



FCC RADIO TEST REPORT

APPLICANT : Udisense Inc. DBA: Nanit
EQUIPMENT : Nanit Pro Baby Monitor
BRAND NAME : Nanit
MODEL NAME : N301
FCC ID : 2AIWVN301
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Aug. 15, 2020 and testing was completed on Sep. 11, 2020. 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.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager

Sporton International (ShenZhen) Inc.



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR081502D	Rev. 01	Initial issue of report	Sep. 18, 2020

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 4.54 dB at 5147.840 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 16.80 dB at 0.617 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Udisense Inc. DBA: Nanit

244 Fifth Avenue Suite #2702, New York, NY, United States 10001

1.2 Manufacturer

WISTRON CORPORATION

21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei City 221, Taiwan (R.O.C.)

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Nanit Pro Baby Monitor
Brand Name	Nanit
Model Name	N301
FCC ID	2AIWVN301
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 BR/EDR/LE
HW Version	20H000-1A
SW Version	Linux Ambarella 4.9.202
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 : 15.18 dBm / 0.0330 W 802.11n HT20 : 14.19 dBm / 0.0262 W 802.11n HT40 : 13.26 dBm / 0.0212 W 802.11ac VHT20 : 14.06 dBm / 0.0255 W 802.11ac VHT40 : 13.18 dBm / 0.0208 W 802.11ac VHT80 : 11.19 dBm / 0.0132 W <5260 MHz ~ 5320 MHz> 802.11a : 15.66 dBm / 0.0368 W 802.11n HT20 : 14.89 dBm / 0.0308 W 802.11n HT40 : 13.53 dBm / 0.0225 W 802.11ac VHT20 : 14.78 dBm / 0.0301 W 802.11ac VHT40 : 13.49 dBm / 0.0223 W

	802.11ac VHT80 : 10.85 dBm / 0.0122 W <5500 MHz ~ 5720 MHz> 802.11a : 15.95 dBm / 0.0394 W 802.11n HT20 : 15.06 dBm / 0.0321 W 802.11n HT40 : 14.02 dBm / 0.0252 W 802.11ac VHT20 : 14.91 dBm / 0.0310 W 802.11ac VHT40 : 13.99 dBm / 0.0251 W 802.11ac VHT80 : 14.33 dBm / 0.0271 W		
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.43 MHz 802.11n HT20 : 17.63 MHz 802.11n HT40 : 37.36 MHz 802.11ac VHT80 : 75.40 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.43 MHz 802.11n HT20 : 17.63 MHz 802.11n HT40 : 37.26 MHz 802.11ac VHT80 : 75.40 MHz <5500 MHz ~ 5720 MHz > 802.11a : 16.43 MHz 802.11n HT20 : 17.68 MHz 802.11n HT40 : 37.36 MHz 802.11ac VHT80 : 75.28 MHz		
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> <Ant. 1> : Dipole Antenna with gain 1.50 dBi <Ant. 2> : Dipole Antenna with gain 4.50 dBi <5250 MHz ~ 5350 MHz> <Ant. 1> : Dipole Antenna with gain 1.50 dBi <Ant. 2> : Dipole Antenna with gain 4.50 dBi <5470 MHz ~ 5725 MHz> <Ant. 1> : Dipole Antenna with gain 1.90 dBi <Ant. 2> : Dipole Antenna with gain 3.90 dBi		
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)		
Antenna Function Description		Ant. 1	Ant. 2
	802.11 a/n/ac SISO	V	V
	802.11 n/ac MIMO	V	V

Note:

- For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing have assessed only 802.11n HT20/ HT40 by referring to their maximum conducted power.
- For 802.11 n/ac SISO & MIMO mode, the RSE testing has assessed only MIMO mode by referring to their higher conducted power.

1.5 Modification of EUT

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



1.6 Testing Location

This report contains data that were produced under subcontract by Sporton International (Kunshan) Inc. Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-KS 03CH05-KS	CN1257	314309

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH05-KS	AUDIX	E3	6.2009-8-24a1
2.	CO01-KS	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

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

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



Remark:

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

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation 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 (X plane with Notebook) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700



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

SISO Mode

Modulation	Data Rate
802.11a	6 Mbps

MIMO Mode

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

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5G) Link + Bluetooth Link + Adapter + Multi Stand Mode 2 : WLAN (5G) Link + Bluetooth Link + Adapter + Floor Stand Mode 3 : WLAN (5G) Link + Bluetooth Link + Adapter + Wall Mount
Remark: 1. For AC Conducted Test Cases, The tests were performed with Adapter and USB Cable, and the worst mode is mode 2. 2. For Radiated Test Cases, The tests were performance with Notebook.	



Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

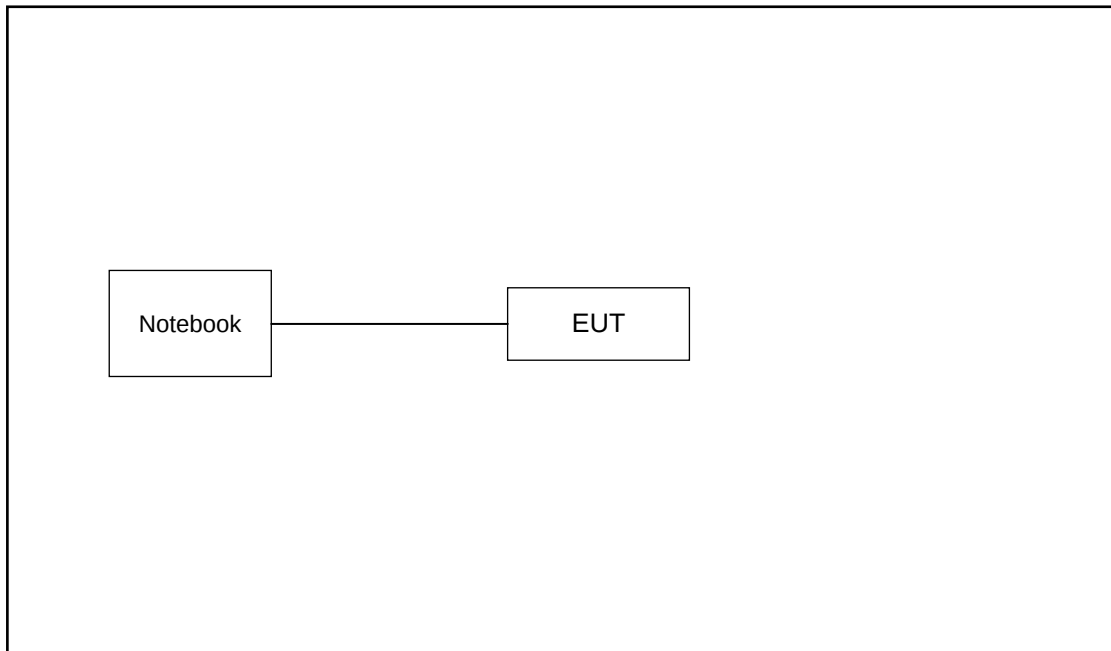
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

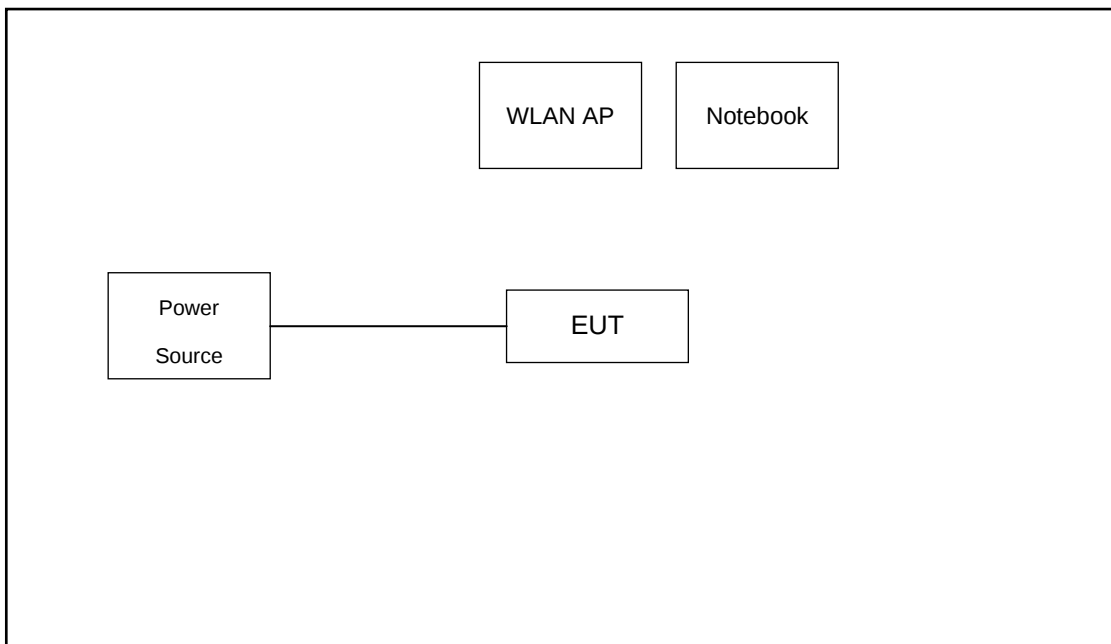
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle		-	-	138

2.3 Connection Diagram of Test System

For Radiation



For Conducted Emission



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-655	KA21R655B1	N/A	Unshielded,1.8m
2.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

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

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP 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 4.4 dB and 20dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.4 + 20 = 24.4 \text{ (dB)}\end{aligned}$$

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.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

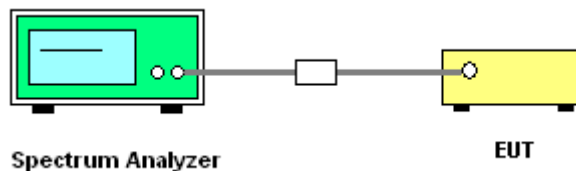
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

