



FCC PART 15C TEST REPORT No. I21Z70432-IOT07

for

SAMSUNG Electronics Co., Ltd

Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN

SM-A037U

With

FCC ID: ZCasma037U

Hardware Version: REV1.0

Software Version: A037U.001

Issued Date: 2021-10-27

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.

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REPORT HISTORY

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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 1:CTTL(Huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China100191

Radiated testing 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°C

Relative Humidity: 20-75%

1.4. Project date

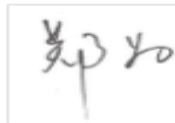
Testing Start Date: 2021-10-01

Testing End Date: 2021-10-27

1.5. Signature

封爱宇

Feng Aiyu
(Prepared this test report)



Zheng Wei
(Reviewed this test report)



Hu Xiaoyu
(Approved this test report)

2. CLIENT INFORMATION

2.1.Applicant Information

Company Name: SAMSUNG Electronics Co., Ltd
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City: /
Postal Code: /
Contact: Jenni Chun
Telephone: +1-201-937-4203
Email: j1.chun@samsung.com

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. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT(AE)

3.1. About EUT

Description	Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN
Model name	SM-A037U
FCC ID	ZCasma037U
WLAN Frequency Band	ISM Band: 5725MHz~5850MHz
Type of modulation	OFDM
Voltage	3.85V

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
UT02a	2170475UT 02a	REV1.0	A037U.001
UT20a	2170475UT20a	REV1.0	A037U.001

*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
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3.4. Internal Identification of AE used during the test

AE1	Adapter1	Type C
AE2	Data Cable1	Type C
AE3	Data Cable2	Type C
AE4	Headset	/
AE5	Battery1	/
AE6	Battery2	/
AE2		
Model	EP-DN980BWE	
Manufacturer	R.F.Tech Electronics(HuiZhou)Co.,Ltd.	
Length	/	
AE3		
Model	EP-DN980BWE	
Manufacturer	DONGGUAN KSD CO.,LTD	
Length	/	
AE4		
Model	EHS61ASFWE	
Manufacturer	Yuenchang	
Length	/	
AE5		
Model	WT-S-W1	

Manufacturer	SCUD (Fujian) Electronics Co.,Ltd.
AE6	
Model	SCUD-WT-W1
Manufacturer	SCUD (Fujian) Electronics Co.,Ltd.

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

Note: AE1 is not AE for EUT, provided by applicant for relevant testing.

3.5. General Description

The Equipment under Test (EUT) is a model of Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN

It consists of normal options: Battery and Charger.

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

Samples undergoing test were selected by the Client.

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.

FCC Part15	FCC CFR 47, Part 15, Subpart C and E:	
	15.205 Restricted bands of operation;	2018
	15.209 Radiated emission limits, general requirements;	
ANSI C63.10	15.407 General technical requirements	
	Methods of Measurement of Radio-Noise Emissions from	
	Low-Voltage Electrical and Electronic Equipment in the	2013
UNII: KDB 789033 D02	Range of 9 kHz to 40 GHz	
	General U-NII Test Procedures New Rules v02r01	2017-12

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.407 (a)	/	P
Peak Power Spectral Density	15.407 (a)	/	P
Occupied 6dB Bandwidth	15.407 (e)	/	P
Band Edges Compliance - Conducted& Radiated	15.407 (b)	/	P
Transmitter Spurious Emission - Conducted	15.407	/	P
Transmitter Spurious Emission - Radiated	15.407, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P

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

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases requested by the client/manufacture as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

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

Temperature	26°C
Voltage	3.85V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2022-05-15
2	LISN	ENV216	101200	R&S	1 year	2022-05-30
3	Test Receiver	ESCI	100344	R&S	1 year	2022-02-23
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100235	Rohde & Schwarz	1 year	2022-02-23
2	BiLog Antenna	VULB9163	9163-01223	Schwarzbeck	1 year	2022-03-22
3	Antenna	3115	6914	ETS-Lindgren	1 year	2022-02-03
4	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	1 year	2022-01-05
5	Analytical Spectrometer	FSV40	R&S	101047	1 year	2022-05-17

8. Measurement Uncertainty

8.1. Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2. Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3. Occupied 6dB Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4. Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5. Spurious Emissions

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

Radiated (k=2)

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

8.6. AC Power-line Conducted Emission

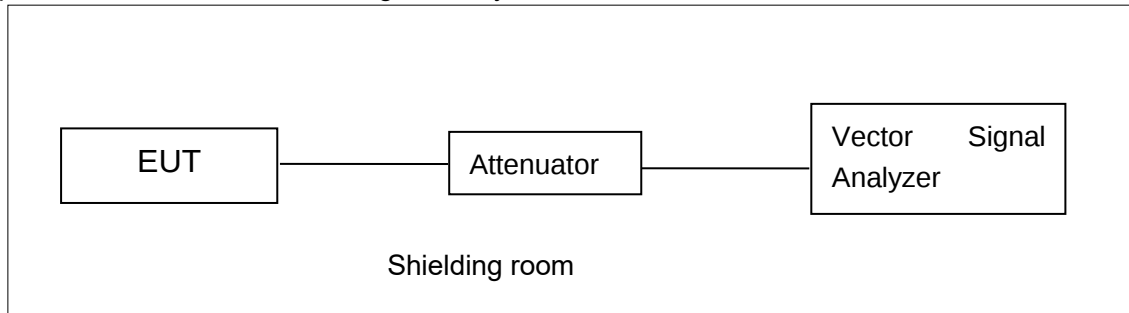
Measurement Uncertainty : 3.08dB,k=2

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer

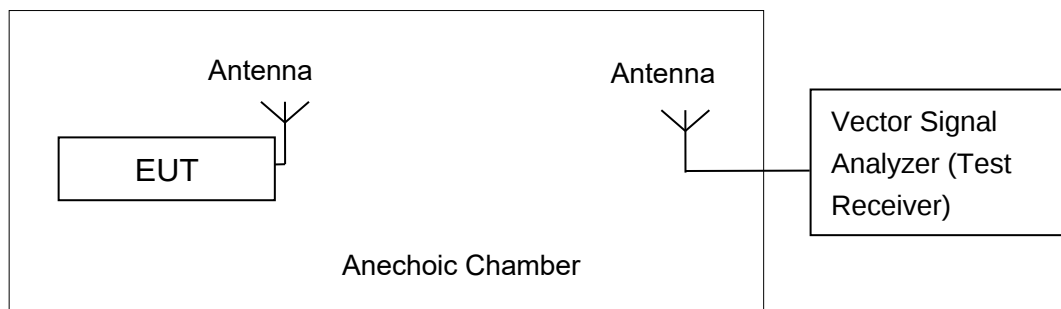


A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to ANSI C63.10.

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

A.2. Maximum Peak Output Power

Measurement Limit and Method:

Standard	Limit (dBm)
FCC CRF Part 15.407(a)	< 30

A.2.1 Antenna Gain

Antenna gain is -0.6dBi and the value is supplied by the applicant or manufacturer.

A.2.2. Maximum Average Output Power-Conducted

Measurement Results:

802.11a mode

Mode	Data Rate	Test Result (dBm)		
	(Mbps)	5745MHz	5785MHz	5825MHz
		(Ch149)	(Ch157)	(Ch165)
802.11a	6	18.94	18.94	19.06
	9	17.80	/	/
	12	17.86	/	/
	18	17.75	/	/
	24	16.66	/	/
	36	16.56	/	/
	48	16.42	/	/
	54	15.34	/	/

The data rate 6Mbps is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11n(20MHz)	MCS0	18.22	18.44	18.27
	MCS1	17.32	/	/
	MCS2	17.46	/	/
	MCS3	17.35	/	/
	MCS4	16.17	/	/
	MCS5	16.19	/	/
	MCS6	16.21	/	/
	MCS7	15.27	/	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11ac-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11ac(20MHz)	MCS0	18.32	18.52	18.17
	MCS1	17.37	/	/
	MCS2	17.12	/	/
	MCS3	17.14	/	/
	MCS4	16.20	/	/
	MCS5	16.25	/	/
	MCS6	16.27	/	/
	MCS7	15.31	/	/
	MCS8	14.17	/	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz (Ch151)	5795MHz (Ch159)
802.11n(40MHz)	MCS0	17.20	17.65
	MCS1	16.41	/
	MCS2	16.29	/
	MCS3	16.27	/
	MCS4	15.32	/
	MCS5	15.33	/
	MCS6	15.31	/
	MCS7	14.45	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11ac-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz (Ch151)	5795MHz (Ch159)
802.11ac(40MHz)	MCS0	17.47	17.61
	MCS1	16.38	/
	MCS2	16.28	/
	MCS3	16.32	/
	MCS4	15.32	/
	MCS5	15.35	/
	MCS6	15.34	/
	MCS7	14.39	/
	MCS8	14.37	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11ac-HT80 mode

Mode	Data Rate (Index)	Test Result (dBm)
		5775MHz (Ch155)
802.11ac(80MHz)	MCS0	16.93
	MCS1	16.13
	MCS2	16.08
	MCS3	16.10
	MCS4	15.17
	MCS5	15.12
	MCS6	15.13
	MCS7	14.21
	MCS8	14.16

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

Conclusion: PASS

A.3. Peak Power Spectral Density

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.407(a)	< 30 dBm/500 kHz

The measurement is made according to ANSI C63.10 and KDB789033 D02

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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Measurement Results:

Mode	Channel	Power Spectral Density (dBm/500kHz)	Conclusion
802.11a	149	4.80	P
	157	4.71	P
	165	4.21	P
802.11ac HT20	149	4.69	P
	157	4.50	P
	165	3.86	P
802.11ac HT40	151	0.97	P
	159	0.47	P
802.11ac HT80	155	-3.38	P

Conclusion: PASS

A.4. Occupied 6dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.407 (e)	≥ 500

The measurement is made according to KDB789033 D02 .

