



FCC PART 15 TEST REPORT No.I22Z60248-IOT16

for

Shenzhen Tinno Mobile Technology Corp.

Smart phone

U616AT

With

FCC ID: XD6U616AT

Hardware Version: V1.0

Software Version: U616ATV01.01.10

Issued Date: 2022-04-27

Note:

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

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

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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

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

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



REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22Z60248-IOT16	Rev.0	1st edition	2022-04-27

CONTENTS

CONTENTS	3
1. TEST LATORATORY	5
1.1. INTRODUCTION & ACCREDITATION	5
1.2. TESTING LOCATION	5
1.3. TESTING ENVIRONMENT.....	5
1.4. PROJECT DATE	5
1.5. SIGNATURE	5
2. CLIENT INFORMATION	6
2.1 APPLICANT INFORMATION	6
2.2 MANUFACTURER INFORMATION	6
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARYEQUIPMENT(AE)	7
3.1. ABOUT EUT	7
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	7
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST	7
3.4. GENERAL DESCRIPTION.....	8
3.5. INTERPRETATION OF THE TEST ENVIRONMENT.....	8
4. REFERENCE DOCUMENTS	8
4.1. DOCUMENTS SUPPLIED BY APPLICANT	8
4.2. REFERENCE DOCUMENTS FOR TESTING.....	8
5. LABORATORY ENVIRONMENT	8
6. SUMMARY OF TEST RESULTS	9
6.1. SUMMARY OF TEST RESULTS	9
6.2. STATEMENTS.....	9
6.3. TEST CONDITIONS	9
7. TEST EQUIPMENTS UTILIZED	10
8. MEASUREMENT UNCERTAINTY	11
8.1 TRANSMITTER OUTPUT POWER.....	11
8.2 PEAK POWER SPECTRAL DENSITY.....	11
8.3 OCCUPIED CHANNEL BANDWIDTH.....	11
8.4 BAND EDGES COMPLIANCE.....	11
8.5 SPURIOUS EMISSIONS	11
8.6 AC POWER-LINE CONDUCTED EMISSION	11
ANNEX A: MEASUREMENT RESULTS.....	12
A.1. MEASUREMENT METHOD	12
A.2. MAXIMUM OUTPUT POWER	13



A.3. PEAK POWER SPECTRAL DENSITY (CONDUCTED)..... 16

A.4. OCCUPIED 26DB BANDWIDTH(CONDUCTED)..... 17

A.5. BAND EDGES COMPLIANCE 35

A5.1 BAND EDGES - RADIATED..... 35

A.6. TRANSMITTER SPURIOUS EMISSION 45

A.7. AC POWERLINE CONDUCTED EMISSION (150KHZ- 30MHZ)..... 82

A.8. 99% OCCUPIED BANDWIDTH 85

A.9. POWER CONTROL 90

ANNEX B: EUT PARAMETERS..... 90

ANNEX C: ACCREDITATION CERTIFICATE 91

1. TEST LABORATORY

1.1. Introduction & Accreditation

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

1.2. Testing Location

Conducted testing Location: CTTL(Huayuan North Road)

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

1.3. Testing Environment

Normal Temperature: 15-35°C

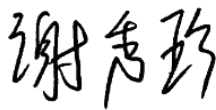
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2022-03-14

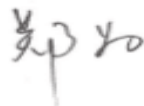
Testing End Date: 2022-04-27

1.5. Signature



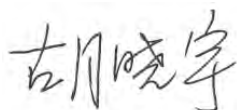
Xie Xiuzhen

(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: Shenzhen Tinno Mobile Technology Corp.
Address: TINNO Building, No.33, Xiandong Rd, Xili, Nanshan District,
Shenzhen, Guangdong Province,PRC
City: Shenzhen
Postal Code: /
Country: China
Telephone: 0755-86095550
Fax: 0755-86095551

2.2 Manufacturer Information

Company Name: Shenzhen Tinno Mobile Technology Corp.
Address: TINNO Building, No.33, Xiandong Rd, Xili, Nanshan District,
Shenzhen, Guangdong Province,PRC
City: Shenzhen
Postal Code: /
Country: China
Telephone: 0755-86095550
Fax: 0755-86095551

3. EQUIPMENT UNDER TEST (EUT) AND

ANCILLARY EQUIPMENT (AE)

3.1. About EUT

Description	Smart phone
Model name	U616AT
FCC ID	XD6U616AT
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
UT40a	860325060016169	V1.0	U616ATV01.01.10
UT33a	860325060006251	V1.0	U616ATV01.01.10

*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
AE1	Battery	/
AE2	Charger	/
AE3	USB Cable	/
AE4	USB Cable	/
AE1		
Model	PT34H406082J	
Manufacturer	Ningbo Veken Battery Co., Ltd.	
Capacity	3310mAh	
Nominal Voltage	3.85V	
AE2		
Model	TN-050200U3	
Manufacturer	Dong Guan City GangQi Electronic Co.,Ltd	
Length of cable	/	
AE3		
Model	336275	
Manufacturer	SUNTOPS ELECTRONICS CO.,LTD	
Length of cable	/	
AE4		

Model T365-011B-1
Manufacturer Shenzhen Yihuaxing 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 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	2018
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12

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°C
Voltage	3.85V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2022-05-24
2	Test Receiver	ESCI	100766	R&S	1 year	2022-04-09
3	LISN	ENV216	101200	R&S	1 year	2022-05-30
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103015	R&S	1 year	2022-09-03
2	EMI Antenna	VULB 9163	483	SCHWARZBE CK	1 year	2022-08-24
3	EMI Antenna	3117	00058889	ETS-Lindgren	1 year	2022-11-19

※The Test Receiver with series number of 100766 did not exceed 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)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

Radiated (k=2)

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

8.6 AC Power-line Conducted Emission

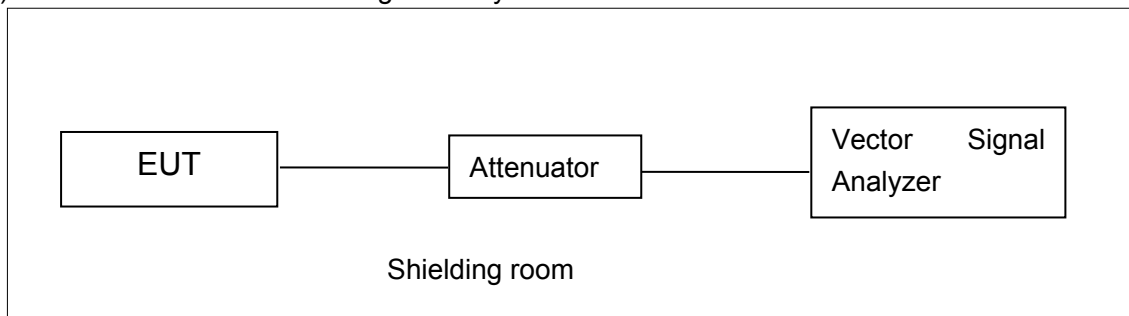
Measurement Uncertainty : 3.08,k=2

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

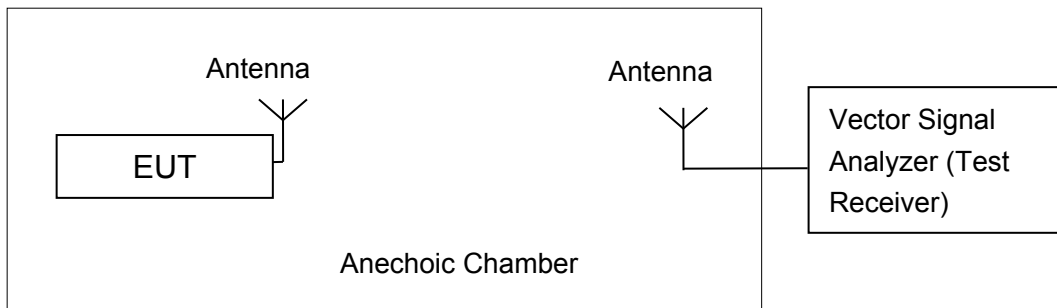


A.1.2. Radiated Emission Measurements

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 measurement method SA-2 is made according to KDB 789033

Note:

For straddle channel 20MHz Bandwidth 5720MHz, Conducted Output Power Limit:

802.11a=11+10*log(B)=23.98, B=29.75/2+5=19.875 MHz,

802.11n-HT20=11+10*log(B)=24.33, B=33.05/2+5=21.525 MHz,

802.11ac-VHT20=11+10*log(B)=25.38, B=22.40/2+5=27.42 MHz,

For straddle channel 40/80MHz Bandwidth, conducted output power limit=24 dBm

802.11n-HT40: B=51.20/2+15=40.60 MHz,

802.11ac-VHT40: B=40.88/2+15=35.44 MHz,

802.11ac-VHT80: B=81.28/2+15=75.64 MHz

Measurement Results:

802.11a mode

Mode	Frequency	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	18.32	/	/	/	/	/	/	/
	5200MHz	18.29	/	/	/	/	/	/	/
	5240MHz	18.64	/	/	/	/	/	/	/
	5260MHz	18.77	/	/	/	/	/	/	/
	5280MHz	18.78	/	/	/	/	/	/	/
	5320MHz	18.61	/	/	/	/	/	/	/
	5500MHz	18.31	/	/	/	/	/	/	/
	5580MHz	18.43	/	/	/	/	/	/	/
	5700MHz	16.91	/	/	/	/	/	/	/
5720MHz	18.58	/	/	/	/	/	/	/	

The data rate 6Mbps is selected as worse 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	5180MHz	18.39	/	/	/	/	/	/	/

(HT20)	5200MHz	18.21	/	/	/	/	/	/	/
	5240MHz	18.57	/	/	/	/	/	/	/
	5260MHz	18.14	/	/	/	/	/	/	/
	5280MHz	18.31	/	/	/	/	/	/	/
	5320MHz	18.55	/	/	/	/	/	/	/
	5500MHz	18.56	/	/	/	/	/	/	/
	5580MHz	18.25	/	/	/	/	/	/	/
	5700MHz	16.51	/	/	/	/	/	/	/
	5720MHz	18.45	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse 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	16.14	/	/	/	/	/	/	/	/
	5240MHz	16.42	/	/	/	/	/	/	/	/
	5260MHz	16.46	/	/	/	/	/	/	/	/
	5280MHz	16.34	/	/	/	/	/	/	/	/
	5320MHz	16.24	/	/	/	/	/	/	/	/
	5500MHz	16.49	/	/	/	/	/	/	/	/
	5580MHz	15.82	/	/	/	/	/	/	/	/
	5700MHz	16.10	/	/	/	/	/	/	/	/
	5720MHz	16.23	/	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse 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	17.93	/	/	/	/	/	/	/
	5230MHz	18.00	/	/	/	/	/	/	/
	5270MHz	18.04	/	/	/	/	/	/	/
	5310MHz	18.36	/	/	/	/	/	/	/
	5510MHz	16.37	/	/	/	/	/	/	/
	5550MHz	18.05	/	/	/	/	/	/	/
	5670MHz	18.12	/	/	/	/	/	/	/
	5710MHz	18.69	/	/	/	/	/	/	/

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

802.11ac-HT40 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (HT40)	5190MHz	16.31	/	/	/	/	/	/	/	/	/
	5230MHz	16.47	/	/	/	/	/	/	/	/	/
	5270MHz	16.18	/	/	/	/	/	/	/	/	/
	5310MHz	16.42	/	/	/	/	/	/	/	/	/
	5510MHz	16.13	/	/	/	/	/	/	/	/	/
	5550MHz	16.18	/	/	/	/	/	/	/	/	/
	5670MHz	16.03	/	/	/	/	/	/	/	/	/
	5710MHz	16.19	/	/	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse 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	15.07	/	/	/	/	/	/	/	/	/
	5290MHz	15.38	/	/	/	/	/	/	/	/	/
	5530MHz	14.01	/	/	/	/	/	/	/	/	/
	5610MHz	15.44	/	/	/	/	/	/	/	/	/
	5690MHz	15.37	/	/	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse 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	8.40	P
	5200 MHz	8.05	P
	5240 MHz	8.33	P
	5260 MHz	8.21	P
	5280 MHz	7.74	P
	5320 MHz	7.84	P
	5500 MHz	8.01	P
	5580 MHz	7.79	P
	5700 MHz	6.35	P
	5720 MHz	8.73	P
802.11n HT20	5180 MHz	8.05	P
	5200 MHz	7.99	P
	5240 MHz	8.01	P
	5260 MHz	8.10	P
	5280 MHz	7.41	P
	5320 MHz	7.62	P
	5500 MHz	7.57	P
	5580 MHz	7.09	P
	5700 MHz	5.95	P
	5720 MHz	8.30	P
802.11n HT40	5190 MHz	5.00	P
	5230 MHz	5.00	P
	5270 MHz	4.88	P
	5310 MHz	5.03	P
	5510 MHz	2.88	P
	5550 MHz	4.96	P
	5670 MHz	4.88	P
	5710 MHz	5.28	P
802.11ac HT80	5210MHz	-1.40	P
	5290MHz	-1.45	P

	5530MHz	-2.63	P
	5610MHz	-1.13	P
	5690MHz	-1.34	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	34.10	P
	5200 MHz	Fig.2	34.60	P
	5240 MHz	Fig.3	34.05	P
	5260 MHz	Fig.4	29.70	P
	5280 MHz	Fig.5	35.00	P
	5320 MHz	Fig.6	37.80	P
	5500 MHz	Fig.7	29.5	P
	5580 MHz	Fig.8	34.00	P
	5700 MHz	Fig.9	35.00	P
	5720 MHz	Fig.10	29.75	P
802.11n HT20	5180 MHz	Fig.11	32.55	P
	5200 MHz	Fig.12	34.25	P
	5240 MHz	Fig.13	29.10	P
	5260 MHz	Fig.14	33.10	P
	5280 MHz	Fig.15	32.80	P
	5320 MHz	Fig.16	30.95	P
	5500 MHz	Fig.17	30.20	P
	5580 MHz	Fig.18	30.85	P
	5700 MHz	Fig.19	29.85	P
	5720 MHz	Fig.20	33.05	P
802.11n HT40	5190 MHz	Fig.21	55.12	P
	5230 MHz	Fig.22	54.64	P
	5270 MHz	Fig.23	60.64	P

	5310 MHz	Fig.24	59.92	P
	5510 MHz	Fig.25	49.68	P
	5550 MHz	Fig.26	56.32	P
	5670 MHz	Fig.27	53.68	P
	5710 MHz	Fig.28	51.20	P
802.11ac HT80	5210 MHz	Fig.29	81.60	P
	5290 MHz	Fig.30	82.40	P
	5530 MHz	Fig.31	82.72	P
	5610 MHz	Fig.32	81.44	P
	5690 MHz	Fig.33	81.28	P

Conclusion: PASS

Test graphs as below:

