FCC RF Test Report

APPLICANT	:	**BYD Precision Manufacture Co.,Ltd.**
EQUIPMENT	:	**Trident**
BRAND NAME	:	**iRobot**
MODEL NAME	:	**AXC-Y1**
FCC ID	:	**ZW9AXCY1**
STANDARD	:	**FCC Part 15 Subpart E §15.407**
CLASSIFICATION	:	**(NII) Unlicensed National Information Infrastructure**

The product was received on Sep. 29, 2017 and testing was completed on Dec. 08, 2017. We, Sporton International (Kunshan) 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

James Huang

Approved by: James Huang / Manager

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TESTING
NVLAP LAB CODE 600155-0

Sporton International (Kunshan) Inc.
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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR792901C	Rev. 01	Initial issue of report	Jan. 17, 2018

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	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) 15.209(a)	Pass	Under limit 8.53 dB at 5752.520 MHz
-	15.207	AC Conducted Emission	15.207(a)	Not Required	-
3.5	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

BYD Precision Manufacture Co.,Ltd.
No.3001, Bao He Road, Baolong Industry Zone, Longgang, Shenzhen, Guangdong Province, P.R.China

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	Trident
Brand Name	iRobot
Model Name	AXC-Y1
FCC ID	ZW9AXCY1
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/ WLAN 5GHz 802.11a/n HT20/HT40/ Bluetooth v4.0 LE /Bluetooth v4.2 LE
HW Version	Trident B2
SW Version	Trident_00.00.25_20171223
EUT Stage	Identical Prototype

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

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	**<5180 MHz ~ 5240 MHz>** 802.11a : 15.05 dBm / 0.0320 W 802.11n HT20 : 15.03 dBm / 0.0318 W 802.11n HT40 : 14.16 dBm / 0.0261 W **<5260 MHz ~ 5320 MHz>** 802.11a : 14.92 dBm / 0.0310 W 802.11n HT20 : 14.90 dBm / 0.0309 W 802.11n HT40 : 14.13 dBm / 0.0259 W **<5500 MHz ~ 5700 MHz >** 802.11a : 14.94 dBm / 0.0312 W 802.11n HT20 : 14.89 dBm / 0.0308 W 802.11n HT40 : 13.95 dBm / 0.0248 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 18.53 MHz 802.11n HT20 : 19.13 MHz 802.11n HT40 : 36.66 MHz **<5260 MHz ~ 5320 MHz>** 802.11a : 18.58 MHz 802.11n HT20 : 19.33 MHz 802.11n HT40 : 36.76 MHz **<5500 MHz ~ 5700 MHz >** 802.11a : 18.78 MHz 802.11n HT20 : 19.33 MHz 802.11n HT40 : 36.96 MHz
Antenna Type / Gain	Please see Remark 1
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

Remark:

1. 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 lengh (mm)
1(External)	Laird	MAF94109	3.2	PCB dipole antenna	2.4-2.483.5	100
1(External)	Laird	MAF94109	2.7	PCB dipole antenna	5.15-5.25	100
1(External)	Laird	MAF94109	3.1	PCB dipole antenna	5.25-5.35	100
1(External)	Laird	MAF94109	2.7	PCB dipole antenna	5.47-5.725	100
1(External)	Laird	MAF94109	2.6	PCB dipole antenna	5.725-5.85	100

1.5 Modification of EUT

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

1.6 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.		
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**		**FCC Test Firm Registration No.**
	TH01-KS	03CH03-KS	630927

Note: The test site complies with ANSI C63.4 2014 requirement.

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 U-NII Test Procedures New Rules v02
- ANSI C63.10-2013

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: radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the worst cases were recorded in this report.

2.1 Carrier Frequency 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
	-	-	-	-

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
	-	-	-	-

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
	-	-	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

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

2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

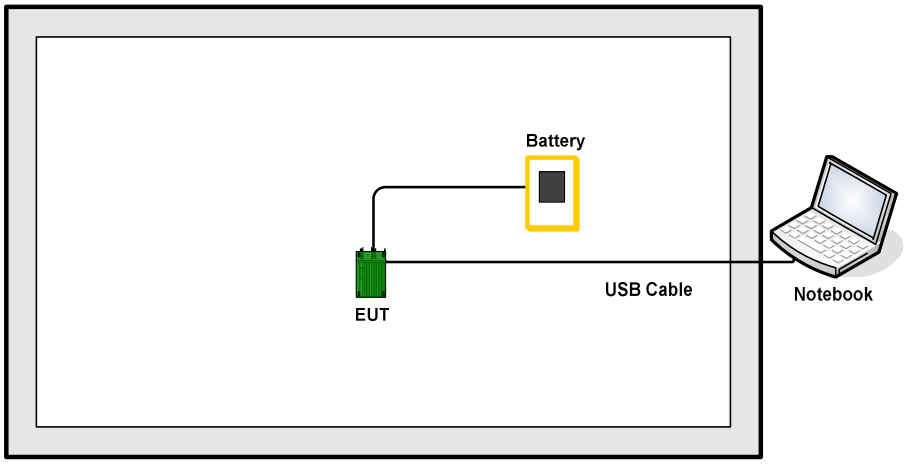
Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



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.	Notebook	Dell	Latitude3440	N/A	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
3.	USB Cable	N/A	N/A	N/A	Unshielded, 1.2m	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 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.
Offset = RF cable loss.
Following shows an offset computation example with cable loss 7.1 dB.

Offset(dB) = RF cable loss(dB).
= 7.1 (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.

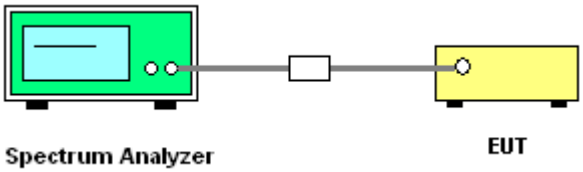
3.1.2 Measuring Instruments

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 U-NII Test Procedures New Rules v02. 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.

