



FCC RF Test Report

APPLICANT : OnePlus Technology (Shenzhen) Co., Ltd.
EQUIPMENT : Smart Phone
BRAND NAME : ONEPLUS
MODEL NAME : DE2118, DE2117
FCC ID : 2ABZ2-EF000
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Jan. 05, 2021 and testing was completed on Feb. 27, 2021. 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.

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR110513-01F	Rev. 01	Initial issue of report	Mar. 18, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.93 dB at 5350.080 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 8.10 dB at 0.410 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

OnePlus Technology (Shenzhen) Co., Ltd.

18C02, 18C03, 18C04, 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, China.

1.2 Manufacturer

OnePlus Technology (Shenzhen) Co., Ltd.

18C02, 18C03, 18C04, 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, China.

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart Phone
Brand Name	ONEPLUS
Model Name	DE2118, DE2117
FCC ID	2ABZ2-EF000
EUT supports Radios application	GSM/WCDMA/LTE/5G NR WLAN 2.4GHz 802.11b/g/n/ac HT20/HT40/VHT20/VHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR / EDR / LE / ANT+ GNSS/NFC
IMEI Code	Conducted: 990017690032178 Conduction: 990017690042235 Radiation: 990017690039447
HW Version	10
SW Version	11.0.1.1.DE18CB
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 16.33 dBm / 0.0430 W 802.11n HT20 : 16.13 dBm / 0.0410 W 802.11n HT40 : 16.88 dBm / 0.0488 W 802.11ac VHT20 : 16.11 dBm / 0.0408 W 802.11ac VHT40 : 16.86 dBm / 0.0485 W 802.11ac VHT80 : 16.86 dBm / 0.0485 W <5260 MHz ~ 5320 MHz> 802.11a : 16.38 dBm / 0.0435 W 802.11n HT20 : 16.10 dBm / 0.0407 W 802.11n HT40 : 16.46 dBm / 0.0443 W 802.11ac VHT20 : 16.03 dBm / 0.0401 W 802.11ac VHT40 : 16.43 dBm / 0.0440 W 802.11ac VHT80 : 14.15 dBm / 0.0260 W <5500 MHz ~ 5720 MHz > 802.11a : 13.70 dBm / 0.0234 W 802.11n HT20 : 13.45 dBm / 0.0221 W 802.11n HT40 : 14.23 dBm / 0.0265 W 802.11ac VHT20 : 13.44 dBm / 0.0221 W 802.11ac VHT40 : 14.11 dBm / 0.0258 W 802.11ac VHT80 : 14.21 dBm / 0.0264 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.78 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 76.60 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.88 MHz 802.11n HT20 : 17.98 MHz 802.11n HT40 : 36.76 MHz 802.11ac VHT80 : 76.48 MHz <5500 MHz ~ 5720 MHz > 802.11a : 16.93 MHz 802.11n HT20 : 18.03 MHz 802.11n HT40 : 36.76 MHz 802.11ac VHT80 : 76.24 MHz
Antenna Type / Gain	<5180 MHz ~ 5240 MHz> Loop Antenna with gain -3.00 dBi <5260 MHz ~ 5320 MHz> Loop Antenna with gain -3.00 dBi <5500 MHz ~ 5720 MHz> Loop Antenna with gain -3.00 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 have

assessed only 802.11n HT20/ HT40 by referring to the higher conducted power.

1.5 Modification of EUT

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

1.6 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/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.
	CO01-SZ TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH03-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b

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.
- ♦ 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 (Y plane) 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)
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 modes 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 : GSM 850 Idle + Bluetooth Link + WLAN Link(5G) + USB Cable(Charging from Adapter 2) + Battery + Earphone
Remark: For Radiated Test Cases, The tests were performed with Adapter 1, Battery, Earphone, and USB Cable.	



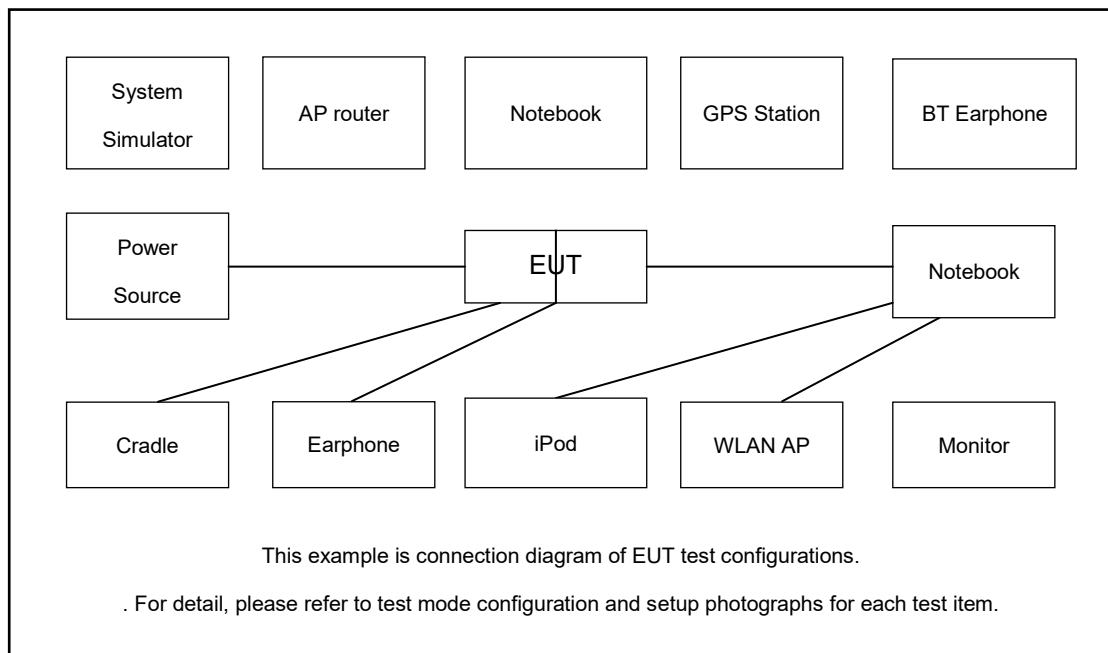
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

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



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8m
2.	Bluetooth Earphone	Samsung	EO-MG900	N/A	N/A	N/A
3.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8m
4.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P : Unshielded, 1.2m DC O/P : Shielded, 1.8m
5.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.0m	N/A

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 2.8 dB and 20dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 2.8 + 20 = 22.8 \text{ (dB)}\end{aligned}$$

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.

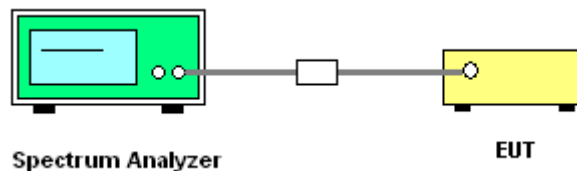
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

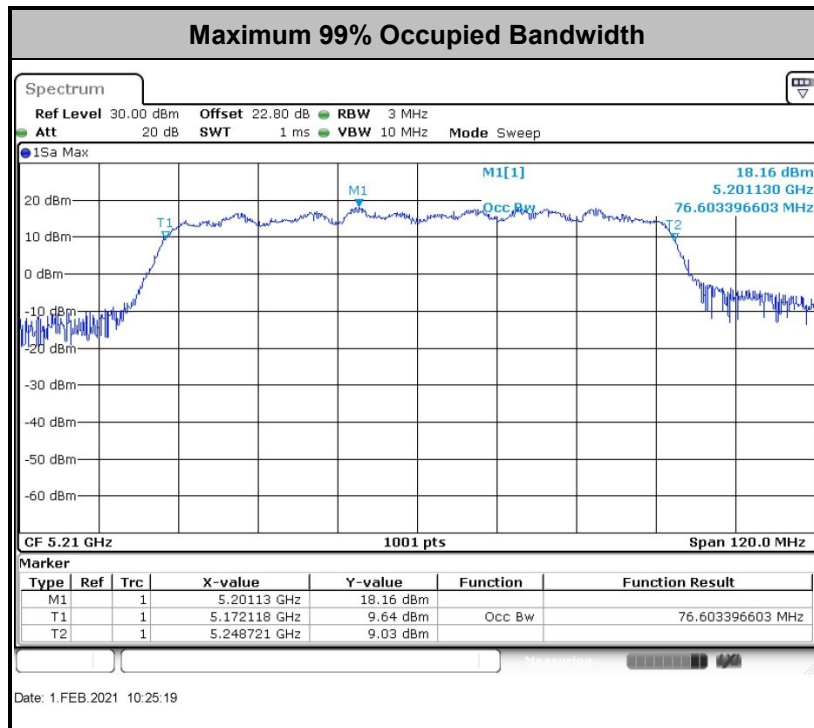
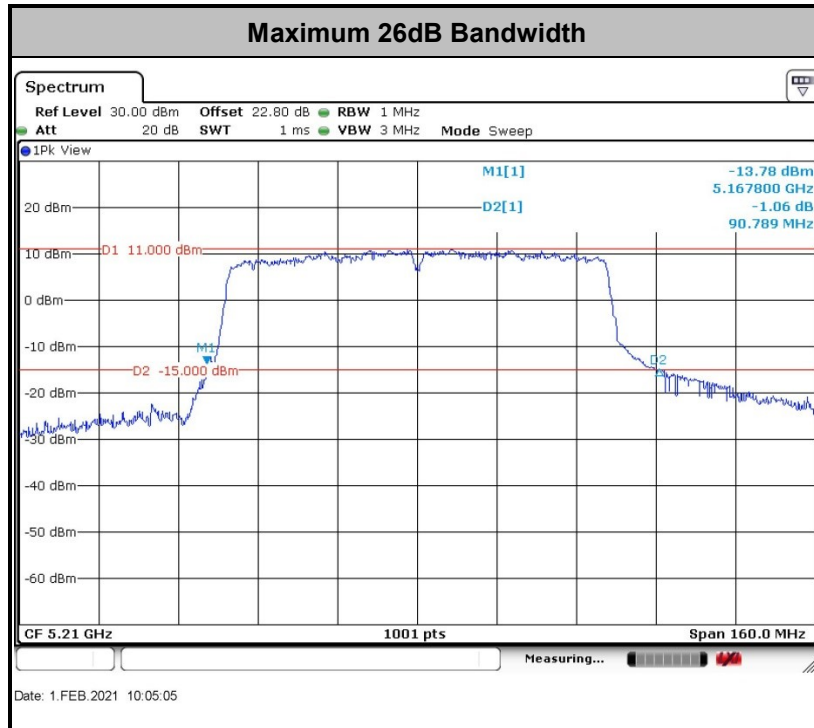
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

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

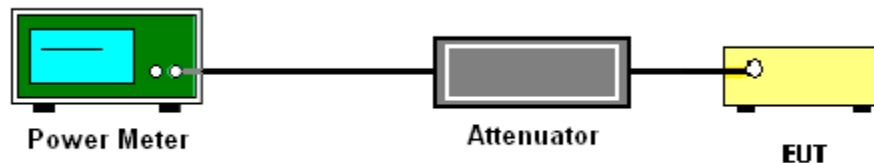
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

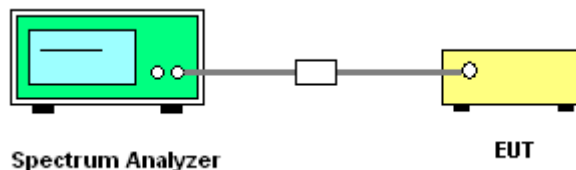
Section F) Maximum power spectral density.

