



FCC PART 15C TEST REPORT No.I20Z70402-IOT05

for

Samsung Electronics Co., Ltd.

Smart Phone

SM-A025V

FCC ID : ZCASMA025V

with

Hardware Version: REV1.0

Software Version: A025V.001

Issued Date: 2021-02-09

Note:

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

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

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REPORT HISTORY

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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 (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Conducted testing Location: 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, P. R. China 100176

1.3. TestingEnvironment

Normal Temperature: 15-35°C
Extreme Temperature: -20/+55°C
Relative Humidity: 20-75%

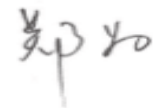
1.4. Project date

Testing Start Date: 2020-11-23
Testing End Date: 2021-01-28

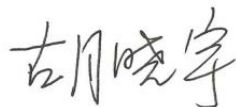
1.5. Signature



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.
Address: 19 Chapin Rd.,Building D Pine Brook, NJ 07058
City: /
Postal Code: /
Country: /
Contact: Jenni Chun
Telephone: +1-201-937-4203
E-mail: 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
City: Hong Kong
Postal Code: /
Country: Korea
Contact: Sunghoon Cho
Telephone: +82-10-2722-4159
E-mail: ggobi.cho@samsung.com

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

3.1. About EUT

Description	Smart Phone
Model name	SM-A025V
FCC ID	ZCASMA025V
WLAN Frequency Range	ISM Band: 5725MHz~5850MHz
Type of modulation	OFDM
Voltage	3.85 V

Note: Photographs of EUT are shown in ANNEX C of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
UT12a	2070377UT012a	REV1.0	A025V.001
UT08a	2070377UT08a	REV1.0	A025V.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	Remarks
AE1	Charger1	/	/
AE2	Charger2	/	/
AE3	Charger3	/	/
AE4	Charger4	/	/
AE5	Charger5	/	/
AE6	USB cable	/	/
AE7	Headset1	/	/
AE8	Headset2	/	/
AE9	battery	/	/

AE1

Model	EP-TA50JWE
Manufacturer	HAEM Co.,Ltd
Length of cable	/

AE2

Model	EP-TA50JWE
Manufacturer	RFTech Electronics(HuiZhou)Co.,LTD
Length of cable	/

AE3

Model	EP-TA200
Manufacturer	HAEM Co.,Ltd

Length of cable	/
AE4	
Model	EP-TA200
Manufacturer	RFTech Electronics(HuiZhou)Co.,LTD
Length of cable	/
AE5	
Model	EP-TA200
Manufacturer	SoluM Co.,Ltd
Length of cable	/
AE6	
Model	EP-DR140AWE
Manufacturer	Samsung Electronics Co., Ltd.
Length of cable	/
AE7	
Model	EHS61ASFWE
Manufacturer	DONGGUAN YOUNGBO ELECTRONICS CO.,LTD
Length of cable	/
AE8	
Model	EHS61ASFWE
Manufacturer	WATA ELECTRONICS CO.,LTD
Length of cable	/
AE9	
Type	HQ-50S
Manufacturer	SUCD(FUJIAN) Electronics Co.,Ltd
Length of cable	/

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

3.4. General Description

The Equipment under Test (EUT) is a model of smart phone with Bluetooth, WLAN with integrated antenna and inbuilt battery..

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;	
	15.407 General technical requirements	
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from	
	Low-Voltage Electrical and Electronic Equipment in the	2013
	Range of 9 kHz to 40 GHz	
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	2019
	HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID	
	SYSTEM DEVICES OPERATING UNDER SECTION	
	15.247 OF THE FCC RULES	

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.

The Equipment Under Test (EUT) model SM-A025V (FCC ID: ZCasma025V) is a variant product of SM-A025U (FCC ID: ZCasma025U), according to the declaration of changes provided by the applicant and FCC KDB publication 484596 D01, spot check measurements were performed on this device, all the test results are derived from test report No. I20Z70377-IOT05.

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	3.85 V
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	2021-05-15
2	LISN	ENV216	101200	Rohde & Schwarz	1 year	2021-08-03
3	Test Receiver	ESCI	100344	Rohde & Schwarz	1 year	2021-03-15
4	Shielding Room	S81	/	ETS-Lindgren	/	/
5	Attenuator	K40	/	Rosenberger	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	1 year	2021-09-04
2	BiLog Antenna	VULB9163	9163-514	Schwarzbeck	1 year	2021-02-24
3	Dual-Ridge Waveguide Horn Antenna	3117	00058888	ETS-Lindgren	1 year	2021-04-08
4	Dual-Ridge Waveguide Horn Antenna	3116	2663	ETS-Lindgren	1 year	2021-08-05
5	Vector Signal Analyzer	FSV40	101047	Rohde & Schwarz	1 year	2021-05-18



No. I20Z70402-IOT04

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	/
$30\text{MHz} \leq f \leq 1\text{GHz}$	5.40
$1\text{GHz} \leq f \leq 18\text{GHz}$	4.32
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.26

8.6. AC Power-line Conducted Emission

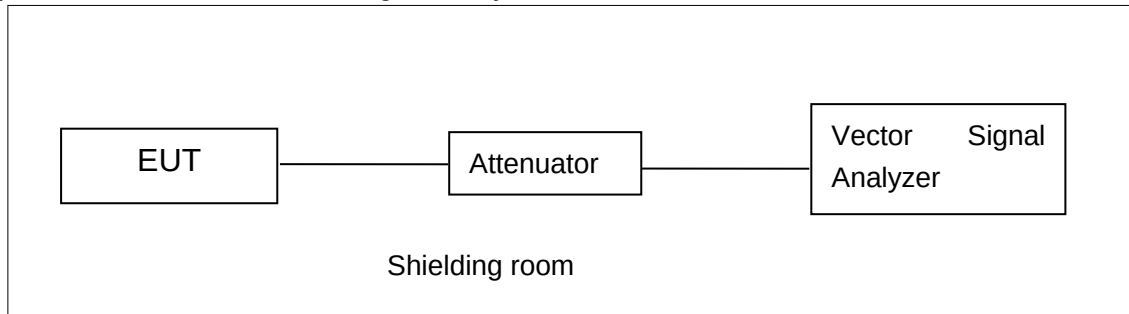
Measurement Uncertainty : 3.10dB,k=2

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

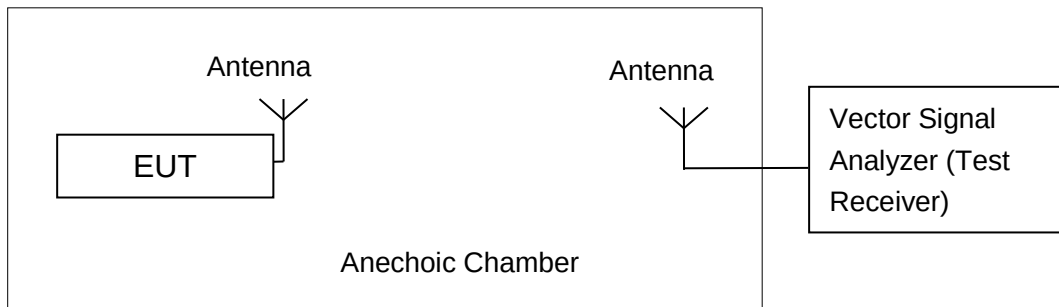


A.1.2. Radiated Emission Measurements

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.2.2. Maximum Average Output Power-Conducted

Method of Measurement: See ANSI C63.10-clause 12.3.2.2 Method SA-1

802.11a mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz(Ch165)
802.11a	6	11.67	11.85	11.75
	9	11.12	/	/
	12	11.09	/	/
	18	11.07	/	/
	24	10.55	/	/
	36	10.53	/	/
	48	9.96	/	/
	54	9.94	/	/

802.11n-HT20 mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz(Ch165)
802.11n(20MHz)	MCS0	11.20	11.37	11.25
	MCS1	11.15	/	/
	MCS2	10.67	/	/
	MCS3	10.59	/	/
	MCS4	10.56	/	/
	MCS5	10.03	/	/
	MCS6	10.01	/	/
	MCS7	9.99	/	/

802.11ac-HT20 mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz(Ch165)
802.11ac(20MHz)	MCS0	11.80	12.12	11.92
	MCS1	11.74	/	/
	MCS2	11.25	/	/
	MCS3	11.25	/	/
	MCS4	11.36	/	/
	MCS5	11.60	/	/
	MCS6	11.52	/	/
	MCS7	11.52	/	/

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz	5795MHz
		(Ch151)	(Ch159)
802.11n(40MHz)	MCS0	12.03	12.11
	MCS1	11.99	/
	MCS2	11.97	/
	MCS3	11.37	/
	MCS4	11.32	/
	MCS5	11.38	/
	MCS6	10.74	/
	MCS7	10.70	/

802.11ac-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz	5795MHz
		(Ch151)	(Ch159)
802.11ac(40MHz)	MCS0	11.97	12.04
	MCS1	12.20	/
	MCS2	12.10	/
	MCS3	12.04	/
	MCS4	11.62	/
	MCS5	11.72	/
	MCS6	11.78	/
	MCS7	11.95	/

802.11ac-HT80 mode

Mode	Data Rate (Index)	Test Result (dBm)	
		5775MHz	
		(Ch155)	
802.11ac(80MHz)	MCS0	12.85	
	MCS1	12.83	
	MCS2	13.10	
	MCS3	12.59	
	MCS4	12.84	
	MCS5	12.27	

	MCS6	12.31
	MCS7	11.09
	MCS8	11.15
	MCS9	11.23

The spot check result of average output power is 13.10dBm (802.11ac MCS2 5775MHz prototype result: 14.29dBm)

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	-2.98	P
	157	-3.04	P
	165	-3.14	P
802.11n HT20	149	-3.74	P
	157	-3.13	P
	165	-3.94	P
802.11ac HT20	149	-3.18	P
	157	-3.31	P
	165	-3.38	P
802.11n HT40	151	-6.02	P
	159	-6.17	P
802.11ac HT40	151	-5.79	P
	159	-5.99	P
802.11ac HT80	155	-8.01	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	16350.00	P
	157	Fig.2	16350.00	P
	165	Fig.3	16350.00	P
802.11n HT20	149	Fig.4	17650.00	P
	157	Fig.5	17600.00	P
	165	Fig.6	17600.00	P
802.11ac HT20	149	Fig.7	17550.00	P
	157	Fig.8	17600.00	P
	165	Fig.9	17550.00	P
802.11n HT40	151	Fig.10	35680.00	P
	159	Fig.11	35431.00	P
802.11ac HT40	151	Fig.12	35360.00	P
	159	Fig.13	35200.00	P
802.11ac HT80	155	Fig.14	75200.00	P

Conclusion: PASS

Test graphs as below:

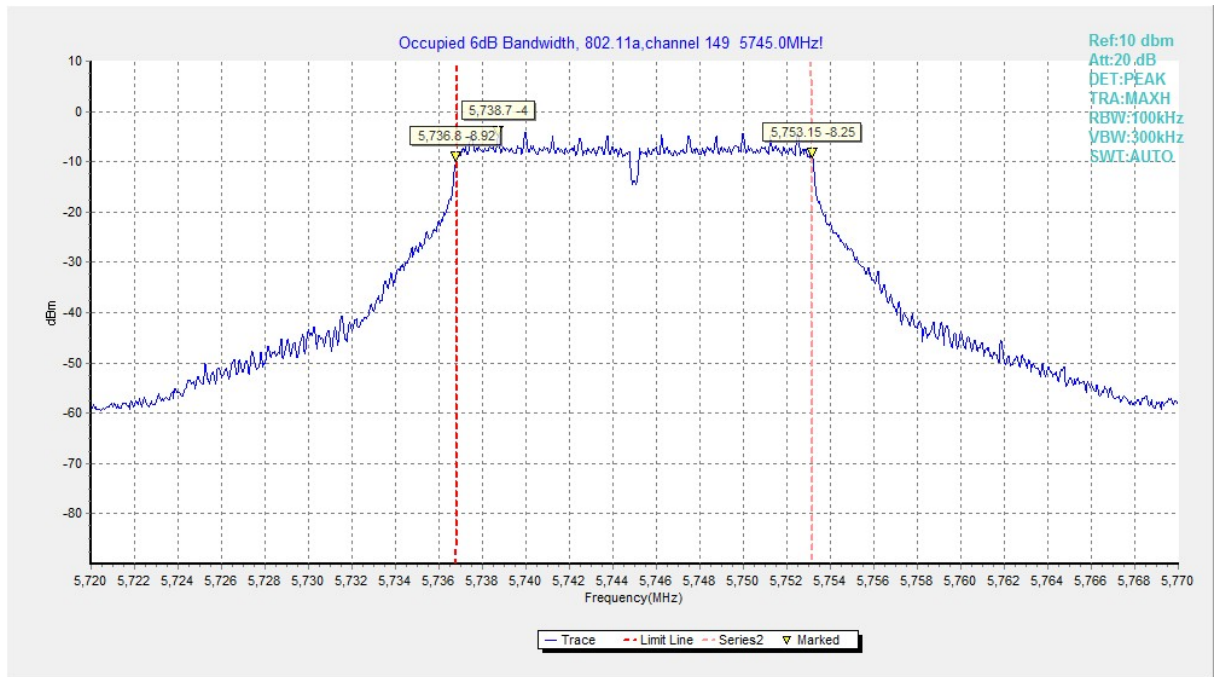


Fig. 1 Occupied 6dB Bandwidth (802.11a, Ch 149)