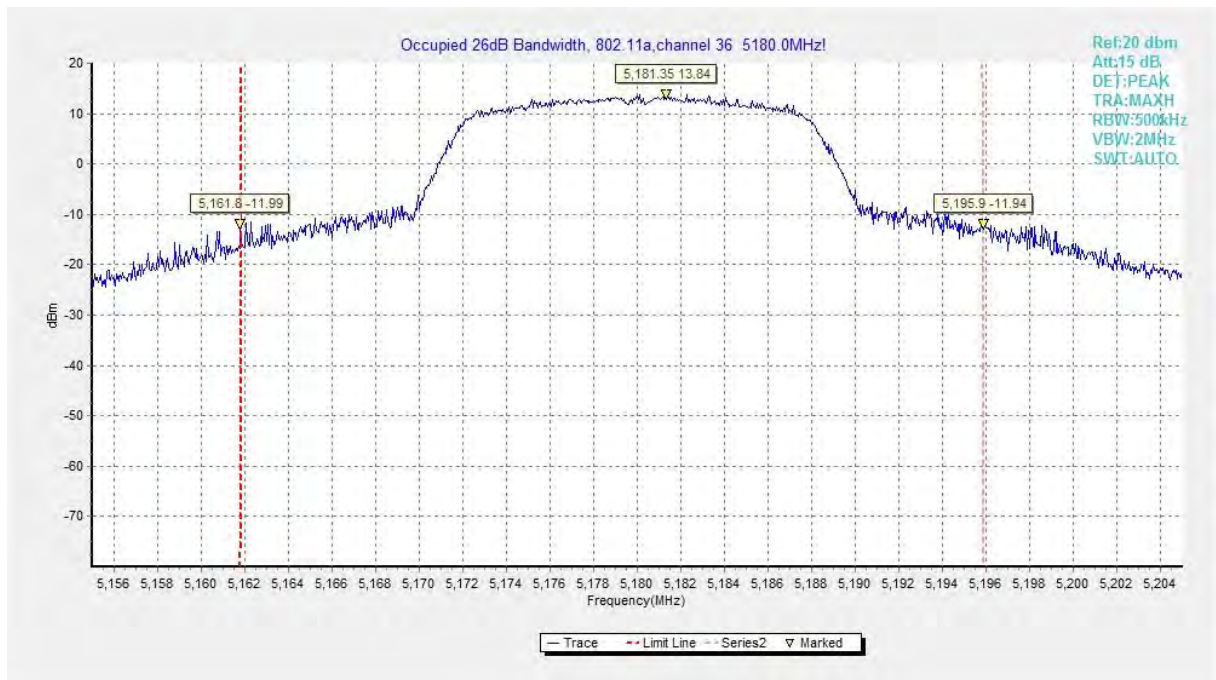


Fig.1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

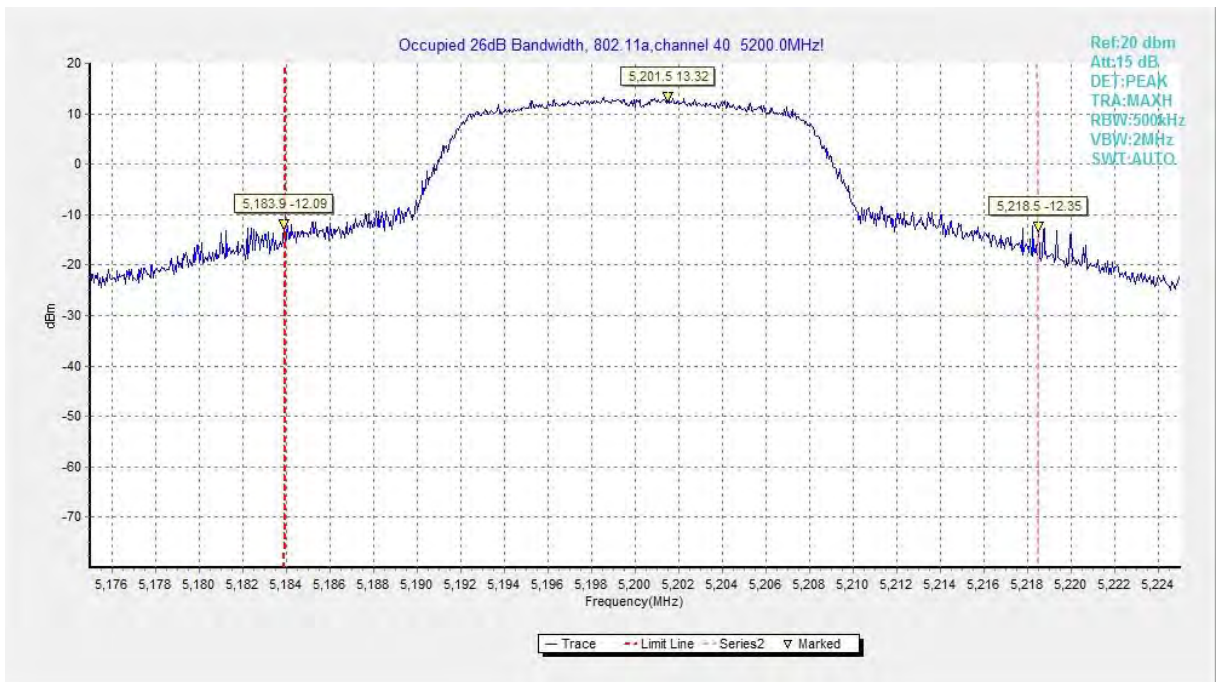


Fig.2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

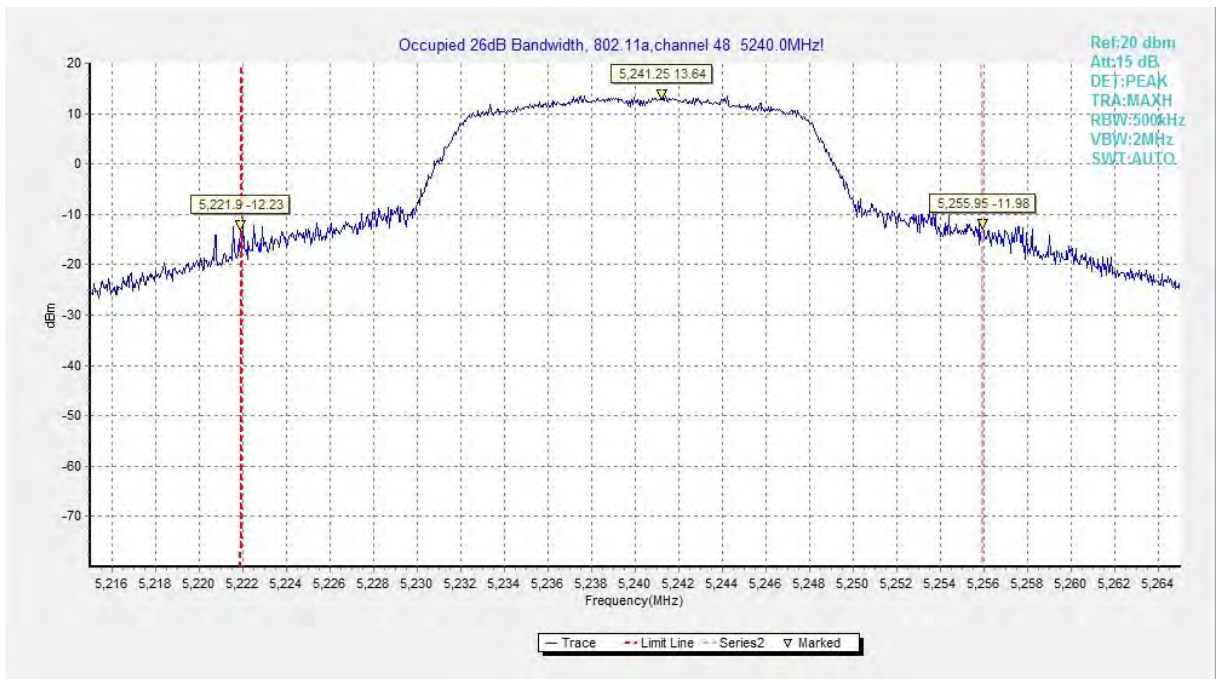


Fig.3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

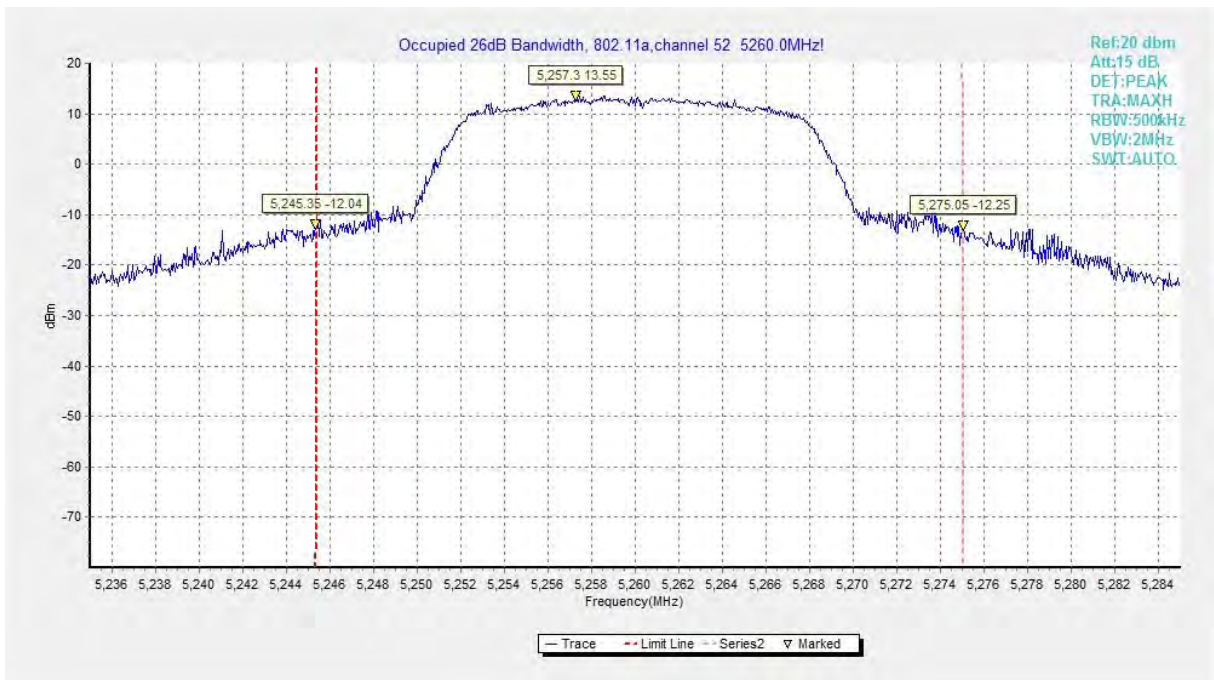


Fig.4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

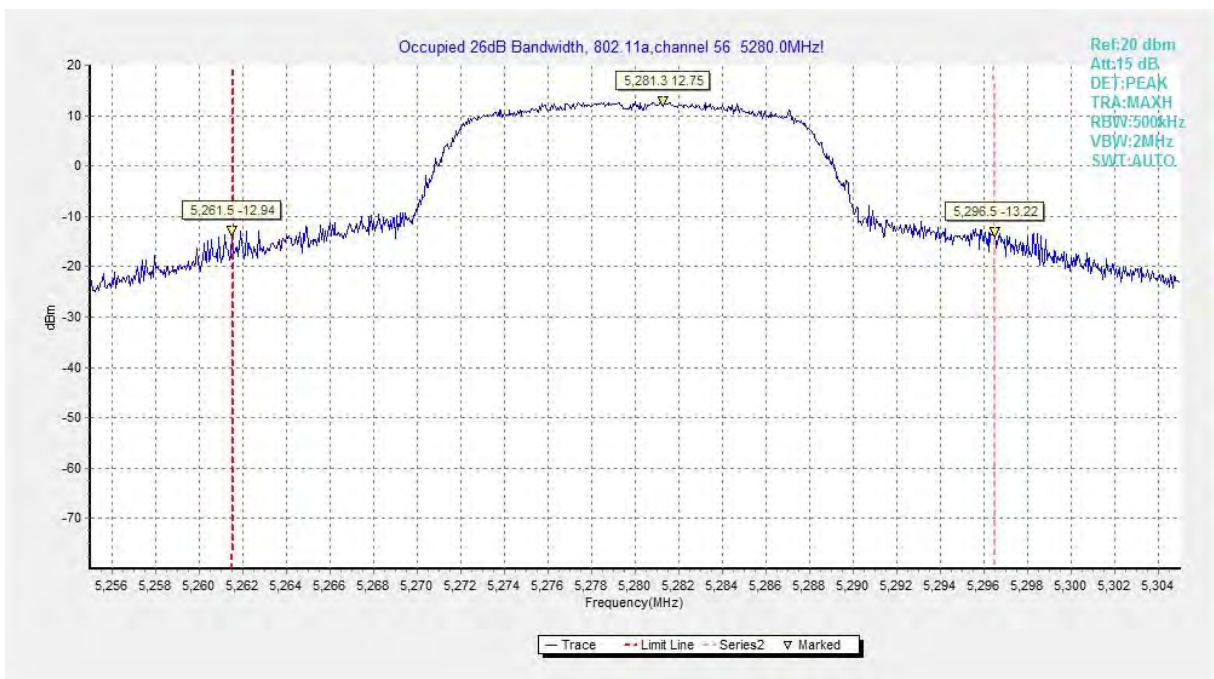


Fig.5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

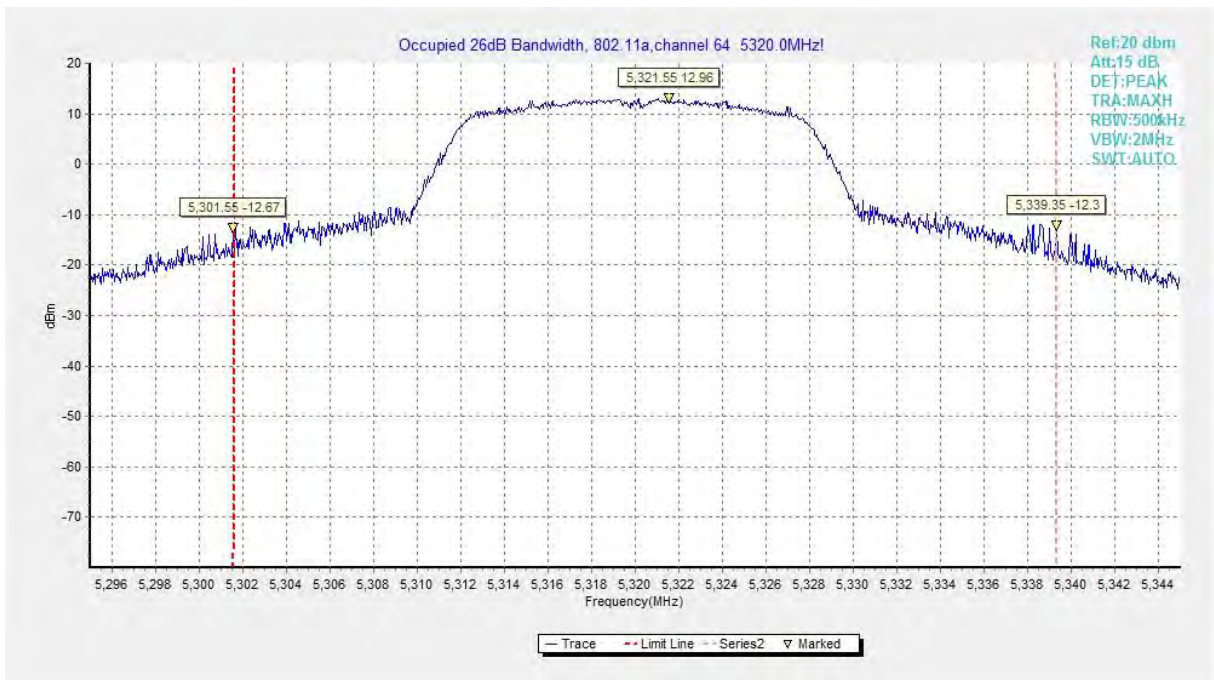


Fig.6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

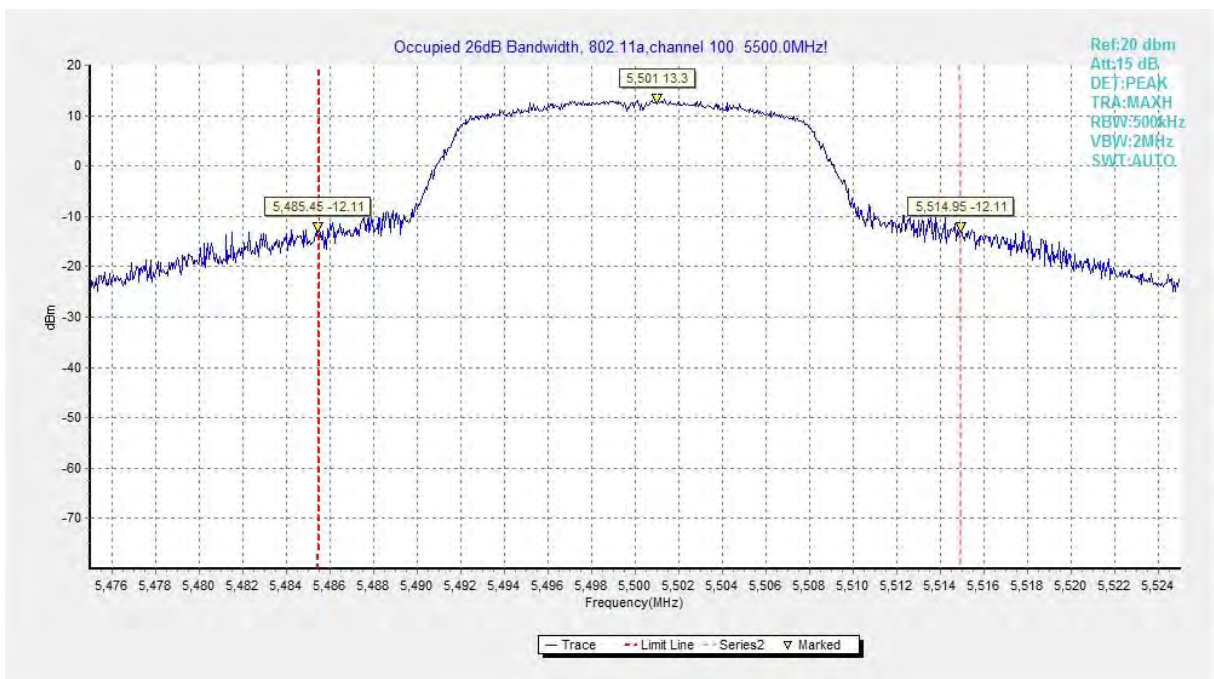


Fig.7 Occupied 26dB Bandwidth (802.11a, 5500MHz)

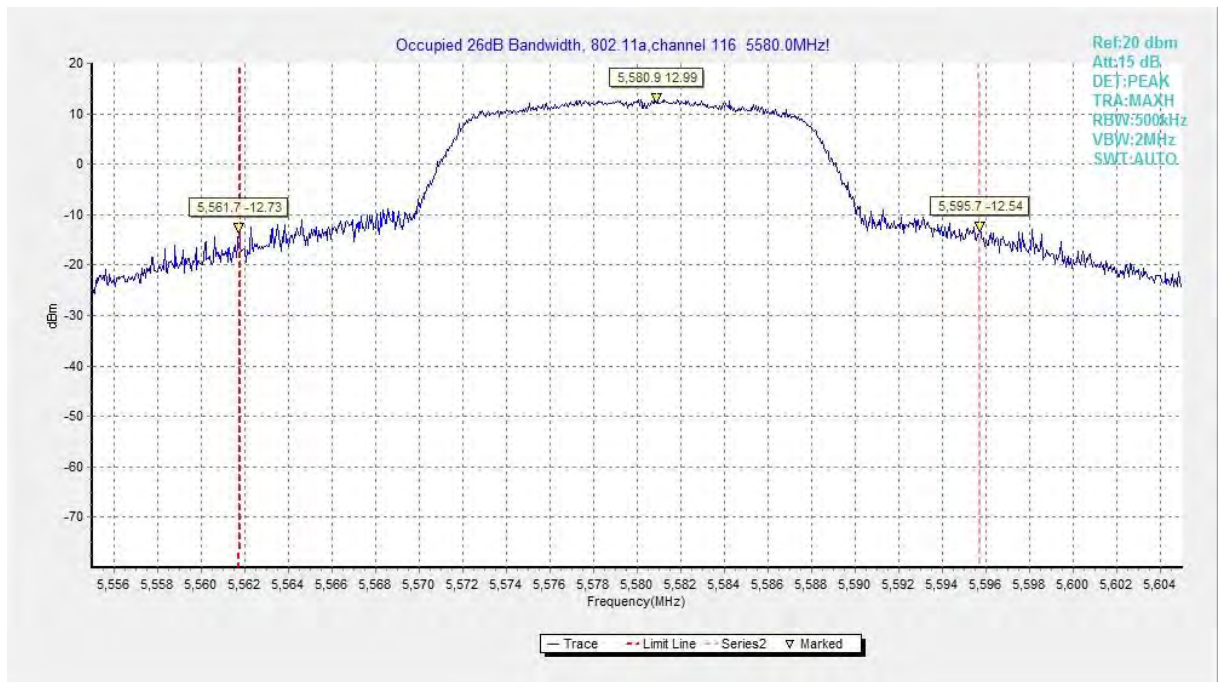


Fig.8 Occupied 26dB Bandwidth (802.11a, 5580MHz)

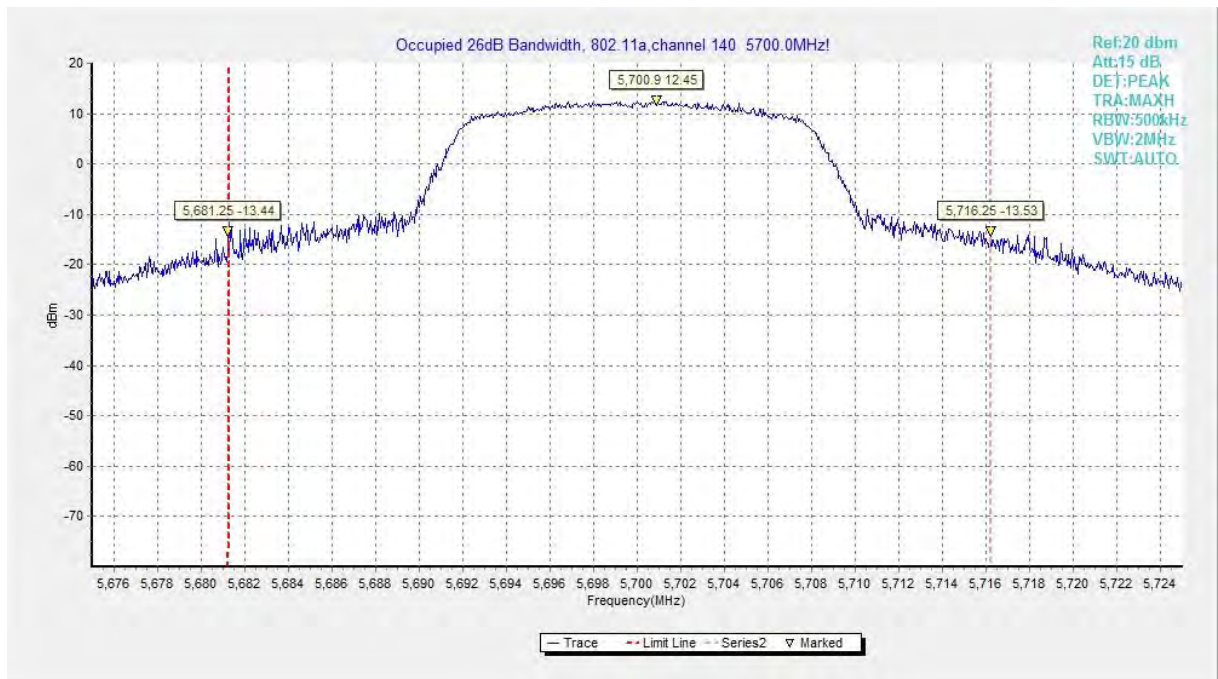


Fig.9 Occupied 26dB Bandwidth (802.11a, 5700MHz)

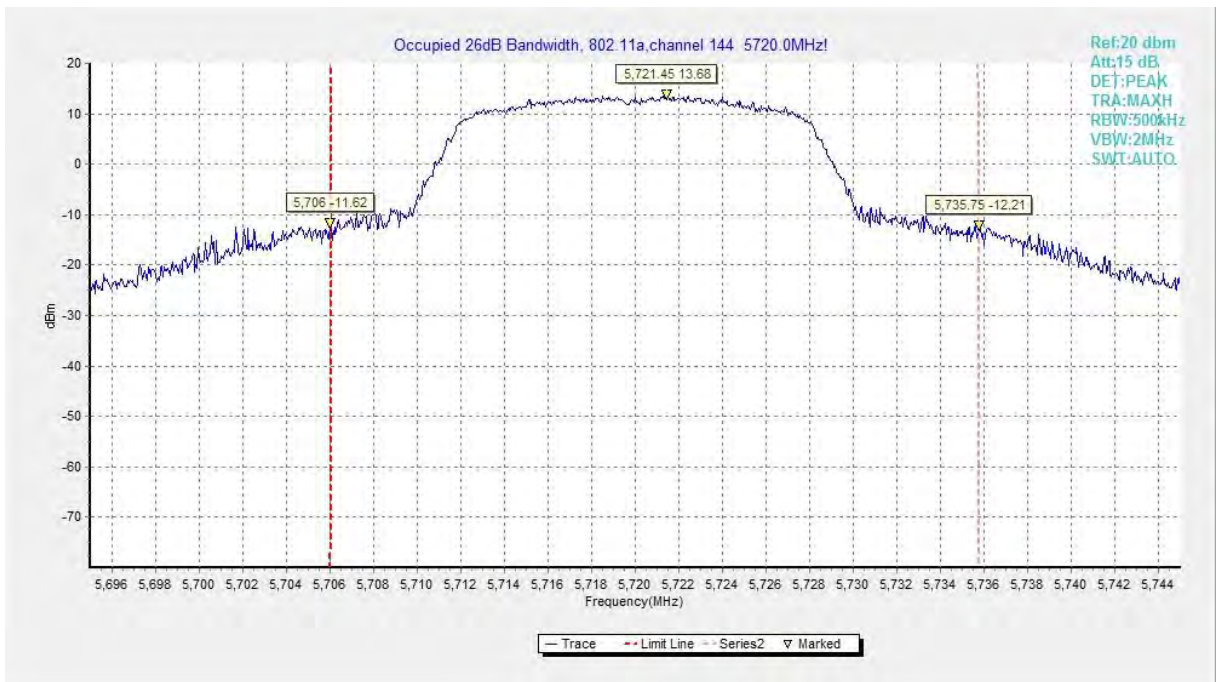


Fig.10 Occupied 26dB Bandwidth (802.11a, 5720MHz)



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

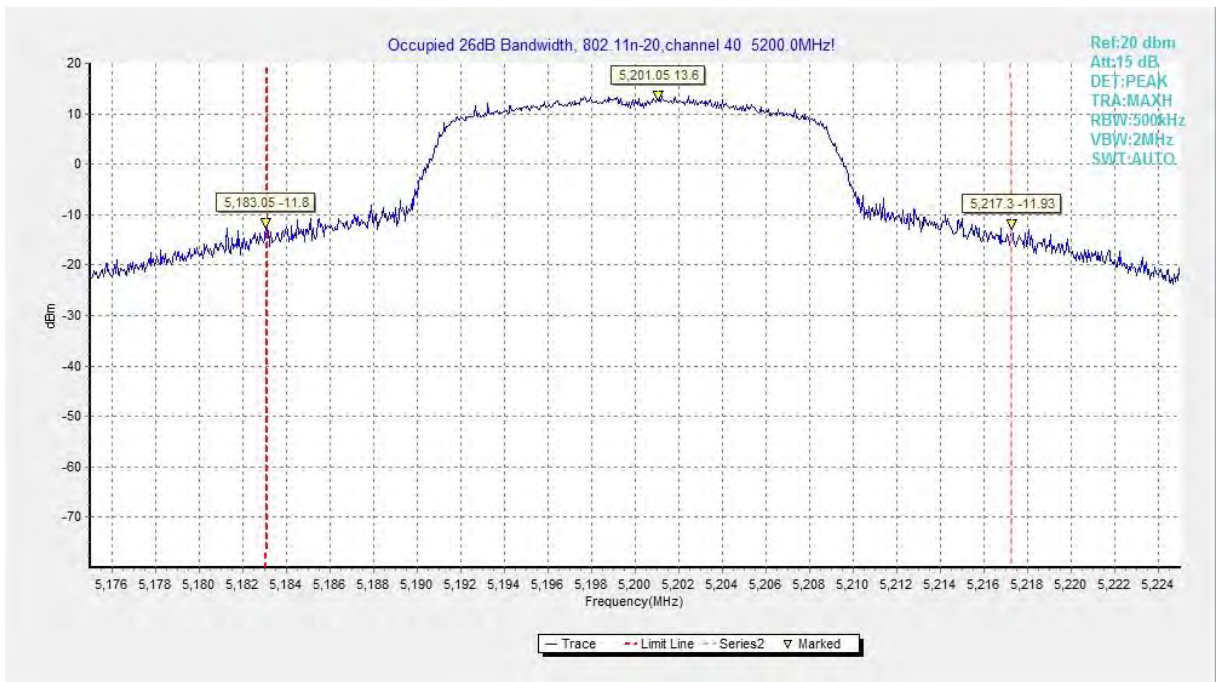


Fig.12 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

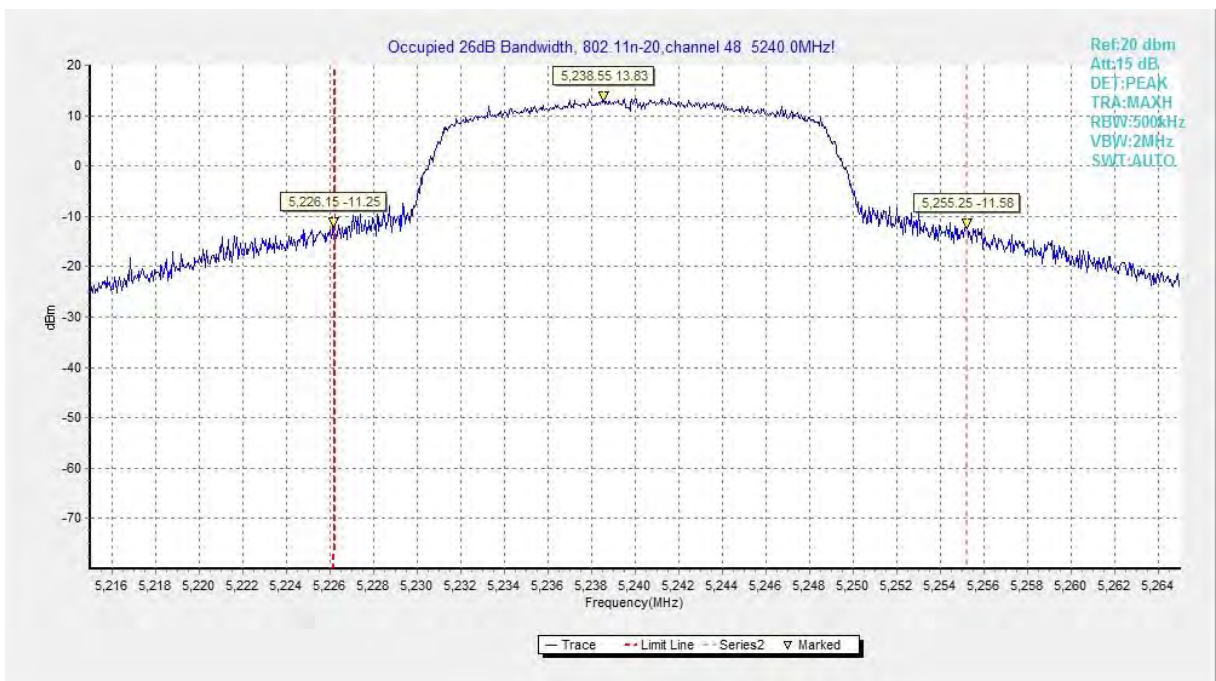


Fig.13 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

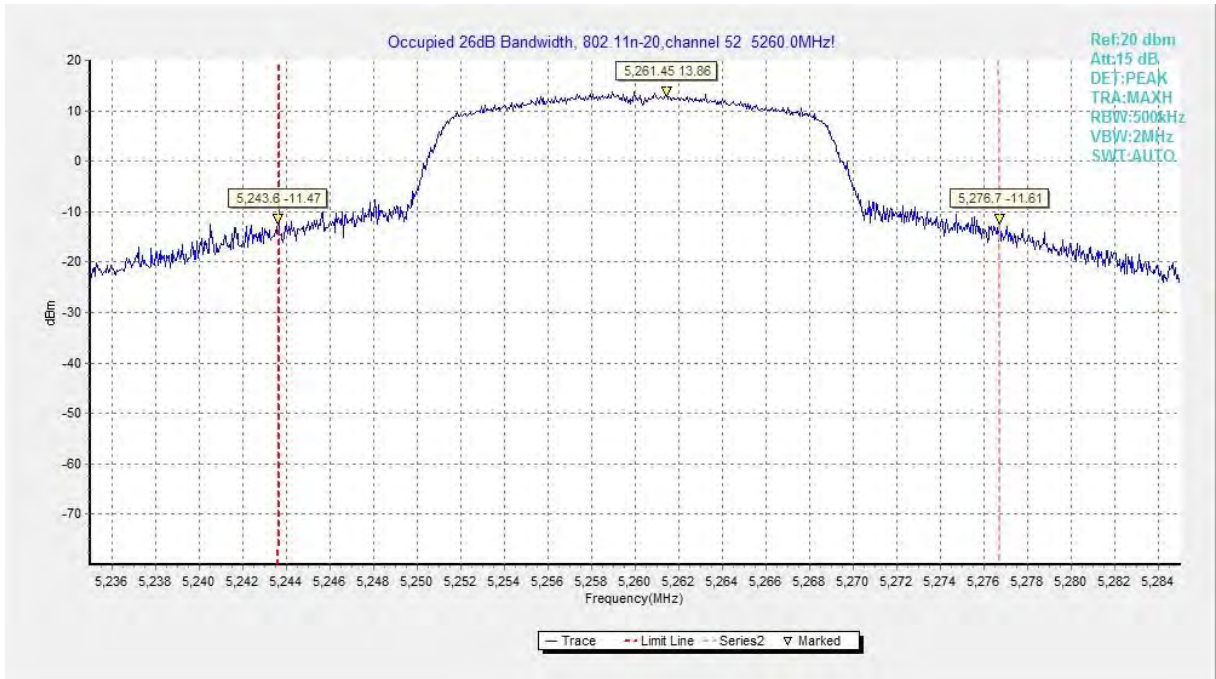


Fig.14 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

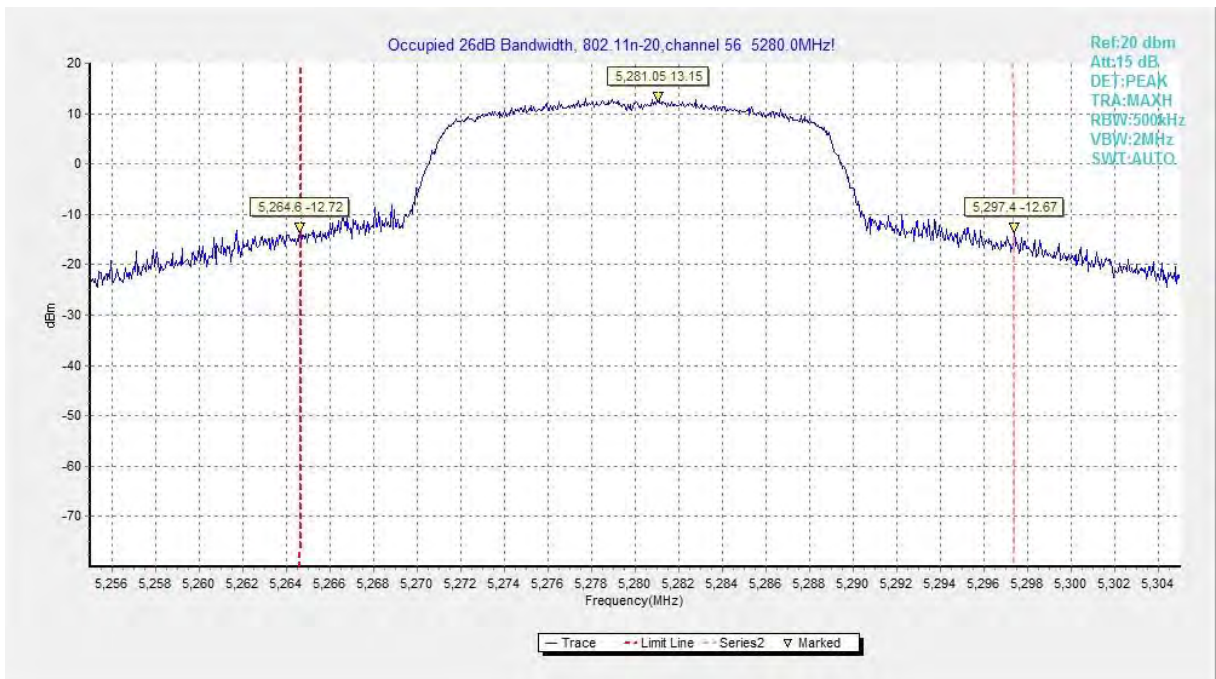


Fig.15 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)

