company Name: Samsung Electronics Co., Ltd.
Address: Samsung R5, Maetan dong 129, Samsung ro
Youngtong gu, Suwon city 443 742, Korea
Contact: Sunghoon Cho
Email: ggobi.cho@samsung.com
Telephone: +82-10-2722-4159
Fax: /

3. PRODUCT INFORMATION

3.1. About EUT

Description	Notebook PC
Model name	NP750TDA
FCC ID	ZCANP750TDA

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	2170396UT15a	REV1.0	Windows11-Pro
EUT2	2170396UT23a	REV1.0	Windows11-Pro

*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	Data Cable	/	/
AE3	battery	/	Inbuilt

AE1

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

AE2

Model	GH39-02097A
Manufacturer	RFTech Thai Nguyen Co., Ltd.

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)	INPAQ	/	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 802.11a mode 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) 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:	2019
	15.205 Restricted bands of operation;	
	15.209 Radiated emission limits, general requirements;	
ANSI C63.10	15.407 General technical requirements	2013
	Methods of Measurement of Radio-Noise Emissions from	
	Low-Voltage Electrical and Electronic Equipment in the	
UNII: KDB 789033 D02	Range of 9 kHz to 40 GHz	2017-12
	General U-NII Test Procedures New Rules v02r01	

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	100235	R&S	1 year	2022-02-23
2	EMI Antenna	VULB9163	9163-482	Schwarzbeck	1 year	2021-11-04
3	EMI Antenna	LB-180-NF	2030013000 41	A-INFO	1 year	2022-02-28
4	EMI Antenna	3117	00139065	ETS-Lindgren	1 year	2021-10-11
5	EMI Antenna	LB-180400- 25-C-KF	2110084000 06	A-INFO	1 year	2022-02-28
6	Loop Antenna	HFH2-Z2	829324/007	R&S	1 year	2021-12-10
7	Analytical Spectrometer	FSV40	101047	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

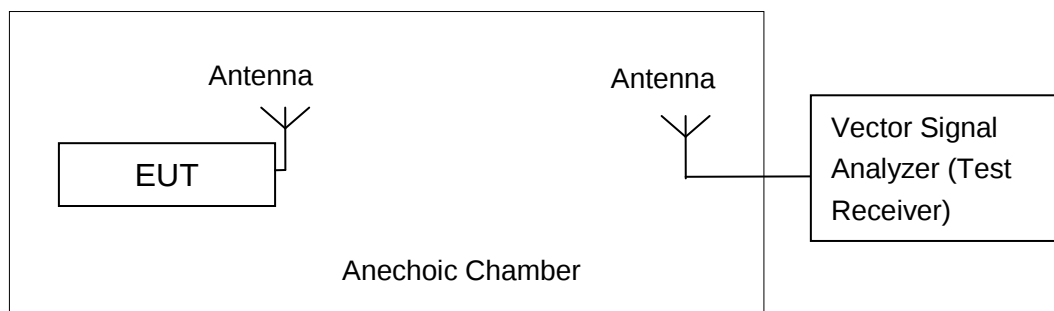
Specification Reference

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(dBμV/m)	Measurement distance(m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Test settings

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

INPAQ

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)
5395.400	42.3	-22.3	34.4	30.24	54.0	11.7	V
5429.600	42.4	-22.5	34.4	30.54	54.0	11.6	V
11490.400	35.4	-29.1	38.2	26.34	54.0	18.6	V
15692.000	38.3	-24.4	40.3	22.43	54.0	15.7	H
17738.400	38.6	-22.3	41.6	19.33	54.0	15.4	H
17776.800	38.7	-22.4	41.5	19.51	54.0	15.3	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)
5390.800	42.3	-22.3	34.4	30.21	54.0	11.7	V
5431.400	42.2	-22.6	34.4	30.42	54.0	11.8	V
11570.400	35.8	-29.2	38.3	26.72	54.0	18.2	H
15678.400	38.3	-24.5	40.3	22.41	54.0	15.7	V
17755.200	38.7	-22.3	41.5	19.45	54.0	15.3	V
17780.000	38.6	-22.4	41.5	19.46	54.0	15.4	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)
5393.400	42.3	-22.3	34.4	30.22	54.0	11.7	V
5432.600	42.3	-22.6	34.4	30.45	54.0	11.7	V
11650.400	35.7	-29.4	38.4	26.79	54.0	18.3	H
15690.400	38.4	-24.4	40.3	22.46	54.0	15.6	V
17739.200	38.6	-22.3	41.6	19.34	54.0	15.4	H
17771.250	38.7	-22.3	41.5	19.51	54.0	15.3	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)
5404.460	42.3	-22.4	34.4	30.31	54.0	11.7	V
5451.800	42.3	-22.7	34.4	30.67	54.0	11.7	V
11490.400	35.4	-29.1	38.2	26.35	54.0	18.6	H
15687.200	38.3	-24.4	40.3	22.43	54.0	15.7	V
17759.200	38.7	-22.3	41.5	19.47	54.0	15.3	V
17784.800	38.7	-22.4	41.5	19.54	54.0	15.3	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)
5393.600	42.5	-22.3	34.4	30.45	54.0	11.5	V
5430.600	42.5	-22.6	34.4	30.63	54.0	11.5	V
11570.400	35.6	-29.2	38.3	26.61	54.0	18.4	V
15673.600	38.2	-24.5	40.3	22.39	54.0	15.8	H
17750.400	38.6	-22.3	41.5	19.37	54.0	15.4	H
17780.800	38.7	-22.4	41.5	19.55	54.0	15.3	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)
5393.000	42.4	-22.3	34.4	30.30	54.0	11.6	V
5437.400	42.4	-22.6	34.4	30.65	54.0	11.6	V
11650.400	35.7	-29.4	38.4	26.77	54.0	18.3	H
15688.000	38.4	-24.4	40.3	22.49	54.0	15.6	V
17744.800	38.7	-22.3	41.6	19.43	54.0	15.3	V
17768.800	38.7	-22.3	41.5	19.54	54.0	15.3	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)
5395.000	42.5	-22.3	34.4	30.41	54.0	11.5	V
5428.600	42.5	-22.5	34.4	30.66	54.0	11.5	V
11510.400	35.5	-29.1	38.2	26.46	54.0	18.5	V
15698.400	38.2	-24.4	40.3	22.25	54.0	15.8	H
17743.200	38.6	-22.3	41.6	19.29	54.0	15.4	H
17780.000	38.8	-22.4	41.5	19.58	54.0	15.2	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)
5391.800	42.5	-22.3	34.4	30.44	54.0	11.5	V
5430.200	42.5	-22.6	34.4	30.71	54.0	11.5	V
11590.400	35.7	-29.3	38.3	26.72	54.0	18.3	H
15684.000	38.4	-24.5	40.3	22.55	54.0	15.6	H
17761.600	38.7	-22.3	41.5	19.50	54.0	15.3	H
17788.800	38.7	-22.4	41.5	19.53	54.0	15.3	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)
5395.600	42.4	-22.3	34.4	30.34	54.0	11.6	V
5458.400	42.4	-22.7	34.4	30.71	54.0	11.6	V
11490.400	35.5	-29.1	38.2	26.47	54.0	18.5	V
15676.800	38.3	-24.5	40.3	22.48	54.0	15.7	V
17756.800	38.7	-22.3	41.5	19.48	54.0	15.3	V
17774.400	38.8	-22.4	41.5	19.59	54.0	15.2	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)
5392.400	42.5	-22.3	34.4	30.43	54.0	11.5	V
5429.000	42.5	-22.5	34.4	30.70	54.0	11.5	V
11570.400	35.7	-29.2	38.3	26.64	54.0	18.3	V
15678.400	38.3	-24.5	40.3	22.48	54.0	15.7	H
17736.800	38.6	-22.3	41.6	19.34	54.0	15.4	V
17766.400	38.8	-22.3	41.5	19.61	54.0	15.2	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)
5395.000	42.4	-22.3	34.4	30.35	54.0	11.6	V
5430.800	42.5	-22.6	34.4	30.66	54.0	11.5	V
11650.400	35.7	-29.4	38.4	26.77	54.0	18.3	V
15690.400	38.5	-24.4	40.3	22.57	54.0	15.5	H
17741.600	38.7	-22.3	41.6	19.40	54.0	15.3	V
17767.200	38.8	-22.3	41.5	19.56	54.0	15.2	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)
5402.400	42.4	-22.3	34.4	30.40	54.0	11.6	V
5429.200	42.4	-22.5	34.4	30.58	54.0	11.6	V
11510.400	35.6	-29.1	38.2	26.55	54.0	18.4	H
15679.200	38.3	-24.5	40.3	22.49	54.0	15.7	H
17761.600	38.8	-22.3	41.5	19.55	54.0	15.2	V
17785.600	38.7	-22.4	41.5	19.56	54.0	15.3	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)
5393.200	42.5	-22.3	34.4	30.40	54.0	11.5	V
5432.800	42.6	-22.6	34.4	30.83	54.0	11.4	V
11590.400	35.7	-29.3	38.3	26.73	54.0	18.3	H
15690.400	38.4	-24.4	40.3	22.46	54.0	15.6	H
17740.800	38.6	-22.3	41.6	19.37	54.0	15.4	H
17765.600	38.8	-22.3	41.5	19.57	54.0	15.2	V

802.11ac-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)
5391.200	42.7	-22.3	34.5	30.48	54.0	11.3	V
5431.800	42.6	-22.6	34.5	30.65	54.0	11.4	V
11550.400	35.8	-29.2	38.5	26.45	54.0	18.2	V
15692.000	38.3	-24.4	40.4	22.34	54.0	15.7	V
17746.400	38.7	-22.3	41.2	19.70	54.0	15.3	V
17783.200	38.7	-22.4	41.3	19.80	54.0	15.3	V

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)
5392.800	42.4	-22.3	34.4	30.36	54.0	11.6	V
5436.600	42.5	-22.6	34.4	30.69	54.0	11.5	V
11490.400	35.5	-29.1	38.2	26.45	54.0	18.5	H
15690.400	38.4	-24.4	40.3	22.53	54.0	15.6	V
17744.000	38.6	-22.3	41.6	19.36	54.0	15.4	H
17769.600	38.7	-22.3	41.5	19.51	54.0	15.3	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)
5390.600	42.4	-22.3	34.4	30.36	54.0	11.6	V
5432.000	42.5	-22.6	34.4	30.66	54.0	11.5	V
11570.400	35.6	-29.2	38.3	26.61	54.0	18.4	H
15678.400	38.3	-24.5	40.3	22.49	54.0	15.7	V
17738.400	38.6	-22.3	41.6	19.33	54.0	15.4	H
17761.600	38.7	-22.3	41.5	19.50	54.0	15.3	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)
5392.200	42.5	-22.3	34.4	30.46	54.0	11.5	V
5430.400	42.5	-22.6	34.4	30.66	54.0	11.5	V
11650.400	35.8	-29.4	38.4	26.87	54.0	18.2	H
15690.400	38.4	-24.4	40.3	22.48	54.0	15.6	V
17742.400	38.7	-22.3	41.6	19.39	54.0	15.3	H
17764.000	38.8	-22.3	41.5	19.57	54.0	15.2	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)
5395.400	42.6	-22.3	34.4	30.49	54.0	11.4	V
5430.800	42.6	-22.6	34.4	30.74	54.0	11.4	V
11510.400	35.7	-29.1	38.2	26.61	54.0	18.3	H
15668.800	38.2	-24.5	40.3	22.36	54.0	15.8	V
17740.000	38.7	-22.3	41.6	19.38	54.0	15.3	V
17778.400	38.7	-22.4	41.5	19.52	54.0	15.3	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)
5392.400	42.6	-22.3	34.4	30.50	54.0	11.4	V
5426.200	42.5	-22.5	34.4	30.64	54.0	11.5	V
11590.400	35.7	-29.3	38.3	26.72	54.0	18.3	H
15684.000	38.3	-24.5	40.3	22.45	54.0	15.7	V
17761.600	38.8	-22.3	41.5	19.58	54.0	15.2	H
17781.600	38.7	-22.4	41.5	19.48	54.0	15.3	V

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)
5393.400	42.6	-22.3	34.5	30.33	54.0	11.4	V
5430.600	42.6	-22.6	34.5	30.65	54.0	11.4	V
11550.400	35.8	-29.2	38.5	26.46	54.0	18.2	H
15690.400	38.4	-24.4	40.4	22.42	54.0	15.6	H
17756.000	38.7	-22.3	41.3	19.79	54.0	15.3	V
17780.000	38.7	-22.4	41.3	19.85	54.0	15.3	V

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)
5651.242	58.0	-22.8	34.7	46.14	69.1	11.1	H
5654.945	58.4	-22.8	34.7	46.57	71.9	13.4	H
11490.200	50.1	-29.1	38.2	41.05	74.0	23.9	V
16656.900	59.1	-23.2	41.7	40.66	68.3	9.2	H
16860.400	59.0	-23.0	42.0	40.02	68.3	9.3	V
17234.950	56.5	-22.8	41.9	37.43	68.3	11.8	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)
5756.600	58.9	-22.9	34.9	46.98	68.3	9.4	H
5839.200	58.6	-22.5	35.0	46.09	68.3	9.7	V
11569.950	49.8	-29.2	38.3	40.79	74.0	24.2	V
17093.050	59.1	-23.0	42.1	40.08	68.3	9.2	V
17354.850	56.5	-22.9	41.8	37.62	68.3	11.8	V
17406.550	58.7	-23.1	41.7	40.04	68.3	9.6	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)
5920.826	59.3	-22.2	35.2	46.36	71.3	12.0	V
5923.425	59.2	-22.2	35.2	46.22	69.4	10.2	H
11650.250	50.0	-29.4	38.4	41.08	74.0	24.0	H
16891.750	58.9	-23.0	42.1	39.90	68.3	9.4	H
16945.650	58.7	-23.0	42.1	39.60	68.3	9.6	H
17474.750	57.5	-23.1	41.6	38.95	68.3	10.8	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)
5651.208	58.4	-22.8	34.7	46.60	69.1	10.7	V
5654.221	58.5	-22.8	34.7	46.65	71.3	12.8	V
11490.200	49.9	-29.1	38.2	40.86	74.0	24.1	V
16882.950	59.0	-23.0	42.0	39.97	68.3	9.3	V
17094.700	58.9	-23.0	42.1	39.88	68.3	9.4	V
17234.950	55.8	-22.8	41.9	36.71	68.3	12.5	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)
5746.200	59.0	-22.9	34.9	47.13	68.3	9.3	H
5835.600	58.9	-22.5	35.0	46.35	68.3	9.4	V
11569.950	50.8	-29.2	38.3	41.73	74.0	23.2	V
16505.650	59.6	-23.2	41.5	41.25	68.3	8.7	H
16961.050	59.0	-23.0	42.1	39.82	68.3	9.3	H
17354.850	56.9	-22.9	41.8	38.10	68.3	11.4	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)
5921.424	59.1	-22.2	35.2	46.21	70.8	11.7	V
5922.493	59.1	-22.2	35.2	46.16	70.1	11.0	H
11650.250	51.3	-29.4	38.4	42.31	74.0	22.7	H
16842.250	59.3	-23.0	42.0	40.31	68.3	9.0	V
16863.150	59.5	-23.0	42.0	40.46	68.3	8.8	V
17474.750	57.5	-23.1	41.6	38.98	68.3	10.8	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)
5652.105	58.1	-22.8	34.7	46.29	69.8	11.6	H
5655.244	57.8	-22.8	34.7	45.99	72.1	14.2	V
11510.000	49.8	-29.1	38.2	40.74	74.0	24.2	H
16698.150	59.5	-23.2	41.8	40.85	68.3	8.8	H
17067.200	59.1	-23.0	42.1	40.05	68.3	9.2	H
17265.200	56.5	-22.8	41.9	37.44	68.3	11.8	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)
5922.010	58.6	-22.2	35.2	45.64	70.4	11.8	H
5922.666	58.5	-22.2	35.2	45.59	69.9	11.4	V
11589.750	50.1	-29.3	38.3	41.10	74.0	23.9	H
16612.350	58.8	-23.3	41.7	40.45	68.3	9.5	H
16851.600	59.2	-23.0	42.0	40.17	68.3	9.1	H
17385.100	58.3	-23.0	41.7	39.56	68.3	10.0	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)
5650.334	57.3	-22.8	34.7	45.47	68.4	11.1	H
5654.048	57.5	-22.8	34.7	45.70	71.2	13.6	H
11490.200	49.8	-29.1	38.2	40.77	74.0	24.2	H
16711.350	59.1	-23.1	41.8	40.39	68.3	9.2	V
17234.950	57.0	-22.8	41.9	37.90	68.3	11.3	H
17434.050	59.1	-23.1	41.7	40.52	68.3	9.2	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)
5744.400	58.9	-23.0	34.8	46.97	68.3	9.4	V
5849.200	58.8	-22.4	35.0	46.19	68.3	9.5	H
11569.950	50.2	-29.2	38.3	41.17	74.0	23.8	H
16672.300	59.7	-23.2	41.7	41.21	68.3	8.6	V
17154.100	59.9	-23.0	42.0	40.87	68.3	8.4	V
17354.850	56.6	-22.9	41.8	37.76	68.3	11.7	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)
5922.355	57.9	-22.2	35.2	45.01	70.2	12.2	H
5923.678	58.5	-22.2	35.2	45.59	69.2	10.6	H
11650.250	50.5	-29.4	38.4	41.54	74.0	23.5	H
16662.950	58.9	-23.2	41.7	40.40	68.3	9.4	V
16845.000	59.0	-23.0	42.0	40.06	68.3	9.3	H
17474.750	57.1	-23.1	41.6	38.54	68.3	11.2	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)
5651.127	57.4	-22.8	34.7	45.55	69.0	11.6	V
5653.266	57.4	-22.8	34.7	45.52	70.6	13.3	H
11510.000	49.6	-29.1	38.2	40.57	74.0	24.4	H
16863.700	58.9	-23.0	42.0	39.86	68.3	9.4	V
17167.300	58.9	-23.0	42.0	39.84	68.3	9.4	H
17265.200	56.9	-22.8	41.9	37.80	68.3	11.4	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)
5915.915	59.4	-22.3	35.2	46.47	74.9	15.6	V
5922.712	58.7	-22.2	35.2	45.72	69.9	11.2	H
11589.750	49.3	-29.3	38.3	40.25	74.0	24.7	V
16863.700	59.0	-23.0	42.0	39.99	68.3	9.3	V
17385.100	57.0	-23.0	41.7	38.28	68.3	11.3	V
17434.050	59.5	-23.1	41.7	40.93	68.3	8.8	V

