



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2165-1, XT2165-2
FCC ID : IHDT56ZP4
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure
TEST DATE(S) : Aug. 20, 2021 ~ Sep. 08, 2021

We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager



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People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR170628-01E	Rev. 01	Initial issue of report	Sep. 16, 2021



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Report only	-
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 2.01 dB at 5149.760 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 19.66 dB at 0.640 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(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

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2165-1, XT2165-2
FCC ID	IHDT56ZP4
IMEI Code	Conducted: 355570490008623 Conduction: 355570490006130 Radiation: 357571280016279
HW Version	DVT2
SW Version	RRQ31.Q3-51
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	<p><5180 MHz ~ 5240 MHz></p> <p>802.11a : 18.67 dBm / 0.0736 W 802.11n HT20 : 18.35 dBm / 0.0684 W 802.11n HT40 : 17.43 dBm / 0.0553 W 802.11ac VHT20 : 18.38 dBm / 0.0689 W 802.11ac VHT40 : 17.48 dBm / 0.0560 W 802.11ac VHT80 : 14.48 dBm / 0.0281 W</p> <p><5260 MHz ~ 5320 MHz></p> <p>802.11a : 18.60 dBm / 0.0724 W 802.11n HT20 : 18.43 dBm / 0.0697 W 802.11n HT40 : 17.56 dBm / 0.0570 W 802.11ac VHT20 : 18.53 dBm / 0.0713 W 802.11ac VHT40 : 17.61 dBm / 0.0577 W 802.11ac VHT80 : 13.89 dBm / 0.0245 W</p> <p><5500 MHz ~ 5700 MHz ></p>



	802.11a : 18.50 dBm / 0.0708 W 802.11n HT20 : 18.53 dBm / 0.0713 W 802.11n HT40 : 17.11 dBm / 0.0514 W 802.11ac VHT20 : 18.55 dBm / 0.0716 W 802.11ac VHT40 : 17.31 dBm / 0.0538 W 802.11ac VHT80 : 14.45 dBm / 0.0279 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 19.68 MHz 802.11ac VHT20 : 19.88 MHz 802.11ac VHT40 : 36.76 MHz 802.11ac VHT80 : 75.28 MHz <5260 MHz ~ 5320 MHz> 802.11a : 19.38 MHz 802.11n VHT20 : 19.73 MHz 802.11n VHT40 : 36.76 MHz 802.11ac VHT80 : 75.16 MHz <5500 MHz ~ 5700 MHz > 802.11a : 21.48 MHz 802.11n VHT20 : 22.18 MHz 802.11n VHT40 : 37.26 MHz 802.11ac VHT80 : 75.64 MHz
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> FPC Antenna with gain -2.92 dBi <5250 MHz ~ 5350 MHz> FPC Antenna with gain -2.57 dBi <5470 MHz ~ 5725 MHz> FPC Antenna with gain -2.47 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. Note: For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing have assessed only 802.11n 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 DFS01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH02-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a
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.

1.9 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola (AOHAI)	Model Name	MC-101
AC Adapter 2(US)	Brand Name	Motorola (Salcomp)	Model Name	MC-101
AC Adapter 3(US)	Brand Name	Motorola (Chenyang)	Model Name	MC-101
Battery	Brand Name	Motorola (Sunwoda)	Model Name	JK50
USB Cable 1	Brand Name	Motorola(Cabletech)	Model Name	SC18C49697
USB Cable 2	Brand Name	Motorola(Saibao)	Model Name	SC18C24367
USB Cable 3	Brand Name	Motorola(Luxshare)	Model Name	SC18C24368
USB Cable 4	Brand Name	Motorola(Saibao)	Model Name	SC18D22297
USB Cable 5	Brand Name	Motorola(Luxshare)	Model Name	SC18D22299
USB Cable 6	Brand Name	Motorola(Cabletech)	Model Name	SC18D22298



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 (Z 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 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 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 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

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

Co-location
LTE B13 Link + WIFI 802.11ac VHT40 Tx

Test Cases	
AC Conducted Emission	Mode 1 : GSM 850 Idle + Bluetooth Link + WLAN Link(5G)+ Battery + Earphone + USB Cable 2(Charging from Adapter 1)
Remark:	
1. For Radiated Test Cases, The tests were performance with Adapter 1, Battery, Earphone, USB Cable 1.	

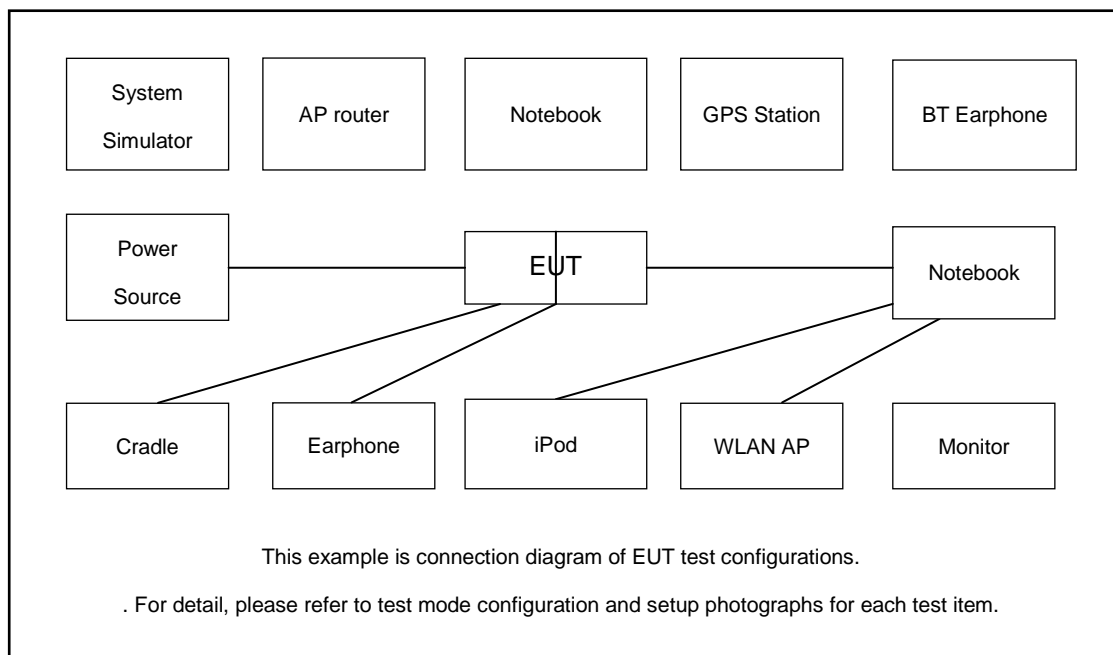
Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	106
H	High	-	-	-

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station(LTE)	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
3.	NOTE BOOK	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Earphone	Apple	MC690ZP/A	N/A	N/A	N/A
5.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A



2.5 EUT Operation Test Setup

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

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 3.3 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 3.3 + 10 = 13.3 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

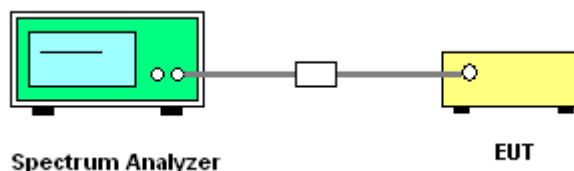
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

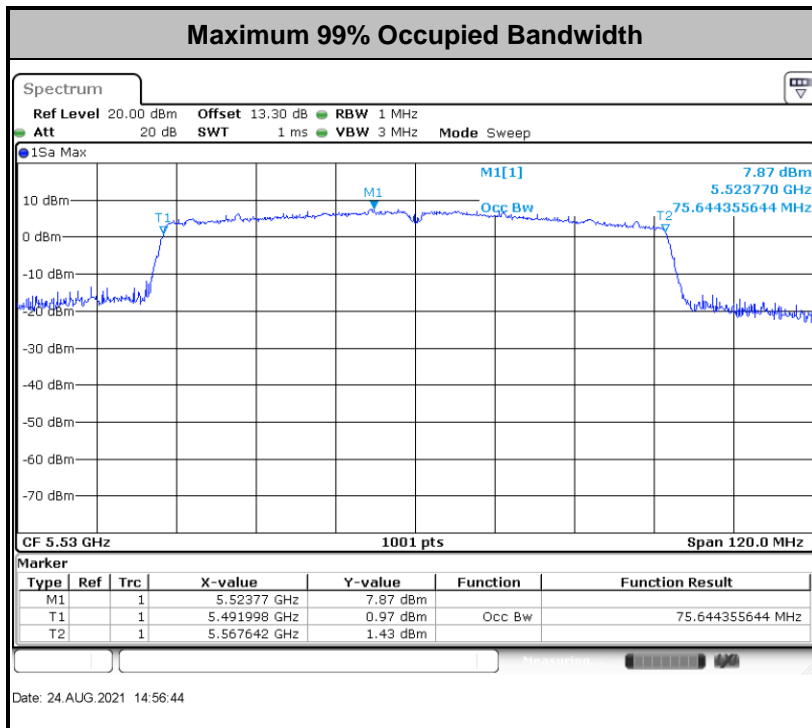
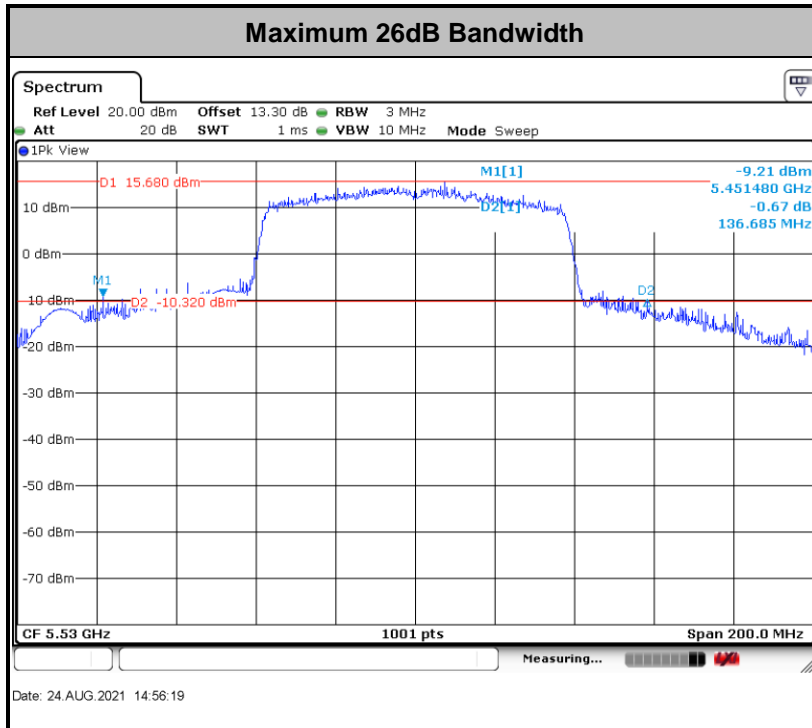
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