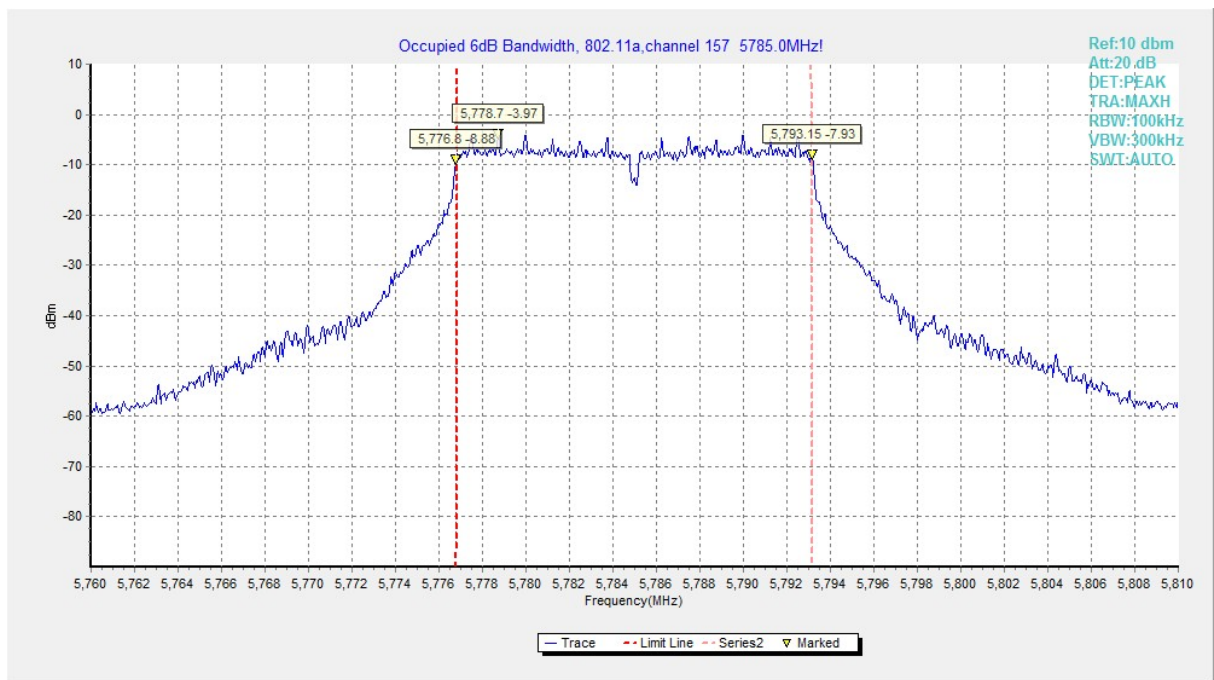


Fig. 2 Occupied 6dB Bandwidth (802.11a, Ch 157)

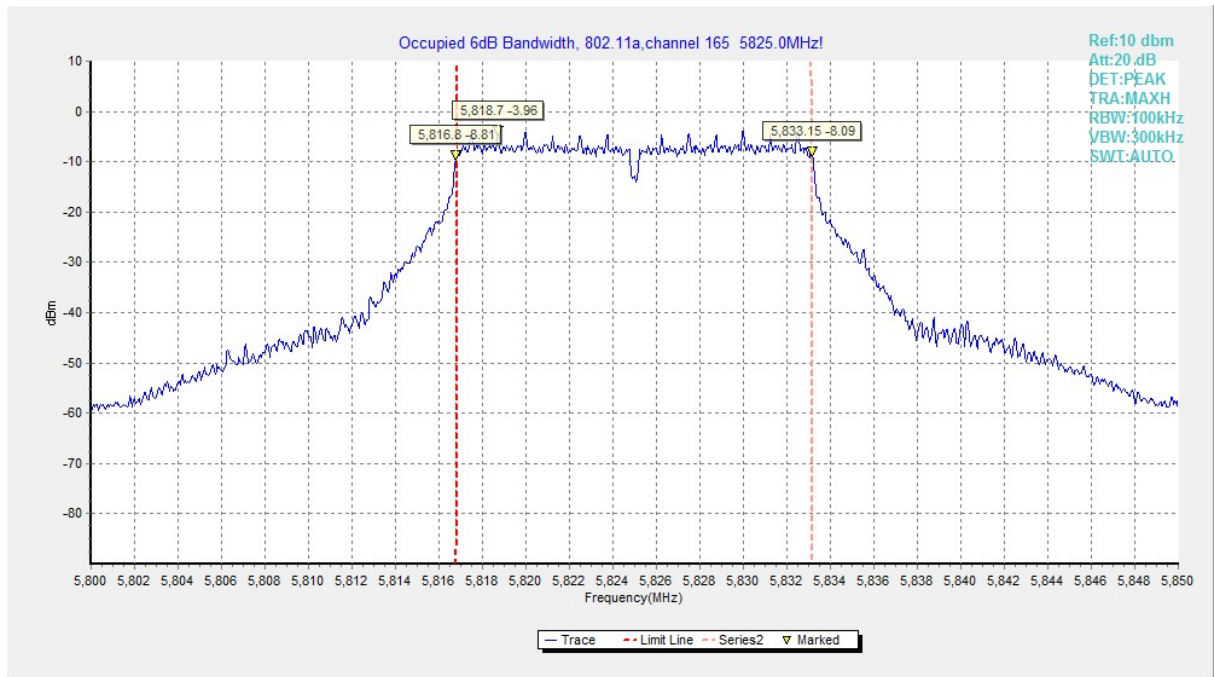


Fig. 3 Occupied 6dB Bandwidth (802.11a, Ch 165)

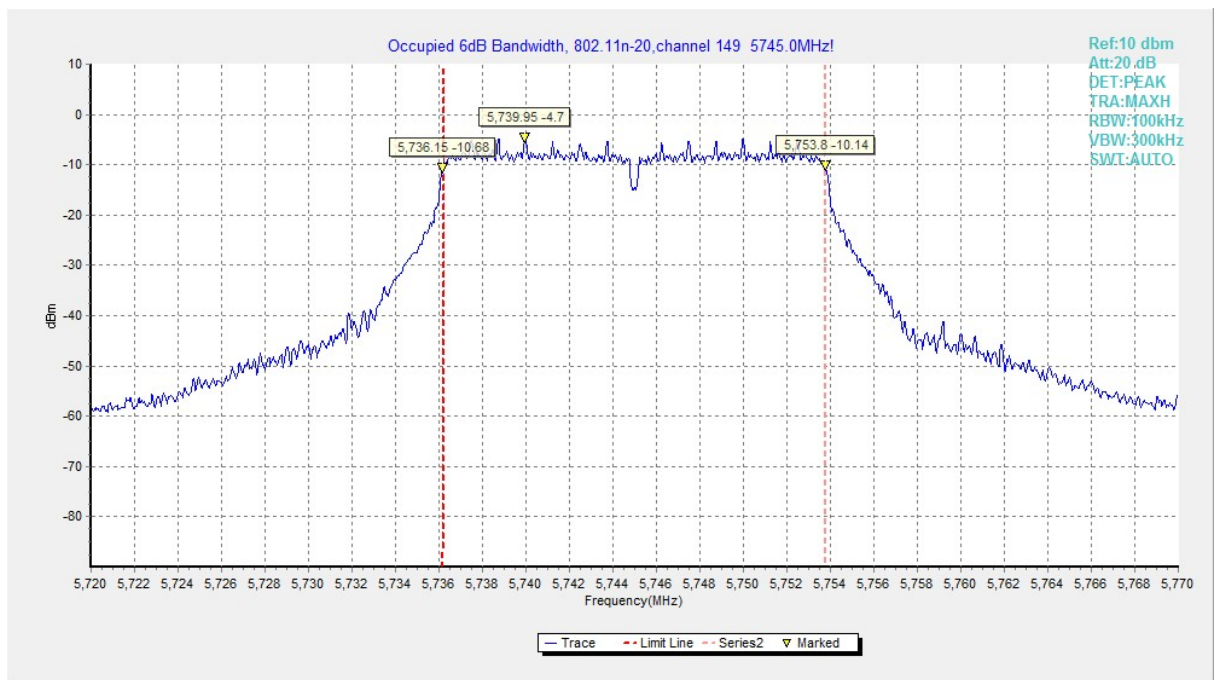


Fig. 4 Occupied 6dB Bandwidth (802.11n-HT20, Ch 149)

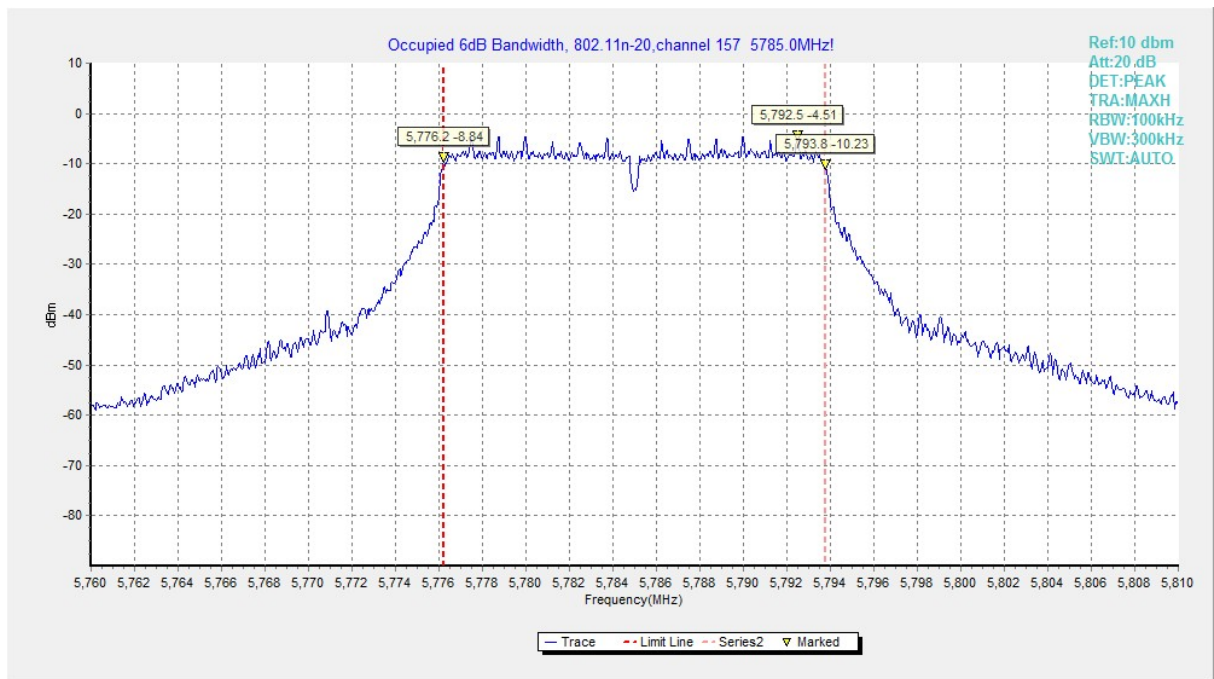


Fig. 5 Occupied 6dB Bandwidth (802.11n-HT20, Ch 157)

