FCC RF Test Report

APPLICANT	:	TP-LINK TECHNOLOGIES CO., LTD.
EQUIPMENT	:	AC1200 High Gain Wireless Dual Band USB Adapter
BRAND NAME	:	TP-LINK
MODEL NAME	:	T4UH
FCC ID	:	TE7T4UH
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Jul. 02, 2014 and testing was completed on Oct. 06, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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APPENDIX A. TEST RESULT OF RADIATED TEST RESULTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR470201B	Rev. 01	Initial issue of report	Oct. 24, 2014
FR470201B	Rev. 02	Revising maximum output power in section 1.4	Oct. 28, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	RSS-210 A9.2	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	RSS-210 A9.2	Maximum Conducted Output Power	≤ 17, 24, 30 dBm (depend on band)	Pass	-
3.3	15.407(a)	RSS-210 A9.2	Power Spectral Density	≤ 4, 11, 17 dBm (depend on band)	Pass	-
3.4	15.407(b)	RSS-210 A9.3	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 0.80 dB at 5725.000 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 11.20 dB at 0.150 MHz
3.7	15.407(g)	-	Frequency Stability	Within Operation Band	Pass	-
3.8	15.407(c)	RSS-210 A9.4	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.9	15.203 & 15.407(a)	RSS-210 A9.2	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

TP-LINK TECHNOLOGIES CO., LTD.
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

1.2 Manufacturer

TP-LINK TECHNOLOGIES CO., LTD.
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	AC1200 High Gain Wireless Dual Band USB Adapter
Brand Name	TP-LINK
Model Name	T4UH
FCC ID	TE7T4UH
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz
Maximum Output Power	**<5180 MHz ~ 5240 MHz>** **<Ant. 1>** 802.11a : 15.21 dBm / 0.0332 W **SISO <Ant. Port 1>** 802.11n HT20 : 15.36 dBm / 0.0344 W 802.11n HT40 : 16.81 dBm / 0.0480 W 802.11ac VHT20: 14.74 dBm / 0.0298 W 802.11ac VHT40: 16.93 dBm / 0.0493 W 802.11ac VHT80: 16.77 dBm / 0.0475 W **MIMO <Ant. Port 1 + 2>** 802.11n HT20 : 15.36 dBm / 0.0344 W 802.11n HT40 : 15.52 dBm / 0.0356 W 802.11ac VHT20: 14.43 dBm / 0.0277 W 802.11ac VHT40: 17.10 dBm / 0.0513 W 802.11ac VHT80: 19.83 dBm / 0.0962 W

Product Specification subjective to this standard	
Maximum Output Power	**<5260 MHz ~ 5320 MHz>** **<Ant. 1>** 802.11a : 17.93 dBm / 0.0621 W **SISO <Ant. Port 1>** 802.11n HT20 : 16.82 dBm / 0.0481 W 802.11n HT40 : 16.68 dBm / 0.0466 W 802.11ac VHT20: 16.65 dBm / 0.0462 W 802.11ac VHT40: 16.72 dBm / 0.0470 W 802.11ac VHT80: 16.75 dBm / 0.0473 W **MIMO <Ant. Port 1 + 2>** 802.11n HT20 : 19.80 dBm / 0.0955 W 802.11n HT40 : 19.79 dBm / 0.0953 W 802.11ac VHT20: 19.77 dBm / 0.0948 W 802.11ac VHT40: 19.78 dBm / 0.0951 W 802.11ac VHT80: 19.80 dBm / 0.0955 W **5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz** **<Ant. 1>** 802.11a : 17.92 dBm / 0.0619 W **SISO <Ant. Port 1>** 802.11n HT20 : 16.87 dBm / 0.0486 W 802.11n HT40 : 16.72 dBm / 0.0470 W 802.11ac VHT20: 16.74 dBm / 0.0472 W 802.11ac VHT40: 16.78 dBm / 0.0474 W 802.11ac VHT80: 16.60 dBm / 0.0457 W **MIMO <Ant. Port 1 + 2>** 802.11n HT20 : 19.92 dBm / 0.0982 W 802.11n HT40 : 19.81 dBm / 0.0957 W 802.11ac VHT20: 19.79 dBm / 0.0953 W 802.11ac VHT40: 19.79 dBm / 0.0953 W 802.11ac VHT80: 19.70 dBm / 0.0933 W

<table>
<tr><th colspan="2">Product Specification subjective to this standard</th></tr>
<tr><td>99% Occupied Bandwidth</td><td>802.11a : 18.55 MHz
802.11n HT20 : 18.95 MHz
802.11n HT40 : 37.10 MHz
802.11ac VHT20 : 19.10 MHz
802.11ac VHT40 : 37.20 MHz
802.11ac VHT80 : 76.44 MHz</td></tr>
<tr><td>Type of Modulation</td><td>802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)</td></tr>
<tr><td>Antenna Type</td><td>Antenna 1: Dipole Antenna
Antenna 2: Dipole Antenna</td></tr>
<tr><td>Antenna Gain</td><td>Antenna 1: 3.34 dBi
Antenna 2: 3.34 dBi</td></tr>
<tr><td>Antenna Function Description</td><td>
<table>
<tr><th></th><th>Chain
Port 1</th><th>Chain
Port 2</th></tr>
<tr><td>802.11 a</td><td>V</td><td>-</td></tr>
<tr><td>802.11 n/ac
SISO</td><td>V</td><td>-</td></tr>
<tr><td>802.11 n/ac
MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	**Sporton Site No.**		
	TH02-HY	CO05-HY	03CH09-HY

1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- ANSI C63.4-2003

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38	**5190**	**46**	**5230**
	40	5200	48	5240
	42	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54	**5270**	**62**	**5310**
	56	5280	64	5320
	58	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5600 MHz and 5650-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102	**5510**	116	5580
	104	5520	132	5660
	106	5530	**134**	**5670**
	108	5540	136	5680
	110	**5550**	140	5700

Note: The above Frequency and Channel in boldface were 802.11n HT40.

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test in the following tables.

<Ant. 1>

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	17.93	17.88	17.84	17.90	17.83	17.90	17.74	17.83

SISO <Ant. Port 1>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	16.87	16.74	16.69	16.76	16.83	16.67	16.72	16.64

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	16.81	16.76	16.71	16.70	16.77	16.73	16.69	16.74

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8
Average Power (dBm)	16.74	16.72	16.68	16.64	16.67	16.70	16.57	16.66	16.62

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	16.93	16.75	16.73	16.87	16.84	16.71	16.68	16.86	16.78	16.83

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	16.77	16.68	16.65	16.59	16.66	16.73	16.72	16.64	16.69	16.61

MIMO <Ant. 1+2>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**
Average Power (dBm)	**19.92**	19.81	19.79	19.72	19.79	19.69	19.74	19.76

5GHz 802.11n HT40 mode								
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**
Average Power (dBm)	**19.81**	19.61	19.60	19.70	19.57	19.64	19.62	19.69

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**
Average Power (dBm)	**19.79**	19.61	19.66	19.64	19.68	19.57	19.67	19.74	19.70

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**	**MCS 9**
Average Power (dBm)	**19.79**	19.68	19.62	19.67	19.67	19.66	19.60	19.71	19.71	19.67

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**	**MCS 9**
Average Power (dBm)	**19.83**	19.69	19.76	19.74	19.73	19.71	19.73	19.68	19.78	19.65

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

Test Cases				
	Test Items	Mode	Data rate	Test Channel
Conducted TCs	26dB and 99% BW Power Spectral Density	802.11a	6 Mbps	L/M/H
		802.11n HT20	MCS0/ MCS8	L/M/H
		802.11n HT40	MCS0/ MCS8	L/M/H
		802.11ac VHT20	MCS0	L/M/H
		802.11ac VHT40	MCS0	L/M/H
		802.11ac VHT80	MCS0	M
	20dB Occupied Bandwidth	802.11a	6 Mbps	H
		802.11n HT20	MCS0	H
		802.11n HT40	MCS0	H
		802.11ac VHT20	MCS0	H
		802.11ac VHT40	MCS0	H
		802.11ac VHT80	MCS0	H
	Output Power	802.11a	6 Mbps	L/M/H
		802.11n HT20	MCS0/ MCS8	L/M/H
		802.11n HT40	MCS0/ MCS8	L/M/H
		802.11ac VHT20	MCS0	L/M/H
		802.11ac VHT40	MCS0	L/M/H
		802.11ac VHT80	MCS0	M
	Peak Excursion	802.11a	6 Mbps	L
		802.11n HT20	MCS0	L
		802.11n HT40	MCS0	L
		802.11ac VHT20	MCS0	L
		802.11ac VHT40	MCS0	L
		802.11ac VHT80	MCS0	L
	Frequency Stability	802.11a	6 Mbps	L/M/H

Test Cases				
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	L/H
		802.11n HT20	MCS0/ MCS8	L/H
		802.11n HT40	MCS0/ MCS8	L/H
		802.11ac VHT80	MCS0	M
	Radiated Spurious Emission	802.11a	6 Mbps	L/M/H
		802.11n HT20	MCS0/ MCS8	L/M/H
		802.11n HT40	MCS0/ MCS8	L/M/H
		802.11ac VHT80	MCS0	M
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + USB Cable (Charging from Notebook)			

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

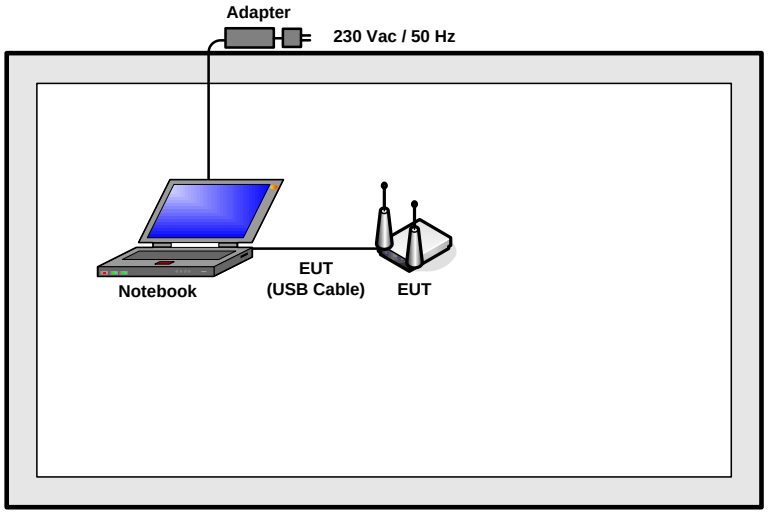
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

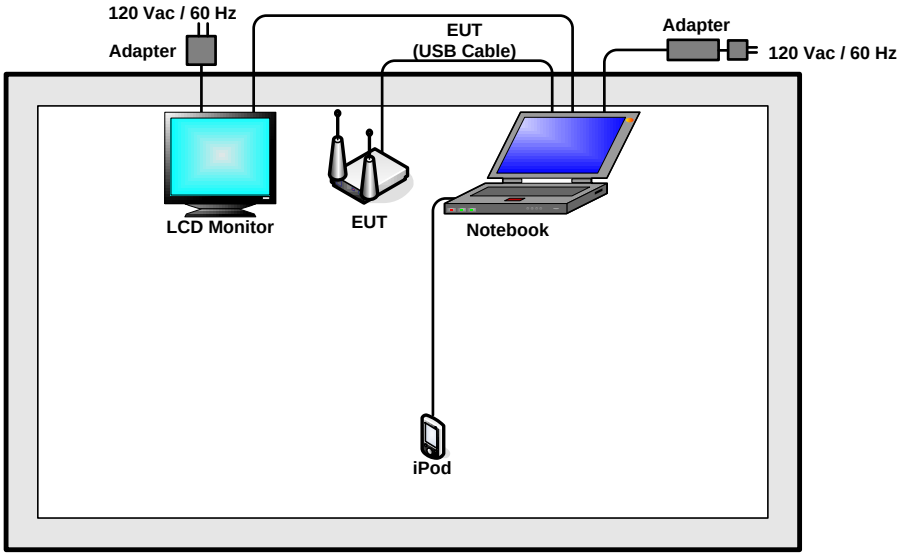
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
3.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m

2.6 EUT Operation Test Setup

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

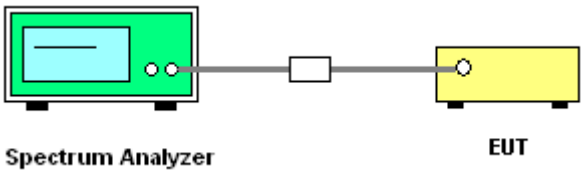
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Test Band :	5GHz band 1,2,3	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)		26 Bandwidth (MHz)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	1	36	5180	18.00	-	24.10	-	22.55	-	16.99	-
11a	6Mbps	1	44	5220	17.95	-	24.00	-	22.54	-	16.99	-
11a	6Mbps	1	48	5240	17.95	-	23.85	-	22.54	-	16.99	-
HT20	MCS0	1	36	5180	18.70	-	24.35	-	22.72	-	16.99	-
HT20	MCS0	1	44	5220	18.75	-	24.45	-	22.73	-	16.99	-
HT20	MCS0	1	48	5240	18.70	-	24.50	-	22.72	-	16.99	-
HT40	MCS0	1	38	5190	36.90	-	45.54	-	23.01	-	16.99	-
HT40	MCS0	1	46	5230	37.00	-	45.54	-	23.01	-	16.99	-
VHT20	MCS0	1	36	5180	18.70	-	24.50	-	22.72	-	16.99	-
VHT20	MCS0	1	44	5220	18.65	-	24.40	-	22.71	-	16.99	-
VHT20	MCS0	1	48	5240	18.75	-	24.45	-	22.73	-	16.99	-
VHT40	MCS0	1	38	5190	37.00	-	45.18	-	23.01	-	16.99	-
VHT40	MCS0	1	46	5230	36.90	-	45.27	-	23.01	-	16.99	-
VHT80	MCS0	1	42	5210	76.44	-	85.44	-	23.01	-	16.99	-

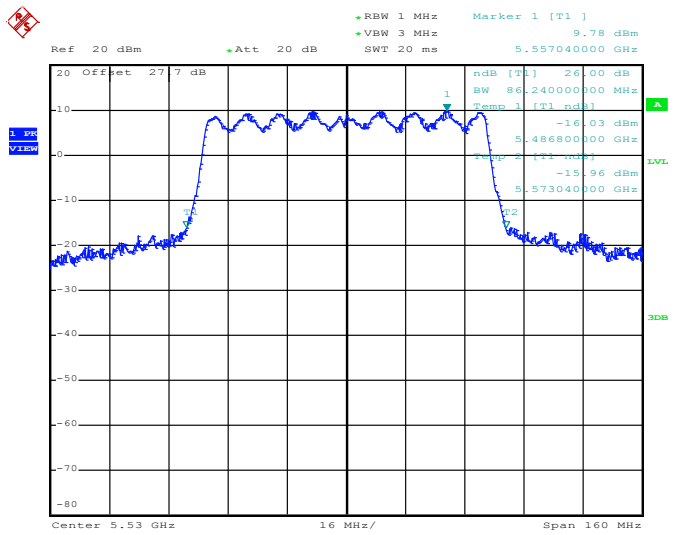
Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)	
					Ant 1	Ant 1	Ant 2	Ant 1	Ant 1	Ant 2	Ant 1	Ant 2
HT20	MCS0	2	36	5180	18.60	18.60	23.30	23.55	22.70		23.01	
HT20	MCS0	2	44	5220	18.60	18.55	23.45	23.50	22.68		23.01	
HT20	MCS0	2	48	5240	18.50	18.60	23.50	23.40	22.67		23.01	
HT40	MCS0	2	38	5190	36.80	36.90	45.18	45.09	23.01		23.01	
HT40	MCS0	2	46	5230	36.90	36.70	44.64	44.91	23.01		23.01	
VHT20	MCS0	2	36	5180	18.60	18.55	23.45	23.45	22.68		23.01	
VHT20	MCS0	2	44	5220	18.60	18.65	23.50	23.50	22.70		23.01	
VHT20	MCS0	2	48	5240	18.55	18.50	23.55	23.60	22.67		23.01	
VHT40	MCS0	2	38	5190	36.90	36.80	44.91	44.82	23.01		23.01	
VHT40	MCS0	2	46	5230	36.80	36.80	45.00	45.09	23.01		23.01	
VHT80	MCS0	2	42	5210	75.36	75.36	82.08	83.04	23.01		23.01	

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	1	52	5260	18.25	-	26.30	-	29.61	-	23.98	-
11a	6Mbps	1	60	5300	18.20	-	25.05	-	29.60	-	23.98	-
11a	6Mbps	1	64	5320	18.15	-	26.60	-	29.59	-	23.98	-
HT20	MCS0	1	52	5260	18.95	-	24.85	-	29.78	-	23.98	-
HT20	MCS0	1	60	5300	18.80	-	24.50	-	29.74	-	23.98	-
HT20	MCS0	1	64	5320	18.75	-	24.75	-	29.73	-	23.98	-
HT40	MCS0	1	54	5270	37.00	-	45.54	-	30.00	-	23.98	-
HT40	MCS0	1	62	5310	37.00	-	45.54	-	30.00	-	23.98	-
VHT20	MCS0	1	52	5260	18.85	-	24.50	-	29.75	-	23.98	-
VHT20	MCS0	1	60	5300	18.75	-	24.50	-	29.73	-	23.98	-
VHT20	MCS0	1	64	5320	18.85	-	24.85	-	29.75	-	23.98	-
VHT40	MCS0	1	54	5270	36.90	-	45.54	-	30.00	-	23.98	-
VHT40	MCS0	1	62	5310	37.00	-	45.18	-	30.00	-	23.98	-
VHT80	MCS0	1	58	5290	76.32	-	85.28	-	30.00	-	23.98	-
HT20	MCS8	2	52	5260	18.55	18.55	23.65	23.55	29.68		23.98	
HT20	MCS8	2	60	5300	18.55	18.55	23.55	23.40	29.68		23.98	
HT20	MCS8	2	64	5320	18.65	18.65	23.60	23.55	29.71		23.98	
HT40	MCS8	2	54	5270	36.70	37.00	45.18	45.09	30.00		23.98	
HT40	MCS8	2	62	5310	36.80	36.80	45.09	45.00	30.00		23.98	
VHT20	MCS0	2	52	5260	18.65	18.65	23.60	23.50	29.71		23.98	
VHT20	MCS0	2	60	5300	18.55	18.55	23.75	23.45	29.68		23.98	
VHT20	MCS0	2	64	5320	18.60	18.65	23.70	23.55	29.70		23.98	
VHT40	MCS0	2	54	5270	36.80	37.10	45.18	45.18	30.00		23.98	
VHT40	MCS0	2	62	5310	36.80	36.80	45.00	44.91	30.00		23.98	
VHT80	MCS0	2	58	5290	75.36	75.48	82.08	83.04	30.00		23.98	

