

FCC RF Test Report

APPLICANT : Guangdong OPPO Mobile Telecommunications Corp., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : OPPO
MODEL NAME : CPH2065
FCC ID : R9C-CPH2065
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Jun. 01, 2020 and testing was completed on Jun. 19, 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.

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
FR060110E	Rev. 01	Initial issue of report	Jul. 30, 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 4.97 dB at 5459.68 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 11.06 dB at 0.150 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

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

NO.18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, Guangdong, China

1.2 Manufacturer

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

NO.18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, Guangdong, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	OPPO
Model Name	CPH2065
FCC ID	R9C-CPH2065
EUT supports Radios application	GSM/WCDMA/LTE/5G NR/NFC 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 GNSS
IMEI Code	Conducted: 863597040018252/863597040018245 Conduction: 863597040018492/863597040018484 Radiation: 863597040019490/863597040019482
HW Version	11
SW Version	ColorOS 7.1
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 18.02 dBm / 0.0634 W 802.11n HT20 : 17.75 dBm / 0.0596 W 802.11n HT40 : 17.20 dBm / 0.0525 W 802.11ac VHT20 : 17.72 dBm / 0.0592 W 802.11ac VHT40 : 17.18 dBm / 0.0522 W 802.11ac VHT80 : 9.99 dBm / 0.0100 W <5260 MHz ~ 5320 MHz> 802.11a : 18.66 dBm / 0.0735 W 802.11n HT20 : 18.50 dBm / 0.0708 W 802.11n HT40 : 17.93 dBm / 0.0621 W 802.11ac VHT20 : 18.47 dBm / 0.0703 W 802.11ac VHT40 : 17.88 dBm / 0.0614 W 802.11ac VHT80 : 12.07 dBm / 0.0161 W <5500 MHz ~ 5700 MHz > 802.11a : 18.39 dBm / 0.0690 W 802.11n HT20 : 18.17 dBm / 0.0656 W 802.11n HT40 : 17.55 dBm / 0.0569 W 802.11ac VHT20 : 18.12 dBm / 0.0649 W 802.11ac VHT40 : 17.49 dBm / 0.0561 W 802.11ac VHT80 : 18.41 dBm / 0.0693 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.83 MHz 802.11n HT20 : 17.88 MHz 802.11n HT40 : 36.76 MHz 802.11ac VHT80 : 75.76 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.93 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.96 MHz 802.11ac VHT80 : 75.64 MHz <5500 MHz ~ 5700 MHz > 802.11a : 16.83 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.96 MHz 802.11ac VHT80 : 76.12 MHz
Antenna Type / Gain	<5180 MHz ~ 5240 MHz> Fixed Internal Antenna with gain -3.0 dBi <5260 MHz ~ 5320 MHz> Fixed Internal Antenna with gain -3.0 dBi <5500 MHz ~ 5700 MHz> Fixed Internal Antenna with gain -3.0 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 their maximum conducted power.

1.5 Modification of EUT

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

1.6 Testing Location

Sporton 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	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan Shenzhen, 518055 People's Republic of China 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	Manufacture	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)
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

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 : GSM850 Idle + Bluetooth Link + WLAN(5G) Link + Battery 2 + Earphone + USB Cable(Charging from Adapter 2)
Remark: For Radiated Test Cases, The tests were performance with Adapter 1, Battery 1, Earphone and USB Cable.	



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

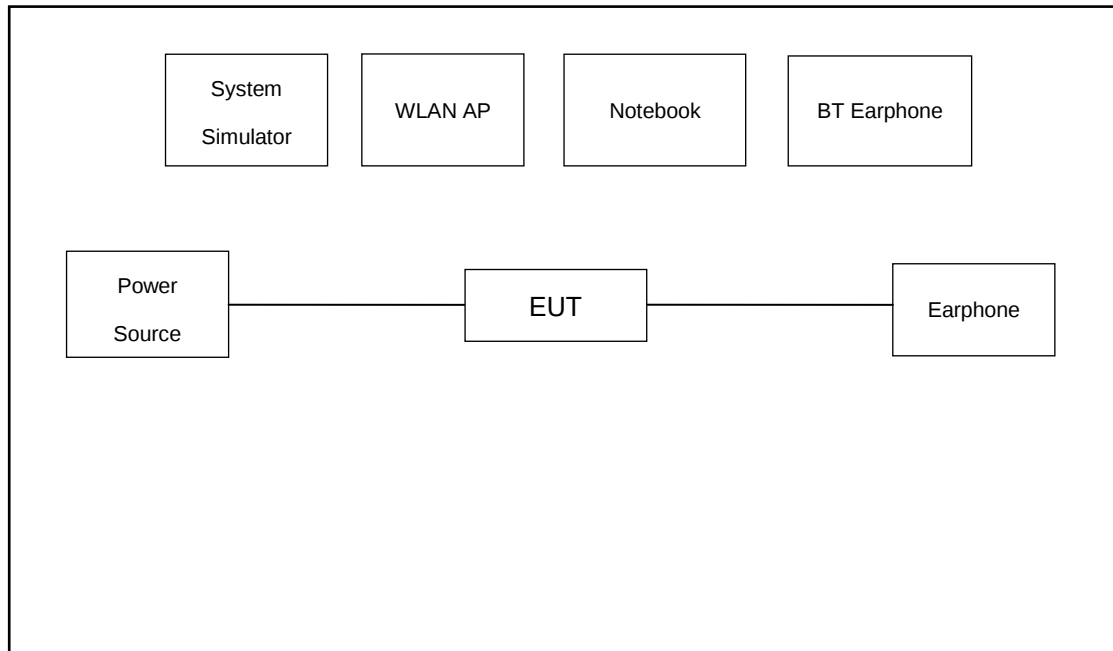
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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

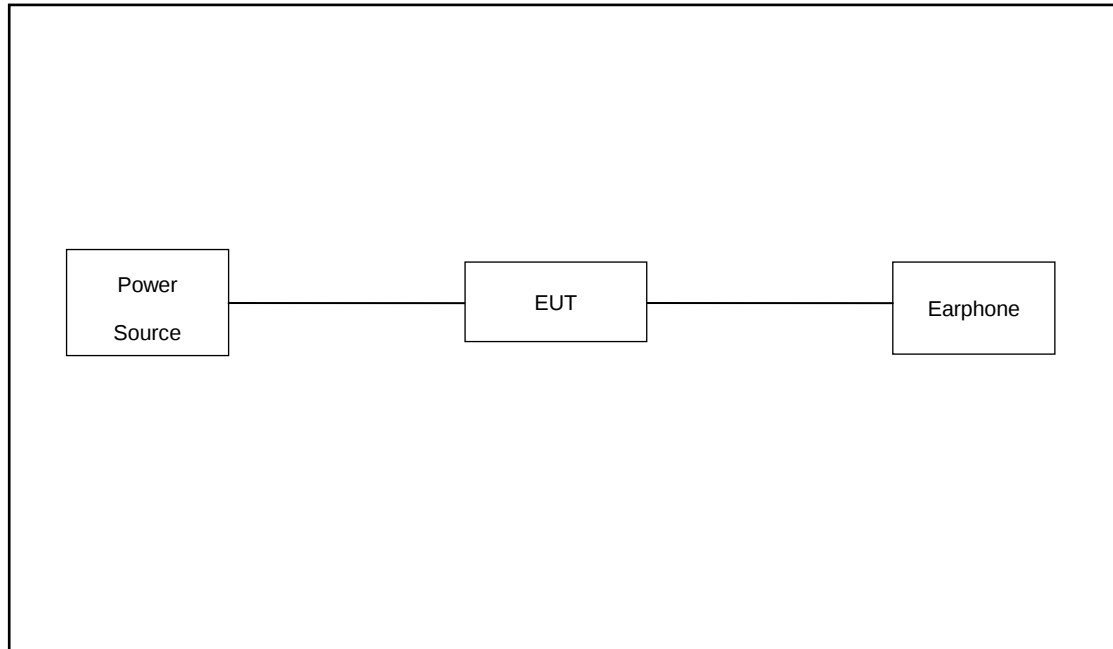
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122

2.3 Connection Diagram of Test System

For Conducted Emission:



For Radiated Emission:



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8m
2.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8m
3.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A

2.5 EUT Operation Test Setup

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

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 2.5 dB and 20dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 2.5 + 20 = 22.5 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

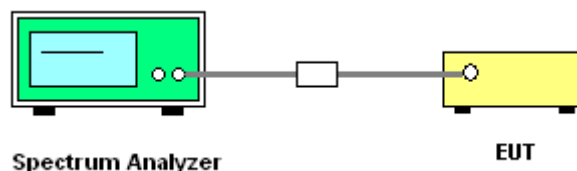
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

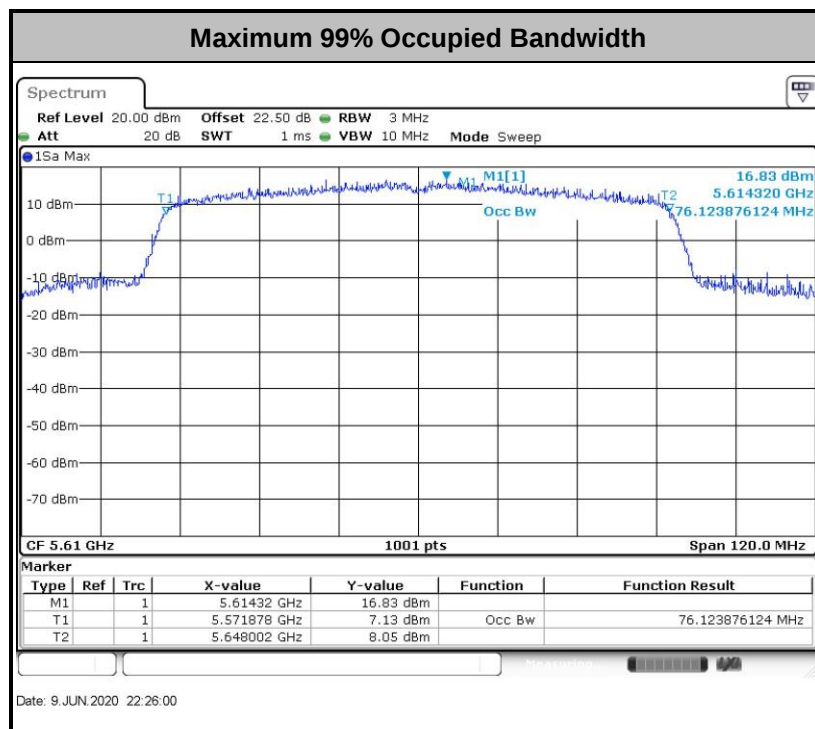
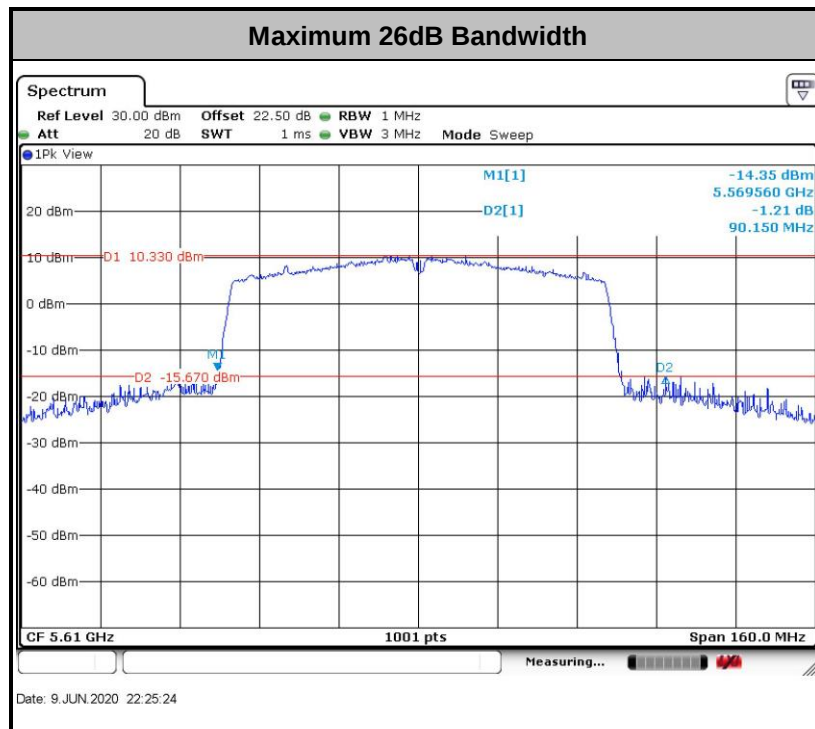
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