Method SA-2

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

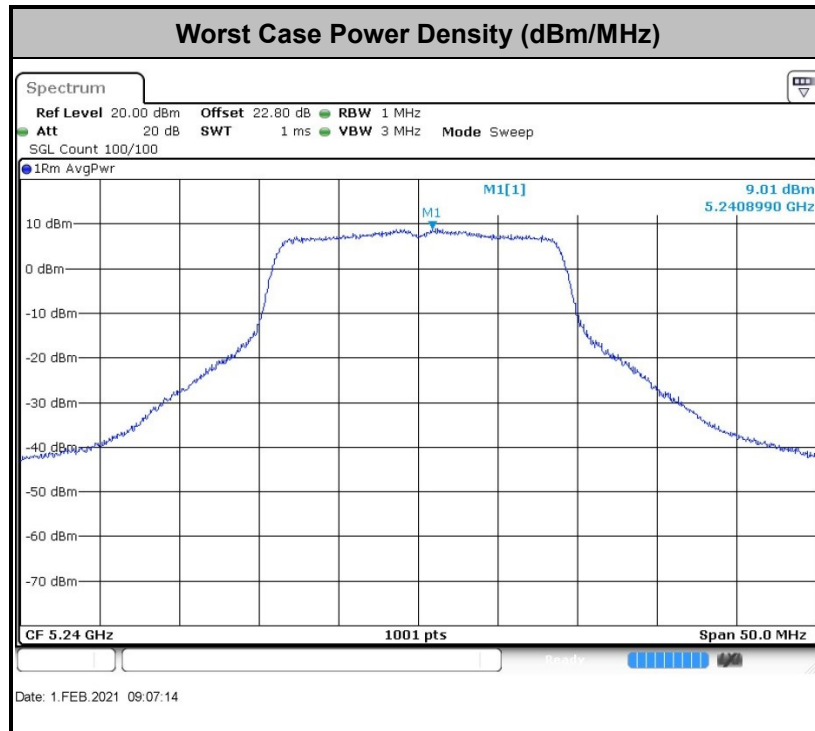
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - 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.

3.3.4 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.

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

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

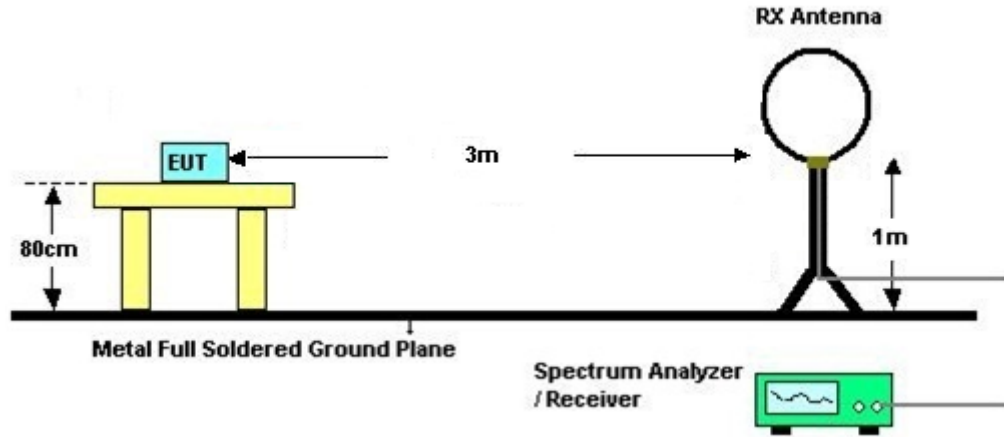
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

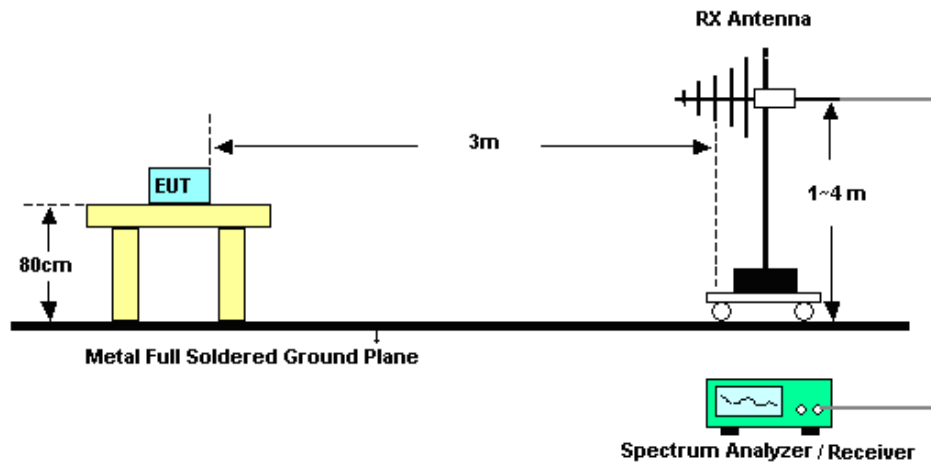
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak 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

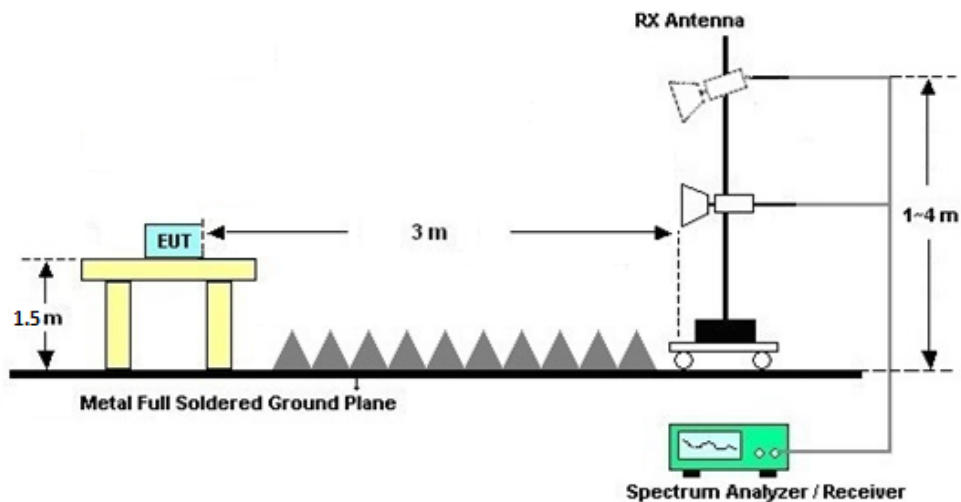
For radiated emissions below 30MHz



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 or 40GHz, whichever is lower)

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.

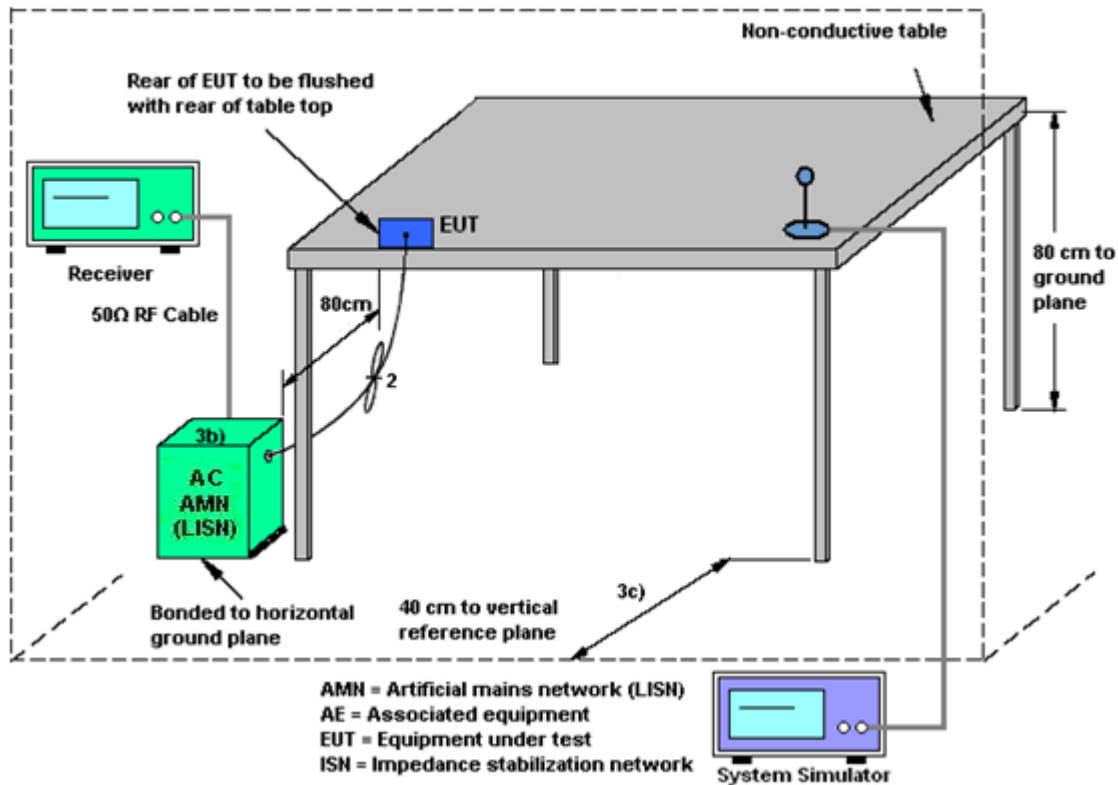
3.5.2 Measuring Instruments

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

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



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. 17, 2020	Feb. 01, 2021	Apr. 16, 2021	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 25, 2020	Feb. 01, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 25, 2020	Feb. 01, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 17, 2020	Feb. 27, 2021	Apr. 16, 2021	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 17, 2020	Feb. 27, 2021	Apr. 16, 2021	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Feb. 27, 2021	Jun. 21, 2021	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Jun. 22, 2020	Feb. 27, 2021	Jun. 21, 2021	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 30, 2020	Feb. 27, 2021	Apr. 29, 2021	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2020	Feb. 27, 2021	Jul. 20, 2021	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 23, 2020	Feb. 27, 2021	Apr. 22, 2021	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz~3000MHz	Oct. 17, 2020	Feb. 27, 2021	Oct. 16, 2021	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 17, 2020	Feb. 27, 2021	Oct. 16, 2021	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 25, 2020	Feb. 27, 2021	Dec. 24, 2021	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Feb. 27, 2021	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Feb. 27, 2021	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Feb. 27, 2021	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 25, 2020	Feb. 02, 2021	Dec. 24, 2021	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2 LISN	00103912	9kHz~30MHz	Dec. 25, 2020	Feb. 02, 2021	Dec. 24, 2021	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 15, 2020	Feb. 02, 2021	Oct. 14, 2021	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 21, 2020	Feb. 02, 2021	Jul. 20, 2021	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7dB
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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% ($U = 2Uc(y)$)	4.9dB
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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