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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Measurement Result:

Mode	Channel	Occupied 6dB Bandwidth (KHz)		conclusion
802.11a	149	Fig.1	16350	P
	157	Fig.2	16350	P
	165	Fig.3	16350	P
802.11ac HT20	149	Fig.4	17550	P
	157	Fig.5	17550	P
	165	Fig.6	17550	P
802.11ac HT40	151	Fig.7	36320	P
	159	Fig.8	36320	P
802.11ac HT80	155	Fig.9	76320	P

Conclusion: PASS

Test graphs as below:

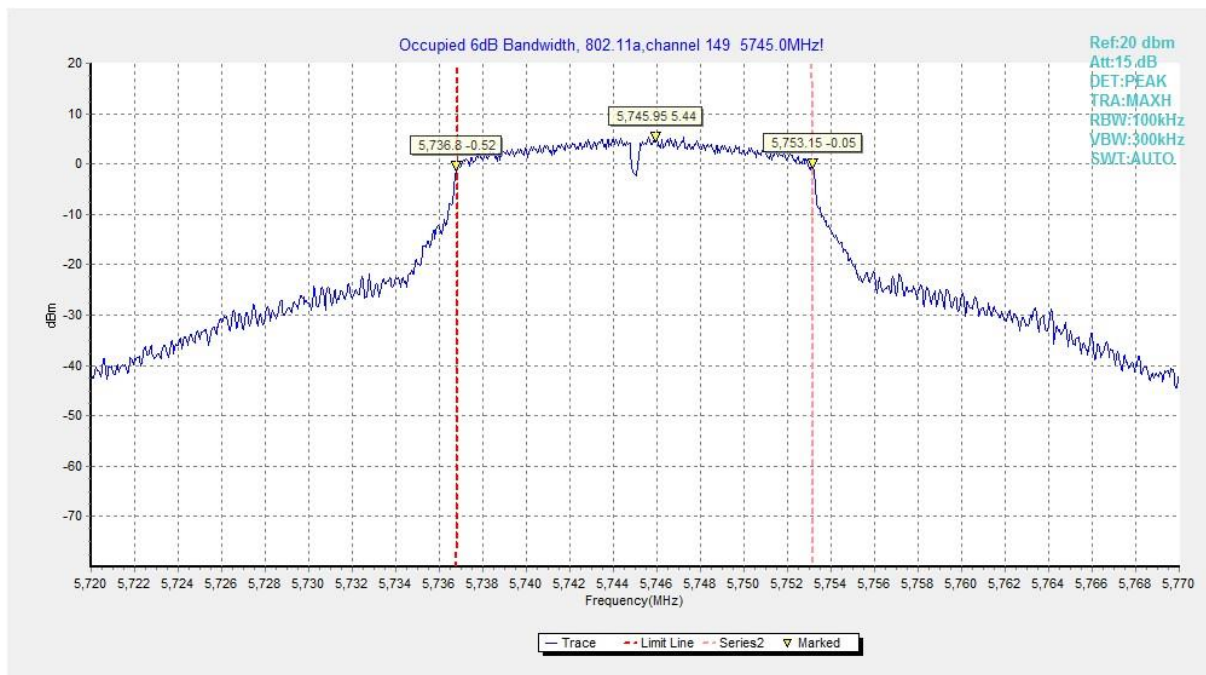


Fig. 1 Occupied 6dB Bandwidth (802.11a, Ch 149)

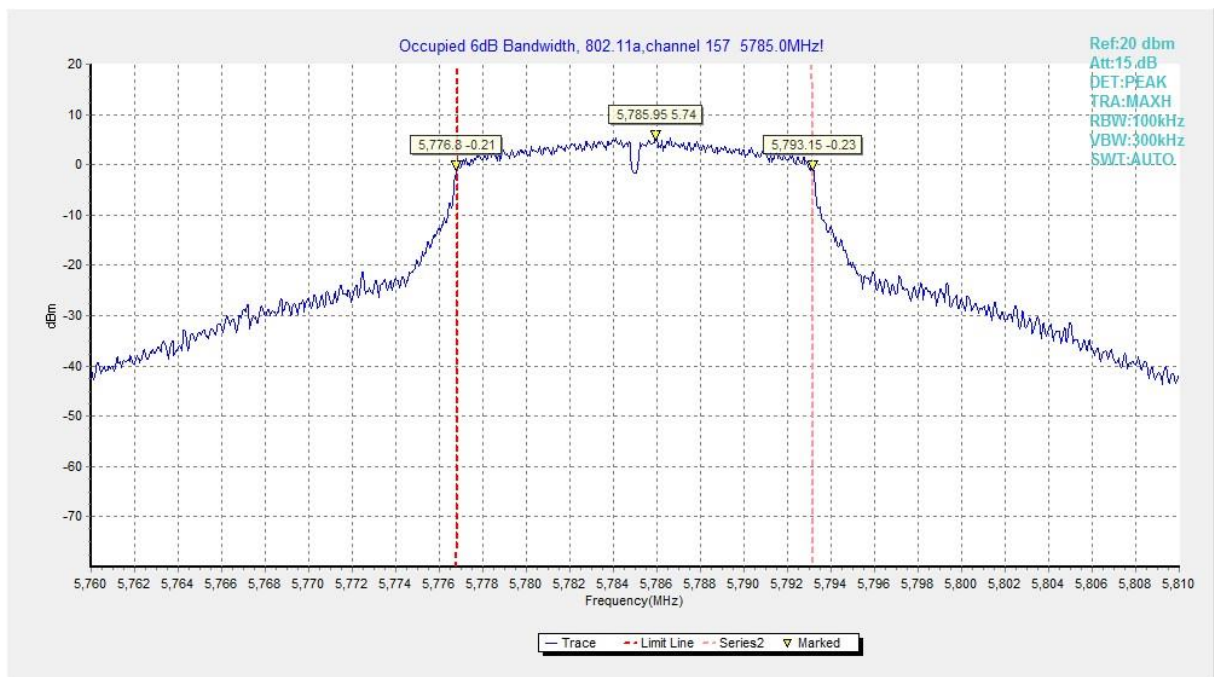


Fig. 2 Occupied 6dB Bandwidth (802.11a, Ch 157)

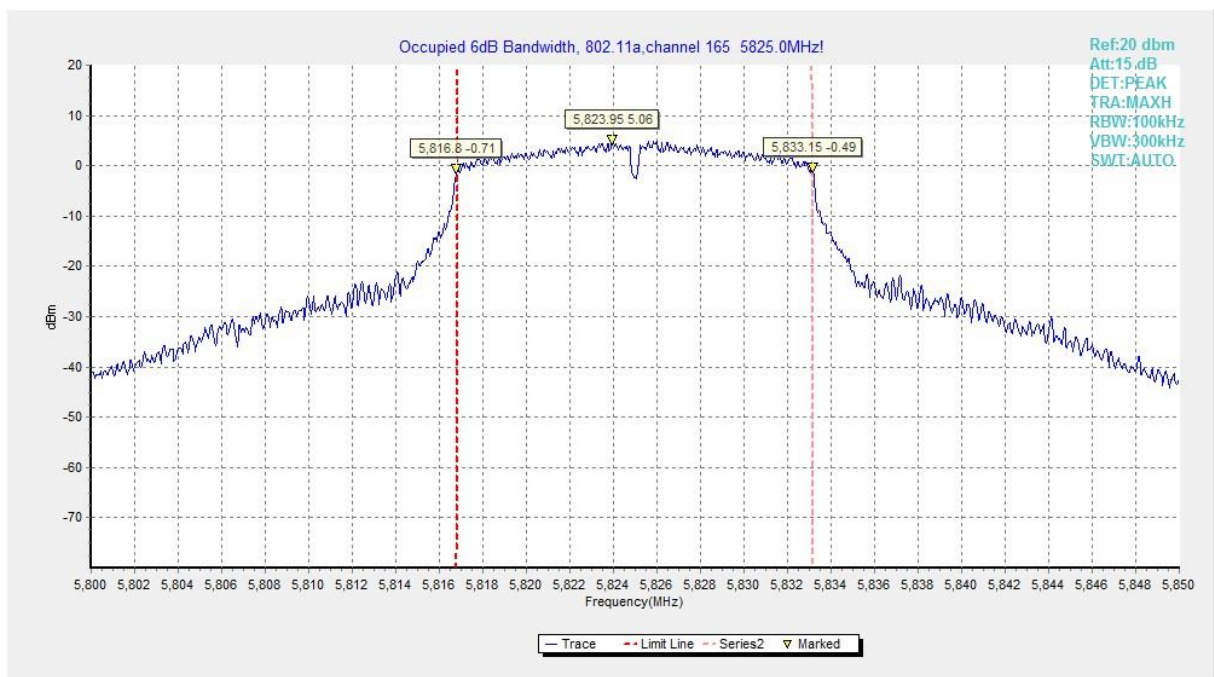


Fig. 3 Occupied 6dB Bandwidth (802.11a, Ch 165)

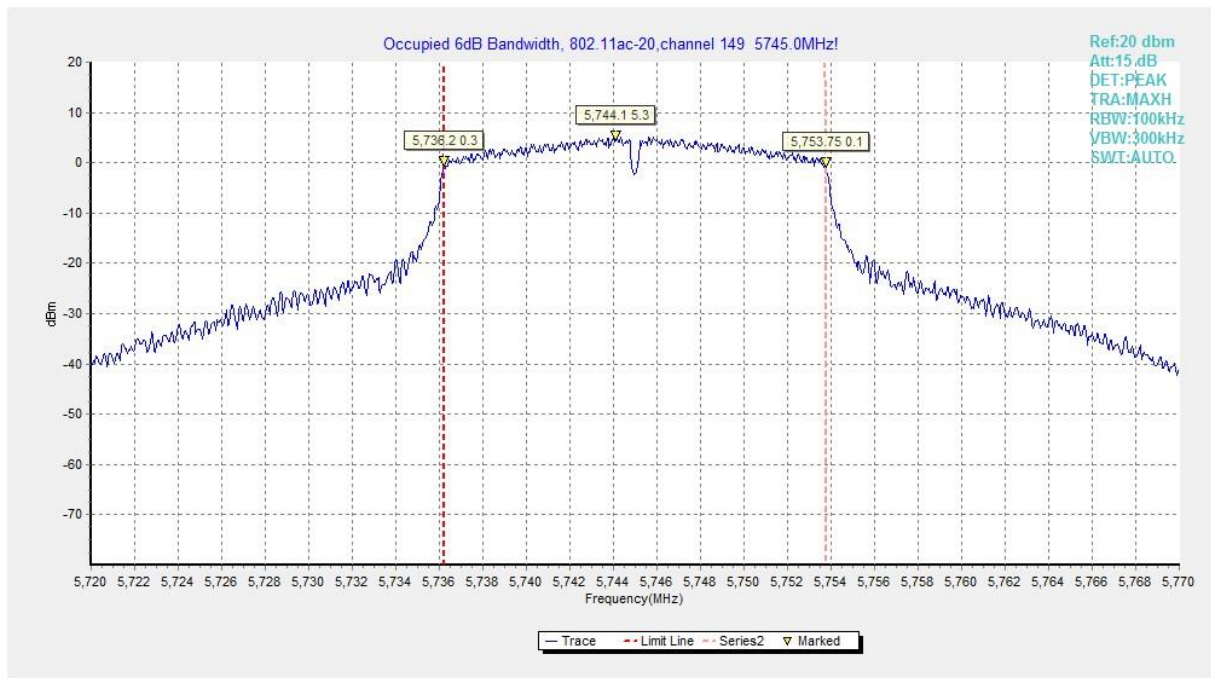


Fig. 4 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 149)