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

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

3.2.2 Measuring Instruments

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

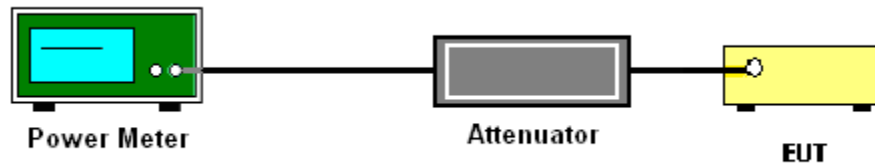
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

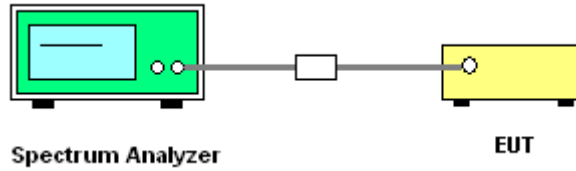
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section F) Maximum power spectral density.

Method SA-2

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

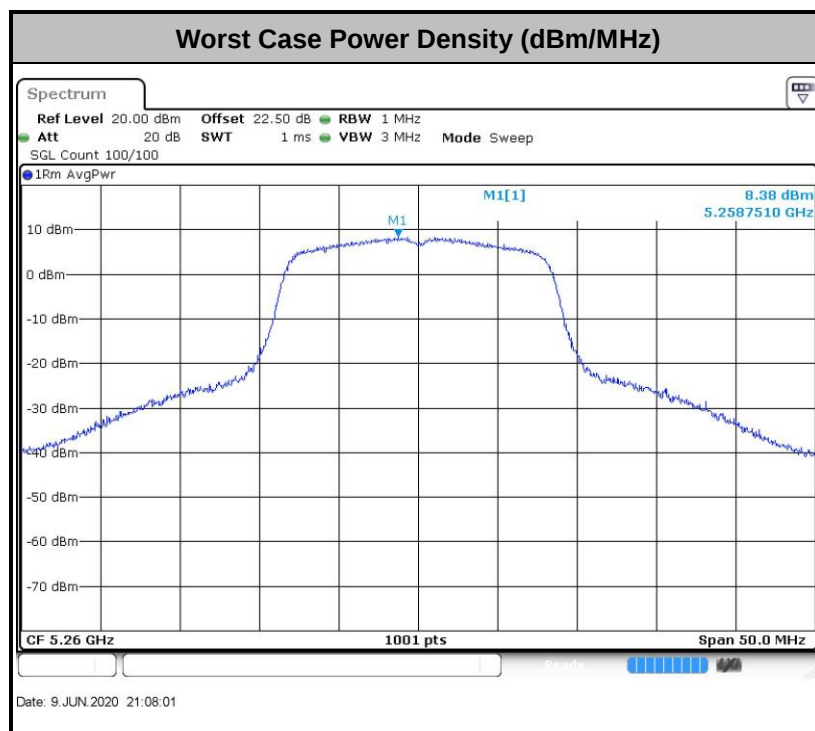
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 -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

3.3.4 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

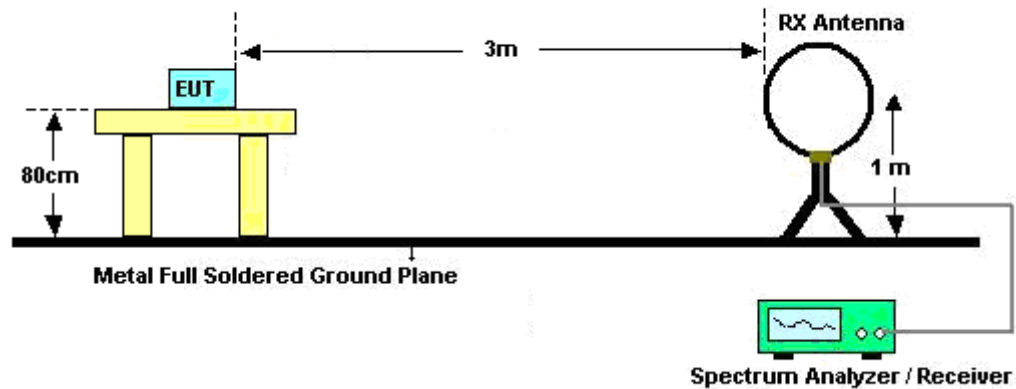
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

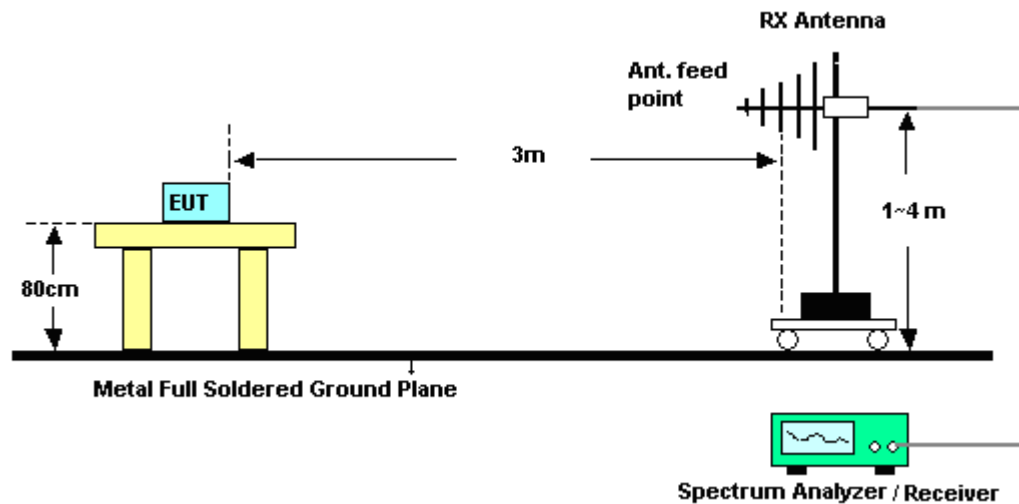
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak 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

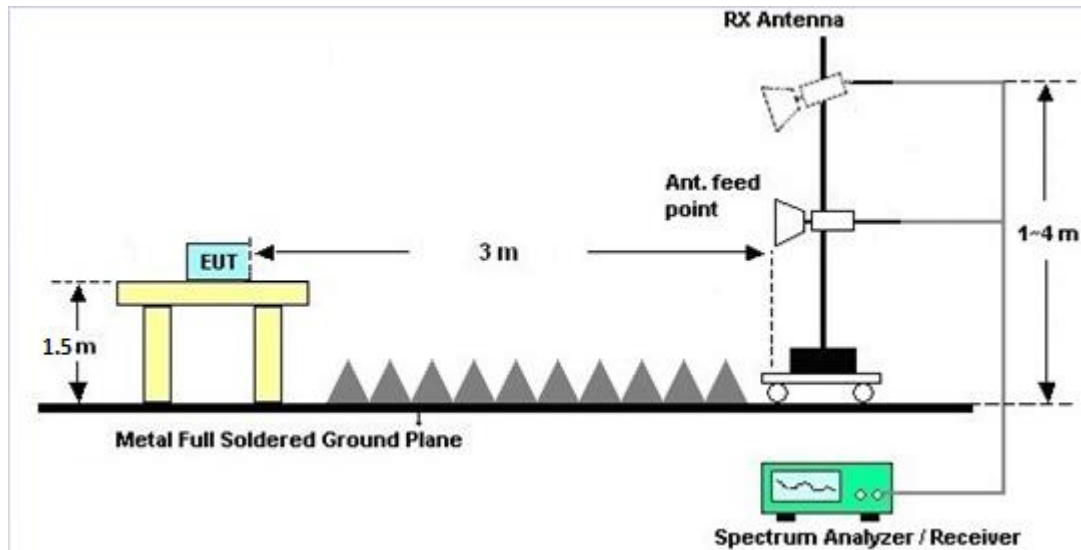
For radiated emissions below 30MHz



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.

