



FCC RF Test Report

APPLICANT : LITE-ON Technology Corp.
EQUIPMENT : 802.11 a/b/g/n/ac 2T2R+BT V4.2LE combo module
BRAND NAME : LITE-ON
MODEL NAME : WCBN3510A
FCC ID : PPQ-WCBN3510A
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was installed into Lenovo Smart Display (Brand Name: Lenovo, Model Name: Lenovo SD-8501F) during test.

The product was received on Feb. 08, 2018 and testing was completed on Apr. 26, 2018. We, Sporton International (Kunshan) 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Approved by: James Huang / Manager



Sporton International (Kunshan) Inc.

**No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335
China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR880813D	Rev. 01	Initial issue of report	Apr. 28, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
-	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	1
3.1	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
-	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	1
3.2	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.09 dB at 5350.200 MHz
3.3	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 18.18 dB at 0.479 MHz
3.4	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.5	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-
-	15.407 (h)	Dynamic Frequency Selection	15.407 (h)	Pass	2
Remark: 1. All conducted test items were leveraged from module RF report "FR7N1336AN". 2. DFS test items were leveraged from module RF report "FZ7N1336".					

1 General Description

1.1 Applicant

LITE-ON Technology Corp.

Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C

1.2 Manufacturer

LITE-ON TECHNOLOGY (Changzhou) CO., LTD

A9 Building, No.88 Yanghu Road, Wujin Hi-Tech Industrial Development Zone, Changzhou City, Jiangsu Province 213100 China

1.3 Product Feature of Equipment Under Test

Product Feature & Specification	
Equipment	802.11 a/b/g/n/ac 2T2R+BT V4.2LE combo module
Brand Name	LITE-ON
Model Name	WCBN3510A
FCC ID	PPQ-WCBN3510A
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth v2.1+EDR, Bluetooth v4.2 LE
EUT Stage	Identical Prototype

Host Feature & Specification	
Equipment	Lenovo Smart Display
Brand Name	Lenovo
Model Name	Lenovo SD-8501F
Applicant	Lenovo (Shanghai) Electronics Technology Co., Ltd. NO.68 BUILDING, 199 FENJU RD, China (Shanghai) Pilot Free Trade Zone, Shanghai, 200131 China
Manufacturer	Lenovo PC HK Limited 23/F, Lincoln House, Taikoo Place, 979 King's Road, Quarry Bay Hong Kong

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	MIMO <Ant. 1 + 2> <5180 MHz ~ 5240 MHz> 802.11a : 20.87 dBm / 0.1222 W 802.11ac VHT20 : 20.63 dBm / 0.1156 W 802.11ac VHT40 : 20.39 dBm / 0.1094 W 802.11ac VHT80 : 8.66 dBm / 0.0073 W <5260 MHz ~ 5320 MHz> 802.11a : 21.46 dBm / 0.1400 W 802.11ac VHT20 : 21.28 dBm / 0.1343 W 802.11ac VHT40 : 20.88 dBm / 0.1225 W 802.11ac VHT80 : 10.36 dBm / 0.0109 W <5500 MHz ~ 5700 MHz > 802.11a : 21.77 dBm / 0.1503 W 802.11ac VHT20 : 21.73 dBm / 0.1489 W 802.11ac VHT40 : 21.63 dBm / 0.1455 W 802.11ac VHT80 : 22.09 dBm / 0.1618 W		
Antenna Gain / Gain	<5150 MHz ~ 5250 MHz> <Ant. 1> : PIFA Antenna with gain 4.13 dBi <Ant. 2> : PIFA Antenna with gain 3.33 dBi <5250 MHz ~ 5350 MHz> <Ant. 1> : PIFA Antenna with gain 3.32 dBi <Ant. 2> : PIFA Antenna with gain 3.33 dBi <5470 MHz ~ 5725 MHz> <Ant. 1> : PIFA Antenna with gain 3.97 dBi <Ant. 2> : PIFA Antenna with gain 4.12 dBi		
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)		
Antenna Function Description		Ant. 1	Ant. 2
	802.11 a/n/ac SISO	V	V
	802.11 a/n/ac MIMO	V	V

Note: For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing has assessed only 802.11ac VHT20/ VHT40 by referring to their higher conducted power.