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

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

3.2.2 Measuring Instruments

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

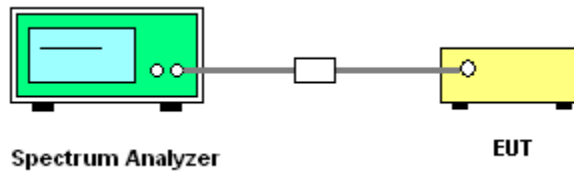
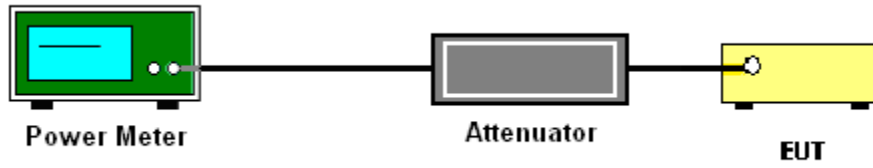
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

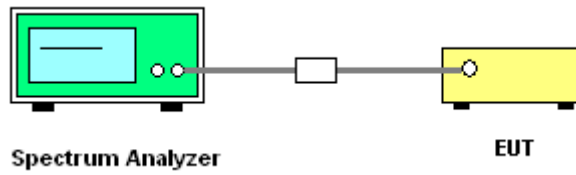
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

Method SA-2

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

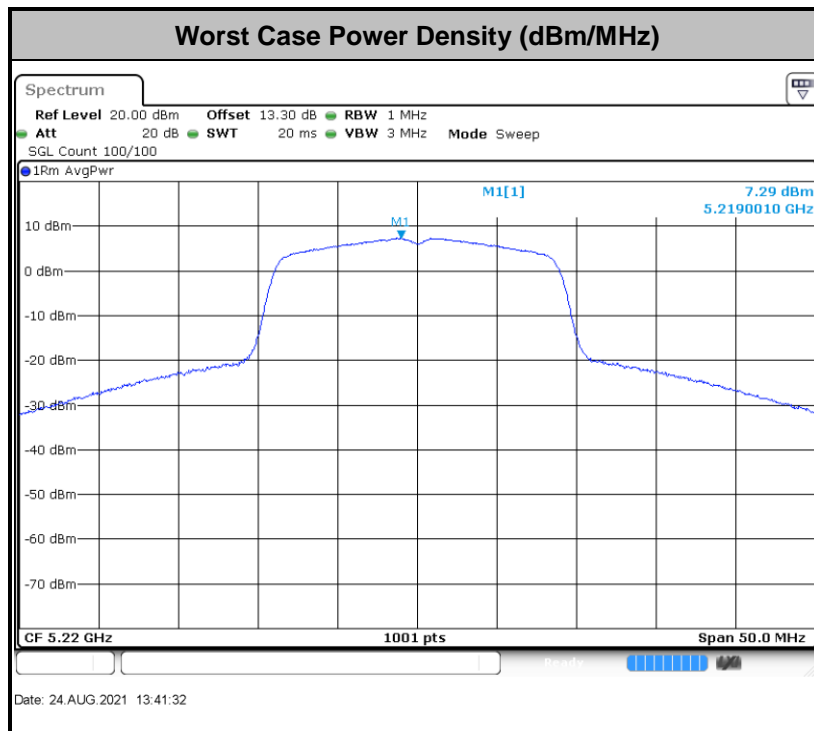
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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



3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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



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

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

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

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

- 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

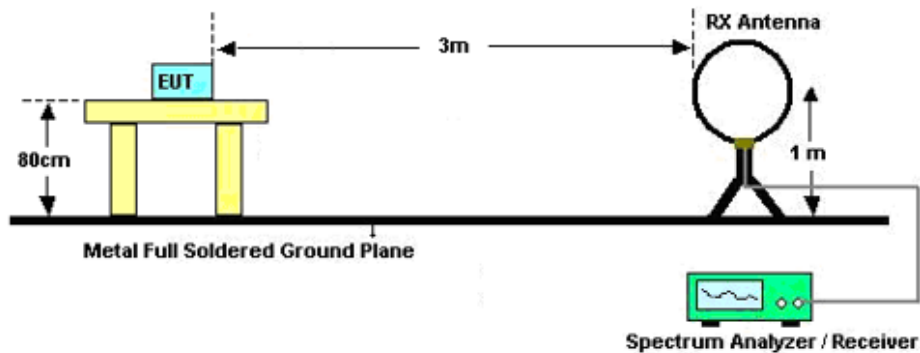
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

- 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.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

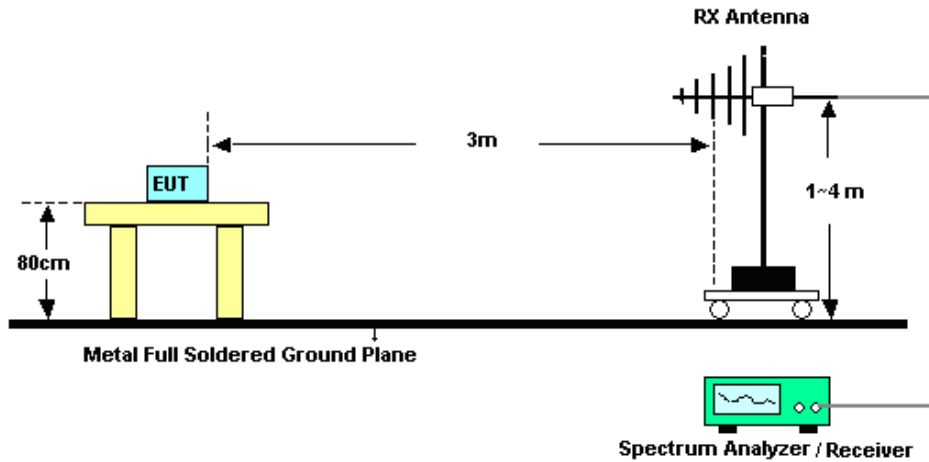
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

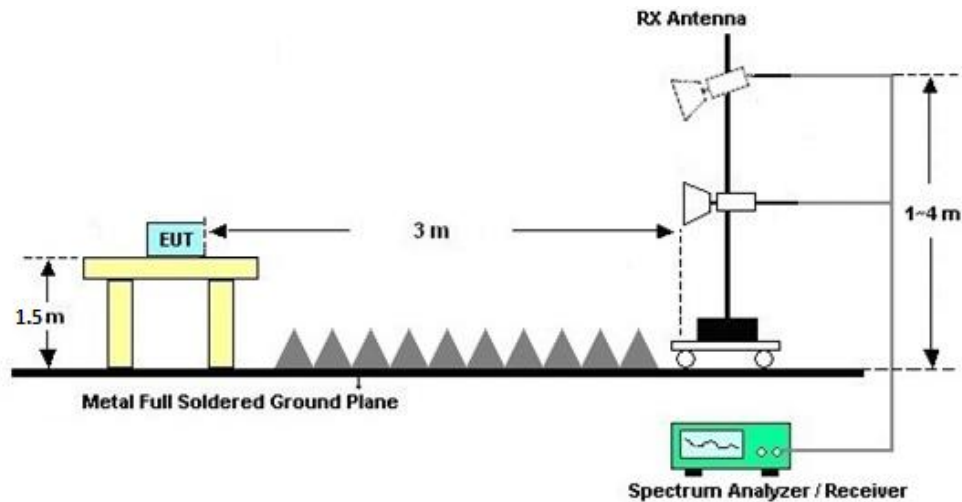
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.



3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Antenna Requirements

3.6.1 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.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 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
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Mar. 08, 2021	Aug. 20, 2021	Mar. 07, 2022	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2 LISN	00103912	9kHz~30MHz	Dec. 25, 2020	Aug. 20, 2021	Dec. 24, 2021	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 15, 2020	Aug. 20, 2021	Oct. 14, 2021	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 14, 2021	Aug. 20, 2021	Jul. 13, 2022	Conduction (CO01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2021	Aug. 24, 2021	Apr. 07, 2022	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 25, 2020	Aug. 24, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 25, 2020	Aug. 24, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Aug. 24, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 13, 2021	Sep. 07, 2021	Jul. 13, 2022	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Sep. 07, 2021	Jun. 21, 2022	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Jul. 15, 2021	Sep. 07, 2021	Jul. 14, 2022	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 25, 2021	Sep. 07, 2021	Jul. 24, 2022	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 13, 2021	Sep. 07, 2021	Jul. 13, 2022	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 11, 2021	Sep. 07, 2021	Apr. 10, 2022	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 16, 2020	Sep. 07, 2021	Oct. 15, 2021	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 16, 2020	Sep. 07, 2021	Oct. 15, 2021	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 16, 2020	Sep. 07, 2021	Oct. 15, 2021	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Sep. 07, 2021	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Sep. 07, 2021	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Sep. 07, 2021	NCR	Radiation (03CH02-SZ)
Signal Analyzer	R&S	FSV7	101473	10Hz~7GHz	Dec. 25, 2020	Aug. 24, 2021~Sep. 08, 2021	Dec. 24, 2021	Conducted (DFS01-SZ)
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200424	9kHz~6GHz	Dec. 30, 2020	Aug. 24, 2021~Sep. 08, 2021	Dec. 29, 2021	Conducted (DFS01-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))	2.2dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

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

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

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

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

----- THE END -----



Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Chen Hong	Temperature:	21~25	°C
Test Date:	2021/8/24	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

U-NII-1								
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	18.68	37.40	-	22.71
11a	6Mbps	1	44	5220	19.68	39.30	-	22.94
11a	6Mbps	1	48	5240	19.23	38.05	-	22.84
VHT20	MCS0	1	36	5180	19.18	40.35	-	22.83
VHT20	MCS0	1	44	5220	19.88	41.00	-	22.98
VHT20	MCS0	1	48	5240	19.88	41.35	-	22.98
VHT40	MCS0	1	38	5190	36.66	62.91	-	23.01
VHT40	MCS0	1	46	5230	36.76	68.58	-	23.01
VHT80	MCS0	1	42	5210	75.28	91.68	-	23.01