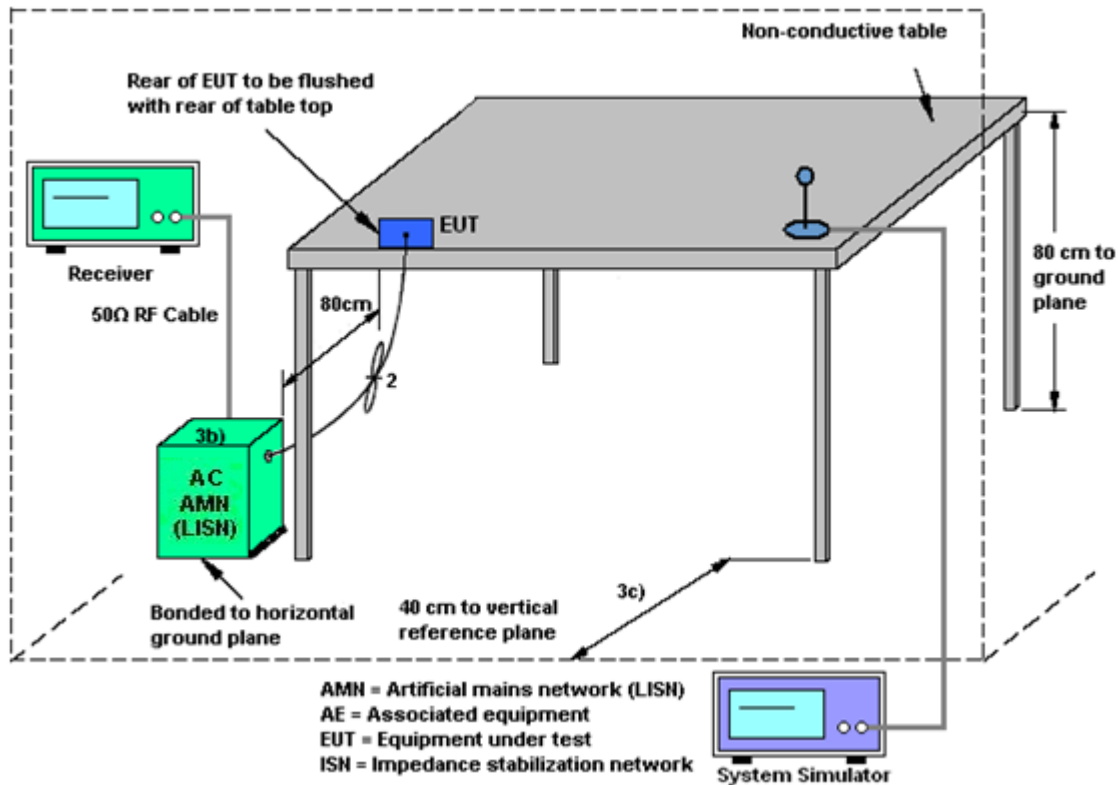
3.5.2 Measuring Instruments

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

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. 16, 2010	Jun. 09, 2020	Apr. 15, 2021	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Jun. 09, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Jun. 09, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	Apr. 16, 2010	Jun. 09, 2020	Apr. 15, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Dec. 26, 2019	Jun. 09, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 17, 2020	Jun. 19, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 17, 2020	Jun. 19, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 28, 2020	Jun. 19, 2020	May 27, 2022	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Apr. 17, 2020	Jun. 19, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 01, 2020	Jun. 19, 2020	Mar. 31, 2021	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 22, 2019	Jun. 19, 2020	Jul. 21, 2020	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 17, 2020	Jun. 19, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz~3000MHz	Oct. 18, 2019	Jun. 19, 2020	Oct. 17, 2020	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2019	Jun. 19, 2020	Oct. 17, 2020	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 23, 2019	Jun. 19, 2020	Dec. 22, 2020	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jun. 19, 2020	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jun. 19, 2020	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jun. 19, 2020	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2018	Jun. 08, 2020	Dec. 25, 2020	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 17, 2019	Jun. 08, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 17, 2019	Jun. 08, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 23, 2019	Jun. 08, 2020	Jul. 22, 2020	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% ($U = 2Uc(y)$)	2.7 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

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

Test Engineer:	Chen Hong	Temperature:	21~25	°C
Test Date:	2020/6/9	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	16.73	25.23	-	22.24		
11a	6Mbps	1	44	5220	16.83	28.12	-	22.26		
11a	6Mbps	1	48	5240	16.83	26.77	-	22.26		
HT20	MCS0	1	36	5180	17.83	29.87	-	22.51		
HT20	MCS0	1	44	5220	17.88	29.82	-	22.52		
HT20	MCS0	1	48	5240	17.83	30.67	-	22.51		
HT40	MCS0	1	38	5190	36.46	41.36	-	23.01		
HT40	MCS0	1	46	5230	36.76	66.08	-	23.01		
VHT80	MCS0	1	42	5210	75.76	81.04	-	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	0.14	17.79	24.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.14	18.02	24.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.14	17.86	24.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.13	17.56	24.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.13	17.75	24.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.13	17.71	24.00	-3.00		Pass
HT40	MCS0	1	38	5190	0.28	10.49	24.00	-3.00		Pass
HT40	MCS0	1	46	5230	0.28	17.20	24.00	-3.00		Pass
VHT20	MCS0	1	36	5180	0.17	17.52	24.00	-3.00		Pass
VHT20	MCS0	1	44	5220	0.17	17.72	24.00	-3.00		Pass
VHT20	MCS0	1	48	5240	0.17	17.67	24.00	-3.00		Pass
VHT40	MCS0	1	38	5190	0.30	10.44	24.00	-3.00		Pass
VHT40	MCS0	1	46	5230	0.30	17.18	24.00	-3.00		Pass
VHT80	MCS0	1	42	5210	0.55	9.99	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	0.14	7.29	11.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.14	7.58	11.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.14	7.50	11.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.13	7.11	11.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.13	7.17	11.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.13	7.32	11.00	-3.00		Pass
HT40	MCS0	1	38	5190	0.28	-5.06	11.00	-3.00		Pass
HT40	MCS0	1	46	5230	0.28	3.60	11.00	-3.00		Pass
VHT80	MCS0	1	42	5210	0.55	-8.29	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	16.93	35.76	23.29	29.29	23.98	
11a	6M bps	1	60	5300	16.88	33.62	23.27	29.27	23.98	
11a	6M bps	1	64	5320	16.88	31.82	23.27	29.27	23.98	
HT20	MCS 0	1	52	5260	17.93	33.22	23.54	29.54	23.98	
HT20	MCS 0	1	60	5300	17.93	34.22	23.54	29.54	23.98	
HT20	MCS 0	1	64	5320	17.93	35.47	23.54	29.54	23.98	
HT40	MCS 0	1	54	5270	36.96	66.98	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.36	41.45	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	75.64	80.72	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	0.14	18.66	23.98	-3.00	26.99	Pass
11a	6M bps	1	60	5300	0.14	18.62	23.98	-3.00	26.99	Pass
11a	6M bps	1	64	5320	0.14	18.64	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.13	18.50	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.13	18.40	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.13	18.45	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	54	5270	0.28	17.93	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	62	5310	0.28	11.17	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	52	5260	0.17	18.47	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	60	5300	0.17	18.37	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	64	5320	0.17	18.39	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	54	5270	0.30	17.88	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	62	5310	0.30	11.08	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	58	5290	0.55	12.07	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	0.14	8.52	11.00	-3.00		Pass
11a	6M bps	1	60	5300	0.14	8.47	11.00	-3.00		Pass
11a	6M bps	1	64	5320	0.14	8.18	11.00	-3.00		Pass
HT20	MCS 0	1	52	5260	0.13	8.16	11.00	-3.00		Pass
HT20	MCS 0	1	60	5300	0.13	7.92	11.00	-3.00		Pass
HT20	MCS 0	1	64	5320	0.13	7.82	11.00	-3.00		Pass
HT40	MCS 0	1	54	5270	0.28	4.56	11.00	-3.00		Pass
HT40	MCS 0	1	62	5310	0.28	-4.73	11.00	-3.00		Pass
VHT80	MCS 0	1	58	5290	0.55	-4.71	11.00	-3.00		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	16.78	26.62	23.25	29.25	23.98	
11a	6M bps	1	116	5580	16.73	28.27	23.24	29.24	23.98	
11a	6M bps	1	140	5700	16.83	31.22	23.26	29.26	23.98	
HT20	MCS 0	1	100	5500	17.83	29.22	23.51	29.51	23.98	
HT20	MCS 0	1	116	5580	17.83	30.47	23.51	29.51	23.98	
HT20	MCS 0	1	140	5700	17.93	31.37	23.54	29.54	23.98	
HT40	MCS 0	1	102	5510	36.46	41.90	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.86	41.63	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.96	65.63	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	75.64	80.88	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	76.12	90.15	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

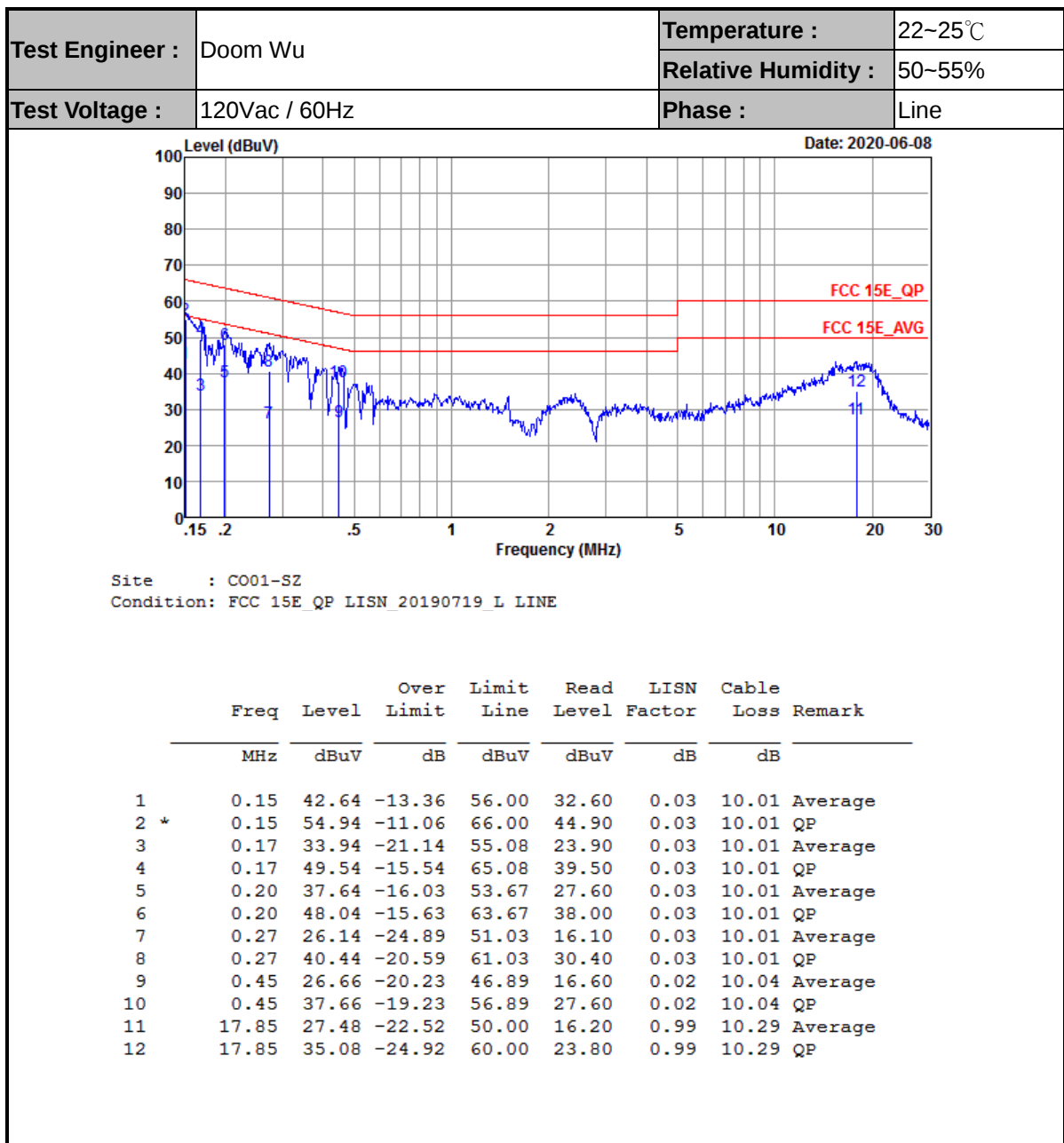
FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.14	18.20	23.98	-3.00	26.99	Pass
11a	6M bps	1	116	5580	0.14	18.31	23.98	-3.00	26.99	Pass
11a	6M bps	1	140	5700	0.14	18.39	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.13	17.95	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.13	18.10	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.13	18.17	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	102	5510	0.28	13.23	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	110	5550	0.28	17.33	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	134	5670	0.28	17.55	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	100	5500	0.17	17.92	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	116	5580	0.17	18.07	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	140	5700	0.17	18.12	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	102	5510	0.30	13.21	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	110	5550	0.30	17.28	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	134	5670	0.30	17.49	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	106	5530	0.55	10.36	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	122	5610	0.55	18.41	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	0.14	7.71	11.00	-3.00		Pass
11a	6M bps	1	116	5580	0.14	7.76	11.00	-3.00		Pass
11a	6M bps	1	140	5700	0.14	8.04	11.00	-3.00		Pass
HT20	MCS 0	1	100	5500	0.13	7.14	11.00	-3.00		Pass
HT20	MCS 0	1	116	5580	0.13	7.52	11.00	-3.00		Pass
HT20	MCS 0	1	140	5700	0.13	7.90	11.00	-3.00		Pass
HT40	MCS 0	1	102	5510	0.28	-2.14	11.00	-3.00		Pass
HT40	MCS 0	1	110	5550	0.28	3.70	11.00	-3.00		Pass
HT40	MCS 0	1	134	5670	0.28	4.04	11.00	-3.00		Pass
VHT80	MCS 0	1	106	5530	0.55	-7.94	11.00	-3.00		Pass
VHT80	MCS 0	1	122	5610	0.55	2.03	11.00	-3.00		Pass