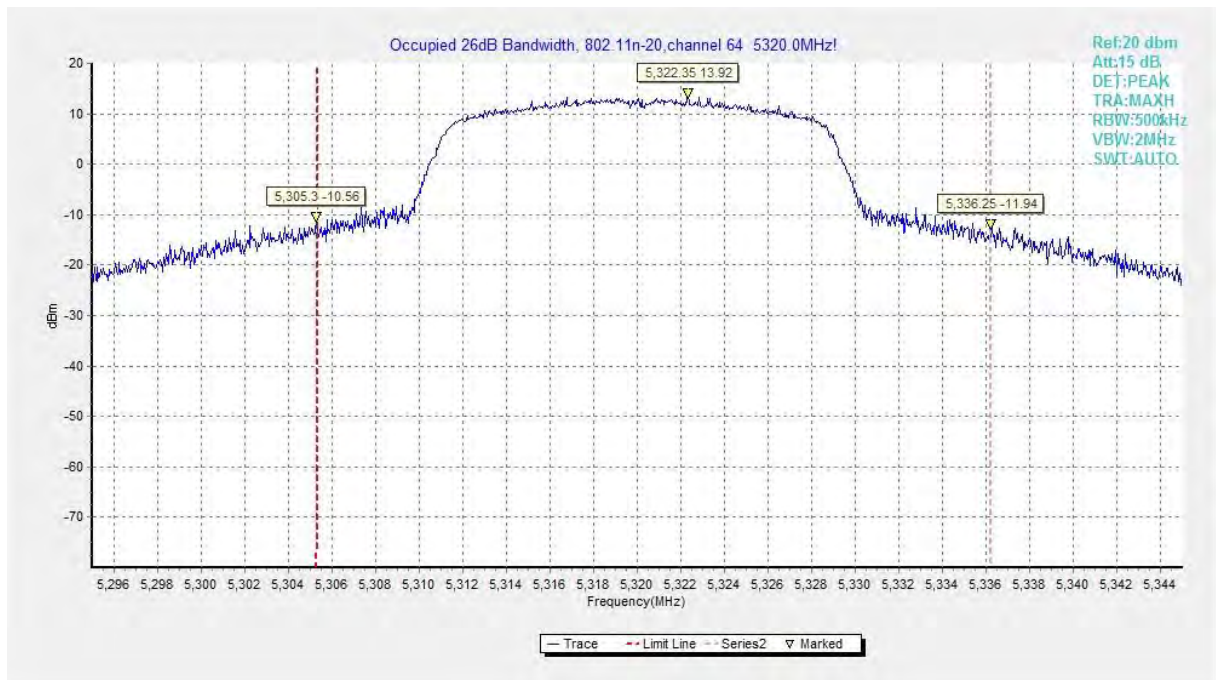


Fig.16 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

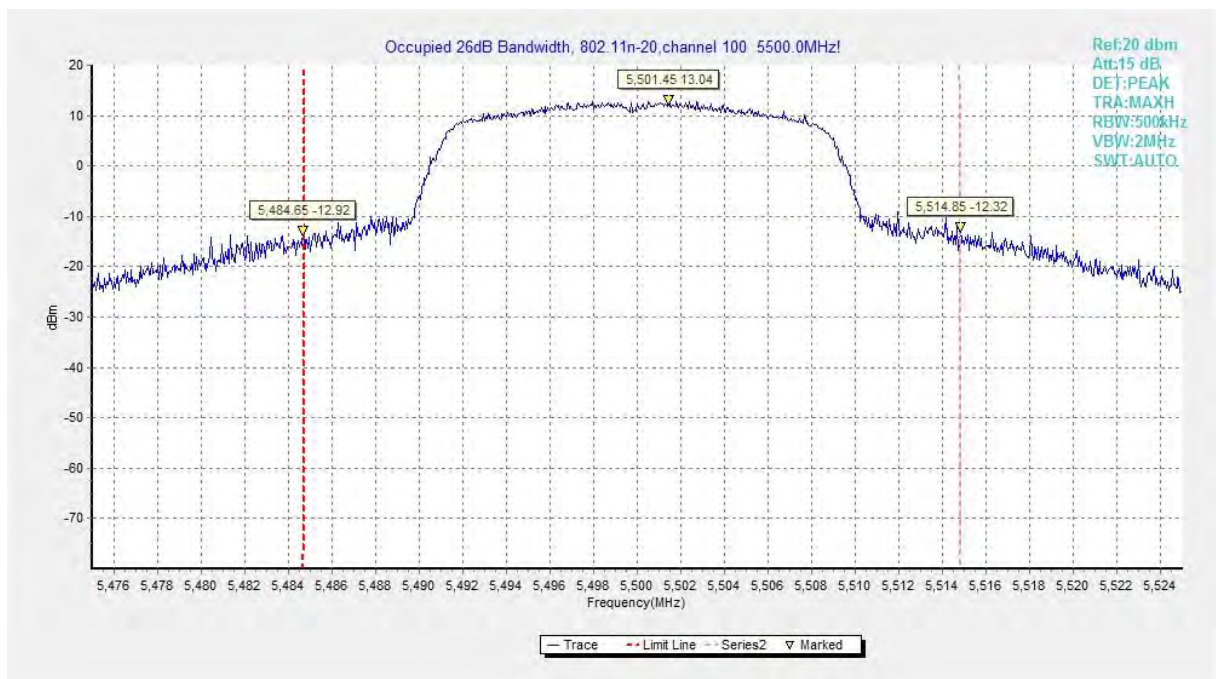


Fig.17 Occupied 26dB Bandwidth (802.11n-HT20, 5500MHz)

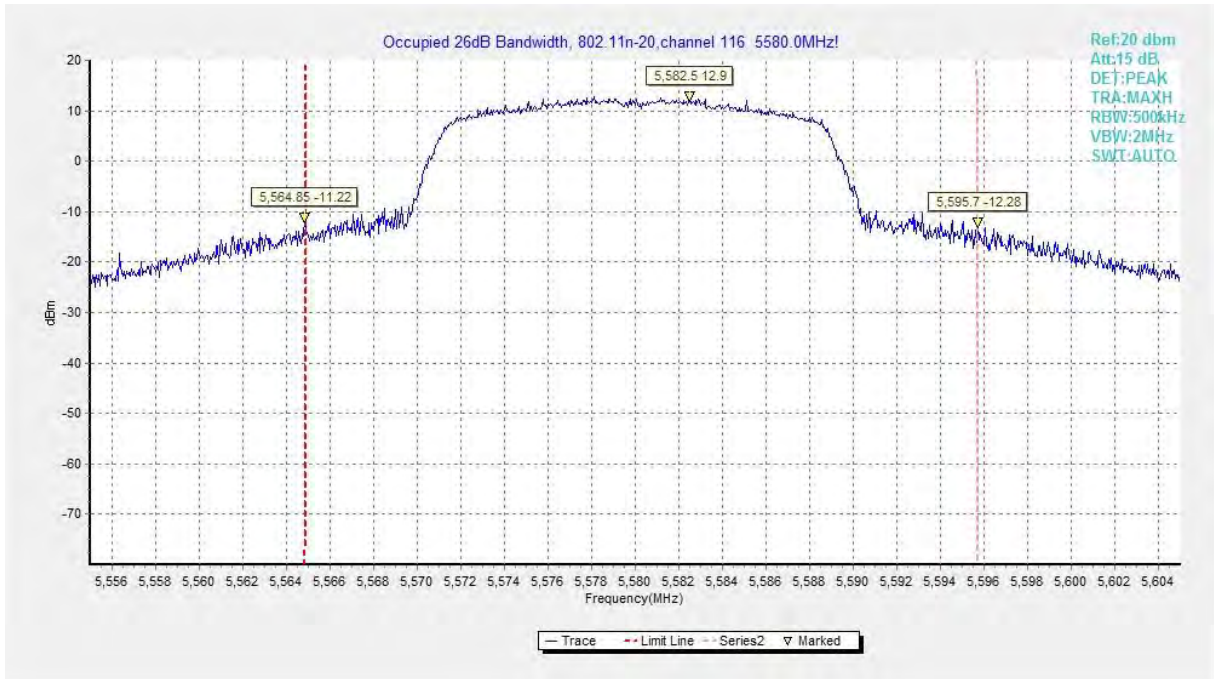


Fig.18 Occupied 26dB Bandwidth (802. 11n-HT20, 5580MHz)

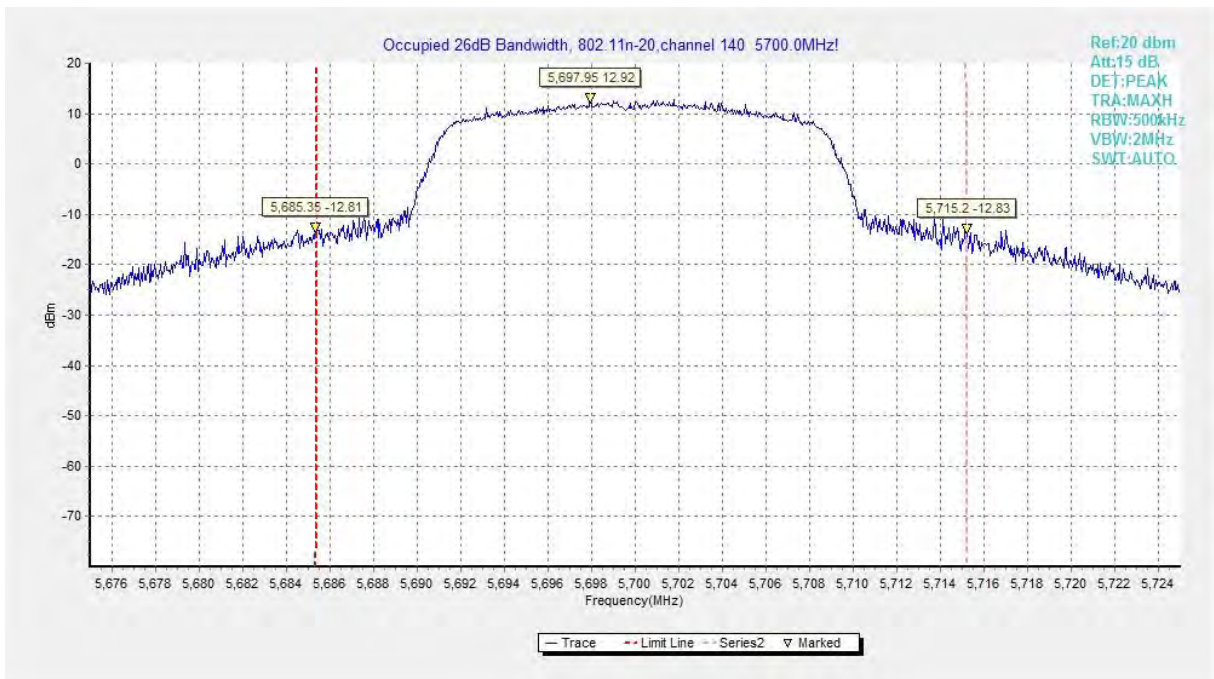


Fig.19 Occupied 26dB Bandwidth (802. 11n-HT20, 5700MHz)

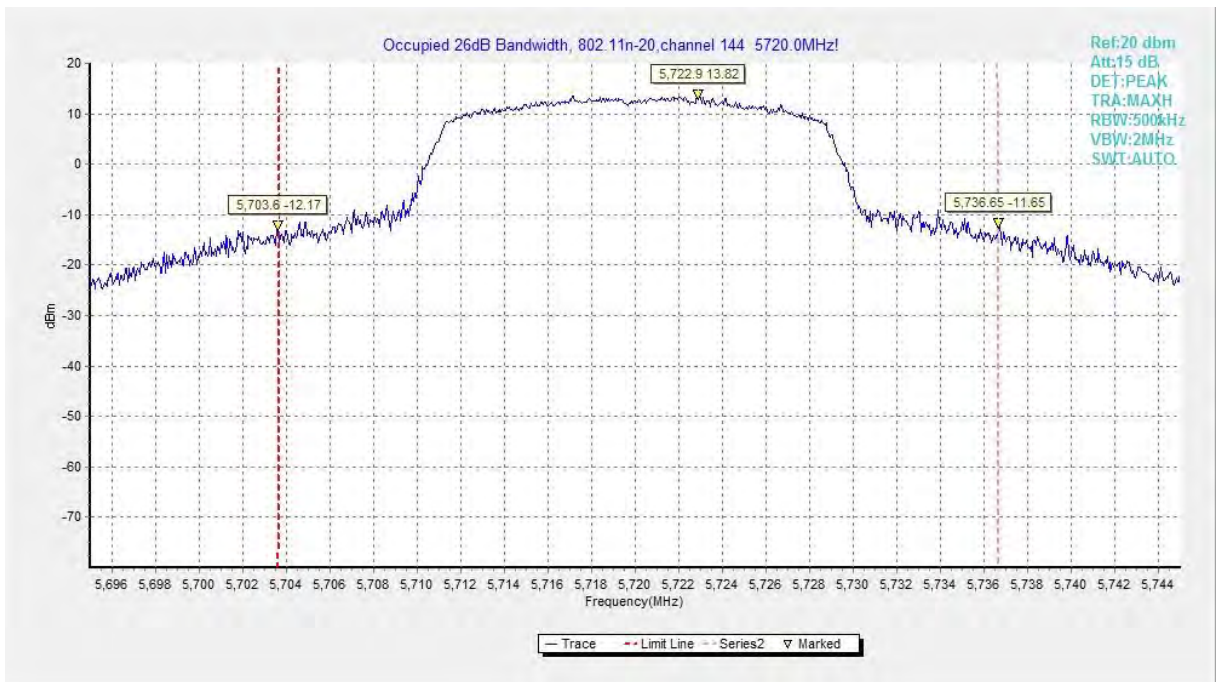


Fig.20 Occupied 26dB Bandwidth (802.11n-HT20, 5720MHz)

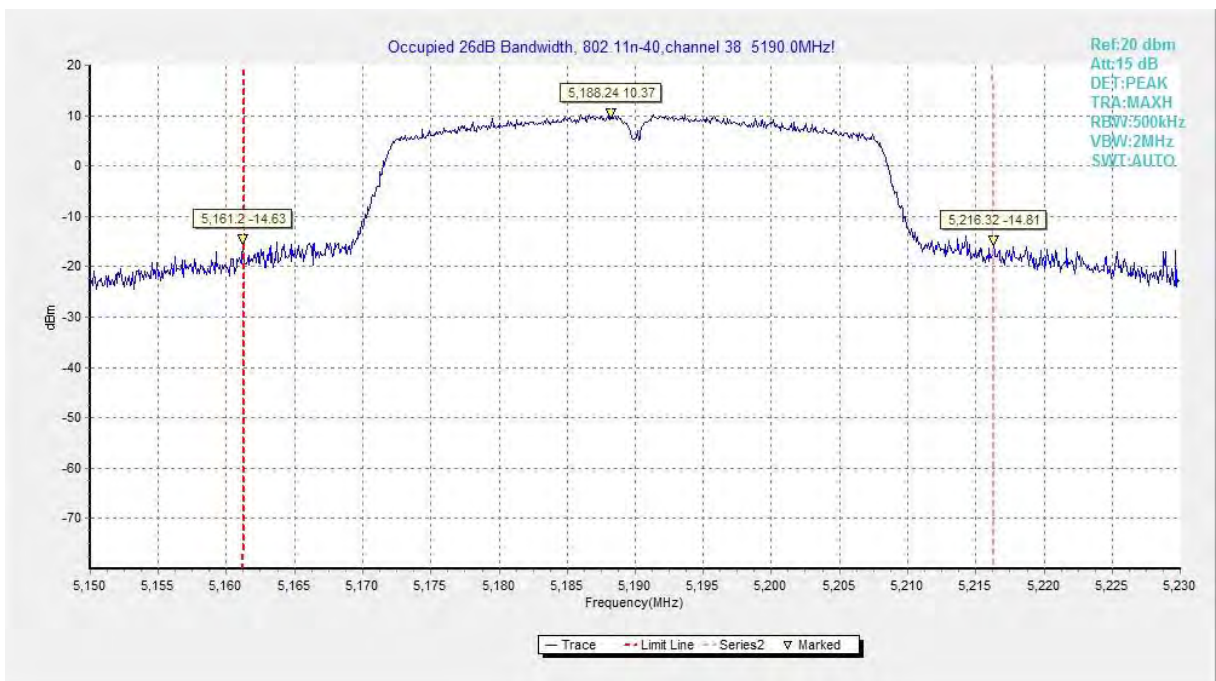


Fig.21 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

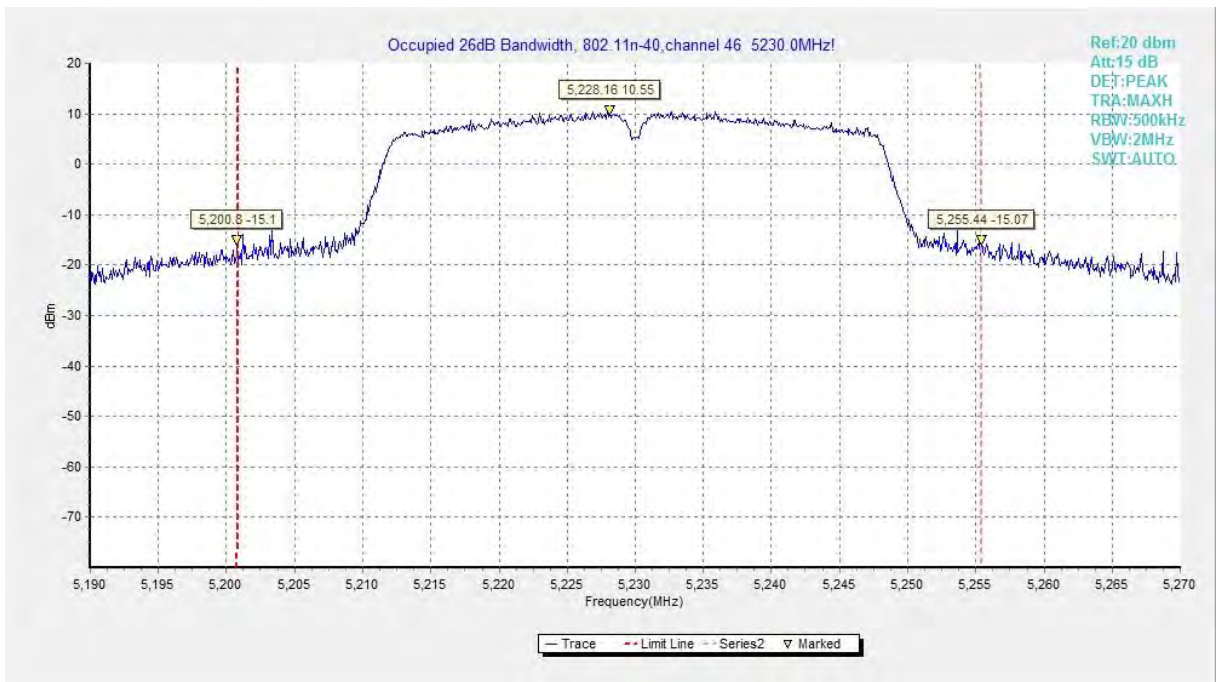


Fig.22 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)

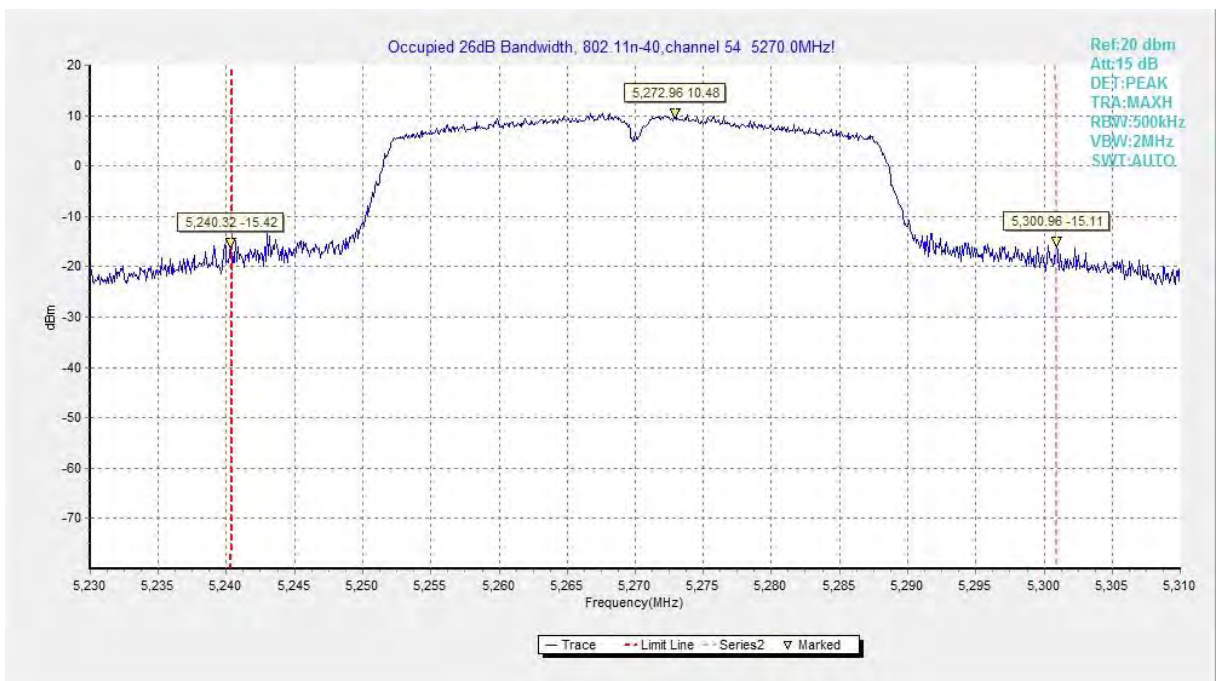


Fig.23 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

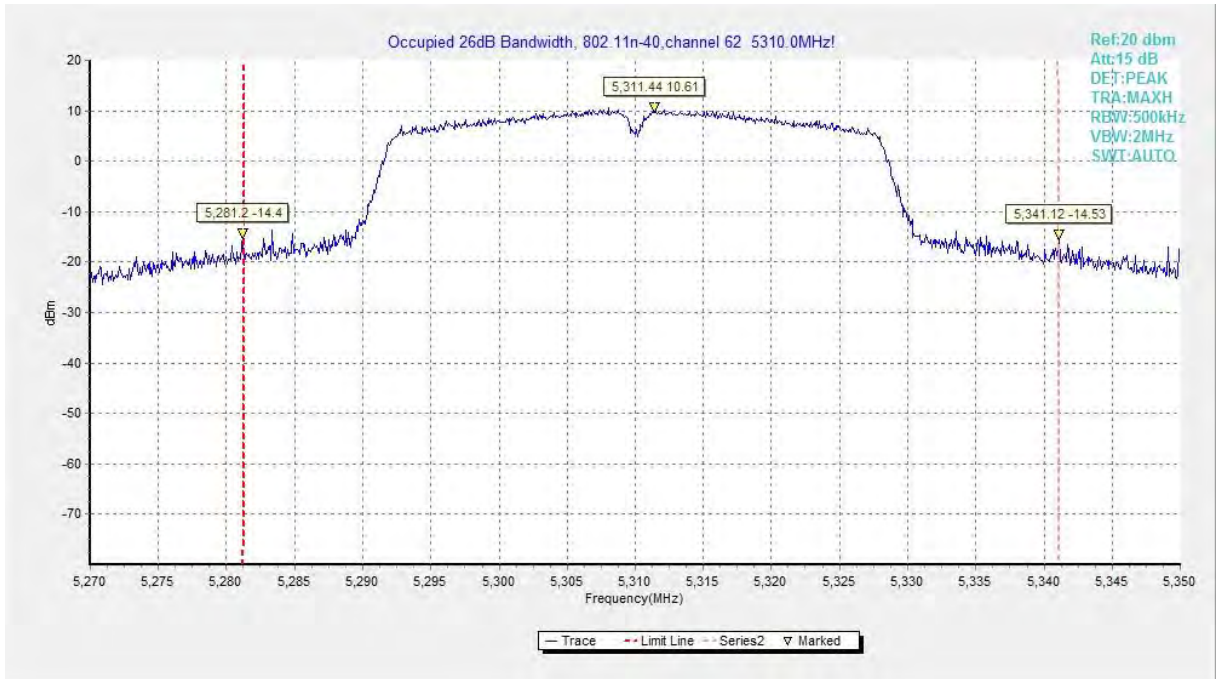


Fig.24 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

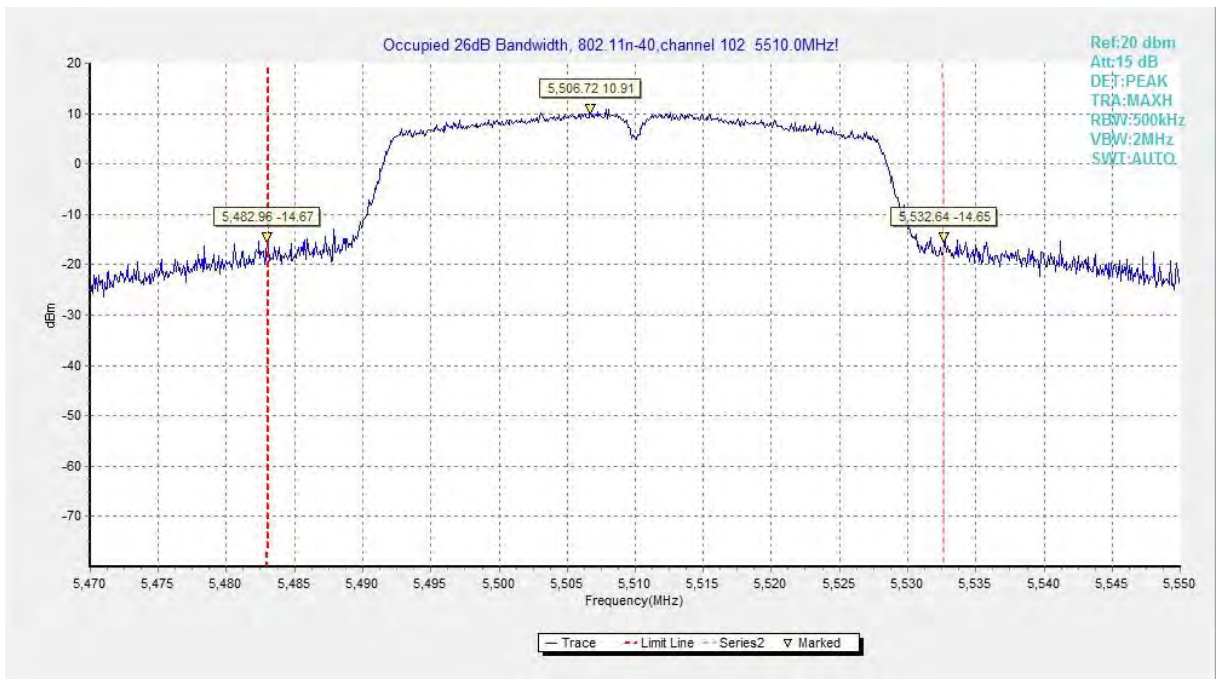


Fig.25 Occupied 26dB Bandwidth (802.11n-HT40, 5510MHz)