TEST RESULTS DATA
Average Power Table

FCC U-NII-1									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	36	5180	0.14	16.88	24.00	-2.92	Pass
11a	6Mbps	1	44	5220	0.14	18.55	24.00	-2.92	Pass
11a	6Mbps	1	48	5240	0.14	18.67	24.00	-2.92	Pass
HT20	MCS0	1	36	5180	0.15	16.17	24.00	-2.92	Pass
HT20	MCS0	1	44	5220	0.15	18.29	24.00	-2.92	Pass
HT20	MCS0	1	48	5240	0.15	18.35	24.00	-2.92	Pass
HT40	MCS0	1	38	5190	0.27	14.79	24.00	-2.92	Pass
HT40	MCS0	1	46	5230	0.27	17.43	24.00	-2.92	Pass
VHT20	MCS0	1	36	5180	0.13	16.25	24.00	-2.92	Pass
VHT20	MCS0	1	44	5220	0.13	18.36	24.00	-2.92	Pass
VHT20	MCS0	1	48	5240	0.13	18.38	24.00	-2.92	Pass
VHT40	MCS0	1	38	5190	0.27	14.88	24.00	-2.92	Pass
VHT40	MCS0	1	46	5230	0.27	17.48	24.00	-2.92	Pass
VHT80	MCS0	1	42	5210	0.56	14.48	24.00	-2.92	Pass

TEST RESULTS DATA
Power Spectral Density

FCC U-NII-1										
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	0.14	7.33	11.00	-2.92		Pass
11a	6Mbps	1	44	5220	0.14	7.21	11.00	-2.92		Pass
11a	6Mbps	1	48	5240	0.14	7.24	11.00	-2.92		Pass
VHT20	MCS0	1	36	5180	0.13	7.20	11.00	-2.92		Pass
VHT20	MCS0	1	44	5220	0.13	7.42	11.00	-2.92		Pass
VHT20	MCS0	1	48	5240	0.13	7.12	11.00	-2.92		Pass
VHT40	MCS0	1	38	5190	0.27	3.48	11.00	-2.92		Pass
VHT40	MCS0	1	46	5230	0.27	3.66	11.00	-2.92		Pass
VHT80	MCS0	1	42	5210	0.56	-0.47	11.00	-2.92		Pass

TEST RESULTS DATA
26dB and 99% OBW

U-NII-2A										
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	19.03	39.50	23.79	29.79	23.98	
11a	6M bps	1	60	5300	18.98	40.05	23.78	29.78	23.98	
11a	6M bps	1	64	5320	19.38	39.95	23.87	29.87	23.98	
VHT20	MCS 0	1	52	5260	19.73	38.45	23.95	29.95	23.98	
VHT20	MCS 0	1	60	5300	19.68	41.65	23.94	29.94	23.98	
VHT20	MCS 0	1	64	5320	19.63	40.65	23.93	29.93	23.98	
VHT40	MCS 0	1	54	5270	36.76	70.38	23.98	30.00	23.98	
VHT40	MCS 0	1	62	5310	36.66	60.93	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	75.16	97.28	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC U-NII-2A										
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	0.14	18.60	23.98	-2.57	26.99	Pass
11a	6M bps	1	60	5300	0.14	18.54	23.98	-2.57	26.99	Pass
11a	6M bps	1	64	5320	0.14	17.52	23.98	-2.57	26.99	Pass
HT20	MCS 0	1	52	5260	0.15	18.43	23.98	-2.57	26.99	Pass
HT20	MCS 0	1	60	5300	0.15	18.41	23.98	-2.57	26.99	Pass
HT20	MCS 0	1	64	5320	0.15	17.76	23.98	-2.57	26.99	Pass
HT40	MCS 0	1	54	5270	0.27	17.56	23.98	-2.57	26.99	Pass
HT40	MCS 0	1	62	5310	0.27	14.50	23.98	-2.57	26.99	Pass
VHT20	MCS 0	1	52	5260	0.13	18.44	23.98	-2.57	26.99	Pass
VHT20	MCS 0	1	60	5300	0.13	18.53	23.98	-2.57	26.99	Pass
VHT20	MCS 0	1	64	5320	0.13	17.82	23.98	-2.57	26.99	Pass
VHT40	MCS 0	1	54	5270	0.27	17.61	23.98	-2.57	26.99	Pass
VHT40	MCS 0	1	62	5310	0.27	14.58	23.98	-2.57	26.99	Pass
VHT80	MCS 0	1	58	5290	0.56	13.89	23.98	-2.57	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

U-NII-2A									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	Pass/Fail
11a	6M bps	1	52	5260	0.14	7.07	11.00	-2.57	Pass
11a	6M bps	1	60	5300	0.14	6.77	11.00	-2.57	Pass
11a	6M bps	1	64	5320	0.14	6.91	11.00	-2.57	Pass
VHT20	MCS 0	1	52	5260	0.13	7.05	11.00	-2.57	Pass
VHT20	MCS 0	1	60	5300	0.13	6.92	11.00	-2.57	Pass
VHT20	MCS 0	1	64	5320	0.13	6.76	11.00	-2.57	Pass
VHT40	MCS 0	1	54	5270	0.27	3.26	11.00	-2.57	Pass
VHT40	MCS 0	1	62	5310	0.27	2.97	11.00	-2.57	Pass
VHT80	MCS 0	1	58	5290	0.56	-0.77	11.00	-2.57	Pass

TEST RESULTS DATA
26dB and 99% OBW

U-NII-2C										
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	19.78	40.20	23.96	29.96	23.98	
11a	6M bps	1	116	5580	21.48	41.00	23.98	30.00	23.98	
11a	6M bps	1	140	5700	19.38	39.30	23.87	29.87	23.98	
VHT20	MCS 0	1	100	5500	19.83	43.10	23.97	29.97	23.98	
VHT20	MCS 0	1	116	5580	22.18	42.30	23.98	30.00	23.98	
VHT20	MCS 0	1	140	5700	19.63	42.70	23.93	29.93	23.98	
VHT40	MCS 0	1	102	5510	37.16	76.05	23.98	30.00	23.98	
VHT40	MCS 0	1	110	5550	37.26	76.23	23.98	30.00	23.98	
VHT40	MCS 0	1	134	5670	36.96	68.85	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	75.64	136.69	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC U-NII-2C										
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	0.14	16.72	23.98	-2.47	26.99	Pass
11a	6M bps	1	116	5580	0.14	18.50	23.98	-2.47	26.99	Pass
11a	6M bps	1	140	5700	0.14	15.44	23.98	-2.47	26.99	Pass
HT20	MCS 0	1	100	5500	0.15	15.74	23.98	-2.47	26.99	Pass
HT20	MCS 0	1	116	5580	0.15	18.53	23.98	-2.47	26.99	Pass
HT20	MCS 0	1	140	5700	0.15	15.05	23.98	-2.47	26.99	Pass
HT40	MCS 0	1	102	5510	0.27	15.89	23.98	-2.47	26.99	Pass
HT40	MCS 0	1	110	5550	0.27	17.11	23.98	-2.47	26.99	Pass
HT40	MCS 0	1	134	5670	0.27	17.05	23.98	-2.47	26.99	Pass
VHT20	MCS 0	1	100	5500	0.13	15.80	23.98	-2.47	26.99	Pass
VHT20	MCS 0	1	116	5580	0.13	18.55	23.98	-2.47	26.99	Pass
VHT20	MCS 0	1	140	5700	0.13	15.09	23.98	-2.47	26.99	Pass
VHT40	MCS 0	1	102	5510	0.27	15.98	23.98	-2.47	26.99	Pass
VHT40	MCS 0	1	110	5550	0.27	17.31	23.98	-2.47	26.99	Pass
VHT40	MCS 0	1	134	5670	0.27	17.23	23.98	-2.47	26.99	Pass
VHT80	MCS 0	1	106	5530	0.56	14.45	23.98	-2.47	26.99	Pass

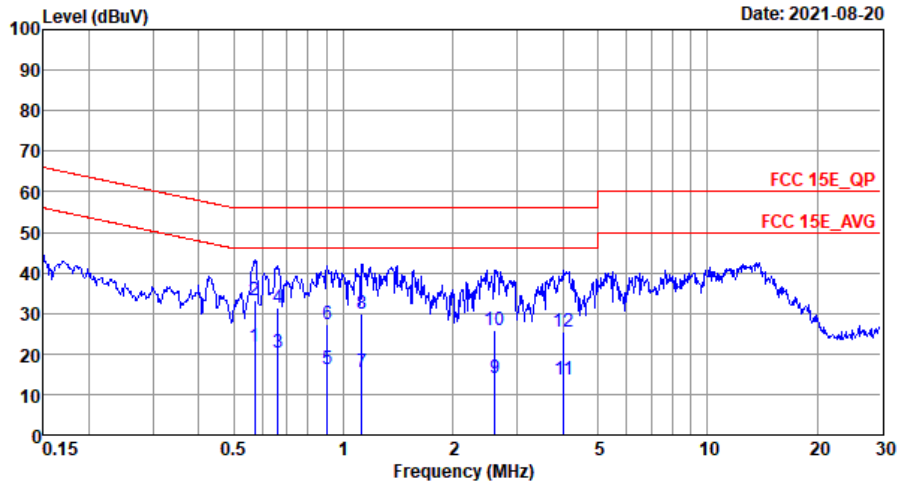
TEST RESULTS DATA
Power Spectral Density

U-NII-2C									
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	0.14	7.16	11.00	-2.47	Pass
11a	6M bps	1	116	5580	0.14	7.21	11.00	-2.47	Pass
11a	6M bps	1	140	5700	0.14	6.72	11.00	-2.47	Pass
VHT20	MCS 0	1	100	5500	0.13	6.89	11.00	-2.47	Pass
VHT20	MCS 0	1	116	5580	0.13	6.70	11.00	-2.47	Pass
VHT20	MCS 0	1	140	5700	0.13	6.60	11.00	-2.47	Pass
VHT40	MCS 0	1	102	5510	0.27	2.87	11.00	-2.47	Pass
VHT40	MCS 0	1	110	5550	0.27	2.54	11.00	-2.47	Pass
VHT40	MCS 0	1	134	5670	0.27	2.48	11.00	-2.47	Pass
VHT80	MCS 0	1	106	5530	0.56	-0.97	11.00	-2.47	Pass