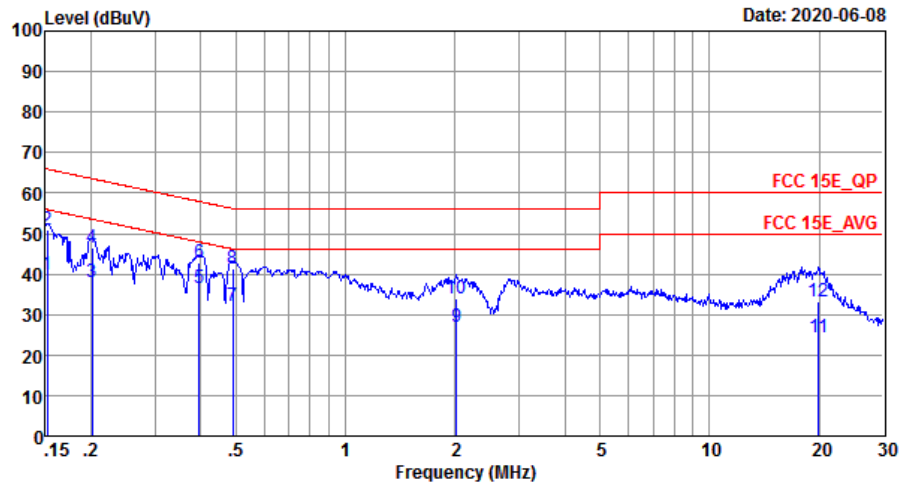


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Doom Wu	Temperature :	22~25℃
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : C001-SZ
Condition: FCC 15E_QP LISN_20190719_N NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	39.84	-16.07	55.91	29.80	0.03	10.01	Average
2	0.15	50.74	-15.17	65.91	40.70	0.03	10.01	QP
3	0.20	37.84	-15.70	53.54	27.80	0.03	10.01	Average
4	0.20	46.44	-17.10	63.54	36.40	0.03	10.01	QP
5 *	0.40	36.63	-11.32	47.95	26.60	0.02	10.01	Average
6	0.40	42.93	-15.02	57.95	32.90	0.02	10.01	QP
7	0.49	32.18	-13.96	46.14	22.10	0.02	10.06	Average
8	0.49	41.18	-14.96	56.14	31.10	0.02	10.06	QP
9	2.02	27.10	-18.90	46.00	17.00	0.05	10.05	Average
10	2.02	33.80	-22.20	56.00	23.70	0.05	10.05	QP
11	19.95	24.37	-25.63	50.00	13.50	0.58	10.29	Average
12	19.95	33.27	-26.73	60.00	22.40	0.58	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		5144.04	53.82	-20.18	74	47.16	31.36	7.94	32.64	322	29	P	H
		5149.76	46.9	-7.1	54	40.24	31.36	7.94	32.64	322	29	A	H
	*	5180	106.88	-	-	100.13	31.38	8	32.63	322	29	P	H
		5180	100.64	-	-	93.89	31.38	8	32.63	322	29	A	H
		5146.64	53.49	-20.51	74	46.83	31.36	7.94	32.64	348	92	P	V
		5148.72	44.51	-9.49	54	37.85	31.36	7.94	32.64	348	92	A	V
	*	5180	103.08	-	-	96.33	31.38	8	32.63	348	92	P	V
		5180	96.24	-	-	89.49	31.38	8	32.63	348	92	A	V
802.11a CH 44 5220MHz		5139.62	48.46	-25.54	74	41.81	31.36	7.94	32.65	205	330	P	H
		5142.22	40.4	-13.6	54	33.75	31.36	7.94	32.65	205	330	A	H
	*	5220	107.82	-	-	100.98	31.4	8.06	32.62	205	330	P	H
		5220	101.02	-	-	94.18	31.4	8.06	32.62	205	330	A	H
		5426.68	49.05	-24.95	74	42.12	31.49	7.96	32.52	205	330	P	H
		5355.56	40.62	-13.38	54	33.69	31.46	8.02	32.55	205	330	A	H
		5125.58	48.54	-25.46	74	41.89	31.36	7.94	32.65	310	97	P	V
		5023.66	39.16	-14.84	54	32.77	31.31	7.77	32.69	310	97	A	V
		5220	102.44	-	-	95.6	31.4	8.06	32.62	310	97	P	V
		5220	95.92	-	-	89.08	31.4	8.06	32.62	310	97	A	V
		5424.44	47.59	-26.41	74	40.61	31.49	8.01	32.52	310	97	P	V
		5377.4	38.87	-15.13	54	31.92	31.47	8.02	32.54	310	97	A	V



802.11a CH 48 5240MHz		5087.1	48.61	-25.39	74	42.06	31.33	7.89	32.67	107	21	P	H
		5136.5	39.43	-14.57	54	32.78	31.36	7.94	32.65	107	21	A	H
	*	5240	106.66	-	-	99.81	31.41	8.05	32.61	107	21	P	H
		5240	100.65	-	-	93.8	31.41	8.05	32.61	107	21	A	H
		5390.28	48.64	-25.36	74	41.69	31.48	8.01	32.54	107	21	P	H
		5350.8	39.88	-14.12	54	32.95	31.46	8.02	32.55	107	21	A	H
		5119.34	48.33	-25.67	74	41.69	31.35	7.94	32.65	327	87	P	V
		5021.58	39.11	-14.89	54	32.72	31.31	7.77	32.69	327	87	A	V
	*	5240	103.23	-	-	96.38	31.41	8.05	32.61	327	87	P	V
		5240	96.52	-	-	89.67	31.41	8.05	32.61	327	87	A	V
		5378.24	47.72	-26.28	74	40.76	31.48	8.02	32.54	327	87	P	V
		5350	38.89	-15.11	54	31.96	31.46	8.02	32.55	327	87	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	46.86	-21.44	68.3	52.67	39.84	13.34	58.99	150	188	P	H
		15540	47.63	-26.37	74	52.57	38.85	15.14	58.93	189	238	P	H
		10360	47.24	-21.06	68.3	53.05	39.84	13.34	58.99	152	260	P	V
		15540	46.97	-27.03	74	51.91	38.85	15.14	58.93	189	238	P	V
802.11a CH 44 5220MHz		10440	47.49	-20.81	68.3	53.13	39.93	13.35	58.92	150	230	P	H
		15660	47.6	-26.4	74	53.16	38.32	15.18	59.06	160	225	P	H
		10440	47.13	-21.17	68.3	52.77	39.93	13.35	58.92	150	230	P	V
		15660	46.52	-27.48	74	52.08	38.32	15.18	59.06	160	225	P	V
802.11a CH 48 5240MHz		10480	47.45	-20.85	68.3	52.97	39.99	13.35	58.86	150	289	P	H
		15720	47.48	-26.52	74	53.4	38.01	15.19	59.12	150	291	P	H
		10480	46.62	-21.68	68.3	26.38	39.99	13.35	33.1	178	52	P	V
		15720	45.69	-28.31	74	51.61	38.01	15.19	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		5145.6	59.49	-14.51	74	52.83	31.36	7.94	32.64	122	353	P	H
		5149.76	45.97	-8.03	54	39.31	31.36	7.94	32.64	122	353	A	H
	*	5180	105.87	-	-	99.12	31.38	8	32.63	122	353	P	H
		5180	99.41	-	-	92.66	31.38	8	32.63	122	353	A	H
		5142.22	52.78	-21.22	74	46.13	31.36	7.94	32.65	322	87	P	V
		5149.76	44.88	-9.12	54	38.22	31.36	7.94	32.64	322	87	A	V
	*	5180	101.48	-	-	94.73	31.38	8	32.63	322	87	P	V
		5180	95.58	-	-	88.83	31.38	8	32.63	322	87	A	V
802.11n HT20 CH 44 5220MHz		5140.92	49.12	-24.88	74	42.47	31.36	7.94	32.65	230	349	P	H
		5149.5	40.28	-13.72	54	33.62	31.36	7.94	32.64	230	349	A	H
	*	5220	107.31	-	-	100.47	31.4	8.06	32.62	230	349	P	H
		5220	100.56	-	-	93.72	31.4	8.06	32.62	230	349	A	H
		5369.76	48.71	-25.29	74	41.77	31.47	8.02	32.55	230	349	P	H
		5353.44	40.1	-13.9	54	33.17	31.46	8.02	32.55	230	349	A	H
		5138.58	48.04	-25.96	74	41.39	31.36	7.94	32.65	131	11	P	V
		5041.86	39.13	-14.87	54	32.66	31.32	7.83	32.68	131	11	A	V
	*	5220	99.38	-	-	92.54	31.4	8.06	32.62	131	11	P	V
		5220	93.57	-	-	86.73	31.4	8.06	32.62	131	11	A	V
		5371.68	47.47	-26.53	74	40.53	31.47	8.02	32.55	131	11	P	V
		5429.28	38.4	-15.6	54	31.46	31.5	7.96	32.52	131	11	A	V



