



FCC RF Test Report

APPLICANT : Acer Incorporated
EQUIPMENT : Tablet Computer
BRAND NAME : acer
MODEL NAME : A7003
FCC ID : HLZA7003
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Jul. 28, 2017 and testing was completed on Aug. 25, 2017. 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.

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Guangdong Province 518055 China***



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR772802D	Rev. 01	Initial issue of report	Sep. 04, 2017



SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	RSS-247 Section 6	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	RSS-247 Section 6	Maximum Conducted Output Power	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	RSS-247 Section 6	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	RSS-247 Section 6	Unwanted Emissions	15.407(b) 15.209(a)	Pass	Under limit 5.41 dB at 5149.76 MHz
3.5	15.207	RSS-Gen 8.8	AC Conducted Emission	15.207(a)	Pass	Under limit 9.17 dB at 0.20 MHz
3.6	15.407(g)	-	Frequency Stability	Within Operation Band	Pass	-
3.7	15.407(c)	RSS-247 6.4(a)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	N/A	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Acer Incorporated

8F , 88, Sec.1 Xintai 5th Rd., Xizhi, New Taipei City 221, Taiwan, R.O.C

1.2 Manufacturer

Acer Incorporated

8F , 88, Sec.1 Xintai 5th Rd., Xizhi, New Taipei City 221, Taiwan, R.O.C

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Tablet Computer
Brand Name	acer
Model Name	A7003
FCC ID	HLZA7003
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/HT40/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0 + EDR/ Bluetooth v 4.0 LE/ Bluetooth v 4.1 LE
HW Version	A10H2_MB_V1.2
SW Version	Acer_AV0N0_A3-A50_RV01RA01_WW_GEN1
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 12.65 dBm / 0.0184 W 802.11n HT20 : 11.46 dBm / 0.0140 W 802.11n HT40 : 11.66 dBm / 0.0147 W 802.11ac VHT20 : 8.88 dBm / 0.0077 W 802.11ac VHT40 : 9.16 dBm / 0.0082 W 802.11ac VHT80 : 8.97 dBm / 0.0079 W <5260 MHz ~ 5320 MHz> 802.11a : 12.73 dBm / 0.0187 W 802.11n HT20 : 11.47 dBm / 0.0140 W 802.11n HT40 : 11.74 dBm / 0.0149 W 802.11ac VHT20 : 8.91 dBm / 0.0078 W 802.11ac VHT40 : 9.31 dBm / 0.0085 W 802.11ac VHT80 : 9.04 dBm / 0.0080 W <5500 MHz ~ 5720 MHz > 802.11a : 11.17 dBm / 0.0131 W 802.11n HT20 : 10.07 dBm / 0.0102 W 802.11n HT40 : 10.47 dBm / 0.0111 W 802.11ac VHT20 : 8.67 dBm / 0.0074 W 802.11ac VHT40 : 8.98 dBm / 0.0079 W 802.11ac VHT80 : 8.75 dBm / 0.0075 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 17.73 MHz 802.11n HT20 : 17.98 MHz 802.11n HT40 : 36.16 MHz 802.11ac VHT80 : 75.28 MHz <5260 MHz ~ 5320 MHz> 802.11a : 17.83 MHz 802.11n HT20 : 18.03 MHz 802.11n HT40 : 36.26 MHz 802.11ac VHT80 : 75.16 MHz <5500 MHz ~ 5720 MHz > 802.11a : 17.78 MHz 802.11n HT20 : 18.03 MHz 802.11n HT40 : 36.26 MHz 802.11ac VHT80 : 75.28 MHz
 Antenna Gain / Gain	<5150 MHz ~ 5250 MHz> FPC Antenna with gain 1.40 dBi <5250 MHz ~ 5350 MHz> FPC Antenna with gain 2.07 dBi <5470 MHz ~ 5725 MHz> FPC Antenna with gain 2.93 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note: For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing assessed



only 802.11n HT20/ HT40 by referring to their maximum conducted power.

1.5 Modification of EUT

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

1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No are CN5018 and CN5019.

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 Test Firm Registration No.
	TH01-SZ	CO01-SZ	251365

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 Test Firm Registration No.
	03CH01-SZ		577730

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 UNII Test Procedures New Rules v01r04
- ♦ FCC KDB 644545 D03 Guidance for IEEE 802.11ac New Rules v01
- ♦ ANSI C63.10-2013
- ♦ IC RSS-247 Issue 2
- ♦ IC RSS-Gen Issue 4

Remark:

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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases 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
	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)
5500-5720 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



Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138 [#]	5690	144	5720
	142 [*]	5710	-	-

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 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
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 1) + Earphone
	Mode 2 : Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 2) + Earphone
Remark: - For Radiated Test Cases, The tests were performance with Earphone, Adapter and USB Cable. - The worst case of conducted emission is mode 1; only the test data of it was reported.	



Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

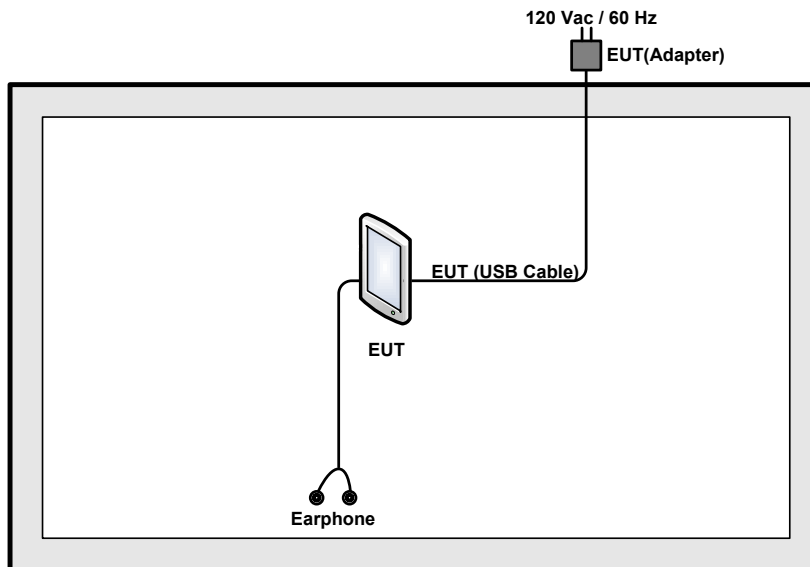
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

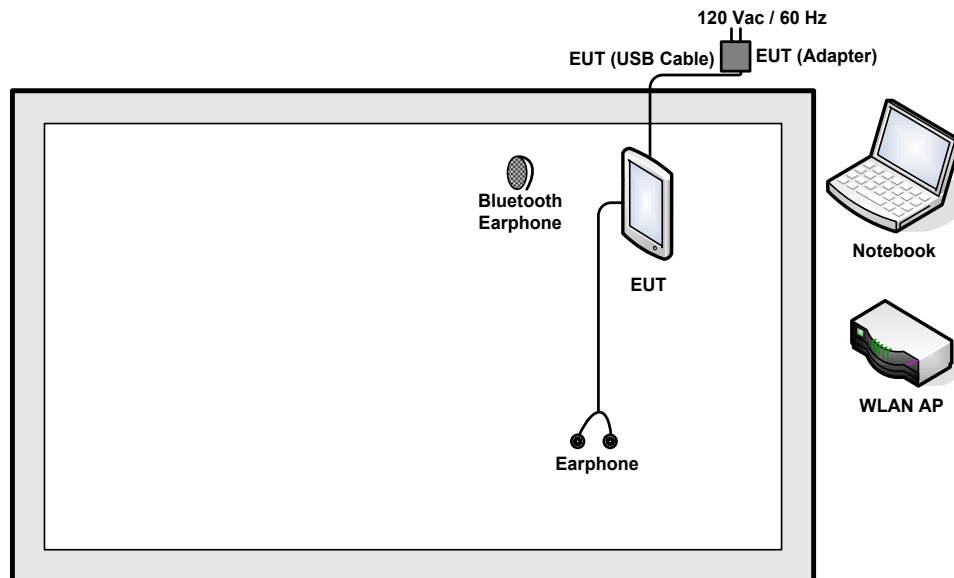
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle		-	-	138

2.3 Connection Diagram of Test System

< Radiated Emission Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-865L	KA2IR865LA1	N/A	Unshielded, 1.8m
2.	Notebook	Lenovo	E450	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Bluetooth Earphone	NOKIA	BH-108	N/A	N/A	N/A
4.	Earphone	Apple	MC690ZP/A	N/A	Unshielded, 1.6m	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.

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

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 6.3 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 6.3 + 10 = 16.3 \text{ (dB)}\end{aligned}$$

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.

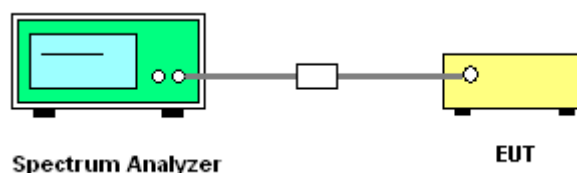
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

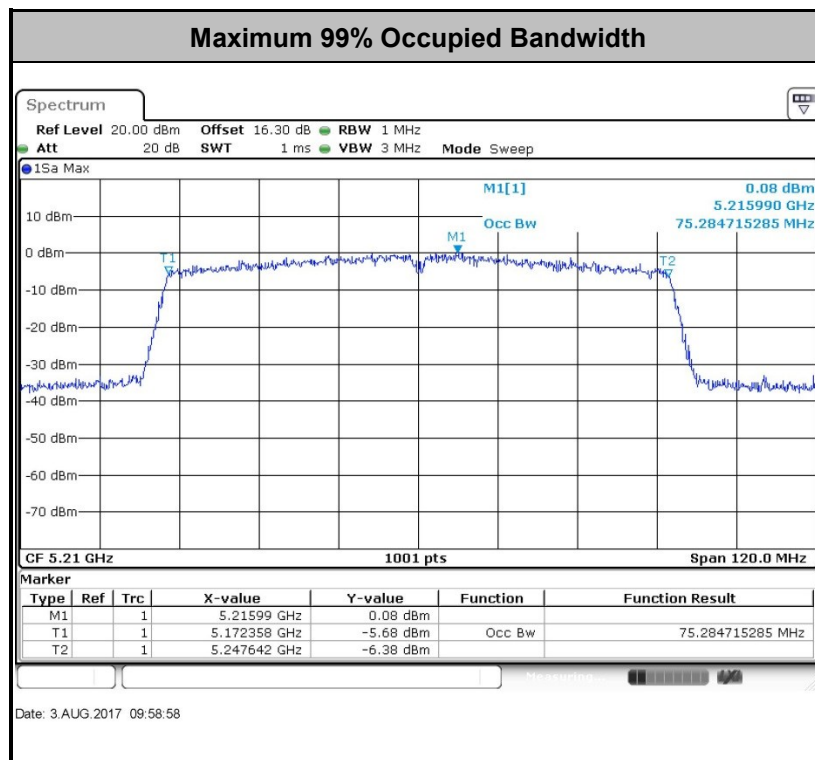
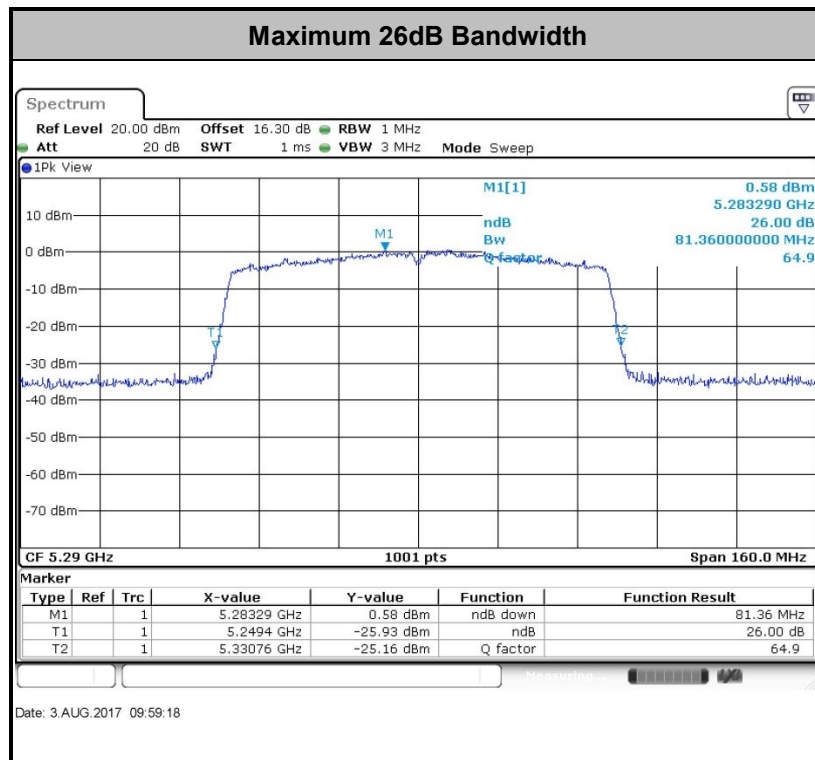
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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) $\geq 3 * \text{RBW}$.
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.



