FCC RF Test Report

APPLICANT	:	SHARP CORPORATION, Mobile Communication B.U.
EQUIPMENT	:	Smart Phone
BRAND NAME	:	SHARP
FCC ID	:	APYHRO00288
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Aug. 01, 2020 and testing was completed on Sep. 09, 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

Cert #5145.01

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People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR080101E	Rev. 01	Initial issue of report	Sep. 15, 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 3.11 dB at 5149.760 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 16.52 dB at 0.580 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

SHARP CORPORATION, Mobile Communication B.U.
2-13-1, Hachihonmatsu-Iida, Higashi-hiroshima-shi, Hiroshima 739-0192, Japan

1.2 Manufacturer

SHARP CORPORATION
1 Takumi-cho, Sakai-ku, Sakai-shi, Osaka 590-8522, Japan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart Phone
Brand Name	SHARP
FCC ID	APYHRO00288
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: 004401117330692 Conduction: 004401117331039 Radiation: 004401117330841
HW Version	DVT
SW Version	A804G
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 10.42 dBm / 0.0110 W 802.11n HT20 : 10.45 dBm / 0.0111 W 802.11n HT40 : 10.47 dBm / 0.0111 W 802.11ac VHT20 : 10.42 dBm / 0.0110 W 802.11ac VHT40 : 10.36 dBm / 0.0109 W 802.11ac VHT80 : 10.79 dBm / 0.0120 W **<5260 MHz ~ 5320 MHz>** 802.11a : 10.89 dBm / 0.0123 W 802.11n HT20 : 10.78 dBm / 0.0120 W 802.11n HT40 : 10.73 dBm / 0.0118 W 802.11ac VHT20 : 10.71 dBm / 0.0118 W 802.11ac VHT40 : 10.62 dBm / 0.0115 W 802.11ac VHT80 : 10.66 dBm / 0.0116 W **<5500 MHz ~ 5720 MHz >** 802.11a : 11.97 dBm / 0.0157 W 802.11n HT20 : 11.98 dBm / 0.0158 W 802.11n HT40 : 11.78 dBm / 0.0151 W 802.11ac VHT20 : 11.91 dBm / 0.0155 W 802.11ac VHT40 : 11.75 dBm / 0.0150 W 802.11ac VHT80 : 11.82 dBm / 0.0152 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 17.03 MHz 802.11n HT20 : 18.08 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80 : 76.72 MHz **<5260 MHz ~ 5320 MHz>** 802.11a : 17.03 MHz 802.11n HT20 : 18.13 MHz 802.11n HT40 : 36.76 MHz 802.11ac VHT80 : 76.72 MHz **<5500 MHz ~ 5720 MHz >** 802.11a : 17.03 MHz 802.11n HT20 : 18.13 MHz 802.11n HT40 : 36.94 MHz 802.11ac VHT80 : 76.84 MHz
Antenna Type / Gain	**<5180 MHz ~ 5240 MHz >** IFA Antenna with gain -1.40 dBi **<5260 MHz ~ 5320 MHz >** IFA Antenna with gain -1.40 dBi **<5500 MHz ~ 5720 MHz >** IFA Antenna with gain -2.80 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note:

1. WLAN operation in 5600 MHz ~ 5650 MHz is notched.
2. 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.**
	03CH04-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-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 (X plane) were recorded in this report.

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42#	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5260-5320 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58#	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5500-5720 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106#	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

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

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "#" were 802.11ac VHT80.

2.2 Test Mode

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

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

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

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

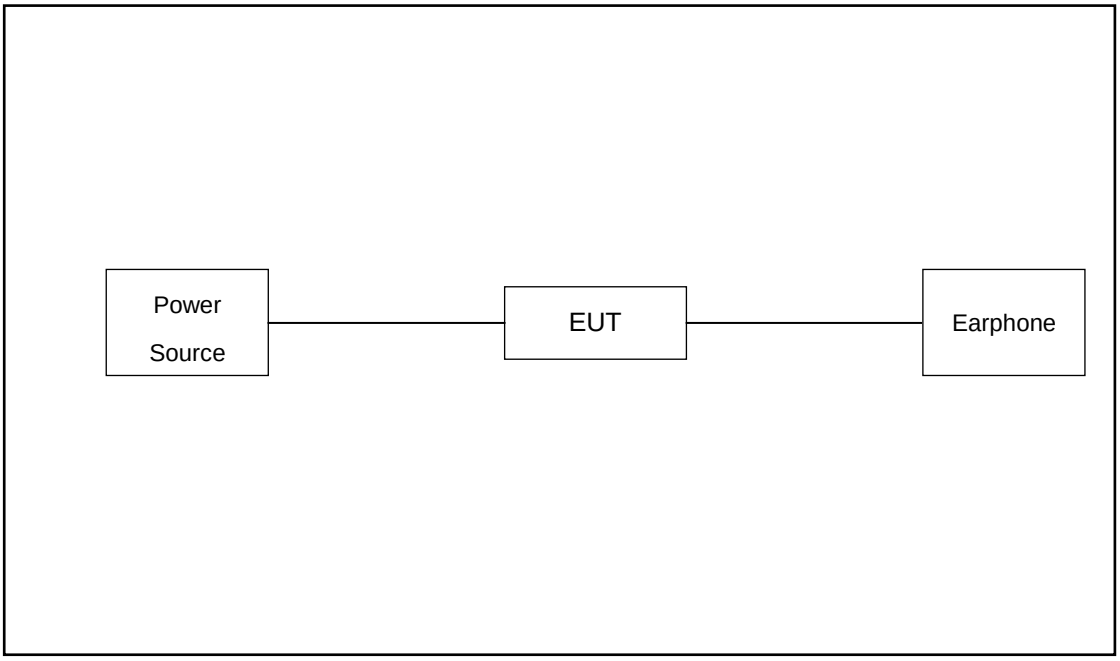
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

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

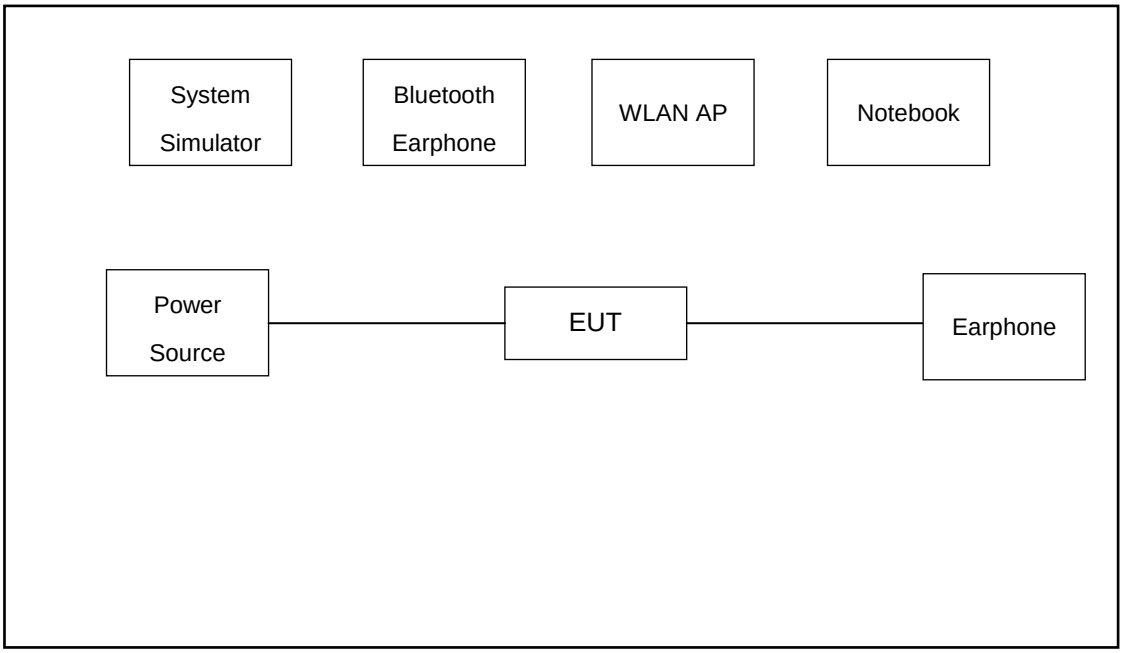
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-
Straddle		-	-	138

2.3 Connection Diagram of Test System

For Radiation



For Conducted Emission



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	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	G480	N/A	N/A	Unshielded,1.8m
4.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.0m	N/A
5.	Bluetooth Earphone	Samsung	EO-MG900	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 5.1 dB and 20dB attenuator.

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

= 5.1 + 20 = 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.

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

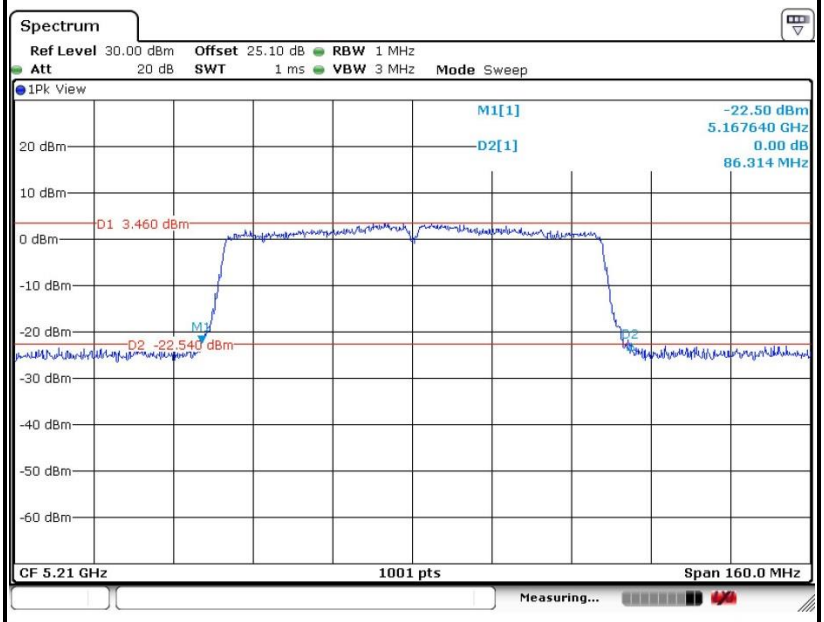
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup

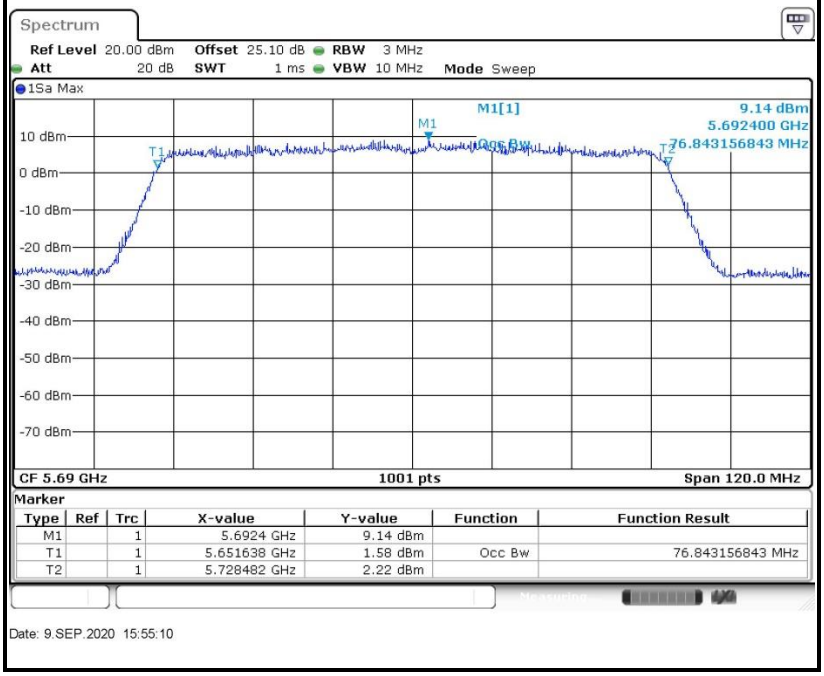
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

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

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

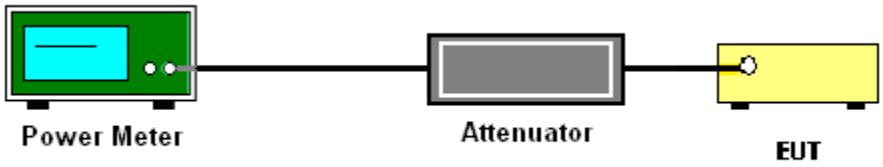
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

 # Method SA-2 #

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

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 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.