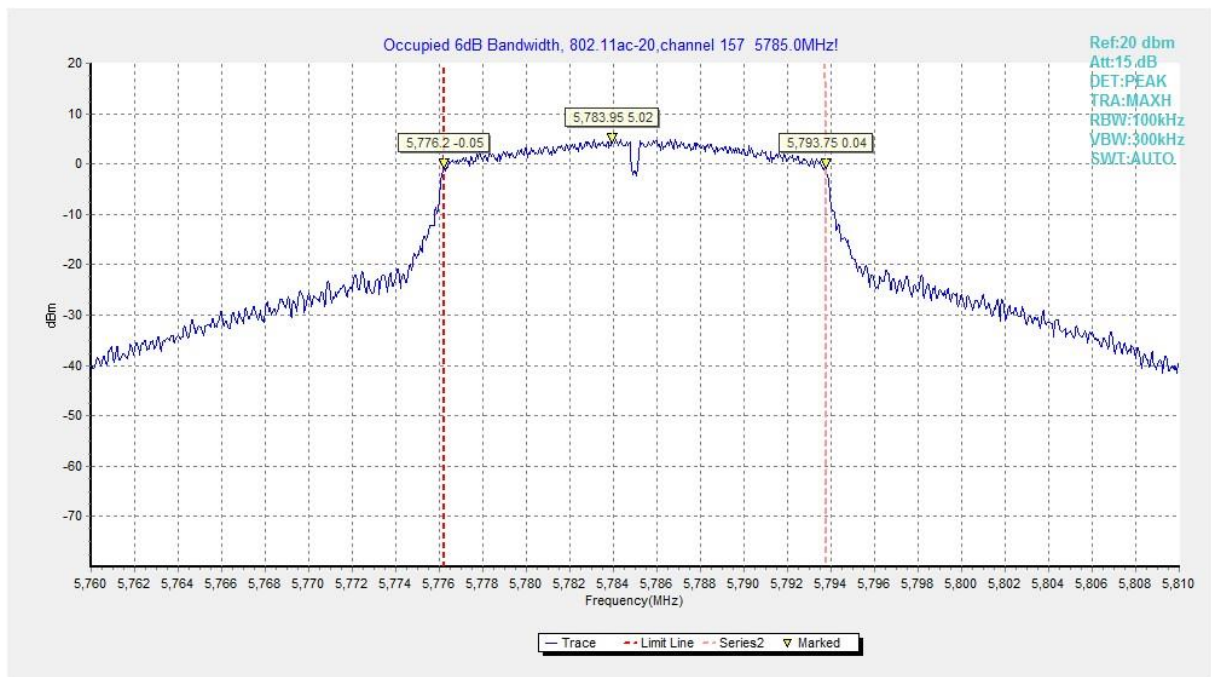


Fig. 5 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 157)



Fig. 6 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 165)

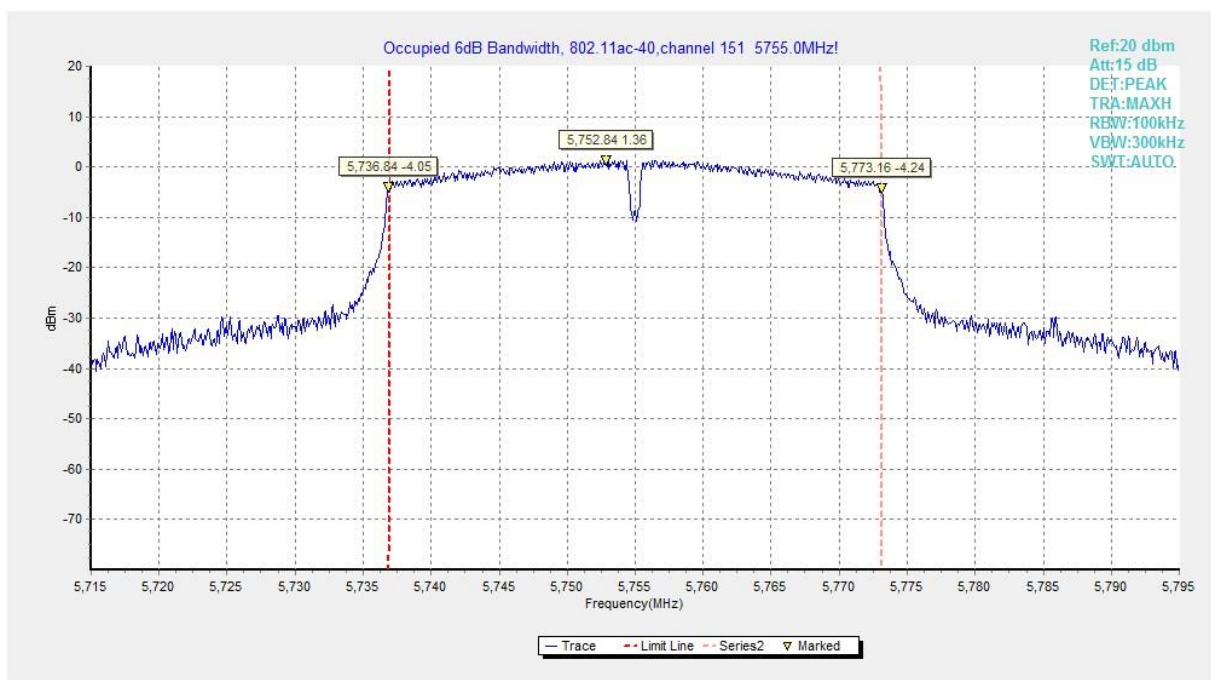


Fig. 7 Occupied 6dB Bandwidth (802.11ac-HT40, Ch 151)

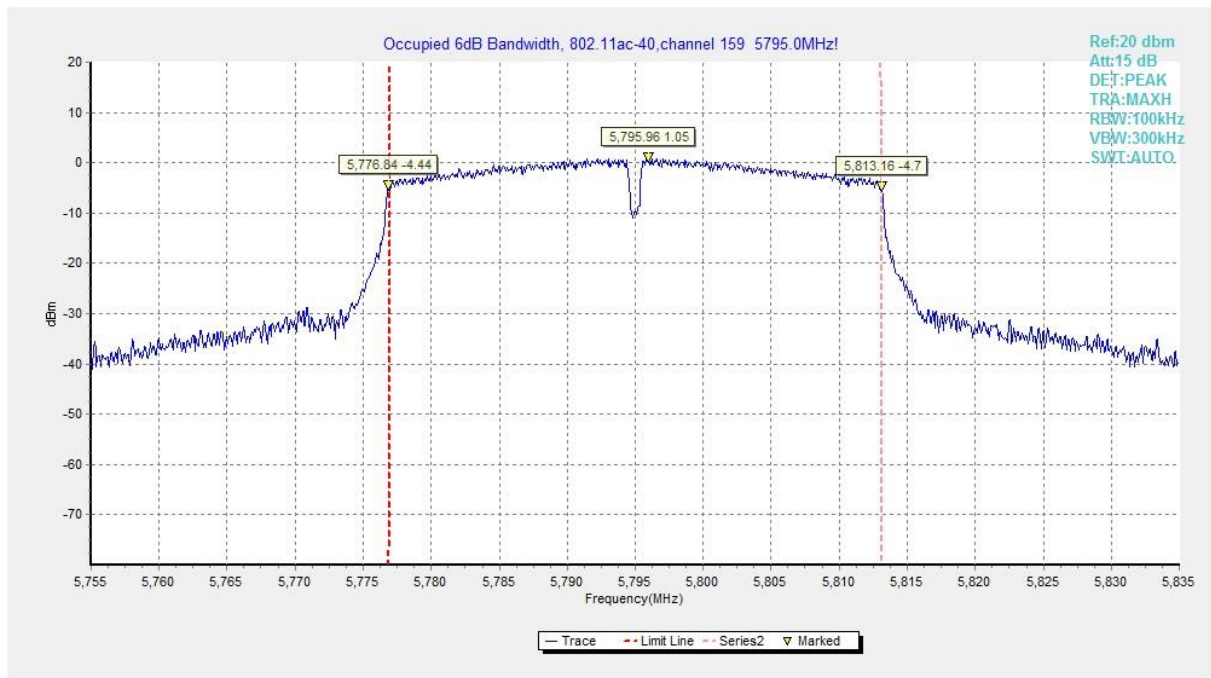


Fig. 8 Occupied 6dB Bandwidth (802.11ac-HT40, Ch 159)