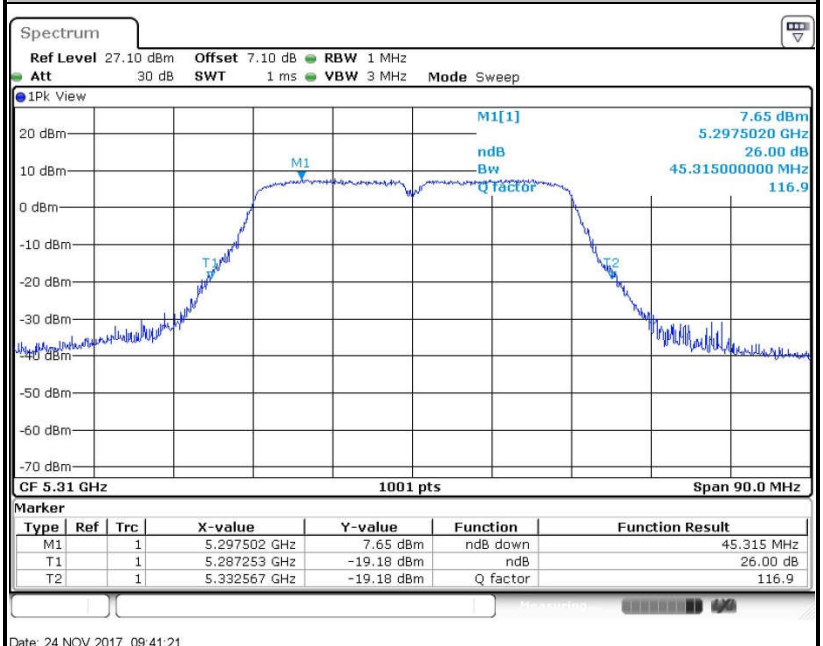
3.1.4 Test Setup



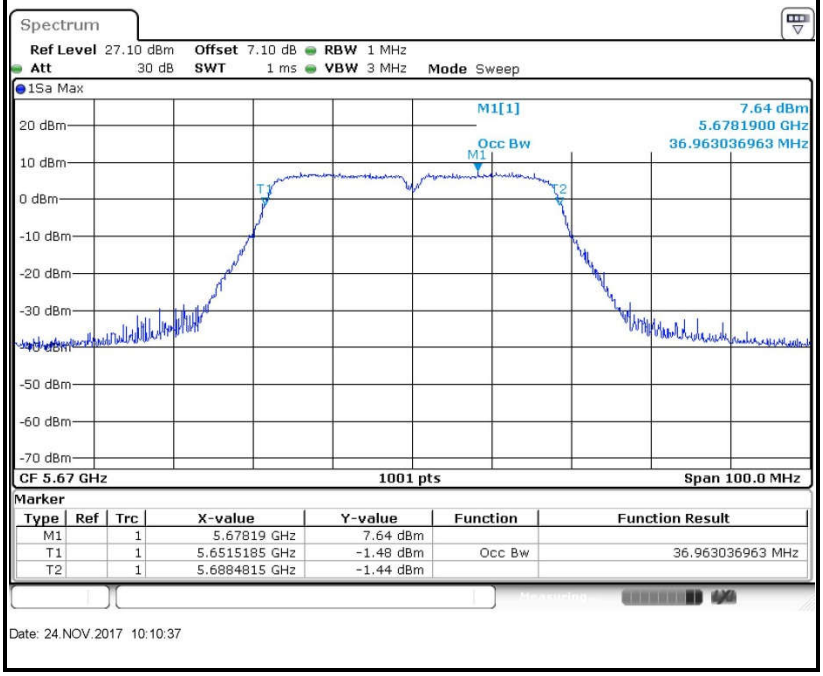
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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.

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.

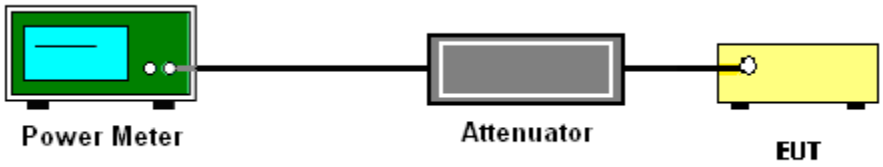
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02.

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

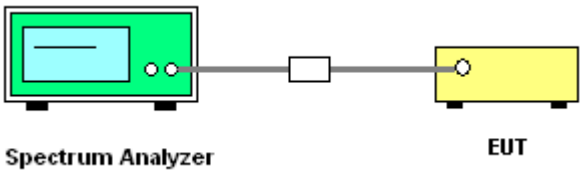
The testing follows FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02.
Section F) Maximum power spectral density.

 # 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 U-NII Test Procedures New Rules v02.
   - 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 (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.

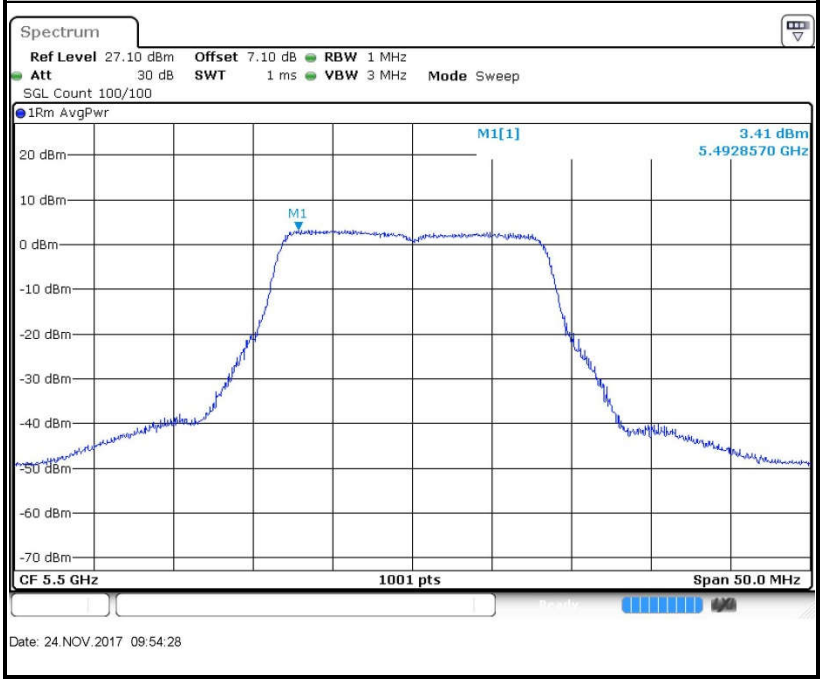
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Spectral Density(dBm/MHz)



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

3.4 Unwanted Radiated Emission 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 5470-5725MHz band: all emissions outside of the 5470-5725MHz 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

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)
- 27	68.3

(3) KDB789033 D01 v01r04 G)2)c)

(i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.[3]

(ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.[4]

Note 3: An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

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 U-NII Test Procedures New Rules v02. 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

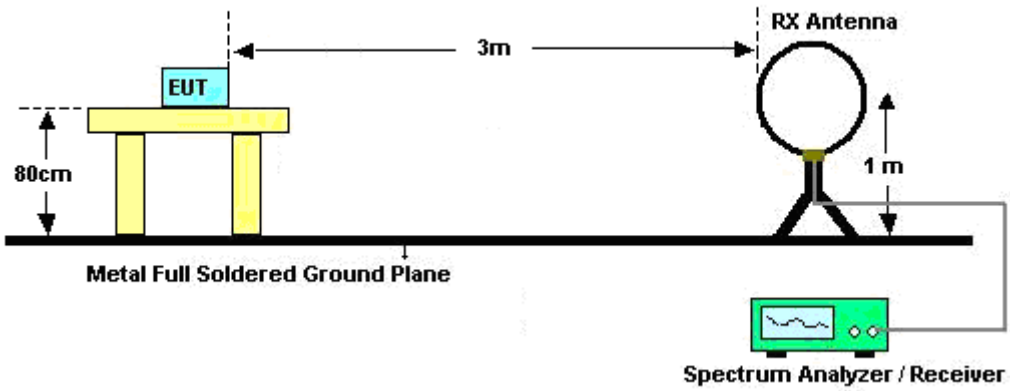
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - 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.

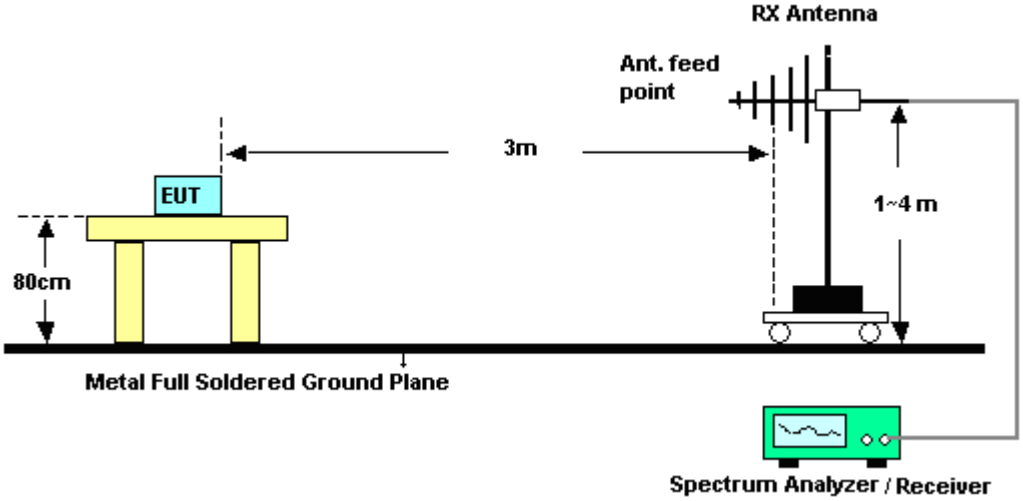
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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