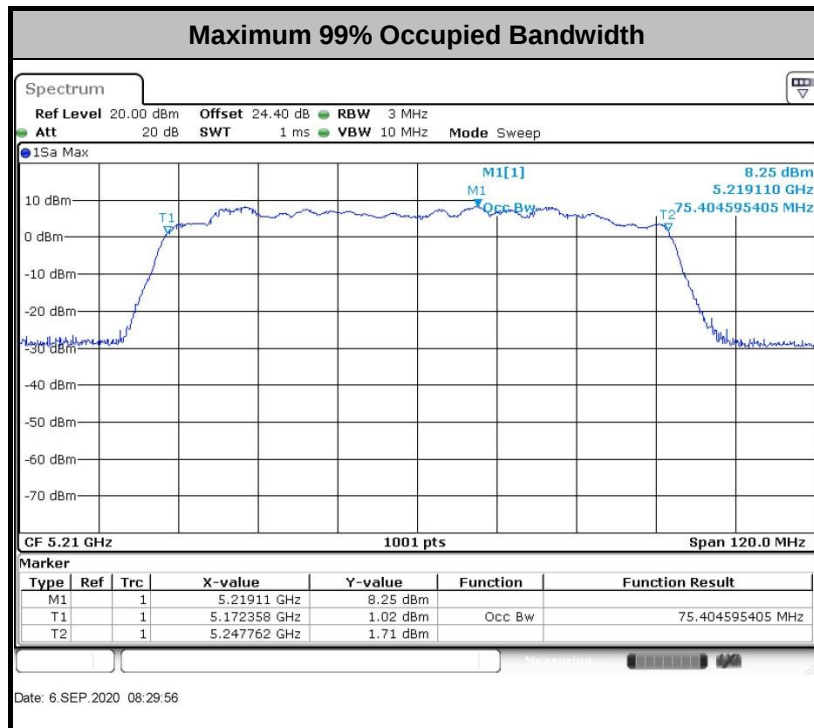
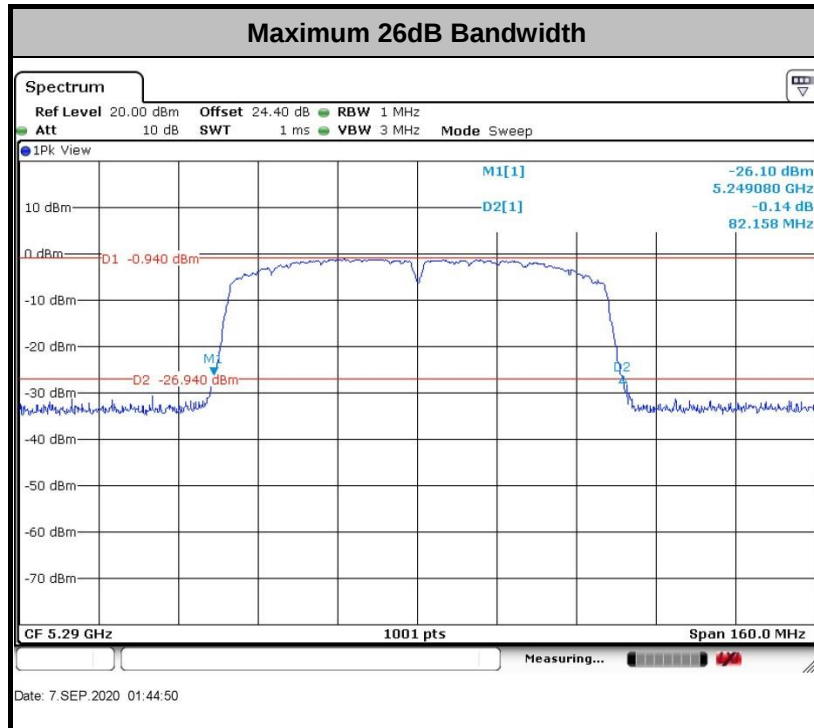
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) $\geq 3 * RBW$.
8. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

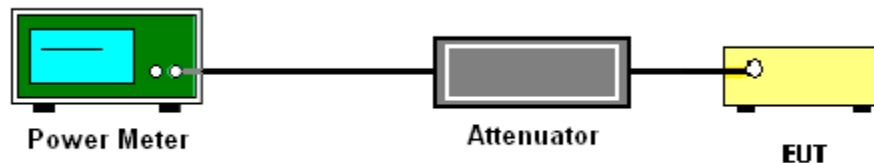
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

3.3.2 Measuring Instruments

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



3.3.3 Test Procedures

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

Section F) Maximum power spectral density.

Method SA-2

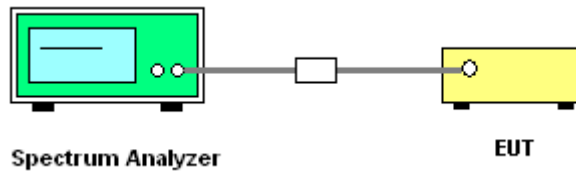
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
 3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

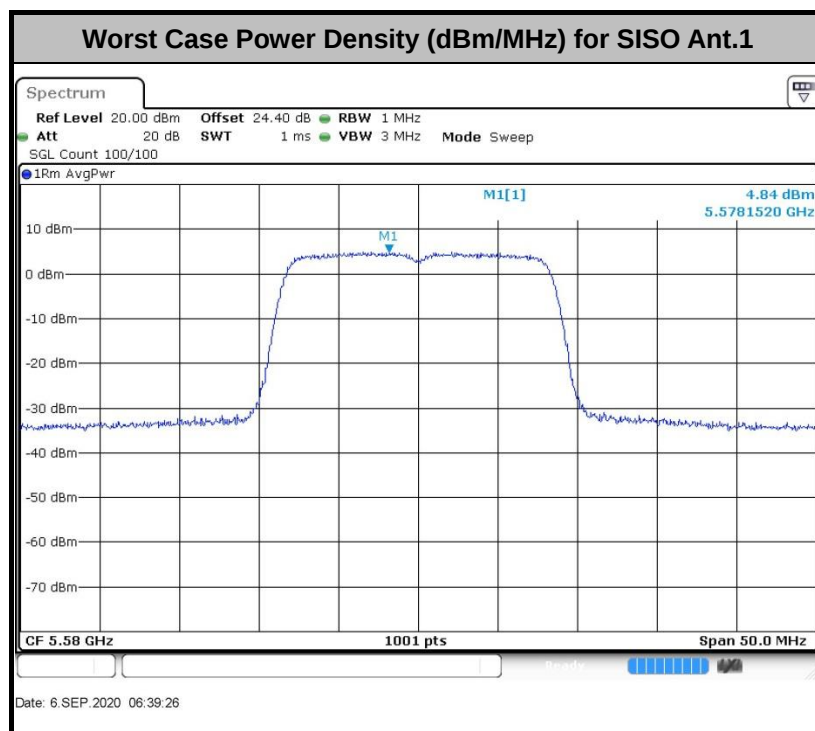
The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

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

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

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

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.8$$

where

EIRP is the equivalent isotropically radiated power, in dBm

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



d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

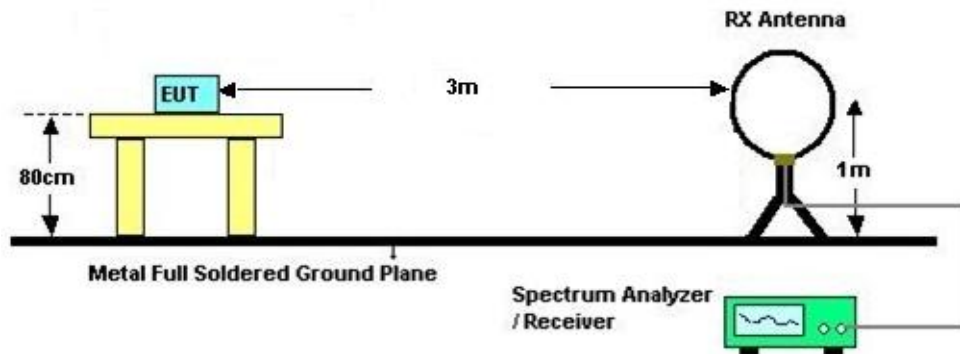
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be

repeated one by one using the CISPR quasi-peak method and reported.

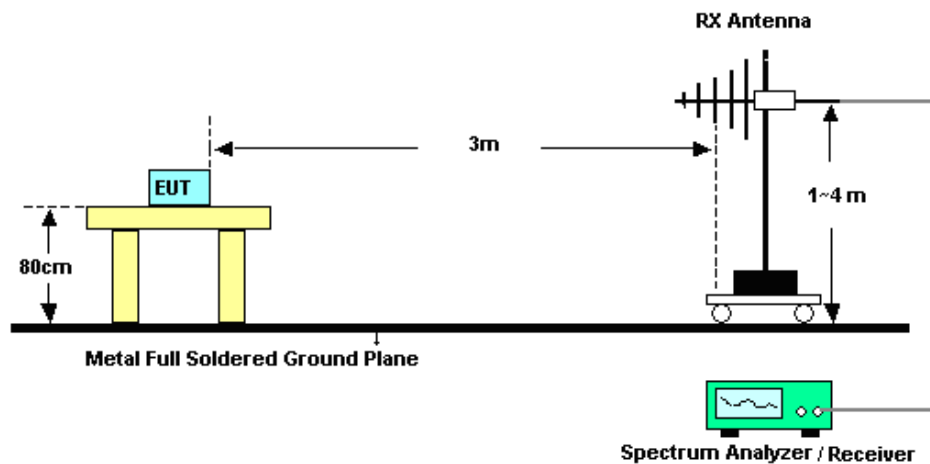
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

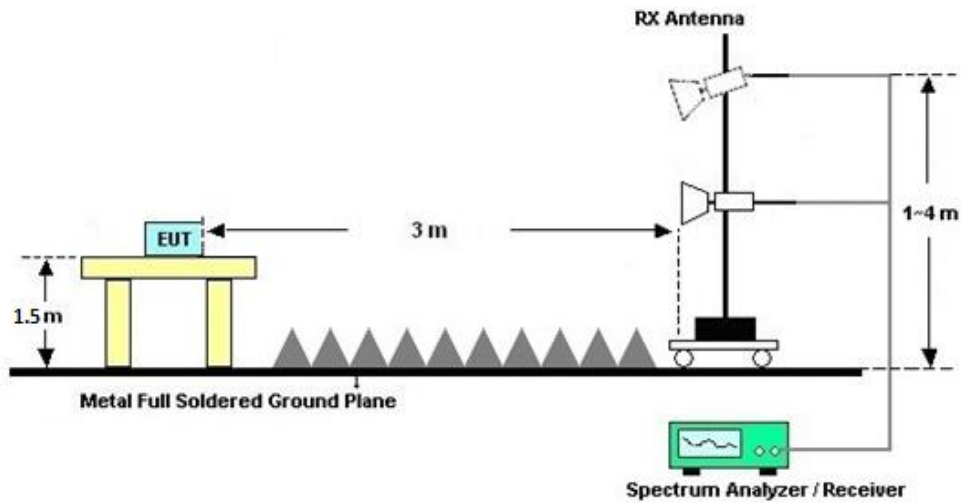
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

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 (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

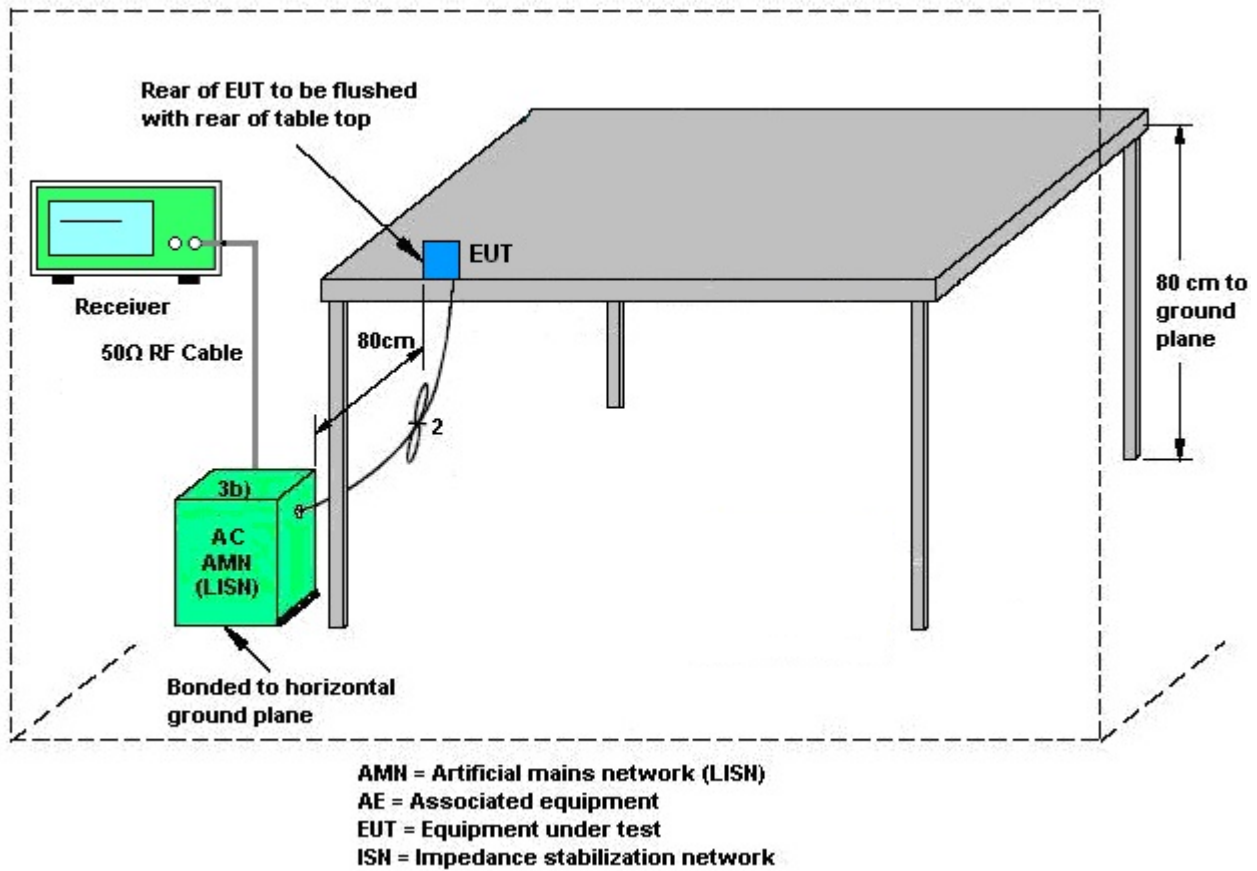
3.5.2 Measuring Instruments

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

Please refer to Appendix B.



