



FCC RF Test Report

APPLICANT : Guangdong OPPO Mobile Telecommunications Corp., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : OPPO
MODEL NAME : CPH2135
FCC ID : R9C-CPH2135
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Jun. 12, 2020 and testing was completed on Jun. 29, 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
FR061210E	Rev. 01	Initial issue of report	Aug. 10, 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 6.07 dB at 5351.040 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 13.15 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

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	CPH2135
FCC ID	R9C-CPH2135
EUT supports Radios application	GSM/WCDMA/LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR / EDR / LE FM Receiver / GNSS
IMEI Code	Conducted: 867522050019574 /867522050019566 Conduction: 867522050019533/867522050019525 Radiation: 867522050019616/867522050019608
HW Version	11
SW Version	ColorOS V7.2
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 : 17.50 dBm / 0.0562 W 802.11n HT20 : 16.55 dBm / 0.0452 W 802.11n HT40 : 16.27 dBm / 0.0424 W 802.11ac VHT20 : 17.34 dBm / 0.0542 W 802.11ac VHT40 : 17.25 dBm / 0.0531 W 802.11ac VHT80 : 13.89 dBm / 0.0245 W <5260 MHz ~ 5320 MHz> 802.11a : 17.42 dBm / 0.0552 W 802.11n HT20 : 16.47 dBm / 0.0444 W 802.11n HT40 : 16.18 dBm / 0.0415 W 802.11ac VHT20 : 17.25 dBm / 0.0531 W 802.11ac VHT40 : 17.14 dBm / 0.0518 W 802.11ac VHT80 : 13.74 dBm / 0.0237 W <5500 MHz ~ 5700 MHz > 802.11a : 17.64 dBm / 0.0581 W 802.11n HT20 : 16.00 dBm / 0.0398 W 802.11n HT40 : 16.62 dBm / 0.0459 W 802.11ac VHT20 : 16.79 dBm / 0.0478 W 802.11ac VHT40 : 16.67 dBm / 0.0465 W 802.11ac VHT80 : 16.04 dBm / 0.0402 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.78 MHz 802.11ac VHT20 : 17.93 MHz 802.11ac VHT40 : 36.56 MHz 802.11ac VHT80 : 77.08 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.78 MHz 802.11ac VHT20 : 17.93 MHz 802.11ac VHT40 : 36.56 MHz 802.11ac VHT80 : 77.32 MHz <5500 MHz ~ 5700 MHz > 802.11a : 16.73 MHz 802.11ac VHT20 : 17.88 MHz 802.11ac VHT40 : 36.56 MHz 802.11ac VHT80 : 76.96 MHz
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> PIFA Antenna with gain -3.00 dBi <5250 MHz ~ 5350 MHz> PIFA Antenna with gain -3.00 dBi <5470 MHz ~ 5725 MHz> PIFA 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 802.11ac VHT20/ VHT40 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
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN(5G)Link + Battery 1 + Earphone + USB Cable(Charging from Adapter 1)
Remark: For Radiated Test Cases, The tests were performance with Adapter1, Battery1, 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

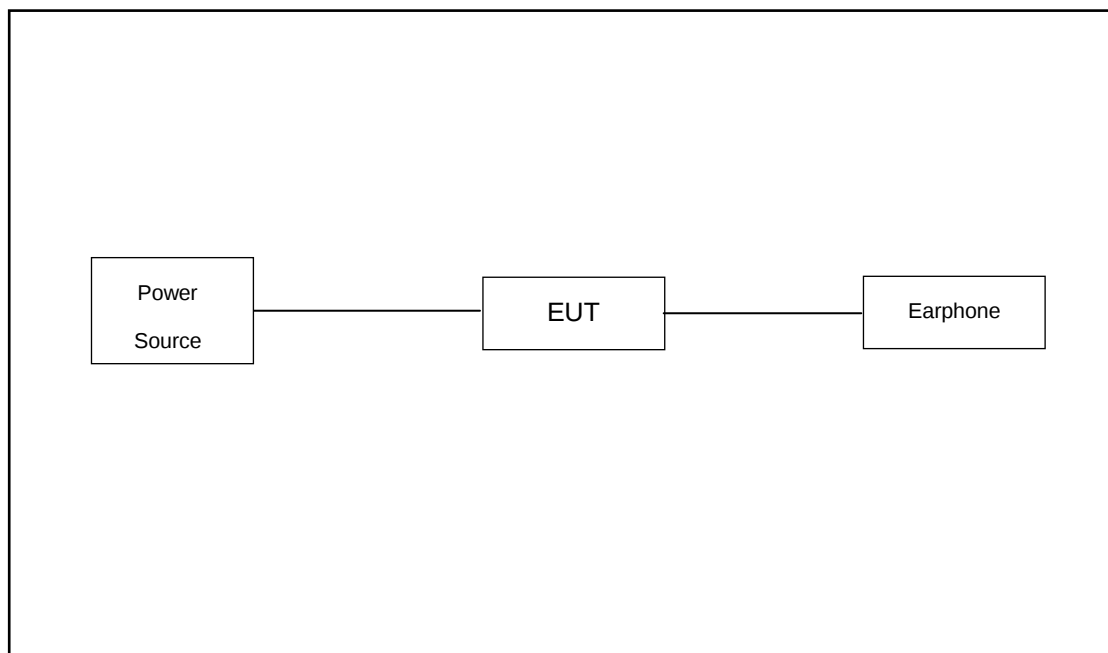
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

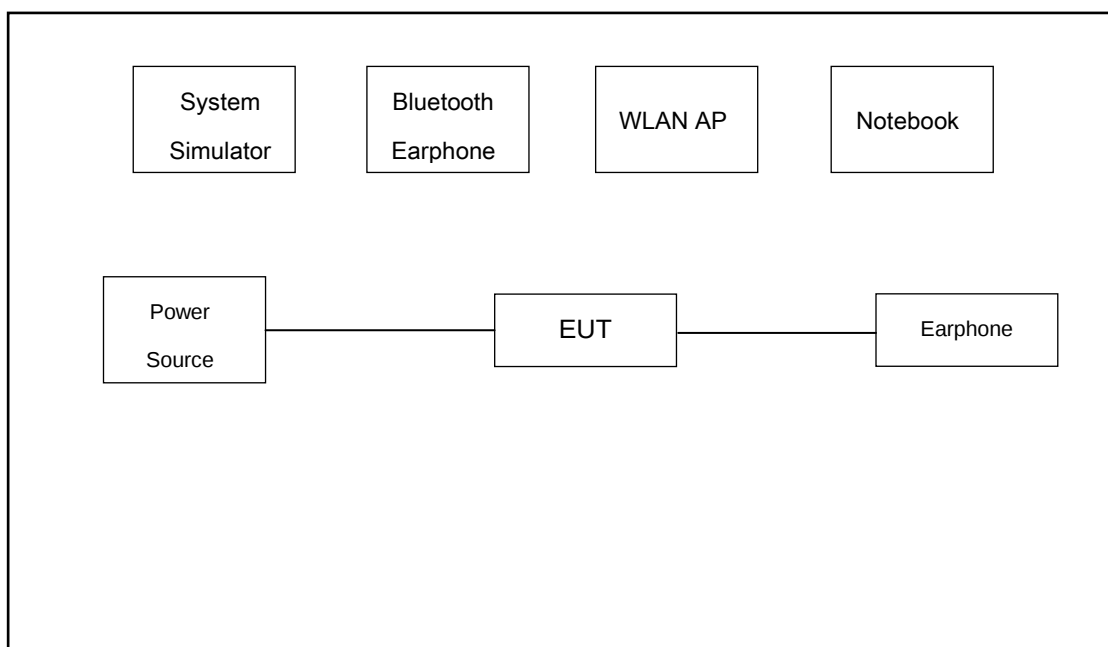
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122

2.3 Connection Diagram of Test System

For Radiation



For Conducted Emission



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	WLAN AP	D-link	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.	SD Card	N/A	MicroSD HC	FCC DoC	N/A	N/A
5.	Earphone	apple	DCAY1V-A9007ZJW3-000	N/A	N/A	N/A
6.	Ipod	apple	MC69029/A	N/A	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 15.1 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 15.1 + 10 = 25.1 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

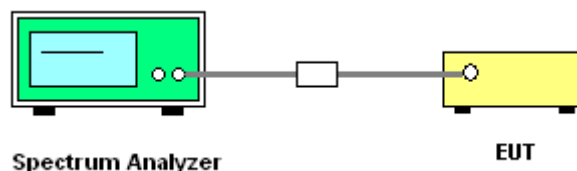
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

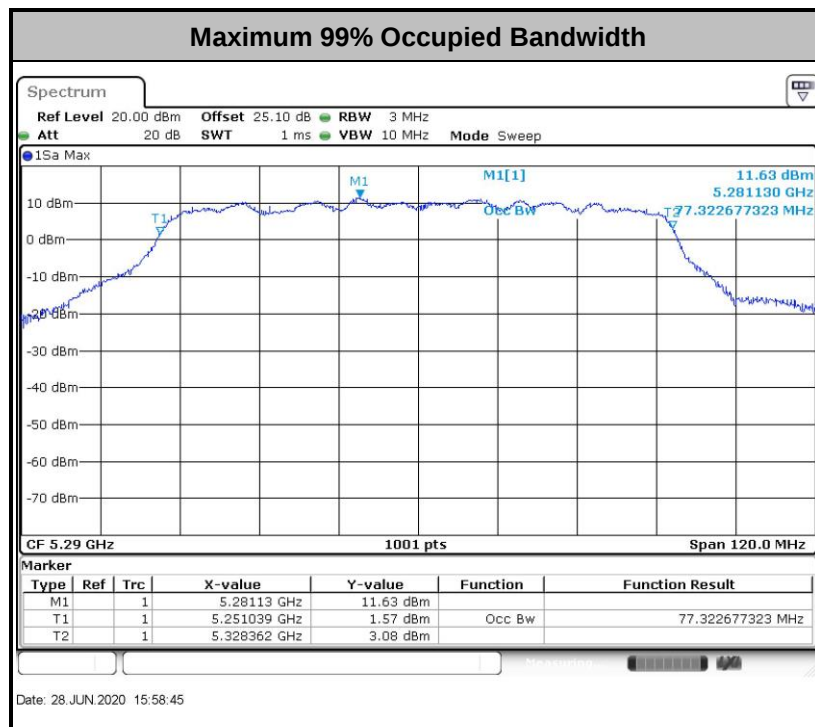
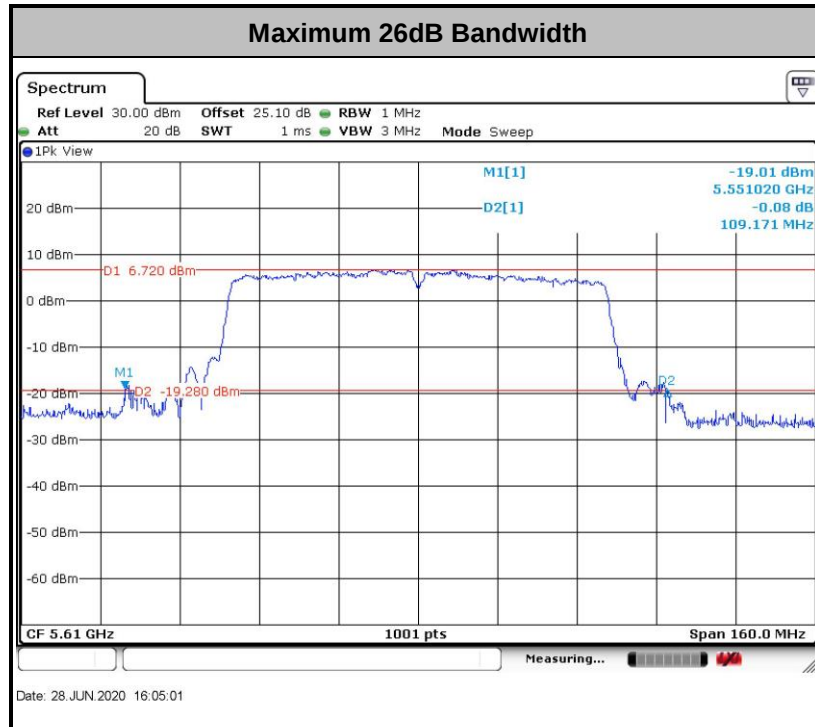
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

For the 5.47–5.6 GHz and 5.65–5.725 GHz band, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% 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.