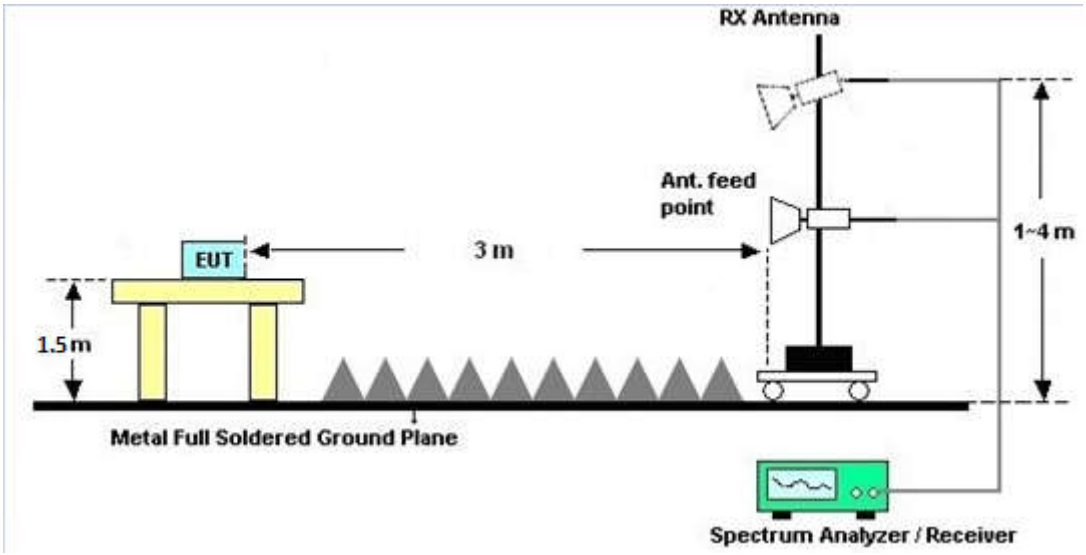
For radiated emissions below 30MHz



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.

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 Frequency Stability Measurement

3.5.1 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.

3.5.2 Measuring Instruments

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

3.5.3 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.

3.5.4 Test Setup

3.5.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.6 Automatically Discontinue Transmission

3.6.1 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.

3.6.2 Measuring Instruments

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

3.6.3 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.

3.7 Antenna Requirements

3.7.1 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.

3.7.2 Antenna Anti-Replacement Construction

Non-standard antenna connector is used.

3.7.3 Antenna Gain

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 08, 2017	Nov. 24, 2017	Aug. 07, 2018	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 19, 2017	Nov. 24, 2017	Jan. 18, 2018	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 19, 2017	Nov. 24, 2017	Jan. 18, 2018	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Oct. 12, 2017	Nov. 24, 2017	Oct. 11, 2018	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 19, 2017	Dec. 08, 2017	Oct. 18, 2018	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2017	Dec. 08, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 22, 2017	Dec. 08, 2017	Oct. 21, 2018	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 22, 2017	Dec. 08, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	Dec. 08, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Dec. 08, 2017	Feb. 14, 2018	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1000MHz / 32 dB	Apr. 18, 2017	Dec. 08, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18GHz~40GHz	Oct. 12, 2017	Dec. 08, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1GHz~18GHz	Apr. 18. 2017	Dec. 08, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 12, 2017	Dec. 08, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 08, 2017	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 08, 2017	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 08, 2017	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.6dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.5dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7dB**

Appendix A. Conducted Test Results

Report Number : FR792901C

Test Engineer:	Silent Hai	Temperature:	21~25	°C
Test Date:	2017/11/24	Relative Humidity:	51~55	%

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)		
11a	6Mbps	1	36	5180	18.33	23.38	-	22.63		
11a	6Mbps	1	44	5220	18.53	23.63	-	22.68		
11a	6Mbps	1	48	5240	18.43	23.43	-	22.66		
HT20	MCS0	1	36	5180	19.03	23.63	-	22.79		
HT20	MCS0	1	44	5220	19.13	24.03	-	22.82		
HT20	MCS0	1	48	5240	19.13	23.83	-	22.82		
HT40	MCS0	1	38	5190	36.66	44.51	-	23.01		
HT40	MCS0	1	46	5230	36.56	44.87	-	23.01		

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
11a	6Mbps	1	36	5180	0.59	15.05	24.00	2.70		Pass
11a	6Mbps	1	44	5220	0.59	14.78	24.00	2.70		Pass
11a	6Mbps	1	48	5240	0.59	14.71	24.00	2.70		Pass
HT20	MCS0	1	36	5180	0.65	15.03	24.00	2.70		Pass
HT20	MCS0	1	44	5220	0.65	14.93	24.00	2.70		Pass
HT20	MCS0	1	48	5240	0.65	14.88	24.00	2.70		Pass
HT40	MCS0	1	38	5190	0.67	14.16	24.00	2.70		Pass
HT40	MCS0	1	46	5230	0.67	14.02	24.00	2.70		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
11a	6Mbps	1	36	5180	0.59	3.69	11.00	2.70		Pass
11a	6Mbps	1	44	5220	0.59	3.74	11.00	2.70		Pass
11a	6Mbps	1	48	5240	0.59	3.77	11.00	2.70		Pass
HT20	MCS0	1	36	5180	0.65	3.83	11.00	2.70		Pass
HT20	MCS0	1	44	5220	0.65	3.57	11.00	2.70		Pass
HT20	MCS0	1	48	5240	0.65	3.55	11.00	2.70		Pass
HT40	MCS0	1	38	5190	0.67	-0.30	11.00	2.70		Pass
HT40	MCS0	1	46	5230	0.67	-0.22	11.00	2.70		Pass

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
11a	6M bps	1	52	5260	18.33	23.68	23.63	29.63	23.98	
11a	6M bps	1	60	5300	18.58	23.78	23.69	29.69	23.98	
11a	6M bps	1	64	5320	18.53	23.58	23.68	29.68	23.98	
HT20	MCS 0	1	52	5260	19.23	23.83	23.84	29.84	23.98	
HT20	MCS 0	1	60	5300	19.33	24.03	23.86	29.86	23.98	
HT20	MCS 0	1	64	5320	19.13	23.73	23.82	29.82	23.98	
HT40	MCS 0	1	54	5270	36.76	44.51	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.66	45.32	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
11a	6M bps	1	52	5260	0.59	14.92	23.98	3.10	26.99	Pass
11a	6M bps	1	60	5300	0.59	14.91	23.98	3.10	26.99	Pass
11a	6M bps	1	64	5320	0.59	14.72	23.98	3.10	26.99	Pass
HT20	MCS 0	1	52	5260	0.65	14.90	23.98	3.10	26.99	Pass
HT20	MCS 0	1	60	5300	0.65	14.81	23.98	3.10	26.99	Pass
HT20	MCS 0	1	64	5320	0.65	14.79	23.98	3.10	26.99	Pass
HT40	MCS 0	1	54	5270	0.67	14.09	23.98	3.10	26.99	Pass
HT40	MCS 0	1	62	5310	0.67	14.13	23.98	3.10	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
11a	6M bps	1	52	5260	0.59	3.76	11.00	3.10		Pass
11a	6M bps	1	60	5300	0.59	3.89	11.00	3.10		Pass
11a	6M bps	1	64	5320	0.59	3.84	11.00	3.10		Pass
HT20	MCS 0	1	52	5260	0.65	3.83	11.00	3.10		Pass
HT20	MCS 0	1	60	5300	0.65	3.71	11.00	3.10		Pass
HT20	MCS 0	1	64	5320	0.65	3.64	11.00	3.10		Pass
HT40	MCS 0	1	54	5270	0.67	-0.29	11.00	3.10		Pass
HT40	MCS 0	1	62	5310	0.67	-0.33	11.00	3.10		Pass