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Zhang Xue Yi	Temperature:	21~25	°C
Test Date:	2021/2/1	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)		
11a	6Mbps	1	36	5180	16.78	24.78	-	22.25		
11a	6Mbps	1	44	5220	16.73	25.38	-	22.24		
11a	6Mbps	1	48	5240	16.78	24.83	-	22.25		
HT20	MCS0	1	36	5180	17.93	26.27	-	22.54		
HT20	MCS0	1	44	5220	17.93	25.72	-	22.54		
HT20	MCS0	1	48	5240	17.88	26.02	-	22.52		
HT40	MCS0	1	38	5190	36.56	41.81	-	23.01		
HT40	MCS0	1	46	5230	36.66	42.08	-	23.01		
VHT80	MCS0	1	42	5210	76.60	90.79	-	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	0.08	16.07	24.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.08	16.33	24.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.08	16.24	24.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.03	15.79	24.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.03	16.13	24.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.03	16.03	24.00	-3.00		Pass
HT40	MCS0	1	38	5190	0.10	16.45	24.00	-3.00		Pass
HT40	MCS0	1	46	5230	0.10	16.88	24.00	-3.00		Pass
VHT20	MCS0	1	36	5180	0.05	15.78	24.00	-3.00		Pass
VHT20	MCS0	1	44	5220	0.05	16.11	24.00	-3.00		Pass
VHT20	MCS0	1	48	5240	0.05	16.02	24.00	-3.00		Pass
VHT40	MCS0	1	38	5190	0.10	16.44	24.00	-3.00		Pass
VHT40	MCS0	1	46	5230	0.10	16.86	24.00	-3.00		Pass
VHT80	MCS0	1	42	5210	0.21	16.86	24.00	-3.00		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	0.08	8.98	11.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.08	8.83	11.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.08	8.24	11.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.03	8.18	11.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.03	8.37	11.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.03	9.04	11.00	-3.00		Pass
HT40	MCS0	1	38	5190	0.10	3.38	11.00	-3.00		Pass
HT40	MCS0	1	46	5230	0.10	6.13	11.00	-3.00		Pass
VHT80	MCS0	1	42	5210	0.21	0.01	11.00	-3.00		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	16.78	24.73	23.25	29.25	23.98	
11a	6M bps	1	60	5300	16.88	25.23	23.27	29.27	23.98	
11a	6M bps	1	64	5320	16.88	25.18	23.27	29.27	23.98	
HT20	MCS 0	1	52	5260	17.88	25.92	23.52	29.52	23.98	
HT20	MCS 0	1	60	5300	17.93	26.22	23.54	29.54	23.98	
HT20	MCS 0	1	64	5320	17.98	26.17	23.55	29.55	23.98	
HT40	MCS 0	1	54	5270	36.66	41.99	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.76	42.71	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	76.48	90.63	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.08	16.25	23.98	-3.00	26.99	Pass
11a	6M bps	1	60	5300	0.08	16.38	23.98	-3.00	26.99	Pass
11a	6M bps	1	64	5320	0.08	16.23	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.03	15.93	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.03	16.10	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.03	16.05	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	54	5270	0.10	16.46	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	62	5310	0.10	15.80	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	52	5260	0.05	15.91	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	60	5300	0.05	16.03	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	64	5320	0.05	16.00	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	54	5270	0.10	16.43	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	62	5310	0.10	15.76	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	58	5290	0.21	14.15	23.98	-3.00	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	0.08	8.64	11.00	-3.00		Pass
11a	6M bps	1	60	5300	0.08	8.54	11.00	-3.00		Pass
11a	6M bps	1	64	5320	0.08	7.70	11.00	-3.00		Pass
HT20	MCS 0	1	52	5260	0.03	8.79	11.00	-3.00		Pass
HT20	MCS 0	1	60	5300	0.03	9.01	11.00	-3.00		Pass
HT20	MCS 0	1	64	5320	0.03	7.37	11.00	-3.00		Pass
HT40	MCS 0	1	54	5270	0.10	4.44	11.00	-3.00		Pass
HT40	MCS 0	1	62	5310	0.10	1.33	11.00	-3.00		Pass
VHT80	MCS 0	1	58	5290	0.21	-3.17	11.00	-3.00		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
11a	6M bps	1	100	5500	16.83	24.88	23.26	29.26	23.98	
11a	6M bps	1	116	5580	16.88	25.08	23.27	29.27	23.98	
11a	6M bps	1	140	5700	16.88	25.08	23.27	29.27	23.98	
11a	6Mbps	1	144	5720	16.93	25.18	23.29	29.29	23.98	
HT20	MCS 0	1	100	5500	17.93	26.42	23.54	29.54	23.98	
HT20	MCS 0	1	116	5580	17.93	26.07	23.54	29.54	23.98	
HT20	MCS 0	1	140	5700	17.93	26.12	23.54	29.54	23.98	
HT20	MCS0	1	144	5720	18.03	25.87	23.56	29.56	23.98	
HT40	MCS 0	1	102	5510	36.76	42.17	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.66	42.26	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.56	42.26	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.76	42.26	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	76.12	84.08	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	76.24	84.08	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	76.24	84.08	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

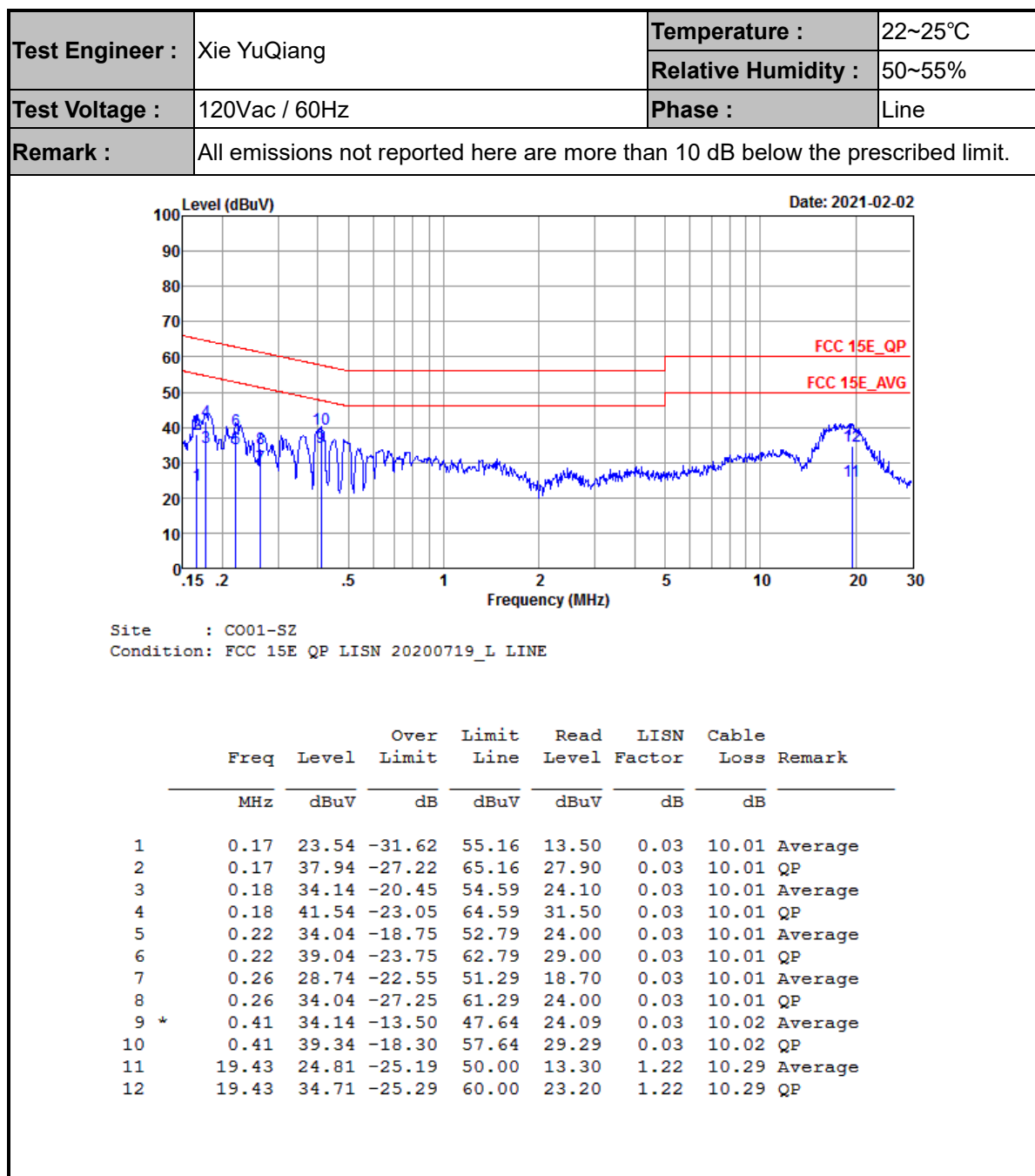
FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.08	13.70	23.98	-3.00	26.99	Pass
11a	6M bps	1	116	5580	0.08	13.40	23.98	-3.00	26.99	Pass
11a	6M bps	1	140	5700	0.08	13.20	23.98	-3.00	26.99	Pass
11a	6M bps	1	144	5720	0.08	13.18	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.03	13.45	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.03	13.19	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.03	12.93	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	144	5720	0.03	12.85	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	102	5510	0.10	14.05	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	110	5550	0.10	14.23	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	134	5670	0.10	13.72	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	142	5710	0.10	13.52	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	100	5500	0.05	13.44	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	116	5580	0.05	13.17	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	140	5700	0.05	12.92	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	144	5720	0.05	12.83	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	102	5510	0.10	14.00	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	110	5550	0.10	14.11	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	134	5670	0.10	13.70	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	142	5710	0.10	13.50	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	106	5530	0.21	14.19	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	122	5610	0.21	14.21	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	138	5690	0.21	13.97	23.98	-3.00	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.08	8.40	11.00	-3.00		Pass
11a	6M bps	1	116	5580	0.08	8.01	11.00	-3.00		Pass
11a	6M bps	1	140	5700	0.08	7.53	11.00	-3.00		Pass
11a	6Mbps	1	144	5720	0.08	7.45	11.00	-3.00		Pass
HT20	MCS 0	1	100	5500	0.03	8.64	11.00	-3.00		Pass
HT20	MCS 0	1	116	5580	0.03	8.19	11.00	-3.00		Pass
HT20	MCS 0	1	140	5700	0.03	7.76	11.00	-3.00		Pass
HT20	MCS0	1	144	5720	0.03	8.08	11.00	-3.00		Pass
HT40	MCS 0	1	102	5510	0.10	3.55	11.00	-3.00		Pass
HT40	MCS 0	1	110	5550	0.10	5.85	11.00	-3.00		Pass
HT40	MCS 0	1	134	5670	0.10	5.10	11.00	-3.00		Pass
HT40	MCS0	1	142	5710	0.10	5.22	11.00	-3.00		Pass
VHT80	MCS 0	1	106	5530	0.21	-0.16	11.00	-3.00		Pass
VHT80	MCS 0	1	122	5610	0.21	1.78	11.00	-3.00		Pass
VHT80	MCS0	1	138	5690	0.21	1.78	11.00	-3.00		Pass

