



FCC PART 15C TEST REPORT No.I22Z61951-IOT03

for

TCL Communication Ltd.

LINKHUB

HH63AF

With

FCC ID: 2ACCJB195

Hardware Version: PIO

Software Version: HH63A_00_02.00_03

Issued Date: 2022-11-22

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: ctl_terminals@caict.ac.cn, website: www.caict.ac.cn



REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22Z61951-IOT03	Rev.0	1st edition	2022-11-15
I22Z61951-IOT03	Rev.1	Update maximum antenna gain.	2022-11-22

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1. TEST LABORATORY

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (ISED#: 24849). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location: CTTL(huayuan North Road)

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

1.3. Testing Environment

Normal Temperature: 15-35°C

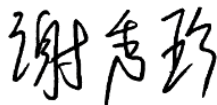
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2022-10-09

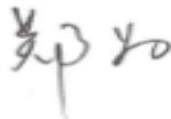
Testing End Date: 2022-11-15

1.5. Signature



Xie Xiuzhen

(Prepared this test report)



Zheng Wei

(Reviewed this test report)



Pang Shuai

(Approved this test report)



2. CLIENT INFORMATION

2.1. Applicant Information

Company Name: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
Park, Shatin, NT, Hong Kong
City: Hong Kong
Postal Code: /
Contact: nianxiang.jiang
Email: nianxiang.jiang@tcl.com
Country: China
Telephone: +86 755 36611621
Fax: +86 755 3661 2000-81722

2.2. Manufacturer Information

Company Name: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
Park, Shatin, NT, Hong Kong
City: Hong Kong
Postal Code: /
Contact: nianxiang.jiang
Email: nianxiang.jiang@tcl.com
Country: China
Telephone: +86 755 36611621
Fax: +86 755 3661 2000-81722

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

3.1. About EUT

Description	LINKHUB
Model name	HH63AF
FCC ID	2ACCJB195
WLAN Frequency Band	ISM Band: 5725MHz~5850MHz
Type of modulation	OFDM
Voltage	12V

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
UT05a	358814640110054	PIO	HH63A_00_02.00_03
EUT14	358814640110237	PIO	HH63A_00_02.00_03

*EUT ID: is used to identify the test sample in the lab internally.
 EUT14 is used for Conduction test, UT05a is used for Radiation test.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Charger1	/	/
AE2	Charger2	/	/

AE1

Model	CYSE12-120100U
Manufacturer	CHENYANG
Length of cable	/

AE2

Model	1-CHUSB102-131
Manufacturer	PUAN
Length of cable	/

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

3.4. General Description

Equipment Under Test (EUT) is a model of LINKHUB with integrated antenna. 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; 15.209 Radiated emission limits, general requirements; 15.407 General technical requirements	2018
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES	2019

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	12V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSW67	104051	Rohde & Schwarz	1 year	2022-12-02
2	Test Receiver	ESCI	100344	R&S	1 year	2023-03-21
3	LISN	ENV216	101200	R&S	1 year	2023-06-29
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU 26	100235	R&S	1 year	2023-03-08
2	EMI Antenna	VULB 9163	302	SCHWARZBECK	1 year	2022-12-28
3	EMI Antenna	3115	00167250	ETS-Lindgren	1 year	2022-12-23

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	/
$30\text{MHz} \leq f \leq 1\text{GHz}$	5.15
$1\text{GHz} \leq f \leq 18\text{GHz}$	5.54
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.26

8.6. AC Power-line Conducted Emission

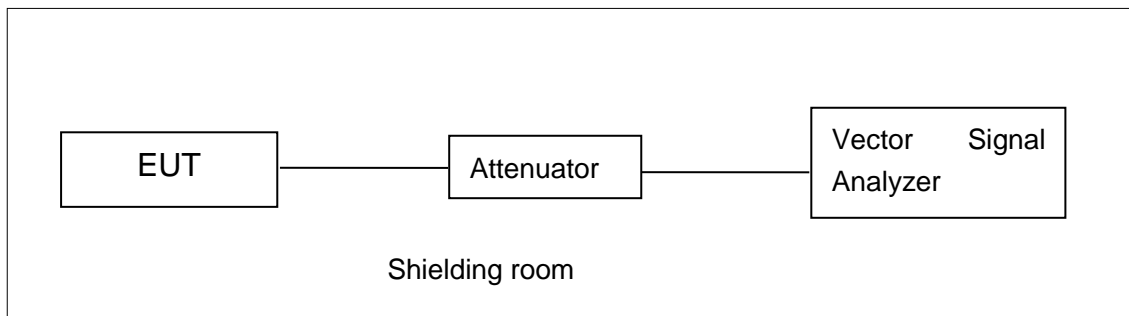
Measurement Uncertainty : 3.08dB,k=2

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

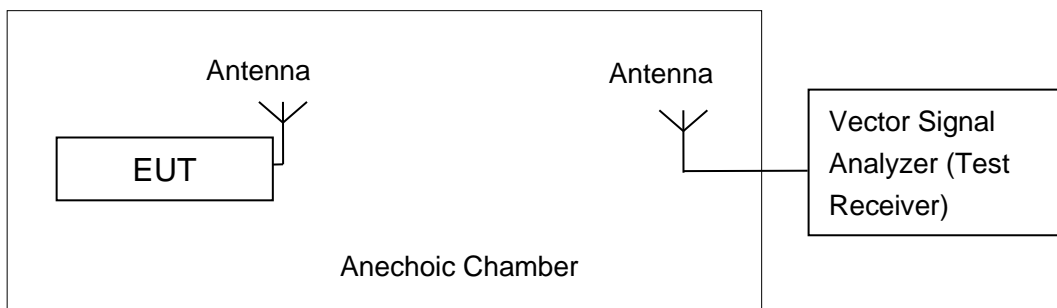


A.1.2. Radiated Emission Measurements

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

Ant0(dBi)	Ant1(dBi)
-1.20dBi	2.89dBi

A.2.2. Maximum Average Output Power-Conducted

Measurement Results:

SISO-ANT0

802.11a mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11a	6	9.63	9.28	9.24

The data rate 6Mbps is selected as worst 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	9.58	9.30	9.23

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

802.11ac-VHT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11ac(20MHz)	MCS0	9.65	9.26	9.23

The data rate MCS0 is selected as worst 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	9.69	9.59

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

802.11ac-VHT40 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz (Ch151)	5795MHz (Ch159)
802.11ac(40MHz)	MCS0	9.72	9.60

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

802.11ac-VHT80 mode

Mode	Data Rate (Index)	Test Result (dBm)
		5775MHz (Ch155)
802.11ac(80MHz)	MCS0	9.65

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

SISO-ANT1

802.11a mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11a	6	8.29	8.22	8.01

The data rate 6Mbps is selected as worst 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	9.18	9.04	9.05

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

802.11ac-VHT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11ac(20MHz)	MCS0	9.22	9.03	8.89

The data rate MCS0 is selected as worst 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	9.16	8.97

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

802.11ac-VHT40 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz (Ch151)	5795MHz (Ch159)
802.11ac(40MHz)	MCS0	9.20	9.09

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

802.11ac-VHT80 mode

Mode	Data Rate (Index)	Test Result (dBm)
		5775MHz (Ch155)
802.11ac(80MHz)	MCS0	9.25

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

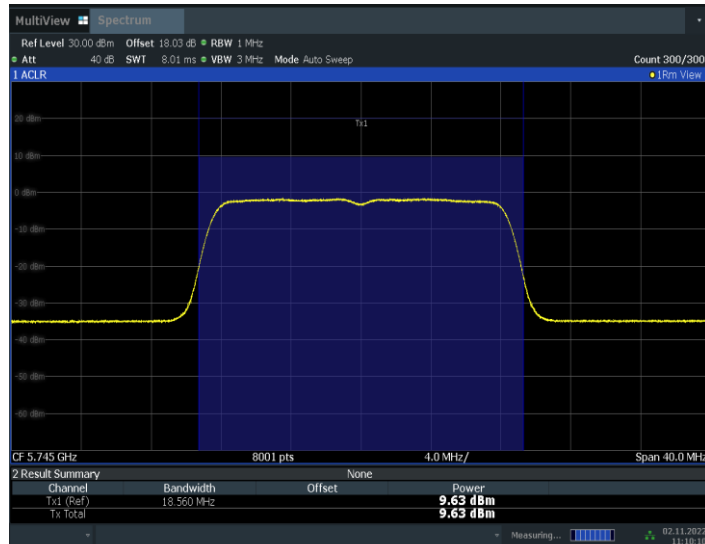
MIMO

Mode	Channel	RF output power (dBm)			Conclusion
		ANT0	ANT1	SUM	
802.11n-HT20	5745MHz(CH149)	8.64	8.13	11.40	P
	5785MHz(CH157)	8.23	8.16	11.21	P
	5825MHz(CH165)	8.08	8.47	11.29	P
802.11ac-VHT20	5745MHz(CH149)	8.67	8.20	11.45	P
	5785MHz(CH157)	8.17	8.24	11.22	P
	5825MHz(CH165)	8.16	7.83	11.01	P
802.11n-HT40	5755MHz(CH151)	8.75	8.47	11.62	P
	5795MHz(CH159)	8.71	8.83	11.78	P
802.11ac-VHT40	5755MHz(CH151)	8.76	9.12	11.95	P
	5795MHz(CH159)	8.62	8.92	11.78	P
802.11ac-VHT80	5775MHz(CH155)	8.98	9.13	12.07	P

The data rate MCS0(802.11n/ac) is selected as worse condition, and the following cases are performed with this condition.