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

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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

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

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

The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
Band I	1.50	4.50	4.50	6.14	0.00	0.14
Band II	1.50	4.50	4.50	6.14	0.00	0.14
Band III	1.90	3.90	3.90	5.97	0.00	0.00

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

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



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 16, 2020	Sep. 06, 2020~ Sep. 07, 2020	Apr. 15, 2021	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Sep. 06, 2020~ Sep. 07, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Sep. 06, 2020~ Sep. 07, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver	Keysight	N9038A	MY564000 04	3Hz~8.5GHz;M ax 30dBm	Oct. 18, 2019	Sep. 10, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY551502 44	10Hz~44G,MAX 30dB	Apr. 15, 2020	Sep. 10, 2020	Apr. 14, 2021	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 10, 2019	Sep. 10, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz~1GHz	May 30, 2020	Sep. 10, 2020	May 29, 2021	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 26, 2020	Sep. 10, 2020	Apr. 25, 2021	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	Sep. 10, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	187289	9KHz~1GHz	Apr. 14, 2020	Sep. 10, 2020	Apr. 13, 2021	Radiation (03CH05-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 08, 2020	Sep. 10, 2020	Jan. 07, 2021	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2012228	1Ghz~18Ghz	Oct. 18, 2019	Sep. 10, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY532703 16	500MHz~26.5G Hz	Oct. 18, 2019	Sep. 10, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	Sep. 10, 2020	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Sep. 10, 2020	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Sep. 10, 2020	NCR	Radiation (03CH05-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 14, 2020	Sep. 11, 2020	Apr. 13, 2021	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 18, 2019	Sep. 11, 2020	Oct. 17, 2020	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Oct. 28, 2019	Sep. 11, 2020	Oct. 27, 2020	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	AC 0V~300V, 45Hz~1000Hz	Oct. 18, 2019	Sep. 11, 2020	Oct. 17, 2020	Conduction (CO01-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.94dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Appendix A. Conducted Test Results

Test Engineer:	Chen Hong	Temperature:	21~25	°C
Test Date:	2020/9/6~2020/9/7	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	16.38	16.38	19.98	20.08	-	-	22.14	22.14	
11a	6Mbps	1	44	5220	16.38	16.38	20.03	19.98	-	-	22.14	22.14	
11a	6Mbps	1	48	5240	16.43	16.38	20.03	20.13	-	-	22.16	22.14	
HT20	MCS0	1	36	5180	17.58	17.53	20.83	20.63	-	-	22.45	22.44	
HT20	MCS0	1	44	5220	17.58	17.53	20.88	20.88	-	-	22.45	22.44	
HT20	MCS0	1	48	5240	17.53	17.53	21.03	20.83	-	-	22.44	22.44	
HT40	MCS0	1	38	5190	36.76	36.76	43.43	43.52	-	-	23.01	23.01	
HT40	MCS0	1	46	5230	36.46	36.56	43.07	42.53	-	-	23.01	23.01	
VHT80	MCS0	1	42	5210	75.40	75.40	81.20	81.36	-	-	23.01	23.01	
HT20	MCS0	2	36	5180	17.58	17.58	20.83	20.73	-	-	22.45		
HT20	MCS0	2	44	5220	17.58	17.58	20.98	20.78	-	-	22.45		
HT20	MCS0	2	48	5240	17.63	17.58	21.03	20.88	-	-	22.45		
HT40	MCS0	2	38	5190	37.36	36.76	43.16	43.79	-	-	23.01		
HT40	MCS0	2	46	5230	36.76	36.76	43.52	43.61	-	-	23.01		
VHT80	MCS0	2	42	5210	75.40	75.16	81.84	81.84	-	-	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
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.23	0.22	14.03	15.18		24.00	24.00	1.50	4.50	Pass
11a	6Mbps	1	44	5220	0.23	0.22	14.86	14.96		24.00	24.00	1.50	4.50	Pass
11a	6Mbps	1	48	5240	0.23	0.22	14.84	14.94		24.00	24.00	1.50	4.50	Pass
HT20	MCS0	1	36	5180	0.35	0.23	12.15	13.71		24.00	24.00	1.50	4.50	Pass
HT20	MCS0	1	44	5220	0.35	0.23	13.60	14.19		24.00	24.00	1.50	4.50	Pass
HT20	MCS0	1	48	5240	0.35	0.23	13.59	14.13		24.00	24.00	1.50	4.50	Pass
HT40	MCS0	1	38	5190	0.53	0.52	10.34	11.80		24.00	24.00	1.50	4.50	Pass
HT40	MCS0	1	46	5230	0.53	0.52	12.48	12.97		24.00	24.00	1.50	4.50	Pass
VHT20	MCS0	1	36	5180	0.28	0.30	12.04	13.57		24.00	24.00	1.50	4.50	Pass
VHT20	MCS0	1	44	5220	0.28	0.30	13.53	14.06		24.00	24.00	1.50	4.50	Pass
VHT20	MCS0	1	48	5240	0.28	0.30	13.48	14.00		24.00	24.00	1.50	4.50	Pass
VHT40	MCS0	1	38	5190	0.51	0.51	10.31	11.78		24.00	24.00	1.50	4.50	Pass
VHT40	MCS0	1	46	5230	0.51	0.51	12.40	12.89		24.00	24.00	1.50	4.50	Pass
VHT80	MCS0	1	42	5210	1.00	1.00	11.15	10.83		24.00	24.00	1.50	4.50	Pass
HT20	MCS0	2	36	5180	0.35	0.23	9.95	11.45	13.78	24.00		4.50		Pass
HT20	MCS0	2	44	5220	0.35	0.23	10.41	10.81	13.63	24.00		4.50		Pass
HT20	MCS0	2	48	5240	0.35	0.23	10.33	10.72	13.54	24.00		4.50		Pass
HT40	MCS0	2	38	5190	0.53	0.52	7.83	9.42	11.71	24.00		4.50		Pass
HT40	MCS0	2	46	5230	0.53	0.52	10.13	10.36	13.26	24.00		4.50		Pass
VHT20	MCS0	2	36	5180	0.28	0.30	9.77	11.40	13.67	24.00		4.50		Pass
VHT20	MCS0	2	44	5220	0.28	0.30	10.36	10.67	13.53	24.00		4.50		Pass
VHT20	MCS0	2	48	5240	0.28	0.30	10.23	10.78	13.52	24.00		4.50		Pass
VHT40	MCS0	2	38	5190	0.51	0.51	7.78	9.30	11.62	24.00		4.50		Pass
VHT40	MCS0	2	46	5230	0.51	0.51	9.94	10.38	13.18	24.00		4.50		Pass
VHT80	MCS0	2	42	5210	1.00	1.00	7.68	8.63	11.19	24.00		4.50		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.23	0.22	4.31	4.39		11.00	11.00	1.50	4.50	Pass
11a	6Mbps	1	44	5220	0.23	0.22	4.98	4.34		11.00	11.00	1.50	4.50	Pass
11a	6Mbps	1	48	5240	0.23	0.22	4.18	4.04		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	1	36	5180	0.35	0.23	1.13	2.83		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	1	44	5220	0.35	0.23	2.93	3.14		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	1	48	5240	0.35	0.23	2.67	3.39		11.00	11.00	1.50	4.50	Pass
HT40	MCS0	1	38	5190	0.53	0.52	-3.26	-1.73		11.00	11.00	1.50	4.50	Pass
HT40	MCS0	1	46	5230	0.53	0.52	-1.08	-1.08		11.00	11.00	1.50	4.50	Pass
VHT80	MCS0	1	42	5210	1.00	1.00	-5.64	-4.15		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	2	36	5180	0.35	0.23			2.97	10.86		6.14		Pass
HT20	MCS0	2	44	5220	0.35	0.23			3.01	10.86		6.14		Pass
HT20	MCS0	2	48	5240	0.35	0.23			3.09	10.86		6.14		Pass
HT40	MCS0	2	38	5190	0.53	0.52			-1.74	10.86		6.14		Pass
HT40	MCS0	2	46	5230	0.53	0.52			0.07	10.86		6.14		Pass
VHT80	MCS0	2	42	5210	1.00	1.00			-5.22	10.86		6.14		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
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	52	5260	16.43	16.38	20.08	20.13	23.16	23.14	29.16	29.14	23.98	23.98	
11a	6Mbps	1	60	5300	16.38	16.38	19.98	19.98	23.14	23.14	29.14	29.14	23.98	23.98	
11a	6Mbps	1	64	5320	16.43	16.43	20.13	20.03	23.16	23.16	29.16	29.16	23.98	23.98	
HT20	MCS0	1	52	5260	17.58	17.58	21.03	20.88	23.45	23.45	29.45	29.45	23.98	23.98	
HT20	MCS0	1	60	5300	17.58	17.53	20.93	20.83	23.45	23.44	29.45	29.44	23.98	23.98	
HT20	MCS0	1	64	5320	17.58	17.53	20.93	20.78	23.45	23.44	29.45	29.44	23.98	23.98	
HT40	MCS0	1	54	5270	36.86	36.56	43.07	43.16	23.98	23.98	30.00	30.00	23.98	23.98	
HT40	MCS0	1	62	5310	36.86	36.66	43.34	43.52	23.98	23.98	30.00	30.00	23.98	23.98	
VHT80	MCS0	1	58	5290	75.40	75.16	81.68	81.04	23.98	23.98	30.00	30.00	23.98	23.98	
HT20	MCS0	2	52	5260	17.58	17.58	20.93	20.73	23.45		29.45		23.98		
HT20	MCS0	2	60	5300	17.63	17.58	20.93	20.93	23.45		29.45		23.98		
HT20	MCS0	2	64	5320	17.58	17.58	20.93	20.78	23.45		29.45		23.98		
HT40	MCS0	2	54	5270	36.96	36.86	43.70	43.97	23.98		30.00		23.98		
HT40	MCS0	2	62	5310	37.26	36.96	42.89	42.89	23.98		30.00		23.98		
VHT80	MCS0	2	58	5290	75.04	74.93	82.16	81.84	23.98		30.00		23.98		