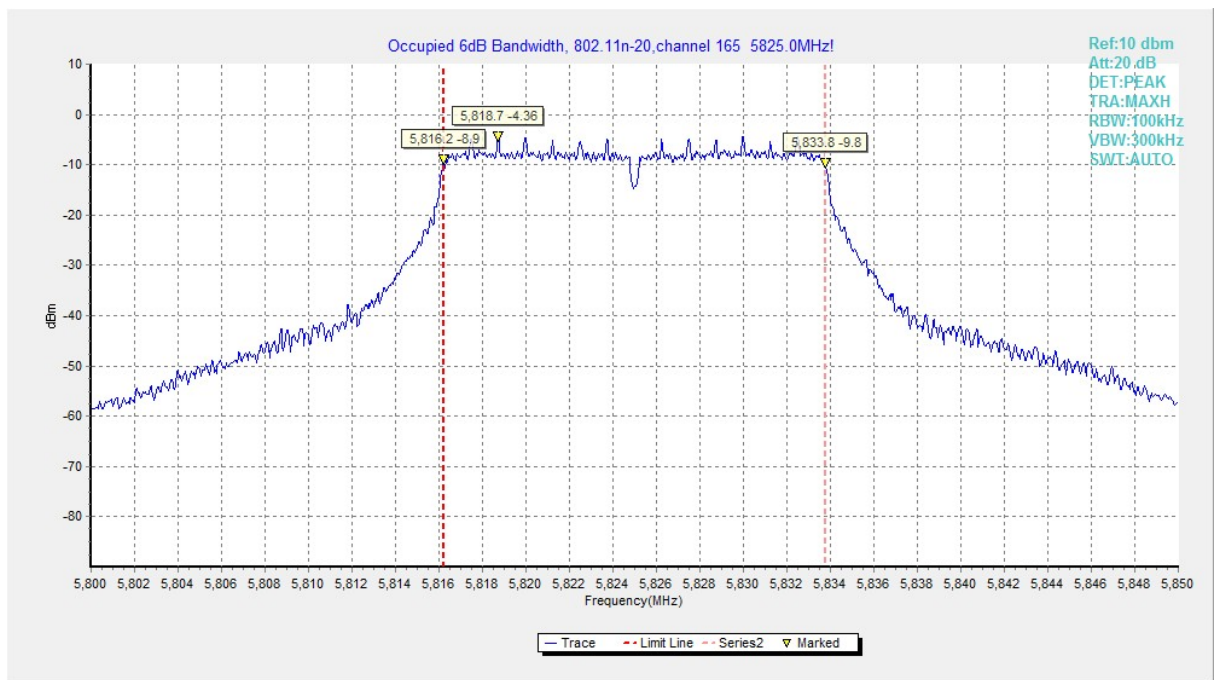


Fig. 6 Occupied 6dB Bandwidth (802.11n-HT20, Ch 165)

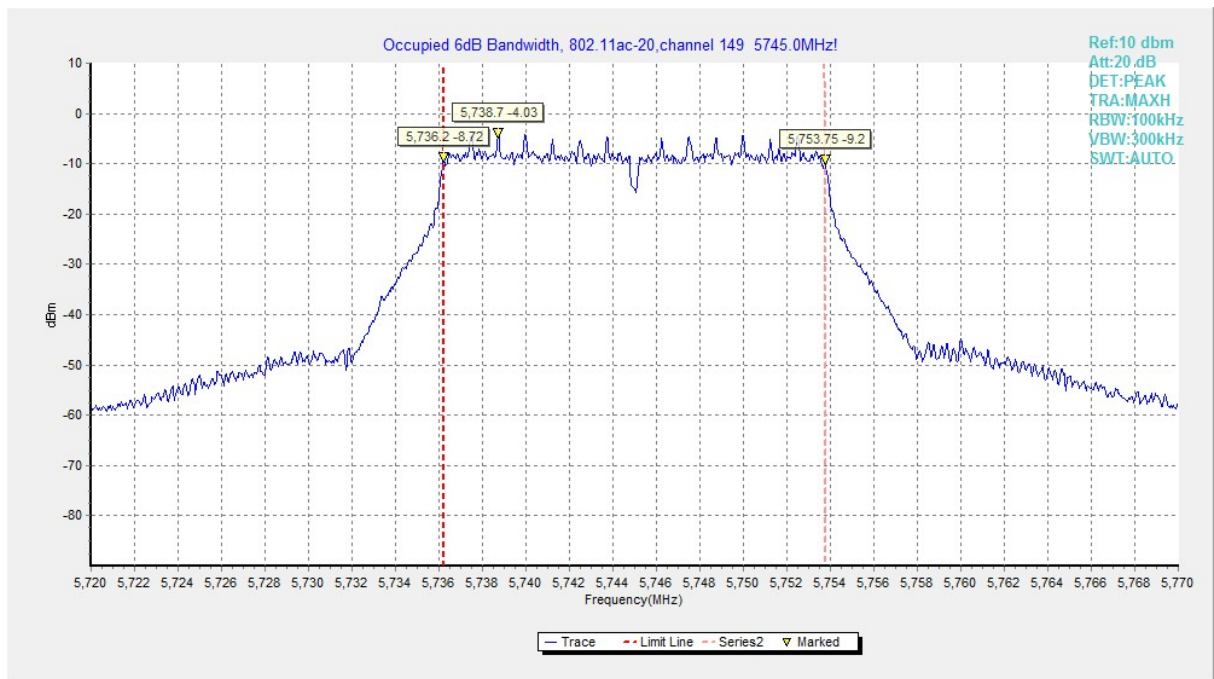


Fig. 7 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 149)

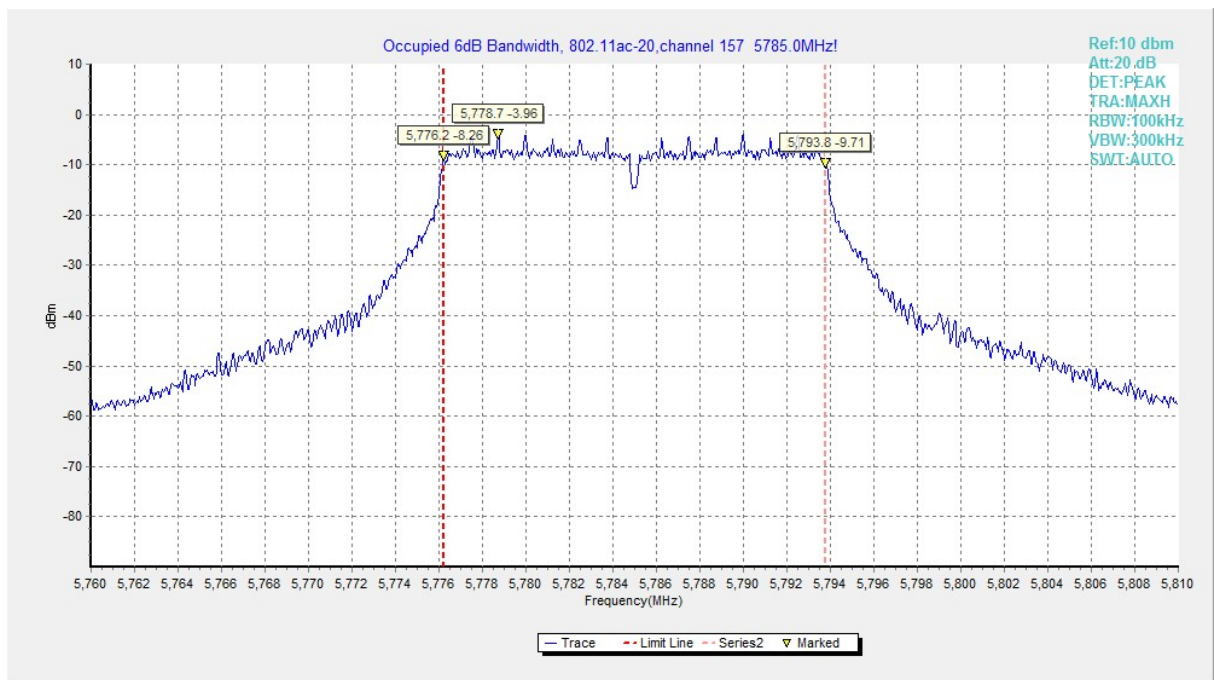


Fig. 8 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 157)

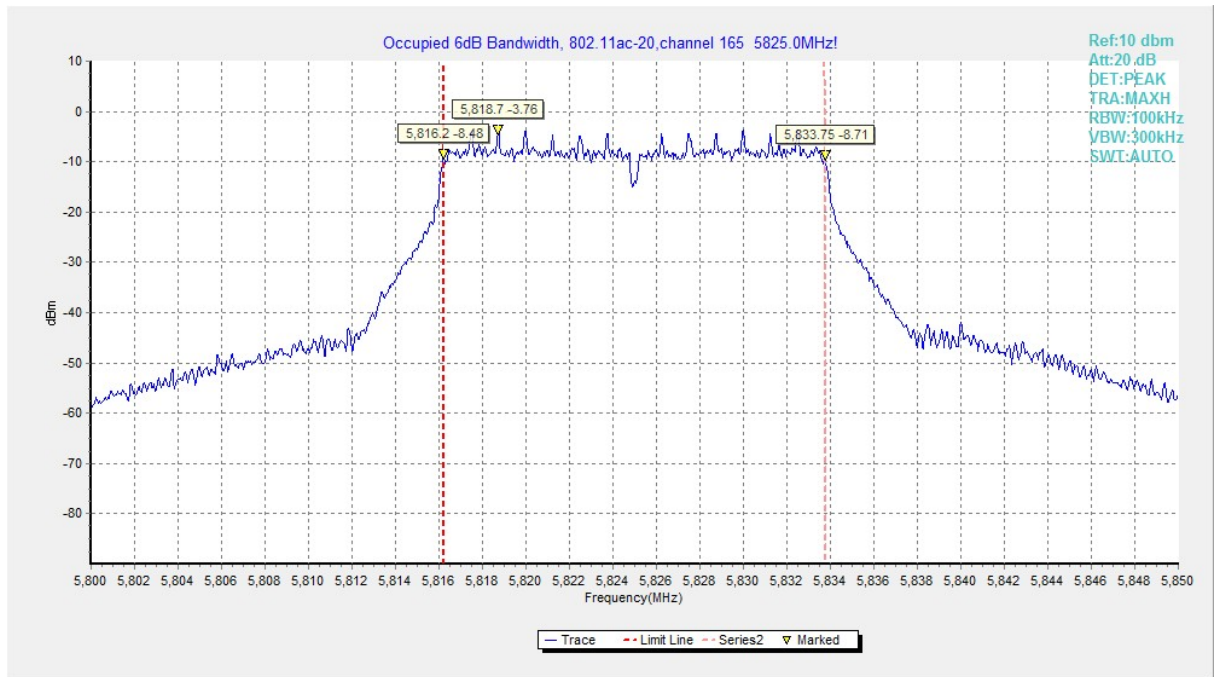


Fig. 9 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 165)