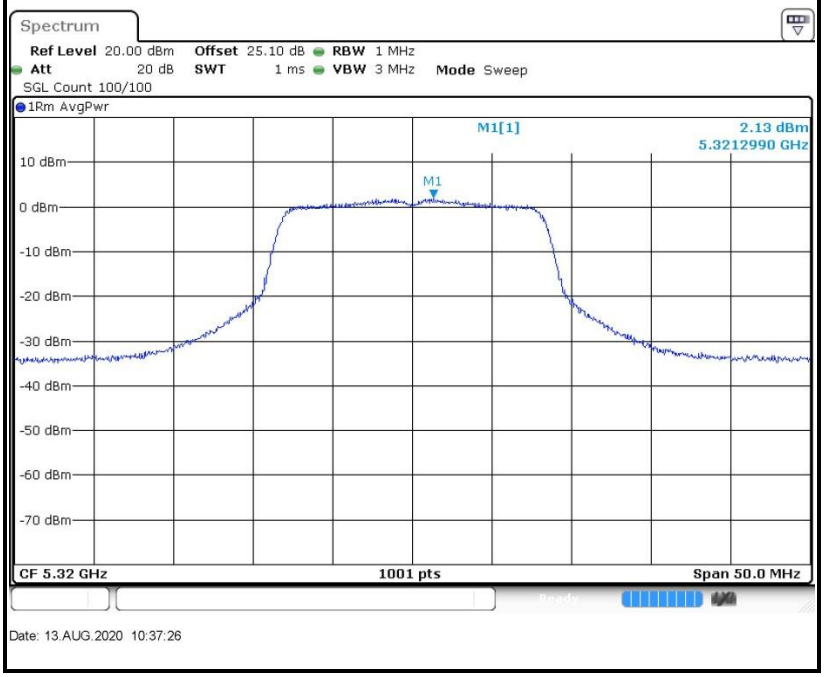
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup

3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



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.

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

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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

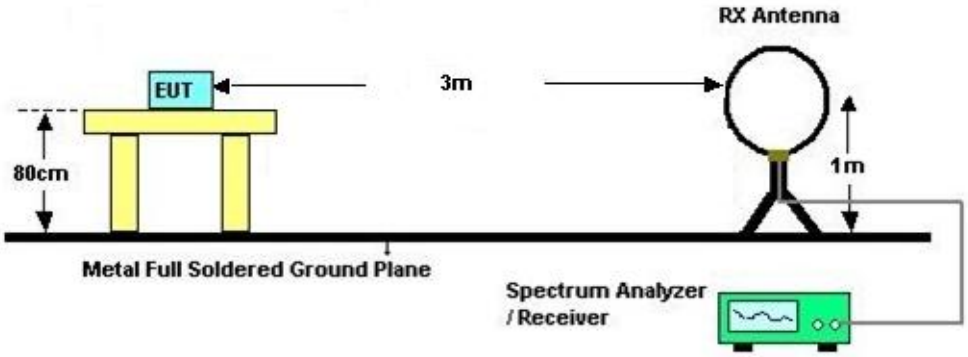
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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.

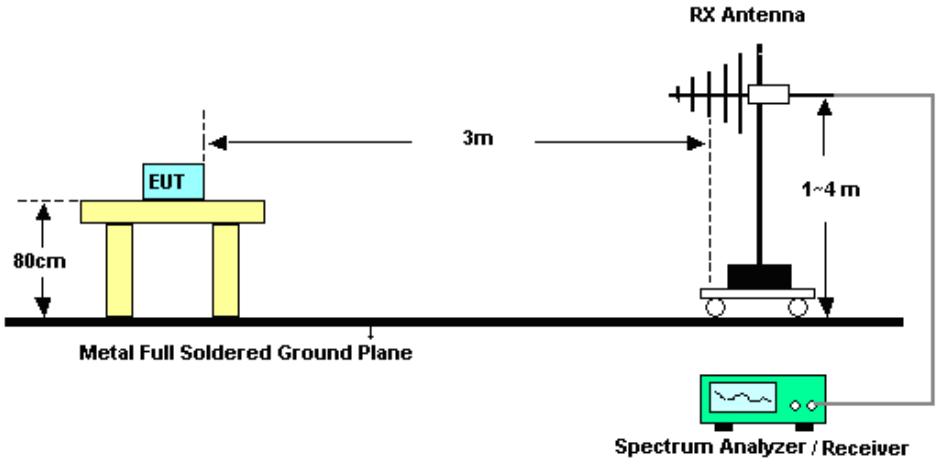
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

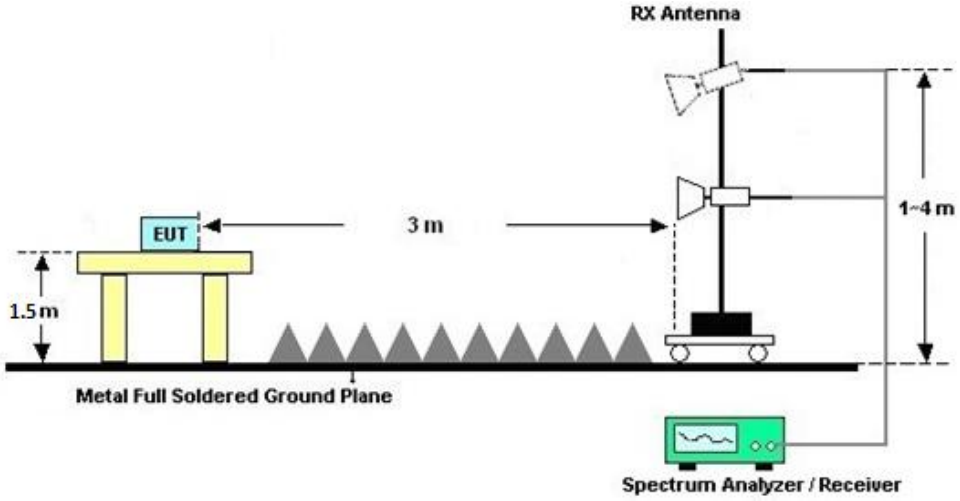
For radiated emissions below 30MHz



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.

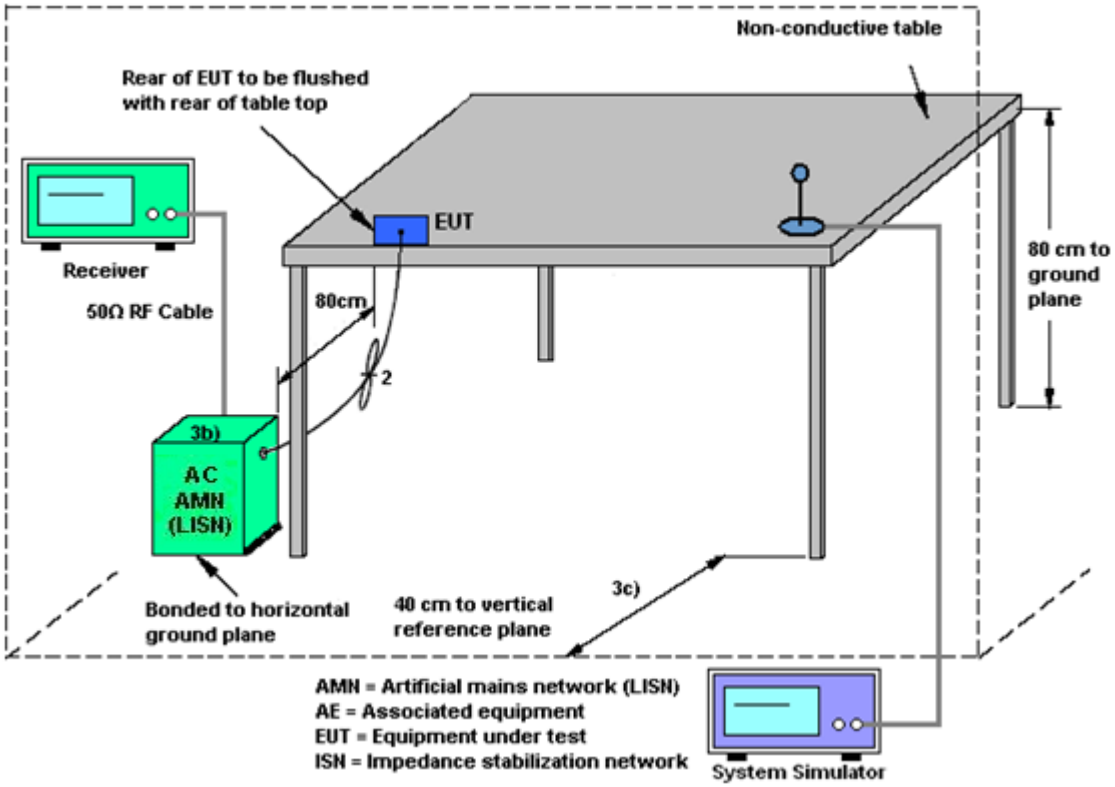
3.5.2 Measuring Instruments

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, 2020	Aug. 13, 2020~ Sep. 09, 2020	Apr. 15, 2021	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Aug. 13, 2020~ Sep. 09, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Aug. 13, 2020~ Sep. 09, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 16, 2019	Aug. 25, 2020	Oct. 15, 2020	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 21, 2020	Aug. 25, 2020	Jul. 20, 2021	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2021	Aug. 25, 2020	Jun. 21, 2022	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Nov. 07, 2019	Aug. 25, 2020	Nov. 06, 2020	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	May 23, 2020	Aug. 25, 2020	May 22, 2021	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 26, 2020	Aug. 25, 2020	Jul. 25, 2021	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 17, 2019	Aug. 25, 2020	Oct. 16, 2020	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 17, 2019	Aug. 25, 2020	Oct. 16, 2020	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2020	Aug. 25, 2020	Jul. 20, 2021	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Oct. 17, 2019	Aug. 25, 2020	Oct. 16, 2020	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Aug. 25, 2020	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 25, 2020	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 25, 2020	NCR	Radiation (03CH04-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2019	Sep. 01, 2020	Dec. 25, 2020	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 17, 2019	Sep. 01, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 17, 2019	Sep. 01, 2020	Oct. 16, 2020	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 21, 2020	Sep. 01, 2020	Jul. 20, 2021	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

