FCC PART 15C
TEST REPORT
No.I23Z60669-IOT02

for

Wingtech Group (Hong Kong) Limited

4G Mobile phone

WTATTRW2

With

FCC ID: 2APXW-WTATTRW2

Hardware Version: V1.1

Software Version: WTATTRW2_0.01.05

Issued Date: 2023-06-13

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

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I23Z60669-IOT02	Rev.0	1st edition	2023-06-13

CONTENTS

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

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. Testing Environment

Normal Temperature: 15-35℃

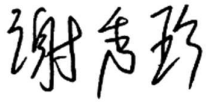
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2023-04-10

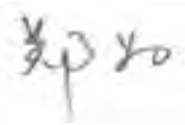
Testing End Date: 2023-06-13

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:	Wingtech Group (Hong Kong) Limited
Address:	Flat/RM 1903 19/F, Podium Plaza, 5 Hanoi Road, Tsim Sha Tsui, KL, HK
City:	Hong Kong
Postal Code:	/
Country:	China
Telephone:	+86-21-53529900
Fax:	/

2.2 Manufacturer Information

Company Name:	Wingtech Group (Hong Kong) Limited
Address:	Flat/RM 1903 19/F, Podium Plaza, 5 Hanoi Road, Tsim Sha Tsui, KL, HK
City:	Hong Kong
Postal Code:	/
Country:	China
Telephone:	+86-21-53529900
Fax:	/

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

3.1. About EUT

Description	4G Mobile phone
Model name	WTATTRW2
FCC ID	2APXW-WTATTRW2
WLAN Frequency Band	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Voltage	3.85V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
UT77a	861996060018816	V1.1	WTATTRW2_0.01.05
UT27a	861996060004659	V1.1	WTATTRW2_0.01.05

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

UT27a is used for Conduction test, UT77a is used for Radiation test.

3.3. Internal Identification of AE used during the test

AE ID*	Name	Model	Manufacturer
AE1	Battery	RA001	Hunan Gaoyuan Battery Co.,Ltd.
AE2	Charger	1-CHUSA122-148	YUTONG ELECTRONICS (HUIZHOU) CO LTD
AE3	USB cable	USB 2.0 Cable Assembly	/

*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 4G Mobile phone with integrated antenna and inbuilt battery.

It has Bluetooth (EDR)function.

It consists of normal options: travel charger, USB cable.

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

Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. REFERENCE DOCUMENTS

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2021
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12
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 Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	**P**
Peak Power Spectral Density	15.407	/	**P**
Occupied 26dB Bandwidth	15.403	/	**P**
Band edge compliance (Radiated)	15.209	/	**P**
Transmitter spurious emissions (Radiated)	15.407	/	**P**
AC Powerline Conducted Emission (150kHz- 30MHz)	15.407	/	**P**
Frequency Stability	15.407	/	**P**
99% Occupied bandwidth	/	/	**P**
Transmit Power Control	15.407	/	**NA**

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/manufacturer 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℃
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	2024-06-15
2	Test Receiver	ESCI 3	100766	R&S	1 year	2024-04-30
3	LISN	ENV216	101459	R&S	1 year	2024-04-29
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	1 year	2023-09-22
2	Test Receiver	ESW44	103015	Rohde & Schwarz	1 year	2024-01-12
3	Loop Antenna	HFH2-Z2	829324/007	Rohde & Schwarz	1 year	2023-12-23
4	BiLog Antenna	VULB9163	01177	Schwarzbeck	1 year	2023-08-03
5	Dual-Ridge Waveguide Horn Antenna(note)	3117	00119024	ETS-Lindgren	1 year	2023-06-07
6	Dual-Ridge Waveguide Horn Antenna	3117	00139065	ETS-Lindgren	1 year	2023-09-20
7	Dual-Ridge Waveguide Horn Antenna	LB-180400-25-C-KF	J211060826	ETS-Lindgren	1 year	2024-03-02

Note:

The Dual-Ridge Waveguide Horn Antenna which series number is 00119024 was before the CAL. DUE DATE when used

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 Channel 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)
30MHz ≤ f ≤ 2GHz	1.22
2GHz ≤ f ≤3.6GHz	1.22
3.6GHz ≤ f ≤8GHz	1.22
8GHz ≤ f ≤12.75GHz	1.51
12.75GHz ≤ f ≤26GHz	1.51
26GHz ≤ f ≤40GHz	1.59

Radiated (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	5.73
1GHz ≤ f ≤18GHz	5.58
18GHz ≤ f ≤40GHz	3.37

8.6 AC Power-line Conducted Emission

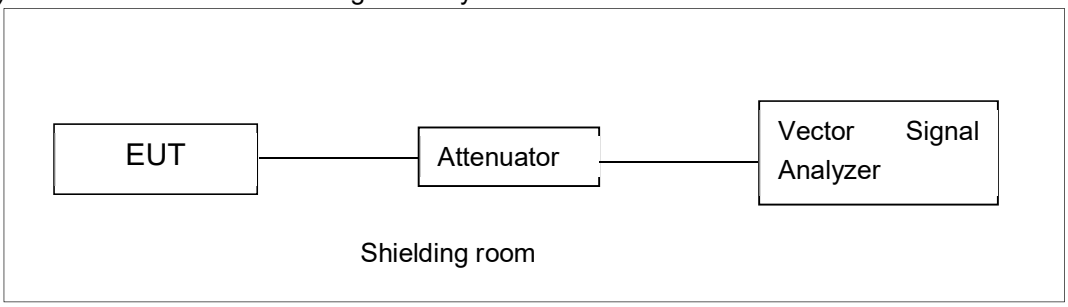
Measurement Uncertainty : 3.10,k=2

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

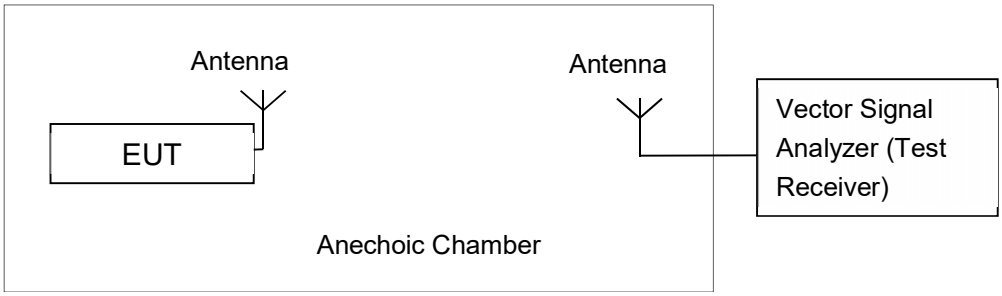
A.1.1. Conducted Measurements

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 KDB 789033
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 output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm
	5250MHz~5350MHz	24dBm or 11+10logB
	5470MHz~5725MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.

The measurementmethod SA-2 is made according to KDB 789033

Measurement Results:

802.11a mode

Mode	Frequency	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	16.23	/	/	/	/	/	/	/
	5200MHz	16.31	/	/	/	/	/	/	/
	5240MHz	16.31	/	/	/	/	/	/	/
	5260MHz	16.42	/	/	/	/	/	/	/
	5280MHz	16.40	/	/	/	/	/	/	/
	5320MHz	16.32	/	/	/	/	/	/	/
	5500MHz	16.93	/	/	/	/	/	/	/
	5580MHz	16.68	/	/	/	/	/	/	/
	5700MHz	16.97	/	/	/	/	/	/	/
	5720MHz	17.11	/	/	/	/	/	/	/

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

802.11n-HT20 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz	16.89	/	/	/	/	/	/	/
	5200MHz	17.03	/	/	/	/	/	/	/
	5240MHz	17.00	/	/	/	/	/	/	/
	5260MHz	16.38	/	/	/	/	/	/	/
	5280MHz	16.39	/	/	/	/	/	/	/
	5320MHz	16.59	/	/	/	/	/	/	/
	5500MHz	16.56	/	/	/	/	/	/	/
	5580MHz	16.57	/	/	/	/	/	/	/
	5700MHz	16.35	/	/	/	/	/	/	/
	5720MHz	16.25	/	/	/	/	/	/	/

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

802.11ac-HT20 mode

Mode	Frequency	Test Result (dBm)								
		Data Rate								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
802.11ac (HT20)	5180MHz	16.33	/	/	/	/	/	/	/	/
	5200MHz	16.46	/	/	/	/	/	/	/	/
	5240MHz	16.49	/	/	/	/	/	/	/	/
	5260MHz	15.97	/	/	/	/	/	/	/	/
	5280MHz	15.82	/	/	/	/	/	/	/	/
	5320MHz	15.77	/	/	/	/	/	/	/	/
	5500MHz	16.05	/	/	/	/	/	/	/	/
	5580MHz	16.05	/	/	/	/	/	/	/	/
	5700MHz	15.73	/	/	/	/	/	/	/	/
	5720MHz	15.26	/	/	/	/	/	/	/	/

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

802.11n-HT40 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT40)	5190MHz	16.32	/	/	/	/	/	/	/
	5230MHz	16.33	/	/	/	/	/	/	/
	5270MHz	15.88	/	/	/	/	/	/	/
	5310MHz	15.64	/	/	/	/	/	/	/
	5510MHz	14.34	/	/	/	/	/	/	/
	5550MHz	15.81	/	/	/	/	/	/	/
	5670MHz	15.47	/	/	/	/	/	/	/
	5710MHz	15.60	/	/	/	/	/	/	/

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

802.11ac-HT40 mode

Mode	Frequen	Test Result (dBm)

	cy	Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (HT40)	5190MHz	15.74	/	/	/	/	/	/	/	/	/
	5230MHz	15.84	/	/	/	/	/	/	/	/	/
	5270MHz	15.30	/	/	/	/	/	/	/	/	/
	5310MHz	14.83	/	/	/	/	/	/	/	/	/
	5510MHz	13.73	/	/	/	/	/	/	/	/	/
	5550MHz	15.21	/	/	/	/	/	/	/	/	/
	5670MHz	15.02	/	/	/	/	/	/	/	/	/
	5710MHz	15.03	/	/	/	/	/	/	/	/	/

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

802.11ac-HT80 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (HT80)	5210MHz	15.60	/	/	/	/	/	/	/	/	/
	5290MHz	15.35	/	/	/	/	/	/	/	/	/
	5530MHz	14.01	/	/	/	/	/	/	/	/	/
	5610MHz	15.43	/	/	/	/	/	/	/	/	/
	5690MHz	15.06	/	/	/	/	/	/	/	/	/

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

The duty cycle of all mode are 100%

Conclusion: PASS

A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)

FCC CRF Part 15.407(a)	5150MHz~5250MHz	11
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

The output power measurement method Section F is made according to KDB 789033

Measurement Results:

Mode	Frequency	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	5.83	P
	5200 MHz	6.31	P
	5240 MHz	6.46	P
	5260 MHz	5.71	P
	5280 MHz	6.07	P
	5320 MHz	5.97	P
	5500 MHz	6.11	P
	5580 MHz	5.64	P
	5700 MHz	6.18	P
	5720 MHz	6.13	P
802.11n HT20	5180 MHz	5.68	P
	5200 MHz	6.13	P
	5240 MHz	6.51	P
	5260 MHz	5.43	P
	5280 MHz	5.81	P
	5320 MHz	5.47	P
	5500 MHz	5.85	P
	5580 MHz	5.17	P
	5700 MHz	5.85	P
	5720 MHz	6.14	P
802.11n HT40	5190 MHz	2.34	P
	5230 MHz	2.42	P
	5270 MHz	1.93	P
	5310 MHz	1.87	P
	5510 MHz	1.58	P
	5550 MHz	2.04	P
	5670 MHz	2.06	P
	5710 MHz	2.55	P
802.11ac HT80	5210MHz	-1.29	P
	5290MHz	-1.23	P
	5530MHz	-2.28	P
	5610MHz	-2.34	P
	5690MHz	-1.58	P

Conclusion: PASS

A.4. Occupied 26dB Bandwidth(conducted)

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Frequency	Occupied 26dB Bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.1	20.20	P
	5200 MHz	Fig.2	20.08	P
	5240 MHz	Fig.3	20.32	P
	5260 MHz	Fig.4	20.20	P
	5280 MHz	Fig.5	20.08	P
	5320 MHz	Fig.6	20.12	P
	5500 MHz	Fig.7	20.12	P
	5580 MHz	Fig.8	20.16	P
	5700 MHz	Fig.9	20.08	P
	5720 MHz	Fig.10	20.00	P
802.11n HT20	5180 MHz	Fig.11	20.68	P
	5200 MHz	Fig.12	20.32	P
	5240 MHz	Fig.13	21.64	P
	5260 MHz	Fig.14	20.44	P
	5280 MHz	Fig.15	20.44	P
	5320 MHz	Fig.16	20.32	P
	5500 MHz	Fig.17	20.72	P
	5580 MHz	Fig.18	20.44	P
	5700 MHz	Fig.19	20.44	P
	5720 MHz	Fig.20	20.56	P
802.11n HT40	5190 MHz	Fig.21	40.72	P
	5230 MHz	Fig.22	41.28	P
	5270 MHz	Fig.23	41.12	P
	5310 MHz	Fig.24	41.04	P

	5510 MHz	Fig.25	40.88	P
	5550 MHz	Fig.26	41.28	P
	5670 MHz	Fig.27	40.88	P
	5710 MHz	Fig.28	40.96	P

802.11ac HT80	5210MHz	Fig.29	81.76	P
	5290MHz	Fig.30	81.76	P
	5530MHz	Fig.31	81.60	P
	5610MHz	Fig.32	84.32	P
	5690MHz	Fig.33	81.76	P

Conclusion: PASS

Test graphs as below:

Fig.1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

Fig.2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

Fig.3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

Fig.4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

Fig.5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

Fig.6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

Fig.7 Occupied 26dB Bandwidth (802.11a, 5500MHz)

Fig.8 Occupied 26dB Bandwidth (802.11a, 5580MHz)

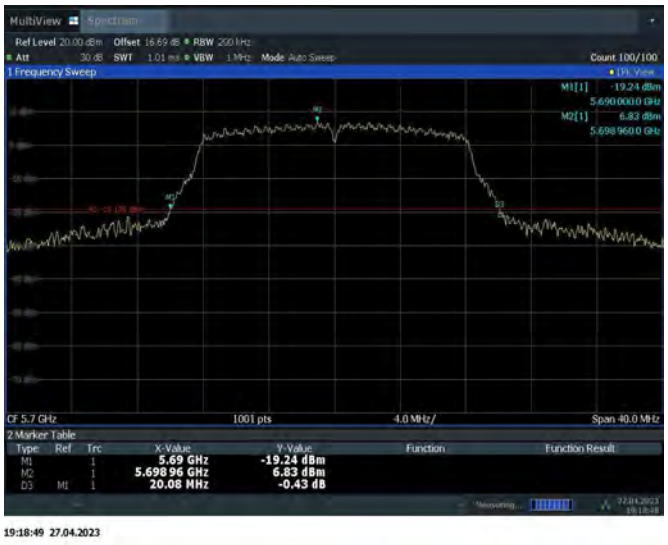


Fig.9 Occupied 26dB Bandwidth (802.11a, 5700MHz)

Fig.10 Occupied 26dB Bandwidth (802.11a, 5720MHz)

Fig.11 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)

Fig.12 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

Fig.13 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

Fig.14 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

Fig.15 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)

