



FCC RF Test Report

APPLICANT : iRobot Corporation
EQUIPMENT : Wichita
BRAND NAME : iRobot
MODEL NAME : AXD-Y1
FCC ID : UFEAXD-Y1
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Mar. 07, 2019 and testing was completed on Apr. 18, 2019. We, Sporton International (Shenzhen) 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 (Shenzhen) Inc., the test report shall not be reproduced except in full.

Approved by: Eric Shih / Manager



Sporton International (Shenzhen) Inc.

***1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen City,
Guangdong Province 518055, China***



TABLE OF CONTENTS

REVISION HISTORY.....	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer.....	5
1.3 Product Feature of Equipment Under Test.....	5
1.4 Product Specification of Equipment Under Test.....	6
1.5 Modification of EUT	7
1.6 Testing Location	8
1.7 Applicable Standards.....	8
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	9
2.1 Carrier Frequency and Channel	9
2.2 Test Mode	10
2.3 Connection Diagram of Test System.....	11
2.4 Support Unit used in test configuration and system	11
2.5 EUT Operation Test Setup	12
2.6 Measurement Results Explanation Example.....	12
3 TEST RESULT.....	13
3.1 26dB & 99% Occupied Bandwidth Measurement	13
3.2 Maximum Conducted Output Power Measurement	15
3.3 Power Spectral Density Measurement	17
3.4 Unwanted Emissions Measurement	20
3.5 Automatically Discontinue Transmission	25
3.6 Antenna Requirements.....	26
4 LIST OF MEASURING EQUIPMENT	27
5 UNCERTAINTY OF EVALUATION	28
APPENDIX A. CONDUCTED TEST RESULTS	
APPENDIX B. RADIATED SPURIOUS EMISSION	
APPENDIX C. DUTY CYCLE PLOTS	
APPENDIX D. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR930701-01C	Rev. 01	Initial issue of report	Apr. 30, 2019

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.30 dB at 5144.820 MHz
3.5	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.6	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

Note: The module is powered by the host. When the host will be charged, it will go through the host battery and enter the module power supply, so the conduction test item can be ignored.



1 General Description

1.1 Applicant

iRobot Corporation

8 Crosby Drive, Bedford, Massachusetts 01730, United States

1.2 Manufacturer

Huizhou BYD Electronic Co.,Ltd.

Xiangshui River,Economic Development Zone,Daya Bay,Huizhou,Guangdong Province,P.R.China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wichita
Brand Name	iRobot
Model Name	AXD-Y1
FCC ID	UFEAXD-Y1
EUT supports Radios application	WLAN 2.4GHz 11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth LE/GNSS
HW Version	Wichita B2
SW Version	wichita+2.0.0_rc6+wichita+50
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The antenna provided to the EUT, please refer to the following table.

Antenna No.	Brand	Model	Gain(dBi)	Antenna Type	Frequency range (GHz to GHz)	Cable Length (mm)
1(External)	Laird	EMN2449A2S-16MHF1	3.15	PCB dipole antenna	2.4-2.4835	160
1(External)	Laird	EMN2449A2S-16MHF1	3.38	PCB dipole antenna	5.15-5.25	160
1(External)	Laird	EMN2449A2S-16MHF1	3.38	PCB dipole antenna	5.25-5.35	160
1(External)	Laird	EMN2449A2S-16MHF1	3.51	PCB dipole antenna	5.47-5.725	160
1(External)	Laird	EMN2449A2S-16MHF1	3.23	PCB dipole antenna	5.725-5.85	160
2(External)	Laird	EMN2449A2S-34MHF1	3.15	PCB dipole antenna	2.4-2.4835	340
2(External)	Laird	EMN2449A2S-34MHF1	3.38	PCB dipole antenna	5.15-5.25	340
2(External)	Laird	EMN2449A2S-34MHF1	3.38	PCB dipole antenna	5.25-5.35	340
2(External)	Laird	EMN2449A2S-34MHF1	3.51	PCB dipole antenna	5.47-5.725	340
2(External)	Laird	EMN2449A2S-34MHF1	3.23	PCB dipole antenna	5.725-5.85	340



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	SISO<Ant. 1> <5180 MHz ~ 5240 MHz> 802.11a : 15.07 dBm / 0.0321 W <5260 MHz ~ 5320 MHz > 802.11a : 14.97 dBm / 0.0314 W <5500 MHz ~ 5700 MHz > 802.11a : 15.12 dBm / 0.0325 W SISO<Ant. 2> <5180 MHz ~ 5240 MHz> 802.11a : 15.16 dBm / 0.0328 W <5260 MHz ~ 5320 MHz > 802.11a : 15.20 dBm / 0.0331 W <5500 MHz ~ 5700 MHz > 802.11a : 15.20 dBm / 0.0331 W MIMO<Ant. 1+2> <5180 MHz ~ 5240 MHz> 802.11n HT20 : 14.11 dBm / 0.0258 W 802.11n HT40 : 16.44 dBm / 0.0441 W 802.11ac VHT20 : 14.04 dBm / 0.0254 W 802.11ac VHT40 : 16.13 dBm / 0.0410 W 802.11ac VHT80 : 14.80 dBm / 0.0302 W <5260 MHz ~ 5320 MHz> 802.11n HT20 : 15.01 dBm / 0.0317 W 802.11n HT40 : 16.34 dBm / 0.0431 W 802.11ac VHT20 : 14.87 dBm / 0.0307 W 802.11ac VHT40 : 15.99 dBm / 0.0397 W 802.11ac VHT80 : 14.95 dBm / 0.0313 W <5500 MHz ~ 5700 MHz > 802.11n HT20 : 14.16 dBm / 0.0261 W 802.11n HT40 : 16.16 dBm / 0.0413 W 802.11ac VHT20 : 14.10 dBm / 0.0257 W 802.11ac VHT40 : 16.11 dBm / 0.0408 W 802.11ac VHT80 : 15.04 dBm / 0.0319 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.93 MHz 802.11n HT20 : 17.78 MHz 802.11n HT40 : 36.16 MHz 802.11ac VHT80 : 74.93 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.88 MHz 802.11n HT20 : 17.78 MHz 802.11n HT40 : 36.16 MHz 802.11ac VHT80 : 74.93 MHz <5500 MHz ~ 5700 MHz > 802.11a : 16.83 MHz 802.11n HT20 : 17.83 MHz 802.11n HT40 : 36.16 MHz 802.11ac VHT80 : 75.04 MHz

Antenna Type / Gain	<5180 MHz ~ 5240 MHz> <Ant. 1> : PCB Dipole Antenna with gain 3.38 dBi <Ant. 2> : PCB Dipole Antenna with gain 3.38 dBi <5260 MHz ~ 5320 MHz> <Ant. 1> : PCB Dipole Antenna with gain 3.38 dBi <Ant. 2> : PCB Dipole Antenna with gain 3.38 dBi <5500 MHz ~ 5700 MHz> <Ant. 1> : PCB Dipole Antenna with gain 3.51 dBi <Ant. 2> : PCB Dipole Antenna with gain 3.51 dBi		
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)		
Antenna Function Description		Ant. 1	Ant. 2
	802.11 a SISO	V	V
	802.11 an/ac MIMO	V	

Note:

1. For 802.11an HT20 / ac VHT20 and 802.11an HT40 / ac VHT40 mode, the whole testing have assessed only 802.11n HT20/ HT40 by referring to their maximum conducted power.
2. For 802.11a SISO mode, the whole testing has assessed Ant 2 mode by referring to their higher conducted power for RSE testing.

1.5 Modification of EUT

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

1.6 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0).

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen City, Guangdong Province 518055, China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	TH01-SZ	CN5018	337463

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District, Shenzhen City, Guangdong Province 518055, China TEL: +86-755- 3320-2398		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	03CH01-SZ	CN5019	577730

1.7 Applicable Standards

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

- ♦ 47 CFR Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

- a. 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: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 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)
5260-5320 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)
5500-5700 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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122 [#]	5610	128	5640

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "[#]" were 802.11ac VHT80.

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

SISO Mode

Modulation	Data Rate
802.11a	6 Mbps

MIMO Mode

Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

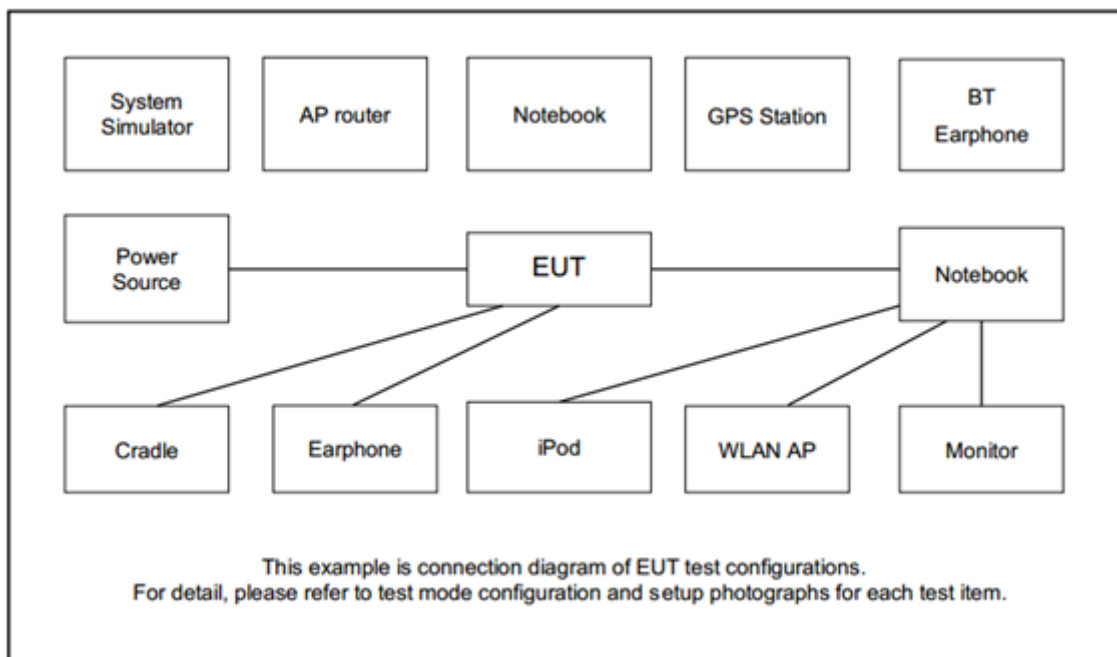
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		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 : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		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 : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Battery	N/A	N/A	N/A	N/A	N/A



2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuously transmit/receive.

2.6 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 6.6 dB and 10dB attenuator.

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

$$= 6.6 + 10 = 16.6 \text{ (dB)}$$

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.