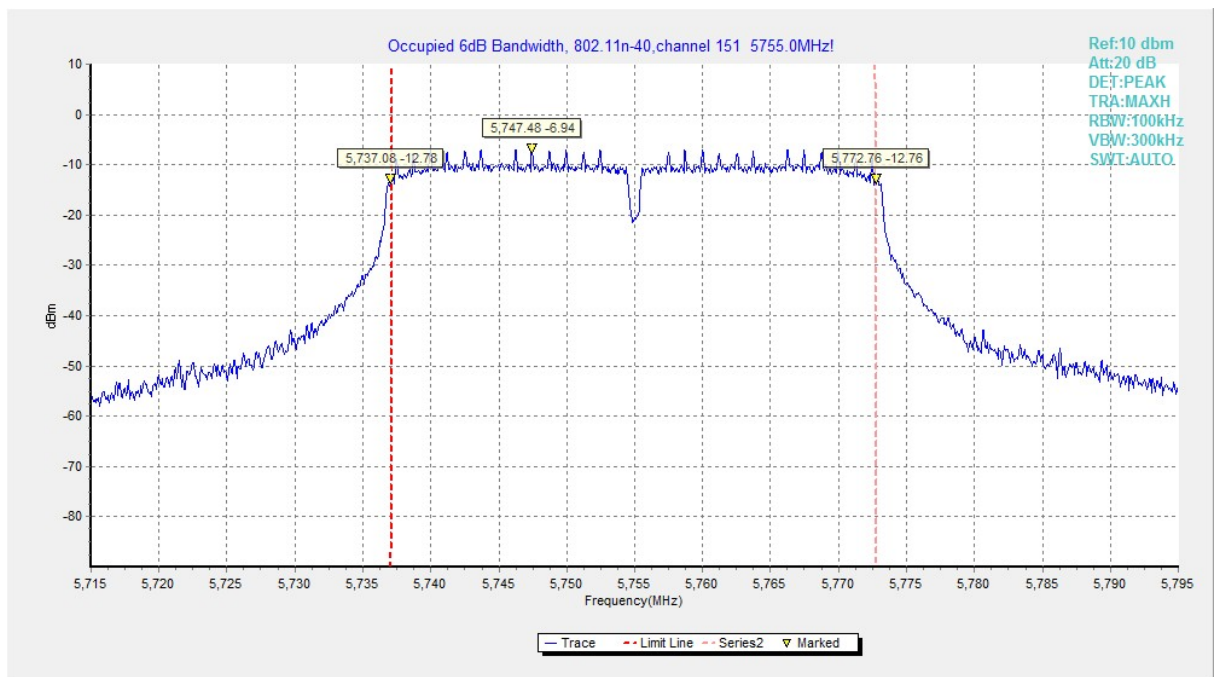


Fig. 10 Occupied 6dB Bandwidth (802.11n-HT40, Ch 151)

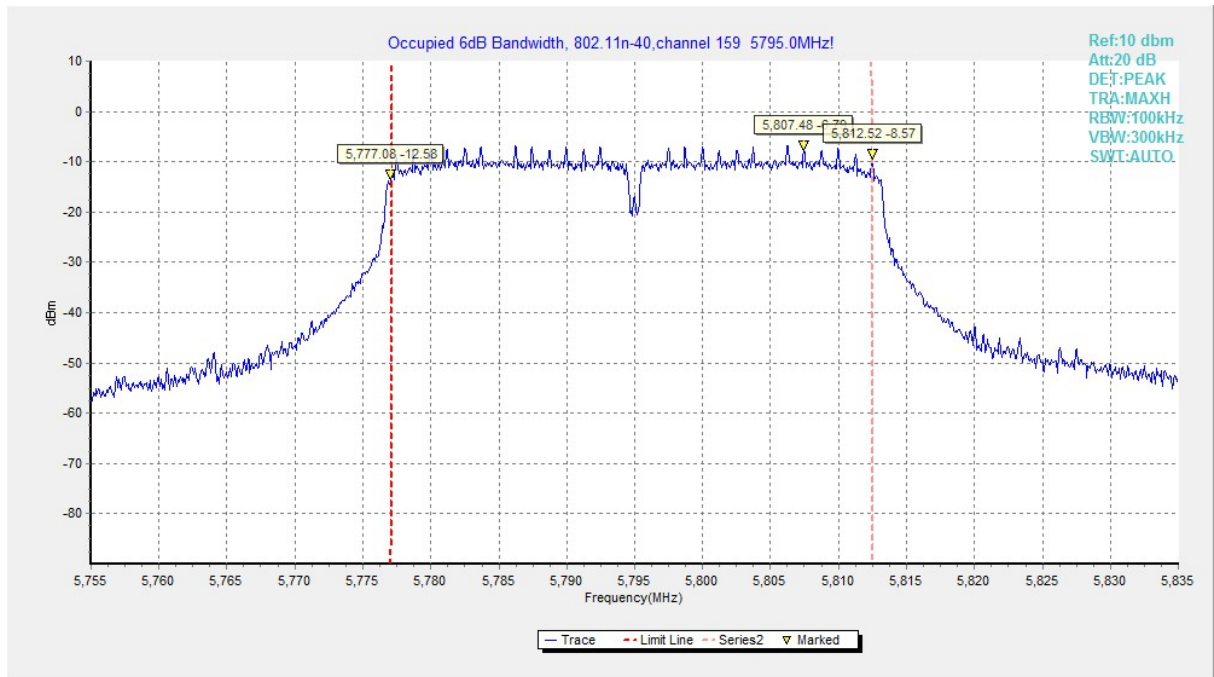


Fig. 11 Occupied 6dB Bandwidth (802.11n-HT40, Ch 159)

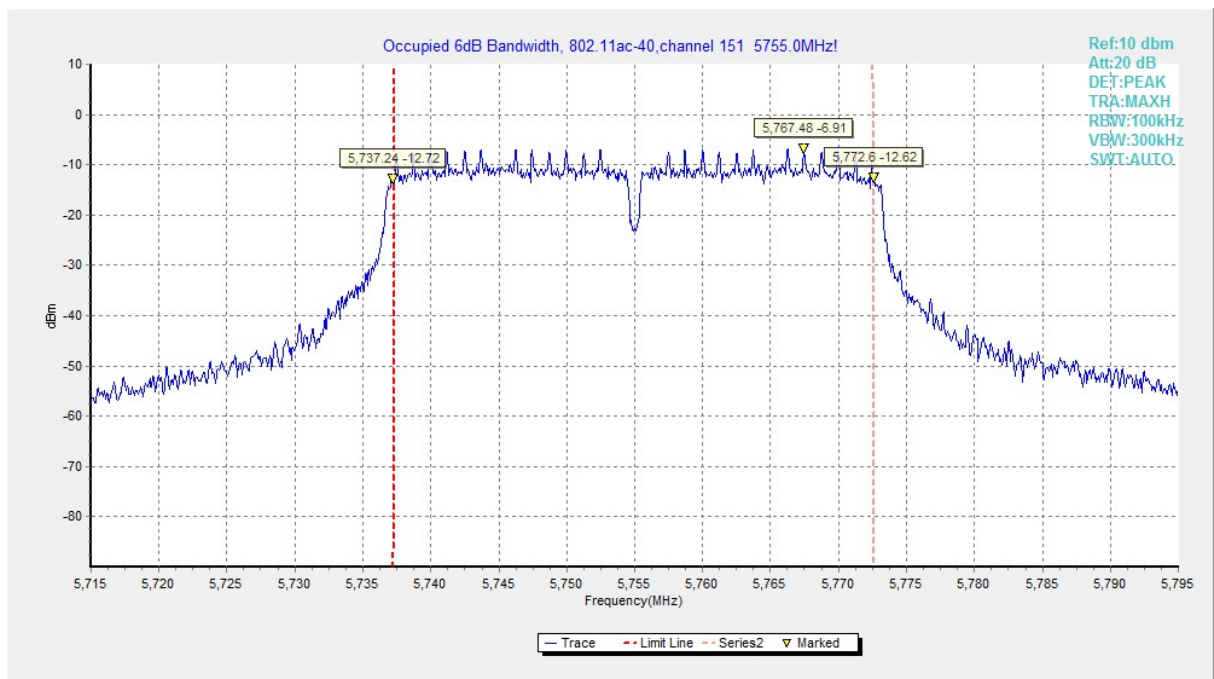


Fig. 12 Occupied 6dB Bandwidth (802.11ac-HT40, Ch 151)

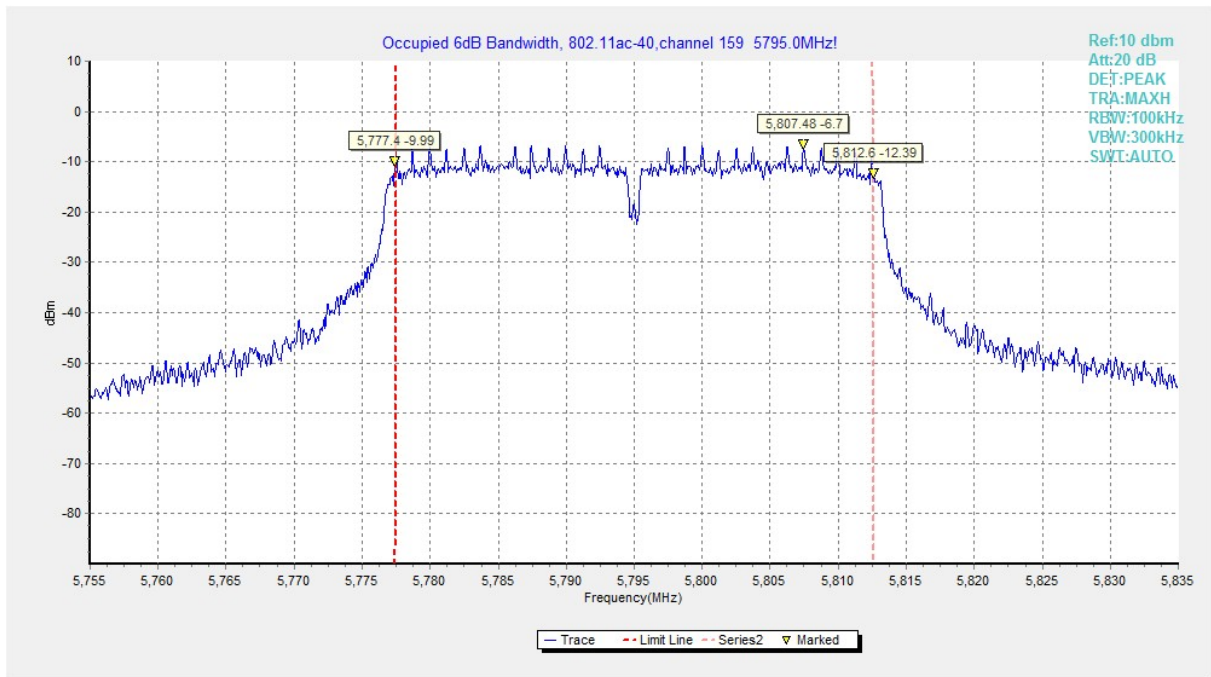


Fig. 13 Occupied 6dB Bandwidth (802.11ac-HT40, Ch 159)

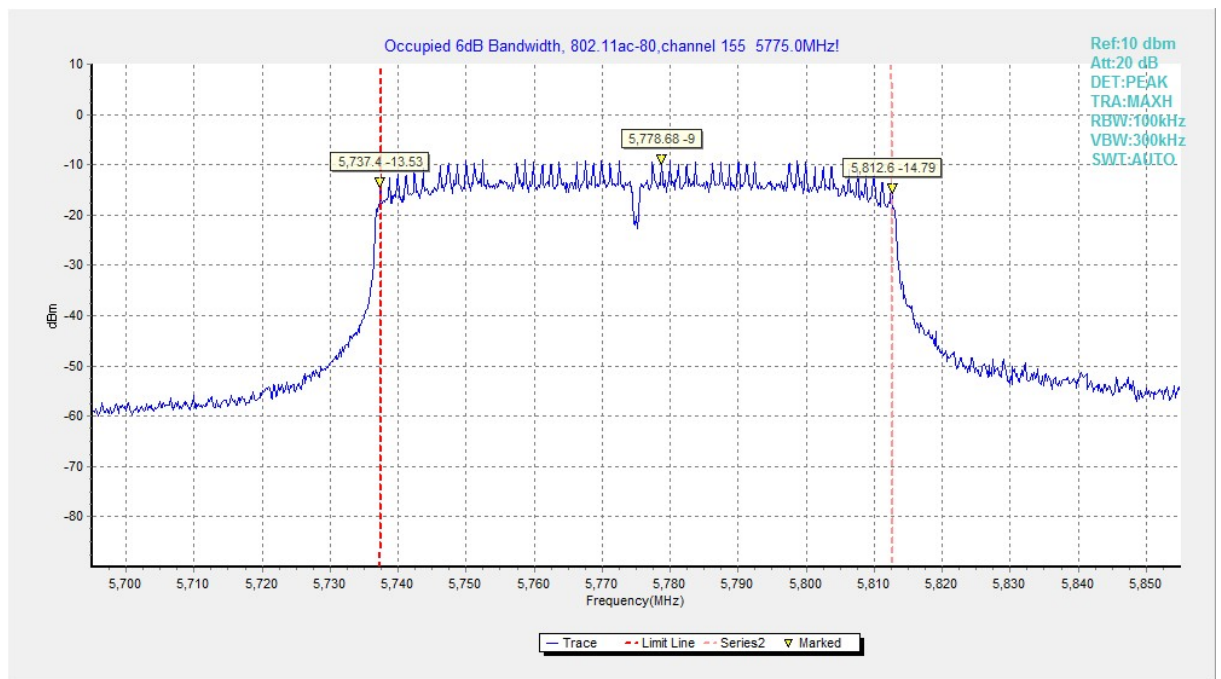


Fig. 14 Occupied 6dB Bandwidth (802.11ac-HT80, Ch 155)

A.5.2 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.	