802.11n HT20 CH 48 5240MHz		5023.92	48.95	-25.05	74	42.56	31.31	7.77	32.69	111	18	P	H
		5149.5	39.99	-14.01	54	33.33	31.36	7.94	32.64	111	18	A	H
	*	5240	107.32	-	-	100.47	31.41	8.05	32.61	111	18	P	H
		5240	100.21	-	-	93.36	31.41	8.05	32.61	111	18	A	H
		5360.64	48.74	-25.26	74	41.8	31.47	8.02	32.55	111	18	P	H
		5351.76	40.65	-13.35	54	33.72	31.46	8.02	32.55	111	18	A	H
		5021.84	49.09	-24.91	74	42.7	31.31	7.77	32.69	258	82	P	V
		5040.04	39.31	-14.69	54	32.85	31.32	7.83	32.69	258	82	A	V
	*	5240	101.92	-	-	95.07	31.41	8.05	32.61	258	82	P	V
		5240	95.7	-	-	88.85	31.41	8.05	32.61	258	82	A	V
		5440.8	47.37	-26.63	74	40.43	31.5	7.96	32.52	258	82	P	V
		5444.64	39.03	-14.97	54	32.09	31.5	7.96	32.52	258	82	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		10360	47.4	-20.9	68.3	53.21	39.84	13.34	58.99	152	260	P	H
HT20		15540	46.8	-27.2	74	51.74	38.85	15.14	58.93	189	238	P	H
CH 36		10360	46.84	-21.46	68.3	52.65	39.84	13.34	58.99	152	260	P	V
5180MHz		15540	45.83	-28.17	74	50.77	38.85	15.14	58.93	189	238	P	V
802.11n		10440	46.54	-21.76	68.3	52.18	39.93	13.35	58.92	150	230	P	H
HT20		15660	46.68	-27.32	74	52.24	38.32	15.18	59.06	160	225	P	H
CH 44		10440	46.92	-21.38	68.3	52.56	39.93	13.35	58.92	150	230	P	V
5220MHz		15660	46.31	-27.69	74	51.87	38.32	15.18	59.06	160	225	P	V
802.11n		10480	47.77	-20.53	68.3	53.29	39.99	13.35	58.86	150	289	P	H
HT20		15720	46.84	-27.16	74	52.76	38.01	15.19	59.12	150	291	P	H
CH 48		10480	46.77	-21.53	68.3	52.29	39.99	13.35	58.86	150	289	P	V
5240MHz		15720	45.77	-28.23	74	51.69	38.01	15.19	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		5148.2	56.1	-17.9	74	49.44	31.36	7.94	32.64	215	329	P	H
		5149.76	48.37	-5.63	54	41.71	31.36	7.94	32.64	215	329	A	H
	*	5190	97.62	-	-	90.87	31.38	8	32.63	215	329	P	H
		5190	90.11	-	-	83.36	31.38	8	32.63	215	329	A	H
		5374.88	49.13	-24.87	74	42.18	31.47	8.02	32.54	215	329	P	H
		5354.44	39.89	-14.11	54	32.96	31.46	8.02	32.55	215	329	A	H
		5149.76	50.17	-23.83	74	43.51	31.36	7.94	32.64	100	18	P	V
		5149.76	42.01	-11.99	54	35.35	31.36	7.94	32.64	100	18	A	V
	*	5190	88.94	-	-	82.19	31.38	8	32.63	100	18	P	V
		5190	81.98	-	-	75.23	31.38	8	32.63	100	18	A	V
		5388.32	46.73	-27.27	74	39.78	31.48	8.01	32.54	100	18	P	V
		5447.4	39.06	-14.94	54	32.11	31.51	7.96	32.52	100	18	A	V
802.11n HT40 CH 46 5230MHz		5147.42	50.72	-23.28	74	44.06	31.36	7.94	32.64	114	349	P	H
		5149.24	43.74	-10.26	54	37.08	31.36	7.94	32.64	114	349	A	H
	*	5230	103.68	-	-	96.82	31.41	8.06	32.61	114	349	P	H
		5230	97.23	-	-	90.37	31.41	8.06	32.61	114	349	A	H
		5365.08	49.09	-24.91	74	42.15	31.47	8.02	32.55	114	349	P	H
		5360.32	41.97	-12.03	54	35.04	31.46	8.02	32.55	114	349	A	H
		5148.72	48.68	-25.32	74	42.02	31.36	7.94	32.64	361	105	P	V
		5144.04	40.49	-13.51	54	33.83	31.36	7.94	32.64	361	105	A	V
	*	5230	99.42	-	-	92.56	31.41	8.06	32.61	361	105	P	V
		5230	92.72	-	-	85.86	31.41	8.06	32.61	361	105	A	V
		5360.88	48.92	-25.08	74	41.98	31.47	8.02	32.55	361	105	P	V
		5365.92	39.67	-14.33	54	32.73	31.47	8.02	32.55	361	105	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10380	49.25	-19.05	68.3	55.01	39.87	13.34	58.97	150	360	P	H
HT40		15570	47.95	-26.05	74	53.07	38.7	15.15	58.97	155	360	P	H
CH 38		10380	48.54	-19.76	68.3	54.3	39.87	13.34	58.97	150	360	P	V
5190MHz		15570	47.12	-26.88	74	52.24	38.7	15.15	58.97	155	360	P	V
802.11n		10460	48.77	-19.53	68.3	54.37	39.95	13.35	58.9	150	360	P	H
HT40		15690	46.85	-27.15	74	52.58	38.17	15.19	59.09	150	225	P	H
CH 46		10460	48.39	-19.91	68.3	53.99	39.95	13.35	58.9	150	360	P	V
5230MHz		15690	46.44	-27.56	74	52.17	38.17	15.19	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		5145.6	54.76	-19.24	74	48.1	31.36	7.94	32.64	215	329	P	H
		5148.98	48.22	-5.78	54	41.56	31.36	7.94	32.64	215	329	A	H
	*	5210	93.16	-	-	86.32	31.4	8.06	32.62	215	329	P	H
		5210	86.06	-	-	79.22	31.4	8.06	32.62	215	329	A	H
		5359.76	47.56	-26.44	74	40.63	31.46	8.02	32.55	215	329	P	H
		5376	40.85	-13.15	54	33.9	31.47	8.02	32.54	215	329	A	H
		5148.98	48.53	-25.47	74	41.87	31.36	7.94	32.64	379	102	P	V
		5148.98	42.12	-11.88	54	35.46	31.36	7.94	32.64	379	102	A	V
		5210	86.49	-	-	79.65	31.4	8.06	32.62	379	102	P	V
		5210	80.05	-	-	73.21	31.4	8.06	32.62	379	102	A	V
		5423.04	47.29	-26.71	74	40.32	31.49	8.01	32.53	379	102	P	V
		5436.48	39.78	-14.22	54	32.84	31.5	7.96	32.52	379	102	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	46.97	-21.33	68.3	52.64	39.91	13.35	58.93	150	360	P	H
VHT80		15630	47.77	-26.23	74	53.26	38.39	15.16	59.04	150	225	P	H
CH 42		10420	47.56	-20.74	68.3	53.23	39.91	13.35	58.93	150	360	P	V
5210MHz		15630	47.69	-26.31	74	53.18	38.39	15.16	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		5093.1	47.75	-26.25	74	41.18	31.34	7.89	32.66	217	332	P	H
		5083.65	39.29	-14.71	54	32.74	31.33	7.89	32.67	217	332	A	H
	*	5260	109.52	-	-	102.64	31.42	8.05	32.59	217	332	P	H
		5260	102.19	-	-	95.31	31.42	8.05	32.59	217	332	A	H
		5365.2	49.98	-24.02	74	43.04	31.47	8.02	32.55	217	332	P	H
		5359.92	41.93	-12.07	54	35	31.46	8.02	32.55	217	332	A	H
		5053.9	49.02	-24.98	74	42.55	31.32	7.83	32.68	100	251	P	V
		5071.4	39.11	-14.89	54	32.63	31.32	7.83	32.67	100	251	A	V
	*	5260	102.45	-	-	95.57	31.42	8.05	32.59	100	251	P	V
		5260	94.91	-	-	88.03	31.42	8.05	32.59	100	251	A	V
		5426.16	47.11	-26.89	74	40.13	31.49	8.01	32.52	100	251	P	V
		5371.2	38.65	-15.35	54	31.71	31.47	8.02	32.55	100	251	A	V
802.11a CH 60 5300MHz		5093.1	47.93	-26.07	74	41.36	31.34	7.89	32.66	210	330	P	H
		5018.2	39.24	-14.76	54	32.86	31.3	7.77	32.69	210	330	A	H
	*	5300	109.76	-	-	102.85	31.44	8.04	32.57	210	330	P	H
		5300	102.89	-	-	95.98	31.44	8.04	32.57	210	330	A	H
		5352.24	53.06	-20.94	74	46.13	31.46	8.02	32.55	210	330	P	H
		5350.08	46.01	-7.99	54	39.08	31.46	8.02	32.55	210	330	A	H
		5001.75	47.94	-26.06	74	41.59	31.28	7.77	32.7	100	165	P	V
		5068.95	39.22	-14.78	54	32.74	31.32	7.83	32.67	100	165	A	V
	*	5300	101.42	-	-	94.51	31.44	8.04	32.57	100	165	P	V
		5300	94.44	-	-	87.53	31.44	8.04	32.57	100	165	A	V
		5352.72	46.95	-27.05	74	40.02	31.46	8.02	32.55	100	165	P	V
		5350.8	39.18	-14.82	54	32.25	31.46	8.02	32.55	100	165	A	V