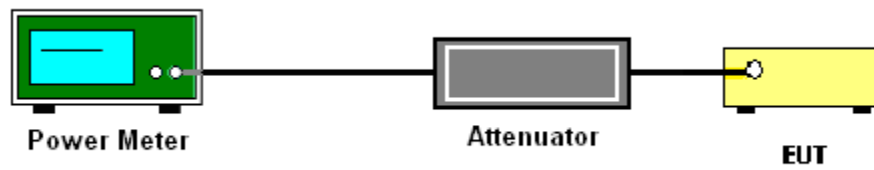
3.2.3 Test Procedures

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

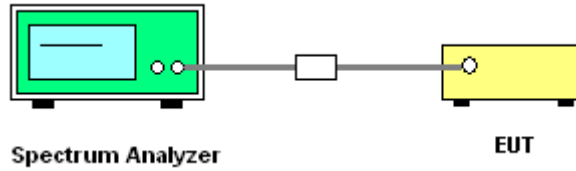
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section F) Maximum power spectral density.

Method SA-2

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

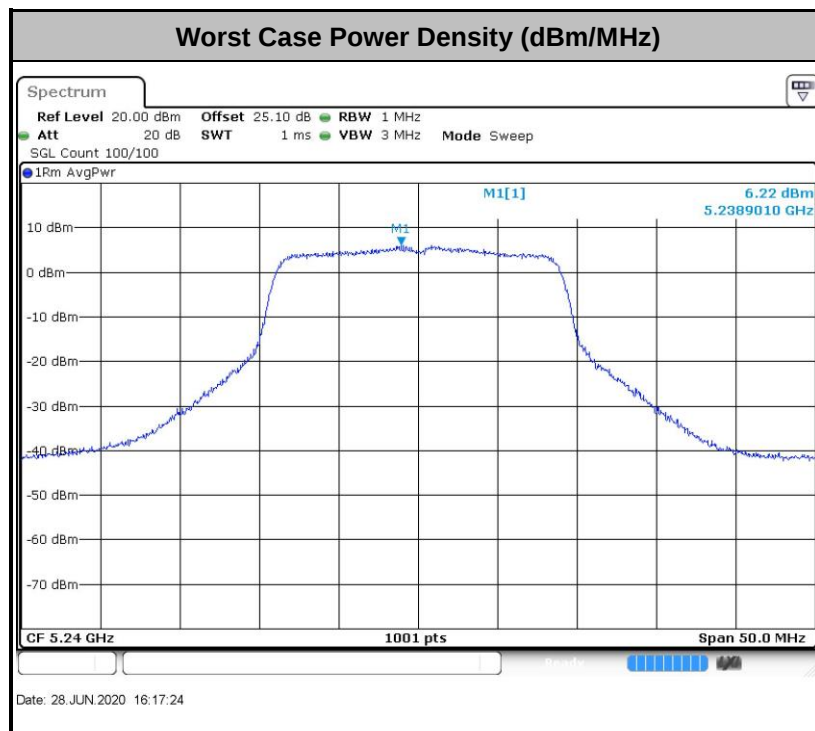
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 -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



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	68.2

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

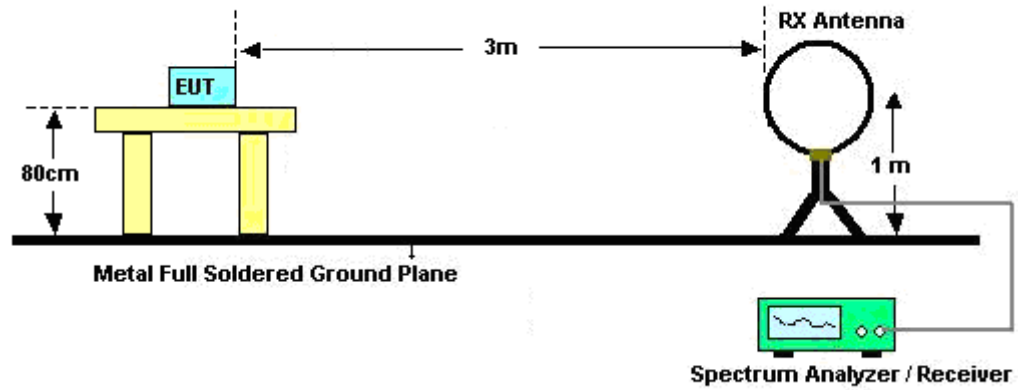
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

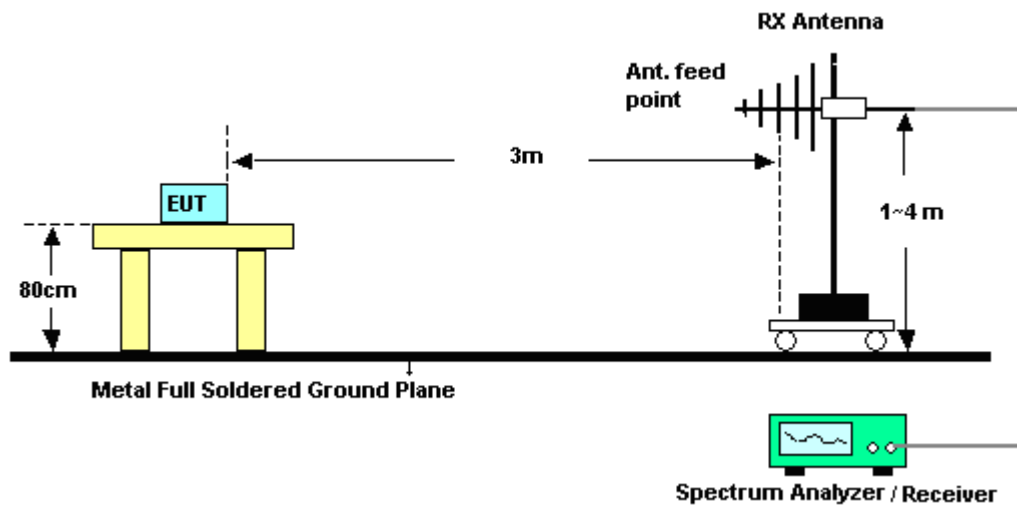
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

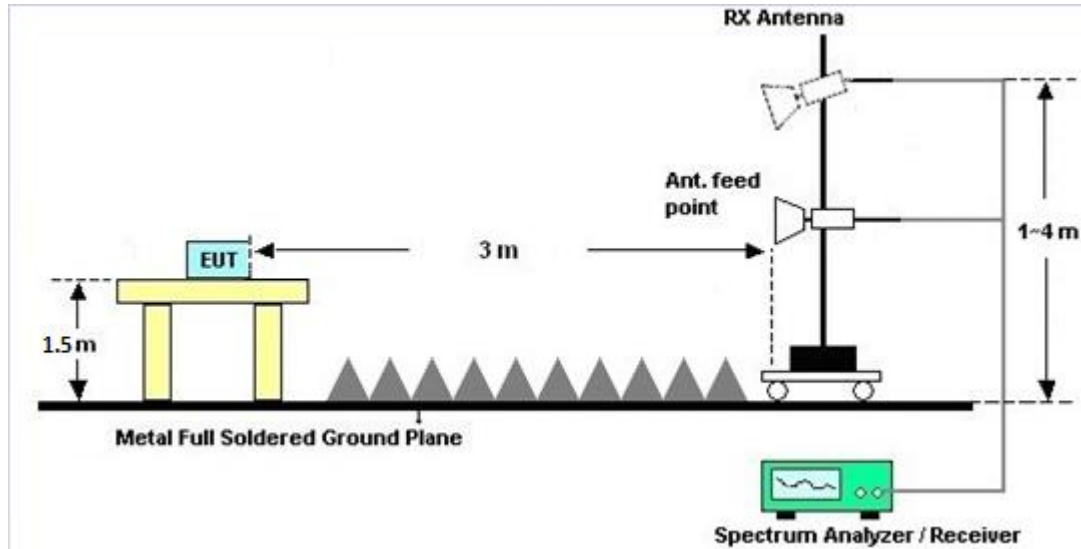
For radiated emissions below 30MHz



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

*Decreases with the logarithm of the frequency.