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	1	100	5500	18.20	-	25.15	-	29.60	-	23.98	-
11a	6Mbps	1	116	5580	18.35	-	29.30	-	29.64	-	23.98	-
11a	6Mbps	1	140	5700	18.55	-	30.75	-	29.68	-	23.98	-
HT20	MCS0	1	100	5500	18.80	-	24.65	-	29.74	-	23.98	-
HT20	MCS0	1	116	5580	18.85	-	25.00	-	29.75	-	23.98	-
HT20	MCS0	1	140	5700	18.90	-	25.90	-	29.76	-	23.98	-
HT40	MCS0	1	102	5510	37.00	-	45.36	-	30.00	-	23.98	-
HT40	MCS0	1	110	5550	36.90	-	45.81	-	30.00	-	23.98	-
HT40	MCS0	1	134	5670	37.10	-	46.17	-	30.00	-	23.98	-
VHT20	MCS0	1	100	5500	18.95	-	24.50	-	29.78	-	23.98	-
VHT20	MCS0	1	116	5580	18.95	-	25.25	-	29.78	-	23.98	-
VHT20	MCS0	1	140	5700	19.10	-	27.50	-	29.81	-	23.98	-
VHT40	MCS0	1	102	5510	36.90	-	45.27	-	30.00	-	23.98	-
VHT40	MCS0	1	110	5550	37.10	-	45.45	-	30.00	-	23.98	-
VHT40	MCS0	1	134	5670	37.20	-	47.25	-	30.00	-	23.98	-
VHT80	MCS0	1	106	5530	76.32	-	86.24	-	30.00	-	23.98	-

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
HT20	MCS8	2	100	5500	18.60	18.55	23.45	23.55	29.68		23.98	
HT20	MCS8	2	116	5580	18.65	18.65	23.65	23.30	29.71		23.98	
HT20	MCS8	2	140	5700	18.65	18.70	23.75	24.35	29.71		23.98	
HT40	MCS8	2	102	5510	36.80	36.80	45.09	45.45	30.00		23.98	
HT40	MCS8	2	110	5550	36.90	36.90	45.09	44.46	30.00		23.98	
HT40	MCS8	2	134	5670	37.10	36.90	45.54	45.36	30.00		23.98	
VHT20	MCS0	2	100	5500	18.65	18.65	23.65	23.55	29.71		23.98	
VHT20	MCS0	2	116	5580	18.70	18.70	23.65	23.40	29.72		23.98	
VHT20	MCS0	2	140	5700	18.65	18.75	23.85	25.45	29.71		23.98	
VHT40	MCS0	2	102	5510	36.80	36.90	45.18	45.18	30.00		23.98	
VHT40	MCS0	2	110	5550	36.90	36.80	45.36	45.00	30.00		23.98	
VHT40	MCS0	2	134	5670	36.90	36.80	45.18	45.00	30.00		23.98	
VHT80	MCS0	2	106	5530	75.36	75.36	81.92	82.88	30.00		23.98	

Maximum 26dB Bandwidth



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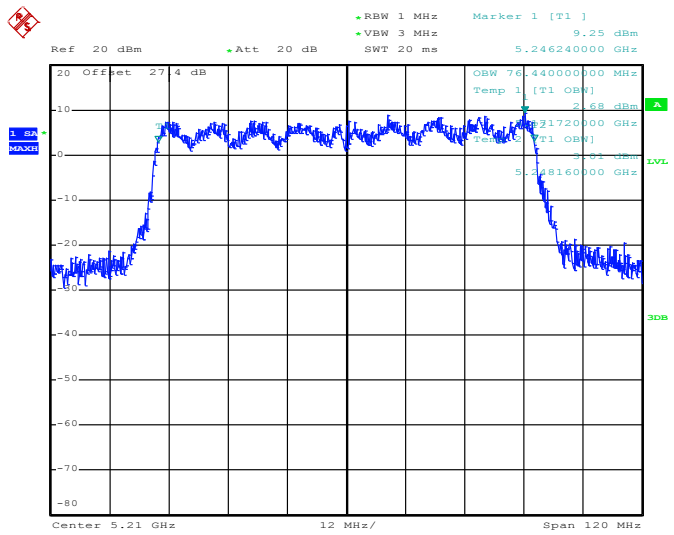
Maximum 99% Occupied Bandwidth



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Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.1.6 Test Result of 20dB Occupied Bandwidth

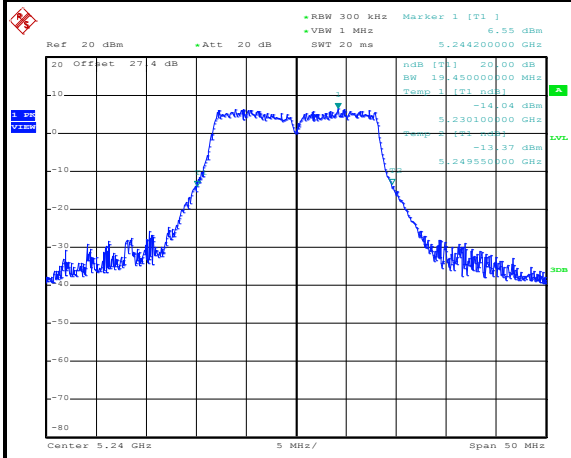
Mod.	Data Rate	NTX	Channel	Freq. (MHz)	20dB Bandwidth (MHz)		20dB Bandwidth Upper Frequency (FH) (MHz)		Upper Limit Line (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	48	5240	19.45	-	5249.55	-	5250	Pass
HT20	MCS0	1	48	5240	19.90	-	5249.90	-		Pass
HT40	MCS0	1	46	5230	40.05	-	5249.98	-		Pass
VHT20	MCS0	1	48	5240	19.75	-	5249.95	-		Pass
VHT40	MCS0	1	46	5230	39.87	-	5249.89	-		Pass
VHT80	MCS0	1	42	5210	79.04	-	5249.68	-		Pass
HT20	MCS8	2	48	5240	19.70	-	5249.80	-		Pass
HT40	MCS8	2	46	5230	38.79	-	5249.44	-		Pass
VHT20	MCS0	2	48	5240	19.75	-	5249.80	-		Pass
VHT40	MCS0	2	46	5230	38.79	-	5249.35	-		Pass
VHT80	MCS0	2	42	5210	77.92	-	5249.04	-		Pass

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	20dB Bandwidth (MHz)		20dB Bandwidth Upper Frequency (FH) (MHz)		Upper Limit Line (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	19.45	-	5250.15	-	5250	Pass
HT20	MCS0	1	52	5260	19.90	-	5250.10	-		Pass
HT40	MCS0	1	54	5270	39.42	-	5250.20	-		Pass
VHT20	MCS0	1	52	5260	19.70	-	5250.05	-		Pass
VHT40	MCS0	1	54	5270	39.69	-	5250.02	-		Pass
VHT80	MCS0	1	58	5290	79.68	-	5250.16	-		Pass
HT20	MCS8	2	52	5260	19.55	-	5250.20	-		Pass
HT40	MCS8	2	54	5270	39.15	-	5250.47	-		Pass
VHT20	MCS0	2	52	5260	19.75	-	5250.10	-		Pass
VHT40	MCS0	2	54	5270	38.88	-	5250.47	-		Pass
VHT80	MCS0	2	58	5290	77.92	-	5251.12	-		Pass

Mod.	Data Rate	NTX	Channel	Freq. (MHz)	20dB Bandwidth (MHz)		20dB Bandwidth Upper Frequency (FH) (MHz)		Upper Limit Line (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	132	5660	19.20	-	5650.35	-	5650	Pass
HT20	MCS0	1	132	5660	20.10	-	5650.05	-		Pass
HT40	MCS0	1	134	5670	39.96	-	5650.11	-		Pass
VHT20	MCS0	1	132	5660	20.00	-	5650.05	-		Pass
VHT40	MCS0	1	134	5670	39.96	-	5650.02	-		Pass
HT20	MCS0	2	132	5660	19.75	-	5650.15	-		Pass
HT40	MCS0	2	134	5670	38.97	-	5650.47	-		Pass
VHT20	MCS0	2	132	5660	19.85	-	5650.10	-		Pass
VHT40	MCS0	2	134	5670	39.15	-	5650.47	-		Pass

20dB Occupied Bandwidth

802.11a CH48 5240MHz



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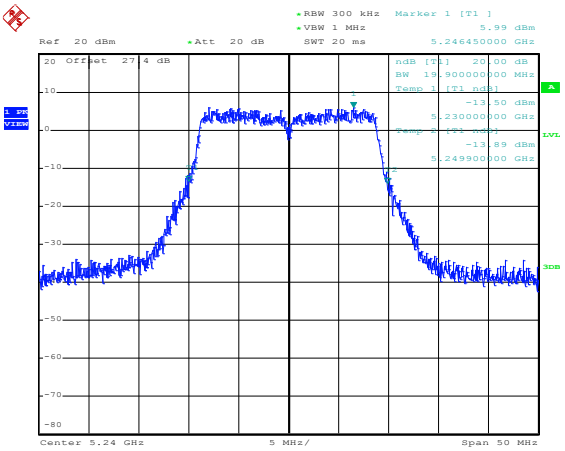
802.11n HT20 CH48 5240MHz



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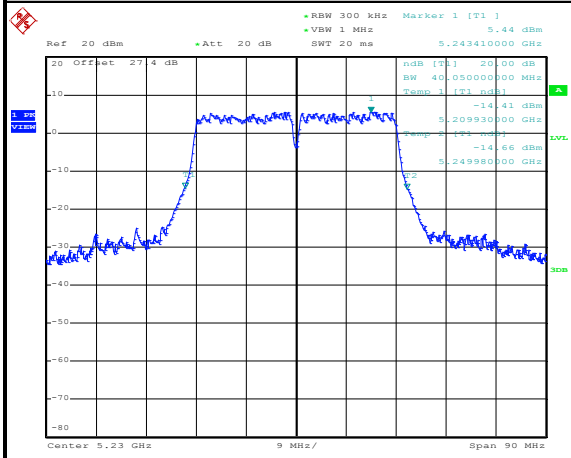
802.11n HT40 CH46 5230MHz



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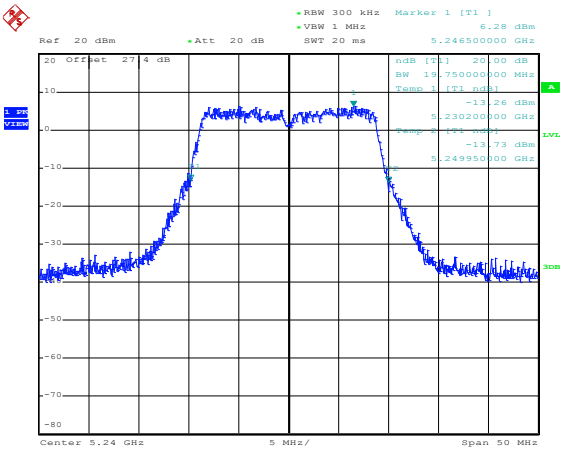
802.11ac VHT20 CH48 5240MHz



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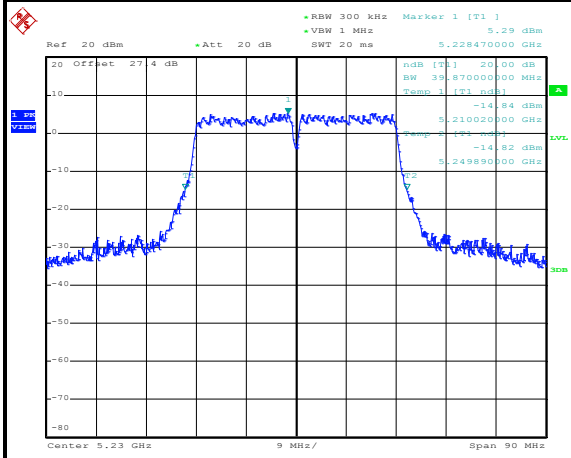
20dB Occupied Bandwidth

802.11ac VHT40 CH46 5230MHz



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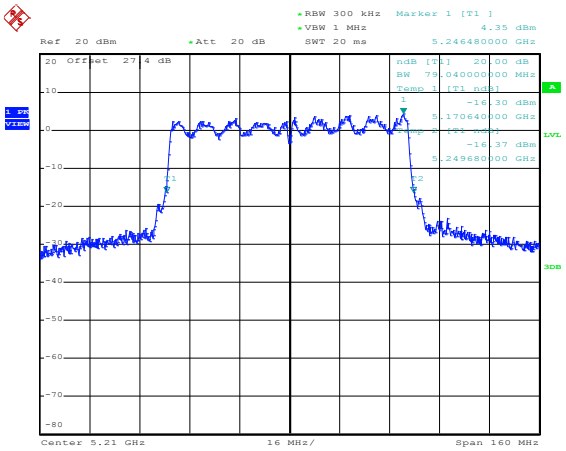
802.11ac VHT80 CH42 5210MHz



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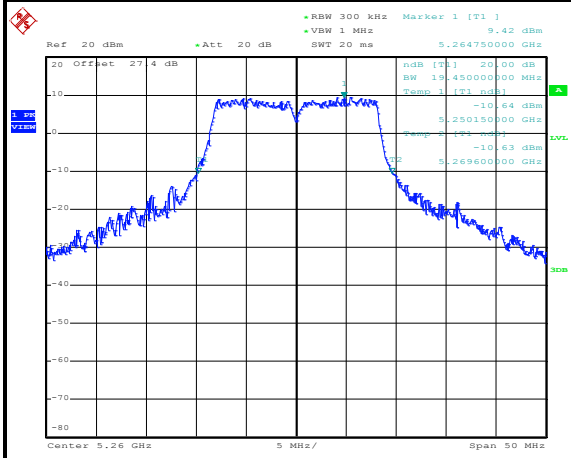
20dB Occupied Bandwidth

802.11a CH52 5260MHz



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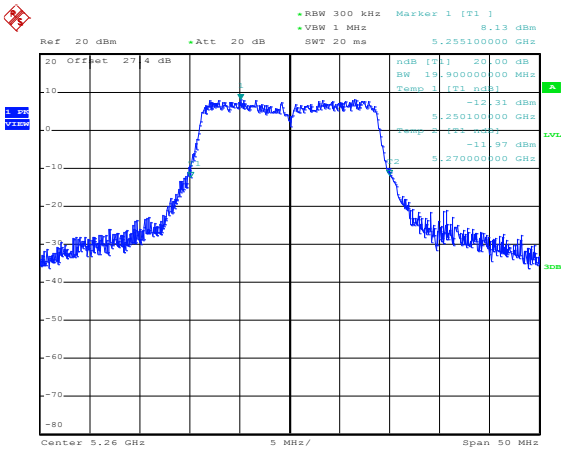
802.11n HT20 CH52 5260MHz



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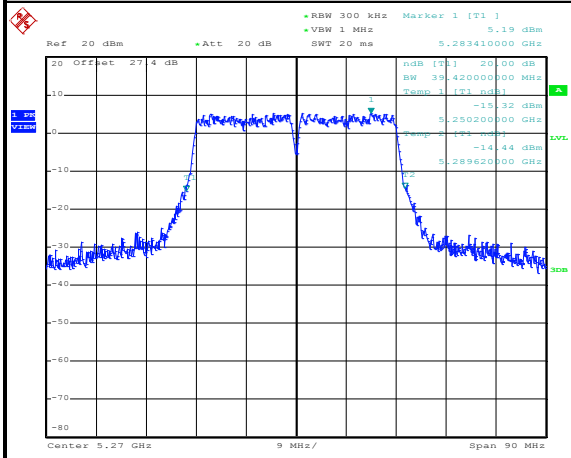
802.11n HT40 CH54 5270MHz



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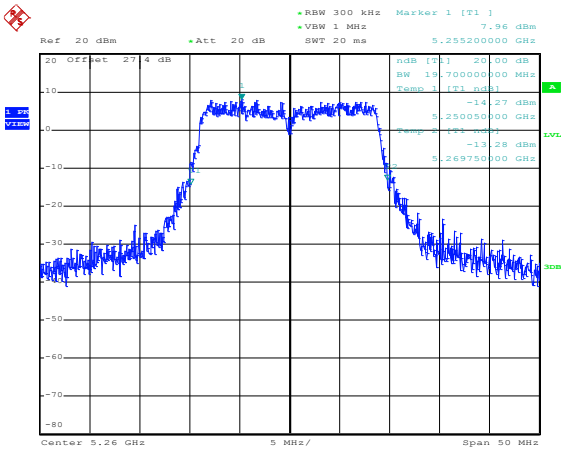
802.11ac VHT20 CH52 5260MHz



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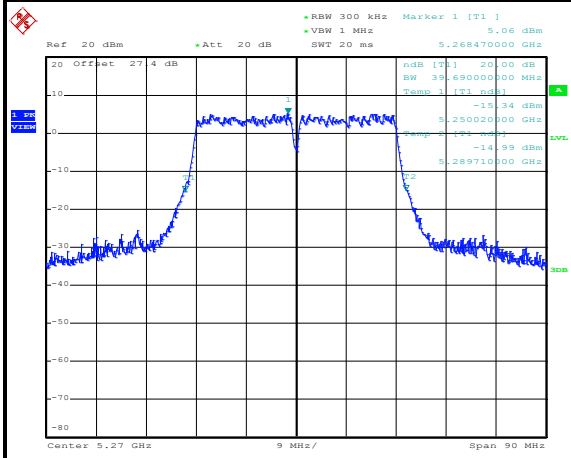
20dB Occupied Bandwidth

802.11ac VHT40 CH54 5270MHz



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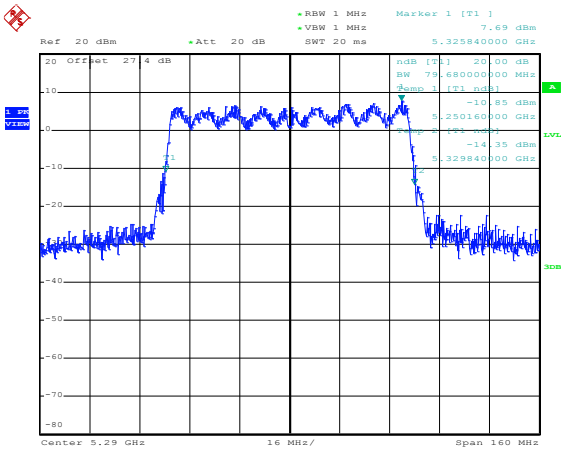
802.11ac VHT80 CH58 5290MHz



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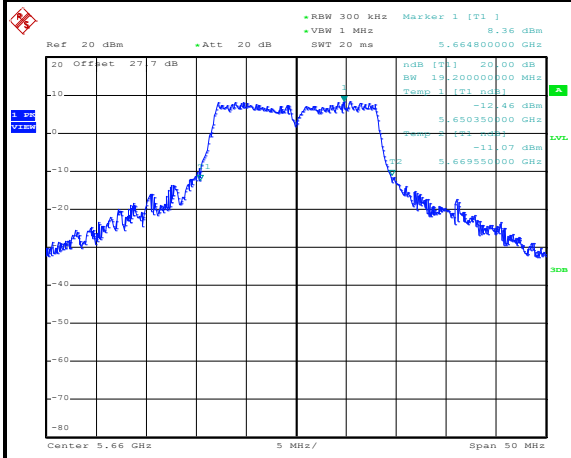
20dB Occupied Bandwidth