Fig.16 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

Fig.17 Occupied 26dB Bandwidth (802. 11n-HT20, 5500MHz)

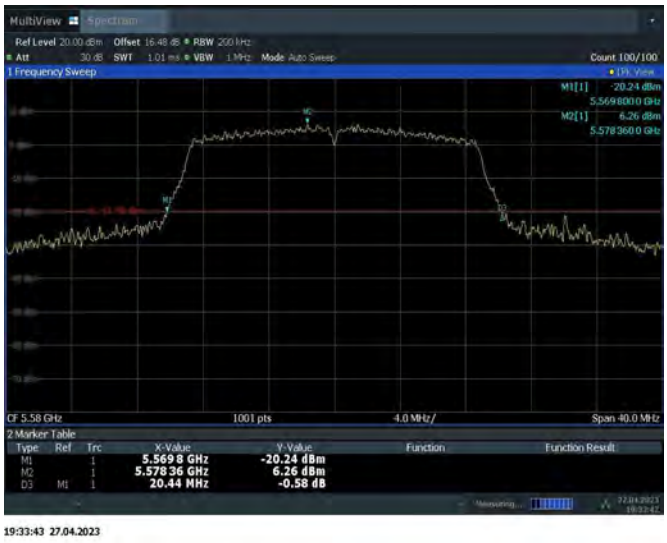


Fig.18 Occupied 26dB Bandwidth (802. 11n-HT20, 5580MHz)

Fig.19 Occupied 26dB Bandwidth (802. 11n-HT20, 5700MHz)

Fig.20 Occupied 26dB Bandwidth (802. 11n-HT20, 5720MHz)

Fig.21 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

Fig.22 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)

Fig.23 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

Fig.24 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

Fig.25 Occupied 26dB Bandwidth (802. 11n-HT40, 5510MHz)

Fig.26 Occupied 26dB Bandwidth (802. 11n-HT40, 5590MHz)

Fig.27 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)

Fig.28 Occupied 26dB Bandwidth (802. 11n-HT40, 5710MHz)

Fig.29 Occupied 26dB Bandwidth (802. 11ac-HT80, 5210MHz)

Fig.30 Occupied 26dB Bandwidth (802. 11ac-HT80, 5290MHz)

Fig.31 Occupied 26dB Bandwidth (802. 11ac-HT80, 5530MHz)

Fig.32 Occupied 26dB Bandwidth (802. 11ac-HT80, 5610MHz)

Fig.33 Occupied 26dB Bandwidth (802. 11ac-HT80, 5690MHz)

A.5. Band Edges Compliance

A5.1 Band Edges - Radiated

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.407	-27 dBm/MHz

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 Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.34	P
	5320 MHz	Fig.35	P
	5500 MHz	Fig.36	P
	5700 MHz	Fig.37	P
802.11n HT20	5180 MHz	Fig.38	P
	5320 MHz	Fig.39	P
	5500 MHz	Fig.40	P
	5700 MHz	Fig.41	P
802.11n HT40	5190 MHz	Fig.42	P
	5310 MHz	Fig.43	P
	5510 MHz	Fig.44	P
	5670 MHz	Fig.45	P
802.11ac HT20	5180 MHz	Fig.46	P
	5320 MHz	Fig.47	P
	5500 MHz	Fig.48	P
	5700 MHz	Fig.49	P
802.11ac HT40	5190 MHz	Fig.50	P
	5310 MHz	Fig.51	P
	5510 MHz	Fig.52	P
	5670 MHz	Fig.53	P
802.11ac HT80	5210MHz	Fig.54	P
	5290MHz	Fig.55	P
	5530MHz	Fig.56	P
	5610MHz	Fig.57	P

Conclusion: PASS

Test graphs as below:

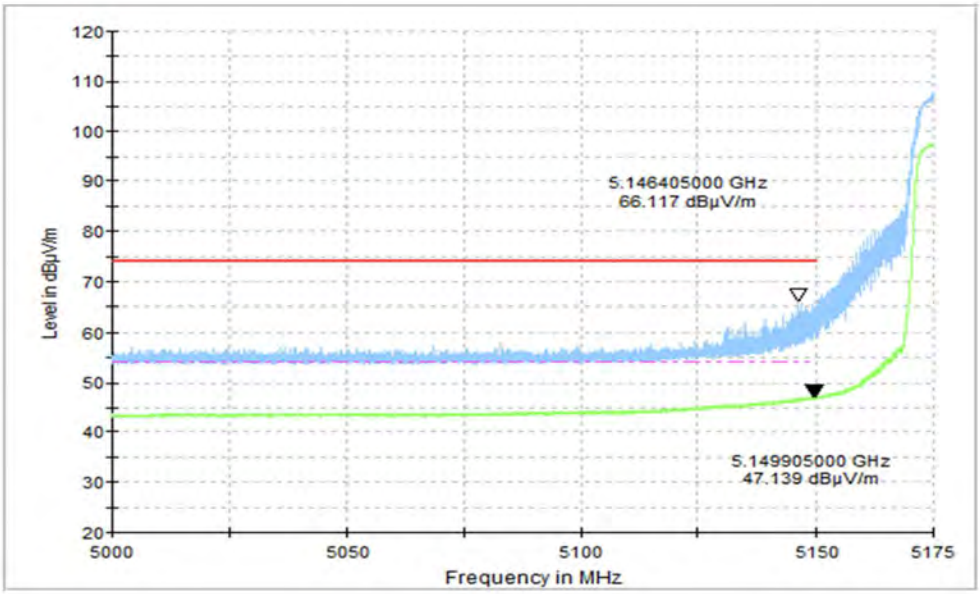


Fig.34 Band Edges (802.11a Ch36, 5180MHz)

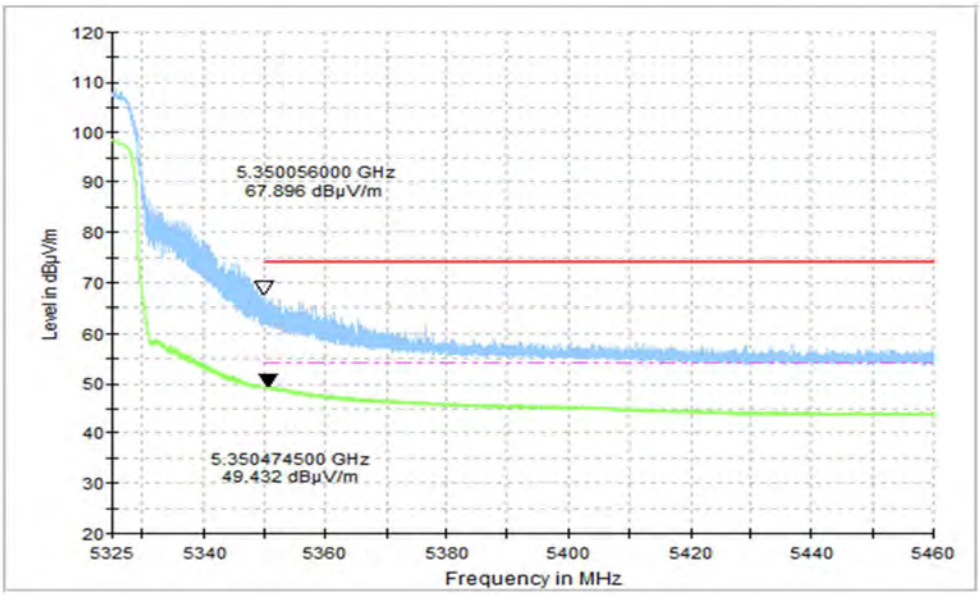


Fig.35 Band Edges (802.11a Ch64, 5320MHz)

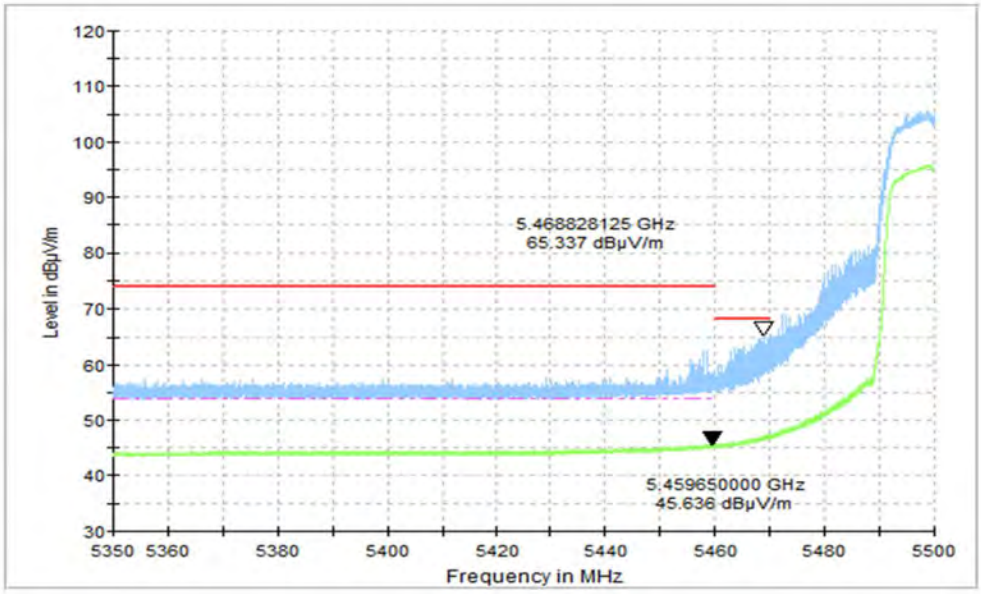


Fig.36 Band Edges (802.11a Ch100, 5500MHz)

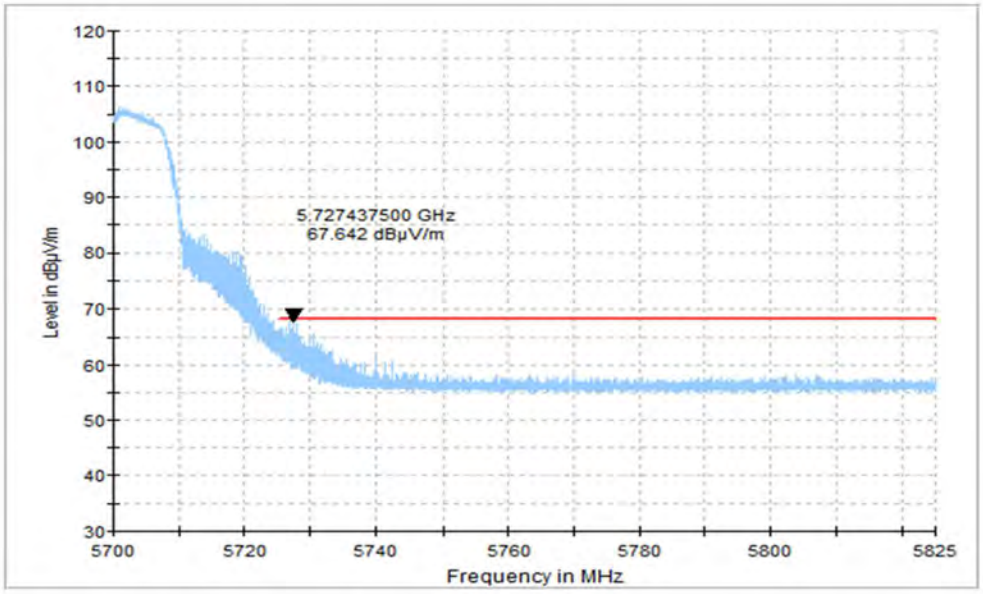


Fig.37 Band Edges (802.11a Ch140, 5700MHz)

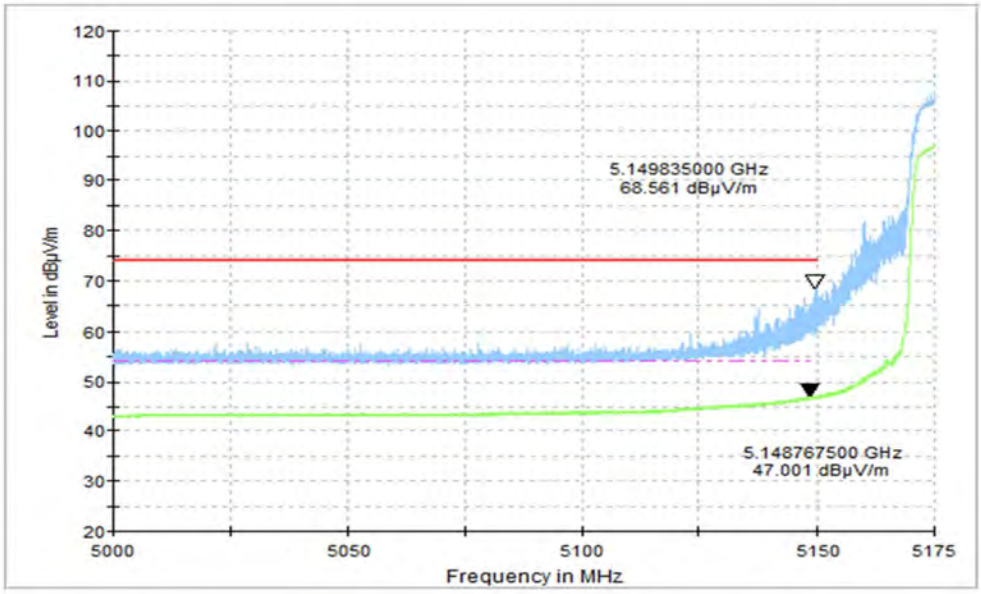


Fig.38 Band Edges (802.11n-HT20 Ch36, 5180MHz)

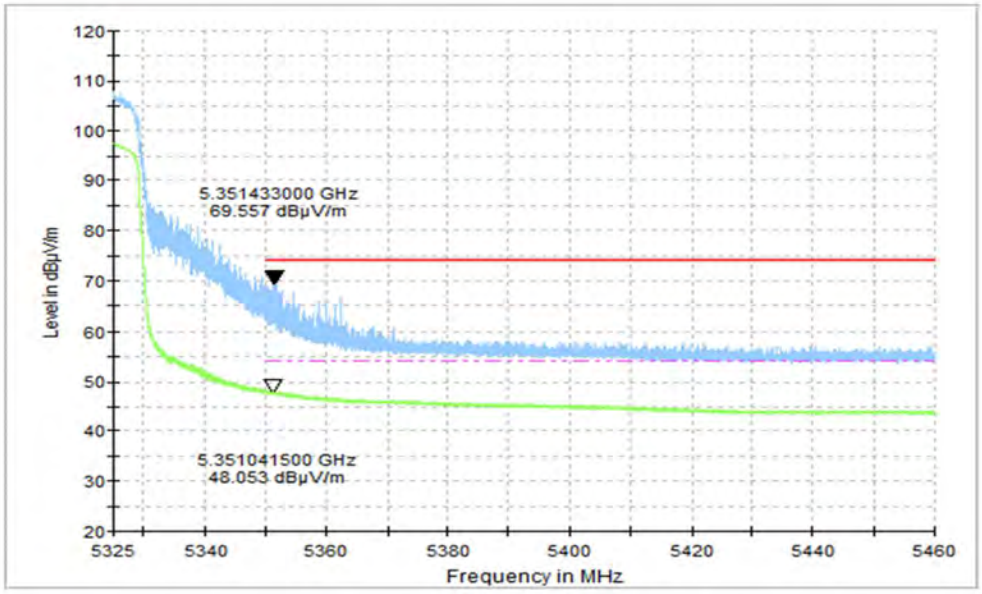


Fig.39 Band Edges (802.11n-HT20 Ch64, 5320MHz)