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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
11a	6M bps	1	100	5500	18.53	23.53	23.68	29.68	23.98	
11a	6M bps	1	116	5580	18.78	23.58	23.74	29.74	23.98	
11a	6M bps	1	140	5700	18.48	23.58	23.67	29.67	23.98	
HT20	MCS 0	1	100	5500	19.33	23.63	23.86	29.86	23.98	
HT20	MCS 0	1	116	5580	19.18	23.73	23.83	29.83	23.98	
HT20	MCS 0	1	140	5700	19.33	23.93	23.86	29.86	23.98	
HT40	MCS 0	1	102	5510	36.76	45.14	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.66	44.42	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.96	44.96	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
11a	6M bps	1	100	5500	0.59	14.94	23.98	2.70	26.99	Pass
11a	6M bps	1	116	5580	0.59	14.71	23.98	2.70	26.99	Pass
11a	6M bps	1	140	5700	0.59	14.44	23.98	2.70	26.99	Pass
HT20	MCS 0	1	100	5500	0.65	14.88	23.98	2.70	26.99	Pass
HT20	MCS 0	1	116	5580	0.65	14.89	23.98	2.70	26.99	Pass
HT20	MCS 0	1	140	5700	0.65	14.77	23.98	2.70	26.99	Pass
HT40	MCS 0	1	102	5510	0.67	13.95	23.98	2.70	26.99	Pass
HT40	MCS 0	1	110	5550	0.67	13.88	23.98	2.70	26.99	Pass
HT40	MCS 0	1	134	5670	0.67	13.74	23.98	2.70	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
11a	6M bps	1	100	5500	0.59	4.00	11.00	2.70		Pass
11a	6M bps	1	116	5580	0.59	3.67	11.00	2.70		Pass
11a	6M bps	1	140	5700	0.59	3.19	11.00	2.70		Pass
HT20	MCS 0	1	100	5500	0.65	3.64	11.00	2.70		Pass
HT20	MCS 0	1	116	5580	0.65	3.34	11.00	2.70		Pass
HT20	MCS 0	1	140	5700	0.65	2.97	11.00	2.70		Pass
HT40	MCS 0	1	102	5510	0.67	-0.48	11.00	2.70		Pass
HT40	MCS 0	1	110	5550	0.67	-0.64	11.00	2.70		Pass
HT40	MCS 0	1	134	5670	0.67	-0.95	11.00	2.70		Pass

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TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	50	4.2	
11a	6Mbps	1	36	5180	5180.075	0.075	14.48	-30	4.2	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	4.5	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	3.9	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	4.2	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	50	4.2	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	-30	4.2	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	20	4.5	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	20	3.9	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	20	4.2	

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	50	4.2	
11a	6Mbps	1	100	5500	5500.075	0.075	13.64	-30	4.2	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	20	4.5	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	20	3.9	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	20	4.2	

Appendix B. Radiated Spurious Emission

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		5142.08	48.55	-25.45	74	41.62	31.06	7.99	32.12	104	179	P	H
		5128	39.54	-14.46	54	32.58	31.09	7.99	32.12	104	179	A	H
	*	5176	92.28	-	-	85.42	31	7.99	32.13	104	179	P	H
	*	5176	84.98	-	-	78.12	31	7.99	32.13	104	179	A	H
		5148.96	53.83	-20.17	74	46.9	31.06	7.99	32.12	307	77	P	V
		5127.68	42.33	-11.67	54	35.37	31.09	7.99	32.12	307	77	A	V
	*	5174	100.81	-	-	93.95	31	7.99	32.13	307	77	P	V
	*	5174	93.78	-	-	86.92	31	7.99	32.13	307	77	A	V
802.11a CH 44 5220MHz		5141.6	48.6	-25.4	74	41.67	31.06	7.99	32.12	100	133	P	H
		5114.56	39.73	-14.27	54	32.74	31.12	7.99	32.12	100	133	A	H
	*	5226	96.87	-	-	90.06	30.91	8.04	32.14	100	133	P	H
	*	5226	89.74	-	-	82.93	30.91	8.04	32.14	100	133	A	H
		5399.46	46.26	-27.74	74	39.5	30.62	8.3	32.16	100	133	P	H
		5350.68	37.52	-16.48	54	30.74	30.71	8.22	32.15	100	133	A	H
		5134.88	48.27	-25.73	74	41.31	31.09	7.99	32.12	155	360	P	V
		5129.92	39.62	-14.38	54	32.66	31.09	7.99	32.12	155	360	A	V
	*	5224	102.45	-	-	95.63	30.94	8.01	32.13	155	360	P	V
	*	5224	95.56	-	-	88.74	30.94	8.01	32.13	155	360	A	V
		5397.48	46.04	-27.96	74	39.28	30.62	8.3	32.16	155	360	P	V
		5370.84	37.55	-16.45	54	30.78	30.68	8.25	32.16	155	360	A	V

802.11a CH 48 5240MHz		5371.2	47.14	-26.86	74	40.37	30.68	8.25	32.16	278	180	P	H
		5353.56	37.43	-16.57	54	30.65	30.71	8.22	32.15	278	180	A	H
	*	5242	96.82	-	-	90.01	30.88	8.07	32.14	278	180	P	H
	*	5242	89.1	-	-	82.29	30.88	8.07	32.14	278	180	A	H
		5393.16	47.27	-26.73	74	40.5	30.65	8.28	32.16	134	342	P	V
		5358.42	37.68	-16.32	54	30.9	30.71	8.22	32.15	134	342	A	V
	*	5246	103.47	-	-	96.66	30.88	8.07	32.14	134	342	P	V
	*	5246	96.28	-	-	89.47	30.88	8.07	32.14	134	342	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. 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)
802.11a CH 36 5180MHz		10360	42.69	-31.31	74	57.08	37.49	11.94	63.82	100	360	P	H
		10360	42.24	-31.76	74	56.63	37.49	11.94	63.82	100	360	P	V
802.11a CH 44 5220MHz		10440	44.47	-29.53	74	58.5	37.62	12.09	63.74	100	360	P	H
		10440	43.94	-30.06	74	57.97	37.62	12.09	63.74	100	360	P	V
802.11a CH 48 5240MHz		10480	43.89	-30.11	74	57.66	37.71	12.21	63.69	100	360	P	H
		10480	45.12	-28.88	74	58.89	37.71	12.21	63.69	100	360	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	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		5128.16	49.14	-24.86	74	42.18	31.09	7.99	32.12	287	178	P	H
		5127.84	40.35	-13.65	54	33.39	31.09	7.99	32.12	287	178	A	H
	*	5186	93.83	-	-	86.97	31	7.99	32.13	287	178	P	H
	*	5186	87.24	-	-	80.38	31	7.99	32.13	287	178	A	H
		5128.48	52.6	-21.4	74	45.64	31.09	7.99	32.12	100	344	P	V
		5128.16	45.44	-8.56	54	38.48	31.09	7.99	32.12	100	344	A	V
	*	5186	103.19	-	-	96.33	31	7.99	32.13	100	344	P	V
	*	5186	96.56	-	-	89.7	31	7.99	32.13	100	344	A	V
802.11n HT20 CH 44 5220MHz		5136.16	49.3	-24.7	74	42.34	31.09	7.99	32.12	300	360	P	H
		5124	39.67	-14.33	54	32.71	31.09	7.99	32.12	300	360	A	H
	*	5222	94.64	-	-	87.82	30.94	8.01	32.13	300	360	P	H
	*	5222	87.08	-	-	80.26	30.94	8.01	32.13	300	360	A	H
		5396.94	46.48	-27.52	74	39.72	30.62	8.3	32.16	300	360	P	H
		5352.12	37.49	-16.51	54	30.71	30.71	8.22	32.15	300	360	A	H
		5104.8	48.83	-25.17	74	41.8	31.15	7.99	32.11	105	344	P	V
		5121.92	39.81	-14.19	54	32.82	31.12	7.99	32.12	105	344	A	V
	*	5224	103.68	-	-	96.86	30.94	8.01	32.13	105	344	P	V
	*	5224	96.78	-	-	89.96	30.94	8.01	32.13	105	344	A	V
		5355.9	46.8	-27.2	74	40.02	30.71	8.22	32.15	105	344	P	V
		5357.16	37.57	-16.43	54	30.79	30.71	8.22	32.15	105	344	A	V