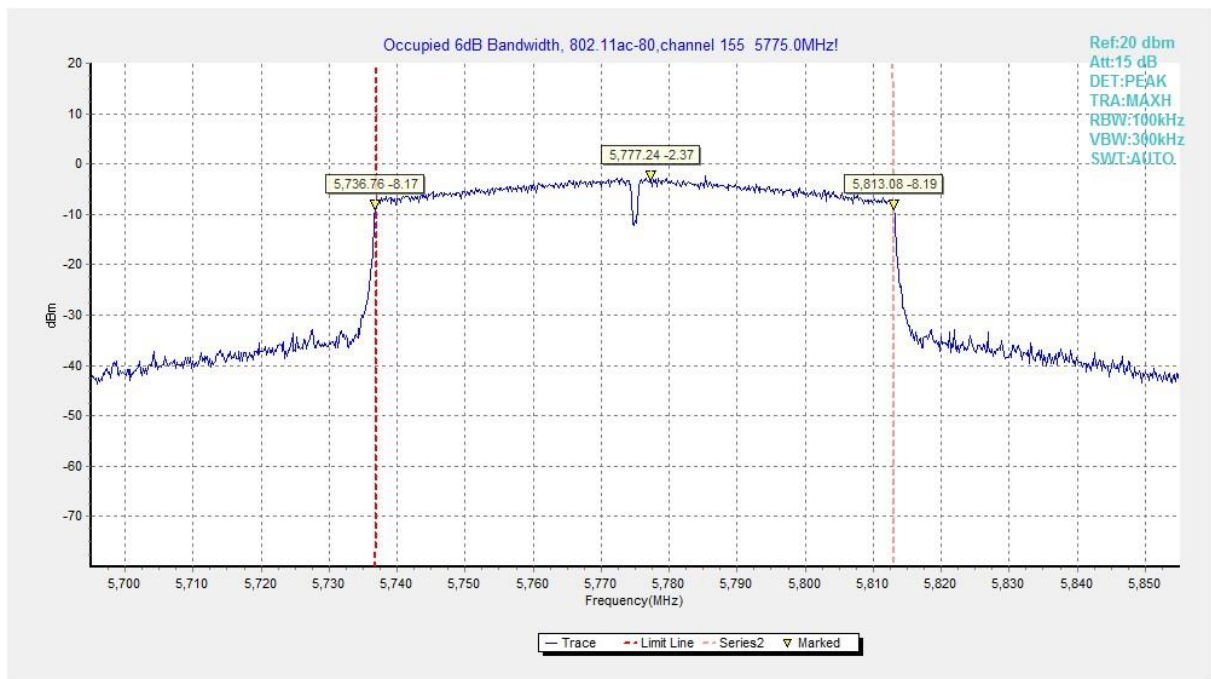


Fig. 9 Occupied 6dB Bandwidth (802.11ac-HT80, Ch 155)

A.5. Transmitter Spurious Emission

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.	

The measurement is made according to KDB 789033

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(μ V/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 (μ V/m)	Field strength (dBuV/m)	Measurement distance (m)
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Set up:

Tabletop devices shall be placed on a nonconducting platform with nominal top surface dimensions 1 m by 1.5 m. For emissions testing at or below 1 GHz, the table height shall be 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m

The EUT and transmitting antenna shall be centered on the turntable.

Test Procedure

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The receiver references:

Frequency of emission	RBW/VBW	Sweep Time(s)
-----------------------	---------	---------------

(MHz)		
30-1000	100kHz/300kHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

Measurement Results:

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	149	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	157	9kHz ~30 MHz	---	P
		30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	165	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	149	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	157	9kHz ~30 MHz	---	P
		30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	165	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
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802.11n (HT40)	151	9kHz ~30 MHz	---	P
		30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	159	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac (HT20)	149	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	157	9kHz ~30 MHz	---	P
		30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	165	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11ac-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac (HT40)	151	9kHz ~30 MHz	---	P
		30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	159	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11ac-HT80 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac (HT80)	155	9kHz ~30 MHz	---	P
		30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P

Note:

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.

The measurement results are obtained as described below:

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

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)
5423.500	42.1	-27.7	32.8	36.99	54.0	11.9	H
5434.000	42.0	-27.7	32.8	37.00	54.0	12.0	V
11490.000	35.0	-35.1	39.2	30.90	54.0	19.0	V
16183.600	42.9	-32.8	39.6	36.10	54.0	11.1	V
17235.200	44.1	-31.9	41.8	34.19	54.0	9.9	H
17726.800	43.5	-31.4	42.1	32.90	54.0	10.5	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)
5428.500	42.0	-27.7	32.8	36.94	54.0	12.0	V
5436.000	42.0	-27.7	32.8	36.99	54.0	12.0	V
11570.000	35.2	-34.9	39.2	31.00	54.0	18.8	V
16140.400	42.9	-33.0	39.5	36.40	54.0	11.1	V
17355.200	44.2	-31.8	42.1	33.90	54.0	9.8	V
17768.800	43.7	-31.5	42.0	33.14	54.0	10.3	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)
5428.750	41.9	-27.7	32.8	36.88	54.0	12.1	H
5443.250	42.0	-27.7	32.8	36.92	54.0	12.0	V
11650.000	35.6	-34.7	39.2	31.18	54.0	18.4	V
16082.000	42.9	-33.0	39.3	36.55	54.0	11.1	V
17475.200	44.1	-31.5	42.3	33.34	54.0	9.9	H
17800.800	43.8	-31.5	42.0	33.32	54.0	10.2	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)
5410.000	42.0	-27.7	32.7	36.87	54.0	12.0	V
5435.250	42.0	-27.7	32.8	36.99	54.0	12.0	H
11490.000	35.1	-35.1	39.2	31.02	54.0	18.9	V
15882.400	42.9	-32.9	39.1	36.75	54.0	11.1	V
17235.200	44.1	-31.9	41.8	34.25	54.0	9.9	H
17788.400	43.8	-31.5	42.0	33.33	54.0	10.2	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)
5420.500	42.1	-27.7	32.8	37.03	54.0	11.9	V
5423.000	42.1	-27.7	32.8	37.00	54.0	11.9	V
11570.000	35.3	-34.9	39.2	31.09	54.0	18.7	V
15949.600	42.9	-32.9	39.1	36.70	54.0	11.1	V
17355.200	44.3	-31.8	42.1	34.02	54.0	9.7	H
17744.400	43.6	-31.5	42.1	32.98	54.0	10.4	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)
5436.250	42.0	-27.7	32.8	36.95	54.0	12.0	V
5445.250	42.0	-27.7	32.8	36.97	54.0	12.0	V
11650.000	35.8	-34.7	39.2	31.33	54.0	18.2	V
16147.200	42.9	-32.9	39.5	36.35	54.0	11.1	V
17475.200	44.1	-31.5	42.3	33.28	54.0	9.9	V
17813.200	43.8	-31.6	42.0	33.39	54.0	10.2	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)
5417.250	42.0	-27.7	32.8	36.92	54.0	12.0	V
5432.000	42.0	-27.7	32.8	36.94	54.0	12.0	H
11510.000	35.1	-35.1	39.2	30.98	54.0	18.9	V
16103.600	42.9	-33.0	39.4	36.55	54.0	11.1	V
17265.200	44.1	-31.9	41.8	34.20	54.0	9.9	V
17842.800	43.5	-31.5	41.9	33.06	54.0	10.5	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)
5424.750	42.0	-27.7	32.8	36.98	54.0	12.0	H
5428.750	42.0	-27.7	32.8	36.98	54.0	12.0	V
11590.000	35.3	-34.9	39.2	31.07	54.0	18.7	V
16171.200	43.0	-32.8	39.6	36.21	54.0	11.1	V
17385.200	44.3	-31.7	42.1	33.90	54.0	9.7	V
17744.400	43.7	-31.5	42.1	33.08	54.0	10.3	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)
5421.750	42.0	-27.7	32.8	36.94	54.0	12.0	H
5440.500	42.1	-27.7	32.8	37.03	54.0	11.9	V
11490.000	35.1	-35.1	39.2	31.01	54.0	18.9	V
16170.400	42.9	-32.8	39.6	36.13	54.0	11.1	V
17235.200	44.1	-31.9	41.8	34.26	54.0	9.9	H
17812.000	43.6	-31.6	42.0	33.21	54.0	10.4	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)
5426.500	42.0	-27.7	32.8	36.94	54.0	12.0	V
5436.500	42.0	-27.7	32.8	36.98	54.0	12.0	V
11570.000	35.4	-34.9	39.2	31.12	54.0	18.6	V
15932.400	43.1	-32.9	39.1	36.90	54.0	10.9	V
17355.200	44.2	-31.8	42.1	33.93	54.0	9.8	V
17763.600	43.8	-31.5	42.0	33.24	54.0	10.2	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)
5423.750	42.0	-27.7	32.8	36.88	54.0	12.1	H
5440.500	42.0	-27.7	32.8	36.95	54.0	12.0	H
11650.000	35.7	-34.7	39.2	31.26	54.0	18.3	V
16078.800	42.8	-33.0	39.3	36.43	54.0	11.2	V
17475.200	44.2	-31.5	42.3	33.38	54.0	9.8	V
17778.400	43.8	-31.5	42.0	33.30	54.0	10.2	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)
5428.000	42.0	-27.7	32.8	36.94	54.0	12.0	V
5446.000	42.0	-27.7	32.8	37.02	54.0	12.0	V
11510.000	35.1	-35.1	39.2	30.93	54.0	18.9	V
16103.600	43.0	-33.0	39.4	36.58	54.0	11.0	V
17265.200	44.1	-31.9	41.8	34.15	54.0	9.9	H
17748.800	43.7	-31.5	42.0	33.16	54.0	10.3	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)
5423.500	42.1	-27.7	32.8	37.00	54.0	11.9	V
5433.250	42.0	-27.7	32.8	36.94	54.0	12.0	V
11590.000	35.4	-34.9	39.2	31.13	54.0	18.6	V
16066.400	42.9	-33.0	39.3	36.56	54.0	11.1	V
17385.200	44.2	-31.7	42.1	33.78	54.0	9.8	H
17830.800	43.6	-31.5	41.9	33.16	54.0	10.4	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)
5433.750	42.2	-27.7	32.8	37.19	54.0	11.8	V
5418.965	42.2	-27.7	32.8	37.15	54.0	11.8	H
11550.000	37.3	-35.0	39.2	33.07	54.0	16.7	V
16035.600	43.2	-32.9	39.2	36.90	54.0	10.8	V
17325.200	44.6	-31.8	42.0	34.41	54.0	9.4	H
17843.600	43.9	-31.5	41.9	33.49	54.0	10.1	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)
5651.581	56.9	-27.6	33.0	51.46	69.4	12.5	H
5652.084	56.8	-27.6	33.0	51.34	69.7	13.0	H
11490.200	46.8	-35.1	39.2	42.67	74.0	27.2	V
16649.750	53.8	-31.9	40.7	44.90	68.3	14.5	H
17234.950	49.5	-31.9	41.8	39.58	68.3	18.8	V
17598.500	52.7	-31.3	42.3	41.78	68.3	15.6	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)
5654.000	55.7	-27.6	33.0	50.26	68.3	12.6	V
5888.000	57.8	-27.3	33.3	51.74	68.3	10.5	H
11569.950	45.9	-34.9	39.2	41.67	74.0	28.1	H
16674.500	52.8	-31.9	40.7	44.03	68.3	15.5	H
16901.100	53.0	-32.3	41.1	44.24	68.3	15.3	V
17354.850	49.3	-31.8	42.1	38.97	68.3	19.0	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)
5924.066	57.4	-27.2	33.4	51.24	68.9	11.5	H
5924.209	57.6	-27.2	33.4	51.38	68.8	11.2	H
11650.250	46.6	-34.7	39.2	42.15	74.0	27.4	H
16693.200	52.3	-32.0	40.8	43.51	68.3	16.0	H
17038.050	52.5	-32.0	41.3	43.28	68.3	15.8	V
17474.750	50.0	-31.5	42.3	39.19	68.3	18.3	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)
5650.101	56.4	-27.6	33.0	50.96	68.3	11.9	V
5650.704	56.5	-27.6	33.0	51.02	68.7	12.3	V
11490.200	46.5	-35.1	39.2	42.38	74.0	27.5	V
16249.900	52.6	-32.5	39.8	45.29	68.3	15.7	H
16652.500	53.0	-31.9	40.7	44.11	68.3	15.3	H
17234.950	50.0	-31.9	41.8	40.07	68.3	18.3	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)
5640.000	56.3	-27.6	33.0	50.91	68.3	12.0	H
5881.000	58.2	-27.4	33.3	52.23	68.3	10.1	V
11569.950	47.0	-34.9	39.2	42.73	74.0	27.0	V
16489.700	52.6	-32.1	40.5	44.25	68.3	15.7	H
16963.250	52.5	-32.2	41.1	43.61	68.3	15.8	V
17354.850	50.4	-31.8	42.1	40.09	68.3	17.9	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)
5922.901	57.2	-27.2	33.4	51.02	69.8	12.5	H
5923.591	57.9	-27.2	33.4	51.68	69.2	11.4	V
11650.250	46.9	-34.7	39.2	42.44	74.0	27.1	H
16441.300	52.4	-32.2	40.3	44.25	68.3	15.9	V
16875.800	52.5	-32.3	41.0	43.70	68.3	15.8	H
17474.750	49.6	-31.5	42.3	38.79	68.3	18.7	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)
5650.201	57.0	-27.6	33.0	51.56	68.3	11.3	H
5652.631	57.4	-27.6	33.0	51.93	70.1	12.8	V
11510.000	42.9	-35.1	39.2	38.77	74.0	31.1	V
16619.500	51.0	-31.7	40.7	42.06	68.3	17.3	H
17223.950	51.7	-31.9	41.7	41.89	68.3	16.6	H
17265.200	48.4	-31.9	41.8	38.42	68.3	19.9	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)
5923.261	57.7	-27.2	33.4	51.54	69.5	11.8	V
5923.908	57.4	-27.2	33.4	51.18	69.0	11.6	H
11589.750	43.3	-34.9	39.2	38.99	74.0	30.7	H
16447.350	51.0	-32.2	40.4	42.83	68.3	17.3	V
16948.950	51.6	-32.2	41.1	42.76	68.3	16.7	V
17385.100	48.5	-31.7	42.1	38.08	68.3	19.8	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)
5652.530	56.6	-27.6	33.0	51.10	70.1	13.5	H
5652.904	56.3	-27.6	33.0	50.89	70.3	14.0	H
11490.200	42.2	-35.1	39.2	38.05	74.0	31.8	H
16804.850	51.6	-32.3	40.9	42.92	68.3	16.7	V
17017.700	50.8	-32.1	41.2	41.68	68.3	17.5	H
17234.950	48.5	-31.9	41.8	38.66	68.3	19.8	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)
5688.000	56.9	-27.5	33.1	51.34	68.3	11.4	V
5954.500	57.5	-27.2	33.4	51.21	68.3	10.8	V
11569.950	42.6	-34.9	39.2	38.41	74.0	31.4	H
16814.750	50.7	-32.3	40.9	42.06	68.3	17.6	V
17079.850	50.9	-31.9	41.4	41.49	68.3	17.4	H
17354.850	48.1	-31.8	42.1	37.79	68.3	20.2	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)
5922.326	57.7	-27.2	33.4	51.54	70.2	12.5	H
5923.548	57.6	-27.2	33.4	51.39	69.3	11.7	V
11650.250	44.1	-34.7	39.2	39.62	74.0	29.9	V
16924.200	51.3	-32.3	41.1	42.50	68.3	17.0	V
17346.600	50.7	-31.8	42.0	40.41	68.3	17.6	H
17474.750	48.2	-31.5	42.3	37.35	68.3	20.1	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)
5650.201	57.0	-27.6	33.0	51.56	68.3	11.3	H
5652.631	57.4	-27.6	33.0	51.93	70.1	12.8	V
11510.000	42.9	-35.1	39.2	38.77	74.0	31.1	V
16619.500	51.0	-31.7	40.7	42.06	68.3	17.3	H
17223.950	51.7	-31.9	41.7	41.89	68.3	16.6	H
17265.200	48.4	-31.9	41.8	38.42	68.3	19.9	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)
5923.261	57.7	-27.2	33.4	51.54	69.5	11.8	V
5923.908	57.4	-27.2	33.4	51.18	69.0	11.6	H
11589.750	43.3	-34.9	39.2	38.99	74.0	30.7	H
16447.350	51.0	-32.2	40.4	42.83	68.3	17.3	V
16948.950	51.6	-32.2	41.1	42.76	68.3	16.7	V
17385.100	48.5	-31.7	42.1	38.08	68.3	19.8	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)
5652.961	61.5	-27.6	33.0	56.06	70.4	8.9	H
5653.781	60.4	-27.6	33.0	54.96	71.0	10.6	H
11550.150	43.6	-35.0	39.2	39.38	74.0	30.4	H
16389.050	51.7	-32.3	40.2	43.82	68.3	16.6	H
17325.150	48.5	-31.8	42.0	38.33	68.3	19.8	H
17417.000	51.7	-31.6	42.2	41.12	68.3	16.6	V

A.6. Band Edges Compliance

A6.1 Band Edges - conducted

A6.2 Band Edges - Radiated

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.	

Set up:

Tabletop devices shall be placed on a nonconducting platform with nominal top surface dimensions 1 m by 1.5 m and the table height shall be 1.5 m.

The EUT and transmitting antenna shall be centered on the turntable.

Test Procedure

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The receiver references:

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100kHz/300kHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz	Fig.10	P
	5825 MHz	Fig.11	P
802.11n HT20	5745 MHz	Fig.12	P
	5825 MHz	Fig.13	P
802.11n HT40	5755 MHz	Fig.14	P
	5795 MHz	Fig.15	P
802.11ac HT20	5745 MHz	Fig.16	P
	5825 MHz	Fig.17	P
802.11ac HT40	5755 MHz	Fig.18	P
	5795 MHz	Fig.19	P
802.11ac HT80	5775 MHz	Fig.20 Fig.21	P

Conclusion: PASS
Test graphs as below:

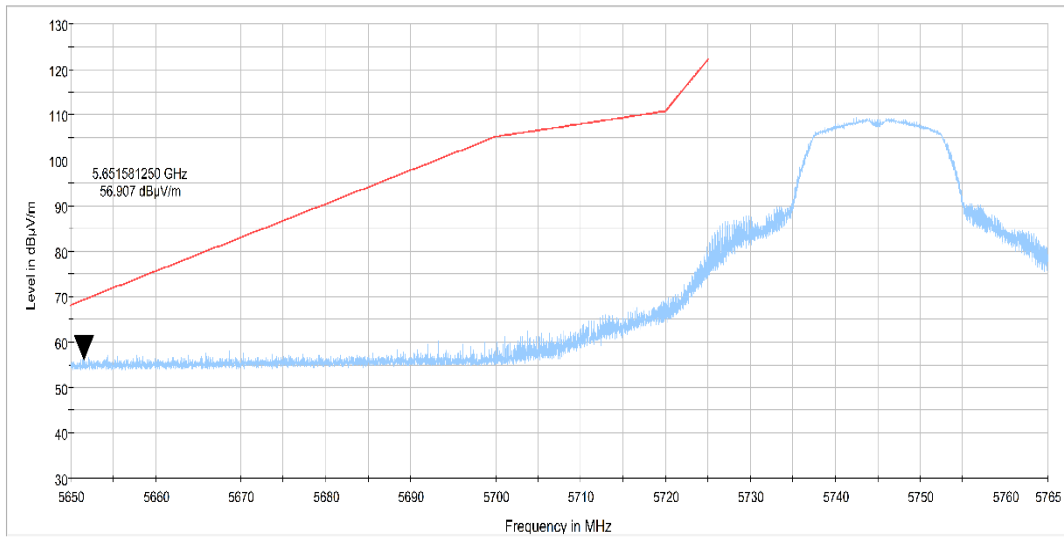


Fig. 1 Band Edges (802.11a Ch149, 5745MHz)