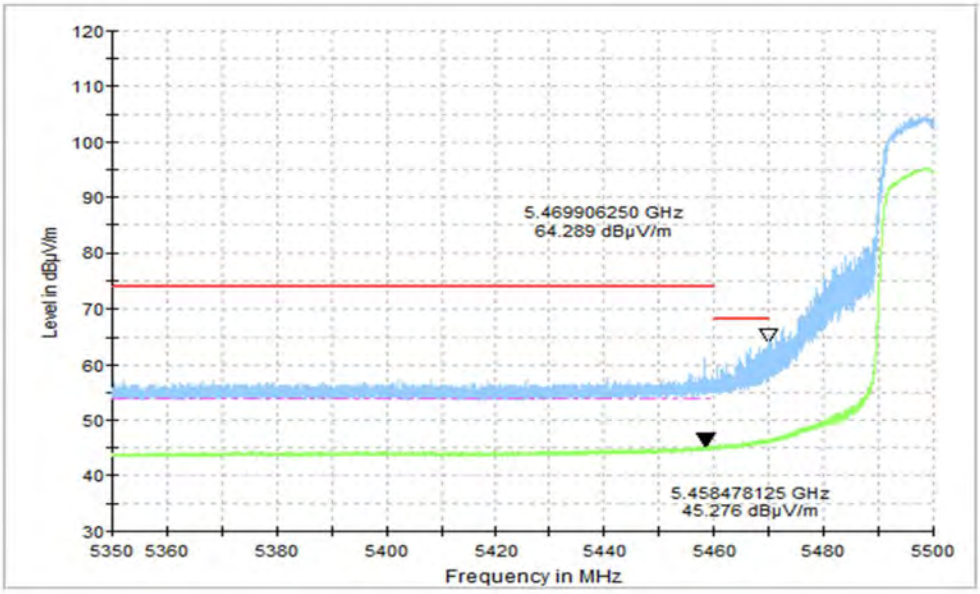


Fig.40 Band Edges (802.11n-HT20 Ch100, 5500MHz)

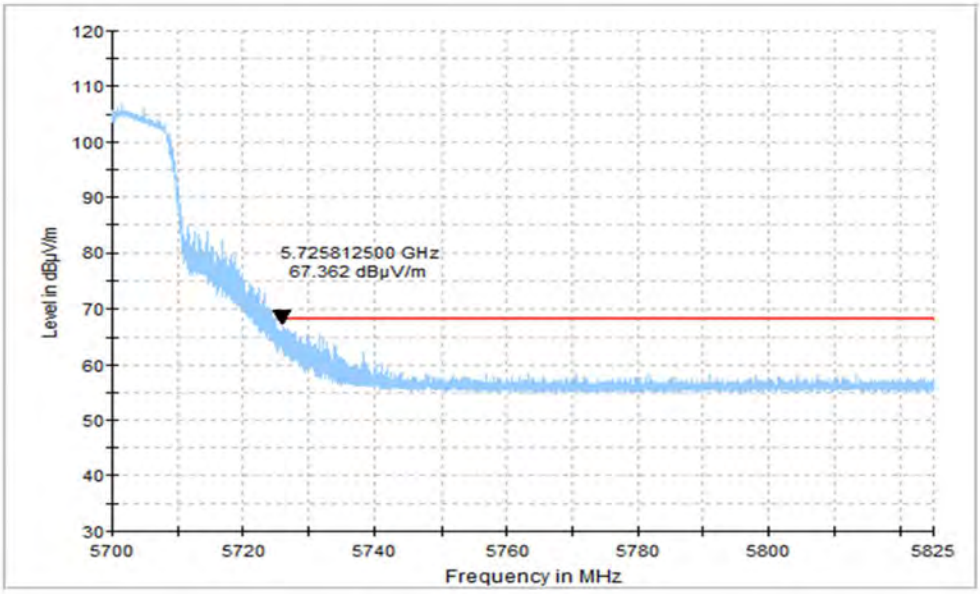


Fig.41 Band Edges (802.11n-HT20 Ch140, 5700MHz)

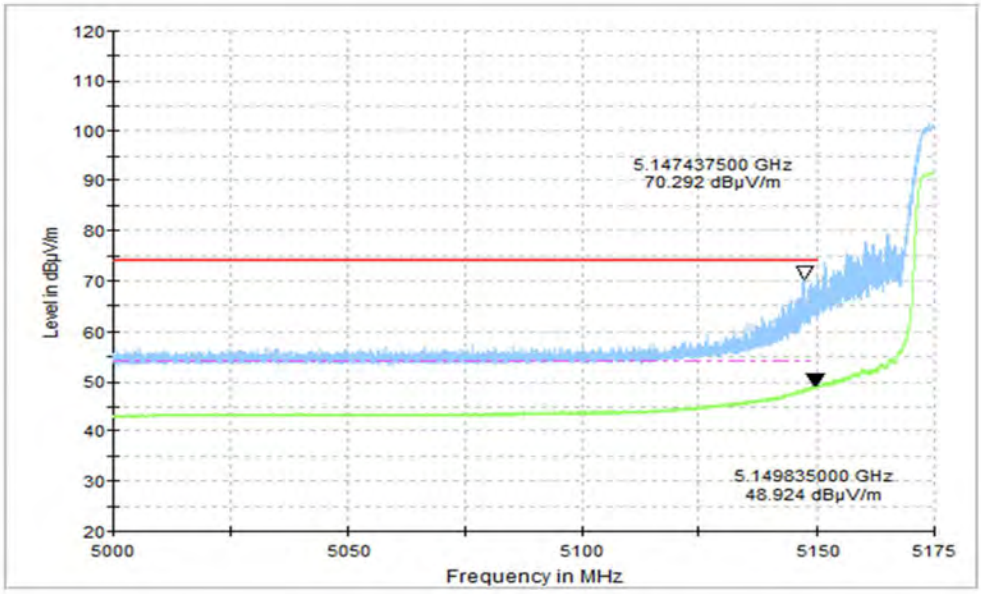


Fig.42 Band Edges (802.11n-HT40 Ch38, 5190MHz)

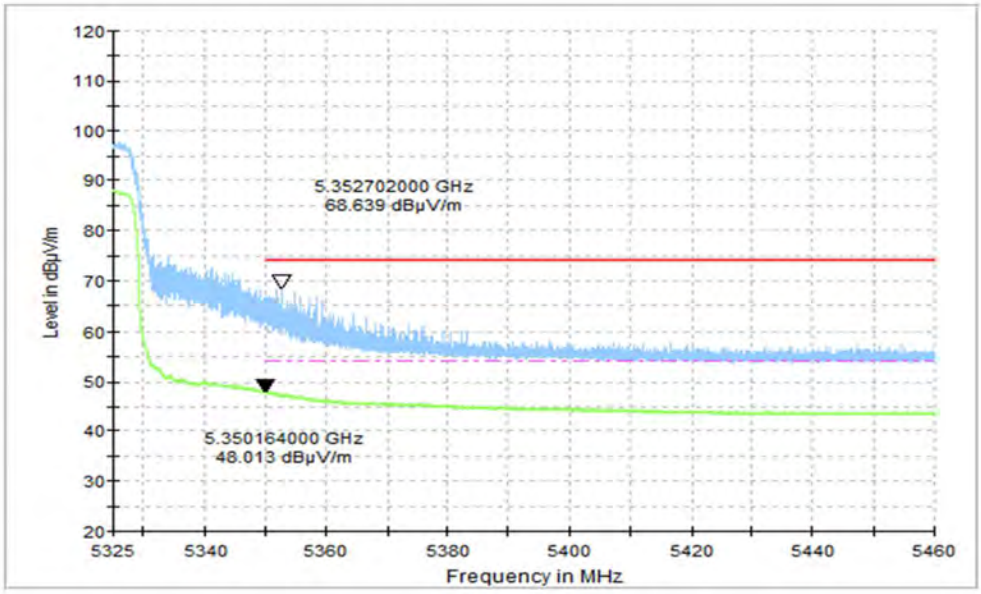


Fig.43 Band Edges (802.11n-HT40 Ch62, 5310MHz)

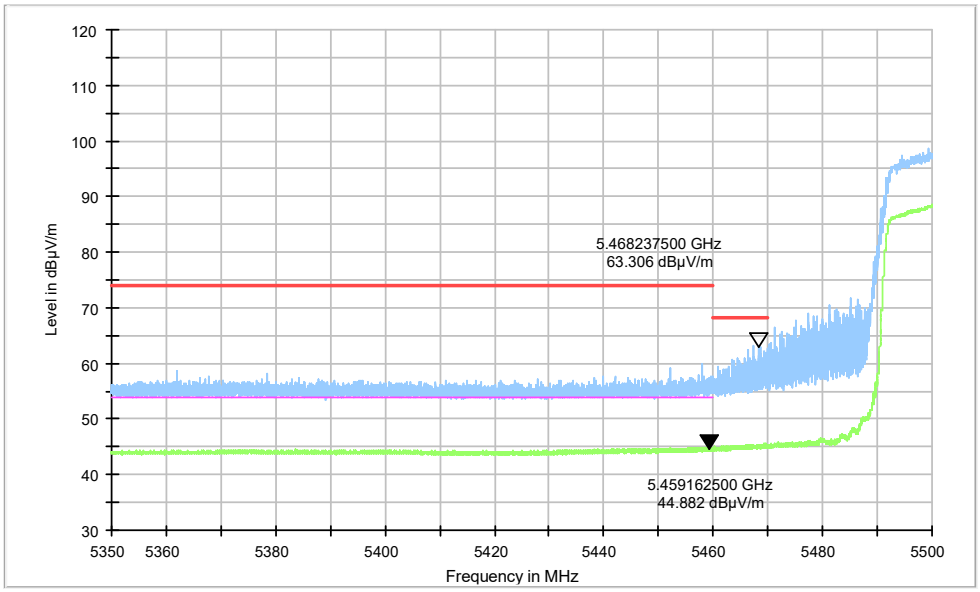


Fig.44 Band Edges (802.11n-HT40 Ch102, 5510MHz)

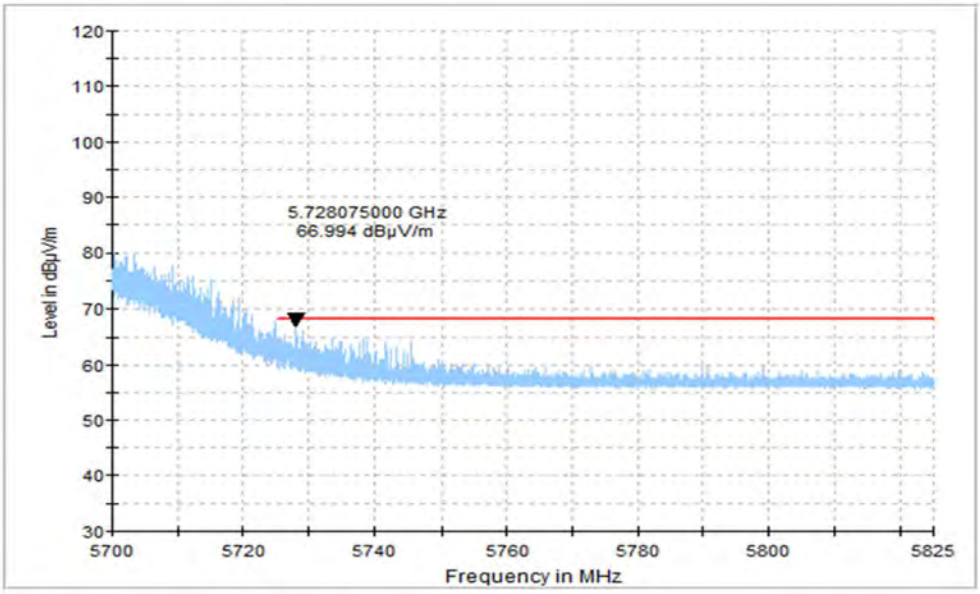


Fig.45 Band Edges (802.11n-HT40 Ch134, 5670MHz)

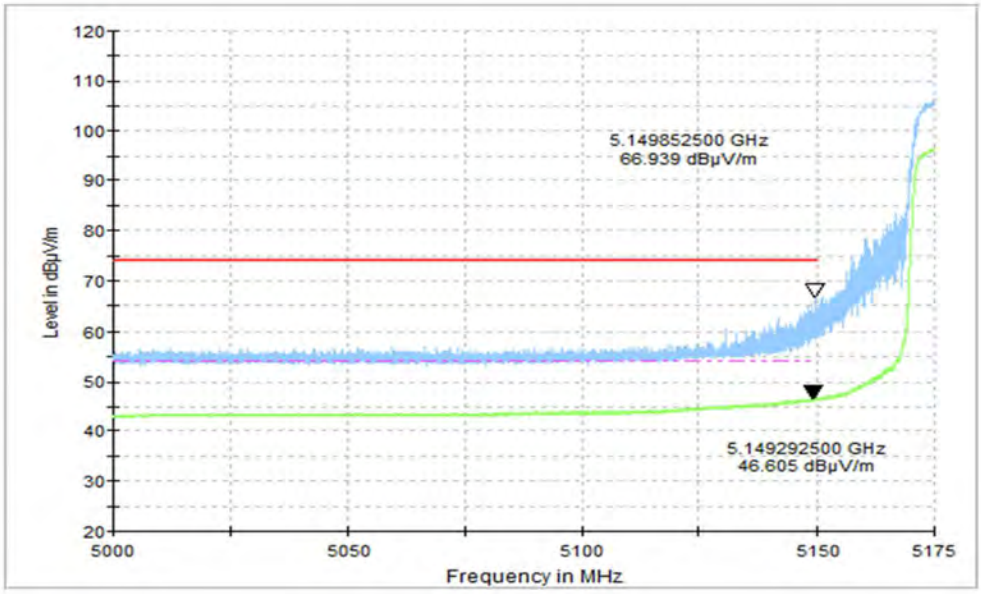


Fig.46 Band Edges (802.11ac-HT20 Ch36, 5180MHz)

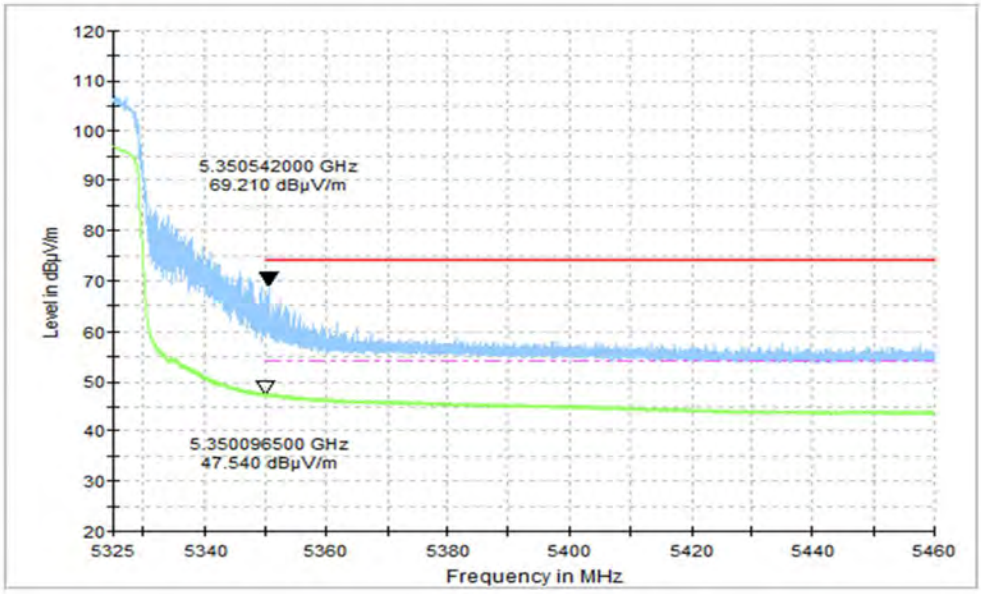


Fig.47 Band Edges (802.11ac-HT20 Ch64, 5320MHz)