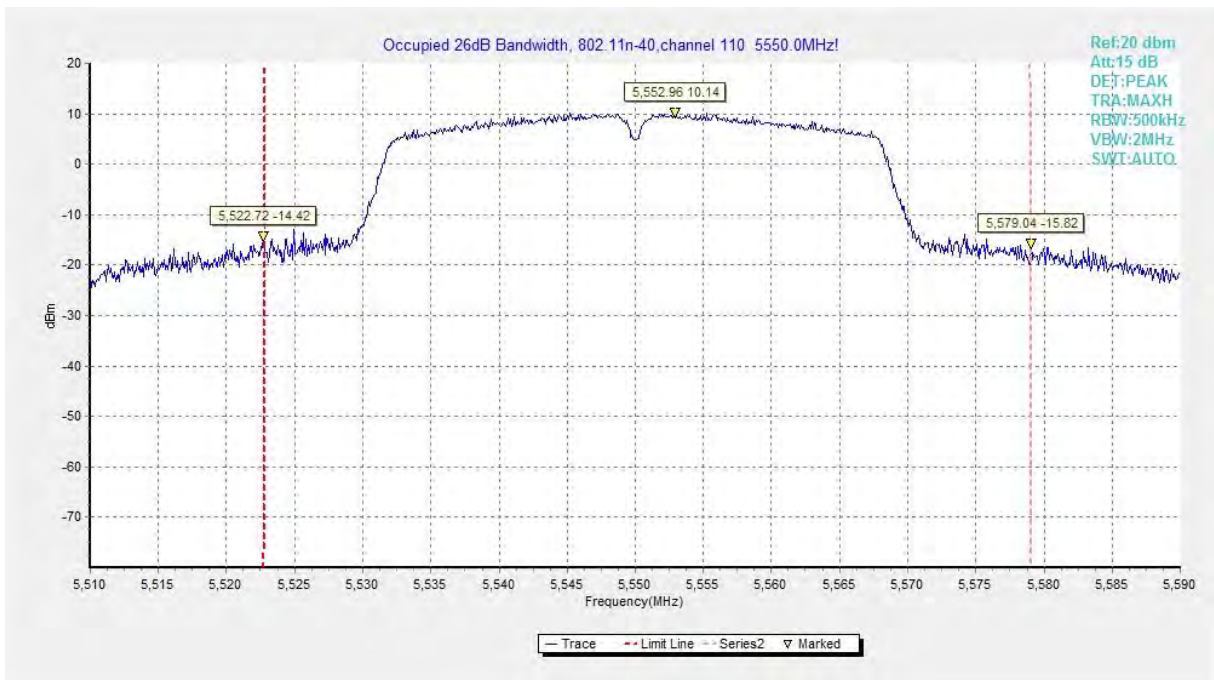


Fig.26 Occupied 26dB Bandwidth (802. 11n-HT40, 5590MHz)

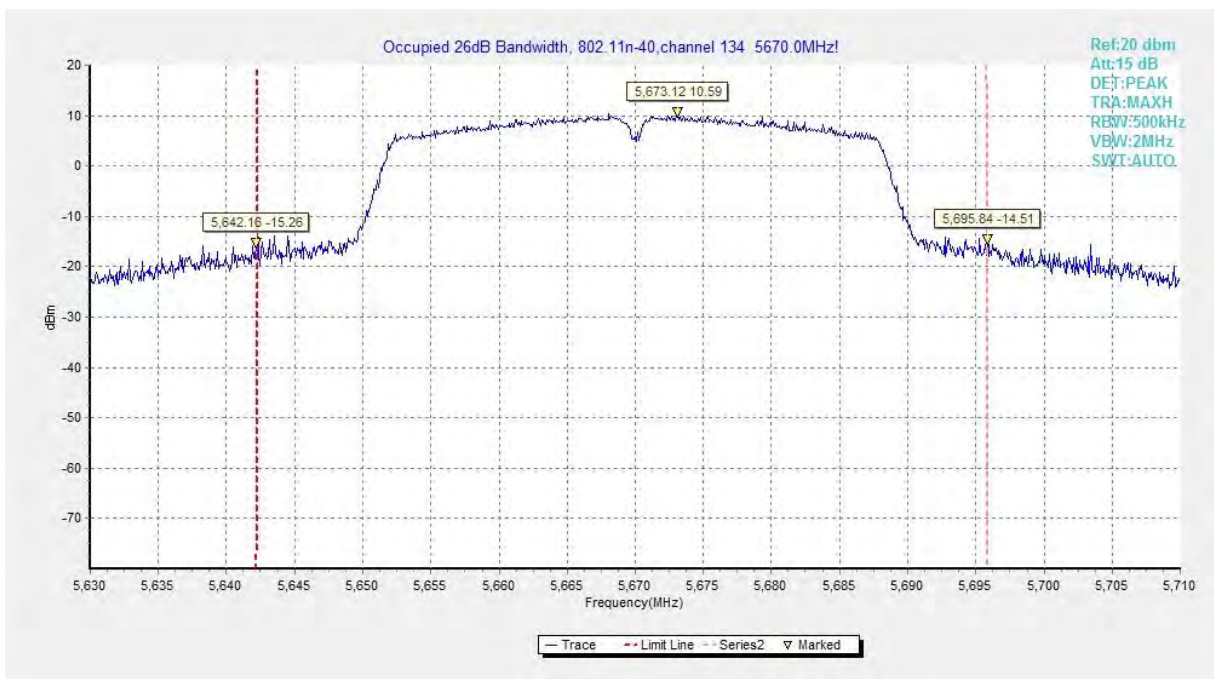


Fig.27 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)

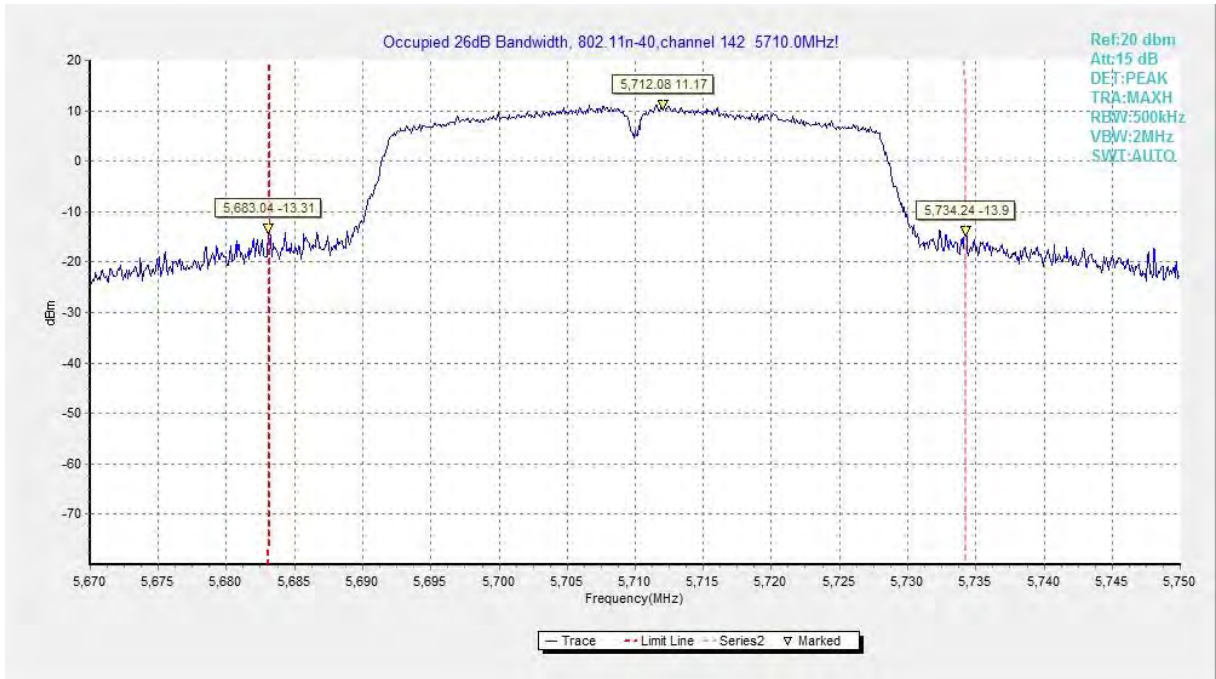


Fig.28 Occupied 26dB Bandwidth (802. 11n-HT40, 5710MHz)

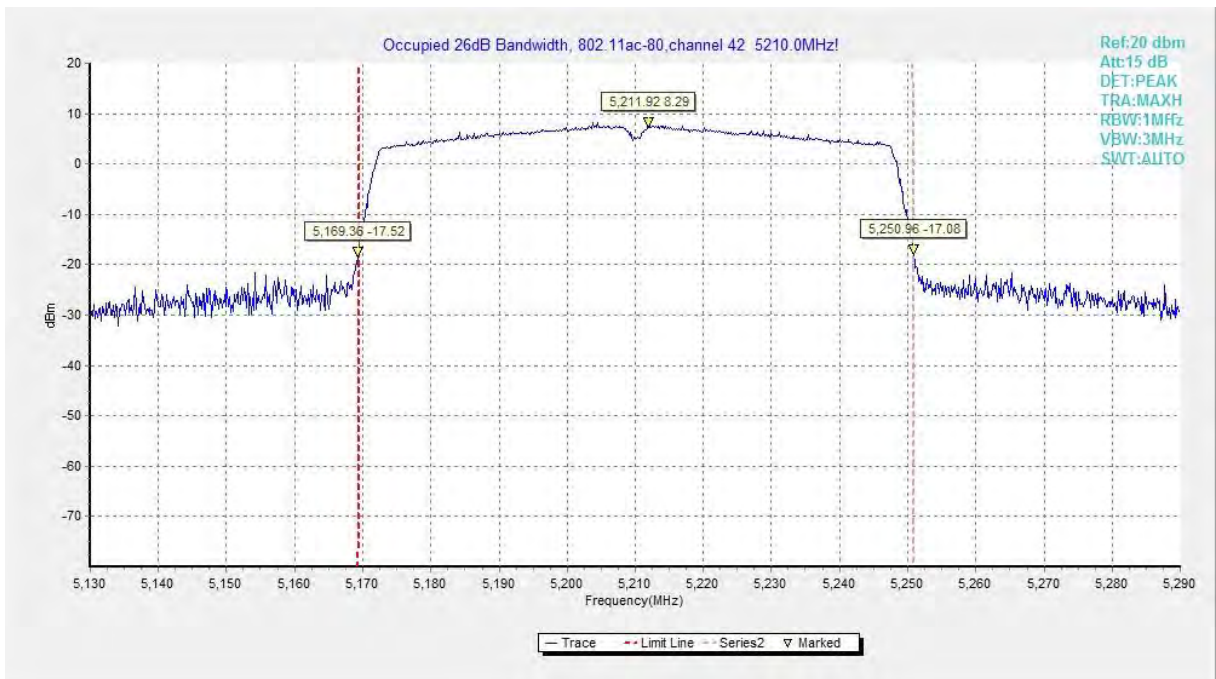


Fig.29 Occupied 26dB Bandwidth (802. 11ac-HT80, 5210MHz)

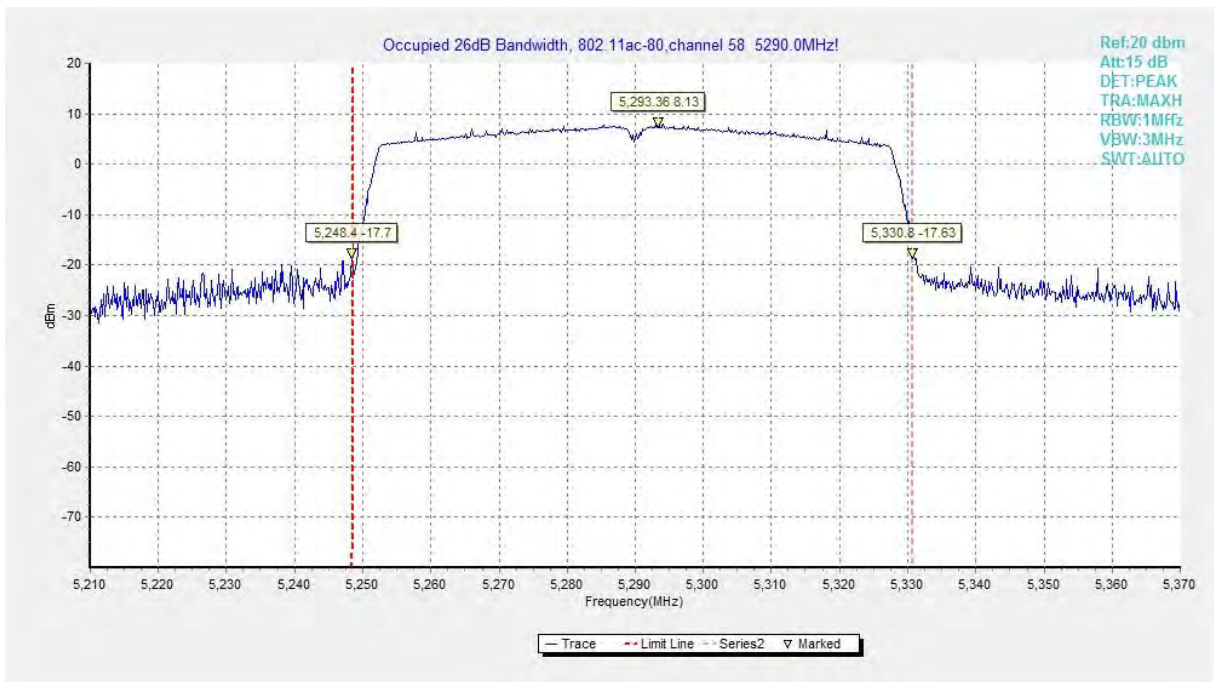


Fig.30 Occupied 26dB Bandwidth (802. 11ac-HT80, 5290MHz)

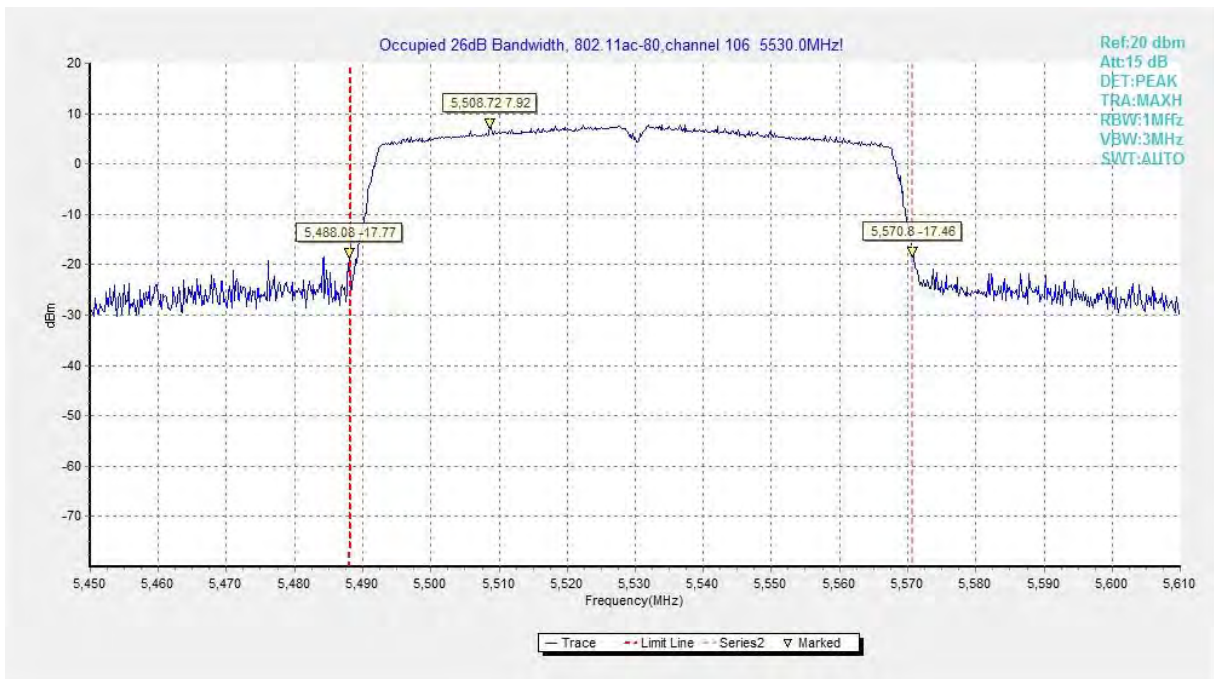


Fig.31 Occupied 26dB Bandwidth (802. 11ac-HT80, 5530MHz)

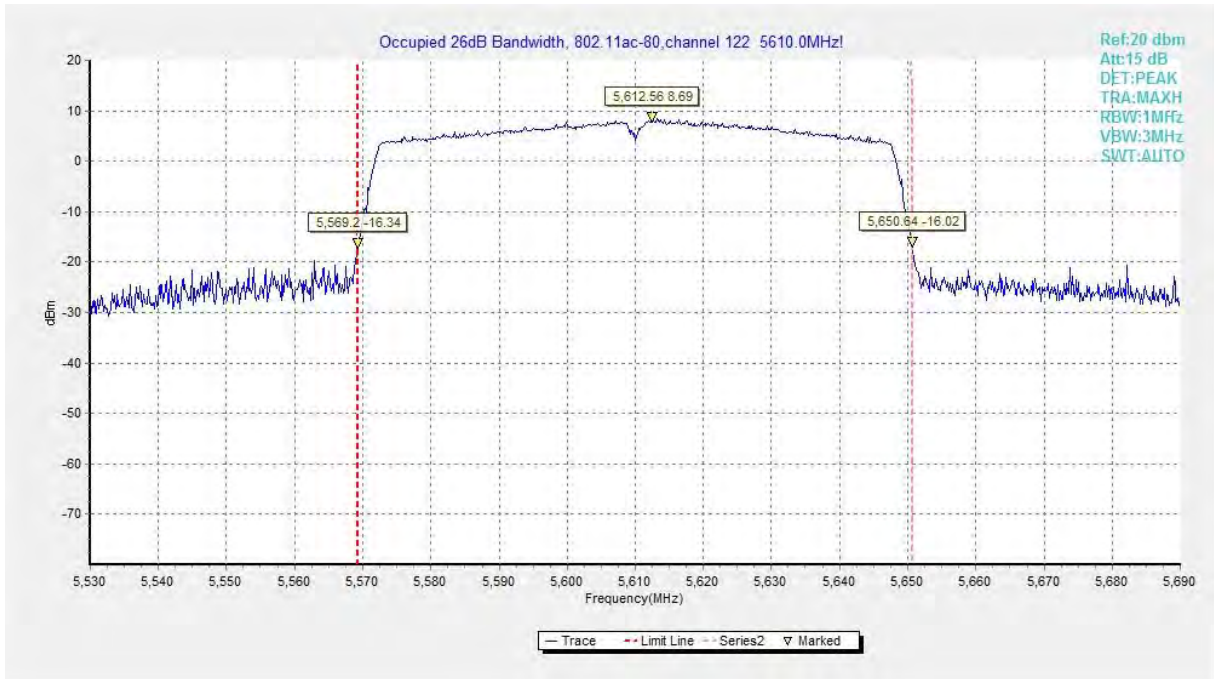


Fig.32 Occupied 26dB Bandwidth (802.11ac-HT80, 5610MHz)

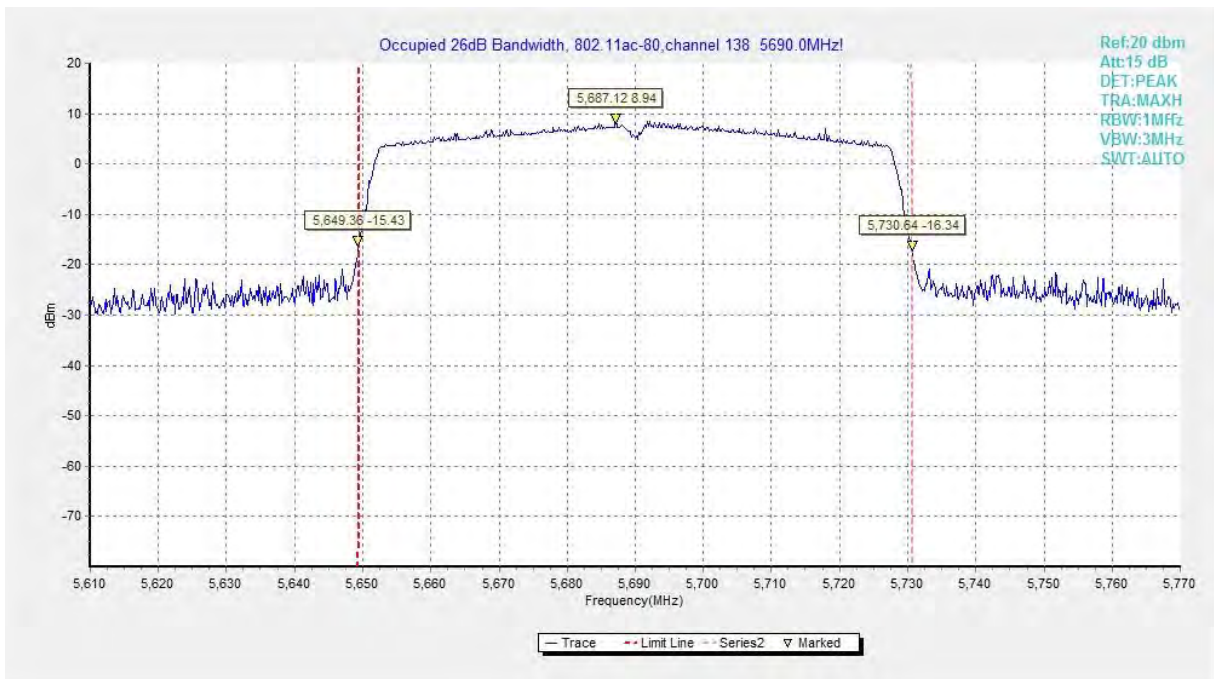


Fig.33 Occupied 26dB Bandwidth (802.11ac-HT80, 5690MHz)

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:

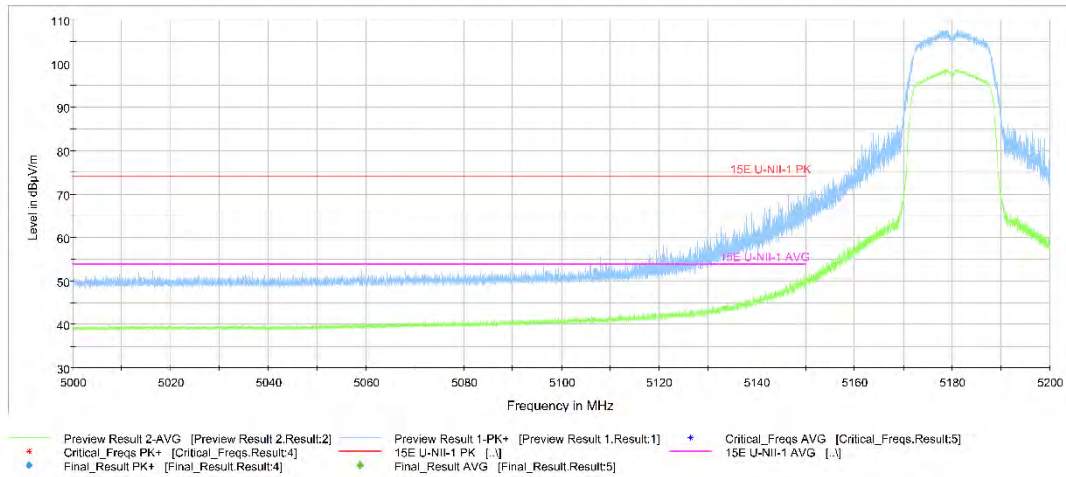


Fig.34 Band Edges (802.11a Ch36, 5180MHz)

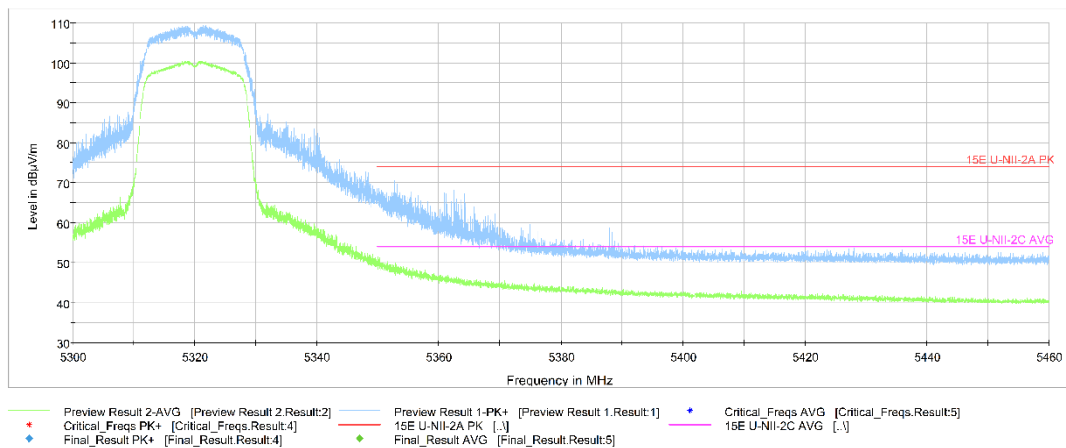


Fig.35 Band Edges (802.11a Ch64, 5320MHz)

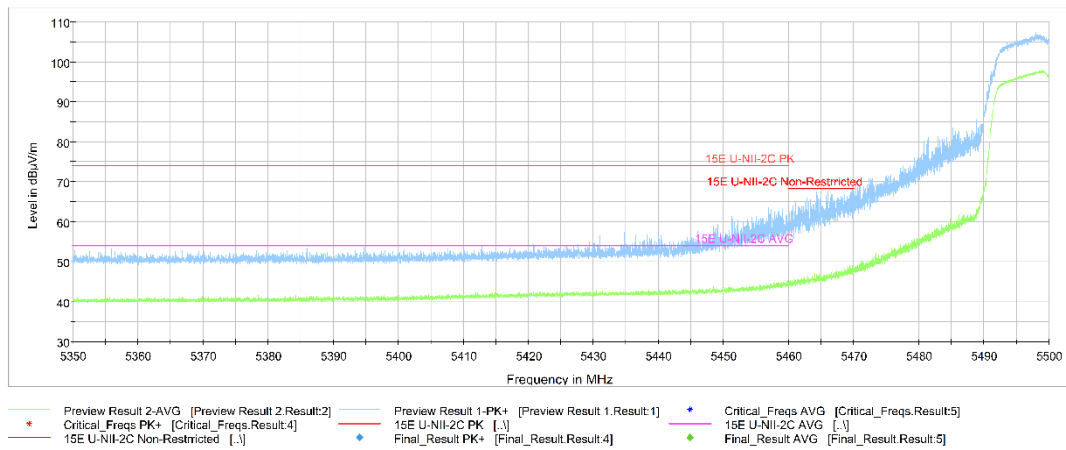


Fig.36 Band Edges (802.11a Ch100, 5500MHz)