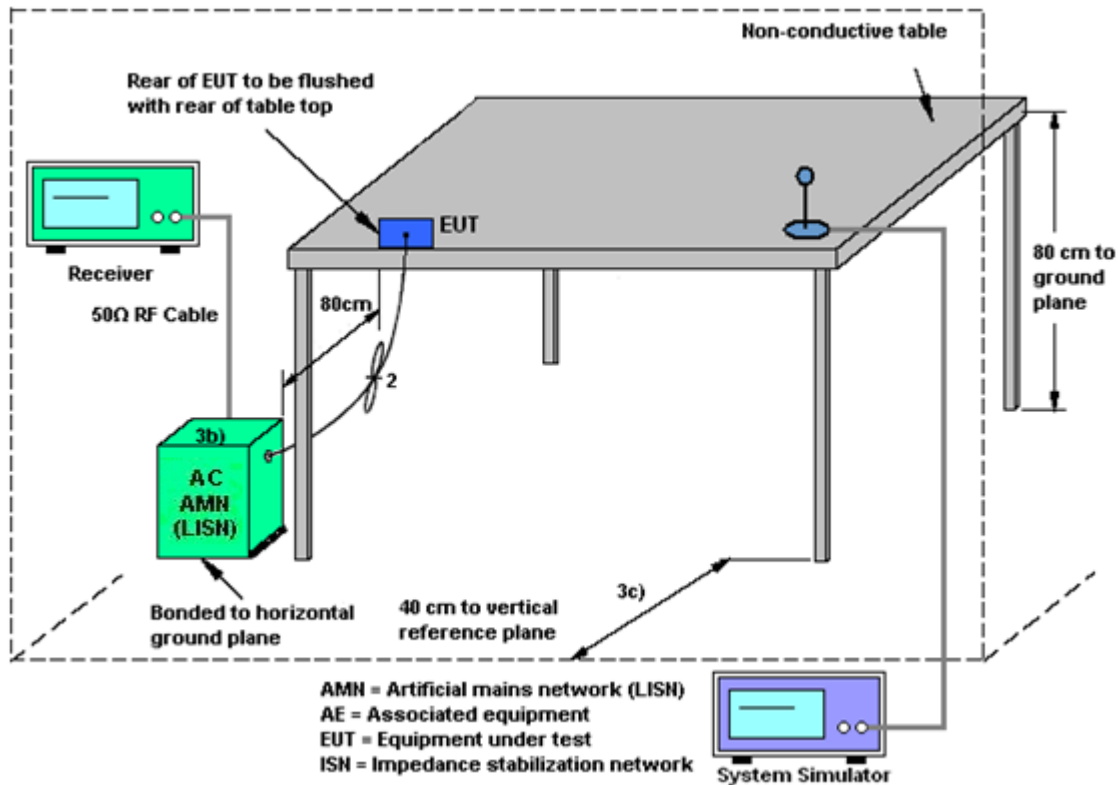
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

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. 28, 2020	Apr. 15, 2021	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Jun. 28, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Jun. 28, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 17, 2020	Jun. 23, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 17, 2020	Jun. 23, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 28, 2020	Jun. 23, 2020	May 27, 2022	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Apr. 17, 2020	Jun. 23, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 01 2020	Jun. 23, 2020	Mar. 31, 2021	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 22, 2019	Jun. 23, 2020	Jul. 21, 2020	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 17, 2020	Jun. 23, 2020	Apr. 16, 2021	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz~3000MHz	Oct. 18, 2019	Jun. 23, 2020	Oct. 17, 2020	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2019	Jun. 23, 2020	Oct. 17, 2020	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 23, 2019	Jun. 23, 2020	Dec. 22, 2020	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jun. 23, 2020	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jun. 23, 2020	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jun. 23, 2020	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2018	Jun. 29, 2020	Dec. 25, 2020	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 17, 2019	Jun. 29, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 17, 2019	Jun. 29, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 23, 2019	Jun. 29, 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% ($U = 2Uc(y)$)	2.7dB
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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

Report Number : FR061210E

Test Engineer:	Zhang Xue Yi	Temperature:	21~25	°C
Test Date:	2020/6/28	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I										
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)		
11a	6Mbps	1	36	5180	16.78	24.03	-	22.25		
11a	6Mbps	1	44	5220	16.78	24.33	-	22.25		
11a	6Mbps	1	48	5240	16.78	24.18	-	22.25		
VHT20	MCS0	1	36	5180	17.88	26.02	-	22.52		
VHT20	MCS0	1	44	5220	17.93	25.67	-	22.54		
VHT20	MCS0	1	48	5240	17.93	25.32	-	22.54		
VHT40	MCS0	1	38	5190	36.56	41.81	-	23.01		
VHT40	MCS0	1	46	5230	36.56	41.54	-	23.01		
VHT80	MCS0	1	42	5210	77.08	99.26	-	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	17.50	24.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.08	17.44	24.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.08	17.44	24.00	-3.00		Pass
HT20	MCS0	1	36	5180	0.08	16.52	24.00	-3.00		Pass
HT20	MCS0	1	44	5220	0.08	16.55	24.00	-3.00		Pass
HT20	MCS0	1	48	5240	0.08	16.48	24.00	-3.00		Pass
HT40	MCS0	1	38	5190	0.16	15.66	24.00	-3.00		Pass
HT40	MCS0	1	46	5230	0.16	16.27	24.00	-3.00		Pass
VHT20	MCS0	1	36	5180	0.08	17.34	24.00	-3.00		Pass
VHT20	MCS0	1	44	5220	0.08	17.28	24.00	-3.00		Pass
VHT20	MCS0	1	48	5240	0.08	17.28	24.00	-3.00		Pass
VHT40	MCS0	1	38	5190	0.18	15.72	24.00	-3.00		Pass
VHT40	MCS0	1	46	5230	0.18	17.25	24.00	-3.00		Pass
VHT80	MCS0	1	42	5210	0.31	13.89	24.00	-3.00		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.08	6.22	11.00	-3.00		Pass
11a	6Mbps	1	44	5220	0.08	6.16	11.00	-3.00		Pass
11a	6Mbps	1	48	5240	0.08	5.99	11.00	-3.00		Pass
VHT20	MCS0	1	36	5180	0.08	6.13	11.00	-3.00		Pass
VHT20	MCS0	1	44	5220	0.08	5.89	11.00	-3.00		Pass
VHT20	MCS0	1	48	5240	0.08	6.30	11.00	-3.00		Pass
VHT40	MCS0	1	38	5190	0.18	1.29	11.00	-3.00		Pass
VHT40	MCS0	1	46	5230	0.18	3.03	11.00	-3.00		Pass
VHT80	MCS0	1	42	5210	0.31	-4.61	11.00	-3.00		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	16.78	24.38	23.25	29.25	23.98	
11a	6M bps	1	60	5300	16.73	24.13	23.24	29.24	23.98	
11a	6M bps	1	64	5320	16.73	24.18	23.24	29.24	23.98	
VHT20	MCS 0	1	52	5260	17.93	25.72	23.54	29.54	23.98	
VHT20	MCS 0	1	60	5300	17.88	25.42	23.52	29.52	23.98	
VHT20	MCS 0	1	64	5320	17.88	25.52	23.52	29.52	23.98	
VHT40	MCS 0	1	54	5270	36.56	41.63	23.98	30.00	23.98	
VHT40	MCS 0	1	62	5310	36.56	41.81	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	77.32	89.35	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.08	17.42	23.98	-3.00	26.99	Pass
11a	6M bps	1	60	5300	0.08	17.28	23.98	-3.00	26.99	Pass
11a	6M bps	1	64	5320	0.08	17.28	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.08	16.47	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.08	16.36	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.08	16.23	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	54	5270	0.16	16.18	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	62	5310	0.16	14.72	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	52	5260	0.08	17.25	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	60	5300	0.08	17.11	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	64	5320	0.08	17.12	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	54	5270	0.18	17.14	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	62	5310	0.18	14.77	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	58	5290	0.31	13.74	23.98	-3.00	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.08	5.96	11.00	-3.00		Pass
11a	6M bps	1	60	5300	0.08	5.93	11.00	-3.00		Pass
11a	6M bps	1	64	5320	0.08	6.18	11.00	-3.00		Pass
VHT20	MCS 0	1	52	5260	0.08	5.88	11.00	-3.00		Pass
VHT20	MCS 0	1	60	5300	0.08	6.20	11.00	-3.00		Pass
VHT20	MCS 0	1	64	5320	0.08	5.82	11.00	-3.00		Pass
VHT40	MCS 0	1	54	5270	0.18	2.81	11.00	-3.00		Pass
VHT40	MCS 0	1	62	5310	0.18	0.23	11.00	-3.00		Pass
VHT80	MCS 0	1	58	5290	0.31	-4.03	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	16.73	24.13	23.24	29.24	23.98	
11a	6M bps	1	116	5580	16.73	24.03	23.24	29.24	23.98	
11a	6M bps	1	140	5700	16.73	24.18	23.24	29.24	23.98	
VHT20	MCS 0	1	100	5500	17.88	25.62	23.52	29.52	23.98	
VHT20	MCS 0	1	116	5580	17.88	25.37	23.52	29.52	23.98	
VHT20	MCS 0	1	140	5700	17.88	25.57	23.52	29.52	23.98	
VHT40	MCS 0	1	102	5510	36.56	41.81	23.98	30.00	23.98	
VHT40	MCS 0	1	110	5550	36.56	41.72	23.98	30.00	23.98	
VHT40	MCS 0	1	134	5670	36.56	41.63	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	76.12	83.60	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	76.96	109.17	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

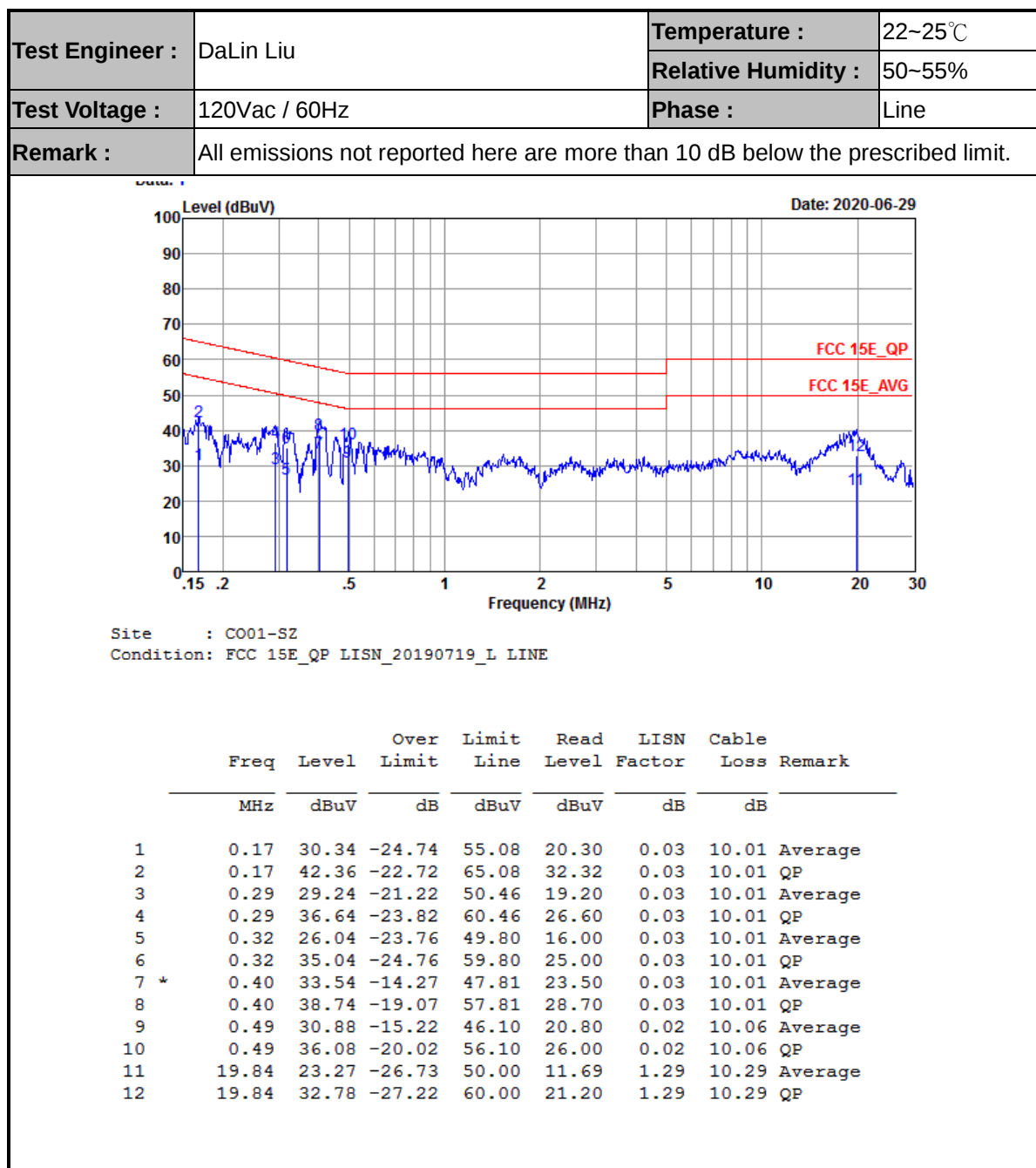
FCC Band III										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.08	17.64	23.98	-3.00	26.99	Pass
11a	6M bps	1	116	5580	0.08	17.34	23.98	-3.00	26.99	Pass
11a	6M bps	1	140	5700	0.08	17.04	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.08	16.00	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.08	15.64	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.08	15.12	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	102	5510	0.16	16.62	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	110	5550	0.16	15.52	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	134	5670	0.16	15.30	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	100	5500	0.08	16.79	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	116	5580	0.08	16.44	23.98	-3.00	26.99	Pass
VHT20	MCS 0	1	140	5700	0.08	15.17	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	102	5510	0.18	16.67	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	110	5550	0.18	16.49	23.98	-3.00	26.99	Pass
VHT40	MCS 0	1	134	5670	0.18	16.30	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	106	5530	0.31	13.22	23.98	-3.00	26.99	Pass
VHT80	MCS 0	1	122	5610	0.31	16.04	23.98	-3.00	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.08	6.09	11.00	-3.00		Pass
11a	6M bps	1	116	5580	0.08	5.49	11.00	-3.00		Pass
11a	6M bps	1	140	5700	0.08	4.94	11.00	-3.00		Pass
VHT20	MCS 0	1	100	5500	0.08	6.18	11.00	-3.00		Pass
VHT20	MCS 0	1	116	5580	0.08	5.54	11.00	-3.00		Pass
VHT20	MCS 0	1	140	5700	0.08	4.08	11.00	-3.00		Pass
VHT40	MCS 0	1	102	5510	0.18	2.93	11.00	-3.00		Pass
VHT40	MCS 0	1	110	5550	0.18	2.80	11.00	-3.00		Pass
VHT40	MCS 0	1	134	5670	0.18	1.96	11.00	-3.00		Pass
VHT80	MCS 0	1	106	5530	0.31	-3.75	11.00	-3.00		Pass
VHT80	MCS 0	1	122	5610	0.31	-1.29	11.00	-3.00		Pass