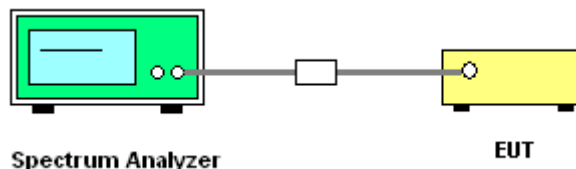
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

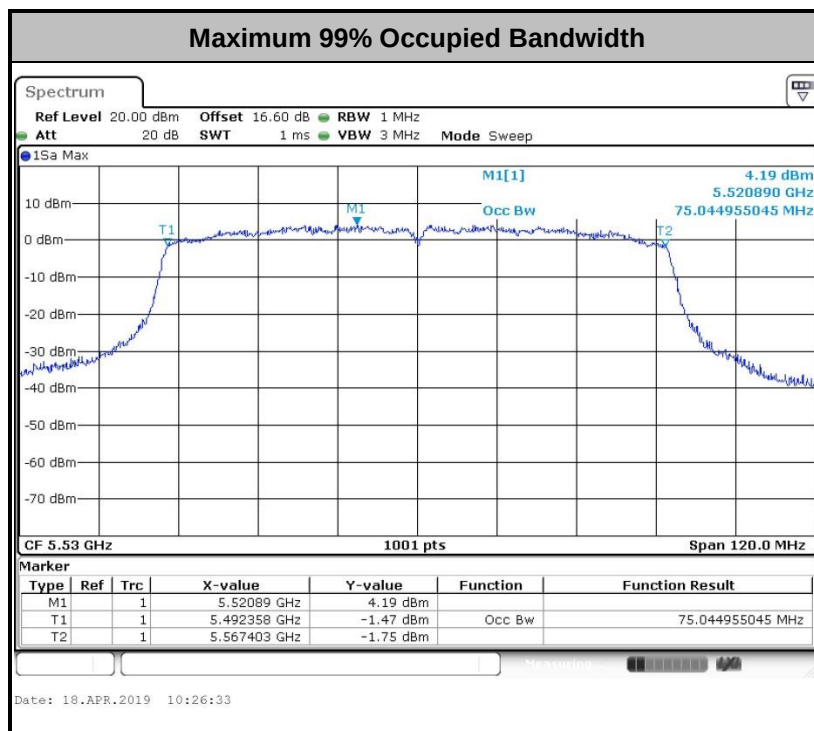
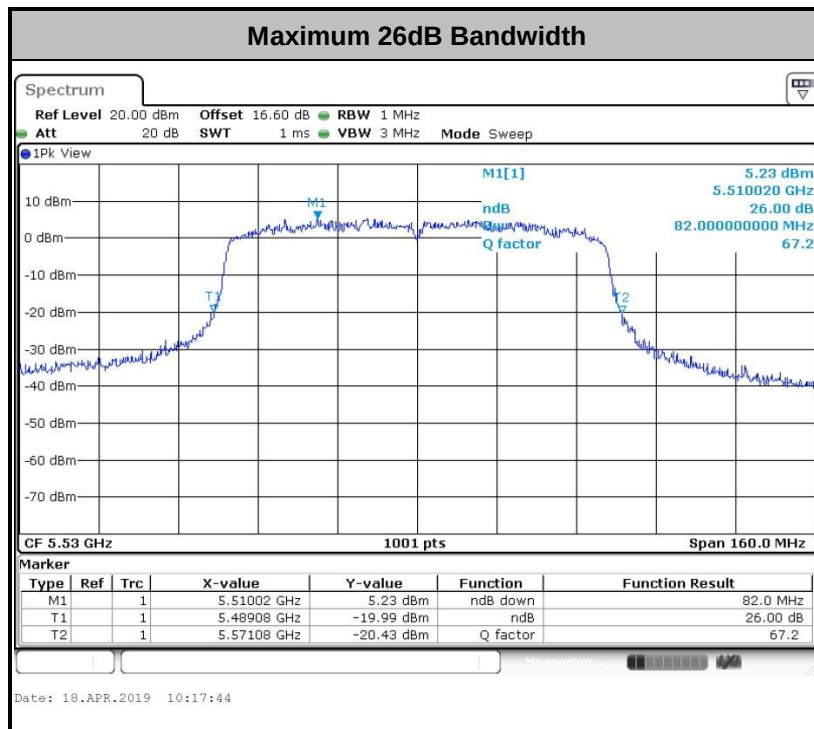
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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) $\geq 3 * RBW$.
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

Please refer to Appendix A.



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

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 5.25–5.725 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.

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 $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz.

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.

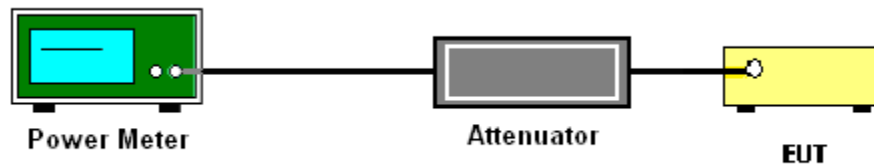
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



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 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz 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 v02r01.

Section F) Maximum power spectral density.

Method SA-2

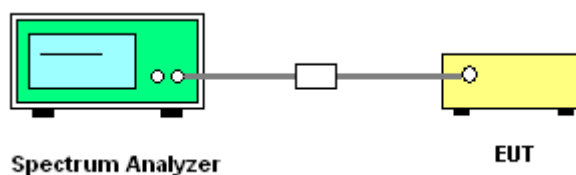
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 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.
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
 3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (a): 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.

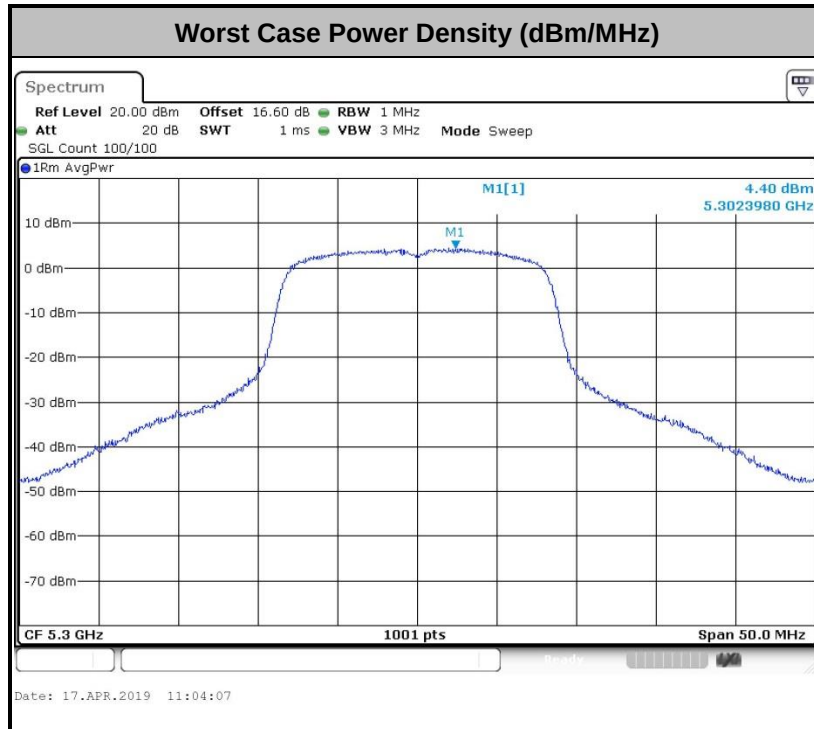
3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



Note: Average Power Density (dB) = Measured value+ Duty Factor

3.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.4.1 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 shall comply with the general field strength limits 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

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.2

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

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

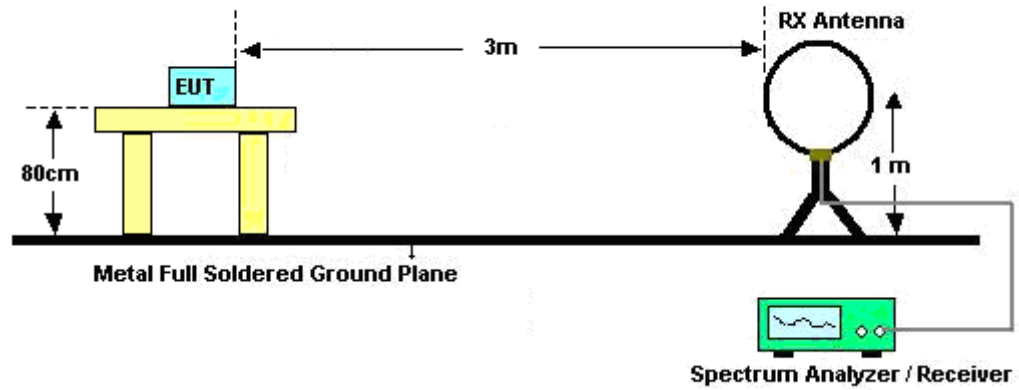
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

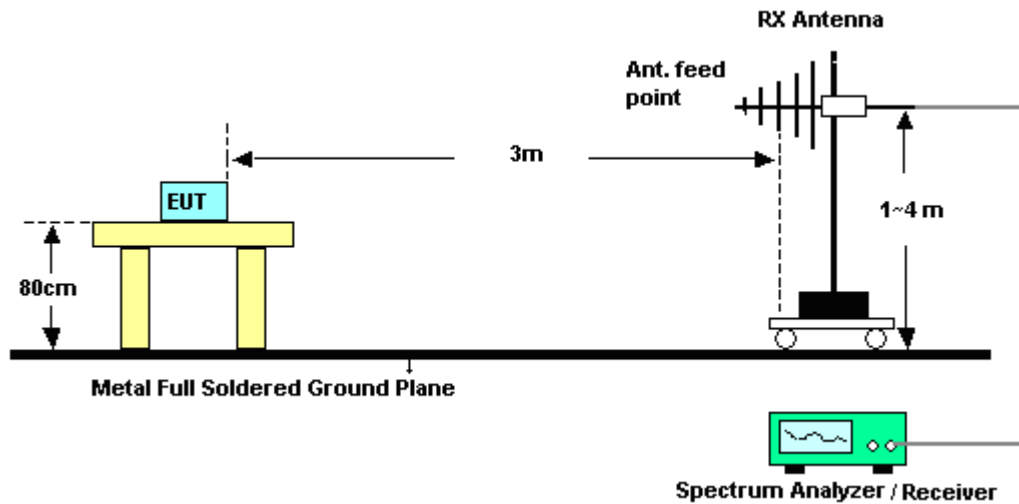
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 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 $\geq$ 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.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively 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.