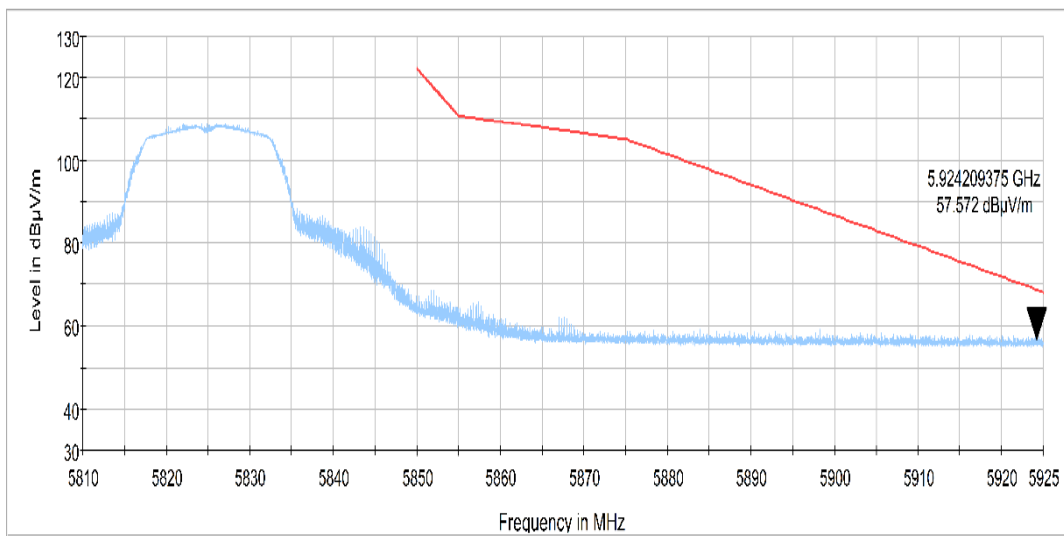


Fig. 2 Band Edges (802.11a Ch165, 5825MHz)

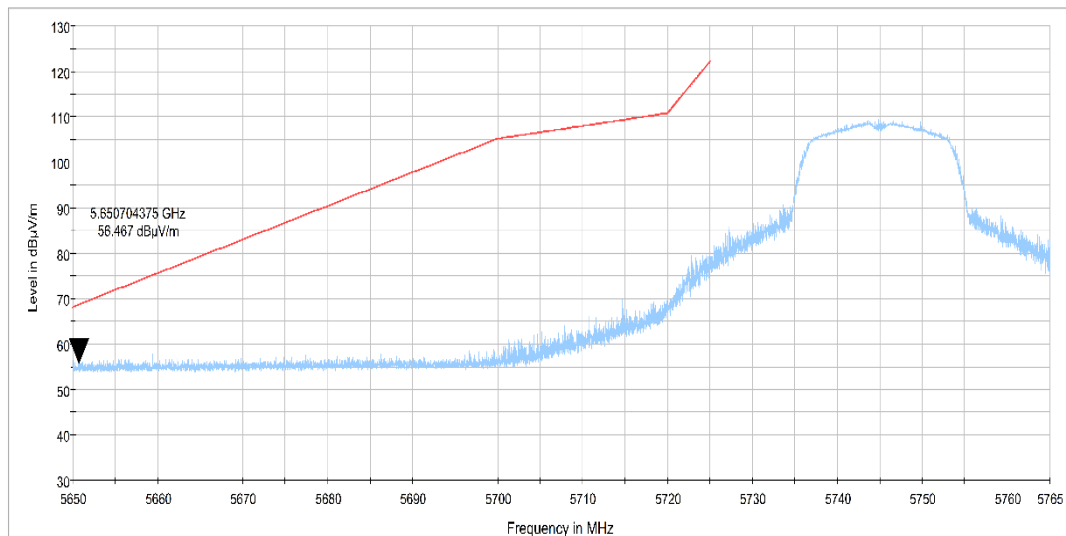


Fig. 3 Band Edges (802.11n-HT20 Ch149, 5745MHz)

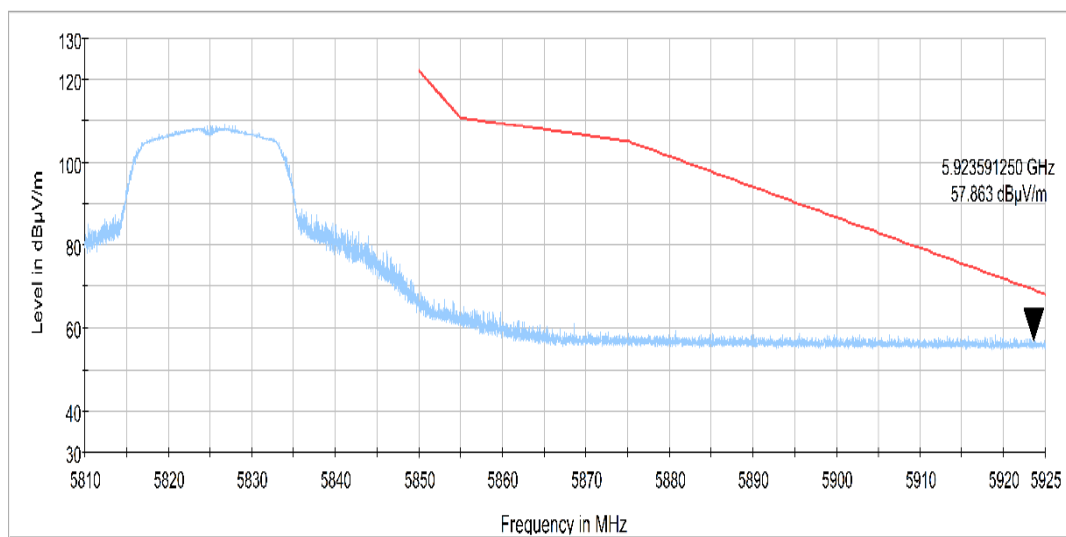


Fig. 4 Band Edges (802.11n-HT20 Ch165, 5825MHz)

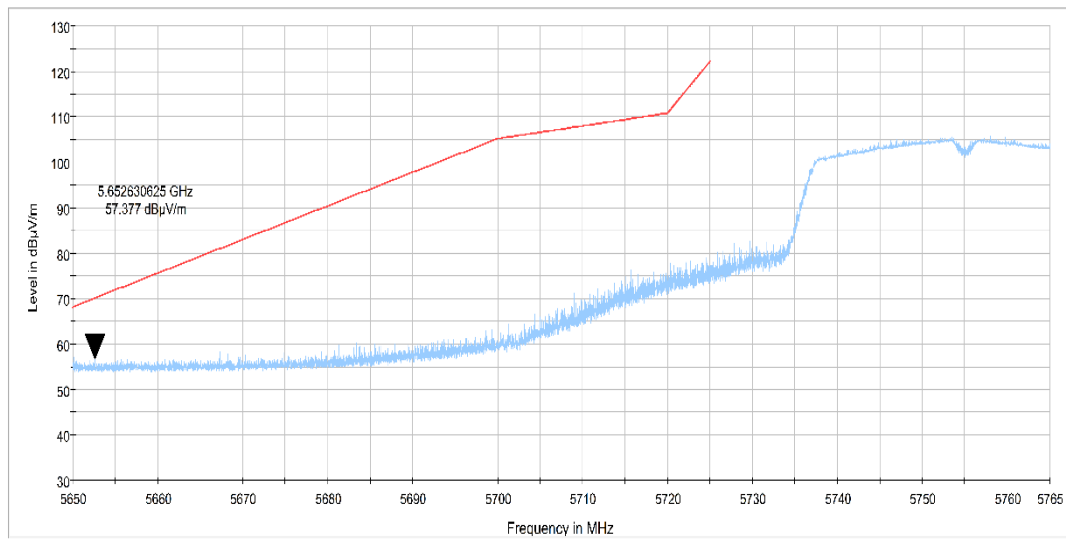


Fig. 5 Band Edges (802.11n-HT40 Ch151, 5755MHz)

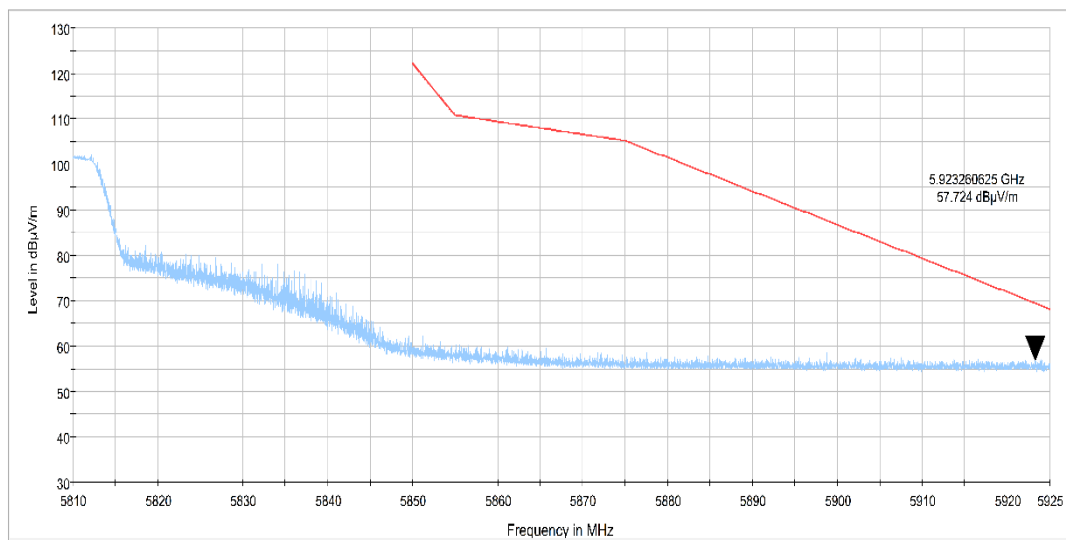


Fig. 6 Band Edges (802.11n-HT40 Ch159, 5795MHz)