802.11ac-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)
5920.250	59.6	-22.2	35.1	46.75	71.7	12.1	V
5923.494	59.0	-22.2	35.1	46.15	69.3	10.3	H
11550.150	50.4	-29.2	38.5	41.03	74.0	23.6	H
16833.450	58.8	-23.0	41.6	40.25	68.3	9.5	V
17193.150	58.8	-22.9	41.5	40.17	68.3	9.5	H
17325.150	57.1	-22.9	41.4	38.57	68.3	11.2	V

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)
5651.438	57.1	-22.8	34.7	45.28	69.3	12.1	V
5655.808	57.9	-22.8	34.7	46.01	72.5	14.6	H
11490.200	50.0	-29.1	38.2	40.98	74.0	24.0	V
16473.200	58.9	-23.1	41.5	40.55	68.3	9.4	H
16930.800	58.8	-23.0	42.1	39.71	68.3	9.5	H
17234.950	56.5	-22.8	41.9	37.39	68.3	11.8	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)
5757.600	58.8	-22.9	34.9	46.87	68.3	9.5	H
5818.200	59.3	-22.6	35.0	46.96	68.3	9.0	V
11569.950	50.1	-29.2	38.3	41.04	74.0	23.9	H
16824.650	58.8	-23.0	42.0	39.85	68.3	9.5	V
16959.950	59.1	-23.0	42.1	39.97	68.3	9.2	V
17354.850	56.5	-22.9	41.8	37.65	68.3	11.8	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)
5922.746	59.1	-22.2	35.2	46.11	69.9	10.8	H
5923.137	58.5	-22.2	35.2	45.52	69.6	11.1	V
11650.250	51.3	-29.4	38.4	42.32	74.0	22.7	V
16563.950	58.8	-23.3	41.6	40.49	68.3	9.5	V
16896.700	58.9	-23.0	42.1	39.88	68.3	9.4	H
17474.750	57.3	-23.1	41.6	38.72	68.3	11.0	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)
5652.151	57.1	-22.8	34.7	45.26	69.8	12.7	V
5655.359	58.3	-22.8	34.7	46.41	72.2	13.9	V
11510.000	49.8	-29.1	38.2	40.76	74.0	24.2	V
16743.250	58.6	-23.1	41.8	39.83	68.3	9.7	H
17085.350	58.7	-23.0	42.1	39.65	68.3	9.6	H
17265.200	55.8	-22.8	41.9	36.68	68.3	12.5	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)
5922.148	58.8	-22.2	35.2	45.84	70.3	11.5	H
5923.551	58.8	-22.2	35.2	45.82	69.3	10.5	H
11589.750	50.7	-29.3	38.3	41.65	74.0	23.3	V
16581.000	59.4	-23.3	41.6	41.05	68.3	8.9	V
17385.100	57.0	-23.0	41.7	38.26	68.3	11.3	H
17389.500	59.9	-23.0	41.7	41.18	68.3	8.4	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)
5921.309	59.1	-22.2	35.1	46.19	70.9	11.9	V
5924.115	59.2	-22.2	35.1	46.26	68.9	9.7	H
11550.150	50.4	-29.2	38.5	41.06	74.0	23.6	H
16507.300	59.2	-23.2	41.4	40.94	68.3	9.1	H
16926.400	59.3	-23.0	41.7	40.65	68.3	9.0	V
17325.150	56.2	-22.9	41.4	37.69	68.3	12.1	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.

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)
5409.500	42.51	-27.65	32.75	37.41	54.00	11.49	V
5438.500	42.51	-27.73	32.76	37.47	54.00	11.49	V
11490.062	35.20	-35.09	39.20	31.10	54.00	18.80	V
16049.562	39.13	-32.95	39.24	32.84	54.00	14.87	H
17830.875	42.19	-31.51	41.93	31.76	54.00	11.81	H
17901.000	42.01	-31.33	41.84	31.50	54.00	11.99	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)
5420.250	42.52	-27.68	32.75	37.45	54.00	11.48	V
5436.000	42.56	-27.72	32.76	37.52	54.00	11.44	V
11569.812	35.36	-34.94	39.19	31.12	54.00	18.64	V
16022.750	38.94	-32.91	39.16	32.69	54.00	15.06	H
17841.188	42.17	-31.48	41.92	31.73	54.00	11.83	H
17904.438	42.13	-31.32	41.83	31.61	54.00	11.87	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)
5421.250	42.56	-27.68	32.75	37.49	54.00	11.44	V
5423.250	42.55	-27.69	32.76	37.48	54.00	11.45	V
11650.250	35.65	-34.73	39.17	31.20	54.00	18.35	H
15923.062	38.98	-32.89	39.08	32.78	54.00	15.02	V
17841.188	42.28	-31.48	41.92	31.84	54.00	11.72	V
17867.312	42.31	-31.41	41.88	31.84	54.00	11.69	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)
5415.250	42.58	-27.67	32.75	37.50	54.00	11.42	V
5429.250	42.57	-27.70	32.76	37.52	54.00	11.43	V
11569.812	35.62	-34.94	39.19	31.38	54.00	18.38	V
15919.625	38.86	-32.89	39.08	32.67	54.00	15.14	V
17817.125	42.12	-31.54	41.95	31.70	54.00	11.88	H
17846.688	42.23	-31.47	41.91	31.78	54.00	11.77	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)
5407.250	42.51	-27.65	32.75	37.41	54.00	11.49	V
5424.250	42.57	-27.69	32.76	37.50	54.00	11.43	V
11569.812	35.49	-34.94	39.19	31.25	54.00	18.51	V
16050.250	39.11	-32.95	39.24	32.81	54.00	14.89	V
17821.250	42.04	-31.53	41.95	31.62	54.00	11.96	H
17868.000	41.87	-31.41	41.88	31.40	54.00	12.13	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)
5415.500	42.54	-27.67	32.75	37.46	54.00	11.46	V
5417.750	42.53	-27.67	32.75	37.45	54.00	11.47	V
11650.250	35.59	-34.73	39.17	31.14	54.00	18.41	V
15932.688	38.85	-32.88	39.09	32.64	54.00	15.15	H
17821.938	42.08	-31.53	41.95	31.66	54.00	11.92	V
17850.125	42.20	-31.46	41.91	31.75	54.00	11.80	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)
5420.250	42.56	-27.68	32.75	37.49	54.00	11.44	V
5426.500	42.51	-27.70	32.76	37.45	54.00	11.49	V
11510.000	35.49	-35.06	39.20	31.35	54.00	18.51	H
15920.312	38.96	-32.89	39.08	32.77	54.00	15.04	V
17843.938	42.45	-31.47	41.92	32.01	54.00	11.55	H
17867.312	42.30	-31.41	41.88	31.83	54.00	11.70	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)
5409.750	42.59	-27.65	32.75	37.50	54.00	11.41	V
5423.500	42.59	-27.69	32.76	37.52	54.00	11.41	V
11589.750	38.76	-34.91	39.18	34.48	54.00	15.24	V
16046.812	39.09	-32.94	39.23	32.80	54.00	14.91	V
17828.125	42.27	-31.51	41.94	31.85	54.00	11.73	V
17865.938	42.30	-31.42	41.89	31.83	54.00	11.70	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)
5412.000	42.50	-27.66	32.75	37.41	54.00	11.50	V
5419.500	42.54	-27.68	32.75	37.47	54.00	11.46	V
11490.062	35.17	-35.09	39.20	31.06	54.00	18.83	H
15925.812	38.97	-32.88	39.09	32.77	54.00	15.03	V
17832.938	42.25	-31.50	41.93	31.82	54.00	11.75	H
17858.375	42.31	-31.44	41.90	31.85	54.00	11.69	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)
5420.250	42.58	-27.68	32.75	37.50	54.00	11.42	V
5425.500	42.58	-27.69	32.76	37.52	54.00	11.42	V
11569.812	35.62	-34.94	39.19	31.38	54.00	18.38	H
15947.812	38.97	-32.86	39.09	32.74	54.00	15.03	H
17833.625	42.46	-31.50	41.93	32.02	54.00	11.54	V
17850.812	42.35	-31.45	41.91	31.90	54.00	11.65	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)
5419.000	42.54	-27.68	32.75	37.46	54.00	11.46	V
5436.500	42.51	-27.72	32.76	37.47	54.00	11.49	V
11650.250	35.68	-34.73	39.17	31.23	54.00	18.32	H
15971.188	39.01	-32.85	39.09	32.76	54.00	14.99	V
17817.125	42.12	-31.54	41.95	31.70	54.00	11.88	H
17866.625	42.28	-31.41	41.88	31.81	54.00	11.72	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)
5406.500	42.52	-27.65	32.75	37.42	54.00	11.48	V
5419.500	42.51	-27.68	32.75	37.44	54.00	11.49	V
11510.100	35.51	-35.06	39.20	31.37	54.00	18.49	V
15942.312	39.05	-32.86	39.09	32.82	54.00	14.95	V
17837.750	42.16	-31.49	41.92	31.73	54.00	11.84	H
17870.062	42.46	-31.41	41.88	31.98	54.00	11.54	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)
5412.750	42.53	-27.66	32.75	37.44	54.00	11.47	V
5426.500	42.53	-27.70	32.76	37.47	54.00	11.47	V
11589.750	35.61	-34.91	39.18	31.34	54.00	18.39	H
16049.562	38.95	-32.95	39.24	32.66	54.00	15.05	H
17837.750	42.24	-31.49	41.92	31.80	54.00	11.76	V
17861.812	42.33	-31.43	41.89	31.87	54.00	11.67	H

802.11ac-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)
5123.500	42.6	-28.2	32.6	38.19	54.0	11.4	V
5426.000	42.6	-27.7	32.8	37.49	54.0	11.4	V
11549.875	35.5	-35.0	39.2	31.25	54.0	18.5	V
15976.688	38.9	-32.9	39.1	32.67	54.0	15.1	V
17847.375	42.3	-31.5	41.9	31.89	54.0	11.7	H
17871.438	42.3	-31.4	41.9	31.78	54.0	11.7	V