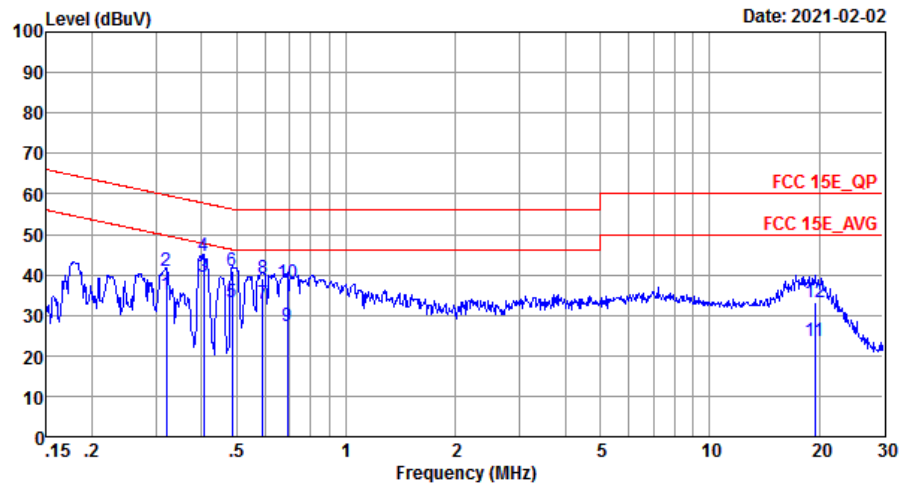


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Xie YuQiang	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ

Condition: FCC 15E_QP LISN_20200719_N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.32	35.24	-14.47	49.71	25.20	0.03	10.01	Average
2	0.32	41.04	-18.67	59.71	31.00	0.03	10.01	QP
3 *	0.41	39.63	-8.10	47.73	29.60	0.02	10.01	Average
4	0.41	44.63	-13.10	57.73	34.60	0.02	10.01	QP
5	0.49	33.17	-13.06	46.23	23.10	0.02	10.05	Average
6	0.49	41.07	-15.16	56.23	31.00	0.02	10.05	QP
7	0.59	32.88	-13.12	46.00	22.80	0.02	10.06	Average
8	0.59	39.28	-16.72	56.00	29.20	0.02	10.06	QP
9	0.69	27.49	-18.51	46.00	17.40	0.02	10.07	Average
10	0.69	37.89	-18.11	56.00	27.80	0.02	10.07	QP
11	19.43	23.44	-26.56	50.00	12.60	0.55	10.29	Average
12	19.43	33.24	-26.76	60.00	22.40	0.55	10.29	QP

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C. 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	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5148.98	48.95	-25.05	74	42.54	31.57	7.48	32.64	238	274	P	H
		5150	40.55	-13.45	54	34.14	31.57	7.48	32.64	238	274	A	H
	*	5180	103.8	-	-	97.27	31.63	7.53	32.63	238	274	P	H
		5180	96.17	-	-	89.64	31.63	7.53	32.63	238	274	A	H
		5146.38	55.18	-18.82	74	48.77	31.57	7.48	32.64	195	4	P	V
		5150	46.14	-7.86	54	39.73	31.57	7.48	32.64	195	4	A	V
	*	5180	110.67	-	-	104.14	31.63	7.53	32.63	195	4	P	V
		5180	102.1	-	-	95.57	31.63	7.53	32.63	195	4	A	V
802.11a CH 44 5220MHz		5066.82	46.35	-27.65	74	40.26	31.42	7.35	32.68	253	273	P	H
		5149.76	36.21	-17.79	54	29.8	31.57	7.48	32.64	253	273	A	H
	*	5220	103.55	-	-	96.91	31.69	7.57	32.62	253	273	P	H
		5220	95.34	-	-	88.7	31.69	7.57	32.62	253	273	A	H
		5457.6	45.85	-28.15	74	38.41	32.11	7.84	32.51	253	273	P	H
		5459.52	35.82	-18.18	54	28.38	32.11	7.84	32.51	253	273	A	H
		5031.98	46.41	-27.59	74	40.45	31.36	7.29	32.69	178	4	P	V
		5150	37.45	-16.55	54	31.04	31.57	7.48	32.64	178	4	A	V
	*	5220	111.05	-	-	104.41	31.69	7.57	32.62	178	4	P	V
		5220	103.44	-	-	96.8	31.69	7.57	32.62	178	4	A	V
		5383.44	46.61	-27.39	74	39.46	31.99	7.7	32.54	178	4	P	V
		5350.56	36.7	-17.3	54	29.64	31.93	7.68	32.55	178	4	A	V



802.11a CH 48 5240MHz		5059.8	45.7	-28.3	74	39.61	31.42	7.35	32.68	253	273	P	H
		5136.76	36.07	-17.93	54	29.72	31.54	7.46	32.65	253	273	A	H
	*	5240	103.94	-	-	97.24	31.72	7.59	32.61	253	273	P	H
		5240	96.82	-	-	90.12	31.72	7.59	32.61	253	273	A	H
		5374.8	45.4	-28.6	74	38.29	31.96	7.69	32.54	253	273	P	H
		5441.76	35.82	-18.18	54	28.47	32.08	7.79	32.52	253	273	A	H
		5149.99	46.72	-27.28	74	40.31	31.57	7.48	32.64	178	4	P	V
		5150	36.69	-17.31	54	30.28	31.57	7.48	32.64	178	4	A	V
	*	5240	110.5	-	-	103.8	31.72	7.59	32.61	178	4	P	V
		5240	103.26	-	-	96.56	31.72	7.59	32.61	178	4	A	V
		5374.56	45.65	-28.35	74	38.54	31.96	7.69	32.54	178	4	P	V
		5350.8	37.32	-16.68	54	30.26	31.93	7.68	32.55	178	4	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	46.6	-21.7	68.3	56.07	38.72	10.8	58.99	152	260	P	H
		15540	47.31	-26.69	74	53.87	38.7	13.67	58.93	189	238	P	H
		10360	46.91	-21.39	68.3	56.38	38.72	10.8	58.99	152	260	P	V
		15540	47.27	-26.73	74	53.83	38.7	13.67	58.93	189	238	P	V
802.11a CH 44 5220MHz		10440	46.36	-21.94	68.3	55.62	38.82	10.84	58.92	150	230	P	H
		15660	47.16	-26.84	74	54.13	38.33	13.76	59.06	160	225	P	H
		10440	47.57	-20.73	68.3	56.83	38.82	10.84	58.92	150	230	P	V
		15660	47.45	-26.55	74	54.42	38.33	13.76	59.06	160	225	P	V
802.11a CH 48 5240MHz		10480	47.63	-20.67	68.3	56.73	38.89	10.87	58.86	150	289	P	H
		15720	47.16	-26.84	74	54.34	38.13	13.81	59.12	150	291	P	H
		10480	47.42	-20.88	68.3	56.52	38.89	10.87	58.86	150	289	P	V
		15720	47.78	-26.22	74	54.96	38.13	13.81	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	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		5149.76	47.41	-26.59	74	41	31.57	7.48	32.64	280	233	P	H
		5150	39.61	-14.39	54	33.2	31.57	7.48	32.64	280	233	A	H
	*	5180	102.7	-	-	96.17	31.63	7.53	32.63	280	233	P	H
		5180	95.85	-	-	89.32	31.63	7.53	32.63	280	233	A	H
		5148.2	53.92	-20.08	74	47.51	31.57	7.48	32.64	166	5	P	V
		5150	46.06	-7.94	54	39.65	31.57	7.48	32.64	166	5	A	V
	*	5180	109.05	-	-	102.52	31.63	7.53	32.63	166	5	P	V
		5180	101.5	-	-	94.97	31.63	7.53	32.63	166	5	A	V
802.11n HT20 CH 44 5220MHz		5092.04	46.89	-27.11	74	40.67	31.48	7.41	32.67	280	233	P	H
		5149.76	36.15	-17.85	54	29.74	31.57	7.48	32.64	280	233	A	H
	*	5220	103.18	-	-	96.54	31.69	7.57	32.62	280	233	P	H
		5220	96.03	-	-	89.39	31.69	7.57	32.62	280	233	A	H
		5434.08	45.19	-28.81	74	37.84	32.08	7.79	32.52	280	233	P	H
		5442.96	35.82	-18.18	54	28.47	32.08	7.79	32.52	280	233	A	H
		5057.72	46.28	-27.72	74	40.19	31.42	7.35	32.68	166	5	P	V
		5150	37.57	-16.43	54	31.16	31.57	7.48	32.64	166	5	A	V
	*	5220	110.37	-	-	103.73	31.69	7.57	32.62	166	5	P	V
		5220	102.97	-	-	96.33	31.69	7.57	32.62	166	5	A	V
		5353.2	46.47	-27.53	74	39.41	31.93	7.68	32.55	166	5	P	V
		5352.24	36.81	-17.19	54	29.75	31.93	7.68	32.55	166	5	A	V