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 $11 \text{ dBm} + 10 \log B$, 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.

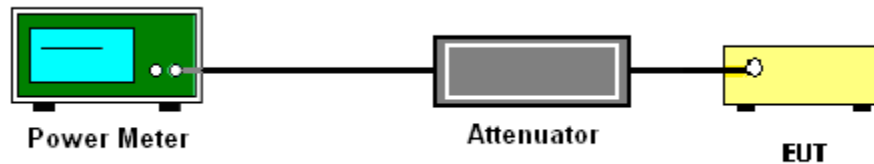
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

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 v01r04.

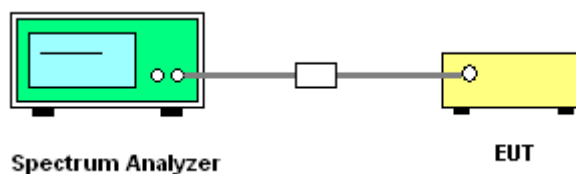
Section F) Maximum power spectral density.

Method SA-2

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

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
 - 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.
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.

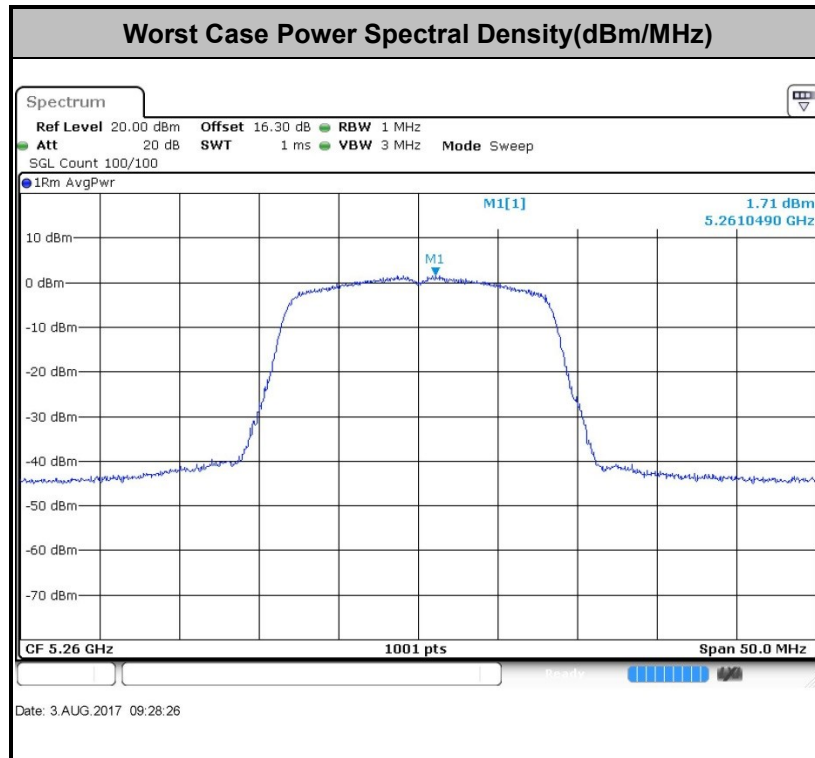
3.3.4 Test Setup





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 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.

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

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 UNII Test Procedures New Rules v01r04.

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

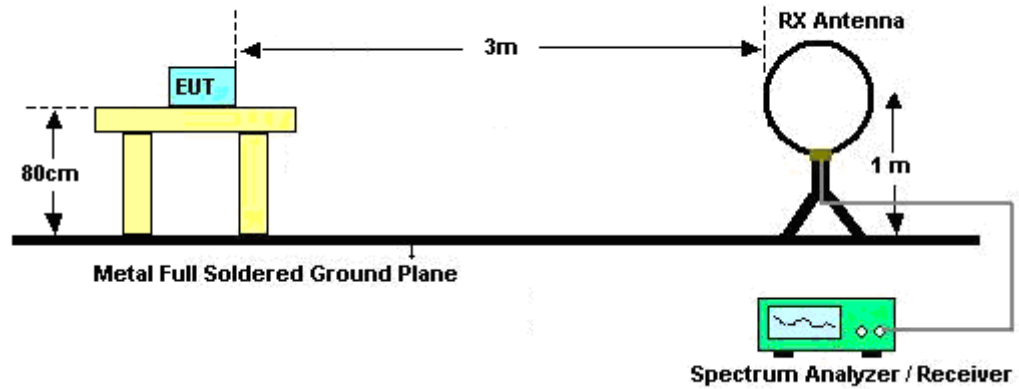
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



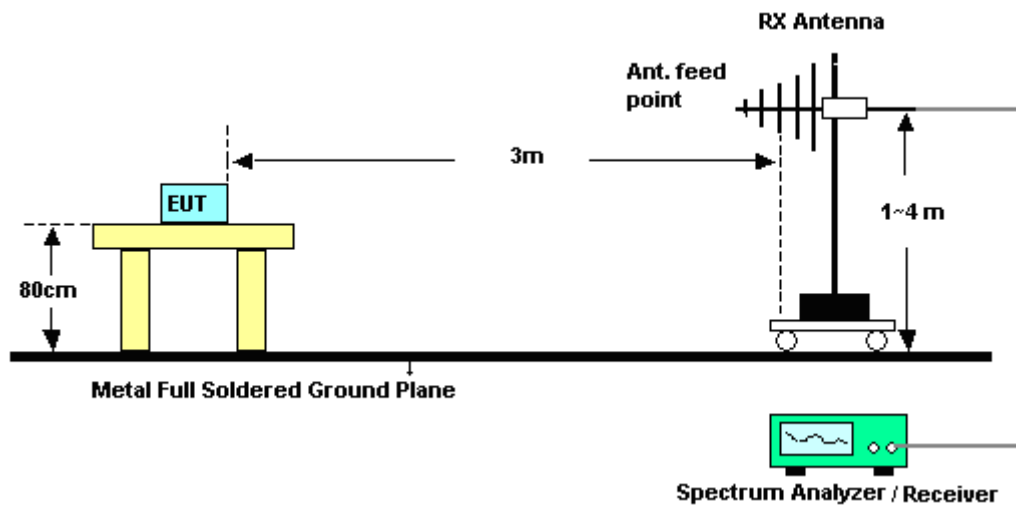
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

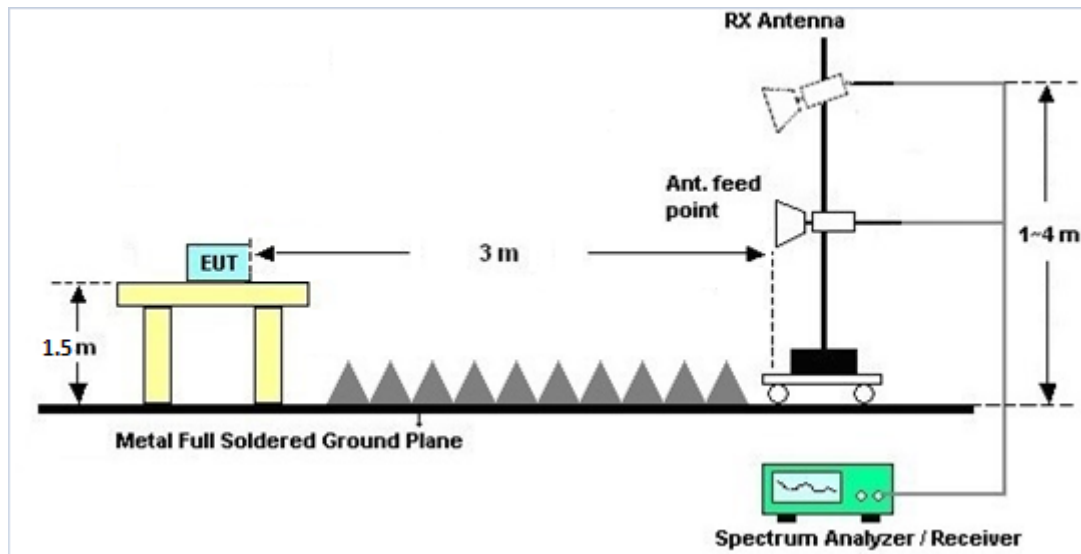
For radiated emissions below 30MHz



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.

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 Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

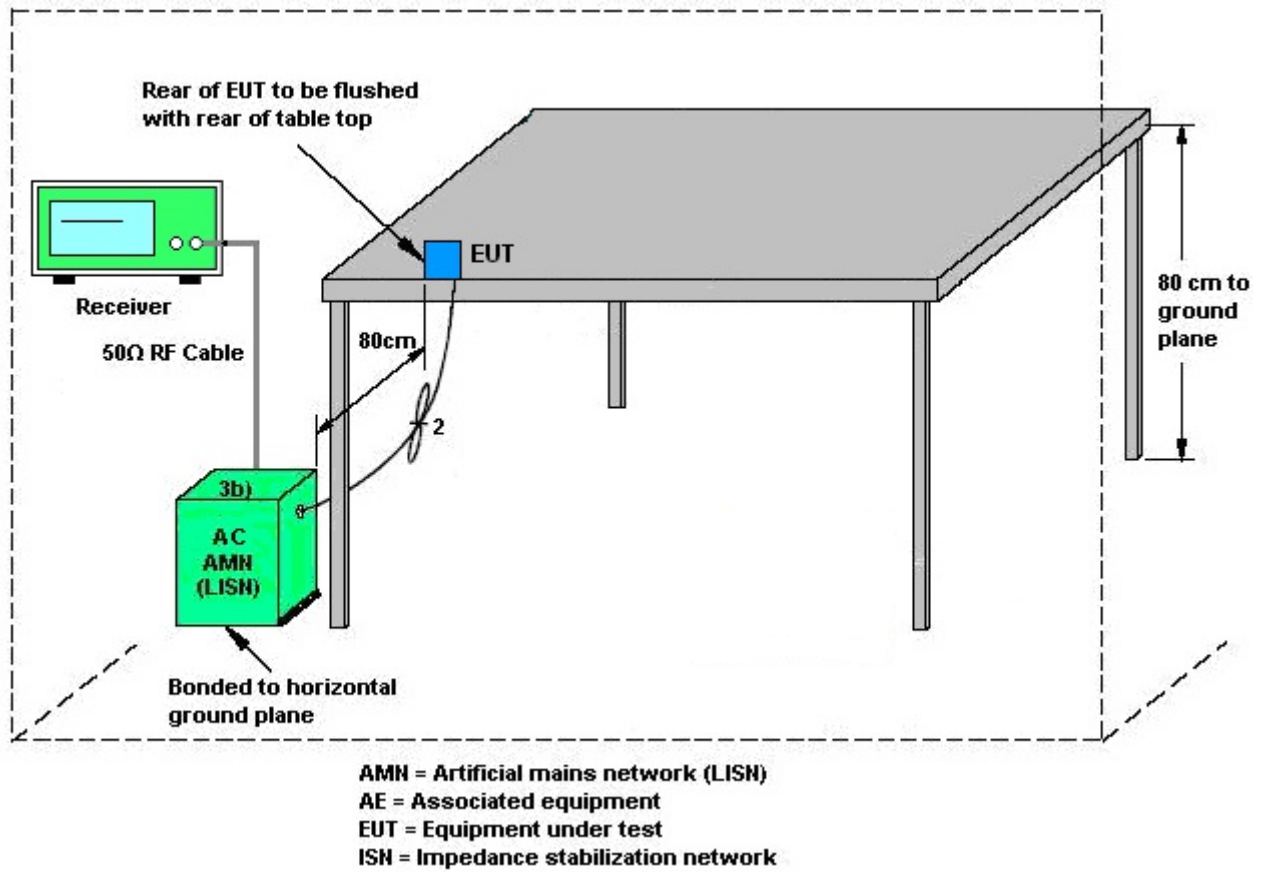
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