TEST RESULTS DATA
Average Power Table

FCC Band II															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	0.23	0.22	14.29	15.66		23.98	23.98	1.50	4.50	26.99	Pass
11a	6Mbps	1	60	5300	0.23	0.22	14.33	15.65		23.98	23.98	1.50	4.50	26.99	Pass
11a	6Mbps	1	64	5320	0.23	0.22	13.77	15.04		23.98	23.98	1.50	4.50	26.99	Pass
HT20	MCS0	1	52	5260	0.35	0.23	13.33	14.89		23.98	23.98	1.50	4.50	26.99	Pass
HT20	MCS0	1	60	5300	0.35	0.23	13.15	14.87		23.98	23.98	1.50	4.50	26.99	Pass
HT20	MCS0	1	64	5320	0.35	0.23	12.55	14.15		23.98	23.98	1.50	4.50	26.99	Pass
HT40	MCS0	1	54	5270	0.53	0.52	11.76	13.53		23.98	23.98	1.50	4.50	26.99	Pass
HT40	MCS0	1	62	5310	0.53	0.52	10.19	11.64		23.98	23.98	1.50	4.50	26.99	Pass
VHT20	MCS0	1	52	5260	0.28	0.30	13.12	14.78		23.98	23.98	1.50	4.50	26.99	Pass
VHT20	MCS0	1	60	5300	0.28	0.30	13.04	14.72		23.98	23.98	1.50	4.50	26.99	Pass
VHT20	MCS0	1	64	5320	0.28	0.30	12.43	14.13	23.98	23.98	1.50	4.50	26.99	Pass	
VHT40	MCS0	1	54	5270	0.51	0.51	11.75	13.49	23.98	23.98	1.50	4.50	26.99	Pass	
VHT40	MCS0	1	62	5310	0.51	0.51	10.09	11.60	23.98	23.98	1.50	4.50	26.99	Pass	
VHT80	MCS0	1	58	5290	1.00	1.00	10.58	10.80	23.98	23.98	1.50	4.50	26.99	Pass	
HT20	MCS0	2	52	5260	0.35	0.23	10.00	11.49	13.82	23.98	4.50	26.99	Pass		
HT20	MCS0	2	60	5300	0.35	0.23	9.59	11.01	13.37	23.98	4.50	26.99	Pass		
HT20	MCS0	2	64	5320	0.35	0.23	9.98	11.32	13.71	23.98	4.50	26.99	Pass		
HT40	MCS0	2	54	5270	0.53	0.52	9.57	11.19	13.47	23.98	4.50	26.99	Pass		
HT40	MCS0	2	62	5310	0.53	0.52	7.31	8.93	11.21	23.98	4.50	26.99	Pass		
VHT20	MCS0	2	52	5260	0.28	0.30	9.89	11.47	13.76	23.98	4.50	26.99	Pass		
VHT20	MCS0	2	60	5300	0.28	0.30	9.35	11.08	13.31	23.98	4.50	26.99	Pass		
VHT20	MCS0	2	64	5320	0.28	0.30	9.76	11.26	13.58	23.98	4.50	26.99	Pass		
VHT40	MCS0	2	54	5270	0.51	0.51	9.46	11.14	13.39	23.98	4.50	26.99	Pass		
VHT40	MCS0	2	62	5310	0.51	0.51	7.27	8.88	11.16	23.98	4.50	26.99	Pass		
VHT80	MCS0	2	58	5290	1.00	1.00	6.84	8.64	10.85	23.98	4.50	26.99	Pass		

TEST RESULTS DATA
Power Spectral Density

Band II														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	52	5260	0.23	0.22	3.80	4.78		11.00	11.00	1.50	4.50	Pass
11a	6Mbps	1	60	5300	0.23	0.22	3.71	4.77		11.00	11.00	1.50	4.50	Pass
11a	6Mbps	1	64	5320	0.23	0.22	3.14	3.41		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	1	52	5260	0.35	0.23	2.28	4.03		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	1	60	5300	0.35	0.23	2.47	3.79		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	1	64	5320	0.35	0.23	1.63	3.18		11.00	11.00	1.50	4.50	Pass
HT40	MCS0	1	54	5270	0.53	0.52	-2.12	0.07		11.00	11.00	1.50	4.50	Pass
HT40	MCS0	1	62	5310	0.53	0.52	-3.90	-1.79		11.00	11.00	1.50	4.50	Pass
VHT80	MCS0	1	58	5290	1.00	1.00	-6.27	-4.66		11.00	11.00	1.50	4.50	Pass
HT20	MCS0	2	52	5260	0.35	0.23			3.26	10.86		6.14		Pass
HT20	MCS0	2	60	5300	0.35	0.23			3.11	10.86		6.14		Pass
HT20	MCS0	2	64	5320	0.35	0.23			3.36	10.86		6.14		Pass
HT40	MCS0	2	54	5270	0.53	0.52			0.08	10.86		6.14		Pass
HT40	MCS0	2	62	5310	0.53	0.52			-2.69	10.86		6.14		Pass
VHT80	MCS0	2	58	5290	1.00	1.00			-5.26	10.86		6.14		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	100	5500	16.38	16.38	20.08	20.18	23.14	23.14	29.14	29.14	23.98	23.98	
11a	6Mbps	1	116	5580	16.38	16.38	24.33	19.88	23.14	23.14	29.14	29.14	23.98	23.98	
11a	6Mbps	1	140	5700	16.38	16.43	20.13	20.08	23.14	23.16	29.14	29.16	23.98	23.98	
11a	6Mbps	1	144	5720	16.43	16.43	20.08	20.08	23.16	23.16	29.16	29.16	23.98	23.98	
HT20	MCS0	1	100	5500	17.53	17.53	20.73	20.88	23.44	23.44	29.44	29.44	23.98	23.98	
HT20	MCS0	1	116	5580	17.53	17.53	20.93	20.78	23.44	23.44	29.44	29.44	23.98	23.98	
HT20	MCS0	1	140	5700	17.53	17.58	20.83	20.93	23.44	23.45	29.44	29.45	23.98	23.98	
HT20	MCS0	1	144	5720	17.53	17.53	20.83	21.03	23.44	23.44	29.44	29.44	23.98	23.98	
HT40	MCS0	1	102	5510	36.76	36.86	43.79	43.79	23.98	23.98	30.00	30.00	23.98	23.98	
HT40	MCS0	1	110	5550	36.66	36.66	43.16	43.43	23.98	23.98	30.00	30.00	23.98	23.98	
HT40	MCS0	1	134	5670	36.66	36.66	43.34	43.52	23.98	23.98	30.00	30.00	23.98	23.98	
HT40	MCS0	1	142	5710	36.76	36.56	43.88	43.52	23.98	23.98	30.00	30.00	23.98	23.98	
VHT80	MCS0	1	106	5530	75.28	75.04	81.52	81.20	23.98	23.98	30.00	30.00	23.98	23.98	
VHT80	MCS0	1	122	5610	74.81	75.28	81.36	81.36	23.98	23.98	30.00	30.00	23.98	23.98	
VHT80	MCS0	1	138	5690	74.93	75.28	81.20	81.84	23.98	23.98	30.00	30.00	23.98	23.98	
HT20	MCS0	2	100	5500	17.63	17.58	20.88	20.78	23.45		29.45		23.98		
HT20	MCS0	2	116	5580	17.58	17.58	20.83	20.78	23.45		29.45		23.98		
HT20	MCS0	2	140	5700	17.63	17.68	21.08	20.93	23.46		29.46		23.98		
HT20	MCS0	2	144	5720	17.58	17.58	20.83	20.88	23.45		29.45		23.98		
HT40	MCS0	2	102	5510	37.26	37.36	43.52	43.16	23.98		30.00		23.98		
HT40	MCS0	2	110	5550	36.66	36.56	43.88	43.52	23.98		30.00		23.98		
HT40	MCS0	2	134	5670	36.86	37.06	43.61	42.98	23.98		30.00		23.98		
HT40	MCS0	2	142	5710	36.96	37.06	43.16	43.07	23.98		30.00		23.98		
VHT80	MCS0	2	106	5530	75.28	75.28	81.68	81.36	23.98		30.00		23.98		
VHT80	MCS0	2	122	5610	75.28	75.28	81.52	81.52	23.98		30.00		23.98		
VHT80	MCS0	2	138	5690	75.04	74.93	81.20	81.04	23.98		30.00		23.98		