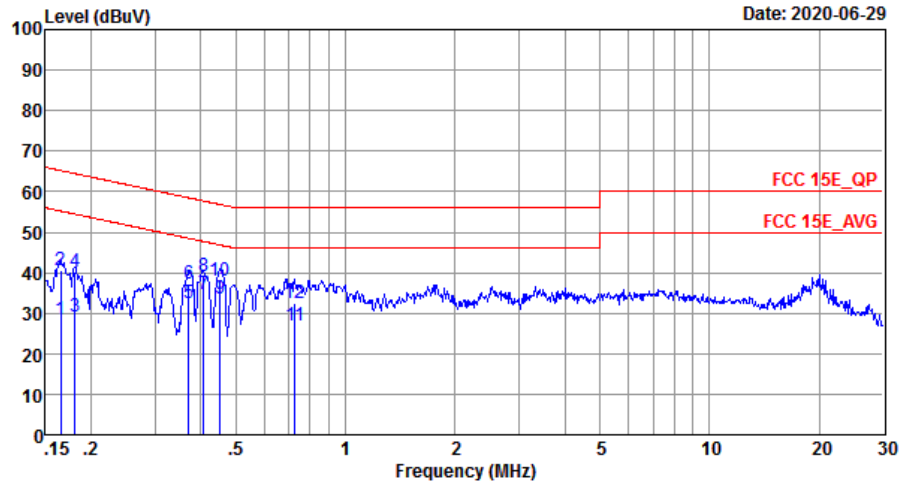


Appendix B. AC Conducted Emission Test Results





Test Engineer :	DaLin Liu	Temperature :	22~25℃
		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 : C001-SZ
Condition: FCC 15E_QP LISN_20190719_N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.17	28.34	-26.87	55.21	18.30	0.03	10.01	Average
2	0.17	40.74	-24.47	65.21	30.70	0.03	10.01	QP
3	0.18	29.24	-25.22	54.46	19.20	0.03	10.01	Average
4	0.18	40.34	-24.12	64.46	30.30	0.03	10.01	QP
5	0.37	32.53	-15.94	48.47	22.50	0.02	10.01	Average
6	0.37	37.43	-21.04	58.47	27.40	0.02	10.01	QP
7 *	0.41	34.53	-13.15	47.68	24.50	0.02	10.01	Average
8	0.41	39.13	-18.55	57.68	29.10	0.02	10.01	QP
9	0.45	33.66	-13.19	46.85	23.60	0.02	10.04	Average
10	0.45	38.16	-18.69	56.85	28.10	0.02	10.04	QP
11	0.73	27.09	-18.91	46.00	17.00	0.02	10.07	Average
12	0.73	32.59	-23.41	56.00	22.50	0.02	10.07	QP

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- 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		5135.72	47.75	-26.25	74	41.1	31.36	7.94	32.65	361	66	P	H
		5149.5	40.13	-13.87	54	33.47	31.36	7.94	32.64	361	66	A	H
	*	5180	102.88	-	-	96.13	31.38	8	32.63	361	66	P	H
		5180	96.41	-	-	89.66	31.38	8	32.63	361	66	A	H
		5134.16	50.04	-23.96	74	43.39	31.36	7.94	32.65	396	347	P	V
		5149.76	41.94	-12.06	54	35.28	31.36	7.94	32.64	396	347	A	V
	*	5180	105.82	-	-	99.07	31.38	8	32.63	396	347	P	V
		5180	99.52	-	-	92.77	31.38	8	32.63	396	347	A	V
802.11a CH 44 5220MHz		5124.02	45.67	-28.33	74	39.02	31.36	7.94	32.65	369	64	P	H
		5145.6	38.27	-15.73	54	31.61	31.36	7.94	32.64	369	64	A	H
	*	5220	102.13	-	-	95.29	31.4	8.06	32.62	369	64	P	H
		5220	95.12	-	-	88.28	31.4	8.06	32.62	369	64	A	H
		5430.32	44.92	-29.08	74	37.98	31.5	7.96	32.52	369	64	P	H
		5405.96	36.6	-17.4	54	29.63	31.49	8.01	32.53	369	64	A	H
		5041.6	46.62	-27.38	74	40.16	31.32	7.83	32.69	394	352	P	V
		5148.72	38.68	-15.32	54	32.02	31.36	7.94	32.64	394	352	A	V
	*	5220	105.73	-	-	98.89	31.4	8.06	32.62	394	352	P	V
		5220	99.25	-	-	92.41	31.4	8.06	32.62	394	352	A	V
		5362	45.33	-28.67	74	38.39	31.47	8.02	32.55	394	352	P	V
		5454.96	36.61	-17.39	54	29.65	31.51	7.96	32.51	394	352	A	V



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 48 5240MHz		5076.18	46.66	-27.34	74	40.11	31.33	7.89	32.67	347	64	P	H
		5070.46	37.49	-16.51	54	31.01	31.32	7.83	32.67	347	64	A	H
	*	5240	101.5	-	-	94.65	31.41	8.05	32.61	347	64	P	H
		5240	94.86	-	-	88.01	31.41	8.05	32.61	347	64	A	H
		5352.48	45.15	-28.85	74	38.22	31.46	8.02	32.55	347	64	P	H
		5405.4	36.3	-17.7	54	29.33	31.49	8.01	32.53	347	64	A	H
		5098.8	46.22	-27.78	74	39.65	31.34	7.89	32.66	389	338	P	V
		5148.98	37.73	-16.27	54	31.07	31.36	7.94	32.64	389	338	A	V
	*	5240	105.56	-	-	98.71	31.41	8.05	32.61	389	338	P	V
		5240	99.26	-	-	92.41	31.41	8.05	32.61	389	338	A	V
		5349.96	46.88	-21.42	68.3	39.95	31.46	8.02	32.55	389	338	P	V
		5361.72	36.67	-17.33	54	29.73	31.47	8.02	32.55	389	338	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	45.6	-22.7	68.3	51.41	39.84	13.34	58.99	152	260	P	H
		15540	47.96	-26.04	74	52.9	38.85	15.14	58.93	189	238	P	H
		10360	47.47	-20.83	68.3	53.28	39.84	13.34	58.99	152	260	P	V
		15540	47.25	-26.75	74	52.19	38.85	15.14	58.93	189	238	P	V
802.11a CH 44 5220MHz		10440	47.6	-20.7	68.3	53.24	39.93	13.35	58.92	150	230	P	H
		15660	47.81	-26.19	74	53.37	38.32	15.18	59.06	160	225	P	H
		10440	47.04	-21.26	68.3	52.68	39.93	13.35	58.92	150	230	P	V
		15660	47.15	-26.85	74	52.71	38.32	15.18	59.06	160	225	P	V
802.11a CH 48 5240MHz		10480	47.31	-20.99	68.3	52.83	39.99	13.35	58.86	150	289	P	H
		15720	47.51	-26.49	74	53.43	38.01	15.19	59.12	150	291	P	H
		10480	47.83	-20.47	68.3	53.35	39.99	13.35	58.86	150	289	P	V
		15720	47.47	-26.53	74	53.39	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 802.11ac VHT20 (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 VHT20 CH 36 5180MHz		5144.04	48.9	-25.1	74	42.24	31.36	7.94	32.64	327	52	P	H
		5147.68	39.74	-14.26	54	33.08	31.36	7.94	32.64	327	52	A	H
	*	5180	101.62	-	-	94.87	31.38	8	32.63	327	52	P	H
		5180	94.88	-	-	88.13	31.38	8	32.63	327	52	A	H
		5147.16	52.58	-21.42	74	45.92	31.36	7.94	32.64	184	352	P	V
		5148.2	42.26	-11.74	54	35.6	31.36	7.94	32.64	184	352	A	V
	*	5180	105.03	-	-	98.28	31.38	8	32.63	184	352	P	V
		5180	98.72	-	-	91.97	31.38	8	32.63	184	352	A	V
802.11ac VHT20 CH 44 5220MHz		5149.76	45.71	-28.29	74	39.05	31.36	7.94	32.64	393	53	P	H
		5147.68	37.47	-16.53	54	30.81	31.36	7.94	32.64	393	53	A	H
	*	5220	99.74	-	-	92.9	31.4	8.06	32.62	393	53	P	H
		5220	93.69	-	-	86.85	31.4	8.06	32.62	393	53	A	H
		5420.64	45.68	-28.32	74	38.71	31.49	8.01	32.53	393	53	P	H
		5454.72	36.56	-17.44	54	29.6	31.51	7.96	32.51	393	53	A	H
		5148.46	47.34	-26.66	74	40.68	31.36	7.94	32.64	229	336	P	V
		5148.2	38.53	-15.47	54	31.87	31.36	7.94	32.64	229	336	A	V
	*	5220	104.14	-	-	97.3	31.4	8.06	32.62	229	336	P	V
		5220	98.2	-	-	91.36	31.4	8.06	32.62	229	336	A	V
		5350.08	46.18	-27.82	74	39.25	31.46	8.02	32.55	229	336	P	V
		5421.6	36.65	-17.35	54	29.68	31.49	8.01	32.53	229	336	A	V