802.11n HT20 CH 48 5240MHz		5051.22	45.97	-28.03	74	39.94	31.39	7.32	32.68	282	226	P	H
		5106.86	36.04	-17.96	54	29.76	31.51	7.43	32.66	282	226	A	H
	*	5240	103.86	-	-	97.16	31.72	7.59	32.61	282	226	P	H
		5240	97.12	-	-	90.42	31.72	7.59	32.61	282	226	A	H
		5437.2	45.12	-28.88	74	37.77	32.08	7.79	32.52	282	226	P	H
		5459.52	35.82	-18.18	54	28.38	32.11	7.84	32.51	282	226	A	H
		5131.3	45.63	-28.37	74	39.28	31.54	7.46	32.65	166	5	P	V
		5150	36.82	-17.18	54	30.41	31.57	7.48	32.64	166	5	A	V
	*	5240	110.09	-	-	103.39	31.72	7.59	32.61	166	5	P	V
		5240	102.98	-	-	96.28	31.72	7.59	32.61	166	5	A	V
		5365.92	46.52	-27.48	74	39.42	31.96	7.69	32.55	166	5	P	V
		5350.32	37.5	-16.5	54	30.44	31.93	7.68	32.55	166	5	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	47.12	-21.18	68.3	56.59	38.72	10.8	58.99	152	260	P	H
		15540	47.2	-26.8	74	53.76	38.7	13.67	58.93	189	238	P	H
		10360	47.68	-20.62	68.3	57.15	38.72	10.8	58.99	152	260	P	V
		15540	47.62	-26.38	74	54.18	38.7	13.67	58.93	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	47.07	-21.23	68.3	56.33	38.82	10.84	58.92	150	230	P	H
		15660	47.5	-26.5	74	54.47	38.33	13.76	59.06	160	225	P	H
		10440	47.85	-20.45	68.3	57.11	38.82	10.84	58.92	150	230	P	V
		15660	47.25	-26.75	74	54.22	38.33	13.76	59.06	160	225	P	V
802.11n HT20 CH 48 5240MHz		10480	47.52	-20.78	68.3	56.62	38.89	10.87	58.86	150	289	P	H
		15720	47.93	-26.07	74	55.11	38.13	13.81	59.12	150	291	P	H
		10480	47.43	-20.87	68.3	56.53	38.89	10.87	58.86	150	289	P	V
		15720	47.01	-26.99	74	54.19	38.13	13.81	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.99	50.14	-23.86	74	43.73	31.57	7.48	32.64	313	256	P	H
		5149.76	43.15	-10.85	54	36.74	31.57	7.48	32.64	313	256	A	H
	*	5190	99.78	-	-	93.25	31.63	7.53	32.63	313	256	P	H
		5190	91.34	-	-	84.81	31.63	7.53	32.63	313	256	A	H
		5444.88	45.68	-28.32	74	38.33	32.08	7.79	32.52	313	256	P	H
		5440.96	36.76	-17.24	54	29.41	32.08	7.79	32.52	313	256	A	H
		5146.9	56.38	-17.62	74	49.97	31.57	7.48	32.64	204	16	P	V
		5150	49.28	-4.72	54	42.87	31.57	7.48	32.64	204	16	A	V
	*	5190	106.26	-	-	99.73	31.63	7.53	32.63	204	16	P	V
		5190	97.64	-	-	91.11	31.63	7.53	32.63	204	16	A	V
		5358.92	45.66	-28.34	74	38.6	31.93	7.68	32.55	204	16	P	V
		5413.52	37.58	-16.42	54	30.31	32.05	7.75	32.53	204	16	A	V
802.11n HT40 CH 46 5230MHz		5146.12	46.89	-27.11	74	40.48	31.57	7.48	32.64	254	253	P	H
		5148.98	39.82	-14.18	54	33.41	31.57	7.48	32.64	254	253	A	H
	*	5230	100.23	-	-	93.53	31.72	7.59	32.61	254	253	P	H
		5230	91.3	-	-	84.6	31.72	7.59	32.61	254	253	A	H
		5358.48	46.35	-27.65	74	39.29	31.93	7.68	32.55	254	253	P	H
		5352	37.9	-16.1	54	30.84	31.93	7.68	32.55	254	253	A	H
		5149.24	53.09	-20.91	74	46.68	31.57	7.48	32.64	175	6	P	V
		5150	45.71	-8.29	54	39.3	31.57	7.48	32.64	175	6	A	V
	*	5230	108.59	-	-	101.89	31.72	7.59	32.61	175	6	P	V
		5230	101	-	-	94.3	31.72	7.59	32.61	175	6	A	V
		5350.08	49.74	-24.26	74	42.68	31.93	7.68	32.55	175	6	P	V
		5351.28	42.06	-11.94	54	35	31.93	7.68	32.55	175	6	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	47.88	-20.42	68.3	57.29	38.75	10.81	58.97	150	360	P	H
		15570	47.85	-26.15	74	54.53	38.59	13.7	58.97	155	360	P	H
		10380	47.9	-20.4	68.3	57.31	38.75	10.81	58.97	150	360	P	V
		15570	47.51	-26.49	74	54.19	38.59	13.7	58.97	155	360	P	V
802.11n HT40 CH 46 5230MHz		10460	47.96	-20.34	68.3	57.17	38.84	10.85	58.9	150	360	P	H
		15690	47.17	-26.83	74	54.24	38.23	13.79	59.09	150	225	P	H
		10460	47.14	-21.16	68.3	56.35	38.84	10.85	58.9	150	360	P	V
		15690	47.18	-26.82	74	54.25	38.23	13.79	59.09	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	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		5148.2	57.28	-16.72	74	50.87	31.57	7.48	32.64	295	250	P	H
		5150	44.61	-9.39	54	38.2	31.57	7.48	32.64	295	250	A	H
	*	5210	95.36	-	-	88.72	31.69	7.57	32.62	295	250	P	H
		5210	87.01	-	-	80.37	31.69	7.57	32.62	295	250	A	H
		5447.52	45.4	-28.6	74	37.97	32.11	7.84	32.52	295	250	P	H
		5358.24	36.79	-17.21	54	29.73	31.93	7.68	32.55	295	250	A	H
		5149.24	56.93	-17.07	74	50.52	31.57	7.48	32.64	171	5	P	V
		5147.68	49.98	-4.02	54	43.57	31.57	7.48	32.64	171	5	A	V
	*	5210	102.63	-	-	95.99	31.69	7.57	32.62	171	5	P	V
		5210	95.75	-	-	89.11	31.69	7.57	32.62	171	5	A	V
		5351.04	47.57	-26.43	74	40.51	31.93	7.68	32.55	171	5	P	V
		5350.32	40.54	-13.46	54	33.48	31.93	7.68	32.55	171	5	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	47.39	-20.91	68.3	56.7	38.79	10.83	58.93	150	360	P	H
VHT80		15630	47.63	-26.37	74	54.53	38.39	13.75	59.04	150	225	P	H
CH 42		10420	47.08	-21.22	68.3	56.39	38.79	10.83	58.93	150	360	P	V
5210MHz		15630	47.74	-26.26	74	54.64	38.39	13.75	59.04	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 - 5250~5350MHz
WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5119.6	46.02	-27.98	74	39.73	31.51	7.43	32.65	252	257	P	H
		5107.9	36.04	-17.96	54	29.76	31.51	7.43	32.66	252	257	A	H
	*	5260	103.04	-	-	96.23	31.78	7.62	32.59	252	257	P	H
		5260	96.13	-	-	89.32	31.78	7.62	32.59	252	257	A	H
		5383.2	45.1	-28.9	74	37.95	31.99	7.7	32.54	252	257	P	H
		5350.32	36.17	-17.83	54	29.11	31.93	7.68	32.55	252	257	A	H
		5086.06	46.09	-27.91	74	39.93	31.45	7.38	32.67	165	20	P	V
		5149.76	36.41	-17.59	54	30	31.57	7.48	32.64	165	20	A	V
	*	5260	111.59	-	-	104.78	31.78	7.62	32.59	165	20	P	V
		5260	104.17	-	-	97.36	31.78	7.62	32.59	165	20	A	V
		5373.84	46.87	-27.13	74	39.76	31.96	7.69	32.54	165	20	P	V
		5350.56	38.43	-15.57	54	31.37	31.93	7.68	32.55	165	20	A	V
802.11a CH 60 5300MHz		5037.8	46.31	-27.69	74	40.29	31.39	7.32	32.69	249	263	P	H
		5109.55	36.2	-17.8	54	29.92	31.51	7.43	32.66	249	263	A	H
	*	5300	104.41	-	-	97.49	31.84	7.65	32.57	249	263	P	H
		5300	97.15	-	-	90.23	31.84	7.65	32.57	249	263	A	H
		5352.24	46.69	-27.31	74	39.63	31.93	7.68	32.55	249	263	P	H
		5350.32	37.82	-16.18	54	30.76	31.93	7.68	32.55	249	263	A	H
		5075.95	45.79	-28.21	74	39.63	31.45	7.38	32.67	167	14	P	V
		5127.05	36.31	-17.69	54	29.96	31.54	7.46	32.65	167	14	A	V
	*	5300	112.72	-	-	105.8	31.84	7.65	32.57	167	14	P	V
		5300	104.37	-	-	97.45	31.84	7.65	32.57	167	14	A	V
		5350.32	49.78	-24.22	74	42.72	31.93	7.68	32.55	167	14	P	V
		5350.08	42.43	-11.57	54	35.37	31.93	7.68	32.55	167	14	A	V



802.11a CH 64 5320MHz	*	5320	104.15	-	-	97.19	31.87	7.66	32.57	269	227	P	H
		5320	97.08	-	-	90.12	31.87	7.66	32.57	269	227	A	H
		5350.08	47.51	-26.49	74	40.45	31.93	7.68	32.55	269	227	P	H
		5350.88	41.76	-12.24	54	34.7	31.93	7.68	32.55	269	227	A	H
	*	5320	111.53	-	-	104.57	31.87	7.66	32.57	159	20	P	V
		5320	103.59	-	-	96.63	31.87	7.66	32.57	159	20	A	V
		5350.56	53.51	-20.49	74	46.45	31.93	7.68	32.55	159	20	P	V
		5350.24	46.91	-7.09	54	39.85	31.93	7.68	32.55	159	20	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	47.36	-20.94	68.3	56.36	38.94	10.88	58.82	150	220	P	H
		15780	47.9	-26.1	74	55.26	37.97	13.85	59.18	159	345	P	H
		10520	47.36	-20.94	68.3	56.36	38.94	10.88	58.82	150	220	P	V
		15780	47.64	-26.36	74	55	37.97	13.85	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	47.75	-26.25	74	56.5	39.05	10.93	58.73	185	215	P	H
		15900	47.82	-26.18	74	55.57	37.61	13.94	59.3	196	190	P	H
		10600	47.72	-26.28	74	56.47	39.05	10.93	58.73	185	215	P	V
		15900	47.35	-26.65	74	55.1	37.61	13.94	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	47.49	-26.51	74	56.13	39.1	10.95	58.69	152	135	P	H
		15960	47.64	-26.36	74	55.62	37.4	13.99	59.37	173	245	P	H
		10640	47.96	-26.04	74	56.6	39.1	10.95	58.69	152	135	P	V
		15960	47.38	-26.62	74	55.36	37.4	13.99	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5128.44	45.89	-28.11	74	39.54	31.54	7.46	32.65	121	236	P	H
		5071.76	36.7	-17.3	54	30.54	31.45	7.38	32.67	121	236	A	H
	*	5260	106.48	-	-	99.67	31.78	7.62	32.59	121	236	P	H
		5260	99.01	-	-	92.2	31.78	7.62	32.59	121	236	A	H
		5412.96	45.54	-28.46	74	38.27	32.05	7.75	32.53	121	236	P	H
		5350.8	36.86	-17.14	54	29.8	31.93	7.68	32.55	121	236	A	H
		5103.22	47.21	-26.79	74	40.98	31.48	7.41	32.66	149	0	P	V
		5150	36.98	-17.02	54	30.57	31.57	7.48	32.64	149	0	A	V
	*	5260	112	-	-	105.19	31.78	7.62	32.59	149	0	P	V
		5260	103.81	-	-	97	31.78	7.62	32.59	149	0	A	V
		5350.56	48.25	-25.75	74	41.19	31.93	7.68	32.55	149	0	P	V
		5350.08	39.15	-14.85	54	32.09	31.93	7.68	32.55	149	0	A	V
802.11n HT20 CH 60 5300MHz		5038.15	46.66	-27.34	74	40.64	31.39	7.32	32.69	145	229	P	H
		5072.1	36.6	-17.4	54	30.44	31.45	7.38	32.67	145	229	A	H
	*	5300	105.14	-	-	98.22	31.84	7.65	32.57	145	229	P	H
		5300	98.92	-	-	92	31.84	7.65	32.57	145	229	A	H
		5350.8	46.06	-27.94	74	39	31.93	7.68	32.55	145	229	P	H
		5361.36	38.39	-15.61	54	31.29	31.96	7.69	32.55	145	229	A	H
		5091.7	46.36	-27.64	74	40.14	31.48	7.41	32.67	153	5	P	V
		5105	36.67	-17.33	54	30.44	31.48	7.41	32.66	153	5	A	V
	*	5300	112.08	-	-	105.16	31.84	7.65	32.57	153	5	P	V
		5300	104.82	-	-	97.9	31.84	7.65	32.57	153	5	A	V
		5351.52	50.95	-23.05	74	43.89	31.93	7.68	32.55	153	5	P	V
		5350.32	42.97	-11.03	54	35.91	31.93	7.68	32.55	153	5	A	V