TEST RESULTS DATA
Average Power Table

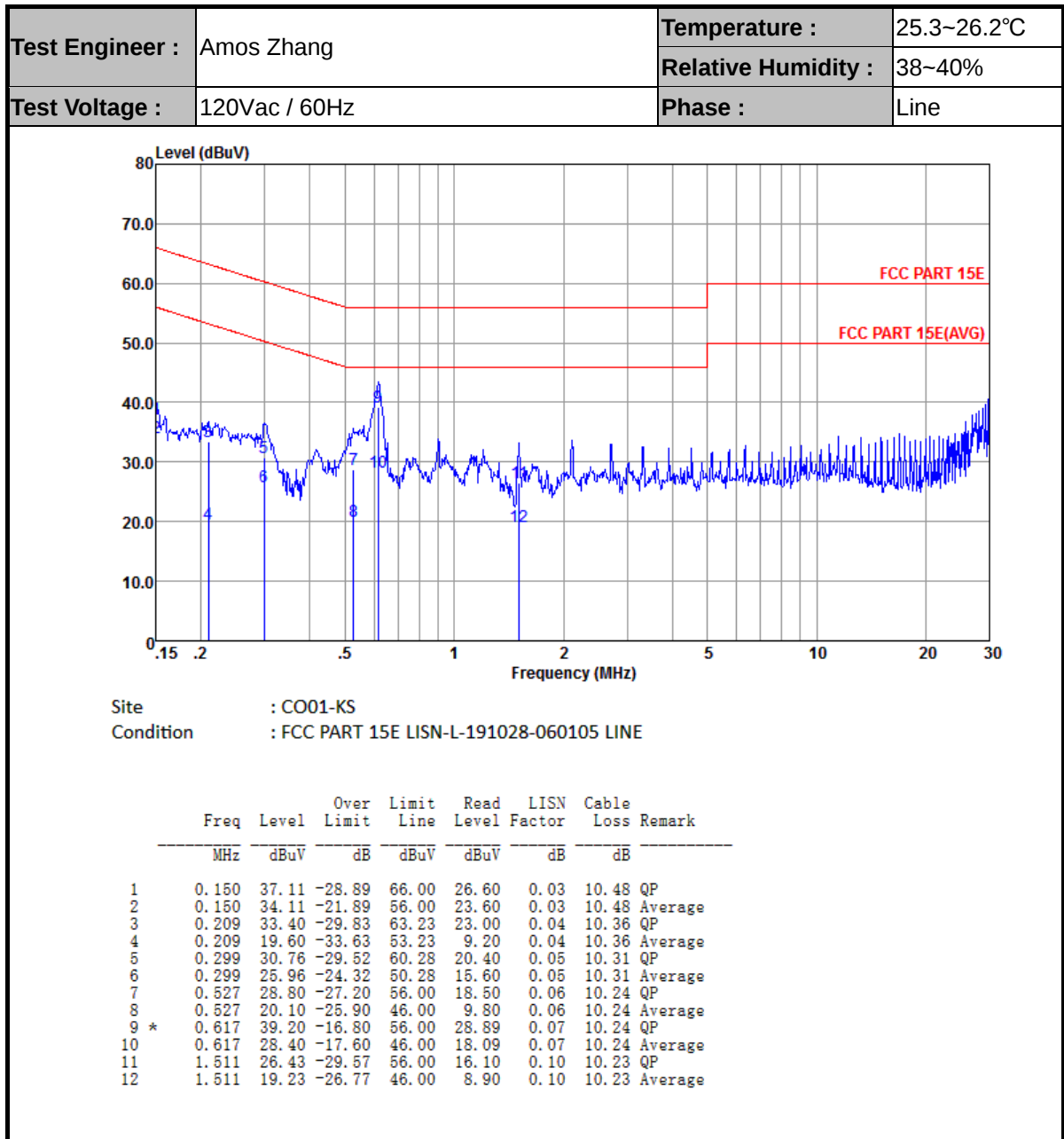
FCC Band III															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	0.23	0.22	14.61	14.47		23.98	23.98	1.90	3.90	26.99	Pass
11a	6Mbps	1	116	5580	0.23	0.22	15.95	14.64		23.98	23.98	1.90	3.90	26.99	Pass
11a	6Mbps	1	140	5700	0.23	0.22	14.09	13.30		23.98	23.98	1.90	3.90	26.99	Pass
11a	6Mbps	1	144	5720	0.23	0.22	14.73	14.02		23.98	23.98	1.90	3.90	26.99	Pass
HT20	MCS0	1	100	5500	0.35	0.23	12.89	12.95		23.98	23.98	1.90	3.90	26.99	Pass
HT20	MCS0	1	116	5580	0.35	0.23	15.06	13.84		23.98	23.98	1.90	3.90	26.99	Pass
HT20	MCS0	1	140	5700	0.35	0.23	12.76	11.89		23.98	23.98	1.90	3.90	26.99	Pass
HT20	MCS0	1	144	5720	0.35	0.23	13.99	13.07		23.98	23.98	1.90	3.90	26.99	Pass
HT40	MCS0	1	102	5510	0.53	0.52	10.21	9.97		23.98	23.98	1.90	3.90	26.99	Pass
HT40	MCS0	1	110	5550	0.53	0.52	13.58	13.26		23.98	23.98	1.90	3.90	26.99	Pass
HT40	MCS0	1	134	5670	0.53	0.52	12.90	12.58		23.98	23.98	1.90	3.90	26.99	Pass
HT40	MCS0	1	142	5710	0.53	0.52	12.89	12.36		23.98	23.98	1.90	3.90	26.99	Pass
VHT20	MCS0	1	100	5500	0.28	0.30	12.73	12.94		23.98	23.98	1.90	3.90	26.99	Pass
VHT20	MCS0	1	116	5580	0.28	0.30	14.91	13.80		23.98	23.98	1.90	3.90	26.99	Pass
VHT20	MCS0	1	140	5700	0.28	0.30	12.65	11.86		23.98	23.98	1.90	3.90	26.99	Pass
VHT20	MCS0	1	144	5720	0.28	0.30	13.79	13.03		23.98	23.98	1.90	3.90	26.99	Pass
VHT40	MCS0	1	102	5510	0.51	0.51	10.19	9.96		23.98	23.98	1.90	3.90	26.99	Pass
VHT40	MCS0	1	110	5550	0.51	0.51	13.56	13.15		23.98	23.98	1.90	3.90	26.99	Pass
VHT40	MCS0	1	134	5670	0.51	0.51	12.78	12.47		23.98	23.98	1.90	3.90	26.99	Pass
VHT40	MCS0	1	142	5710	0.51	0.51	12.83	12.29		23.98	23.98	1.90	3.90	26.99	Pass
VHT80	MCS0	1	106	5530	1.00	1.00	11.41	11.17	23.98	23.98	1.90	3.90	26.99	Pass	
VHT80	MCS0	1	122	5610	1.00	1.00	14.26	13.58	23.98	23.98	1.90	3.90	26.99	Pass	
VHT80	MCS0	1	138	5690	1.00	1.00	13.60	13.43		23.98	23.98	1.90	3.90	26.99	Pass
HT20	MCS0	2	100	5500	0.35	0.23	9.22	9.32	12.28	23.98		3.90		26.99	Pass
HT20	MCS0	2	116	5580	0.35	0.23	11.81	10.70	14.30	23.98		3.90		26.99	Pass
HT20	MCS0	2	140	5700	0.35	0.23	8.90	8.17	11.56	23.98		3.90		26.99	Pass
HT20	MCS0	2	144	5720	0.35	0.23	10.22	9.74	13.00	23.98		3.90		26.99	Pass
HT40	MCS0	2	102	5510	0.53	0.52	8.29	8.00	11.16	23.98		3.90		26.99	Pass
HT40	MCS0	2	110	5550	0.53	0.52	11.13	10.89	14.02	23.98		3.90		26.99	Pass
HT40	MCS0	2	134	5670	0.53	0.52	10.45	9.84	13.17	23.98		3.90		26.99	Pass
HT40	MCS0	2	142	5710	0.53	0.52	10.26	9.76	13.03	23.98		3.90		26.99	Pass
VHT20	MCS0	2	100	5500	0.28	0.30	9.06	9.33	12.21	23.98		3.90		26.99	Pass
VHT20	MCS0	2	116	5580	0.28	0.30	11.69	10.71	14.24	23.98		3.90		26.99	Pass
VHT20	MCS0	2	140	5700	0.28	0.30	8.92	8.10	11.54	23.98		3.90		26.99	Pass
VHT20	MCS0	2	144	5720	0.28	0.30	10.09	9.87	12.99	23.98		3.90		26.99	Pass
VHT40	MCS0	2	102	5510	0.51	0.51	8.25	8.00	11.14	23.98		3.90		26.99	Pass
VHT40	MCS0	2	110	5550	0.51	0.51	11.10	10.85	13.99	23.98		3.90		26.99	Pass
VHT40	MCS0	2	134	5670	0.51	0.51	10.28	9.79	13.06	23.98		3.90		26.99	Pass
VHT40	MCS0	2	142	5710	0.51	0.51	10.27	9.66	12.99	23.98		3.90		26.99	Pass
VHT80	MCS0	2	106	5530	1.00	1.00	8.38	8.49	11.45	23.98		3.90		26.99	Pass
VHT80	MCS0	2	122	5610	1.00	1.00	11.98	10.54	14.33	23.98		3.90		26.99	Pass
VHT80	MCS0	2	138	5690	1.00	1.00	11.02	10.57	13.81	23.98		3.90		26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	0.23	0.22	4.26	3.53		11.00	11.00	1.90	3.90		Pass
11a	6Mbps	1	116	5580	0.23	0.22	5.07	3.52		11.00	11.00	1.90	3.90		Pass
11a	6Mbps	1	140	5700	0.23	0.22	3.36	2.41		11.00	11.00	1.90	3.90		Pass
11a	6Mbps	1	144	5720	0.23	0.22	4.15	3.28		11.00	11.00	1.90	3.90		Pass
HT20	MCS0	1	100	5500	0.35	0.23	3.59	2.21		11.00	11.00	1.90	3.90		Pass
HT20	MCS0	1	116	5580	0.35	0.23	4.05	2.76		11.00	11.00	1.90	3.90		Pass
HT20	MCS0	1	140	5700	0.35	0.23	2.16	0.76		11.00	11.00	1.90	3.90		Pass
HT20	MCS0	1	144	5720	0.35	0.23	3.08	2.17		11.00	11.00	1.90	3.90		Pass
HT40	MCS0	1	102	5510	0.53	0.52	-3.16	-3.55		11.00	11.00	1.90	3.90		Pass
HT40	MCS0	1	110	5550	0.53	0.52	-0.16	-0.32		11.00	11.00	1.90	3.90		Pass
HT40	MCS0	1	134	5670	0.53	0.52	-1.29	-1.41		11.00	11.00	1.90	3.90		Pass
HT40	MCS0	1	142	5710	0.53	0.52	-1.15	-1.30		11.00	11.00	1.90	3.90		Pass
VHT80	MCS0	1	106	5530	1.00	1.00	-5.59	-5.45		11.00	11.00	1.90	3.90		Pass
VHT80	MCS0	1	122	5610	1.00	1.00	-1.81	-3.17		11.00	11.00	1.90	3.90		Pass
VHT80	MCS0	1	138	5690	1.00	1.00	-2.75	-3.80		11.00	11.00	1.90	3.90		Pass
HT20	MCS0	2	100	5500	0.35	0.23			2.25	11.00		5.97			Pass
HT20	MCS0	2	116	5580	0.35	0.23			3.95	11.00		5.97			Pass
HT20	MCS0	2	140	5700	0.35	0.23			1.05	11.00		5.97			Pass
HT20	MCS0	2	144	5720	0.35	0.23			2.55	11.00		5.97			Pass
HT40	MCS0	2	102	5510	0.53	0.52			-2.00	11.00		5.97			Pass
HT40	MCS0	2	110	5550	0.53	0.52			0.86	11.00		5.97			Pass
HT40	MCS0	2	134	5670	0.53	0.52			-0.47	11.00		5.97			Pass
HT40	MCS0	2	142	5710	0.53	0.52			-0.45	11.00		5.97			Pass
VHT80	MCS0	2	106	5530	1.00	1.00			-4.62	11.00		5.97			Pass
VHT80	MCS0	2	122	5610	1.00	1.00			-1.86	11.00		5.97			Pass
VHT80	MCS0	2	138	5690	1.00	1.00			-2.52	11.00		5.97			Pass

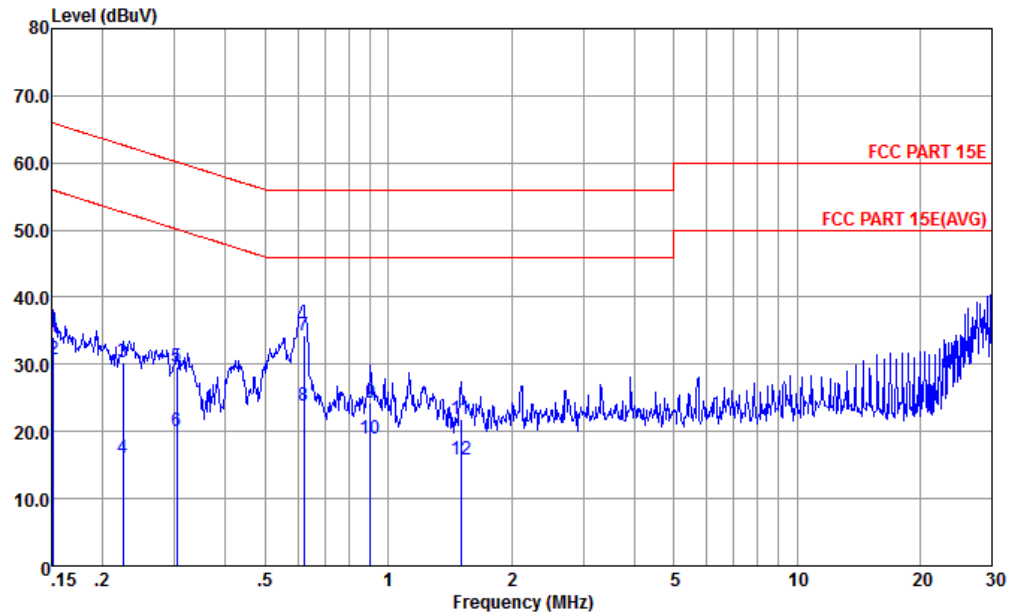


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : CO01-KS
Condition : FCC PART 15E LISN-N-191028-060105 NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.152	34.06	-31.85	65.91	23.50	0.08	10.48	QP
2	0.152	30.86	-25.05	55.91	20.30	0.08	10.48	Average
3	0.224	30.33	-32.33	62.66	19.90	0.08	10.35	QP
4	0.224	16.03	-36.63	52.66	5.60	0.08	10.35	Average
5	0.303	29.69	-30.46	60.15	19.29	0.09	10.31	QP
6	0.303	19.99	-30.16	50.15	9.59	0.09	10.31	Average
7 *	0.621	34.24	-21.76	56.00	23.90	0.10	10.24	QP
8	0.621	23.94	-22.06	46.00	13.60	0.10	10.24	Average
9	0.904	24.34	-31.66	56.00	13.99	0.11	10.24	QP
10	0.904	18.84	-27.16	46.00	8.49	0.11	10.24	Average
11	1.503	21.75	-34.25	56.00	11.40	0.12	10.23	QP
12	1.503	15.85	-30.15	46.00	5.50	0.12	10.23	Average