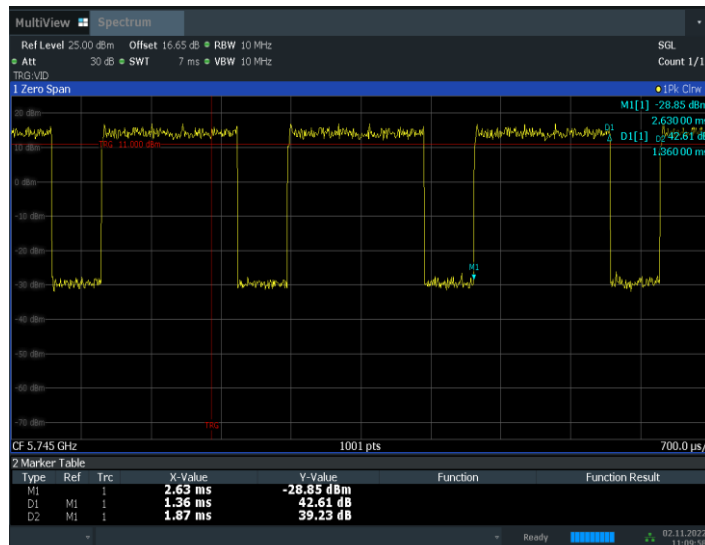
Duty Cycle

Mode	11a	11n20	11ac20	11n40	11ac40	11ac80
Duty Cycle	73%	72%	72%	57%	57%	39%



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802.11a



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802.11a

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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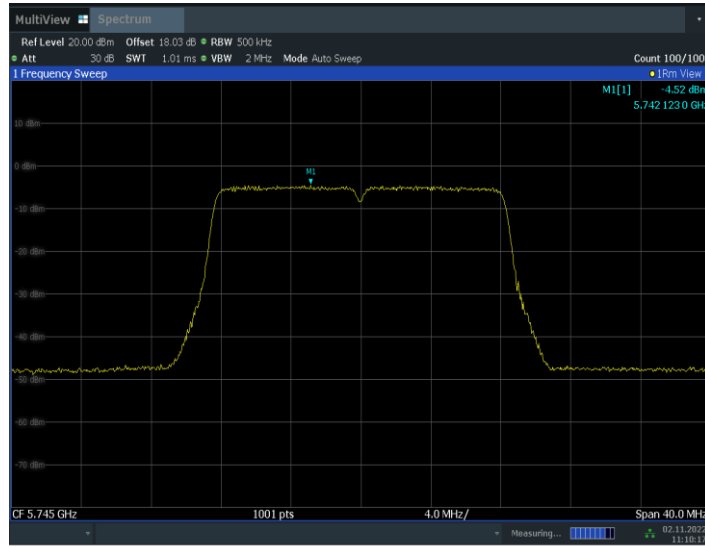
Measurement Results:

SISO-ANT0

Mode	Channel	Power Spectral Density (dBm/500kHz)	Conclusion
802.11a	149	-4.52	P
	157	-5.21	P
	165	-5.69	P
802.11ac VHT20	149	-4.99	P
	157	-5.55	P
	165	-5.96	P
802.11ac VHT40	151	-7.71	P
	159	-8.13	P
802.11ac VHT80	155	-10.59	P

MIMO

Mode	Channel	/	Power Spectral Density (dBm/500kHz)	Conclusion
802.11ac-VHT20	5745MHz(CH149)	Ant0	-5.95	P
		Ant1	-4.41	P
		SUM	-2.10	P
	5785MHz(CH157)	Ant0	-6.74	P
		Ant1	-5.12	P
		SUM	-2.84	P
	5825MHz(CH165)	Ant0	-7.05	P
		Ant1	-5.88	P
		SUM	-3.42	P
802.11ac-VHT40	5755MHz(CH151)	Ant0	-8.69	P
		Ant1	-7.03	P
		SUM	-4.77	P
	5795MHz(CH159)	Ant0	-9.17	P
		Ant1	-6.45	P
		SUM	-4.59	P
802.11ac-VHT80	5775MHz(CH155)	Ant0	-11.7	P
		Ant1	-9.86	P
		SUM	-7.67	P



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802.11a

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:

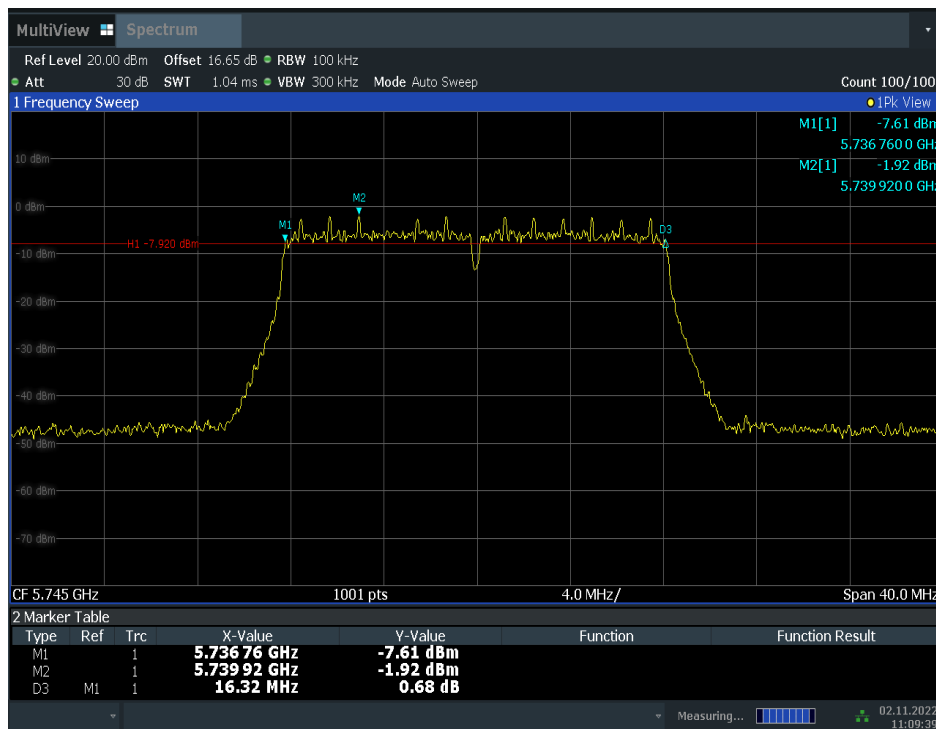
Measurement Uncertainty	60.80Hz
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Measurement Result:

Mode	Channel	Occupied 6dB Bandwidth (MHz)		conclusion
802.11a	149	Fig.1	16.32	P
	157	Fig.2	16.32	P
	165	Fig.3	16.32	P
802.11ac VHT20	149	Fig.4	17.56	P
	157	Fig.5	17.56	P
	165	Fig.6	17.56	P
802.11ac VHT40	151	Fig.7	35.20	P
	159	Fig.8	35.52	P
802.11ac VHT80	155	Fig.9	75.20	P