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)
5418.500	42.6	-27.7	32.8	37.49	54.0	11.4	V
5439.750	42.5	-27.7	32.8	37.50	54.0	11.5	V
11490.063	35.5	-35.1	39.2	31.43	54.0	18.5	V
16165.063	39.3	-32.9	39.6	32.62	54.0	14.7	H
17837.750	42.3	-31.5	41.9	31.89	54.0	11.7	V
17873.500	42.4	-31.4	41.9	31.93	54.0	11.6	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)
5422.250	42.5	-27.7	32.8	37.45	54.0	11.5	V
5435.250	42.5	-27.7	32.8	37.46	54.0	11.5	V
11569.813	35.5	-34.9	39.2	31.23	54.0	18.5	H
16160.938	39.1	-32.9	39.6	32.38	54.0	14.9	H
17832.250	42.2	-31.5	41.9	31.77	54.0	11.8	H
17876.250	42.2	-31.4	41.9	31.70	54.0	11.8	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)
5421.500	42.6	-27.7	32.8	37.49	54.0	11.4	V
5423.750	42.6	-27.7	32.8	37.49	54.0	11.4	V
11650.250	35.6	-34.7	39.2	31.15	54.0	18.4	H
15931.313	39.0	-32.9	39.1	32.79	54.0	15.0	H
17823.313	42.0	-31.5	41.9	31.61	54.0	12.0	H
17861.813	42.4	-31.4	41.9	31.92	54.0	11.6	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)
5409.250	42.5	-27.7	32.7	37.41	54.0	11.5	V
5440.000	42.5	-27.7	32.8	37.43	54.0	11.5	V
11510.000	35.3	-35.1	39.2	31.18	54.0	18.7	V
16050.250	38.9	-32.9	39.2	32.61	54.0	15.1	H
17841.875	42.3	-31.5	41.9	31.85	54.0	11.7	H
17874.188	42.2	-31.4	41.9	31.75	54.0	11.8	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)
5419.750	42.6	-27.7	32.8	37.51	54.0	11.4	V
5429.000	42.5	-27.7	32.8	37.47	54.0	11.5	V
11589.750	35.7	-34.9	39.2	31.45	54.0	18.3	V
15938.875	38.9	-32.9	39.1	32.70	54.0	15.1	H
17825.375	42.2	-31.5	41.9	31.77	54.0	11.8	H
17858.375	42.4	-31.4	41.9	31.94	54.0	11.6	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)
5650.014	56.72	-27.57	33.02	51.27	68.21	11.49	V
5650.834	56.81	-27.57	33.02	51.36	68.82	12.00	H
11490.200	48.69	-35.09	39.20	44.58	74.00	25.31	H
17234.950	54.05	-31.89	41.77	44.17	68.30	14.25	V
17391.700	55.62	-31.70	42.14	45.17	68.30	12.68	V
17613.900	55.19	-31.32	42.24	44.27	68.30	13.11	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)
5764.500	56.38	-27.44	33.18	50.65	68.30	11.92	H
5805.500	56.15	-27.49	33.23	50.41	68.30	12.15	H
11569.950	47.40	-34.94	39.19	43.16	74.00	26.60	H
17354.850	54.71	-31.77	42.06	44.42	68.30	13.59	V
17488.500	56.24	-31.52	42.37	45.39	68.30	12.06	H
17600.700	55.77	-31.34	42.26	44.85	68.30	12.53	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)
5924.727	56.89	-27.21	33.40	50.70	68.40	11.51	V
5924.943	58.07	-27.21	33.40	51.88	68.24	10.17	H
11650.250	46.31	-34.73	39.17	41.87	74.00	27.69	V
16913.750	55.19	-32.27	41.08	46.38	68.30	13.11	H
17474.750	52.84	-31.54	42.34	42.05	68.30	15.45	H
17620.500	54.73	-31.31	42.23	43.81	68.30	13.57	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)
5650.273	56.34	-27.57	33.02	50.90	68.40	12.06	H
5650.632	56.43	-27.57	33.02	50.99	68.67	12.23	V
11490.200	46.47	-35.09	39.20	42.36	74.00	27.53	V
17071.600	54.80	-31.96	41.37	45.39	68.30	13.50	V
17234.950	52.39	-31.89	41.77	42.50	68.30	15.91	V
17601.250	54.77	-31.34	42.26	43.85	68.30	13.53	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)
5765.500	57.01	-27.44	33.18	51.27	68.30	11.29	V
5808.000	57.33	-27.50	33.24	51.59	68.30	10.97	H
11569.950	42.25	-34.94	39.19	38.01	74.00	31.75	H
17354.485	53.37	-31.77	42.05	43.08	68.30	14.93	V
17597.950	55.32	-31.34	42.26	44.40	68.30	12.98	H
17642.500	54.92	-31.30	42.20	44.03	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)
5924.770	56.42	-27.21	33.40	50.23	68.37	11.95	V
5924.971	56.58	-27.21	33.40	50.39	68.22	11.64	H
11650.250	47.37	-34.73	39.17	42.93	74.00	26.63	H
17474.750	52.51	-31.54	42.34	41.71	68.30	15.79	V
17585.300	54.60	-31.36	42.28	43.69	68.30	13.70	H
17625.450	55.27	-31.30	42.22	44.34	68.30	13.03	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)
5650.101	55.72	-27.57	33.02	50.27	68.27	12.56	V
5650.316	55.65	-27.57	33.02	50.20	68.43	12.79	H
11510.000	46.02	-35.06	39.20	41.88	74.00	27.98	H
17265.200	51.45	-31.89	41.84	41.51	68.30	16.84	V
17369.150	55.27	-31.74	42.09	44.92	68.30	13.03	H
17467.050	54.67	-31.55	42.32	43.91	68.30	13.62	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)
5924.698	56.59	-27.21	33.40	50.40	68.42	11.83	H
5924.943	56.77	-27.21	33.40	50.58	68.24	11.48	H
11589.750	46.37	-34.91	39.18	42.09	74.00	27.63	H
17385.100	53.15	-31.71	42.13	42.73	68.30	15.15	H
17496.200	55.01	-31.51	42.39	44.13	68.30	13.29	H
17622.700	55.39	-31.30	42.23	44.47	68.30	12.91	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)
5650.158	56.50	-27.57	33.02	51.05	68.32	11.82	H
5650.374	56.14	-27.57	33.02	50.69	68.48	12.34	V
11490.200	46.05	-35.09	39.20	41.94	74.00	27.95	H
17234.950	52.36	-31.89	41.77	42.48	68.30	15.94	H
17399.400	54.90	-31.68	42.16	44.41	68.30	13.40	H
17502.800	54.65	-31.50	42.40	43.75	68.30	13.65	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)
5753.500	57.03	-27.44	33.16	51.30	68.30	11.27	V
5805.000	57.35	-27.49	33.23	51.61	68.30	10.95	H
11569.950	46.40	-34.94	39.19	42.15	74.00	27.60	V
17354.850	53.99	-31.77	42.06	43.70	68.30	14.31	V
17612.250	55.19	-31.32	42.24	44.27	68.30	13.11	V
17683.750	54.99	-31.37	42.14	44.21	68.30	13.31	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)
5924.770	56.08	-27.21	33.40	49.89	68.37	12.29	H
5924.871	56.04	-27.21	33.40	49.85	68.30	12.25	H
11650.250	47.09	-34.73	39.17	42.65	74.00	26.91	V
17474.750	53.32	-31.54	42.34	42.52	68.30	14.98	H
17619.400	55.57	-31.31	42.23	44.65	68.30	12.73	V
17679.350	55.12	-31.36	42.15	44.34	68.30	13.17	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)
5650.029	55.51	-27.57	33.02	50.06	68.22	12.71	V
5650.172	55.48	-27.57	33.02	50.03	68.33	12.85	V
11510.000	45.44	-35.06	39.20	41.30	74.00	28.56	H
17265.200	53.25	-31.89	41.84	43.30	68.30	15.05	H
17456.600	55.08	-31.57	42.30	44.35	68.30	13.22	H
17653.500	54.94	-31.32	42.18	44.08	68.30	13.36	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)
5924.684	55.75	-27.21	33.40	49.56	68.43	12.68	V
5924.899	56.28	-27.21	33.40	50.09	68.27	11.99	V
11589.750	47.21	-34.91	39.18	42.93	74.00	26.79	H
17385.100	53.41	-31.71	42.13	42.99	68.30	14.89	V
17495.650	54.89	-31.51	42.39	44.01	68.30	13.41	H
17629.850	55.20	-31.29	42.22	44.28	68.30	13.10	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)
5650.029	55.3	-27.6	33.0	49.83	68.2	12.9	V
5650.115	55.4	-27.6	33.0	49.91	68.3	12.9	H
11550.150	46.5	-35.0	39.2	42.32	74.0	27.5	V
17325.150	53.7	-31.8	42.0	43.58	68.3	14.6	V
5924.799	55.9	-27.2	33.4	49.68	68.3	12.5	V
5924.957	56.1	-27.2	33.4	49.92	68.2	12.1	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)
5650.244	56.7	-27.6	33.0	51.24	68.4	11.7	H
5650.661	56.8	-27.6	33.0	51.38	68.7	11.9	H
11490.200	46.9	-35.1	39.2	42.81	74.0	27.1	H
17234.950	52.0	-31.9	41.8	42.16	68.3	16.3	H
17358.700	54.5	-31.8	42.1	44.20	68.3	13.8	V
17554.500	54.8	-31.4	42.3	43.88	68.3	13.5	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)
5759.500	57.1	-27.4	33.2	51.40	68.3	11.2	H
5833.000	57.4	-27.6	33.3	51.65	68.3	10.9	V
11569.950	48.6	-34.9	39.2	44.37	74.0	25.4	H
17354.850	51.8	-31.8	42.1	41.47	68.3	16.5	H
17488.500	54.8	-31.5	42.4	43.93	68.3	13.5	H
17669.450	54.8	-31.3	42.2	44.02	68.3	13.5	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)
5924.842	56.5	-27.2	33.4	50.30	68.3	11.8	V
5924.943	56.4	-27.2	33.4	50.16	68.2	11.9	H
11650.250	47.1	-34.7	39.2	42.66	74.0	26.9	V
17474.750	53.5	-31.5	42.3	42.72	68.3	14.8	H
17607.850	55.0	-31.3	42.2	44.06	68.3	13.3	H
17689.250	54.7	-31.4	42.1	43.94	68.3	13.6	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)
5650.058	55.1	-27.6	33.0	49.68	68.2	13.1	H
5650.115	55.0	-27.6	33.0	49.54	68.3	13.3	H
11510.000	46.9	-35.1	39.2	42.76	74.0	27.1	H
17265.200	52.1	-31.9	41.8	42.17	68.3	16.2	V
17502.800	55.2	-31.5	42.4	44.30	68.3	13.1	H
17616.650	55.0	-31.3	42.2	44.05	68.3	13.3	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)
5924.713	56.0	-27.2	33.4	49.76	68.4	12.5	H
5924.813	56.4	-27.2	33.4	50.18	68.3	12.0	H
11589.750	47.0	-34.9	39.2	42.73	74.0	27.0	H
17385.100	52.8	-31.7	42.1	42.42	68.3	15.5	V
17483.500	54.5	-31.5	42.4	43.68	68.3	13.8	H
17600.150	55.0	-31.3	42.3	44.06	68.3	13.3	V

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)
5650.058	55.7	-27.6	33.0	50.21	68.2	12.6	H
5650.173	55.4	-27.6	33.0	49.92	68.3	13.0	V
11550.150	46.4	-35.0	39.2	42.17	74.0	27.6	V
17325.150	52.5	-31.8	42.0	42.37	68.3	15.8	H
5924.928	56.1	-27.2	33.4	49.88	68.3	12.2	H
5924.986	56.3	-27.2	33.4	50.12	68.2	11.9	H

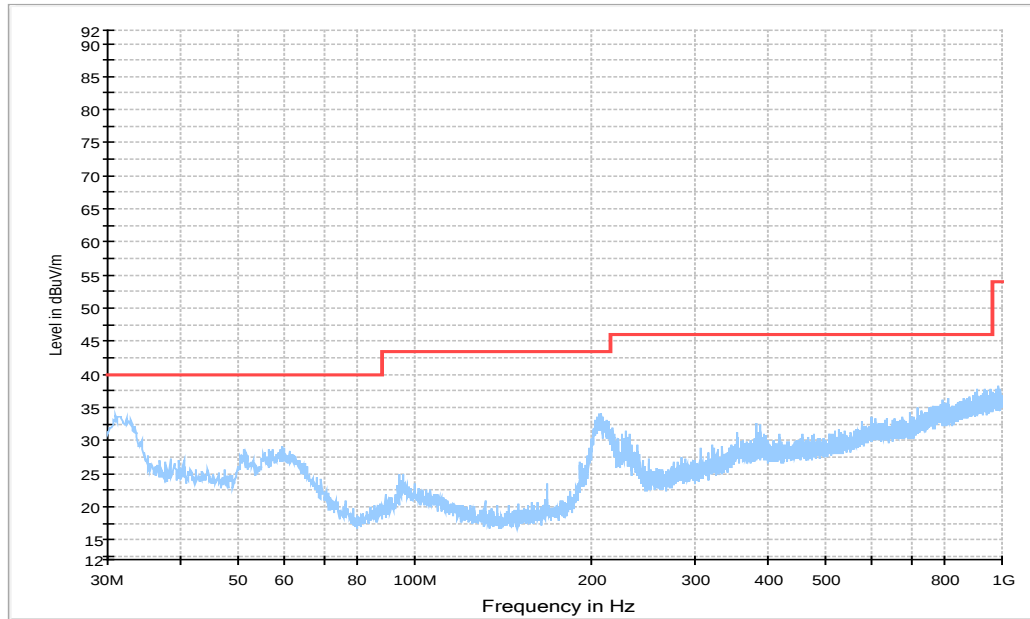
Note: the spurious emission above 18G is noise only

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



BELOW 30MHz

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

C.1.3 Band Edges Compliance– Radiated

Measurement Result:

INPAQ:

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

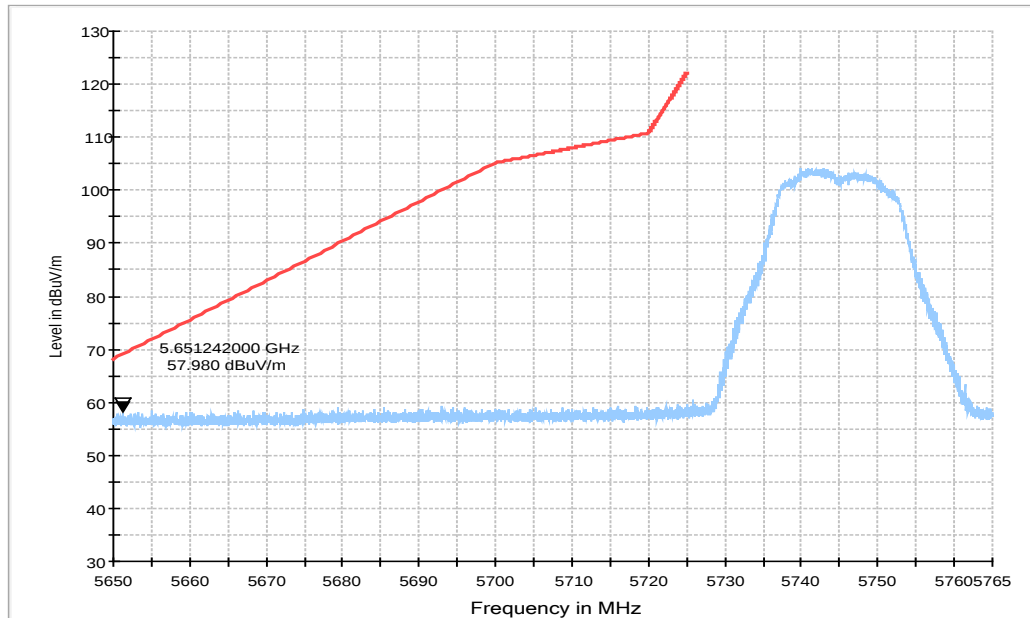


Fig. 1 Band Edges (802.11a,CH149, 5745MHz)

— Peak Limits
— Peak Result

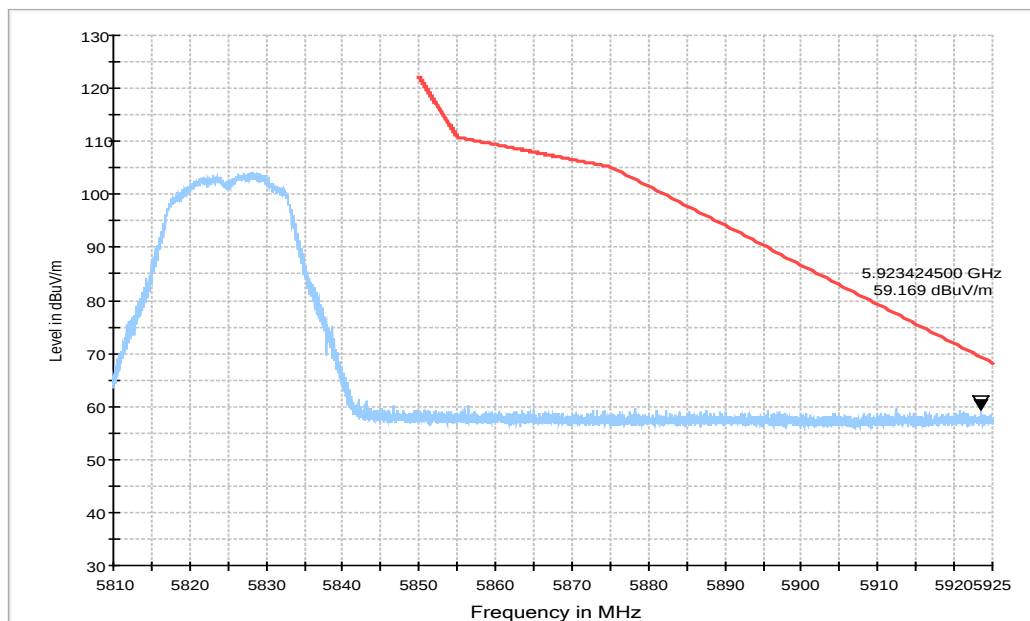


Fig. 2 Band Edges (802.11a, CH165, 5825MHz)