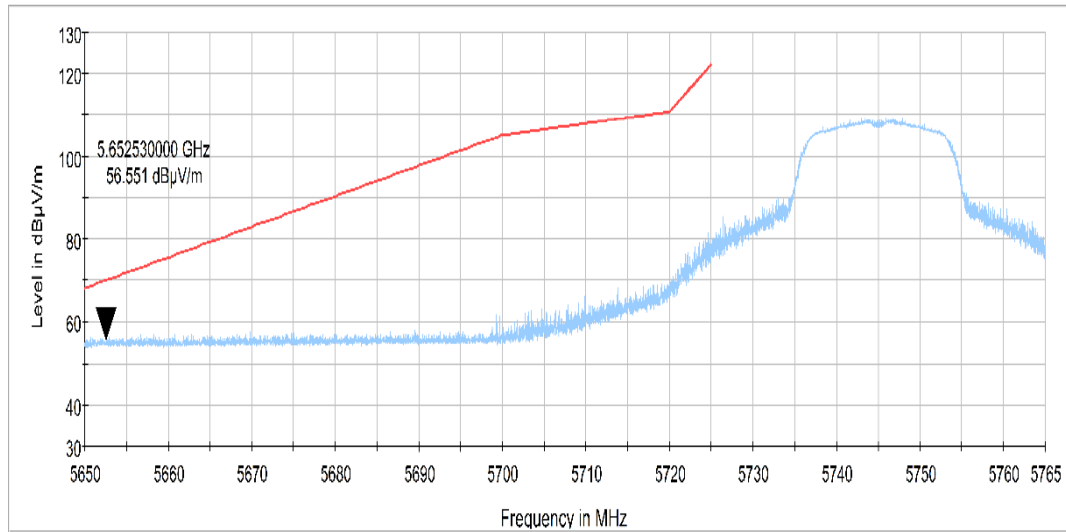


Fig. 7 Band Edges (802.11ac-HT20 Ch149, 5745MHz)

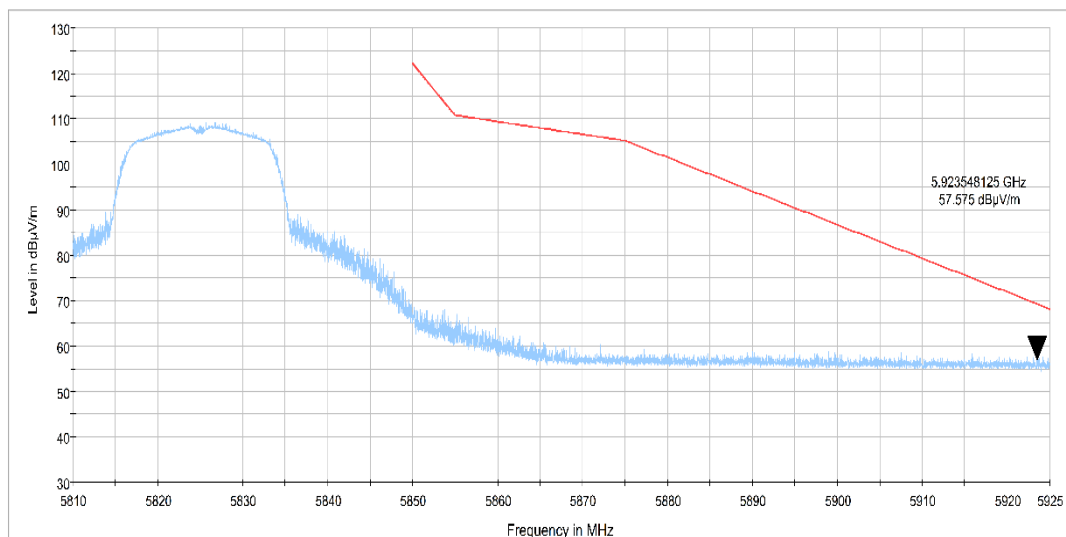


Fig. 8 Band Edges (802.11ac-HT20 Ch165, 5825MHz)

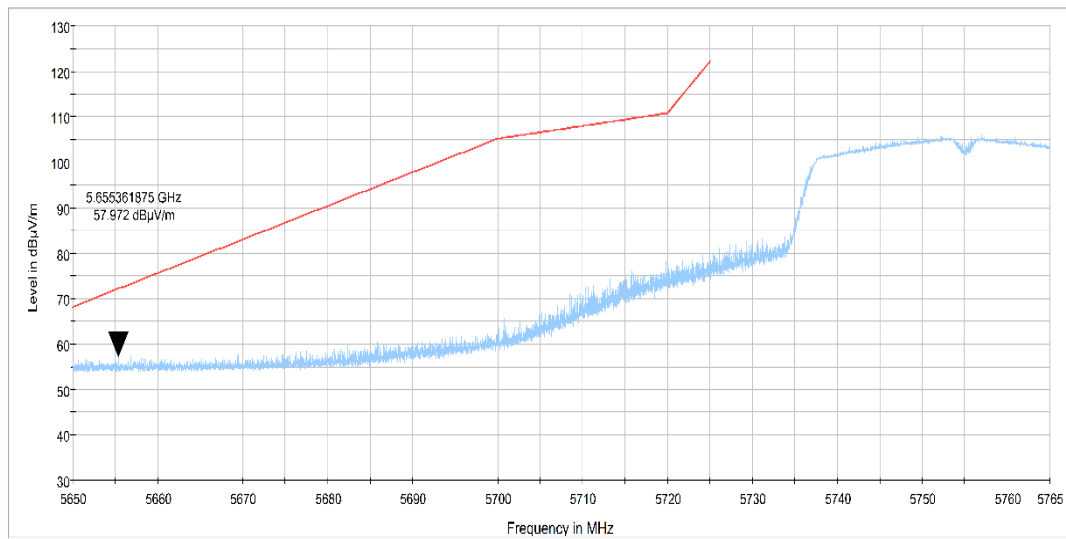


Fig. 9 Band Edges (802.11ac-HT40 Ch151, 5755MHz)

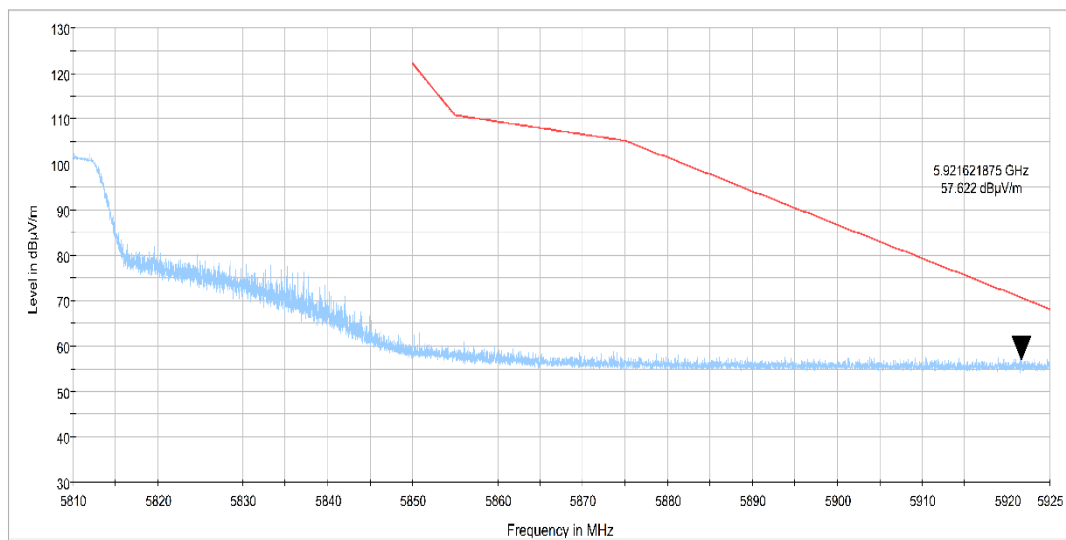


Fig. 10 Band Edges (802.11ac-HT40 Ch159, 5795MHz)

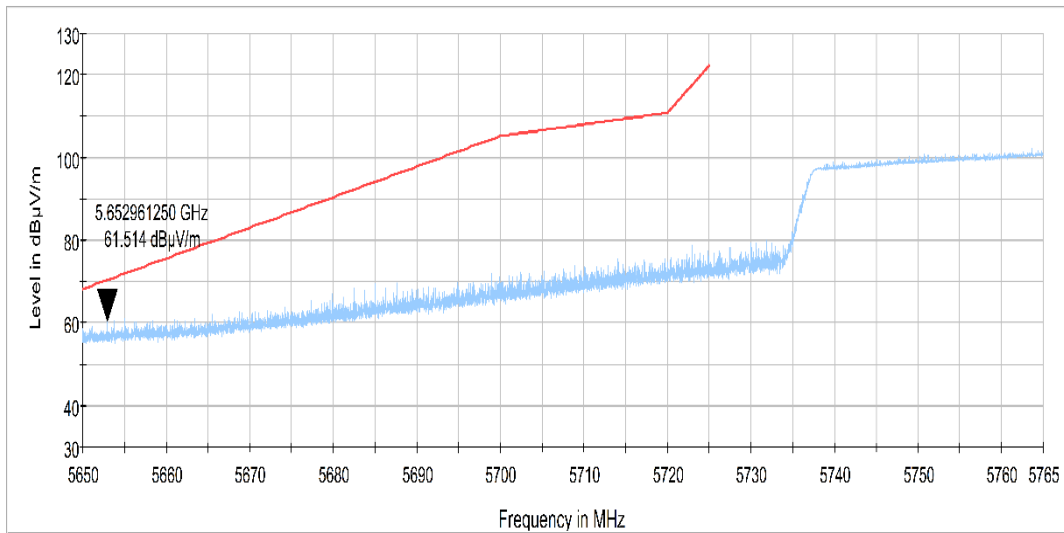


Fig. 11 Band Edges (802.11ac-HT80 Ch155, 5775MHz)

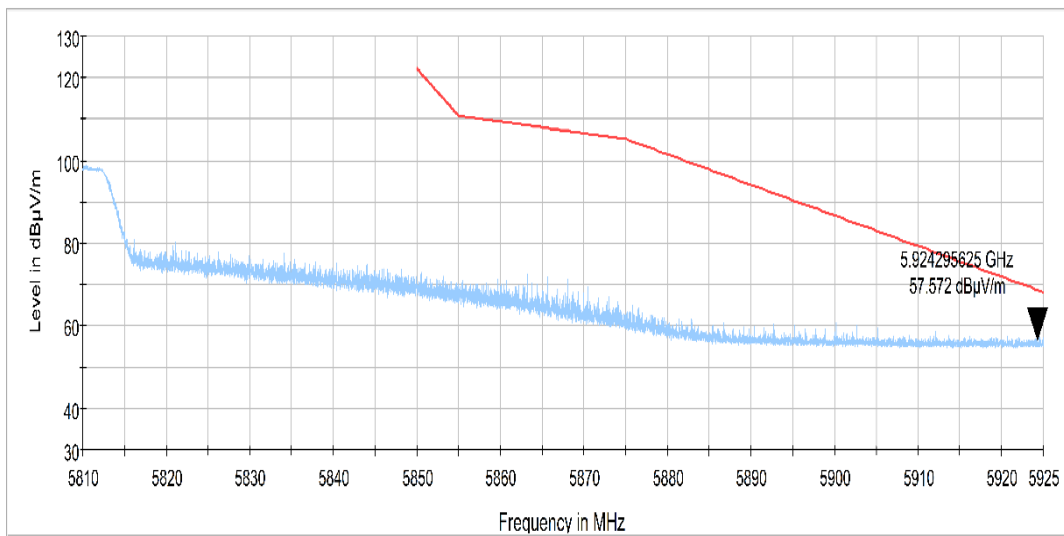


Fig. 12 Band Edges (802.11ac-HT80 Ch155, 5775MHz)

A.7. AC Powerline Conducted Emission

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.