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

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8dB**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Zhang Xue Yi	Temperature:	21~25	°C
Test Date:	2020/8/13~2020/09/09	Relative Humidity:	51~54	%

Report Number : FR080101E

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	16.98	26.17	-	22.30		
11a	6Mbps	1	44	5220	17.03	25.62	-	22.31		
11a	6Mbps	1	48	5240	16.98	25.92	-	22.30		
HT20	MCS0	1	36	5180	18.08	26.72	-	22.57		
HT20	MCS0	1	44	5220	18.08	26.57	-	22.57		
HT20	MCS0	1	48	5240	18.08	26.67	-	22.57		
HT40	MCS0	1	38	5190	36.86	42.53	-	23.01		
HT40	MCS0	1	46	5230	36.76	42.08	-	23.01		
VHT80	MCS0	1	42	5210	76.72	86.31	-	23.01		

Report Number : FR080101E

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	10.42	24.00	-1.40		Pass
11a	6Mbps	1	44	5220	0.08	10.33	24.00	-1.40		Pass
11a	6Mbps	1	48	5240	0.08	10.31	24.00	-1.40		Pass
HT20	MCS0	1	36	5180	0.10	10.31	24.00	-1.40		Pass
HT20	MCS0	1	44	5220	0.10	10.28	24.00	-1.40		Pass
HT20	MCS0	1	48	5240	0.10	10.45	24.00	-1.40		Pass
HT40	MCS0	1	38	5190	0.15	10.30	24.00	-1.40		Pass
HT40	MCS0	1	46	5230	0.15	10.47	24.00	-1.40		Pass
VHT20	MCS0	1	36	5180	0.09	10.26	24.00	-1.40		Pass
VHT20	MCS0	1	44	5220	0.09	10.25	24.00	-1.40		Pass
VHT20	MCS0	1	48	5240	0.09	10.42	24.00	-1.40		Pass
VHT40	MCS0	1	38	5190	0.20	10.27	24.00	-1.40		Pass
VHT40	MCS0	1	46	5230	0.20	10.36	24.00	-1.40		Pass
VHT80	MCS0	1	42	5210	0.34	10.79	24.00	-1.40		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.08	1.44	11.00	-1.40		Pass
11a	6Mbps	1	44	5220	0.08	1.83	11.00	-1.40		Pass
11a	6Mbps	1	48	5240	0.08	1.46	11.00	-1.40		Pass
HT20	MCS0	1	36	5180	0.10	1.20	11.00	-1.40		Pass
HT20	MCS0	1	44	5220	0.10	1.36	11.00	-1.40		Pass
HT20	MCS0	1	48	5240	0.10	1.14	11.00	-1.40		Pass
HT40	MCS0	1	38	5190	0.15	-1.72	11.00	-1.40		Pass
HT40	MCS0	1	46	5230	0.15	-1.41	11.00	-1.40		Pass
VHT80	MCS0	1	42	5210	0.34	-1.37	11.00	-1.40		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	17.03	26.32	23.31	29.31	23.98	
11a	6M bps	1	60	5300	16.98	25.82	23.30	29.30	23.98	
11a	6M bps	1	64	5320	17.03	25.67	23.31	29.31	23.98	
HT20	MCS 0	1	52	5260	18.08	26.17	23.57	29.57	23.98	
HT20	MCS 0	1	60	5300	18.13	26.37	23.58	29.58	23.98	
HT20	MCS 0	1	64	5320	18.08	26.32	23.57	29.57	23.98	
HT40	MCS 0	1	54	5270	36.76	42.71	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.76	42.35	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	76.72	86.15	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.08	10.50	23.98	-1.40	26.99	Pass
11a	6M bps	1	60	5300	0.08	10.81	23.98	-1.40	26.99	Pass
11a	6M bps	1	64	5320	0.08	10.89	23.98	-1.40	26.99	Pass
HT20	MCS 0	1	52	5260	0.10	10.64	23.98	-1.40	26.99	Pass
HT20	MCS 0	1	60	5300	0.10	10.74	23.98	-1.40	26.99	Pass
HT20	MCS 0	1	64	5320	0.10	10.78	23.98	-1.40	26.99	Pass
HT40	MCS 0	1	54	5270	0.15	10.60	23.98	-1.40	26.99	Pass
HT40	MCS 0	1	62	5310	0.15	10.73	23.98	-1.40	26.99	Pass
VHT20	MCS 0	1	52	5260	0.09	10.51	23.98	-1.40	26.99	Pass
VHT20	MCS 0	1	60	5300	0.09	10.64	23.98	-1.40	26.99	Pass
VHT20	MCS 0	1	64	5320	0.09	10.71	23.98	-1.40	26.99	Pass
VHT40	MCS 0	1	54	5270	0.20	10.58	23.98	-1.40	26.99	Pass
VHT40	MCS 0	1	62	5310	0.20	10.62	23.98	-1.40	26.99	Pass
VHT80	MCS 0	1	58	5290	0.34	10.66	23.98	-1.40	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.08	1.58	11.00	-1.40		Pass
11a	6M bps	1	60	5300	0.08	2.11	11.00	-1.40		Pass
11a	6M bps	1	64	5320	0.08	2.21	11.00	-1.40		Pass
HT20	MCS 0	1	52	5260	0.10	1.11	11.00	-1.40		Pass
HT20	MCS 0	1	60	5300	0.10	1.60	11.00	-1.40		Pass
HT20	MCS 0	1	64	5320	0.10	1.60	11.00	-1.40		Pass
HT40	MCS 0	1	54	5270	0.15	-1.56	11.00	-1.40		Pass
HT40	MCS 0	1	62	5310	0.15	-1.24	11.00	-1.40		Pass
VHT80	MCS 0	1	58	5290	0.34	-4.72	11.00	-1.40		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	17.03	25.27	23.31	29.31	23.98	
11a	6M bps	1	116	5580	16.98	25.87	23.30	29.30	23.98	
11a	6M bps	1	140	5700	16.98	26.27	23.30	29.30	23.98	
11a	6Mbps	1	144	5720	17.03	25.22	23.31	29.31	23.98	
HT20	MCS 0	1	100	5500	18.08	26.42	23.57	29.57	23.98	
HT20	MCS 0	1	116	5580	18.13	26.72	23.58	29.58	23.98	
HT20	MCS 0	1	140	5700	18.08	26.67	23.57	29.57	23.98	
HT20	MCS0	1	144	5720	18.08	26.67	23.57	29.57	23.98	
HT40	MCS 0	1	102	5510	36.86	42.62	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.76	42.62	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.76	42.35	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.94	42.26	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	76.72	83.76	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	76.84	83.92	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

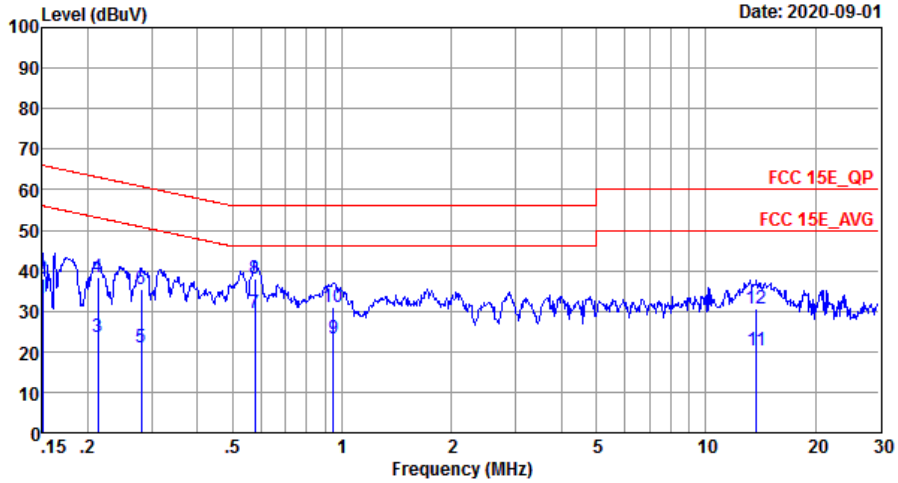
FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.08	11.97	23.98	-2.80	26.99	Pass
11a	6M bps	1	116	5580	0.08	11.74	23.98	-2.80	26.99	Pass
11a	6M bps	1	140	5700	0.08	11.55	23.98	-2.80	26.99	Pass
11a	6M bps	1	144	5720	0.08	11.50	23.98	-2.80	26.99	Pass
HT20	MCS 0	1	100	5500	0.10	11.98	23.98	-2.80	26.99	Pass
HT20	MCS 0	1	116	5580	0.10	11.75	23.98	-2.80	26.99	Pass
HT20	MCS 0	1	140	5700	0.10	11.46	23.98	-2.80	26.99	Pass
HT20	MCS 0	1	144	5720	0.10	11.41	23.98	-2.80	26.99	Pass
HT40	MCS 0	1	102	5510	0.15	11.67	23.98	-2.80	26.99	Pass
HT40	MCS 0	1	110	5550	0.15	11.50	23.98	-2.80	26.99	Pass
HT40	MCS 0	1	134	5670	0.15	11.71	23.98	-2.80	26.99	Pass
HT40	MCS 0	1	142	5710	0.15	11.78	23.98	-2.80	26.99	Pass
VHT20	MCS 0	1	100	5500	0.09	11.91	23.98	-2.80	26.99	Pass
VHT20	MCS 0	1	116	5580	0.09	11.69	23.98	-2.80	26.99	Pass
VHT20	MCS 0	1	140	5700	0.09	11.42	23.98	-2.80	26.99	Pass
VHT20	MCS 0	1	144	5720	0.09	11.38	23.98	-2.80	26.99	Pass
VHT40	MCS 0	1	102	5510	0.20	11.62	23.98	-2.80	26.99	Pass
VHT40	MCS 0	1	110	5550	0.20	11.48	23.98	-2.80	26.99	Pass
VHT40	MCS 0	1	134	5670	0.20	11.68	23.98	-2.80	26.99	Pass
VHT40	MCS 0	1	142	5710	0.20	11.75	23.98	-2.80	26.99	Pass
VHT80	MCS 0	1	106	5530	0.34	11.49	23.98	-2.80	26.99	Pass
VHT80	MCS 0	1	138	5690	0.34	11.82	23.98	-2.80	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.08	2.18	11.00	-2.80		Pass
11a	6M bps	1	116	5580	0.08	1.65	11.00	-2.80		Pass
11a	6M bps	1	140	5700	0.08	1.09	11.00	-2.80		Pass
11a	6Mbps	1	144	5720	0.08	0.90	11.00	-2.80		Pass
HT20	MCS 0	1	100	5500	0.10	1.38	11.00	-2.80		Pass
HT20	MCS 0	1	116	5580	0.10	1.02	11.00	-2.80		Pass
HT20	MCS 0	1	140	5700	0.10	0.69	11.00	-2.80		Pass
HT20	MCS0	1	144	5720	0.10	0.51	11.00	-2.80		Pass
HT40	MCS 0	1	102	5510	0.15	-1.72	11.00	-2.80		Pass
HT40	MCS 0	1	110	5550	0.15	-1.71	11.00	-2.80		Pass
HT40	MCS 0	1	134	5670	0.15	-1.99	11.00	-2.80		Pass
HT40	MCS0	1	142	5710	0.15	-2.01	11.00	-2.80		Pass
VHT80	MCS 0	1	106	5530	0.34	-4.60	11.00	-2.80		Pass
VHT80	MCS0	1	138	5690	0.34	-4.98	11.00	-2.80		Pass