1.5 Component List

Object	Specifications	Supplier
CPU	APQ-8053-A-792NSP-MT-01-1-AA	Qualcomm
Memory	EMMC04G-M627X02U (4G+32G)	Kingston
PANEL	P080DDD-AB4 W134.2*H202.05*3.5MM 800*RGB*1280	longhai
Camera	CBFH53520004950LH 2592*1994 megapixel	chicony
loudspeaker	1.75" 6Ω 10W fullrange driver	sanfu
PCB	L102*W91*T0.8MM 94V0	tripod
Module	WCBN3510A QCA9379-3 WIFI and Bluetooth combo	Liteon

1.6 Modification of EUT

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



1.7 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.			
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958			
Test Site No.	Sporton Site No.			FCC Test Firm Registration No.
	TH01-KS	03CH03-KS	CO01-KS	630927

Note: The test site complies with ANSI C63.4 2014 requirement.

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq.(MHz)	Channel	Freq.(MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		

Frequency Band	Channel	Freq.(MHz)	Channel	Freq.(MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		

Frequency Band	Channel	Freq.(MHz)	Channel	Freq.(MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Frequency Band	Channel	Freq.(MHz)	Channel	Freq.(MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122 [#]	5610	128	5640

Note:

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

2.2 Test Mode

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

MIMO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Idle + WLAN Link(5G) + Adapter 1 Mode 2 : Bluetooth Idle + WLAN Link(5G) + Adapter 2
Remark: 1. The worst case of conducted emission is mode 1; only the test data of it was reported. 2. For Radiated Test Cases, The tests were performance with Adapter 1.	



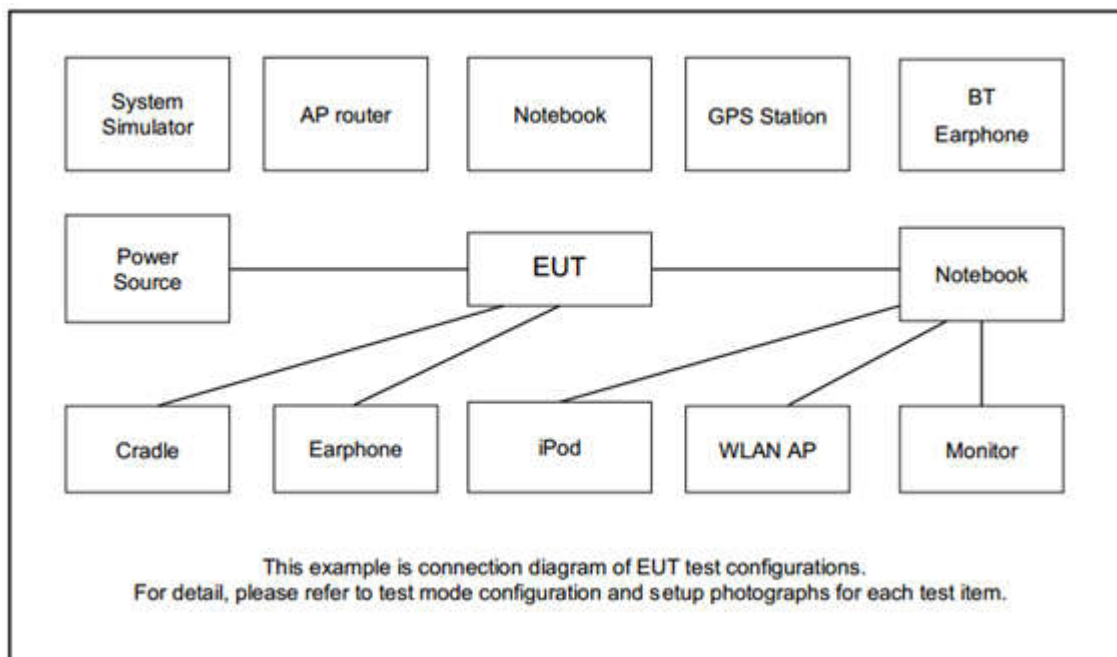
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P 1.8m
2.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
3.	SD Card	Kingston	SDC4/4GB	N/A	N/A	N/A
4.	Notebook	Lenovo	G480	PRC4	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m

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.



3 Test Result

3.1 Maximum Conducted Output Power Measurement

3.1.1 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 $11 \text{ dBm} + 10 \log B$, 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.