802.11n HT20 CH 48 5240MHz		5362.2	46.61	-27.39	74	39.84	30.68	8.25	32.16	300	358	P	H
		5395.32	37.54	-16.46	54	30.78	30.62	8.3	32.16	300	358	A	H
	*	5236	93.39	-	-	86.58	30.91	8.04	32.14	300	358	P	H
	*	5236	86.81	-	-	80	30.91	8.04	32.14	300	358	A	H
		5371.02	47	-27	74	40.23	30.68	8.25	32.16	100	346	P	V
		5353.2	37.66	-16.34	54	30.88	30.71	8.22	32.15	100	346	A	V
	*	5236	104.02	-	-	97.21	30.91	8.04	32.14	100	346	P	V
	*	5236	97	-	-	90.19	30.91	8.04	32.14	100	346	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	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	42.6	-31.4	74	56.99	37.49	11.94	63.82	100	360	P	H
		10360	43.41	-30.59	74	57.8	37.49	11.94	63.82	100	360	P	V
802.11n HT20 CH 44 5220MHz		10440	44.08	-29.92	74	58.11	37.62	12.09	63.74	100	360	P	H
		10440	44.29	-29.71	74	58.32	37.62	12.09	63.74	100	360	P	V
802.11n HT20 CH 48 5240MHz		10480	43.17	-30.83	74	56.94	37.71	12.21	63.69	100	360	P	H
		10480	44.01	-29.99	74	57.78	37.71	12.21	63.69	100	360	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	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		5141.12	48.3	-25.7	74	41.37	31.06	7.99	32.12	299	169	P	H
		5133.6	39.5	-14.5	54	32.54	31.09	7.99	32.12	299	169	A	H
	*	5200	88.27	-	-	81.44	30.97	7.99	32.13	299	169	P	H
	*	5200	81.74	-	-	74.91	30.97	7.99	32.13	299	169	A	H
		5368.32	46.66	-27.34	74	39.89	30.68	8.25	32.16	299	169	P	H
		5354.64	37.52	-16.48	54	30.74	30.71	8.22	32.15	299	169	A	H
		5145.6	56.38	-17.62	74	49.45	31.06	7.99	32.12	102	353	P	V
		5148.64	43.45	-10.55	54	36.52	31.06	7.99	32.12	102	353	A	V
	*	5200	99.43	-	-	92.6	30.97	7.99	32.13	102	353	P	V
	*	5200	92.63	-	-	85.8	30.97	7.99	32.13	102	353	A	V
		5373.9	48.02	-25.98	74	41.25	30.68	8.25	32.16	102	353	P	V
		5373.18	37.69	-16.31	54	30.92	30.68	8.25	32.16	102	353	A	V
802.11n HT40 CH 46 5230MHz		5119.04	49.22	-24.78	74	42.23	31.12	7.99	32.12	241	219	P	H
		5107.84	39.46	-14.54	54	32.47	31.12	7.99	32.12	241	219	A	H
	*	5242	90.54	-	-	83.73	30.88	8.07	32.14	241	219	P	H
	*	5242	83.46	-	-	76.65	30.88	8.07	32.14	241	219	A	H
		5359.86	46.22	-27.78	74	39.44	30.71	8.22	32.15	241	219	P	H
		5398.56	37.26	-16.74	54	30.5	30.62	8.3	32.16	241	219	A	H
		5126.4	49.23	-24.77	74	42.27	31.09	7.99	32.12	100	264	P	V
		5125.76	40.2	-13.8	54	33.24	31.09	7.99	32.12	100	264	A	V
	*	5236	98.24	-	-	91.43	30.91	8.04	32.14	100	264	P	V
	*	5236	91.29	-	-	84.48	30.91	8.04	32.14	100	264	A	V
		5365.26	47.51	-26.49	74	40.74	30.68	8.25	32.16	100	264	P	V
		5350.86	37.55	-16.45	54	30.77	30.71	8.22	32.15	100	264	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	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	41.58	-32.42	74	55.88	37.52	11.98	63.8	100	360	P	H
		10380	41.39	-32.61	74	55.69	37.52	11.98	63.8	100	360	P	V
802.11n HT40 CH 46 5230MHz		10460	41.68	-32.32	74	55.62	37.65	12.13	63.72	100	360	P	H
		10460	43.52	-30.48	74	57.46	37.65	12.13	63.72	100	360	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.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5124.48	48.98	-25.02	74	42.02	31.09	7.99	32.12	100	296	P	H
		5116.48	39.59	-14.41	54	32.6	31.12	7.99	32.12	100	296	A	H
	*	5266	97.02	-	-	90.22	30.85	8.09	32.14	100	296	P	H
	*	5266	89.77	-	-	82.97	30.85	8.09	32.14	100	296	A	H
		5117.44	49.74	-24.26	74	42.75	31.12	7.99	32.12	100	360	P	V
		5116.16	39.81	-14.19	54	32.82	31.12	7.99	32.12	100	360	A	V
	*	5266	104.98	-	-	98.18	30.85	8.09	32.14	100	360	P	V
	*	5266	97.41	-	-	90.61	30.85	8.09	32.14	100	360	A	V
802.11a CH 60 5300MHz		5119.2	48.82	-25.18	74	41.83	31.12	7.99	32.12	352	173	P	H
		5108.64	39.84	-14.16	54	32.85	31.12	7.99	32.12	352	173	A	H
	*	5304	97.43	-	-	90.64	30.79	8.15	32.15	352	173	P	H
	*	5304	89.9	-	-	83.11	30.79	8.15	32.15	352	173	A	H
		5356	48.06	-25.94	74	41.28	30.71	8.22	32.15	352	173	P	H
		5352.4	40.18	-13.82	54	33.4	30.71	8.22	32.15	352	173	A	H
		5129.44	49.06	-24.94	74	42.1	31.09	7.99	32.12	110	21	P	V
		5104	39.65	-14.35	54	32.62	31.15	7.99	32.11	110	21	A	V
	*	5304	104.18	-	-	97.39	30.79	8.15	32.15	110	21	P	V
	*	5304	96.81	-	-	90.02	30.79	8.15	32.15	110	21	A	V
		5352.3	52.29	-21.71	74	45.51	30.71	8.22	32.15	110	21	P	V
		5352.5	44.25	-9.75	54	37.47	30.71	8.22	32.15	110	21	A	V