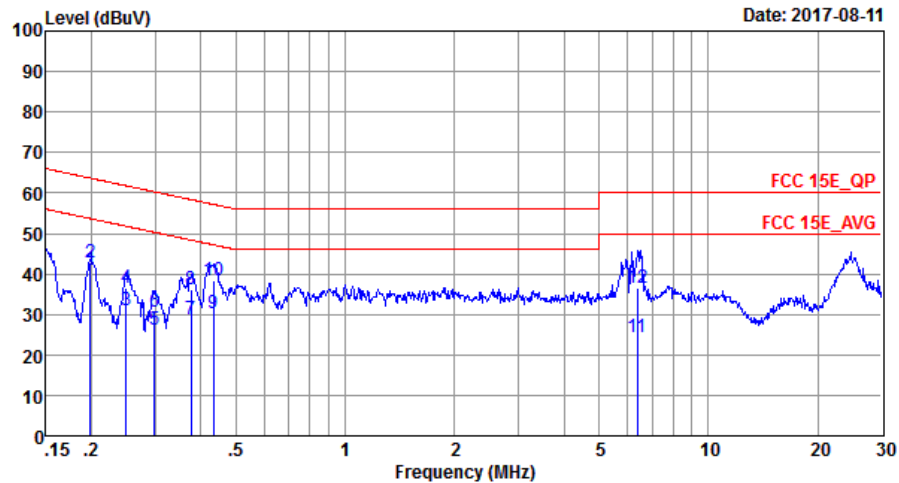
3.5.4 Test Setup





3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	24~25°C
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 1) + Earphone		

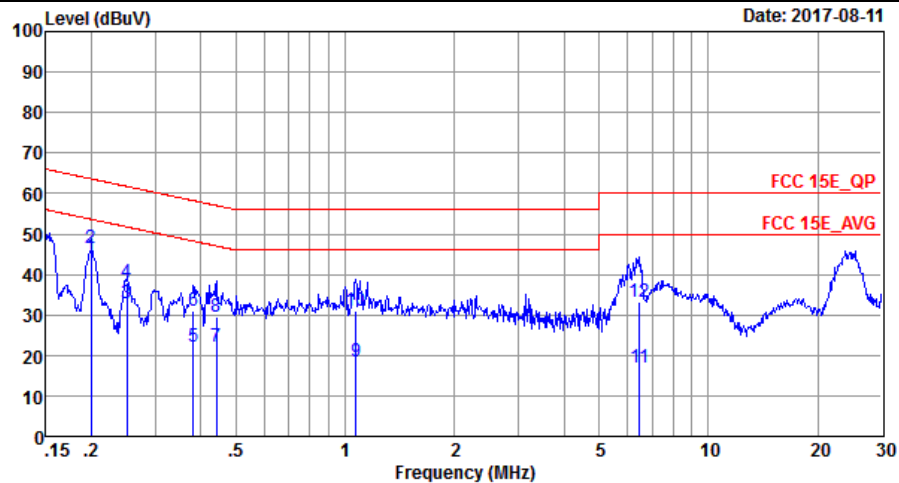


Site : C001-SZ
Condition: FCC 15E QP LISN 20170301_L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.20	41.05	-12.62	53.67	30.80	0.03	10.22	Average
2	0.20	42.95	-20.72	63.67	32.70	0.03	10.22	QP
3	0.25	31.05	-20.73	51.78	20.80	0.03	10.22	Average
4	0.25	36.45	-25.33	61.78	26.20	0.03	10.22	QP
5	0.30	26.25	-24.03	50.28	16.00	0.03	10.22	Average
6	0.30	30.65	-29.63	60.28	20.40	0.03	10.22	QP
7	0.38	28.73	-19.61	48.34	18.50	0.03	10.20	Average
8	0.38	36.33	-22.01	58.34	26.10	0.03	10.20	QP
9	0.43	30.31	-16.89	47.20	20.09	0.03	10.19	Average
10	0.43	38.41	-18.79	57.20	28.19	0.03	10.19	QP
11	6.39	24.33	-25.67	50.00	13.80	0.22	10.31	Average
12	6.39	36.53	-23.47	60.00	26.00	0.22	10.31	QP



Test Mode :	Mode 1	Temperature :	24~25°C
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter 1) + Earphone		



Site : C001-SZ

Condition: FCC 15E QP LISN 20170301_N NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.20	44.45	-9.17	53.62	34.20	0.03	10.22	Average
2	0.20	46.45	-17.17	63.62	36.20	0.03	10.22	QP
3	0.25	32.85	-18.88	51.73	22.60	0.03	10.22	Average
4	0.25	37.95	-23.78	61.73	27.70	0.03	10.22	QP
5	0.38	22.02	-26.23	48.25	11.81	0.02	10.19	Average
6	0.38	31.12	-27.13	58.25	20.91	0.02	10.19	QP
7	0.44	22.11	-24.91	47.02	11.90	0.02	10.19	Average
8	0.44	29.61	-27.41	57.02	19.40	0.02	10.19	QP
9	1.07	18.60	-27.40	46.00	8.40	0.05	10.15	Average
10	1.07	31.10	-24.90	56.00	20.90	0.05	10.15	QP
11	6.45	16.88	-33.12	50.00	6.50	0.07	10.31	Average
12	6.45	33.28	-26.72	60.00	22.90	0.07	10.31	QP

3.6 Frequency Stability Measurement

3.6.1 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.

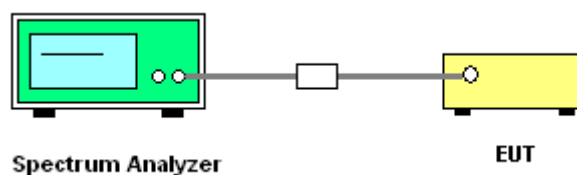
3.6.2 Measuring Instruments

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

3.6.3 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.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

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

3.7.3 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.



3.8 Antenna Requirements

3.8.1 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.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 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	101078	9kHz~40GHz	Apr. 20. 2017	Aug. 03, 2017	Apr.19. 2018	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Jan. 06, 2017	Aug. 03, 2017	Jan. 05, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Jan. 06, 2017	Aug. 03, 2017	Jan. 05, 2018	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	May.12.2017	Aug. 03, 2017	May.11.2018	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 20, 2017	Aug. 03, 2017	Jul. 19, 2018	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Apr. 20, 2017	Aug. 25, 2017	Apr. 19, 2018	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 20, 2017	Aug. 25, 2017	Apr. 19, 2018	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May.14, 2017	Aug. 25, 2017	May.13, 2018	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz-2GHz	Apr. 25, 2017	Aug. 25, 2017	Apr. 24, 2018	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Nov. 19, 2016	Aug. 25, 2017	Nov. 18, 2017	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Jun.16, 2017	Aug. 25, 2017	Jun.15, 2018	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 20, 2017	Aug. 25, 2017	Apr. 19, 2018	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1707137	1GHz~18GHz	Oct. 11, 2016	Aug. 25, 2017	Oct 10, 2017	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270104	0.5GHz~26.5GHz	Oct. 11, 2016	Aug. 25, 2017	Oct 10, 2017	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1988315	18GHz~40GHz	Jul. 27, 2017	Aug. 25, 2017	Jul. 26, 2018	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Aug. 25, 2017	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 25, 2017	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 25, 2017	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jan.06, 2017	Aug. 11, 2017	Jan. 05, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Jan.05, 2017	Aug. 11, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Jan.05, 2017	Aug. 11, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 19, 2017	Aug. 11, 2017	Jul. 18, 2018	Conduction (CO01-SZ)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.1dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.2dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.1dB
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Appendix A. Conducted Test Results

Report Number : FR772802D

Test Engineer:	Bruce Hunag	Temperature:	24~26	°C
Test Date:	2017/8/3	Relative Humidity:	50~53	%