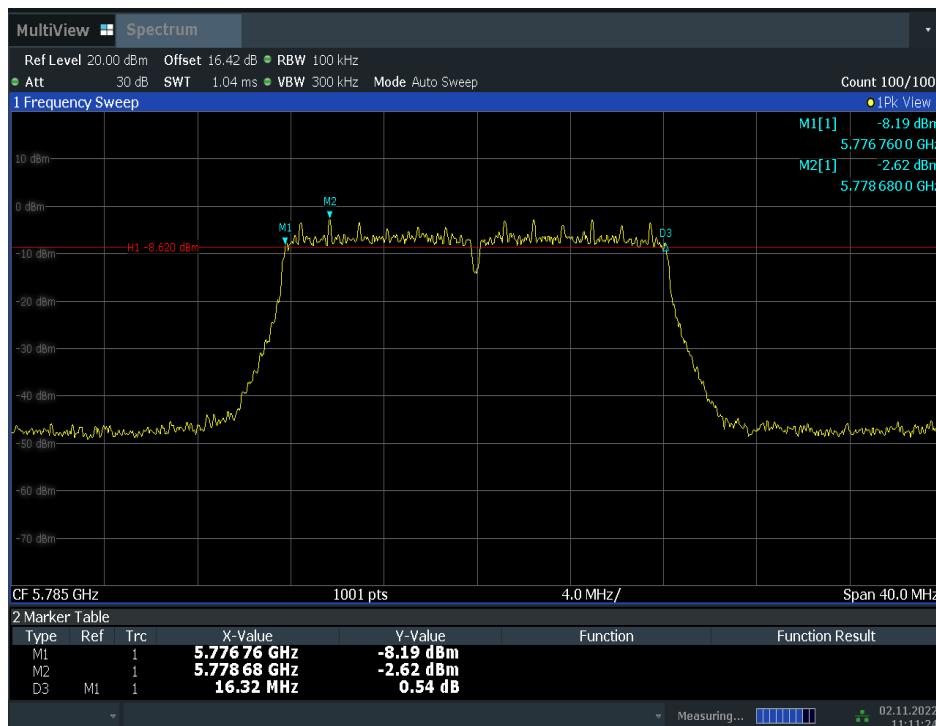
Conclusion: PASS

Test graphs as below:



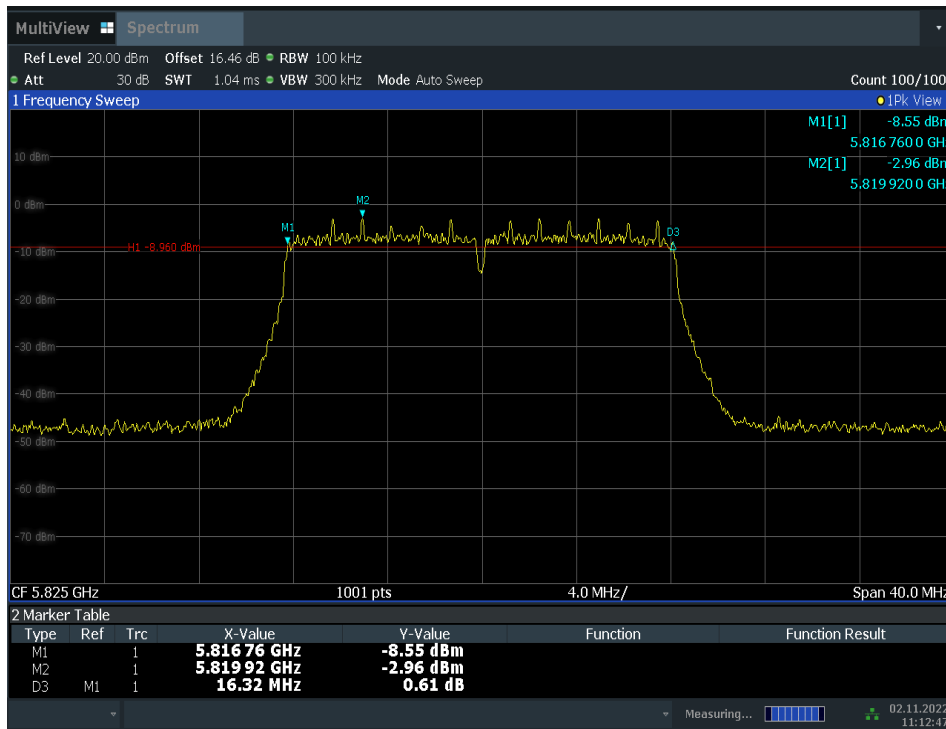
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Fig. 1 Occupied 6dB Bandwidth (802.11a, Ch 149)



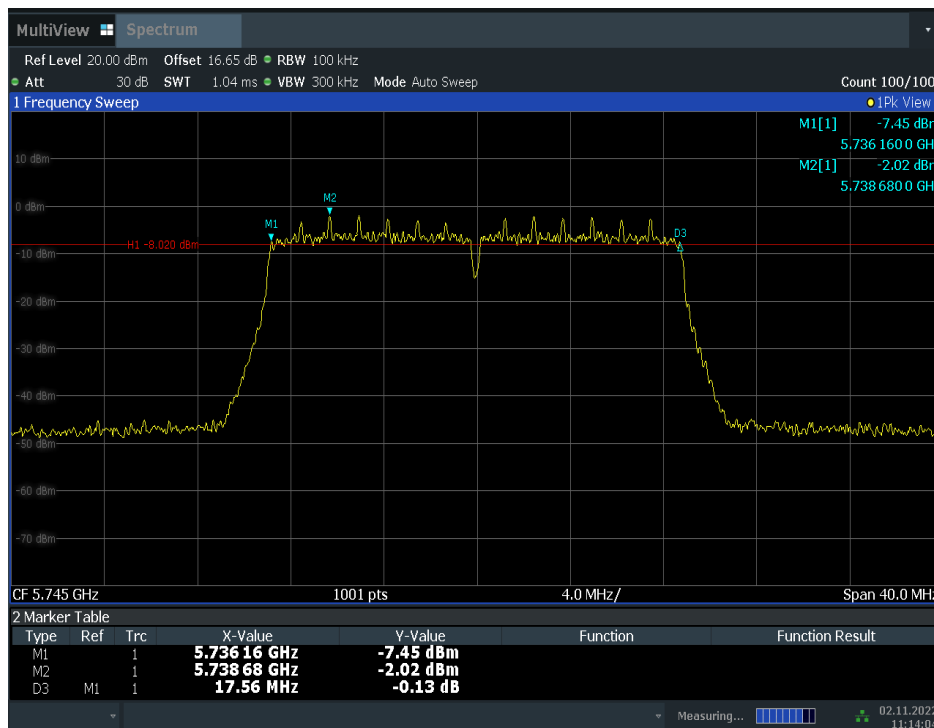
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Fig. 2 Occupied 6dB Bandwidth (802.11a, Ch 157)



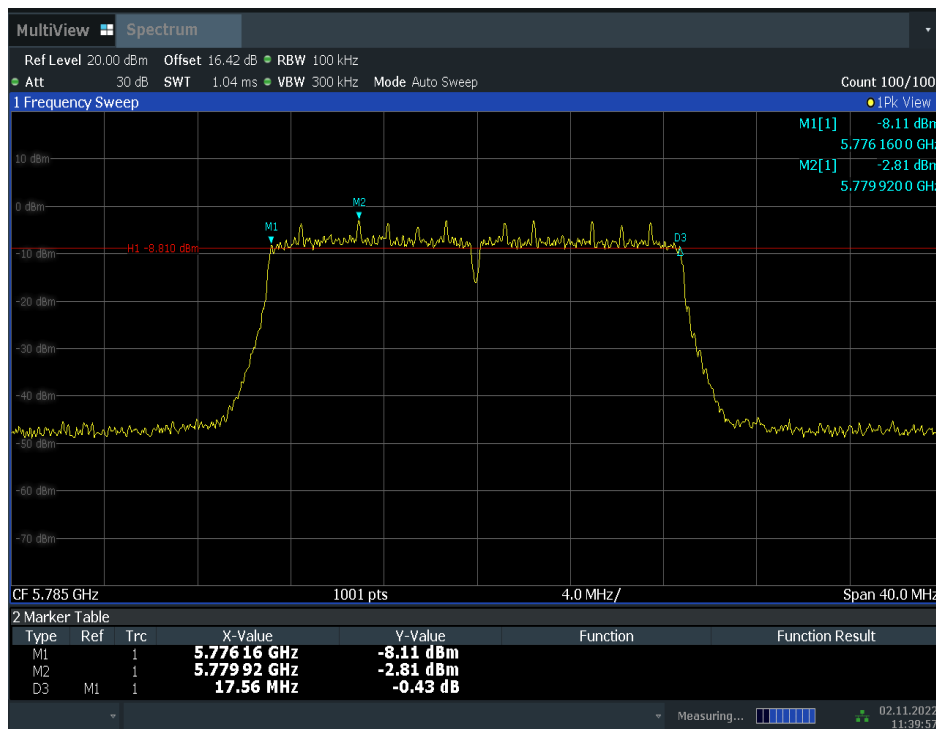
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Fig. 3 Occupied 6dB Bandwidth (802.11a, Ch 165)