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 VHT20 CH 48 5240MHz		5096.72	45.67	-28.33	74	39.1	31.34	7.89	32.66	320	51	P	H
		5147.16	36.88	-17.12	54	30.22	31.36	7.94	32.64	320	51	A	H
	*	5240	99.61	-	-	92.76	31.41	8.05	32.61	320	51	P	H
		5240	93.36	-	-	86.51	31.41	8.05	32.61	320	51	A	H
		5397.84	45.17	-28.83	74	38.21	31.49	8.01	32.54	320	51	P	H
		5447.04	36.4	-17.6	54	29.45	31.51	7.96	32.52	320	51	A	H
		5128.44	46.29	-27.71	74	39.64	31.36	7.94	32.65	316	2	P	V
		5149.24	37.63	-16.37	54	30.97	31.36	7.94	32.64	316	2	A	V
	*	5240	104.33	-	-	97.48	31.41	8.05	32.61	316	2	P	V
		5240	98.36	-	-	91.51	31.41	8.05	32.61	316	2	A	V
		5398.56	45.44	-28.56	74	38.48	31.49	8.01	32.54	316	2	P	V
		5394.96	36.85	-17.15	54	29.89	31.49	8.01	32.54	316	2	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 VHT20 (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		10360	47.15	-21.15	68.3	52.96	39.84	13.34	58.99	152	260	P	H
VHT20		15540	47.26	-26.74	74	52.2	38.85	15.14	58.93	189	238	P	H
CH 36		10360	47.22	-21.08	68.3	53.03	39.84	13.34	58.99	152	260	P	V
5180MHz		15540	45.87	-28.13	74	50.81	38.85	15.14	58.93	189	238	P	V
802.11ac		10440	47.34	-20.96	68.3	52.98	39.93	13.35	58.92	150	230	P	H
VHT20		15660	47.37	-26.63	74	52.93	38.32	15.18	59.06	160	225	P	H
CH 44		10440	47.17	-21.13	68.3	52.81	39.93	13.35	58.92	150	230	P	V
5220MHz		15660	45.73	-28.27	74	51.29	38.32	15.18	59.06	160	225	P	V
802.11ac		10480	47.1	-21.2	68.3	52.62	39.99	13.35	58.86	150	289	P	H
VHT20		15720	46.48	-27.52	74	52.4	38.01	15.19	59.12	150	291	P	H
CH 48		10480	47.05	-21.25	68.3	52.57	39.99	13.35	58.86	150	289	P	V
5240MHz		15720	45.64	-28.36	74	51.56	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 802.11ac VHT40 (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 VHT40 CH 38 5190MHz		5147.94	51.18	-22.82	74	44.52	31.36	7.94	32.64	237	53	P	H
		5150	44.12	-9.88	54	37.46	31.36	7.94	32.64	237	53	A	H
	*	5190	99.74	-	-	92.99	31.38	8	32.63	237	53	P	H
		5190	93.08	-	-	86.33	31.38	8	32.63	237	53	A	H
		5455.24	44.52	-29.48	74	37.56	31.51	7.96	32.51	237	53	P	H
		5451.6	36.97	-17.03	54	30.01	31.51	7.96	32.51	237	53	A	H
		5149.76	56.26	-17.74	74	49.6	31.36	7.94	32.64	232	308	P	V
		5150	47.66	-6.34	54	41	31.36	7.94	32.64	232	308	A	V
	*	5190	103.78	-	-	97.03	31.38	8	32.63	232	308	P	V
		5190	95.79	-	-	89.04	31.38	8	32.63	232	308	A	V
		5437.32	44.74	-29.26	74	37.8	31.5	7.96	32.52	232	308	P	V
		5350.24	37.6	-16.4	54	30.67	31.46	8.02	32.55	232	308	A	V
802.11ac VHT40 CH 46 5230MHz		5047.84	46.41	-27.59	74	39.94	31.32	7.83	32.68	232	59	P	H
		5148.2	39.57	-14.43	54	32.91	31.36	7.94	32.64	232	59	A	H
	*	5230	98.06	-	-	91.2	31.41	8.06	32.61	232	59	P	H
		5230	92.06	-	-	85.2	31.41	8.06	32.61	232	59	A	H
		5436.24	44.65	-29.35	74	37.71	31.5	7.96	32.52	232	59	P	H
		5437.44	37.06	-16.94	54	30.12	31.5	7.96	32.52	232	59	A	H
		5148.72	48.39	-25.61	74	41.73	31.36	7.94	32.64	232	306	P	V
		5148.98	41.33	-12.67	54	34.67	31.36	7.94	32.64	232	306	A	V
	*	5230	104.57	-	-	97.71	31.41	8.06	32.61	232	306	P	V
		5230	96.9	-	-	90.04	31.41	8.06	32.61	232	306	A	V
		5424.96	46.26	-27.74	74	39.28	31.49	8.01	32.52	232	306	P	V
		5354.88	38	-16	54	31.07	31.46	8.02	32.55	232	306	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 VHT40 (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		10380	47.27	-21.03	68.3	53.03	39.87	13.34	58.97	150	360	P	H
VHT40		15570	47.7	-26.3	74	52.82	38.7	15.15	58.97	155	360	P	H
CH 38		10380	47.11	-21.19	68.3	52.87	39.87	13.34	58.97	150	360	P	V
5190MHz		15570	46.54	-27.46	74	51.66	38.7	15.15	58.97	155	360	P	V
802.11ac		10460	47.61	-20.69	68.3	53.21	39.95	13.35	58.9	150	360	P	H
VHT40		15690	47.75	-26.25	74	53.48	38.17	15.19	59.09	150	225	P	H
CH 46		10460	47.68	-20.62	68.3	53.28	39.95	13.35	58.9	150	360	P	V
5230MHz		15690	46.71	-27.29	74	52.44	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		5144.56	55.68	-18.32	74	49.02	31.36	7.94	32.64	344	48	P	H
		5141.96	46.36	-7.64	54	39.71	31.36	7.94	32.65	344	48	A	H
	*	5210	95.38	-	-	88.54	31.4	8.06	32.62	344	48	P	H
		5210	89.2	-	-	82.36	31.4	8.06	32.62	344	48	A	H
		5396.16	44.77	-29.23	74	37.81	31.49	8.01	32.54	344	48	P	H
		5356.56	36.98	-17.02	54	30.05	31.46	8.02	32.55	344	48	A	H
		5143.78	56.8	-17.2	74	50.14	31.36	7.94	32.64	322	356	P	V
		5142.74	47.05	-6.95	54	40.4	31.36	7.94	32.65	322	356	A	V
	*	5210	97.33	-	-	90.49	31.4	8.06	32.62	322	356	P	V
		5210	90.06	-	-	83.22	31.4	8.06	32.62	322	356	A	V
		5373.6	46.15	-27.85	74	39.2	31.47	8.02	32.54	322	356	P	V
		5366.88	38.07	-15.93	54	31.13	31.47	8.02	32.55	322	356	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10420	47.93	-20.37	68.3	53.6	39.91	13.35	58.93	150	360	P	H
VHT80		15630	47.88	-26.12	74	53.37	38.39	15.16	59.04	150	225	P	H
CH 42		10420	47.41	-20.89	68.3	53.08	39.91	13.35	58.93	150	360	P	V
5210MHz		15630	47.1	-26.9	74	52.59	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		5061.6	46.23	-27.77	74	39.76	31.32	7.83	32.68	307	142	P	H
		5104.3	37.73	-16.27	54	31.16	31.34	7.89	32.66	307	142	A	H
	*	5260	100.31	-	-	93.43	31.42	8.05	32.59	307	142	P	H
		5260	92.66	-	-	85.78	31.42	8.05	32.59	307	142	A	H
		5400	45.55	-28.45	74	38.58	31.49	8.01	32.53	307	142	P	H
		5452.56	36.58	-17.42	54	29.62	31.51	7.96	32.51	307	142	A	H
		5008.75	46.47	-27.53	74	40.1	31.3	7.77	32.7	381	347	P	V
		5133.35	37.91	-16.09	54	31.26	31.36	7.94	32.65	381	347	A	V
	*	5260	106.54	-	-	99.66	31.42	8.05	32.59	381	347	P	V
		5260	99.23	-	-	92.35	31.42	8.05	32.59	381	347	A	V
		5450.4	45.31	-28.69	74	38.35	31.51	7.96	32.51	381	347	P	V
		5356.56	37.21	-16.79	54	30.28	31.46	8.02	32.55	381	347	A	V
802.11a CH 60 5300MHz		5115.85	45.91	-28.09	74	39.28	31.35	7.94	32.66	304	126	P	H
		5110.25	37.51	-16.49	54	30.93	31.35	7.89	32.66	304	126	A	H
	*	5300	100.26	-	-	93.35	31.44	8.04	32.57	304	126	P	H
		5300	93.21	-	-	86.3	31.44	8.04	32.57	304	126	A	H
		5414.88	44.48	-29.52	74	37.51	31.49	8.01	32.53	304	126	P	H
		5351.76	37.07	-16.93	54	30.14	31.46	8.02	32.55	304	126	A	H
		5058.8	47.02	-26.98	74	40.55	31.32	7.83	32.68	377	345	P	V
		5150	37.78	-16.22	54	31.12	31.36	7.94	32.64	377	345	A	V
	*	5300	106.32	-	-	99.41	31.44	8.04	32.57	377	345	P	V
		5300	99.24	-	-	92.33	31.44	8.04	32.57	377	345	A	V
		5371.44	48.11	-25.89	74	41.17	31.47	8.02	32.55	377	345	P	V
		5350.32	40.23	-13.77	54	33.3	31.46	8.02	32.55	377	345	A	V