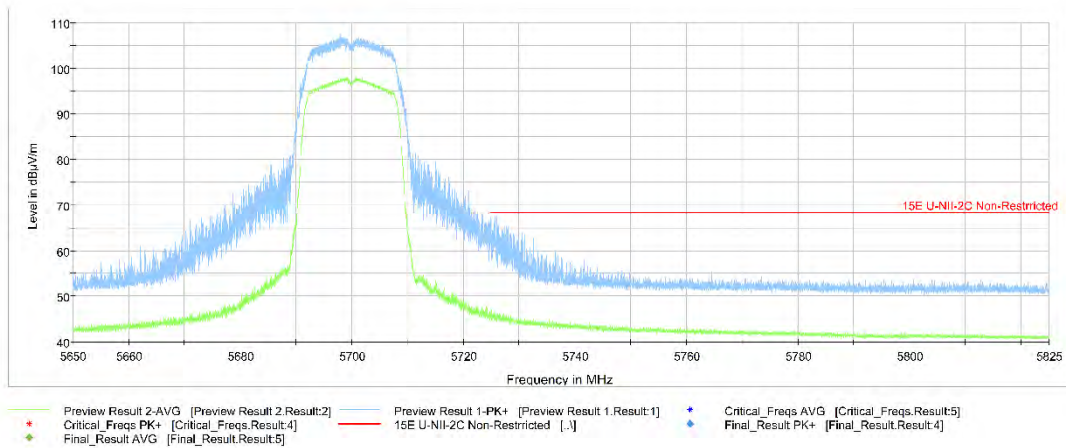


Fig.37 Band Edges (802.11a Ch140, 5700MHz)

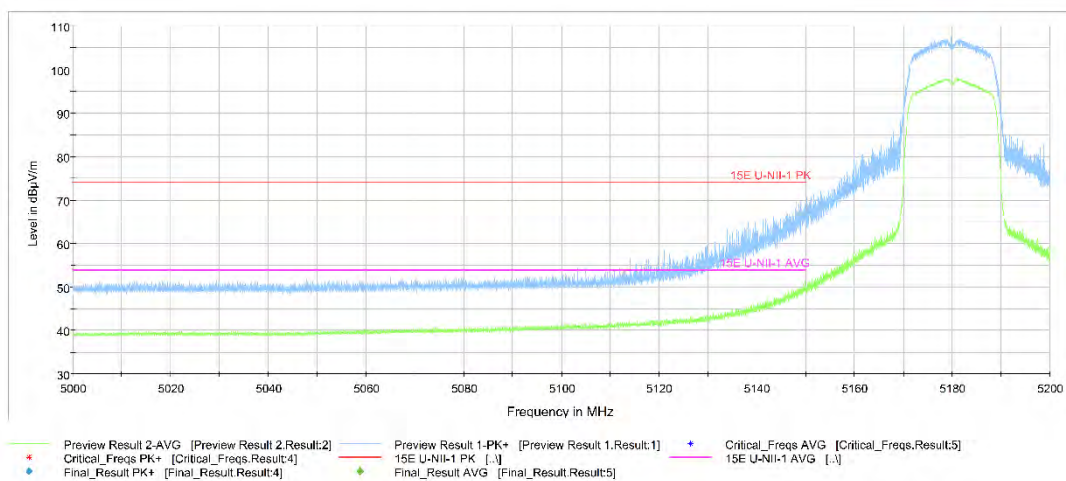


Fig.38 Band Edges (802.11n-HT20 Ch36, 5180MHz)

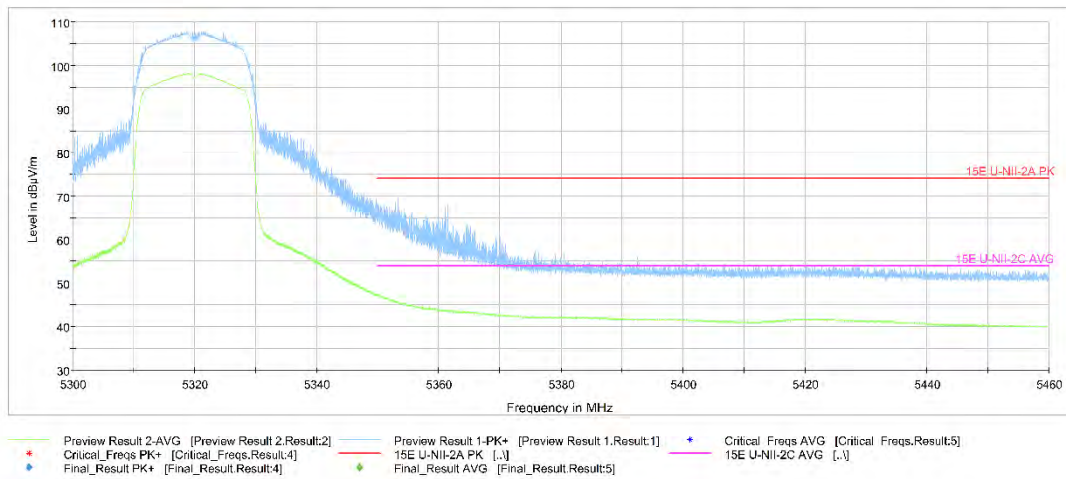


Fig.39 Band Edges (802.11n-HT20 Ch64, 5320MHz)

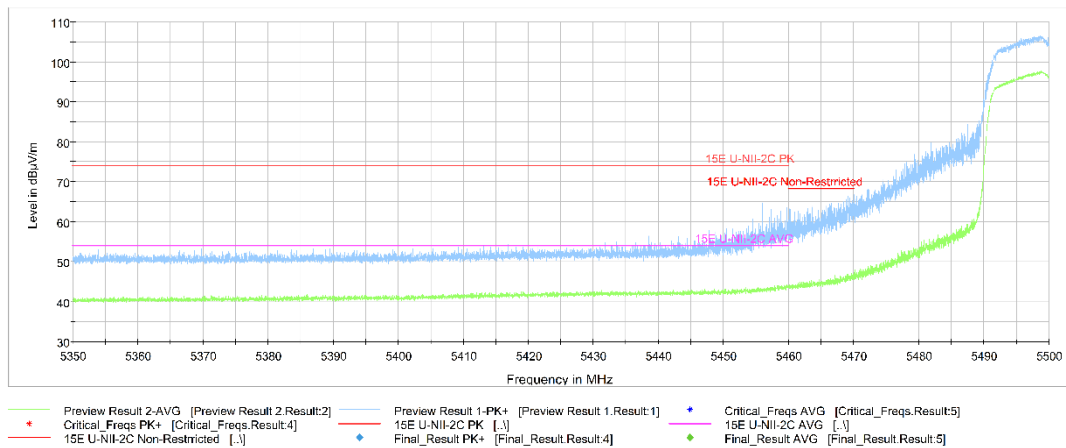


Fig.40 Band Edges (802.11n-HT20 Ch100, 5500MHz)

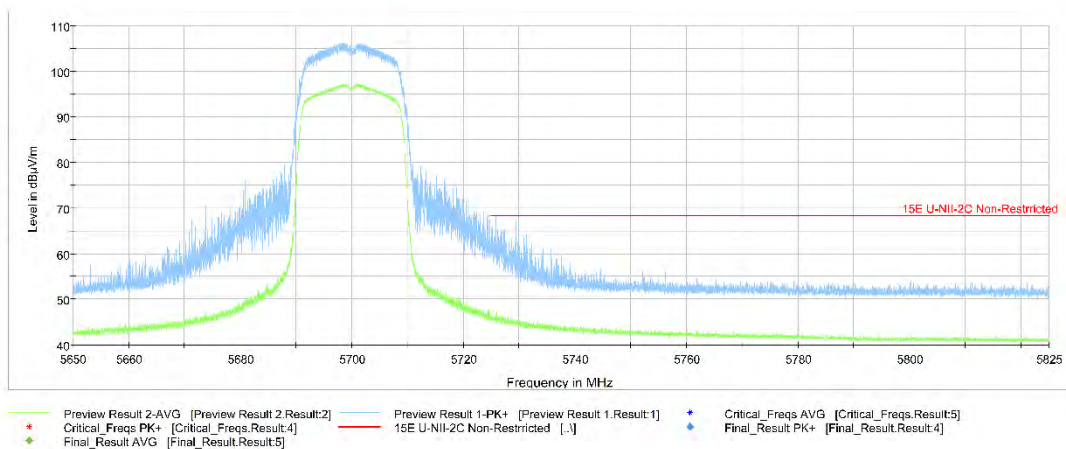


Fig.41 Band Edges (802.11n-HT20 Ch140, 5700MHz)

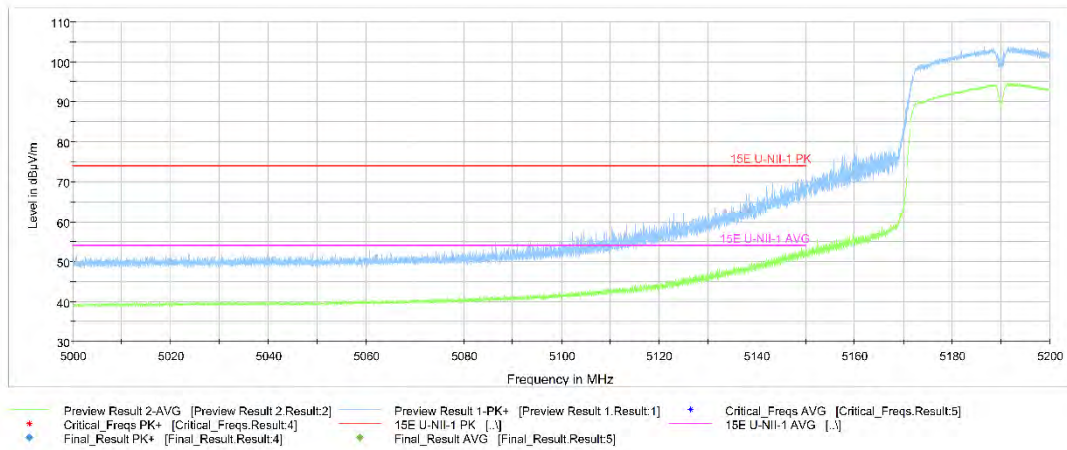


Fig.42 Band Edges (802.11n-HT40 Ch38, 5190MHz)

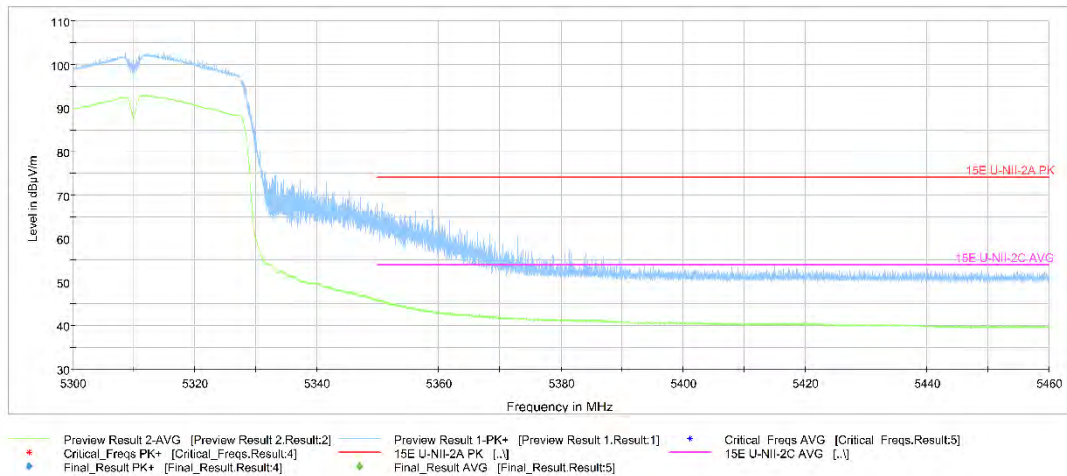


Fig.43 Band Edges (802.11n-HT40 Ch62, 5310MHz)

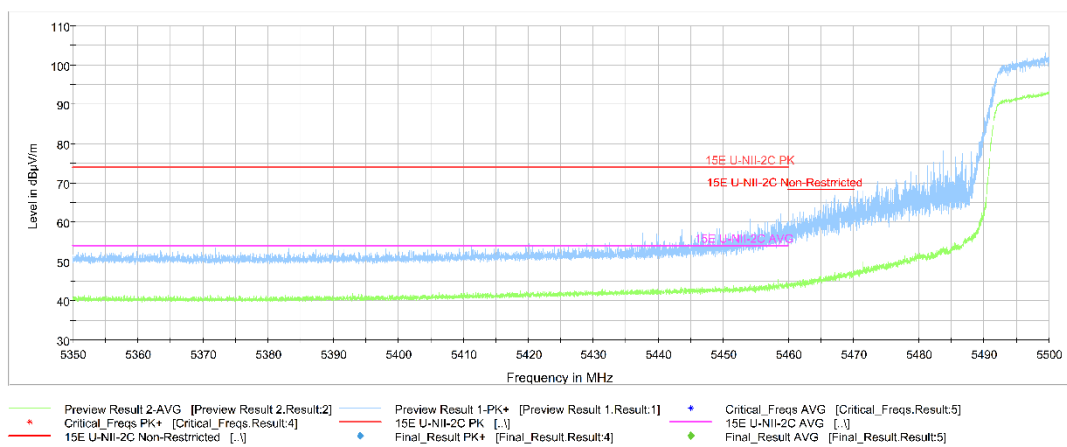


Fig.44 Band Edges (802.11n-HT40 Ch102, 5510MHz)

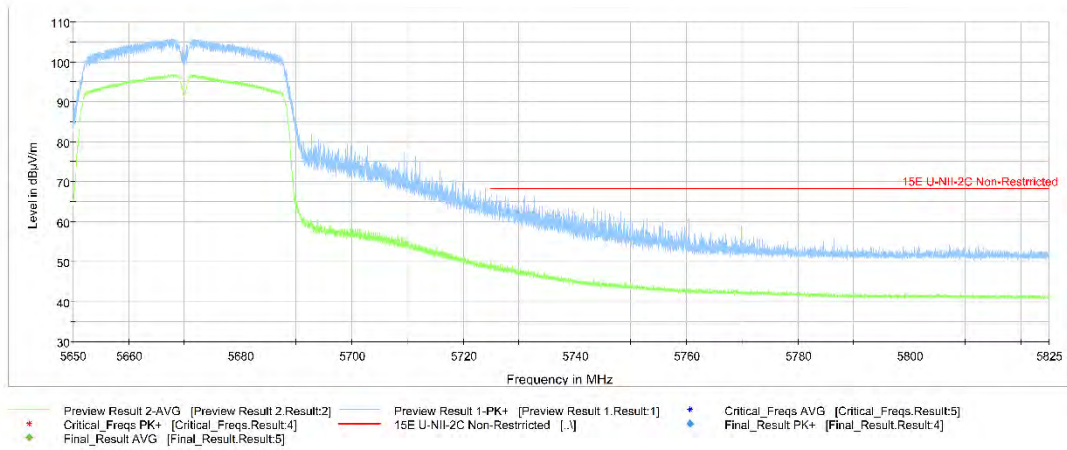


Fig.45 Band Edges (802.11n-HT40 Ch134, 5670MHz)

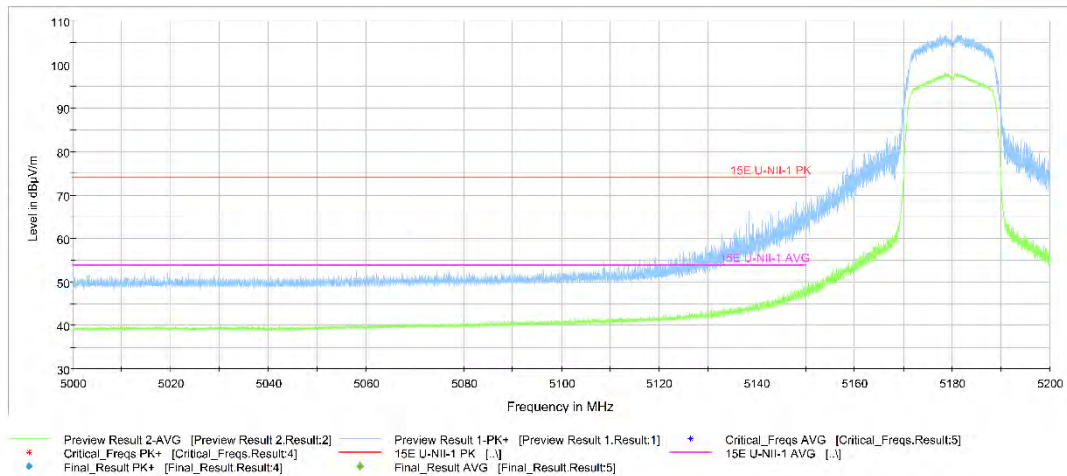


Fig.46 Band Edges (802.11ac-HT20 Ch36, 5180MHz)

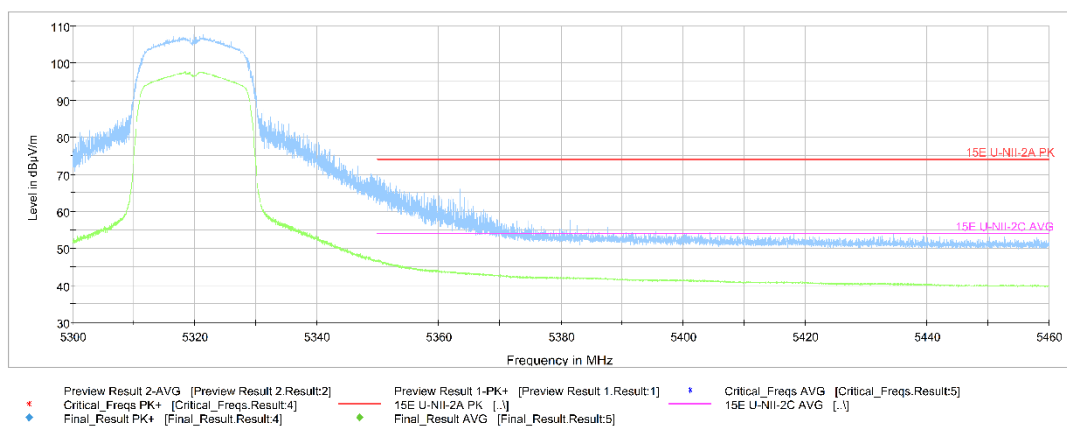


Fig.47 Band Edges (802.11ac-HT20 Ch64, 5320MHz)

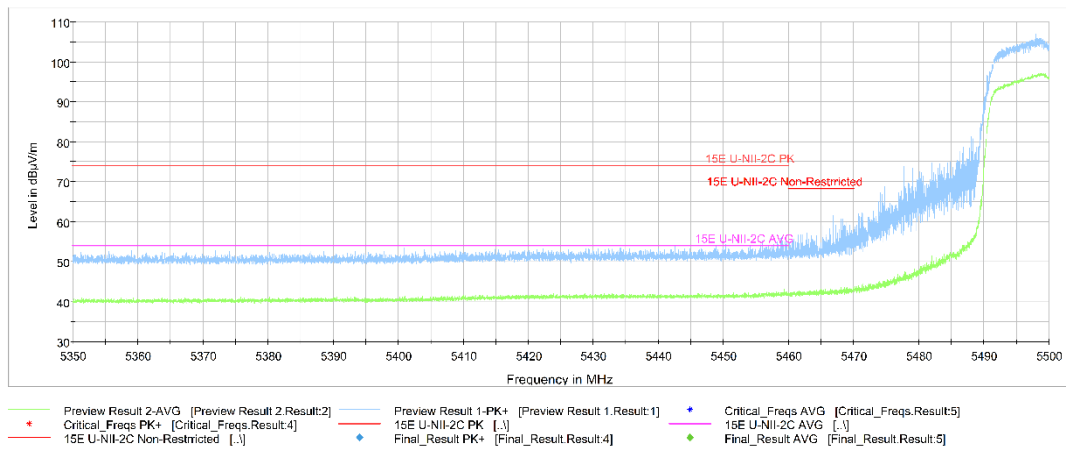


Fig.48 Band Edges (802.11ac-HT20 Ch100, 5500MHz)

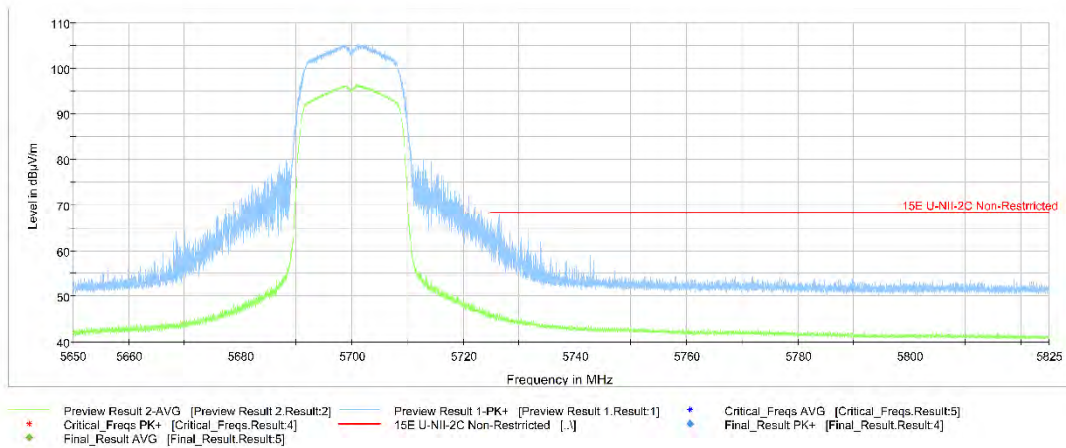


Fig.49 Band Edges (802.11ac-HT20 Ch140, 5700MHz)

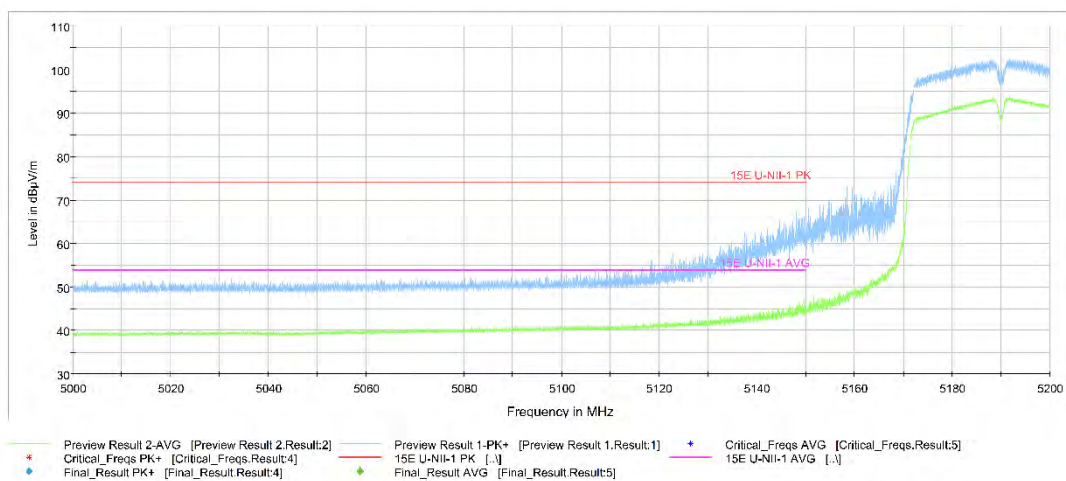


Fig.50 Band Edges (802.11ac-HT40 Ch38, 5190MHz)

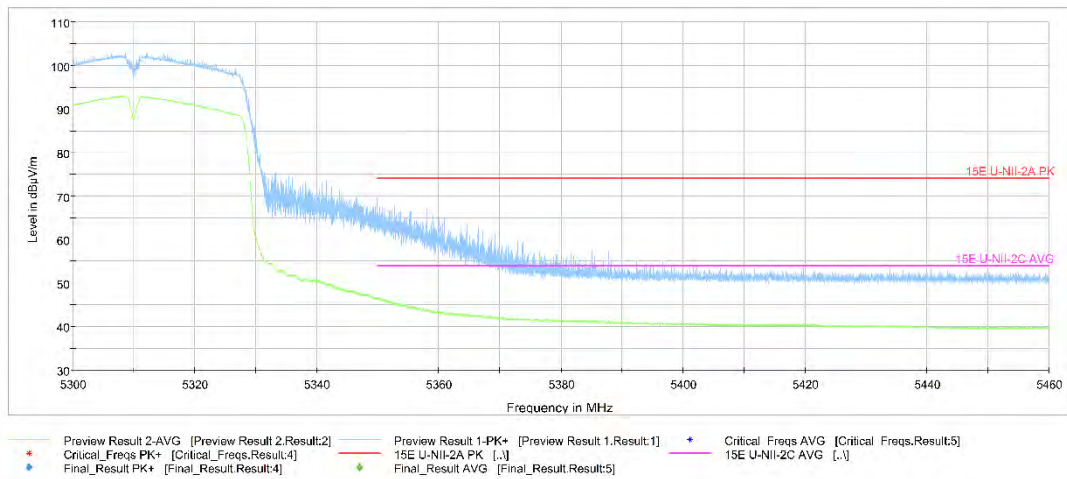


Fig.51 Band Edges (802.11ac-HT40 Ch62, 5310MHz)

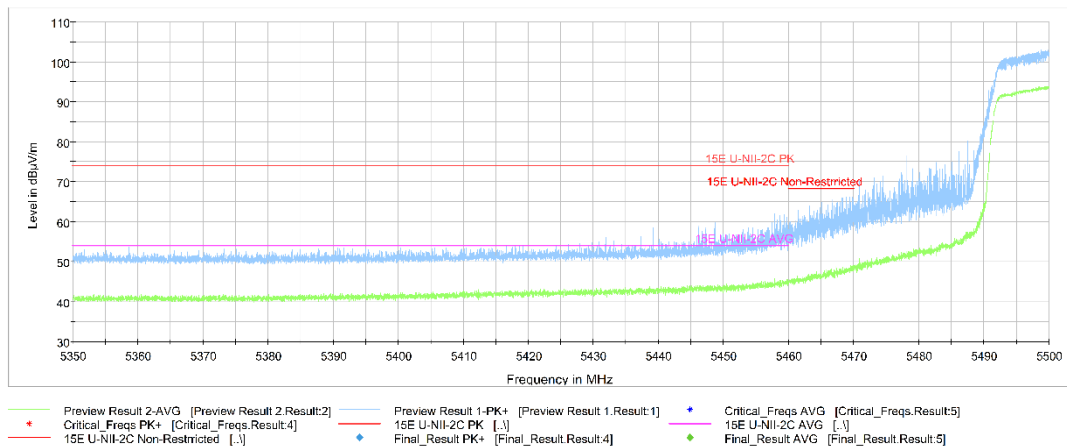


Fig.52 Band Edges (802.11ac-HT40 Ch102, 5510MHz)