802.11a CH 64 5320MHz	*	5320	109.03	-	-	102.12	31.45	8.03	32.57	227	348	P	H
		5320	102.5	-	-	95.59	31.45	8.03	32.57	227	348	A	H
		5357.44	49.64	-24.36	74	42.71	31.46	8.02	32.55	227	348	P	H
		5350.24	44.47	-9.53	54	37.54	31.46	8.02	32.55	227	348	A	H
	*	5320	102.96	-	-	96.05	31.45	8.03	32.57	172	111	P	V
		5320	99.48	-	-	92.57	31.45	8.03	32.57	172	111	A	V
		5354.56	53.64	-20.36	74	46.71	31.46	8.02	32.55	172	111	P	V
		5350.08	45.09	-8.91	54	38.16	31.46	8.02	32.55	172	111	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	46.58	-21.72	68.3	52.01	40.03	13.36	58.82	150	220	P	H
		15780	46.63	-27.37	74	52.81	37.79	15.21	59.18	159	345	P	H
		10520	47.3	-21	68.3	52.73	40.03	13.36	58.82	156	200	P	V
		15780	47.1	-26.9	74	53.28	37.79	15.21	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	47.33	-26.67	74	52.57	40.13	13.36	58.73	185	215	P	H
		15900	45.65	-28.35	74	52.44	37.26	15.25	59.3	196	190	P	H
		10600	47.06	-26.94	74	52.3	40.13	13.36	58.73	185	215	P	V
		15900	46.06	-27.94	74	52.85	37.26	15.25	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	47	-27	74	52.15	40.17	13.37	58.69	152	135	P	H
		15960	45.35	-28.65	74	52.5	36.95	15.27	59.37	173	245	P	H
		10640	47.65	-26.35	74	52.8	40.17	13.37	58.69	152	135	P	V
		15960	45.53	-28.47	74	52.68	36.95	15.27	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		5048.88	48.55	-25.45	74	42.08	31.32	7.83	32.68	164	342	P	H
		5088.4	39.29	-14.71	54	32.74	31.33	7.89	32.67	164	342	A	H
	*	5260	108.83	-	-	101.95	31.42	8.05	32.59	164	342	P	H
		5260	102.12	-	-	95.24	31.42	8.05	32.59	164	342	A	H
		5371.44	49.82	-24.18	74	42.88	31.47	8.02	32.55	164	342	P	H
		5371.44	41.41	-12.59	54	34.47	31.47	8.02	32.55	164	342	A	H
		5018.72	48.12	-25.88	74	41.74	31.3	7.77	32.69	361	101	P	V
		5010.4	39.27	-14.73	54	32.9	31.3	7.77	32.7	361	101	A	V
		5260	102.98	-	-	96.1	31.42	8.05	32.59	361	101	P	V
		5260	97.36	-	-	90.48	31.42	8.05	32.59	361	101	A	V
		5368.32	48.48	-25.52	74	41.54	31.47	8.02	32.55	361	101	P	V
		5350.56	39.47	-14.53	54	32.54	31.46	8.02	32.55	361	101	A	V
802.11n HT20 CH 60 5300MHz		5139.65	48.54	-25.46	74	41.89	31.36	7.94	32.65	114	351	P	H
		5083.3	39.17	-14.83	54	32.62	31.33	7.89	32.67	114	351	A	H
	*	5300	108.22	-	-	101.31	31.44	8.04	32.57	114	351	P	H
		5300	102.23	-	-	95.32	31.44	8.04	32.57	114	351	A	H
		5351.76	53.05	-20.95	74	46.12	31.46	8.02	32.55	114	351	P	H
		5350.8	45.11	-8.89	54	38.18	31.46	8.02	32.55	114	351	A	H
		5070.35	47.79	-26.21	74	41.31	31.32	7.83	32.67	351	91	P	V
		5019.25	39.26	-14.74	54	32.88	31.3	7.77	32.69	351	91	A	V
	*	5300	103.15	-	-	96.24	31.44	8.04	32.57	351	91	P	V
		5300	97.44	-	-	90.53	31.44	8.04	32.57	351	91	A	V
		5364.96	48.34	-25.66	74	41.4	31.47	8.02	32.55	351	91	P	V
		5350.32	41.08	-12.92	54	34.15	31.46	8.02	32.55	351	91	A	V



802.11n HT20 CH 64 5320MHz	*	5320	107.82	-	-	100.91	31.45	8.03	32.57	154	346	P	H
		5320	101.73	-	-	94.82	31.45	8.03	32.57	154	346	A	H
		5352.96	55.03	-18.97	74	48.1	31.46	8.02	32.55	154	346	P	H
		5350.72	46.71	-7.29	54	39.78	31.46	8.02	32.55	154	346	A	H
	*	5320	104.25	-	-	97.34	31.45	8.03	32.57	370	98	P	V
		5320	98.2	-	-	91.29	31.45	8.03	32.57	370	98	A	V
		5350.4	53.38	-20.62	74	46.45	31.46	8.02	32.55	370	98	P	V
		5350.24	46.36	-7.64	54	39.43	31.46	8.02	32.55	370	98	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		10520	46.82	-21.48	68.3	52.25	40.03	13.36	58.82	150	220	P	H
HT20		15780	46.39	-27.61	74	52.57	37.79	15.21	59.18	159	345	P	H
CH 52		10520	47.71	-20.59	68.3	53.14	40.03	13.36	58.82	150	220	P	V
5260MHz		15780	45.51	-28.49	74	51.69	37.79	15.21	59.18	159	345	P	V
802.11n		10600	46.64	-27.36	74	51.88	40.13	13.36	58.73	185	215	P	H
HT20		15900	47.93	-26.07	74	54.72	37.26	15.25	59.3	196	190	P	H
CH 60		10600	47.79	-26.21	74	53.03	40.13	13.36	58.73	185	215	P	V
5300MHz		15900	45.3	-28.7	74	52.09	37.26	15.25	59.3	196	190	P	V
802.11n		10640	47.63	-26.37	74	52.78	40.17	13.37	58.69	152	135	P	H
HT20		15960	45.85	-28.15	74	53	36.95	15.27	59.37	173	245	P	H
CH 64		10640	46.62	-27.38	74	51.77	40.17	13.37	58.69	152	135	P	V
5320MHz		15960	45.69	-28.31	74	52.84	36.95	15.27	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		5015.4	48.01	-25.99	74	41.64	31.3	7.77	32.7	125	351	P	H
		5130.2	39.99	-14.01	54	33.34	31.36	7.94	32.65	125	351	A	H
	*	5270	105.29	-	-	98.41	31.42	8.05	32.59	125	351	P	H
		5270	98.71	-	-	91.83	31.42	8.05	32.59	125	351	A	H
		5352.24	54.7	-19.3	74	47.77	31.46	8.02	32.55	125	351	P	H
		5350.8	45.55	-8.45	54	38.62	31.46	8.02	32.55	125	351	A	H
		5028	48.41	-25.59	74	42.02	31.31	7.77	32.69	100	19	P	V
		5066.5	39.75	-14.25	54	33.28	31.32	7.83	32.68	100	19	A	V
	*	5270	99.03	-	-	92.15	31.42	8.05	32.59	100	19	P	V
		5270	92.66	-	-	85.78	31.42	8.05	32.59	100	19	A	V
		5356.32	48.92	-25.08	74	41.99	31.46	8.02	32.55	100	19	P	V
		5352.96	41.28	-12.72	54	34.35	31.46	8.02	32.55	100	19	A	V
802.11n HT40 CH 62 5310MHz		5049.7	47.86	-26.14	74	41.39	31.32	7.83	32.68	150	346	P	H
		5082.6	39.91	-14.09	54	33.36	31.33	7.89	32.67	150	346	A	H
	*	5310	98.11	-	-	91.2	31.45	8.03	32.57	150	346	P	H
		5310	92.37	-	-	85.46	31.45	8.03	32.57	150	346	A	H
		5350.8	55.17	-18.83	74	48.24	31.46	8.02	32.55	150	346	P	H
		5350.32	48.66	-5.34	54	41.73	31.46	8.02	32.55	150	346	A	H
		5059.85	48.59	-25.41	74	42.12	31.32	7.83	32.68	108	21	P	V
		5081.55	39.8	-14.2	54	33.25	31.33	7.89	32.67	108	21	A	V
	*	5310	89.55	-	-	82.64	31.45	8.03	32.57	108	21	P	V
		5310	85.44	-	-	78.53	31.45	8.03	32.57	108	21	A	V
		5351.76	47.38	-26.62	74	40.45	31.46	8.02	32.55	108	21	P	V
		5355.12	39.37	-14.63	54	32.44	31.46	8.02	32.55	108	21	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10540	48.86	-19.44	68.3	54.25	40.05	13.36	58.8	150	220	P	H
HT40		15810	47.31	-26.69	74	53.67	37.63	15.22	59.21	168	345	P	H
CH 54		10540	49.29	-19.01	68.3	54.68	40.05	13.36	58.8	150	220	P	V
5270MHz		15810	47.72	-26.28	74	54.08	37.63	15.22	59.21	168	345	P	V
802.11n		10620	49.74	-24.26	74	54.93	40.15	13.37	58.71	150	220	P	H
HT40		15930	46.48	-27.52	74	53.45	37.1	15.26	59.33	160	100	P	H
CH 62		10620	49.57	-24.43	74	54.76	40.15	13.37	58.71	150	220	P	V
5310MHz		15930	46.22	-27.78	74	53.19	37.1	15.26	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		5009.1	48.86	-25.14	74	42.49	31.3	7.77	32.7	103	19	P	H
		5005.95	40.72	-13.28	54	34.35	31.3	7.77	32.7	103	19	A	H
	*	5290	95.39	-	-	88.5	31.43	8.04	32.58	103	19	P	H
		5290	89.05	-	-	82.16	31.43	8.04	32.58	103	19	A	H
		5352.24	58.55	-15.45	74	51.62	31.46	8.02	32.55	103	19	P	H
		5351.28	48.93	-5.07	54	42	31.46	8.02	32.55	103	19	A	H
		5067.55	48.18	-25.82	74	41.7	31.32	7.83	32.67	100	328	P	V
		5089.25	40.75	-13.25	54	34.19	31.34	7.89	32.67	100	328	A	V
	*	5290	87.68	-	-	80.79	31.43	8.04	32.58	100	328	P	V
		5290	81.1	-	-	74.21	31.43	8.04	32.58	100	328	A	V
		5355.84	51.14	-22.86	74	44.21	31.46	8.02	32.55	100	328	P	V
		5353.44	43.56	-10.44	54	36.63	31.46	8.02	32.55	100	328	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	49.26	-19.04	68.3	54.54	40.11	13.36	58.75	185	215	P	H
VHT80		15870	46.67	-27.33	74	53.39	37.33	15.23	59.28	196	190	P	H
CH 58		10580	50.24	-18.06	68.3	55.52	40.11	13.36	58.75	170	232	P	V
5290MHz		15870	47.45	-26.55	74	54.17	37.33	15.23	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		5458.96	53.35	-20.65	74	46.39	31.51	7.96	32.51	133	37	P	H
		5467.28	60.51	-7.79	68.3	53.6	31.52	7.9	32.51	133	37	P	H
		5460	46.83	-7.17	54	39.87	31.51	7.96	32.51	133	37	A	H
	*	5500	108.23	-	-	101.29	31.54	7.9	32.5	133	37	P	H
		5500	101.93	-	-	94.99	31.54	7.9	32.5	133	37	A	H
		5459.76	50.41	-23.59	74	43.45	31.51	7.96	32.51	103	330	P	V
		5466.16	54.05	-14.25	68.3	47.14	31.52	7.9	32.51	103	330	P	V
		5459.76	42.64	-11.36	54	35.68	31.51	7.96	32.51	103	330	A	V
	*	5500	102.35	-	-	95.41	31.54	7.9	32.5	103	330	P	V
		5500	95.2	-	-	88.26	31.54	7.9	32.5	103	330	A	V
802.11a CH 116 5580MHz		5444.56	47.69	-26.31	74	40.75	31.5	7.96	32.52	106	25	P	H
		5466.16	47.79	-20.51	68.3	40.88	31.52	7.9	32.51	106	25	P	H
		5448.4	39.97	-14.03	54	33.02	31.51	7.96	32.52	106	25	A	H
	*	5580	108.61	-	-	101.75	31.57	7.79	32.5	106	25	P	H
		5580	101.79	-	-	94.93	31.57	7.79	32.5	106	25	A	H
		5758.7	48.27	-20.03	68.3	40.85	32.03	7.89	32.5	106	25	P	H
		5458.48	46.97	-27.03	74	40.01	31.51	7.96	32.51	105	329	P	V
		5469.04	46.69	-21.61	68.3	39.78	31.52	7.9	32.51	105	329	P	V
		5454.16	38.63	-15.37	54	31.67	31.51	7.96	32.51	105	329	A	V
	*	5580	102.74	-	-	95.88	31.57	7.79	32.5	105	329	P	V
		5580	94.98	-	-	88.12	31.57	7.79	32.5	105	329	A	V
		5762.165	47.25	-21.05	68.3	39.83	32.03	7.89	32.5	105	329	P	V