802.11n HT20 CH 64 5320MHz	*	5320	104.75	-	-	97.79	31.87	7.66	32.57	153	225	P	H
		5320	97.06	-	-	90.1	31.87	7.66	32.57	153	225	A	H
		5370.72	46.92	-27.08	74	39.82	31.96	7.69	32.55	153	225	P	H
		5350.24	39.26	-14.74	54	32.2	31.93	7.68	32.55	153	225	A	H
	*	5320	111.11	-	-	104.15	31.87	7.66	32.57	165	6	P	V
		5320	103.46	-	-	96.5	31.87	7.66	32.57	165	6	A	V
		5353.6	53.36	-20.64	74	46.3	31.93	7.68	32.55	165	6	P	V
		5350.88	46.53	-7.47	54	39.47	31.93	7.68	32.55	165	6	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	47.02	-21.28	68.3	56.02	38.94	10.88	58.82	150	220	P	H
		15780	47.16	-26.84	74	54.52	37.97	13.85	59.18	159	345	P	H
		10520	47.8	-20.5	68.3	56.8	38.94	10.88	58.82	150	220	P	V
		15780	47.08	-26.92	74	54.44	37.97	13.85	59.18	159	345	P	V
802.11n HT20 CH 60 5300MHz		10600	47.29	-26.71	74	56.04	39.05	10.93	58.73	185	215	P	H
		15900	47.18	-26.82	74	54.93	37.61	13.94	59.3	196	190	P	H
		10600	47.25	-26.75	74	56	39.05	10.93	58.73	185	215	P	V
		15900	47.61	-26.39	74	55.36	37.61	13.94	59.3	196	190	P	V
802.11n HT20 CH 64 5320MHz		10640	47.13	-26.87	74	55.77	39.1	10.95	58.69	152	135	P	H
		15960	47.74	-26.26	74	55.72	37.4	13.99	59.37	173	245	P	H
		10640	47.02	-26.98	74	55.66	39.1	10.95	58.69	152	135	P	V
		15960	47.4	-26.6	74	55.38	37.4	13.99	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	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		5138.25	45.71	-28.29	74	39.36	31.54	7.46	32.65	400	69	P	H
		5149.45	37.66	-16.34	54	31.25	31.57	7.48	32.64	400	69	A	H
	*	5270	105.15	-	-	98.34	31.78	7.62	32.59	400	69	P	H
		5270	97.96	-	-	91.15	31.78	7.62	32.59	400	69	A	H
		5350.56	50	-24	74	42.94	31.93	7.68	32.55	400	69	P	H
		5350.08	42.44	-11.56	54	35.38	31.93	7.68	32.55	400	69	A	H
		5149.99	46.77	-27.23	74	40.36	31.57	7.48	32.64	174	0	P	V
		5149.1	38.35	-15.65	54	31.94	31.57	7.48	32.64	174	0	A	V
	*	5270	108.15	-	-	101.34	31.78	7.62	32.59	174	0	P	V
		5270	101.01	-	-	94.2	31.78	7.62	32.59	174	0	A	V
		5352.72	53.8	-20.2	74	46.74	31.93	7.68	32.55	174	0	P	V
		5350.08	46.77	-7.23	54	39.71	31.93	7.68	32.55	174	0	A	V
802.11n HT40 CH 62 5310MHz		5116.2	46.18	-27.82	74	39.9	31.51	7.43	32.66	339	70	P	H
		5104.65	37.44	-16.56	54	31.21	31.48	7.41	32.66	339	70	A	H
	*	5310	102.37	-	-	95.41	31.87	7.66	32.57	339	70	P	H
		5310	95.16	-	-	88.2	31.87	7.66	32.57	339	70	A	H
		5350.32	54.09	-19.91	74	47.03	31.93	7.68	32.55	339	70	P	H
		5350.32	47.41	-6.59	54	40.35	31.93	7.68	32.55	339	70	A	H
		5127.4	46.96	-27.04	74	40.61	31.54	7.46	32.65	239	5	P	V
		5131.6	37.57	-16.43	54	31.22	31.54	7.46	32.65	239	5	A	V
	*	5310	104.73	-	-	97.77	31.87	7.66	32.57	239	5	P	V
		5310	97.66	-	-	90.7	31.87	7.66	32.57	239	5	A	V
		5350.56	55.41	-18.59	74	48.35	31.93	7.68	32.55	239	5	P	V
		5350.08	50.07	-3.93	54	43.01	31.93	7.68	32.55	239	5	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		10540	47.41	-20.89	68.3	56.36	38.96	10.89	58.8	150	220	P	H
		15810	47.45	-26.55	74	54.92	37.87	13.87	59.21	168	345	P	H
		10540	47.19	-21.11	68.3	56.14	38.96	10.89	58.8	150	220	P	V
		15810	47.96	-26.04	74	55.43	37.87	13.87	59.21	168	345	P	V
802.11n HT40 CH 62 5310MHz		10620	47.14	-26.86	74	55.83	39.08	10.94	58.71	150	220	P	H
		15930	47.35	-26.65	74	55.21	37.51	13.96	59.33	160	100	P	H
		10620	47.1	-26.9	74	55.79	39.08	10.94	58.71	150	220	P	V
		15930	47.44	-26.56	74	55.3	37.51	13.96	59.33	160	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	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		5135.1	45.85	-28.15	74	39.5	31.54	7.46	32.65	259	245	P	H
		5133.7	37.26	-16.74	54	30.91	31.54	7.46	32.65	259	245	A	H
	*	5290	93.21	-	-	86.34	31.81	7.64	32.58	259	245	P	H
		5290	86.11	-	-	79.24	31.81	7.64	32.58	259	245	A	H
		5357.76	49.19	-24.81	74	42.13	31.93	7.68	32.55	259	245	P	H
		5350.32	42.4	-11.6	54	35.34	31.93	7.68	32.55	259	245	A	H
		5033.95	46.24	-27.76	74	40.28	31.36	7.29	32.69	181	11	P	V
		5139.65	37.47	-16.53	54	31.07	31.57	7.48	32.65	181	11	A	V
	*	5290	100.28	-	-	93.41	31.81	7.64	32.58	181	11	P	V
		5290	93.82	-	-	86.95	31.81	7.64	32.58	181	11	A	V
		5360.64	56.41	-17.59	74	49.31	31.96	7.69	32.55	181	11	P	V
		5350.08	49.07	-4.93	54	42.01	31.93	7.68	32.55	181	11	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	47.25	-21.05	68.3	56.05	39.03	10.92	58.75	185	215	P	H
VHT80		15870	47.3	-26.7	74	55	37.66	13.92	59.28	196	190	P	H
CH 58		10580	47.24	-21.06	68.3	56.04	39.03	10.92	58.75	170	232	P	V
5290MHz		15870	47.17	-26.83	74	54.87	37.66	13.92	59.28	190	130	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		5458.64	47.93	-26.07	74	40.49	32.11	7.84	32.51	242	230	P	H
		5465.2	49.49	-18.81	68.3	41.98	32.14	7.88	32.51	242	230	P	H
		5460	39.44	-14.56	54	32	32.11	7.84	32.51	242	230	A	H
	*	5500	106.11	-	-	98.45	32.2	7.96	32.5	242	230	P	H
		5500	99.11	-	-	91.45	32.2	7.96	32.5	242	230	A	H
		5459.12	52.45	-21.55	74	45.01	32.11	7.84	32.51	174	7	P	V
		5467.92	54.93	-13.37	68.3	47.42	32.14	7.88	32.51	174	7	P	V
		5460	44.17	-9.83	54	36.73	32.11	7.84	32.51	174	7	A	V
	*	5500	112.22	-	-	104.56	32.2	7.96	32.5	174	7	P	V
		5500	105.02	-	-	97.36	32.2	7.96	32.5	174	7	A	V
802.11a CH 116 5580MHz		5451.52	45.55	-28.45	74	38.11	32.11	7.84	32.51	242	230	P	H
		5469.76	45.7	-22.6	68.3	38.19	32.14	7.88	32.51	242	230	P	H
		5459.92	36.13	-17.87	54	28.69	32.11	7.84	32.51	242	230	A	H
	*	5580	105.81	-	-	98.11	32.23	7.97	32.5	242	230	P	H
		5580	98.93	-	-	91.23	32.23	7.97	32.5	242	230	A	H
		5760.275	46.95	-21.35	68.3	38.76	32.3	8.39	32.5	242	230	P	H
		5456.8	46.62	-27.38	74	39.18	32.11	7.84	32.51	184	18	P	V
		5463.04	44.76	-23.54	68.3	37.25	32.14	7.88	32.51	184	18	P	V
		5459.92	37.22	-16.78	54	29.78	32.11	7.84	32.51	184	18	A	V
	*	5580	111.61	-	-	103.91	32.23	7.97	32.5	184	18	P	V
		5580	104.87	-	-	97.17	32.23	7.97	32.5	184	18	A	V
		5765	46.8	-21.5	68.3	38.61	32.3	8.39	32.5	184	18	P	V