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	17.73	21.18	-	22.49	-	-
11a	6Mbps	1	44	5220	17.58	21.13	-	22.45	-	-
11a	6Mbps	1	48	5240	17.73	21.18	-	22.49	-	-
HT20	MCS0	1	36	5180	17.98	21.18	-	22.55	-	-
HT20	MCS0	1	44	5220	17.98	21.28	-	22.55	-	-
HT20	MCS0	1	48	5240	17.98	21.33	-	22.55	-	-
HT40	MCS0	1	38	5190	36.16	41.36	-	23.01	-	-
HT40	MCS0	1	46	5230	36.16	41.45	-	23.01	-	-
VHT80	MCS0	1	42	5210	75.28	81.20	-	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	0.11	12.65	24.00	1.40		Pass
11a	6Mbps	1	44	5220	0.11	12.39	24.00	1.40		Pass
11a	6Mbps	1	48	5240	0.11	12.35	24.00	1.40		Pass
HT20	MCS0	1	36	5180	0.11	11.46	24.00	1.40		Pass
HT20	MCS0	1	44	5220	0.11	11.17	24.00	1.40		Pass
HT20	MCS0	1	48	5240	0.11	11.19	24.00	1.40		Pass
HT40	MCS0	1	38	5190	0.23	11.66	24.00	1.40		Pass
HT40	MCS0	1	46	5230	0.23	11.44	24.00	1.40		Pass
VHT20	MCS0	1	36	5180	0.11	8.88	24.00	1.40		Pass
VHT20	MCS0	1	44	5220	0.11	8.88	24.00	1.40		Pass
VHT20	MCS0	1	48	5240	0.11	8.79	24.00	1.40		Pass
VHT40	MCS0	1	38	5190	0.23	9.03	24.00	1.40		Pass
VHT40	MCS0	1	46	5230	0.23	9.16	24.00	1.40		Pass
VHT80	MCS0	1	42	5210	0.44	8.97	24.00	1.40		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	0.11	1.47	11.00	1.40		Pass
11a	6Mbps	1	44	5220	0.11	1.24	11.00	1.40		Pass
11a	6Mbps	1	48	5240	0.11	1.58	11.00	1.40		Pass
HT20	MCS0	1	36	5180	0.11	0.42	11.00	1.40		Pass
HT20	MCS0	1	44	5220	0.11	0.19	11.00	1.40		Pass
HT20	MCS0	1	48	5240	0.11	0.09	11.00	1.40		Pass
HT40	MCS0	1	38	5190	0.23	-2.52	11.00	1.40		Pass
HT40	MCS0	1	46	5230	0.23	-2.31	11.00	1.40		Pass
VHT80	MCS0	1	42	5210	0.44	-7.59	11.00	1.40		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	N _{TX}	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	17.78	21.18	23.50	29.50	23.98	
11a	6M bps	1	60	5300	17.68	21.23	23.48	29.48	23.98	
11a	6M bps	1	64	5320	17.83	21.28	23.51	29.51	23.98	
HT20	MCS 0	1	52	5260	18.03	21.33	23.56	29.56	23.98	
HT20	MCS 0	1	60	5300	17.98	21.28	23.55	29.55	23.98	
HT20	MCS 0	1	64	5320	17.98	21.28	23.55	29.55	23.98	
HT40	MCS 0	1	54	5270	36.26	41.45	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.16	41.54	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	75.16	81.36	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	N _{TX}	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	0.11	12.66	23.98	2.07	26.99	Pass
11a	6M bps	1	60	5300	0.11	12.73	23.98	2.07	26.99	Pass
11a	6M bps	1	64	5320	0.11	12.64	23.98	2.07	26.99	Pass
HT20	MCS 0	1	52	5260	0.11	11.45	23.98	2.07	26.99	Pass
HT20	MCS 0	1	60	5300	0.11	11.46	23.98	2.07	26.99	Pass
HT20	MCS 0	1	64	5320	0.11	11.47	23.98	2.07	26.99	Pass
HT40	MCS 0	1	54	5270	0.23	11.74	23.98	2.07	26.99	Pass
HT40	MCS 0	1	62	5310	0.23	11.72	23.98	2.07	26.99	Pass
VHT20	MCS 0	1	52	5260	0.11	8.90	23.98	2.07	26.99	Pass
VHT20	MCS 0	1	60	5300	0.11	8.89	23.98	2.07	26.99	Pass
VHT20	MCS 0	1	64	5320	0.11	8.91	23.98	2.07	26.99	Pass
VHT40	MCS 0	1	54	5270	0.23	9.29	23.98	2.07	26.99	Pass
VHT40	MCS 0	1	62	5310	0.23	9.31	23.98	2.07	26.99	Pass
VHT80	MCS 0	1	58	5290	0.44	9.04	23.98	2.07	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	0.11	1.82	11.00	2.07		Pass
11a	6M bps	1	60	5300	0.11	1.55	11.00	2.07		Pass
11a	6M bps	1	64	5320	0.11	1.73	11.00	2.07		Pass
HT20	MCS 0	1	52	5260	0.11	0.20	11.00	2.07		Pass
HT20	MCS 0	1	60	5300	0.11	0.42	11.00	2.07		Pass
HT20	MCS 0	1	64	5320	0.11	0.36	11.00	2.07		Pass
HT40	MCS 0	1	54	5270	0.23	-2.54	11.00	2.07		Pass
HT40	MCS 0	1	62	5310	0.23	-2.40	11.00	2.07		Pass
VHT80	MCS 0	1	58	5290	0.44	-7.69	11.00	2.07		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	N _{TX}	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	17.58	21.18	23.45	29.45	23.98	
11a	6M bps	1	116	5580	17.68	21.28	23.48	29.48	23.98	
11a	6M bps	1	140	5700	17.73	21.18	23.49	29.49	23.98	
11a	6Mbps	1	144	5720	17.78	21.23	23.50	29.50	23.98	
HT20	MCS 0	1	100	5500	18.03	21.28	23.56	29.56	23.98	
HT20	MCS 0	1	116	5580	17.98	21.38	23.55	29.55	23.98	
HT20	MCS 0	1	140	5700	18.03	21.33	23.56	29.56	23.98	
HT20	MCS0	1	144	5720	18.03	21.33	23.56	29.56	23.98	
HT40	MCS 0	1	102	5510	36.26	41.27	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.26	41.63	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.16	41.54	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.26	41.54	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	75.28	81.20	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	75.04	81.04	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	75.16	81.20	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band III										
Mod.	Data Rate	N _{TX}	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	0.11	11.08	23.98	2.93	26.99	Pass
11a	6M bps	1	116	5580	0.11	11.17	23.98	2.93	26.99	Pass
11a	6M bps	1	140	5700	0.11	10.90	23.98	2.93	26.99	Pass
11a	6M bps	1	144	5720	0.11	10.93	23.98	2.93	26.99	Pass
HT20	MCS 0	1	100	5500	0.11	9.92	23.98	2.93	26.99	Pass
HT20	MCS 0	1	116	5580	0.11	10.07	23.98	2.93	26.99	Pass
HT20	MCS 0	1	140	5700	0.11	9.74	23.98	2.93	26.99	Pass
HT20	MCS 0	1	144	5720	0.11	9.79	23.98	2.93	26.99	Pass
HT40	MCS 0	1	102	5510	0.23	10.19	23.98	2.93	26.99	Pass
HT40	MCS 0	1	110	5550	0.23	10.30	23.98	2.93	26.99	Pass
HT40	MCS 0	1	134	5670	0.23	10.47	23.98	2.93	26.99	Pass
HT40	MCS 0	1	142	5710	0.23	9.97	23.98	2.93	26.99	Pass
VHT20	MCS 0	1	100	5500	0.11	8.67	23.98	2.93	26.99	Pass
VHT20	MCS 0	1	116	5580	0.11	8.51	23.98	2.93	26.99	Pass
VHT20	MCS 0	1	140	5700	0.11	8.52	23.98	2.93	26.99	Pass
VHT20	MCS 0	1	144	5720	0.11	8.26	23.98	2.93	26.99	Pass
VHT40	MCS 0	1	102	5510	0.23	8.98	23.98	2.93	26.99	Pass
VHT40	MCS 0	1	110	5550	0.23	8.97	23.98	2.93	26.99	Pass
VHT40	MCS 0	1	134	5670	0.23	8.80	23.98	2.93	26.99	Pass
VHT40	MCS 0	1	142	5710	0.23	8.56	23.98	2.93	26.99	Pass
VHT80	MCS 0	1	106	5530	0.44	8.75	23.98	2.93	26.99	Pass
VHT80	MCS 0	1	122	5610	0.44	8.62	23.98	2.93	26.99	Pass
VHT80	MCS 0	1	138	5690	0.44	8.42	23.98	2.93	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	N _{TX}	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	0.11	1.12	11.00	2.93		Pass
11a	6M bps	1	116	5580	0.11	0.02	11.00	2.93		Pass
11a	6M bps	1	140	5700	0.11	0.00	11.00	2.93		Pass
11a	6Mbps	1	144	5720	0.11	-0.24	11.00	2.93		Pass
HT20	MCS 0	1	100	5500	0.11	-1.15	11.00	2.93		Pass
HT20	MCS 0	1	116	5580	0.11	-0.91	11.00	2.93		Pass
HT20	MCS 0	1	140	5700	0.11	-1.34	11.00	2.93		Pass
HT20	MCS0	1	144	5720	0.11	-1.36	11.00	2.93		Pass
HT40	MCS 0	1	102	5510	0.23	-3.93	11.00	2.93		Pass
HT40	MCS 0	1	110	5550	0.23	-3.94	11.00	2.93		Pass
HT40	MCS 0	1	134	5670	0.23	-3.78	11.00	2.93		Pass
HT40	MCS0	1	142	5710	0.23	-4.26	11.00	2.93		Pass
VHT80	MCS 0	1	106	5530	0.44	-7.81	11.00	2.93		Pass
VHT80	MCS 0	1	122	5610	0.44	-8.17	11.00	2.93		Pass
VHT80	MCS0	1	138	5690	0.44	-8.12	11.00	2.93		Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	50	3.8	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	-30	3.8	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	4.3	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	3.6	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.8	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	50	3.8	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	-30	3.8	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	20	4.3	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	20	3.6	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	20	3.8	

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.025	0.025	4.55	50	3.8	
11a	6Mbps	1	100	5500	5500.025	0.025	4.55	-30	3.8	
11a	6Mbps	1	100	5500	5500.025	0.025	4.55	20	4.3	
11a	6Mbps	1	100	5500	5500.025	0.025	4.55	20	3.6	
11a	6Mbps	1	100	5500	5500.025	0.025	4.55	20	3.8	



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.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5133.9	50.18	-23.82	74	39.81	32.01	11.37	33.01	100	2	P	H
		5149.24	41.69	-12.31	54	31.37	32.02	11.37	33.07	100	2	A	H
	*	5180	101.56	-	-	91.21	32.05	11.47	33.17	100	2	P	H
	*	5180	94.92	-	-	84.57	32.05	11.47	33.17	100	2	A	H
		5128.7	50.27	-23.73	74	39.9	32.01	11.37	33.01	100	185	P	V
		5150	40.84	-13.16	54	30.52	32.02	11.37	33.07	100	185	A	V
	*	5180	97.13	-	-	86.78	32.05	11.47	33.17	100	185	P	V
	*	5180	90.83	-	-	80.48	32.05	11.47	33.17	100	185	A	V
802.11a CH 44 5220MHz		5141.44	51.09	-22.91	74	40.77	32.02	11.37	33.07	148	172	P	H
		5146.38	42.39	-11.61	54	32.07	32.02	11.37	33.07	148	172	A	H
	*	5220	102.13	-	-	91.76	32.07	11.58	33.28	148	172	P	H
	*	5220	95.79	-	-	85.42	32.07	11.58	33.28	148	172	A	H
		5356.8	50.43	-23.57	74	40.21	32.18	11.74	33.7	148	172	P	H
		5358	41.59	-12.41	54	31.37	32.18	11.74	33.7	148	172	A	H
		5148.72	49.98	-24.02	74	39.66	32.02	11.37	33.07	100	348	P	V
		5143.78	41.07	-12.93	54	30.75	32.02	11.37	33.07	100	348	A	V
	*	5220	98.79	-	-	88.42	32.07	11.58	33.28	100	348	P	V
	*	5220	92.07	-	-	81.7	32.07	11.58	33.28	100	348	A	V
		5383.92	50.78	-23.22	74	40.64	32.21	11.74	33.81	100	348	P	V
		5354.88	40.27	-13.73	54	30.05	32.18	11.74	33.7	100	348	A	V



802.11a CH 48 5240MHz		5128.44	50.61	-23.39	74	40.24	32.01	11.37	33.01	144	168	P	H
		5136.5	41.54	-12.46	54	31.17	32.01	11.37	33.01	144	168	A	H
	*	5240	101.34	-	-	90.96	32.09	11.62	33.33	144	168	P	H
	*	5240	96.05	-	-	85.67	32.09	11.62	33.33	144	168	A	H
		5450.16	50.3	-23.7	74	40.22	32.26	11.84	34.02	144	168	P	H
		5359.44	41.75	-12.25	54	31.53	32.18	11.74	33.7	144	168	A	H
		5027.56	50.01	-23.99	74	39.73	31.93	11.05	32.7	107	345	P	V
		5144.56	40.94	-13.06	54	30.62	32.02	11.37	33.07	107	345	A	V
	*	5240	99.69	-	-	89.31	32.09	11.62	33.33	107	345	P	V
	*	5240	93.25	-	-	82.87	32.09	11.62	33.33	107	345	A	V
		5454.48	49.19	-24.81	74	39.11	32.26	11.84	34.02	107	345	P	V
		5351.28	40.25	-13.75	54	30.03	32.18	11.74	33.7	107	345	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	50.63	-23.37	74	52.86	39.61	14.61	56.45	152	260	P	H
		15540	48.95	-25.05	74	50.54	37.81	16.34	55.74	189	238	P	H
		10360	50.25	-23.75	74	52.48	39.61	14.61	56.45	152	260	P	V
		15540	48.97	-25.03	74	50.56	37.81	16.34	55.74	189	238	P	V
802.11a CH 44 5220MHz		10440	47	-27	74	49.12	39.75	14.63	56.5	152	360	P	H
		15660	46.25	-27.75	74	47.75	37.5	16.43	55.43	152	0	P	H
		10440	45.93	-28.07	74	48.05	39.75	14.63	56.5	152	360	P	V
		15660	44.48	-29.52	74	45.98	37.5	16.43	55.43	152	0	P	V
802.11a CH 48 5240MHz		10480	46.34	-27.66	74	48.39	39.86	14.64	56.55	152	360	P	H
		15720	44.76	-29.24	74	46.24	37.32	16.45	55.25	152	0	P	H
		10480	45.94	-28.06	74	47.99	39.86	14.64	56.55	152	360	P	V
		15720	44.13	-29.87	74	45.61	37.32	16.45	55.25	152	0	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		5115.18	51.2	-22.8	74	40.8	31.99	11.37	32.96	163	174	P	H
		5120.64	41.86	-12.14	54	31.46	31.99	11.37	32.96	163	174	A	H
	*	5180	95.93	-	-	85.58	32.05	11.47	33.17	163	174	P	H
	*	5180	89.89	-	-	79.54	32.05	11.47	33.17	163	174	A	H
		5087.62	50.36	-23.64	74	39.98	31.97	11.26	32.85	116	351	P	V
		5127.14	40.6	-13.4	54	30.23	32.01	11.37	33.01	116	351	A	V
	*	5180	89.31	-	-	78.96	32.05	11.47	33.17	116	351	P	V
	*	5180	83.19	-	-	72.84	32.05	11.47	33.17	116	351	A	V
802.11n HT20 CH 44 5220MHz		5133.64	50.56	-23.44	74	40.19	32.01	11.37	33.01	100	171	P	H
		5147.94	41.63	-12.37	54	31.31	32.02	11.37	33.07	100	171	A	H
	*	5220	99.34	-	-	88.97	32.07	11.58	33.28	100	171	P	H
	*	5220	93.24	-	-	82.87	32.07	11.58	33.28	100	171	A	H
		5386.8	50.21	-23.79	74	40.07	32.21	11.74	33.81	100	171	P	H
		5364.24	41.25	-12.75	54	31.08	32.19	11.74	33.76	100	171	A	H
		5108.16	49.19	-24.81	74	38.9	31.99	11.26	32.96	100	350	P	V
		5146.64	40.74	-13.26	54	30.42	32.02	11.37	33.07	100	350	A	V
	*	5220	95.88	-	-	85.51	32.07	11.58	33.28	100	350	P	V
	*	5220	89.52	-	-	79.15	32.07	11.58	33.28	100	350	A	V
		5392.56	48.85	-25.15	74	38.67	32.21	11.78	33.81	100	350	P	V
		5364.24	40.04	-13.96	54	29.87	32.19	11.74	33.76	100	350	A	V