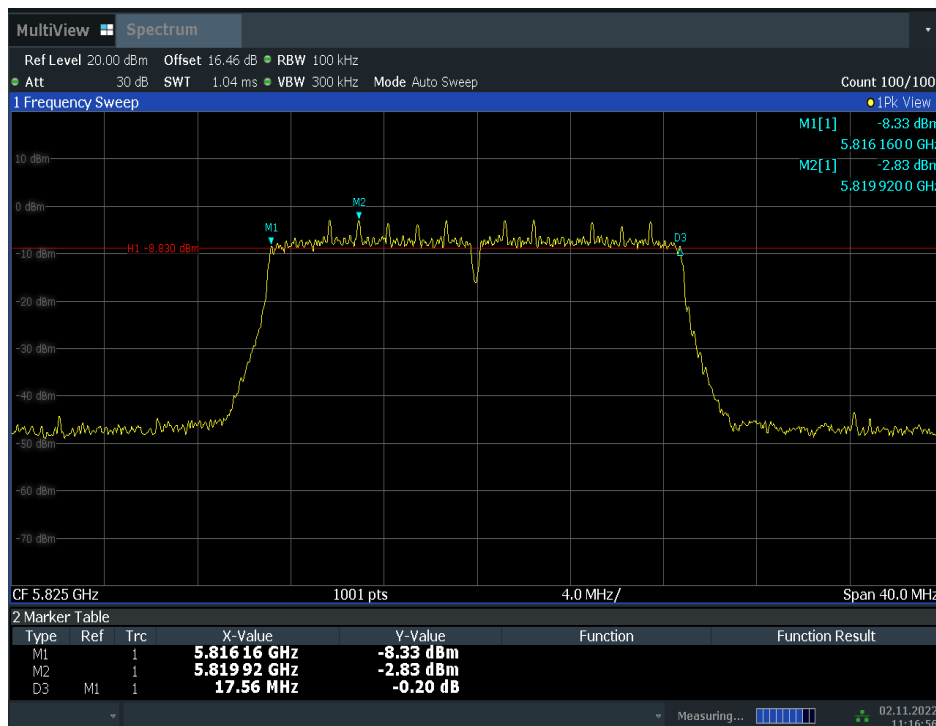
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Fig. 4 Occupied 6dB Bandwidth (802.11ac-VHT20, Ch 149)



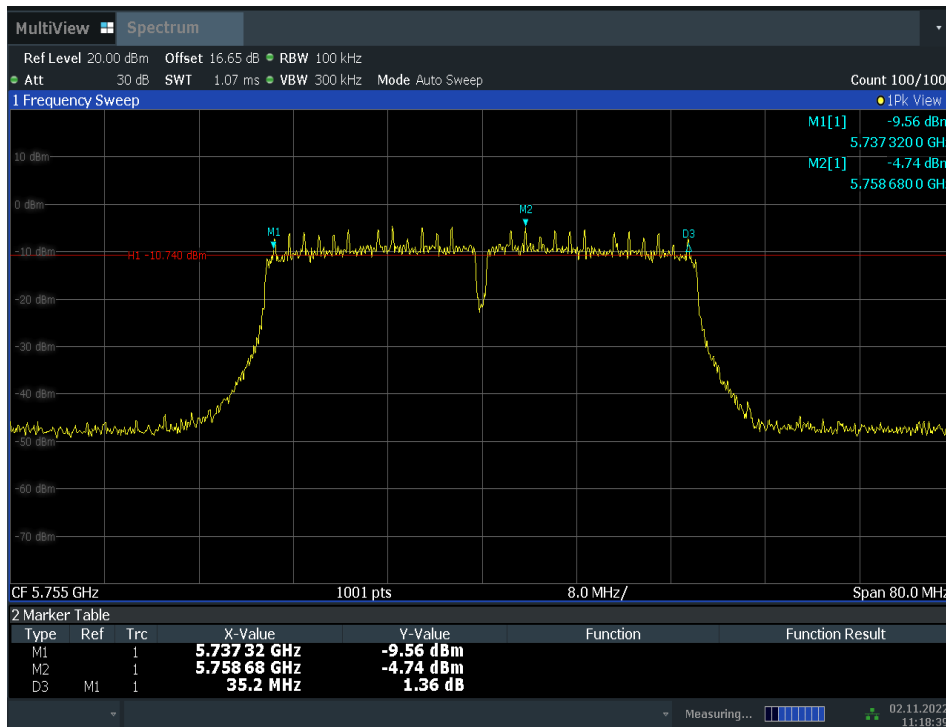
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Fig. 5 Occupied 6dB Bandwidth (802.11ac-VHT20, Ch 157)



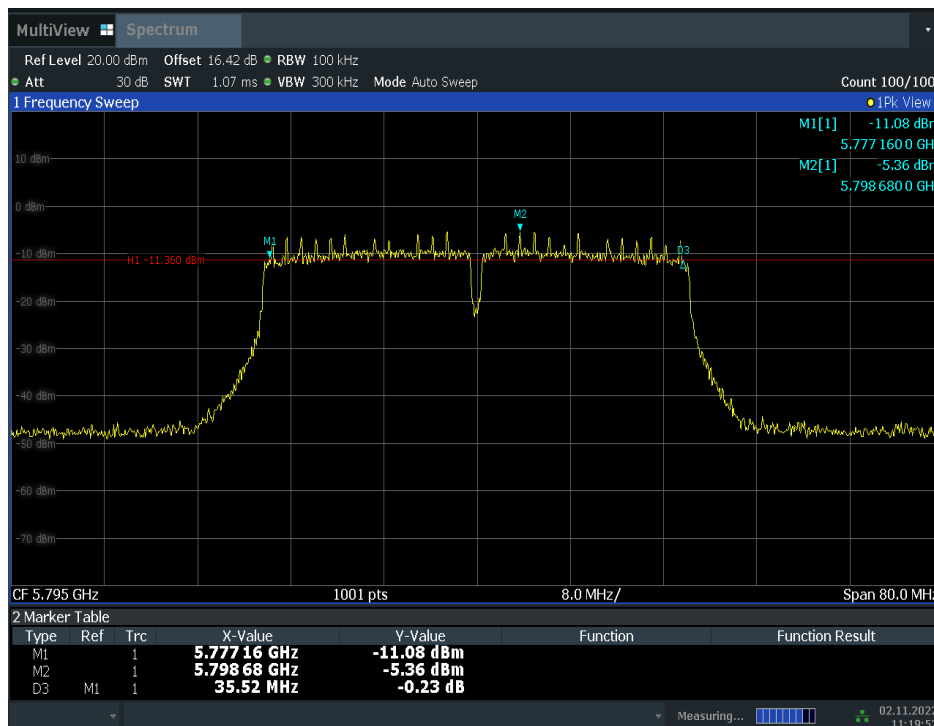
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Fig. 6 Occupied 6dB Bandwidth (802.11ac-VHT20, Ch 165)



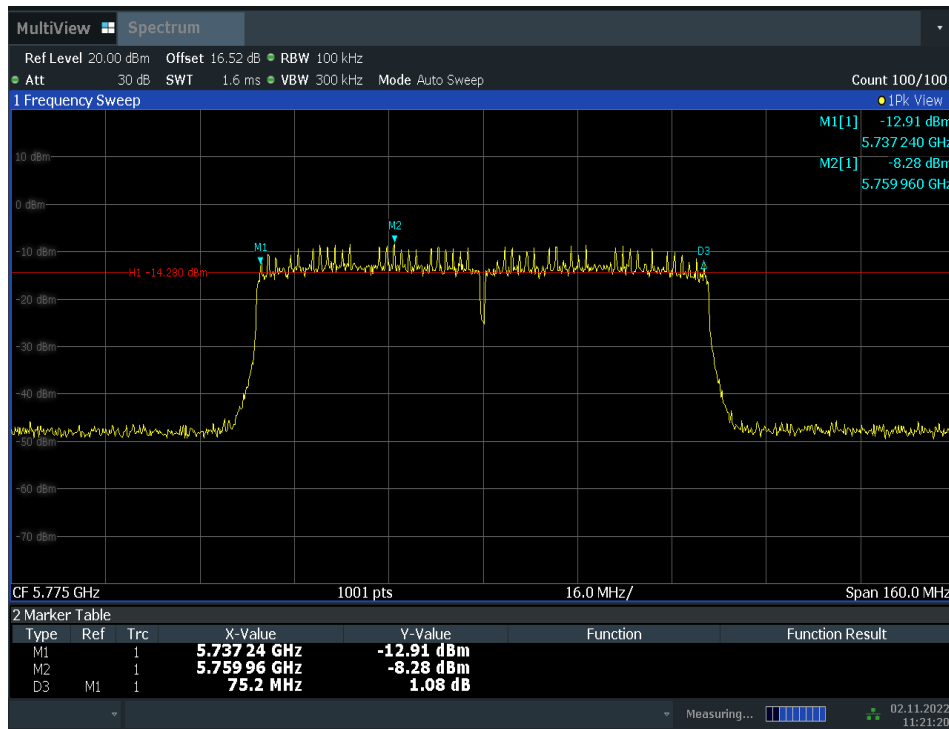
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Fig. 7 Occupied 6dB Bandwidth (802.11ac-VHT40, Ch 151)



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Fig. 8 Occupied 6dB Bandwidth (802.11ac-VHT40, Ch 159)



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Fig. 9 Occupied 6dB Bandwidth (802.11ac-VHT80, Ch 155)

A.5. Transmitter Spurious Emission

A.5.1 Transmitter Spurious Emission - 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.	