802.11a CH 64 5320MHz	*	5316	97.34	-	-	90.56	30.76	8.17	32.15	376	174	P	H
	*	5316	89.89	-	-	83.11	30.76	8.17	32.15	376	174	A	H
		5350.2	50.93	-23.07	74	44.15	30.71	8.22	32.15	376	174	P	H
		5372.5	39.6	-14.4	54	32.83	30.68	8.25	32.16	376	174	A	H
	*	5316	104.03	-	-	97.25	30.76	8.17	32.15	100	14	P	V
	*	5316	96.79	-	-	90.01	30.76	8.17	32.15	100	14	A	V
		5352	56.2	-17.8	74	49.42	30.71	8.22	32.15	100	14	P	V
		5372.4	44	-10	54	37.23	30.68	8.25	32.16	100	14	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. 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)
802.11a CH 52 5260MHz		10520	43.64	-30.36	74	57.23	37.78	12.28	63.65	100	360	P	H
		10520	44.36	-29.64	74	57.95	37.78	12.28	63.65	100	360	P	V
802.11a CH 60 5300MHz		10600	43.99	-30.01	74	57.14	37.93	12.47	63.55	100	360	P	H
		10600	43.87	-30.13	74	57.02	37.93	12.47	63.55	100	360	P	V
802.11a CH 64 5320MHz		10640	44.26	-29.74	74	57.23	38	12.55	63.52	100	360	P	H
		10640	44.46	-29.54	74	57.43	38	12.55	63.52	100	360	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	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		5127.2	47.91	-26.09	74	40.95	31.09	7.99	32.12	372	360	P	H
		5105.92	39.73	-14.27	54	32.74	31.12	7.99	32.12	372	360	A	H
	*	5252	94.45	-	-	87.64	30.88	8.07	32.14	372	360	P	H
	*	5252	87.55	-	-	80.74	30.88	8.07	32.14	372	360	A	H
		5128.32	49.01	-24.99	74	42.05	31.09	7.99	32.12	100	346	P	V
		5115.36	39.67	-14.33	54	32.68	31.12	7.99	32.12	100	346	A	V
	*	5266	103.5	-	-	96.7	30.85	8.09	32.14	100	346	P	V
	*	5266	96.44	-	-	89.64	30.85	8.09	32.14	100	346	A	V
802.11n HT20 CH 60 5300MHz		5117.92	49.39	-24.61	74	42.4	31.12	7.99	32.12	347	360	P	H
		5117.6	39.63	-14.37	54	32.64	31.12	7.99	32.12	347	360	A	H
	*	5304	94.61	-	-	87.82	30.79	8.15	32.15	347	360	P	H
	*	5304	86.97	-	-	80.18	30.79	8.15	32.15	347	360	A	H
		5355.1	46.76	-27.24	74	39.98	30.71	8.22	32.15	347	360	P	H
		5352.2	38.8	-15.2	54	32.02	30.71	8.22	32.15	347	360	A	H
		5112.64	49.31	-24.69	74	42.32	31.12	7.99	32.12	100	347	P	V
		5113.28	39.87	-14.13	54	32.88	31.12	7.99	32.12	100	347	A	V
	*	5292	103.31	-	-	96.51	30.82	8.12	32.14	100	347	P	V
	*	5292	96.1	-	-	89.3	30.82	8.12	32.14	100	347	A	V
		5352.4	52.93	-21.07	74	46.15	30.71	8.22	32.15	100	347	P	V
		5351.8	44.87	-9.13	54	38.09	30.71	8.22	32.15	100	347	A	V

802.11n HT20 CH 64 5320MHz	*	5312	93.99	-	-	87.21	30.76	8.17	32.15	100	349	P	H
	*	5312	86.75	-	-	79.97	30.76	8.17	32.15	100	349	A	H
		5372.2	48.31	-25.69	74	41.54	30.68	8.25	32.16	100	349	P	H
		5371.8	38.86	-15.14	54	32.09	30.68	8.25	32.16	100	349	A	H
	*	5322	102.95	-	-	96.17	30.76	8.17	32.15	111	348	P	V
	*	5322	95.95	-	-	89.17	30.76	8.17	32.15	111	348	A	V
		5350.6	56.68	-17.32	74	49.9	30.71	8.22	32.15	111	348	P	V
		5372	44.21	-9.79	54	37.44	30.68	8.25	32.16	111	348	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	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	44.12	-29.88	74	57.71	37.78	12.28	63.65	100	360	P	H
		10520	42.99	-31.01	74	56.58	37.78	12.28	63.65	100	360	P	V
802.11n HT20 CH 60 5300MHz		10600	42.79	-31.21	74	55.94	37.93	12.47	63.55	100	360	P	H
		10600	43.66	-30.34	74	56.81	37.93	12.47	63.55	100	360	P	V
802.11n HT20 CH 64 5320MHz		10640	43.22	-30.78	74	56.19	38	12.55	63.52	100	360	P	H
		10640	44.48	-29.52	74	57.45	38	12.55	63.52	100	360	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	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		5144.48	49.06	-24.94	74	42.13	31.06	7.99	32.12	220	224	P	H
		5100.32	39.41	-14.59	54	32.38	31.15	7.99	32.11	220	224	A	H
	*	5262	92.24	-	-	85.44	30.85	8.09	32.14	220	224	P	H
	*	5262	84.31	-	-	77.51	30.85	8.09	32.14	220	224	A	H
		5350.7	48.29	-25.71	74	41.51	30.71	8.22	32.15	220	224	P	H
		5372.9	37.41	-16.59	54	30.64	30.68	8.25	32.16	220	224	A	H
		5130.72	48.66	-25.34	74	41.7	31.09	7.99	32.12	100	264	P	V
		5116.64	39.48	-14.52	54	32.49	31.12	7.99	32.12	100	264	A	V
	*	5284	98.12	-	-	91.32	30.82	8.12	32.14	100	264	P	V
	*	5284	91.14	-	-	84.34	30.82	8.12	32.14	100	264	A	V
		5373	47.57	-26.43	74	40.8	30.68	8.25	32.16	100	264	P	V
		5372.5	38.85	-15.15	54	32.08	30.68	8.25	32.16	100	264	A	V
802.11n HT40 CH 62 5310MHz		5136.48	48.77	-25.23	74	41.81	31.09	7.99	32.12	250	223	P	H
		5112.8	39.4	-14.6	54	32.41	31.12	7.99	32.12	250	223	A	H
	*	5314	92.04	-	-	85.26	30.76	8.17	32.15	250	223	P	H
	*	5314	83.9	-	-	77.12	30.76	8.17	32.15	250	223	A	H
		5385.7	47.38	-26.62	74	40.61	30.65	8.28	32.16	250	223	P	H
		5350.5	38.42	-15.58	54	31.64	30.71	8.22	32.15	250	223	A	H
		5111.52	49.81	-24.19	74	42.82	31.12	7.99	32.12	103	264	P	V
		5112	39.51	-14.49	54	32.52	31.12	7.99	32.12	103	264	A	V
	*	5322	98.56	-	-	91.78	30.76	8.17	32.15	103	264	P	V
	*	5322	91.04	-	-	84.26	30.76	8.17	32.15	103	264	A	V
		5350	55.56	-18.44	74	48.78	30.71	8.22	32.15	103	264	P	V
		5351.6	42.12	-11.88	54	35.34	30.71	8.22	32.15	103	264	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	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	43.06	-30.94	74	56.56	37.81	12.32	63.63	100	360	P	H
		10540	42.94	-31.06	74	56.44	37.81	12.32	63.63	100	360	P	V
802.11n HT40 CH 62 5310MHz		10620	42.35	-31.65	74	55.42	37.96	12.51	63.54	100	360	P	H
		10620	45.07	-28.93	74	58.14	37.96	12.51	63.54	100	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 802.11a (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		5469.04	49.34	-24.66	74	42.62	30.5	8.39	32.17	359	176	P	H
		5447.92	39.44	-14.56	54	32.71	30.53	8.37	32.17	359	176	A	H
	*	5494	95.35	-	-	88.65	30.47	8.41	32.18	359	176	P	H
	*	5494	88.45	-	-	81.75	30.47	8.41	32.18	359	176	A	H
		5468.24	55.85	-18.15	74	49.13	30.5	8.39	32.17	100	16	P	V
		5447.76	43.97	-10.03	54	37.24	30.53	8.37	32.17	100	16	A	V
	*	5498	103.05	-	-	96.36	30.44	8.43	32.18	100	16	P	V
	*	5498	95.37	-	-	88.68	30.44	8.43	32.18	100	16	A	V
802.11a CH 116 5580MHz		5393.68	47.22	-26.78	74	40.45	30.65	8.28	32.16	371	178	P	H
		5437.52	37.71	-16.29	54	30.98	30.56	8.34	32.17	371	178	A	H
	*	5586	95.7	-	-	89.07	30.29	8.53	32.19	371	178	P	H
	*	5586	89.08	-	-	82.45	30.29	8.53	32.19	371	178	A	H
		5750.52	47.03	-26.97	74	39.89	31.03	8.59	32.48	371	178	P	H
		5743.64	38.66	-15.34	54	31.52	31.03	8.59	32.48	371	178	A	H
		5450.8	47.81	-26.19	74	41.08	30.53	8.37	32.17	100	242	P	V
		5470	38.1	-15.9	54	31.38	30.5	8.39	32.17	100	242	A	V
	*	5574	103.41	-	-	96.77	30.32	8.51	32.19	100	242	P	V
	*	5574	96.21	-	-	89.57	30.32	8.51	32.19	100	242	A	V
		5749.32	48.72	-25.28	74	41.58	31.03	8.59	32.48	100	242	P	V
		5755.08	38.87	-15.13	54	31.63	31.17	8.59	32.52	100	242	A	V