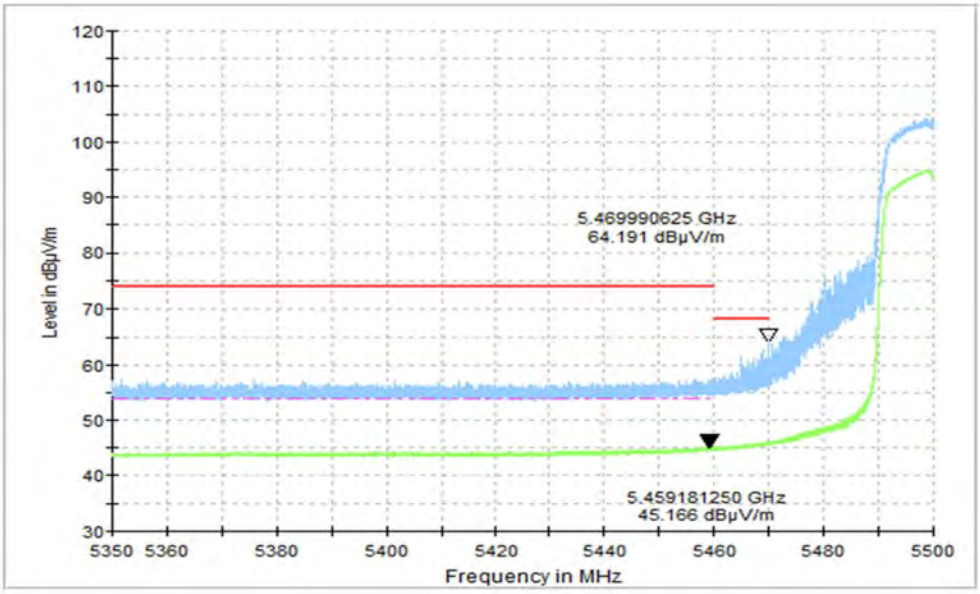


Fig.48 Band Edges (802.11ac-HT20 Ch100, 5500MHz)

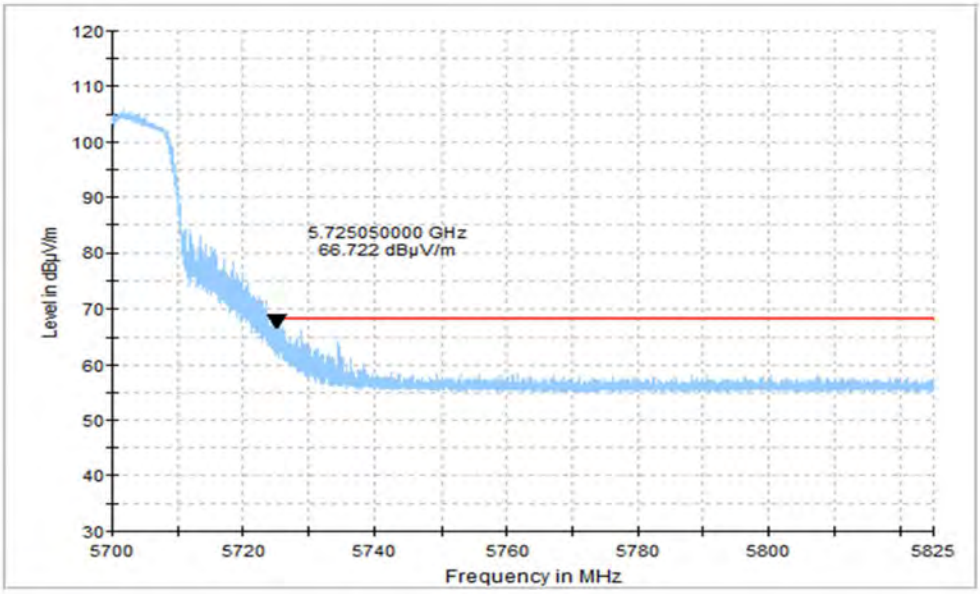


Fig.49 Band Edges (802.11ac-HT20 Ch140, 5700MHz)

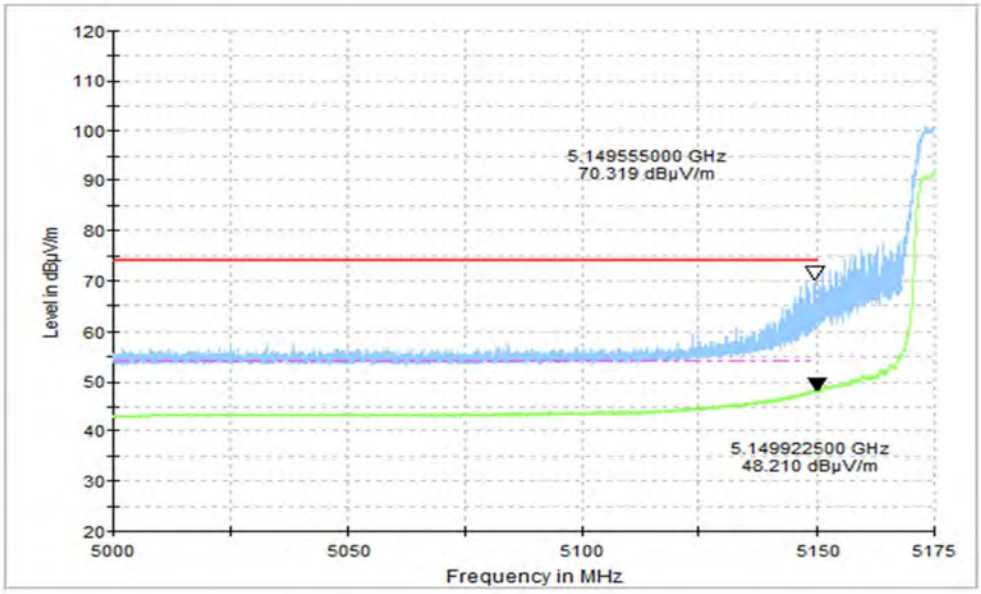


Fig.50 Band Edges (802.11ac-HT40 Ch38, 5190MHz)

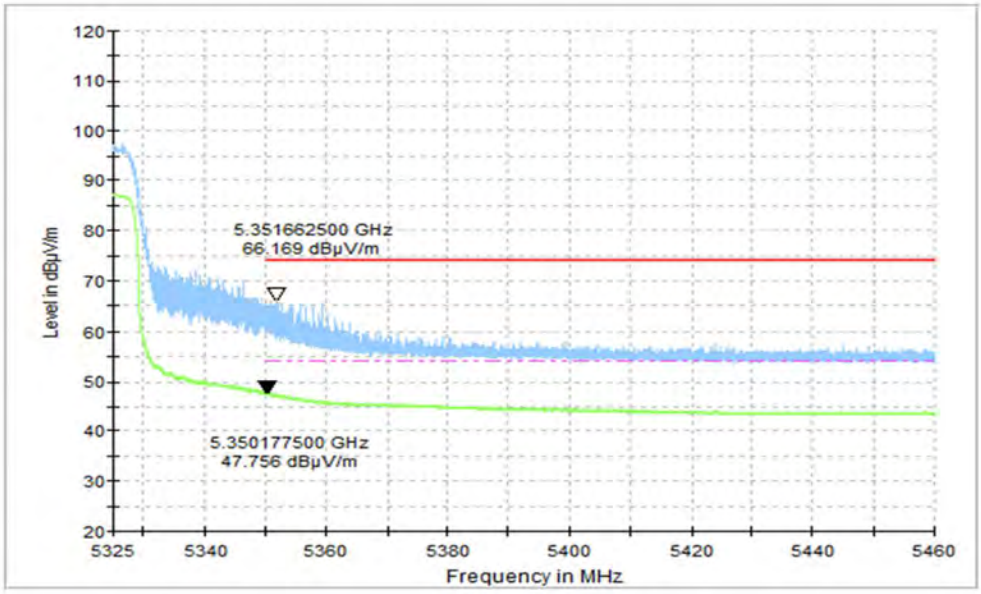


Fig.51 Band Edges (802.11ac-HT40 Ch62, 5310MHz)

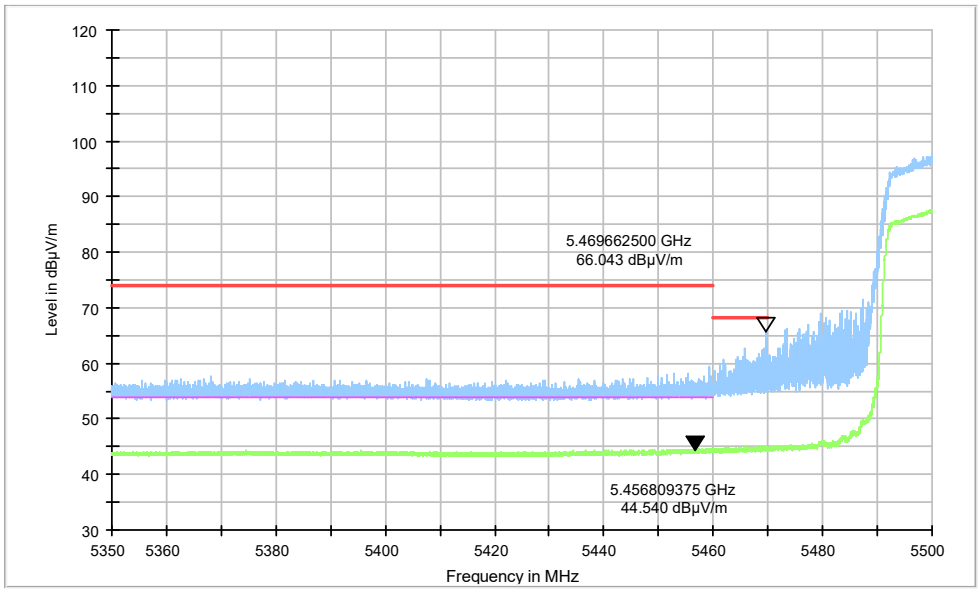


Fig.52 Band Edges (802.11ac-HT40 Ch102, 5510MHz)

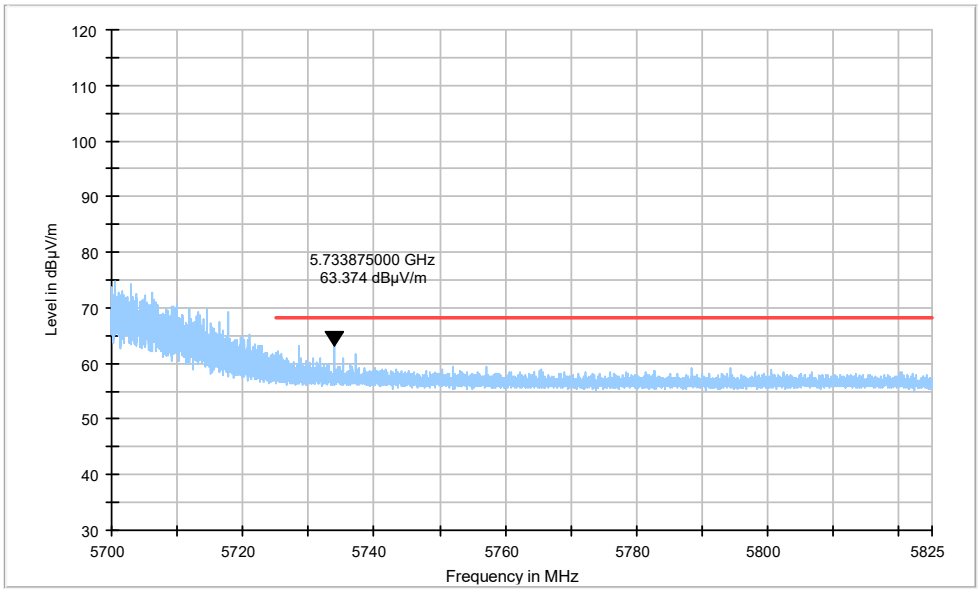


Fig.53 Band Edges (802.11ac-HT40 Ch134, 5670MHz)

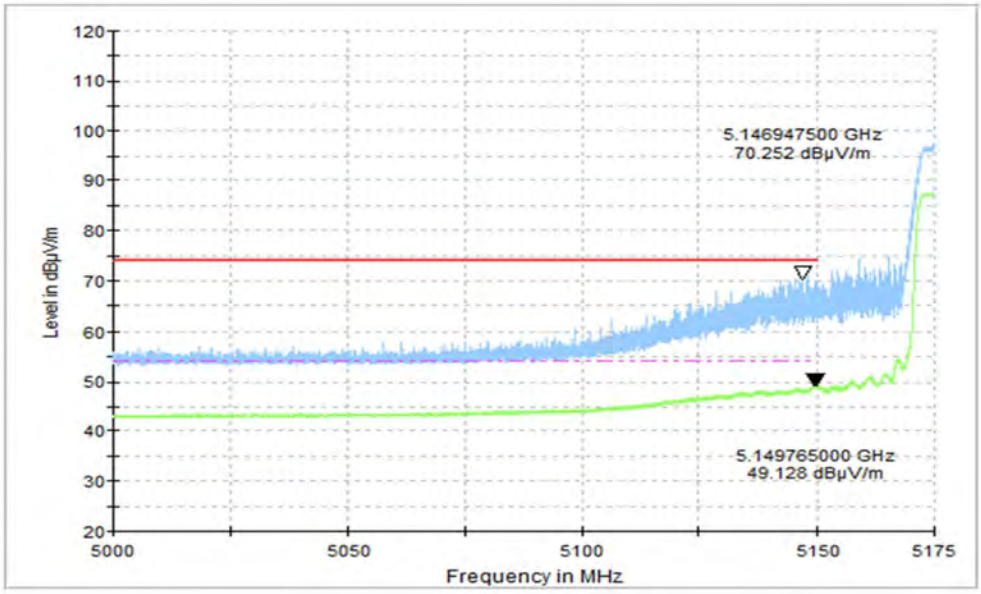


Fig.54 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

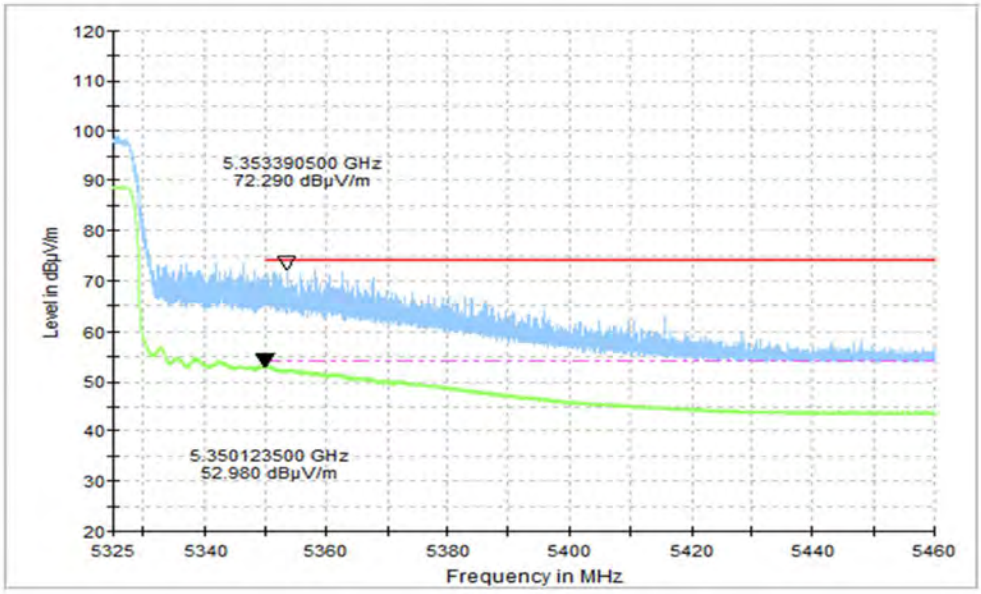


Fig.55 Band Edges (802.11ac-HT80 Ch58, 5290MHz)