802.11a CH132 5660MHz



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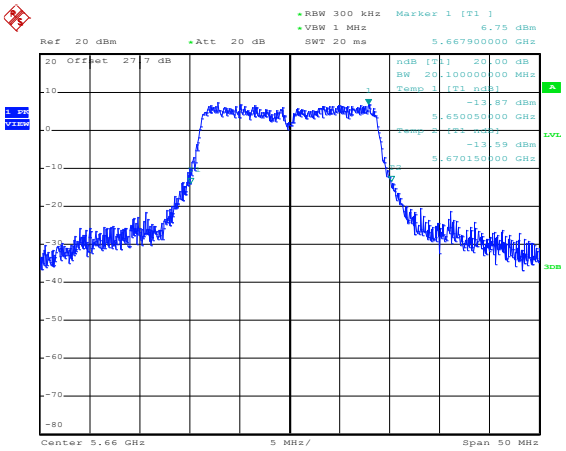
802.11n HT20 CH132 5660MHz



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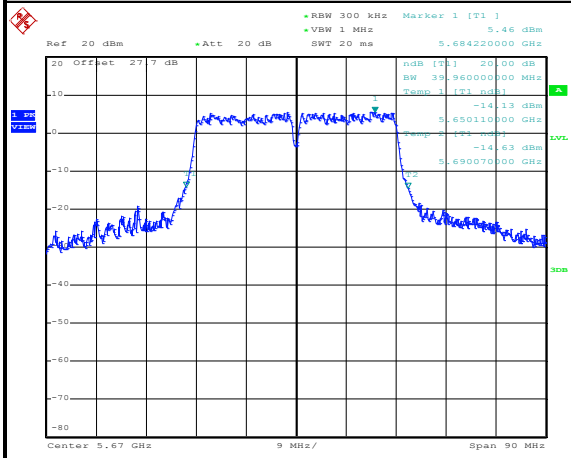
802.11n HT40 CH134 5670MHz



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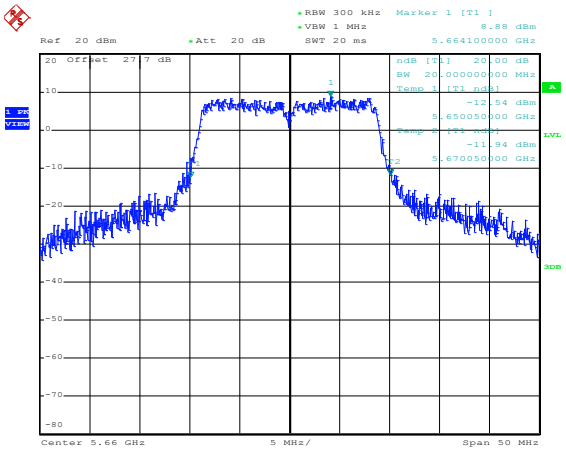
802.11ac VHT20 CH132 5660MHz



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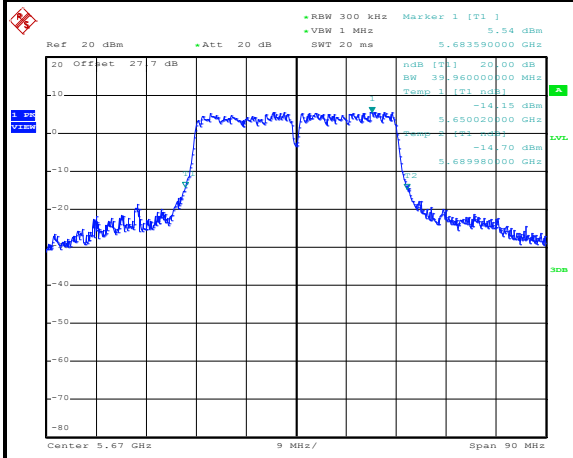
20dB Occupied Bandwidth	
802.11ac VHT40 CH134 5670MHz	



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3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

<IC RSS-210 Annex 9>

For the 5.15–5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

For the 5.25–5.35 GHz band, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less.

For the 5.47–5.6 GHz and 5.65–5.725 GHz band, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

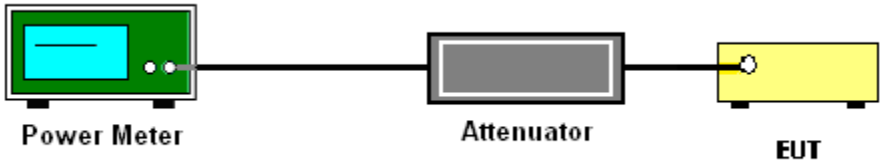
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, 10 log(1/x), where x is the duty cycle.

3.2.4 Test Setup

For normal channel:



3.2.5 Test Result of Maximum Conducted Output Power

Test Band :	5GHz band 1	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Power Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
11a	6Mbps	1	36	5180	0.00	-	15.21	-	-	16.99	-	3.34	3.34	-	Pass
11a	6Mbps	1	44	5220	0.00	-	14.76	-		16.99	-	3.34	3.34		Pass
11a	6Mbps	1	48	5240	0.00	-	15.02	-		16.99	-	3.34	3.34		Pass
HT20	MCS0	1	36	5180	0.00	-	15.36	-		16.99	-	3.34	3.34		Pass
HT20	MCS0	1	44	5220	0.00	-	14.82	-		16.99	-	3.34	3.34		Pass
HT20	MCS0	1	48	5240	0.00	-	15.10	-		16.99	-	3.34	3.34		Pass
HT40	MCS0	1	38	5190	0.00	-	16.81	-		16.99	-	3.34	3.34		Pass
HT40	MCS0	1	46	5230	0.00	-	16.75	-		16.99	-	3.34	3.34		Pass
VHT20	MCS0	1	36	5180	0.00	-	14.74	-		16.99	-	3.34	3.34		Pass
VHT20	MCS0	1	44	5220	0.00	-	14.22	-		16.99	-	3.34	3.34		Pass
VHT20	MCS0	1	48	5240	0.00	-	14.68	-		16.99	-	3.34	3.34		Pass
VHT40	MCS0	1	38	5190	0.00	-	16.93	-		16.99	-	3.34	3.34		Pass
VHT40	MCS0	1	46	5230	0.00	-	16.87	-		16.99	-	3.34	3.34		Pass
VHT80	MCS0	1	42	5210	0.00	-	16.77	-		16.99	-	3.34	3.34		Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Power Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
HT20	MCS8	2	36	5180	0.00	0.00	12.04	12.42	15.24	23.01		3.34		-	Pass
HT20	MCS8	2	44	5220	0.00	0.00	12.37	11.93	15.17	23.01		3.34			Pass
HT20	MCS8	2	48	5240	0.00	0.00	12.44	12.25	15.36	23.01		3.34			Pass
HT40	MCS8	2	38	5190	0.00	0.00	12.45	12.42	15.45	23.01		3.34			Pass
HT40	MCS8	2	46	5230	0.00	0.00	12.62	12.40	15.52	23.01		3.34			Pass
VHT20	MCS0	2	36	5180	0.00	0.00	11.54	11.30	14.43	23.01		3.34			Pass
VHT20	MCS0	2	44	5220	0.00	0.00	11.57	11.02	14.31	23.01		3.34			Pass
VHT20	MCS0	2	48	5240	0.00	0.00	11.18	11.38	14.29	23.01		3.34			Pass
VHT40	MCS0	2	38	5190	0.00	0.00	14.10	14.08	17.10	23.01		3.34			Pass
VHT40	MCS0	2	46	5230	0.00	0.00	13.92	13.82	16.88	23.01		3.34			Pass
VHT80	MCS0	2	42	5210	0.00	0.00	16.81	16.83	19.83	23.01		3.34			Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. Sum Power is a calculated result from sum of the Ant 1 and Ant 2.

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			IC Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)		Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	36	5180	0.00	-	15.21	-		22.55	-	0.00	0.00	22.55	-	Pass
11a	6Mbps	1	44	5220	0.00	-	14.76	-		22.54	-	0.00	0.00	22.54	-	Pass
11a	6Mbps	1	48	5240	0.00	-	15.02	-		22.54	-	0.00	0.00	22.54	-	Pass
HT20	MCS0	1	36	5180	0.00	-	15.36	-		22.72	-	0.00	0.00	22.72	-	Pass
HT20	MCS0	1	44	5220	0.00	-	14.82	-		22.73	-	0.00	0.00	22.73	-	Pass
HT20	MCS0	1	48	5240	0.00	-	15.10	-		22.72	-	0.00	0.00	22.72	-	Pass
HT40	MCS0	1	38	5190	0.00	-	16.81	-		23.01	-	0.00	0.00	23.01	-	Pass
HT40	MCS0	1	46	5230	0.00	-	16.75	-		23.01	-	0.00	0.00	23.01	-	Pass
VHT20	MCS0	1	36	5180	0.00	-	14.74	-		22.72	-	0.00	0.00	22.72	-	Pass
VHT20	MCS0	1	44	5220	0.00	-	14.22	-		22.71	-	0.00	0.00	22.71	-	Pass
VHT20	MCS0	1	48	5240	0.00	-	14.68	-		22.73	-	0.00	0.00	22.73	-	Pass
VHT40	MCS0	1	38	5190	0.00	-	16.93	-		23.01	-	0.00	0.00	23.01	-	Pass
VHT40	MCS0	1	46	5230	0.00	-	16.87	-		23.01	-	0.00	0.00	23.01	-	Pass
VHT80	MCS0	1	42	5210	0.00	-	16.77	-		23.01	-	0.00	0.00	23.01	-	Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			IC Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)		Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
HT20	MCS0	2	36	5180	0.00	0.00	12.04	12.42	15.24	19.36		3.34		22.70		Pass
HT20	MCS0	2	44	5220	0.00	0.00	12.37	11.93	15.17	19.34		3.34		22.68		Pass
HT20	MCS0	2	48	5240	0.00	0.00	12.44	12.25	15.36	19.33		3.34		22.67		Pass
HT40	MCS0	2	38	5190	0.00	0.00	12.45	12.42	15.45	19.67		3.34		23.01		Pass
HT40	MCS0	2	46	5230	0.00	0.00	12.62	12.40	15.52	19.67		3.34		23.01		Pass
VHT20	MCS0	2	36	5180	0.00	0.00	11.54	11.30	14.43	19.34		3.34		22.68		Pass
VHT20	MCS0	2	44	5220	0.00	0.00	11.57	11.02	14.31	19.36		3.34		22.70		Pass
VHT20	MCS0	2	48	5240	0.00	0.00	11.18	11.38	14.29	19.33		3.34		22.67		Pass
VHT40	MCS0	2	38	5190	0.00	0.00	14.10	14.08	17.10	19.67		3.34		23.01		Pass
VHT40	MCS0	2	46	5230	0.00	0.00	13.92	13.82	16.88	19.67		3.34		23.01		Pass
VHT80	MCS0	2	42	5210	0.00	0.00	16.81	16.83	19.83	19.67		3.34		23.01		Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. Sum Power is a calculated result from sum of the power Ant 1 and Ant 2.

Test Band :	5GHz band 2	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Power Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
11a	6Mbps	1	52	5260	0.00	-	17.81	-	-	23.98	-	3.34	3.34	-	Pass
11a	6Mbps	1	60	5300	0.00	-	17.85	-		23.98	-	3.34	3.34		Pass
11a	6Mbps	1	64	5320	0.00	-	17.93	-		23.98	-	3.34	3.34		Pass
HT20	MCS0	1	52	5260	0.00	-	16.82	-		23.98	-	3.34	3.34		Pass
HT20	MCS0	1	60	5300	0.00	-	16.69	-		23.98	-	3.34	3.34		Pass
HT20	MCS0	1	64	5320	0.00	-	16.66	-		23.98	-	3.34	3.34		Pass
HT40	MCS0	1	54	5270	0.00	-	16.68	-		23.98	-	3.34	3.34		Pass
HT40	MCS0	1	62	5310	0.00	-	16.61	-		23.98	-	3.34	3.34		Pass
VHT20	MCS0	1	52	5260	0.00	-	16.64	-		23.98	-	3.34	3.34		Pass
VHT20	MCS0	1	60	5300	0.00	-	16.60	-		23.98	-	3.34	3.34		Pass
VHT20	MCS0	1	64	5320	0.00	-	16.65	-		23.98	-	3.34	3.34		Pass
VHT40	MCS0	1	54	5270	0.00	-	16.69	-		23.98	-	3.34	3.34		Pass
VHT40	MCS0	1	62	5310	0.00	-	16.72	-		23.98	-	3.34	3.34		Pass
VHT80	MCS0	1	58	5290	0.00	-	16.75	-		23.98	-	3.34	3.34		Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Power Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
HT20	MCS8	2	52	5260	0.00	0.00	16.64	16.64	19.65	23.98		3.34		-	Pass
HT20	MCS8	2	60	5300	0.00	0.00	16.87	16.71	19.80	23.98		3.34			Pass
HT20	MCS8	2	64	5320	0.00	0.00	16.73	16.83	19.79	23.98		3.34			Pass
HT40	MCS8	2	54	5270	0.00	0.00	16.69	16.77	19.74	23.98		3.34			Pass
HT40	MCS8	2	62	5310	0.00	0.00	16.66	16.90	19.79	23.98		3.34			Pass
VHT20	MCS0	2	52	5260	0.00	0.00	16.67	16.84	19.77	23.98		3.34			Pass
VHT20	MCS0	2	60	5300	0.00	0.00	16.71	16.76	19.75	23.98		3.34			Pass
VHT20	MCS0	2	64	5320	0.00	0.00	16.77	16.61	19.70	23.98		3.34			Pass
VHT40	MCS0	2	54	5270	0.00	0.00	16.65	16.64	19.66	23.98		3.34			Pass
VHT40	MCS0	2	62	5310	0.00	0.00	16.81	16.73	19.78	23.98		3.34			Pass
VHT80	MCS0	2	58	5290	0.00	0.00	16.78	16.79	19.80	23.98		3.34			Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. Sum Power is a calculated result from sum of the power Ant 1 and Ant 2.

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			IC Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)		Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	52	5260	0.00	-	17.81	-	-	23.61	-	3.34	3.34	29.61	-	Pass
11a	6Mbps	1	60	5300	0.00	-	17.85	-		23.60	-	3.34	3.34	29.60	-	Pass
11a	6Mbps	1	64	5320	0.00	-	17.93	-		23.59	-	3.34	3.34	29.59	-	Pass
HT20	MCS0	1	52	5260	0.00	-	16.82	-		23.78	-	3.34	3.34	29.78	-	Pass
HT20	MCS0	1	60	5300	0.00	-	16.69	-		23.74	-	3.34	3.34	29.74	-	Pass
HT20	MCS0	1	64	5320	0.00	-	16.66	-		23.73	-	3.34	3.34	29.73	-	Pass
HT40	MCS0	1	54	5270	0.00	-	16.68	-		23.98	-	3.34	3.34	30.00	-	Pass
HT40	MCS0	1	62	5310	0.00	-	16.61	-		23.98	-	3.34	3.34	30.00	-	Pass
VHT20	MCS0	1	52	5260	0.00	-	16.64	-		23.75	-	3.34	3.34	29.75	-	Pass
VHT20	MCS0	1	60	5300	0.00	-	16.60	-		23.73	-	3.34	3.34	29.73	-	Pass
VHT20	MCS0	1	64	5320	0.00	-	16.65	-		23.75	-	3.34	3.34	29.75	-	Pass
VHT40	MCS0	1	54	5270	0.00	-	16.69	-		23.98	-	3.34	3.34	30.00	-	Pass
VHT40	MCS0	1	62	5310	0.00	-	16.72	-		23.98	-	3.34	3.34	30.00	-	Pass
VHT80	MCS0	1	58	5290	0.00	-	16.75	-		23.98	-	3.34	3.34	30.00	-	Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			IC Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)		Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
HT20	MCS0	2	36	5180	0.00	0.00	16.64	16.64	19.65	23.68		3.34		29.68		Pass
HT20	MCS0	2	44	5220	0.00	0.00	16.87	16.71	19.80	23.68		3.34		29.68		Pass
HT20	MCS0	2	48	5240	0.00	0.00	16.73	16.83	19.79	23.71		3.34		29.71		Pass
HT40	MCS0	2	38	5190	0.00	0.00	16.69	16.77	19.74	23.98		3.34		30.00		Pass
HT40	MCS0	2	46	5230	0.00	0.00	16.66	16.90	19.79	23.98		3.34		30.00		Pass
VHT20	MCS0	2	36	5180	0.00	0.00	16.67	16.84	19.77	23.71		3.34		29.71		Pass
VHT20	MCS0	2	44	5220	0.00	0.00	16.71	16.76	19.75	23.68		3.34		29.68		Pass
VHT20	MCS0	2	48	5240	0.00	0.00	16.77	16.61	19.70	23.70		3.34		29.70		Pass
VHT40	MCS0	2	38	5190	0.00	0.00	16.65	16.64	19.66	23.98		3.34		30.00		Pass
VHT40	MCS0	2	46	5230	0.00	0.00	16.81	16.73	19.78	23.98		3.34		30.00		Pass
VHT80	MCS0	2	42	5210	0.00	0.00	16.78	16.79	19.80	23.98		3.34		30.00		Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. Sum Power is a calculated result from sum of the power Ant 1 and Ant 2.

Test Band :	5GHz band 3	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Power Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
11a	6Mbps	1	100	5500	0.00	-	17.54	-	-	23.98	-	3.34	3.34	-	Pass
11a	6Mbps	1	116	5580	0.00	-	17.92	-		23.98	-	3.34	3.34		Pass
11a	6Mbps	1	140	5700	0.00	-	17.47	-		23.98	-	3.34	3.34		Pass
HT20	MCS0	1	100	5500	0.00	-	16.87	-		23.98	-	3.34	3.34		Pass
HT20	MCS0	1	116	5580	0.00	-	16.69	-		23.98	-	3.34	3.34		Pass
HT20	MCS0	1	140	5700	0.00	-	16.64	-		23.98	-	3.34	3.34		Pass
HT40	MCS0	1	102	5510	0.00	-	16.72	-		23.98	-	3.34	3.34		Pass
HT40	MCS0	1	110	5550	0.00	-	16.58	-		23.98	-	3.34	3.34		Pass
HT40	MCS0	1	134	5670	0.00	-	16.68	-		23.98	-	3.34	3.34		Pass
VHT20	MCS0	1	100	5500	0.00	-	16.65	-		23.98	-	3.34	3.34		Pass
VHT20	MCS0	1	116	5580	0.00	-	16.74	-		23.98	-	3.34	3.34		Pass
VHT20	MCS0	1	140	5700	0.00	-	16.72	-		23.98	-	3.34	3.34		Pass
VHT40	MCS0	1	102	5510	0.00	-	16.76	-		23.98	-	3.34	3.34		Pass
VHT40	MCS0	1	110	5550	0.00	-	16.78	-		23.98	-	3.34	3.34		Pass
VHT40	MCS0	1	134	5670	0.00	-	16.69	-		23.98	-	3.34	3.34		Pass
VHT80	MCS0	1	106	5530	0.00	-	16.60	-		23.98	-	3.34	3.34		Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Power Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
HT20	MCS8	2	100	5500	0.00	0.00	16.88	16.93	19.92	23.98		3.34		-	Pass
HT20	MCS8	2	116	5580	0.00	0.00	16.74	16.76	19.76	23.98		3.34			Pass
HT20	MCS8	2	140	5700	0.00	0.00	16.76	16.73	19.76	23.98		3.34			Pass
HT40	MCS8	2	102	5510	0.00	0.00	16.73	16.77	19.76	23.98		3.34			Pass
HT40	MCS8	2	110	5550	0.00	0.00	16.61	16.65	19.64	23.98		3.34			Pass
HT40	MCS8	2	134	5670	0.00	0.00	16.74	16.85	19.81	23.98		3.34			Pass
VHT20	MCS0	2	100	5500	0.00	0.00	16.81	16.71	19.77	23.98		3.34			Pass
VHT20	MCS0	2	116	5580	0.00	0.00	16.76	16.79	19.79	23.98		3.34			Pass
VHT20	MCS0	2	140	5700	0.00	0.00	16.72	16.68	19.71	23.98		3.34			Pass
VHT40	MCS0	2	102	5510	0.00	0.00	16.74	16.77	19.77	23.98		3.34			Pass
VHT40	MCS0	2	110	5550	0.00	0.00	16.79	16.69	19.75	23.98		3.34			Pass
VHT40	MCS0	2	134	5670	0.00	0.00	16.71	16.84	19.79	23.98		3.34			Pass
VHT80	MCS0	2	106	5530	0.00	0.00	16.62	16.75	19.70	23.98		3.34			Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. Sum Power is a calculated result from sum of the power Ant 1 and Ant 2.