Appendix B. AC Conducted Emission Test Results

Test Engineer :	YuQiang Xie	Temperature :	22~25℃
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line

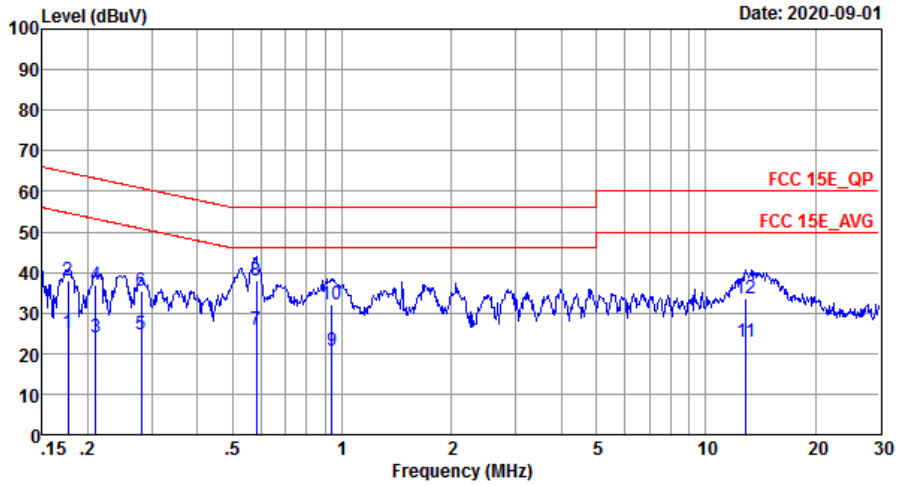


Site : CO01-SZ
Condition: FCC 15E_QP LISN_20200719_L LINE

Mode : Mode 1
IMEI : 00441117331039

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	33.34	-22.66	56.00	23.30	0.03	10.01	Average
2		0.15	38.04	-27.96	66.00	28.00	0.03	10.01	QP
3		0.21	23.64	-29.46	53.10	13.60	0.03	10.01	Average
4		0.21	38.44	-24.66	63.10	28.40	0.03	10.01	QP
5		0.28	20.94	-29.87	50.81	10.90	0.03	10.01	Average
6		0.28	35.44	-25.37	60.81	25.40	0.03	10.01	QP
7	*	0.58	29.48	-16.52	46.00	19.40	0.02	10.06	Average
8		0.58	37.88	-18.12	56.00	27.80	0.02	10.06	QP
9		0.95	23.12	-22.88	46.00	13.01	0.06	10.05	Average
10		0.95	31.12	-24.88	56.00	21.01	0.06	10.05	QP
11		13.77	20.36	-29.64	50.00	9.60	0.48	10.28	Average
12		13.77	30.56	-29.44	60.00	19.80	0.48	10.28	QP

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



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20200719_N NEUTRAL

Mode : Mode 1
IMEI : 00441117331039

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.18	25.04	-29.60	54.64	15.00	0.03	10.01	Average
2		0.18	38.14	-26.50	64.64	28.10	0.03	10.01	QP
3		0.21	24.04	-29.14	53.18	14.00	0.03	10.01	Average
4		0.21	36.74	-26.44	63.18	26.70	0.03	10.01	QP
5		0.28	24.74	-26.07	50.81	14.70	0.03	10.01	Average
6		0.28	35.54	-25.27	60.81	25.50	0.03	10.01	QP
7		0.58	25.88	-20.12	46.00	15.80	0.02	10.06	Average
8	*	0.58	37.98	-18.02	56.00	27.90	0.02	10.06	QP
9		0.94	20.50	-25.50	46.00	10.41	0.04	10.05	Average
10		0.94	32.20	-23.80	56.00	22.11	0.04	10.05	QP
11		12.92	22.94	-27.06	50.00	12.39	0.27	10.28	Average
12		12.92	33.44	-26.56	60.00	22.89	0.27	10.28	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		5138.32	46.95	-27.05	74	39.21	31.78	8.51	32.55	100	50	P	H
		5133.64	38.26	-15.74	54	30.53	31.77	8.51	32.55	100	50	A	H
		5180	98.48	-	-	90.61	31.86	8.58	32.57	100	50	P	H
		5180	92.62	-	-	84.75	31.86	8.58	32.57	100	50	A	H
		5086.58	47.16	-26.84	74	39.59	31.67	8.43	32.53	100	254	P	V
		5100.88	37.3	-16.7	54	29.71	31.7	8.43	32.54	100	254	A	V
		5180	93.37	-	-	85.5	31.86	8.58	32.57	100	254	P	V
		5180	88	-	-	80.13	31.86	8.58	32.57	100	254	A	V
802.11a CH 44 5220MHz		5079.56	46.09	-27.91	74	38.53	31.66	8.43	32.53	102	46	P	H
		5145.86	37.6	-16.4	54	29.86	31.79	8.51	32.56	102	46	A	H
		5220	99.05	-	-	91.11	31.87	8.65	32.58	102	46	P	H
		5220	93.26	-	-	85.32	31.87	8.65	32.58	102	46	A	H
		5414.16	46.26	-27.74	74	37.63	31.64	9.66	32.67	102	46	P	H
		5459.76	36.83	-17.17	54	28.06	31.78	9.68	32.69	102	46	A	H
		5014.04	47.11	-26.89	74	39.79	31.53	8.29	32.5	100	252	P	V
		5084.76	37.28	-16.72	54	29.71	31.67	8.43	32.53	100	252	A	V
		5220	93.09	-	-	85.15	31.87	8.65	32.58	100	252	P	V
		5220	87.17	-	-	79.23	31.87	8.65	32.58	100	252	A	V
		5455.92	45.87	-28.13	74	37.11	31.77	9.68	32.69	100	252	P	V
		5460	36.79	-17.21	54	28.02	31.78	9.68	32.69	100	252	A	V

802.11a CH 48 5240MHz		5009.36	47.13	-26.87	74	39.82	31.52	8.29	32.5	106	48	P	H
		5130	37.35	-16.65	54	29.63	31.76	8.51	32.55	106	48	A	H
		5240	98.94	-	-	90.84	31.84	8.85	32.59	106	48	P	H
		5240	93.23	-	-	85.13	31.84	8.85	32.59	106	48	A	H
		5426.16	45.62	-28.38	74	36.96	31.68	9.66	32.68	106	48	P	H
		5458.08	36.77	-17.23	54	28.01	31.77	9.68	32.69	106	48	A	H
		5137.28	46.21	-27.79	74	38.48	31.77	8.51	32.55	100	249	P	V
		5083.98	37.24	-16.76	54	29.67	31.67	8.43	32.53	100	249	A	V
		5240	94.61	-	-	86.51	31.84	8.85	32.59	100	249	P	V
		5240	88.87	-	-	80.77	31.84	8.85	32.59	100	249	A	V
		5450.88	45.45	-28.55	74	36.71	31.75	9.68	32.69	100	249	P	V
		5460	36.74	-17.26	54	27.97	31.78	9.68	32.69	100	249	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	49.54	-18.76	68.3	49.36	39.58	12.06	51.46	122	255	P	H
		15540	50.49	-23.51	74	49.57	38.87	14.59	52.54	169	232	P	H
		10360	49.44	-18.86	68.3	49.26	39.58	12.06	51.46	152	260	P	V
		15540	50.24	-23.76	74	49.32	38.87	14.59	52.54	189	238	P	V
802.11a CH 44 5220MHz		10440	49.94	-18.36	68.3	49.5	39.7	12.12	51.38	116	226	P	H
		15660	50.46	-23.54	74	49.68	38.49	14.64	52.35	155	233	P	H
		10440	50.58	-17.72	68.3	50.14	39.7	12.12	51.38	150	230	P	V
		15660	50.03	-23.97	74	49.25	38.49	14.64	52.35	160	225	P	V
802.11a CH 48 5240MHz		10480	49.59	-18.71	68.3	48.99	39.77	12.15	51.32	142	236	P	H
		15720	50.39	-23.61	74	49.67	38.3	14.66	52.24	146	269	P	H
		10480	50.48	-17.82	68.3	49.88	39.77	12.15	51.32	150	289	P	V
		15720	50.02	-23.98	74	49.3	38.3	14.66	52.24	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)
		5132.08	47.7	-26.3	74	39.98	31.76	8.51	32.55	100	49	P	H
		5141.7	39.3	-14.7	54	31.56	31.78	8.51	32.55	100	49	A	H
802.11n		5180	97.78	-	-	89.91	31.86	8.58	32.57	100	49	P	H
HT20		5180	92.06	-	-	84.19	31.86	8.58	32.57	100	49	A	H
CH 36		5080.34	46.47	-27.53	74	38.91	31.66	8.43	32.53	100	254	P	V
5180MHz		5148.2	38.25	-15.75	54	30.5	31.8	8.51	32.56	100	254	A	V
		5180	91.42	-	-	83.55	31.86	8.58	32.57	100	254	P	V
		5180	85.63	-	-	77.76	31.86	8.58	32.57	100	254	A	V
		5134.68	46.72	-27.28	74	38.99	31.77	8.51	32.55	102	47	P	H
		5147.42	38.54	-15.46	54	30.8	31.79	8.51	32.56	102	47	A	H
		5220	98.96	-	-	91.02	31.87	8.65	32.58	102	47	P	H
		5220	92.61	-	-	84.67	31.87	8.65	32.58	102	47	A	H
802.11n		5445.84	45.73	-28.27	74	36.99	31.74	9.68	32.68	102	47	P	H
HT20		5429.76	37.72	-16.28	54	29.03	31.69	9.68	32.68	102	47	A	H
CH 44		5120.38	47.2	-26.8	74	39.5	31.74	8.51	32.55	100	254	P	V
5220MHz		5069.42	38.56	-15.44	54	31.09	31.64	8.36	32.53	100	254	A	V
		5220	92	-	-	84.06	31.87	8.65	32.58	100	254	P	V
		5220	86.24	-	-	78.3	31.87	8.65	32.58	100	254	A	V
		5452.08	46.33	-27.67	74	37.58	31.76	9.68	32.69	100	254	P	V
		5438.4	37.8	-16.2	54	29.08	31.72	9.68	32.68	100	254	A	V