3.1.2 Measuring Instruments

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

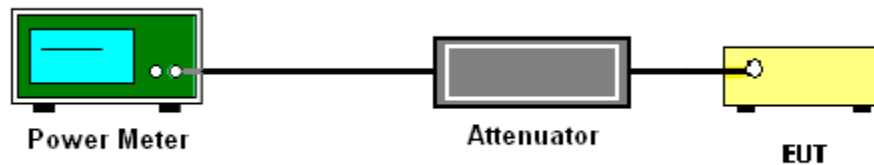
3.1.3 Test Procedures

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.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

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

3.2.1 Limit of Unwanted Emissions

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

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

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

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

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



EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.2

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

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

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.2.2 Measuring Instruments

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

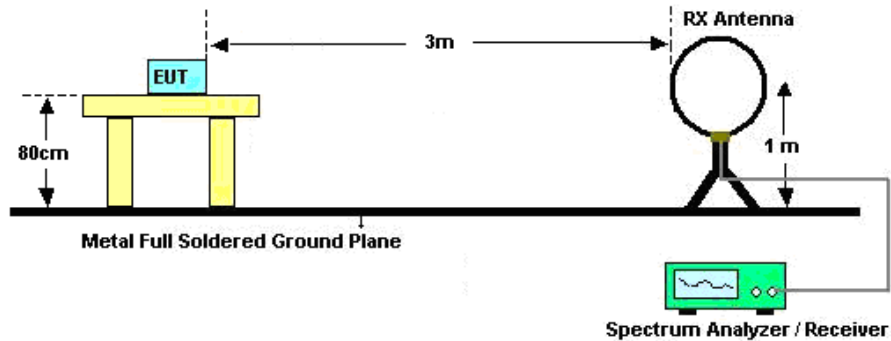


3.2.3 Test Procedures

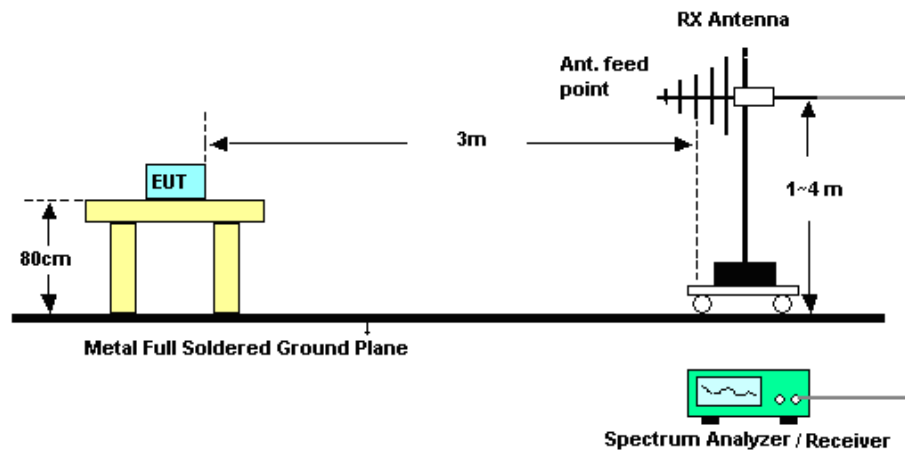
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

3.2.4 Test Setup

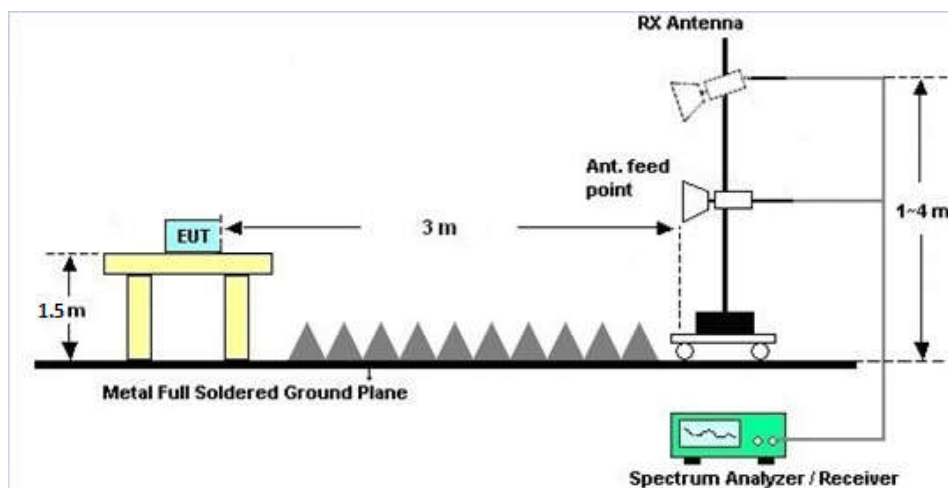
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.2.5 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.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.2.7 Duty Cycle

Please refer to Appendix D.

3.2.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix C.

3.2.9 Test Result of Radiated Spurious Emission (Simultaneous TX)

Please refer to Appendix C.

Note: The worst cases of mode (BT3.0 / BLE / WLAN 5GHz) is tested

3.3 AC Conducted Emission Measurement

3.3.1 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.