The measurement is made according to KDB 789033

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	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
	165	26.5 GHz~ 40 GHz	---	P
		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	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
	165	26.5 GHz~ 40 GHz	---	P
		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
802.11n (HT40)	151	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	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
	165	26.5 GHz~ 40 GHz	---	P
		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	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	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

Conclusion: PASS

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.

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)
17980.567	41.00	-25.50	46.66	19.84	54.00	13.00	V
17984.600	40.84	-25.50	46.66	19.68	54.00	13.16	H
16007.900	39.90	-27.35	38.54	28.71	54.00	14.10	H
16155.300	39.61	-26.77	38.93	27.45	54.00	14.39	H
7659.633	37.71	-34.66	36.92	35.45	54.00	16.29	V
7660.000	37.32	-34.66	36.92	35.06	54.00	16.68	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)
17934.000	41.01	-25.50	46.66	19.85	54.00	12.99	H
17976.533	40.62	-25.50	46.66	19.46	54.00	13.38	V
16054.100	39.68	-27.35	38.54	28.49	54.00	14.32	V
15890.933	39.67	-26.97	38.48	28.16	54.00	14.33	V
7713.167	39.30	-34.82	36.96	37.16	54.00	14.70	V
11761.533	37.27	-31.99	38.98	30.28	54.00	16.73	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)
17956.367	40.68	-25.50	46.66	19.52	54.00	13.32	H
17942.067	40.66	-25.50	46.66	19.50	54.00	13.34	V
16028.433	39.53	-27.35	38.54	28.34	54.00	14.47	V
15921.367	39.41	-27.35	38.54	28.22	54.00	14.59	V
11998.767	36.83	-31.48	39.09	29.22	54.00	17.17	V
11874.467	36.69	-31.85	39.05	29.49	54.00	17.31	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)
17965.167	41.70	-25.50	46.66	20.54	54.00	12.30	V
17947.200	40.75	-25.50	46.66	19.59	54.00	13.25	H
16054.467	39.46	-27.35	38.54	28.27	54.00	14.54	V
15945.933	39.34	-27.35	38.54	28.15	54.00	14.66	H
7659.633	37.39	-34.66	36.92	35.13	54.00	16.61	V
7660.000	37.39	-34.66	36.92	35.13	54.00	16.61	V

Channel 157

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17928.867	40.67	-25.50	46.66	19.51	54.00	13.33	H
17957.100	40.47	-25.50	46.66	19.31	54.00	13.53	V
16010.100	39.58	-27.35	38.54	28.39	54.00	14.42	V
15958.033	39.43	-27.35	38.54	28.24	54.00	14.57	V
7713.167	38.80	-34.82	36.96	36.66	54.00	15.20	V
7712.800	37.35	-34.82	36.96	35.21	54.00	16.65	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)
17912.000	40.94	-25.50	46.66	19.78	54.00	13.06	V
17951.967	40.82	-25.50	46.66	19.66	54.00	13.18	V
16029.533	39.42	-27.35	38.54	28.23	54.00	14.58	V
16054.467	39.41	-27.35	38.54	28.22	54.00	14.59	H
11761.167	36.65	-31.99	38.98	29.66	54.00	17.35	V
11761.900	36.41	-31.99	38.98	29.42	54.00	17.59	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)
17974.333	40.93	-25.50	46.66	19.77	54.00	13.07	H
17912.000	40.85	-25.50	46.66	19.69	54.00	13.15	H
15997.267	39.54	-27.35	38.54	28.35	54.00	14.46	V
15685.967	39.52	-27.23	38.61	28.14	54.00	14.48	H
7673.200	37.25	-34.66	36.92	34.99	54.00	16.75	V
7672.833	36.93	-34.66	36.92	34.67	54.00	17.07	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)
17907.600	40.98	-25.50	46.66	19.82	54.00	13.02	V
17934.733	40.78	-25.50	46.66	19.62	54.00	13.22	V
15959.500	39.91	-27.35	38.54	28.72	54.00	14.09	H
16055.933	39.66	-27.35	38.54	28.47	54.00	14.34	H
7726.367	37.33	-34.82	36.96	35.19	54.00	16.67	V
7726.733	37.33	-34.82	36.96	35.19	54.00	16.67	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)
17975.800	41.53	-25.50	46.66	20.37	54.00	12.47	H
17953.800	40.92	-25.50	46.66	19.76	54.00	13.08	H
16028.067	39.16	-27.35	38.54	27.97	54.00	14.84	V
16009.000	39.10	-27.35	38.54	27.91	54.00	14.90	H
7660.000	36.99	-34.66	36.92	34.73	54.00	17.01	V
7659.633	36.85	-34.66	36.92	34.59	54.00	17.15	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)
17977.633	40.68	-25.50	46.66	19.52	54.00	13.32	H
17912.733	40.50	-25.50	46.66	19.34	54.00	13.50	H
15989.567	39.50	-27.35	38.54	28.31	54.00	14.50	H
16048.600	39.48	-27.35	38.54	28.29	54.00	14.52	V
7713.167	38.73	-34.82	36.96	36.59	54.00	15.27	V
7712.800	36.59	-34.82	36.96	34.45	54.00	17.41	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)
17972.500	40.78	-25.50	46.66	19.62	54.00	13.22	H
17958.567	40.69	-25.50	46.66	19.53	54.00	13.31	H
15913.300	39.24	-27.35	38.54	28.05	54.00	14.76	V
16053.733	39.21	-27.35	38.54	28.02	54.00	14.79	V
11764.833	37.04	-31.99	38.98	30.05	54.00	16.96	H
11734.033	36.85	-31.99	38.98	29.86	54.00	17.15	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)
17825.833	40.82	-25.50	46.66	19.66	54.00	13.18	V
17951.233	40.69	-25.50	46.66	19.53	54.00	13.31	H
16052.267	39.76	-27.35	38.54	28.57	54.00	14.24	H
16120.833	39.42	-26.77	38.93	27.26	54.00	14.58	V
7673.200	37.63	-34.66	36.92	35.37	54.00	16.37	V
7672.833	37.13	-34.66	36.92	34.87	54.00	16.87	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)
17979.100	40.65	-25.50	46.66	19.49	54.00	13.35	V
17942.800	40.34	-25.50	46.66	19.18	54.00	13.66	V
15985.900	39.42	-27.35	38.54	28.23	54.00	14.58	H
15989.933	39.36	-27.35	38.54	28.17	54.00	14.64	H
7726.733	37.42	-34.82	36.96	35.28	54.00	16.58	V
7726.367	36.81	-34.82	36.96	34.67	54.00	17.19	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)
17830.233	40.92	-25.50	46.66	19.76	54.00	13.08	V
17953.800	40.80	-25.50	46.66	19.64	54.00	13.20	V
15917.333	39.41	-27.35	38.54	28.22	54.00	14.59	H
16026.233	39.27	-27.35	38.54	28.08	54.00	14.73	H
7699.967	38.37	-34.82	36.96	36.23	54.00	15.63	V
7699.600	37.58	-34.82	36.96	35.44	54.00	16.42	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)
17867.633	49.59	-25.50	46.66	28.43	74.00	24.41	V
16531.500	49.32	-26.96	39.82	36.46	68.20	18.88	V
17343.667	49.31	-25.95	44.35	30.90	68.20	18.89	H
16606.667	48.67	-26.87	40.65	34.89	68.20	19.53	H
9687.667	46.39	-33.00	38.01	41.39	68.20	21.81	H
11965.767	45.85	-31.48	39.09	38.24	74.00	28.15	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)
16427.733	49.22	-26.96	39.82	36.36	68.20	18.98	V
16841.700	49.05	-26.62	41.49	34.18	68.20	19.15	V
17968.100	48.98	-25.50	46.66	27.82	74.00	25.02	H
17951.600	48.81	-25.50	46.66	27.65	74.00	25.19	H
9688.033	46.51	-33.00	38.01	41.51	68.20	21.69	H
9687.667	46.50	-33.00	38.01	41.50	68.20	21.70	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)
17972.133	49.80	-25.50	46.66	28.64	74.00	24.20	V
17025.033	49.69	-26.32	42.36	33.64	68.20	18.51	H
16869.933	49.46	-26.62	41.49	34.59	68.20	18.74	H
16913.567	49.14	-26.32	42.36	33.09	68.20	19.06	H
9688.033	46.44	-33.00	38.01	41.44	68.20	21.76	H
11844.400	46.23	-31.85	39.05	39.03	74.00	27.77	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)
17961.133	49.43	-25.50	46.66	28.27	74.00	24.57	V
17408.200	49.19	-26.85	45.25	30.79	68.20	19.01	H
15940.433	49.00	-27.35	38.54	37.81	74.00	25.00	H
16996.800	48.60	-26.32	42.36	32.55	68.20	19.60	H
9687.667	46.15	-33.00	38.01	41.15	68.20	22.05	H
11497.167	45.82	-32.26	38.84	39.25	74.00	28.18	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)
17938.400	49.65	-25.50	46.66	28.49	74.00	24.35	V
16970.033	49.31	-26.32	42.36	33.26	68.20	18.89	H
15999.100	49.12	-27.35	38.54	37.93	74.00	24.88	H
17956.367	49.01	-25.50	46.66	27.85	74.00	24.99	V
11995.100	46.23	-31.48	39.09	38.62	74.00	27.77	H
9687.667	45.48	-33.00	38.01	40.48	68.20	22.72	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)
17823.267	49.28	-25.50	46.66	28.12	74.00	24.72	V
16828.867	49.18	-26.62	41.49	34.31	68.20	19.02	V
17510.500	48.84	-26.85	45.25	30.44	68.20	19.36	V
16644.433	48.60	-26.87	40.65	34.82	68.20	19.60	V
9687.667	46.16	-33.00	38.01	41.16	68.20	22.04	H
9688.033	46.02	-33.00	38.01	41.02	68.20	22.18	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)
17961.133	49.63	-25.50	46.66	28.47	74.00	24.37	H
17842.333	49.24	-25.50	46.66	28.08	74.00	24.76	H
16927.867	48.64	-26.32	42.36	32.59	68.20	19.56	V
16633.067	48.49	-26.87	40.65	34.71	68.20	19.71	V
9688.033	46.19	-33.00	38.01	41.19	68.20	22.01	H
9687.667	45.70	-33.00	38.01	40.70	68.20	22.50	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)
17962.600	50.02	-25.50	46.66	28.86	74.00	23.98	V
17417.367	49.49	-26.85	45.25	31.09	68.20	18.71	H
16995.700	49.23	-26.32	42.36	33.18	68.20	18.97	H
16952.067	48.76	-26.32	42.36	32.71	68.20	19.44	H
9687.667	46.61	-33.00	38.01	41.61	68.20	21.59	H
9688.033	46.61	-33.00	38.01	41.61	68.20	21.59	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)
17857.733	49.22	-25.50	46.66	28.06	74.00	24.78	V
17949.767	49.11	-25.50	46.66	27.95	74.00	24.89	V
16860.767	48.85	-26.62	41.49	33.98	68.20	19.35	V
16477.967	48.77	-26.96	39.82	35.91	68.20	19.43	H
9688.033	46.61	-33.00	38.01	41.61	68.20	21.59	H
9687.667	46.06	-33.00	38.01	41.06	68.20	22.14	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)
17978.000	49.72	-25.50	46.66	28.56	74.00	24.28	H
17962.600	49.40	-25.50	46.66	28.24	74.00	24.60	H
16747.100	49.06	-26.62	41.49	34.19	68.20	19.14	H
15960.233	48.81	-27.35	38.54	37.62	74.00	25.19	H
9688.033	45.97	-33.00	38.01	40.97	68.20	22.23	H
9687.667	45.56	-33.00	38.01	40.56	68.20	22.64	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)
17939.133	48.93	-25.50	46.66	27.77	74.00	25.07	V
17902.100	48.80	-25.50	46.66	27.64	74.00	25.20	V
16838.400	48.73	-26.62	41.49	33.86	68.20	19.47	V
16516.467	48.70	-26.96	39.82	35.84	68.20	19.50	V
9687.667	45.97	-33.00	38.01	40.97	68.20	22.23	H
9688.033	45.67	-33.00	38.01	40.67	68.20	22.53	H