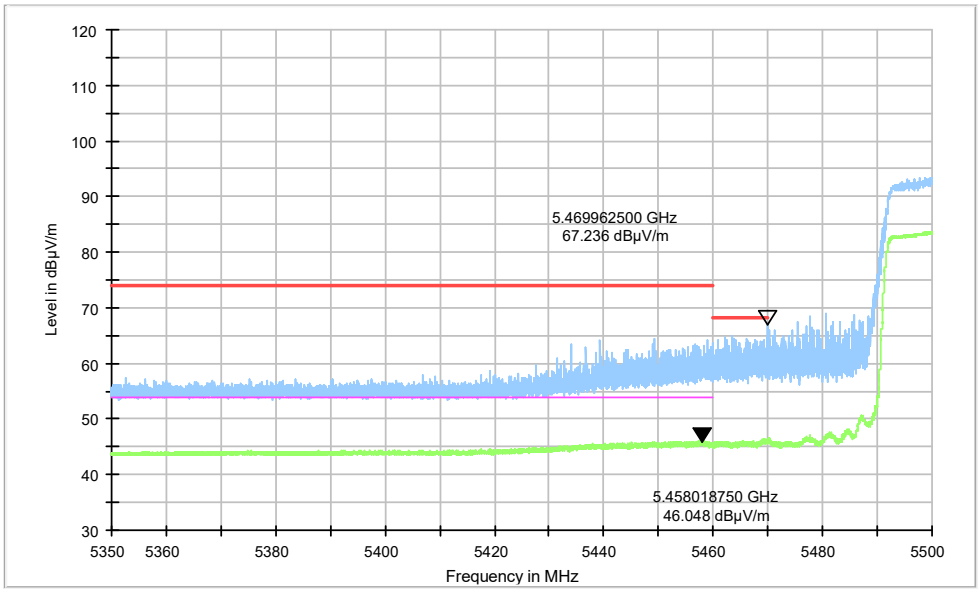


Fig.56 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

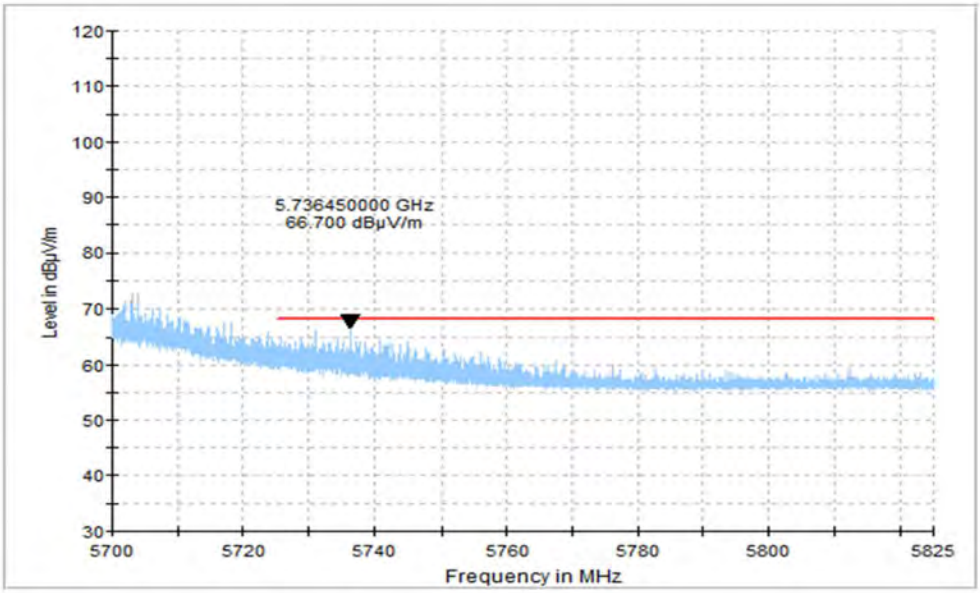


Fig.57 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

A.6. Transmitter Spurious Emission

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.407	-27 dBm/MHz

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	36(5180MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	40(5200MHz)	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
	48(5240MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	52(5260MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	56(5280MHz)	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
	64(5320MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	100(5500MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	120(5600MHz)	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
	140(5700MHz)	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	36(5180MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	40(5200MHz)	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
	48(5240MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	52(5260MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	56(5280MHz)	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
	64(5320MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	100(5500MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	120(5600MHz)	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
	140(5700MHz)	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	38(5190MHz)	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
	46(5230MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	54(5270MHz)	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
	62(5310MHz)	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
	102(5510MHz)	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
	118(5590MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	134(5670MHz)	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

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac - HT20	36(5180MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	40(5200MHz)	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
	48(5240MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	52(5260MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	56(5280MHz)	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
	64(5320MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	100(5500MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	120(5600MHz)	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
	140(5700MHz)	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	38(5190MHz)	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
	46(5230MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	54(5270MHz)	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
	62(5310MHz)	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
	102(5510MHz)	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
	118(5590MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	134(5670MHz)	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

802.11ac-HT80 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac – HT80	42(5210MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	58(5290MHz)	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
	106(5530MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	122(5610MHz)	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 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.

The measurement results are obtained as described below:

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

AVERAGE Results:

802.11a

Channel 36

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)
5149.600	46.06	-23.79	34.40	35.46	54.00	7.94	V
5150.000	46.09	-23.79	34.40	35.47	54.00	7.91	V
11878.000	35.06	-31.27	38.78	27.54	54.00	18.94	H
15541.500	39.20	-26.58	40.08	25.70	54.00	14.80	V
17981.000	39.05	-25.84	41.20	23.69	54.00	14.95	H
17950.000	38.59	-25.81	41.20	23.20	54.00	15.41	H

802.11a

Channel 40

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)
5146.800	44.98	-23.85	34.39	34.44	54.00	9.02	V
5149.600	45.06	-23.79	34.40	34.46	54.00	8.94	V
11907.000	35.03	-30.98	38.79	27.22	54.00	18.97	V
15599.000	39.13	-26.52	40.20	25.45	54.00	14.87	V
17753.000	38.27	-25.69	41.30	22.66	54.00	15.73	H
17969.000	38.96	-25.83	41.20	23.59	54.00	15.04	V

802.11a

Channel 48

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)
5147.800	44.10	-23.83	34.39	33.53	54.00	9.90	V
5150.000	44.13	-23.79	34.40	33.52	54.00	9.87	V
11883.500	34.98	-31.21	38.78	27.41	54.00	19.02	H
15721.000	39.83	-26.34	40.34	25.83	54.00	14.17	H
17965.500	38.84	-25.83	41.20	23.47	54.00	15.16	V
17989.000	39.08	-25.85	41.20	23.72	54.00	14.92	V

802.11a

Channel 52

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)
5138.200	43.26	-34.02	34.35	42.93	54.00	10.74	V
5360.600	44.06	-33.87	34.50	43.43	54.00	9.94	V
10840.500	33.20	-31.88	37.76	27.32	54.00	20.80	V
15780.000	37.09	-26.31	40.46	22.94	54.00	16.91	V
17749.500	38.11	-25.68	41.30	22.49	54.00	15.89	H
17983.500	38.84	-25.84	41.20	23.48	54.00	15.16	H

802.11a

Channel 56

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)
5147.400	43.54	-33.84	34.39	42.99	54.00	10.46	V
5346.800	44.87	-33.94	34.51	44.30	54.00	9.13	V
10559.000	37.22	-31.72	37.60	31.34	54.00	16.78	V
15839.000	39.74	-26.30	40.58	25.46	54.00	14.26	V
17804.500	38.30	-25.72	41.30	22.72	54.00	15.70	V
17987.500	39.02	-25.84	41.20	23.67	54.00	14.98	V

802.11a

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
5412.600	43.86	-34.16	34.47	43.54	54.00	10.14	V
5399.800	44.33	-34.04	34.50	43.88	54.00	9.67	V
10640.500	37.23	-32.06	37.68	31.61	54.00	16.77	H
15957.000	40.20	-26.24	40.76	25.68	54.00	13.80	H
17738.000	38.27	-25.68	41.30	22.65	54.00	15.73	V
17954.500	38.45	-25.82	41.20	23.07	54.00	15.55	V

802.11a

Channel 100

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)
5457.200	43.95	-24.14	34.41	33.68	54.00	10.05	V
5458.800	44.10	-24.13	34.42	33.81	54.00	9.90	V
10578.000	36.33	-31.69	37.60	30.42	54.00	17.67	V
16500.000	38.37	-25.90	41.50	22.77	54.00	15.63	H
17845.500	38.15	-25.74	41.25	22.64	54.00	15.85	H
17961.000	38.64	-25.82	41.20	23.27	54.00	15.36	V

802.11a

Channel 116

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
5447.000	42.9	-24.2	34.4	32.71	54.0	11.1	V
5458.400	43.2	-24.1	34.4	32.91	54.0	10.8	V
11160.000	33.2	-31.9	37.9	27.18	54.0	20.8	V
16111.000	37.2	-26.2	40.8	22.62	54.0	16.8	V
17812.500	38.3	-25.7	41.3	22.71	54.0	15.7	H
17964.500	38.8	-25.8	41.2	23.43	54.0	15.2	V

802.11a

Channel 140

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)
5788.400	44.89	-23.02	35.05	32.85	54.00	9.11	V
5832.000	44.56	-22.86	35.10	32.32	54.00	9.44	V
11160.000	33.35	-31.85	37.86	27.35	54.00	20.65	H
15999.500	37.95	-26.20	40.80	23.35	54.00	16.05	H
17796.000	38.27	-25.71	41.30	22.69	54.00	15.73	H
17937.500	38.42	-25.80	41.20	23.03	54.00	15.58	H

802.11n-HT20

Channel 36

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)
5149.400	45.90	-23.80	34.40	35.30	54.00	8.10	V
5150.000	46.02	-23.79	34.40	35.41	54.00	7.98	V
11908.500	35.07	-30.97	38.79	27.24	54.00	18.93	H
15541.500	39.07	-26.58	40.08	25.57	54.00	14.93	H
17756.000	38.23	-25.69	41.30	22.61	54.00	15.77	V
17967.500	38.94	-25.83	41.20	23.57	54.00	15.06	H

802.11n-HT20

Channel 40

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)
5146.000	44.77	-23.87	34.38	34.26	54.00	9.23	V
5149.800	44.92	-23.79	34.40	34.31	54.00	9.08	V
11914.500	35.06	-30.93	38.79	27.21	54.00	18.94	V
15597.000	39.91	-26.52	40.19	26.24	54.00	14.09	H
17965.000	38.82	-25.83	41.20	23.45	54.00	15.18	V
17990.000	39.05	-25.85	41.20	23.70	54.00	14.95	V

802.11n-HT20

Channel 48

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)
5148.200	44.01	-23.82	34.39	33.44	54.00	9.99	V
5149.400	44.08	-23.80	34.40	33.48	54.00	9.92	V
11911.000	35.00	-30.94	38.79	27.15	54.00	19.00	H
15719.000	39.11	-26.34	40.34	25.12	54.00	14.89	V
17967.000	38.39	-25.83	41.20	23.02	54.00	15.61	V
17984.500	39.00	-25.84	41.20	23.64	54.00	15.00	V

802.11n-HT20

Channel 52

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)
5125.400	42.83	-34.28	34.30	42.80	54.00	11.17	V
5366.200	44.02	-33.85	34.50	43.37	54.00	9.98	V
10519.500	36.75	-31.93	37.60	31.08	54.00	17.25	H
15781.500	38.87	-26.31	40.46	24.71	54.00	15.13	H
17826.000	38.28	-25.73	41.27	22.74	54.00	15.72	V
17967.500	38.88	-25.83	41.20	23.51	54.00	15.12	H

802.11n-HT20

Channel 56

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)
5139.600	43.30	-33.99	34.36	42.93	54.00	10.70	V
5360.800	44.58	-33.87	34.50	43.95	54.00	9.42	V
10557.000	37.02	-31.73	37.60	31.15	54.00	16.98	H
15841.500	39.48	-26.30	40.58	25.19	54.00	14.52	V
17699.500	38.16	-25.68	41.30	22.54	54.00	15.84	H
17886.000	38.42	-25.77	41.21	22.97	54.00	15.58	H

802.11n-HT20

Channel 64

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)
5365.800	45.25	-33.85	34.50	44.60	54.00	8.75	V
5377.400	44.78	-33.84	34.50	44.12	54.00	9.22	V
10641.500	36.72	-32.06	37.68	31.10	54.00	17.28	V
15958.000	39.71	-26.24	40.76	25.19	54.00	14.29	V
17730.500	38.12	-25.68	41.30	22.50	54.00	15.88	H
17960.000	38.75	-25.82	41.20	23.37	54.00	15.25	H

802.11n-HT20

Channel 100

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)
5458.800	44.37	-24.13	34.42	34.09	54.00	9.63	V
5459.400	44.43	-24.13	34.42	34.14	54.00	9.57	V
10998.500	42.83	-31.53	37.80	36.56	54.00	11.17	V
16497.500	39.61	-25.91	41.49	24.03	54.00	14.39	H
17767.500	38.38	-25.70	41.30	22.77	54.00	15.62	V
17952.000	38.69	-25.82	41.20	23.31	54.00	15.31	V

802.11n-HT20

Channel 116

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)
5454.800	43.2	-24.2	34.4	32.98	54.0	10.8	V
5459.800	43.4	-24.1	34.4	33.06	54.0	10.6	V
11159.500	42.0	-31.9	37.9	36.01	54.0	12.0	H
16742.000	39.8	-25.5	41.8	23.51	54.0	14.2	V
17800.500	38.4	-25.7	41.3	22.78	54.0	15.6	H
17949.000	38.6	-25.8	41.2	23.21	54.0	15.4	H