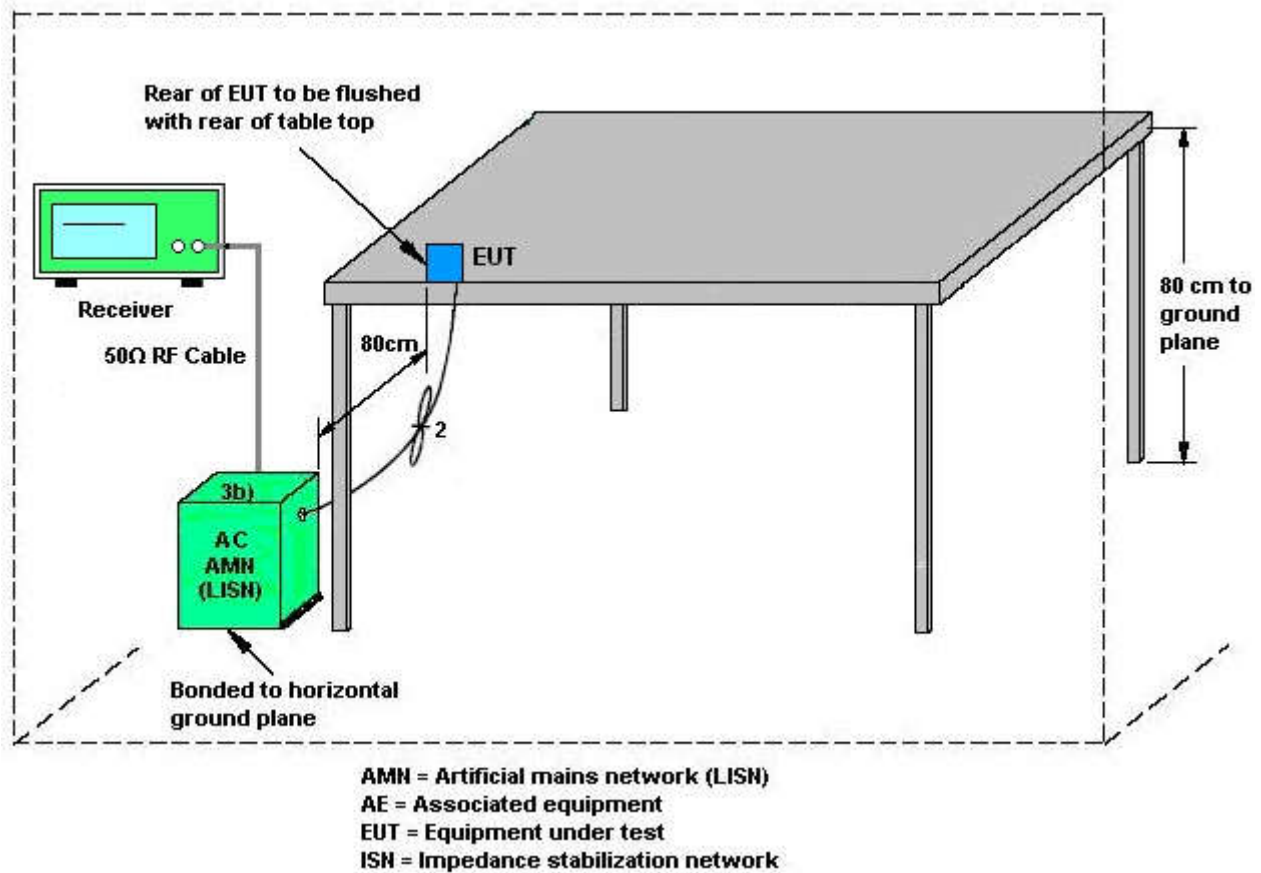
3.3.2 Measuring Instruments

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

3.3.3 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.

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.4 Automatically Discontinue Transmission

3.4.1 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.

3.4.2 Measuring Instruments

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

3.4.3 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.

3.5 Antenna Requirements

3.5.1 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.