Appendix B. AC Conducted Emission Test Results

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

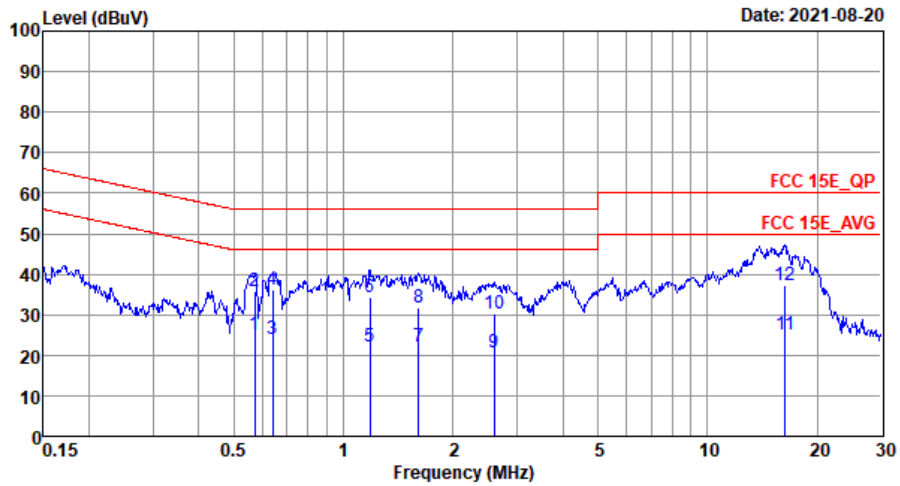


Site : C001-SZ
 Condition: FCC 15E_QP LISN_20201030_L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.57	21.84	-24.16	46.00	11.70	0.10	10.04	Average
2 *	0.57	33.34	-22.66	56.00	23.20	0.10	10.04	QP
3	0.66	20.24	-25.76	46.00	10.10	0.10	10.04	Average
4	0.66	31.24	-24.76	56.00	21.10	0.10	10.04	QP
5	0.90	16.12	-29.88	46.00	6.00	0.10	10.02	Average
6	0.90	27.22	-28.78	56.00	17.10	0.10	10.02	QP
7	1.12	15.53	-30.47	46.00	5.40	0.10	10.03	Average
8	1.12	29.73	-26.27	56.00	19.60	0.10	10.03	QP
9	2.61	13.93	-32.07	46.00	3.70	0.08	10.15	Average
10	2.61	25.93	-30.07	56.00	15.70	0.08	10.15	QP
11	4.03	13.79	-32.21	46.00	3.50	0.04	10.25	Average
12	4.03	25.49	-30.51	56.00	15.20	0.04	10.25	QP



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



Site : CO01-SZ
 Condition: FCC 15E_QP LISN_20201030_N NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.57	25.04	-20.96	46.00	14.90	0.10	10.04	Average
2	0.57	35.94	-20.06	56.00	25.80	0.10	10.04	QP
3	0.64	24.04	-21.96	46.00	13.90	0.10	10.04	Average
4 *	0.64	36.34	-19.66	56.00	26.20	0.10	10.04	QP
5	1.18	22.13	-23.87	46.00	11.99	0.10	10.04	Average
6	1.18	34.33	-21.67	56.00	24.19	0.10	10.04	QP
7	1.61	22.26	-23.74	46.00	12.10	0.09	10.07	Average
8	1.61	31.86	-24.14	56.00	21.70	0.09	10.07	QP
9	2.59	20.53	-25.47	46.00	10.30	0.08	10.15	Average
10	2.59	30.33	-25.67	56.00	20.10	0.08	10.15	QP
11	16.31	25.23	-24.77	50.00	14.30	0.57	10.36	Average
12	16.31	37.13	-22.87	60.00	26.20	0.57	10.36	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

U-NII-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		5145.34	58.74	-15.26	74	47.47	34	10.06	32.79	140	335	P	H
		5149.76	49.57	-4.43	54	38.3	34	10.06	32.79	140	335	A	H
	*	5180	104.97	-	-	93.69	34	10.09	32.81	140	335	P	H
		5180	97.41	-	-	86.13	34	10.09	32.81	140	335	A	H
		5148.72	58.11	-15.89	74	46.84	34	10.06	32.79	292	272	P	V
		5150	50.72	-3.28	54	39.45	34	10.06	32.79	292	272	A	V
	*	5180	106.12	-	-	94.84	34	10.09	32.81	292	272	P	V
		5180	98.4	-	-	87.12	34	10.09	32.81	292	272	A	V
802.11a CH 44 5220MHz		5141.18	51.02	-22.98	74	39.74	34	10.06	32.78	220	307	P	H
		5150	43.06	-10.94	54	31.79	34	10.06	32.79	220	307	A	H
	*	5220	105.35	-	-	94.02	34.03	10.13	32.83	220	307	P	H
		5220	98.46	-	-	87.13	34.03	10.13	32.83	220	307	A	H
		5423.52	49.12	-24.88	74	37.53	34.2	10.34	32.95	220	307	P	H
		5440.8	40.94	-13.06	54	29.33	34.2	10.38	32.97	220	307	A	H
		5137.54	51.44	-22.56	74	40.19	33.97	10.06	32.78	267	274	P	V
		5148.46	42.92	-11.08	54	31.65	34	10.06	32.79	267	274	A	V
	*	5220	108.4	-	-	97.07	34.03	10.13	32.83	267	274	P	V
		5220	101.46	-	-	90.13	34.03	10.13	32.83	267	274	A	V
		5405.28	49.33	-24.67	74	37.74	34.2	10.34	32.95	267	274	P	V
		5386.08	41.15	-12.85	54	29.59	34.2	10.3	32.94	267	274	A	V



802.11a CH 48 5240MHz		5119.34	50.93	-23.07	74	39.72	33.93	10.06	32.78	100	356	P	H
		5147.94	42	-12	54	30.73	34	10.06	32.79	100	356	A	H
	*	5240	104.61	-	-	93.21	34.07	10.17	32.84	100	356	P	H
		5240	97.52	-	-	86.12	34.07	10.17	32.84	100	356	A	H
		5457.6	50.56	-23.44	74	38.96	34.2	10.38	32.98	100	356	P	H
		5436	41.15	-12.85	54	29.54	34.2	10.38	32.97	100	356	A	H
		5107.12	50.5	-23.5	74	39.31	33.93	10.02	32.76	265	262	P	V
		5150	42.51	-11.49	54	31.24	34	10.06	32.79	265	262	A	V
	*	5240	109.24	-	-	97.84	34.07	10.17	32.84	265	262	P	V
		5240	101.52	-	-	90.12	34.07	10.17	32.84	265	262	A	V
		5354.16	49.37	-24.63	74	37.79	34.2	10.3	32.92	265	262	P	V
		5352	41.43	-12.57	54	29.85	34.2	10.3	32.92	265	262	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-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	47.45	-20.85	68.3	57.66	37.22	11.56	58.99	196	175	P	H
		15540	49.44	-24.56	74	53.52	40.13	14.74	58.95	142	186	P	H
		10360	46.39	-21.91	68.3	56.6	37.22	11.56	58.99	152	260	P	V
		15540	49.3	-24.7	74	53.38	40.13	14.74	58.95	189	238	P	V
802.11a CH 44 5220MHz		10440	46.58	-21.72	68.3	56.63	37.26	11.61	58.92	175	296	P	H
		15660	50.63	-23.37	74	54.7	40.22	14.78	59.07	185	236	P	H
		10440	46.78	-21.52	68.3	56.83	37.26	11.61	58.92	150	230	P	V
		15660	50.79	-23.21	74	54.86	40.22	14.78	59.07	160	225	P	V
802.11a CH 48 5240MHz		10480	46.64	-21.66	68.3	56.6	37.29	11.61	58.86	153	242	P	H
		15720	50.68	-23.32	74	54.78	40.28	14.74	59.12	196	210	P	H
		10480	47.13	-21.17	68.3	57.09	37.29	11.61	58.86	150	289	P	V
		15720	50.45	-23.55	74	54.55	40.28	14.74	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-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		5149.24	59.63	-14.37	74	48.36	34	10.06	32.79	105	292	P	H
		5150	49.99	-4.01	54	38.72	34	10.06	32.79	105	292	A	H
	*	5180	104.82	-	-	93.54	34	10.09	32.81	105	292	P	H
		5180	97.4	-	-	86.12	34	10.09	32.81	105	292	A	H
		5149.99	60.37	-13.63	74	49.1	34	10.06	32.79	104	260	P	V
		5149.24	50.04	-3.96	54	38.77	34	10.06	32.79	104	260	A	V
	*	5180	105.03	-	-	93.75	34	10.09	32.81	104	260	P	V
		5180	97.4	-	-	86.12	34	10.09	32.81	104	260	A	V
802.11ac VHT20 CH 44 5220MHz		5147.68	50.32	-23.68	74	39.05	34	10.06	32.79	103	291	P	H
		5149.76	42.96	-11.04	54	31.69	34	10.06	32.79	103	291	A	H
	*	5220	106.02	-	-	94.69	34.03	10.13	32.83	103	291	P	H
		5220	98.46	-	-	87.13	34.03	10.13	32.83	103	291	A	H
		5427.6	48.68	-25.32	74	37.07	34.2	10.38	32.97	103	291	P	H
		5441.52	40.83	-13.17	54	29.22	34.2	10.38	32.97	103	291	A	H
		5146.9	50.49	-23.51	74	39.22	34	10.06	32.79	268	256	P	V
		5144.82	42.81	-11.19	54	31.54	34	10.06	32.79	268	256	A	V
	*	5220	107.11	-	-	95.78	34.03	10.13	32.83	268	256	P	V
		5220	99.48	-	-	88.15	34.03	10.13	32.83	268	256	A	V
		5361.6	49.8	-24.2	74	38.22	34.2	10.3	32.92	268	256	P	V
		5359.44	41.06	-12.94	54	29.48	34.2	10.3	32.92	268	256	A	V



802.11ac VHT20 CH 48 5240MHz		5050.18	50.2	-23.8	74	39.14	33.8	9.99	32.73	103	291	P	H
		5130.52	42.27	-11.73	54	31.02	33.97	10.06	32.78	103	291	A	H
	*	5240	105.45	-	-	94.05	34.07	10.17	32.84	103	291	P	H
		5240	98.52	-	-	87.12	34.07	10.17	32.84	103	291	A	H
		5444.4	49.61	-24.39	74	38	34.2	10.38	32.97	103	291	P	H
		5361.12	41	-13	54	29.42	34.2	10.3	32.92	103	291	A	H
		5030.68	50.08	-23.92	74	39.05	33.8	9.95	32.72	107	253	P	V
		5148.98	42.31	-11.69	54	31.04	34	10.06	32.79	107	253	A	V
	*	5240	106.35	-	-	94.95	34.07	10.17	32.84	107	253	P	V
		5240	98.52	-	-	87.12	34.07	10.17	32.84	107	253	A	V
		5460	49.86	-18.44	68.3	38.26	34.2	10.38	32.98	107	253	P	V
		5352	41.25	-12.75	54	29.67	34.2	10.3	32.92	107	253	A	V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 												