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 of emission (MHz)	Field strength(uV/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

The measurement is made according to ANSI C63.10-2013 and 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
		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	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
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
802.11n (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
		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
802.11n (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-HT80 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (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
Ch149

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5394.400	39.3	-22.3	34.4	27.20	54.0	14.7	H	86
5413.200	39.2	-22.4	34.4	27.25	54.0	14.8	H	107
11490.200	44.3	-29.1	38.2	35.28	54.0	9.7	H	130
17749.200	37.5	-22.3	41.5	18.28	54.0	16.5	H	152
17826.200	37.6	-22.5	41.5	18.50	54.0	16.4	H	174
17917.500	37.9	-22.7	41.5	19.03	54.0	16.1	H	195

Ch157

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5363.600	37.7	-22.3	34.3	25.61	54.0	16.3	H	175
5389.600	37.9	-22.3	34.4	25.80	54.0	16.1	H	194
11569.400	41.4	-29.2	38.3	32.34	54.0	12.6	H	215
17730.500	37.6	-22.2	41.6	18.27	54.0	16.4	H	196
17613.000	37.4	-22.2	41.6	17.99	54.0	16.6	H	241
17835.000	37.6	-22.5	41.5	18.60	54.0	16.4	H	259

Ch165

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5365.600	37.9	-22.3	34.3	25.87	54.0	16.1	H	175
5406.000	38.0	-22.4	34.4	26.02	54.0	16.0	H	194
11649.700	43.7	-29.4	38.4	34.71	54.0	10.3	H	215
17733.800	37.7	-22.3	41.6	18.39	54.0	16.3	H	196
17824.000	37.6	-22.5	41.5	18.53	54.0	16.4	H	241
17913.100	38.0	-22.6	41.5	19.16	54.0	16.0	H	259

802.11n-HT20
Ch149

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5361.600	38.2	-22.3	34.3	26.19	54.0	15.8	H	40
5390.400	38.3	-22.3	34.4	26.20	54.0	15.7	H	65
11490.200	44.3	-29.1	38.2	35.26	54.0	9.7	H	84
17723.900	37.7	-22.2	41.6	18.40	54.0	16.3	H	107
17743.700	37.7	-22.3	41.6	18.39	54.0	16.3	H	135
17913.100	38.0	-22.6	41.5	19.11	54.0	16.0	H	151

Ch157

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5417.600	38.1	-22.5	34.4	26.23	54.0	15.9	H	4
5442.400	38.2	-22.6	34.4	26.46	54.0	15.8	H	26
11569.400	41.3	-29.2	38.3	32.31	54.0	12.7	H	356
17755.800	37.6	-22.3	41.5	18.31	54.0	16.4	H	348
17836.100	37.7	-22.5	41.5	18.61	54.0	16.3	H	174
17920.800	38.0	-22.7	41.5	19.15	54.0	16.0	H	112

Ch165

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5380.000	38.3	-22.3	34.4	26.28	54.0	15.7	H	8
5400.400	38.3	-22.3	34.4	26.28	54.0	15.7	H	28
11649.700	43.6	-29.4	38.4	34.63	54.0	10.4	H	6
17739.300	37.7	-22.3	41.6	18.39	54.0	16.3	H	278
17832.800	37.7	-22.5	41.5	18.66	54.0	16.3	H	122
17929.600	37.9	-22.7	41.5	19.06	54.0	16.1	H	245

802.11n-HT40
Ch151

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5410.400	38.5	-22.4	34.4	26.57	54.0	15.5	H	40
5438.800	38.6	-22.6	34.4	26.84	54.0	15.4	H	65
11510.000	44.2	-29.1	38.2	35.14	54.0	9.8	H	84
17750.300	37.7	-22.3	41.5	18.45	54.0	16.3	H	107
17831.700	37.8	-22.5	41.5	18.70	54.0	16.2	H	135
17903.200	38.1	-22.6	41.5	19.23	54.0	15.9	H	151

Ch159

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5361.600	38.7	-22.3	34.3	26.66	54.0	15.3	H	28
5367.600	38.7	-22.3	34.3	26.60	54.0	15.3	H	74
11590.300	40.7	-29.3	38.3	31.73	54.0	13.3	H	140
17736.000	37.8	-22.3	41.6	18.50	54.0	16.2	H	8
17831.700	37.8	-22.5	41.5	18.70	54.0	16.2	H	80
17905.400	38.1	-22.6	41.5	19.17	54.0	15.9	H	243

802.11ac-HT20

Ch149

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5385.600	38.6	-22.3	34.4	26.50	54.0	15.4	H	25
5394.000	38.5	-22.3	34.4	26.40	54.0	15.5	H	49
11490.200	44.4	-29.1	38.2	35.34	54.0	9.6	H	4
17726.100	37.7	-22.2	41.6	18.36	54.0	16.3	H	6
17836.100	37.6	-22.5	41.5	18.57	54.0	16.4	H	25
17908.700	38.1	-22.6	41.5	19.21	54.0	15.9	H	186

Ch157

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5386.400	38.6	-22.3	34.4	26.48	54.0	15.4	H	8
5391.600	38.6	-22.3	34.4	26.49	54.0	15.4	H	52
11569.400	41.5	-29.2	38.3	32.50	54.0	12.5	H	18
17835.000	37.8	-22.5	41.5	18.75	54.0	16.2	H	6
17913.100	38.0	-22.6	41.5	19.09	54.0	16.0	H	48
17949.400	37.7	-22.7	41.5	18.89	54.0	16.3	H	128

Ch165

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5350.800	38.4	-22.3	34.3	26.37	54.0	15.6	H	20
5389.200	38.6	-22.3	34.4	26.56	54.0	15.4	H	248
11649.700	43.8	-29.4	38.4	34.82	54.0	10.2	H	49
17748.100	37.7	-22.3	41.6	18.42	54.0	16.3	H	82
17832.800	37.7	-22.5	41.5	18.63	54.0	16.3	H	168
17919.700	38.0	-22.7	41.5	19.13	54.0	16.0	H	8

802.11ac-HT40

Ch151

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5362.000	38.7	-22.3	34.3	26.60	54.0	15.3	H	20
5391.200	38.8	-22.3	34.4	26.74	54.0	15.2	H	18
11510.000	44.3	-29.1	38.2	35.20	54.0	9.7	H	90
17719.500	37.8	-22.2	41.6	18.45	54.0	16.2	H	114
17833.900	37.8	-22.5	41.5	18.75	54.0	16.2	H	36
17907.600	38.2	-22.6	41.5	19.29	54.0	15.8	H	2

Ch159

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5389.200	38.9	-22.3	34.4	26.85	54.0	15.1	H	8
5404.000	38.8	-22.3	34.4	26.73	54.0	15.2	H	46
11589.200	40.7	-29.3	38.3	31.66	54.0	13.3	H	20
17734.900	37.8	-22.3	41.6	18.53	54.0	16.2	H	118
17825.100	37.8	-22.5	41.5	18.77	54.0	16.2	H	82
17909.800	38.0	-22.6	41.5	19.17	54.0	16.0	H	46

802.11ac-HT80

Ch155

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5380.000	38.9	-32.3	34.5	36.64	54.0	15.1	H	135
5388.800	38.9	-32.3	34.5	36.62	54.0	15.1	H	160
16788.900	36.5	-23.0	41.6	17.95	54.0	17.5	H	92
17733.800	37.6	-22.3	41.2	18.60	54.0	16.4	H	115
17830.600	37.6	-22.5	41.3	18.78	54.0	16.4	H	112
17916.400	37.9	-22.7	41.3	19.25	54.0	16.1	H	85

Peak Results:

802.11a
Ch149

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5650.138	54.3	-22.8	34.7	42.42	68.3	14.0	V	88
5652.277	54.8	-22.8	34.7	42.99	69.9	15.1	H	110
11489.650	52.1	-29.2	38.2	43.05	74.0	21.9	V	132
17234.950	53.6	-22.8	41.9	34.55	68.3	14.7	H	154
17397.200	55.5	-23.0	41.7	36.81	68.3	12.8	V	176
17508.850	56.6	-22.8	41.6	37.83	68.3	11.7	V	198

Ch157

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5732.400	53.2	-23.0	34.8	41.34	68.3	15.1	V	176
5824.400	53.4	-22.6	35.0	40.95	68.3	14.9	H	198
11569.950	54.1	-29.2	38.3	45.09	74.0	19.9	V	220
17354.850	54.8	-22.9	41.8	35.94	68.3	13.5	H	198
17492.350	56.2	-23.0	41.6	37.50	68.3	12.1	H	242
17626.500	57.1	-22.1	41.6	37.62	68.3	11.2	V	264

Ch165

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5923.586	54.0	-22.2	35.2	41.02	69.2	15.3	V	176
5924.713	54.0	-22.2	35.2	41.03	68.4	14.4	H	198
11651.900	57.0	-29.4	38.4	48.02	74.0	17.0	V	220
17474.750	53.9	-23.1	41.6	35.38	68.3	14.4	H	198
17575.400	58.0	-22.4	41.6	38.84	68.3	10.3	H	242
17621.050	56.3	-22.1	41.6	36.79	68.3	12.0	V	264

802.11n-HT20
Ch149

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5650.058	53.2	-22.8	34.7	41.36	68.2	15.0	H	88
5651.104	53.1	-22.8	34.7	41.26	69.0	15.9	H	110
11489.650	52.5	-29.2	38.2	43.45	74.0	21.5	H	88
17234.950	53.9	-22.8	41.9	34.87	68.3	14.4	V	110
17341.100	56.5	-22.9	41.8	37.62	68.3	11.8	V	132
17522.600	54.4	-22.8	41.6	35.57	68.3	13.9	H	154

Ch157

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5732.400	54.9	-23.0	34.8	43.04	68.3	13.4	H	0
5844.600	53.8	-22.4	35.0	41.21	68.3	14.5	V	22
11569.400	53.8	-29.2	38.3	44.82	74.0	20.2	V	352
17354.850	54.0	-22.9	41.8	35.18	68.3	14.3	V	352
17530.850	56.8	-22.7	41.6	37.90	68.3	11.5	V	176
17652.950	56.5	-22.1	41.6	37.05	68.3	11.8	V	110

Ch165

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5922.217	54.6	-22.2	35.2	41.63	70.3	15.7	V	0
5924.241	55.0	-22.2	35.2	42.09	68.8	13.7	V	22
11659.050	56.2	-29.4	38.4	47.26	74.0	17.8	H	0
17474.750	54.6	-23.1	41.6	36.02	68.3	13.7	H	264
17513.250	56.2	-22.8	41.6	37.39	68.3	12.1	H	110
17611.700	5.8	-22.2	41.6	-13.64	68.3	62.5	H	242

802.11n-HT40

Ch151

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5650.219	54.3	-22.8	34.7	42.49	68.4	14.0	V	44
5651.024	54.9	-22.8	34.7	43.04	69.0	14.1	H	66
11510.000	52.6	-29.1	38.2	43.54	74.0	21.4	H	88
17454.400	56.7	-23.2	41.7	38.24	68.3	11.6	V	110
17265.200	54.3	-22.8	41.9	35.25	68.3	14.0	V	132
17558.900	56.1	-22.5	41.6	37.00	68.3	12.2	H	154

Ch159

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5923.206	54.7	-22.2	35.2	41.76	69.5	14.8	H	22
5924.391	54.9	-22.2	35.2	41.92	68.7	13.8	H	66
11589.750	52.5	-29.3	38.3	43.46	74.0	21.5	V	132
17385.100	54.3	-23.0	41.7	35.61	68.3	14.0	H	0
17507.750	56.8	-22.9	41.6	38.09	68.3	11.5	V	88
17580.350	57.0	-22.4	41.6	37.74	68.3	11.3	V	242