— Peak Limits
— Peak Result

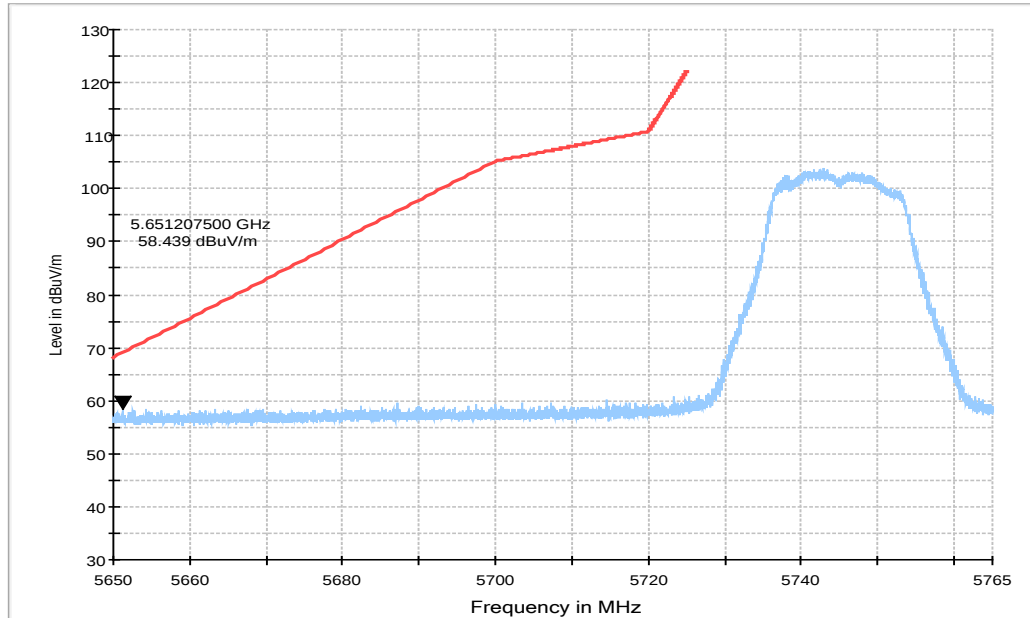


Fig. 3 Band Edges (802.11n-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

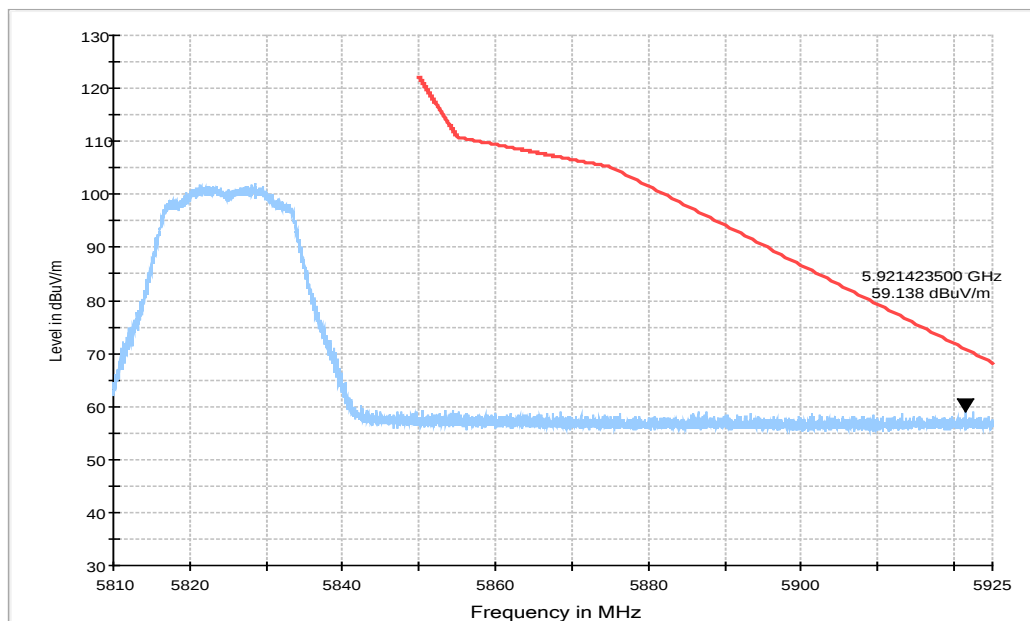


Fig. 4 Band Edges (802.11n-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

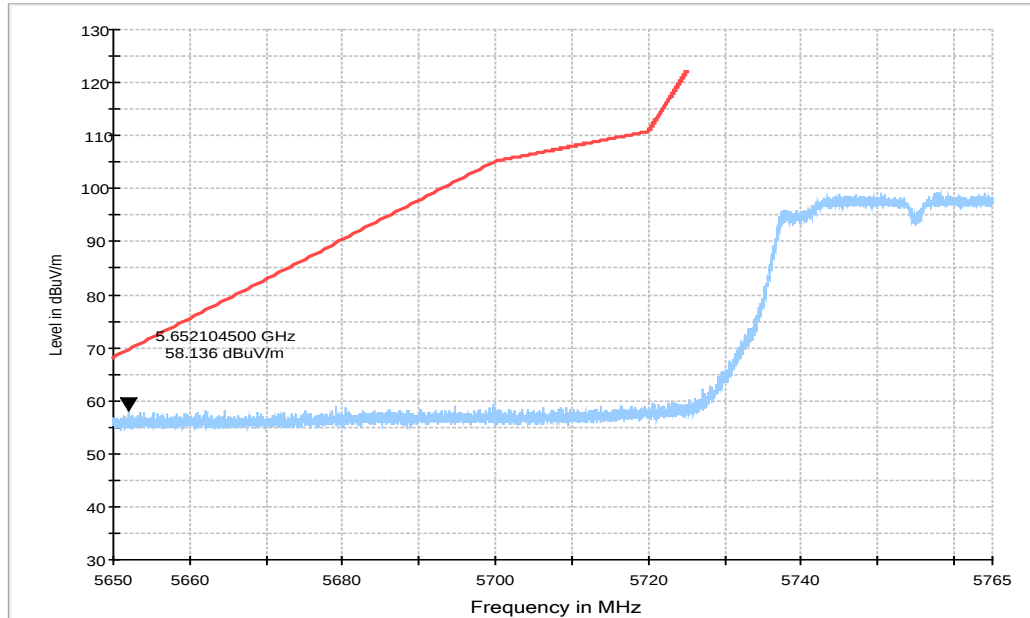


Fig. 5 Band Edges (802.11n-HT40, CH151, 5755MHz)

— Peak Limits
— Peak Result

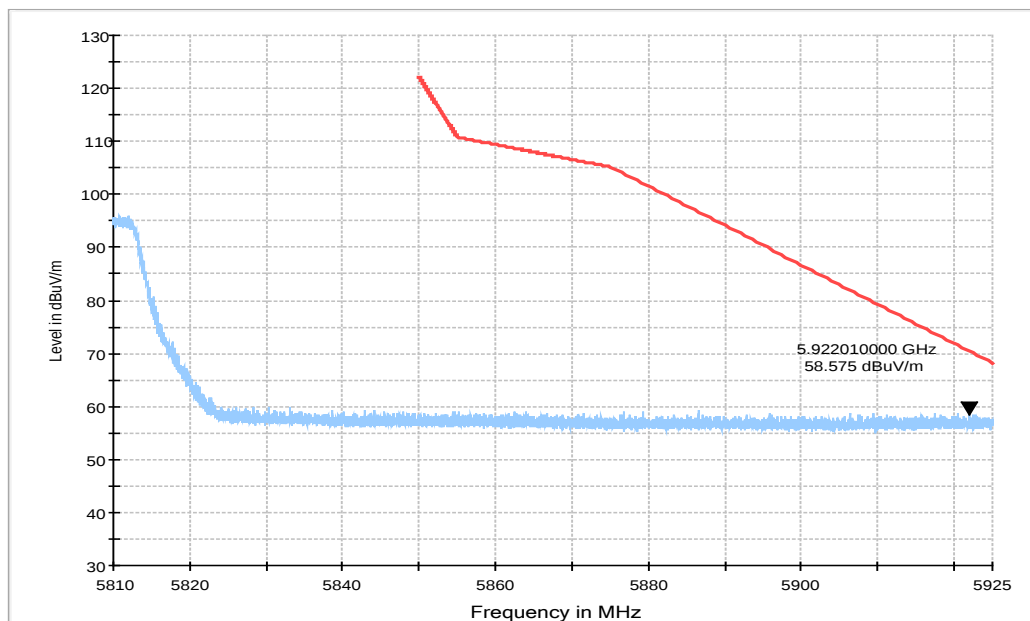


Fig. 6 Band Edges (802.11n-HT40, CH159, 5795MHz)

— Peak Limits
— Peak Result

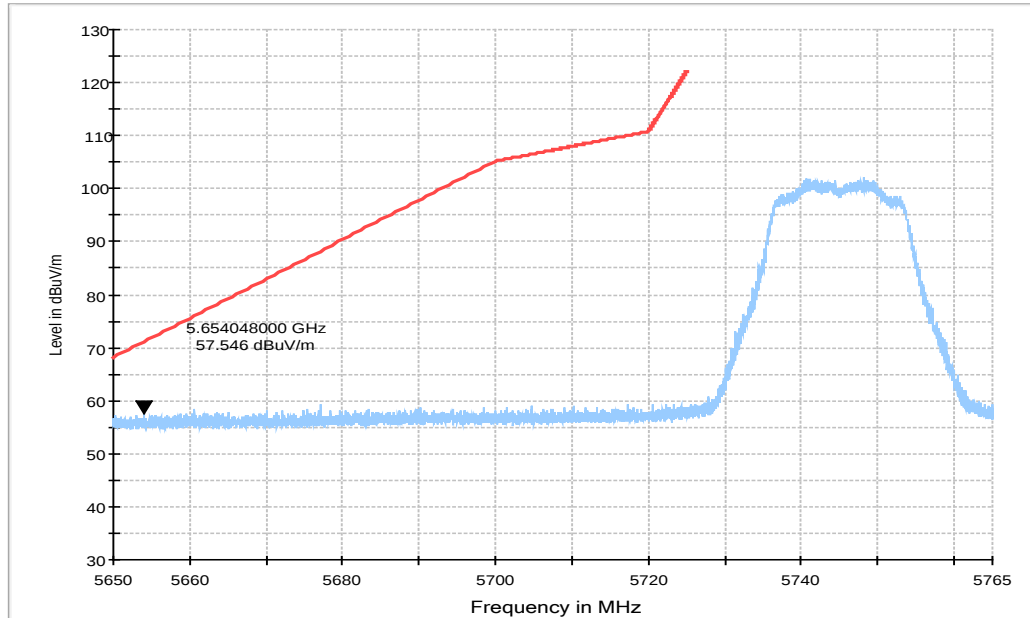


Fig. 7 Band Edges (802.11ac-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

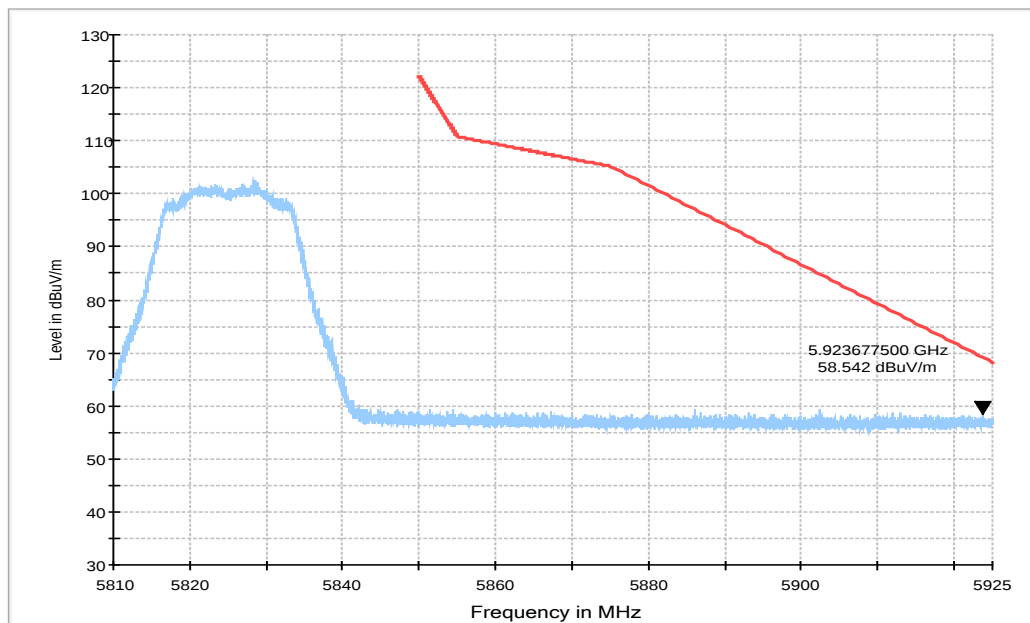


Fig. 8 Band Edges (802.11ac-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

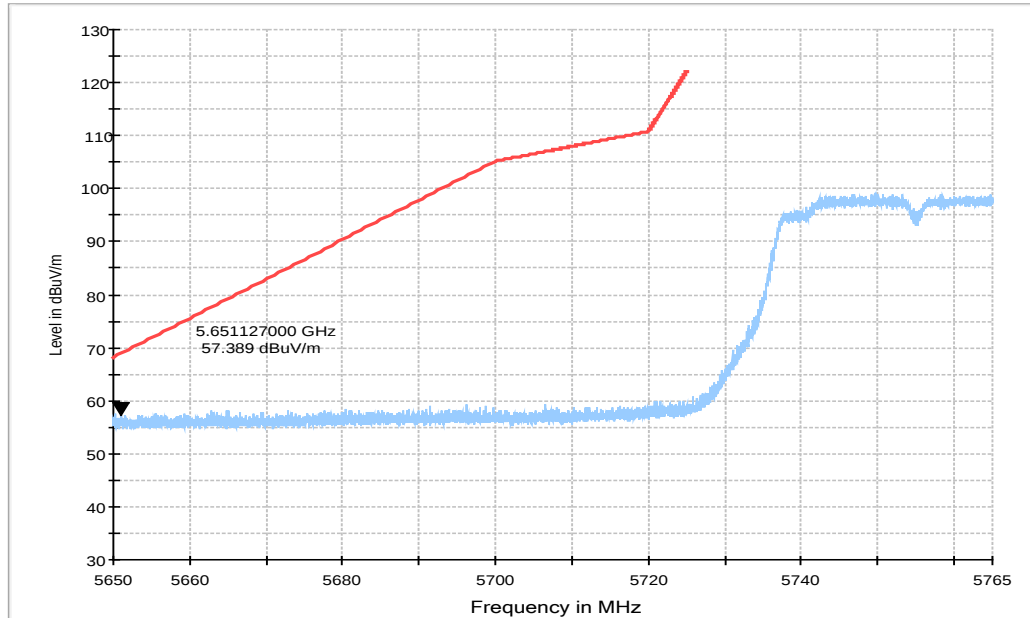


Fig. 9 Band Edges (802.11ac-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