**U-NII-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	47.56	-20.74	68.3	57.77	37.22	11.56	58.99	196	175	P	H
VHT20		15540	50.58	-23.42	74	54.66	40.13	14.74	58.95	142	186	P	H
CH 36		10360	47.15	-21.15	68.3	57.36	37.22	11.56	58.99	152	260	P	V
5180MHz		15540	49.82	-24.18	74	53.9	40.13	14.74	58.95	154	245	P	V
802.11ac		10440	47.11	-21.19	68.3	57.16	37.26	11.61	58.92	175	296	P	H
VHT20		15660	50.48	-23.52	74	54.55	40.22	14.78	59.07	185	236	P	H
CH 44		10440	46.96	-21.34	68.3	57.01	37.26	11.61	58.92	150	230	P	V
5220MHz		15660	50.51	-23.49	74	54.58	40.22	14.78	59.07	160	225	P	V
802.11ac		10480	47.78	-20.52	68.3	57.74	37.29	11.61	58.86	153	242	P	H
VHT20		15720	50.14	-23.86	74	54.24	40.28	14.74	59.12	196	210	P	H
CH 48		10480	46.99	-21.31	68.3	56.95	37.29	11.61	58.86	150	289	P	V
5240MHz		15720	50.9	-23.1	74	55	40.28	14.74	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**U-NII-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		5146.12	61.17	-12.83	74	49.9	34	10.06	32.79	104	286	P	H
		5149.76	51.99	-2.01	54	40.72	34	10.06	32.79	104	286	A	H
	*	5190	101.64	-	-	90.36	34	10.09	32.81	104	286	P	H
		5190	93.4	-	-	82.12	34	10.09	32.81	104	286	A	H
		5455.12	48.49	-25.32	74	36.89	34.2	10.38	32.98	104	286	P	H
		5451.1	41.32	-12.28	54	29.72	34.2	10.38	32.98	104	286	A	H
		5147.16	56.88	-17.12	74	45.61	34	10.06	32.79	282	276	A	V
		5149.5	49.46	-4.54	54	38.19	34	10.06	32.79	282	276	P	V
	*	5190	99.14	-	-	87.86	34	10.09	32.81	282	276	A	V
		5190	91.4	-	-	80.12	34	10.09	32.81	282	276	P	V
		5406.24	49.94	-24.06	74	38.35	34.2	10.34	32.95	282	276	A	V
		5352.13	41.47	-12.53	54	29.89	34.2	10.3	32.92	282	276	P	V
802.11ac VHT40 CH 46 5230MHz		5138.58	51.71	-22.29	74	40.46	33.97	10.06	32.78	104	102	P	H
		5147.94	44.28	-9.72	54	33.01	34	10.06	32.79	104	102	A	H
	*	5230	103.18	-	-	91.82	34.07	10.13	32.84	104	102	P	H
		5230	95.47	-	-	84.11	34.07	10.13	32.84	104	102	A	H
		5424	49.06	-24.94	74	37.47	34.2	10.34	32.95	104	102	P	H
		5353.68	41.98	-12.02	54	30.4	34.2	10.3	32.92	104	102	A	H
		5096.72	50.26	-23.74	74	39.1	33.9	10.02	32.76	282	272	P	V
		5141.96	43.95	-10.05	54	32.67	34	10.06	32.78	282	272	A	V
	*	5230	104.11	-	-	92.75	34.07	10.13	32.84	282	272	P	V
		5230	96.56	-	-	85.2	34.07	10.13	32.84	282	272	A	V
	5442.72	51.18	-22.82	74	39.57	34.2	10.38	32.97	282	272	P	V	
	5357.76	41.98	-12.02	54	30.4	34.2	10.3	32.92	282	272	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 5150~5250MHz
WIFI 802.11ac VHT40 (Harmonic @ 3m)

Table with 14 columns: 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). Rows include test results for 802.11ac VHT40 CH 38 (5190MHz) and 802.11ac VHT40 CH 46 (5230MHz). A Remark section at the bottom states: 1. No other spurious found. 2. All results are PASS against Peak and Average limit line.



**U-NII-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		5139.62	54.85	-19.15	74	44.29	34	9.34	32.78	314	112	P	H
		5148.46	48.17	-5.83	54	37.62	34	9.34	32.79	314	112	A	H
	*	5210	96.16	-	-	85.47	34.03	9.49	32.83	314	112	P	H
		5210	88.82	-	-	78.13	34.03	9.49	32.83	314	112	A	H
		5380.8	49.54	-24.46	74	38.47	34.2	9.81	32.94	314	112	P	H
		5358.48	42.45	-11.55	54	31.37	34.2	9.8	32.92	314	112	A	H
		5144.3	59.19	-14.81	74	48.64	34	9.34	32.79	108	80	P	V
		5150	50.38	-3.62	54	39.83	34	9.34	32.79	108	80	A	V
	*	5210	96.55	-	-	85.86	34.03	9.49	32.83	108	80	P	V
		5210	88.81	-	-	78.12	34.03	9.49	32.83	108	80	A	V
		5437.2	48.65	-25.35	74	37.55	34.2	9.87	32.97	108	80	P	V
		5450.4	42.33	-11.67	54	31.21	34.2	9.9	32.98	108	80	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 5150~5250MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: 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). Rows include 802.11ac VHT80 and CH 42 5210MHz, and a Remark section.



U-NII-2A - 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		5011.44	50.5	-23.5	74	39.45	33.8	9.95	32.7	231	300	P	H
		5140.4	41.85	-12.15	54	30.57	34	10.06	32.78	231	300	A	H
	*	5260	104.09	-	-	92.65	34.13	10.17	32.86	231	300	P	H
		5260	96.57	-	-	85.13	34.13	10.17	32.86	231	300	A	H
		5391.12	49.33	-24.67	74	37.73	34.2	10.34	32.94	231	300	P	H
		5439.36	40.79	-13.21	54	29.18	34.2	10.38	32.97	231	300	A	H
		5133.9	51.2	-22.8	74	39.95	33.97	10.06	32.78	249	272	P	V
		5148.72	42.35	-11.65	54	31.08	34	10.06	32.79	249	272	A	V
	*	5260	108.11	-	-	96.67	34.13	10.17	32.86	249	272	P	V
		5260	100.57	-	-	89.13	34.13	10.17	32.86	249	272	A	V
		5458.56	50.22	-23.78	74	38.62	34.2	10.38	32.98	249	272	P	V
		5353.2	41.56	-12.44	54	29.98	34.2	10.3	32.92	249	272	A	V
802.11a CH 60 5300MHz		5138.95	51.04	-22.96	74	39.79	33.97	10.06	32.78	228	293	P	H
		5128.8	42.47	-11.53	54	31.22	33.97	10.06	32.78	228	293	A	H
	*	5300	105.42	-	-	93.9	34.2	10.21	32.89	228	293	P	H
		5300	97.19	-	-	85.67	34.2	10.21	32.89	228	293	A	H
		5350.32	52.9	-21.1	74	41.32	34.2	10.3	32.92	228	293	P	H
		5350.08	45.23	-8.77	54	33.65	34.2	10.3	32.92	228	293	A	H
		5135.8	51.29	-22.71	74	40.04	33.97	10.06	32.78	294	273	P	V
		5129.5	42.09	-11.91	54	30.84	33.97	10.06	32.78	294	273	A	V
	*	5300	106.82	-	-	95.3	34.2	10.21	32.89	294	273	P	V
		5300	99.64	-	-	88.12	34.2	10.21	32.89	294	273	A	V
		5353.2	52.41	-21.59	74	40.83	34.2	10.3	32.92	294	273	P	V
		5350.08	45.86	-8.14	54	34.28	34.2	10.3	32.92	294	273	A	V



802.11a CH 64 5320MHz	*	5320	102.49	-	-	90.92	34.2	10.26	32.89	135	182	P	H
		5320	94.88	-	-	83.31	34.2	10.26	32.89	135	182	A	H
		5354.88	56.19	-17.81	74	44.61	34.2	10.3	32.92	135	182	P	H
		5350.24	47.99	-6.01	54	36.41	34.2	10.3	32.92	135	182	A	H
	*	5320	105.04	-	-	93.47	34.2	10.26	32.89	142	360	P	V
		5320	96.7	-	-	85.13	34.2	10.26	32.89	142	360	A	V
		5355.52	59.28	-14.72	74	47.7	34.2	10.3	32.92	142	360	P	V
		5350.08	50.55	-3.45	54	38.97	34.2	10.3	32.92	142	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**U-NII-2A 5250~5350MHz
WIFI 802.11a (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	46.7	-21.6	68.3	56.55	37.32	11.65	58.82	172	234	P	H
		15780	50.27	-23.73	74	54.35	40.32	14.78	59.18	124	281	P	H
		10520	46.23	-22.07	68.3	56.08	37.32	11.65	58.82	150	220	P	V
		15780	50.15	-23.85	74	54.23	40.32	14.78	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	46.37	-27.63	74	55.82	37.42	11.86	58.73	117	129	P	H
		15900	50.97	-23.03	74	54.99	40.42	14.86	59.3	167	143	P	H
		10600	45.87	-28.13	74	55.32	37.42	11.86	58.73	185	215	P	V
		15900	50.93	-23.07	74	54.95	40.42	14.86	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	46.86	-27.14	74	56.25	37.47	11.83	58.69	152	135	P	H
		15960	50.03	-23.97	74	54.02	40.47	14.89	59.35	173	245	P	H
		10640	46.24	-27.76	74	55.63	37.47	11.83	58.69	214	246	P	V
		15960	50.6	-23.4	74	54.59	40.47	14.89	59.35	134	248	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**U-NII-2A 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		5041.08	50.45	-23.55	74	39.38	33.8	9.99	32.72	213	112	P	H
		5092.3	42.13	-11.87	54	30.96	33.9	10.02	32.75	213	112	A	H
	*	5260	105.9	-	-	94.46	34.13	10.17	32.86	213	112	P	H
		5260	98.57	-	-	87.13	34.13	10.17	32.86	213	112	A	H
		5368.08	49.68	-24.32	74	38.1	34.2	10.3	32.92	213	112	P	H
		5354.88	41.02	-12.98	54	29.44	34.2	10.3	32.92	213	112	A	H
		5043.16	51.3	-22.7	74	40.24	33.8	9.99	32.73	258	261	P	V
		5147.16	41.96	-12.04	54	30.69	34	10.06	32.79	258	261	A	V
	*	5260	107.05	-	-	95.61	34.13	10.17	32.86	258	261	P	V
		5260	99.57	-	-	88.13	34.13	10.17	32.86	258	261	A	V
		5351.28	50.23	-23.77	74	38.65	34.2	10.3	32.92	258	261	P	V
		5352.24	41.76	-12.24	54	30.18	34.2	10.3	32.92	258	261	A	V
802.11ac VHT20 CH 60 5300MHz		5133.7	50.54	-23.46	74	39.29	33.97	10.06	32.78	216	112	P	H
		5136.15	42.03	-11.97	54	30.78	33.97	10.06	32.78	216	112	A	H
	*	5300	105.57	-	-	94.05	34.2	10.21	32.89	216	112	P	H
		5300	98.64	-	-	87.12	34.2	10.21	32.89	216	112	A	H
		5352.96	50.29	-23.71	74	38.71	34.2	10.3	32.92	216	112	P	H
		5350.08	42.78	-11.22	54	31.2	34.2	10.3	32.92	216	112	A	H
		5069.65	50.05	-23.95	74	38.98	33.83	9.99	32.75	285	264	P	V
		5134.4	42.13	-11.87	54	30.88	33.97	10.06	32.78	285	264	A	V
	*	5300	107.21	-	-	95.69	34.2	10.21	32.89	285	264	P	V
		5300	99.64	-	-	88.12	34.2	10.21	32.89	285	264	A	V
		5350.8	51.51	-22.49	74	39.93	34.2	10.3	32.92	285	264	P	V
		5350.56	45.24	-8.76	54	33.66	34.2	10.3	32.92	285	264	A	V