802.11a CH 140 5700MHz	*	5700	105.97	-	-	97.67	32.28	8.52	32.5	240	240	P	H
		5700	99.19	-	-	90.89	32.28	8.52	32.5	240	240	A	H
		5725.96	54.41	-13.89	68.3	46.17	32.29	8.45	32.5	240	240	P	H
	*	5700	110.82	-	-	102.52	32.28	8.52	32.5	177	27	P	V
		5700	103.93	-	-	95.63	32.28	8.52	32.5	177	27	A	V
		5725.64	58.65	-9.65	68.3	50.41	32.29	8.45	32.5	177	27	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 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	47.22	-26.78	74	54.78	39.6	11.14	58.3	163	230	P	H
		16500	47.57	-20.73	68.3	53.42	38.72	14.27	58.84	196	273	P	H
		11000	47.13	-26.87	74	54.69	39.6	11.14	58.3	155	212	P	V
		16500	47.94	-20.36	68.3	53.79	38.72	14.27	58.84	178	296	P	V
802.11a CH 116 5580MHz		11160	47.21	-26.79	74	54.54	39.5	11.28	58.11	183	32	P	H
		16740	47.03	-21.27	68.3	51.82	39.39	14.4	58.58	163	332	P	H
		11160	47.43	-26.57	74	54.76	39.5	11.28	58.11	170	200	P	V
		16740	47.88	-20.42	68.3	52.67	39.39	14.4	58.58	156	350	P	V
802.11a CH 140 5700MHz		11400	47.31	-26.69	74	54.33	39.36	11.47	57.85	157	285	P	H
		17100	47.04	-21.26	68.3	49.81	40.7	14.69	58.16	165	246	P	H
		11400	47.53	-26.47	74	54.55	39.36	11.47	57.85	122	291	P	V
		17100	47.41	-20.89	68.3	50.18	40.7	14.69	58.16	153	102	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		5458.48	47.44	-26.56	74	40	32.11	7.84	32.51	244	271	P	H
		5468.72	49.58	-18.72	68.3	42.07	32.14	7.88	32.51	244	271	P	H
		5460	40.23	-13.77	54	32.79	32.11	7.84	32.51	244	271	A	H
	*	5500	105.31	-	-	97.65	32.2	7.96	32.5	244	271	P	H
		5500	97.86	-	-	90.2	32.2	7.96	32.5	244	271	A	H
		5458.32	51.89	-22.11	74	44.45	32.11	7.84	32.51	150	11	P	V
		5469.84	55.38	-12.92	68.3	47.87	32.14	7.88	32.51	150	11	P	V
		5460	44.97	-9.03	54	37.53	32.11	7.84	32.51	150	11	A	V
	*	5500	111.92	-	-	104.26	32.2	7.96	32.5	150	11	P	V
		5500	104.76	-	-	97.1	32.2	7.96	32.5	150	11	A	V
802.11n HT20 CH 116 5580MHz		5440.48	46.05	-27.95	74	38.7	32.08	7.79	32.52	233	83	P	H
		5462.56	43.69	-24.61	68.3	36.18	32.14	7.88	32.51	233	83	P	H
		5459.68	36.56	-17.44	54	29.12	32.11	7.84	32.51	233	83	A	H
	*	5580	107.04	-	-	99.34	32.23	7.97	32.5	233	83	P	H
		5580	99.39	-	-	91.69	32.23	7.97	32.5	233	83	A	H
		5731.61	46.02	-22.28	68.3	37.78	32.29	8.45	32.5	233	83	P	H
		5410	45.36	-28.64	74	38.16	32.02	7.71	32.53	168	10	P	V
		5464	45.02	-23.28	68.3	37.51	32.14	7.88	32.51	168	10	P	V
		5459.92	37.53	-16.47	54	30.09	32.11	7.84	32.51	168	10	A	V
	*	5580	110.34	-	-	102.64	32.23	7.97	32.5	168	10	P	V
		5580	102.79	-	-	95.09	32.23	7.97	32.5	168	10	A	V
		5743.265	46.39	-21.91	68.3	38.17	32.3	8.42	32.5	168	10	P	V



802.11n HT20 CH 140 5700MHz	*	5700	105.8	-	-	97.5	32.28	8.52	32.5	244	225	P	H
		5700	98.3	-	-	90	32.28	8.52	32.5	244	225	A	H
		5725.16	55.2	-13.1	68.3	46.96	32.29	8.45	32.5	244	225	P	H
	*	5700	109.82	-	-	101.52	32.28	8.52	32.5	195	36	P	V
		5700	103.3	-	-	95	32.28	8.52	32.5	195	36	A	V
		5725.24	61.56	-6.74	68.3	53.32	32.29	8.45	32.5	195	36	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	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	47.18	-26.82	74	54.74	39.6	11.14	58.3	163	230	P	H
		16500	47.99	-20.31	68.3	53.84	38.72	14.27	58.84	100	0	P	H
		11000	47.55	-26.45	74	55.11	39.6	11.14	58.3	155	212	P	V
		16500	47.32	-20.98	68.3	53.17	38.72	14.27	58.84	178	296	P	V
802.11n HT20 CH 116 5580MHz		11160	47.57	-26.43	74	54.9	39.5	11.28	58.11	183	32	P	H
		16740	47.99	-20.31	68.3	52.78	39.39	14.4	58.58	163	332	P	H
		11160	47.64	-26.36	74	54.97	39.5	11.28	58.11	170	200	P	V
		16740	47.04	-21.26	68.3	51.83	39.39	14.4	58.58	100	0	P	V
802.11n HT20 CH 140 5700MHz		11400	47.3	-26.7	74	54.32	39.36	11.47	57.85	157	285	P	H
		17100	47.15	-21.15	68.3	49.92	40.7	14.69	58.16	165	246	P	H
		11400	47.16	-26.84	74	54.18	39.36	11.47	57.85	122	291	P	V
		17100	47.33	-20.97	68.3	50.1	40.7	14.69	58.16	153	102	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		5442.64	46.6	-27.4	74	39.25	32.08	7.79	32.52	247	234	P	H
		5467.84	53.33	-14.97	68.3	45.82	32.14	7.88	32.51	247	234	P	H
		5459.92	45.09	-8.91	54	37.65	32.11	7.84	32.51	247	234	A	H
	*	5510	100.72	-	-	93.06	32.2	7.96	32.5	247	234	P	H
		5510	93.03	-	-	85.37	32.2	7.96	32.5	247	234	A	H
		5742.32	46.32	-21.98	68.3	38.1	32.3	8.42	32.5	247	234	P	H
		5455.6	53.58	-20.42	74	46.14	32.11	7.84	32.51	174	3	P	V
		5467.12	58.69	-9.61	68.3	51.18	32.14	7.88	32.51	174	3	P	V
		5459.92	47.48	-6.52	54	40.04	32.11	7.84	32.51	174	3	A	V
	*	5510	107.26	-	-	99.6	32.2	7.96	32.5	174	3	P	V
		5510	100.5	-	-	92.84	32.2	7.96	32.5	174	3	A	V
		5752.085	47.4	-20.9	68.3	39.21	32.3	8.39	32.5	174	3	P	V
802.11n HT40 CH 110 5550MHz		5453.44	46.45	-27.55	74	39.01	32.11	7.84	32.51	252	233	P	H
		5467.84	48.9	-19.4	68.3	41.39	32.14	7.88	32.51	252	233	P	H
		5459.68	39.19	-14.81	54	31.75	32.11	7.84	32.51	252	233	A	H
	*	5550	102.51	-	-	94.82	32.22	7.97	32.5	252	233	P	H
		5550	94.65	-	-	86.96	32.22	7.97	32.5	252	233	A	H
		5724.995	46.47	-21.83	68.3	38.23	32.29	8.45	32.5	252	233	P	H
		5455.84	50.85	-23.15	74	43.41	32.11	7.84	32.51	187	24	P	V
		5467.6	51.83	-16.47	68.3	44.32	32.14	7.88	32.51	187	24	P	V
		5459.92	43.58	-10.42	54	36.14	32.11	7.84	32.51	187	24	A	V
	*	5550	109.1	-	-	101.41	32.22	7.97	32.5	187	24	P	V
		5550	102.32	-	-	94.63	32.22	7.97	32.5	187	24	A	V
		5734.76	46.28	-22.02	68.3	38.06	32.3	8.42	32.5	187	24	P	V