802.11a CH 140 5700MHz	*	5694	96.94	-	-	90.09	30.62	8.57	32.34	358	175	P	H
	*	5694	89.95	-	-	83.1	30.62	8.57	32.34	358	175	A	H
		5725.16	50.63	-23.37	74	43.59	30.89	8.58	32.43	358	175	P	H
		5752.44	40.38	-13.62	54	33.14	31.17	8.59	32.52	358	175	A	H
	*	5706	105.11	-	-	98.16	30.75	8.58	32.38	100	349	P	V
	*	5706	97.43	-	-	90.48	30.75	8.58	32.38	100	349	A	V
		5727.56	58.02	-15.98	74	50.98	30.89	8.58	32.43	100	349	P	V
		5752.52	45.47	-8.53	54	38.23	31.17	8.59	32.52	100	349	A	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. 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)
802.11a CH 100 5500MHz		11000	45.16	-28.84	74	56.28	38.66	13.34	63.12	100	360	P	H
		11000	45.54	-28.46	74	56.66	38.66	13.34	63.12	100	360	P	V
802.11a CH 116 5580MHz		11160	46.31	-27.69	74	57.09	38.97	13.19	62.94	100	360	P	H
		11160	46.22	-27.78	74	57	38.97	13.19	62.94	100	360	P	V
802.11a CH 140 5700MHz		11400	46.33	-27.67	74	56.6	39.41	12.99	62.67	100	360	P	H
		11400	45.95	-28.05	74	56.22	39.41	12.99	62.67	100	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 802.11n 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)
		5469.04	48.55	-25.45	74	41.83	30.5	8.39	32.17	256	178	P	H
		5447.6	39.21	-14.79	54	32.48	30.53	8.37	32.17	256	178	A	H
802.11n	*	5502	93.84	-	-	87.15	30.44	8.43	32.18	256	178	P	H
HT20	*	5502	86.82	-	-	80.13	30.44	8.43	32.18	256	178	A	H
CH 100		5468.24	59.08	-14.92	74	52.36	30.5	8.39	32.17	119	352	P	V
5500MHz		5448.24	43.95	-10.05	54	37.22	30.53	8.37	32.17	119	352	A	V
	*	5496	102.02	-	-	95.32	30.47	8.41	32.18	119	352	P	V
	*	5496	94.64	-	-	87.94	30.47	8.41	32.18	119	352	A	V
		5425.04	47.41	-26.59	74	40.66	30.59	8.32	32.16	265	178	P	H
		5445.52	37.77	-16.23	54	31.04	30.53	8.37	32.17	265	178	A	H
	*	5586	94.66	-	-	88.03	30.29	8.53	32.19	265	178	P	H
	*	5586	87.37	-	-	80.74	30.29	8.53	32.19	265	178	A	H
802.11n		5744.2	48.39	-25.61	74	41.25	31.03	8.59	32.48	265	178	P	H
HT20		5756.76	38.7	-15.3	54	31.46	31.17	8.59	32.52	265	178	A	H
CH 116		5456.88	47.31	-26.69	74	40.58	30.53	8.37	32.17	110	351	P	V
5580MHz		5381.36	38.03	-15.97	54	31.26	30.65	8.28	32.16	110	351	A	V
	*	5580	102.57	-	-	95.93	30.32	8.51	32.19	110	351	P	V
	*	5580	95.48	-	-	88.84	30.32	8.51	32.19	110	351	A	V
		5749.16	48.9	-25.1	74	41.76	31.03	8.59	32.48	110	351	P	V
		5755.4	38.67	-15.33	54	31.43	31.17	8.59	32.52	110	351	A	V

802.11n HT20 CH 140 5700MHz	*	5706	95.1	-	-	88.15	30.75	8.58	32.38	269	175	P	H
	*	5706	88.46	-	-	81.51	30.75	8.58	32.38	269	175	A	H
		5726.2	49.08	-24.92	74	42.04	30.89	8.58	32.43	269	175	P	H
		5751.72	40.23	-13.77	54	32.99	31.17	8.59	32.52	269	175	A	H
	*	5706	103.35	-	-	96.4	30.75	8.58	32.38	100	346	P	V
	*	5706	96.55	-	-	89.6	30.75	8.58	32.38	100	346	A	V
		5725.16	55.24	-18.76	74	48.2	30.89	8.58	32.43	100	346	P	V
		5752.2	45.24	-8.76	54	38	31.17	8.59	32.52	100	346	A	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	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	44.59	-29.41	74	55.71	38.66	13.34	63.12	100	360	P	H
		11000	45.67	-28.33	74	56.79	38.66	13.34	63.12	100	360	P	V
802.11n HT20 CH 116 5580MHz		11600	44.09	-29.91	74	54.76	39.29	12.81	62.77	100	360	P	H
		11600	45.31	-28.69	74	55.98	39.29	12.81	62.77	100	360	P	V
802.11n HT20 CH 140 5700MHz		11400	45.55	-28.45	74	55.82	39.41	12.99	62.67	100	360	P	H
		11400	46.24	-27.76	74	56.51	39.41	12.99	62.67	100	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 802.11n 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)
		5428.88	48.4	-25.6	74	41.67	30.56	8.34	32.17	154	222	P	H
		5469.36	37.9	-16.1	54	31.18	30.5	8.39	32.17	154	222	A	H
	*	5502	89.8	-	-	83.11	30.44	8.43	32.18	154	222	P	H
	*	5502	82.57	-	-	75.88	30.44	8.43	32.18	154	222	A	H
802.11n		5744.6	48.18	-25.82	74	41.04	31.03	8.59	32.48	154	222	P	H
HT40		5764.44	38.36	-15.64	54	31.12	31.17	8.59	32.52	154	222	A	H
CH 102		5467.76	56.48	-17.52	74	49.76	30.5	8.39	32.17	100	259	P	V
5510MHz		5467.92	39.88	-14.12	54	33.16	30.5	8.39	32.17	100	259	A	V
	*	5502	96.55	-	-	89.86	30.44	8.43	32.18	100	259	P	V
	*	5502	89.17	-	-	82.48	30.44	8.43	32.18	100	259	A	V
		5725.32	47.48	-26.52	74	40.44	30.89	8.58	32.43	100	259	P	V
		5729.4	38.46	-15.54	54	31.42	30.89	8.58	32.43	100	259	A	V
		5447.76	47.24	-26.76	74	40.51	30.53	8.37	32.17	142	222	P	H
		5447.44	37.58	-16.42	54	30.85	30.53	8.37	32.17	142	222	A	H
	*	5540	89.12	-	-	82.45	30.38	8.47	32.18	142	222	P	H
	*	5540	82.23	-	-	75.56	30.38	8.47	32.18	142	222	A	H
802.11n		5749.96	48.16	-25.84	74	41.02	31.03	8.59	32.48	142	222	P	H
HT40		5749.8	38.42	-15.58	54	31.28	31.03	8.59	32.48	142	222	A	H
CH 110		5447.92	47.66	-26.34	74	40.93	30.53	8.37	32.17	100	261	P	V
5550MHz		5446.64	38.44	-15.56	54	31.71	30.53	8.37	32.17	100	261	A	V
	*	5560	96.39	-	-	89.74	30.35	8.49	32.19	100	261	P	V
	*	5560	89.16	-	-	82.51	30.35	8.49	32.19	100	261	A	V
		5762.28	47.91	-26.09	74	40.67	31.17	8.59	32.52	100	261	P	V
		5740.76	38.46	-15.54	54	31.32	31.03	8.59	32.48	100	261	A	V