		5056.42	47.25	-26.75	74	39.8	31.61	8.36	32.52	100	60	P	H
		5143.26	38.38	-15.62	54	30.63	31.79	8.51	32.55	100	60	A	H
		5240	98.78	-	-	90.68	31.84	8.85	32.59	100	60	P	H
		5240	93.09	-	-	84.99	31.84	8.85	32.59	100	60	A	H
802.11n		5352.24	45.96	-28.04	74	37.48	31.67	9.46	32.65	100	60	P	H
HT20		5458.8	37.66	-16.34	54	28.89	31.78	9.68	32.69	100	60	A	H
CH 48		5102.7	46.82	-27.18	74	39.22	31.71	8.43	32.54	100	251	P	V
5240MHz		5065.26	38.37	-15.63	54	30.9	31.63	8.36	32.52	100	251	A	V
		5240	92.95	-	-	84.85	31.84	8.85	32.59	100	251	P	V
		5240	87.09	-	-	78.99	31.84	8.85	32.59	100	251	A	V
		5452.08	46.19	-27.81	74	37.44	31.76	9.68	32.69	100	251	P	V
		5407.68	37.75	-16.25	54	29.14	31.62	9.66	32.67	100	251	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	49.15	-19.15	68.3	48.97	39.58	12.06	51.46	122	255	P	H
HT20		15540	49.92	-24.08	74	49	38.87	14.59	52.54	169	232	P	H
CH 36		10360	49.28	-19.02	68.3	49.1	39.58	12.06	51.46	152	260	P	V
5180MHz		15540	49.88	-24.12	74	48.96	38.87	14.59	52.54	189	238	P	V
802.11n		10440	49.67	-18.63	68.3	49.23	39.7	12.12	51.38	116	226	P	H
HT20		15660	50.89	-23.11	74	50.11	38.49	14.64	52.35	155	233	P	H
CH 44		10440	49.67	-18.63	68.3	49.23	39.7	12.12	51.38	150	230	P	V
5220MHz		15660	50.24	-23.76	74	49.46	38.49	14.64	52.35	160	225	P	V
802.11n		10480	49.91	-18.39	68.3	49.31	39.77	12.15	51.32	142	236	P	H
HT20		15720	49.58	-24.42	74	48.86	38.3	14.66	52.24	146	269	P	H
CH 48		10480	49.06	-19.24	68.3	48.46	39.77	12.15	51.32	150	289	P	V
5240MHz		15720	50.18	-23.82	74	49.46	38.3	14.66	52.24	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		5144.3	54.5	-19.5	74	46.76	31.79	8.51	32.56	103	53	P	H
		5150	47.71	-6.29	54	39.96	31.8	8.51	32.56	103	53	A	H
		5190	94.85	-	-	86.96	31.88	8.58	32.57	103	53	P	H
		5190	88.01	-	-	80.12	31.88	8.58	32.57	103	53	A	H
		5437.32	46.79	-27.21	74	38.08	31.71	9.68	32.68	103	53	P	H
		5395.04	38.67	-15.33	54	30.06	31.61	9.66	32.66	103	53	A	H
		5147.68	49	-25	74	41.25	31.8	8.51	32.56	287	134	P	V
		5150	42.42	-11.58	54	34.67	31.8	8.51	32.56	287	134	A	V
		5190	88.84	-	-	80.95	31.88	8.58	32.57	287	134	P	V
		5190	82.51	-	-	74.62	31.88	8.58	32.57	287	134	A	V
		5449.64	46.33	-27.67	74	37.58	31.75	9.68	32.68	287	134	P	V
		5406.8	38.52	-15.48	54	29.91	31.62	9.66	32.67	287	134	A	V
802.11n HT40 CH 46 5230MHz		5144.56	46.83	-27.17	74	39.09	31.79	8.51	32.56	100	52	P	H
		5148.2	39.47	-14.53	54	31.72	31.8	8.51	32.56	100	52	A	H
		5230	95.27	-	-	87.36	31.85	8.65	32.59	100	52	P	H
		5230	89.05	-	-	81.14	31.85	8.65	32.59	100	52	A	H
		5383.2	47.26	-26.74	74	38.83	31.63	9.46	32.66	100	52	P	H
		5405.52	38.79	-15.21	54	30.18	31.62	9.66	32.67	100	52	A	H
		5073.84	47.01	-26.99	74	39.53	31.65	8.36	32.53	100	243	P	V
		5120.64	38.87	-15.13	54	31.17	31.74	8.51	32.55	100	243	A	V
		5230	87.04	-	-	79.13	31.85	8.65	32.59	100	243	P	V
		5230	81.37	-	-	73.46	31.85	8.65	32.59	100	243	A	V
		5399.28	46.23	-27.77	74	37.64	31.6	9.66	32.67	100	243	P	V
		5441.04	38.5	-15.5	54	29.78	31.72	9.68	32.68	100	243	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	49.97	-18.33	68.3	49.71	39.61	12.09	51.44	150	360	P	H
HT40		15570	50.11	-23.89	74	49.22	38.78	14.6	52.49	155	360	P	H
CH 38		10380	50.49	-17.81	68.3	50.23	39.61	12.09	51.44	144	325	P	V
5190MHz		15570	50.34	-23.66	74	49.45	38.78	14.6	52.49	113	311	P	V
802.11n		10460	50.03	-18.27	68.3	49.5	39.74	12.15	51.36	150	360	P	H
HT40		15690	50.22	-23.78	74	49.47	38.39	14.66	52.3	150	225	P	H
CH 46		10460	50.26	-18.04	68.3	49.73	39.74	12.15	51.36	122	315	P	V
5230MHz		15690	50.52	-23.48	74	49.77	38.39	14.66	52.3	116	236	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		5146.64	57.72	-16.28	74	49.98	31.79	8.51	32.56	100	54	P	H
		5149.76	50.89	-3.11	54	43.14	31.8	8.51	32.56	100	45	A	H
		5210	92.46	-	-	84.5	31.89	8.65	32.58	100	54	P	H
		5210	83.64	-	-	75.68	31.89	8.65	32.58	100	54	A	H
		5350.32	46.26	-27.74	74	37.78	31.67	9.46	32.65	100	54	P	H
		5372.64	38.39	-15.61	54	29.94	31.64	9.46	32.65	100	54	A	H
		5143.52	51.45	-22.55	74	43.7	31.79	8.51	32.55	100	250	P	V
		5146.38	43.99	-10.01	54	36.25	31.79	8.51	32.56	100	250	A	V
		5210	84.77	-	-	76.81	31.89	8.65	32.58	100	250	P	V
		5210	77.53	-	-	69.57	31.89	8.65	32.58	100	250	A	V
		5353.2	45.96	-28.04	74	37.48	31.67	9.46	32.65	100	250	P	V
		5439.12	38.49	-15.51	54	29.77	31.72	9.68	32.68	100	250	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	50.18	-18.12	68.3	49.79	39.67	12.12	51.4	122	333	P	H
VHT80		15630	50.3	-23.7	74	49.48	38.58	14.62	52.38	110	265	P	H
CH 42		10420	49.68	-18.62	68.3	49.29	39.67	12.12	51.4	150	360	P	V
5210MHz		15630	50.12	-23.88	74	49.3	38.58	14.62	52.38	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		5020.02	46.34	-27.66	74	39.02	31.54	8.29	32.51	100	38	P	H
		5085.28	37.3	-16.7	54	29.73	31.67	8.43	32.53	100	38	A	H
		5260	98.4	-	-	90.35	31.81	8.85	32.61	100	38	P	H
		5260	92.68	-	-	84.63	31.81	8.85	32.61	100	38	A	H
		5455.92	46.25	-27.75	74	37.49	31.77	9.68	32.69	100	38	P	H
		5350.08	36.84	-17.16	54	28.36	31.67	9.46	32.65	100	38	A	H
		5032.5	46.49	-27.51	74	39.14	31.57	8.29	32.51	100	253	P	V
		5086.06	37.23	-16.77	54	29.66	31.67	8.43	32.53	100	253	A	V
		5260	94.51	-	-	86.46	31.81	8.85	32.61	100	253	P	V
		5260	88.06	-	-	80.01	31.81	8.85	32.61	100	253	A	V
		5356.32	46.11	-27.89	74	37.63	31.67	9.46	32.65	100	253	P	V
		5460	36.76	-17.24	54	27.99	31.78	9.68	32.69	100	253	A	V
802.11a CH 60 5300MHz		5114.8	46.85	-27.15	74	39.15	31.73	8.51	32.54	111	45	P	H
		5098	37.28	-16.72	54	29.69	31.7	8.43	32.54	111	45	A	H
		5300	99.78	-	-	91.61	31.75	9.05	32.63	111	45	P	H
		5300	93.73	-	-	85.56	31.75	9.05	32.63	111	45	A	H
		5358.24	46.87	-27.13	74	38.4	31.66	9.46	32.65	111	45	P	H
		5350.32	38.17	-15.83	54	29.69	31.67	9.46	32.65	111	45	A	H
		5073.5	46.16	-27.84	74	38.68	31.65	8.36	32.53	101	254	P	V
		5099.4	37.23	-16.77	54	29.64	31.7	8.43	32.54	101	254	A	V
		5300	94.11	-	-	85.94	31.75	9.05	32.63	101	254	P	V
		5300	88.18	-	-	80.01	31.75	9.05	32.63	101	254	A	V
		5406.72	47.08	-26.92	74	38.47	31.62	9.66	32.67	101	254	P	V
		5359.68	37.04	-16.96	54	28.57	31.66	9.46	32.65	101	254	A	V