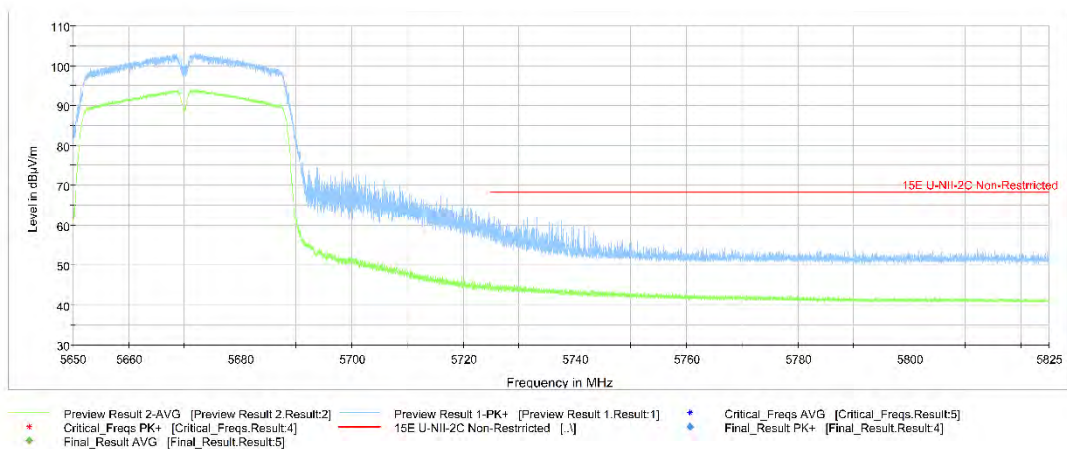


Fig.53 Band Edges (802.11ac-HT40 Ch134, 5670MHz)

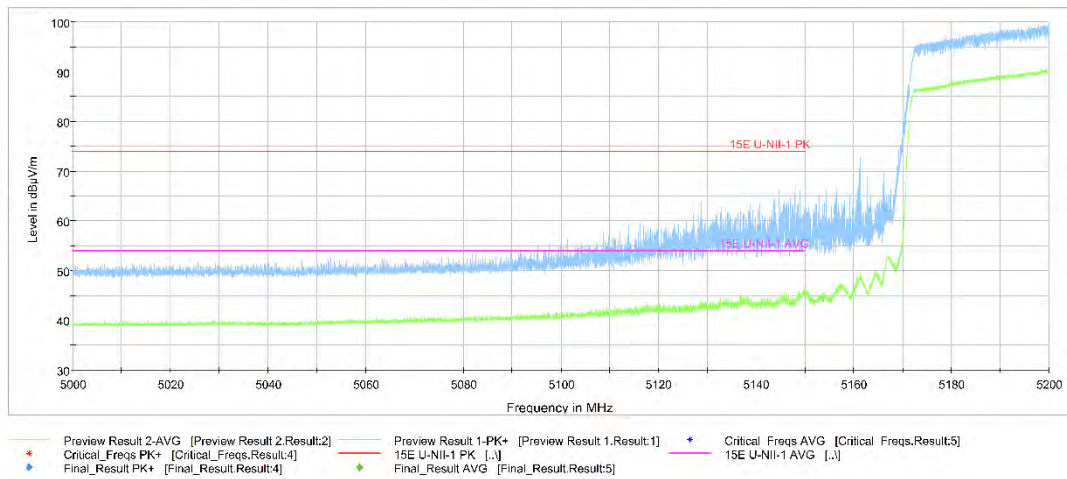


Fig.54 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

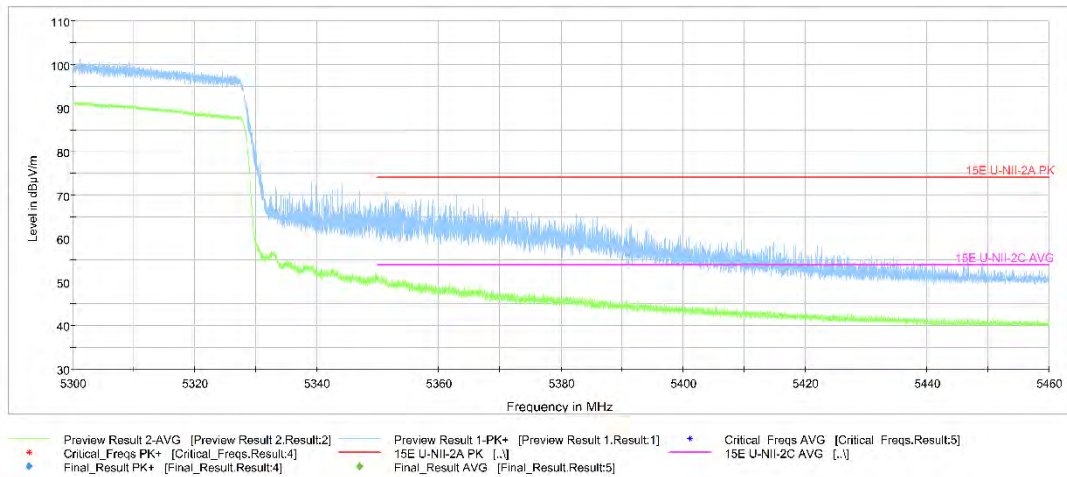


Fig.55 Band Edges (802.11ac-HT80 Ch58, 5290MHz)

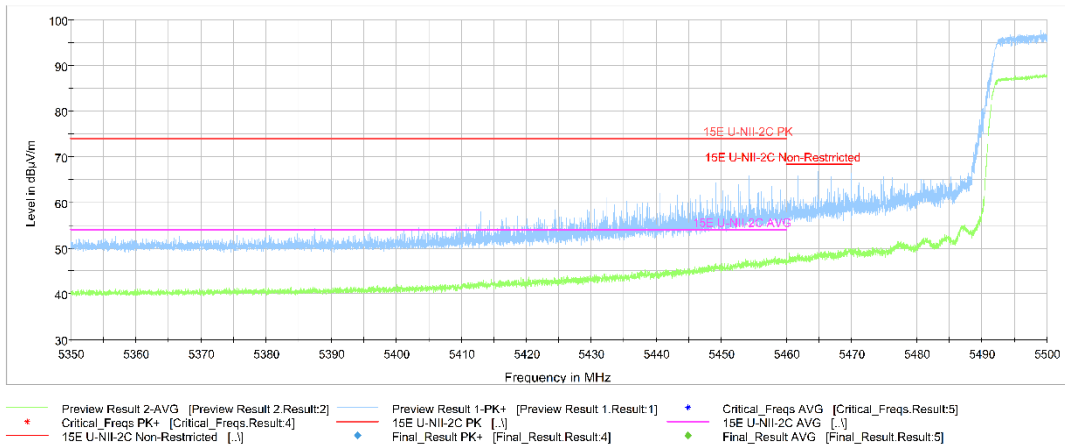


Fig.56 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

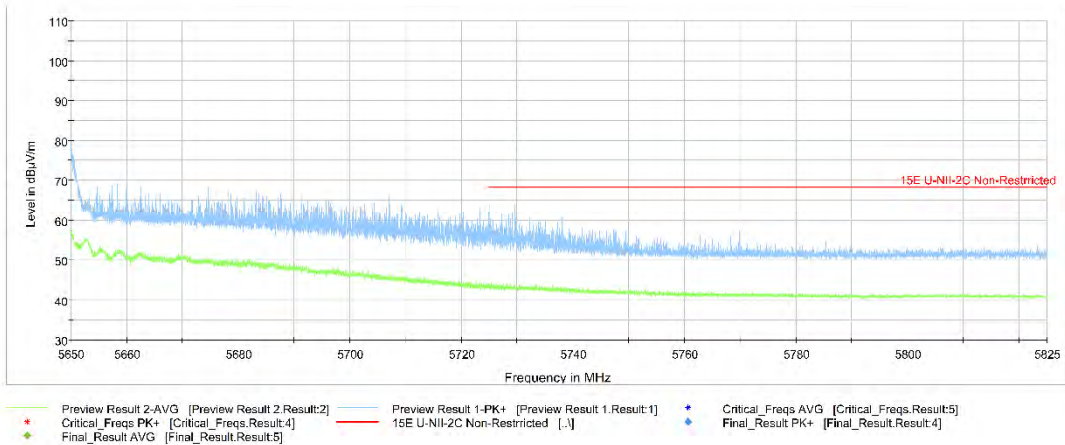


Fig.57 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

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
		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
		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	---
	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
	106(5530MHz)	26.5 GHz ~ 40 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
	122(5610MHz)	7 GHz ~ 18 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
			7 GHz ~ 18 GHz	---

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:

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

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)
17985.200	42.44	-25.50	46.66	21.28	54.00	11.56	V
17991.800	42.37	-25.50	46.66	21.21	54.00	11.63	H
13320.000	38.38	-29.49	39.71	28.16	54.00	15.62	V
13346.500	38.30	-29.49	39.71	28.08	54.00	15.70	H
5149.900	47.28	-27.61	33.67	41.22	54.00	6.72	H
5150.000	47.15	-27.61	33.67	41.09	54.00	6.85	H

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)
17791.000	42.20	-25.50	46.66	21.04	54.00	11.80	H
17989.500	41.99	-25.50	46.66	20.83	54.00	12.01	H
14495.400	38.26	-28.59	42.46	24.39	54.00	15.74	H
14498.100	38.20	-28.59	42.46	24.33	54.00	15.80	V
11995.100	36.56	-31.48	39.09	28.95	54.00	17.44	H
11988.000	36.53	-31.48	39.09	28.92	54.00	17.47	V

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)
17998.900	42.22	-25.50	46.66	21.06	54.00	11.78	H
17958.800	41.91	-25.50	46.66	20.75	54.00	12.09	H
14494.300	38.10	-28.59	42.46	24.23	54.00	15.90	V
14499.200	38.08	-28.59	42.46	24.21	54.00	15.92	V
11860.400	36.26	-31.85	39.05	29.06	54.00	17.74	V
11891.700	36.25	-31.85	39.05	29.05	54.00	17.75	H

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)
17881.800	41.70	-25.50	46.66	20.54	54.00	12.30	H
17928.500	41.64	-25.50	46.66	20.48	54.00	12.36	H
14474.500	37.77	-28.59	42.46	23.90	54.00	16.23	H
14475.000	37.69	-28.59	42.46	23.82	54.00	16.31	H
11610.100	35.92	-32.31	38.91	29.33	54.00	18.08	V
11946.100	35.92	-31.48	39.09	28.31	54.00	18.08	V

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)
17994.500	41.76	-25.50	46.66	20.60	54.00	12.24	V
17939.500	41.71	-25.50	46.66	20.55	54.00	12.29	V
14497.600	38.20	-28.59	42.46	24.33	54.00	15.80	H
14492.100	37.90	-28.59	42.46	24.03	54.00	16.10	V
11933.000	36.21	-31.48	39.09	28.60	54.00	17.79	H
11851.500	36.07	-31.85	39.05	28.87	54.00	17.93	H

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)
10643.800	42.16	-32.76	38.38	36.54	54.00	11.84	V
10638.800	42.08	-32.76	38.38	36.46	54.00	11.92	V
17972.000	41.91	-25.50	46.66	20.75	54.00	12.09	V
17797.000	41.88	-25.50	46.66	20.72	54.00	12.12	V
5350.000	51.61	-27.43	34.01	45.03	54.00	2.39	H
5350.100	51.22	-27.43	34.01	44.64	54.00	2.78	H

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)
10996.900	47.10	-32.82	38.70	41.22	54.00	6.90	V
11001.200	47.09	-32.82	38.70	41.21	54.00	6.91	V
17996.700	42.39	-25.50	46.66	21.23	54.00	11.61	H
17974.700	42.23	-25.50	46.66	21.07	54.00	11.77	H
5459.900	45.38	-27.18	34.17	38.39	54.00	8.62	H
5459.900	45.17	-27.18	34.17	38.18	54.00	8.83	H

Channel 120

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)
11199.200	46.81	-32.60	38.75	40.67	54.00	7.19	V
11200.900	46.78	-32.60	38.75	40.64	54.00	7.22	V
17998.300	42.36	-25.50	46.66	21.20	54.00	11.64	H
17993.400	42.33	-25.50	46.66	21.17	54.00	11.67	V
14491.500	38.50	-28.59	42.46	24.63	54.00	15.50	H
14487.700	38.37	-28.59	42.46	24.50	54.00	15.63	H

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)
11397.800	42.78	-32.42	38.79	36.41	54.00	11.22	V
11399.500	42.75	-32.42	38.79	36.38	54.00	11.25	V
17957.100	42.28	-25.50	46.66	21.12	54.00	11.72	H
17984.600	42.27	-25.50	46.66	21.11	54.00	11.73	V
13327.800	38.43	-29.49	39.71	28.21	54.00	15.57	H
14498.700	38.22	-28.59	42.46	24.35	54.00	15.78	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)
17992.800	42.04	-25.50	46.66	20.88	54.00	11.96	H
17988.500	41.92	-25.50	46.66	20.76	54.00	12.08	H
14499.800	38.18	-28.59	42.46	24.31	54.00	15.82	V
13350.300	38.03	-29.49	39.71	27.81	54.00	15.97	V
5149.800	43.78	-27.61	33.67	37.72	54.00	10.22	H
5147.500	43.74	-27.61	33.67	37.68	54.00	10.26	H

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)
17975.200	41.99	-25.50	46.66	20.83	54.00	12.01	H
17962.000	41.80	-25.50	46.66	20.64	54.00	12.20	H
13331.600	38.12	-29.49	39.71	27.90	54.00	15.88	V
14499.200	38.02	-28.59	42.46	24.15	54.00	15.98	H
11909.300	36.42	-31.85	39.05	29.22	54.00	17.58	H
11937.900	36.20	-31.48	39.09	28.59	54.00	17.80	H

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)
17983.500	41.91	-25.50	46.66	20.75	54.00	12.09	V
17917.000	41.85	-25.50	46.66	20.69	54.00	12.15	V
14480.000	38.20	-28.59	42.46	24.33	54.00	15.80	H
14493.200	38.16	-28.59	42.46	24.29	54.00	15.84	V
11933.500	36.31	-31.48	39.09	28.70	54.00	17.69	H
11043.000	36.26	-32.49	38.72	30.02	54.00	17.74	H

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)
17957.100	42.18	-25.50	46.66	21.02	54.00	11.82	H
17995.000	42.18	-25.50	46.66	21.02	54.00	11.82	H
13332.700	38.33	-29.49	39.71	28.11	54.00	15.67	H
13345.900	38.27	-29.49	39.71	28.05	54.00	15.73	H
11942.900	36.30	-31.48	39.09	28.69	54.00	17.70	H
11930.800	36.26	-31.48	39.09	28.65	54.00	17.74	H

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)
17995.600	42.43	-25.50	46.66	21.27	54.00	11.57	V
17974.200	42.41	-25.50	46.66	21.25	54.00	11.59	H
14493.800	38.22	-28.59	42.46	24.35	54.00	15.78	V
13347.500	38.15	-29.49	39.71	27.93	54.00	15.85	H
11997.300	36.60	-31.48	39.09	28.99	54.00	17.40	H
11944.000	36.51	-31.48	39.09	28.90	54.00	17.49	H

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)
10639.400	42.72	-32.76	38.38	37.10	54.00	11.28	V
10642.100	42.72	-32.76	38.38	37.10	54.00	11.28	V
17995.000	42.48	-25.50	46.66	21.32	54.00	11.52	V
17990.100	42.02	-25.50	46.66	20.86	54.00	11.98	V
5350.000	47.43	-27.43	34.01	40.85	54.00	6.57	H
5350.200	47.36	-27.43	34.01	40.78	54.00	6.64	H

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)
11001.200	47.66	-32.82	38.70	41.78	54.00	6.34	V
10999.600	47.59	-32.82	38.70	41.71	54.00	6.41	V
17987.300	42.41	-25.50	46.66	21.25	54.00	11.59	V
17997.200	42.21	-25.50	46.66	21.05	54.00	11.79	H
5459.800	44.28	-27.18	34.17	37.29	54.00	9.72	H
5459.800	44.14	-27.18	34.17	37.15	54.00	9.86	H

Channel 120

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)
11203.100	47.15	-32.60	38.75	41.01	54.00	6.85	V
11199.200	47.11	-32.60	38.75	40.97	54.00	6.89	V
17994.000	42.13	-25.50	46.66	20.97	54.00	11.87	H
17997.200	42.12	-25.50	46.66	20.96	54.00	11.88	V
14496.000	38.47	-28.59	42.46	24.60	54.00	15.53	H
14489.900	38.26	-28.59	42.46	24.39	54.00	15.74	H

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)
11399.500	43.43	-32.42	38.79	37.06	54.00	10.57	V
11400.000	43.42	-32.42	38.79	37.05	54.00	10.58	V
17720.600	42.34	-25.74	45.95	22.13	54.00	11.66	H
17987.300	42.25	-25.50	46.66	21.09	54.00	11.75	H
14490.500	38.37	-28.59	42.46	24.50	54.00	15.63	V
13327.800	38.27	-29.49	39.71	28.05	54.00	15.73	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)
17979.700	41.90	-25.50	46.66	20.74	54.00	12.10	H
17799.200	41.85	-25.50	46.66	20.69	54.00	12.15	V
14483.900	38.04	-28.59	42.46	24.17	54.00	15.96	V
14495.400	37.97	-28.59	42.46	24.10	54.00	16.03	V
5148.700	43.39	-27.61	33.67	37.33	54.00	10.61	H
5148.500	43.24	-27.61	33.67	37.18	54.00	10.76	H

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)
17998.300	41.79	-25.50	46.66	20.63	54.00	12.21	H
17918.600	41.70	-25.50	46.66	20.54	54.00	12.30	V
13341.000	38.36	-29.49	39.71	28.14	54.00	15.64	H
14481.100	38.07	-28.59	42.46	24.20	54.00	15.93	H
11537.000	36.20	-32.26	38.84	29.63	54.00	17.80	H
11985.800	36.20	-31.48	39.09	28.59	54.00	17.80	H

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)
17994.500	42.26	-25.50	46.66	21.10	54.00	11.74	H
17997.200	42.21	-25.50	46.66	21.05	54.00	11.79	H
14491.500	38.38	-28.59	42.46	24.51	54.00	15.62	H
13341.500	38.20	-29.49	39.71	27.98	54.00	15.80	V
11999.500	36.32	-31.48	39.09	28.71	54.00	17.68	H
11958.200	36.27	-31.48	39.09	28.66	54.00	17.73	V

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)
17791.000	42.17	-25.50	46.66	21.01	54.00	11.83	V
17993.400	42.10	-25.50	46.66	20.94	54.00	11.90	V
10619.500	39.48	-32.76	38.38	33.86	54.00	14.52	V
10620.100	39.47	-32.76	38.38	33.85	54.00	14.53	V
5350.000	45.90	-27.43	34.01	39.32	54.00	8.10	H
5350.900	45.88	-27.43	34.01	39.30	54.00	8.12	H

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)
11021.000	46.92	-32.49	38.72	40.68	54.00	7.08	V
11025.500	46.67	-32.49	38.72	40.43	54.00	7.33	V
17937.300	42.22	-25.50	46.66	21.06	54.00	11.78	H
17992.300	42.17	-25.50	46.66	21.01	54.00	11.83	V
5458.400	45.31	-27.18	34.17	38.32	54.00	8.69	H
5459.700	44.75	-27.18	34.17	37.76	54.00	9.25	H

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)
11175.600	46.31	-32.60	38.75	40.17	54.00	7.69	V
11174.500	46.14	-32.60	38.75	40.00	54.00	7.86	V
17997.800	42.06	-25.50	46.66	20.90	54.00	11.94	V
17998.300	42.04	-25.50	46.66	20.88	54.00	11.96	V
13347.000	38.30	-29.49	39.71	28.08	54.00	15.70	V
14489.900	38.29	-28.59	42.46	24.42	54.00	15.71	V

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)
11343.400	42.88	-32.42	38.79	36.51	54.00	11.12	V
11342.200	42.68	-32.42	38.79	36.31	54.00	11.32	V
17996.700	41.97	-25.50	46.66	20.81	54.00	12.03	H
17796.500	41.96	-25.50	46.66	20.80	54.00	12.04	V
14486.000	38.12	-28.59	42.46	24.25	54.00	15.88	H
14491.000	37.98	-28.59	42.46	24.11	54.00	16.02	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)
17990.100	42.52	-25.50	46.66	21.36	54.00	11.48	V
17987.300	42.16	-25.50	46.66	21.00	54.00	11.84	V
13315.100	38.29	-29.49	39.71	28.07	54.00	15.71	V
13350.900	38.23	-29.49	39.71	28.01	54.00	15.77	H
5149.900	47.58	-27.61	33.67	41.52	54.00	6.42	H
5149.000	47.57	-27.61	33.67	41.51	54.00	6.43	H

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)
17992.300	41.93	-25.50	46.66	20.77	54.00	12.07	H
17780.000	41.86	-25.50	46.66	20.70	54.00	12.14	V
14486.000	38.19	-28.59	42.46	24.32	54.00	15.81	V
14477.800	38.03	-28.59	42.46	24.16	54.00	15.97	H
11969.200	36.55	-31.48	39.09	28.94	54.00	17.45	V
11043.600	36.49	-32.49	38.72	30.25	54.00	17.51	H

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)
17991.800	41.81	-25.50	46.66	20.65	54.00	12.19	V
17993.400	41.76	-25.50	46.66	20.60	54.00	12.24	H
13348.600	38.20	-29.49	39.71	27.98	54.00	15.80	H
14496.500	38.04	-28.59	42.46	24.17	54.00	15.96	V
11933.500	36.27	-31.48	39.09	28.66	54.00	17.73	H
11918.600	36.23	-31.48	39.09	28.62	54.00	17.77	V

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)
17992.800	42.28	-25.50	46.66	21.12	54.00	11.72	H
17998.900	42.14	-25.50	46.66	20.98	54.00	11.86	V
13334.400	38.27	-29.49	39.71	28.05	54.00	15.73	V
14486.000	38.27	-28.59	42.46	24.40	54.00	15.73	V
11891.700	36.67	-31.85	39.05	29.47	54.00	17.33	H
11546.300	36.43	-32.26	38.84	29.86	54.00	17.57	V

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)
17988.500	42.27	-25.50	46.66	21.11	54.00	11.73	V
17978.500	42.12	-25.50	46.66	20.96	54.00	11.88	V
13337.600	38.36	-29.49	39.71	28.14	54.00	15.64	H
14485.000	38.11	-28.59	42.46	24.24	54.00	15.89	H
11937.900	36.51	-31.48	39.09	28.90	54.00	17.49	V
11994.500	36.29	-31.48	39.09	28.68	54.00	17.71	V

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)
17952.700	42.20	-25.50	46.66	21.04	54.00	11.80	H
17997.800	42.17	-25.50	46.66	21.01	54.00	11.83	H
10643.200	40.97	-32.76	38.38	35.35	54.00	13.03	V
10639.400	40.72	-32.76	38.38	35.10	54.00	13.28	V
5350.200	46.79	-27.43	34.01	40.21	54.00	7.21	H
5350.100	46.74	-27.43	34.01	40.16	54.00	7.26	H

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)
11001.200	45.59	-32.82	38.70	39.71	54.00	8.41	V
10999.600	45.49	-32.82	38.70	39.61	54.00	8.51	V
17993.400	42.28	-25.50	46.66	21.12	54.00	11.72	V
17995.600	42.22	-25.50	46.66	21.06	54.00	11.78	V
5459.400	42.97	-27.18	34.17	35.98	54.00	11.03	H
5458.200	42.45	-27.18	34.17	35.46	54.00	11.55	H

Channel 120

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)
11199.200	45.58	-32.60	38.75	39.44	54.00	8.42	V
11200.400	45.39	-32.60	38.75	39.25	54.00	8.61	V
17990.100	42.18	-25.50	46.66	21.02	54.00	11.82	V
17950.000	42.11	-25.50	46.66	20.95	54.00	11.89	V
13343.700	38.38	-29.49	39.71	28.16	54.00	15.62	H
13342.000	38.29	-29.49	39.71	28.07	54.00	15.71	H

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)
17997.200	42.37	-25.50	46.66	21.21	54.00	11.63	V
11400.000	42.36	-32.42	38.79	35.99	54.00	11.64	V
11400.500	42.32	-32.42	38.79	35.95	54.00	11.68	V
17998.900	42.27	-25.50	46.66	21.11	54.00	11.73	H
13341.000	38.77	-29.49	39.71	28.55	54.00	15.23	V
13345.900	38.50	-29.49	39.71	28.28	54.00	15.50	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)
17758.500	41.95	-25.50	46.66	20.79	54.00	12.05	H
17945.500	41.82	-25.50	46.66	20.66	54.00	12.18	V
14482.200	38.12	-28.59	42.46	24.25	54.00	15.88	H
13318.400	38.10	-29.49	39.71	27.88	54.00	15.90	V
5149.700	52.70	-27.61	33.67	46.64	54.00	1.30	H
5149.100	52.47	-27.61	33.67	46.41	54.00	1.53	H

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)
17989.000	41.93	-25.50	46.66	20.77	54.00	12.07	H
17788.200	41.90	-25.50	46.66	20.74	54.00	12.10	H
14478.400	38.09	-28.59	42.46	24.22	54.00	15.91	V
14476.700	38.07	-28.59	42.46	24.20	54.00	15.93	H
11048.000	36.47	-32.49	38.72	30.23	54.00	17.53	V
11897.800	36.22	-31.85	39.05	29.02	54.00	17.78	H

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)
17992.800	42.46	-25.50	46.66	21.30	54.00	11.54	H
17991.800	42.38	-25.50	46.66	21.22	54.00	11.62	H
14483.300	38.28	-28.59	42.46	24.41	54.00	15.72	H
14498.700	38.21	-28.59	42.46	24.34	54.00	15.79	H
11949.500	36.39	-31.48	39.09	28.78	54.00	17.61	H
11861.500	36.36	-31.85	39.05	29.16	54.00	17.64	H

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)
17990.100	42.30	-25.50	46.66	21.14	54.00	11.70	V
17991.200	42.23	-25.50	46.66	21.07	54.00	11.77	V
14483.300	38.70	-28.59	42.46	24.83	54.00	15.30	V
10622.300	38.42	-32.76	38.38	32.80	54.00	15.58	V
5350.100	46.54	-27.43	34.01	39.96	54.00	7.46	H
5350.500	46.48	-27.43	34.01	39.90	54.00	7.52	H

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)
11020.500	44.17	-32.49	38.72	37.93	54.00	9.83	V
11022.700	44.08	-32.49	38.72	37.84	54.00	9.92	V
17998.300	42.58	-25.50	46.66	21.42	54.00	11.42	V
17995.000	42.33	-25.50	46.66	21.17	54.00	11.67	V
5457.800	45.61	-27.18	34.17	38.62	54.00	8.39	H
5459.800	45.50	-27.18	34.17	38.51	54.00	8.50	H