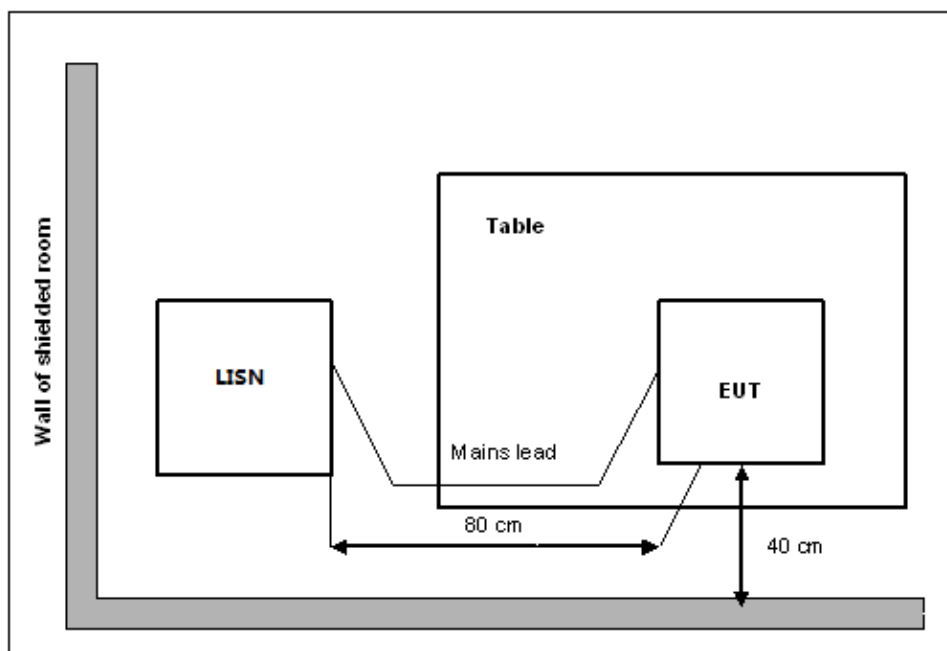
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth
0.15-30	9kHz

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Setup



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.A7.1	Fig.A7.2	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.A7.1	Fig.A7.2	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.

The measurement is made according to ANSI C63.10 .

Conclusion: PASS

Test graphs as below:

Traffic:

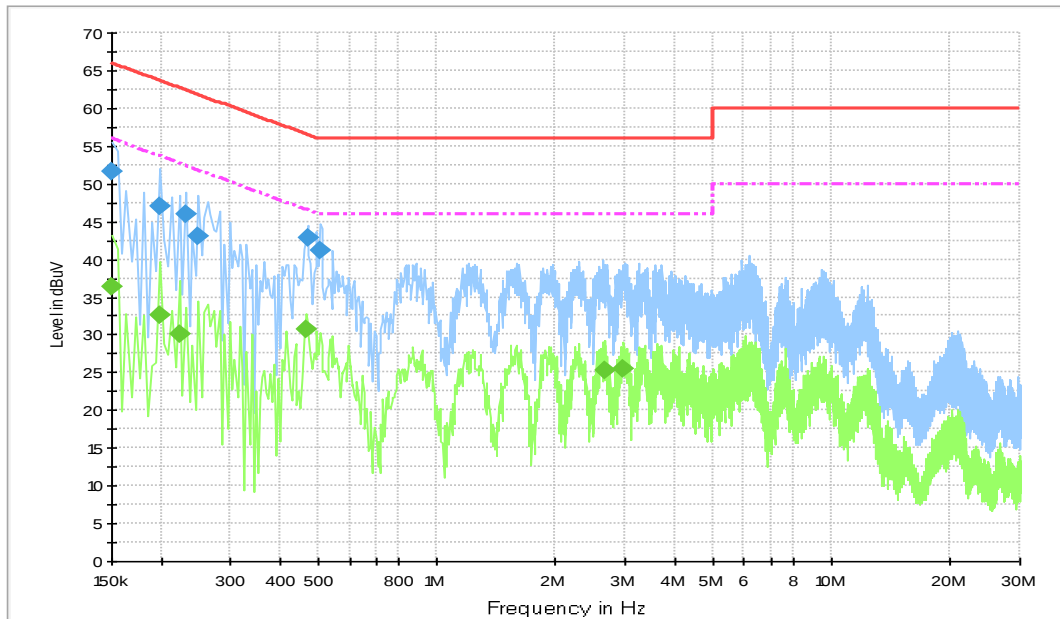


Fig.A7.1 AC Power line Conducted Emission-802.11a

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.15000	51.7	500	9.000	On	L1	19.	14.3	66.0
0.19950	46.9	500	9.000	On	N	19.	16.7	63.6
0.23100	45.9	500	9.000	On	L1	19.	16.5	62.4
0.24900	43.0	500	9.000	On	N	19.	18.8	61.8
0.46950	42.8	500	9.000	On	L1	19.	13.7	56.5
0.50550	41.2	500	9.000	On	L1	19.	14.8	56.0

Final Result 2

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.15000	36.4	500	9.000	On	N	19.	19.6	56.0
0.19950	32.6	500	9.000	On	L1	19.	21.1	53.6
0.22200	30.0	500	9.000	On	L1	19.	22.7	52.7
0.46500	30.6	500	9.000	On	L1	19.	16.0	46.6
2.65650	25.4	500	9.000	On	L1	19.	20.6	46.0
2.97600	25.5	500	9.000	On	L1	19.	20.6	46.0

Idle:

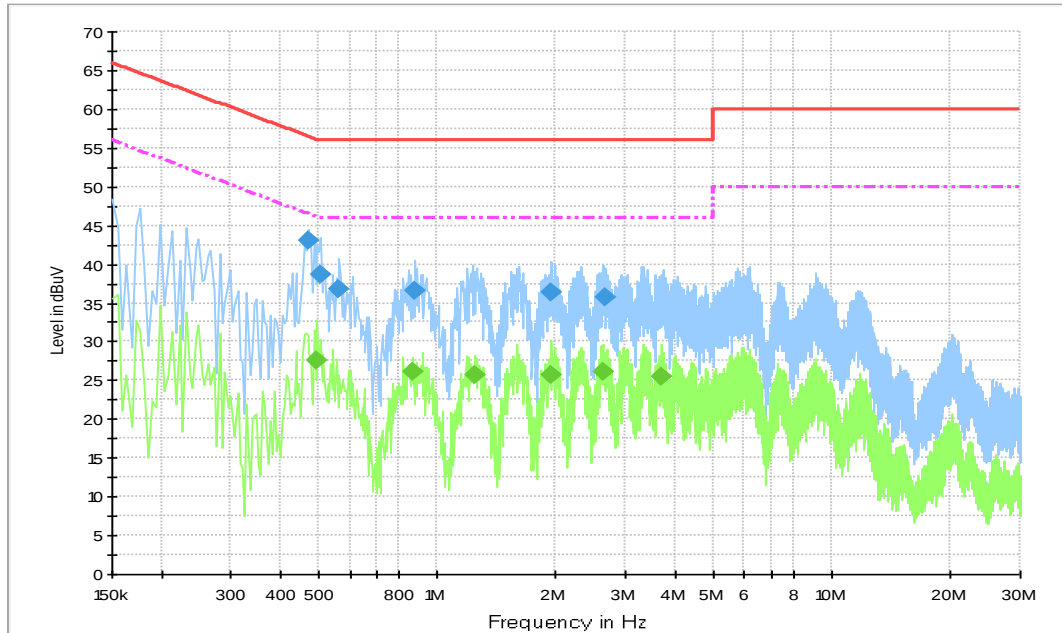


Fig.A7.2 AC Power line Conducted Emission-Idle

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.46950	43.1	500	9.000	On	L1	19.	13.5	56.5
0.50550	38.6	500	9.000	On	N	19.	17.4	56.0
0.56400	36.7	500	9.000	On	L1	19.	19.3	56.0
0.87900	36.6	500	9.000	On	L1	19.	19.4	56.0
1.93200	36.3	500	9.000	On	L1	19.	19.7	56.0
2.67450	35.6	500	9.000	On	L1	19.	20.4	56.0

Final Result 2

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.496500	27.7	5000.0	9.000	On	N	19.9	18.4	46.1
0.870000	26.0	5000.0	9.000	On	N	19.7	20.0	46.0
1.252500	25.7	5000.0	9.000	On	N	19.7	20.3	46.0
1.941000	25.7	5000.0	9.000	On	L1	19.7	20.4	46.0
2.620500	26.2	5000.0	9.000	On	N	19.6	19.8	46.0
3.714000	25.4	5000.0	9.000	On	N	19.6	20.6	46.0

Note: The measurement results showed here are worst cases of the combinations of different cables.

ANNEX B: EUT parameters

Disclaimer: The antenna gain 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 C: Accreditation Certificate



*** END OF REPORT BODY ***