802.11n HT20 CH 48 5240MHz		5094.12	51.02	-22.98	74	40.69	31.98	11.26	32.91	124	171	P	H
		5142.48	41.3	-12.7	54	30.98	32.02	11.37	33.07	124	171	A	H
	*	5240	98.82	-	-	88.44	32.09	11.62	33.33	124	171	P	H
	*	5240	92.57	-	-	82.19	32.09	11.62	33.33	124	171	A	H
		5375.28	50.06	-23.94	74	39.89	32.19	11.74	33.76	124	171	P	H
		5356.8	41.01	-12.99	54	30.79	32.18	11.74	33.7	124	171	A	H
		5093.6	49.66	-24.34	74	39.33	31.98	11.26	32.91	101	351	P	V
		5146.9	40.72	-13.28	54	30.4	32.02	11.37	33.07	101	351	A	V
	*	5240	95.81	-	-	85.43	32.09	11.62	33.33	101	351	P	V
	*	5240	89.51	-	-	79.13	32.09	11.62	33.33	101	351	A	V
		5422.8	49.01	-24.99	74	38.92	32.23	11.78	33.92	101	351	P	V
		5382.96	40.08	-13.92	54	29.94	32.21	11.74	33.81	101	351	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	47.37	-26.63	74	49.6	39.61	14.61	56.45	152	260	P	H
		15540	46.06	-27.94	74	47.65	37.81	16.34	55.74	189	238	P	H
		10360	47.37	-26.63	74	49.6	39.61	14.61	56.45	152	260	P	V
		15540	46.46	-27.54	74	48.05	37.81	16.34	55.74	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	47.36	-26.64	74	49.48	39.75	14.63	56.5	150	230	P	H
		15660	44.64	-29.36	74	46.14	37.5	16.43	55.43	160	225	P	H
		10440	46.79	-27.21	74	48.91	39.75	14.63	56.5	150	230	P	V
		15660	45.6	-28.4	74	47.1	37.5	16.43	55.43	160	225	P	V
802.11n HT20 CH 48 5240MHz		10480	46.65	-27.35	74	48.7	39.86	14.64	56.55	150	289	P	H
		15720	45.33	-28.67	74	46.81	37.32	16.45	55.25	150	291	P	H
		10480	45.61	-28.39	74	47.66	39.86	14.64	56.55	152	360	P	V
		15714	44.13	-29.87	74	45.61	37.32	16.45	55.25	152	0	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		5146.9	54.29	-19.71	74	43.97	32.02	11.37	33.07	100	175	P	H
		5150	46.18	-7.82	54	35.86	32.02	11.37	33.07	100	175	A	H
	*	5190	96.86	-	-	86.51	32.05	11.47	33.17	100	175	P	H
	*	5190	90.92	-	-	80.57	32.05	11.47	33.17	100	175	A	H
		5411	47.48	-26.52	74	37.34	32.22	11.78	33.86	100	175	P	H
		5355	39.33	-14.67	54	29.11	32.18	11.74	33.7	100	175	A	H
		5147.94	49.89	-24.11	74	39.57	32.02	11.37	33.07	100	348	P	V
		5150	42.75	-11.25	54	32.43	32.02	11.37	33.07	100	348	A	V
	*	5190	93.31	-	-	82.96	32.05	11.47	33.17	100	348	P	V
	*	5190	87.07	-	-	76.72	32.05	11.47	33.17	100	348	A	V
		5396.72	47.7	-26.3	74	37.56	32.22	11.78	33.86	100	348	P	V
		5350	38.85	-15.15	54	28.63	32.18	11.74	33.7	100	348	A	V
802.11n HT40 CH 46 5230MHz		5102.96	48.93	-25.07	74	38.6	31.98	11.26	32.91	100	176	P	H
		5140.14	40.79	-13.21	54	30.47	32.02	11.37	33.07	100	176	A	H
	*	5230	97.54	-	-	87.2	32.09	11.58	33.33	100	176	P	H
	*	5230	91	-	-	80.66	32.09	11.58	33.33	100	176	A	H
		5454.24	48.69	-25.31	74	38.61	32.26	11.84	34.02	100	176	P	H
		5364.48	40.09	-13.91	54	29.92	32.19	11.74	33.76	100	176	A	H
		5120.12	48.08	-25.92	74	37.68	31.99	11.37	32.96	105	357	P	V
		5147.16	39.79	-14.21	54	29.47	32.02	11.37	33.07	105	357	A	V
	*	5230	92.89	-	-	82.55	32.09	11.58	33.33	105	357	P	V
	*	5230	86.77	-	-	76.43	32.09	11.58	33.33	105	357	A	V
		5410.8	48.01	-25.99	74	37.87	32.22	11.78	33.86	105	357	P	V
		5355.84	38.94	-15.06	54	28.72	32.18	11.74	33.7	105	357	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		10380	48.66	-25.34	74	50.86	39.64	14.62	56.46	150	360	P	H
HT40		15570	44.94	-29.06	74	46.5	37.72	16.37	55.65	155	360	P	H
CH 38		10380	47.1	-26.9	74	49.3	39.64	14.62	56.46	150	360	P	V
5190MHz		15570	44.79	-29.21	74	46.35	37.72	16.37	55.65	155	360	P	V
802.11n		10460	48.38	-25.62	74	50.47	39.79	14.64	56.52	150	360	P	H
HT40		15690	44.66	-29.34	74	46.14	37.41	16.45	55.34	150	225	P	H
CH 46		10460	46.73	-27.27	74	48.82	39.79	14.64	56.52	150	360	P	V
5230MHz		15690	44.97	-29.03	74	46.45	37.41	16.45	55.34	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	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		5150	54.23	-19.77	74	43.91	32.02	11.37	33.07	100	175	P	H
		5149.76	48.59	-5.41	54	38.27	32.02	11.37	33.07	100	175	A	H
	*	5210	91.75	-	-	81.38	32.07	11.58	33.28	100	175	P	H
	*	5210	86.18	-	-	75.81	32.07	11.58	33.28	100	175	A	H
		5380.08	48.05	-25.95	74	37.91	32.21	11.74	33.81	100	175	P	H
		5359.2	40.98	-13.02	54	30.76	32.18	11.74	33.7	100	175	A	H
		5149.5	49.56	-24.44	74	39.24	32.02	11.37	33.07	100	356	P	V
		5149.76	43.84	-10.16	54	33.52	32.02	11.37	33.07	100	356	A	V
	*	5210	87.59	-	-	77.22	32.07	11.58	33.28	100	356	P	V
	*	5210	81.8	-	-	71.43	32.07	11.58	33.28	100	356	A	V
		5363.28	46.9	-27.1	74	36.73	32.19	11.74	33.76	100	356	P	V
		5406.96	40.33	-13.67	54	30.19	32.22	11.78	33.86	100	356	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	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	45.62	-28.38	74	47.76	39.72	14.63	56.49	148	360	P	H
VHT80		15630	45.06	-28.94	74	46.59	37.54	16.4	55.47	148	0	P	H
CH 42		10420	45.51	-28.49	74	47.65	39.72	14.63	56.49	148	360	P	V
5210MHz		15630	44.65	-29.35	74	46.18	37.54	16.4	55.47	148	0	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		5146.12	50.89	-23.11	74	40.57	32.02	11.37	33.07	169	174	P	H
		5148.46	41.77	-12.23	54	31.45	32.02	11.37	33.07	169	174	A	H
	*	5260	99.28	-	-	88.99	32.11	11.62	33.44	169	174	P	H
	*	5260	93.04	-	-	82.75	32.11	11.62	33.44	169	174	A	H
		5362.08	51.22	-22.78	74	41.05	32.19	11.74	33.76	169	174	P	H
		5356.8	42.54	-11.46	54	32.32	32.18	11.74	33.7	169	174	P	H
		5052.52	49.59	-24.41	74	39.24	31.94	11.16	32.75	100	0	P	V
		5138.32	40.78	-13.22	54	30.41	32.01	11.37	33.01	100	0	A	V
	*	5260	93.4	-	-	83.11	32.11	11.62	33.44	100	0	P	V
	*	5260	88.13	-	-	77.84	32.11	11.62	33.44	100	0	A	V
		5389.44	48.7	-25.3	74	38.52	32.21	11.78	33.81	100	0	P	V
		5357.04	40.26	-13.74	54	30.04	32.18	11.74	33.7	100	0	A	V
802.11a CH 60 5300MHz		5147.7	49.52	-24.48	74	39.2	32.02	11.37	33.07	144	175	P	H
		5149.1	41.37	-12.63	54	31.05	32.02	11.37	33.07	144	175	A	H
	*	5300	99.02	-	-	88.76	32.14	11.66	33.54	144	175	P	H
	*	5300	93.1	-	-	82.84	32.14	11.66	33.54	144	175	A	H
		5351.76	51.68	-22.32	74	41.46	32.18	11.74	33.7	144	175	P	H
		5390.16	42.43	-11.57	54	32.25	32.21	11.78	33.81	144	175	A	H
		5073.15	50.23	-23.77	74	39.95	31.97	11.16	32.85	126	349	P	V
		5140.35	40.67	-13.33	54	30.35	32.02	11.37	33.07	126	349	A	V
	*	5300	95.15	-	-	84.89	32.14	11.66	33.54	126	349	P	V
	*	5300	89.24	-	-	78.98	32.14	11.66	33.54	126	349	A	V
		5356.56	49.73	-24.27	74	39.51	32.18	11.74	33.7	126	349	P	V
		5357.52	40.84	-13.16	54	30.62	32.18	11.74	33.7	126	349	A	V