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 64 5320MHz	*	5320	102.37	-	-	95.46	31.45	8.03	32.57	325	72	P	H
		5320	95.02	-	-	88.11	31.45	8.03	32.57	325	72	A	H
		5363.2	45.76	-28.24	74	38.82	31.47	8.02	32.55	325	72	P	H
		5355.04	39.13	-14.87	54	32.2	31.46	8.02	32.55	325	72	A	H
	*	5320	107.12	-	-	100.21	31.45	8.03	32.57	376	348	P	V
		5320	99.94	-	-	93.03	31.45	8.03	32.57	376	348	A	V
		5361.12	49.92	-24.08	74	42.98	31.47	8.02	32.55	376	348	P	V
		5351.04	41.93	-12.07	54	35	31.46	8.02	32.55	376	348	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11a (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	47.65	-20.65	68.3	53.08	40.03	13.36	58.82	150	220	P	H
		15780	47.33	-26.67	74	53.51	37.79	15.21	59.18	159	345	P	H
		10520	47.66	-20.64	68.3	53.09	40.03	13.36	58.82	150	220	P	V
		15780	47.65	-26.35	74	53.83	37.79	15.21	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	47.07	-26.93	74	52.31	40.13	13.36	58.73	185	215	P	H
		15900	47.06	-26.94	74	53.85	37.26	15.25	59.3	196	190	P	H
		10600	47.23	-26.77	74	52.47	40.13	13.36	58.73	185	215	P	V
		15900	47.73	-26.27	74	54.52	37.26	15.25	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	47.65	-26.35	74	52.8	40.17	13.37	58.69	152	135	P	H
		15960	47.62	-26.38	74	54.77	36.95	15.27	59.37	173	245	P	H
		10640	47.72	-26.28	74	52.87	40.17	13.37	58.69	152	135	P	V
		15960	47.03	-26.97	74	54.18	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 802.11ac VHT20 (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 VHT20 CH 52 5260MHz		5067.86	46.12	-27.88	74	39.64	31.32	7.83	32.67	324	57	P	H
		5076.7	36.54	-17.46	54	29.99	31.33	7.89	32.67	324	57	A	H
	*	5260	99.43	-	-	92.55	31.42	8.05	32.59	324	57	P	H
		5260	93.05	-	-	86.17	31.42	8.05	32.59	324	57	A	H
		5386.08	45.54	-28.46	74	38.58	31.48	8.02	32.54	324	57	P	H
		5431.68	36.54	-17.46	54	29.6	31.5	7.96	32.52	324	57	A	H
		5135.72	45.71	-28.29	74	39.06	31.36	7.94	32.65	371	3	P	V
		5146.9	37.03	-16.97	54	30.37	31.36	7.94	32.64	371	3	A	V
	*	5260	105.11	-	-	98.23	31.42	8.05	32.59	371	3	P	V
		5260	98.38	-	-	91.5	31.42	8.05	32.59	371	3	A	V
		5408.88	46.16	-27.84	74	39.19	31.49	8.01	32.53	371	3	P	V
		5350.08	37.11	-16.89	54	30.18	31.46	8.02	32.55	371	3	A	V
802.11ac VHT20 CH 60 5300MHz		5076.65	45.39	-28.61	74	38.84	31.33	7.89	32.67	350	46	P	H
		5087.85	36.53	-17.47	54	29.98	31.33	7.89	32.67	350	46	A	H
	*	5300	98.55	-	-	91.64	31.44	8.04	32.57	350	46	P	H
		5300	92.52	-	-	85.61	31.44	8.04	32.57	350	46	A	H
		5409.6	45.93	-28.07	74	38.96	31.49	8.01	32.53	350	46	P	H
		5350.8	37.15	-16.85	54	30.22	31.46	8.02	32.55	350	46	A	H
		5037.45	45.99	-28.01	74	39.54	31.31	7.83	32.69	346	4	P	V
		5143.15	36.6	-17.4	54	29.95	31.36	7.94	32.65	346	4	A	V
	*	5300	104.76	-	-	97.85	31.44	8.04	32.57	346	4	P	V
		5300	97.92	-	-	91.01	31.44	8.04	32.57	346	4	A	V
		5357.04	49.33	-24.67	74	42.4	31.46	8.02	32.55	346	4	P	V
		5350.32	40.33	-13.67	54	33.4	31.46	8.02	32.55	346	4	A	V



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 VHT20 CH 64 5320MHz	*	5320	98.93	-	-	92.02	31.45	8.03	32.57	313	56	P	H
		5320	91.79	-	-	84.88	31.45	8.03	32.57	313	56	A	H
		5353.76	47.47	-26.53	74	40.54	31.46	8.02	32.55	313	56	P	H
		5352.64	38.16	-15.84	54	31.23	31.46	8.02	32.55	313	56	A	H
	*	5320	105.06	-	-	98.15	31.45	8.03	32.57	341	5	P	V
		5320	98.35	-	-	91.44	31.45	8.03	32.57	341	5	A	V
		5352.48	51.06	-22.94	74	44.13	31.46	8.02	32.55	341	5	P	V
		5353.44	42.73	-11.27	54	35.8	31.46	8.02	32.55	341	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 802.11ac VHT20 (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)	Preamplifier Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10520	47.24	-21.06	68.3	52.67	40.03	13.36	58.82	150	220	P	H
VHT20		15780	45.74	-28.26	74	51.92	37.79	15.21	59.18	159	345	P	H
CH 52		10520	47.88	-20.42	68.3	53.31	40.03	13.36	58.82	150	220	P	V
5260MHz		15780	47.21	-26.79	74	53.39	37.79	15.21	59.18	159	345	P	V
802.11ac		10600	47.54	-26.46	74	52.78	40.13	13.36	58.73	185	215	P	H
VHT20		15900	47.6	-26.4	74	54.39	37.26	15.25	59.3	196	190	P	H
CH 60		10600	47.42	-26.58	74	52.66	40.13	13.36	58.73	185	215	P	V
5300MHz		15900	47.31	-26.69	74	54.1	37.26	15.25	59.3	196	190	P	V
802.11ac		10640	47.78	-26.22	74	52.93	40.17	13.37	58.69	152	135	P	H
VHT20		15960	46.66	-27.34	74	53.81	36.95	15.27	59.37	173	245	P	H
CH 64		10640	46.96	-27.04	74	52.11	40.17	13.37	58.69	152	135	P	V
5320MHz		15960	47.36	-26.64	74	54.51	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 802.11ac VHT40 (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 VHT40 CH 54 5270MHz		5048.1	46.35	-27.65	74	39.88	31.32	7.83	32.68	349	59	P	H
		5079.56	38.52	-15.48	54	31.97	31.33	7.89	32.67	349	59	A	H
	*	5270	97.88	-	-	91	31.42	8.05	32.59	349	59	P	H
		5270	90.13	-	-	83.25	31.42	8.05	32.59	349	59	A	H
		5371.44	45.24	-28.76	74	38.3	31.47	8.02	32.55	349	59	P	H
		5388	37.31	-16.69	54	30.36	31.48	8.01	32.54	349	59	A	H
		5148.98	46.67	-27.33	74	40.01	31.36	7.94	32.64	230	304	P	V
		5149.24	39.05	-14.95	54	32.39	31.36	7.94	32.64	230	304	A	V
	*	5270	104.7	-	-	97.82	31.42	8.05	32.59	230	304	P	V
		5270	97.27	-	-	90.39	31.42	8.05	32.59	230	304	A	V
		5353.44	47.45	-26.55	74	40.52	31.46	8.02	32.55	230	304	P	V
		5350.56	40.45	-13.55	54	33.52	31.46	8.02	32.55	230	304	A	V
802.11ac VHT40 CH 62 5310MHz		5079.45	45.97	-28.03	74	39.42	31.33	7.89	32.67	346	63	P	H
		5023.8	38.3	-15.7	54	31.91	31.31	7.77	32.69	346	63	A	H
	*	5310	96.8	-	-	89.89	31.45	8.03	32.57	346	63	P	H
		5310	89.17	-	-	82.26	31.45	8.03	32.57	346	63	A	H
		5353.44	47.42	-26.58	74	40.49	31.46	8.02	32.55	346	63	P	H
		5350.08	41.59	-12.41	54	34.66	31.46	8.02	32.55	346	63	A	H
		5098.7	46.5	-27.5	74	39.93	31.34	7.89	32.66	327	345	P	V
		5145.6	38.46	-15.54	54	31.8	31.36	7.94	32.64	327	345	A	V
	*	5310	102.12	-	-	95.21	31.45	8.03	32.57	327	345	P	V
		5310	95.14	-	-	88.23	31.45	8.03	32.57	327	345	A	V
		5352.72	53.34	-20.66	74	46.41	31.46	8.02	32.55	327	345	P	V
		5350.8	47.24	-6.76	54	40.31	31.46	8.02	32.55	327	345	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 VHT40 (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		10540	47.53	-20.77	68.3	52.92	40.05	13.36	58.8	150	220	P	H
VHT40		15810	47.36	-26.64	74	53.72	37.63	15.22	59.21	168	345	P	H
CH 54		10540	47.18	-21.12	68.3	52.57	40.05	13.36	58.8	150	220	P	V
5270MHz		15810	47.77	-26.23	74	54.13	37.63	15.22	59.21	168	345	P	V
802.11ac		10620	47.6	-26.4	74	52.79	40.15	13.37	58.71	150	220	P	H
VHT40		15930	47.9	-26.1	74	54.87	37.1	15.26	59.33	160	100	P	H
CH 62		10620	47.57	-26.43	74	52.76	40.15	13.37	58.71	150	220	P	V
5310MHz		15930	47.68	-26.32	74	54.65	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		5050.96	47.01	-26.99	74	40.54	31.32	7.83	32.68	350	46	P	H
		5115.44	38.35	-15.65	54	31.72	31.35	7.94	32.66	350	46	A	H
	*	5290	91.99	-	-	85.1	31.43	8.04	32.58	350	46	P	H
		5290	85.25	-	-	78.36	31.43	8.04	32.58	350	46	A	H
		5356.32	49.69	-24.31	74	42.76	31.46	8.02	32.55	350	46	P	H
		5350.32	41.5	-12.5	54	34.57	31.46	8.02	32.55	350	46	A	H
		5098.28	47.52	-26.48	74	40.95	31.34	7.89	32.66	330	344	P	V
		5130.52	38.9	-15.1	54	32.25	31.36	7.94	32.65	330	344	A	V
	*	5290	97.16	-	-	90.27	31.43	8.04	32.58	330	344	P	V
		5290	90.01	-	-	83.12	31.43	8.04	32.58	330	344	A	V
		5350.32	56.99	-17.01	74	50.06	31.46	8.02	32.55	330	344	P	V
		5351.04	47.93	-6.07	54	41	31.46	8.02	32.55	330	344	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	47.23	-21.07	68.3	52.51	40.11	13.36	58.75	185	215	P	H
VHT80		15870	47.72	-26.28	74	54.44	37.33	15.23	59.28	196	190	P	H
CH 58		10580	47.44	-20.86	68.3	52.72	40.11	13.36	58.75	170	232	P	V
5290MHz		15870	47.65	-26.35	74	54.37	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		5439.76	47.17	-26.83	74	40.23	31.5	7.96	32.52	284	224	P	H
		5469.52	49.54	-18.76	68.3	42.63	31.52	7.9	32.51	284	224	P	H
		5456.24	38.54	-15.46	54	31.58	31.51	7.96	32.51	284	224	A	H
	*	5500	98.33	-	-	91.39	31.54	7.9	32.5	284	224	P	H
		5500	102.33	-	-	95.39	31.54	7.9	32.5	284	224	A	H
		5450.96	50.31	-23.69	74	43.35	31.51	7.96	32.51	352	355	P	V
		5470	54.63	-13.67	68.3	47.72	31.52	7.9	32.51	352	355	P	V
		5459.6	42.13	-11.87	54	35.17	31.51	7.96	32.51	352	355	A	V
	*	5500	104.85	-	-	97.91	31.54	7.9	32.5	352	355	P	V
		5500	98.12	-	-	91.18	31.54	7.9	32.5	352	355	A	V
802.11a CH 116 5580MHz		5445.52	46.56	-27.44	74	39.61	31.51	7.96	32.52	274	226	P	H
		5468.32	45.7	-22.6	68.3	38.79	31.52	7.9	32.51	274	226	P	H
		5444.32	36.9	-17.1	54	29.96	31.5	7.96	32.52	274	226	A	H
	*	5580	98.13	-	-	91.27	31.57	7.79	32.5	274	226	P	H
		5580	92.09	-	-	85.23	31.57	7.79	32.5	274	226	A	H
		5743.58	46.51	-21.79	68.3	39.15	31.97	7.89	32.5	274	226	P	H
		5405.44	45.8	-28.2	74	38.83	31.49	8.01	32.53	281	337	P	V
		5464.24	45.54	-22.76	68.3	38.57	31.52	7.96	32.51	281	337	P	V
		5427.28	37.01	-16.99	54	30.08	31.49	7.96	32.52	281	337	A	V
	*	5580	105.66	-	-	98.8	31.57	7.79	32.5	281	337	P	V
		5580	99.62	-	-	92.76	31.57	7.79	32.5	281	337	A	V
		5738.54	46.24	-22.06	68.3	38.88	31.97	7.89	32.5	281	337	P	V