802.11n HT40 CH 134 5670MHz		5440.65	45.5	-28.5	74	38.15	32.08	7.79	32.52	251	200	P	H
		5464.8	44.52	-23.78	68.3	37.01	32.14	7.88	32.51	251	200	P	H
		5445.55	36.65	-17.35	54	29.22	32.11	7.84	32.52	251	200	A	H
	*	5670	102.71	-	-	94.53	32.27	8.41	32.5	251	200	P	H
		5670	94.14	-	-	85.96	32.27	8.41	32.5	251	200	A	H
		5726.5	54.62	-13.68	68.3	46.38	32.29	8.45	32.5	251	200	P	H
		5413	46.83	-27.17	74	39.56	32.05	7.75	32.53	187	24	P	V
		5468.3	44.94	-23.36	68.3	37.43	32.14	7.88	32.51	187	24	P	V
		5448	37.44	-16.56	54	30.01	32.11	7.84	32.52	187	24	A	V
	*	5670	108.97	-	-	100.79	32.27	8.41	32.5	187	24	P	V
		5670	101.14	-	-	92.96	32.27	8.41	32.5	187	24	A	V
		5727.725	60.34	-7.96	68.3	52.1	32.29	8.45	32.5	187	24	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	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11020	47.32	-26.68	74	54.86	39.59	11.15	58.28	170	230	P	H
		16530	47.09	-21.21	68.3	52.78	38.82	14.29	58.8	160	300	P	H
		11020	47.83	-26.17	74	55.37	39.59	11.15	58.28	170	230	P	V
		16530	47.25	-21.05	68.3	52.94	38.82	14.29	58.8	160	300	P	V
802.11n HT40 CH 110 5550MHz		11100	47.98	-26.02	74	55.41	39.54	11.22	58.19	160	220	P	H
		16650	47.48	-20.82	68.3	52.65	39.15	14.35	58.67	180	353	P	H
		11100	47.47	-26.53	74	54.9	39.54	11.22	58.19	155	210	P	V
		16650	47.2	-21.1	68.3	52.37	39.15	14.35	58.67	171	352	P	V
802.11n HT40 CH 134 5670MHz		11340	47.06	-26.94	74	54.17	39.4	11.42	57.93	195	335	P	H
		17010	47.37	-20.93	68.3	50.89	40.2	14.56	58.28	205	310	P	H
		11340	47.97	-26.03	74	55.08	39.4	11.42	57.93	205	325	P	V
		17010	47.02	-21.28	68.3	50.54	40.2	14.56	58.28	185	290	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		5457.52	48.47	-25.53	74	41.03	32.11	7.84	32.51	248	235	P	H
		5465.44	49.17	-19.13	68.3	41.66	32.14	7.88	32.51	248	235	P	H
		5459.92	43.57	-10.43	54	36.13	32.11	7.84	32.51	248	235	A	H
	*	5530	95.74	-	-	88.07	32.21	7.96	32.5	248	235	P	H
		5530	88.9	-	-	81.23	32.21	7.96	32.5	248	235	A	H
		5757.755	45.88	-22.42	68.3	37.69	32.3	8.39	32.5	248	235	P	H
		5458.96	55.76	-18.24	74	48.32	32.11	7.84	32.51	180	8	P	V
		5464.96	59.66	-8.64	68.3	52.15	32.14	7.88	32.51	180	8	P	V
		5459.44	49.33	-4.67	54	41.89	32.11	7.84	32.51	180	8	A	V
	*	5530	103.1	-	-	95.43	32.21	7.96	32.5	180	8	P	V
		5530	96.36	-	-	88.69	32.21	7.96	32.5	180	8	A	V
		5739.8	47.9	-20.4	68.3	39.68	32.3	8.42	32.5	180	8	P	V
802.11ac VHT80 CH 122 5610MHz		5448.88	46.41	-27.59	74	38.98	32.11	7.84	32.52	108	229	P	H
		5470	46.85	-21.45	68.3	39.34	32.14	7.88	32.51	108	229	P	H
		5457.28	38.23	-15.77	54	30.79	32.11	7.84	32.51	108	229	A	H
	*	5610	98.34	-	-	90.63	32.24	7.97	32.5	108	229	P	H
		5610	90.4	-	-	82.69	32.24	7.97	32.5	108	229	A	H
		5730.7	50.24	-18.06	68.3	42	32.29	8.45	32.5	108	229	P	H
		5456.8	50.4	-23.6	74	42.96	32.11	7.84	32.51	180	8	P	V
		5464.96	52.26	-16.04	68.3	44.75	32.14	7.88	32.51	180	8	P	V
		5459.92	42.7	-11.3	54	35.26	32.11	7.84	32.51	180	8	A	V
	*	5610	104.26	-	-	96.55	32.24	7.97	32.5	180	8	P	V
		5610	97.07	-	-	89.36	32.24	7.97	32.5	180	8	A	V
		5727.9	51.09	-17.21	68.3	42.85	32.29	8.45	32.5	180	8	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	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		11060	47.82	-26.18	74	55.29	39.56	11.2	58.23	170	230	P	H
VHT80		16590	47.18	-21.12	68.3	52.65	38.96	14.32	58.75	155	305	P	H
CH 106		11060	47.23	-26.77	74	54.7	39.56	11.2	58.23	166	212	P	V
5530MHz		16590	47.32	-20.98	68.3	52.79	38.96	14.32	58.75	132	343	P	V
802.11ac		11220	47.04	-26.96	74	54.31	39.47	11.32	58.06	200	360	P	H
VHT80		16830	47.75	-20.55	68.3	52.17	39.63	14.44	58.49	170	315	P	H
CH 122		11220	47.47	-26.53	74	54.74	39.47	11.32	58.06	155	260	P	V
5610MHz		16830	47.73	-20.57	68.3	52.15	39.63	14.44	58.49	180	220	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 (Harmonic @ 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 144 5720MHz		11440	47.96	-26.04	74	54.94	39.34	11.5	57.82	157	285	P	H
		17160	50.6	-17.7	68.3	52.76	41.1	14.8	58.06	165	246	P	H
		11440	47.62	-26.38	74	54.6	39.34	11.5	57.82	122	291	P	V
		17160	50.06	-18.24	68.3	52.22	41.1	14.8	58.06	153	102	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 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 144 5720MHz		11440	47.82	-26.18	74	54.8	39.34	11.5	57.82	157	285	P	H
		17160	50.76	-17.54	68.3	52.92	41.1	14.8	58.06	165	246	P	H
		11440	47.58	-26.42	74	54.56	39.34	11.5	57.82	122	291	P	V
		17160	50.5	-17.8	68.3	52.66	41.1	14.8	58.06	153	102	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 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 142 5710MHz		11420	47.7	-26.3	74	54.69	39.35	11.49	57.83	157	285	P	H
		17130	50.88	-17.42	68.3	53.34	40.9	14.75	58.11	165	246	P	H
		11420	47.27	-26.73	74	54.26	39.35	11.49	57.83	122	291	P	V
		17130	50.09	-18.21	68.3	52.55	40.9	14.75	58.11	153	102	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	47.51	-26.49	74	54.55	39.37	11.46	57.87	157	285	P	H
VHT80		17070	48.9	-19.4	68.3	51.97	40.5	14.64	58.21	165	246	P	H
CH 138		11380	47.78	-26.22	74	54.82	39.37	11.46	57.87	122	291	P	V
5690MHz		17070	50.24	-18.06	68.3	53.31	40.5	14.64	58.21	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Emission below 1GHz
WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		49.4	22.51	-17.49	40	41.87	15.02	0.71	35.09			P	H
		107.6	24.83	-18.67	43.5	41.13	17.93	0.95	35.18			P	H
		156.1	29.64	-13.86	43.5	47.29	16.3	1.15	35.1	100	29	P	H
		360.77	25.79	-20.21	46	37.86	21.03	1.78	34.88			P	H
		509.18	28.54	-17.46	46	37.42	23.68	2.12	34.68			P	H
		623.64	30.46	-15.54	46	37.45	25.16	2.35	34.5			P	H
		49.4	33.48	-6.52	40	52.84	15.02	0.71	35.09	100	52	P	V
		155.13	32.47	-11.03	43.5	50.1	16.33	1.14	35.1			P	V
		263.77	27.76	-18.24	46	42.1	19.11	1.52	34.97			P	V
		362.71	26.8	-19.2	46	38.88	21	1.79	34.87			P	V
		484.93	31.83	-14.17	46	40.86	23.58	2.09	34.7			P	V
		539.25	31.5	-14.5	46	39.2	24.73	2.19	34.62			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

**Note symbol**

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



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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

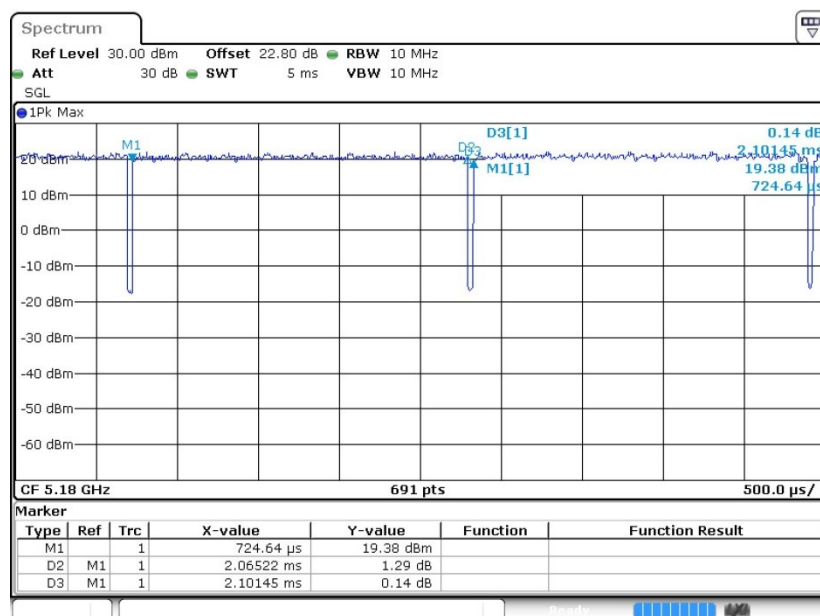
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

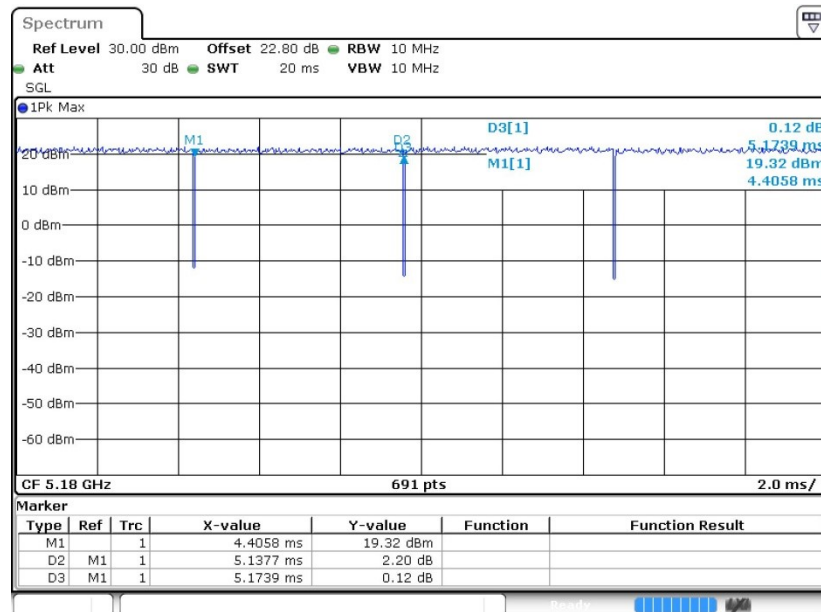
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.28	-	-	10Hz
802.11n HT20	99.308	-	-	10Hz
802.11n HT40	97.738	2.493	0.401	1kHz
802.11ac VHT80	95.298	1.174	0.852	1kHz

802.11a

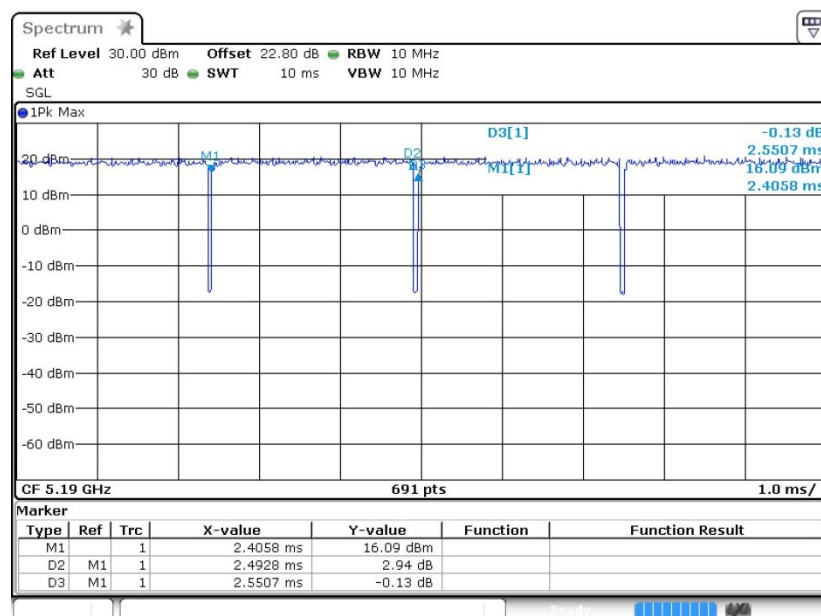




802.11n HT20



802.11n HT40





802.11ac VHT80