802.11a CH 140 5700MHz	*	5700	107.47	-	-	100.34	31.78	7.85	32.5	126	351	P	H
		5700	101.27	-	-	94.14	31.78	7.85	32.5	126	351	A	H
		5725.88	57.78	-10.52	68.3	50.52	31.91	7.85	32.5	126	351	P	H
	*	5700	101.31	-	-	94.18	31.78	7.85	32.5	100	352	P	V
		5700	95.35	-	-	88.22	31.78	7.85	32.5	100	352	A	V
		5726.68	52.86	-15.44	68.3	45.6	31.91	7.85	32.5	100	352	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	47.37	-26.63	74	51.67	40.59	13.41	58.3	163	230	P	H
		16500	46.59	-21.71	68.3	51.14	38.94	15.35	58.84	196	273	P	H
		11000	46.75	-27.25	74	51.05	40.59	13.41	58.3	155	212	P	V
		16500	45.84	-22.46	68.3	50.39	38.94	15.35	58.84	178	296	P	V
802.11a CH 116 5580MHz		11160	47.25	-26.75	74	51.13	40.8	13.43	58.11	170	200	P	H
		16740	47.24	-21.06	68.3	50.49	39.93	15.4	58.58	163	332	P	H
		11160	47.76	-26.24	74	51.64	40.8	13.43	58.11	170	200	P	V
		16740	46.44	-21.86	68.3	49.69	39.93	15.4	58.58	156	350	P	V
802.11a CH 140 5700MHz		11400	47.52	-26.48	74	50.83	41.08	13.46	57.85	150	200	P	H
		17100	46.96	-21.34	68.3	48.07	41.6	15.45	58.16	165	246	P	H
		11400	46.59	-27.41	74	49.9	41.08	13.46	57.85	155	215	P	V
		17100	47.3	-21	68.3	48.41	41.6	15.45	58.16	156	180	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		5447.28	56.02	-17.98	74	49.07	31.51	7.96	32.52	133	31	P	H
		5466.64	61.82	-6.48	68.3	54.91	31.52	7.9	32.51	133	31	P	H
		5459.76	47.46	-6.54	54	40.5	31.51	7.96	32.51	133	31	A	H
		5500	108.57	-	-	101.63	31.54	7.9	32.5	133	31	P	H
		5500	102.61	-	-	95.67	31.54	7.9	32.5	133	31	A	H
		5456.24	51.3	-22.7	74	44.34	31.51	7.96	32.51	174	87	P	V
		5470	60.82	-7.48	68.3	53.91	31.52	7.9	32.51	174	87	P	V
		5459.28	44	-10	54	37.04	31.51	7.96	32.51	174	87	A	V
	*	5500	104.13	-	-	97.19	31.54	7.9	32.5	174	87	P	V
		5500	98.6	-	-	91.66	31.54	7.9	32.5	174	87	A	V
802.11n HT20 CH 116 5580MHz		5370.16	47.28	-26.72	74	40.34	31.47	8.02	32.55	171	194	P	H
		5460.64	46.63	-21.67	68.3	39.67	31.51	7.96	32.51	171	194	P	H
		5455.6	39.49	-14.51	54	32.53	31.51	7.96	32.51	171	194	A	H
	*	5580	107.6	-	-	100.74	31.57	7.79	32.5	171	194	P	H
		5580	100.62	-	-	93.76	31.57	7.79	32.5	171	194	A	H
		5750.825	48.87	-19.43	68.3	41.51	31.97	7.89	32.5	171	194	P	H
		5458.96	47.66	-26.34	74	40.7	31.51	7.96	32.51	313	101	P	V
		5461.12	45.4	-22.9	68.3	38.44	31.51	7.96	32.51	313	101	P	V
		5459.44	39.15	-14.85	54	32.19	31.51	7.96	32.51	313	101	A	V
	*	5580	105.2	-	-	98.34	31.57	7.79	32.5	313	101	P	V
		5580	98.14	-	-	91.28	31.57	7.79	32.5	313	101	A	V
		5757.125	47.41	-20.89	68.3	39.99	32.03	7.89	32.5	313	101	P	V



802.11n HT20 CH 140 5700MHz	*	5700	106.07	-	-	98.94	31.78	7.85	32.5	148	351	P	H
		5700	100.19	-	-	93.06	31.78	7.85	32.5	148	351	A	H
		5725.24	60.43	-7.87	68.3	53.17	31.91	7.85	32.5	148	351	P	H
	*	5700	101.51	-	-	94.38	31.78	7.85	32.5	101	153	P	V
		5700	94.95	-	-	87.82	31.78	7.85	32.5	101	153	A	V
		5735.72	52.71	-15.59	68.3	45.39	31.97	7.85	32.5	101	153	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		11000	47.84	-26.16	74	52.14	40.59	13.41	58.3	163	230	P	H
HT20		16500	47.01	-21.29	68.3	51.56	38.94	15.35	58.84	196	273	P	H
CH 100		11000	45.87	-28.13	74	50.17	40.59	13.41	58.3	153	112	P	V
5500MHz		16500	46.35	-21.95	68.3	50.9	38.94	15.35	58.84	178	296	P	V
802.11n		11160	47.12	-26.88	74	51	40.8	13.43	58.11	183	32	P	H
HT20		16740	45.73	-22.57	68.3	48.98	39.93	15.4	58.58	163	332	P	H
CH 116		11160	47.85	-26.15	74	51.73	40.8	13.43	58.11	170	200	P	V
5580MHz		16740	46.27	-22.03	68.3	49.52	39.93	15.4	58.58	156	350	P	V
802.11n		11400	47.66	-26.34	74	50.97	41.08	13.46	57.85	157	285	P	H
HT20		17100	47.52	-20.78	68.3	48.63	41.6	15.45	58.16	165	246	P	H
CH 140		11400	47.33	-26.67	74	50.64	41.08	13.46	57.85	122	291	P	V
5700MHz		17100	47.62	-20.68	68.3	48.73	41.6	15.45	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		5459.44	54.01	-19.99	74	47.05	31.51	7.96	32.51	156	343	P	H
		5467.6	59.27	-9.03	68.3	52.36	31.52	7.9	32.51	156	343	P	H
		5458.72	48.18	-5.82	54	41.22	31.51	7.96	32.51	156	343	A	H
	*	5510	101.87	-	-	94.98	31.54	7.85	32.5	156	343	P	H
		5510	94.61	-	-	87.72	31.54	7.85	32.5	156	343	A	H
		5742.635	47	-21.3	68.3	39.64	31.97	7.89	32.5	156	343	P	H
		5456.32	49.65	-24.35	74	42.69	31.51	7.96	32.51	116	28	P	V
		5468.8	51.85	-16.45	68.3	44.94	31.52	7.9	32.51	116	28	P	V
		5459.2	42.15	-11.85	54	35.19	31.51	7.96	32.51	116	28	A	V
	*	5510	94.77	-	-	87.88	31.54	7.85	32.5	116	28	P	V
		5510	87.59	-	-	80.7	31.54	7.85	32.5	116	28	A	V
		5750.83	46.81	-21.49	68.3	39.45	31.97	7.89	32.5	116	28	P	V
802.11n HT40 CH 110 5550MHz		5458.72	51.21	-22.79	74	44.25	31.51	7.96	32.51	122	347	P	H
		5461.6	52.82	-15.48	68.3	45.86	31.51	7.96	32.51	122	347	P	H
		5459.68	43.32	-10.68	54	36.36	31.51	7.96	32.51	122	347	A	H
	*	5550	105.93	-	-	99.08	31.56	7.79	32.5	122	347	P	H
		5550	98.06	-	-	91.21	31.56	7.79	32.5	122	347	A	H
		5754.29	48.85	-19.45	68.3	41.43	32.03	7.89	32.5	122	347	P	H
		5441.92	48.04	-25.96	74	41.1	31.5	7.96	32.52	184	99	P	V
		5466.64	48.86	-19.44	68.3	41.95	31.52	7.9	32.51	184	99	P	V
		5459.68	41.25	-12.75	54	34.29	31.51	7.96	32.51	184	99	A	V
	*	5550	100.89	-	-	94.04	31.56	7.79	32.5	184	99	P	V
		5550	92.99	-	-	86.14	31.56	7.79	32.5	184	99	A	V
		5727.52	47.54	-20.76	68.3	40.28	31.91	7.85	32.5	184	99	P	V