802.11a CH 64 5320MHz	*	5320	100.97	-	-	90.72	32.15	11.7	33.6	128	172	P	H
	*	5320	95	-	-	84.75	32.15	11.7	33.6	128	172	A	H
		5406.24	52.22	-21.78	74	42.08	32.22	11.78	33.86	128	172	P	H
		5351.2	43.06	-10.94	54	32.84	32.18	11.74	33.7	128	172	A	H
	*	5320	94.91	-	-	84.66	32.15	11.7	33.6	100	347	P	V
	*	5320	89.47	-	-	79.22	32.15	11.7	33.6	100	347	A	V
		5369.76	49.87	-24.13	74	39.7	32.19	11.74	33.76	100	347	P	V
		5354.4	41.02	-12.98	54	30.8	32.18	11.74	33.7	100	347	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	49.27	-24.73	74	51.25	39.9	14.65	56.53	150	220	P	H
		15780	46.62	-27.38	74	48.04	37.18	16.51	55.11	159	345	P	H
		10520	47.75	-26.25	74	49.73	39.9	14.65	56.53	150	220	P	V
		15780	46.64	-27.36	74	48.06	37.18	16.51	55.11	159	345	P	V
802.11a CH 60 5300MHz		10600	49.67	-24.33	74	51.44	39.92	14.67	56.36	152	360	P	H
		15900	46.87	-27.13	74	48.21	36.87	16.59	54.8	152	0	P	H
		10600	46.99	-27.01	74	48.76	39.92	14.67	56.36	152	360	P	V
		15900	44.97	-29.03	74	46.31	36.87	16.59	54.8	152	0	P	V
802.11a CH 64 5320MHz		10640	48.08	-25.92	74	49.77	39.93	14.68	56.3	152	360	P	H
		15960	46.55	-27.45	74	47.84	36.69	16.64	54.62	152	0	P	H
		10640	46.97	-27.03	74	48.66	39.93	14.68	56.3	152	360	P	V
		15960	45.98	-28.02	74	47.27	36.69	16.64	54.62	152	0	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		5083.2	50.21	-23.79	74	39.83	31.97	11.26	32.85	100	172	P	H
		5144.3	41.44	-12.56	54	31.12	32.02	11.37	33.07	100	172	A	H
	*	5260	98.17	-	-	87.88	32.11	11.62	33.44	100	172	P	H
	*	5260	92.03	-	-	81.74	32.11	11.62	33.44	100	172	A	H
		5367.12	51.01	-22.99	74	40.84	32.19	11.74	33.76	100	172	P	H
		5363.04	41.54	-12.46	54	31.37	32.19	11.74	33.76	100	172	A	H
		5097.5	49.72	-24.28	74	39.39	31.98	11.26	32.91	113	343	P	V
		5085.02	40.46	-13.54	54	30.08	31.97	11.26	32.85	113	343	A	V
	*	5260	93.64	-	-	83.35	32.11	11.62	33.44	113	343	P	V
	*	5260	87.73	-	-	77.44	32.11	11.62	33.44	113	343	A	V
		5372.4	49.75	-24.25	74	39.58	32.19	11.74	33.76	113	343	P	V
		5406.48	40.03	-13.97	54	29.89	32.22	11.78	33.86	113	343	A	V
802.11n HT20 CH 60 5300MHz		5037.1	50.31	-23.69	74	39.92	31.93	11.16	32.7	129	172	P	H
		5142.45	41.22	-12.78	54	30.9	32.02	11.37	33.07	129	172	A	H
	*	5300	100.1	-	-	89.84	32.14	11.66	33.54	129	172	P	H
	*	5300	93.68	-	-	83.42	32.14	11.66	33.54	129	172	A	H
		5398.08	50.78	-23.22	74	40.64	32.22	11.78	33.86	129	172	P	H
		5394	42.13	-11.87	54	31.95	32.21	11.78	33.81	129	172	A	H
		5114.8	49.82	-24.18	74	39.42	31.99	11.37	32.96	104	337	P	V
		5138.95	40.51	-13.49	54	30.14	32.01	11.37	33.01	104	337	A	V
	*	5300	97.35	-	-	87.09	32.14	11.66	33.54	104	337	P	V
	*	5300	90.64	-	-	80.38	32.14	11.66	33.54	104	337	A	V
		5390.88	49.53	-24.47	74	39.35	32.21	11.78	33.81	104	337	P	V
		5358	40.61	-13.39	54	30.39	32.18	11.74	33.7	104	337	A	V



802.11n HT20 CH 64 5320MHz	*	5320	100.45	-	-	90.2	32.15	11.7	33.6	116	173	P	H
	*	5320	94.24	-	-	83.99	32.15	11.7	33.6	116	173	A	H
		5350.88	52.26	-21.74	74	42.04	32.18	11.74	33.7	116	173	P	H
		5352.48	42.2	-11.8	54	31.98	32.18	11.74	33.7	116	173	A	H
	*	5320	96.67	-	-	86.42	32.15	11.7	33.6	112	339	P	V
	*	5320	90.46	-	-	80.21	32.15	11.7	33.6	112	339	A	V
		5426.88	50.48	-23.52	74	40.33	32.23	11.84	33.92	112	339	P	V
		5352.64	40.37	-13.63	54	30.15	32.18	11.74	33.7	112	339	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	47.32	-26.68	74	49.3	39.9	14.65	56.53	150	220	P	H
		15780	46.86	-27.14	74	48.28	37.18	16.51	55.11	159	345	P	H
		10520	46.74	-27.26	74	48.72	39.9	14.65	56.53	150	220	P	V
		15780	45.89	-28.11	74	47.31	37.18	16.51	55.11	159	345	P	V
802.11n HT20 CH 60 5300MHz		10600	47.31	-26.69	74	49.08	39.92	14.67	56.36	185	215	P	H
		15900	46.32	-27.68	74	47.66	36.87	16.59	54.8	196	190	P	H
		10600	46.68	-27.32	74	48.45	39.92	14.67	56.36	185	215	P	V
		15900	46.33	-27.67	74	47.67	36.87	16.59	54.8	196	190	P	V
802.11n HT20 CH 64 5320MHz		10640	46.98	-27.02	74	48.67	39.93	14.68	56.3	185	215	P	H
		15960	45.84	-28.16	74	47.13	36.69	16.64	54.62	196	190	P	H
		10640	47.32	-26.68	74	49.01	39.93	14.68	56.3	185	215	P	V
		15960	45.66	-28.34	74	46.95	36.69	16.64	54.62	152	0	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		5110.76	47.99	-26.01	74	37.7	31.99	11.26	32.96	100	177	P	H
		5139.88	39.98	-14.02	54	29.66	32.02	11.37	33.07	100	177	A	H
	*	5270	96.92	-	-	86.63	32.11	11.62	33.44	100	177	P	H
	*	5270	90.74	-	-	80.45	32.11	11.62	33.44	100	177	A	H
		5400.72	48.9	-25.1	74	38.76	32.22	11.78	33.86	100	177	P	H
		5362.08	40.6	-13.4	54	30.43	32.19	11.74	33.76	100	177	A	H
		5128.7	48.03	-25.97	74	37.66	32.01	11.37	33.01	104	351	P	V
		5146.64	39.63	-14.37	54	29.31	32.02	11.37	33.07	104	351	A	V
	*	5270	92.96	-	-	82.67	32.11	11.62	33.44	104	351	P	V
	*	5270	86.78	-	-	76.49	32.11	11.62	33.44	104	351	A	V
		5402.16	47.92	-26.08	74	37.78	32.22	11.78	33.86	104	351	P	V
		5385.12	39.16	-14.84	54	29.02	32.21	11.74	33.81	104	351	A	V
802.11n HT40 CH 62 5310MHz		5071.75	47.59	-26.41	74	37.31	31.97	11.16	32.85	222	185	P	H
		5146.3	39.53	-14.47	54	29.21	32.02	11.37	33.07	222	185	A	H
	*	5310	94.98	-	-	84.73	32.15	11.7	33.6	222	185	P	H
	*	5310	88.38	-	-	78.13	32.15	11.7	33.6	222	185	A	H
		5354.88	51.14	-22.86	74	40.92	32.18	11.74	33.7	222	185	P	H
		5351.04	41.22	-12.78	54	31	32.18	11.74	33.7	222	185	A	H
		5024.5	48.39	-25.61	74	38.11	31.93	11.05	32.7	335	168	P	V
		5143.85	39.44	-14.56	54	29.12	32.02	11.37	33.07	335	168	A	V
	*	5310	89.18	-	-	78.93	32.15	11.7	33.6	335	168	P	V
	*	5310	82.71	-	-	72.46	32.15	11.7	33.6	335	168	A	V
		5351.52	47.76	-26.24	74	37.54	32.18	11.74	33.7	335	168	P	V
		5350.56	38.78	-15.22	54	28.56	32.18	11.74	33.7	335	168	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		10540	48.11	-25.89	74	50.03	39.91	14.66	56.49	150	220	P	H
HT40		15810	45.52	-28.48	74	46.92	37.09	16.53	55.02	168	345	P	H
CH 54		10540	47.15	-26.85	74	49.07	39.91	14.66	56.49	150	220	P	V
5270MHz		15810	45.27	-28.73	74	46.67	37.09	16.53	55.02	168	345	P	V
802.11n		10620	47.33	-26.67	74	49.06	39.92	14.68	56.33	150	220	P	H
HT40		15930	45.74	-28.26	74	47.05	36.78	16.62	54.71	160	100	P	H
CH 62		10620	47.1	-26.9	74	48.83	39.92	14.68	56.33	150	220	P	V
5310MHz		15930	46.32	-27.68	74	47.63	36.78	16.62	54.71	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	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		5116.48	48.23	-25.77	74	37.83	31.99	11.37	32.96	100	174	P	H
		5149.76	38.34	-15.66	54	28.02	32.02	11.37	33.07	100	174	A	H
	*	5290	92.13	-	-	81.83	32.13	11.66	33.49	100	174	P	H
	*	5290	86.75	-	-	76.45	32.13	11.66	33.49	100	174	A	H
		5372.16	54.87	-19.13	74	44.7	32.19	11.74	33.76	100	174	P	H
		5350.08	41.97	-12.03	54	31.75	32.18	11.74	33.7	100	174	A	H
		5026.26	47.6	-26.4	74	37.32	31.93	11.05	32.7	100	350	P	V
		5146.12	37.93	-16.07	54	27.61	32.02	11.37	33.07	100	350	A	V
	*	5290	88.02	-	-	77.72	32.13	11.66	33.49	100	350	P	V
	*	5290	82.64	-	-	72.34	32.13	11.66	33.49	100	350	A	V
		5355.36	47.8	-26.2	74	37.58	32.18	11.74	33.7	100	350	P	V
		5350.32	38.81	-15.19	54	28.59	32.18	11.74	33.7	100	350	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	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	45.23	-28.77	74	47.03	39.92	14.67	56.39	152	360	P	H
VHT80		15870	44.5	-29.5	74	45.87	36.91	16.56	54.84	152	0	P	H
CH 58		10580	45.23	-28.77	74	47.03	39.92	14.67	56.39	152	360	P	V
5290MHz		15870	44.63	-29.37	74	46	36.91	16.56	54.84	152	0	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		5440.72	50.65	-23.35	74	40.53	32.25	11.84	33.97	112	176	P	H
		5418	42.2	-11.8	54	32.11	32.23	11.78	33.92	112	176	A	H
	*	5500	97.5	-	-	87.48	32.3	11.9	34.18	112	176	P	H
	*	5500	91.46	-	-	81.44	32.3	11.9	34.18	112	176	A	H
		5352.08	49.61	-24.39	74	39.39	32.18	11.74	33.7	211	344	P	V
		5402.8	40.47	-13.53	54	30.33	32.22	11.78	33.86	211	344	A	V
	*	5500	93.6	-	-	83.58	32.3	11.9	34.18	211	344	P	V
	*	5500	87.48	-	-	77.46	32.3	11.9	34.18	211	344	A	V
802.11a CH 116 5580MHz		5424.16	51.22	-22.78	74	41.13	32.23	11.78	33.92	170	178	P	H
		5468.08	41.48	-12.52	54	31.38	32.27	11.9	34.07	170	178	A	H
	*	5580	98.33	-	-	88.23	32.3	12.03	34.23	170	178	P	H
	*	5580	92.52	-	-	82.42	32.3	12.03	34.23	170	178	A	H
		5742.32	51.28	-22.72	74	40.7	32.3	12.65	34.37	170	178	P	H
		5731.925	41.75	-12.25	54	31.29	32.3	12.51	34.35	170	178	A	H
		5461.84	48.96	-25.04	74	38.88	32.26	11.84	34.02	270	305	P	V
		5466.16	40.16	-13.84	54	30.06	32.27	11.9	34.07	270	305	A	V
	*	5580	93.55	-	-	83.45	32.3	12.03	34.23	270	305	P	V
	*	5580	87.94	-	-	77.84	32.3	12.03	34.23	270	305	A	V
		5747.045	51.26	-22.74	74	40.68	32.3	12.65	34.37	270	305	P	V
		5734.13	41.93	-12.07	54	31.47	32.3	12.51	34.35	270	305	A	V