802.11ac-HT20

Ch149

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5650.242	53.1	-22.8	34.7	41.27	68.4	15.3	H	22
5652.197	54.5	-22.8	34.7	42.63	69.8	15.3	V	44
11490.200	52.1	-29.1	38.2	43.10	74.0	21.9	H	0
17234.950	54.2	-22.8	41.9	35.14	68.3	14.1	H	0
17462.100	57.0	-23.2	41.6	38.50	68.3	11.3	H	22
17533.050	56.5	-22.7	41.6	37.63	68.3	11.8	H	176

Ch157

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5732.600	55.3	-23.0	34.8	43.49	68.3	13.0	V	0
5847.200	54.0	-22.4	35.0	41.42	68.3	14.3	H	44
11571.050	53.4	-29.2	38.3	44.40	74.0	20.6	V	22
17354.850	53.9	-22.9	41.8	35.07	68.3	14.4	H	0
17410.400	54.9	-23.1	41.7	36.30	68.3	13.4	H	44
17441.750	56.3	-23.1	41.7	37.81	68.3	12.0	V	132

Ch165

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5923.597	54.6	-22.2	35.2	41.70	69.2	14.6	H	22
5924.897	55.2	-22.2	35.2	42.19	68.3	13.1	V	242
11651.350	55.9	-29.4	38.4	46.96	74.0	18.1	H	44
17474.750	54.2	-23.1	41.6	35.60	68.3	14.1	V	88
17553.400	56.8	-22.5	41.6	37.80	68.3	11.5	V	176
17641.400	57.2	-22.0	41.6	37.70	68.3	11.1	V	0

802.11ac-HT40

Ch151

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5650.345	54.3	-22.8	34.7	42.44	68.5	14.2	H	22
5650.495	54.1	-22.8	34.7	42.28	68.6	14.5	H	22
11510.000	52.0	-29.1	38.2	42.89	74.0	22.0	H	88
17265.200	55.2	-22.8	41.9	36.15	68.3	13.1	V	110
17419.200	56.1	-23.1	41.7	37.45	68.3	12.2	V	44
17549.000	56.8	-22.6	41.6	37.80	68.3	11.5	H	0

Ch159

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5923.655	55.5	-22.2	35.2	42.51	69.2	13.7	H	0
5924.954	54.9	-22.2	35.2	41.94	68.2	13.3	H	44
11590.300	53.0	-29.3	38.3	44.03	74.0	21.0	V	22
17385.100	54.2	-23.0	41.7	35.51	68.3	14.1	H	110
17532.500	56.3	-22.7	41.6	37.35	68.3	12.0	H	88
17618.300	56.7	-22.1	41.6	37.20	68.3	11.6	H	44

802.11ac-HT80

Ch155

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Turntable angle (deg)
5650.334	53.3	-32.8	34.8	51.31	74.0	20.7	H	132
5651.587	55.1	-32.8	34.8	53.17	74.0	18.9	H	154
11550.150	50.0	-29.2	38.5	40.69	74.0	24.0	V	88
17325.150	54.0	-22.9	41.4	35.48	68.3	14.3	H	110
17513.250	56.6	-22.8	41.2	38.22	68.3	11.7	V	110
17639.200	57.1	-22.0	41.2	37.86	68.3	11.3	V	88

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.	

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 of emission (MHz)	Field strength(μV/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

The measurement is made according to ANSI C63.10-2013 and KDB 789033

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz	Fig.83	P
	5825 MHz	Fig.84	P
802.11n HT20	5745 MHz	Fig.85	P
	5825 MHz	Fig.86	P
802.11n HT40	5755 MHz	Fig.87	P
	5795 MHz	Fig.88	P
802.11ac HT20	5745 MHz	Fig.89	P
	5825 MHz	Fig.90	P
802.11ac HT40	5755 MHz	Fig.91	P
	5795 MHz	Fig.92	P
802.11ac HT80	5775 MHz	Fig.93 Fig.94	P

Conclusion: PASS

Test graphs as below:

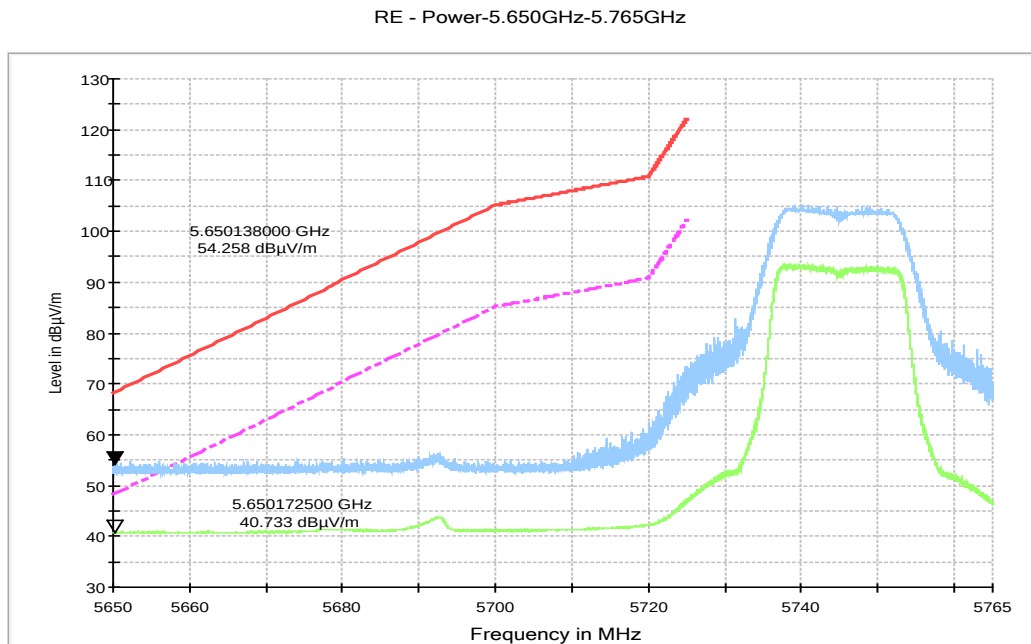


Fig. 15 Band Edges (802.11a, 5745MHz)

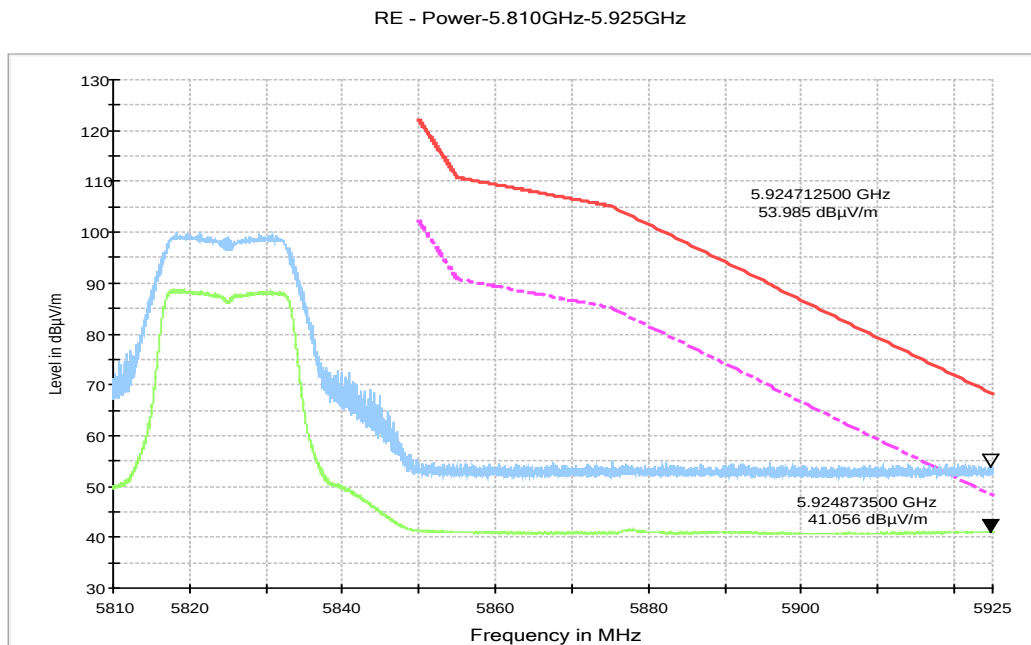


Fig. 16 Band Edges (802.11a, 5825MHz)

RE - Power-5.650GHz-5.765GHz

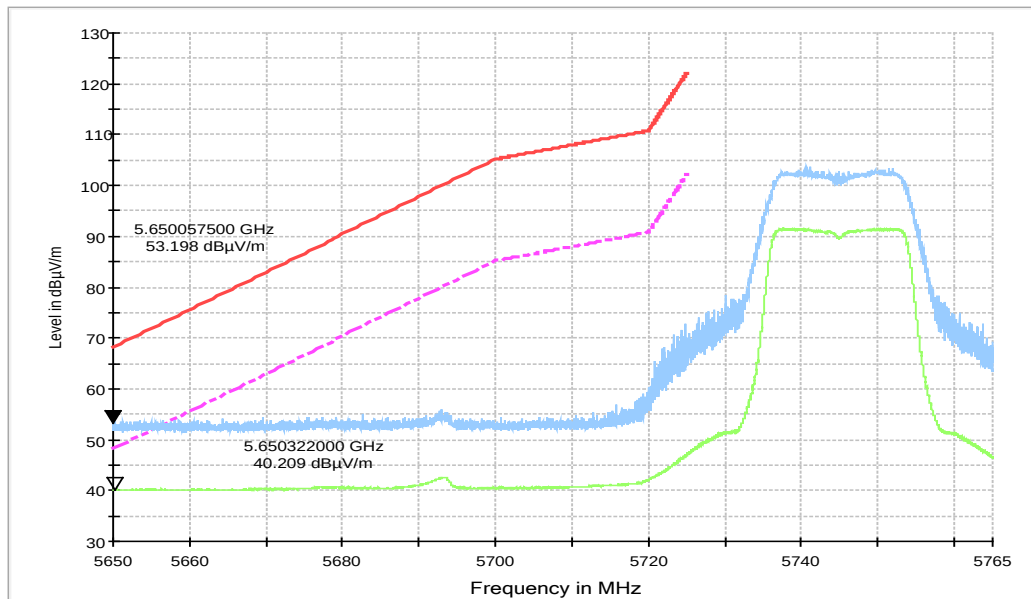


Fig. 17 Band Edges (802.11n-HT20, 5745MHz)

RE - Power-5.810GHz-5.925GHz

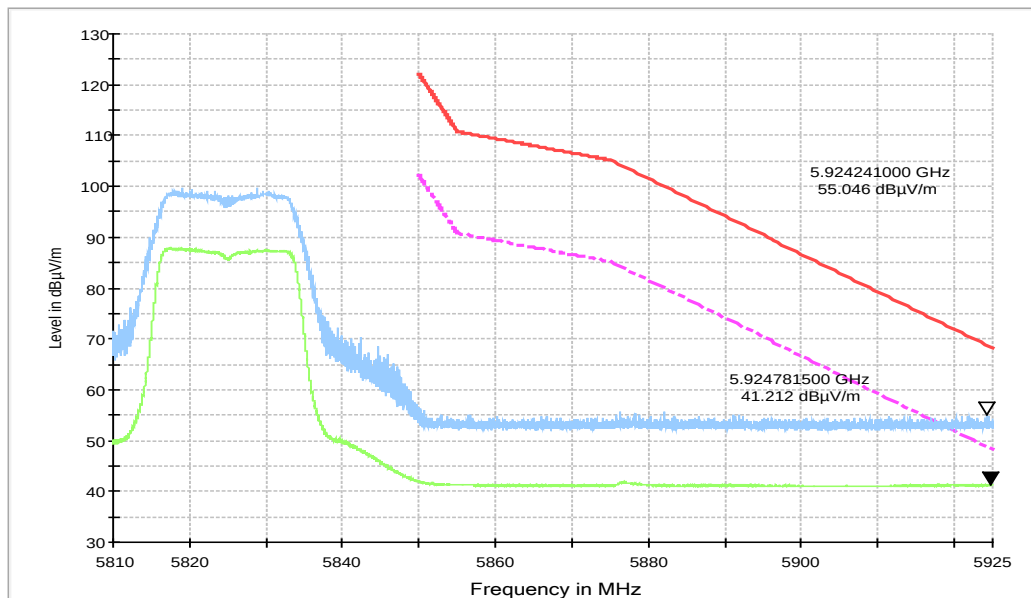


Fig. 18 Band Edges (802.11n-HT20, 5825MHz)