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			IC Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)		Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	100	5500	0.00	-	17.54	-		23.60	-	3.34	3.34	29.60	-	Pass
11a	6Mbps	1	116	5580	0.00	-	17.92	-		23.64	-	3.34	3.34	29.64	-	Pass
11a	6Mbps	1	140	5700	0.00	-	17.47	-		23.68	-	3.34	3.34	29.68	-	Pass
HT20	MCS0	1	100	5500	0.00	-	16.87	-		23.74	-	3.34	3.34	29.74	-	Pass
HT20	MCS0	1	116	5580	0.00	-	16.69	-		23.75	-	3.34	3.34	29.75	-	Pass
HT20	MCS0	1	140	5700	0.00	-	16.64	-		23.76	-	3.34	3.34	29.76	-	Pass
HT40	MCS0	1	102	5510	0.00	-	16.72	-		23.98	-	3.34	3.34	30.00	-	Pass
HT40	MCS0	1	110	5550	0.00	-	16.58	-		23.98	-	3.34	3.34	30.00	-	Pass
HT40	MCS0	1	134	5670	0.00	-	16.68	-		23.98	-	3.34	3.34	30.00	-	Pass
VHT20	MCS0	1	100	5500	0.00	-	16.65	-		23.78	-	3.34	3.34	29.78	-	Pass
VHT20	MCS0	1	116	5580	0.00	-	16.74	-		23.78	-	3.34	3.34	29.78	-	Pass
VHT20	MCS0	1	140	5700	0.00	-	16.72	-		23.81	-	3.34	3.34	29.81	-	Pass
VHT40	MCS0	1	102	5510	0.00	-	16.76	-		23.98	-	3.34	3.34	30.00	-	Pass
VHT40	MCS0	1	110	5550	0.00	-	16.78	-		23.98	-	3.34	3.34	30.00	-	Pass
VHT80	MCS0	1	106	5530	0.00	-	16.69	-		23.98	-	3.34	3.34	30.00	-	Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			IC Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)		Pass /Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power	Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
HT20	MCS0	2	100	5500	0.00	0.00	16.88	16.93	19.92	23.68		3.34		29.68		Pass
HT20	MCS0	2	116	5580	0.00	0.00	16.74	16.76	19.76	23.71		3.34		29.71		Pass
HT20	MCS0	2	140	5700	0.00	0.00	16.76	16.73	19.76	23.71		3.34		29.71		Pass
HT40	MCS0	2	102	5510	0.00	0.00	16.73	16.77	19.76	23.98		3.34		30.00		Pass
HT40	MCS0	2	110	5550	0.00	0.00	16.61	16.65	19.64	23.98		3.34		30.00		Pass
HT40	MCS0	2	134	5670	0.00	0.00	16.74	16.85	19.81	23.98		3.34		30.00		Pass
VHT20	MCS0	2	100	5500	0.00	0.00	16.81	16.71	19.77	23.71		3.34		29.71		Pass
VHT20	MCS0	2	116	5580	0.00	0.00	16.76	16.79	19.79	23.72		3.34		29.72		Pass
VHT20	MCS0	2	140	5700	0.00	0.00	16.72	16.68	19.71	23.71		3.34		29.71		Pass
VHT40	MCS0	2	102	5510	0.00	0.00	16.74	16.77	19.77	23.98		3.34		30.00		Pass
VHT40	MCS0	2	110	5550	0.00	0.00	16.79	16.69	19.75	23.98		3.34		30.00		Pass
VHT40	MCS0	2	134	5670	0.00	0.00	16.71	16.84	19.79	23.98		3.34		30.00		Pass
VHT80	MCS0	2	106	5530	0.00	0.00	16.62	16.75	19.70	23.98		3.34		30.00		Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. Sum Power is a calculated result from sum of the power Ant 1 and Ant 2.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

<IC RSS-210 Annex 9>

For the 5.15–5.25 GHz band, the e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

For the 5.25–5.35 GHz band, the power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For the 5.47–5.6 GHz and 5.65–5.725 GHz band, the power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.
Section F) Maximum power spectral density.

 # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

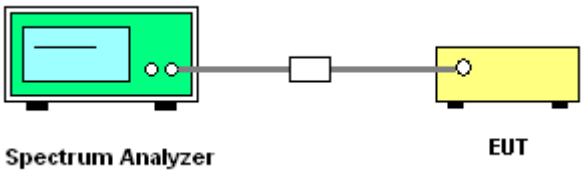
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
4. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

   Method (1): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Band :	5GHz band 1	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm)		DG (dBi)		EIRP PSD Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Sum Power	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.00	-	3.83	-	-	4.00	4.00	3.34	3.34	10	10	Pass
11a	6Mbps	1	44	5220	0.00	-	3.70	-		4.00	4.00	3.34	3.34	10	10	Pass
11a	6Mbps	1	48	5240	0.00	-	3.89	-		4.00	4.00	3.34	3.34	10	10	Pass
HT20	MCS0	1	36	5180	0.00	--	3.83	--		4.00	4.00	3.34	3.34	10	10	Pass
HT20	MCS0	1	44	5220	0.00	-	3.52	-		4.00	4.00	3.34	3.34	10	10	Pass
HT20	MCS0	1	48	5240	0.00	-	3.78	-		4.00	4.00	3.34	3.34	10	10	Pass
HT40	MCS0	1	38	5190	0.00	-	3.11	-		4.00	4.00	3.34	3.34	10	10	Pass
HT40	MCS0	1	46	5230	0.00	-	2.83	-		4.00	4.00	3.34	3.34	10	10	Pass
VHT20	MCS0	1	36	5180	0.00	-	3.93	-		4.00	4.00	3.34	3.34	10	10	Pass
VHT20	MCS0	1	44	5220	0.00	-	3.65	-		4.00	4.00	3.34	3.34	10	10	Pass
VHT20	MCS0	1	48	5240	0.00	-	3.92	-		4.00	4.00	3.34	3.34	10	10	Pass
VHT40	MCS0	1	38	5190	0.00	-	2.85	-		4.00	4.00	3.34	3.34	10	10	Pass
VHT40	MCS0	1	46	5230	0.00	-	2.67	-		4.00	4.00	3.34	3.34	10	10	Pass
VHT80	MCS0	1	42	5210	0.00	-	1.09	-		4.00	4.00	3.34	3.34	10	10	Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm)		DG (dBi)		EIRP PSD Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Sum Power	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS8	2	36	5180	0.00	0.00			3.13	3.65		6.35		10		Pass
HT20	MCS8	2	44	5220	0.00	0.00			3.32	3.65		6.35		10		Pass
HT20	MCS8	2	48	5240	0.00	0.00			3.05	3.65		6.35		10		Pass
HT40	MCS8	2	38	5190	0.00	0.00			1.57	3.65		6.35		10		Pass
HT40	MCS8	2	46	5230	0.00	0.00			1.79	3.65		6.35		10		Pass
VHT20	MCS0	2	36	5180	0.00	0.00			3.50	3.65		6.35		10		Pass
VHT20	MCS0	2	44	5220	0.00	0.00			3.60	3.65		6.35		10		Pass
VHT20	MCS0	2	48	5240	0.00	0.00			3.60	3.65		6.35		10		Pass
VHT40	MCS0	2	38	5190	0.00	0.00			3.11	3.65		6.35		10		Pass
VHT40	MCS0	2	46	5230	0.00	0.00			3.00	3.65		6.35		10		Pass
VHT80	MCS0	2	42	5210	0.00	0.00			3.36	3.65		6.35		10		Pass

Note: Sum PSD is a bin-by-bin combined result of Ant 1 and Ant 2.

Test Band :	5GHz band 2	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Sum Power	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	0.00	-	7.23	-	-	11.00	11.00	3.34	3.34	-	Pass
11a	6Mbps	1	60	5300	0.00	-	6.62	-		11.00	11.00	3.34	3.34		Pass
11a	6Mbps	1	64	5320	0.00	-	6.88	-		11.00	11.00	3.34	3.34		Pass
HT20	MCS0	1	52	5260	0.00	-	5.62	-		11.00	11.00	3.34	3.34		Pass
HT20	MCS0	1	60	5300	0.00	-	4.93	-		11.00	11.00	3.34	3.34		Pass
HT20	MCS0	1	64	5320	0.00	-	5.16	-		11.00	11.00	3.34	3.34		Pass
HT40	MCS0	1	54	5270	0.00	-	2.77	-		11.00	11.00	3.34	3.34		Pass
HT40	MCS0	1	62	5310	0.00	-	2.58	-		11.00	11.00	3.34	3.34		Pass
VHT20	MCS0	1	52	5260	0.00	-	5.65	-		11.00	11.00	3.34	3.34		Pass
VHT20	MCS0	1	60	5300	0.00	-	5.58	-		11.00	11.00	3.34	3.34		Pass
VHT20	MCS0	1	64	5320	0.00	-	6.33	-		11.00	11.00	3.34	3.34		Pass
VHT40	MCS0	1	54	5270	0.00	-	2.54	-		11.00	11.00	3.34	3.34		Pass
VHT40	MCS0	1	62	5310	0.00	-	2.62	-		11.00	11.00	3.34	3.34		Pass
VHT80	MCS0	1	58	5290	0.00	-	0.49	-		11.00	11.00	3.34	3.34		Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Sum Power	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS8	2	52	5260	0.00	0.00	-		8.06	10.65		6.35		-	Pass
HT20	MCS8	2	60	5300	0.00	0.00			8.37	10.65		6.35			Pass
HT20	MCS8	2	64	5320	0.00	0.00			8.35	10.65		6.35			Pass
HT40	MCS8	2	54	5270	0.00	0.00			5.81	10.65		6.35			Pass
HT40	MCS8	2	62	5310	0.00	0.00			5.67	10.65		6.35			Pass
VHT20	MCS0	2	52	5260	0.00	0.00			8.61	10.65		6.35			Pass
VHT20	MCS0	2	60	5300	0.00	0.00			8.61	10.65		6.35			Pass
VHT20	MCS0	2	64	5320	0.00	0.00			8.15	10.65		6.35			Pass
VHT40	MCS0	2	54	5270	0.00	0.00			5.81	10.65		6.35			Pass
VHT40	MCS0	2	62	5310	0.00	0.00			5.48	10.65		6.35			Pass
VHT80	MCS0	2	58	5290	0.00	0.00			3.28	10.65		6.35			Pass

Note: Sum PSD is a bin-by-bin combined result of Ant 1 and Ant 2.

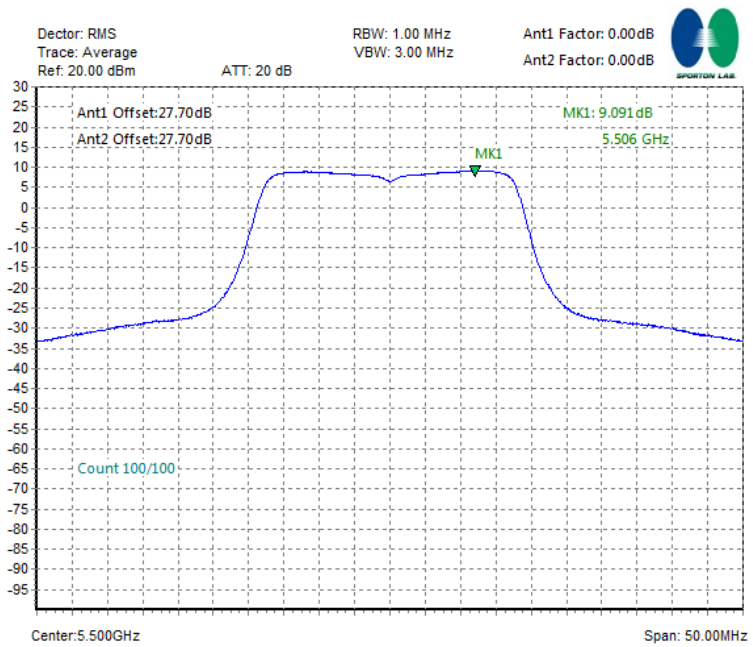
Test Band :	5GHz band 3	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Sum Power	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	0.00	-	6.67	-	-	11.00	11.00	3.34	3.34	-	Pass
11a	6Mbps	1	116	5580	0.00	-	6.72	-		11.00	11.00	3.34	3.34		Pass
11a	6Mbps	1	140	5700	0.00	-	6.94	-		11.00	11.00	3.34	3.34		Pass
HT20	MCS0	1	100	5500	0.00	-	5.36	-		11.00	11.00	3.34	3.34		Pass
HT20	MCS0	1	116	5580	0.00	-	5.41	-		11.00	11.00	3.34	3.34		Pass
HT20	MCS0	1	140	5700	0.00	-	5.56	-		11.00	11.00	3.34	3.34		Pass
HT40	MCS0	1	102	5510	0.00	-	3.29	-		11.00	11.00	3.34	3.34		Pass
HT40	MCS0	1	110	5550	0.00	-	2.87	-		11.00	11.00	3.34	3.34		Pass
HT40	MCS0	1	134	5670	0.00	-	3.02	-		11.00	11.00	3.34	3.34		Pass
VHT20	MCS0	1	100	5500	0.00	-	6.72	-		11.00	11.00	3.34	3.34		Pass
VHT20	MCS0	1	116	5580	0.00	-	6.92	-		11.00	11.00	3.34	3.34		Pass
VHT20	MCS0	1	140	5700	0.00	-	6.79	-		11.00	11.00	3.34	3.34		Pass
VHT40	MCS0	1	102	5510	0.00	-	3.35	-		11.00	11.00	3.34	3.34		Pass
VHT40	MCS0	1	110	5550	0.00	-	2.93	-		11.00	11.00	3.34	3.34		Pass
VHT40	MCS0	1	134	5670	0.00	-	3.20	-		11.00	11.00	3.34	3.34		Pass
VHT80	MCS0	1	106	5530	0.00	-	1.28	-		11.00	11.00	3.34	3.34		Pass

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm)		DG (dBi)		-	Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Sum Power	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS8	2	100	5500	0.00	0.00	-		8.22	10.65		6.35		-	Pass
HT20	MCS8	2	116	5580	0.00	0.00			8.24	10.65		6.35			Pass
HT20	MCS8	2	140	5700	0.00	0.00			8.60	10.65		6.35			Pass
HT40	MCS8	2	102	5510	0.00	0.00			6.13	10.65		6.35			Pass
HT40	MCS8	2	110	5550	0.00	0.00			6.31	10.65		6.35			Pass
HT40	MCS8	2	134	5670	0.00	0.00			5.96	10.65		6.35			Pass
VHT20	MCS0	2	100	5500	0.00	0.00			9.09	10.65		6.35			Pass
VHT20	MCS0	2	116	5580	0.00	0.00			8.91	10.65		6.35			Pass
VHT20	MCS0	2	140	5700	0.00	0.00			8.96	10.65		6.35			Pass
VHT40	MCS0	2	102	5510	0.00	0.00			5.89	10.65		6.35			Pass
VHT40	MCS0	2	110	5550	0.00	0.00			6.24	10.65		6.35			Pass
VHT40	MCS0	2	134	5670	0.00	0.00			5.76	10.65		6.35			Pass
VHT80	MCS0	2	106	5530	0.00	0.00			4.01	10.65		6.35			Pass

Note: Sum PSD is a bin-by-bin combined result of Ant 1 and Ant 2.

Worst Case Power Density (dBm/MHz)



3.4 Peak Excursion Ratio Measurement

3.4.1 Limit of Peak Excursion Ratio

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

The testing follows FCC KDB 789033 D01 General UNII Test Procedures Old Rules v01r04.

Section G) Peak excursion measurement

1. The transmitter output is connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.

   *Set RBW = 1MHz.

   *Set VBW ≥ 3MHz.

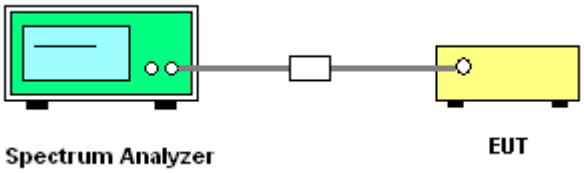
   *Detector = peak.

   *Trace mode = max-hold.

   *Allow the sweeps to continue until the trace stabilizes.

   *Use the peak search function to find the peak of the spectrum.
4. Use the procedure found under section 3.3 to measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

3.4.4 Test Setup



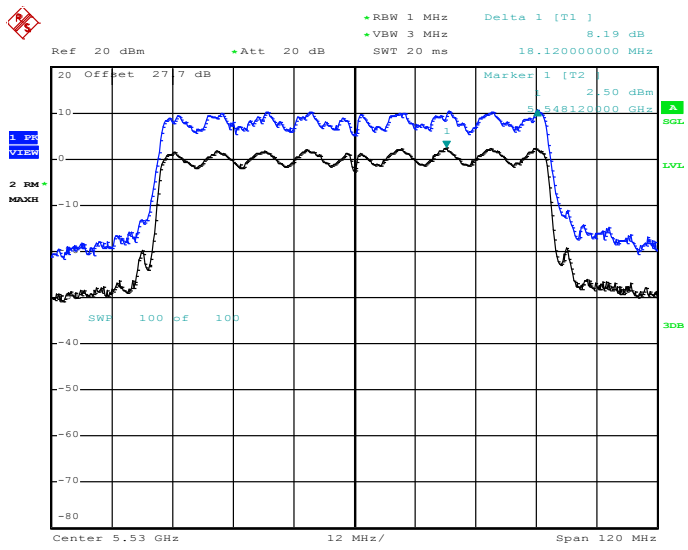
3.4.5 Test Result of Peak Excursion Ratio

Test Band :	5GHz band 3	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	Ch.	Freq. (MHz)	Peak Excursion Ratio (dB)					Max. Limits (dB)	Pass/Fail
					BPSK	QPSK	16QAM	64QAM	256QAM		
11a	6Mbps	1	100	5500	7.67	8.18	7.75	7.14	-	13	Pass
HT20	MCS0	1	100	5500	7.87	8.03	7.74	7.83	-	13	Pass
HT40	MCS0	1	102	5510	7.60	7.89	7.46	8.08	-	13	Pass
VHT20	MCS0	1	100	5500	7.79	8.01	7.80	7.77	7.55	13	Pass
VHT40	MCS0	1	102	5510	7.60	7.80	7.56	8.17	7.62	13	Pass
VHT80	MCS0	1	106	5530	7.67	7.16	8.19	7.33	7.56	13	Pass

Note: All modulation measured based on the minimum data rate setting.