802.11a CH 64 5320MHz		5320	99.73	-	-	91.38	31.72	9.26	32.63	100	54	P	H
		5320	93.15	-	-	84.8	31.72	9.26	32.63	100	54	A	H
		5367.52	47.99	-26.01	74	39.53	31.65	9.46	32.65	100	54	P	H
		5350.24	38.8	-15.2	54	30.32	31.67	9.46	32.65	100	54	A	H
		5320	94.8	-	-	86.45	31.72	9.26	32.63	100	254	P	V
		5320	88.46	-	-	80.11	31.72	9.26	32.63	100	254	A	V
		5447.04	45.75	-28.25	74	37.01	31.74	9.68	32.68	100	254	P	V
		5350.08	37.02	-16.98	54	28.54	31.67	9.46	32.65	100	254	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	50.51	-17.79	68.3	49.86	39.82	12.17	51.34	144	213	P	H
		15780	50.33	-23.67	74	49.7	38.1	14.69	52.16	136	142	P	H
		10520	50.08	-18.22	68.3	49.43	39.82	12.17	51.34	150	220	P	V
		15780	50.47	-23.53	74	49.84	38.1	14.69	52.16	159	345	P	V
802.11a CH 60 5300MHz		10600	50.04	-23.96	74	49.42	39.92	12.23	51.53	126	252	P	H
		15900	50.46	-23.54	74	49.96	37.72	14.75	51.97	129	164	P	H
		10600	50.32	-23.68	74	49.7	39.92	12.23	51.53	185	215	P	V
		15900	50.06	-23.94	74	49.56	37.72	14.75	51.97	196	190	P	V
802.11a CH 64 5320MHz		10640	49.15	-24.85	74	48.52	39.97	12.26	51.6	126	139	P	H
		15960	49.3	-24.7	74	48.85	37.53	14.78	51.86	146	263	P	H
		10640	49.41	-24.59	74	48.78	39.97	12.26	51.6	152	135	P	V
		15960	49.59	-24.41	74	49.14	37.53	14.78	51.86	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		5130.26	46.88	-27.12	74	39.16	31.76	8.51	32.55	104	49	P	H
		5072.28	38.22	-15.78	54	30.75	31.64	8.36	32.53	104	49	A	H
		5260	98.85	-	-	90.8	31.81	8.85	32.61	104	49	P	H
		5260	92.95	-	-	84.9	31.81	8.85	32.61	104	49	A	H
		5429.04	47.6	-26.4	74	38.91	31.69	9.68	32.68	104	49	P	H
		5351.04	37.92	-16.08	54	29.44	31.67	9.46	32.65	104	49	A	H
		5089.18	46.6	-27.4	74	39.02	31.68	8.43	32.53	100	254	P	V
		5064.74	38.18	-15.82	54	30.71	31.63	8.36	32.52	100	254	A	V
		5260	92.07	-	-	84.02	31.81	8.85	32.61	100	254	P	V
		5260	86.62	-	-	78.57	31.81	8.85	32.61	100	254	A	V
		5457.12	46.45	-27.55	74	37.69	31.77	9.68	32.69	100	254	P	V
		5434.08	37.63	-16.37	54	28.93	31.7	9.68	32.68	100	254	A	V
802.11n HT20 CH 60 5300MHz		5110.6	47.39	-26.61	74	39.78	31.72	8.43	32.54	104	50	P	H
		5091.35	38.81	-15.19	54	31.23	31.68	8.43	32.53	104	50	A	H
		5300	98.58	-	-	90.41	31.75	9.05	32.63	104	50	P	H
		5300	92.81	-	-	84.64	31.75	9.05	32.63	104	50	A	H
		5386.08	50.26	-23.74	74	41.84	31.62	9.46	32.66	104	50	P	H
		5355.6	40.78	-13.22	54	32.3	31.67	9.46	32.65	104	50	A	H
		5142.8	48.52	-25.48	74	40.77	31.79	8.51	32.55	102	245	P	V
		5128.8	38.4	-15.6	54	30.68	31.76	8.51	32.55	102	245	A	V
		5300	90.19	-	-	82.02	31.75	9.05	32.63	102	245	P	V
		5300	84.18	-	-	76.01	31.75	9.05	32.63	102	245	A	V
		5424.48	47.16	-26.84	74	38.51	31.67	9.66	32.68	102	245	P	V
		5456.88	37.99	-16.01	54	29.23	31.77	9.68	32.69	102	245	A	V

802.11n HT20 CH 64 5320MHz		5320	98.36	-	-	90.01	31.72	9.26	32.63	109	54	P	H
		5320	92.1	-	-	83.75	31.72	9.26	32.63	109	54	A	H
		5354.08	49.01	-24.99	74	40.53	31.67	9.46	32.65	109	54	P	H
		5350.88	39.22	-14.78	54	30.74	31.67	9.46	32.65	109	54	A	H
		5320	90.93	-	-	82.58	31.72	9.26	32.63	100	245	P	V
		5320	84.48	-	-	76.13	31.72	9.26	32.63	100	245	A	V
		5352.64	47.47	-26.53	74	38.99	31.67	9.46	32.65	100	245	P	V
		5352.48	37.85	-16.15	54	29.37	31.67	9.46	32.65	100	245	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	50.09	-18.21	68.3	49.44	39.82	12.17	51.34	144	213	P	H
HT20		15780	50.2	-23.8	74	49.57	38.1	14.69	52.16	136	142	P	H
CH 52		10520	50.63	-17.67	68.3	49.98	39.82	12.17	51.34	150	220	P	V
5260MHz		15780	50.89	-23.11	74	50.26	38.1	14.69	52.16	159	345	P	V
802.11n		10600	50.07	-23.93	74	49.45	39.92	12.23	51.53	126	252	P	H
HT20		15900	50.15	-23.85	74	49.65	37.72	14.75	51.97	129	164	P	H
CH 60		10600	50.7	-23.3	74	50.08	39.92	12.23	51.53	185	215	P	V
5300MHz		15900	49.75	-24.25	74	49.25	37.72	14.75	51.97	196	190	P	V
802.11n		10640	49.9	-24.1	74	49.27	39.97	12.26	51.6	126	139	P	H
HT20		15960	49.41	-24.59	74	48.96	37.53	14.78	51.86	146	263	P	H
CH 64		10640	49.73	-24.27	74	49.1	39.97	12.26	51.6	152	135	P	V
5320MHz		15960	49.44	-24.56	74	48.99	37.53	14.78	51.86	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		5144.55	48.31	-25.69	74	40.57	31.79	8.51	32.56	103	54	P	H
		5136.15	39.03	-14.97	54	31.3	31.77	8.51	32.55	103	54	A	H
		5270	95.59	-	-	87.55	31.8	8.85	32.61	103	54	P	H
		5270	89.07	-	-	81.03	31.8	8.85	32.61	103	54	A	H
		5350.56	47.03	-26.97	74	38.55	31.67	9.46	32.65	103	54	P	H
		5351.28	39.77	-14.23	54	31.29	31.67	9.46	32.65	103	54	A	H
		5035.35	47.56	-26.44	74	40.21	31.57	8.29	32.51	102	252	P	V
		5073.85	39.17	-14.83	54	31.69	31.65	8.36	32.53	102	252	A	V
		5270	90.09	-	-	82.05	31.8	8.85	32.61	102	252	P	V
		5270	84.44	-	-	76.4	31.8	8.85	32.61	102	252	A	V
		5409.84	46.45	-27.55	74	37.83	31.63	9.66	32.67	102	252	P	V
		5401.44	38.79	-15.21	54	30.2	31.6	9.66	32.67	102	252	A	V
802.11n HT40 CH 62 5310MHz		5105.7	46.55	-27.45	74	38.95	31.71	8.43	32.54	105	52	P	H
		5115.5	39.27	-14.73	54	31.57	31.73	8.51	32.54	105	52	A	H
		5310	95.9	-	-	87.53	31.74	9.26	32.63	105	52	P	H
		5310	90.15	-	-	81.78	31.74	9.26	32.63	105	52	A	H
		5350.08	52.82	-21.18	74	44.34	31.67	9.46	32.65	105	52	P	H
		5350.08	45.31	-8.69	54	36.83	31.67	9.46	32.65	105	52	A	H
		5010.85	47.08	-26.92	74	39.77	31.52	8.29	32.5	105	251	P	V
		5075.25	39.07	-14.93	54	31.59	31.65	8.36	32.53	105	251	A	V
		5310	90.4	-	-	82.03	31.74	9.26	32.63	105	251	P	V
		5310	84.22	-	-	75.85	31.74	9.26	32.63	105	251	A	V
		5350.8	49.14	-24.86	74	40.66	31.67	9.46	32.65	105	251	P	V
		5350.08	41.15	-12.85	54	32.67	31.67	9.46	32.65	105	251	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	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	50.23	-18.07	68.3	49.56	39.85	12.2	51.38	125	211	P	H
HT40		15810	49.66	-24.34	74	49.04	38.01	14.71	52.1	126	269	P	H
CH 54		10540	49.17	-19.13	68.3	48.5	39.85	12.2	51.38	150	220	P	V
5270MHz		15810	49.14	-24.86	74	48.52	38.01	14.71	52.1	168	345	P	V
802.11n		11020	49.7	-24.3	74	49.18	40.4	12.54	52.42	123	215	P	H
HT40		16530	49.72	-18.58	68.3	47.34	39.67	15.18	52.47	182	148	P	H
CH 62		11020	49.41	-24.59	74	48.89	40.4	12.54	52.42	170	230	P	V
5310MHz		16530	50.38	-17.92	68.3	48	39.67	15.18	52.47	160	300	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		5133.35	47.12	-26.88	74	39.39	31.77	8.51	32.55	100	46	P	H
		5064.75	39.2	-14.8	54	31.73	31.63	8.36	32.52	100	46	A	H
		5290	93.33	-	-	85.14	31.76	9.05	32.62	100	46	P	H
		5290	85.76	-	-	77.57	31.76	9.05	32.62	100	46	A	H
		5350.8	53.83	-20.17	74	45.35	31.67	9.46	32.65	100	46	P	H
		5353.68	47.33	-6.67	54	38.85	31.67	9.46	32.65	100	46	A	H
		5035.35	47.38	-26.62	74	40.03	31.57	8.29	32.51	100	248	P	V
		5071.75	39.23	-14.77	54	31.76	31.64	8.36	32.53	100	248	A	V
		5290	86.5	-	-	78.31	31.76	9.05	32.62	100	248	P	V
		5290	78.07	-	-	69.88	31.76	9.05	32.62	100	248	A	V
		5356.56	48.12	-25.88	74	39.64	31.67	9.46	32.65	100	248	P	V
		5350.8	42	-12	54	33.52	31.67	9.46	32.65	100	248	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	50.87	-17.43	68.3	50.23	39.9	12.23	51.49	185	215	P	H
VHT80		15870	49.99	-24.01	74	49.43	37.82	14.73	51.99	196	190	P	H
CH 58		10580	50.23	-18.07	68.3	49.59	39.9	12.23	51.49	170	232	P	V
5290MHz		15870	50.51	-23.49	74	49.95	37.82	14.73	51.99	190	130	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5730MHz

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		5423.28	47.17	-26.83	74	38.51	31.67	9.66	32.67	115	43	P	H
		5468.72	47.59	-20.71	68.3	38.77	31.81	9.7	32.69	115	43	P	H
		5459.76	38.22	-15.78	54	29.45	31.78	9.68	32.69	115	43	A	H
		5500	99.72	-	-	90.82	31.9	9.7	32.7	115	43	P	H
		5500	92.9	-	-	84	31.9	9.7	32.7	115	43	A	H
		5429.2	47.74	-26.26	74	39.05	31.69	9.68	32.68	100	257	P	V
		5464.56	46.41	-21.89	68.3	37.63	31.79	9.68	32.69	100	257	P	V
		5458.96	37.19	-16.81	54	28.42	31.78	9.68	32.69	100	257	A	V
		5500	95.4	-	-	86.5	31.9	9.7	32.7	100	257	P	V
		5500	89	-	-	80.1	31.9	9.7	32.7	100	257	A	V
802.11a CH 116 5580MHz		5455.36	45.75	-28.25	74	36.99	31.77	9.68	32.69	100	39	P	H
		5468.08	44.97	-23.33	68.3	36.16	31.8	9.7	32.69	100	39	P	H
		5459.92	36.97	-17.03	54	28.2	31.78	9.68	32.69	100	39	A	H
		5580	97.91	-	-	88.71	32.14	9.74	32.68	100	39	P	H
		5580	92.31	-	-	83.11	32.14	9.74	32.68	100	39	A	H
		5746.73	46.87	-21.43	68.3	37.23	32.2	10.09	32.65	100	39	P	H
		5397.28	47.04	-26.96	74	38.44	31.6	9.66	32.66	100	263	P	V
		5462.56	44.29	-24.01	68.3	35.51	31.79	9.68	32.69	100	263	P	V
		5459.68	36.84	-17.16	54	28.07	31.78	9.68	32.69	100	263	A	V
		5580	95.29	-	-	86.09	32.14	9.74	32.68	100	263	P	V
		5580	90.2	-	-	81	32.14	9.74	32.68	100	263	A	V
		5743.58	47	-21.3	68.3	37.36	32.2	10.09	32.65	100	263	P	V