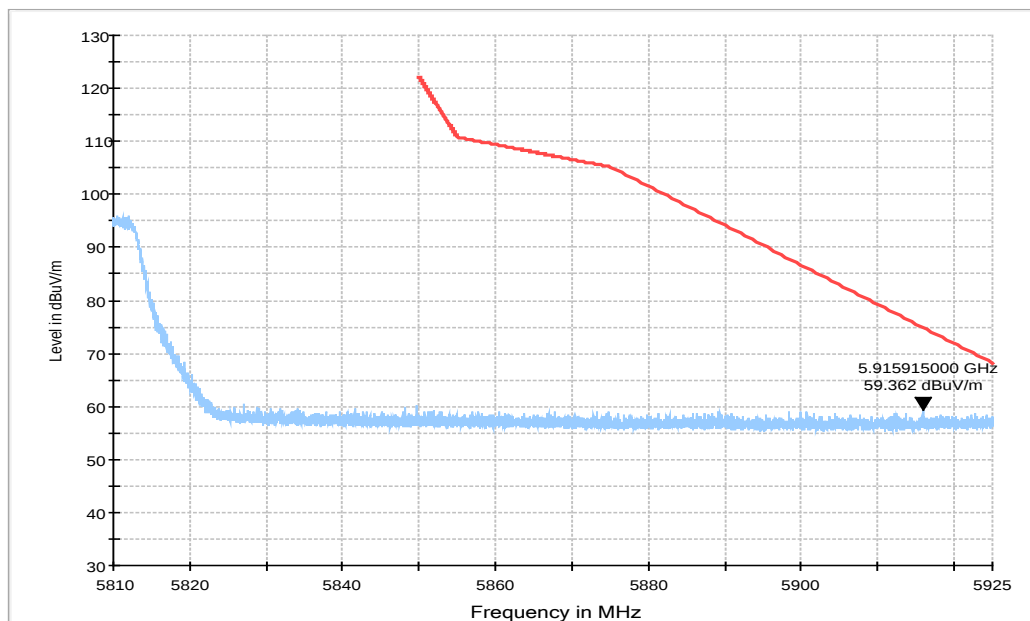


Fig. 10 Band Edges (802.11ac-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

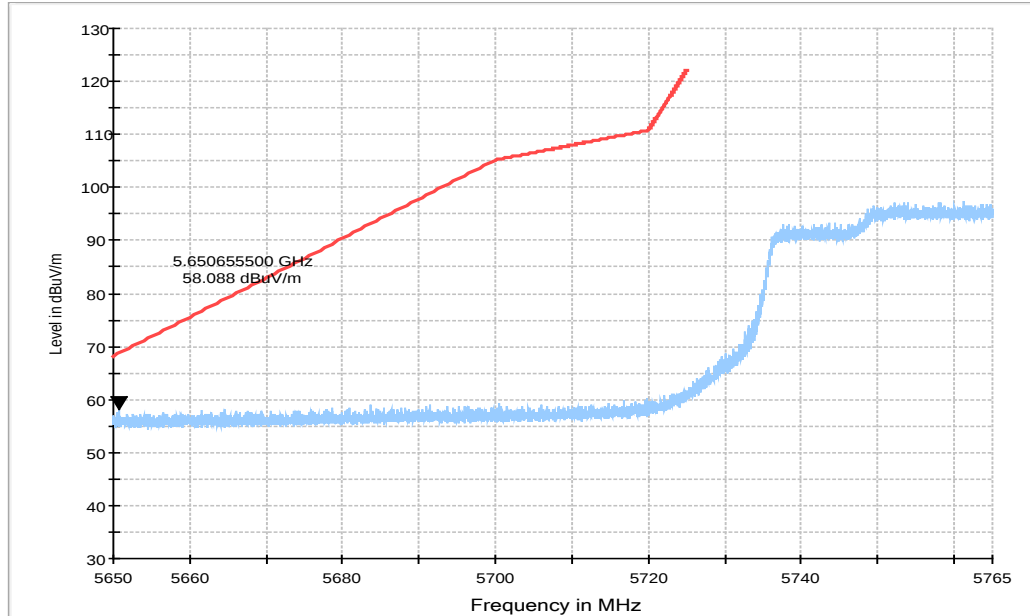


Fig. 11 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

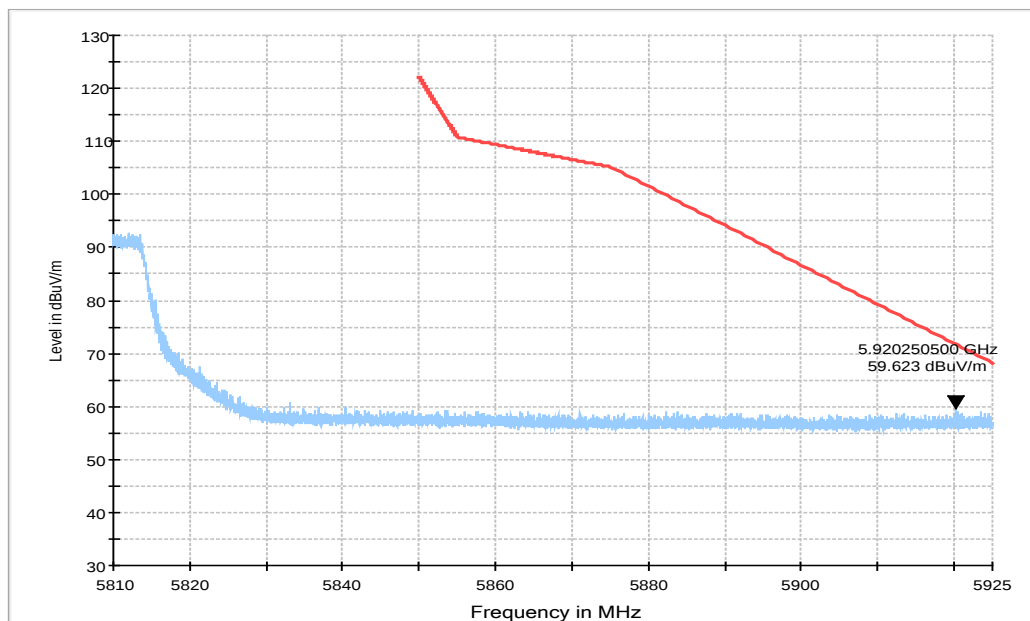


Fig. 12 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

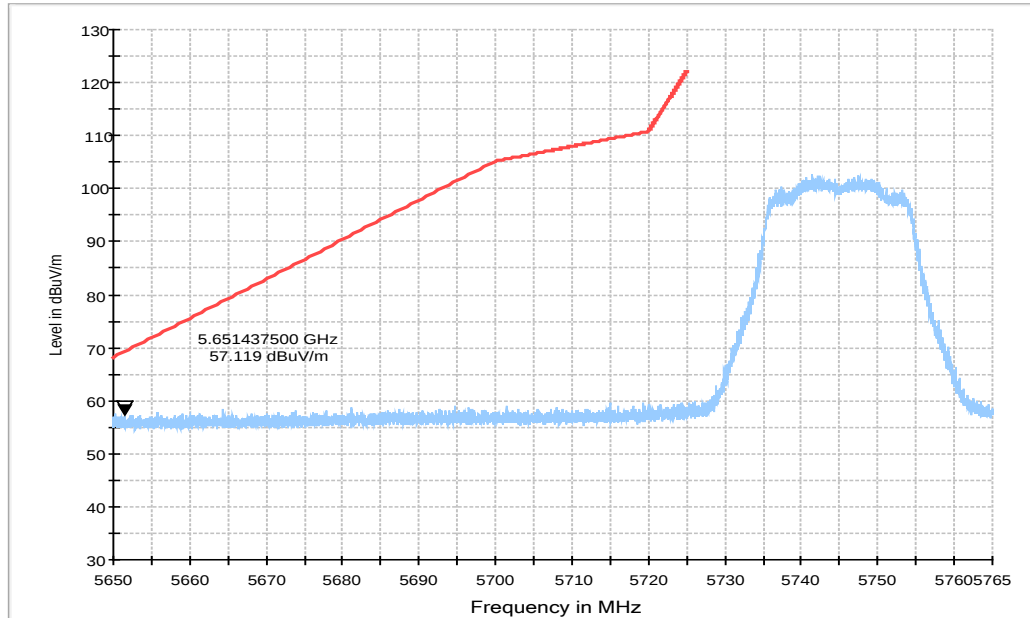


Fig. 13 Band Edges (802.11ax-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

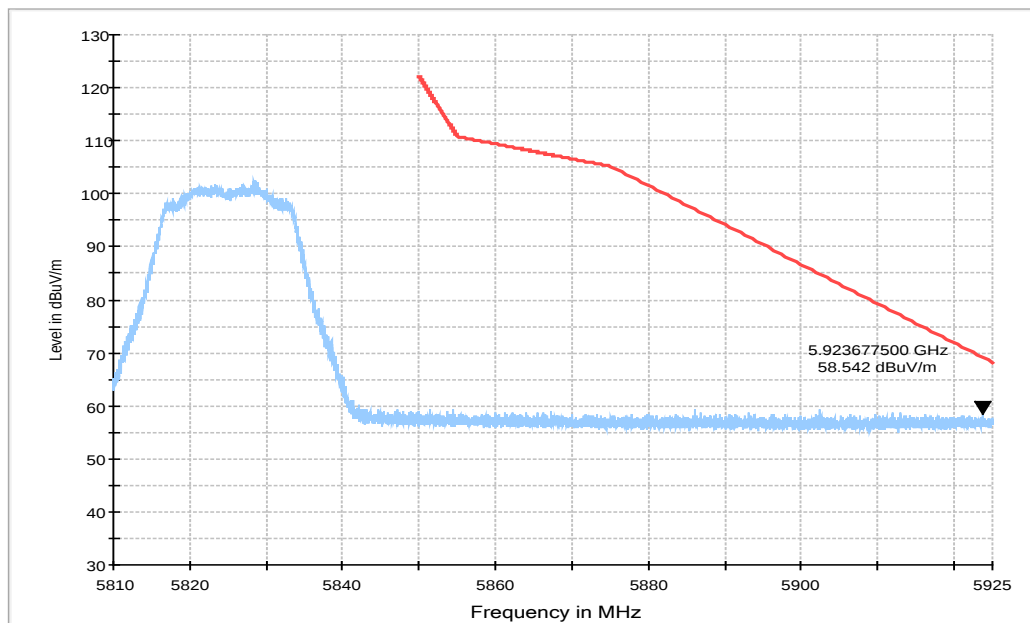


Fig. 14 Band Edges (802.11ax-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

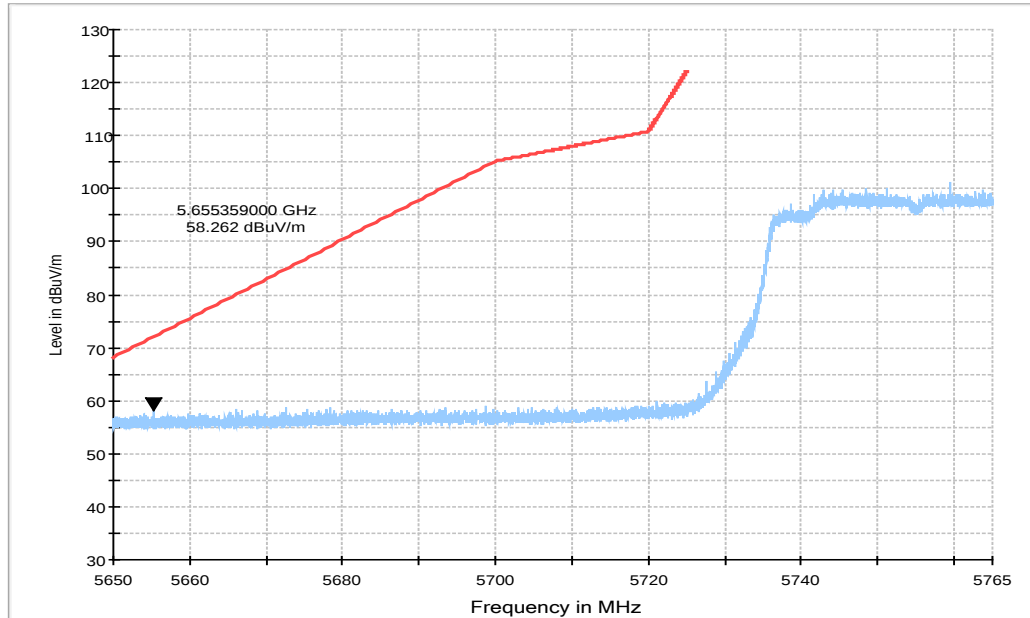


Fig. 15 Band Edges (802.11ax-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

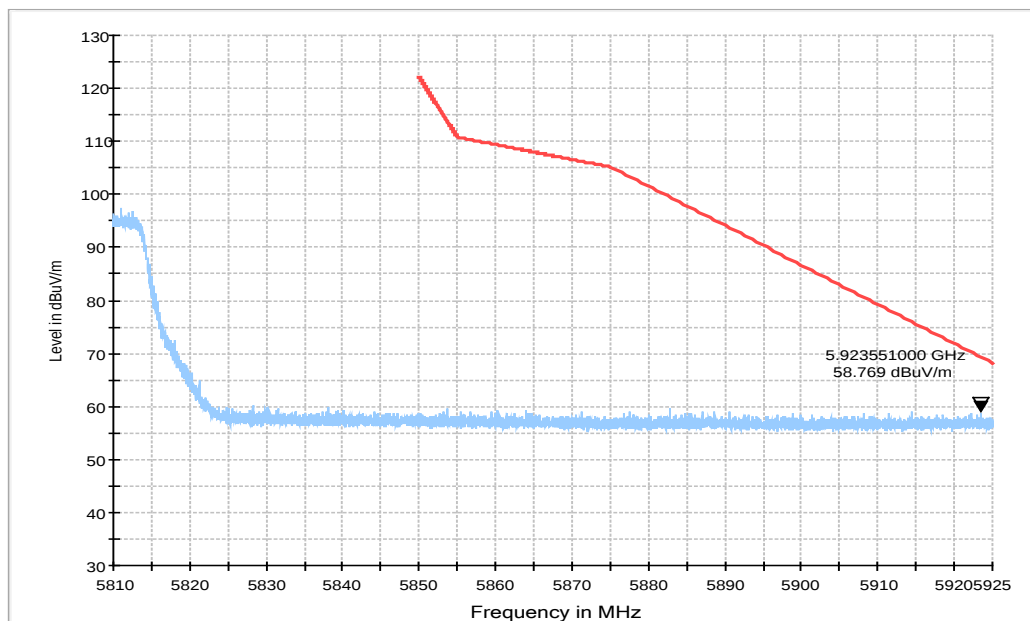


Fig. 16 Band Edges (802.11ax-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

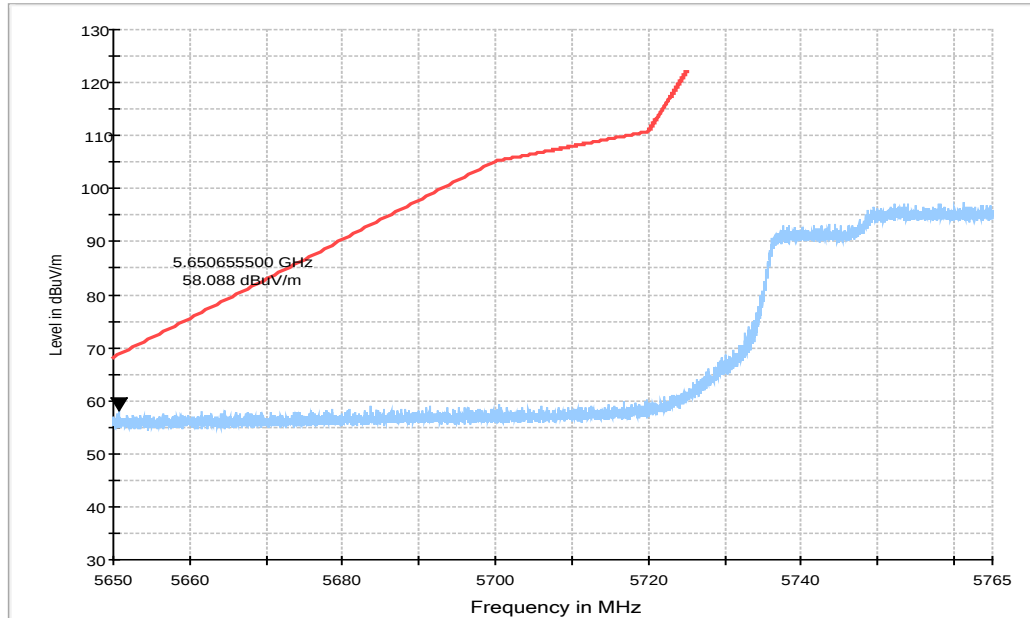


Fig. 17 Band Edges (802.11ax-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