802.11n HT40 CH 134 5670MHz		5438.55	47.75	-26.25	74	40.81	31.5	7.96	32.52	131	346	P	H
		5466.55	46.65	-21.65	68.3	39.74	31.52	7.9	32.51	131	346	P	H
		5445.9	40.13	-13.87	54	33.18	31.51	7.96	32.52	131	346	A	H
	*	5670	105.52	-	-	98.48	31.72	7.82	32.5	131	346	P	H
		5670	98.68	-	-	91.64	31.72	7.82	32.5	131	346	A	H
		5726.5	54.57	-13.73	68.3	47.31	31.91	7.85	32.5	131	346	P	H
		5434	46.86	-27.14	74	39.92	31.5	7.96	32.52	100	2	P	V
		5460.6	46.5	-21.8	68.3	39.54	31.51	7.96	32.51	100	2	P	V
		5445.9	39.18	-14.82	54	32.23	31.51	7.96	32.52	100	2	A	V
	*	5670	98.05	-	-	91.01	31.72	7.82	32.5	100	2	P	V
		5670	91.77	-	-	84.73	31.72	7.82	32.5	100	2	A	V
		5728.78	51.33	-16.97	68.3	44.07	31.91	7.85	32.5	100	2	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		11020	49.01	-24.99	74	53.27	40.61	13.41	58.28	170	230	P	H
HT40		16530	47.7	-20.6	68.3	52.06	39.08	15.36	58.8	160	300	P	H
CH 102		11020	49.85	-24.15	74	54.11	40.61	13.41	58.28	170	230	P	V
5510MHz		16530	47.39	-20.91	68.3	51.75	39.08	15.36	58.8	160	300	P	V
802.11n		11100	49.89	-24.11	74	53.95	40.71	13.42	58.19	160	220	P	H
HT40		16650	48.3	-20	68.3	52.01	39.58	15.38	58.67	180	353	P	H
CH 110		11100	48.97	-25.03	74	53.03	40.71	13.42	58.19	155	210	P	V
5550MHz		16650	47.85	-20.45	68.3	51.56	39.58	15.38	58.67	171	352	P	V
802.11n		11340	48.03	-25.97	74	51.51	41	13.45	57.93	195	335	P	H
HT40		17010	48.2	-20.1	68.3	49.94	41.1	15.44	58.28	205	310	P	H
CH 134		11340	48.08	-25.92	74	51.56	41	13.45	57.93	205	325	P	V
5670MHz		17010	49.1	-19.2	68.3	50.84	41.1	15.44	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	56.33	-17.67	74	49.37	31.51	7.96	32.51	176	349	P	H
		5470	57.29	-11.01	68.3	50.38	31.52	7.9	32.51	176	349	P	H
		5459.68	49.03	-4.97	54	42.07	31.51	7.96	32.51	176	349	A	H
	*	5530	94.51	-	-	87.62	31.54	7.85	32.5	176	349	P	H
		5530	88.59	-	-	81.7	31.54	7.85	32.5	176	349	A	H
		5739.17	47.36	-20.94	68.3	40	31.97	7.89	32.5	176	349	P	H
		5449.84	49.58	-24.42	74	42.62	31.51	7.96	32.51	242	89	P	V
		5463.04	48.8	-19.5	68.3	41.83	31.52	7.96	32.51	242	89	P	V
		5458.72	42.11	-11.89	54	35.15	31.51	7.96	32.51	242	89	A	V
	*	5530	89.4	-	-	82.51	31.54	7.85	32.5	242	89	P	V
		5530	82.05	-	-	75.16	31.54	7.85	32.5	242	89	A	V
		5736.335	47.13	-21.17	68.3	39.81	31.97	7.85	32.5	242	89	P	V
802.11ac VHT80 CH 122 5610MHz		5456.8	50.84	-23.16	74	43.88	31.51	7.96	32.51	136	351	P	H
		5469.04	53.45	-14.85	68.3	46.54	31.52	7.9	32.51	136	351	P	H
		5454.4	44.68	-9.32	54	37.72	31.51	7.96	32.51	136	351	A	H
	*	5610	103.31	-	-	96.49	31.58	7.74	32.5	136	351	P	H
		5610	97.1	-	-	90.28	31.58	7.74	32.5	136	351	A	H
		5738.225	54.06	-14.24	68.3	46.74	31.97	7.85	32.5	136	351	P	H
		5449.84	47.13	-26.87	74	40.17	31.51	7.96	32.51	100	2	P	V
		5466.16	49.33	-18.97	68.3	42.42	31.52	7.9	32.51	100	2	P	V
		5454.88	41.33	-12.67	54	34.37	31.51	7.96	32.51	100	2	A	V
	*	5610	97.77	-	-	90.95	31.58	7.74	32.5	100	2	P	V
		5610	91.33	-	-	84.51	31.58	7.74	32.5	100	2	A	V
		5762.165	51.32	-16.98	68.3	43.9	32.03	7.89	32.5	100	2	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	49.6	-24.4	74	53.74	40.67	13.42	58.23	170	230	P	H
VHT80		16590	47.92	-20.38	68.3	52.01	39.29	15.37	58.75	155	305	P	H
CH 106		11060	49.26	-24.74	74	53.4	40.67	13.42	58.23	166	212	P	V
5530MHz		16590	47.68	-20.62	68.3	51.77	39.29	15.37	58.75	132	343	P	V
802.11ac		11220	49.26	-24.74	74	53.03	40.86	13.43	58.06	200	360	P	H
VHT80		16830	48.85	-19.45	68.3	51.64	40.29	15.41	58.49	170	315	P	H
CH 122		11220	49.51	-24.49	74	53.28	40.86	13.43	58.06	155	260	P	V
5610MHz		16830	47.43	-20.87	68.3	50.22	40.29	15.41	58.49	180	220	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		30	26.56	-13.44	40	33.74	24.7	0.52	32.4	-	-	P	H
		104.69	31.34	-12.16	43.5	45.2	17.36	0.98	32.2	100	147	P	H
		159.98	25.32	-18.18	43.5	40.19	16.1	1.21	32.18	-	-	P	H
		599.39	30.65	-15.35	46	34.21	24.79	2.35	30.7	-	-	P	H
		804.06	31.78	-14.22	46	34.15	26.21	2.73	31.31	-	-	P	H
		1000	33.4	-20.6	54	33.85	27.5	3.05	31	-	-	P	H
		48.43	30.5	-9.5	40	46.8	15.41	0.69	32.4	100	45	P	V
		105.66	31.03	-12.47	43.5	44.84	17.41	0.98	32.2	-	-	P	V
		165.8	28.93	-14.57	43.5	43.99	15.87	1.23	32.16	-	-	P	V
		430.61	25.76	-20.24	46	32.82	22.28	2	31.34	-	-	P	V
		638.19	31.28	-14.72	46	34.74	24.88	2.44	30.78	-	-	P	V
		988.36	31.76	-22.24	54	32.47	27.38	3.03	31.12	-	-	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)

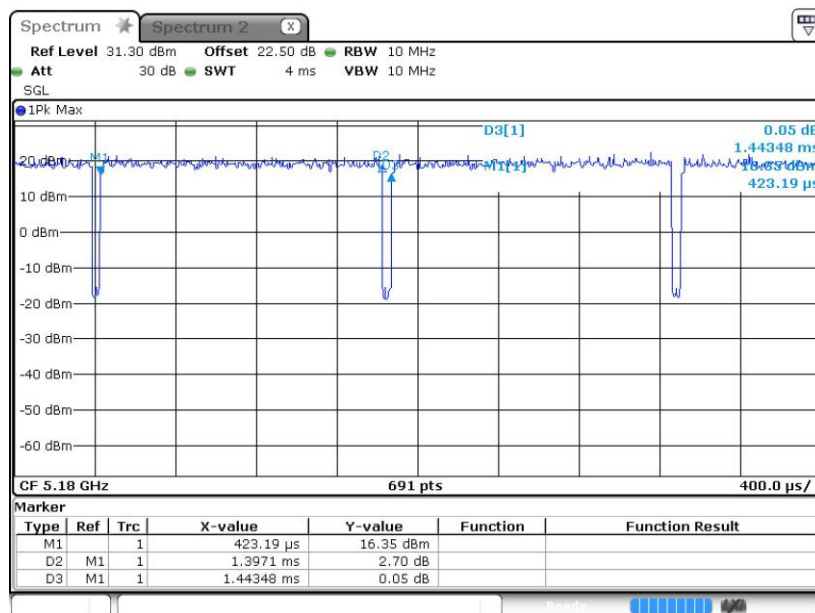
= -10.46(dB)

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

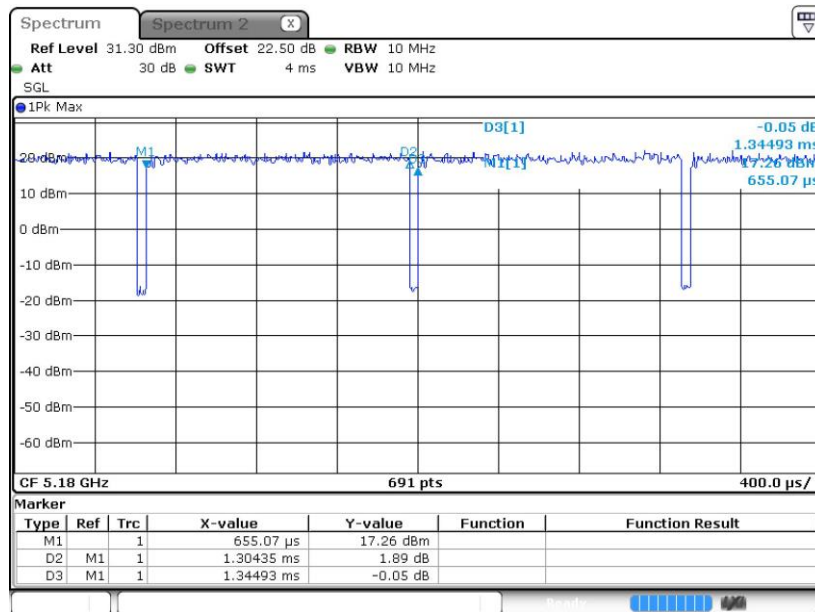
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	96.79	1.3971	0.7158	1kHz
802.11n HT20	96.98	1.3044	0.7667	1kHz
802.11n HT40	93.73	0.6493	1.5402	3kHz
802.11ac VHT80	88.19	0.3246	3.0803	10kHz

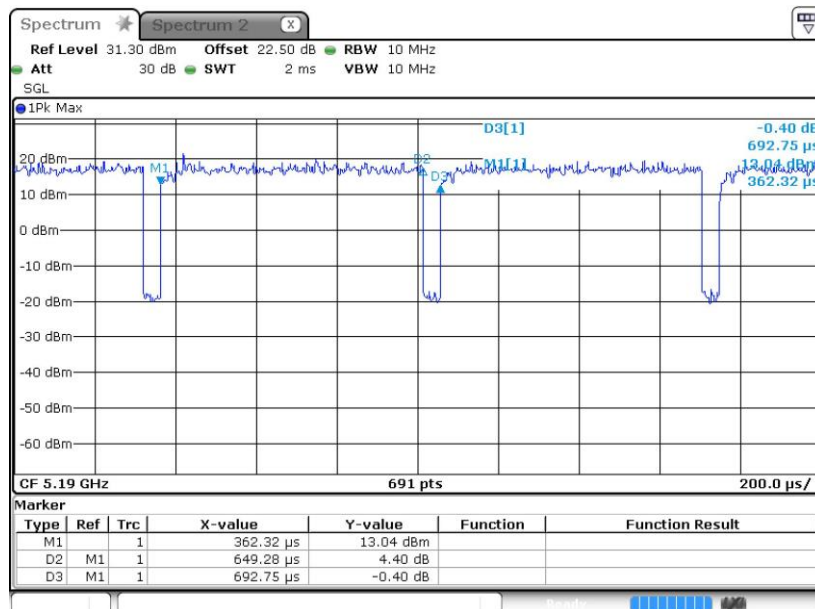
802.11a



802.11n HT20



802.11n HT40





802.11ac VHT80