Worst Case Peak Excursion Ratio (dB)



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Note: Peak Excursion Ratio (dB) = Peak – (Average + Duty Cycle Offset)

Duty Cycle Offset: 0 dB

3.5 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.5.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(3) KDB789033 v01 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as

specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

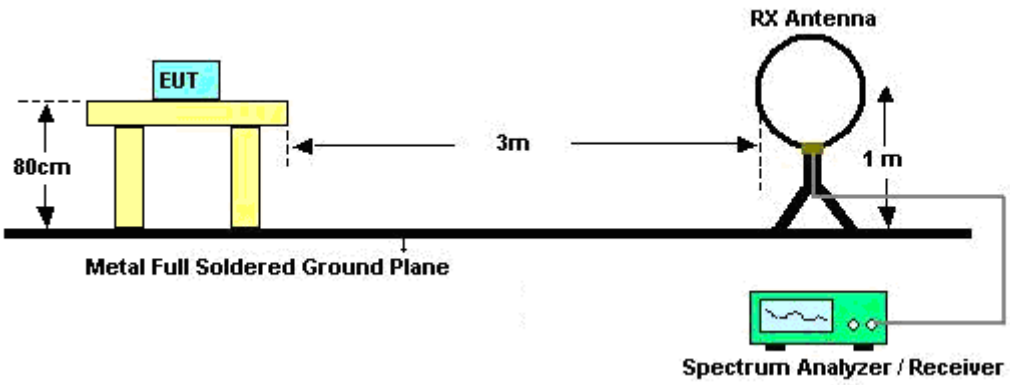
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	100	-	-	10Hz
1	802.11n HT20	100	-	-	10Hz
1	802.11n HT40	100	-	-	10Hz
1+2	802.11n HT20 for Ant1	100	-	-	10Hz
1+2	802.11n HT20 for Ant2	100	-	-	10Hz
1+2	802.11n HT40 for Ant1	100	-	-	10Hz
1+2	802.11n HT40 for Ant2	100	-	-	10Hz

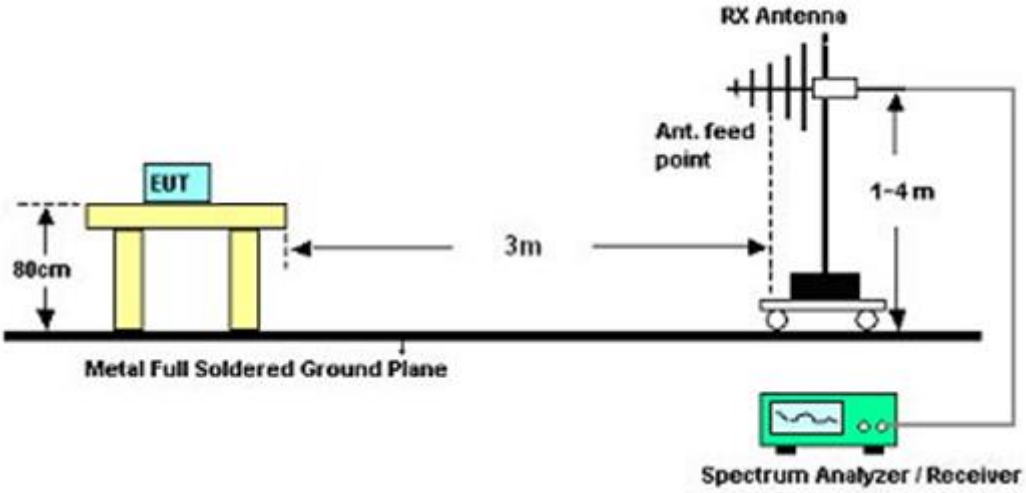
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.5.4 Test Setup

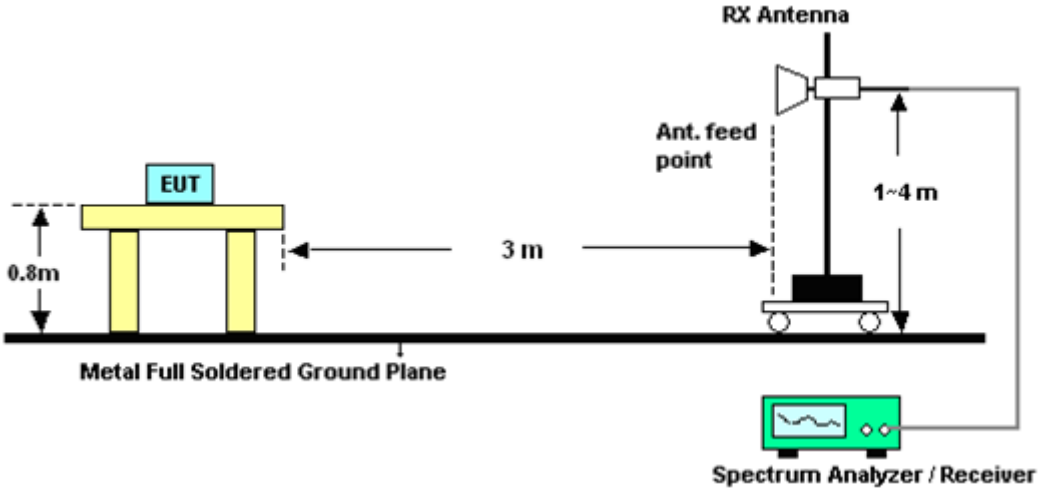
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix A.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

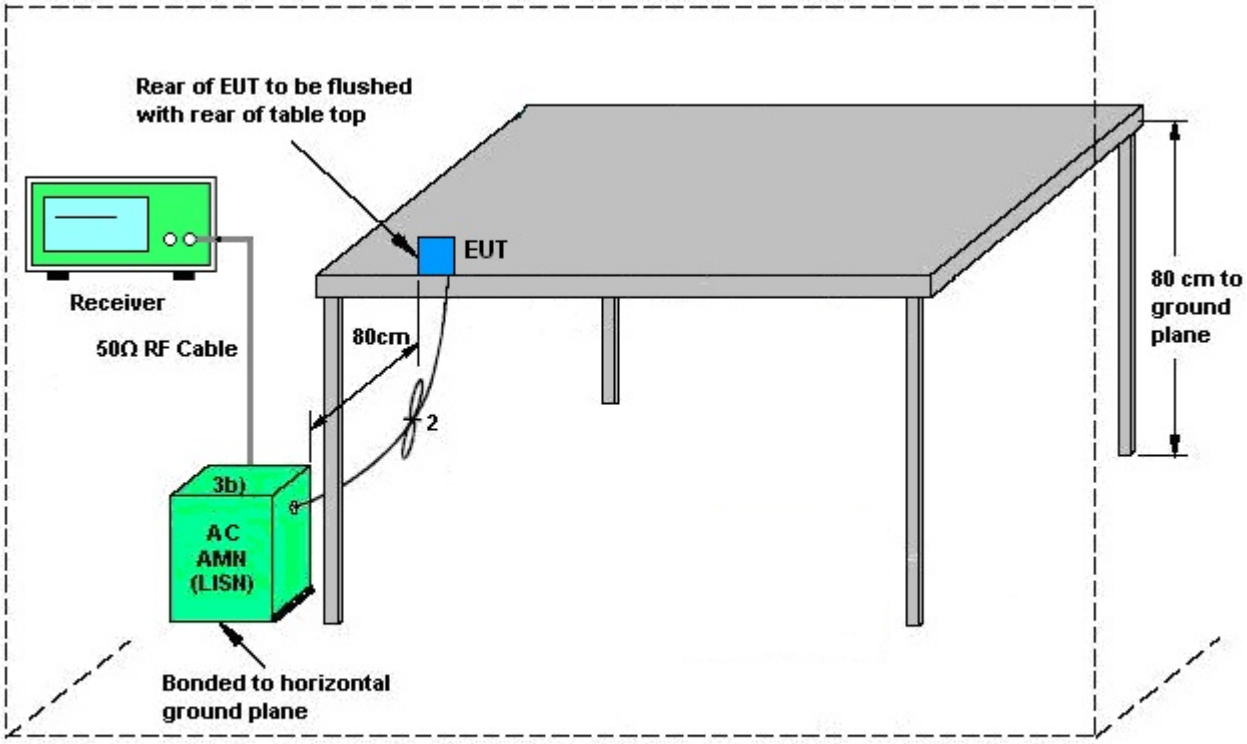
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

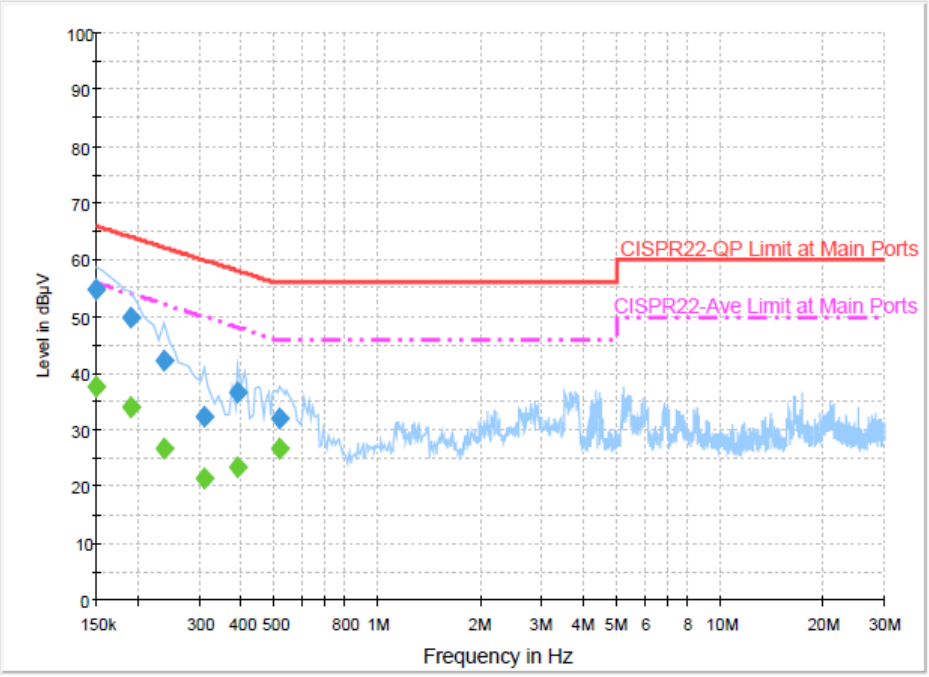
3.6.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	46~48%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WLAN (5GHz) Link + USB Cable (Charging from Notebook)		



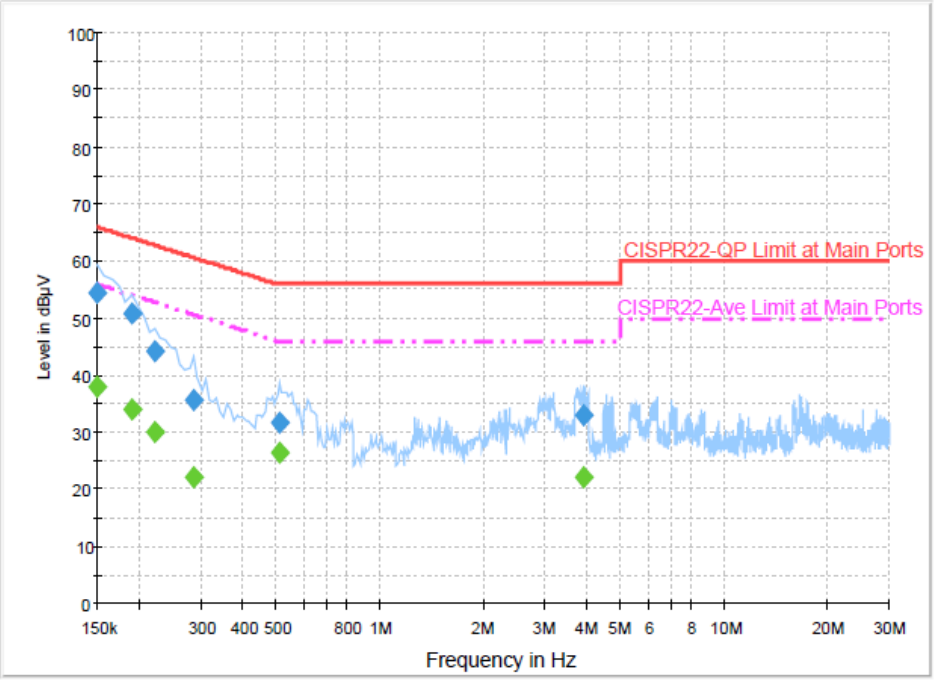
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	54.8	Off	L1	19.3	11.2	66.0
0.190000	50.0	Off	L1	19.3	14.0	64.0
0.238000	42.2	Off	L1	19.4	20.0	62.2
0.310000	32.4	Off	L1	19.4	27.6	60.0
0.390000	36.8	Off	L1	19.4	21.3	58.1
0.518000	32.1	Off	L1	19.4	23.9	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	37.8	Off	L1	19.3	18.2	56.0
0.190000	34.0	Off	L1	19.3	20.0	54.0
0.238000	26.9	Off	L1	19.4	25.3	52.2
0.310000	21.4	Off	L1	19.4	28.6	50.0
0.390000	23.4	Off	L1	19.4	24.7	48.1
0.518000	26.7	Off	L1	19.4	19.3	46.0

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	46~48%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	WLAN (5GHz) Link + USB Cable (Charging from Notebook)		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	54.6	Off	N	19.4	11.4	66.0
0.190000	50.8	Off	N	19.3	13.2	64.0
0.222000	44.3	Off	N	19.3	18.4	62.7
0.286000	35.6	Off	N	19.3	25.0	60.6
0.510000	31.7	Off	N	19.4	24.3	56.0
3.894000	32.9	Off	N	19.6	23.1	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	37.9	Off	N	19.4	18.1	56.0
0.190000	33.9	Off	N	19.3	20.1	54.0
0.222000	30.1	Off	N	19.3	22.6	52.7
0.286000	22.2	Off	N	19.3	28.4	50.6
0.510000	26.3	Off	N	19.4	19.7	46.0
3.894000	22.0	Off	N	19.6	24.0	46.0

3.7 Frequency Stability Measurement

3.7.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

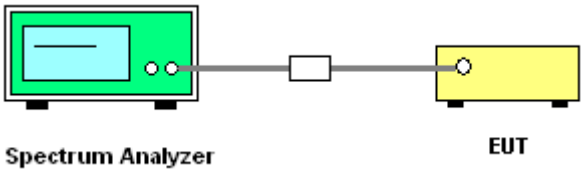
3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.7.4 Test Setup



3.7.5 Test Result of Frequency Stability

Test Band :	5GHz band 1,2,3	Test Engineer :	Osolemio Chang

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (˚C)	Voltage (V)
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.5
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	5.5
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	5
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-30	5
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	5

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (˚C)	Voltage (V)
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.5
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	20	5.5
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	20	5
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	-30	5
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	50	5

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (˚C)	Voltage (V)
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	20	4.5
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	20	5.5
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	20	5
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	-30	5
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	50	5

Note: Center Frequency = (Low Frequency + High Frequency) / 2.

3.8 Automatically Discontinue Transmission

3.8.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.8.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.8.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3.9 Antenna Requirements

3.9.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.9.2 Antenna Anti-Replacement Construction

Non-standard antenna connector is used.

3.9.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

The EUT supports CDD mode.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	3.34	3.34	3.34	6.35	0.00	0.35
Band II	3.34	3.34	3.34	6.35	0.00	0.35
Band III	3.34	3.34	3.34	6.35	0.00	0.35

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 09, 2014	Jul. 18, 2014 ~ Oct. 06, 2014	Jun. 08, 2015	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 09, 2014	Jul. 18, 2014 ~ Oct. 06, 2014	Aug. 08, 2015	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 09, 2014	Jul. 18, 2014 ~ Oct. 06, 2014	Aug. 08, 2015	Conducted (TH02-HY)
EMI Test Receiver	Agilent	N9038A	MY53290053	20Hz to 26.5GHz	Jan. 08, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Jan. 07, 2015	Radiation (03CH09-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jul. 28, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Jul. 27, 2016	Radiation (03CH09-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 03, 2013	Sep. 26, 2014 ~ Oct. 01, 2014	Oct. 02, 2014	Radiation (03CH09-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 02, 2014	Oct. 03, 2014~ Oct. 04, 2014	Oct. 01, 2015	Radiation (03CH09-HY)
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1241	1GHz ~ 18GHz	Apr. 16, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Apr. 15, 2015	Radiation (03CH09-HY)
Bilog Antenna	TESEQ	CBL 6111D	37059	30MHz~1GHz	Jan. 23, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Jan. 22, 2015	Radiation (03CH09-HY)
Preamplifier	EMEC	EM01M06G	60584	100MHz ~ 6GHz	Jul. 15, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Jul. 14, 2015	Radiation (03CH09-HY)
Preamplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 17, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Jul. 16, 2015	Radiation (03CH09-HY)
Preamplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz~40GHz	Jun. 09, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Jun. 08, 2015	Radiation (03CH09-HY)
Preamplifier	Sonoma-Instrument	310 N	187282	10MHz~1GHz	Apr. 28, 2014	Sep. 26, 2014 ~ Oct. 04, 2014	Apr. 27, 2015	Radiation (03CH09-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz~30GHz	Nov. 20, 2013	Sep. 26, 2014 ~ Oct. 04, 2014	Nov. 19, 2014	Radiation (03CH09-HY)
Turn Table	ChainTek	T-200S	1308028	0~360 deg	N/A	Sep. 26, 2014 ~ Oct. 04, 2014	N/A	Radiation (03CH09-HY)
Antenna Mast	ChainTek	MBS-400	1308049	1m~4m	N/A	Sep. 26, 2014 ~ Oct. 04, 2014	N/A	Radiation (03CH09-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 15, 2013	Jul. 18, 2014	Nov. 14, 2014	Conduction (CO05-HY)
LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2013	Jul. 18, 2014	Dec. 11, 2014	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 04, 2013	Jul. 18, 2014	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 18, 2014	N/A	Conduction (CO05-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.70**