802.11n-HT20

Channel 140

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)
5359.000	43.16	-23.88	34.50	32.54	54.00	10.84	V
5375.000	43.29	-23.82	34.50	32.61	54.00	10.71	V
11395.000	34.58	-31.80	38.10	28.29	54.00	19.42	V
17094.000	39.54	-25.77	41.52	23.79	54.00	14.46	V
17884.500	38.40	-25.77	41.22	22.95	54.00	15.60	H
17995.500	39.08	-25.85	41.20	23.73	54.00	14.92	H

802.11n-HT40

Channel 38

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)
5149.200	46.11	-23.80	34.40	35.51	54.00	7.89	V
5149.800	46.07	-23.79	34.40	35.46	54.00	7.93	V
11909.500	35.00	-30.96	38.79	27.16	54.00	19.00	V
15567.500	38.08	-26.56	40.14	24.50	54.00	15.92	V
17966.000	38.85	-25.83	41.20	23.47	54.00	15.15	H
17991.500	39.09	-25.85	41.20	23.74	54.00	14.91	H

802.11n-HT40

Channel 46

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)
5146.600	44.29	-23.85	34.39	33.76	54.00	9.71	V
5149.800	44.37	-23.79	34.40	33.76	54.00	9.63	V
11913.500	35.04	-30.93	38.79	27.18	54.00	18.96	H
15694.500	38.32	-26.38	40.29	24.40	54.00	15.68	H
17962.000	38.76	-25.82	41.20	23.38	54.00	15.24	H
17995.500	39.03	-25.85	41.20	23.68	54.00	14.97	H

802.11n-HT40

Channel 54

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)
5128.600	42.74	-34.21	34.31	42.64	54.00	11.26	V
5141.000	43.10	-33.97	34.36	42.70	54.00	10.90	V
10538.500	35.43	-31.83	37.60	29.66	54.00	18.57	V
15810.000	37.89	-26.30	40.52	23.67	54.00	16.11	H
17787.000	38.15	-25.71	41.30	22.55	54.00	15.85	V
17915.000	38.39	-25.79	41.20	22.98	54.00	15.61	H

802.11n-HT40

Channel 62

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)
5350.000	47.12	-33.92	34.50	46.55	54.00	6.88	V
5350.800	46.86	-33.92	34.50	46.28	54.00	7.14	V
10620.000	35.05	-31.93	37.64	29.34	54.00	18.95	V
15930.000	38.87	-26.26	40.73	24.40	54.00	15.13	V
17731.500	38.16	-25.68	41.30	22.54	54.00	15.84	V
17832.000	38.29	-25.73	41.27	22.76	54.00	15.71	H

802.11n-HT40

Channel 102

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)
5457.000	43.57	-24.14	34.41	33.30	54.00	10.43	V
5460.000	43.67	-24.13	34.42	33.38	54.00	10.33	V
11020.000	39.26	-31.60	37.80	33.05	54.00	14.74	H
16061.500	37.55	-26.15	40.80	22.90	54.00	16.45	V
17766.500	38.27	-25.69	41.30	22.66	54.00	15.73	V
17968.500	38.73	-25.83	41.20	23.36	54.00	15.27	V

802.11n-HT40

Channel 118

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)
5371.600	43.50	-23.82	34.50	32.82	54.00	10.50	V
5376.400	43.53	-23.83	34.50	32.86	54.00	10.47	V
11180.000	38.40	-31.79	37.88	32.31	54.00	15.60	H
16046.000	37.76	-26.15	40.80	23.11	54.00	16.24	V
17806.500	38.37	-25.72	41.29	22.79	54.00	15.63	H
17969.500	38.75	-25.83	41.20	23.38	54.00	15.25	H

802.11n-HT40

Channel 134

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)
5359.200	43.26	-23.88	34.50	32.64	54.00	10.74	V
5374.400	43.42	-23.81	34.50	32.73	54.00	10.58	V
11335.000	35.09	-32.13	38.10	29.12	54.00	18.91	H
17742.000	37.96	-25.68	41.30	22.34	54.00	16.04	H
17819.000	38.28	-25.73	41.28	22.73	54.00	15.72	H
17943.500	38.50	-25.81	41.20	23.11	54.00	15.50	V

802.11ac-HT20

Channel 36

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)
5149.200	45.65	-23.80	34.40	35.06	54.00	8.35	V
5150.000	45.72	-23.79	34.40	35.10	54.00	8.28	V
11909.000	34.94	-30.96	38.79	27.11	54.00	19.06	V
15541.000	38.70	-26.58	40.08	25.20	54.00	15.30	V
17835.000	38.33	-25.74	41.26	22.80	54.00	15.67	H
17988.500	38.98	-25.85	41.20	23.63	54.00	15.02	V

802.11ac-HT20

Channel 40

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)
5146.800	44.82	-23.85	34.39	34.28	54.00	9.18	V
5149.400	44.89	-23.80	34.40	34.29	54.00	9.11	V
11895.500	35.03	-31.09	38.80	27.33	54.00	18.97	V
15600.000	38.10	-26.52	40.20	24.42	54.00	15.90	V
17961.500	37.80	-25.82	41.20	22.42	54.00	16.20	V
17991.000	39.18	-25.85	41.20	23.82	54.00	14.82	V

802.11ac-HT20

Channel 48

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)
5146.000	43.91	-23.87	34.38	33.39	54.00	10.09	V
5149.600	44.04	-23.79	34.40	33.43	54.00	9.96	V
11900.500	35.03	-31.04	38.80	27.27	54.00	18.97	H
15719.500	38.93	-26.34	40.34	24.93	54.00	15.07	V
17963.000	38.80	-25.82	41.20	23.42	54.00	15.20	H
17986.500	39.12	-25.84	41.20	23.77	54.00	14.88	H

802.11ac-HT20

Channel 52

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)
5143.800	43.49	-33.91	34.38	43.03	54.00	10.51	V
5148.800	43.68	-33.81	34.40	43.09	54.00	10.32	V
10520.500	36.63	-31.93	37.60	30.96	54.00	17.37	V
15778.000	38.70	-26.31	40.46	24.55	54.00	15.30	H
17843.000	38.25	-25.74	41.26	22.73	54.00	15.75	H
17956.000	38.49	-25.82	41.20	23.11	54.00	15.51	H

802.11ac-HT20

Channel 56

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)
5141.400	43.25	-33.96	34.37	42.85	54.00	10.75	V
5365.800	43.90	-33.85	34.50	43.25	54.00	10.10	V
10562.000	36.83	-31.71	37.60	30.94	54.00	17.17	V
15846.000	39.04	-26.30	40.59	24.74	54.00	14.96	V
17842.500	38.23	-25.74	41.26	22.71	54.00	15.77	V
17976.000	38.89	-25.84	41.20	23.52	54.00	15.11	V

802.11ac-HT20

Channel 64

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)
5365.000	44.46	-33.85	34.50	43.82	54.00	9.54	V
5374.800	44.43	-33.82	34.50	43.75	54.00	9.57	V
10638.500	36.63	-32.04	37.68	31.00	54.00	17.37	H
15960.000	39.63	-26.23	40.76	25.11	54.00	14.37	H
17852.500	38.12	-25.75	41.25	22.62	54.00	15.88	V
17975.000	38.82	-25.83	41.20	23.46	54.00	15.18	V

802.11ac-HT20

Channel 100

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)
5458.600	43.84	-24.14	34.42	33.55	54.00	10.16	V
5459.600	43.84	-24.13	34.42	33.55	54.00	10.16	V
11000.500	41.59	-31.52	37.80	35.31	54.00	12.41	H
16497.000	39.09	-25.91	41.49	23.51	54.00	14.91	H
17824.000	38.37	-25.73	41.28	22.83	54.00	15.63	V
17958.500	38.73	-25.82	41.20	23.35	54.00	15.27	V

802.11ac-HT20

Channel 116

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
5452.000	43.2	-24.2	34.4	32.96	54.0	10.8	V
5459.200	43.3	-24.1	34.4	33.02	54.0	10.7	V
11159.000	41.3	-31.9	37.9	35.27	54.0	12.7	H
16740.500	39.6	-25.5	41.8	23.27	54.0	14.4	V
17888.000	38.4	-25.8	41.2	22.96	54.0	15.6	H
17963.500	38.8	-25.8	41.2	23.47	54.0	15.2	H

802.11ac-HT20

Channel 140

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)
5372.000	43.34	-23.82	34.50	32.66	54.00	10.66	V
5384.600	43.06	-23.91	34.50	32.47	54.00	10.94	V
11397.000	34.51	-31.79	38.10	28.20	54.00	19.49	H
17096.000	39.41	-25.77	41.51	23.67	54.00	14.59	V
17794.500	38.37	-25.71	41.30	22.78	54.00	15.63	V
17985.000	39.06	-25.84	41.20	23.70	54.00	14.94	H

802.11ac-HT40

Channel 38

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)
5148.600	45.16	-23.81	34.39	34.58	54.00	8.84	V
5149.400	45.44	-23.80	34.40	34.84	54.00	8.56	V
11910.500	35.01	-30.95	38.79	27.16	54.00	18.99	V
15564.000	37.88	-26.56	40.13	24.31	54.00	16.12	V
17965.500	38.80	-25.83	41.20	23.42	54.00	15.20	V
17989.500	39.04	-25.85	41.20	23.69	54.00	14.96	V

802.11ac-HT40

Channel 46

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)
5146.600	44.26	-23.85	34.39	33.73	54.00	9.74	V
5148.600	44.36	-23.81	34.39	33.78	54.00	9.64	V
11895.000	35.02	-31.10	38.80	27.33	54.00	18.98	V
15697.500	37.97	-26.38	40.30	24.05	54.00	16.03	H
17965.000	38.81	-25.83	41.20	23.44	54.00	15.19	V
17995.500	39.05	-25.85	41.20	23.70	54.00	14.95	H

802.11ac-HT40

Channel 54

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)
5129.000	42.92	-34.20	34.32	42.81	54.00	11.08	V
5139.800	43.31	-33.99	34.36	42.94	54.00	10.69	V
10540.000	35.30	-31.82	37.60	29.52	54.00	18.70	V
15810.000	37.45	-26.30	40.52	23.23	54.00	16.55	V
17731.500	38.20	-25.68	41.30	22.58	54.00	15.80	V
17873.000	38.01	-25.76	41.23	22.55	54.00	15.99	V

802.11ac-HT40

Channel 62

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)
5350.200	46.52	-33.92	34.50	45.95	54.00	7.48	V
5351.200	46.35	-33.92	34.50	45.77	54.00	7.65	V
10618.000	34.81	-31.92	37.64	29.10	54.00	19.19	V
15928.000	38.62	-26.27	40.73	24.15	54.00	15.38	V
17783.000	38.10	-25.70	41.30	22.50	54.00	15.90	V
17947.000	38.29	-25.81	41.20	22.91	54.00	15.71	V

802.11ac-HT40

Channel 102

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)
5458.400	43.3	-24.1	34.4	33.01	54.0	10.7	V
5460.000	43.4	-24.1	34.4	33.09	54.0	10.6	V
11018.500	38.9	-31.6	37.8	32.65	54.0	15.1	H
17718.000	38.0	-25.7	41.3	22.37	54.0	16.0	H
17797.500	38.3	-25.7	41.3	22.74	54.0	15.7	H
17887.500	38.4	-25.8	41.2	22.94	54.0	15.6	V

802.11ac-HT40

Channel 118

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)
5454.400	43.24	-24.16	34.41	32.99	54.00	10.76	V
5459.400	43.19	-24.13	34.42	32.90	54.00	10.81	V
11177.500	38.31	-31.79	37.88	32.23	54.00	15.69	V
17757.000	38.21	-25.69	41.30	22.60	54.00	15.79	V
17871.500	38.25	-25.76	41.23	22.78	54.00	15.75	V

17965.500	38.97	-25.83	41.20	23.60	54.00	15.03	H

802.11ac-HT40

Channel 134

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)
5361.200	43.15	-23.87	34.50	32.52	54.00	10.85	V
5373.800	43.20	-23.81	34.50	32.51	54.00	10.80	V
11336.000	34.97	-32.13	38.10	28.99	54.00	19.03	V
15886.000	38.02	-26.30	40.67	23.64	54.00	15.98	V
17810.500	38.29	-25.72	41.29	22.72	54.00	15.71	V
17992.000	39.06	-25.85	41.20	23.71	54.00	14.94	H

802.11ac-HT80

Channel 42

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)
5149.200	46.8	-23.8	34.4	36.23	54.0	7.2	V
5149.800	47.0	-23.8	34.4	36.39	54.0	7.0	V
10451.500	33.7	-32.2	37.6	28.37	54.0	20.3	V
15630.000	36.9	-26.5	40.2	23.11	54.0	17.1	H
17832.000	38.4	-25.7	41.3	22.85	54.0	15.6	V
17934.000	38.5	-25.8	41.2	23.05	54.0	15.5	H

802.11ac-HT80

Channel 58

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)
5350.200	49.3	-23.9	34.5	38.69	54.0	4.7	V
5354.200	48.9	-23.9	34.5	38.29	54.0	5.1	V
10580.000	33.9	-31.7	37.6	27.98	54.0	20.1	H
15870.000	38.1	-26.3	40.6	23.74	54.0	15.9	H
17790.500	38.1	-25.7	41.3	22.55	54.0	15.9	H
17907.500	38.1	-25.8	41.2	22.72	54.0	15.9	V

802.11ac-HT80

Channel 106

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)
5454.200	44.5	-24.2	34.4	34.28	54.0	9.5	V
5457.000	44.6	-24.1	34.4	34.29	54.0	9.4	V
11060.000	36.7	-31.8	37.8	30.69	54.0	17.3	H
16266.500	37.1	-26.3	41.0	22.39	54.0	16.9	H
17846.500	38.2	-25.7	41.3	22.73	54.0	15.8	H
17949.000	38.5	-25.8	41.2	23.09	54.0	15.5	H

802.11ac-HT80

Channel 122

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)
5454.600	43.1	-24.2	34.4	32.88	54.0	10.9	V
5458.200	43.1	-24.1	34.4	32.79	54.0	10.9	V
11224.500	35.5	-31.7	37.9	29.23	54.0	18.5	V
16113.000	37.3	-26.2	40.8	22.72	54.0	16.7	V
17824.500	38.2	-25.7	41.3	22.67	54.0	15.8	V
17969.000	39.0	-25.8	41.2	23.59	54.0	15.0	H

PEAK Results:

802.11a

Channel 36

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)
5149.600	46.06	-23.79	34.40	35.46	74.00	27.94	V
5150.000	46.09	-23.79	34.40	35.47	74.00	27.91	H
10363.000	49.89	-32.03	37.46	44.46	68.30	18.41	H
15537.000	53.38	-26.59	40.07	39.89	74.00	20.62	H
16492.500	53.15	-25.91	41.47	37.59	68.30	15.15	V
16936.500	52.58	-25.50	41.80	36.29	68.30	15.72	V

802.11a

Channel 40

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)
5155.400	61.67	-23.68	34.41	50.94	68.30	6.63	V
5241.400	61.43	-24.36	34.58	51.20	68.30	6.87	H
10398.000	50.31	-32.09	37.50	44.90	68.30	17.99	V
15609.000	52.87	-26.50	40.21	39.16	74.00	21.13	H
16629.500	52.79	-25.68	41.66	36.81	68.30	15.51	H
16871.000	53.68	-25.38	41.80	37.26	68.30	14.62	V