802.11a CH 140 5700MHz		5700	96.7	-	-	87.15	32.2	10.01	32.66	100	52	P	H
		5700	90.66	-	-	81.11	32.2	10.01	32.66	100	52	A	H
		5726.36	49.03	-19.27	68.3	39.47	32.2	10.01	32.65	100	52	P	H
		5700	94.31	-	-	84.76	32.2	10.01	32.66	100	258	P	V
		5700	87.88	-	-	78.33	32.2	10.01	32.66	100	258	A	V
		5752.04	47.38	-20.92	68.3	37.74	32.2	10.09	32.65	100	258	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5730MHz

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	50.56	-23.44	74	50.05	40.4	12.51	52.4	123	216	P	H
		16500	50.52	-17.78	68.3	48.37	39.5	15.15	52.5	184	226	P	H
		11000	50.52	-23.48	74	50.01	40.4	12.51	52.4	155	212	P	V
		16500	50.65	-17.65	68.3	48.5	39.5	15.15	52.5	178	296	P	V
802.11a CH 116 5580MHz		11160	49.3	-24.7	74	48.79	40.43	12.65	52.57	183	320	P	H
		16740	50.22	-18.08	68.3	46.23	40.89	15.36	52.26	163	232	P	H
		11160	49.83	-24.17	74	49.32	40.43	12.65	52.57	170	200	P	V
		16740	50.52	-17.78	68.3	46.53	40.89	15.36	52.26	156	350	P	V
802.11a CH 140 5700MHz		11400	49.66	-24.34	74	49.16	40.48	12.82	52.8	157	285	P	H
		17100	50.6	-17.7	68.3	44.38	42.74	15.62	52.14	165	246	P	H
		11400	49.61	-24.39	74	49.11	40.48	12.82	52.8	122	291	P	V
		17100	50.19	-18.11	68.3	43.97	42.74	15.62	52.14	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5730MHz

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)
		5456.4	48.03	-25.97	74	39.27	31.77	9.68	32.69	104	48	P	H
		5463.28	47.63	-20.67	68.3	38.85	31.79	9.68	32.69	104	48	P	H
		5458.64	39.4	-14.6	54	30.63	31.78	9.68	32.69	104	48	A	H
802.11n		5500	98.87	-	-	89.97	31.9	9.7	32.7	104	48	P	H
HT20		5500	92.36	-	-	83.46	31.9	9.7	32.7	104	48	A	H
CH 100		5439.92	47	-27	74	38.28	31.72	9.68	32.68	102	251	P	V
5500MHz		5463.6	45.87	-22.43	68.3	37.09	31.79	9.68	32.69	102	251	P	V
		5450.64	38.24	-15.76	54	29.5	31.75	9.68	32.69	102	251	A	V
		5500	92.96	-	-	84.06	31.9	9.7	32.7	102	251	P	V
		5500	85.39	-	-	76.49	31.9	9.7	32.7	102	251	A	V
		5459.68	46.63	-27.37	74	37.86	31.78	9.68	32.69	113	41	P	H
		5520.64	47.17	-21.13	68.3	38.18	31.96	9.72	32.69	113	41	P	H
		5457.76	37.97	-16.03	54	29.21	31.77	9.68	32.69	113	41	A	H
		5580	96.6	-	-	87.4	32.14	9.74	32.68	113	41	P	H
802.11n		5580	90.8	-	-	81.6	32.14	9.74	32.68	113	41	A	H
HT20		5737.595	46.94	-21.36	68.3	37.38	32.2	10.01	32.65	113	41	P	H
CH 116		5405.92	45.81	-28.19	74	37.2	31.62	9.66	32.67	100	261	P	V
5580MHz		5467.6	45.83	-22.47	68.3	37.02	31.8	9.7	32.69	100	261	P	V
		5459.92	37.88	-16.12	54	29.11	31.78	9.68	32.69	100	261	A	V
		5580	93.15	-	-	83.95	32.14	9.74	32.68	100	261	P	V
		5580	86.69	-	-	77.49	32.14	9.74	32.68	100	261	A	V
		5747.36	47.32	-20.98	68.3	37.68	32.2	10.09	32.65	100	261	P	V

802.11n HT20 CH 140 5700MHz		5700	97.59	-	-	88.04	32.2	10.01	32.66	100	55	P	H
		5700	92.01	-	-	82.46	32.2	10.01	32.66	100	55	A	H
		5747.32	49.62	-18.68	68.3	39.98	32.2	10.09	32.65	100	55	P	H
		5700	92.8	-	-	83.25	32.2	10.01	32.66	105	258	P	V
		5700	86.44	-	-	76.89	32.2	10.01	32.66	105	258	A	V
		5753.32	48.15	-20.15	68.3	38.51	32.2	10.09	32.65	105	258	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5730MHz

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	49.68	-24.32	74	49.17	40.4	12.51	52.4	123	216	P	H
HT20		16500	50.97	-17.33	68.3	48.82	39.5	15.15	52.5	184	226	P	H
CH 100		11000	49.51	-24.49	74	49	40.4	12.51	52.4	155	212	P	V
5500MHz		16500	50.21	-18.09	68.3	48.06	39.5	15.15	52.5	178	296	P	V
802.11n		11160	50.15	-23.85	74	49.64	40.43	12.65	52.57	183	320	P	H
HT20		16740	50.53	-17.77	68.3	46.54	40.89	15.36	52.26	163	232	P	H
CH 116		11160	48.95	-25.05	74	48.44	40.43	12.65	52.57	170	200	P	V
5580MHz		16740	50.89	-17.41	68.3	46.9	40.89	15.36	52.26	156	350	P	V
802.11n		11400	50.46	-23.54	74	49.96	40.48	12.82	52.8	157	285	P	H
HT20		17100	50.95	-17.35	68.3	44.73	42.74	15.62	52.14	165	246	P	H
CH 140		11400	49.79	-24.21	74	49.29	40.48	12.82	52.8	122	291	P	V
5700MHz		17100	50.35	-17.95	68.3	44.13	42.74	15.62	52.14	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5730MHz

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)
		5459.92	49.04	-24.96	74	40.27	31.78	9.68	32.69	107	52	P	H
		5467.12	55.38	-12.92	68.3	46.57	31.8	9.7	32.69	107	52	P	H
		5459.68	42.59	-11.41	54	33.82	31.78	9.68	32.69	107	52	A	H
		5510	95.72	-	-	86.76	31.93	9.72	32.69	107	52	P	H
802.11n		5510	89.11	-	-	80.15	31.93	9.72	32.69	107	52	A	H
HT40		5732.87	47.49	-20.81	68.3	37.93	32.2	10.01	32.65	107	52	P	H
CH 102		5458.72	48.13	-25.87	74	39.36	31.78	9.68	32.69	100	255	P	V
5510MHz		5468.08	53.99	-14.31	68.3	45.18	31.8	9.7	32.69	100	255	P	V
		5459.44	41.66	-12.34	54	32.89	31.78	9.68	32.69	100	255	A	V
		5500	93.24	-	-	84.34	31.9	9.7	32.7	100	255	P	V
		5500	87.33	-	-	78.43	31.9	9.7	32.7	100	255	A	V
		5759.33	47.57	-20.73	68.3	37.93	32.2	10.09	32.65	100	255	P	V
		5453.68	46.28	-27.72	74	37.53	31.76	9.68	32.69	109	40	P	H
		5467.6	47.16	-21.14	68.3	38.35	31.8	9.7	32.69	109	40	P	H
		5458.96	39.2	-14.8	54	30.43	31.78	9.68	32.69	109	40	A	H
		5550	94.89	-	-	85.79	32.05	9.74	32.69	109	40	P	H
802.11n		5550	88.26	-	-	79.16	32.05	9.74	32.69	109	40	A	H
HT40		5726.885	47.45	-20.85	68.3	37.89	32.2	10.01	32.65	109	40	P	H
CH 110		5430.88	46.89	-27.11	74	38.2	31.69	9.68	32.68	101	253	P	V
5550MHz		5468.32	46.68	-21.62	68.3	37.87	31.8	9.7	32.69	101	253	P	V
		5458.96	39.69	-14.31	54	30.92	31.78	9.68	32.69	101	253	A	V
		5550	92.73	-	-	83.63	32.05	9.74	32.69	101	253	P	V
		5550	85.89	-	-	76.79	32.05	9.74	32.69	101	253	A	V
		5753.345	47.88	-20.42	68.3	38.24	32.2	10.09	32.65	101	253	P	V

		5438.2	47.39	-26.61	74	38.68	31.71	9.68	32.68	100	123	P	H
		5469.7	45.43	-22.87	68.3	36.61	31.81	9.7	32.69	100	123	P	H
		5458.15	38.45	-15.55	54	29.69	31.77	9.68	32.69	100	123	A	H
		5670	95.53	-	-	86.08	32.2	9.92	32.67	100	123	P	H
802.11n		5670	87	-	-	77.55	32.2	9.92	32.67	100	123	A	H
HT40		5749.075	49.57	-18.73	68.3	39.93	32.2	10.09	32.65	100	123	P	H
CH 134		5419.3	47.27	-26.73	74	38.62	31.66	9.66	32.67	100	254	P	V
5670MHz		5468.3	45.89	-22.41	68.3	37.08	31.8	9.7	32.69	100	254	P	V
		5453.95	38.6	-15.4	54	29.85	31.76	9.68	32.69	100	254	A	V
		5670	92.57	-	-	83.12	32.2	9.92	32.67	100	254	P	V
		5670	84.15	-	-	74.7	32.2	9.92	32.67	100	254	A	V
		5748.725	48.57	-19.73	68.3	38.93	32.2	10.09	32.65	100	254	P	V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

Band 3 - 5470~5730MHz

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	49.7	-24.3	74	49.18	40.4	12.54	52.42	123	215	P	H
HT40		16530	50.27	-18.03	68.3	47.89	39.67	15.18	52.47	182	148	P	H
CH 102		11020	49.46	-24.54	74	48.94	40.4	12.54	52.42	170	230	P	V
5510MHz		16530	50.16	-18.14	68.3	47.78	39.67	15.18	52.47	160	300	P	V
802.11n		11000	49.73	-24.27	74	49.22	40.4	12.51	52.4	123	216	P	H
HT40		16500	49.96	-18.34	68.3	47.81	39.5	15.15	52.5	184	226	P	H
CH 110		11000	49.09	-24.91	74	48.58	40.4	12.51	52.4	155	212	P	V
5550MHz		16500	50.38	-17.92	68.3	48.23	39.5	15.15	52.5	178	296	P	V
802.11n		11340	49.88	-24.12	74	49.38	40.47	12.76	52.73	195	335	P	H
HT40		17010	49.95	-18.35	68.3	43.98	42.43	15.56	52.02	144	152	P	H
CH 134		11340	49.47	-24.53	74	48.97	40.47	12.76	52.73	125	198	P	V
5670MHz		17010	50.39	-17.91	68.3	44.42	42.43	15.56	52.02	185	290	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5730MHz