Appendix A. Radiated Spurious Emission

15E Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5000.3	54.58	-19.42	74	43.58	31.3	10.83	31.13	100	136	P	H
		5104.25	41.39	-12.61	54	30.11	31.4	10.93	31.05	100	136	A	H
	*	5178	99.21	-	-	87.71	31.48	11.01	30.99	100	136	P	H
	*	5178	88.87	-	-	77.37	31.48	11.01	30.99	100	136	A	H
													H
													H
		5150	55.33	-18.67	74	43.91	31.45	10.98	31.01	100	199	P	V
		5106.2	42.75	-11.25	54	31.44	31.42	10.93	31.04	100	199	A	V
	*	5182	107.43	-	-	95.93	31.48	11.01	30.99	100	199	P	V
	*	5182	97.19	-	-	85.69	31.48	11.01	30.99	100	199	A	V
													V
													V
802.11a CH 44 5220MHz		5149.55	54.47	-19.53	74	43.05	31.45	10.98	31.01	100	136	P	H
		5144.75	41.43	-12.57	54	30.02	31.45	10.98	31.02	100	136	A	H
	*	5218	98.3	-	-	86.68	31.52	11.06	30.96	100	136	P	H
	*	5218	87.62	-	-	76	31.52	11.06	30.96	100	136	A	H
		5410.94	55.07	-18.93	74	42.88	31.7	11.29	30.8	100	136	P	H
		5353.19	42.15	-11.85	54	30.15	31.65	11.2	30.85	100	136	A	H
		5134.85	55.48	-18.52	74	44.12	31.43	10.96	31.03	100	169	P	V
		5146.4	42.58	-11.42	54	31.17	31.45	10.98	31.02	100	169	A	V
	*	5218	106.99	-	-	95.37	31.52	11.06	30.96	100	169	P	V
	*	5218	96.56	-	-	84.94	31.52	11.06	30.96	100	169	A	V
		5450.65	55.5	-18.5	74	43.21	31.75	11.31	30.77	100	169	P	V
		5353.08	42.41	-11.59	54	30.41	31.65	11.2	30.85	100	169	A	V

802.11a CH 48 5240MHz		5140.7	54.93	-19.07	74	43.52	31.45	10.98	31.02	111	137	P	H
		5003.75	41.24	-12.76	54	30.22	31.32	10.83	31.13	111	137	A	H
	*	5238	100.31	-	-	88.63	31.53	11.09	30.94	111	137	P	H
	*	5238	89.82	-	-	78.14	31.53	11.09	30.94	111	137	A	H
		5351.76	55.2	-18.8	74	43.2	31.65	11.2	30.85	111	137	P	H
		5351.32	42.17	-11.83	54	30.17	31.65	11.2	30.85	111	137	A	H
		5032.85	54.72	-19.28	74	43.64	31.33	10.86	31.11	100	159	P	V
		5073.8	41.47	-12.53	54	30.25	31.38	10.91	31.07	100	159	A	V
	*	5238	109.54	-	-	97.86	31.53	11.09	30.94	100	159	P	V
	*	5238	99.26	-	-	87.58	31.53	11.09	30.94	100	159	A	V
		5375.41	55.61	-18.39	74	43.54	31.67	11.23	30.83	100	159	P	V
		5352.75	42.51	-11.49	54	30.51	31.65	11.2	30.85	100	159	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		10360	48.94	-25.06	74	48.43	39.51	16.34	55.34	100	0	P	H
		15540	49.04	-24.96	74	43.52	38.54	19.61	52.63	100	0	P	H
													H
													H
		10360	49.44	-24.56	74	48.93	39.51	16.34	55.34	100	0	P	V
		15540	49.51	-24.49	74	43.99	38.54	19.61	52.63	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	48.78	-25.22	74	48	39.61	16.42	55.25	100	0	P	H
		15660	49.41	-24.59	74	44.13	38.35	19.69	52.76	100	0	P	H
													H
													H
		10440	49.94	-24.06	74	49.16	39.61	16.42	55.25	100	0	P	V
		15660	49.42	-24.58	74	44.14	38.35	19.69	52.76	100	0	P	V
													V
													V
802.11a CH 48 5240MHz		10480	48.94	-25.06	74	48	39.68	16.48	55.22	100	0	P	H
		15720	49.62	-24.38	74	44.47	38.24	19.73	52.82	100	0	P	H
													H
													H
		10480	49.24	-24.76	74	48.3	39.68	16.48	55.22	100	0	P	V
		15720	49.47	-24.53	74	44.32	38.24	19.73	52.82	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5103.5	54.48	-19.52	74	43.2	31.4	10.93	31.05	100	136	P	H
		5105.9	41.39	-12.61	54	30.09	31.42	10.93	31.05	100	136	A	H
	*	5182	99.24	-	-	87.74	31.48	11.01	30.99	100	136	P	H
	*	5182	88.47	-	-	76.97	31.48	11.01	30.99	100	136	A	H
													H
													H
		5149.4	59.09	-14.91	74	47.67	31.45	10.98	31.01	125	210	P	V
		5107.7	42.5	-11.5	54	31.19	31.42	10.93	31.04	125	210	A	V
	*	5182	108.26	-	-	96.76	31.48	11.01	30.99	125	210	P	V
	*	5182	97.44	-	-	85.94	31.48	11.01	30.99	125	210	A	V
													V
													V
802.11n HT20 CH 44 5220MHz		5135.6	54.45	-19.55	74	43.09	31.43	10.96	31.03	100	136	P	H
		5146.25	41.36	-12.64	54	29.95	31.45	10.98	31.02	100	136	A	H
	*	5218	97.75	-	-	86.13	31.52	11.06	30.96	100	136	P	H
	*	5218	87.21	-	-	75.59	31.52	11.06	30.96	100	136	A	H
		5448.01	54.84	-19.16	74	42.55	31.75	11.31	30.77	100	136	P	H
		5351.43	42.15	-11.85	54	30.15	31.65	11.2	30.85	100	136	A	H
		5094.35	54.8	-19.2	74	43.52	31.4	10.93	31.05	100	162	P	V
		5147.15	42.41	-11.59	54	31	31.45	10.98	31.02	100	162	A	V
	*	5222	107.13	-	-	95.5	31.52	11.06	30.95	100	162	P	V
	*	5222	96.23	-	-	84.6	31.52	11.06	30.95	100	162	A	V
		5452.08	55.78	-18.22	74	43.46	31.75	11.34	30.77	100	162	P	V
		5351.43	42.45	-11.55	54	30.45	31.65	11.2	30.85	100	162	A	V

802.11n HT20 CH 48 5240MHz		5049.2	53.99	-20.01	74	42.85	31.35	10.88	31.09	110	132	P	H
		5006.15	41.26	-12.74	54	30.24	31.32	10.83	31.13	110	132	A	H
	*	5242	98.37	-	-	86.66	31.55	11.09	30.93	110	132	P	H
	*	5242	87.6	-	-	75.89	31.55	11.09	30.93	110	132	A	H
		5365.62	55.55	-18.45	74	43.49	31.67	11.23	30.84	110	132	P	H
		5354.07	42.19	-11.81	54	30.18	31.65	11.2	30.84	110	132	A	H
		5056.1	54.98	-19.02	74	43.82	31.37	10.88	31.09	100	159	P	V
		5144.6	41.47	-12.53	54	30.06	31.45	10.98	31.02	100	159	A	V
	*	5238	107.57	-	-	95.89	31.53	11.09	30.94	100	159	P	V
	*	5238	96.99	-	-	85.31	31.53	11.09	30.94	100	159	A	V
		5457.58	55.07	-18.93	74	42.74	31.75	11.34	30.76	100	159	P	V
		5351.21	42.51	-11.49	54	30.51	31.65	11.2	30.85	100	159	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		10360	48.68	-25.32	74	48.17	39.51	16.34	55.34	100	0	P	H
		15540	49.33	-24.67	74	43.81	38.54	19.61	52.63	100	0	P	H
													H
													H
		10360	48.84	-25.16	74	48.33	39.51	16.34	55.34	100	0	P	V
		15540	49.25	-24.75	74	43.73	38.54	19.61	52.63	100	0	P	V
													V
													V
802.11n HT20 CH 44 5220MHz		10440	48.99	-25.01	74	48.21	39.61	16.42	55.25	100	0	P	H
		15660	49.74	-24.26	74	44.46	38.35	19.69	52.76	100	0	P	H
													H
													H
		10440	48.88	-25.12	74	48.1	39.61	16.42	55.25	100	0	P	V
		15660	49.88	-24.12	74	44.6	38.35	19.69	52.76	100	0	P	V
													V
													V
802.11n HT20 CH 48 5240MHz		10480	48.19	-25.81	74	47.25	39.68	16.48	55.22	100	0	P	H
		15720	49.11	-24.89	74	43.96	38.24	19.73	52.82	100	0	P	H
													H
													H
		10480	48.45	-25.55	74	47.51	39.68	16.48	55.22	100	0	P	V
		15720	49.47	-24.53	74	44.32	38.24	19.73	52.82	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.7	57.65	-16.35	74	46.23	31.45	10.98	31.01	102	34	P	H
		5150	45.59	-8.41	54	34.17	31.45	10.98	31.01	102	34	A	H
	*	5192	94.81	-	-	83.26	31.5	11.03	30.98	102	34	P	H
	*	5192	86.3	-	-	74.75	31.5	11.03	30.98	102	34	A	H
		5388.94	50.25	-23.75	74	38.13	31.68	11.26	30.82	102	34	P	H
		5459.23	38.88	-15.12	54	26.55	31.75	11.34	30.76	102	34	A	H
		5146.55	67.49	-6.51	74	56.08	31.45	10.98	31.02	102	132	P	V
		5150	52.76	-1.24	54	41.34	31.45	10.98	31.01	102	132	A	V
	*	5192	104.16	-	-	92.61	31.5	11.03	30.98	102	132	P	V
	*	5192	96.77	-	-	85.22	31.5	11.03	30.98	102	132	A	V
		5371.45	51.19	-22.81	74	39.12	31.67	11.23	30.83	102	132	P	V
		5350	40.12	-13.88	54	28.12	31.65	11.2	30.85	102	132	A	V
802.11n HT40 CH 46 5230MHz		5144.75	55.58	-18.42	74	44.17	31.45	10.98	31.02	111	134	P	H
		5006.6	41.49	-12.51	54	30.47	31.32	10.83	31.13	111	134	A	H
	*	5232	97.79	-	-	86.14	31.53	11.06	30.94	111	134	P	H
	*	5232	87.61	-	-	75.96	31.53	11.06	30.94	111	134	A	H
		5415.23	55.4	-18.6	74	43.19	31.72	11.29	30.8	111	134	P	H
		5353.52	42.52	-11.48	54	30.52	31.65	11.2	30.85	111	134	A	H
		5147.15	55.63	-18.37	74	44.22	31.45	10.98	31.02	112	160	P	V
		5150	42.58	-11.42	54	31.16	31.45	10.98	31.01	112	160	A	V
	*	5232	108.08	-	-	96.43	31.53	11.06	30.94	112	160	P	V
	*	5232	97.4	-	-	85.75	31.53	11.06	30.94	112	160	A	V
		5380.47	56.92	-17.08	74	44.81	31.68	11.26	30.83	112	160	P	V
		5389.93	43.51	-10.49	54	31.39	31.68	11.26	30.82	112	160	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	48.96	-25.04	74	48.36	39.54	16.37	55.31	100	0	P	H
		15570	49.26	-24.74	74	43.82	38.49	19.62	52.67	100	0	P	H
													H
													H
		10380	48.6	-25.4	74	48	39.54	16.37	55.31	100	0	P	V
		15570	48.45	-25.55	74	43.01	38.49	19.62	52.67	100	0	P	V
													V
													V
802.11n HT40 CH 46 5230MHz		10460	48.1	-25.9	74	47.26	39.63	16.45	55.24	100	0	P	H
		15690	49.59	-24.41	74	44.37	38.3	19.71	52.79	100	0	P	H
													H
													H
		10460	49.22	-24.78	74	48.38	39.63	16.45	55.24	100	0	P	V
		15690	49.07	-24.93	74	43.85	38.3	19.71	52.79	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT20 CH 36 5180MHz		5061.2	55.03	-18.97	74	43.86	31.37	10.88	31.08	101	45	P	H
		5146.4	41.36	-12.64	54	29.95	31.45	10.98	31.02	101	45	A	H
	*	5182	101.37	-	-	89.87	31.48	11.01	30.99	101	45	P	H
	*	5182	90.16	-	-	78.66	31.48	11.01	30.99	101	45	A	H
													H
													H
		5102.9	54.95	-19.05	74	43.67	31.4	10.93	31.05	103	18	P	V
		5105.75	42.26	-11.74	54	30.96	31.42	10.93	31.05	103	18	A	V
	*	5178	104.34	-	-	92.84	31.48	11.01	30.99	103	18	P	V
	*	5178	93.47	-	-	81.97	31.48	11.01	30.99	103	18	A	V
													V
													V
802.11ac VHT20 CH 44 5220MHz		5068.85	54.78	-19.22	74	43.58	31.37	10.91	31.08	102	46	P	H
		5147.45	41.8	-12.2	54	30.39	31.45	10.98	31.02	102	46	A	H
	*	5222	101.53	-	-	89.9	31.52	11.06	30.95	102	46	P	H
	*	5222	90.59	-	-	78.96	31.52	11.06	30.95	102	46	A	H
		5389.82	56.29	-17.71	74	44.17	31.68	11.26	30.82	102	46	P	H
		5353.3	42.76	-11.24	54	30.76	31.65	11.2	30.85	102	46	A	H
		5146.85	55.34	-18.66	74	43.93	31.45	10.98	31.02	103	18	P	V
		5140.1	42.54	-11.46	54	31.13	31.45	10.98	31.02	103	18	A	V
	*	5218	104.69	-	-	93.07	31.52	11.06	30.96	103	18	P	V
	*	5218	93.88	-	-	82.26	31.52	11.06	30.96	103	18	A	V
		5394.11	55.76	-18.24	74	43.64	31.68	11.26	30.82	103	18	P	V
		5379.92	43.16	-10.84	54	31.08	31.68	11.23	30.83	103	18	A	V

	*	5242	101.75	-	-	90.04	31.55	11.09	30.93	101	48	P	H
	*	5242	90.65	-	-	78.94	31.55	11.09	30.93	101	48	A	H
		5351.32	55.76	-18.24	74	43.76	31.65	11.2	30.85	101	48	P	H
		5353.41	42.74	-11.26	54	30.74	31.65	11.2	30.85	101	48	A	H
802.11ac													H
VHT20													H
CH 48	*	5242	104.52	-	-	92.81	31.55	11.09	30.93	103	18	P	V
5240MHz	*	5242	93.57	-	-	81.86	31.55	11.09	30.93	103	18	A	V
		5354.4	56	-18	74	43.99	31.65	11.2	30.84	103	18	P	V
		5400.16	42.94	-11.06	54	30.79	31.7	11.26	30.81	103	18	A	V
													V
													V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

15E band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT20 CH 36 5180MHz		10360	48.11	-25.89	74	47.6	39.51	16.34	55.34	100	0	P	H
		15540	49.27	-24.73	74	43.75	38.54	19.61	52.63	100	0	P	H
													H
													H
		10360	48.86	-25.14	74	48.35	39.51	16.34	55.34	100	0	P	V
		15540	48.58	-25.42	74	43.06	38.54	19.61	52.63	100	0	P	V
													V
													V
802.11ac VHT20 CH 44 5220MHz		10440	48.42	-25.58	74	47.64	39.61	16.42	55.25	100	0	P	H
		15660	49.41	-24.59	74	44.13	38.35	19.69	52.76	100	0	P	H
													H
													H
		10440	48.99	-25.01	74	48.21	39.61	16.42	55.25	100	0	P	V
		15660	49.18	-24.82	74	43.9	38.35	19.69	52.76	100	0	P	V
													V
													V
802.11ac VHT20 CH 48 5240MHz		10480	48.1	-25.9	74	47.16	39.68	16.48	55.22	100	0	P	H
		15720	49.1	-24.9	74	43.95	38.24	19.73	52.82	100	0	P	H
													H
													H
		10480	48.94	-25.06	74	48	39.68	16.48	55.22	100	0	P	V
		15720	49.38	-24.62	74	44.23	38.24	19.73	52.82	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT40 CH 38 5190MHz		5149.7	58.45	-15.55	74	47.03	31.45	10.98	31.01	100	36	P	H
		5150	45.33	-8.67	54	33.91	31.45	10.98	31.01	100	36	A	H
	*	5192	94.82	-	-	83.27	31.5	11.03	30.98	100	36	P	H
	*	5192	87.04	-	-	75.49	31.5	11.03	30.98	100	36	A	H
		5423.26	49.89	-24.11	74	37.67	31.72	11.29	30.79	100	36	P	H
		5459.89	38.93	-15.07	54	26.6	31.75	11.34	30.76	100	36	A	H
		5145.95	66.19	-7.81	74	54.78	31.45	10.98	31.02	101	133	P	V
		5150	52.6	-1.4	54	41.18	31.45	10.98	31.01	101	133	A	V
	*	5192	104.28	-	-	92.73	31.5	11.03	30.98	101	133	P	V
	*	5192	96.51	-	-	84.96	31.5	11.03	30.98	101	133	A	V
		5359.68	51.18	-22.82	74	39.14	31.65	11.23	30.84	101	133	P	V
		5350.11	40.66	-13.34	54	28.66	31.65	11.2	30.85	101	133	A	V
802.11ac VHT40 CH 46 5230MHz		5118.65	54.34	-19.66	74	42.99	31.42	10.96	31.03	111	134	P	H
		5146.7	41.5	-12.5	54	30.09	31.45	10.98	31.02	111	134	A	H
	*	5232	97.79	-	-	86.14	31.53	11.06	30.94	111	134	P	H
	*	5232	87.47	-	-	75.82	31.53	11.06	30.94	111	134	A	H
		5353.3	55.37	-18.63	74	43.37	31.65	11.2	30.85	111	134	P	H
		5353.63	42.56	-11.44	54	30.56	31.65	11.2	30.85	111	134	A	H
		5061.65	56.38	-17.62	74	45.21	31.37	10.88	31.08	100	165	P	V
		5150	43.18	-10.82	54	31.76	31.45	10.98	31.01	100	165	A	V
	*	5228	107.24	-	-	95.6	31.53	11.06	30.95	100	165	P	V
	*	5228	96.94	-	-	85.3	31.53	11.06	30.95	100	165	A	V
		5389.27	56.5	-17.5	74	44.38	31.68	11.26	30.82	100	165	P	V
		5389.93	43.37	-10.63	54	31.25	31.68	11.26	30.82	100	165	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT40 CH 38 5190MHz		10380	48.4	-25.6	74	47.8	39.54	16.37	55.31	100	0	P	H
		15570	49.6	-24.4	74	44.16	38.49	19.62	52.67	100	0	P	H
													H
													H
		10380	48.87	-25.13	74	48.27	39.54	16.37	55.31	100	0	P	V
		15570	48.86	-25.14	74	43.42	38.49	19.62	52.67	100	0	P	V
													V
													V
802.11ac VHT40 CH 46 5230MHz		10460	48.14	-25.86	74	47.3	39.63	16.45	55.24	100	0	P	H
		15690	49.77	-24.23	74	44.55	38.3	19.71	52.79	100	0	P	H
													H
													H
		10460	48.79	-25.21	74	47.95	39.63	16.45	55.24	100	0	P	V
		15690	49.67	-24.33	74	44.45	38.3	19.71	52.79	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5025.95	54.36	-19.64	74	43.28	31.33	10.86	31.11	100	137	P	H
		5006.9	41.29	-12.71	54	30.27	31.32	10.83	31.13	100	137	A	H
	*	5258	100.28	-	-	88.57	31.55	11.09	30.93	100	137	P	H
	*	5258	89.75	-	-	78.04	31.55	11.09	30.93	100	137	A	H
		5416.22	55.53	-18.47	74	43.32	31.72	11.29	30.8	100	137	P	H
		5352.86	42.15	-11.85	54	30.15	31.65	11.2	30.85	100	137	A	H
		5116.4	54.33	-19.67	74	42.99	31.42	10.96	31.04	125	158	P	V
		5004.35	41.34	-12.66	54	30.32	31.32	10.83	31.13	125	158	A	V
	*	5258	109.79	-	-	98.08	31.55	11.09	30.93	125	158	P	V
	*	5258	99.81	-	-	88.1	31.55	11.09	30.93	125	158	A	V
		5378.27	58.25	-15.75	74	46.17	31.68	11.23	30.83	125	158	P	V
		5351.21	43	-11	54	31	31.65	11.2	30.85	125	158	A	V
802.11a CH 60 5300MHz		5049.2	54.1	-19.9	74	42.96	31.35	10.88	31.09	109	130	P	H
		5006.6	41.24	-12.76	54	30.22	31.32	10.83	31.13	109	130	A	H
	*	5298	100.38	-	-	88.52	31.6	11.15	30.89	109	130	P	H
	*	5298	89.6	-	-	77.74	31.6	11.15	30.89	109	130	A	H
		5384.98	55.67	-18.33	74	43.55	31.68	11.26	30.82	109	130	P	H
		5379.81	42.32	-11.68	54	30.24	31.68	11.23	30.83	109	130	A	H
		5012.75	55.27	-18.73	74	44.24	31.32	10.83	31.12	111	166	P	V
		5146.55	41.46	-12.54	54	30.05	31.45	10.98	31.02	111	166	A	V
	*	5298	111.6	-	-	99.74	31.6	11.15	30.89	111	166	P	V
	*	5298	100.61	-	-	88.75	31.6	11.15	30.89	111	166	A	V
		5402.8	56.95	-17.05	74	44.8	31.7	11.26	30.81	111	166	P	V
		5379.92	44.55	-9.45	54	32.47	31.68	11.23	30.83	111	166	A	V