3.5.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.5.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(\text{NANT}/\text{NSS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $\text{NANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
Band I	4.13	3.33	4.13	6.75	0.00	0.75
Band II	3.32	3.33	3.33	6.34	0.00	0.34
Band III	3.97	4.12	4.12	7.06	0.00	1.06

Power limit reduction = Composite gain – 6dBi

PSD limit reduction = Composite gain + PSD Array gain – 6dBi



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 18, 2018	Apr. 16, 2018	Jan. 17, 2019	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 18, 2018	Apr. 16, 2018	Jan. 17, 2019	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 08, 2017	Apr. 16, 2018	Aug. 07, 2018	Conducted (TH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 20, 2017	Mar. 29, 2018	Apr. 19, 2018	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2017	Mar. 29, 2018	Oct. 12, 2018	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2017	Mar. 29, 2018	Oct. 12, 2018	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2017	Mar. 29, 2018	Oct. 11, 2018	Conduction (CO01-KS)
EMI Test Receiver	Keysight	N9038A	MY564000 04	3Hz~8.5GHz;M ax 30dBm	Oct.19, 2017	Apr. 26, 2018	Oct.18, 2018	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY551502 44	10Hz~44GHz	Apr. 17, 2018	Apr. 26, 2018	Apr.16, 2019	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 22, 2017	Apr. 26, 2018	Oct.21, 2018	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	47610	30MHz~1GHz	Sep. 12, 2017	Apr. 26, 2018	Sep. 11, 2018	Radiation (03CH03-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 21, 2018	Apr. 26, 2018	Jan. 20, 2019	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA1702 49	15GHz~40GHz	Feb. 07, 2018	Apr. 26, 2018	Feb.06, 2019	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz ~1000MHz / 32 dB	Apr 17, 2018	Apr. 26, 2018	Apr 16, 2019	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35- HG	1887435	18~40GHz	Oct. 12, 2017	Apr. 26, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1Ghz-18Ghz	Apr.17, 2018	Apr. 26, 2018	Apr.16, 2019	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A023 70	1GHz~26.5GHz	Oct. 12, 2017	Apr. 26, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	Apr. 26, 2018	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Apr. 26, 2018	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Apr. 26, 2018	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.3 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.5dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.1dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

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

Test Engineer:	Silent Hai	Temperature:	21~25	°C
Test Date:	2018/4/16	Relative Humidity:	51~55	%

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
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	36	5180	0.20	0.26	13.58	12.32	16.01	24.00		4.13		Pass	
11a	6Mbps	2	40	5200	0.20	0.26	18.45	16.33	20.53	24.00		4.13		Pass	
11a	6Mbps	2	44	5220	0.20	0.26	18.55	16.65	20.72	24.00		4.13		Pass	
11a	6Mbps	2	48	5240	0.20	0.26	18.28	17.38	20.87	24.00		4.13		Pass	
HT20	MCS0	2	36	5180	0.25	0.25	14.69	13.20	17.02	24.00		4.13		Pass	
HT20	MCS0	2	44	5220	0.25	0.25	18.33	16.52	20.53	24.00		4.13		Pass	
HT20	MCS0	2	48	5240	0.25	0.25	18.06	17.06	20.60	24.00		4.13		Pass	
HT40	MCS0	2	38	5190	0.49	0.43	6.06	5.22	8.68	24.00		4.13		Pass	
HT40	MCS0	2	46	5230	0.49	0.43	18.01	16.61	20.38	24.00		4.13		Pass	
VHT20	MCS0	2	36	5180	0.47	0.47	14.74	13.23	17.06	24.00		4.13		Pass	
VHT20	MCS0	2	40	5200	0.47	0.47	18.18	16.25	20.34	24.00		4.13		Pass	
VHT20	MCS0	2	44	5220	0.47	0.47	18.35	16.54	20.55	24.00		4.13		Pass	
VHT20	MCS0	2	48	5240	0.47	0.47	18.12	17.04	20.63	24.00		4.13		Pass	
VHT40	MCS0	2	38	5190	0.76	0.82	6.22	5.26	8.78	24.00		4.13		Pass	
VHT40	MCS0	2	46	5230	0.76	0.82	18.12	16.49	20.39	24.00		4.13		Pass	
VHT80	MCS0	2	42	5210	1.52	1.48	6.24	4.96	8.66	24.00		4.13		Pass	