RE - Power-5.650GHz-5.765GHz

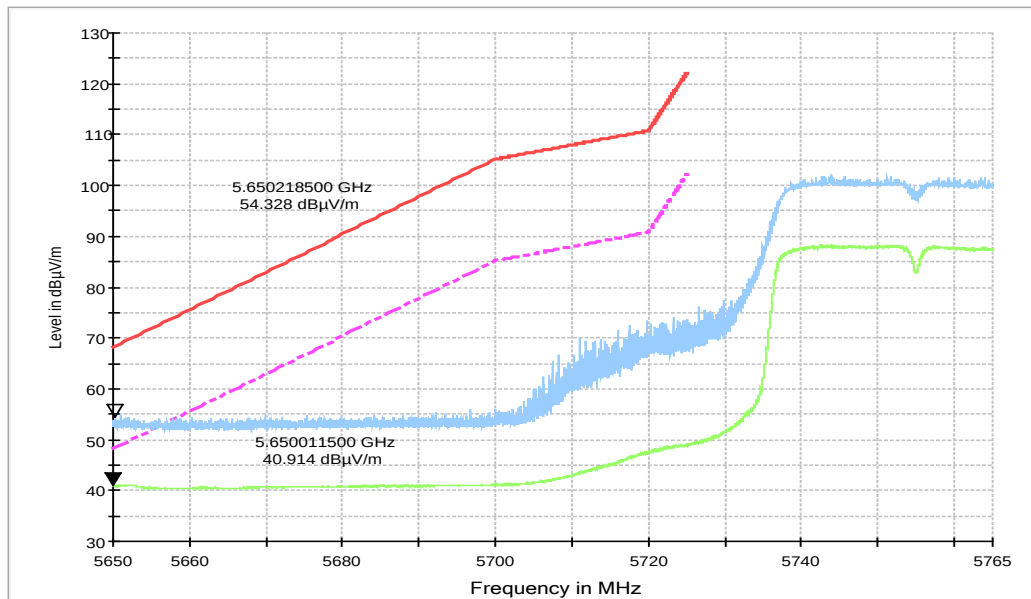


Fig. 19 Band Edges (802.11n-HT40, 5755MHz)

RE - Power-5.810GHz-5.925GHz

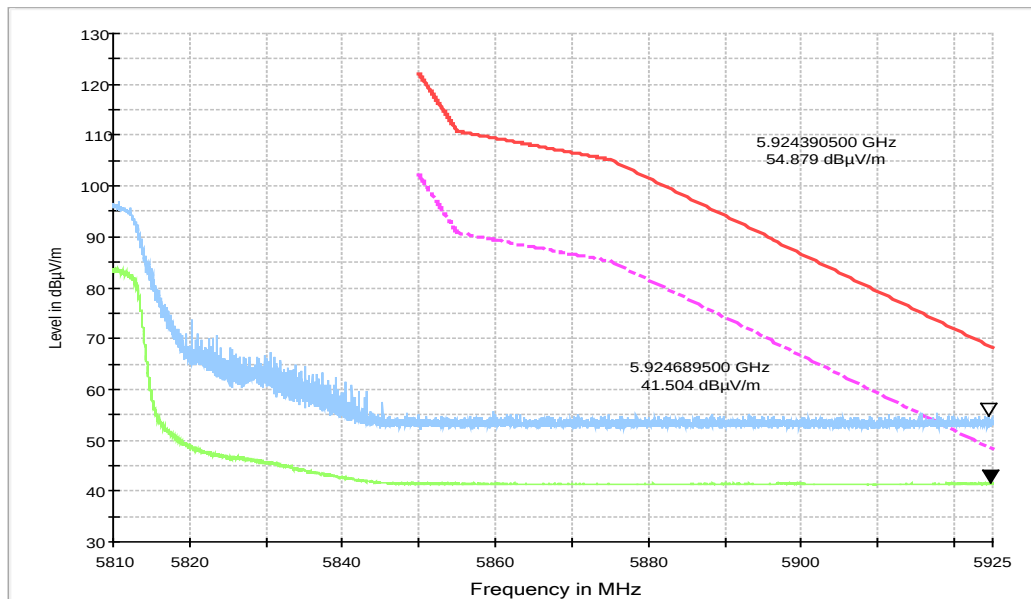


Fig. 20 Band Edges (802.11n-HT40, 5795MHz)

RE - Power-5.650GHz-5.765GHz

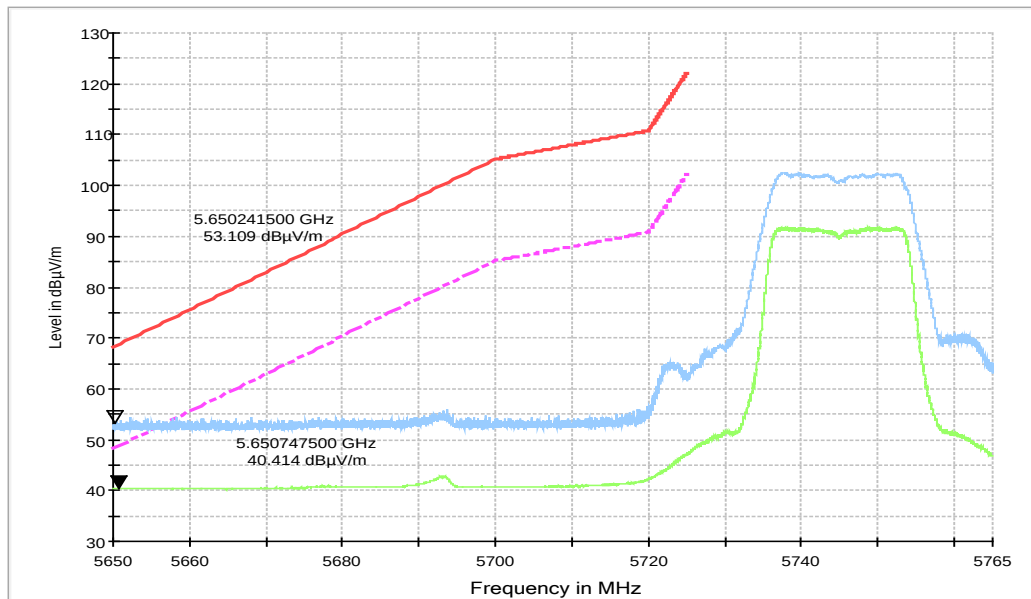


Fig. 21 Band Edges (802.11ac-HT20, 5745MHz)

RE - Power-5.810GHz-5.925GHz

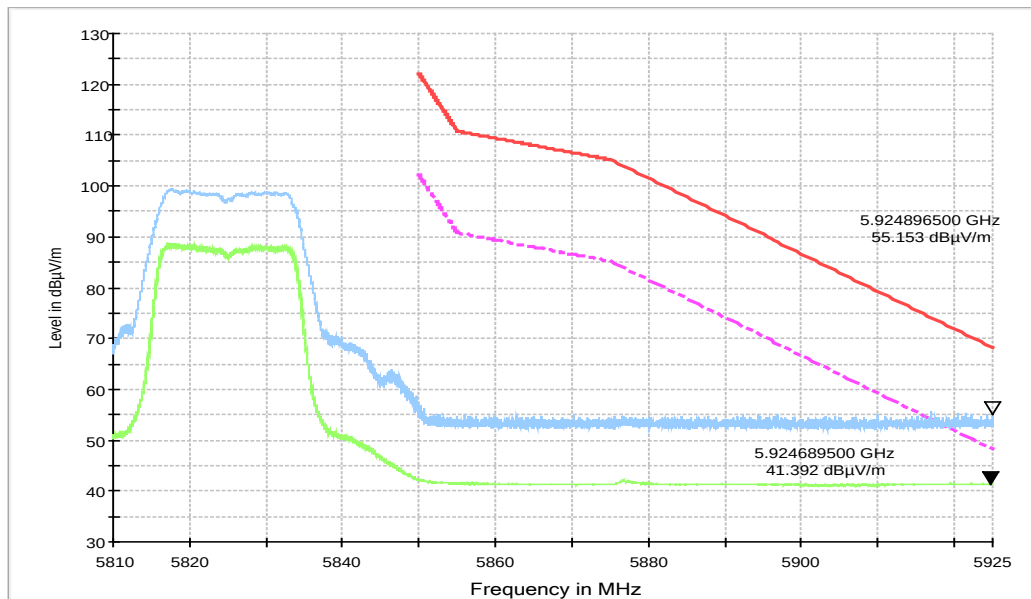


Fig. 22 Band Edges (802.11ac-HT20, 5825MHz)

RE - Power-5.650GHz-5.765GHz

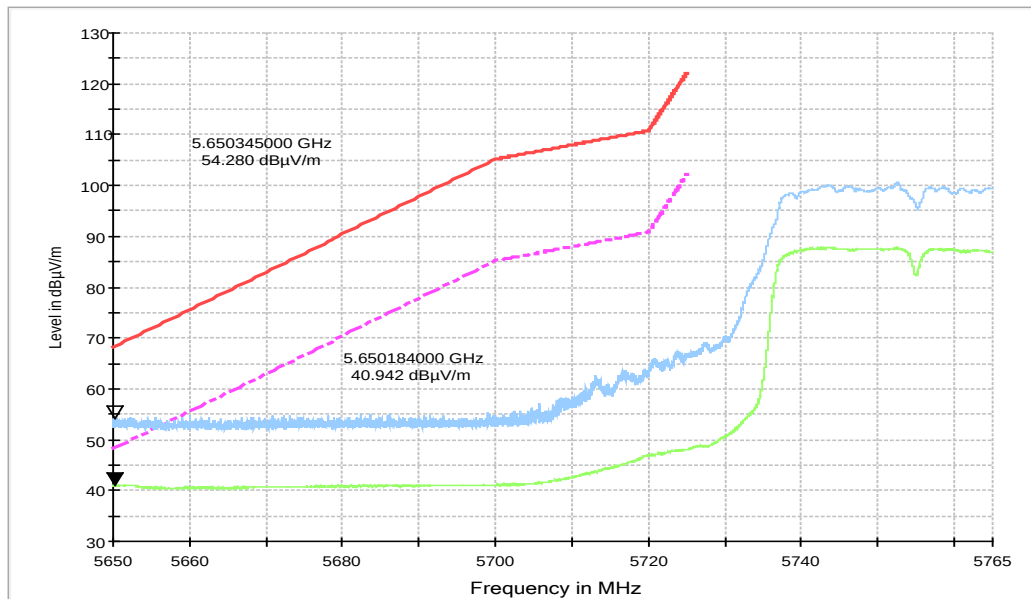


Fig. 23 Band Edges (802.11ac-HT40, 5755MHz)

RE - Power-5.810GHz-5.925GHz

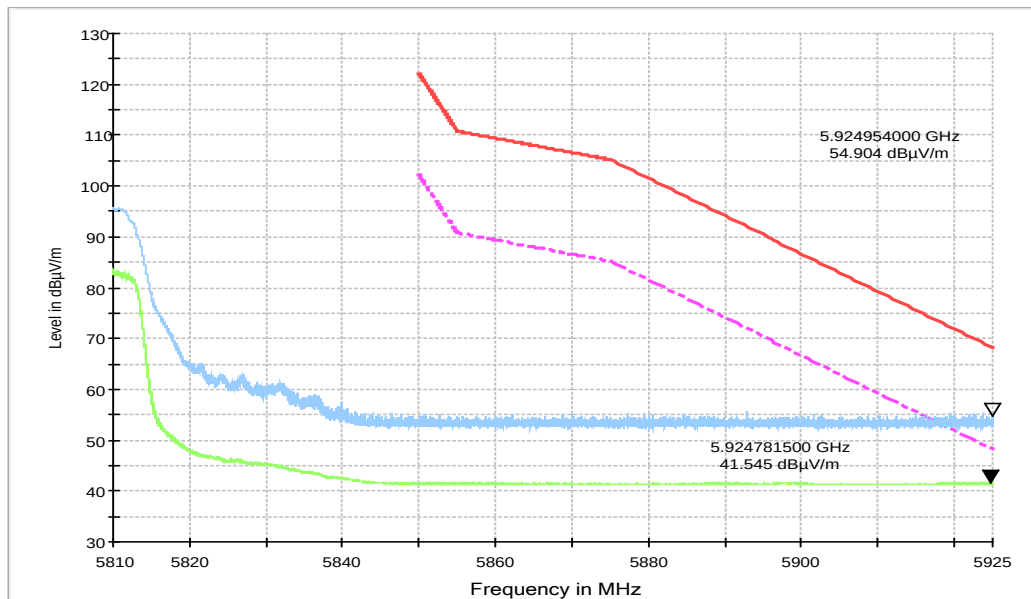


Fig. 24 Band Edges (802.11ac-HT40, 5795MHz)