802.11ac VHT20 CH 64 5320MHz	*	5320	103.45	-	-	91.88	34.2	10.26	32.89	217	281	P	H
		5320	96.69	-	-	85.12	34.2	10.26	32.89	217	281	A	H
		5354.08	61.42	-12.58	74	49.84	34.2	10.3	32.92	217	281	P	H
		5350.08	50.36	-3.64	54	38.78	34.2	10.3	32.92	217	281	A	H
	*	5320	105.83	-	-	94.26	34.2	10.26	32.89	108	255	P	V
		5320	98.69	-	-	87.12	34.2	10.26	32.89	108	255	A	V
		5350.72	61.91	-12.09	74	50.33	34.2	10.3	32.92	108	255	P	V
		5350.08	50.95	-3.05	54	39.37	34.2	10.3	32.92	108	255	A	V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 												



**U-NII-2A 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)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10520	46.29	-22.01	68.3	56.14	37.32	11.65	58.82	172	234	P	H
VHT20		15780	50.49	-23.51	74	54.57	40.32	14.78	59.18	124	281	P	H
CH 52		10520	47.31	-20.99	68.3	57.16	37.32	11.65	58.82	150	220	P	V
5260MHz		15780	50.52	-23.48	74	54.6	40.32	14.78	59.18	159	345	P	V
802.11ac		10600	46.51	-27.49	74	55.96	37.42	11.86	58.73	117	129	P	H
VHT20		15900	50.81	-23.19	74	54.83	40.42	14.86	59.3	167	143	P	H
CH 60		10600	47.27	-26.73	74	56.72	37.42	11.86	58.73	185	215	P	V
5300MHz		15900	50.2	-23.8	74	54.22	40.42	14.86	59.3	196	190	P	V
802.11ac		10640	47.93	-26.07	74	57.32	37.47	11.83	58.69	152	135	P	H
VHT20		15960	50.79	-23.21	74	54.78	40.47	14.89	59.35	173	245	P	H
CH 64		10640	47.41	-26.59	74	56.8	37.47	11.83	58.69	157	236	P	V
5320MHz		15960	50.46	-23.54	74	54.45	40.47	14.89	59.35	154	249	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**U-NII-2A 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		5053.55	50.15	-23.85	74	39.09	33.8	9.99	32.73	106	98	P	H
		5103.25	43.21	-10.79	54	32.05	33.9	10.02	32.76	106	98	A	H
	*	5270	102.36	-	-	90.92	34.13	10.17	32.86	106	98	P	H
		5270	94.57	-	-	83.13	34.13	10.17	32.86	106	98	A	H
		5352.24	50.93	-23.07	74	39.35	34.2	10.3	32.92	106	98	P	H
		5351.76	43.91	-10.09	54	32.33	34.2	10.3	32.92	106	98	A	H
		5021.35	50.78	-23.22	74	39.75	33.8	9.95	32.72	276	267	P	V
		5134.75	43.05	-10.95	54	31.8	33.97	10.06	32.78	276	267	A	V
	*	5270	105.13	-	-	93.69	34.13	10.17	32.86	276	267	P	V
		5270	97.79	-	-	86.35	34.13	10.17	32.86	276	267	A	V
		5457.6	51.3	-22.7	74	39.7	34.2	10.38	32.98	276	267	P	V
		5351.76	44.05	-9.95	54	32.47	34.2	10.3	32.92	276	267	A	V
802.11ac VHT40 CH 62 5310MHz		5138.6	50.85	-23.15	74	39.6	33.97	10.06	32.78	213	294	P	H
		5091.7	42.69	-11.31	54	31.52	33.9	10.02	32.75	213	294	A	H
	*	5310	97.57	-	-	86	34.2	10.26	32.89	213	294	P	H
		5310	90.69	-	-	79.12	34.2	10.26	32.89	213	294	A	H
		5354.16	59.7	-14.3	74	48.12	34.2	10.3	32.92	213	294	P	H
		5350.08	48.12	-5.88	54	36.54	34.2	10.3	32.92	213	294	A	H
		5117.25	50.38	-23.62	74	39.15	33.93	10.06	32.76	258	256	P	V
		5134.75	42.85	-11.15	54	31.6	33.97	10.06	32.78	258	256	A	V
	*	5310	101.01	-	-	89.44	34.2	10.26	32.89	258	256	P	V
		5310	93.99	-	-	82.42	34.2	10.26	32.89	258	256	A	V
	5360.64	58.4	-15.6	74	46.82	34.2	10.3	32.92	258	256	P	V	
	5350.8	51.98	-2.02	54	40.4	34.2	10.3	32.92	258	256	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2A 5250~5350MHz
WIFI 802.11ac VHT40 (Harmonic @ 3m)

Table with 14 columns: 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). Rows include test results for 802.11ac VHT40 CH 54 and 5310MHz VHT40 CH 62.

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



**U-NII-2A 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		5038.5	50.79	-23.21	74	39.72	33.8	9.99	32.72	325	105	P	H
		5030.45	44.24	-9.76	54	33.21	33.8	9.95	32.72	325	105	A	H
	*	5290	94.98	-	-	83.47	34.17	10.21	32.87	325	105	P	H
		5290	87.63	-	-	76.12	34.17	10.21	32.87	325	105	A	H
		5370.96	55.33	-18.67	74	43.75	34.2	10.3	32.92	325	105	P	H
		5351.28	49.75	-4.25	54	38.17	34.2	10.3	32.92	325	105	A	H
		5138.6	50.65	-23.35	74	39.4	33.97	10.06	32.78	126	91	P	V
		5068.6	44.27	-9.73	54	33.2	33.83	9.99	32.75	126	91	A	V
	*	5290	96.64	-	-	85.13	34.17	10.21	32.87	126	91	P	V
		5290	89.85	-	-	78.34	34.17	10.21	32.87	126	91	A	V
		5366.4	57.69	-16.31	74	46.11	34.2	10.3	32.92	126	91	P	V
		5351.76	50.57	-3.43	54	38.99	34.2	10.3	32.92	126	91	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2A 5250~5350MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: 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). Rows include 802.11ac VHT80 and CH 58 5290MHz.

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



U-NII-2C - 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		5457.2	56.82	-17.18	74	45.22	34.2	10.38	32.98	107	238	P	H
		5468.08	63.5	-4.8	68.3	51.85	34.2	10.43	32.98	107	238	P	H
		5459.28	45.1	-8.9	54	33.5	34.2	10.38	32.98	107	238	A	H
	*	5500	103.45	-	-	91.82	34.2	10.43	33	107	238	P	H
		5500	95.75	-	-	84.12	34.2	10.43	33	107	238	A	H
		5459.12	59.23	-14.77	74	47.63	34.2	10.38	32.98	212	253	P	V
		5469.2	64.92	-3.38	68.3	53.27	34.2	10.43	32.98	212	253	P	V
		5459.76	48.13	-5.87	54	36.53	34.2	10.38	32.98	212	253	A	V
	*	5500	105.89	-	-	94.26	34.2	10.43	33	212	253	P	V
		5500	98.76	-	-	87.13	34.2	10.43	33	212	253	A	V
802.11a CH 116 5580MHz		5368.72	49.74	-24.26	74	38.16	34.2	10.3	32.92	104	244	P	H
		5467.84	47.69	-20.61	68.3	36.04	34.2	10.43	32.98	104	244	P	H
		5427.52	40.91	-13.09	54	29.3	34.2	10.38	32.97	104	244	A	H
	*	5580	104.4	-	-	92.61	34.23	10.52	32.96	104	244	P	H
		5580	96.91	-	-	85.12	34.23	10.52	32.96	104	244	A	H
		5730.98	51.23	-17.07	68.3	38.95	34.57	10.61	32.9	104	244	P	H
		5412.64	49.81	-24.19	74	38.22	34.2	10.34	32.95	227	275	P	V
		5469.76	49.62	-18.68	68.3	37.97	34.2	10.43	32.98	227	275	P	V
		5440.24	41.51	-12.49	54	29.9	34.2	10.38	32.97	227	275	A	V
	*	5580	107.45	-	-	95.66	34.23	10.52	32.96	227	275	P	V
		5580	99.91	-	-	88.12	34.23	10.52	32.96	227	275	A	V
	5750.51	50.17	-18.13	68.3	37.85	34.6	10.62	32.9	227	275	P	V	