802.11ac-HT40

Channel 151

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
15887.267	49.78	-26.97	38.48	38.27	74.00	24.22	V
17017.333	48.93	-26.32	42.36	32.88	68.20	19.27	H
17961.500	48.73	-25.50	46.66	27.57	74.00	25.27	H
16951.700	48.54	-26.32	42.36	32.49	68.20	19.66	V
9687.667	47.22	-33.00	38.01	42.22	68.20	20.98	H
9688.033	46.21	-33.00	38.01	41.21	68.20	21.99	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)
17967.000	49.52	-25.50	46.66	28.36	74.00	24.48	H
17966.633	49.42	-25.50	46.66	28.26	74.00	24.58	H
16981.400	48.29	-26.32	42.36	32.24	68.20	19.91	V
16290.600	48.27	-27.10	39.31	36.06	68.20	19.93	V
9688.033	46.52	-33.00	38.01	41.52	68.20	21.68	H
9687.667	46.47	-33.00	38.01	41.47	68.20	21.73	H

802.11ac-HT80

Channel 155

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17096.533	49.18	-26.60	43.36	32.42	68.20	19.02	V
17910.533	49.04	-25.50	46.66	27.88	74.00	24.96	H
16632.333	48.86	-26.87	40.65	35.08	68.20	19.34	V
16839.867	48.59	-26.62	41.49	33.72	68.20	19.61	H
9688.033	46.24	-33.00	38.01	41.24	68.20	21.96	H
9687.667	46.20	-33.00	38.01	41.20	68.20	22.00	H

A.6. Band Edges Compliance

A6.1 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.	

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:

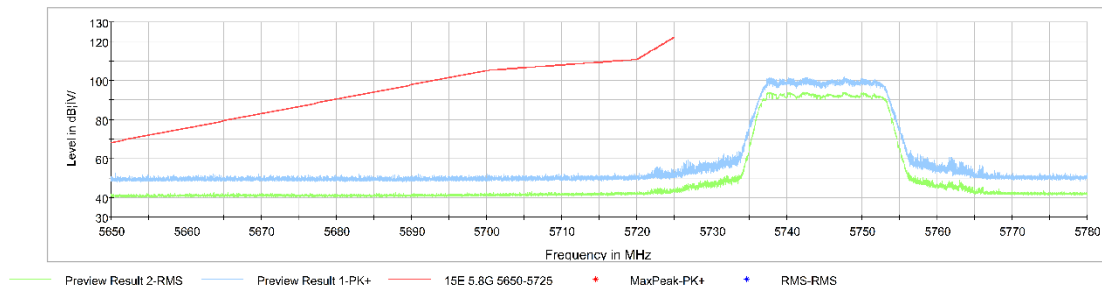


Fig. 10 Band Edges (802.11a Ch149,5745MHz)

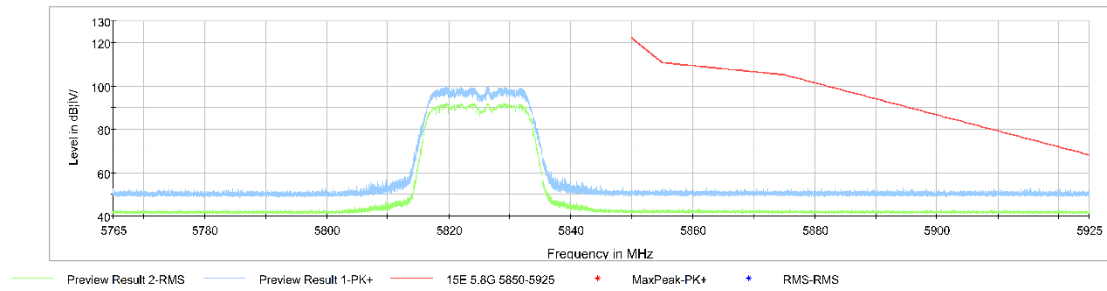


Fig. 11 Band Edges (802.11a Ch165, 5825MHz)

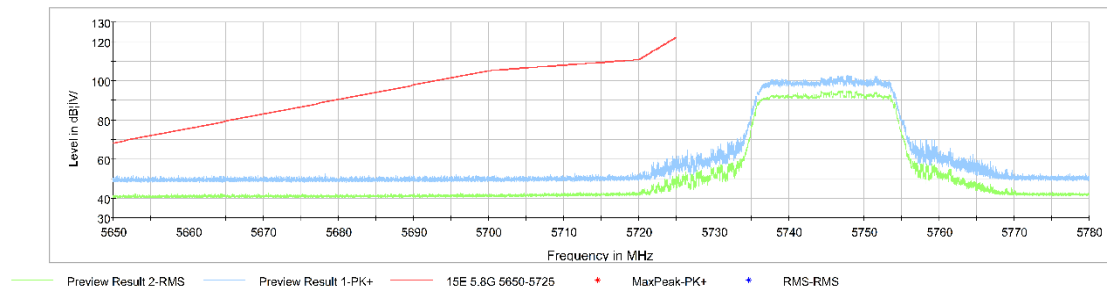


Fig. 12 Band Edges (802.11n-HT20 Ch149, 5745MHz)