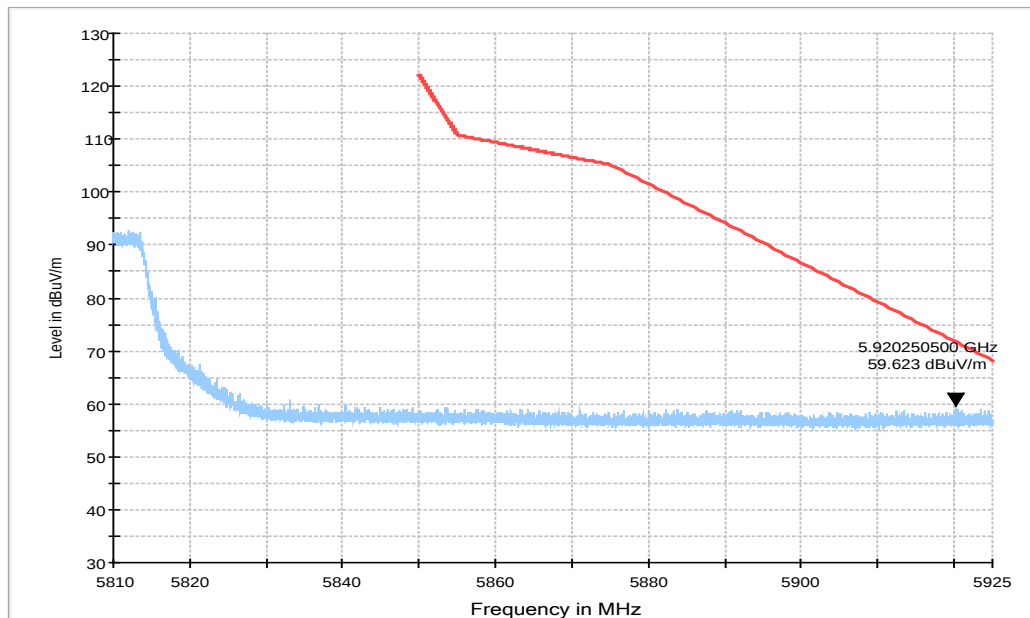


Fig. 18 Band Edges (802.11ax-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

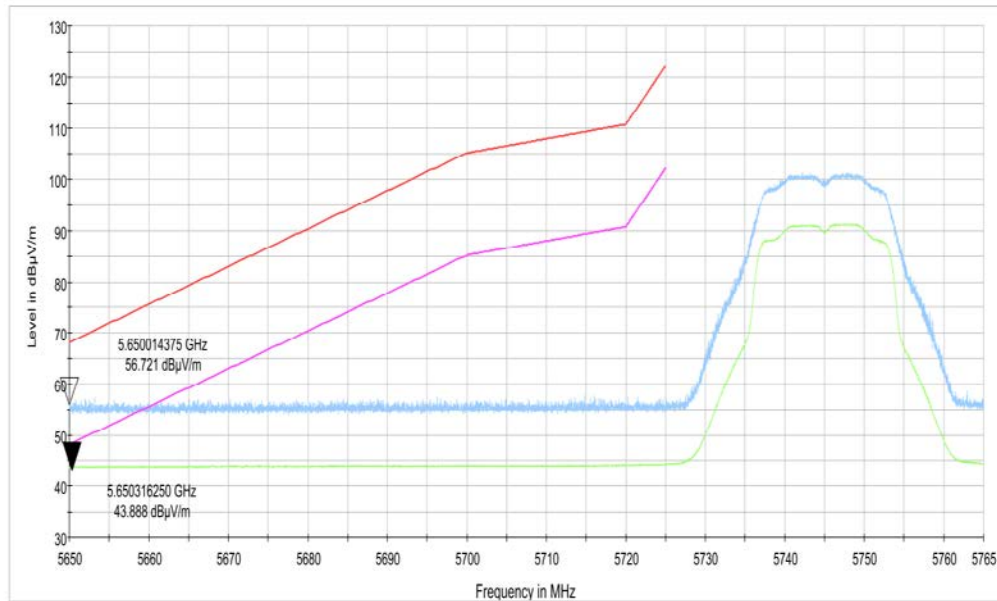


Fig. 19 Band Edges (802.11a, CH149, 5745MHz)

— Peak Limits
— Peak Result

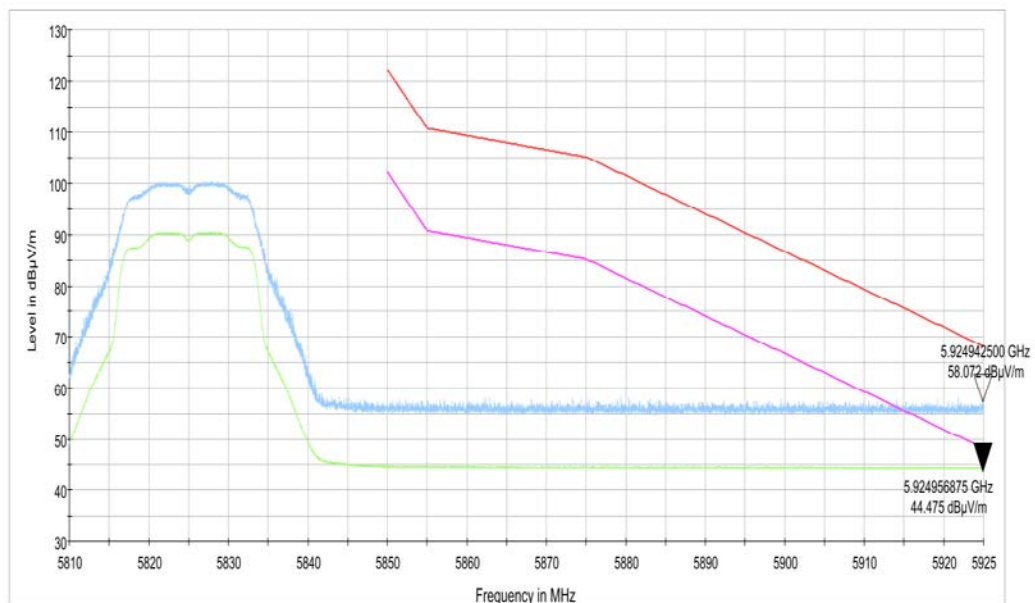


Fig. 20 Band Edges (802.11a, CH165, 5825MHz)

— Peak Limits
— Peak Result

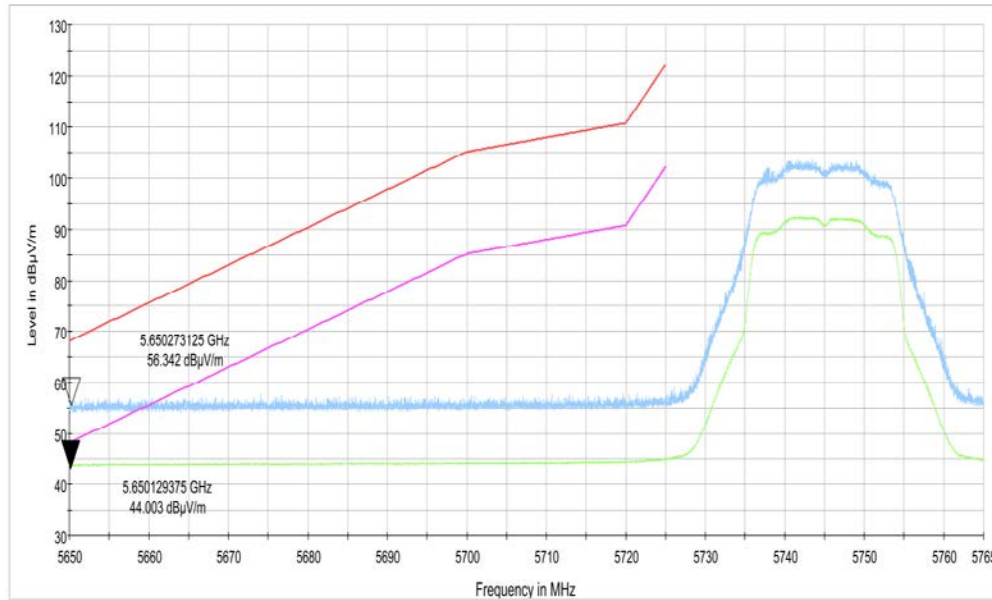


Fig. 21 Band Edges (802.11n-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

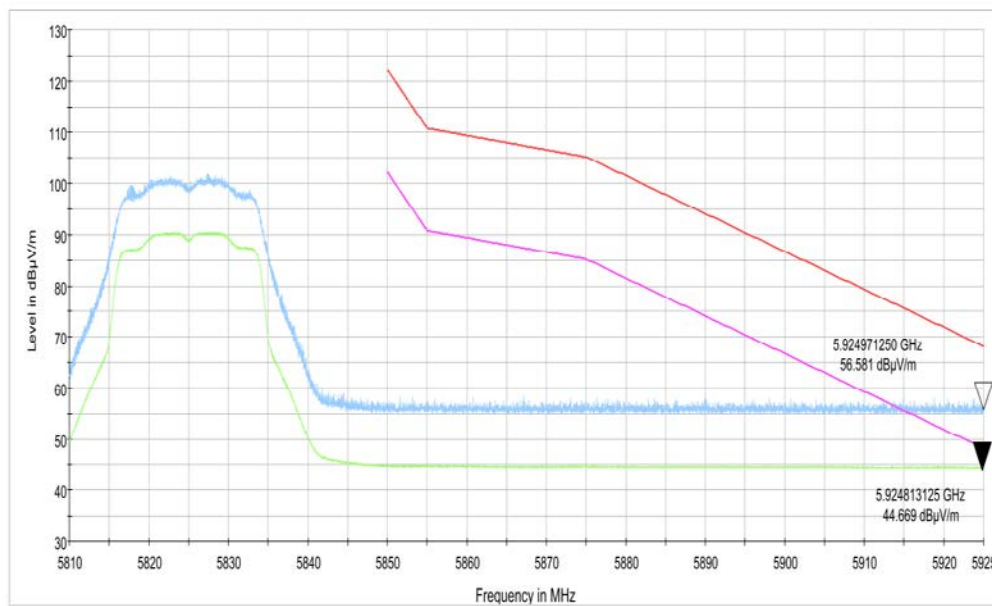


Fig. 22 Band Edges (802.11n-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

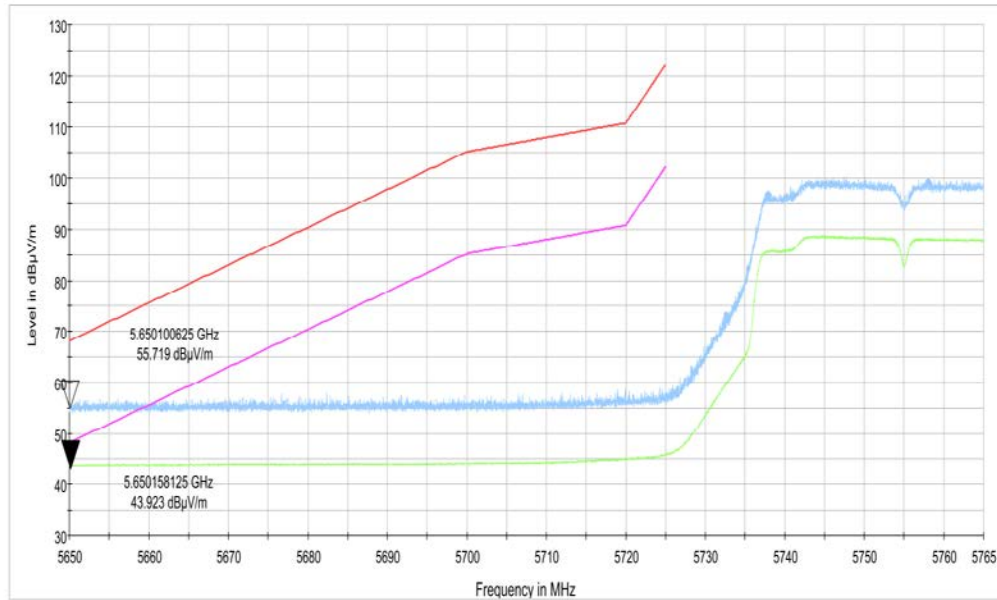


Fig. 23 Band Edges (802.11n-HT40, CH151, 5755MHz)

— Peak Limits
— Peak Result

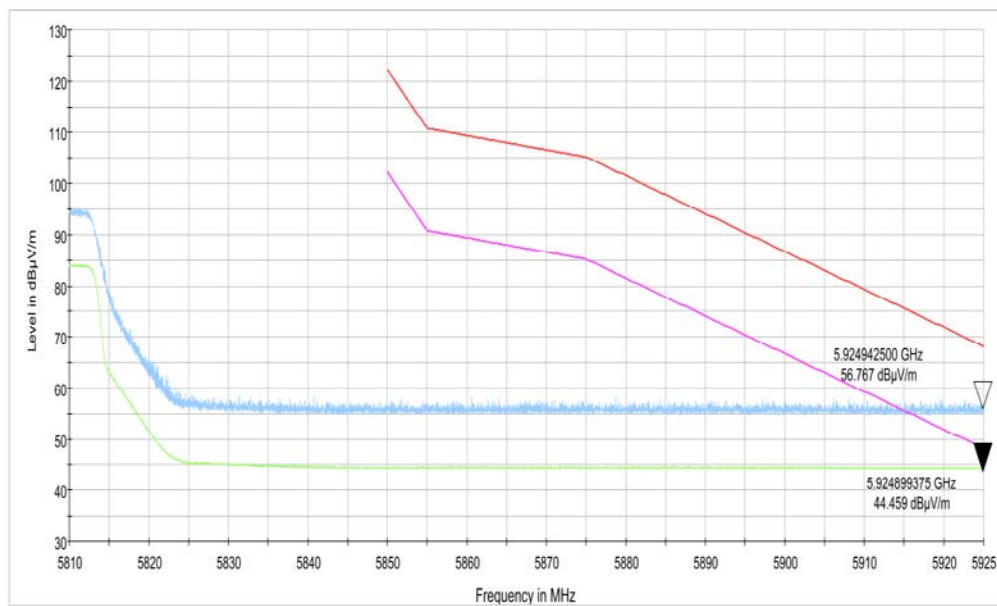


Fig. 24 Band Edges (802.11n-HT40, CH159, 5795MHz)

— Peak Limits
— Peak Result

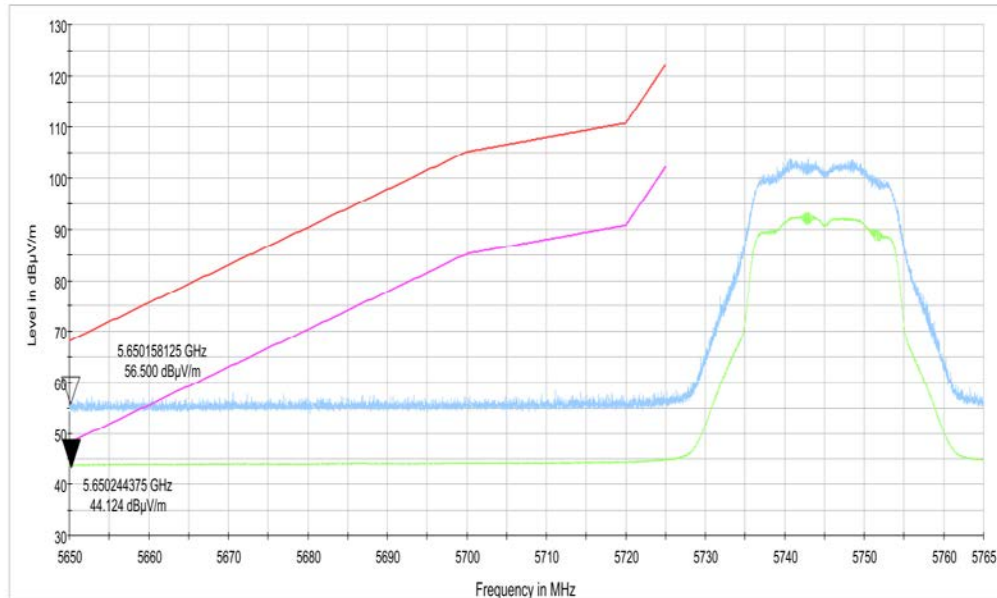


Fig. 25 Band Edges (802.11ac-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