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)
11181.600	45.21	-32.60	38.75	39.07	54.00	8.79	V
11177.200	45.10	-32.60	38.75	38.96	54.00	8.90	V
17995.600	42.33	-25.50	46.66	21.17	54.00	11.67	V
17973.600	42.14	-25.50	46.66	20.98	54.00	11.86	H
14496.500	38.41	-28.59	42.46	24.54	54.00	15.59	V
13343.100	38.28	-29.49	39.71	28.06	54.00	15.72	V

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)
17957.100	42.05	-25.50	46.66	20.89	54.00	11.95	H
17992.300	41.96	-25.50	46.66	20.80	54.00	12.04	V
11339.000	41.95	-32.42	38.79	35.58	54.00	12.05	V
11342.800	41.70	-32.42	38.79	35.33	54.00	12.30	V
13343.100	38.25	-29.49	39.71	28.03	54.00	15.75	H
13345.900	38.13	-29.49	39.71	27.91	54.00	15.87	V

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)
17989.000	42.23	-25.50	46.66	21.07	54.00	11.77	V
17987.300	42.14	-25.50	46.66	20.98	54.00	11.86	H
14499.200	38.32	-28.59	42.46	24.45	54.00	15.68	H
13340.400	38.27	-29.49	39.71	28.05	54.00	15.73	V
5149.900	46.15	-27.61	33.67	40.09	54.00	7.85	H
5150.000	45.98	-27.61	33.67	39.92	54.00	8.02	H

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)
17975.200	42.23	-25.50	46.66	21.07	54.00	11.77	V
17951.000	42.12	-25.50	46.66	20.96	54.00	11.88	H
14485.500	38.33	-28.59	42.46	24.46	54.00	15.67	V
13329.400	38.22	-29.49	39.71	28.00	54.00	15.78	V
5350.000	51.53	-27.43	34.01	44.95	54.00	2.47	H
5350.700	51.50	-27.43	34.01	44.92	54.00	2.50	H

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)
17989.000	42.20	-25.50	46.66	21.04	54.00	11.80	H
17973.600	42.06	-25.50	46.66	20.90	54.00	11.94	H
11062.900	41.95	-32.49	38.72	35.71	54.00	12.05	V
11048.000	41.83	-32.49	38.72	35.59	54.00	12.17	V
5458.300	48.05	-27.18	34.17	41.06	54.00	5.95	H
5458.900	47.85	-27.18	34.17	40.86	54.00	6.15	H

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)
17972.000	42.60	-25.50	46.66	21.44	54.00	11.40	V
17998.900	42.21	-25.50	46.66	21.05	54.00	11.79	V
11220.700	40.07	-32.60	38.75	33.93	54.00	13.93	V
11207.000	39.91	-32.60	38.75	33.77	54.00	14.09	V
14475.600	38.15	-28.59	42.46	24.28	54.00	15.85	V
13343.700	38.05	-29.49	39.71	27.83	54.00	15.95	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)
17612.200	53.63	-25.74	45.95	33.42	68.30	14.67	V
17585.300	53.01	-25.74	45.95	32.80	68.30	15.29	V
14277.000	50.66	-28.42	42.34	36.74	68.30	17.64	V
13662.700	50.59	-29.50	40.43	39.66	68.30	17.71	H
5143.700	69.07	-27.61	33.67	63.01	74.00	4.93	H
5147.700	66.71	-27.61	33.67	60.65	74.00	7.29	H

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)
17928.000	52.94	-25.50	46.66	31.78	74.00	21.06	V
17827.800	52.60	-25.50	46.66	31.44	74.00	21.40	V
13640.700	50.55	-29.50	40.43	39.62	68.30	17.75	H
13644.000	50.09	-29.50	40.43	39.16	68.30	18.21	H
10951.200	47.23	-32.82	38.70	41.35	74.00	26.77	H
11995.100	47.06	-31.48	39.09	39.45	74.00	26.94	H

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)
17811.300	52.48	-25.50	46.66	31.32	74.00	21.52	H
17855.300	52.45	-25.50	46.66	31.29	74.00	21.55	H
13651.100	51.12	-29.50	40.43	40.19	68.30	17.18	H
13518.000	50.77	-29.56	39.99	40.34	68.30	17.53	V
11909.300	47.14	-31.85	39.05	39.94	74.00	26.86	H
11891.700	46.81	-31.85	39.05	39.61	74.00	27.19	H

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)
17415.900	52.33	-26.85	45.25	33.93	68.30	15.97	H
17744.200	52.14	-25.50	46.66	30.98	74.00	21.86	H
13632.500	50.25	-29.50	40.43	39.32	68.30	18.05	V
13532.400	49.78	-29.56	39.99	39.35	68.30	18.52	V
10512.300	47.88	-32.99	38.27	42.59	68.30	20.42	V
10521.100	47.53	-32.99	38.27	42.24	68.30	20.77	V

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)
17962.600	52.19	-25.50	46.66	31.03	74.00	21.81	H
17956.000	51.98	-25.50	46.66	30.82	74.00	22.02	V
10556.300	50.65	-32.99	38.27	45.36	68.30	17.65	V
13733.100	50.34	-29.10	40.86	38.57	68.30	17.96	V
13614.300	50.31	-29.50	40.43	39.38	68.30	17.99	V
10561.200	49.29	-32.99	38.27	44.00	68.30	19.01	V

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)
17905.400	52.67	-25.50	46.66	31.51	74.00	21.33	V
17368.000	52.41	-25.95	44.35	34.00	68.30	15.89	V
13623.100	51.62	-29.50	40.43	40.69	68.30	16.68	H
10636.000	51.50	-32.76	38.38	45.88	74.00	22.50	V
5352.800	70.55	-27.43	34.01	63.97	74.00	3.45	H
5353.100	69.66	-27.43	34.01	63.08	74.00	4.34	H

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)
10996.900	57.21	-32.82	38.70	51.33	74.00	16.79	V
11001.200	56.43	-32.82	38.70	50.55	74.00	17.57	V
17604.000	52.57	-25.74	45.95	32.36	68.30	15.73	H
17918.600	52.32	-25.50	46.66	31.16	74.00	21.68	H
5456.900	63.56	-27.18	34.17	56.57	74.00	10.44	H
5469.800	68.00	-27.18	34.17	61.01	68.30	0.30	V

Channel 120

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)
11199.200	56.57	-32.60	38.75	50.43	74.00	17.43	V
11202.000	56.56	-32.60	38.75	50.42	74.00	17.44	V
17964.200	53.51	-25.50	46.66	32.35	74.00	20.49	H
17376.800	52.68	-25.95	44.35	34.27	68.30	15.62	H
13564.200	50.50	-29.50	40.43	39.57	68.30	17.80	H
13642.900	50.19	-29.50	40.43	39.26	68.30	18.11	H

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)
11400.500	53.64	-32.42	38.79	47.27	74.00	20.36	V
17930.200	53.06	-25.50	46.66	31.90	74.00	20.94	V
17601.200	52.60	-25.74	45.95	32.39	68.30	15.70	H
11397.800	52.55	-32.42	38.79	46.18	74.00	21.45	V
5725.800	67.67	-27.07	34.31	60.43	68.30	0.63	V
5726.000	67.47	-27.07	34.31	60.23	68.30	0.83	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)
17968.700	52.80	-25.50	46.66	31.64	74.00	21.20	H
17757.500	52.58	-25.50	46.66	31.42	74.00	21.42	V
13578.500	49.95	-29.50	40.43	39.02	68.30	18.35	H
13626.400	49.93	-29.50	40.43	39.00	68.30	18.37	H
5148.500	67.32	-27.61	33.67	61.26	74.00	6.68	H
5147.500	66.15	-27.61	33.67	60.09	74.00	7.85	H

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)
17605.700	52.57	-25.74	45.95	32.36	68.30	15.73	H
17480.200	52.45	-26.85	45.25	34.05	68.30	15.85	H
13605.000	50.78	-29.50	40.43	39.85	68.30	17.52	H
13586.200	50.12	-29.50	40.43	39.19	68.30	18.18	H
11919.200	46.84	-31.48	39.09	39.23	74.00	27.16	V
10611.900	46.52	-32.76	38.38	40.90	74.00	27.48	V

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)
17787.700	52.47	-25.50	46.66	31.31	74.00	21.53	H
17499.000	52.26	-26.85	45.25	33.86	68.30	16.04	H
13769.400	50.52	-29.10	40.86	38.75	68.30	17.78	V
13561.500	50.11	-29.50	40.43	39.18	68.30	18.19	H
11923.600	47.21	-31.48	39.09	39.60	74.00	26.79	H
11788.900	47.09	-31.99	38.98	40.10	74.00	26.91	H

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)
17956.500	52.69	-25.50	46.66	31.53	74.00	21.31	H
17319.700	52.43	-25.95	44.35	34.02	68.30	15.87	H
13750.700	50.07	-29.10	40.86	38.30	68.30	18.23	H
13558.800	49.77	-29.50	40.43	38.84	68.30	18.53	V
10523.300	48.75	-32.99	38.27	43.46	68.30	19.55	V
10512.900	48.63	-32.99	38.27	43.34	68.30	19.67	V

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)
17985.700	52.84	-25.50	46.66	31.68	74.00	21.16	V
17791.000	52.74	-25.50	46.66	31.58	74.00	21.26	H
10558.000	52.37	-32.99	38.27	47.08	68.30	15.93	V
10562.900	50.97	-32.99	38.27	45.68	68.30	17.33	V
13848.600	50.18	-29.51	41.30	38.39	68.30	18.12	V
13631.400	50.09	-29.50	40.43	39.16	68.30	18.21	H

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)
10647.000	53.21	-32.76	38.38	47.59	74.00	20.79	V
10644.900	53.17	-32.76	38.38	47.55	74.00	20.83	V
17754.200	53.05	-25.50	46.66	31.89	74.00	20.95	V
17310.300	52.83	-25.95	44.35	34.42	68.30	15.47	V
5353.400	69.61	-27.43	34.01	63.03	74.00	4.39	H
5353.800	69.00	-27.43	34.01	62.42	74.00	5.00	H

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)
10995.800	58.78	-32.82	38.70	52.90	74.00	15.22	V
11003.500	57.07	-32.49	38.72	50.83	74.00	16.93	V
17593.000	52.73	-25.74	45.95	32.52	68.30	15.57	V
17749.200	52.59	-25.50	46.66	31.43	74.00	21.41	V
5455.900	64.72	-27.18	34.17	57.73	74.00	9.28	H
5469.200	66.33	-27.18	34.17	59.34	68.30	1.97	H

Channel 120

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)
11200.900	56.43	-32.60	38.75	50.29	74.00	17.57	V
11197.000	56.42	-32.60	38.75	50.28	74.00	17.58	V
17732.700	52.79	-25.74	45.95	32.58	74.00	21.21	H
17512.700	52.71	-26.85	45.25	34.31	68.30	15.59	V
13556.000	51.41	-29.56	39.99	40.98	68.30	16.89	H
13624.800	50.95	-29.50	40.43	40.02	68.30	17.35	V

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)
17673.800	53.06	-25.74	45.95	32.85	68.30	15.24	H
17844.900	52.73	-25.50	46.66	31.57	74.00	21.27	V
11398.400	52.08	-32.42	38.79	45.71	74.00	21.92	V
11399.500	52.01	-32.42	38.79	45.64	74.00	21.99	V
5725.900	68.16	-27.07	34.31	60.92	68.30	0.14	H
5729.500	66.95	-27.07	34.31	59.71	68.30	1.35	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)
17804.200	52.96	-25.50	46.66	31.80	74.00	21.04	V
17973.600	52.43	-25.50	46.66	31.27	74.00	21.57	H
13554.400	51.29	-29.56	39.99	40.86	68.30	17.01	V
13559.900	50.25	-29.50	40.43	39.32	68.30	18.05	V
5148.800	65.81	-27.61	33.67	59.75	74.00	8.19	H
5149.900	65.22	-27.61	33.67	59.16	74.00	8.78	H

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)
17926.300	52.80	-25.50	46.66	31.64	74.00	21.20	H
17803.700	52.60	-25.50	46.66	31.44	74.00	21.40	H
13608.200	50.31	-29.50	40.43	39.38	68.30	17.99	H
13562.000	50.22	-29.50	40.43	39.29	68.30	18.08	V
11529.800	46.94	-32.26	38.84	40.37	74.00	27.06	V
11068.900	46.51	-32.49	38.72	40.27	74.00	27.49	H

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)
17775.000	52.65	-25.50	46.66	31.49	74.00	21.35	V
17417.000	52.55	-26.85	45.25	34.15	68.30	15.75	V
13650.000	50.95	-29.50	40.43	40.02	68.30	17.35	V
13684.100	50.47	-29.50	40.43	39.54	68.30	17.83	H
10545.900	48.26	-32.99	38.27	42.97	68.30	20.04	V
10533.800	48.08	-32.99	38.27	42.79	68.30	20.22	V

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)
17946.100	52.95	-25.50	46.66	31.79	74.00	21.05	V
17910.900	52.69	-25.50	46.66	31.53	74.00	21.31	V
13585.100	50.37	-29.50	40.43	39.44	68.30	17.93	V
13584.000	50.17	-29.50	40.43	39.24	68.30	18.13	H
5350.800	68.00	-27.43	34.01	61.42	74.00	6.00	H
5350.600	66.82	-27.43	34.01	60.24	74.00	7.18	H

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)
11042.500	57.10	-32.49	38.72	50.86	74.00	16.90	V
11022.100	56.33	-32.49	38.72	50.09	74.00	17.67	V
17536.900	52.81	-26.85	45.25	34.41	68.30	15.49	H
17925.200	52.75	-25.50	46.66	31.59	74.00	21.25	V
5458.800	62.05	-27.18	34.17	55.06	74.00	11.95	H
5467.100	66.93	-27.18	34.17	59.94	68.30	1.37	H

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)
11180.000	56.21	-32.60	38.75	50.07	74.00	17.79	V
11181.100	55.52	-32.60	38.75	49.38	74.00	18.48	V
17996.700	53.30	-25.50	46.66	32.14	74.00	20.70	H
17262.500	52.41	-25.95	44.35	34.00	68.30	15.89	H
13628.600	51.14	-29.50	40.43	40.21	68.30	17.16	H
13672.000	50.11	-29.50	40.43	39.18	68.30	18.19	H



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)
11339.500	52.71	-32.42	38.79	46.34	74.00	21.29	V
17976.300	52.35	-25.50	46.66	31.19	74.00	21.65	H
11342.800	52.24	-32.42	38.79	45.87	74.00	21.76	V
17711.200	52.20	-25.74	45.95	31.99	74.00	21.80	H
5725.000	67.31	-27.07	34.31	60.07	68.30	0.99	H
5726.000	66.75	-27.07	34.31	59.51	68.30	1.55	H

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)
17852.000	53.11	-25.50	46.66	31.95	74.00	20.89	V
17780.500	52.91	-25.50	46.66	31.75	74.00	21.09	H
13596.100	50.49	-29.50	40.43	39.56	68.30	17.81	H
13574.700	50.24	-29.50	40.43	39.31	68.30	18.06	V
5149.200	69.04	-27.61	33.67	62.98	74.00	4.96	H
5149.400	67.80	-27.61	33.67	61.74	74.00	6.20	H

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)
17398.800	52.97	-26.85	45.25	34.57	68.30	15.33	V
17840.500	52.36	-25.50	46.66	31.20	74.00	21.64	H
13654.500	50.14	-29.50	40.43	39.21	68.30	18.16	H
13599.500	49.91	-29.50	40.43	38.98	68.30	18.39	V
10970.500	46.77	-32.82	38.70	40.89	74.00	27.23	H
11921.400	46.68	-31.48	39.09	39.07	74.00	27.32	V

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)
17183.800	52.35	-26.60	43.36	35.59	68.30	15.95	V
17606.800	52.32	-25.74	45.95	32.11	68.30	15.98	V
13546.100	50.80	-29.56	39.99	40.37	68.30	17.50	H
13617.600	50.48	-29.50	40.43	39.55	68.30	17.82	V
10907.200	46.65	-32.82	38.70	40.77	74.00	27.35	H
11876.300	46.63	-31.85	39.05	39.43	74.00	27.37	H

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)
17937.300	52.66	-25.50	46.66	31.50	74.00	21.34	H
17864.700	52.59	-25.50	46.66	31.43	74.00	21.41	H
13740.200	51.23	-29.10	40.86	39.46	68.30	17.07	V
13726.500	50.48	-29.10	40.86	38.71	68.30	17.82	H
10515.600	48.72	-32.99	38.27	43.43	68.30	19.58	H
10518.400	48.54	-32.99	38.27	43.25	68.30	19.76	V

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)
17703.500	52.63	-25.74	45.95	32.42	74.00	21.37	V
17360.900	52.60	-25.95	44.35	34.19	68.30	15.70	H
13739.100	50.72	-29.10	40.86	38.95	68.30	17.58	H
10563.500	50.44	-32.99	38.27	45.15	68.30	17.86	V
13649.500	50.28	-29.50	40.43	39.35	68.30	18.02	H
10559.600	49.45	-32.99	38.27	44.16	68.30	18.85	V

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)
17864.200	53.08	-25.50	46.66	31.92	74.00	20.92	V
17968.700	53.07	-25.50	46.66	31.91	74.00	20.93	V
10637.700	50.16	-32.76	38.38	44.54	74.00	23.84	H
13781.000	50.11	-29.10	40.86	38.34	68.30	18.19	H
5350.300	69.14	-27.43	34.01	62.56	74.00	4.86	H
5350.400	68.87	-27.43	34.01	62.29	74.00	5.13	H

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)
10997.400	54.83	-32.82	38.70	48.95	74.00	19.17	V
10999.600	54.42	-32.82	38.70	48.54	74.00	19.58	V
17990.700	53.57	-25.50	46.66	32.41	74.00	20.43	H
17613.300	52.72	-25.74	45.95	32.51	68.30	15.58	V
5458.900	56.02	-27.18	34.17	49.03	74.00	17.98	H
5466.900	61.45	-27.18	34.17	54.46	68.30	6.85	H

Channel 120

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)
11199.800	55.78	-32.60	38.75	49.64	74.00	18.22	V
11199.200	55.10	-32.60	38.75	48.96	74.00	18.90	V
17981.800	53.17	-25.50	46.66	32.01	74.00	20.83	H
17800.900	52.81	-25.50	46.66	31.65	74.00	21.19	V
13656.100	50.66	-29.50	40.43	39.73	68.30	17.64	V
13654.500	50.48	-29.50	40.43	39.55	68.30	17.82	H

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)
17527.500	52.95	-26.85	45.25	34.55	68.30	15.35	V
17757.500	52.85	-25.50	46.66	31.69	74.00	21.15	V
11396.100	51.44	-32.42	38.79	45.07	74.00	22.56	V
14041.100	50.93	-29.44	41.66	38.71	68.30	17.37	V
5726.500	68.07	-27.07	34.31	60.83	68.30	0.23	V
5726.400	67.28	-27.07	34.31	60.04	68.30	1.02	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)
17523.200	52.71	-26.85	45.25	34.31	68.30	15.59	V
17522.600	52.63	-26.85	45.25	34.23	68.30	15.67	V
13537.900	50.55	-29.56	39.99	40.12	68.30	17.75	H
13812.300	50.03	-29.10	40.86	38.26	68.30	18.27	H
5149.900	72.37	-27.61	33.67	66.31	74.00	1.63	H
5149.600	71.25	-27.61	33.67	65.19	74.00	2.75	H

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)
17763.000	53.45	-25.50	46.66	32.29	74.00	20.55	H
17953.200	52.54	-25.50	46.66	31.38	74.00	21.46	H
13654.500	50.53	-29.50	40.43	39.60	68.30	17.77	H
13620.900	50.27	-29.50	40.43	39.34	68.30	18.03	H
11897.800	47.09	-31.85	39.05	39.89	74.00	26.91	H
11843.300	46.46	-31.85	39.05	39.26	74.00	27.54	V

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)
17996.200	53.87	-25.50	46.66	32.71	74.00	20.13	H
17932.300	53.24	-25.50	46.66	32.08	74.00	20.76	V
13741.900	50.63	-29.10	40.86	38.86	68.30	17.67	H
13614.900	50.58	-29.50	40.43	39.65	68.30	17.72	V
11458.300	47.38	-32.26	38.84	40.81	74.00	26.62	H
10548.600	47.04	-32.99	38.27	41.75	68.30	21.26	V

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)
17960.400	53.24	-25.50	46.66	32.08	74.00	20.76	H
17866.900	52.52	-25.50	46.66	31.36	74.00	21.48	H
13699.500	50.66	-29.10	40.86	38.89	68.30	17.64	V
13542.800	50.49	-29.56	39.99	40.06	68.30	17.81	H
5352.700	68.42	-27.43	34.01	61.84	74.00	5.58	H
5350.800	67.50	-27.43	34.01	60.92	74.00	6.50	H

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)
11014.500	53.27	-32.49	38.72	47.03	74.00	20.73	V
11021.600	53.16	-32.49	38.72	46.92	74.00	20.84	V
17640.800	52.70	-25.74	45.95	32.49	68.30	15.60	V
17998.300	52.62	-25.50	46.66	31.46	74.00	21.38	V
5457.800	62.05	-27.18	34.17	55.06	74.00	11.95	H
5469.800	66.13	-27.18	34.17	59.14	68.30	2.17	H

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)
11177.200	54.61	-32.60	38.75	48.47	74.00	19.39	V
11176.100	54.10	-32.60	38.75	47.96	74.00	19.90	V
17596.800	52.40	-25.74	45.95	32.19	68.30	15.90	V
17789.900	52.31	-25.50	46.66	31.15	74.00	21.69	H
13696.200	51.02	-29.10	40.86	39.25	68.30	17.28	H
13651.100	50.48	-29.50	40.43	39.55	68.30	17.82	H

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)
17909.200	52.63	-25.50	46.66	31.47	74.00	21.37	H
17753.000	52.36	-25.50	46.66	31.20	74.00	21.64	H
11339.000	52.32	-32.42	38.79	45.95	74.00	21.68	V
11339.500	51.14	-32.42	38.79	44.77	74.00	22.86	V
5733.200	62.17	-27.07	34.31	54.93	68.30	6.13	H
5725.600	62.16	-27.07	34.31	54.92	68.30	6.14	V

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)
17227.800	53.14	-25.95	44.35	34.73	68.30	15.16	V
17948.300	52.93	-25.50	46.66	31.77	74.00	21.07	H
13663.800	51.20	-29.50	40.43	40.27	68.30	17.10	H
13554.400	50.14	-29.56	39.99	39.71	68.30	18.16	V
5148.200	67.57	-27.61	33.67	61.51	74.00	6.43	H
5144.700	66.53	-27.61	33.67	60.47	74.00	7.47	H

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)
17609.000	53.04	-25.74	45.95	32.83	68.30	15.26	V
17797.600	52.76	-25.50	46.66	31.60	74.00	21.24	H
13723.200	50.73	-29.10	40.86	38.96	68.30	17.57	V
13647.300	50.33	-29.50	40.43	39.40	68.30	17.97	V
5351.300	70.59	-27.43	34.01	64.01	74.00	3.41	H
5362.900	69.93	-27.43	34.01	63.35	74.00	4.07	H

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)
17996.700	54.00	-25.50	46.66	32.84	74.00	20.00	H
17959.300	52.61	-25.50	46.66	31.45	74.00	21.39	V
11062.900	52.15	-32.49	38.72	45.91	74.00	21.85	V
11079.900	52.10	-32.49	38.72	45.86	74.00	21.90	V
5454.200	65.97	-27.18	34.17	58.98	74.00	8.03	H
5464.800	66.86	-27.18	34.17	59.87	68.30	1.44	H

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)
17710.200	52.87	-25.74	45.95	32.66	74.00	21.13	V
17221.200	52.67	-25.95	44.35	34.26	68.30	15.63	V
13663.800	50.69	-29.50	40.43	39.76	68.30	17.61	V
13801.300	50.33	-29.10	40.86	38.56	68.30	17.97	V
5729.700	63.73	-27.07	34.31	56.49	68.30	4.57	H
5729.200	61.83	-27.07	34.31	54.59	68.30	6.47	H

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 (dB μ V)	Result (dB μ V)		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 (dB μ V)	Result (dB μ V)		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.