802.11a

Channel 48

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)
5191.200	61.49	-23.79	34.48	50.80	68.30	6.81	V
5286.800	62.25	-24.45	34.67	52.03	68.30	6.05	V
10481.000	49.97	-32.13	37.58	44.53	68.30	18.33	H
15723.000	53.77	-26.34	40.35	39.76	74.00	20.23	H
16893.000	53.61	-25.41	41.80	37.22	68.30	14.69	H
17307.500	52.78	-25.86	41.20	37.44	68.30	15.52	V

802.11a

Channel 52

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)
5121.800	55.65	-34.35	34.29	55.71	74.00	18.35	H
5367.600	57.26	-33.84	34.50	56.60	74.00	16.74	V
10520.000	46.82	-31.93	37.60	41.15	68.30	21.48	V
15780.000	51.39	-26.31	40.46	37.24	74.00	22.61	H
17235.500	52.56	-25.83	41.26	37.12	68.30	15.74	V
17490.000	51.19	-25.77	41.20	35.76	68.30	17.11	V

802.11a

Channel 56

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)
5136.800	55.80	-34.05	34.35	55.50	74.00	18.20	V
5369.200	56.88	-33.83	34.50	56.21	74.00	17.12	V
10558.500	43.20	-31.73	37.60	37.32	68.30	25.10	V
15850.500	52.24	-26.30	40.60	37.94	74.00	21.76	V
17035.000	53.29	-25.72	41.69	37.31	68.30	15.01	V
17586.000	52.17	-25.68	41.20	36.65	68.30	16.13	H

802.11a

Channel 64

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)
5350.056	67.90	-33.92	34.50	67.32	74.00	6.10	V
5351.176	66.94	-33.92	34.50	66.36	74.00	7.06	H
10640.000	49.51	-32.05	37.68	43.88	74.00	24.49	H
15963.500	53.60	-26.23	40.76	39.07	74.00	20.40	H
17264.000	52.05	-25.85	41.24	36.66	68.30	16.25	V
17570.000	52.76	-25.68	41.20	37.23	68.30	15.54	H

802.11a

Channel 100

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)
5468.219	64.78	-24.09	34.44	54.43	68.30	3.52	V
5468.828	65.34	-24.08	34.44	54.98	68.30	2.96	H
10996.000	55.48	-31.54	37.80	49.23	74.00	18.52	H
16493.000	52.73	-25.91	41.47	37.17	68.30	15.57	V
17089.000	52.86	-25.76	41.53	37.09	68.30	15.44	V
17412.500	50.96	-25.87	41.20	35.62	68.30	17.34	V

802.11a

Channel 116

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)
5483.200	57.4	-24.0	34.5	46.90	68.3	10.9	V
5639.800	59.3	-23.7	34.7	48.40	68.3	9.0	V
11159.500	48.4	-31.9	37.9	42.37	74.0	25.6	V
16740.000	50.9	-25.5	41.8	34.59	68.3	17.4	V
17333.500	52.3	-25.9	41.2	36.97	68.3	16.0	H
17539.000	51.3	-25.7	41.2	35.84	68.3	17.0	H

802.11a

Channel 140

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)
5726.625	67.61	-23.44	34.85	56.20	68.30	0.69	V
5727.438	67.64	-23.43	34.85	56.22	68.30	0.66	H
11160.000	44.33	-31.85	37.86	38.33	74.00	29.67	H
16740.000	50.56	-25.51	41.80	34.28	68.30	17.74	V
17096.500	52.06	-25.77	41.51	36.31	68.30	16.24	H
17544.000	51.98	-25.70	41.20	36.48	68.30	16.32	V

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Channel 36

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)
5147.595	66.74	-23.83	34.39	56.18	74.00	7.26	V
5149.835	68.56	-23.79	34.40	57.95	74.00	5.44	H
10358.500	48.42	-32.02	37.46	42.99	68.30	19.88	H
15540.500	52.82	-26.59	40.08	39.33	74.00	21.18	H
16816.500	52.48	-25.43	41.80	36.11	68.30	15.82	H
17160.000	52.60	-25.80	41.38	37.02	68.30	15.70	V

802.11n-HT20

Channel 40

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)
5165.000	62.18	-23.50	34.43	51.25	68.30	6.12	V
5236.600	62.38	-24.30	34.57	52.10	68.30	5.92	V
10392.500	49.06	-32.08	37.49	43.64	68.30	19.24	H
15595.000	54.27	-26.52	40.19	40.61	74.00	19.73	V
16647.000	52.87	-25.65	41.69	36.83	68.30	15.43	H
16873.500	53.21	-25.37	41.80	36.78	68.30	15.09	H

802.11n-HT20

Channel 48

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)
5189.800	61.16	-23.78	34.48	50.46	68.30	7.14	H
5287.000	61.39	-24.45	34.67	51.17	68.30	6.91	H
10485.000	48.60	-32.11	37.59	43.13	68.30	19.70	V
15715.500	52.75	-26.35	40.33	38.77	74.00	21.25	H
16706.500	52.70	-25.55	41.80	36.45	68.30	15.60	H
17226.500	53.16	-25.83	41.27	37.72	68.30	15.14	H

802.11n-HT20

Channel 52

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)
5146.200	56.10	-33.86	34.38	55.58	74.00	17.90	V
5362.400	56.85	-33.87	34.50	56.22	74.00	17.15	V
10520.500	49.05	-31.93	37.60	43.38	68.30	19.24	V
15782.500	52.78	-26.31	40.47	38.63	74.00	21.22	V
17238.500	51.90	-25.83	41.26	36.47	68.30	16.40	V
17588.000	52.96	-25.68	41.20	37.44	68.30	15.34	H

802.11n-HT20

Channel 56

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)
5146.200	55.96	-33.86	34.38	55.44	74.00	18.04	V
5352.800	58.11	-33.91	34.50	57.52	74.00	15.89	V
10562.500	50.54	-31.70	37.60	44.64	68.30	17.76	H
15838.000	53.09	-26.30	40.58	38.81	74.00	20.91	H
17025.500	52.98	-25.70	41.72	36.96	68.30	15.32	H
17498.000	52.42	-25.76	41.20	36.98	68.30	15.88	V

802.11n-HT20

Channel 64

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)
5351.122	69.15	-33.92	34.50	68.57	74.00	4.85	V
5351.433	69.56	-33.92	34.50	68.97	74.00	4.44	H
10638.000	49.22	-32.04	37.68	43.59	74.00	24.78	V
15961.500	53.66	-26.23	40.76	39.13	74.00	20.34	H
17307.500	52.88	-25.86	41.20	37.55	68.30	15.42	V
17599.000	52.10	-25.68	41.20	36.58	68.30	16.20	H

802.11n-HT20

Channel 100

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)
5468.172	62.82	-24.09	34.44	52.47	68.30	5.48	H
5469.906	64.29	-24.08	34.44	53.93	68.30	4.01	H
11000.500	55.59	-31.52	37.80	49.31	74.00	18.41	H
16507.500	52.78	-25.89	41.51	37.16	68.30	15.52	H
17224.500	51.74	-25.83	41.28	36.29	68.30	16.56	H
17517.000	52.15	-25.73	41.20	36.68	68.30	16.15	H

802.11n-HT20

Channel 116

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)
5535.000	59.5	-23.3	34.6	48.17	68.3	8.8	H
5628.200	60.1	-23.6	34.7	49.11	68.3	8.2	V
11154.000	54.6	-31.9	37.9	48.61	74.0	19.4	H
16743.000	53.1	-25.5	41.8	36.83	68.3	15.2	H
17399.000	52.4	-25.9	41.2	37.11	68.3	15.9	V
17562.000	52.2	-25.7	41.2	36.71	68.3	16.1	H

802.11n-HT20

Channel 140

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)
5725.812	67.36	-23.44	34.85	55.95	68.30	0.94	V
5726.025	66.54	-23.44	34.85	55.13	68.30	1.76	H
11400.000	46.03	-31.78	38.10	39.71	74.00	27.97	V
17100.000	52.39	-25.77	41.50	36.66	68.30	15.91	H
17485.500	52.76	-25.77	41.20	37.33	68.30	15.54	H
17579.000	52.00	-25.68	41.20	36.48	68.30	16.30	H

802.11n-HT40

Channel 38

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)
5147.210	70.09	-23.84	34.39	59.54	74.00	3.91	V
5147.438	70.29	-23.84	34.39	59.74	74.00	3.71	V
10380.500	47.33	-32.06	37.48	41.91	68.30	20.97	H
15577.500	50.73	-26.55	40.16	37.12	74.00	23.27	V
16624.500	52.74	-25.69	41.65	36.78	68.30	15.56	V
16912.500	53.28	-25.45	41.80	36.93	68.30	15.02	H

802.11n-HT40

Channel 46

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)
5169.000	60.99	-23.55	34.44	50.10	68.30	7.31	V
5298.800	60.94	-24.32	34.70	50.55	68.30	7.36	V
10469.500	47.17	-32.19	37.57	41.80	68.30	21.12	H
15713.000	51.13	-26.35	40.33	37.16	74.00	22.87	V
16601.000	53.06	-25.73	41.60	37.19	68.30	15.24	V
16905.500	53.37	-25.44	41.80	37.01	68.30	14.93	H

802.11n-HT40

Channel 54

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)
5166.200	57.31	-33.52	34.43	56.40	74.00	16.69	H
5170.800	57.28	-33.57	34.44	56.41	74.00	16.72	V
10539.000	48.62	-31.83	37.60	42.84	68.30	19.68	H
15810.000	49.86	-26.30	40.52	35.64	74.00	24.14	H
17260.000	52.34	-25.84	41.24	36.95	68.30	15.95	H
17582.000	51.40	-25.68	41.20	35.87	68.30	16.90	H

802.11n-HT40

Channel 62

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)
5351.743	68.21	-33.92	34.50	67.63	74.00	5.79	V
5352.702	68.64	-33.91	34.50	68.05	74.00	5.36	V
10623.000	48.76	-31.95	37.65	43.07	74.00	25.24	V
15930.000	49.60	-26.26	40.73	35.13	74.00	24.40	H
17318.500	52.03	-25.87	41.20	36.70	68.30	16.27	V
17556.000	52.69	-25.68	41.20	37.18	68.30	15.61	H

802.11n-HT40

Channel 102

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)
5467.450	63.1	-24.1	34.4	52.75	68.3	5.2	H
5468.238	63.3	-24.1	34.4	52.96	68.3	5.0	V
11014.000	51.7	-31.6	37.8	45.48	74.0	22.3	V
16530.000	51.2	-25.9	41.5	35.48	68.3	17.1	H
17055.500	52.3	-25.7	41.6	36.41	68.3	16.0	H
17381.500	51.6	-25.9	41.2	36.31	68.3	16.7	H

802.11n-HT40

Channel 118

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)
5529.200	62.59	-23.34	34.56	51.38	68.30	5.71	H
5659.200	62.18	-23.77	34.72	51.23	68.30	6.12	H
11172.000	50.29	-31.81	37.87	44.23	74.00	23.71	H
16770.000	50.37	-25.48	41.80	34.05	68.30	17.93	V
17225.500	52.22	-25.83	41.27	36.78	68.30	16.08	H
17532.500	53.61	-25.71	41.20	38.13	68.30	14.69	V

802.11n-HT40

Channel 134

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)
5728.075	67.00	-23.43	34.86	55.57	68.30	1.30	V
5729.150	66.23	-23.42	34.86	54.80	68.30	2.07	H
11343.500	47.40	-32.08	38.10	41.38	74.00	26.60	H
17010.000	51.51	-25.67	41.77	35.41	68.30	16.79	V
17267.500	52.47	-25.85	41.23	37.08	68.30	15.83	V
17474.500	51.60	-25.79	41.20	36.19	68.30	16.70	V

802.11ac-HT20

Channel 36

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)
5148.943	65.60	-23.81	34.40	55.02	74.00	8.40	H
5149.852	66.94	-23.79	34.40	56.33	74.00	7.06	H
10359.500	48.18	-32.02	37.46	42.74	68.30	20.12	H
15540.500	51.21	-26.59	40.08	37.71	74.00	22.79	V
16724.000	53.02	-25.53	41.80	36.75	68.30	15.28	H
17084.000	52.74	-25.76	41.55	36.95	68.30	15.56	V

802.11ac-HT20

Channel 40

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)
5165.800	60.68	-23.51	34.43	49.76	68.30	7.62	H
5233.600	61.62	-24.27	34.57	51.32	68.30	6.68	H
10408.500	49.18	-32.10	37.51	43.77	68.30	19.12	H
15588.000	52.21	-26.53	40.18	38.57	74.00	21.79	H
16537.500	52.35	-25.84	41.54	36.66	68.30	15.95	H
17030.000	53.13	-25.71	41.71	37.13	68.30	15.17	H

802.11ac-HT20

Channel 48

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)
5202.200	63.04	-23.91	34.50	52.45	68.30	5.26	V
5287.000	62.73	-24.45	34.67	52.51	68.30	5.57	H
10479.500	49.89	-32.14	37.58	44.45	68.30	18.41	H
15719.500	52.43	-26.34	40.34	38.43	74.00	21.57	V
16605.500	52.69	-25.73	41.61	36.80	68.30	15.61	V
16802.500	53.43	-25.45	41.80	37.08	68.30	14.87	H

802.11ac-HT20

Channel 52

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)
5135.800	56.00	-34.07	34.34	55.72	74.00	18.00	V
5147.400	57.10	-33.84	34.39	56.55	74.00	16.90	V
10520.500	49.25	-31.93	37.60	43.58	68.30	19.05	H
15785.000	52.15	-26.31	40.47	37.98	74.00	21.85	H
17157.500	52.10	-25.80	41.38	36.51	68.30	16.20	V
17559.000	52.20	-25.68	41.20	36.68	68.30	16.10	V

802.11ac-HT20

Channel 56

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)
5226.800	59.02	-34.19	34.55	58.66	68.30	9.28	V
5329.000	58.07	-34.02	34.58	57.51	68.30	10.23	V
10555.000	49.83	-31.74	37.60	43.97	68.30	18.47	H
15838.000	53.34	-26.30	40.58	39.07	74.00	20.66	V
17099.500	51.82	-25.77	41.50	36.09	68.30	16.48	H
17476.000	51.26	-25.79	41.20	35.84	68.30	17.04	V

802.11ac-HT20

Channel 64

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)
5350.231	67.21	-33.92	34.50	66.64	74.00	6.79	V
5350.540	69.21	-33.92	34.50	68.63	74.00	4.79	H
10634.500	48.79	-32.02	37.67	43.14	74.00	25.21	H
15948.500	52.69	-26.25	40.75	38.19	74.00	21.31	V
17269.500	52.05	-25.85	41.23	36.67	68.30	16.24	V
17638.000	52.28	-25.68	41.24	36.72	68.30	16.02	V

802.11ac-HT20

Channel 100

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)
5468.828	62.66	-24.08	34.44	52.30	68.30	5.64	H
5469.991	64.19	-24.08	34.44	53.83	68.30	4.11	H
10996.000	54.61	-31.54	37.80	48.35	74.00	19.39	V
16500.000	52.08	-25.90	41.50	36.48	68.30	16.22	V
17269.000	52.21	-25.85	41.23	36.82	68.30	16.09	H
17559.500	51.91	-25.68	41.20	36.39	68.30	16.39	H