3.4.4 Test Setup

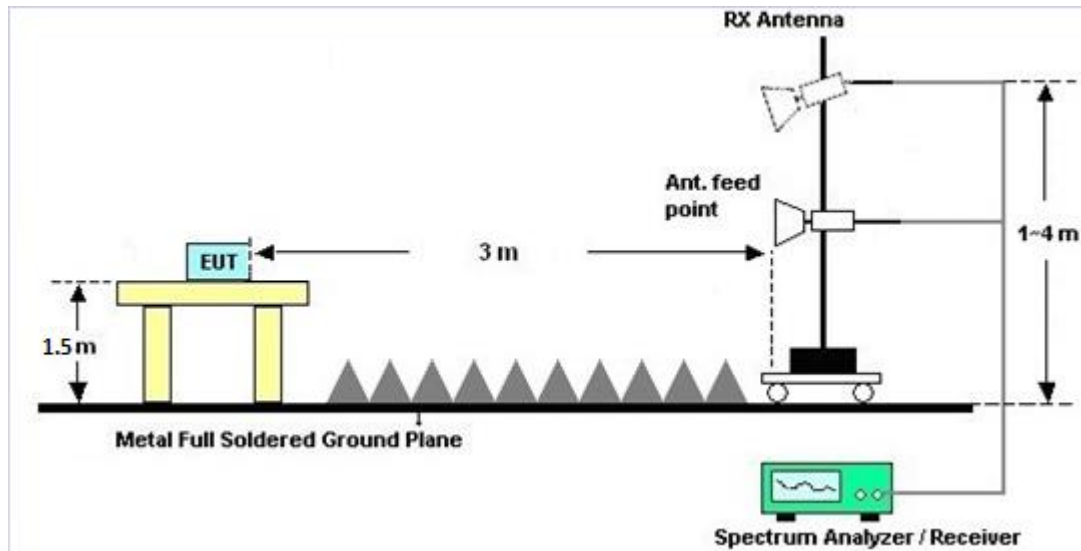
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated Spurious 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 was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

3.4.7 Duty Cycle

Please refer to Appendix C.

3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix B.



3.5 Automatically Discontinue Transmission

3.5.1 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.

3.5.2 Measuring Instruments

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

3.5.3 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.

3.6 Antenna Requirements

3.6.1 Standard Applicable

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.

3.6.2 Antenna Anti-Replacement Construction

Non-standard antenna connector is used.

3.6.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

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

Array Gain = $10 \log(\text{NANT}/\text{NSS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

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

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

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.

<CDD Modes>						
	Ant. 1	Ant. 2	DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band I	3.38	3.38	3.38	6.39	0.00	0.39
Band II	3.38	3.38	3.38	6.39	0.00	0.39
Band III	3.51	3.51	3.51	6.52	0.00	0.52



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 19, 2018	Apr. 17, 2019~ Apr. 18, 2019	Apr. 18, 2019	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 22, 2018	Apr. 17, 2019~ Apr. 18, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 22, 2018	Apr. 17, 2019~ Apr. 18, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Aug. 30, 2018	Apr. 14, 2019	Aug. 29, 2019	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 29, 2018	Apr. 14, 2019	May 28, 2019	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Jun. 05, 2018	Apr. 14, 2019	Jun. 04, 2019	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	119436	1GHz~18GHz	Jun. 28, 2018	Apr. 14, 2019	Jun. 27, 2019	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Mar. 30, 2019	Apr. 14, 2019	Mar. 29, 2020	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 20, 2018	Apr. 14, 2019	Apr. 19, 2019	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1707137	1GHz~18GHz	Oct. 19, 2018	Apr. 14, 2019	Oct. 18, 2019	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270104	0.5GHz~26.5GHz	Dec. 22, 2018	Apr. 14, 2019	Dec. 21, 2019	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 17, 2018	Apr. 14, 2019	Jul. 16, 2019	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Apr. 14, 2019	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Apr. 14, 2019	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Apr. 14, 2019	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8dB
---	-------

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
---	-------

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.3dB
---	-------

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Zhang jiang	Temperature:	24~26	°C
Test Date:	2019/4/17~2019/4/18	Relative Humidity:	50~53	%

TEST RESULTS DATA
Average Power Table

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.22	0.20	14.97	15.16		24.00	24.00	3.38	3.38	Pass
11a	6Mbps	1	44	5220	0.22	0.20	14.90	14.95		24.00	24.00	3.38	3.38	Pass
11a	6Mbps	1	48	5240	0.22	0.20	15.07	15.12		24.00	24.00	3.38	3.38	Pass
HT20	MCS0	2	36	5180	0.33	0.27	10.93	10.95	13.95	24.00		3.38		Pass
HT20	MCS0	2	44	5220	0.33	0.27	10.83	11.02	13.94	24.00		3.38		Pass
HT20	MCS0	2	48	5240	0.33	0.27	11.05	11.14	14.11	24.00		3.38		Pass
HT40	MCS0	2	38	5190	0.64	0.58	12.93	13.23	16.09	24.00		3.38		Pass
HT40	MCS0	2	46	5230	0.64	0.58	13.25	13.60	16.44	24.00		3.38		Pass
VHT20	MCS0	2	36	5180	0.25	0.25	10.83	10.93	13.89	24.00		3.38		Pass
VHT20	MCS0	2	44	5220	0.25	0.25	10.74	11.00	13.88	24.00		3.38		Pass
VHT20	MCS0	2	48	5240	0.25	0.25	10.95	11.10	14.04	24.00		3.38		Pass
VHT40	MCS0	2	38	5190	0.42	0.47	12.71	13.20	15.97	24.00		3.38		Pass
VHT40	MCS0	2	46	5230	0.42	0.47	12.86	13.37	16.13	24.00		3.38		Pass
VHT80	MCS0	2	42	5210	0.83	0.89	11.52	12.04	14.80	24.00		3.38		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.22	0.20	4.32	4.37		11.00	11.00	3.38	3.38	Pass
11a	6Mbps	1	44	5220	0.22	0.20	4.04	3.79		11.00	11.00	3.38	3.38	Pass
11a	6Mbps	1	48	5240	0.22	0.20	4.49	4.13		11.00	11.00	3.38	3.38	Pass
HT20	MCS0	2	36	5180	0.33	0.27			3.44	10.61		6.39		Pass
HT20	MCS0	2	44	5220	0.33	0.27			3.35	10.61		6.39		Pass
HT20	MCS0	2	48	5240	0.33	0.27			3.57	10.61		6.39		Pass
HT40	MCS0	2	38	5190	0.64	0.58			2.20	10.61		6.39		Pass
HT40	MCS0	2	46	5230	0.64	0.58			2.57	10.61		6.39		Pass
VHT80	MCS0	2	42	5210	0.83	0.89			-1.85	10.61		6.39		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band I													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	16.88	16.78	20.63	20.68	-		22.27	22.25	
11a	6Mbps	1	44	5220	16.83	16.83	20.83	20.53	-		22.26	22.26	
11a	6Mbps	1	48	5240	16.93	16.83	20.63	20.78	-		22.29	22.26	
HT20	MCS0	2	36	5180	17.73	17.78	21.53	21.38	-		22.49		
HT20	MCS0	2	44	5220	17.78	17.78	21.73	21.43	-		22.50		
HT20	MCS0	2	48	5240	17.78	17.78	21.78	21.48	-		22.50		
HT40	MCS0	2	38	5190	36.16	35.96	41.36	41.18	-		23.01		
HT40	MCS0	2	46	5230	35.96	35.96	41.09	41.36	-		23.01		
VHT80	MCS0	2	42	5210	74.93	74.93	82.00	81.84	-		23.01		

TEST RESULTS DATA
26dB and 99% OBW

Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	52	5260	16.88	16.83	20.88	20.48	23.27	23.26	29.27	29.26	23.98	23.98	
11a	6Mbps	1	60	5300	16.78	16.78	20.73	20.58	23.25	23.25	29.25	29.25	23.98	23.98	
11a	6Mbps	1	64	5320	16.83	16.78	20.88	20.53	23.26	23.25	29.26	29.25	23.98	23.98	
HT20	MCS0	2	52	5260	17.68	17.78	21.63	21.48	23.47		29.47		23.98		
HT20	MCS0	2	60	5300	17.73	17.78	21.73	21.53	23.49		29.49		23.98		
HT20	MCS0	2	64	5320	17.73	17.78	21.68	21.38	23.49		29.49		23.98		
HT40	MCS0	2	54	5270	36.16	35.96	40.91	40.91	23.98		30.00		23.98		
HT40	MCS0	2	62	5310	36.06	35.86	41.18	41.18	23.98		30.00		23.98		
VHT80	MCS0	2	58	5290	74.93	74.93	81.68	81.84	23.98		30.00		23.98		

TEST RESULTS DATA
Average Power Table

FCC Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	0.22	0.20	14.97	14.98		23.98	23.98	3.38	3.38	26.99	Pass
11a	6Mbps	1	60	5300	0.22	0.20	14.96	14.94		23.98	23.98	3.38	3.38	26.99	Pass
11a	6Mbps	1	64	5320	0.22	0.20	14.92	15.20		23.98	23.98	3.38	3.38	26.99	Pass
HT20	MCS0	2	52	5260	0.33	0.27	11.88	12.07	14.99	23.98		3.38		26.99	Pass
HT20	MCS0	2	60	5300	0.33	0.27	11.83	12.16	15.01	23.98		3.38		26.99	Pass
HT20	MCS0	2	64	5320	0.33	0.27	11.35	11.67	14.52	23.98		3.38		26.99	Pass
HT40	MCS0	2	54	5270	0.64	0.58	13.22	13.44	16.34	23.98		3.38		26.99	Pass
HT40	MCS0	2	62	5310	0.64	0.58	12.69	13.06	15.89	23.98		3.38		26.99	Pass
VHT20	MCS0	2	52	5260	0.25	0.25	11.75	11.96	14.87	23.98		3.38		26.99	Pass
VHT20	MCS0	2	60	5300	0.25	0.25	11.68	12.04	14.87	23.98		3.38		26.99	Pass
VHT20	MCS0	2	64	5320	0.25	0.25	11.33	11.64	14.50	23.98		3.38		26.99	Pass
VHT40	MCS0	2	54	5270	0.42	0.47	12.74	13.21	15.99	23.98		3.38		26.99	Pass
VHT40	MCS0	2	62	5310	0.42	0.47	12.47	13.02	15.76	23.98		3.38		26.99	Pass
VHT80	MCS0	2	58	5290	0.83	0.89	11.73	12.14	14.95	23.98		3.38		26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	52	5260	0.22	0.20	4.34	4.00		11.00	11.00	3.38	3.38	Pass
11a	6Mbps	1	60	5300	0.22	0.20	4.62	4.11		11.00	11.00	3.38	3.38	Pass
11a	6Mbps	1	64	5320	0.22	0.20	4.33	4.47		11.00	11.00	3.38	3.38	Pass
HT20	MCS0	2	52	5260	0.33	0.27			3.86	10.61		6.39		Pass
HT20	MCS0	2	60	5300	0.33	0.27			3.70	10.61		6.39		Pass
HT20	MCS0	2	64	5320	0.33	0.27			3.54	10.61		6.39		Pass
HT40	MCS0	2	54	5270	0.64	0.58			2.56	10.61		6.39		Pass
HT40	MCS0	2	62	5310	0.64	0.58			2.52	10.61		6.39		Pass
VHT80	MCS0	2	58	5290	0.83	0.89			-1.70	10.61		6.39		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	100	5500	16.83	16.73	20.93	20.58	23.26	23.23	29.26	29.23	23.98	23.98	
11a	6Mbps	1	116	5580	16.83	16.78	20.73	20.38	23.26	23.25	29.26	29.25	23.98	23.98	
11a	6Mbps	1	140	5700	16.78	16.78	20.73	20.43	23.25	23.25	29.25	29.25	23.98	23.98	
HT20	MCS0	2	100	5500	17.78	17.83	21.48	21.23	23.50		29.50		23.98		
HT20	MCS0	2	116	5580	17.68	17.83	21.43	21.38	23.47		29.47		23.98		
HT20	MCS0	2	140	5700	17.73	17.73	21.48	21.28	23.49		29.49		23.98		
HT40	MCS0	2	102	5510	36.16	35.96	41.27	41.18	23.98		30.00		23.98		
HT40	MCS0	2	110	5550	35.96	36.06	40.91	41.18	23.98		30.00		23.98		
HT40	MCS0	2	134	5670	35.96	35.86	41.27	40.82	23.98		30.00		23.98		
VHT80	MCS0	2	106	5530	74.93	75.04	82.00	81.36	23.98		30.00		23.98		
VHT80	MCS0	2	122	5610	74.81	74.93	81.84	80.88	23.98		30.00		23.98		