802.11a CH 140 5700MHz		5408.8	49.5	-24.5	74	39.36	32.22	11.78	33.86	166	181	P	H
		5461.36	40.47	-13.53	54	30.39	32.26	11.84	34.02	166	181	A	H
	*	5700	93.74	-	-	83.26	32.3	12.51	34.33	166	181	P	H
	*	5700	88.7	-	-	78.22	32.3	12.51	34.33	166	181	A	H
		5726.5	52.87	-21.13	74	42.41	32.3	12.51	34.35	166	181	P	H
		5725.45	44.5	-9.5	54	34.04	32.3	12.51	34.35	166	181	A	H
		5416.48	49.17	-24.83	74	39.08	32.23	11.78	33.92	190	344	P	V
		5465.44	39.92	-14.08	54	29.88	32.27	11.84	34.07	190	344	A	V
	*	5700	94.47	-	-	83.99	32.3	12.51	34.33	190	344	P	V
	*	5700	87.73	-	-	77.25	32.3	12.51	34.33	190	344	A	V
		5725.1	51.43	-22.57	74	40.97	32.3	12.51	34.35	190	344	P	V
		5725.8	42.64	-11.36	54	32.18	32.3	12.51	34.35	190	344	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	45.75	-28.25	74	46.59	40	14.76	55.6	152	360	P	H
		16500	47.88	-26.12	74	46.75	37.5	17.2	53.57	152	0	P	H
		11000	46.69	-27.31	74	47.53	40	14.76	55.6	152	360	P	V
		16500	48.25	-25.75	74	47.12	37.5	17.2	53.57	152	0	P	V
802.11a CH 116 5580MHz		11160	46.4	-27.6	74	47.23	40.1	14.81	55.74	152	360	P	H
		16740	47.55	-26.45	74	45.13	38.85	17.51	53.94	152	0	P	H
		11160	47.46	-26.54	74	48.29	40.1	14.81	55.74	152	360	P	V
		16740	46.69	-27.31	74	44.27	38.85	17.51	53.94	152	0	P	V
802.11a CH 140 5700MHz		11400	48	-26	74	48.84	40.24	14.86	55.94	157	285	P	H
		17100	51.11	-22.89	74	47.37	40.64	17.91	54.81	165	246	P	H
		11400	48.4	-25.6	74	49.24	40.24	14.86	55.94	157	285	P	V
		17100	50.81	-23.19	74	47.07	40.64	17.91	54.81	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	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		5462.16	51.87	-22.13	74	41.79	32.26	11.84	34.02	109	174	P	H
		5465.52	42.68	-11.32	54	32.58	32.27	11.9	34.07	109	174	A	H
	*	5500	99.32	-	-	89.3	32.3	11.9	34.18	109	174	P	H
	*	5500	93.16	-	-	83.14	32.3	11.9	34.18	109	174	A	H
		5438.48	50.27	-23.73	74	40.15	32.25	11.84	33.97	104	341	P	V
		5469.52	40.6	-13.4	54	30.5	32.27	11.9	34.07	104	341	A	V
	*	5500	95.39	-	-	85.37	32.3	11.9	34.18	104	341	P	V
	*	5500	88.52	-	-	78.5	32.3	11.9	34.18	104	341	A	V
802.11n HT20 CH 116 5580MHz		5387.68	50.13	-23.87	74	39.95	32.21	11.78	33.81	105	174	P	H
		5467.36	41.81	-12.19	54	31.71	32.27	11.9	34.07	105	174	A	H
	*	5580	99	-	-	88.9	32.3	12.03	34.23	105	174	P	H
	*	5580	93.09	-	-	82.99	32.3	12.03	34.23	105	174	A	H
		5758.07	50.7	-23.3	74	40.13	32.3	12.65	34.38	105	174	P	H
		5728.145	42.4	-11.6	54	31.94	32.3	12.51	34.35	105	174	A	H
		5357.44	49.13	-24.87	74	38.91	32.18	11.74	33.7	228	346	P	V
		5463.04	40.28	-13.72	54	30.24	32.27	11.84	34.07	228	346	A	V
	*	5580	96.24	-	-	86.14	32.3	12.03	34.23	228	346	P	V
	*	5580	89.18	-	-	79.08	32.3	12.03	34.23	228	346	A	V
		5762.795	50.47	-23.53	74	39.9	32.3	12.65	34.38	228	346	P	V
		5758.07	41.77	-12.23	54	31.2	32.3	12.65	34.38	228	346	A	V



802.11n HT20 CH 140 5700MHz	*	5700	100.87	-	-	90.39	32.3	12.51	34.33	129	175	P	H
	*	5700	95.84	-	-	85.36	32.3	12.51	34.33	129	175	A	H
		5725.48	58.19	-15.81	74	47.73	32.3	12.51	34.35	129	175	P	H
		5725.48	43.96	-10.04	54	33.5	32.3	12.51	34.35	129	175	A	H
	*	5700	97.05	-	-	86.58	32.3	12.51	34.34	149	340	P	V
	*	5700	90.2	-	-	79.73	32.3	12.51	34.34	149	340	A	V
		5759.16	51.42	-22.58	74	40.85	32.3	12.65	34.38	149	340	P	V
		5748.36	42.29	-11.71	54	31.71	32.3	12.65	34.37	149	340	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		11000	47.85	-26.15	74	48.69	40	14.76	55.6	152	135	P	H
HT20		16500	45.72	-28.28	74	44.59	37.5	17.2	53.57	173	245	P	H
CH 100		11000	47.1	-26.9	74	47.94	40	14.76	55.6	152	135	P	V
5500MHz		16500	46.02	-27.98	74	44.89	37.5	17.2	53.57	173	245	P	V
802.11n		11160	46.1	-27.9	74	46.93	40.1	14.81	55.74	163	230	P	H
HT20		16740	47.16	-26.84	74	44.74	38.85	17.51	53.94	178	296	P	H
CH 116		11160	47.04	-26.96	74	47.87	40.1	14.81	55.74	163	230	P	V
5580MHz		16740	47.58	-26.42	74	45.16	38.85	17.51	53.94	178	296	P	V
802.11n		11400	48.62	-25.38	74	49.46	40.24	14.86	55.94	157	285	P	H
HT20		17100	50.46	-23.54	74	46.72	40.64	17.91	54.81	165	246	P	H
CH 140		11400	47.91	-26.09	74	48.75	40.24	14.86	55.94	157	285	P	V
5700MHz		17100	51.76	-22.24	74	48.02	40.64	17.91	54.81	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	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		5468.32	52.18	-21.82	74	42.08	32.27	11.9	34.07	273	189	P	H
		5469.76	43.12	-10.88	54	33.02	32.27	11.9	34.07	273	189	A	H
	*	5510	95.6	-	-	85.51	32.3	11.97	34.18	273	189	P	H
	*	5510	88.67	-	-	78.58	32.3	11.97	34.18	273	189	A	H
		5757.44	50.04	-23.96	74	39.47	32.3	12.65	34.38	273	189	P	H
		5754.29	42.64	-11.36	54	32.07	32.3	12.65	34.38	273	189	A	H
		5433.76	49.8	-24.2	74	39.68	32.25	11.84	33.97	274	21	P	V
		5470	41.59	-12.41	54	31.49	32.27	11.9	34.07	274	21	A	V
	*	5510	90.95	-	-	80.86	32.3	11.97	34.18	274	21	P	V
	*	5510	84.64	-	-	74.55	32.3	11.97	34.18	274	21	A	V
		5731.925	50.54	-23.46	74	40.08	32.3	12.51	34.35	274	21	P	V
		5754.605	42.24	-11.76	54	31.67	32.3	12.65	34.38	274	21	A	V
802.11n HT40 CH 110 5550MHz		5391.04	50.43	-23.57	74	40.25	32.21	11.78	33.81	200	174	P	H
		5418.88	41.4	-12.6	54	31.31	32.23	11.78	33.92	200	174	A	H
	*	5550	95.36	-	-	85.25	32.3	12.03	34.22	200	174	P	H
	*	5550	88.86	-	-	78.75	32.3	12.03	34.22	200	174	A	H
		5750.51	50.55	-23.45	74	39.97	32.3	12.65	34.37	200	174	P	H
		5751.455	42.51	-11.49	54	31.93	32.3	12.65	34.37	200	174	A	H
		5380.96	49.22	-24.78	74	39.08	32.21	11.74	33.81	100	345	P	V
		5414.8	41	-13	54	30.91	32.23	11.78	33.92	100	345	A	V
	*	5550	91.7	-	-	81.59	32.3	12.03	34.22	100	345	P	V
	*	5550	86.05	-	-	75.94	32.3	12.03	34.22	100	345	A	V
		5760.59	50.26	-23.74	74	39.69	32.3	12.65	34.38	100	345	P	V
		5761.535	42.54	-11.46	54	31.97	32.3	12.65	34.38	100	345	A	V



802.11n HT40 CH 134 5670MHz		5403.55	46.47	-27.53	74	36.33	32.22	11.78	33.86	100	181	P	H
		5469.7	39.07	-14.93	54	28.97	32.27	11.9	34.07	100	181	A	H
	*	5670	97.13			86.77	32.3	12.37	34.31	100	181	P	H
	*	5670	90.86			80.5	32.3	12.37	34.31	100	181	A	H
		5725.625	50.17	-23.83	74	39.71	32.3	12.51	34.35	100	181	P	H
		5759.4	41.36	-12.64	54	30.79	32.3	12.65	34.38	100	181	A	H
		5375.2	47.65	-26.35	74	37.48	32.19	11.74	33.76	100	346	P	V
		5450.45	38.61	-15.39	54	28.53	32.26	11.84	34.02	100	346	A	V
	*	5670	91.9			81.54	32.3	12.37	34.31	100	346	P	V
	*	5670	85.63			75.27	32.3	12.37	34.31	100	346	A	V
		5731.75	49.01	-24.99	74	38.55	32.3	12.51	34.35	100	346	P	V
		5734.375	39.81	-14.19	54	29.35	32.3	12.51	34.35	100	346	A	V