802.11a CH 64 5320MHz	*	5318	98.94	-	-	87.02	31.62	11.18	30.88	100	29	P	H
	*	5318	89.54	-	-	77.62	31.62	11.18	30.88	100	29	A	H
		5350.44	53.98	-20.02	74	41.98	31.65	11.2	30.85	100	29	P	H
		5350	41.92	-12.08	54	29.92	31.65	11.2	30.85	100	29	A	H
													H
													H
	*	5322	109.35	-	-	97.42	31.62	11.18	30.87	100	197	P	V
	*	5322	102.36	-	-	90.43	31.62	11.18	30.87	100	197	A	V
		5352.42	62.93	-11.07	74	50.93	31.65	11.2	30.85	100	197	P	V
		5350	49.87	-4.13	54	37.87	31.65	11.2	30.85	100	197	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		10520	48.9	-25.1	74	47.8	39.73	16.53	55.16	100	0	P	H
		15780	49.12	-24.88	74	44.06	38.16	19.78	52.88	100	0	P	H
													H
													H
		10520	48.01	-25.99	74	46.91	39.73	16.53	55.16	100	0	P	V
		15780	49.74	-24.26	74	44.68	38.16	19.78	52.88	100	0	P	V
													V
													V
802.11a CH 60 5300MHz		10600	48.87	-25.13	74	47.45	39.89	16.61	55.08	100	0	P	H
		15900	49.3	-24.7	74	44.46	37.97	19.87	53	100	0	P	H
													H
													H
		10600	49.02	-24.98	74	47.6	39.89	16.61	55.08	100	0	P	V
		15900	49.94	-24.06	74	45.1	37.97	19.87	53	100	0	P	V
													V
													V
802.11a CH 64 5320MHz		10640	49.68	-24.32	74	48.09	39.95	16.67	55.03	100	0	P	H
		15960	49.71	-24.29	74	45	37.86	19.9	53.05	100	0	P	H
													H
													H
		10640	49.37	-24.63	74	47.78	39.95	16.67	55.03	100	0	P	V
		15960	49.63	-24.37	74	44.92	37.86	19.9	53.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5468.88	53.58	-20.42	74	41.22	31.77	11.34	30.75	108	29	P	H
		5470	42.14	-11.86	54	29.78	31.77	11.34	30.75	108	29	A	H
	*	5502	97.7	-	-	85.23	31.8	11.39	30.72	108	29	P	H
	*	5502	89.63	-	-	77.16	31.8	11.39	30.72	108	29	A	H
													H
													H
		5466.96	63.91	-10.09	74	51.55	31.77	11.34	30.75	110	203	P	V
		5470	49.87	-4.13	54	37.51	31.77	11.34	30.75	110	203	A	V
	*	5502	108.71	-	-	96.24	31.8	11.39	30.72	110	203	P	V
	*	5502	101.37	-	-	88.9	31.8	11.39	30.72	110	203	A	V
													V
													V
802.11a CH 116 5580MHz		5400.88	54.95	-19.05	74	42.8	31.7	11.26	30.81	102	332	P	H
		5353.36	42.16	-11.84	54	30.16	31.65	11.2	30.85	102	332	A	H
	*	5578	101.64	-	-	88.9	31.88	11.47	30.61	102	332	P	H
	*	5578	91.43	-	-	78.69	31.88	11.47	30.61	102	332	A	H
		5744.76	57.44	-16.56	74	44.02	32.09	11.68	30.35	102	332	P	H
		5762.04	43.35	-10.65	54	29.89	32.11	11.68	30.33	102	332	A	H
		5396.08	55.86	-18.14	74	43.71	31.7	11.26	30.81	102	203	P	V
		5424.4	42.51	-11.49	54	30.29	31.72	11.29	30.79	102	203	A	V
	*	5578	112.79	-	-	100.05	31.88	11.47	30.61	102	203	P	V
	*	5578	102.18	-	-	89.44	31.88	11.47	30.61	102	203	A	V
		5753.56	58.34	-15.66	74	44.9	32.11	11.68	30.35	102	203	P	V
		5740.04	44.68	-9.32	54	31.27	32.09	11.68	30.36	102	203	A	V

802.11a CH 140 5700MHz	*	5698	98.13	-	-	84.91	32.03	11.62	30.43	104	38	P	H
	*	5698	91	-	-	77.78	32.03	11.62	30.43	104	38	A	H
		5727.24	60.23	-13.77	74	46.89	32.07	11.65	30.38	104	38	P	H
		5725.08	47.41	-6.59	54	34.08	32.07	11.65	30.39	104	38	A	H
													H
													H
	*	5698	105.62	-	-	92.4	32.03	11.62	30.43	103	29	P	V
	*	5698	96.37	-	-	83.15	32.03	11.62	30.43	103	29	A	V
		5727.4	66.19	-7.81	74	52.85	32.07	11.65	30.38	103	29	P	V
		5725	53.2	-0.8	54	39.87	32.07	11.65	30.39	103	29	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		11000	49.47	-24.53	74	46.4	40.6	17.07	54.6	100	0	P	H
		16500	49.59	-24.41	74	43.34	39	20.35	53.1	100	0	P	H
													H
													H
		11000	49.14	-24.86	74	46.07	40.6	17.07	54.6	100	0	P	V
		16500	49.63	-24.37	74	43.38	39	20.35	53.1	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	49.91	-24.09	74	46.61	40.5	17.24	54.44	100	0	P	H
		16740	49.73	-24.27	74	42.66	39.48	20.55	52.96	100	0	P	H
													H
													H
		11160	49.4	-24.6	74	46.1	40.5	17.24	54.44	100	0	P	V
		16740	49.72	-24.28	74	42.65	39.48	20.55	52.96	100	0	P	V
													V
													V
802.11a CH 140 5700MHz		11400	48.96	-25.04	74	45.29	40.36	17.51	54.2	100	0	P	H
		17100	49.1	-24.9	74	40.76	40.4	20.85	52.91	100	0	P	H
													H
													H
		11400	48.81	-25.19	74	45.14	40.36	17.51	54.2	100	0	P	V
		17100	49.23	-24.77	74	40.89	40.4	20.85	52.91	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		33.51	25.6	-14.4	40	38.54	18	0.89	31.83			P	H
		70.23	26.7	-13.3	40	50.66	6.7	1.13	31.79	114	175	P	H
		240.6	32.34	-13.66	46	50.06	11.89	2.16	31.77			P	H
		334.3	31.91	-14.09	46	46.27	14.84	2.57	31.77			P	H
		383.3	26.15	-19.85	46	39.14	16.03	2.77	31.79			P	H
		994.4	29.14	-24.86	54	31.25	23.98	4.6	30.69			P	H
													H
													H
													H
													H
													H
													H
		42.15	28.59	-11.41	40	46.3	13.16	0.94	31.81	100	348	P	V
		178.77	24.29	-19.21	43.5	44.81	9.42	1.84	31.78			P	V
		289.47	22.82	-23.18	46	38.61	13.57	2.4	31.76			P	V
		322.4	22.98	-23.02	46	37.76	14.46	2.53	31.77			P	V
		513.5	24.24	-21.76	46	34.54	18.4	3.21	31.91			P	V
		995.1	30.83	-23.17	54	32.93	23.98	4.6	30.68			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency per 15.209(c).
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

15E band 1 5150~5250MHz

WIFI 802.11n HT20(Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5147	55.36	-18.64	74	43.95	31.45	10.98	31.02	100	217	P	H
		5120.15	41.76	-12.24	54	30.41	31.42	10.96	31.03	100	217	A	H
	*	5182	95.78	-	-	84.28	31.48	11.01	30.99	100	217	P	H
	*	5182	84.3	-	-	72.8	31.48	11.01	30.99	100	217	A	H
													H
													H
		5103.95	56.07	-17.93	74	44.79	31.4	10.93	31.05	125	208	P	V
		5120	43.98	-10.02	54	32.63	31.42	10.96	31.03	125	208	A	V
	*	5182	106.75	-	-	95.25	31.48	11.01	30.99	125	208	P	V
	*	5182	95.28	-	-	83.78	31.48	11.01	30.99	125	208	A	V
													V
													V
802.11n HT20 CH 44 5220MHz		5141.9	54.78	-19.22	74	43.37	31.45	10.98	31.02	100	226	P	H
		5139.95	41.91	-12.09	54	30.52	31.45	10.96	31.02	100	226	A	H
	*	5222	96.4	-	-	84.77	31.52	11.06	30.95	100	226	P	H
	*	5222	85.9	-	-	74.27	31.52	11.06	30.95	100	226	A	H
		5418.64	55.65	-18.35	74	43.44	31.72	11.29	30.8	100	226	P	H
		5379.81	42.59	-11.41	54	30.51	31.68	11.23	30.83	100	226	A	H
		5142.65	56.14	-17.86	74	44.73	31.45	10.98	31.02	110	154	P	V
		5120.15	43.81	-10.19	54	32.46	31.42	10.96	31.03	110	154	A	V
	*	5222	107.63	-	-	96	31.52	11.06	30.95	110	154	P	V
	*	5222	96.23	-	-	84.6	31.52	11.06	30.95	110	154	A	V
		5379.7	57.62	-16.38	74	45.54	31.68	11.23	30.83	110	154	P	V
		5380.03	45.59	-8.41	54	33.48	31.68	11.26	30.83	110	154	A	V

	*	5242	97.48	-	-	85.77	31.55	11.09	30.93	109	336	P	H
	*	5242	85.8	-	-	74.09	31.55	11.09	30.93	109	336	A	H
		5430.41	56	-18	74	43.75	31.73	11.31	30.79	109	336	P	H
		5353.85	42.53	-11.47	54	30.53	31.65	11.2	30.85	109	336	A	H
802.11n													H
HT20													H
CH 48	*	5238	107.25	-	-	95.57	31.53	11.09	30.94	111	161	P	V
5240MHz	*	5238	96.01	-	-	84.33	31.53	11.09	30.94	111	161	A	V
		5383.99	56.63	-17.37	74	44.51	31.68	11.26	30.82	111	161	P	V
		5400.05	43.24	-10.76	54	31.09	31.7	11.26	30.81	111	161	A	V
													V
													V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

15E band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		10360	48.78	-25.22	74	48.27	39.51	16.34	55.34	100	0	P	H
		15540	49.35	-24.65	74	43.83	38.54	19.61	52.63	100	0	P	H
													H
													H
		10360	48.72	-25.28	74	48.21	39.51	16.34	55.34	100	0	P	V
		15540	48.65	-25.35	74	43.13	38.54	19.61	52.63	100	0	P	V
													V
													V
802.11n HT20 CH 44 5220MHz		10440	48.74	-25.26	74	47.96	39.61	16.42	55.25	100	0	P	H
		15660	49.57	-24.43	74	44.29	38.35	19.69	52.76	100	0	P	H
													H
													H
		10440	48.45	-25.55	74	47.67	39.61	16.42	55.25	100	0	P	V
		15660	49.56	-24.44	74	44.28	38.35	19.69	52.76	100	0	P	V
													V
													V
802.11n HT20 CH 48 5240MHz		10480	48.53	-25.47	74	47.59	39.68	16.48	55.22	100	0	P	H
		15720	49.98	-24.02	74	44.83	38.24	19.73	52.82	100	0	P	H
													H
													H
		10480	48.72	-25.28	74	47.78	39.68	16.48	55.22	100	0	P	V
		15720	49.39	-24.61	74	44.24	38.24	19.73	52.82	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5138.9	54.64	-19.36	74	43.27	31.43	10.96	31.02	100	134	P	H
		5007.95	41.63	-12.37	54	30.61	31.32	10.83	31.13	100	134	A	H
	*	5192	94.42	-	-	82.87	31.5	11.03	30.98	100	134	P	H
	*	5192	82.91	-	-	71.36	31.5	11.03	30.98	100	134	A	H
		5363.53	56.15	-17.85	74	44.09	31.67	11.23	30.84	100	134	P	H
		5364.96	42.57	-11.43	54	30.51	31.67	11.23	30.84	100	134	A	H
		5000.3	56.21	-17.79	74	45.21	31.3	10.83	31.13	126	205	P	V
		5120.15	44.23	-9.77	54	32.88	31.42	10.96	31.03	126	205	A	V
	*	5192	103.67	-	-	92.12	31.5	11.03	30.98	126	205	P	V
	*	5192	92.43	-	-	80.88	31.5	11.03	30.98	126	205	A	V
		5362.98	56.29	-17.71	74	44.23	31.67	11.23	30.84	126	205	P	V
		5350	44.44	-9.56	54	32.44	31.65	11.2	30.85	126	205	A	V
802.11n HT40 CH 46 5230MHz		5069.75	55.21	-18.79	74	44.01	31.37	10.91	31.08	100	134	P	H
		5003.15	41.61	-12.39	54	30.61	31.3	10.83	31.13	100	134	A	H
	*	5232	93.29	-	-	81.64	31.53	11.06	30.94	100	134	P	H
	*	5232	82	-	-	70.35	31.53	11.06	30.94	100	134	A	H
		5352.2	56.39	-17.61	74	44.39	31.65	11.2	30.85	100	134	P	H
		5353.85	42.54	-11.46	54	30.54	31.65	11.2	30.85	100	134	A	H
		5044.7	55.38	-18.62	74	44.25	31.35	10.88	31.1	111	162	P	V
		5120.15	42.74	-11.26	54	31.39	31.42	10.96	31.03	111	162	A	V
	*	5228	104.89	-	-	93.25	31.53	11.06	30.95	111	162	P	V
	*	5228	93.37	-	-	81.73	31.53	11.06	30.95	111	162	A	V
		5361.11	56.4	-17.6	74	44.34	31.67	11.23	30.84	111	162	P	V
		5351.21	43.4	-10.6	54	31.4	31.65	11.2	30.85	111	162	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		10380	48.6	-25.4	74	48	39.54	16.37	55.31	100	0	P	H
		15570	49.77	-24.23	74	44.33	38.49	19.62	52.67	100	0	P	H
													H
													H
		10380	48.03	-25.97	74	47.43	39.54	16.37	55.31	100	0	P	V
		15570	49.56	-24.44	74	44.12	38.49	19.62	52.67	100	0	P	V
													V
													V
802.11n HT40 CH 46 5230MHz		10460	48.44	-25.56	74	47.6	39.63	16.45	55.24	100	0	P	H
		15690	49.66	-24.34	74	44.44	38.3	19.71	52.79	100	0	P	H
													H
													H
		10460	48.23	-25.77	74	47.39	39.63	16.45	55.24	100	0	P	V
		15690	49.81	-24.19	74	44.59	38.3	19.71	52.79	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5147.9	57.49	-16.51	74	46.07	31.45	10.98	31.01	100	135	P	H
		5147	43.08	-10.92	54	31.67	31.45	10.98	31.02	100	135	A	H
	*	5208	95.3	-	-	83.71	31.52	11.03	30.96	100	135	P	H
	*	5208	84.84	-	-	73.25	31.52	11.03	30.96	100	135	A	H
		5400.71	55.52	-18.48	74	43.37	31.7	11.26	30.81	100	135	P	H
		5353.85	42.37	-11.63	54	30.37	31.65	11.2	30.85	100	135	A	H
		5149.1	62.28	-11.72	74	50.86	31.45	10.98	31.01	111	160	P	V
		5150	46.79	-7.21	54	35.37	31.45	10.98	31.01	111	160	A	V
	*	5212	106.63	-	-	95.01	31.52	11.06	30.96	111	160	P	V
	*	5212	94.85	-	-	83.23	31.52	11.06	30.96	111	160	A	V
		5411.16	56.26	-17.74	74	44.07	31.7	11.29	30.8	111	160	P	V
		5350.44	43.83	-10.17	54	31.83	31.65	11.2	30.85	111	160	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		10420	48.34	-25.66	74	47.64	39.58	16.39	55.27	100	0	P	H
		15630	49.46	-24.54	74	44.15	38.38	19.67	52.74	100	0	P	H
													H
													H
		10420	47.5	-26.5	74	46.8	39.58	16.39	55.27	100	0	P	V
		15630	49.19	-24.81	74	43.88	38.38	19.67	52.74	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5040.65	54.72	-19.28	74	43.61	31.35	10.86	31.1	111	223	P	H
		5007.5	41.49	-12.51	54	30.47	31.32	10.83	31.13	111	223	A	H
	*	5262	99.1	-	-	87.33	31.57	11.12	30.92	111	223	P	H
	*	5262	85.15	-	-	73.38	31.57	11.12	30.92	111	223	A	H
													H
													H
		5143.1	56.17	-17.83	74	44.76	31.45	10.98	31.02	110	153	P	V
		5120.15	43.61	-10.39	54	32.26	31.42	10.96	31.03	110	153	A	V
	*	5262	111.35	-	-	99.58	31.57	11.12	30.92	110	153	P	V
	*	5262	99.92	-	-	88.15	31.57	11.12	30.92	110	153	A	V
													V
													V
802.11n HT20 CH 60 5300MHz		5133.2	54.75	-19.25	74	43.39	31.43	10.96	31.03	111	186	P	H
		5002.85	41.52	-12.48	54	30.52	31.3	10.83	31.13	111	186	A	H
	*	5302	99.21	-	-	87.35	31.6	11.15	30.89	111	186	P	H
	*	5302	87.96	-	-	76.1	31.6	11.15	30.89	111	186	A	H
		5387.29	55.53	-18.47	74	43.41	31.68	11.26	30.82	111	186	P	H
		5379.92	42.92	-11.08	54	30.84	31.68	11.23	30.83	111	186	A	H
		5120.15	55.36	-18.64	74	44.01	31.42	10.96	31.03	109	160	P	V
		5140.1	42.75	-11.25	54	31.34	31.45	10.98	31.02	109	160	A	V
	*	5298	112.15	-	-	100.29	31.6	11.15	30.89	109	160	P	V
	*	5298	101.84	-	-	89.98	31.6	11.15	30.89	109	160	A	V
		5358.25	58.39	-15.61	74	46.35	31.65	11.23	30.84	109	160	P	V
		5380.03	46	-8	54	33.89	31.68	11.26	30.83	109	160	A	V