Conclusion: PASS

Test graphs as below:

Traffic:

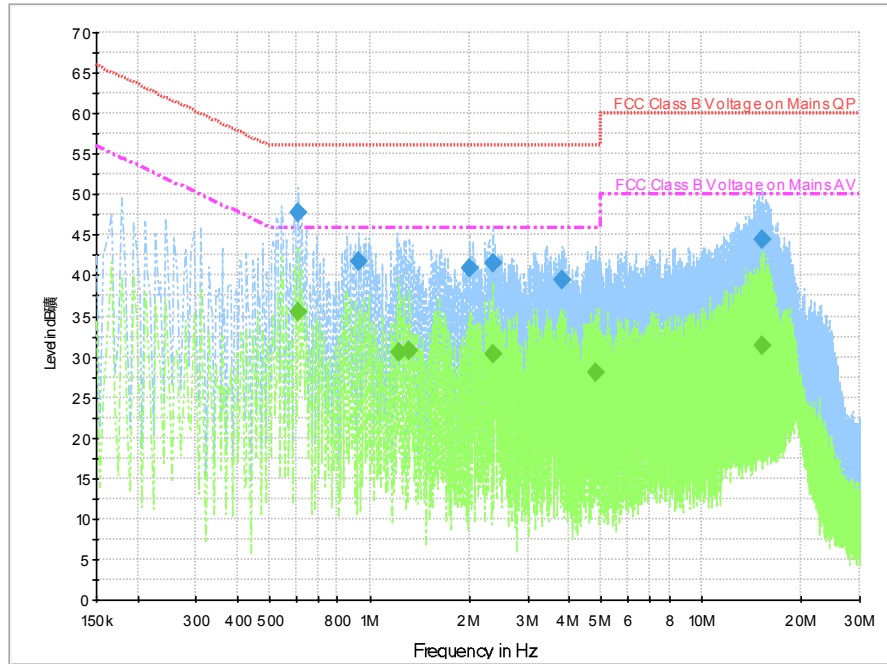


Fig.58 Conducted Emission (802.11a, Ch36, TX)

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.610000	47.9	5000.0	9.000	On	L1	19.7	8.1	56.0
0.926000	41.7	5000.0	9.000	On	L1	19.6	14.3	56.0
1.994000	40.8	5000.0	9.000	On	L1	19.4	15.2	56.0
2.346000	41.6	5000.0	9.000	On	L1	19.5	14.4	56.0
3.786000	39.4	5000.0	9.000	On	L1	19.5	16.6	56.0
15.186000	44.4	5000.0	9.000	On	L1	19.9	15.6	60.0

Final Result 2

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.610000	35.6	5000.0	9.000	On	L1	19.7	10.4	46.0
1.222000	30.6	5000.0	9.000	On	L1	19.5	15.4	46.0
1.322000	30.8	5000.0	9.000	On	L1	19.5	15.2	46.0
2.346000	30.4	5000.0	9.000	On	L1	19.5	15.6	46.0
4.822000	28.0	5000.0	9.000	On	L1	19.6	18.0	46.0
15.186000	31.4	5000.0	9.000	On	L1	19.9	18.6	50.0

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

Idle:

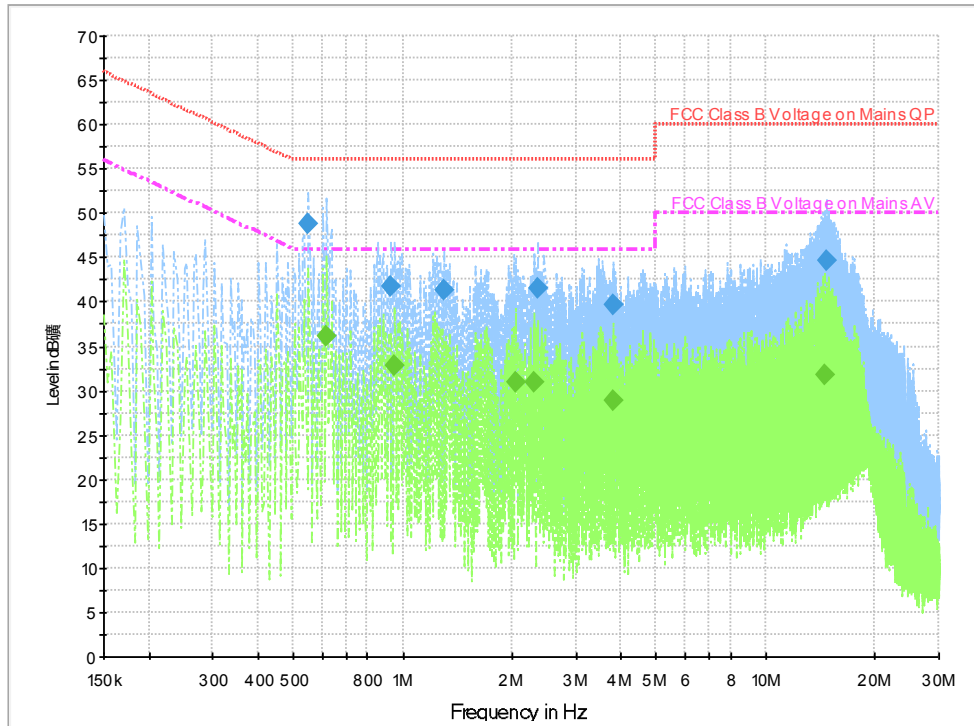


Fig.59 Conducted Emission(802.11a, IDLE)

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.550000	48.8	5000.0	9.000	On	L1	19.9	7.2	56.0
0.930000	41.7	5000.0	9.000	On	L1	19.6	14.3	56.0
1.294000	41.4	5000.0	9.000	On	L1	19.5	14.6	56.0
2.366000	41.6	5000.0	9.000	On	L1	19.5	14.4	56.0
3.818000	39.6	5000.0	9.000	On	L1	19.5	16.4	56.0
14.782000	44.7	5000.0	9.000	On	L1	19.8	15.3	60.0

Final Result 2

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.618000	36.0	5000.0	9.000	On	L1	19.7	10.0	46.0
0.950000	32.9	5000.0	9.000	On	L1	19.6	13.1	46.0
2.046000	30.9	5000.0	9.000	On	L1	19.5	15.1	46.0
2.310000	30.9	5000.0	9.000	On	L1	19.5	15.1	46.0
3.818000	28.9	5000.0	9.000	On	L1	19.5	17.1	46.0
14.594000	31.7	5000.0	9.000	On	L1	19.8	18.3	50.0

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% of the 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	17.74	P
	5200 MHz	Fig.61	17.62	P
	5240 MHz	Fig.62	17.70	P
802.11n HT20	5180 MHz	Fig.63	18.52	P
	5200 MHz	Fig.64	18.40	P
	5240 MHz	Fig.65	18.50	P
802.11n HT40	5190 MHz	Fig.66	36.32	P
	5230 MHz	Fig.67	36.39	P
802.11ac HT80	5210 MHz	Fig.68	75.39	P

Conclusion: PASS
Test graphs as below:

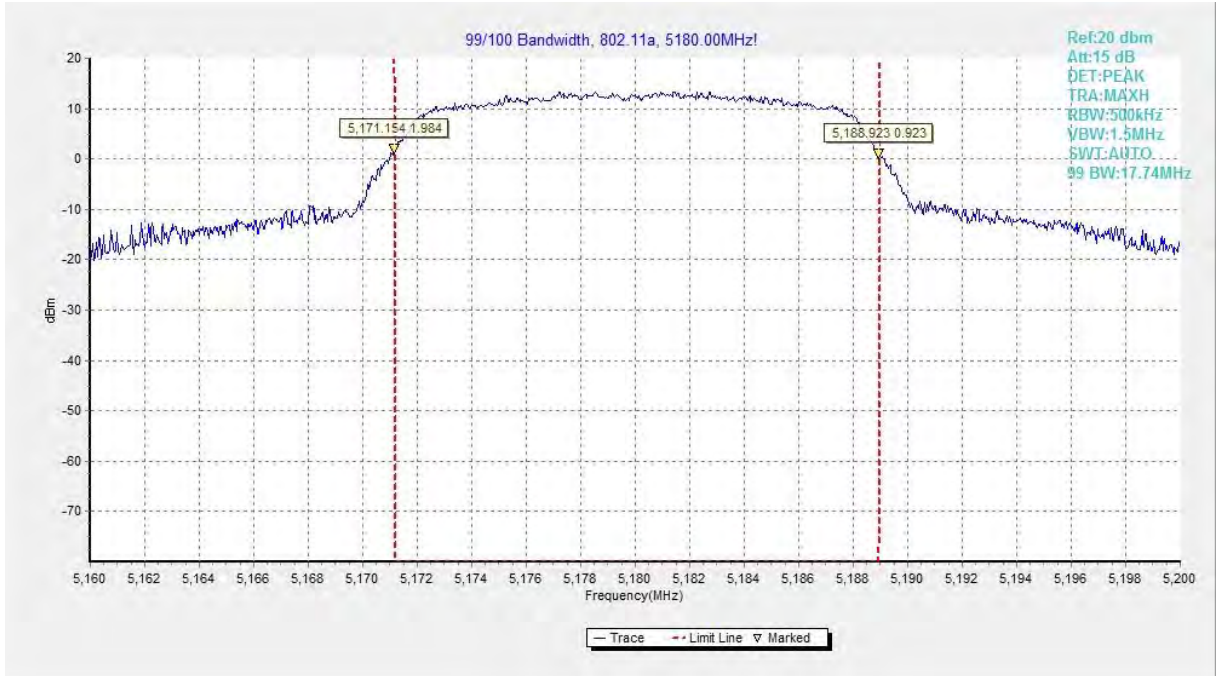


Fig.60 99% Occupied bandwidth (802.11a, 5180MHz)

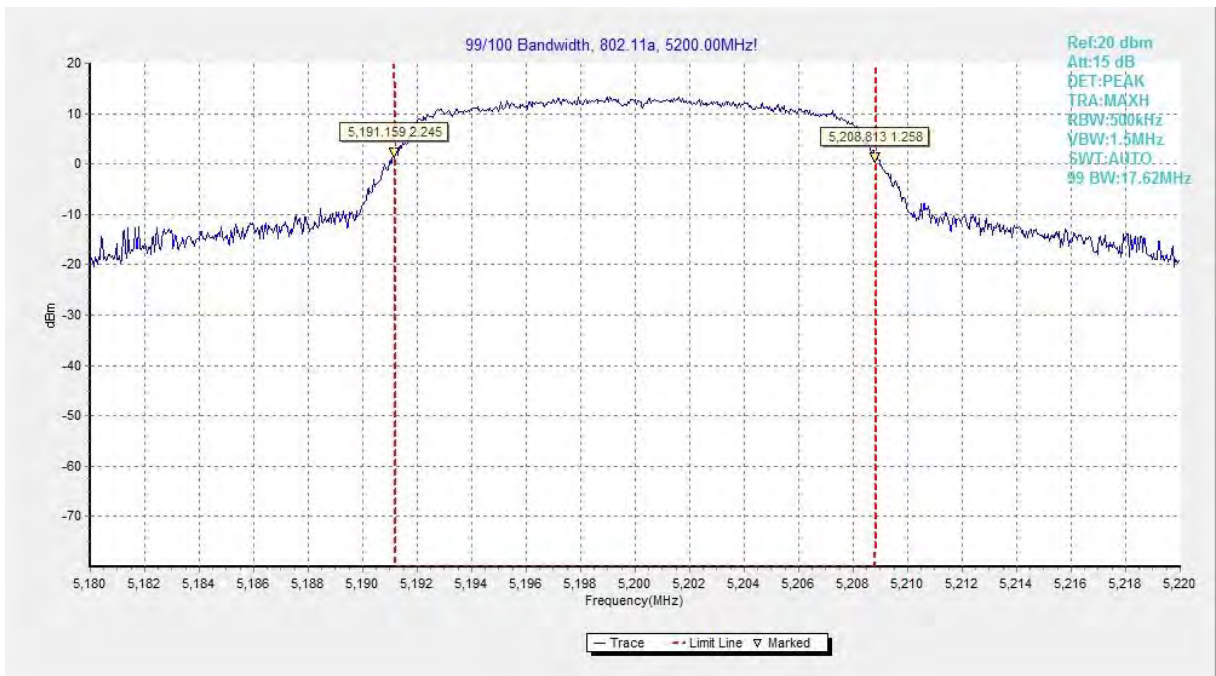


Fig.61 99% Occupied bandwidth (802.11a, 5200MHz)



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

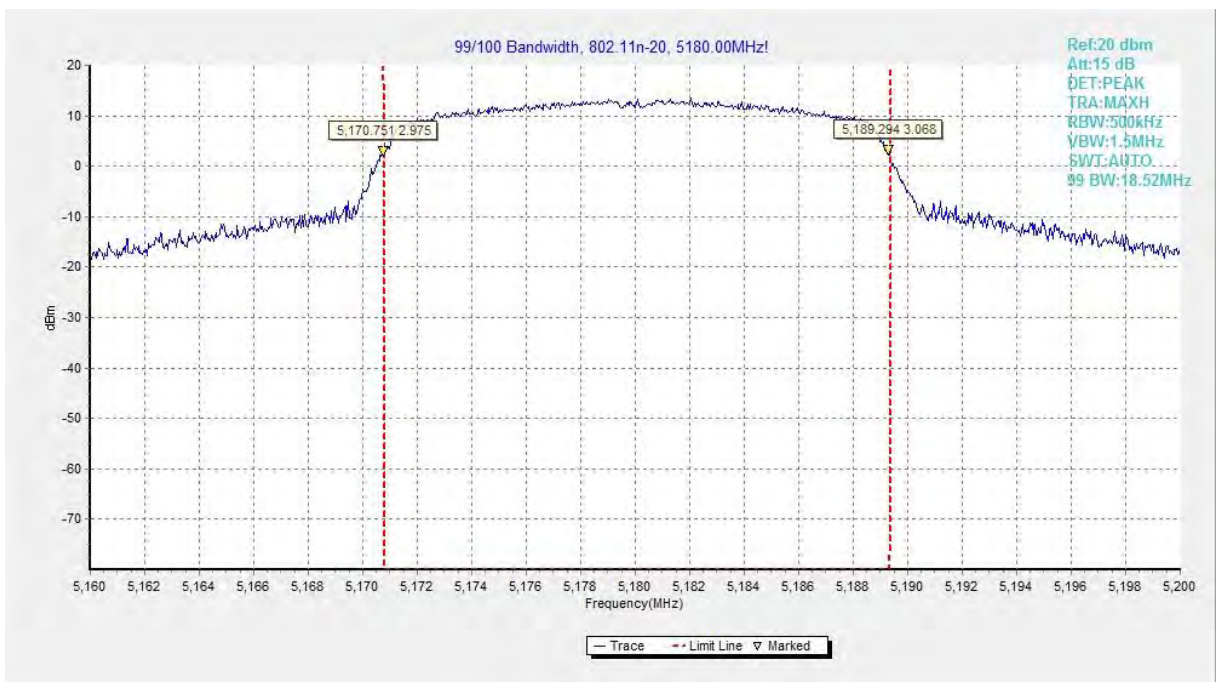


Fig.63 99% Occupied bandwidth (802.11n-HT20, 5180MHz)

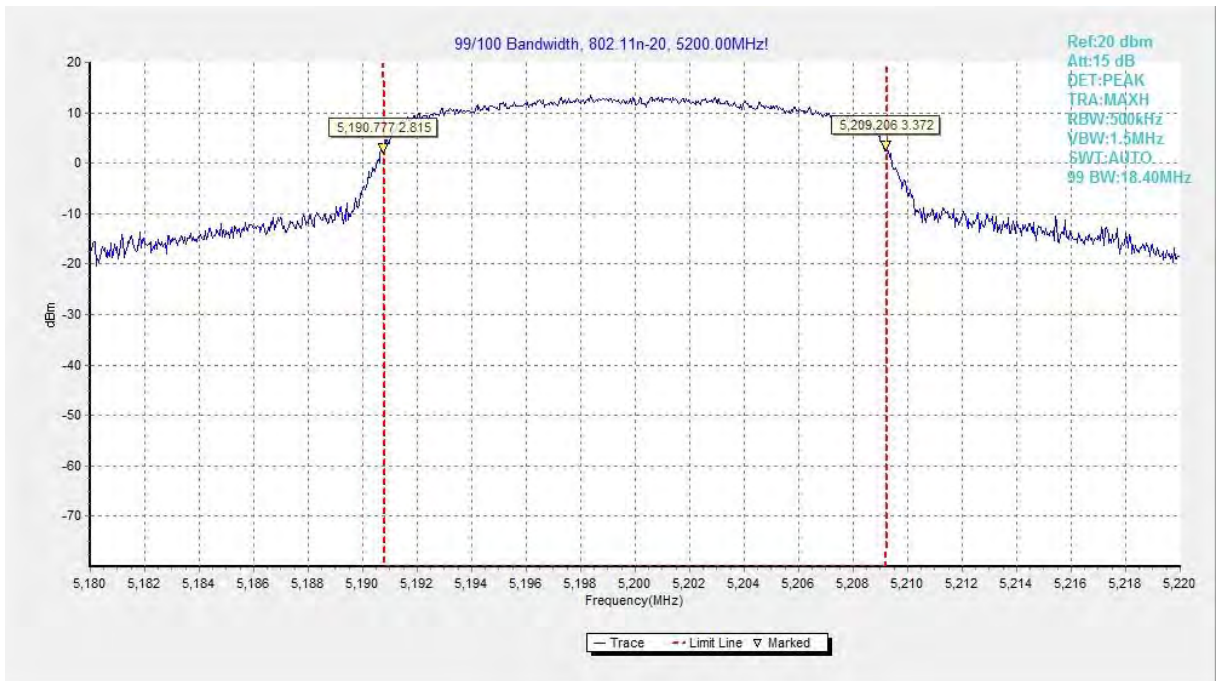


Fig.64 99% Occupied bandwidth (802.11n-HT20, 5200MHz)

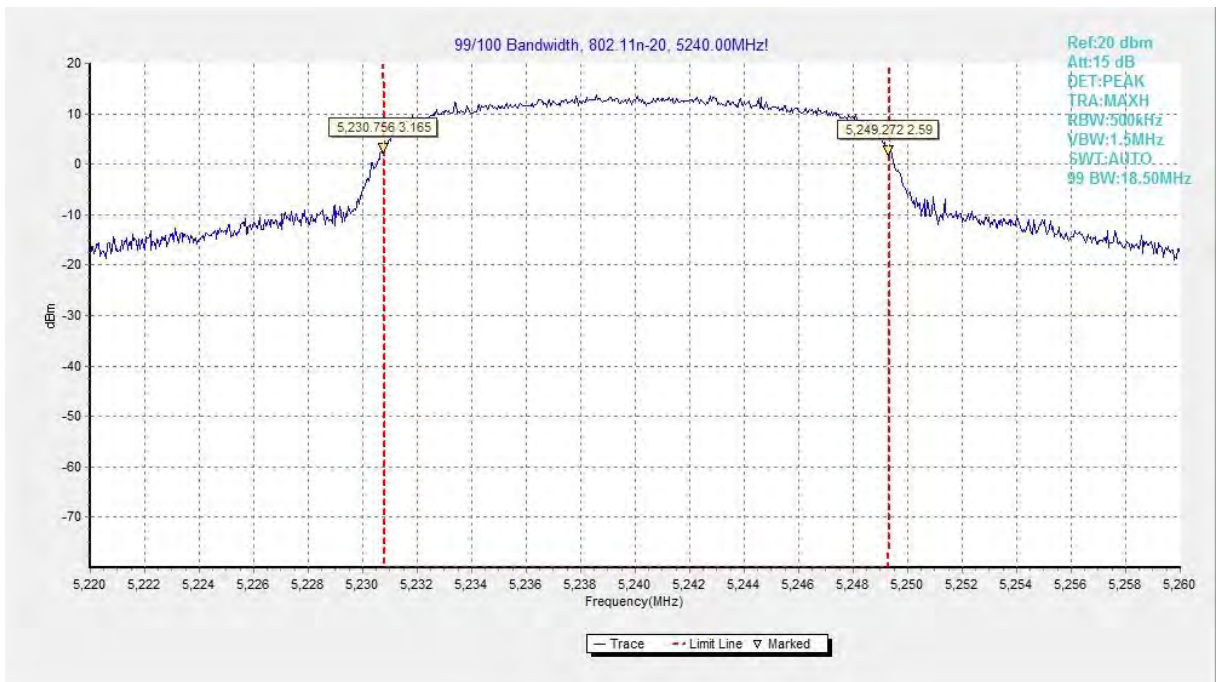


Fig.65 99% Occupied bandwidth (802.11n-HT20, 5240MHz)

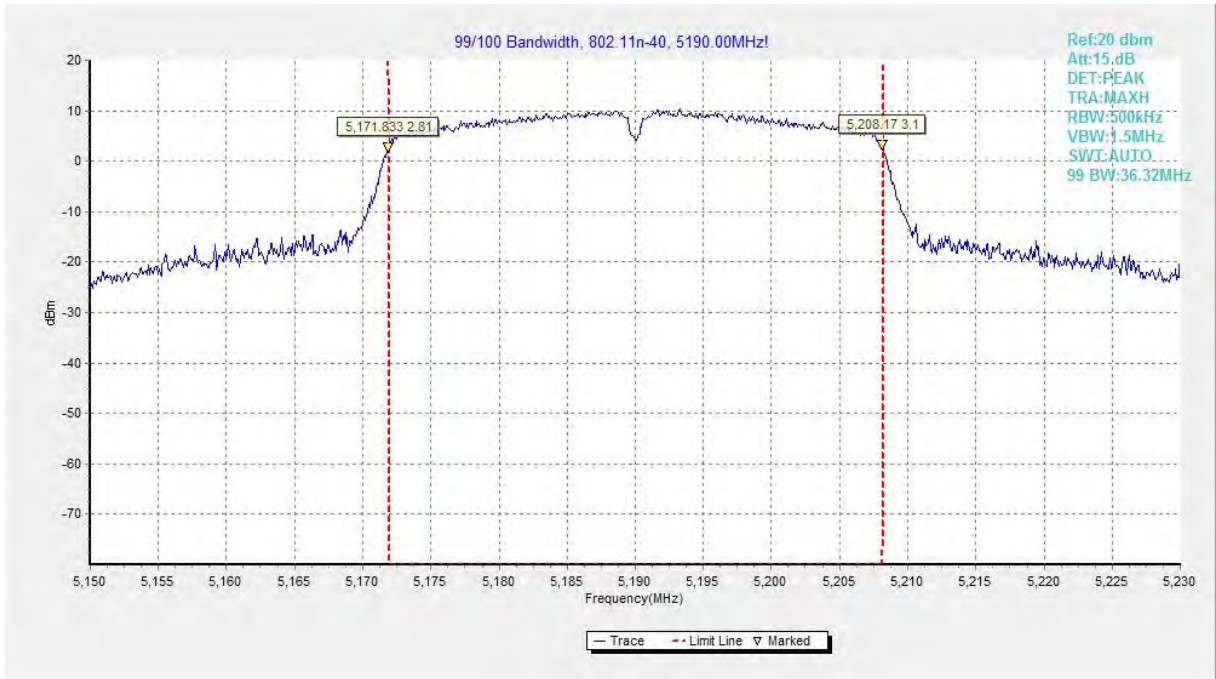


Fig.66 99% Occupied bandwidth (802.11n-HT40, 5190MHz)

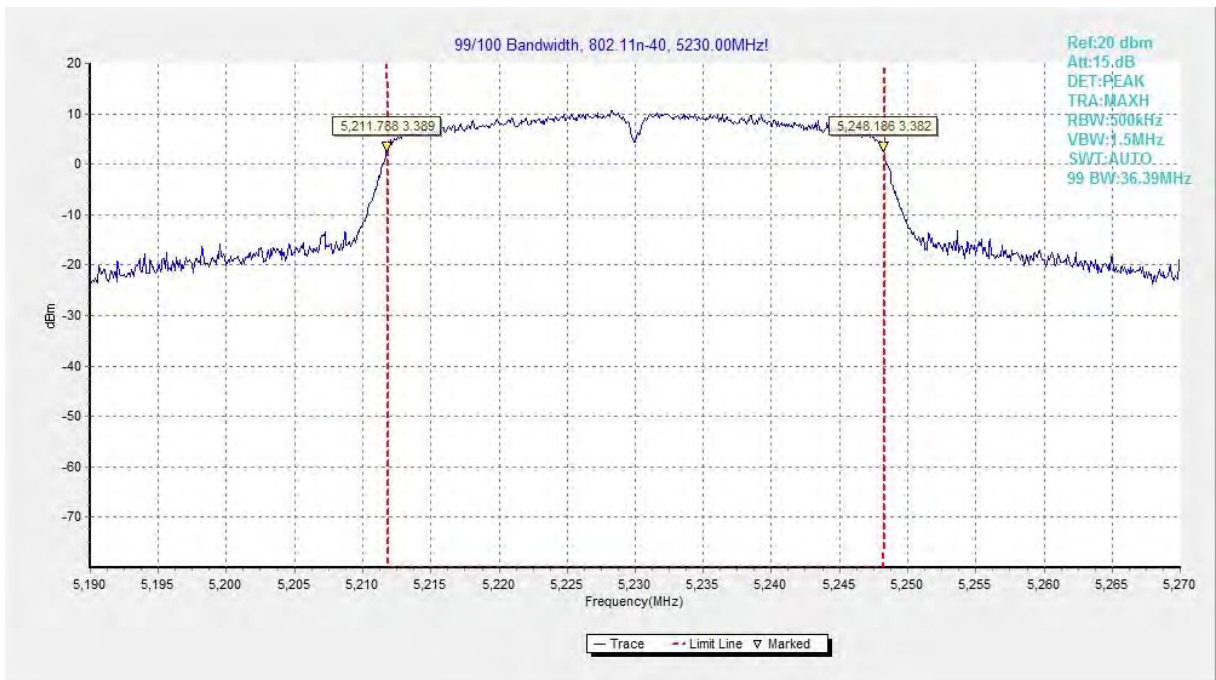


Fig.67 99% Occupied bandwidth (802.11n-HT40, 5230MHz)

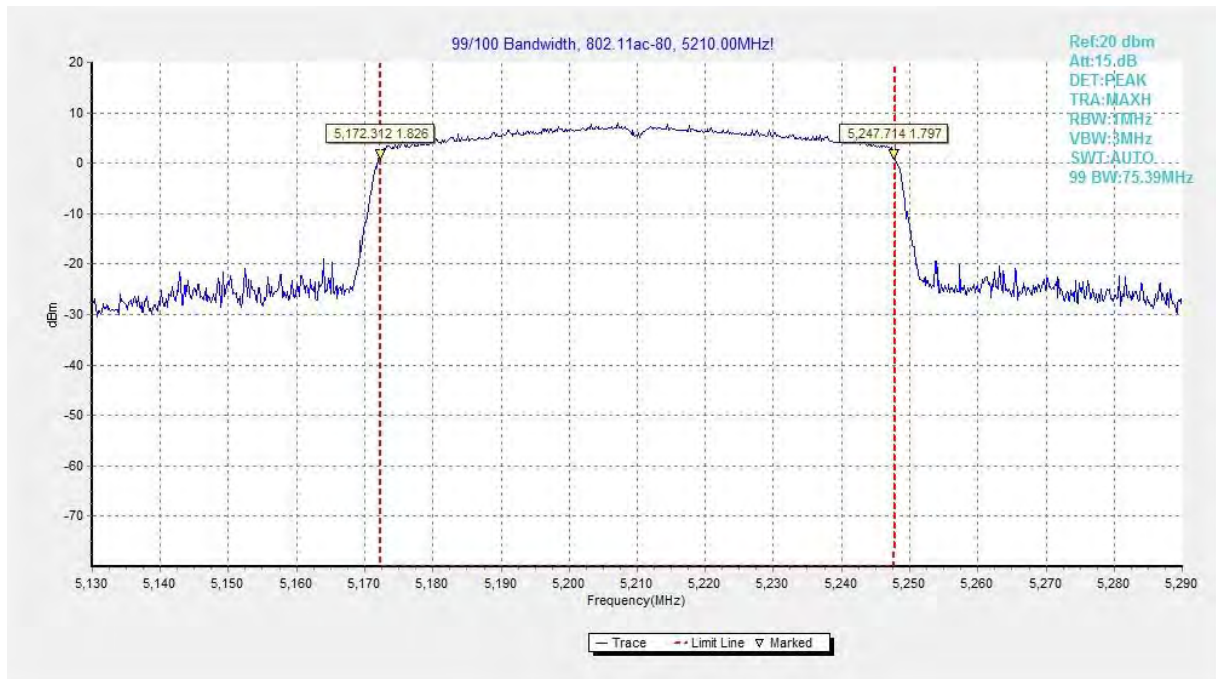


Fig.68 99% Occupied bandwidth (802.11ac-HT80, 5210MHz)

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 worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate

<p>United States Department of Commerce National Institute of Standards and Technology</p>  	
<hr/> Certificate of Accreditation to ISO/IEC 17025:2017 <hr/>	
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>	
2021-09-29 through 2023-09-30 <i>Effective Dates</i>	  <i>For the National Voluntary Laboratory Accreditation Program</i>

*** END OF REPORT BODY ***