TEST RESULTS DATA
Average Power Table

FCC Band III															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	0.22	0.20	15.12	14.80		23.98	23.98	3.51	3.51	26.99	Pass
11a	6Mbps	1	116	5580	0.22	0.20	14.84	15.20		23.98	23.98	3.51	3.51	26.99	Pass
11a	6Mbps	1	140	5700	0.22	0.20	14.90	15.12		23.98	23.98	3.51	3.51	26.99	Pass
HT20	MCS0	2	100	5500	0.33	0.27	10.42	10.97	13.72	23.98		3.51		26.99	Pass
HT20	MCS0	2	116	5580	0.33	0.27	11.13	11.16	14.16	23.98		3.51		26.99	Pass
HT20	MCS0	2	140	5700	0.33	0.27	11.05	11.17	14.12	23.98		3.51		26.99	Pass
HT40	MCS0	2	102	5510	0.64	0.58	13.24	12.79	16.03	23.98		3.51		26.99	Pass
HT40	MCS0	2	110	5550	0.64	0.58	13.33	12.97	16.16	23.98		3.51		26.99	Pass
HT40	MCS0	2	134	5670	0.64	0.58	12.70	12.96	15.84	23.98		3.51		26.99	Pass
VHT20	MCS0	2	100	5500	0.25	0.25	10.38	10.95	13.68	23.98		3.51		26.99	Pass
VHT20	MCS0	2	116	5580	0.25	0.25	10.95	11.08	14.03	23.98		3.51		26.99	Pass
VHT20	MCS0	2	140	5700	0.25	0.25	11.02	11.16	14.10	23.98		3.51		26.99	Pass
VHT40	MCS0	2	102	5510	0.42	0.47	13.08	12.72	15.91	23.98		3.51		26.99	Pass
VHT40	MCS0	2	110	5550	0.42	0.47	13.30	12.90	16.11	23.98		3.51		26.99	Pass
VHT40	MCS0	2	134	5670	0.42	0.47	12.48	12.85	15.68	23.98		3.51		26.99	Pass
VHT80	MCS0	2	106	5530	0.83	0.89	12.10	11.95	15.04	23.98		3.51		26.99	Pass
VHT80	MCS0	2	122	5610	0.83	0.89	11.47	12.19	14.86	23.98		3.51		26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	100	5500	0.22	0.20	4.41	3.79		11.00	11.00	3.51	3.51	Pass
11a	6Mbps	1	116	5580	0.22	0.20	4.30	4.18		11.00	11.00	3.51	3.51	Pass
11a	6Mbps	1	140	5700	0.22	0.20	4.31	3.75		11.00	11.00	3.51	3.51	Pass
HT20	MCS0	2	100	5500	0.33	0.27			2.98	10.48		6.52		Pass
HT20	MCS0	2	116	5580	0.33	0.27			3.17	10.48		6.52		Pass
HT20	MCS0	2	140	5700	0.33	0.27			3.34	10.48		6.52		Pass
HT40	MCS0	2	102	5510	0.64	0.58			2.10	10.48		6.52		Pass
HT40	MCS0	2	110	5550	0.64	0.58			1.77	10.48		6.52		Pass
HT40	MCS0	2	134	5670	0.64	0.58			2.68	10.48		6.52		Pass
VHT80	MCS0	2	106	5530	0.83	0.89			-1.75	10.48		6.52		Pass
VHT80	MCS0	2	122	5610	0.83	0.89			-1.36	10.48		6.52		Pass



Appendix B. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5135.72	53.48	-20.52	74	39.05	33.85	13.68	33.1	100	215	P	H
		5149.24	44.93	-9.07	54	30.48	33.87	13.68	33.1	100	215	A	H
	*	5180	102.37	-	-	87.78	33.92	13.77	33.1	100	215	P	H
		5180	96.61	-	-	82.02	33.92	13.77	33.1	100	215	A	H
		5148.2	53.53	-20.47	74	39.08	33.87	13.68	33.1	349	199	P	V
		5149.5	44.5	-9.5	54	30.05	33.87	13.68	33.1	349	199	A	V
	*	5180	102.02	-	-	87.43	33.92	13.77	33.1	349	199	P	V
		5180	95.85	-	-	81.26	33.92	13.77	33.1	349	199	A	V
802.11a CH 44 5220MHz		5033.54	52.96	-21.04	74	38.92	33.72	13.42	33.1	100	214	P	H
		5148.46	43.54	-10.46	54	29.09	33.87	13.68	33.1	100	214	A	H
	*	5220	102.46	-	-	87.74	33.96	13.86	33.1	100	214	P	H
		5220	96.45	-	-	81.73	33.96	13.86	33.1	100	214	A	H
		5444.04	52.36	-21.64	74	36.95	34.24	14.27	33.1	100	214	P	H
		5416.04	43.66	-10.34	54	28.38	34.22	14.16	33.1	100	214	A	H
		5136.5	53.29	-20.71	74	38.86	33.85	13.68	33.1	345	192	P	V
		5105.82	43.35	-10.65	54	29.02	33.83	13.6	33.1	345	192	A	V
	*	5220	102.6	-	-	87.88	33.96	13.86	33.1	345	192	P	V
		5220	96.6	-	-	81.88	33.96	13.86	33.1	345	192	A	V
		5436.48	52.26	-21.74	74	36.85	34.24	14.27	33.1	345	192	P	V
		5458.6	43.84	-10.16	54	28.41	34.26	14.27	33.1	345	192	A	V



802.11a CH 48 5240MHz		5130	52.02	-21.98	74	37.59	33.85	13.68	33.1	106	214	P	H
		5149.5	43.4	-10.6	54	28.95	33.87	13.68	33.1	106	214	A	H
	*	5240	102.36	-	-	87.56	33.98	13.92	33.1	106	214	P	H
		5240	96.49	-	-	81.69	33.98	13.92	33.1	106	214	A	H
		5427.24	53.26	-20.74	74	37.87	34.22	14.27	33.1	106	214	P	H
		5429.48	43.61	-10.39	54	28.2	34.24	14.27	33.1	106	214	A	H
		5077.74	51.95	-22.05	74	37.66	33.79	13.6	33.1	361	185	P	V
		5141.44	43.22	-10.78	54	28.77	33.87	13.68	33.1	361	185	A	V
	*	5240	103.15	-	-	88.35	33.98	13.92	33.1	361	185	P	V
		5240	96.58	-	-	81.78	33.98	13.92	33.1	361	185	A	V
		5444.32	53.95	-20.05	74	38.54	34.24	14.27	33.1	361	185	P	V
		5419.12	43.52	-10.48	54	28.24	34.22	14.16	33.1	361	185	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 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)
802.11a CH 36 5180MHz		10360	49.5	-18.7	68.2	51.82	37.02	19.65	58.99	158	360	P	H
		15540	49.81	-24.19	74	45.61	40.78	22.35	58.93	158	0	P	H
		10360	49.07	-19.13	68.2	51.39	37.02	19.65	58.99	158	360	P	V
		15540	50.61	-23.39	74	46.41	40.78	22.35	58.93	189	238	P	V
802.11a CH 44 5220MHz		10440	51.54	-16.66	68.2	53.71	37.06	19.69	58.92	150	185	P	H
		15660	49.34	-24.66	74	44.91	41.07	22.42	59.06	157	225	P	H
		10440	52.18	-16.02	68.2	54.35	37.06	19.69	58.92	150	230	P	V
		15660	49.53	-24.47	74	45.1	41.07	22.42	59.06	160	225	P	V
802.11a CH 48 5240MHz		10480	48.29	-19.91	68.2	50.35	37.09	19.71	58.86	150	289	P	H
		15720	50.81	-23.19	74	46.24	41.24	22.45	59.12	150	291	P	H
		10480	49.92	-18.28	68.2	51.98	37.09	19.71	58.86	150	289	P	V
		15720	49.49	-24.51	74	44.92	41.24	22.45	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5146.9	53.65	-20.35	74	39.2	33.87	13.68	33.1	100	215	P	H
		5144.56	45.85	-8.15	54	31.4	33.87	13.68	33.1	100	215	A	H
	*	5180	106.92	-	-	92.33	33.92	13.77	33.1	100	215	P	H
	*	5180	99.71	-	-	85.12	33.92	13.77	33.1	100	215	A	H
		5147.16	53.98	-20.02	74	39.53	33.87	13.68	33.1	235	169	P	V
		5148.72	45.9	-8.1	54	31.45	33.87	13.68	33.1	235	169	A	V
	*	5180	107.16	-	-	92.57	33.92	13.77	33.1	235	169	P	V
	*	5180	99.85	-	-	85.26	33.92	13.77	33.1	235	169	A	V
802.11n HT20 CH 44 5220MHz		5094.12	53.09	-20.91	74	38.78	33.81	13.6	33.1	100	217	P	H
		5150	43.66	-10.34	54	29.21	33.87	13.68	33.1	100	217	A	H
	*	5220	106.16	-	-	91.44	33.96	13.86	33.1	100	217	P	H
	*	5220	89.95	-	-	75.23	33.96	13.86	33.1	100	217	A	H
		5382.72	52.58	-21.42	74	37.4	34.18	14.1	33.1	100	217	P	H
		5454.96	43.45	-10.55	54	28.02	34.26	14.27	33.1	100	217	A	H
		5145.86	52.96	-21.04	74	38.51	33.87	13.68	33.1	228	174	P	V
		5145.34	44.12	-9.88	54	29.67	33.87	13.68	33.1	228	174	A	V
	*	5220	107.31	-	-	92.59	33.96	13.86	33.1	228	174	P	V
	*	5220	100.84	-	-	86.12	33.96	13.86	33.1	228	174	A	V
		5428.64	52.72	-21.28	74	37.31	34.24	14.27	33.1	228	174	P	V
		5458.6	43.54	-10.46	54	28.11	34.26	14.27	33.1	228	174	A	V