	*	5322	99.26	-	-	87.33	31.62	11.18	30.87	110	177	P	H
	*	5322	87.31	-	-	75.38	31.62	11.18	30.87	110	177	A	H
		5358.8	56.57	-17.43	74	44.53	31.65	11.23	30.84	110	177	P	H
		5351.98	42.68	-11.32	54	30.68	31.65	11.2	30.85	110	177	A	H
802.11n													H
HT20													H
CH 64	*	5322	110.7	-	-	98.77	31.62	11.18	30.87	120	49	P	V
5320MHz	*	5322	98.74	-	-	86.81	31.62	11.18	30.87	120	49	A	V
		5400.16	58.1	-15.9	74	45.95	31.7	11.26	30.81	120	49	P	V
		5400.05	47.18	-6.82	54	35.03	31.7	11.26	30.81	120	49	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		10520	48.77	-25.23	74	47.67	39.73	16.53	55.16	100	0	P	H
		15780	49.93	-24.07	74	44.87	38.16	19.78	52.88	100	0	P	H
													H
													H
		10520	48.4	-25.6	74	47.3	39.73	16.53	55.16	100	0	P	V
		15780	48.57	-25.43	74	43.51	38.16	19.78	52.88	100	0	P	V
													V
													V
802.11n HT20 CH 60 5300MHz		10600	48.9	-25.1	74	47.48	39.89	16.61	55.08	100	0	P	H
		15900	49.05	-24.95	74	44.21	37.97	19.87	53	100	0	P	H
													H
													H
		10600	48.37	-25.63	74	46.95	39.89	16.61	55.08	100	0	P	V
		15900	49.63	-24.37	74	44.79	37.97	19.87	53	100	0	P	V
													V
													V
802.11n HT20 CH 64 5320MHz		10640	48.67	-25.33	74	47.08	39.95	16.67	55.03	100	0	P	H
		15960	48.6	-25.4	74	43.89	37.86	19.9	53.05	100	0	P	H
													H
													H
		10640	48.91	-25.09	74	47.32	39.95	16.67	55.03	100	0	P	V
		15960	49.39	-24.61	74	44.68	37.86	19.9	53.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5021.6	54.87	-19.13	74	43.8	31.33	10.86	31.12	100	133	P	H
		5006.9	41.61	-12.39	54	30.59	31.32	10.83	31.13	100	133	A	H
	*	5268	96.59	-	-	84.82	31.57	11.12	30.92	100	133	P	H
	*	5268	85.19	-	-	73.42	31.57	11.12	30.92	100	133	A	H
		5384.32	55.97	-18.03	74	43.85	31.68	11.26	30.82	100	133	P	H
		5353.52	42.59	-11.41	54	30.59	31.65	11.2	30.85	100	133	A	H
		5090.6	55.33	-18.67	74	44.08	31.4	10.91	31.06	124	156	P	V
		5120.15	43.35	-10.65	54	32	31.42	10.96	31.03	124	156	A	V
	*	5272	108.57	-	-	96.79	31.57	11.12	30.91	124	156	P	V
	*	5272	97.43	-	-	85.65	31.57	11.12	30.91	124	156	A	V
		5369.47	57.99	-16.01	74	45.92	31.67	11.23	30.83	124	156	P	V
		5350	45.4	-8.6	54	33.4	31.65	11.2	30.85	124	156	A	V
802.11n HT40 CH 62 5310MHz		5015.6	55.04	-18.96	74	44.01	31.32	10.83	31.12	110	131	P	H
		5006.45	41.59	-12.41	54	30.57	31.32	10.83	31.13	110	131	A	H
	*	5311	96.21	-	-	84.29	31.62	11.18	30.88	110	131	P	H
	*	5311	84.78	-	-	72.86	31.62	11.18	30.88	110	131	A	H
		5383.77	56.36	-17.64	74	44.24	31.68	11.26	30.82	110	131	P	H
		5351.43	42.89	-11.11	54	30.89	31.65	11.2	30.85	110	131	A	H
		5122.4	55.61	-18.39	74	44.26	31.42	10.96	31.03	111	160	P	V
		5120	42.93	-11.07	54	31.58	31.42	10.96	31.03	111	160	A	V
	*	5312	108.83	-	-	96.91	31.62	11.18	30.88	111	160	P	V
	*	5312	97.66	-	-	85.74	31.62	11.18	30.88	111	160	A	V
		5352.64	65.39	-8.61	74	53.39	31.65	11.2	30.85	111	160	P	V
		5350	46.44	-7.56	54	34.44	31.65	11.2	30.85	111	160	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		10540	48.69	-25.31	74	47.51	39.76	16.56	55.14	100	0	P	H
		15810	48.55	-25.45	74	43.56	38.1	19.8	52.91	100	0	P	H
													H
													H
		10540	48.78	-25.22	74	47.6	39.76	16.56	55.14	100	0	P	V
		15810	49.04	-24.96	74	44.05	38.1	19.8	52.91	100	0	P	V
													V
													V
802.11n HT40 CH 62 5310MHz		10620	47.88	-26.12	74	46.38	39.92	16.64	55.06	100	0	P	H
		15930	48.3	-25.7	74	43.54	37.91	19.88	53.03	100	0	P	H
													H
													H
		10620	48.46	-25.54	74	46.96	39.92	16.64	55.06	100	0	P	V
		15930	49.14	-24.86	74	44.38	37.91	19.88	53.03	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5045.15	54.37	-19.63	74	43.24	31.35	10.88	31.1	100	226	P	H
		5120.15	41.46	-12.54	54	30.11	31.42	10.96	31.03	100	226	A	H
	*	5288	93.51	-	-	81.68	31.58	11.15	30.9	100	226	P	H
	*	5288	82.61	-	-	70.78	31.58	11.15	30.9	100	226	A	H
		5356.82	55.52	-18.48	74	43.48	31.65	11.23	30.84	100	226	P	H
		5352.42	42.5	-11.5	54	30.5	31.65	11.2	30.85	100	226	A	H
		5050.25	55.1	-18.9	74	43.96	31.35	10.88	31.09	124	160	P	V
		5120.15	42.29	-11.71	54	30.94	31.42	10.96	31.03	124	160	A	V
	*	5292	106.16	-	-	94.33	31.58	11.15	30.9	124	160	P	V
	*	5292	95.12	-	-	83.29	31.58	11.15	30.9	124	160	A	V
		5351.43	66.27	-7.73	74	54.27	31.65	11.2	30.85	124	160	P	V
		5350	47.61	-6.39	54	35.61	31.65	11.2	30.85	124	160	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		10580	48.17	-25.83	74	46.83	39.86	16.58	55.1	100	0	P	H
		15870	48.43	-25.57	74	43.55	37.99	19.85	52.96	100	0	P	H
													H
													H
		10580	48.72	-25.28	74	47.38	39.86	16.58	55.1	100	0	P	V
		15870	49.38	-24.62	74	44.5	37.99	19.85	52.96	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5351.28	56.88	-17.12	74	44.88	31.65	11.2	30.85	104	335	P	H
		5414.16	42.81	-11.19	54	30.6	31.72	11.29	30.8	104	335	A	H
	*	5498	101.39	-	-	88.96	31.8	11.36	30.73	104	335	P	H
	*	5498	89.04	-	-	76.61	31.8	11.36	30.73	104	335	A	H
													H
													H
		5469.84	59.53	-14.47	74	47.17	31.77	11.34	30.75	116	39	P	V
		5420.08	46.26	-7.74	54	34.04	31.72	11.29	30.79	116	39	A	V
	*	5498	111.13	-	-	98.7	31.8	11.36	30.73	116	39	P	V
	*	5498	99.93	-	-	87.5	31.8	11.36	30.73	116	39	A	V
													V
													V
802.11n HT20 CH 116 5580MHz		5412.88	55.69	-18.31	74	43.48	31.72	11.29	30.8	103	37	P	H
		5419.92	42.62	-11.38	54	30.4	31.72	11.29	30.79	103	37	A	H
	*	5582	101.38	-	-	88.61	31.9	11.47	30.6	103	37	P	H
	*	5582	89.62	-	-	76.85	31.9	11.47	30.6	103	37	A	H
		5734.28	57.54	-16.46	74	44.19	32.07	11.65	30.37	103	37	P	H
		5740.04	43.83	-10.17	54	30.42	32.09	11.68	30.36	103	37	A	H
		5417.2	55.95	-18.05	74	43.74	31.72	11.29	30.8	102	208	P	V
		5420.08	43.71	-10.29	54	31.49	31.72	11.29	30.79	102	208	A	V
	*	5582	113.47	-	-	100.7	31.9	11.47	30.6	102	208	P	V
	*	5582	101.39	-	-	88.62	31.9	11.47	30.6	102	208	A	V
		5743.4	58.77	-15.23	74	45.35	32.09	11.68	30.35	102	208	P	V
		5740.04	47.01	-6.99	54	33.6	32.09	11.68	30.36	102	208	A	V

	*	5702	102.69	-	-	89.45	32.05	11.62	30.43	100	34	P	H
	*	5702	90.64	-	-	77.4	32.05	11.62	30.43	100	34	A	H
		5725.4	57.52	-16.48	74	44.19	32.07	11.65	30.39	100	34	P	H
		5725	44.21	-9.79	54	30.88	32.07	11.65	30.39	100	34	A	H
802.11n													H
HT20													H
CH 140	*	5698	113.2	-	-	99.98	32.03	11.62	30.43	103	159	P	V
5700MHz	*	5698	101.3	-	-	88.08	32.03	11.62	30.43	103	159	A	V
		5725.64	69.49	-4.51	74	56.16	32.07	11.65	30.39	103	159	P	V
		5725	49.31	-4.69	54	35.98	32.07	11.65	30.39	103	159	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	48.76	-25.24	74	45.69	40.6	17.07	54.6	100	0	P	H
		16500	49.54	-24.46	74	43.29	39	20.35	53.1	100	0	P	H
													H
													H
		11000	48.94	-25.06	74	45.87	40.6	17.07	54.6	100	0	P	V
		16500	49.71	-24.29	74	43.46	39	20.35	53.1	100	0	P	V
													V
													V
802.11n HT20 CH 116 5580MHz		11160	48.6	-25.4	74	45.3	40.5	17.24	54.44	100	0	P	H
		16740	49.81	-24.19	74	42.74	39.48	20.55	52.96	100	0	P	H
													H
													H
		11160	48.72	-25.28	74	45.42	40.5	17.24	54.44	100	0	P	V
		16740	49.13	-24.87	74	42.06	39.48	20.55	52.96	100	0	P	V
													V
													V
802.11n HT20 CH 140 5700MHz		11400	48.46	-25.54	74	44.79	40.36	17.51	54.2	100	0	P	H
		17100	49.8	-24.2	74	41.46	40.4	20.85	52.91	100	0	P	H
													H
													H
		11400	48.65	-25.35	74	44.98	40.36	17.51	54.2	100	0	P	V
		17100	49.49	-24.51	74	41.15	40.4	20.85	52.91	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5470	57.99	-16.01	74	45.63	31.77	11.34	30.75	102	254	P	H
		5470	44.51	-9.49	54	32.15	31.77	11.34	30.75	102	254	A	H
	*	5512	98.86	-	-	86.38	31.8	11.39	30.71	102	254	P	H
	*	5512	87.63	-	-	75.15	31.8	11.39	30.71	102	254	A	H
		5763.72	57.21	-16.79	74	43.75	32.11	11.68	30.33	102	254	P	H
		5764.84	43.67	-10.33	54	30.18	32.11	11.71	30.33	102	254	A	H
		5469.36	65.73	-8.27	74	53.37	31.77	11.34	30.75	117	35	P	V
		5470	50.5	-3.5	54	38.14	31.77	11.34	30.75	117	35	A	V
	*	5508	108.7	-	-	96.22	31.8	11.39	30.71	117	35	P	V
	*	5508	97.7	-	-	85.22	31.8	11.39	30.71	117	35	A	V
		5736.84	57.27	-16.73	74	43.9	32.09	11.65	30.37	117	35	P	V
		5760.36	43.78	-10.22	54	30.33	32.11	11.68	30.34	117	35	A	V
802.11n HT40 CH 110 5550MHz		5375.28	55.3	-18.7	74	43.23	31.67	11.23	30.83	103	34	P	H
		5353.84	42.42	-11.58	54	30.42	31.65	11.2	30.85	103	34	A	H
	*	5548	98.09	-	-	85.45	31.86	11.44	30.66	103	34	P	H
	*	5548	87.11	-	-	74.47	31.86	11.44	30.66	103	34	A	H
		5742.92	56.69	-17.31	74	43.28	32.09	11.68	30.36	103	34	P	H
		5764.28	43.5	-10.5	54	30.01	32.11	11.71	30.33	103	34	A	H
		5447.6	56.54	-17.46	74	44.25	31.75	11.31	30.77	116	36	P	V
		5470	43.82	-10.18	54	31.46	31.77	11.34	30.75	116	36	A	V
	*	5548	109.9	-	-	97.26	31.86	11.44	30.66	116	36	P	V
	*	5548	98.66	-	-	86.02	31.86	11.44	30.66	116	36	A	V
		5736.2	57.43	-16.57	74	44.06	32.09	11.65	30.37	116	36	P	V
		5751.88	43.83	-10.17	54	30.39	32.11	11.68	30.35	116	36	A	V

802.11n HT40 CH 134 5670MHz		5353.36	55.21	-18.79	74	43.21	31.65	11.2	30.85	100	33	P	H
		5353.2	42.38	-11.62	54	30.38	31.65	11.2	30.85	100	33	A	H
	*	5672	98.71	-	-	85.58	32.01	11.59	30.47	100	33	P	H
	*	5672	87.85	-	-	74.72	32.01	11.59	30.47	100	33	A	H
		5761.56	57.51	-16.49	74	44.05	32.11	11.68	30.33	100	33	P	H
		5725.48	43.72	-10.28	54	30.39	32.07	11.65	30.39	100	33	A	H
		5370.8	55.7	-18.3	74	43.63	31.67	11.23	30.83	102	207	P	V
		5350.16	42.44	-11.56	54	30.44	31.65	11.2	30.85	102	207	A	V
	*	5672	110.74	-	-	97.61	32.01	11.59	30.47	102	207	P	V
	*	5672	99.88	-	-	86.75	32.01	11.59	30.47	102	207	A	V
		5725.32	65.14	-8.86	74	51.81	32.07	11.65	30.39	102	207	P	V
		5725	47.56	-6.44	54	34.23	32.07	11.65	30.39	102	207	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11020	48.31	-25.69	74	45.2	40.59	17.1	54.58	100	0	P	H
		16530	49.84	-24.16	74	43.48	39.07	20.37	53.08	100	0	P	H
													H
													H
		11020	48.32	-25.68	74	45.21	40.59	17.1	54.58	100	0	P	V
		16530	49.28	-24.72	74	42.92	39.07	20.37	53.08	100	0	P	V
													V
													V
802.11n HT40 CH 110 5550MHz		11100	48.68	-25.32	74	45.46	40.54	17.18	54.5	100	0	P	H
		16650	49.93	-24.07	74	43.16	39.31	20.47	53.01	100	0	P	H
													H
													H
		11100	48.33	-25.67	74	45.11	40.54	17.18	54.5	100	0	P	V
		16650	49.49	-24.51	74	42.72	39.31	20.47	53.01	100	0	P	V
													V
													V
802.11n HT40 CH 134 5670MHz		11340	47.49	-26.51	74	43.9	40.4	17.46	54.27	100	0	P	H
		17010	49.88	-24.12	74	41.84	40.07	20.77	52.8	100	0	P	H
													H
													H
		11340	48.19	-25.81	74	44.6	40.4	17.46	54.27	100	0	P	V
		17010	49.02	-24.98	74	40.98	40.07	20.77	52.8	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5469.04	58.13	-15.87	74	45.77	31.77	11.34	30.75	107	2	P	H
		5469.84	44.71	-9.29	54	32.35	31.77	11.34	30.75	107	2	A	H
	*	5532	99.26	-	-	86.68	31.84	11.42	30.68	107	2	P	H
	*	5532	86.62	-	-	74.04	31.84	11.42	30.68	107	2	A	H
		5732.68	57.18	-16.82	74	43.83	32.07	11.65	30.37	107	2	P	H
		5760.52	43.36	-10.64	54	29.91	32.11	11.68	30.34	107	2	A	H
		5469.52	60.16	-13.84	74	47.8	31.77	11.34	30.75	109	210	P	V
		5470	47.02	-6.98	54	34.66	31.77	11.34	30.75	109	210	A	V
	*	5532	104.86	-	-	92.28	31.84	11.42	30.68	109	210	P	V
	*	5532	92.83	-	-	80.25	31.84	11.42	30.68	109	210	A	V
		5728.76	58.57	-15.43	74	45.23	32.07	11.65	30.38	109	210	P	V
		5733	43.58	-10.42	54	30.23	32.07	11.65	30.37	109	210	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		11060	47.7	-26.3	74	44.56	40.56	17.13	54.55	100	0	P	H
		16590	49.49	-24.51	74	42.94	39.17	20.43	53.05	100	0	P	H
													H
													H
		11060	48.16	-25.84	74	45.02	40.56	17.13	54.55	100	0	P	V
		16590	49.8	-24.2	74	43.25	39.17	20.43	53.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15E Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		86.7	28.97	-11.03	40	50.73	8.74	1.29	31.79			P	H
		176.88	31.67	-11.83	43.5	51.98	9.64	1.83	31.78			P	H
		256.26	35.27	-10.73	46	51.41	13.4	2.23	31.77	145	85	P	H
		334.3	31.91	-14.09	46	46.27	14.84	2.57	31.77			P	H
		533.1	25.74	-20.26	46	35.83	18.57	3.28	31.94			P	H
		599.6	29.68	-16.32	46	38.56	19.68	3.48	32.04			P	H
													H
													H
													H
													H
													H
													H
		86.43	27.74	-12.26	40	49.5	8.74	1.29	31.79	107	286	P	V
		176.34	24.79	-18.71	43.5	45.1	9.64	1.83	31.78			P	V
		232.5	23.69	-22.31	46	42.03	11.31	2.12	31.77			P	V
		600.3	26.51	-19.49	46	35.37	19.7	3.48	32.04			P	V
		800.5	30.79	-15.21	46	36.58	22.1	4.03	31.92			P	V
		995.1	30.83	-23.17	54	32.93	23.98	4.6	30.68			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency per 15.209(c).
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

3. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

4. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

3. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

4. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

3. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

4. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".