802.11a CH 140 5700MHz	*	5700	106.53	-	-	94.34	34.5	10.61	32.92	109	290	P	H
		5700	99.32	-	-	87.13	34.5	10.61	32.92	109	290	A	H
		5725.24	64.52	-3.78	68.3	52.25	34.57	10.61	32.91	109	290	P	H
	*	5700	101.1	-	-	88.91	34.5	10.61	32.92	295	294	P	V
		5700	93.31	-	-	81.12	34.5	10.61	32.92	295	294	A	V
		5725.48	60	-8.3	68.3	47.73	34.57	10.61	32.91	295	294	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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	48.69	-25.31	74	57.08	37.9	12.01	58.3	196	296	P	H
		16500	50.79	-17.51	68.3	52.79	41.57	15.27	58.84	191	271	P	H
		11000	48.02	-25.98	74	56.41	37.9	12.01	58.3	163	230	P	V
		16500	50.89	-17.41	68.3	52.89	41.57	15.27	58.84	178	296	P	V
802.11a CH 116 5580MHz		11160	49.05	-24.95	74	57.01	38.05	12.1	58.11	170	200	P	H
		16740	51.27	-17.03	68.3	52.37	42.07	15.41	58.58	156	350	P	H
		11160	49.14	-24.86	74	57.1	38.05	12.1	58.11	170	296	P	V
		16740	51.96	-16.34	68.3	53.06	42.07	15.41	58.58	145	350	P	V
802.11a CH 140 5700MHz		11400	49.75	-24.25	74	57.14	38.27	12.19	57.85	157	285	P	H
		17100	53.16	-15.14	68.3	53.41	42.46	15.45	58.16	165	246	P	H
		11400	48.86	-25.14	74	56.25	38.27	12.19	57.85	157	221	P	V
		17100	53.11	-15.19	68.3	53.36	42.46	15.45	58.16	196	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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		5458	54.79	-19.21	74	43.19	34.2	10.38	32.98	104	290	P	H
		5469.36	61.31	-6.99	68.3	49.66	34.2	10.43	32.98	104	290	P	H
		5460	43.78	-10.22	54	32.18	34.2	10.38	32.98	104	290	A	H
	*	5500	103.66	-	-	92.03	34.2	10.43	33	104	290	P	H
		5500	96.04	-	-	84.41	34.2	10.43	33	104	290	A	H
		5459.99	61.58	-12.42	74	49.98	34.2	10.38	32.98	246	266	P	V
		5466.64	64.62	-3.68	68.3	52.97	34.2	10.43	32.98	246	266	P	V
		5459.76	48.46	-5.54	54	36.86	34.2	10.38	32.98	246	266	A	V
	*	5500	105.3	-	-	93.67	34.2	10.43	33	246	266	P	V
	5500	97.75	-	-	86.12	34.2	10.43	33	246	266	A	V	
802.11ac VHT20 CH 116 5580MHz		5439.76	48.96	-25.04	74	37.35	34.2	10.38	32.97	111	290	P	H
		5461.84	49.67	-18.63	68.3	38.07	34.2	10.38	32.98	111	290	P	H
		5450.32	41.01	-12.99	54	29.41	34.2	10.38	32.98	111	290	A	H
	*	5580	107.07	-	-	95.28	34.23	10.52	32.96	111	290	P	H
		5580	100.21	-	-	88.42	34.23	10.52	32.96	111	290	A	H
		5745.785	49.8	-18.5	68.3	37.48	34.6	10.62	32.9	111	290	P	H
		5449.12	49.17	-24.83	74	37.56	34.2	10.38	32.97	246	273	P	V
		5463.04	48.68	-19.62	68.3	37.08	34.2	10.38	32.98	246	273	P	V
		5422.48	41.27	-12.73	54	29.68	34.2	10.34	32.95	246	273	A	V
	*	5580	107.02	-	-	95.23	34.23	10.52	32.96	246	273	P	V
	5580	100.42	-	-	88.63	34.23	10.52	32.96	246	273	A	V	
	5754.605	49.59	-18.71	68.3	37.24	34.63	10.62	32.9	246	273	P	V	



802.11ac VHT20 CH 140 5700MHz	*	5700	105.15	-	-	92.96	34.5	10.61	32.92	111	290	P	H
		5700	97.05	-	-	84.86	34.5	10.61	32.92	111	290	A	H
		5727.72	64.91	-3.39	68.3	52.64	34.57	10.61	32.91	111	290	P	H
	*	5700	105.18	-	-	92.99	34.5	10.61	32.92	250	274	P	V
		5700	97.51	-	-	85.32	34.5	10.61	32.92	250	274	A	V
		5726.28	63.78	-4.52	68.3	51.51	34.57	10.61	32.91	250	274	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**U-NII-2C - 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 VHT20		11000	48.45	-25.55	74	56.84	37.9	12.01	58.3	196	296	P	H
		16500	51.15	-17.15	68.3	53.15	41.57	15.27	58.84	191	271	P	H
CH 100 5500MHz		11000	48.85	-25.15	74	57.24	37.9	12.01	58.3	163	230	P	V
		16500	51.43	-16.87	68.3	53.43	41.57	15.27	58.84	178	296	P	V
802.11ac VHT20 CH 116 5580MHz		11160	48.54	-25.46	74	56.5	38.05	12.1	58.11	170	296	P	H
		16740	52.01	-16.29	68.3	53.11	42.07	15.41	58.58	145	350	P	H
		11160	48.18	-25.82	74	56.14	38.05	12.1	58.11	170	200	P	V
		16740	51.19	-17.11	68.3	52.29	42.07	15.41	58.58	156	350	P	V
802.11ac VHT20 CH 140 5700MHz		11400	49.14	-24.86	74	56.53	38.27	12.19	57.85	157	221	P	H
		17100	52.11	-16.19	68.3	52.36	42.46	15.45	58.16	196	246	P	H
		11400	48.56	-25.44	74	55.95	38.27	12.19	57.85	157	285	P	V
		17100	51.64	-16.66	68.3	51.89	42.46	15.45	58.16	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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		5448.4	53.85	-20.15	74	42.24	34.2	10.38	32.97	114	234	P	H
		5469.76	59.97	-8.33	68.3	48.32	34.2	10.43	32.98	114	234	P	H
		5459.92	47.51	-6.49	54	35.91	34.2	10.38	32.98	114	234	A	H
	*	5510	99.08	-	-	87.4	34.2	10.47	32.99	114	234	P	H
		5510	91.8	-	-	80.12	34.2	10.47	32.99	114	234	A	H
		5732.87	49.95	-18.35	68.3	37.67	34.57	10.61	32.9	114	234	P	H
		5447.44	54.86	-19.14	74	43.25	34.2	10.38	32.97	252	251	P	V
		5465.2	63.88	-4.42	68.3	52.28	34.2	10.38	32.98	252	251	P	V
		5459.92	47.72	-6.28	54	36.12	34.2	10.38	32.98	252	251	A	V
	*	5510	102.64	-	-	90.96	34.2	10.47	32.99	252	251	P	V
		5510	94.89	-	-	83.21	34.2	10.47	32.99	252	251	A	V
		5745.785	48.81	-19.49	68.3	36.49	34.6	10.62	32.9	252	251	P	V
802.11ac VHT40 CH 110 5550MHz		5444.08	49.94	-24.06	74	38.33	34.2	10.38	32.97	105	294	P	H
		5468.08	51.1	-17.2	68.3	39.45	34.2	10.43	32.98	105	294	P	H
		5459.68	43.25	-10.75	54	31.65	34.2	10.38	32.98	105	294	A	H
	*	5550	103.7	-	-	91.96	34.2	10.52	32.98	105	294	P	H
		5550	95.98	-	-	84.24	34.2	10.52	32.98	105	294	A	H
		5755.235	50.13	-18.17	68.3	37.78	34.63	10.62	32.9	105	294	P	H
		5436.16	50.78	-23.22	74	39.17	34.2	10.38	32.97	208	272	P	V
		5462.8	53.37	-14.93	68.3	41.77	34.2	10.38	32.98	208	272	P	V
		5459.68	44.35	-9.65	54	32.75	34.2	10.38	32.98	208	272	A	V
	*	5550	103.17	-	-	91.43	34.2	10.52	32.98	208	272	P	V
	5550	95.86	-	-	84.12	34.2	10.52	32.98	208	272	A	V	
	5731.61	50.83	-17.47	68.3	38.55	34.57	10.61	32.9	208	272	P	V	



802.11ac VHT40 CH 134 5670MHz		5393.75	49.07	-24.93	74	37.47	34.2	10.34	32.94	104	293	P	H
		5469.35	47.54	-20.76	68.3	35.89	34.2	10.43	32.98	104	293	P	H
		5423.15	41.75	-12.25	54	30.16	34.2	10.34	32.95	104	293	A	H
	*	5670	104.76	-	-	92.7	34.4	10.59	32.93	104	293	P	H
		5670	97.18	-	-	85.12	34.4	10.59	32.93	104	293	A	H
		5731.575	62.42	-5.88	68.3	50.14	34.57	10.61	32.9	104	293	P	H
		5430.85	49.18	-24.82	74	37.57	34.2	10.38	32.97	267	269	P	V
		5466.55	48.35	-19.95	68.3	36.7	34.2	10.43	32.98	267	269	P	V
		5458.15	41.76	-12.24	54	30.16	34.2	10.38	32.98	267	269	A	V
	*	5670	103.44	-	-	91.38	34.4	10.59	32.93	267	269	P	V
		5670	96.19	-	-	84.13	34.4	10.59	32.93	267	269	A	V
		5727.55	60.56	-7.74	68.3	48.29	34.57	10.61	32.91	267	269	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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	48.71	-25.29	74	57.03	37.92	12.04	58.28	150	222	P	H
VHT40		16530	52.01	-16.29	68.3	53.91	41.64	15.26	58.8	160	300	P	H
CH 102		11020	48.91	-25.09	74	57.23	37.92	12.04	58.28	170	230	P	V
5510MHz		16530	51.35	-16.95	68.3	53.25	41.64	15.26	58.8	160	300	P	V
802.11ac		11100	49.17	-24.83	74	57.2	37.99	12.17	58.19	150	200	P	H
VHT40		16650	51.81	-16.49	68.3	53.31	41.89	15.28	58.67	180	350	P	H
CH 110		11100	49.6	-24.4	74	57.63	37.99	12.17	58.19	154	230	P	V
5550MHz		16650	52.07	-16.23	68.3	53.57	41.89	15.28	58.67	120	330	P	V
802.11ac		11340	48.74	-25.26	74	56.12	38.21	12.34	57.93	135	310	P	H
VHT40		17010	52.15	-16.15	68.3	52.26	42.58	15.59	58.28	150	180	P	H
CH 134		11340	49.92	-24.08	74	57.3	38.21	12.34	57.93	200	360	P	V
5670MHz		17010	53.08	-15.22	68.3	53.19	42.58	15.59	58.28	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**U-NII-2C 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		5447.44	53.41	-20.59	74	41.8	34.2	10.38	32.97	239	291	P	H
		5467.6	56.26	-12.04	68.3	44.61	34.2	10.43	32.98	239	291	P	H
		5458.24	50.19	-3.81	54	38.59	34.2	10.38	32.98	239	291	A	H
	*	5530	95.81	-	-	84.12	34.2	10.47	32.98	239	291	P	H
		5530	88.81	-	-	77.12	34.2	10.47	32.98	239	291	A	H
		5726.57	50.25	-18.05	68.3	37.98	34.57	10.61	32.91	239	291	P	H
		5456.8	57.53	-16.47	74	45.93	34.2	10.38	32.98	235	262	P	V
		5468.56	60.11	-8.19	68.3	48.46	34.2	10.43	32.98	235	262	P	V
		5455.36	50.82	-3.18	54	39.22	34.2	10.38	32.98	235	262	A	V
	*	5530	96.98	-	-	85.29	34.2	10.47	32.98	235	262	P	V
		5530	88.81	-	-	77.12	34.2	10.47	32.98	235	262	A	V
		5748.935	49.39	-18.91	68.3	37.07	34.6	10.62	32.9	235	262	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**U-NII-2C 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 VHT80 CH 106 5530MHz		11060	47.86	-26.14	74	56.01	37.96	12.12	58.23	160	210	P	H
		16590	50.57	-17.73	68.3	52.32	41.75	15.25	58.75	198	240	P	H
		11060	47.73	-26.27	74	55.88	37.96	12.12	58.23	167	244	P	V
		16590	51.54	-16.76	68.3	53.29	41.75	15.25	58.75	124	245	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 VHT40 (LF @ 3m)

Table with 14 columns: WIFI, Note, Frequency, Level, Over, Limit, Read, Antenna, Cable, Preamp, Ant, Table, Peak, Pol. It contains 12 rows of test data for 802.11ac VHT40 LF and a Remark section at the bottom.