802.11n HT20 CH 48 5240MHz		5125.84	52.09	-21.91	74	37.66	33.85	13.68	33.1	105	216	P	H
		5143.78	43.56	-10.44	54	29.11	33.87	13.68	33.1	105	216	A	H
	*	5240	106.62	-	-	91.82	33.98	13.92	33.1	105	216	P	H
		5240	99.95	-	-	85.15	33.98	13.92	33.1	105	216	A	H
		5412.4	52.67	-21.33	74	37.39	34.22	14.16	33.1	105	216	P	H
		5433.12	43.57	-10.43	54	28.16	34.24	14.27	33.1	105	216	A	H
		5066.04	52.67	-21.33	74	38.5	33.76	13.51	33.1	276	174	P	V
		5141.96	43.67	-10.33	54	29.22	33.87	13.68	33.1	276	174	A	V
	*	5240	107.13	-	-	92.33	33.98	13.92	33.1	276	174	P	V
		5240	101.32	-	-	86.52	33.98	13.92	33.1	276	174	A	V
		5457.2	53.7	-20.3	74	38.27	34.26	14.27	33.1	276	174	P	V
		5394.2	43.55	-10.45	54	28.31	34.18	14.16	33.1	276	174	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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	49.46	-18.74	68.2	51.78	37.02	19.65	58.99	152	260	P	H
		15540	50.46	-23.54	74	46.26	40.78	22.35	58.93	189	238	P	H
		10360	49.64	-18.56	68.2	51.96	37.02	19.65	58.99	152	260	P	V
		15540	50.61	-23.39	74	46.41	40.78	22.35	58.93	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	49.57	-18.63	68.2	51.74	37.06	19.69	58.92	150	230	P	H
		15660	50.11	-23.89	74	45.68	41.07	22.42	59.06	160	225	P	H
		10440	49.39	-18.81	68.2	51.56	37.06	19.69	58.92	150	230	P	V
		15660	49.52	-24.48	74	45.09	41.07	22.42	59.06	160	225	P	V
802.11n HT20 CH 48 5240MHz		10480	49.81	-18.39	68.2	51.87	37.09	19.71	58.86	150	289	P	H
		15720	50.29	-23.71	74	45.72	41.24	22.45	59.12	150	291	P	H
		10480	49.19	-19.01	68.2	51.25	37.09	19.71	58.86	150	289	P	V
		15720	50.67	-23.33	74	46.1	41.24	22.45	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5150	50.62	-17.58	68.2	36.17	33.87	13.68	33.1	100	241	P	H
	*	5190	101.84	-	-	87.25	33.92	13.77	33.1	100	241	P	H
		5190	96.18	-	-	81.59	33.92	13.77	33.1	100	241	A	H
		5415.2	53.69	-20.31	74	38.41	34.22	14.16	33.1	100	241	P	H
		5358.36	44.24	-9.76	54	29.11	34.13	14.1	33.1	100	241	A	H
		5147.94	54.95	-19.05	74	40.5	33.87	13.68	33.1	334	167	P	V
		5149.76	48.08	-5.92	54	33.63	33.87	13.68	33.1	334	167	A	V
	*	5190	100.53	-	-	85.94	33.92	13.77	33.1	334	167	P	V
		5190	94.83	-	-	80.24	33.92	13.77	33.1	334	167	A	V
		5442.08	52.96	-21.04	74	37.55	34.24	14.27	33.1	334	167	P	V
		5426.4	44.11	-9.89	54	28.83	34.22	14.16	33.1	334	167	A	V
802.11n HT40 CH 46 5230MHz		5150.02	55.4	-12.8	68.2	40.95	33.87	13.68	33.1	105	241	P	H
		5148.98	45.38	-8.62	54	30.93	33.87	13.68	33.1	105	241	A	H
	*	5230	103.37	-	-	88.63	33.98	13.86	33.1	105	241	P	H
		5230	96.84	-	-	82.1	33.98	13.86	33.1	105	241	A	H
		5355.84	53.4	-20.6	74	38.27	34.13	14.1	33.1	105	241	P	H
		5439.28	44.17	-9.83	54	28.76	34.24	14.27	33.1	105	241	A	H
		5148.2	53.18	-20.82	74	38.73	33.87	13.68	33.1	329	167	P	V
		5149.76	44.49	-9.51	54	30.04	33.87	13.68	33.1	329	167	A	V
	*	5230	102.8	-	-	88.06	33.98	13.86	33.1	329	167	P	V
		5230	96.75	-	-	82.01	33.98	13.86	33.1	329	167	A	V
		5384.96	52.4	-21.6	74	37.22	34.18	14.1	33.1	329	167	P	V
		5424.72	44.21	-9.79	54	28.93	34.22	14.16	33.1	329	167	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

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		10380	48.11	-20.09	68.2	50.38	37.03	19.67	58.97	150	360	P	H
HT40		15570	47.47	-26.53	74	43.2	40.87	22.37	58.97	155	360	P	H
CH 38		10380	48.9	-19.3	68.2	51.17	37.03	19.67	58.97	150	360	P	V
5190MHz		15570	47.42	-26.58	74	43.15	40.87	22.37	58.97	155	360	P	V
802.11n		10460	48.47	-19.73	68.2	50.59	37.07	19.71	58.9	150	360	P	H
HT40		15690	49.53	-24.47	74	45.01	41.16	22.45	59.09	150	225	P	H
CH 46		10460	48.58	-19.62	68.2	50.7	37.07	19.71	58.9	150	360	P	V
5230MHz		15690	50.77	-23.23	74	46.25	41.16	22.45	59.09	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5140.14	59.15	-14.85	74	44.7	33.87	13.68	33.1	100	273	P	H
		5144.82	50.7	-3.3	54	36.25	33.87	13.68	33.1	100	273	A	H
	*	5210	96.39	-	-	81.67	33.96	13.86	33.1	100	273	P	H
		5210	90.39	-	-	75.67	33.96	13.86	33.1	100	273	A	H
		5367.6	54.56	-19.44	74	39.41	34.15	14.1	33.1	100	273	P	H
		5370	44.98	-9.02	54	29.83	34.15	14.1	33.1	100	273	A	H
		5149.24	58.42	-15.58	74	43.97	33.87	13.68	33.1	320	203	P	V
		5150	50.56	-3.44	54	36.11	33.87	13.68	33.1	320	203	A	V
	*	5210	97.03	-	-	82.31	33.96	13.86	33.1	320	203	P	V
		5210	89.91	-	-	75.19	33.96	13.86	33.1	320	203	A	V
		5457.84	52.62	-21.38	74	37.19	34.26	14.27	33.1	320	203	P	V
		5458.8	44.47	-9.53	54	29.04	34.26	14.27	33.1	320	203	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**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		10420	48.96	-19.24	68.2	51.15	37.05	19.69	58.93	150	230	P	H
VHT80		15630	50.31	-23.69	74	45.92	41.03	22.4	59.04	160	225	P	H
CH 42		12000	47.59	-26.41	74	45.82	38.5	20.47	57.2	150	230	P	V
5210MHz		15630	50.86	-23.14	74	46.47	41.03	22.4	59.04	160	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5084.7	51.64	-22.36	74	37.35	33.79	13.6	33.1	100	212	P	H
		5148.05	43.32	-10.68	54	28.87	33.87	13.68	33.1	100	212	A	H
	*	5260	102.2	-	-	87.36	34.02	13.92	33.1	100	212	P	H
		5260	96.37	-	-	81.53	34.02	13.92	33.1	100	212	A	H
		5404.32	52.49	-21.51	74	37.23	34.2	14.16	33.1	100	212	P	H
		5459.04	43.68	-10.32	54	28.25	34.26	14.27	33.1	100	212	A	H
		5126.35	52.28	-21.72	74	37.85	33.85	13.68	33.1	360	187	P	V
		5140.7	43.17	-10.83	54	28.72	33.87	13.68	33.1	360	187	A	V
	*	5260	102.51	-	-	87.67	34.02	13.92	33.1	360	187	P	V
		5260	96.47	-	-	81.63	34.02	13.92	33.1	360	187	A	V
		5371.68	52.9	-21.1	74	37.75	34.15	14.1	33.1	360	187	P	V
		5421.84	43.74	-10.26	54	28.46	34.22	14.16	33.1	360	187	A	V
802.11a CH 60 5300MHz		5080.15	51.42	-22.58	74	37.13	33.79	13.6	33.1	339	271	P	H
		5122.85	43.14	-10.86	54	28.71	33.85	13.68	33.1	339	271	A	H
	*	5300	101.29	-	-	86.34	34.07	13.98	33.1	339	271	P	H
		5300	95.48	-	-	80.53	34.07	13.98	33.1	339	271	A	H
		5353.92	53.06	-20.94	74	37.93	34.13	14.1	33.1	339	271	P	H
		5457.84	43.61	-10.39	54	28.18	34.26	14.27	33.1	339	271	A	H
		5128.45	53.35	-20.65	74	38.92	33.85	13.68	33.1	336	196	P	V
		5125.3	43.46	-10.54	54	29.03	33.85	13.68	33.1	336	196	A	V
	*	5300	101.52	-	-	86.57	34.07	13.98	33.1	336	196	P	V
		5300	95.57	-	-	80.62	34.07	13.98	33.1	336	196	A	V
		5428.56	52.67	-21.33	74	37.26	34.24	14.27	33.1	336	196	P	V
		5430.72	43.7	-10.3	54	28.29	34.24	14.27	33.1	336	196	A	V