TEST RESULTS DATA
Average Power Table

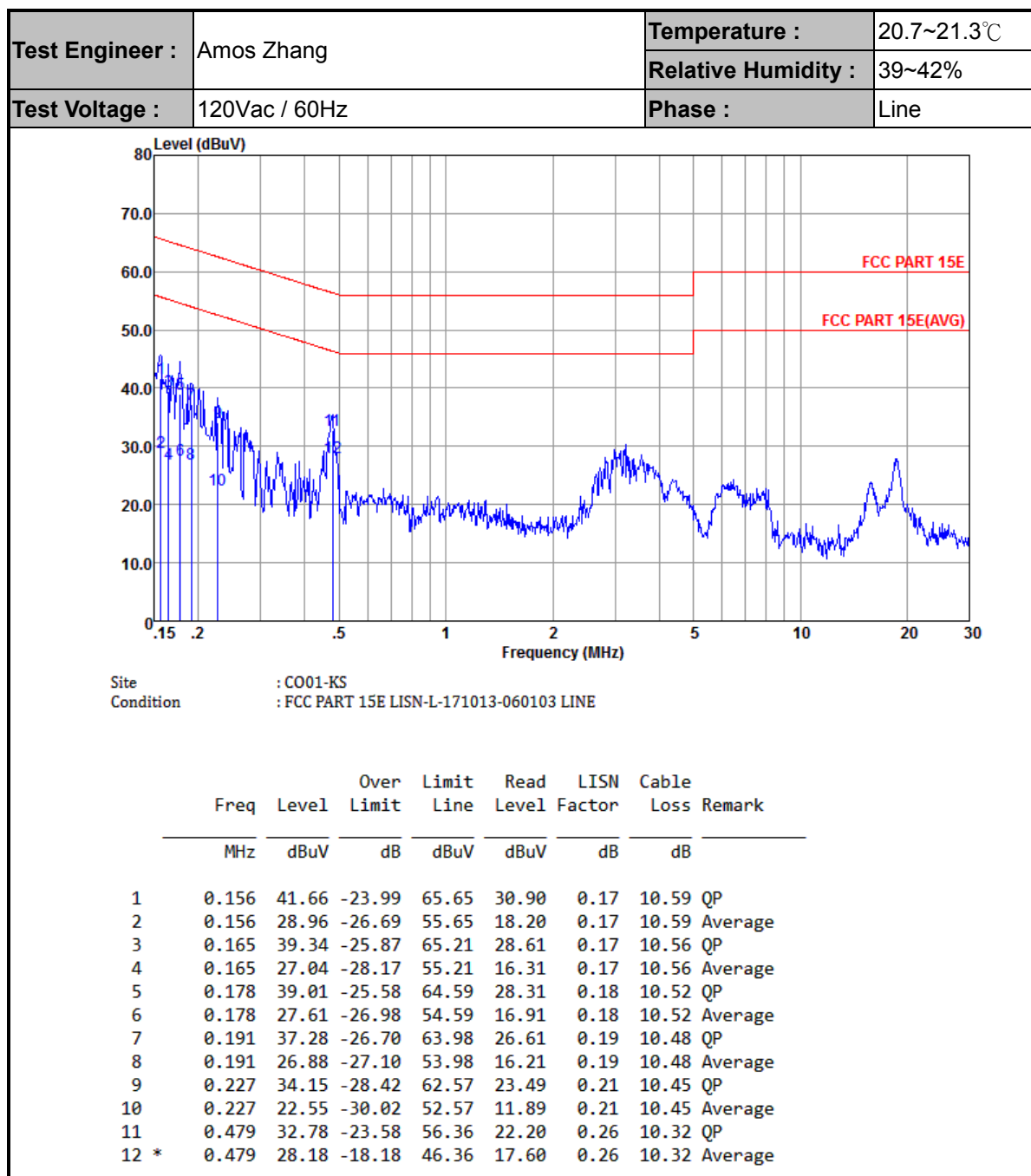
FCC Band II															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	52	5260	0.20	0.26	17.85	17.07	20.49	23.98		3.33		26.99	Pass
11a	6Mbps	2	60	5300	0.20	0.26	18.64	18.24	21.46	23.98		3.33		26.99	Pass
11a	6Mbps	2	64	5320	0.20	0.26	14.36	13.71	17.06	23.98		3.33		26.99	Pass
HT20	MCS0	2	52	5260	0.25	0.25	17.62	16.86	20.27	23.98		3.33		26.99	Pass
HT20	MCS0	2	60	5300	0.25	0.25	18.46	18.03	21.26	23.98		3.33		26.99	Pass
HT20	MCS0	2	64	5320	0.25	0.25	14.17	13.46	16.84	23.98		3.33		26.99	Pass
HT40	MCS0	2	54	5270	0.49	0.43	17.95	17.65	20.82	23.98		3.33		26.99	Pass
HT40	MCS0	2	62	5310	0.49	0.43	8.98	8.05	11.55	23.98		3.33		26.99	Pass
VHT20	MCS0	2	52	5260	0.47	0.47	17.63	16.99	20.34	23.98		3.33		26.99	Pass
VHT20	MCS0	2	60	5300	0.47	0.47	18.48	18.03	21.28	23.98		3.33		26.99	Pass
VHT20	MCS0	2	64	5320	0.47	0.47	14.21	13.62	16.94	23.98		3.33		26.99	Pass
VHT40	MCS0	2	54	5270	0.76	0.82	18.20	17.51	20.88	23.98		3.33		26.99	Pass
VHT40	MCS0	2	62	5310	0.76	0.82	9.08	8.13	11.64	23.98		3.33		26.99	Pass
VHT80	MCS0	2	58	5290	1.52	1.48	7.90	6.71	10.36	23.98		3.33		26.99	Pass