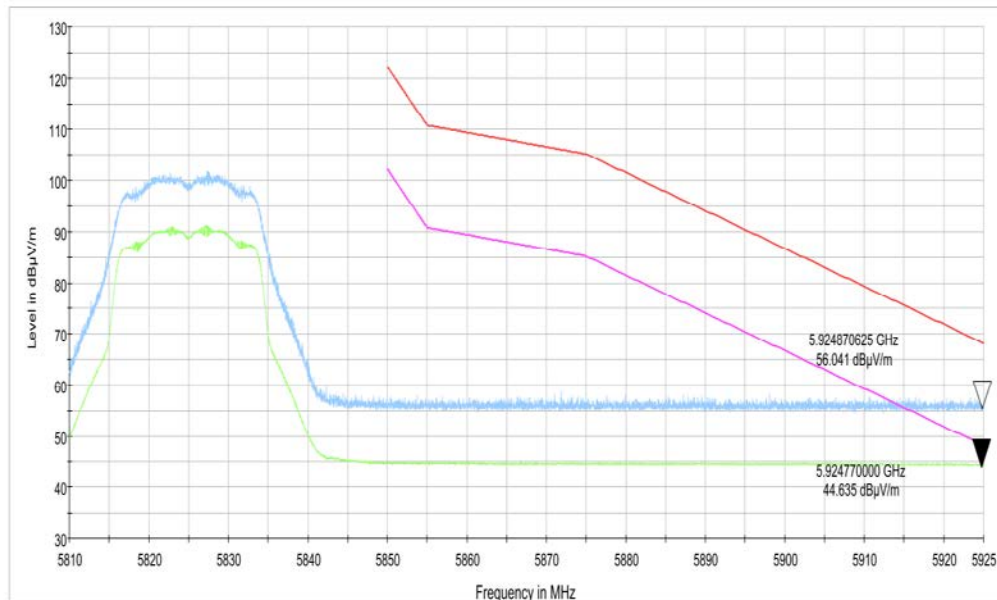


Fig. 26 Band Edges (802.11ac-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

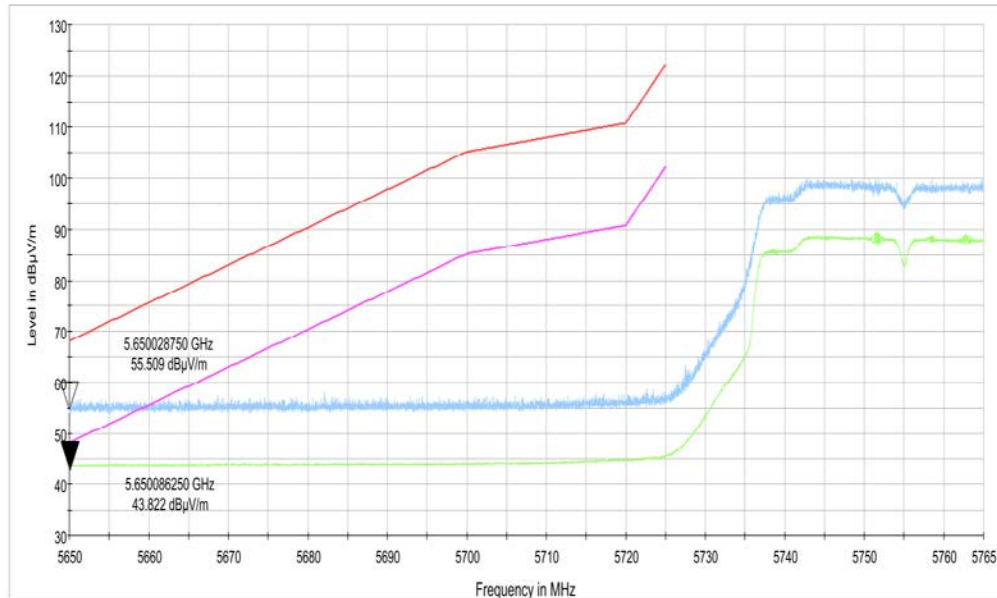


Fig. 27 Band Edges (802.11ac-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

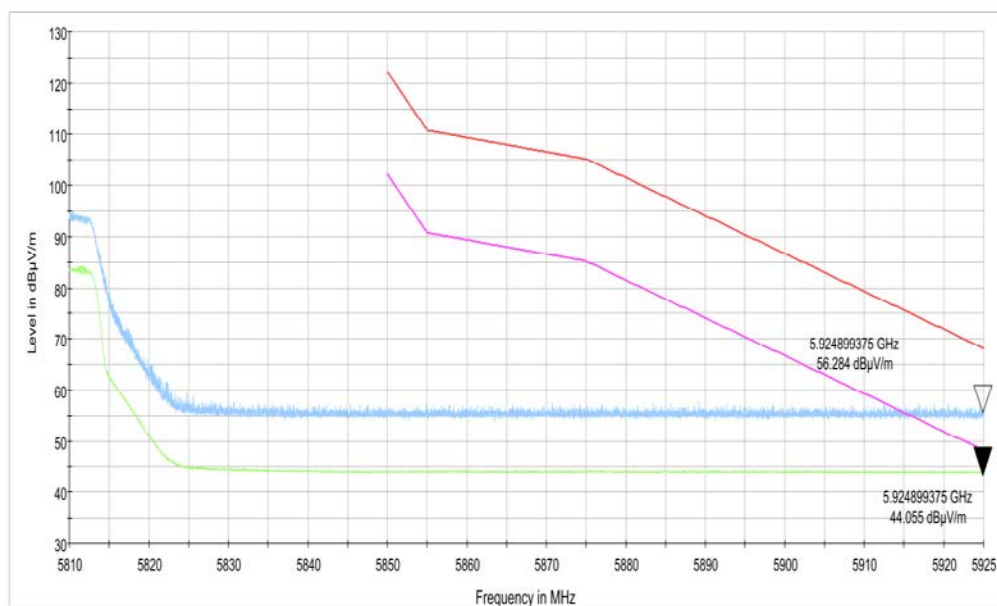


Fig. 28 Band Edges (802.11ac-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

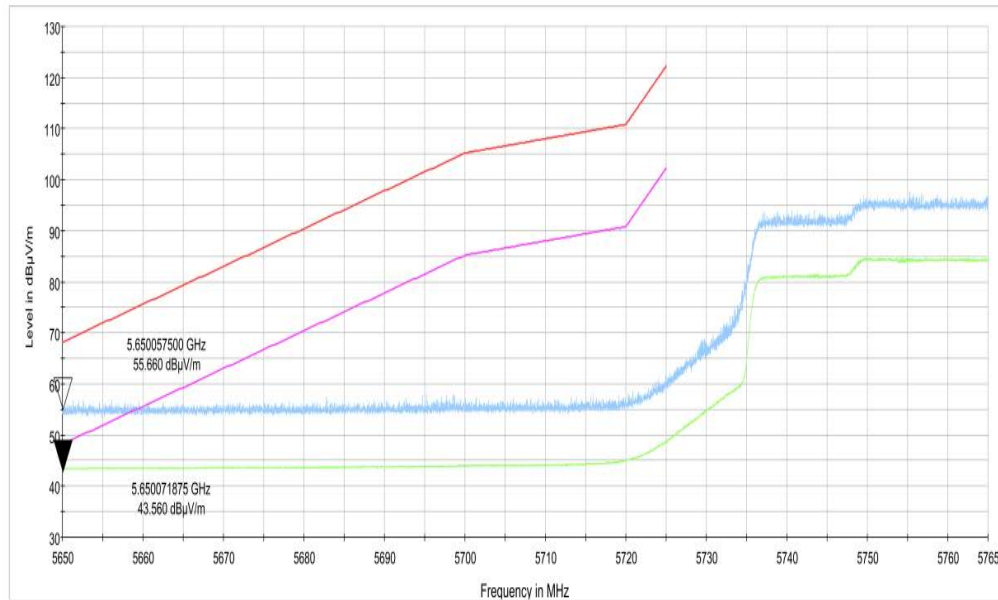


Fig. 29 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

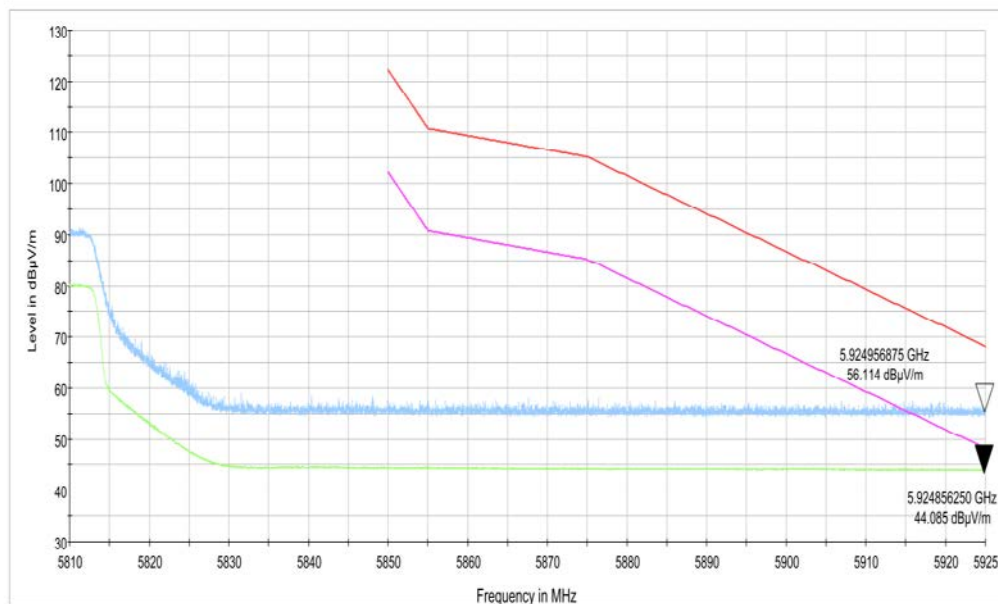


Fig. 30 Band Edges (802.11ac-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

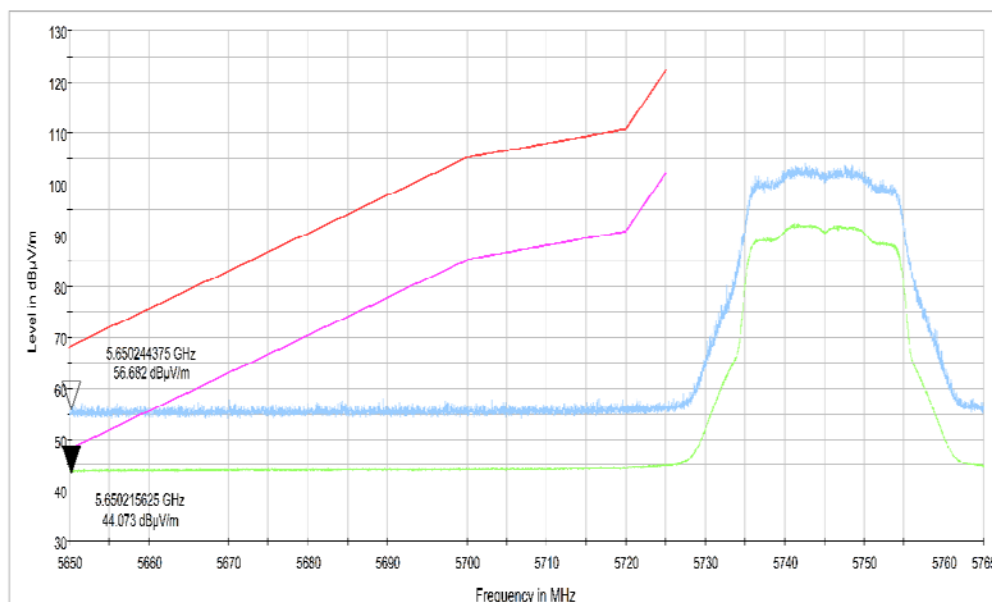


Fig. 31 Band Edges (802.11ax-HT20, CH149, 5745MHz)

— Peak Limits
— Peak Result

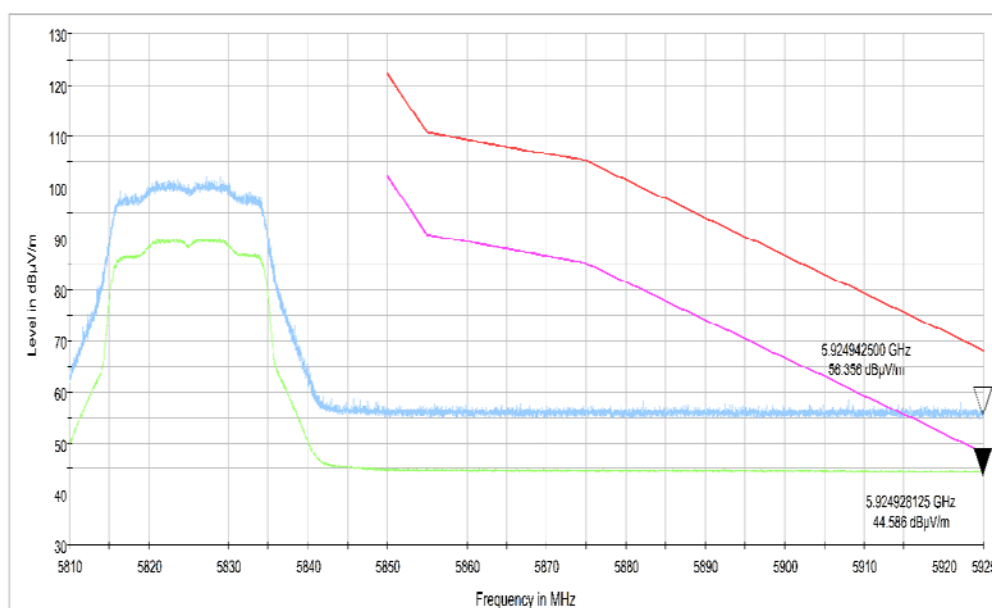


Fig. 32 Band Edges (802.11ax-HT20, CH165, 5825MHz)