802.11a CH 64 5320MHz	*	5320	100.99	-	-	85.96	34.09	14.04	33.1	100	273	P	H
		5320	94.59	-	-	79.56	34.09	14.04	33.1	100	273	A	H
		5456	52.84	-21.16	74	37.41	34.26	14.27	33.1	100	273	P	H
		5353.76	44.12	-9.88	54	28.99	34.13	14.1	33.1	100	273	A	H
	*	5320	101.2	-	-	86.17	34.09	14.04	33.1	304	201	P	V
		5320	95.77	-	-	80.74	34.09	14.04	33.1	304	201	A	V
		5455.36	53.12	-20.88	74	37.69	34.26	14.27	33.1	304	201	P	V
		5429.12	43.51	-10.49	54	28.1	34.24	14.27	33.1	304	201	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 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)
802.11a CH 52 5260MHz		10520	51.22	-16.98	68.2	53.21	37.11	19.72	58.82	150	220	P	H
		15780	50.26	-23.74	74	45.58	41.36	22.5	59.18	159	0	P	H
		10520	49.5	-18.7	68.2	51.49	37.11	19.72	58.82	150	220	P	V
		15780	50.68	-23.32	74	46	41.36	22.5	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	48.65	-25.35	74	50.46	37.16	19.76	58.73	185	215	P	H
		15900	49.49	-24.51	74	44.57	41.65	22.57	59.3	100	83	P	H
		10600	49.21	-24.79	74	51.02	37.16	19.76	58.73	185	215	P	V
		15900	50.93	-23.07	74	46.01	41.65	22.57	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	49.6	-24.4	74	51.33	37.18	19.78	58.69	152	135	P	H
		15960	50.23	-23.77	74	45.16	41.82	22.62	59.37	173	245	P	H
		10640	49.79	-24.21	74	51.52	37.18	19.78	58.69	152	135	P	V
		15960	50.32	-23.68	74	45.25	41.82	22.62	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5128.45	51.81	-22.19	74	37.38	33.85	13.68	33.1	100	234	P	H
		5139.3	43.35	-10.65	54	28.92	33.85	13.68	33.1	100	234	A	H
	*	5260	107.01	-	-	92.17	34.02	13.92	33.1	100	234	P	H
		5260	100.73	-	-	85.89	34.02	13.92	33.1	100	234	A	H
		5366.64	52.63	-21.37	74	37.48	34.15	14.1	33.1	100	234	P	H
		5426.4	43.79	-10.21	54	28.51	34.22	14.16	33.1	100	234	A	H
		5099.05	52.01	-21.99	74	37.7	33.81	13.6	33.1	247	175	P	V
		5146.65	43.49	-10.51	54	29.04	33.87	13.68	33.1	247	175	A	V
	*	5260	107.9	-	-	93.06	34.02	13.92	33.1	247	175	P	V
		5260	102.4	-	-	87.56	34.02	13.92	33.1	247	175	A	V
		5428.32	52.92	-21.08	74	37.53	34.22	14.27	33.1	247	175	P	V
		5452.8	43.75	-10.25	54	28.32	34.26	14.27	33.1	247	175	A	V
802.11n HT20 CH 60 5300MHz		5126.35	51.67	-22.33	74	37.24	33.85	13.68	33.1	148	192	P	H
		5148.4	43.22	-10.78	54	28.77	33.87	13.68	33.1	148	192	A	H
	*	5300	105.87	-	-	90.92	34.07	13.98	33.1	148	192	P	H
		5300	98.51	-	-	83.56	34.07	13.98	33.1	148	192	A	H
		5400.72	53.02	-20.98	74	37.76	34.2	14.16	33.1	148	192	P	H
		5359.2	43.92	-10.08	54	28.79	34.13	14.1	33.1	148	192	A	H
		5144.9	51.98	-22.02	74	37.53	33.87	13.68	33.1	248	181	P	V
		5142.45	43.43	-10.57	54	28.98	33.87	13.68	33.1	248	181	A	V
	*	5300	107.15	-	-	92.2	34.07	13.98	33.1	248	181	P	V
		5300	101.07	-	-	86.12	34.07	13.98	33.1	248	181	A	V
		5361.84	53.22	-20.78	74	38.07	34.15	14.1	33.1	248	181	P	V
		5350.56	44.64	-9.36	54	29.51	34.13	14.1	33.1	248	181	A	V



802.11n HT20 CH 64 5320MHz	*	5320	104.18	-	-	89.15	34.09	14.04	33.1	100	193	P	H
		5320	97.59	-	-	82.56	34.09	14.04	33.1	100	193	A	H
		5455.68	53.24	-20.76	74	37.81	34.26	14.27	33.1	100	193	P	H
		5350.24	44.45	-9.55	54	29.32	34.13	14.1	33.1	100	193	A	H
	*	5320	107.01	-	-	91.98	34.09	14.04	33.1	233	178	P	V
		5320	100.21	-	-	85.18	34.09	14.04	33.1	233	178	A	V
		5350.24	54.53	-19.47	74	39.4	34.13	14.1	33.1	233	178	P	V
		5351.84	45.29	-8.71	54	30.16	34.13	14.1	33.1	233	178	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		10520	49.44	-18.76	68.2	51.43	37.11	19.72	58.82	150	220	P	H
HT20		15780	50.7	-23.3	74	46.02	41.36	22.5	59.18	159	345	P	H
CH 52		10520	49.83	-18.37	68.2	51.82	37.11	19.72	58.82	150	220	P	V
5260MHz		15780	50.19	-23.81	74	45.51	41.36	22.5	59.18	159	345	P	V
802.11n		10600	49.08	-24.92	74	50.89	37.16	19.76	58.73	185	215	P	H
HT20		15900	49.87	-24.13	74	44.95	41.65	22.57	59.3	196	190	P	H
CH 60		10600	49.12	-24.88	74	50.93	37.16	19.76	58.73	185	215	P	V
5300MHz		15900	50.45	-23.55	74	45.53	41.65	22.57	59.3	196	190	P	V
802.11n		10640	50.45	-23.55	74	52.18	37.18	19.78	58.69	152	135	P	H
HT20		15960	48.93	-25.07	74	43.86	41.82	22.62	59.37	173	245	P	H
CH 64		10640	50.61	-23.39	74	52.34	37.18	19.78	58.69	152	135	P	V
5320MHz		15960	50.04	-23.96	74	44.97	41.82	22.62	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5122.5	51.94	-22.06	74	37.53	33.83	13.68	33.1	101	241	P	H
		5135.45	44.21	-9.79	54	29.78	33.85	13.68	33.1	101	241	A	H
	*	5270	103.13	-	-	88.29	34.02	13.92	33.1	101	241	P	H
		5270	96.88	-	-	82.04	34.02	13.92	33.1	101	241	A	H
		5369.52	54.55	-19.45	74	39.4	34.15	14.1	33.1	101	241	P	H
		5458.32	44.34	-9.66	54	28.91	34.26	14.27	33.1	101	241	P	H
		5148.75	54.13	-19.87	74	39.68	33.87	13.68	33.1	232	189	P	V
		5143.5	44.22	-9.78	54	29.77	33.87	13.68	33.1	232	189	A	V
	*	5270	102.56	-	-	87.72	34.02	13.92	33.1	232	189	P	V
		5270	96.91	-	-	82.07	34.02	13.92	33.1	232	189	A	V
		5445.6	53.29	-20.71	74	37.86	34.26	14.27	33.1	232	189	P	V
		5356.56	44.95	-9.05	54	29.82	34.13	14.1	33.1	232	189	A	V
802.11n HT40 CH 62 5310MHz		5102.55	52.18	-21.82	74	37.87	33.81	13.6	33.1	135	274	P	H
		5134.75	44.14	-9.86	54	29.71	33.85	13.68	33.1	135	274	A	H
	*	5310	101.62	-	-	86.59	34.09	14.04	33.1	135	274	P	H
		5310	96.62	-	-	81.59	34.09	14.04	33.1	135	274	A	H
		5366.88	54.51	-19.49	74	39.36	34.15	14.1	33.1	135	274	P	H
		5350.8	50.09	-3.91	54	34.96	34.13	14.1	33.1	135	274	P	H
		5145.25	53.9	-20.1	74	39.45	33.87	13.68	33.1	238	178	P	V
		5144.9	44.26	-9.74	54	29.81	33.87	13.68	33.1	238	178	A	V
	*	5310	103.53	-	-	88.5	34.09	14.04	33.1	238	178	P	V
		5310	97.04	-	-	82.01	34.09	14.04	33.1	238	178	A	V
		5356.08	60.6	-13.4	74	45.47	34.13	14.1	33.1	238	178	P	V
		5350.08	50.12	-3.88	54	34.99	34.13	14.1	33.1	238	178	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		10540	47.91	-20.29	68.2	49.85	37.12	19.74	58.8	150	220	P	H
HT40		15810	50.33	-23.67	74	45.58	41.44	22.52	59.21	168	345	P	H
CH 54		10540	48.65	-19.55	68.2	50.59	37.12	19.74	58.8	150	220	P	V
5270MHz		15810	50.18	-23.82	74	45.43	41.44	22.52	59.21	168	345	P	V
802.11n		10620	49.82	-24.18	74	51.58	37.17	19.78	58.71	150	220	P	H
HT40		15930	50.53	-23.47	74	45.53	41.73	22.6	59.33	160	100	P	H
CH 62		10620	49.19	-24.81	74	50.95	37.17	19.78	58.71	150	220	P	V
5310MHz		15930	50.4	-23.6	74	45.4	41.73	22.6	59.33	160	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5138.84	54.7	-19.3	74	40.27	33.85	13.68	33.1	151	292	P	H
		5145.6	45	-9	54	30.55	33.87	13.68	33.1	151	292	A	H
	*	5290	98.63	-	-	83.7	34.05	13.98	33.1	151	292	P	H
		5290	91.74	-	-	76.81	34.05	13.98	33.1	151	292	A	H
		5351.76	55.4	-18.6	74	40.27	34.13	14.1	33.1	151	292	P	H
		5356.32	48.9	-5.1	54	33.77	34.13	14.1	33.1	151	292	A	H
		5147.68	53.91	-20.09	74	39.46	33.87	13.68	33.1	237	177	P	V
		5145.86	46.32	-7.68	54	31.87	33.87	13.68	33.1	237	177	A	V
	*	5290	100.09	-	-	85.16	34.05	13.98	33.1	237	177	P	V
		5290	93.22	-	-	78.29	34.05	13.98	33.1	237	177	A	V
		5357.52	57.28	-16.72	74	42.15	34.13	14.1	33.1	237	177	P	V
		5350.08	50.43	-3.57	54	35.3	34.13	14.1	33.1	237	177	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**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		10580	49.55	-18.65	68.2	51.39	37.15	19.76	58.75	150	220	P	H
VHT80		15870	50.68	-23.32	74	45.8	41.61	22.55	59.28	168	345	P	H
CH 58		10580	47.69	-20.51	68.2	49.53	37.15	19.76	58.75	150	220	P	V
5290MHz		15870	50.16	-23.84	74	45.28	41.61	22.55	59.28	168	345	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5443.76	54.48	-19.52	74	39.07	34.24	14.27	33.1	100	324	P	H
		5461.84	52.56	-15.64	68.2	37.13	34.26	14.27	33.1	100	324	P	H
		5451.92	44.11	-9.89	54	28.68	34.26	14.27	33.1	100	324	A	H
	*	5500	102.1	-	-	86.5	34.33	14.37	33.1	100	324	P	H
		5500	96.49	-	-	80.89	34.33	14.37	33.1	100	324	A	H
		5456.88	53.07	-20.93	74	37.64	34.26	14.27	33.1	299	202	P	V
		5465.2	53.46	-14.74	68.2	38.01	34.28	14.27	33.1	299	202	P	V
		5452.08	43.91	-10.09	54	28.48	34.26	14.27	33.1	299	202	A	V
	*	5500	102.91	-	-	87.31	34.33	14.37	33.1	299	202	P	V
		5500	97.28	-	-	81.68	34.33	14.37	33.1	299	202	A	V
802.11a CH 116 5580MHz		5353.36	53.07	-20.93	74	37.94	34.13	14.1	33.1	117	321	P	H
		5460.4	52.9	-15.3	68.2	37.47	34.26	14.27	33.1	117	321	P	H
		5455.6	43.52	-10.48	54	28.09	34.26	14.27	33.1	117	321	A	H
	*	5580	102.3	-	-	86.41	34.41	14.58	33.1	117	321	P	H
		5580	96.64	-	-	80.75	34.41	14.58	33.1	117	321	A	H
		5744.525	53.64	-14.56	68.2	37.23	34.45	15.06	33.1	117	321	P	H
		5419.36	53.03	-20.97	74	37.75	34.22	14.16	33.1	308	199	P	V
		5467.6	51.72	-16.48	68.2	36.17	34.28	14.37	33.1	308	199	P	V
		5458.24	43.66	-10.34	54	28.23	34.26	14.27	33.1	308	199	A	V
	*	5580	105.81	-	-	89.92	34.41	14.58	33.1	308	199	P	V
		5580	98.46	-	-	82.57	34.41	14.58	33.1	308	199	A	V
		5742.635	54.02	-14.18	68.2	37.61	34.45	15.06	33.1	308	199	P	V