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
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	100	5500	0.20	0.26	12.38	10.99	14.76	23.98		4.12		26.99	Pass
11a	6Mbps	2	104	5520	0.20	0.26	13.28	12.72	16.02	23.98		4.12		26.99	Pass
11a	6Mbps	2	116	5580	0.20	0.26	18.78	18.74	21.77	23.98		4.12		26.99	Pass
11a	6Mbps	2	136	5680	0.20	0.26	15.41	14.83	18.14	23.98		4.12		26.99	Pass
11a	6Mbps	2	140	5700	0.20	0.26	9.96	10.04	13.01	23.98		4.12		26.99	Pass
HT20	MCS0	2	100	5500	0.25	0.25	12.27	10.73	14.58	23.98		4.12		26.99	Pass
HT20	MCS0	2	116	5580	0.25	0.25	18.70	18.63	21.68	23.98		4.12		26.99	Pass
HT20	MCS0	2	140	5700	0.25	0.25	11.70	11.83	14.78	23.98		4.12		26.99	Pass
HT40	MCS0	2	102	5510	0.49	0.43	12.17	10.72	14.52	23.98		4.12		26.99	Pass
HT40	MCS0	2	110	5550	0.49	0.43	19.25	17.82	21.61	23.98		4.12		26.99	Pass
HT40	MCS0	2	134	5670	0.49	0.43	14.81	14.67	17.76	23.98		4.12		26.99	Pass
VHT20	MCS0	2	100	5500	0.47	0.47	12.22	10.82	14.59	23.98		4.12		26.99	Pass
VHT20	MCS0	2	104	5520	0.47	0.47	12.62	11.41	15.07	23.98		4.12		26.99	Pass
VHT20	MCS0	2	116	5580	0.47	0.47	18.82	18.60	21.73	23.98		4.12		26.99	Pass
VHT20	MCS0	2	136	5680	0.47	0.47	15.29	14.59	17.97	23.98		4.12		26.99	Pass
VHT20	MCS0	2	140	5700	0.47	0.47	11.89	11.91	14.91	23.98		4.12		26.99	Pass
VHT40	MCS0	2	102	5510	0.76	0.82	12.19	11.50	14.87	23.98		4.12		26.99	Pass
VHT40	MCS0	2	110	5550	0.76	0.82	19.27	17.85	21.63	23.98		4.12		26.99	Pass
VHT40	MCS0	2	126	5630	0.76	0.82	19.21	17.64	21.51	23.98		4.12		26.99	Pass
VHT40	MCS0	2	134	5670	0.76	0.82	14.89	14.74	17.83	23.98		4.12		26.99	Pass
VHT80	MCS0	2	106	5530	1.52	1.48	8.44	7.27	10.90	23.98		4.12		26.99	Pass
VHT80	MCS0	2	122	5610	1.52	1.48	18.84	19.30	22.09	23.98		4.12		26.99	Pass