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 140 5700MHz	*	5700	98.46	-	-	91.33	31.78	7.85	32.5	147	249	P	H
		5700	92.75	-	-	85.62	31.78	7.85	32.5	147	249	A	H
		5731.32	48.22	-20.08	68.3	40.96	31.91	7.85	32.5	147	249	P	H
	*	5700	105.55	-	-	98.42	31.78	7.85	32.5	110	33	P	V
		5700	99.82	-	-	92.69	31.78	7.85	32.5	110	33	A	V
		5727.48	50.84	-17.46	68.3	43.58	31.91	7.85	32.5	110	33	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	47.4	-26.6	74	51.7	40.59	13.41	58.3	159	360	P	H
		16500	49.26	-19.04	68.3	53.81	38.94	15.35	58.84	133	48	P	H
		11004	47.54	-26.46	74	51.84	40.59	13.41	58.3	159	158	P	V
		16500	49.27	-19.03	68.3	53.82	38.94	15.35	58.84	196	273	P	V
802.11a CH 116 5580MHz		11160	48.88	-25.12	74	52.76	40.8	13.43	58.11	183	32	P	H
		16735	48.62	-19.68	68.3	51.88	39.93	15.39	58.58	159	0	P	H
		11160	48.54	-25.46	74	52.42	40.8	13.43	58.11	159	360	P	V
		16740	49.97	-18.33	68.3	53.22	39.93	15.4	58.58	156	350	P	V
802.11a CH 140 5700MHz		11400	47.86	-26.14	74	51.17	41.08	13.46	57.85	157	285	P	H
		17100	48.9	-19.4	68.3	50.01	41.6	15.45	58.16	159	0	P	H
		11400	45.94	-28.06	74	49.25	41.08	13.46	57.85	122	291	P	V
		17100	47.22	-21.08	68.3	48.33	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 802.11ac VHT20 (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 VHT20 CH 100 5500MHz		5457.68	46.48	-27.52	74	39.52	31.51	7.96	32.51	297	71	P	H
		5470	46.6	-21.7	68.3	39.69	31.52	7.9	32.51	297	71	P	H
		5449.52	37.55	-16.45	54	30.6	31.51	7.96	32.52	297	71	A	H
	*	5500	95.42	-	-	88.48	31.54	7.9	32.5	297	71	P	H
		5500	89.52	-	-	82.58	31.54	7.9	32.5	297	71	A	H
		5460.08	51.26	-17.04	68.3	44.3	31.51	7.96	32.51	319	4	P	V
		5466.96	52.77	-15.53	68.3	45.86	31.52	7.9	32.51	319	4	P	V
		5457.36	41.84	-12.16	54	34.88	31.51	7.96	32.51	319	4	A	V
	*	5500	104.75	-	-	97.81	31.54	7.9	32.5	319	4	P	V
		5500	98.07	-	-	91.13	31.54	7.9	32.5	319	4	A	V
802.11ac VHT20 CH 116 5580MHz		5383.36	46.01	-27.99	74	39.05	31.48	8.02	32.54	294	217	P	H
		5461.36	45.29	-23.01	68.3	38.33	31.51	7.96	32.51	294	217	P	H
		5444.56	36.48	-17.52	54	29.54	31.5	7.96	32.52	294	217	A	H
	*	5580	97.38	-	-	90.52	31.57	7.79	32.5	294	217	P	H
		5580	89.27	-	-	82.41	31.57	7.79	32.5	294	217	A	H
		5731.925	45.5	-22.8	68.3	38.24	31.91	7.85	32.5	294	217	P	H
		5457.28	46.37	-27.63	74	39.41	31.51	7.96	32.51	319	4	P	V
		5461.6	45.94	-22.36	68.3	38.98	31.51	7.96	32.51	319	4	P	V
		5458.96	37.22	-16.78	54	30.26	31.51	7.96	32.51	319	4	A	V
	*	5580	105.75	-	-	98.89	31.57	7.79	32.5	319	4	P	V
		5580	98.96	-	-	92.1	31.57	7.79	32.5	319	4	A	V
		5757.44	45.66	-22.64	68.3	38.24	32.03	7.89	32.5	319	4	P	V



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 VHT20 CH 140 5700MHz	*	5700	100.67	-	-	93.54	31.78	7.85	32.5	182	25	P	H
		5700	93.6	-	-	86.47	31.78	7.85	32.5	182	25	A	H
		5727.56	49.99	-18.31	68.3	42.73	31.91	7.85	32.5	182	25	P	H
	*	5700	108.04	-	-	100.91	31.78	7.85	32.5	271	335	P	V
		5700	101.18	-	-	94.05	31.78	7.85	32.5	271	335	A	V
		5725	55.99	-12.31	68.3	48.73	31.91	7.85	32.5	271	335	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 VHT20 (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		11000	47.35	-26.65	74	51.65	40.59	13.41	58.3	163	230	P	H
VHT20		16500	46.62	-21.68	68.3	51.17	38.94	15.35	58.84	196	273	P	H
CH 100		11000	47.03	-26.97	74	51.33	40.59	13.41	58.3	155	212	P	V
5500MHz		16500	44.86	-23.44	68.3	49.41	38.94	15.35	58.84	178	296	P	V
802.11ac		11160	47.42	-26.58	74	51.3	40.8	13.43	58.11	183	32	P	H
VHT20		16740	47.44	-20.86	68.3	50.69	39.93	15.4	58.58	163	332	P	H
CH 116		11160	47.82	-26.18	74	51.7	40.8	13.43	58.11	170	200	P	V
5580MHz		16740	47.78	-20.52	68.3	51.03	39.93	15.4	58.58	156	350	P	V
802.11ac		11400	47.99	-26.01	74	51.3	41.08	13.46	57.85	157	285	P	H
VHT20		17100	47.82	-20.48	68.3	48.93	41.6	15.45	58.16	165	246	P	H
CH 140		11400	47.79	-26.21	74	51.1	41.08	13.46	57.85	122	291	P	V
5700MHz		17100	47.71	-20.59	68.3	48.82	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 802.11ac VHT40 (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 VHT40 CH 102 5510MHz		5459.44	46.02	-27.98	74	39.06	31.51	7.96	32.51	281	237	P	H
		5469.52	50.86	-17.44	68.3	43.95	31.52	7.9	32.51	281	237	P	H
		5459.92	41.2	-12.8	54	34.24	31.51	7.96	32.51	281	237	A	H
	*	5510	97.82	-	-	90.93	31.54	7.85	32.5	281	237	P	H
		5510	89.95	-	-	83.06	31.54	7.85	32.5	281	237	A	H
		5742.95	45.69	-22.61	68.3	38.33	31.97	7.89	32.5	281	237	P	H
		5458.48	52.18	-21.82	74	45.22	31.51	7.96	32.51	281	336	P	V
		5470	58.07	-10.23	68.3	51.16	31.52	7.9	32.51	281	336	P	V
		5459.44	46.26	-7.74	54	39.3	31.51	7.96	32.51	281	336	A	V
	*	5510	104.34	-	-	97.45	31.54	7.85	32.5	281	336	P	V
		5510	96.76	-	-	89.87	31.54	7.85	32.5	281	336	A	V
		5739.17	46.34	-21.96	68.3	38.98	31.97	7.89	32.5	281	336	P	V
802.11ac VHT40 CH 110 5550MHz		5427.52	44.77	-29.23	74	37.84	31.49	7.96	32.52	288	222	P	H
		5462.32	44.49	-23.81	68.3	37.53	31.51	7.96	32.51	288	222	P	H
		5456.56	37.6	-16.4	54	30.64	31.51	7.96	32.51	288	222	A	H
	*	5550	97	-	-	90.15	31.56	7.79	32.5	288	222	P	H
		5550	90.51	-	-	83.66	31.56	7.79	32.5	288	222	A	H
		5756.18	45.31	-22.99	68.3	37.89	32.03	7.89	32.5	288	222	P	H
		5458.96	46.65	-27.35	74	39.69	31.51	7.96	32.51	285	352	P	V
		5463.04	47.9	-20.4	68.3	40.93	31.52	7.96	32.51	285	352	P	V
		5459.92	39.87	-14.13	54	32.91	31.51	7.96	32.51	285	352	A	V
	*	5550	104.3	-	-	97.45	31.56	7.79	32.5	285	352	P	V
		5550	97.18	-	-	90.33	31.56	7.79	32.5	285	352	A	V
		5743.265	45.49	-22.81	68.3	38.13	31.97	7.89	32.5	285	352	P	V