Note:

- Level(dBuV) = Read Level(dBuV) + LISN Factor(dB) + Cable Loss(dB)
- Over Limit(dB) = Level(dBuV) – Limit Line(dBuV)



Appendix C. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5131.04	59.12	-14.88	74	44.51	34.05	11.16	30.6	100	298	P	H
		5149.92	48.31	-5.69	54	33.67	34.07	11.18	30.61	100	298	A	H
	*	5176	109.89	-	-	95.18	34.12	11.21	30.62	100	298	P	H
		5176	102.43	-	-	87.72	34.12	11.21	30.62	100	298	A	H
		5103.36	56.42	-17.58	74	41.88	34.01	11.13	30.6	373	321	P	V
		5146.4	46.94	-7.06	54	32.3	34.07	11.18	30.61	373	321	A	V
	*	5182	104.45	-	-	89.74	34.12	11.21	30.62	373	321	P	V
		5182	97.02	-	-	82.31	34.12	11.21	30.62	373	321	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	42.82	-25.48	68.3	50.35	37.02	16.13	60.68	100	360	P	H
		10360	44.38	-23.92	68.3	51.91	37.02	16.13	60.68	100	360	P	V
802.11a CH 44 5220MHz		10440	44.58	-23.72	68.3	51.99	37.06	16.19	60.66	100	360	P	H
		10440	46.44	-21.86	68.3	53.85	37.06	16.19	60.66	100	360	P	V
802.11a CH 48 5240MHz		10480	44.35	-23.95	68.3	51.67	37.09	16.24	60.65	100	360	P	H
		10480	45.79	-22.51	68.3	53.11	37.09	16.24	60.65	100	360	P	V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5112.16	57.1	-16.9	74	42.52	34.03	11.15	30.6	352	319	P	H
		5149.12	47.15	-6.85	54	32.51	34.07	11.18	30.61	352	319	A	H
	*	5182	106.42	-	-	91.71	34.12	11.21	30.62	352	319	P	H
		5182	98.99	-	-	84.28	34.12	11.21	30.62	352	319	A	H
		5140.96	56.69	-17.31	74	42.05	34.07	11.18	30.61	374	316	P	V
		5100.16	46.91	-7.09	54	32.37	34.01	11.13	30.6	374	316	A	V
	*	5182	101.1	-	-	86.39	34.12	11.21	30.62	374	316	P	V
		5182	93.66	-	-	78.95	34.12	11.21	30.62	374	316	A	V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													



Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20		10360	43.43	-24.87	68.3	50.96	37.02	16.13	60.68	100	360	P	H
CH 36 5180MHz		10360	43.66	-24.64	68.3	51.19	37.02	16.13	60.68	100	360	P	V
802.11n HT20		10440	43.77	-24.53	68.3	51.18	37.06	16.19	60.66	100	360	P	H
CH 44 5220MHz		10440	44.98	-23.32	68.3	52.39	37.06	16.19	60.66	100	360	P	V
802.11n HT20		10480	44.34	-23.96	68.3	51.66	37.09	16.24	60.65	100	360	P	H
CH 48 5240MHz		10480	45.13	-23.17	68.3	52.45	37.09	16.24	60.65	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5141.28	57.56	-16.44	74	42.92	34.07	11.18	30.61	355	325	P	H
		5149.92	47.64	-6.36	54	33	34.07	11.18	30.61	355	325	A	H
	*	5188	101.58	-	-	86.87	34.12	11.21	30.62	355	325	P	H
		5188	94.13	-	-	79.42	34.12	11.21	30.62	355	325	A	H
		5368.32	55.06	-18.94	74	40	34.35	11.4	30.69	355	325	P	H
		5398.02	45.91	-8.09	54	30.77	34.4	11.43	30.69	355	325	A	H
		5110.72	56.49	-17.51	74	41.91	34.03	11.15	30.6	396	313	P	V
		5113.92	47.25	-6.75	54	32.67	34.03	11.15	30.6	396	313	A	V
	*	5200	96.25	-	-	81.51	34.14	11.23	30.63	396	313	P	V
		5200	89.47	-	-	74.73	34.14	11.23	30.63	396	313	A	V
		5358.78	54.86	-19.14	74	39.83	34.33	11.38	30.68	396	313	P	V
		5382.9	45.68	-8.32	54	30.58	34.38	11.41	30.69	396	313	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path 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	43.1	-25.2	68.3	50.59	37.03	16.15	60.67	100	360	P	H
		10380	43.66	-24.64	68.3	51.15	37.03	16.15	60.67	100	360	P	V
802.11n HT40 CH 46 5230MHz		10460	43.82	-24.48	68.3	51.2	37.07	16.21	60.66	100	360	P	H
		10460	43.69	-24.61	68.3	51.07	37.07	16.21	60.66	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 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5149.12	59.26	-14.74	74	44.62	34.07	11.18	30.61	100	294	P	H
		5147.84	49.46	-4.54	54	34.82	34.07	11.18	30.61	100	294	A	H
	*	5212	98.57	-	-	83.79	34.16	11.25	30.63	100	294	P	H
		5212	91.16	-	-	76.38	34.16	11.25	30.63	100	294	A	H
		5387.76	56.08	-17.92	74	40.98	34.38	11.41	30.69	100	294	P	H
		5371.56	46.8	-7.2	54	31.74	34.35	11.4	30.69	100	294	A	H
		5114.08	57.31	-16.69	74	42.73	34.03	11.15	30.6	351	307	P	V
		5105.28	47.61	-6.39	54	33.07	34.01	11.13	30.6	351	307	A	V
	*	5224	94.2	-	-	79.42	34.16	11.25	30.63	351	307	P	V
		5224	86.8	-	-	72.02	34.16	11.25	30.63	351	307	A	V
		5370.66	54.72	-19.28	74	39.66	34.35	11.4	30.69	351	307	P	V
		5366.7	46.37	-7.63	54	31.31	34.35	11.4	30.69	351	307	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		10420	43.99	-24.31	68.3	51.43	37.05	16.18	60.67	100	360	P	H
		10420	44.26	-24.04	68.3	51.7	37.05	16.18	60.67	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 Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 64 5320MHz		5351.2	60.38	-13.62	74	45.35	34.33	11.38	30.68	100	295	P	H
		5350.8	48.59	-5.41	54	33.56	34.33	11.38	30.68	100	295	A	H
	*	5314	110.92	-	-	95.95	34.29	11.35	30.67	100	295	P	H
		5314	103.62	-	-	88.65	34.29	11.35	30.67	100	295	A	H
		5350.9	55.32	-18.68	74	40.29	34.33	11.38	30.68	394	320	P	V
		5351.5	46.17	-7.83	54	31.14	34.33	11.38	30.68	394	320	A	V
	*	5320	104.83	-	-	89.86	34.29	11.35	30.67	394	320	P	V
		5320	97.54	-	-	82.57	34.29	11.35	30.67	394	320	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	45.7	-22.6	68.3	52.97	37.11	16.27	60.65	100	360	P	H
		10520	45.5	-22.8	68.3	52.77	37.11	16.27	60.65	100	360	P	V
802.11a CH 60 5300MHz		10600	46.36	-27.64	74	53.48	37.16	16.35	60.63	100	360	P	H
		10600	46.79	-27.21	74	53.91	37.16	16.35	60.63	100	360	P	V
802.11a CH 64 5320MHz		10640	46.26	-27.74	74	53.31	37.18	16.39	60.62	100	360	P	H
		10640	46.77	-27.23	74	53.82	37.18	16.39	60.62	100	360	P	V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 64 5320MHz	*	5320	108.13	-	-	93.16	34.29	11.35	30.67	105	294	P	H
		5320	101.27	-	-	86.3	34.29	11.35	30.67	105	294	A	H
		5358.3	57.87	-16.13	74	42.84	34.33	11.38	30.68	105	294	P	H
		5350.4	47.27	-6.73	54	32.24	34.33	11.38	30.68	105	294	A	H
	*	5320	101.6	-	-	86.63	34.29	11.35	30.67	400	345	P	V
		5320	94.65	-	-	79.68	34.29	11.35	30.67	400	345	A	V
		5381.8	55.44	-18.56	74	40.34	34.38	11.41	30.69	400	345	P	V
		5353	45.77	-8.23	54	30.74	34.33	11.38	30.68	400	345	A	V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													