		5468.56	46.77	-27.23	74	40.05	30.5	8.39	32.17	141	204	P	H
		5468.24	37.61	-16.39	54	30.89	30.5	8.39	32.17	141	204	A	H
	*	5660	88.78	-	-	82.12	30.34	8.57	32.25	141	204	P	H
	*	5660	82.08	-	-	75.42	30.34	8.57	32.25	141	204	A	H
802.11n		5730.76	47.51	-26.49	74	40.47	30.89	8.58	32.43	141	204	P	H
HT40		5747.24	38.46	-15.54	54	31.32	31.03	8.59	32.48	141	204	A	H
CH 134		5433.36	47.84	-26.16	74	41.11	30.56	8.34	32.17	101	258	P	V
5670MHz		5465.84	37.87	-16.13	54	31.15	30.5	8.39	32.17	101	258	A	V
	*	5682	98.14	-	-	91.38	30.48	8.57	32.29	101	258	P	V
	*	5682	90.79	-	-	84.03	30.48	8.57	32.29	101	258	A	V
		5726.76	49.15	-24.85	74	42.11	30.89	8.58	32.43	101	258	P	V
		5725.48	39.56	-14.44	54	32.52	30.89	8.58	32.43	101	258	A	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	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	44.75	-29.25	74	55.84	38.69	13.32	63.1	100	360	P	H
		11020	45.21	-28.79	74	56.3	38.69	13.32	63.1	100	360	P	V
802.11n HT40 CH 110 5550MHz		11100	46.61	-27.39	74	57.53	38.84	13.25	63.01	100	360	P	H
		11100	45.06	-28.94	74	55.98	38.84	13.25	63.01	100	360	P	V
802.11n HT40 CH 134 5670MHz		11340	43.72	-30.28	74	54.14	39.29	13.04	62.75	100	223	P	H
		11340	47.32	-26.68	74	57.74	39.29	13.04	62.75	100	278	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11a (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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		32.91	23	-17	40	28.81	24.62	0.61	31.04	-	-	P	H
		74.62	23.71	-16.29	40	39.59	14.6	0.92	31.4	-	-	P	H
		116.33	18.77	-24.73	43.5	30.7	17.64	1.2	30.77	-	-	P	H
		152.22	27.91	-15.59	43.5	40.25	17.24	1.33	30.91	-	-	P	H
		226.91	23.12	-22.88	46	35.77	16.88	1.62	31.15	-	-	P	H
		290.93	32.51	-13.49	46	42.79	19.3	1.87	31.45	100	25	P	H
		30	24.84	-15.16	40	29.07	26.3	0.57	31.1	-	-	P	V
		81.41	23.3	-16.7	40	38.16	15.56	0.98	31.4	-	-	P	V
		148.34	30.11	-13.39	43.5	42.37	17.32	1.31	30.89	124	276	P	V
		229.82	23.9	-22.1	46	36.41	17.01	1.64	31.16	-	-	P	V
		403.45	27.77	-18.23	46	34.43	22.65	2.2	31.51	-	-	P	V
		956.35	32.73	-21.27	54	30.27	30.31	3.48	31.33	-	-	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 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)

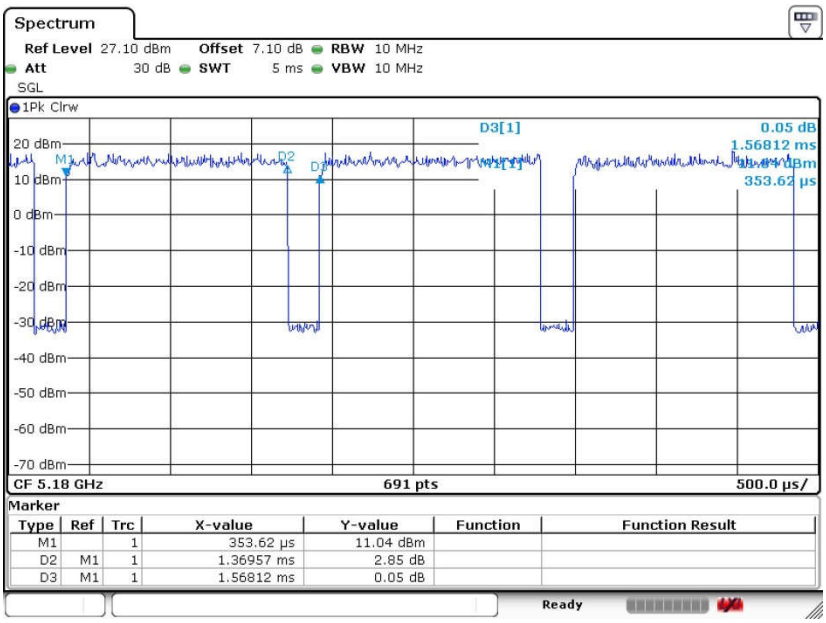
= -10.46(dB)

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

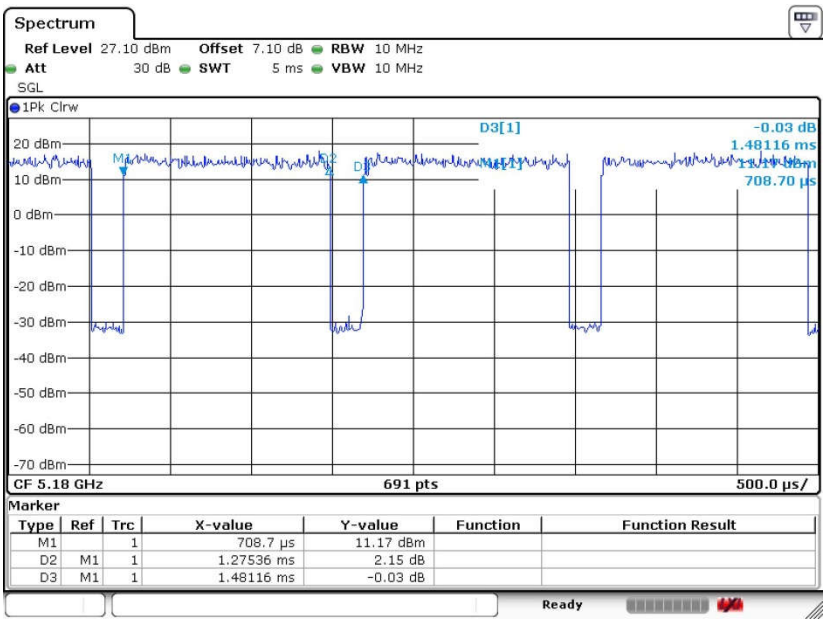
Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.34	1.370	0.730	1 kHz
802.11n HT20	86.11	1.275	0.784	1 kHz
802.11n HT40	85.61	1.225	0.817	1 kHz

802.11a



802.11n HT20



802.11n HT40