Co-location

LTE B13 Link + WIFI 802.11ac VHT40 Tx
(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)
802.11ac VHT40 CH 38 5190MHz		5146.64	60.83	-13.17	74	49.56	34	10.06	32.79	104	286	P	H
		5149.73	51.97	-2.03	54	40.7	34	10.06	32.79	104	286	A	H
	*	5190	101.7	-	-	90.42	34	10.09	32.81	104	286	P	H
		5190	93.46	-	-	82.18	34	10.09	32.81	104	286	A	H
		5455.56	48.49	-25.51	74	36.89	34.2	10.38	32.98	104	286	P	H
		5387.76	41.13	-12.87	54	29.53	34.2	10.34	32.94	104	286	A	H
		5146.9	57.67	-16.33	74	46.4	34	10.06	32.79	104	147	P	V
		5149.5	50.46	-3.54	54	39.19	34	10.06	32.79	104	147	A	V
	*	5190	98.85	-	-	87.57	34	10.09	32.81	104	147	P	V
		5190	91.73	-	-	80.45	34	10.09	32.81	104	147	A	V
		5377.12	47.83	-26.17	74	36.27	34.2	10.3	32.94	104	147	P	V
	5407.64	41.31	-12.69	54	29.72	34.2	10.34	32.95	104	147	A	V	
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



LTE B13 Link + WIFI 802.11ac VHT40 Tx
(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 VHT40 CH 38 5190MHz		1559.5	47.93	-26.07	74	66.7	28.1	5.67	52.54	189	117	P	H
		2339.25	46.71	-27.29	74	60.26	31.7	7.48	52.73	105	176	P	H
		3119	48.92	-19.38	68.3	60.25	32.95	8.12	52.4	105	117	P	H
		10380	44.66	-23.64	68.3	44.61	37.23	14.26	51.44	175	0	P	H
		15570	49.26	-24.74	74	42.73	40.16	18.86	52.49	155	360	P	H
		1559.5	48.66	-25.34	74	48.84	28.1	5.67	33.95	104	186	P	V
		2339.25	44.45	-29.55	74	38.56	31.7	7.48	33.29	181	286	P	V
		3119	46.76	-21.54	68.3	38.61	32.95	8.12	32.92	104	286	P	V
		10380	45.07	-23.23	68.3	26.78	37.23	14.26	33.2	200	0	P	V
		15570	49.64	-24.36	74	53.66	40.16	14.79	58.97	155	360	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

Note symbol

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



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	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

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

For Peak Limit @ 2390MHz:

- 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)
- Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

- 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)
- Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

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

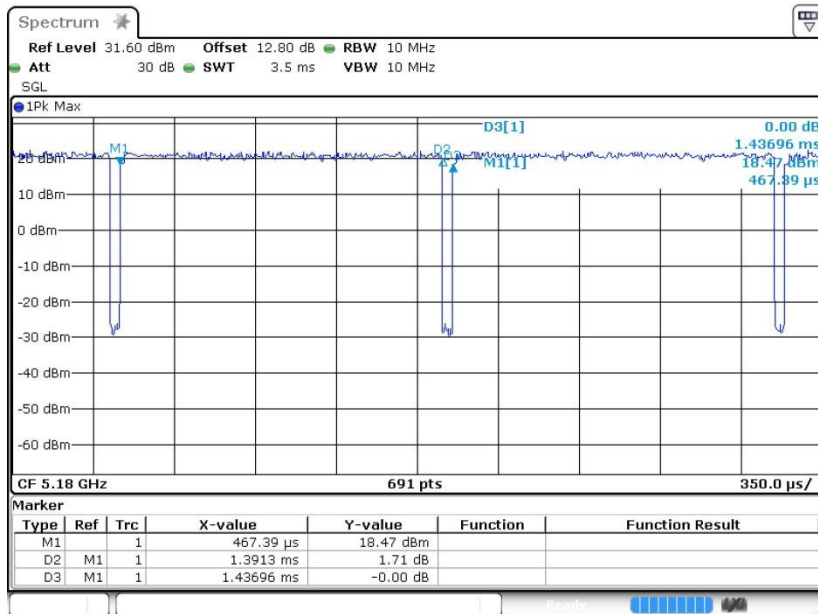


Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	96.82	1.39	0.72	1KHz
802.11ac VHT20	97.00	1.32	0.76	1KHz
802.11ac VHT40	93.97	0.66	1.53	3KHz
802.11ac VHT80	87.84	0.32	3.08	10KHZ

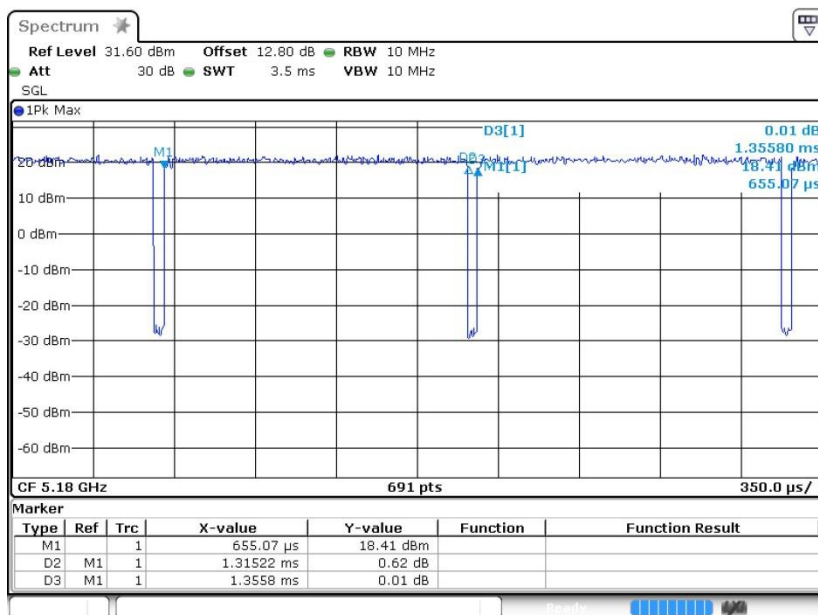


802.11a



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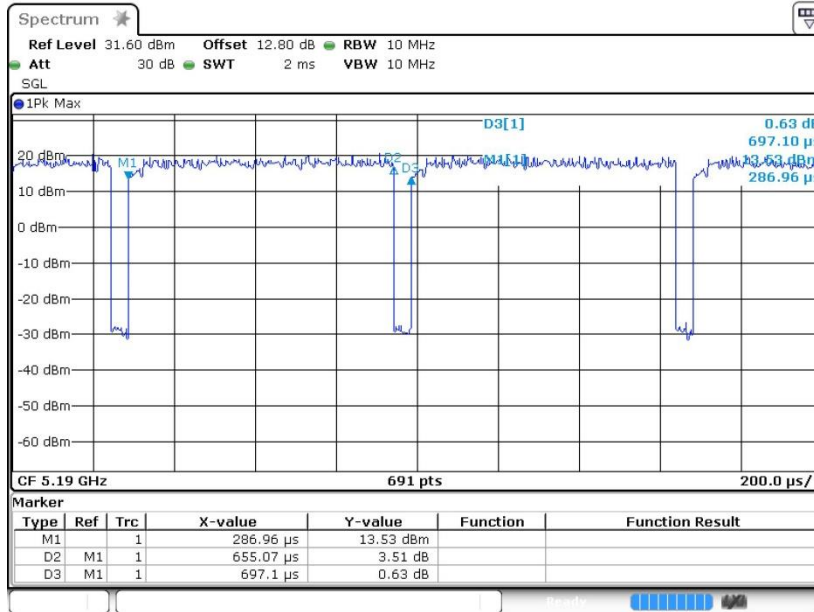
802.11ac VHT20



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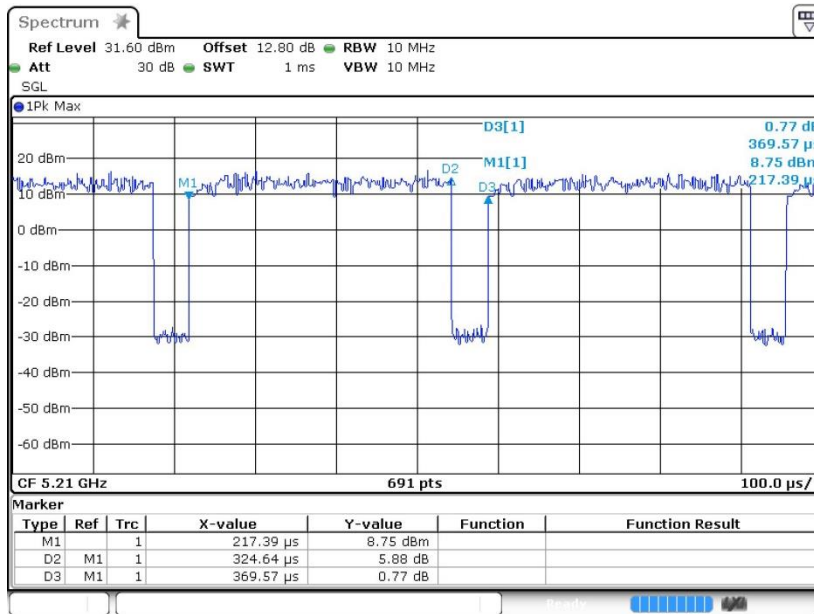


802.11ac VHT40



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802.11ac VHT80



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