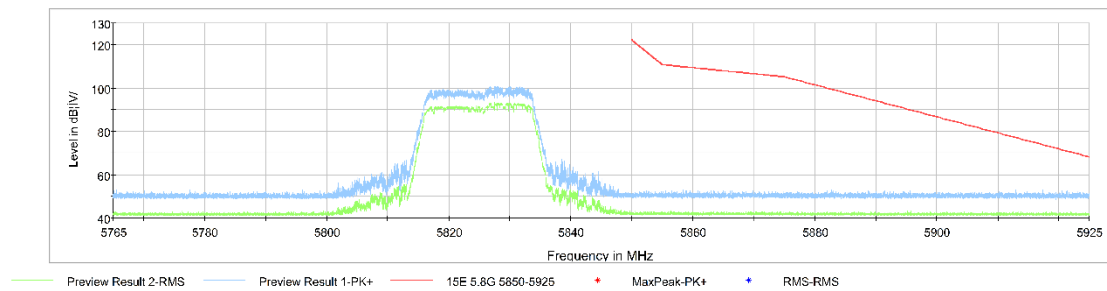


Fig. 13 Band Edges (802.11n-HT20 Ch165, 5825MHz)

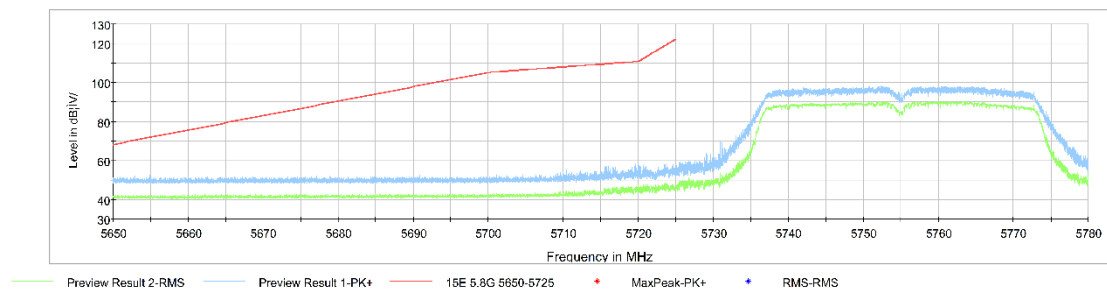


Fig. 14 Band Edges (802.11n-HT40 Ch151, 5755MHz)

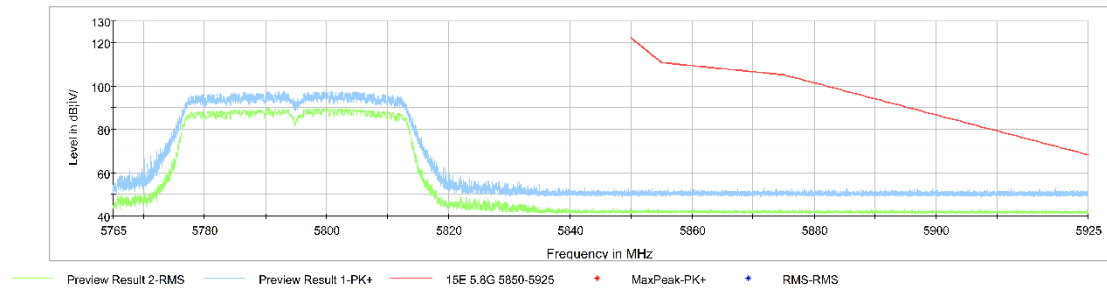


Fig. 15 Band Edges (802.11n-HT40 Ch159, 5795MHz)

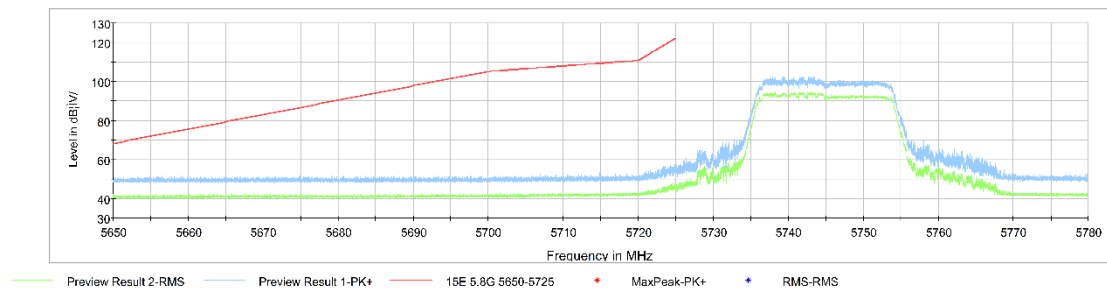


Fig. 16 Band Edges (802.11ac-HT20 Ch149, 5745MHz)

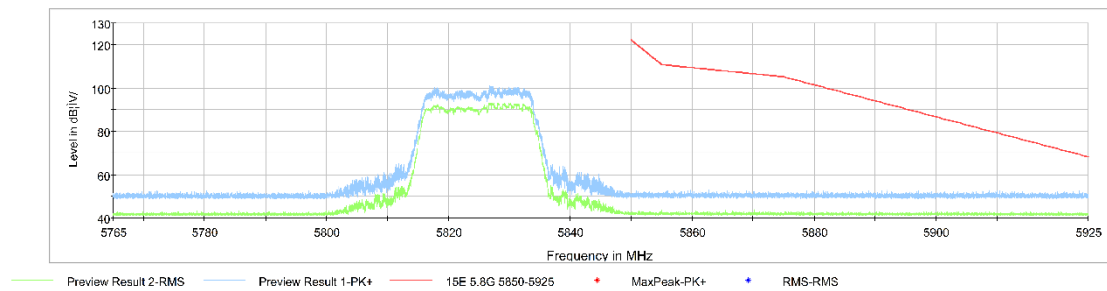


Fig. 17 Band Edges (802.11ac-HT20 Ch165, 5825MHz)

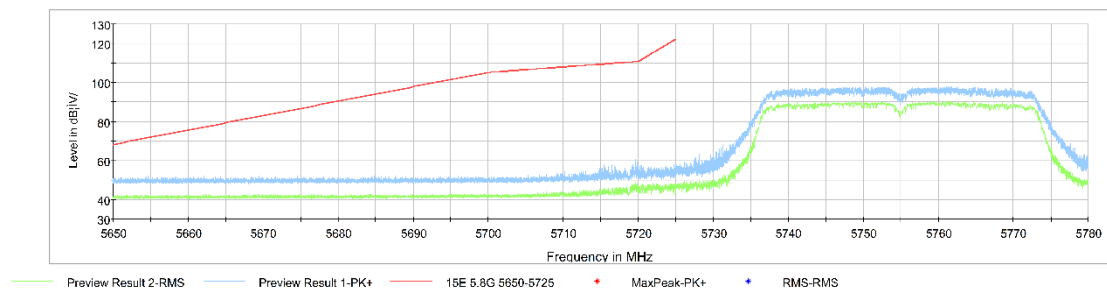


Fig. 18 Band Edges (802.11ac-HT40 Ch151, 5755MHz)

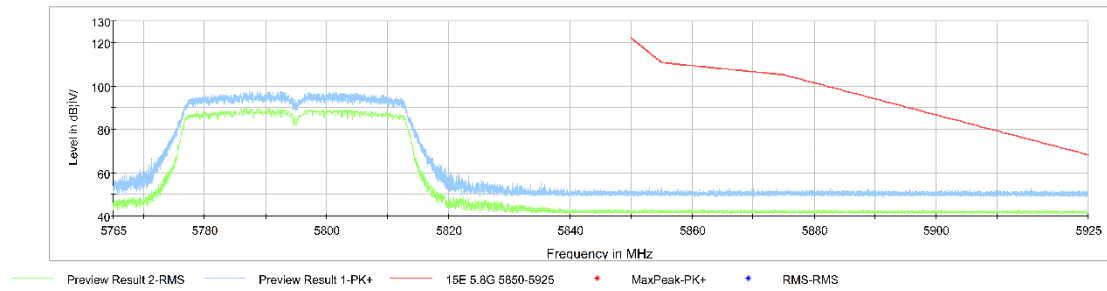


Fig. 19 Band Edges (802.11ac-HT40 Ch159, 5795MHz)

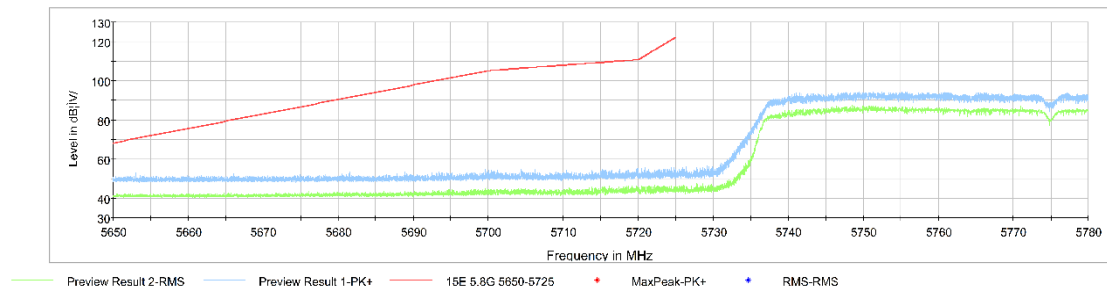


Fig. 20 Band Edges (802.11ac-HT80 Ch155, 5775MHz)