802.11a CH 140 5700MHz	*	5700	102.38	-	-	86.03	34.48	14.97	33.1	104	279	P	H
		5700	97.16	-	-	80.81	34.48	14.97	33.1	104	279	A	H
		5742.2	56.15	-12.05	68.2	39.74	34.45	15.06	33.1	104	279	P	H
	*	5700	104.21	-	-	87.86	34.48	14.97	33.1	311	198	P	V
		5700	97.76	-	-	81.41	34.48	14.97	33.1	311	198	A	V
		5728.92	55.15	-13.05	68.2	38.82	34.46	14.97	33.1	311	198	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 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)
802.11a CH 100 5500MHz		11000	47.94	-26.06	74	48.88	37.4	19.96	58.3	163	230	P	H
		16500	52.53	-15.67	68.2	45.15	43.27	22.95	58.84	178	296	P	H
		11000	48.55	-25.45	74	49.49	37.4	19.96	58.3	163	230	P	V
		16500	52.45	-15.75	68.2	45.07	43.27	22.95	58.84	178	296	P	V
802.11a CH 116 5580MHz		11000	49.71	-24.29	74	50.65	37.4	19.96	58.3	163	230	P	H
		16500	56.46	-11.74	68.2	49.08	43.27	22.95	58.84	178	296	P	H
		11000	50	-24	74	50.94	37.4	19.96	58.3	163	230	P	V
		16500	56.51	-11.69	68.2	49.13	43.27	22.95	58.84	178	296	P	V
802.11a CH 140 5700MHz		11400	50.44	-23.56	74	50.47	37.64	20.18	57.85	157	285	P	H
		17100	58.77	-9.43	68.2	49.3	44.29	23.34	58.16	165	246	P	H
		11400	49.71	-24.29	74	49.74	37.64	20.18	57.85	157	285	P	V
		17100	58.54	-9.66	68.2	49.07	44.29	23.34	58.16	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5454.8	54.52	-19.48	74	39.09	34.26	14.27	33.1	106	190	P	H
		5466.64	54.49	-13.71	68.2	38.94	34.28	14.37	33.1	106	190	P	H
		5451.92	44.96	-9.04	54	29.53	34.26	14.27	33.1	106	190	A	H
	*	5500	106.33	-	-	90.73	34.33	14.37	33.1	106	190	P	H
		5500	99.23	-	-	83.63	34.33	14.37	33.1	106	190	A	H
		5445.2	54.5	-19.5	74	39.09	34.24	14.27	33.1	228	179	P	V
		5470	55.88	-12.32	68.2	40.33	34.28	14.37	33.1	228	179	P	V
		5451.92	46.3	-7.7	54	30.87	34.26	14.27	33.1	228	179	A	V
	*	5500	110.4	-	-	94.8	34.33	14.37	33.1	228	179	P	V
		5500	102.39	-	-	86.79	34.33	14.37	33.1	228	179	A	V
802.11n HT20 CH 116 5580MHz		5350	52.73	-15.47	68.2	37.6	34.13	14.1	33.1	112	222	P	H
		5463.76	53.44	-14.76	68.2	37.99	34.28	14.27	33.1	112	222	P	H
		5451.52	43.74	-10.26	54	28.31	34.26	14.27	33.1	112	222	A	H
	*	5580	107.87	-	-	91.98	34.41	14.58	33.1	112	222	P	H
		5580	102.04	-	-	86.15	34.41	14.58	33.1	112	222	A	H
		5733.815	53.42	-14.78	68.2	37.09	34.46	14.97	33.1	112	222	P	H
		5445.28	53.54	-20.46	74	38.13	34.24	14.27	33.1	338	201	P	V
		5460.64	51.84	-16.36	68.2	36.41	34.26	14.27	33.1	338	201	P	V
		5458.72	43.54	-10.46	54	28.11	34.26	14.27	33.1	338	201	A	V
	*	5580	107.58	-	-	91.69	34.41	14.58	33.1	338	201	P	V
		5580	102.03	-	-	86.14	34.41	14.58	33.1	338	201	A	V
		5728.775	53.24	-14.96	68.2	36.91	34.46	14.97	33.1	338	201	P	V



802.11n HT20 CH 140 5700MHz	*	5700	107.88	-	-	91.53	34.48	14.97	33.1	105	253	P	H
		5700	102.46	-	-	86.11	34.48	14.97	33.1	105	253	A	H
		5733.56	56.6	-11.6	68.2	40.27	34.46	14.97	33.1	105	253	P	H
	*	5700	107.68	-	-	91.33	34.48	14.97	33.1	300	162	P	V
		5700	101.69	-	-	85.34	34.48	14.97	33.1	300	162	A	V
		5726.44	55.6	-12.6	68.2	39.27	34.46	14.97	33.1	300	162	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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	50.11	-23.89	74	51.05	37.4	19.96	58.3	163	230	P	H
		16500	52.05	-16.15	68.2	44.67	43.27	22.95	58.84	178	296	P	H
		11000	50.68	-23.32	74	51.62	37.4	19.96	58.3	163	230	P	V
		16500	51.3	-16.9	68.2	43.92	43.27	22.95	58.84	178	296	P	V
802.11n HT20 CH 116 5580MHz		11160	50.07	-23.93	74	50.62	37.5	20.06	58.11	170	200	P	H
		16740	55.19	-13.01	68.2	46.74	43.91	23.12	58.58	156	350	P	H
		11160	49.84	-24.16	74	50.39	37.5	20.06	58.11	170	200	P	V
		16740	53.35	-14.85	68.2	44.9	43.91	23.12	58.58	156	350	P	V
802.11n HT20 CH 140 5700MHz		11400	48.82	-25.18	74	48.85	37.64	20.18	57.85	157	285	P	H
		17100	53.39	-14.81	68.2	43.92	44.29	23.34	58.16	165	246	P	H
		11400	47.88	-26.12	74	47.91	37.64	20.18	57.85	157	285	P	V
		17100	53.73	-14.47	68.2	44.26	44.29	23.34	58.16	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5455.84	58.53	-15.47	74	43.1	34.26	14.27	33.1	100	238	P	H
		5470	61.54	-6.66	68.2	45.99	34.28	14.37	33.1	100	238	P	H
		5459.68	48.42	-5.58	54	32.99	34.26	14.27	33.1	100	238	A	H
	*	5510	103.32	-	-	87.61	34.33	14.48	33.1	100	238	P	H
		5510	98.25	-	-	82.54	34.33	14.48	33.1	100	238	A	H
		5740.115	53.3	-14.9	68.2	36.89	34.45	15.06	33.1	100	238	P	H
		5459.2	58.24	-15.76	74	42.81	34.26	14.27	33.1	247	179	P	V
		5467.84	64.01	-4.19	68.2	48.46	34.28	14.37	33.1	247	179	P	V
		5457.52	48.72	-5.28	54	33.29	34.26	14.27	33.1	247	179	A	V
	*	5510	106.49	-	-	90.78	34.33	14.48	33.1	247	179	P	V
		5510	99.71	-	-	84	34.33	14.48	33.1	247	179	A	V
		5742.32	54.52	-13.68	68.2	38.11	34.45	15.06	33.1	247	180	P	V
802.11n HT40 CH 110 5550MHz		5414.56	53.64	-20.36	74	38.36	34.22	14.16	33.1	100	235	P	H
		5461.36	54.21	-13.99	68.2	38.78	34.26	14.27	33.1	100	235	P	H
		5459.2	45	-9	54	29.57	34.26	14.27	33.1	100	235	A	H
	*	5550	104.55	-	-	88.68	34.39	14.58	33.1	100	235	P	H
		5550	99.02	-	-	83.15	34.39	14.58	33.1	100	235	A	H
		5754.29	53.7	-14.5	68.2	37.29	34.45	15.06	33.1	100	235	P	H
		5453.68	54.32	-19.68	74	38.89	34.26	14.27	33.1	248	173	P	V
		5469.52	53.98	-14.22	68.2	38.43	34.28	14.37	33.1	248	173	P	V
		5459.68	44.87	-9.13	54	29.44	34.26	14.27	33.1	248	173	A	V
	*	5550	105.78	-	-	89.91	34.39	14.58	33.1	248	173	P	V
		5550	99.94	-	-	84.07	34.39	14.58	33.1	248	173	A	V
		5745.155	54.96	-13.24	68.2	38.55	34.45	15.06	33.1	248	173	P	V