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		11020	46.75	-27.25	74	47.58	40.01	14.77	55.61	170	230	P	H
HT40		16530	47.57	-26.43	74	46.25	37.69	17.25	53.62	160	300	P	H
CH 102		11020	47.68	-26.32	74	48.51	40.01	14.77	55.61	170	230	P	V
5510MHz		16530	47.91	-26.09	74	46.59	37.69	17.25	53.62	160	300	P	V
802.11n		11100	46.41	-27.59	74	47.25	40.06	14.79	55.69	150	200	P	H
HT40		16650	47.69	-26.31	74	45.75	38.37	17.38	53.81	180	350	P	H
CH 110		11100	47.06	-26.94	74	47.9	40.06	14.79	55.69	150	200	P	V
5550MHz		16650	47.17	-26.83	74	45.23	38.37	17.38	53.81	180	350	P	V
802.11n		11340	49.56	-24.44	74	54.45	38.1	14.16	57.15	100	0	P	H
HT40		17010	48.14	-25.86	74	45.54	42.39	16.34	56.13	100	0	P	H
CH 134		11340	49.68	-24.32	74	54.57	38.1	14.16	57.15	100	0	P	V
5670MHz		17010	48.77	-25.23	74	46.17	42.39	16.34	56.13	100	0	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	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		5468.56	53.42	-20.58	74	43.32	32.27	11.9	34.07	100	179	P	H
		5469.76	45.91	-8.09	54	35.81	32.27	11.9	34.07	100	179	A	H
	*	5530	91.36	-	-	81.28	32.3	11.97	34.19	100	179	P	H
	*	5530	86.2	-	-	76.12	32.3	11.97	34.19	100	179	A	H
		5744.84	47.88	-26.12	74	37.3	32.3	12.65	34.37	100	179	P	H
		5760.59	41.55	-12.45	54	30.98	32.3	12.65	34.38	100	179	A	H
		5470	49.56	-24.44	74	39.46	32.27	11.9	34.07	100	344	P	V
		5465.2	42.48	-11.52	54	32.44	32.27	11.84	34.07	100	344	A	V
	*	5530	87.29	-	-	77.21	32.3	11.97	34.19	100	344	P	V
	*	5530	81.96	-	-	71.88	32.3	11.97	34.19	100	344	A	V
		5754.92	47.1	-26.9	74	36.53	32.3	12.65	34.38	100	344	P	V
		5732.555	40.95	-13.05	54	30.49	32.3	12.51	34.35	100	344	A	V
VHT80 CH 122 5610MHz		5389.6	48.01	-25.99	74	37.83	32.21	11.78	33.81	108	149	P	H
		5468.56	40.99	-13.01	54	30.89	32.27	11.9	34.07	108	149	A	H
	*	5610	92.17	-	-	82.04	32.3	12.09	34.26	108	149	P	H
	*	5610	87.41	-	-	77.28	32.3	12.09	34.26	108	149	A	H
		5725.1	49.25	-24.75	74	38.79	32.3	12.51	34.35	108	149	P	H
		5729.3	41.94	-12.06	54	31.48	32.3	12.51	34.35	108	149	A	H
		5465.44	46.9	-27.1	74	36.86	32.27	11.84	34.07	100	343	P	V
		5460.4	40.31	-13.69	54	30.23	32.26	11.84	34.02	100	343	A	V
	*	5610	87.07	-	-	76.94	32.3	12.09	34.26	100	343	P	V
	*	5610	81.8	-	-	71.67	32.3	12.09	34.26	100	343	A	V
		5727.2	47.71	-26.29	74	37.25	32.3	12.51	34.35	100	343	P	V
		5754.15	41.1	-12.9	54	30.53	32.3	12.65	34.38	100	343	A	V
Remark	3. No other spurious found.												
	4. All results are PASS against Peak and Average limit line.												


Band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		11060	45.78	-28.22	74	46.62	40.04	14.78	55.66	149	360	P	H
		16590	46.51	-27.49	74	44.9	37.98	17.33	53.7	149	0	P	H
		11060	45.13	-28.87	74	45.97	40.04	14.78	55.66	149	360	P	V
		16590	45.93	-28.07	74	44.32	37.98	17.33	53.7	149	0	P	V
VHT80 CH 122 5610MHz		11220	47.63	-26.37	74	48.47	40.13	14.82	55.79	151	360	P	H
		16830	47.2	-26.8	74	44.34	39.33	17.6	54.07	151	0	P	H
		11220	46.62	-27.38	74	47.46	40.13	14.82	55.79	151	360	P	V
		16830	47.27	-26.73	74	44.41	39.33	17.6	54.07	151	0	P	V
Remark	3. No other spurious found.												
	4. All results are PASS against Peak and Average limit line.												



Band 1 - Straddle Channel
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 144 5720MHz		11440	50.5	-23.5	74	51.34	40.26	14.87	55.97	157	285	P	H
		17160	50.48	-23.52	74	46.78	40.87	17.96	55.13	165	246	P	H
		11440	50.24	-23.76	74	51.08	40.26	14.87	55.97	157	285	P	V
		17160	50.47	-23.53	74	46.77	40.87	17.96	55.13	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 - Straddle Channel
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		11440	48.07	-25.93	74	48.91	40.26	14.87	55.97	152	360	P	H
HT20		17160	50.46	-23.54	74	46.76	40.87	17.96	55.13	152	0	P	H
CH 144		11440	48.56	-25.44	74	49.4	40.26	14.87	55.97	152	360	P	V
5720MHz		17160	49.91	-24.09	74	46.21	40.87	17.96	55.13	152	0	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



Band 3 - Straddle Channel
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		11420	47.98	-26.02	74	48.83	40.25	14.86	55.96	152	360	P	H
HT40		17130	50.45	-23.55	74	46.71	40.75	17.96	54.97	152	0	P	H
CH 142		11420	47.69	-26.31	74	48.54	40.25	14.86	55.96	152	360	P	V
5710MHz		17130	50.28	-23.72	74	46.54	40.75	17.96	54.97	152	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - Straddle Channel
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11380	48.35	-25.65	74	49.2	40.23	14.85	55.93	149	360	P	H
VHT80		17070	49.48	-24.52	74	45.73	40.53	17.87	54.65	149	0	P	H
CH 138		11380	47.2	-26.8	74	48.05	40.23	14.85	55.93	149	360	P	V
5690MHz		17070	50.62	-23.38	74	46.87	40.53	17.87	54.65	149	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI 802.11ac (n80)((LF @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac (n80)CH42 LF		30.97	23.96	-16.04	40	29.97	25.44	0.25	31.7	-	-	P	H
		108.57	17.37	-26.13	43.5	30.69	17.33	0.93	31.58	-	-	P	H
		264.74	22.16	-23.84	46	33.77	17.64	1.91	31.16	-	-	P	H
		544.1	26.9	-19.1	46	31.47	24.01	2.82	31.4	-	-	P	H
		795.33	30.55	-15.45	46	31.48	26.97	3.6	31.5	100	154	P	H
		972.84	31.32	-22.68	54	29.98	28.78	4.06	31.5	-	-	P	H
		30	23.92	-16.08	40	29.79	25.6	0.23	31.7	100	245	P	V
		168.71	17.67	-25.83	43.5	31.03	16.54	1.42	31.32	-	-	P	V
		313.24	20.17	-25.83	46	30.75	18.63	2.09	31.3	-	-	P	V
		561.56	26.69	-19.31	46	31.01	24.22	2.88	31.42	-	-	P	V
		795.33	29.71	-16.29	46	30.64	26.97	3.6	31.5	-	-	P	V
		988.36	32.15	-21.85	54	30.59	28.91	4.15	31.5	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



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)

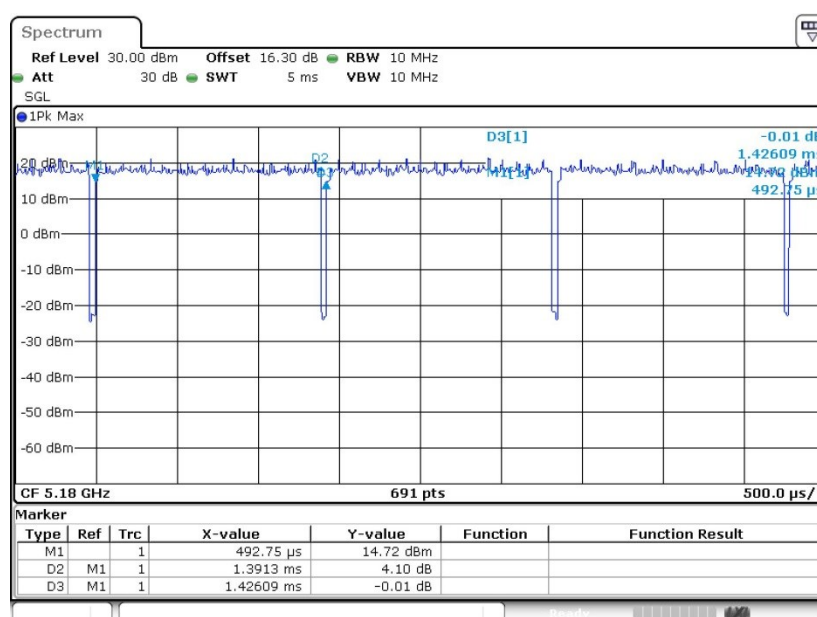
= -10.46(dB)

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

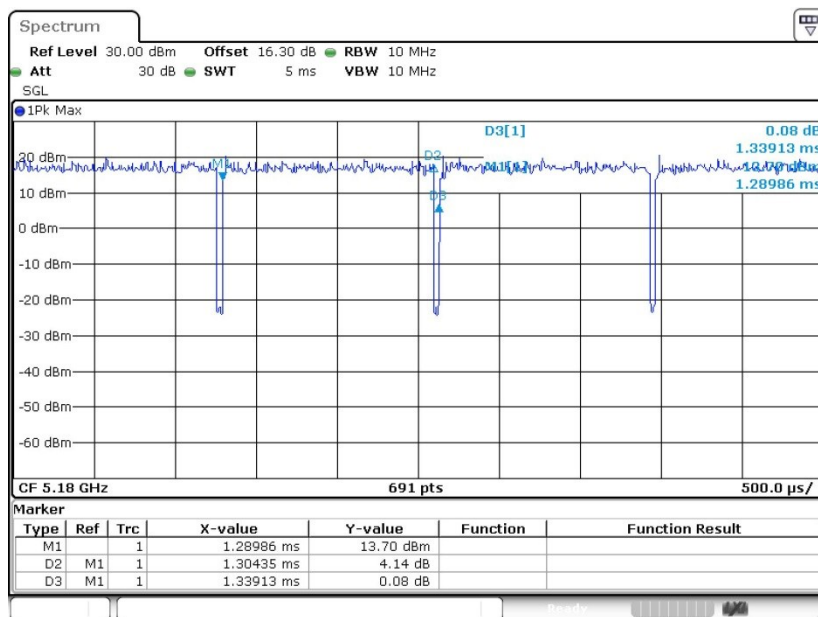
Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	97.56	1.391	0.719	1 kHz
802.11n HT20	97.40	1.304	0.767	1 kHz
802.11n HT40	94.90	0.648	1.544	3 kHz
802.11ac VHT80	90.30	0.324	3.087	10kHz

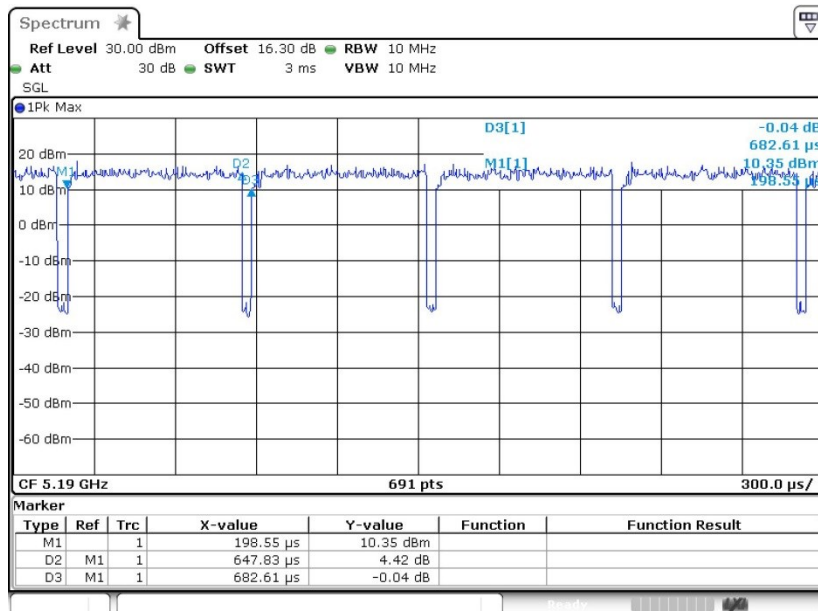
802.11a



802.11n HT20



802.11n HT40



802.11ac VHT80