Band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20		10520	45.46	-22.84	68.3	52.73	37.11	16.27	60.65	100	360	P	H
CH 52 5260MHz		10520	45.32	-22.98	68.3	52.59	37.11	16.27	60.65	100	360	P	V
802.11n HT20		10600	46.34	-27.66	74	53.46	37.16	16.35	60.63	100	360	P	H
CH 60 5300MHz		10600	47.57	-26.43	74	54.69	37.16	16.35	60.63	100	360	P	V
802.11n HT20		10640	48.09	-25.91	74	55.14	37.18	16.39	60.62	100	360	P	H
CH 64 5320MHz		10640	46.74	-27.26	74	53.79	37.18	16.39	60.62	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 62 5310MHz		5147.84	57.09	-16.91	74	42.45	34.07	11.18	30.61	100	292	P	H
		5114.88	47.37	-6.63	54	32.79	34.03	11.15	30.6	100	292	A	H
	*	5314	102.59	-	-	87.62	34.29	11.35	30.67	100	292	P	H
		5314	95.15	-	-	80.18	34.29	11.35	30.67	100	292	A	H
		5362.5	60.59	-13.41	74	45.53	34.35	11.4	30.69	100	292	P	H
		5350	46.9	-7.1	54	31.87	34.33	11.38	30.68	100	292	A	H
		5143.2	56.7	-17.3	74	42.06	34.07	11.18	30.61	296	251	P	V
		5106.24	47.05	-6.95	54	32.47	34.03	11.15	30.6	296	251	A	V
	*	5308	93.99	-	-	79.06	34.27	11.33	30.67	296	251	P	V
		5308	86.95	-	-	72.02	34.27	11.33	30.67	296	251	A	V
		5352.8	55.24	-18.76	74	40.21	34.33	11.38	30.68	296	251	P	V
		5379.5	45.89	-8.11	54	30.79	34.38	11.41	30.69	296	251	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40		10540	44.59	-23.71	68.3	51.82	37.12	16.29	60.64	100	360	P	H
CH 54 5270MHz		10540	45.5	-22.8	68.3	52.73	37.12	16.29	60.64	100	360	P	V
802.11n HT40		10620	45.17	-28.83	74	52.25	37.17	16.37	60.62	100	360	P	H
CH 62 5310MHz		10620	45.7	-28.3	74	52.78	37.17	16.37	60.62	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 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5106.56	56.52	-17.48	74	41.94	34.03	11.15	30.6	100	283	P	H
		5120.64	47.76	-6.24	54	33.18	34.03	11.15	30.6	100	283	A	H
	*	5308	99.15	-	-	84.22	34.27	11.33	30.67	100	283	P	H
		5308	91.65	-	-	76.72	34.27	11.33	30.67	100	283	A	H
		5354.4	57.97	-16.03	74	42.94	34.33	11.38	30.68	100	283	P	H
		5350.3	47.56	-6.44	54	32.53	34.33	11.38	30.68	100	283	A	H
		5100	56.48	-17.52	74	41.94	34.01	11.13	30.6	374	249	P	V
		5135.04	47.67	-6.33	54	33.07	34.05	11.16	30.61	374	249	A	V
	*	5296	91.07	-	-	76.13	34.27	11.33	30.66	374	249	P	V
		5296	83.83	-	-	68.89	34.27	11.33	30.66	374	249	A	V
		5355.7	55.65	-18.35	74	40.62	34.33	11.38	30.68	374	249	P	V
		5371.9	46.41	-7.59	54	31.35	34.35	11.4	30.69	374	249	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		10580	45.2	-23.1	68.3	52.34	37.15	16.34	60.63	100	360	P	H
		10580	44.88	-23.42	68.3	52.02	37.15	16.34	60.63	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	Path	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		5457.52	56.24	-17.76	74	41.02	34.46	11.48	30.72	117	190	P	H
		5469.84	60.6	-7.7	68.3	45.34	34.48	11.5	30.72	117	190	P	H
		5459.12	47.06	-6.94	54	31.84	34.46	11.48	30.72	117	190	A	H
	*	5500	109.54	-	-	94.21	34.53	11.53	30.73	117	190	P	H
		5500	102.36	-	-	87.03	34.53	11.53	30.73	117	190	A	H
		5368.72	57.19	-16.81	74	42.13	34.35	11.4	30.69	391	312	P	V
		5468.72	55.01	-13.29	68.3	39.75	34.48	11.5	30.72	391	312	P	V
		5459.92	46.05	-7.95	54	30.83	34.46	11.48	30.72	391	312	A	V
	*	5506	103.82	-	-	88.49	34.53	11.53	30.73	391	312	P	V
		5506	96.02	-	-	80.69	34.53	11.53	30.73	391	312	A	V
802.11a CH 140 5700MHz		5725.32	57.71	-10.59	68.3	42	34.78	11.75	30.82	100	185	P	H
	*	5698	109.17	-	-	93.51	34.75	11.71	30.8	100	185	P	H
		5698	102.01	-	-	86.35	34.75	11.71	30.8	100	185	A	H
		5736.04	55.88	-12.42	68.3	40.15	34.79	11.76	30.82	311	314	P	V
	*	5704	100.83	-	-	85.15	34.76	11.73	30.81	311	314	P	V
		5704	93.43	-	-	77.75	34.76	11.73	30.81	311	314	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	48.19	-25.81	74	54.61	37.4	16.72	60.54	100	360	P	H
		11000	50.89	-23.11	74	57.31	37.4	16.72	60.54	100	360	P	V
802.11a CH 116 5580MHz		11160	49.58	-24.42	74	55.73	37.5	16.85	60.5	100	360	P	H
		11160	50.01	-23.99	74	56.16	37.5	16.85	60.5	100	360	P	V
802.11a CH 140 5700MHz		11400	48.51	-25.49	74	54.3	37.64	17.02	60.45	100	360	P	H
		11400	48.98	-25.02	74	54.77	37.64	17.02	60.45	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5458.16	56.42	-17.58	74	41.2	34.46	11.48	30.72	100	294	P	H
		5467.76	56.02	-12.28	68.3	40.76	34.48	11.5	30.72	100	294	P	H
		5458.16	46.88	-7.12	54	31.66	34.46	11.48	30.72	100	294	A	H
	*	5494	106.42	-	-	91.13	34.51	11.51	30.73	100	294	P	H
		5494	99.41	-	-	84.12	34.51	11.51	30.73	100	294	A	H
		5407.12	55.7	-18.3	74	40.57	34.4	11.43	30.7	343	194	P	V
		5463.6	56.52	-11.78	68.3	41.26	34.48	11.5	30.72	343	194	P	V
		5457.84	46.06	-7.94	54	30.84	34.46	11.48	30.72	343	194	A	V
	*	5494	101.36	-	-	86.07	34.51	11.51	30.73	343	194	P	V
		5494	93.41	-	-	78.12	34.51	11.51	30.73	343	194	A	V
802.11n HT20 CH 140 5700MHz	*	5698	105.93	-	-	90.27	34.75	11.71	30.8	108	198	P	H
		5698	98.61	-	-	82.95	34.75	11.71	30.8	108	198	A	H
		5754.44	57.93	-10.37	68.3	42.17	34.81	11.78	30.83	108	198	P	H
	*	5698	99.65	-	-	83.99	34.75	11.71	30.8	383	356	P	V
		5698	92.39	-	-	76.73	34.75	11.71	30.8	383	356	A	V
		5760.52	56.13	-12.17	68.3	40.38	34.81	11.78	30.84	383	356	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20		11000	46.42	-27.58	74	52.84	37.4	16.72	60.54	100	360	P	H
CH 100 5500MHz		11000	46.9	-27.1	74	53.32	37.4	16.72	60.54	100	360	P	V
802.11n HT20		11160	45.97	-28.03	74	52.12	37.5	16.85	60.5	100	360	P	H
CH 116 5580MHz		11160	45.59	-28.41	74	51.74	37.5	16.85	60.5	100	360	P	V
802.11n HT20		11400	45.03	-28.97	74	50.82	37.64	17.02	60.45	100	360	P	H
CH 140 5700MHz		11400	45.83	-28.17	74	51.62	37.64	17.02	60.45	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5454.16	57.51	-16.49	74	42.28	34.46	11.48	30.71	108	290	P	H
		5462.16	57.26	-11.04	68.3	42.04	34.46	11.48	30.72	108	290	P	H
		5445.68	46.71	-7.29	54	31.48	34.46	11.48	30.71	108	290	A	H
	*	5512	103.1	-	-	87.77	34.53	11.53	30.73	108	290	P	H
		5512	95.69	-	-	80.36	34.53	11.53	30.73	108	290	A	H
		5740.12	56.81	-11.49	68.3	41.08	34.79	11.76	30.82	108	290	P	H
		5444.08	55.75	-18.25	74	40.56	34.44	11.46	30.71	324	194	P	V
		5469.04	55.42	-12.88	68.3	40.16	34.48	11.5	30.72	324	194	P	V
		5444.4	46.26	-7.74	54	31.07	34.44	11.46	30.71	324	194	A	V
	*	5506	97.18	-	-	81.85	34.53	11.53	30.73	324	194	P	V
		5506	90.29	-	-	74.96	34.53	11.53	30.73	324	194	A	V
		5761.56	55.98	-12.32	68.3	40.23	34.81	11.78	30.84	324	194	P	V
802.11n HT40 CH 134 5670MHz		5449.68	56.83	-17.17	74	41.6	34.46	11.48	30.71	100	285	P	H
		5460.4	57.65	-10.65	68.3	42.43	34.46	11.48	30.72	100	285	P	H
		5429.04	47.35	-6.65	54	32.15	34.44	11.46	30.7	100	285	A	H
	*	5668	106.2	-	-	90.56	34.73	11.7	30.79	100	285	P	H
		5668	98.8	-	-	83.16	34.73	11.7	30.79	100	285	A	H
		5734.84	59.29	-9.01	68.3	43.56	34.79	11.76	30.82	100	285	P	H
		5390.8	55.77	-18.23	74	40.67	34.38	11.41	30.69	388	308	P	V
		5464.88	54.99	-13.31	68.3	39.73	34.48	11.5	30.72	388	308	P	V
		5447.92	46.38	-7.62	54	31.15	34.46	11.48	30.71	388	308	A	V
	*	5668	98.06	-	-	82.42	34.73	11.7	30.79	388	308	P	V
		5668	90.53	-	-	74.89	34.73	11.7	30.79	388	308	A	V
		5754.44	56.67	-11.63	68.3	40.91	34.81	11.78	30.83	388	308	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path 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	45.44	-28.56	74	51.84	37.41	16.73	60.54	100	360	P	H
		11020	46.54	-27.46	74	52.94	37.41	16.73	60.54	100	360	P	V
802.11n HT40 CH 110 5550MHz		11100	44.01	-29.99	74	50.27	37.46	16.8	60.52	100	360	P	H
		11100	45.5	-28.5	74	51.76	37.46	16.8	60.52	100	360	P	V
802.11n HT40 CH 134 5670MHz		11340	44.2	-29.8	74	50.1	37.6	16.97	60.47	100	360	P	H
		11340	46.56	-27.44	74	52.46	37.6	16.97	60.47	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 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5449.68	56.52	-17.48	74	41.29	34.46	11.48	30.71	100	291	P	H
		5469.84	56.15	-12.15	68.3	40.89	34.48	11.5	30.72	100	291	P	H
		5456.88	47.85	-6.15	54	32.63	34.46	11.48	30.72	100	291	A	H
	*	5542	101.09	-	-	85.7	34.57	11.56	30.74	100	291	P	H
		5542	93.75	-	-	78.36	34.57	11.56	30.74	100	291	A	H
		5752.2	55.97	-12.33	68.3	40.21	34.81	11.78	30.83	100	291	P	H
		5399.92	56.2	-17.8	74	41.07	34.4	11.43	30.7	400	193	P	V
		5468.88	54.31	-13.99	68.3	39.05	34.48	11.5	30.72	400	193	P	V
		5459.44	46.78	-7.22	54	31.56	34.46	11.48	30.72	400	193	A	V
	*	5530	95.48	-	-	80.12	34.55	11.55	30.74	400	193	P	V
		5530	88.38	-	-	73.02	34.55	11.55	30.74	400	193	A	V
		5726.04	56.35	-11.95	68.3	40.64	34.78	11.75	30.82	400	193	P	V
802.11ac VHT80 CH 122 5610MHz		5436.24	56.97	-17.03	74	41.77	34.44	11.46	30.7	100	293	P	H
		5463.44	56.11	-12.19	68.3	40.85	34.48	11.5	30.72	100	293	P	H
		5450	47.93	-6.07	54	32.7	34.46	11.48	30.71	100	293	A	H
	*	5602	103.55	-	-	88.02	34.66	11.63	30.76	100	293	P	H
		5602	96.27	-	-	80.74	34.66	11.63	30.76	100	293	A	H
		5729.96	56.62	-11.68	68.3	40.91	34.78	11.75	30.82	100	293	P	H
		5446.64	55.2	-18.8	74	39.97	34.46	11.48	30.71	368	186	P	V
		5463.28	54.67	-13.63	68.3	39.41	34.48	11.5	30.72	368	186	P	V
		5432.08	46.94	-7.06	54	31.74	34.44	11.46	30.7	368	186	A	V
	*	5596	97.3	-	-	81.81	34.64	11.61	30.76	368	186	P	V
		5596	89.97	-	-	74.48	34.64	11.61	30.76	368	186	A	V
		5751.72	55.97	-12.33	68.3	40.21	34.81	11.78	30.83	368	186	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80		11060	45.34	-28.66	74	51.66	37.44	16.77	60.53	100	360	P	H
CH 106 5530MHz		11060	46.91	-27.09	74	53.23	37.44	16.77	60.53	100	360	P	V
802.11ac VHT80		11220	45.05	-28.95	74	51.13	37.53	16.88	60.49	100	360	P	H
CH 122 5610MHz		11220	44.75	-29.25	74	50.83	37.53	16.88	60.49	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11a (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a	*	5716	109.21	-	-	93.53	34.76	11.73	30.81	101	180	P	H
CH 144		5716	101.88	-	-	86.2	34.76	11.73	30.81	101	180	A	H
5720MHz	*	5716	99.5	-	-	83.82	34.76	11.73	30.81	271	319	P	V
		5716	92.55	-	-	76.87	34.76	11.73	30.81	271	319	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		11440	44.41	-29.59	74	50.14	37.66	17.05	60.44	100	360	P	H
		11440	47.84	-26.16	74	53.57	37.66	17.05	60.44	100	360	P	V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													

Band 3 - Straddle Channel
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz	*	5716	107.53	-	-	91.85	34.76	11.73	30.81	100	199	P	H
		5716	100.48	-	-	84.8	34.76	11.73	30.81	100	199	A	H
	*	5716	99.91	-	-	84.23	34.76	11.73	30.81	368	216	P	V
		5716	92.93	-	-	77.25	34.76	11.73	30.81	368	216	A	V
Remark - No other spurious found. - All results are PASS against Peak and Average limit line.													