RE - Power-5.650GHz-5.765GHz

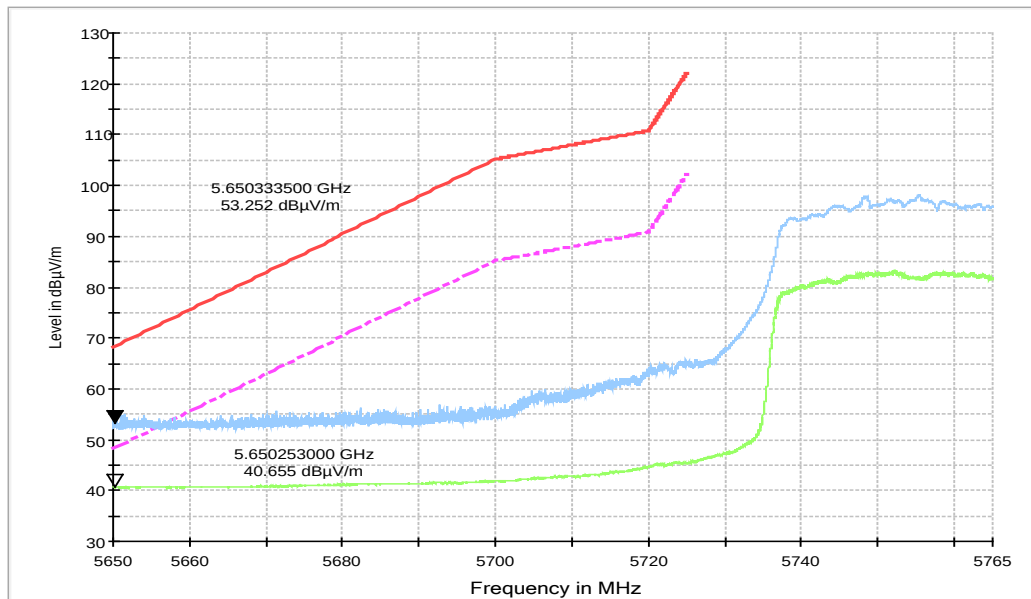


Fig. 25 Band Edges (802.11ac-HT80, 5775MHz)

RE - Power-5.810GHz-5.925GHz

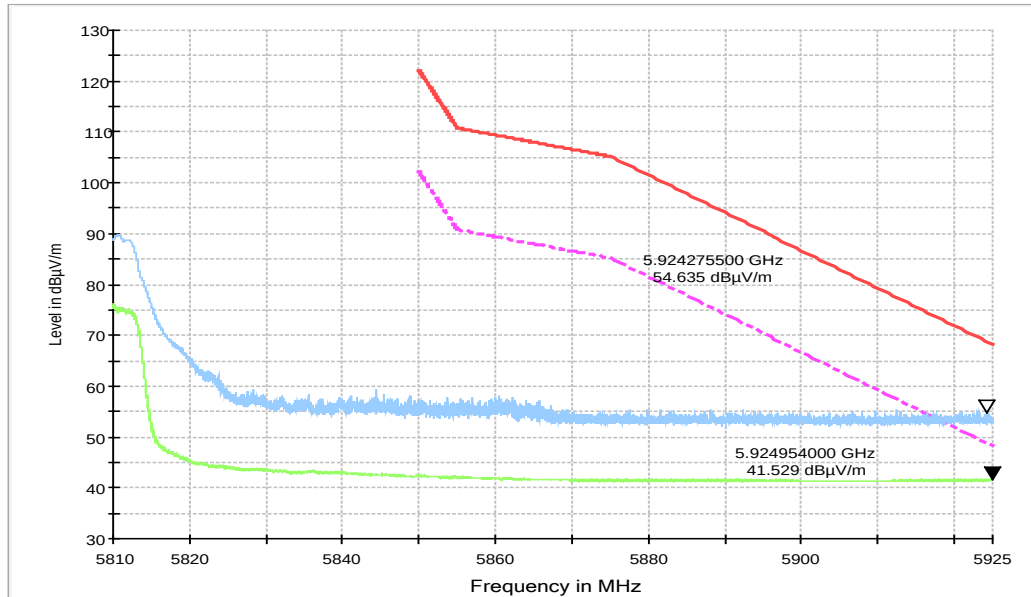


Fig. 26 Band Edges (802.11ac-HT80, 5775MHz)

A.7. AC Powerline Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement uncertainty:

Expanded measurement uncertainty for this test item is $U = 3.10\text{dB}$, $k=2$.

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.95	Fig.96	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.95	Fig.96	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:

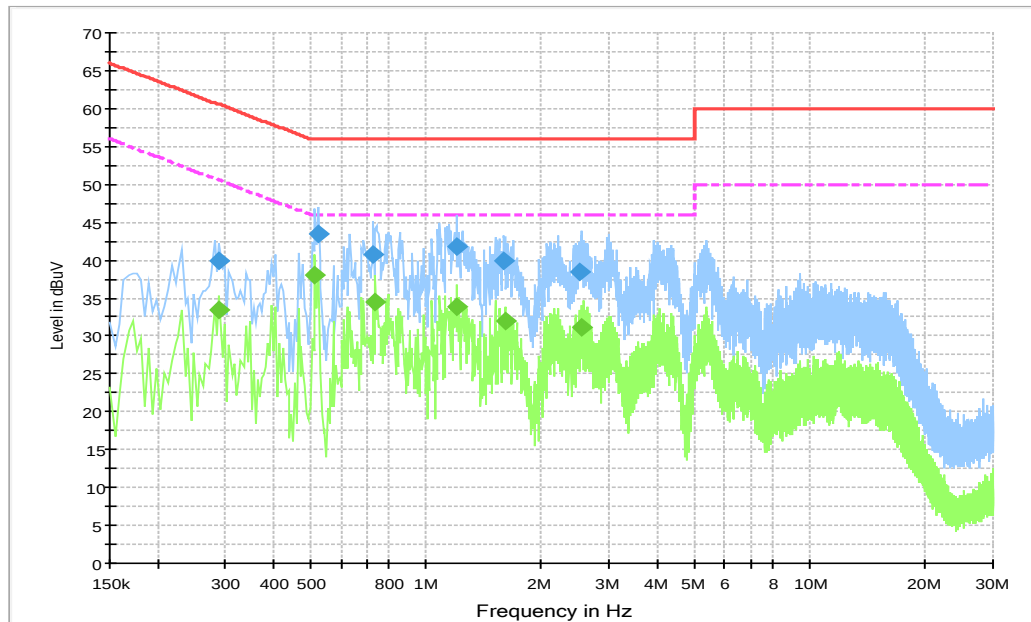


Fig. 27 AC Power line Conducted Emission-802.11a

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.289500	39.9	1000.0	9.000	L1	19.9	20.6	60.5
0.523500	43.4	1000.0	9.000	L1	20.0	12.6	56.0
0.730500	40.7	1000.0	9.000	L1	19.9	15.3	56.0
1.203000	41.7	1000.0	9.000	L1	19.8	14.3	56.0
1.599000	40.0	1000.0	9.000	L1	19.8	16.0	56.0
2.521500	38.4	1000.0	9.000	L1	19.8	17.6	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.289500	33.3	1000.0	9.000	L1	19.9	17.2	50.5
0.514500	38.1	1000.0	9.000	L1	20.0	7.9	46.0
0.739500	34.5	1000.0	9.000	L1	19.9	11.5	46.0
1.203000	33.8	1000.0	9.000	L1	19.8	12.2	46.0
1.603500	31.9	1000.0	9.000	L1	19.8	14.1	46.0
2.553000	31.1	1000.0	9.000	L1	19.8	14.9	46.0

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

Idle:

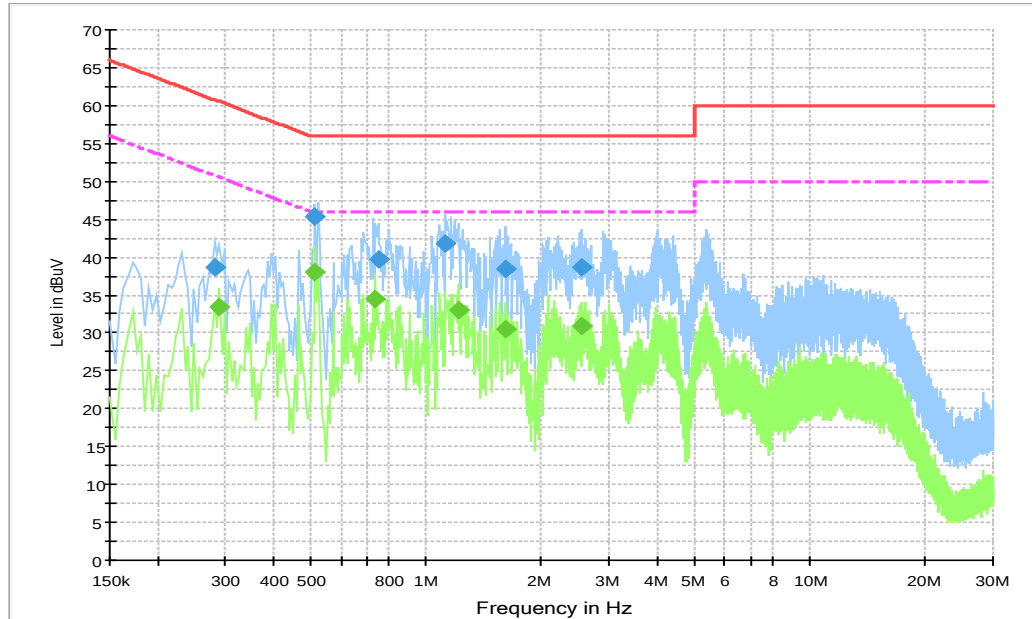


Fig. 28 AC Power line Conducted Emission-Idle

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)
0.280500	38.6	1000.0	9.000	L1	19.9	22.2	60.8
0.514500	45.3	1000.0	9.000	L1	20.0	10.7	56.0
0.753000	39.6	1000.0	9.000	L1	19.9	16.4	56.0
1.126500	41.7	1000.0	9.000	L1	19.8	14.3	56.0
1.612500	38.4	1000.0	9.000	L1	19.8	17.6	56.0
2.535000	38.8	1000.0	9.000	L1	19.8	17.2	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.289500	33.4	1000.0	9.000	L1	19.9	17.2	50.5
0.514500	38.0	1000.0	9.000	L1	20.0	8.0	46.0
0.739500	34.5	1000.0	9.000	L1	19.9	11.5	46.0
1.212000	33.0	1000.0	9.000	L1	19.8	13.0	46.0
1.612500	30.5	1000.0	9.000	L1	19.8	15.5	46.0
2.557500	30.8	1000.0	9.000	L1	19.8	15.2	46.0

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

ANNEX B: Accreditation Certificate

United States Department of Commerce National Institute of Standards and Technology NVLAP[®]  Certificate of Accreditation to ISO/IEC 17025:2017	
NVLAP LAB CODE: 600118-0	
Telecommunication Technology Labs, CAICT Beijing China	
<i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i>	
Electromagnetic Compatibility & Telecommunications	
<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 Communiqué dated January 2009).</i>	
2020-09-29 through 2021-09-30 <i>Effective Dates</i>	 For the National Voluntary Laboratory Accreditation Program

*** END OF REPORT BODY ***