— Peak Limits
— Peak Result

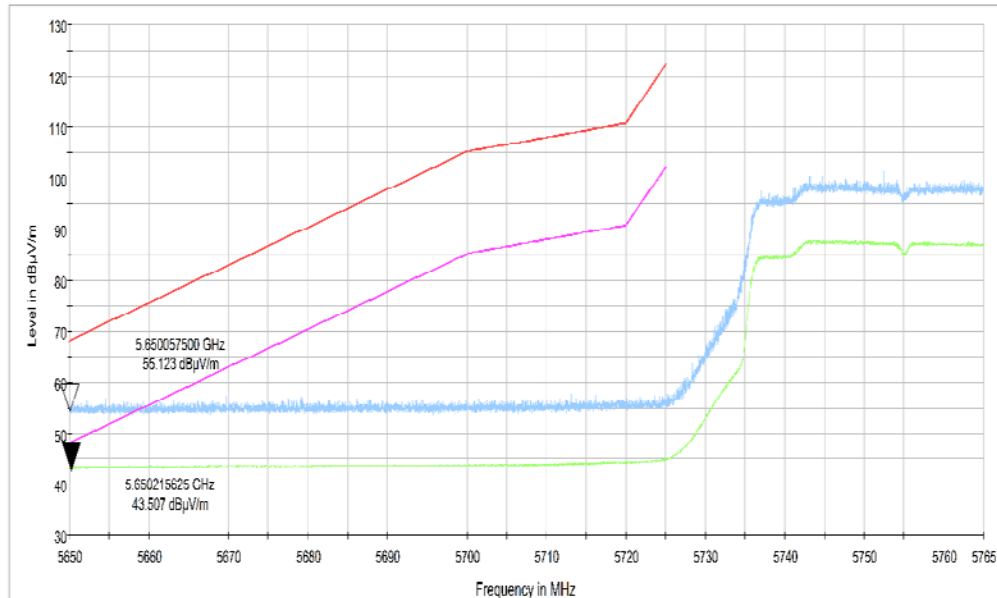


Fig. 33 Band Edges (802.11ax-HT40,CH151, 5755MHz)

— Peak Limits
— Peak Result

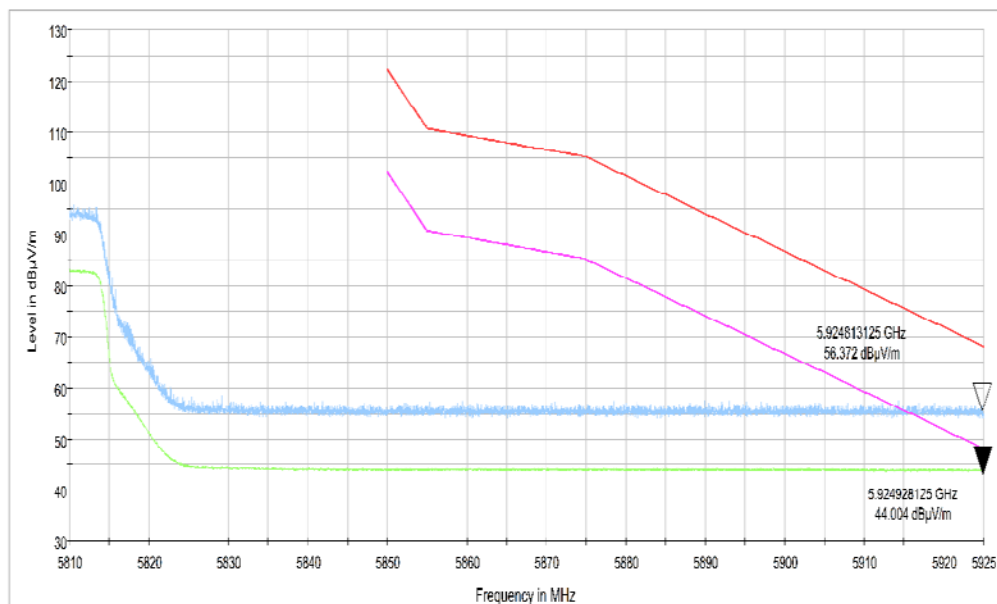


Fig. 34 Band Edges (802.11ax-HT40,CH159, 5795MHz)

— Peak Limits
— Peak Result

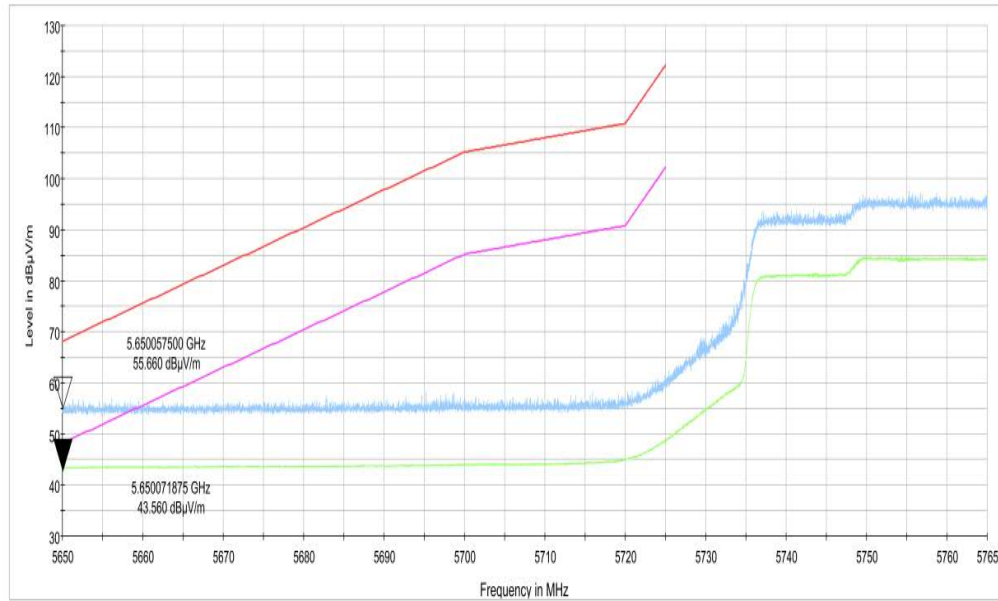


Fig. 35 Band Edges (802.11ax-HT80, CH155, 5775MHz)

— Peak Limits
— Peak Result

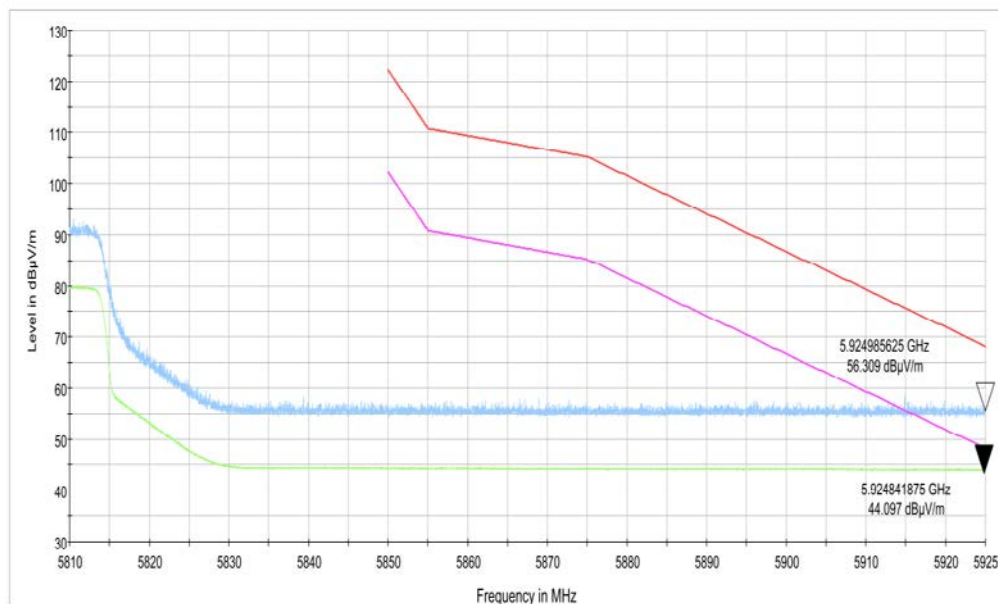


Fig. 36 Band Edges (802.11ax-HT80, CH155, 5775MHz)

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.

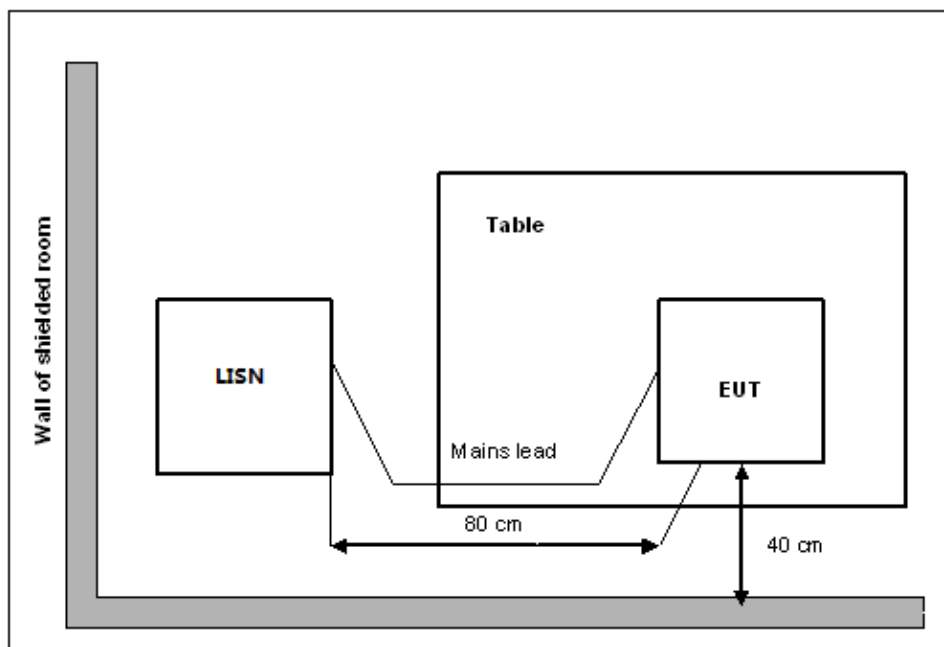
The measurement bandwidth is:

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 (dBμV)	Result (dBμV)		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 (dBμV)	Result (dBμV)		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:

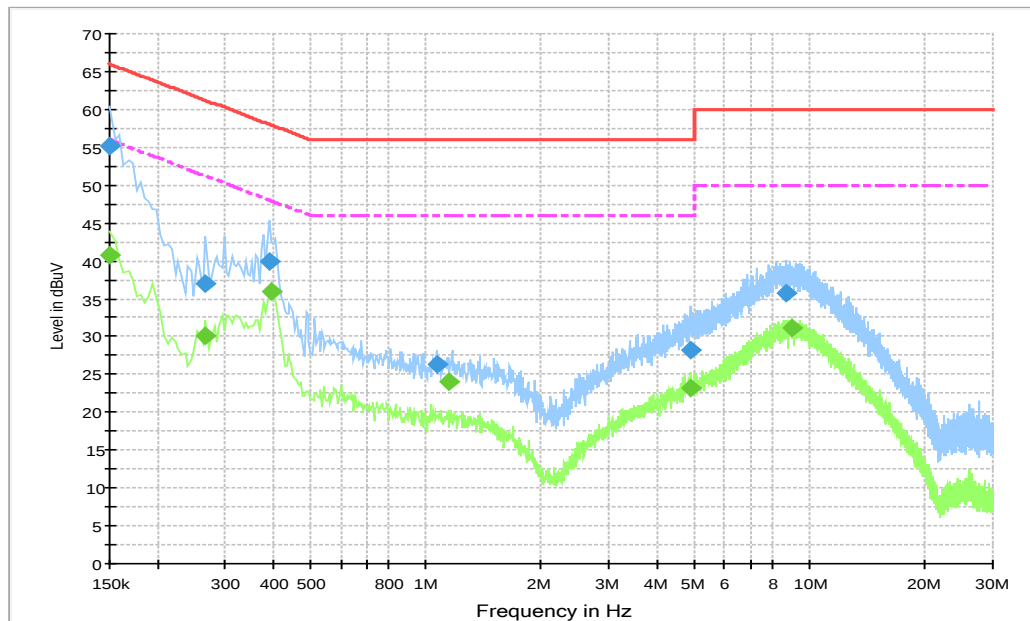


Fig.C.2.1 AC Power line Conducted Emission-802.11b

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)
0.150000	55.1	3000.	9.000	N	28.9	10.9	66.0
0.267000	36.9	3000.	9.000	L1	26.3	24.3	61.2
0.393000	39.8	3000.	9.000	N	24.5	18.2	58.0
1.068000	26.2	3000.	9.000	N	20.2	29.8	56.0
4.888500	28.2	3000.	9.000	L1	19.7	27.8	56.0
8.668500	35.6	3000.	9.000	L1	19.9	24.4	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	40.8	3000.0	9.000	N	28.9	15.2	56.0
0.267000	30.1	3000.0	9.000	N	26.3	21.1	51.2
0.397500	36.0	3000.0	9.000	N	24.4	11.9	47.9
1.144500	24.0	3000.0	9.000	N	20.2	22.0	46.0
4.875000	23.2	3000.0	9.000	L1	19.7	22.8	46.0
8.997000	31.0	3000.0	9.000	L1	20.0	19.0	50.0

Idle:

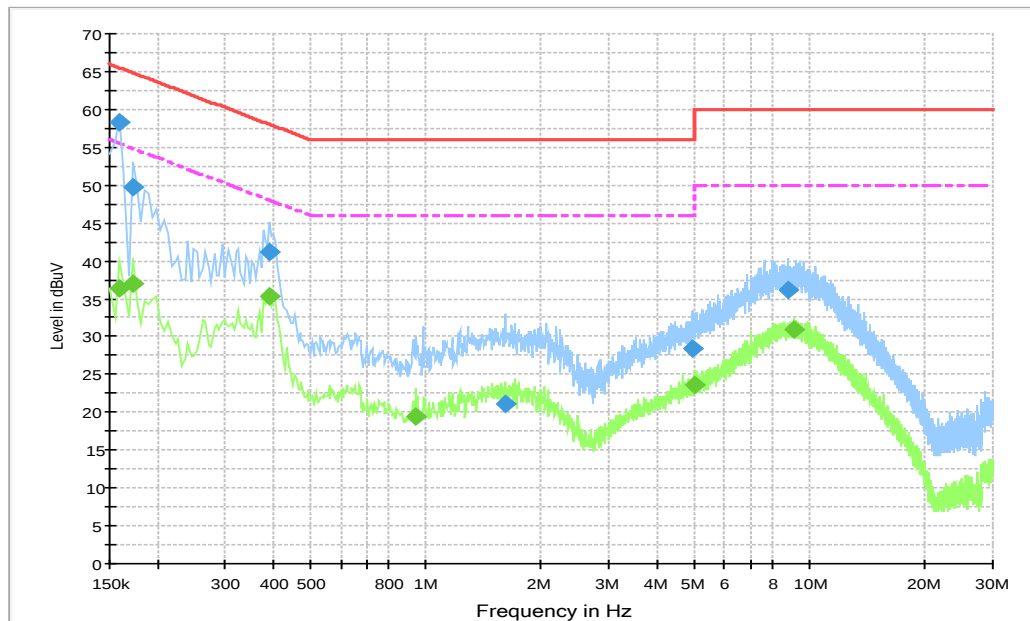


Fig.C.2.2 AC Power line Conducted Emission-Idle

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)
0.159000	58.3	3000.	9.000	L1	28.6	7.3	65.5
0.172500	49.8	3000.	9.000	L1	28.3	15.0	64.8
0.393000	41.1	3000.	9.000	L1	24.5	16.9	58.0
1.612500	21.1	3000.	9.000	L1	20.1	34.9	56.0
4.951500	28.4	3000.	9.000	L1	19.7	27.6	56.0
8.821500	36.1	3000.	9.000	L1	20.0	23.9	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	36.3	3000.0	9.000	L1	28.6	19.2	55.5
0.172500	37.0	3000.0	9.000	N	28.2	17.9	54.8
0.393000	35.4	3000.0	9.000	N	24.5	12.6	48.0
0.942000	19.4	3000.0	9.000	N	20.5	26.6	46.0
4.996500	23.6	3000.0	9.000	L1	19.7	22.4	46.0
9.123000	30.9	3000.0	9.000	L1	20.0	19.1	50.0

*** END OF REPORT BODY ***