Band 3 - Straddle Channel
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20		11440	46.34	-27.66	74	52.07	37.66	17.05	60.44	100	360	P	H
CH 144 5720MHz		11440	45.28	-28.72	74	51.01	37.66	17.05	60.44	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40	*	5716	105.21	-	-	89.53	34.76	11.73	30.81	100	196	P	H
		5716	97.69	-	-	82.01	34.76	11.73	30.81	100	196	A	H
CH 142 5710MHz	*	5704	97.73	-	-	82.05	34.76	11.73	30.81	334	216	P	V
		5704	90.57	-	-	74.89	34.76	11.73	30.81	334	216	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - Straddle Channel
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40		11420	43.05	-30.95	74	48.82	37.65	17.03	60.45	100	360	P	H
CH 142 5710MHz		11420	45	-29	74	50.77	37.65	17.03	60.45	100	360	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 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac	*	5674	102.69	-	-	87.05	34.73	11.7	30.79	100	201	P	H
VHT80		5674	95.34	-	-	79.7	34.73	11.7	30.79	100	201	A	H
CH 138	*	5668	94.44	-	-	78.8	34.73	11.7	30.79	300	321	P	V
5690MHz		5668	87.93	-	-	72.29	34.73	11.7	30.79	300	321	A	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80		11380	43.84	-30.16	74	49.66	37.63	17.01	60.46	100	360	P	H
CH 138 5690MHz		11380	46.89	-27.11	74	52.71	37.63	17.01	60.46	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

Emission below 1GHz
5GHz WIFI 802.11ac VHT80 (LF)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30	18.7	-21.3	40	24.56	25.1	1.24	32.2	-	-	P	H
		76.56	31.09	-8.91	40	48.11	13.2	1.98	32.2	100	0	P	H
		157.07	21.99	-21.51	43.5	34.58	16.68	2.83	32.1	-	-	P	H
		294.81	26.62	-19.38	46	35.55	19.3	3.88	32.11	-	-	P	H
		359.8	22.77	-23.23	46	29.91	20.8	4.28	32.22	-	-	P	H
		455.83	24.59	-21.41	46	28.8	23.2	4.81	32.22	-	-	P	H
		30.97	21.55	-18.45	40	27.92	24.57	1.26	32.2	-	-	P	V
		78.5	22.91	-17.09	40	39.71	13.4	2	32.2	100	20	P	V
		101.78	23.21	-20.29	43.5	36.85	16.28	2.28	32.2	-	-	P	V
		441.28	21.12	-24.88	46	25.72	22.89	4.73	32.22	-	-	P	V
		600.36	27.88	-18.12	46	28.87	25.8	5.51	32.3	-	-	P	V
		743.92	28.49	-17.51	46	26.63	28.02	6.13	32.29	-	-	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	Peak or Average
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		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. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path 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) + Path 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”.

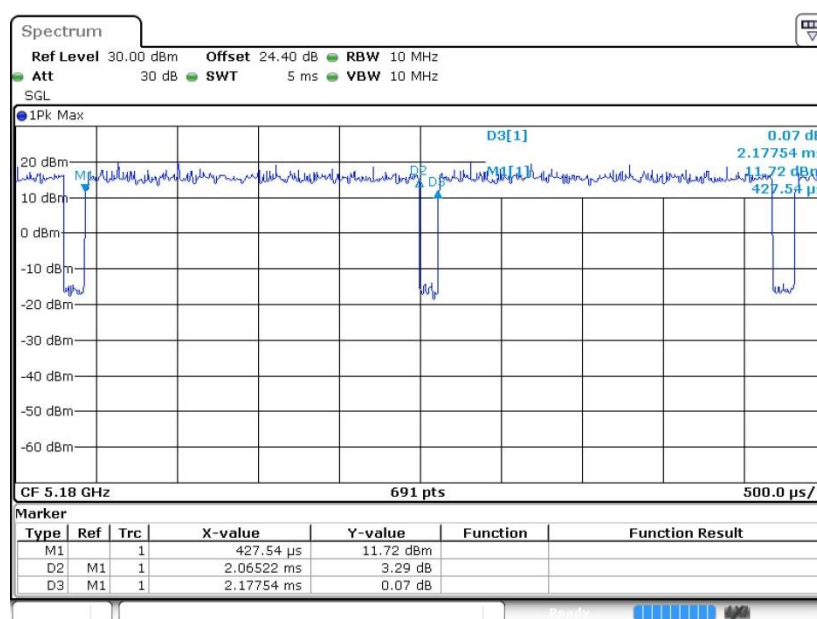


Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1	802.11a	94.84	2.065	0.484	0.51KHz
2	802.11a	95.16	2.065	0.484	0.51KHz
1+2	802.11n HT20	94.81	1.920	0.521	0.56KHz
1+2	802.11n HT40	88.78	0.946	1.057	1.1KHz
1+2	802.11ac VHT80	79.40	0.461	2.170	2.2KHz

<SISO Ant.1>

802.11a

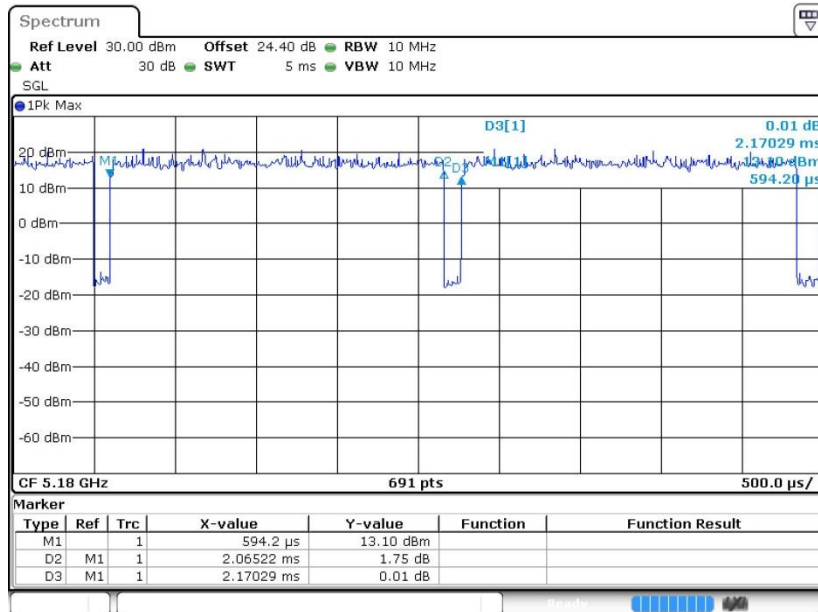


Date: 30.AUG.2020 02:18:39



<SISO Ant.2>

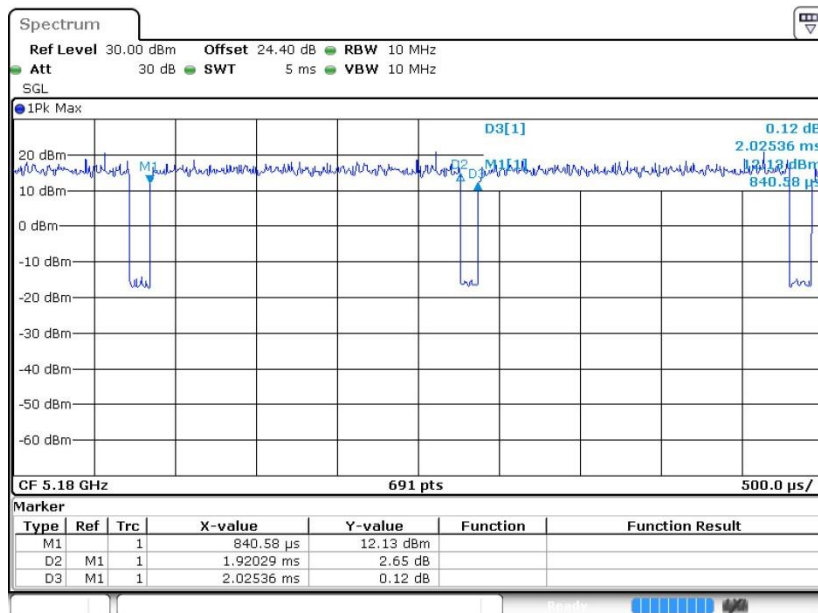
802.11a



Date: 30.AUG.2020 02:20:53

<MIMO Ant.1+2>

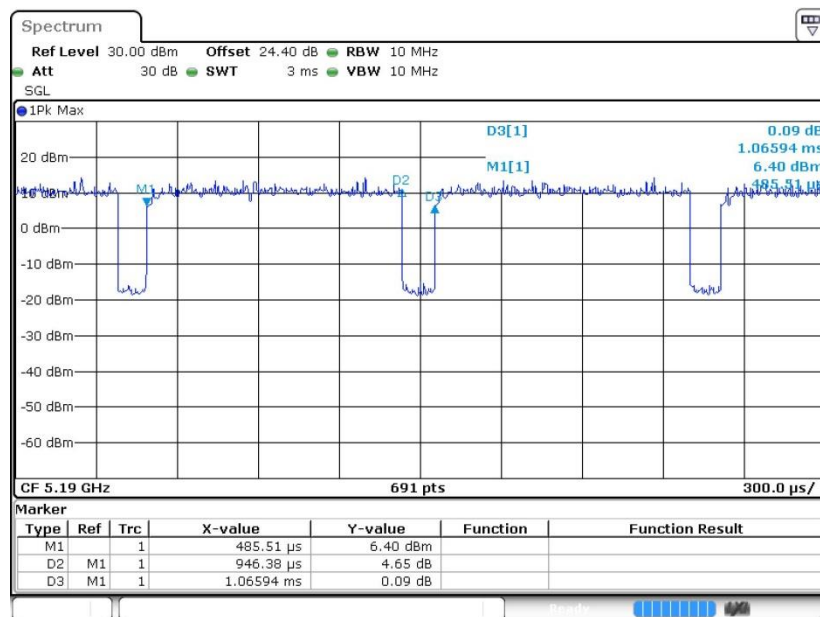
802.11n HT20



Date: 30.AUG.2020 02:24:23

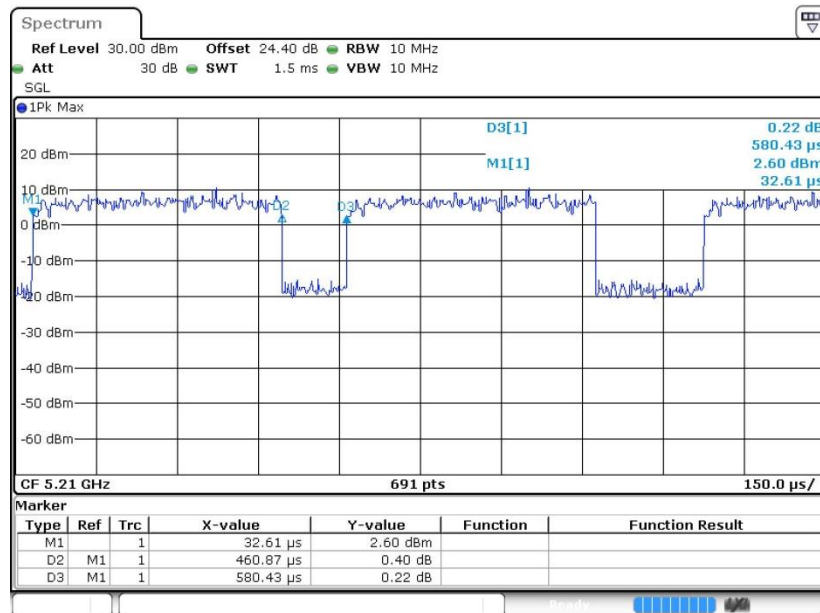


802.11n HT40



Date: 30.AUG.2020 02:35:34

802.11ac VHT80



Date: 30.AUG.2020 03:04:11