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 VHT40 CH 134 5670MHz		5389.2	46.24	-27.76	74	39.29	31.48	8.01	32.54	287	34	P	H
		5464.45	44.47	-23.83	68.3	37.5	31.52	7.96	32.51	287	34	P	H
		5449.05	37.06	-16.94	54	30.11	31.51	7.96	32.52	287	34	A	H
	*	5670	100.12	-	-	93.08	31.72	7.82	32.5	287	34	P	H
		5670	92.41	-	-	85.37	31.72	7.82	32.5	287	34	A	H
		5730.525	53.86	-14.44	68.3	46.6	31.91	7.85	32.5	287	34	P	H
		5416.15	44.45	-29.55	74	37.48	31.49	8.01	32.53	292	360	P	V
		5465.85	43.6	-24.7	68.3	36.69	31.52	7.9	32.51	292	360	P	V
		5457.1	37.15	-16.85	54	30.19	31.51	7.96	32.51	292	360	A	V
	*	5670	105.14	-	-	98.1	31.72	7.82	32.5	292	360	P	V
		5670	101.91	-	-	94.87	31.72	7.82	32.5	292	360	A	V
		5726.325	56.36	-11.94	68.3	49.1	31.91	7.85	32.5	292	360	P	V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11ac VHT40 (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		11020	46.9	-27.1	74	51.16	40.61	13.41	58.28	170	230	P	H
VHT40		16530	47.97	-20.33	68.3	52.33	39.08	15.36	58.8	160	300	P	H
CH 102		11020	46.3	-27.7	74	50.56	40.61	13.41	58.28	170	230	P	V
5510MHz		16530	47.21	-21.09	68.3	51.57	39.08	15.36	58.8	160	300	P	V
802.11ac		11100	47.79	-26.21	74	51.85	40.71	13.42	58.19	160	220	P	H
VHT40		16650	47.21	-21.09	68.3	50.92	39.58	15.38	58.67	180	353	P	H
CH 110		11100	47.82	-26.18	74	51.88	40.71	13.42	58.19	155	210	P	V
5550MHz		16650	47.41	-20.89	68.3	51.12	39.58	15.38	58.67	171	352	P	V
802.11ac		11340	47.46	-26.54	74	50.94	41	13.45	57.93	195	335	P	H
VHT40		17010	47.62	-20.68	68.3	49.36	41.1	15.44	58.28	205	310	P	H
CH 134		11340	47.3	-26.7	74	50.78	41	13.45	57.93	205	325	P	V
5670MHz		17010	47.48	-20.82	68.3	49.22	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		5442.64	48.37	-25.63	74	41.43	31.5	7.96	32.52	303	220	P	H
		5466.4	50.41	-17.89	68.3	43.5	31.52	7.9	32.51	303	220	P	H
		5458	41.69	-12.31	54	34.73	31.51	7.96	32.51	303	220	A	H
	*	5530	92.18	-	-	85.29	31.54	7.85	32.5	303	220	P	H
		5530	84.28	-	-	77.39	31.54	7.85	32.5	303	220	A	H
		5755.235	45.7	-22.6	68.3	38.28	32.03	7.89	32.5	303	220	P	H
		5458.48	53.14	-20.86	74	46.18	31.51	7.96	32.51	278	333	P	V
		5461.12	54.94	-13.36	68.3	47.98	31.51	7.96	32.51	278	333	P	V
		5459.68	46.48	-7.52	54	39.52	31.51	7.96	32.51	278	333	A	V
	*	5530	97.59	-	-	90.7	31.54	7.85	32.5	278	333	P	V
		5530	90.11	-	-	83.22	31.54	7.85	32.5	278	333	A	V
		5761.22	45.88	-22.42	68.3	38.46	32.03	7.89	32.5	278	333	P	V
802.11ac VHT80 CH 122 5610MHz		5380.72	45.01	-28.99	74	38.05	31.48	8.02	32.54	310	34	P	H
		5469.28	45.06	-23.24	68.3	38.15	31.52	7.9	32.51	310	34	P	H
		5453.68	37.05	-16.95	54	30.09	31.51	7.96	32.51	310	34	A	H
	*	5610	97.08	-	-	90.26	31.58	7.74	32.5	310	34	P	H
		5610	89.48	-	-	82.66	31.58	7.74	32.5	310	34	A	H
		5737.7	48.26	-20.04	68.3	40.94	31.97	7.85	32.5	310	34	P	H
		5456.56	45.9	-28.1	74	38.94	31.51	7.96	32.51	298	360	P	V
		5461.12	44.96	-23.34	68.3	38	31.51	7.96	32.51	298	360	P	V
		5456.56	38.29	-15.71	54	31.33	31.51	7.96	32.51	298	360	A	V
	*	5610	101.48	-	-	94.66	31.58	7.74	32.5	298	360	P	V
		5610	94.61	-	-	87.79	31.58	7.74	32.5	298	360	A	V
		5730.35	50.5	-17.8	68.3	43.24	31.91	7.85	32.5	298	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (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	47.19	-26.81	74	51.33	40.67	13.42	58.23	170	230	P	H
VHT80		16590	47.26	-21.04	68.3	51.35	39.29	15.37	58.75	155	305	P	H
CH 106		11060	47.55	-26.45	74	51.69	40.67	13.42	58.23	166	212	P	V
5530MHz		16590	47.63	-20.67	68.3	51.72	39.29	15.37	58.75	132	343	P	V
802.11ac		11220	47.4	-26.6	74	51.17	40.86	13.43	58.06	200	360	P	H
VHT80		16830	47.13	-21.17	68.3	49.92	40.29	15.41	58.49	170	315	P	H
CH 122		11220	47.03	-26.97	74	50.8	40.86	13.43	58.06	155	260	P	V
5610MHz		16830	47.76	-20.54	68.3	50.55	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 802.11ac VHT80 (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)
802.11ac VHT80		52.31	24.37	-15.63	40	42.01	14.06	0.7	32.4	-	-	P	H
		105.66	33.21	-10.29	43.5	47.02	17.41	0.98	32.2	148	92	P	H
		149.31	27.22	-16.28	43.5	41.47	16.78	1.17	32.2	-	-	P	H
		182.29	24.58	-18.92	43.5	40.14	15.29	1.29	32.14	-	-	P	H
		510.15	28.07	-17.93	46	33.3	23.72	2.18	31.13	-	-	P	H
		741.01	27.93	-18.07	46	30.86	25.49	2.62	31.04	-	-	P	H
		52.31	32.63	-7.37	40	50.27	14.06	0.7	32.4	113	72	P	V
		103.72	29.16	-14.34	43.5	43.07	17.31	0.98	32.2	-	-	P	V
		152.22	29.26	-14.24	43.5	43.67	16.6	1.18	32.19	-	-	P	V
		271.53	21.1	-24.9	46	32.28	19.01	1.57	31.76	-	-	P	V
		584.84	30.62	-15.38	46	34.45	24.61	2.32	30.76	-	-	P	V
		845.77	29.08	-16.92	46	31.35	26.34	2.78	31.39	-	-	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)

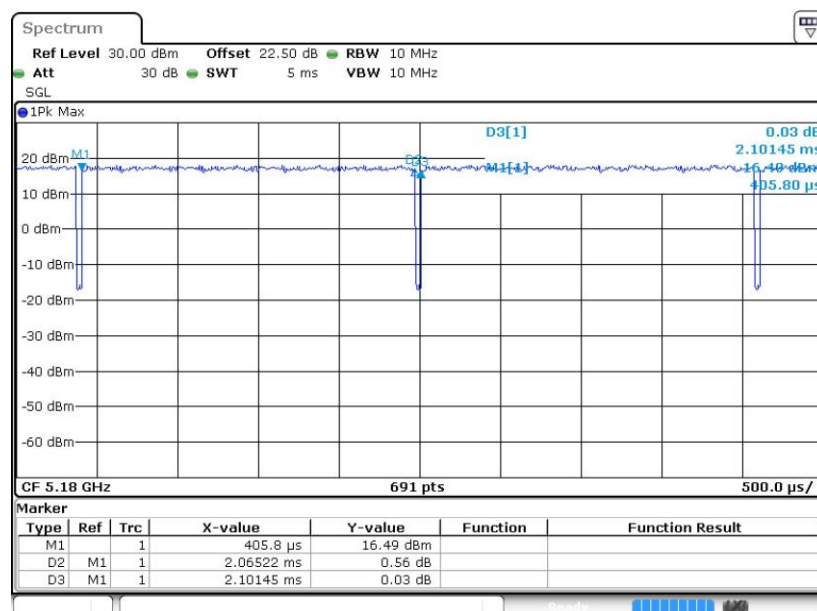
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

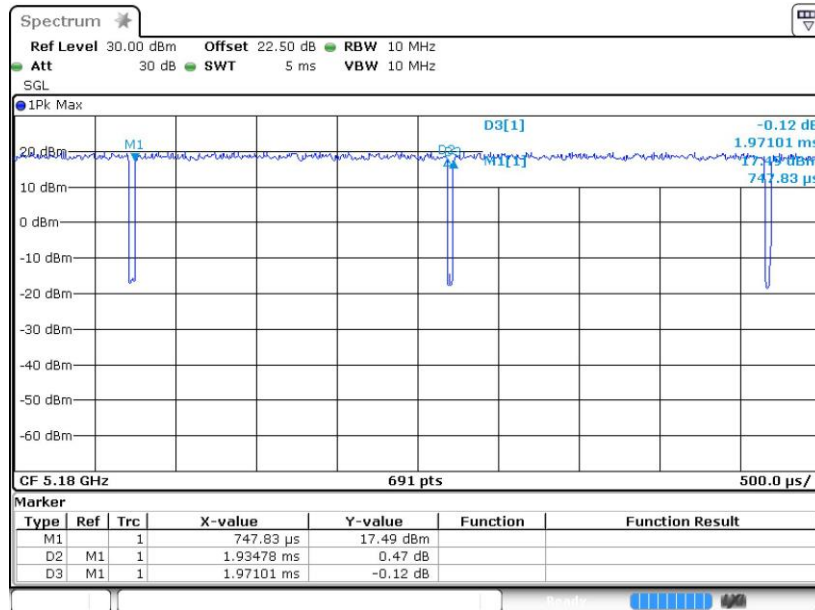
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.28	-	-	10Hz
802.11ac VHT20	98.16	-	-	10Hz
802.11ac VHT40	95.91	0.952	1.050	3kHz
802.11ac VHT80	93.04	0.465	2.150	3kHz

802.11a



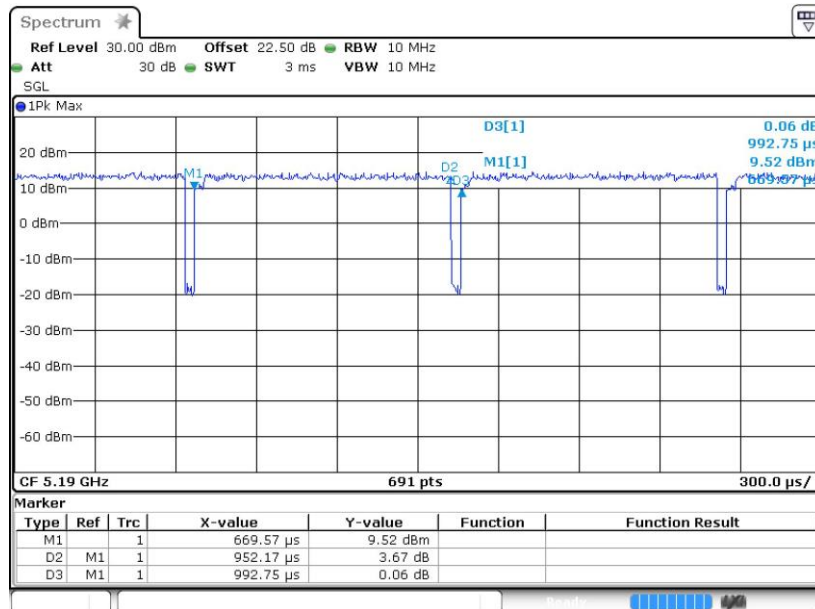
Date: 23 JUN 2020 19:25:04

802.11ac VHT20



Date: 23 JUN 2020 19:35:44

802.11ac VHT40



Date: 23 JUN 2020 19:41:13