802.11n HT40 CH 134 5670MHz		5352.45	52.87	-21.13	74	37.74	34.13	14.1	33.1	293	233	P	H
		5463.75	52.65	-15.55	68.2	37.2	34.28	14.27	33.1	293	233	P	H
		5469.7	44.83	-9.17	54	29.28	34.28	14.37	33.1	293	233	A	H
	*	5670	104.49	-	-	88.24	34.48	14.87	33.1	293	233	P	H
		5670	98.43	-	-	82.18	34.48	14.87	33.1	293	233	A	H
		5736.825	55.59	-12.61	68.2	39.27	34.45	14.97	33.1	293	233	P	H
		5456.05	52.04	-21.96	74	36.61	34.26	14.27	33.1	250	179	P	V
		5460.6	52.55	-15.65	68.2	37.12	34.26	14.27	33.1	250	179	P	V
		5456.4	44.73	-9.27	54	29.3	34.26	14.27	33.1	250	179	A	V
	*	5670	106.58	-	-	90.33	34.48	14.87	33.1	250	179	P	V
		5670	100.95	-	-	84.7	34.48	14.87	33.1	250	179	A	V
		5728.425	55.93	-12.27	68.2	39.6	34.46	14.97	33.1	250	179	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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	48.52	-25.48	74	49.41	37.41	19.98	58.28	170	230	P	H
		16530	51.2	-17	68.2	43.67	43.36	22.97	58.8	160	300	P	H
		11020	48.45	-25.55	74	49.34	37.41	19.98	58.28	170	230	P	V
		16530	51.32	-16.88	68.2	43.79	43.36	22.97	58.8	160	300	P	V
802.11n HT40 CH 110 5550MHz		11100	48.75	-25.25	74	49.46	37.46	20.02	58.19	150	200	P	H
		16650	52.16	-16.04	68.2	44.1	43.68	23.05	58.67	180	350	P	H
		11100	49.8	-24.2	74	50.51	37.46	20.02	58.19	150	200	P	V
		16650	51.99	-16.21	68.2	43.93	43.68	23.05	58.67	180	350	P	V
802.11n HT40 CH 134 5670MHz		11340	48.86	-25.14	74	49.05	37.6	20.14	57.93	200	360	P	H
		17010	53.44	-14.76	68.2	43.88	44.55	23.29	58.28	200	360	P	H
		11340	48.2	-25.8	74	48.39	37.6	20.14	57.93	200	360	P	V
		17010	52.64	-15.56	68.2	43.08	44.55	23.29	58.28	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5458.48	57.4	-16.6	74	41.97	34.26	14.27	33.1	100	227	P	H
		5467.12	58.26	-9.94	68.2	42.71	34.28	14.37	33.1	100	227	P	H
		5459.68	50.02	-3.98	54	34.59	34.26	14.27	33.1	100	227	A	H
	*	5530	98.29	-	-	82.56	34.35	14.48	33.1	100	227	P	H
		5530	91.88	-	-	76.15	34.35	14.48	33.1	100	227	A	H
		5762.165	54	-14.2	68.2	37.59	34.45	15.06	33.1	100	227	P	H
		5446	57.79	-16.21	74	42.36	34.26	14.27	33.1	247	178	P	V
		5462.8	58.24	-9.96	68.2	42.79	34.28	14.27	33.1	247	178	P	V
		5458	50.49	-3.51	54	35.06	34.26	14.27	33.1	247	178	A	V
	*	5530	99.18	-	-	83.45	34.35	14.48	33.1	247	178	P	V
		5530	92.01	-	-	76.28	34.35	14.48	33.1	247	178	A	V
		5726.885	52.85	-15.35	68.2	36.52	34.46	14.97	33.1	247	178	P	V
802.11ac VHT80 CH 122 5610MHz		5452	54.97	-19.03	74	39.54	34.26	14.27	33.1	100	228	P	H
		5466.88	54.73	-13.47	68.2	39.18	34.28	14.37	33.1	100	228	P	H
		5459.68	46.6	-7.4	54	31.17	34.26	14.27	33.1	100	228	A	H
	*	5610	100.53	-	-	84.48	34.46	14.69	33.1	100	228	P	H
		5610	93.87	-	-	77.82	34.46	14.69	33.1	100	228	A	H
		5737.91	54.18	-14.02	68.2	37.86	34.45	14.97	33.1	100	228	P	H
		5455.84	53.83	-20.17	74	38.4	34.26	14.27	33.1	380	191	P	V
		5465.92	53.53	-14.67	68.2	37.98	34.28	14.37	33.1	380	191	P	V
		5456.56	45.74	-8.26	54	30.31	34.26	14.27	33.1	380	191	A	V
	*	5610	101.97	-	-	85.92	34.46	14.69	33.1	380	191	P	V
		5610	95.9	-	-	79.85	34.46	14.69	33.1	380	191	A	V
		5729.09	53.97	-14.23	68.2	37.64	34.46	14.97	33.1	380	191	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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)	Preamplifier Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11060	49.81	-24.19	74	50.6	37.44	20	58.23	150	200	P	H
VHT80		16590	50.08	-18.12	68.2	42.31	43.5	23.02	58.75	180	350	P	H
CH 106		11060	48.69	-25.31	74	49.48	37.44	20	58.23	150	200	P	V
5530MHz		16590	50.17	-18.03	68.2	42.4	43.5	23.02	58.75	180	350	P	V
802.11ac		11220	49.1	-24.9	74	49.55	37.53	20.08	58.06	200	360	P	H
VHT80		16830	49.97	-18.23	68.2	41.15	44.14	23.17	58.49	200	360	P	H
CH 122		11220	49	-25	74	49.45	37.53	20.08	58.06	200	360	P	V
5610MHz		16830	50.38	-17.82	68.2	41.56	44.14	23.17	58.49	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11ac VHT80 (LF @ 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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		30	23.44	-16.56	40	30.11	24.4	0.23	31.3	-	-	P	H
		116.33	20.85	-22.65	43.5	33.64	17.75	1	31.54	-	-	P	H
		307.42	23.05	-22.95	46	32.98	19.39	2.07	31.39	-	-	P	H
		610.06	29.45	-16.55	46	33.43	24.54	3.04	31.56	-	-	P	H
		840.92	30.36	-15.64	46	31.74	26.32	3.68	31.38	-	-	P	H
		928.22	31.2	-14.8	46	31.95	26.75	3.89	31.39	100	26	P	H
		30.97	25.37	-14.63	40	32.6	23.82	0.25	31.3	100	185	P	V
		151.25	21.84	-21.66	43.5	35.32	16.6	1.31	31.39	-	-	P	V
		246.31	24.82	-21.18	46	36.53	18.13	1.84	31.68	-	-	P	V
		379.2	25.72	-20.28	46	33.65	21.11	2.32	31.36	-	-	P	V
		765.26	29.73	-16.27	46	31.64	25.75	3.51	31.17	-	-	P	V
		841.89	29.52	-16.48	46	30.89	26.33	3.68	31.38	-	-	P	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.
!	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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		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)

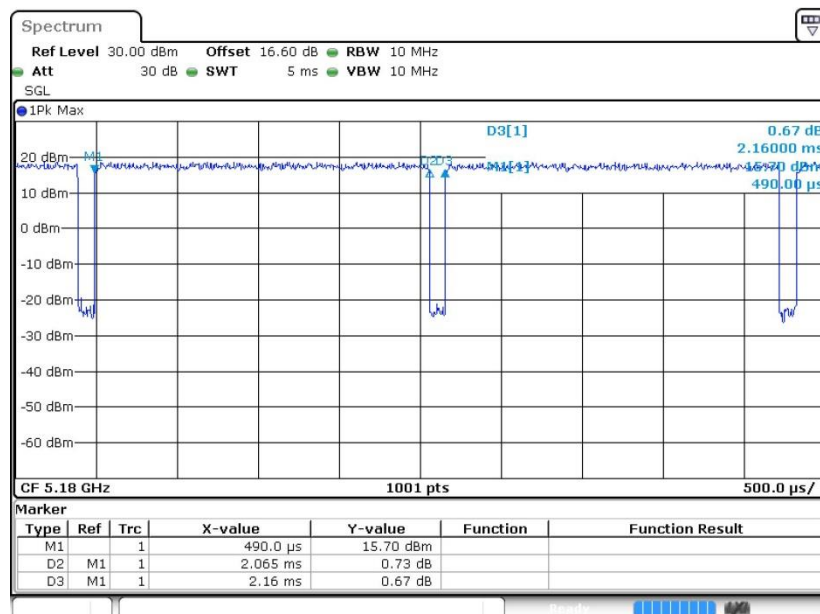
Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
2	802.11a	95.60	2.065	0.484	1KHz
1+2	802.11n HT20	93.90	1.925	0.519	1KHz
1+2	802.11n HT40	87.51	0.946	1.057	3KHz
1+2	802.11ac VHT80	82.58	0.465	2.152	3KHz

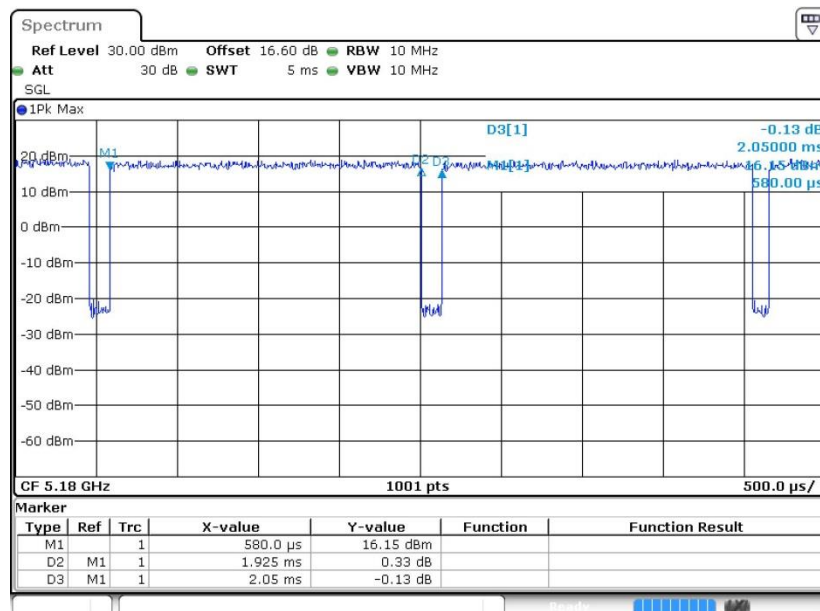
Ant. 2

802.11a



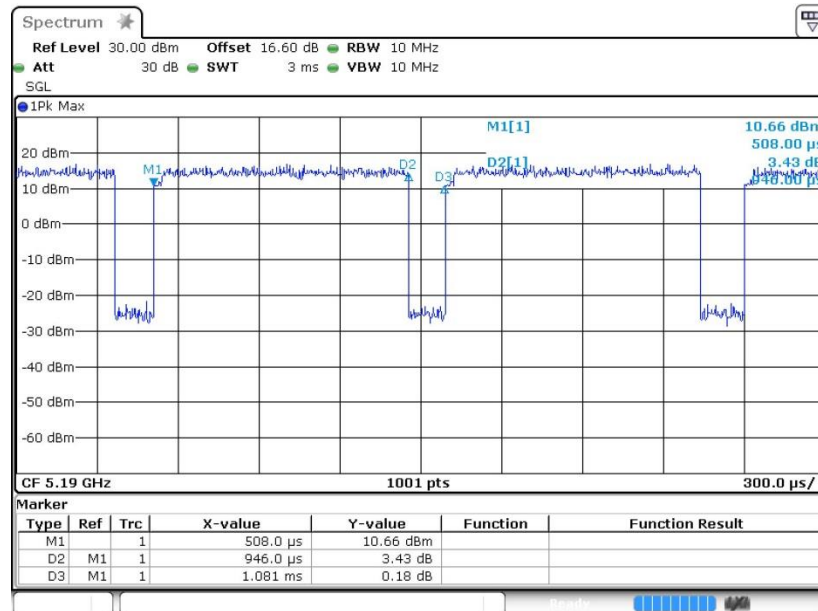
Ant.1+2

802.11n HT20



Ant.1+2

802.11n HT40



Ant.1+2

802.11ac VHT80