802.11ac-HT20

Channel 116

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)
5535.600	62.2	-23.3	34.6	50.87	68.3	6.1	H
5621.200	61.3	-23.6	34.6	50.18	68.3	7.1	H
11160.500	55.0	-31.9	37.9	48.95	74.0	19.0	H
16740.000	50.9	-25.5	41.8	34.61	68.3	17.4	V
17252.000	52.5	-25.8	41.2	37.08	68.3	15.8	H
17536.500	52.9	-25.7	41.2	37.36	68.3	15.4	V

802.11ac-HT20

Channel 140

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)
5725.050	66.72	-23.45	34.85	55.32	68.30	1.58	H
5725.387	66.70	-23.45	34.85	55.29	68.30	1.60	H
11400.000	45.03	-31.78	38.10	38.71	74.00	28.97	V
17100.000	51.04	-25.77	41.50	35.31	68.30	17.26	V
17345.000	52.23	-25.88	41.20	36.91	68.30	16.07	V
17642.500	52.01	-25.68	41.24	36.44	68.30	16.29	H

802.11ac-HT40

Channel 38

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)
5148.033	69.65	-23.83	34.39	59.09	74.00	4.35	H
5149.555	70.32	-23.80	34.40	59.72	74.00	3.68	H
10392.500	46.87	-32.08	37.49	41.45	68.30	21.43	V
15582.500	50.73	-26.54	40.17	37.11	74.00	23.27	V
16689.000	52.32	-25.58	41.78	36.12	68.30	15.98	H
16883.000	52.75	-25.39	41.80	36.34	68.30	15.55	V

802.11ac-HT40

Channel 46

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)
5170.000	62.13	-23.56	34.44	51.25	68.30	6.17	V
5285.400	62.65	-24.47	34.67	52.45	68.30	5.65	H
10458.500	47.14	-32.19	37.56	41.77	68.30	21.16	V
15684.000	51.09	-26.40	40.28	37.20	74.00	22.91	V
16545.500	52.21	-25.83	41.55	36.49	68.30	16.09	H
17051.000	53.09	-25.74	41.65	37.19	68.30	15.21	H

802.11ac-HT40

Channel 54

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)
5198.400	58.57	-33.87	34.50	57.95	74.00	15.43	V
5205.200	59.51	-33.94	34.51	58.95	74.00	14.49	V
10537.000	48.20	-31.84	37.60	42.43	68.30	20.10	V
15810.000	48.75	-26.30	40.52	34.54	74.00	25.25	H
17058.000	53.19	-25.75	41.63	37.31	68.30	15.11	H
17541.000	52.16	-25.70	41.20	36.67	68.30	16.13	H

802.11ac-HT40

Channel 62

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)
5351.663	66.04	-33.92	34.50	65.46	74.00	7.96	V
5359.276	65.94	-33.88	34.50	65.32	74.00	8.06	H
10614.000	46.67	-31.90	37.63	40.94	74.00	27.33	V
15930.000	49.80	-26.26	40.73	35.34	74.00	24.20	H
17096.000	52.48	-25.77	41.51	36.73	68.30	15.82	V
17675.500	51.31	-25.68	41.28	35.71	68.30	16.99	V

802.11ac-HT40

Channel 102

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)
5465.781	62.8	-24.1	34.4	52.45	68.3	5.5	V
5469.663	66.0	-24.1	34.4	55.68	68.3	2.3	V
11019.000	52.3	-31.6	37.8	46.05	74.0	21.7	V
16530.000	50.9	-25.9	41.5	35.25	68.3	17.4	V
17040.000	53.2	-25.7	41.7	37.27	68.3	15.1	V
17434.000	51.3	-25.8	41.2	35.97	68.3	17.0	H

802.11ac-HT40

Channel 118

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)
5509.200	60.07	-23.63	34.52	49.18	68.30	8.23	H
5670.000	62.05	-23.72	34.74	51.03	68.30	6.25	V
11176.000	50.35	-31.80	37.88	44.27	74.00	23.65	V
16770.000	50.94	-25.48	41.80	34.62	68.30	17.36	H
17304.000	52.16	-25.86	41.20	36.83	68.30	16.13	H
17555.500	52.99	-25.68	41.20	37.48	68.30	15.31	H

802.11ac-HT40

Channel 134

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)
5726.562	66.29	-23.44	34.85	54.88	68.30	2.01	H
5728.938	65.89	-23.43	34.86	54.45	68.30	2.41	V
1134.000	47.10	-28.85	27.44	48.51	74.00	26.90	V
17010.000	50.39	-25.67	41.77	34.28	68.30	17.91	H
17314.500	52.18	-25.87	41.20	36.85	68.30	16.12	H
17535.000	52.70	-25.71	41.20	37.21	68.30	15.60	H

802.11ac-HT80

Channel 42

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)
5146.948	70.3	-23.8	34.4	59.71	74.0	3.7	H
5148.138	70.9	-23.8	34.4	60.36	74.0	3.1	V
10420.000	45.3	-32.1	37.5	39.91	68.3	23.0	H
15630.000	48.1	-26.5	40.2	34.38	74.0	25.9	V
17032.500	52.5	-25.7	41.7	36.55	68.3	15.8	V
17336.500	51.3	-25.9	41.2	36.00	68.3	17.0	V

Channel 58

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)
5353.391	72.3	-23.9	34.5	61.70	74.0	1.7	H
5358.237	72.3	-23.9	34.5	61.68	74.0	1.7	H
10580.000	46.1	-31.7	37.6	40.21	68.3	22.2	H
15870.000	49.5	-26.3	40.6	35.12	74.0	24.5	H
17181.500	51.7	-25.8	41.3	36.17	68.3	16.6	V
17451.500	52.1	-25.8	41.2	36.70	68.3	16.2	V

Channel 106

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)
5463.616	64.9	-24.1	34.4	54.57	68.3	3.4	H
5469.963	67.2	-24.1	34.4	56.87	68.3	1.1	H
11049.500	49.6	-31.7	37.8	43.53	74.0	24.4	V
16590.000	51.1	-25.8	41.6	35.28	68.3	17.2	V
17041.500	52.6	-25.7	41.7	36.66	68.3	15.7	V
17327.000	52.2	-25.9	41.2	36.88	68.3	16.1	V

Channel 122

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)
5730.863	66.1	-23.4	34.9	54.63	68.3	2.2	V
5736.450	66.7	-23.4	34.9	55.21	68.3	1.6	V
11240.000	48.5	-31.7	38.0	42.26	74.0	25.5	V
16830.000	51.8	-25.4	41.8	35.46	68.3	16.5	H
17106.000	51.8	-25.8	41.5	36.13	68.3	16.5	V
17384.500	50.8	-25.9	41.2	35.54	68.3	17.5	V

Conclusion: PASS

Sample calculation: 5730.863MHz

Peak ERP(dBm) = P_{Mea}(54.63dBuV/m) + Cable Loss(-23.4) + Antenna Factor(34.9) =66.1 dBuV/m

A.7. AC Powerline Conducted Emission (150kHz- 30MHz)

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Measurement uncertainty:
Expanded measurement uncertainty for this test item is U =3.10dB, k=2.

Measurement Result and limit:
WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger AE5		
		802.11a	Idle	
0.15 to 0.5	66 to 56	Fig.58	Fig.59	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 AE5		
		802.11a	Idle	
0.15 to 0.5	67 56 to 46	Fig.58	Fig.59	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.				

EUT ID：UT77a

Conclusion: PASS
Test graphs as below:

Traffic:

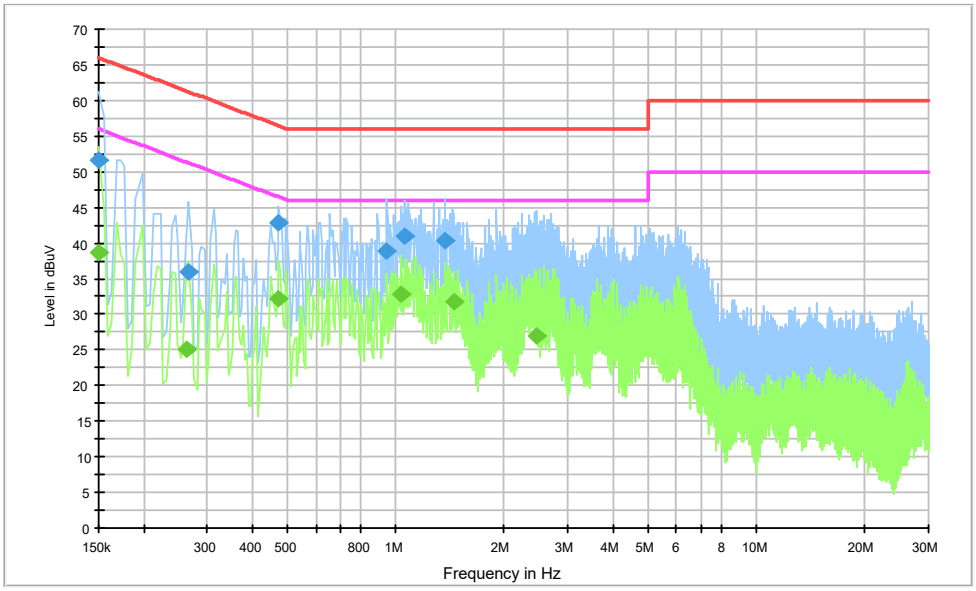

Fig.58 Conducted Emission (802.11a, Ch36, TX)

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

Final Result 1

Frequency (MHz)	Measurement Result (dBuV)	Cable loss (dB)	Votagediviation factor (dB)	Receiver Reading (dBuV)	Limit (dBuV)	Margin (dB)	Line(L/N)
0.150	51.54	9.83	9.89	14.50	66.00	31.82	N
0.267	35.88	9.88	9.85	25.30	61.20	16.15	L1
0.474	42.92	9.88	9.86	13.50	56.40	23.18	L1
0.942	38.85	9.89	9.76	17.20	56.00	19.20	L1
1.059	40.99	9.85	9.74	15.00	56.00	21.40	N
1.365	40.32	9.87	9.71	15.70	56.00	20.74	L1

Final Result 2

Frequency (MHz)	Measurement Result (dBuV)	Cable loss (dB)	Votagediviation factor (dB)	Receiver Reading (dBuV)	Limit (dBuV)	Margin (dB)	Line(L/N)
0.150	38.63	9.83	9.89	17.40	56.00	18.91	L1
0.263	25.02	9.88	9.95	26.30	51.40	5.19	N
0.474	32.08	9.88	9.86	14.40	46.40	12.34	N
1.037	32.76	9.87	9.75	13.20	46.00	13.14	L1
1.451	31.83	9.86	9.71	14.20	46.00	12.26	L1
2.450	27.00	9.94	9.66	19.00	46.00	7.40	N

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

Idle:

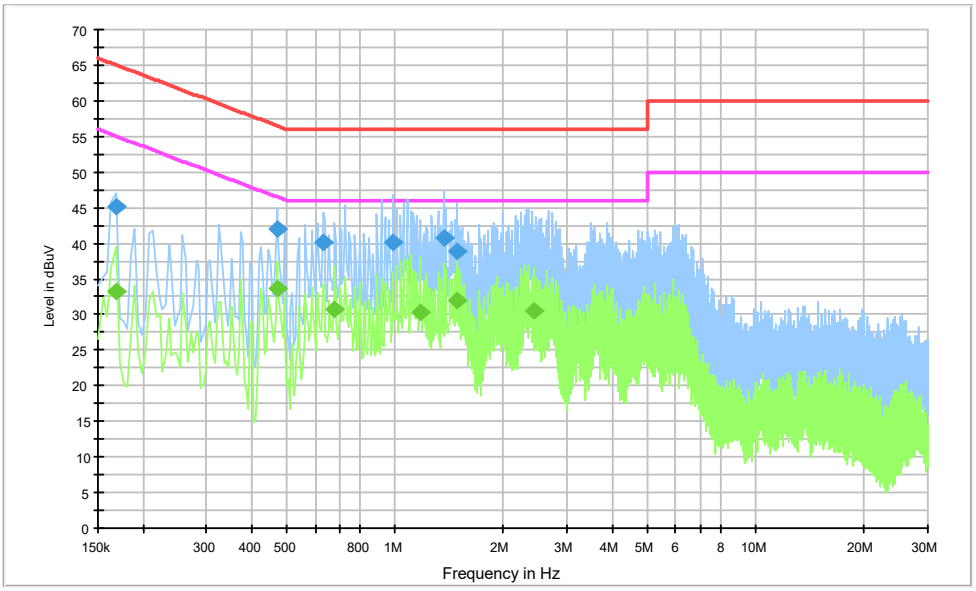

Fig.59 Conducted Emission(802.11a, IDLE)

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

Final Result 1

Frequency (MHz)	Measurement Result (dBuV)	Cable loss (dB)	Votagediviation factor (dB)	Receiver Reading (dBuV)	Limit (dBuV)	Margin (dB)	Line(L/N)
0.168	45.11	9.88	9.89	19.90	65.10	25.34	N
0.470	41.91	9.88	9.86	14.60	56.50	22.17	N
0.632	40.20	9.85	9.85	15.80	56.00	20.50	N
0.987	40.17	9.87	9.86	15.80	56.00	20.44	N
1.361	40.69	9.89	9.71	15.30	56.00	21.09	L1
1.487	38.82	9.91	9.71	17.20	56.00	19.21	N

Final Result 2

Frequency (MHz)	Measurement Result (dBuV)	Cable loss (dB)	Votagediviation factor (dB)	Receiver Reading (dBuV)	Limit (dBuV)	Margin (dB)	Line(L/N)
0.168	33.27	9.88	9.89	21.80	55.10	13.50	L1
0.470	33.58	9.88	9.86	12.90	46.50	13.84	L1
0.681	30.69	9.88	9.85	15.30	46.00	10.96	N
1.176	30.35	9.90	9.73	15.60	46.00	10.73	N
1.487	31.94	9.91	9.71	14.10	46.00	12.33	L1
2.427	30.50	9.94	9.66	15.50	46.00	10.91	L1

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

A.8. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% ofthe total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Frequency	99% Occupied bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.60	17.29	P
	5200 MHz	Fig.61	17.29	P
	5240 MHz	Fig.62	17.30	P
802.11n HT20	5180 MHz	Fig.63	18.18	P
	5200 MHz	Fig.64	18.16	P
	5240 MHz	Fig.65	18.13	P
802.11n HT40	5190 MHz	Fig.66	36.36	P
	5230 MHz	Fig.67	36.59	P
802.11ac HT80	5210 MHz	Fig.68	75.43	P

Conclusion: PASS

Test graphs as below:

Fig.60 99% Occupied bandwidth (802.11a, 5180MHz)

Fig.61 99% Occupied bandwidth (802.11a, 5200MHz)

Fig.62 99% Occupied bandwidth (802.11a, 5240MHz)

Fig.63 99% Occupied bandwidth (802.11n-HT20, 5180MHz)

Fig.64 99% Occupied bandwidth (802.11n-HT20, 5200MHz)

Fig.65 99% Occupied bandwidth (802.11n-HT20, 5240MHz)

Fig.66 99% Occupied bandwidth (802.11n-HT40, 5190MHz)

Fig.67 99% Occupied bandwidth (802.11n-HT40, 5230MHz)

Fig.68 99% Occupied bandwidth (802.11ac-HT80, 5210MHz)

A.9. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

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

United States Department of Commerce
National Institute of Standards and Technology

NVLAP® ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

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).

2022-10-01 through 2023-09-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program

***** END OF REPORT BODY *****