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		5452.48	56.9	-17.1	74	48.15	31.76	9.68	32.69	100	43	P	H
		5465.2	58.16	-10.14	68.3	49.37	31.8	9.68	32.69	100	43	P	H
		5459.2	50.61	-3.39	54	41.84	31.78	9.68	32.69	100	43	A	H
		5530	92.38	-	-	83.36	31.99	9.72	32.69	100	43	P	H
		5530	84.71	-	-	75.69	31.99	9.72	32.69	100	43	A	H
		5736.335	46.87	-21.43	68.3	37.31	32.2	10.01	32.65	100	43	P	H
		5453.44	54.37	-19.63	74	45.62	31.76	9.68	32.69	100	251	P	V
		5467.12	55.06	-13.24	68.3	46.25	31.8	9.7	32.69	100	251	P	V
		5459.44	47.72	-6.28	54	38.95	31.78	9.68	32.69	100	251	A	V
		5530	90.25	-	-	81.23	31.99	9.72	32.69	100	251	P	V
		5530	82.61	-	-	73.59	31.99	9.72	32.69	100	251	A	V
		5726.57	46.91	-21.39	68.3	37.35	32.2	10.01	32.65	100	251	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5730MHz

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	49.84	-24.16	74	49.33	40.41	12.57	52.47	170	230	P	H
VHT80		16590	50.71	-17.59	68.3	47.86	40.02	15.24	52.41	155	305	P	H
CH 106		11060	49.64	-24.36	74	49.13	40.41	12.57	52.47	166	212	P	V
5530MHz		16590	50.18	-18.12	68.3	47.33	40.02	15.24	52.41	132	343	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		11440	48.91	-25.09	74	48.4	40.49	12.85	52.83	157	285	P	H
		17160	48.75	-19.55	68.3	42.39	42.94	15.65	52.23	165	246	P	H
		11440	49.75	-24.25	74	49.24	40.49	12.85	52.83	122	291	P	V
		17160	48.36	-19.94	68.3	42	42.94	15.65	52.23	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11440	49.26	-24.74	74	48.75	40.49	12.85	52.83	157	285	P	H
HT20		17160	49	-19.3	68.3	42.64	42.94	15.65	52.23	165	246	P	H
CH 144		11440	50	-24	74	49.49	40.49	12.85	52.83	122	291	P	V
5720MHz		17160	48.62	-19.68	68.3	42.26	42.94	15.65	52.23	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11420	48.64	-25.36	74	48.16	40.48	12.82	52.82	157	285	P	H
HT40		17130	48.9	-19.4	68.3	42.6	42.84	15.65	52.19	165	246	P	H
CH 142		11420	48.7	-25.3	74	48.22	40.48	12.82	52.82	157	285	P	V
5710MHz		17130	50.46	-17.84	68.3	44.16	42.84	15.65	52.19	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11380	47.95	-26.05	74	47.46	40.48	12.79	52.78	195	335	P	H
VHT80		17070	49.67	-18.63	68.3	43.53	42.64	15.59	52.09	162	310	P	H
CH 138		11380	47.96	-26.04	74	47.47	40.48	12.79	52.78	195	335	P	V
5690MHz		17070	49.69	-18.61	68.3	43.55	42.64	15.59	52.09	162	310	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 LF		33.88	25.16	-14.84	40	33.32	22.28	0.56	31	-	-	P	H
		109.54	24.68	-18.82	43.5	38.8	17.37	1.07	32.56	-	-	P	H
		230.79	26.52	-19.48	46	40.58	16.45	1.57	32.08	-	-	P	H
		322.94	33.18	-12.82	46	43.62	19.68	1.88	32	125	148	P	H
		632.37	25.35	-20.65	46	30.13	24.76	2.62	32.16	-	-	P	H
		889.42	28.34	-17.66	46	30.86	26.56	3.14	32.22	-	-	P	H
		51.34	32.2	-7.8	40	49.98	14.1	0.72	32.6	133	244	P	V
		109.54	29.59	-13.91	43.5	43.71	17.37	1.07	32.56	-	-	P	V
		175.5	30.06	-13.44	43.5	45.62	15.39	1.35	32.3	-	-	P	V
		321	31.33	-14.67	46	41.82	19.63	1.88	32	-	-	P	V
		720.64	27.08	-18.92	46	31.35	25.17	2.8	32.24	-	-	P	V
		977.69	28.29	-25.71	54	29.8	27.14	3.27	31.92	-	-	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 CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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)

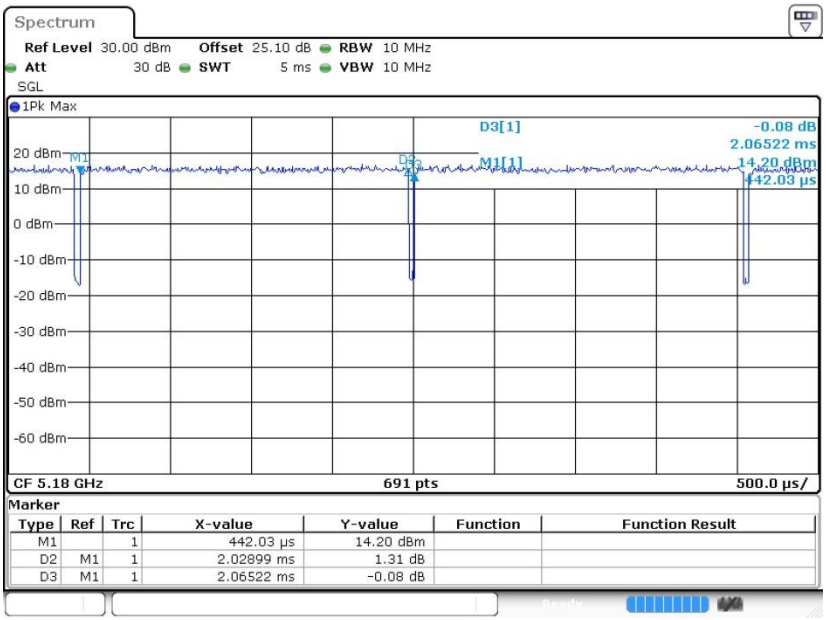
= -10.46(dB)

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

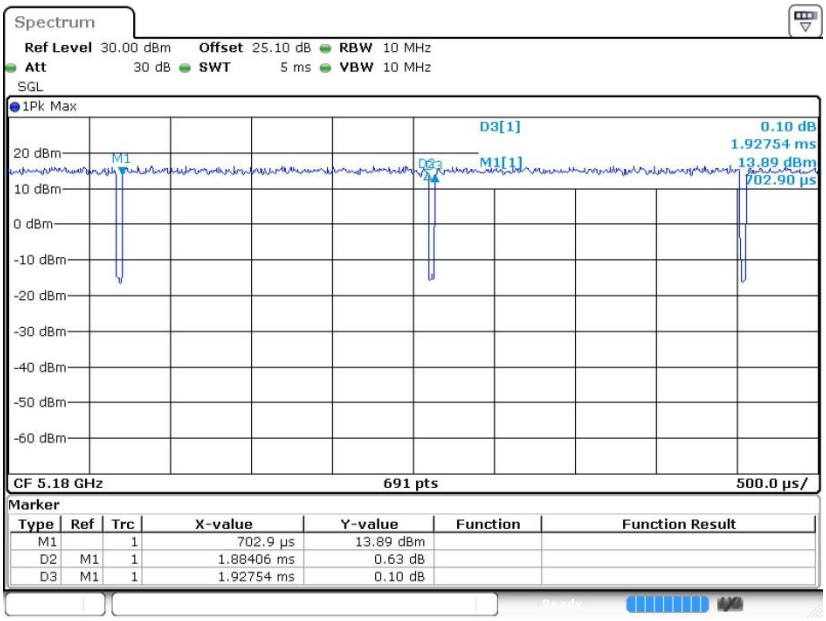
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.25	-	-	10Hz
802.11n HT20	97.74	1.884	0.531	1KHz
802.11n HT40	96.61	0.930	1.076	3KHz
802.11ac VHT80	92.50	0.456	2.194	3KHz

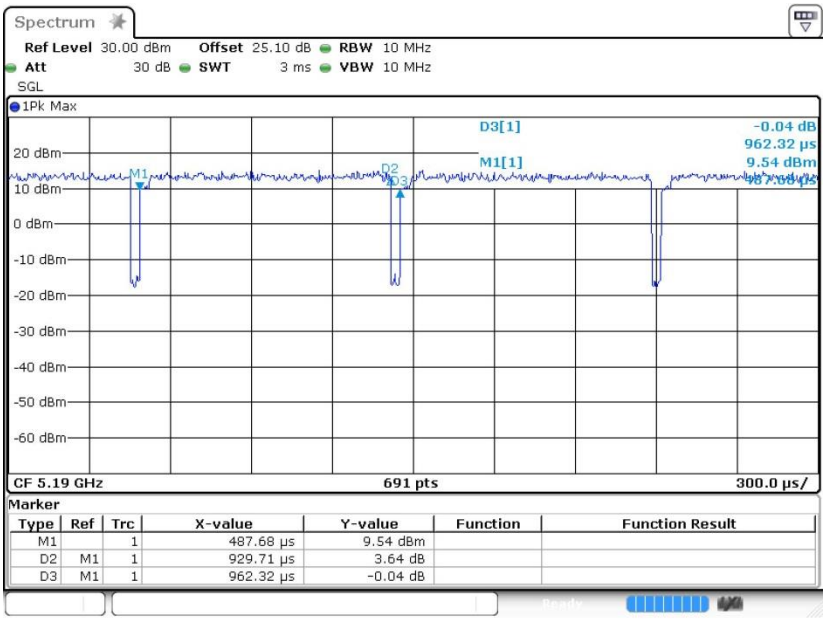
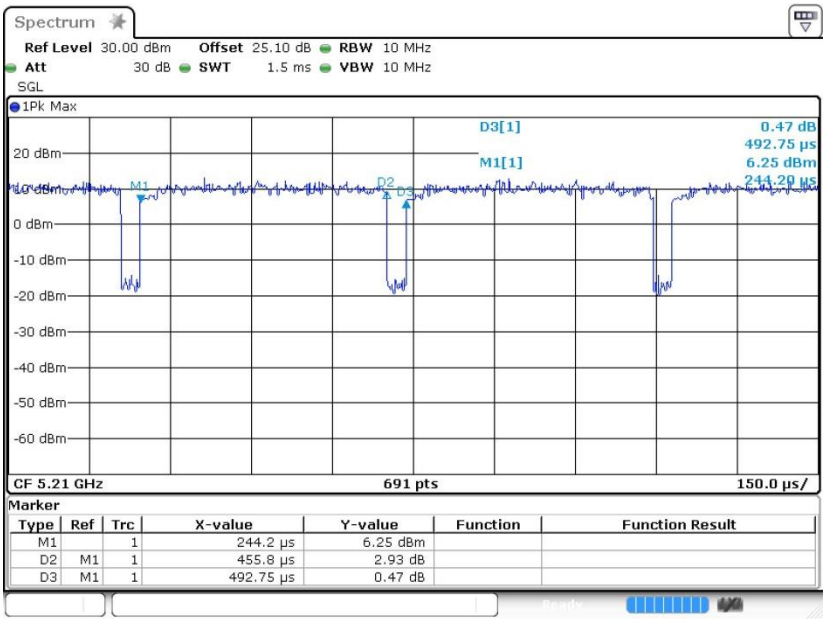
802.11a



802.11n HT20



802.11n HT40



802.11ac VHT80