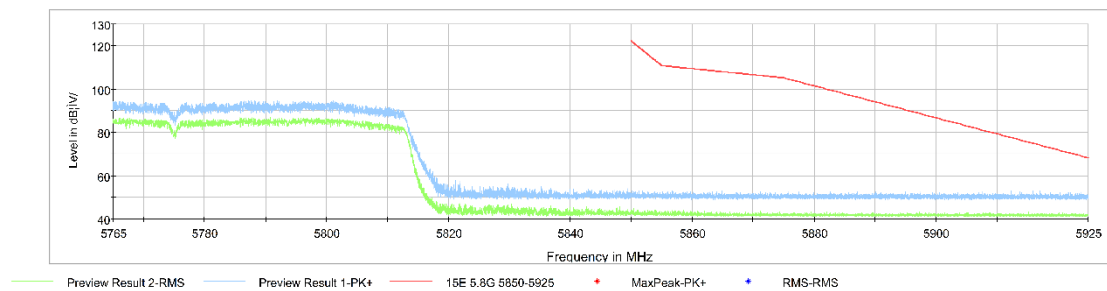


Fig. 21 Band Edges (802.11ac-HT80, 5775MHz)

A.7. AC Powerline Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement uncertainty:

Expanded measurement uncertainty for this test item is $U = 3.08\text{dB}$, $k=2$.

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		802.11a	Idle	
0.15 to 0.5	66 to 56	Fig.22	Fig.23	P
0.5 to 5	56			
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		802.11a	Idle	
0.15 to 0.5	56 to 46	Fig.22	Fig.23	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:

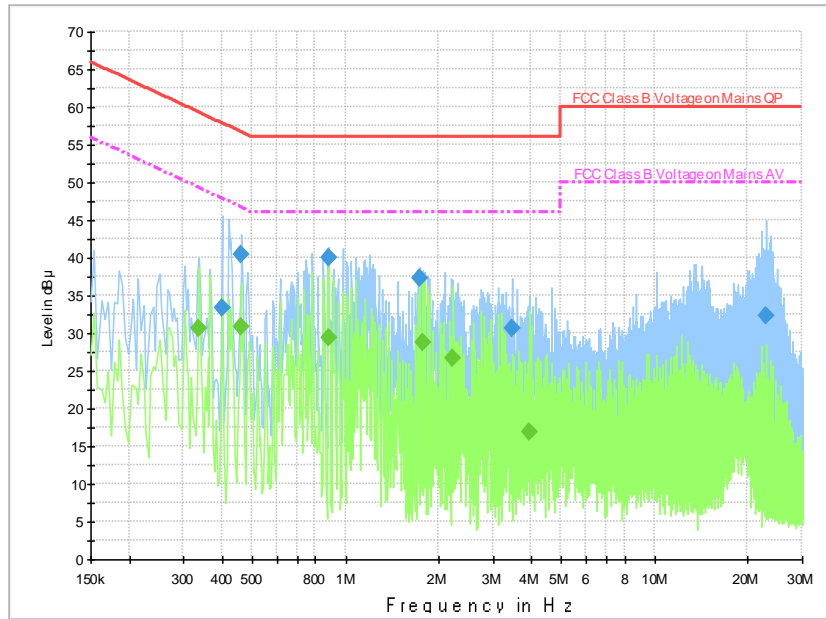


Fig. 22 AC Power line Conducted Emission-802.11a

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.398000	33.3	9.000	On	L1	19.7	24.6	57.9	
0.462000	40.4	9.000	On	L1	19.7	16.3	56.7	
0.882000	40.0	9.000	On	L1	19.7	16.0	56.0	
1.742000	37.3	9.000	On	L1	19.6	18.7	56.0	
3.446000	30.7	9.000	On	L1	19.6	25.3	56.0	
22.982000	32.2	9.000	On	N	19.7	27.8	60.0	

Final Result 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.334000	30.7	9.000	On	L1	19.7	18.7	49.4	
0.458000	30.9	9.000	On	N	19.7	15.8	46.7	
0.882000	29.4	9.000	On	L1	19.7	16.6	46.0	
1.774000	28.8	9.000	On	L1	19.6	17.2	46.0	
2.234000	26.6	9.000	On	L1	19.6	19.4	46.0	
3.918000	16.9	9.000	On	L1	19.6	29.1	46.0	

Note2: The measurement results showed here are worst cases of the combinations of different cables and chargers

Idle:

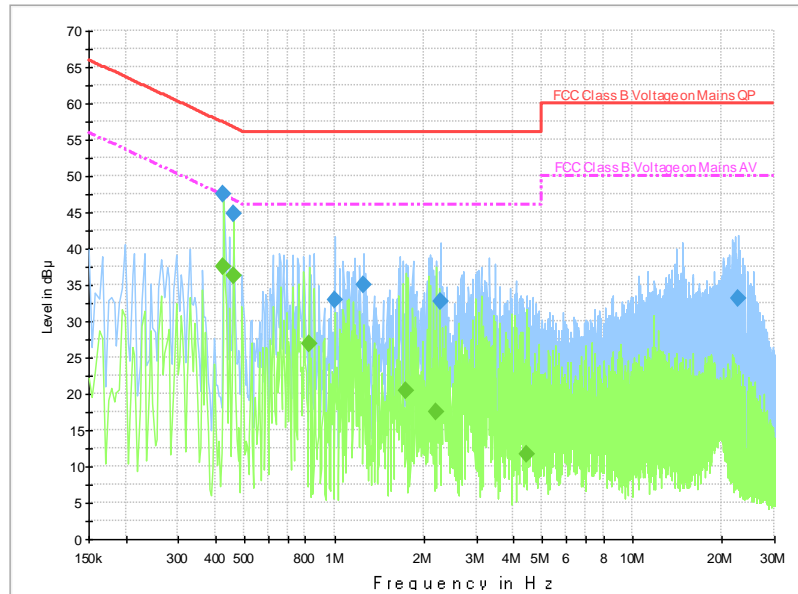


Fig. 23 AC Power line Conducted Emission-Idle

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)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.426000	47.6	9.000	On	L1	19.7	9.8	57.3	
0.458000	44.9	9.000	On	L1	19.7	11.9	56.7	
1.006000	32.9	9.000	On	L1	19.7	23.1	56.0	
1.250000	35.1	9.000	On	L1	19.6	20.9	56.0	
2.274000	32.8	9.000	On	L1	19.6	23.2	56.0	
22.562000	33.1	9.000	On	N	19.7	26.9	60.0	

Final Result 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.426000	37.6	9.000	On	L1	19.7	9.7	47.3	
0.458000	36.3	9.000	On	L1	19.7	10.5	46.7	
0.822000	26.9	9.000	On	L1	19.7	19.1	46.0	
1.734000	20.4	9.000	On	L1	19.6	25.6	46.0	
2.198000	17.5	9.000	On	L1	19.6	28.5	46.0	
4.422000	11.6	9.000	On	L1	19.6	34.4	46.0	

Note2: The measurement results showed here are worst cases of the combinations of different cables and chargers

ANNEX B: EUT parameters

Disclaimer: The antenna gain and worse case 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

<p>United States Department of Commerce National Institute of Standards and Technology</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="font-size: 2em; font-weight: bold; letter-spacing: 0.5em;">NVLAP[®]</div><div style="text-align: center;"></div></div> <hr/> <p style="font-size: 1.2em; font-weight: bold; text-align: center;">Certificate of Accreditation to ISO/IEC 17025:2017</p> <hr/> <p style="text-align: center;">NVLAP LAB CODE: 600118-0</p> <p style="text-align: center; font-weight: bold;">Telecommunication Technology Labs, CAICT</p> <p style="text-align: center;">Beijing China</p> <p style="text-align: center; font-size: 0.8em;"><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i></p> <p style="text-align: center; font-weight: bold; font-size: 1.1em;">Electromagnetic Compatibility & Telecommunications</p> <p style="text-align: center; font-size: 0.7em;"><i>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).</i></p> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;"><div style="text-align: center;"><hr/><p style="font-size: 0.8em;">2022-10-01 through 2023-09-30 <i>Effective Dates</i></p></div><div style="text-align: center;"></div><div style="text-align: center;"><hr/><p style="font-size: 0.8em;"><i>For the National Voluntary Laboratory Accreditation Program</i></p></div></div>	
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