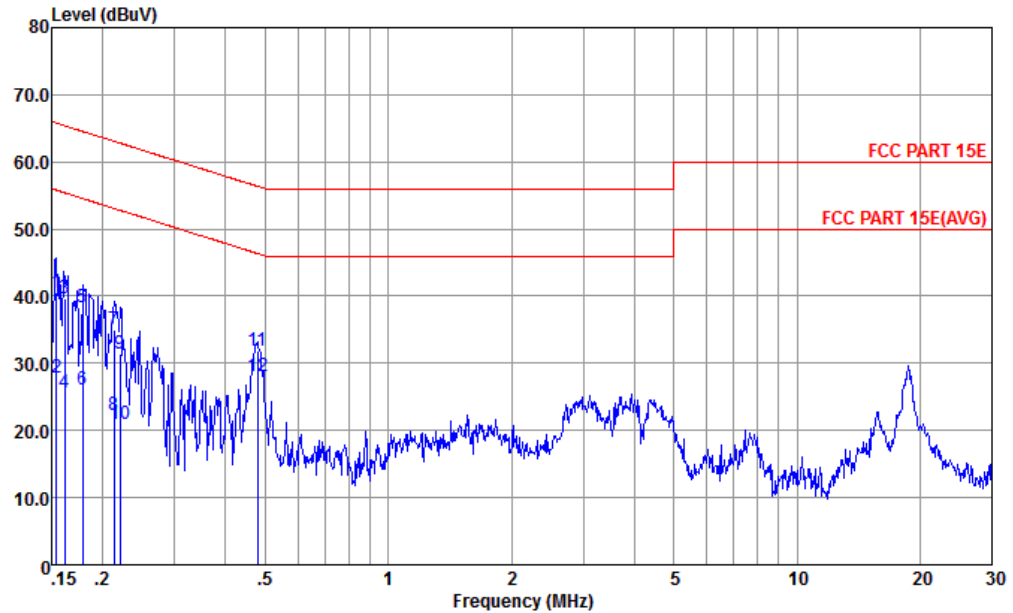


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Amos Zhang	Temperature :	20.7~21.3℃
		Relative Humidity :	39~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : CO01-KS
Condition : FCC PART 15E LISN-N-171013-060103 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.154	40.48	-25.30	65.78	29.60	0.28	10.60	QP
2	0.154	27.78	-28.00	55.78	16.90	0.28	10.60	Average
3	0.162	39.76	-25.62	65.38	28.90	0.28	10.58	QP
4	0.162	25.66	-29.72	55.38	14.80	0.28	10.58	Average
5	0.179	38.30	-26.25	64.55	27.50	0.28	10.52	QP
6	0.179	26.10	-28.45	54.55	15.30	0.28	10.52	Average
7	0.213	34.93	-28.17	63.10	24.20	0.28	10.45	QP
8	0.213	22.33	-30.77	53.10	11.60	0.28	10.45	Average
9	0.221	31.33	-31.46	62.79	20.60	0.28	10.45	QP
10	0.221	21.03	-31.76	52.79	10.30	0.28	10.45	Average
11	0.479	31.81	-24.55	56.36	21.20	0.29	10.32	QP
12 *	0.479	28.11	-18.25	46.36	17.50	0.29	10.32	Average



Appendix C. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1+2	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		5148.96	60.48	-13.52	74	50.35	35.39	7.99	33.25	100	17	P	H
	!	5149.92	49.58	-4.42	54	39.45	35.39	7.99	33.25	100	17	A	H
	*	5178	113.76	-	-	103.66	35.36	7.99	33.25	100	17	P	H
	*	5178	106.39	-	-	96.29	35.36	7.99	33.25	100	17	A	H
		5148.48	57.02	-16.98	74	46.89	35.39	7.99	33.25	303	99	P	V
		5149.92	46.55	-7.45	54	36.42	35.39	7.99	33.25	303	99	A	V
	*	5182	109.88	-	-	99.78	35.36	7.99	33.25	303	99	P	V
	*	5182	102.89	-	-	92.79	35.36	7.99	33.25	303	99	A	V
802.11a CH 40 5200MHz		5115.84	54.54	-19.46	74	44.39	35.42	7.99	33.26	100	23	P	H
		5100.96	43.97	-10.03	54	33.81	35.43	7.99	33.26	100	23	A	H
	*	5198	114.68	-	-	104.59	35.35	7.99	33.25	100	23	P	H
	*	5198	107.77	-	-	97.68	35.35	7.99	33.25	100	23	A	H
		5113.28	54.75	-19.25	74	44.6	35.42	7.99	33.26	307	110	P	V
		5100.8	43.38	-10.62	54	33.22	35.43	7.99	33.26	307	110	A	V
	*	5202	111.5	-	-	101.41	35.35	7.99	33.25	307	110	P	V
	*	5202	103.89	-	-	93.8	35.35	7.99	33.25	307	110	A	V



802.11a CH 44 5220MHz		5148.16	58.92	-15.08	74	48.79	35.39	7.99	33.25	104	18	P	H
		5149.6	47.73	-6.27	54	37.6	35.39	7.99	33.25	104	18	A	H
	*	5220	118.42	-	-	108.31	35.34	8.01	33.24	104	18	P	H
	*	5220	111.03	-	-	100.92	35.34	8.01	33.24	104	18	A	H
		5387.22	51.34	-22.66	74	41.07	35.2	8.28	33.21	104	18	P	H
		5398.02	42.64	-11.36	54	32.36	35.19	8.3	33.21	104	18	A	H
		5149.92	55.14	-18.86	74	45.01	35.39	7.99	33.25	296	103	P	V
		5149.6	45.51	-8.49	54	35.38	35.39	7.99	33.25	296	103	A	V
	*	5216	115.07	-	-	104.96	35.34	8.01	33.24	296	103	P	V
	*	5216	107.81	-	-	97.7	35.34	8.01	33.24	296	103	A	V
		5352.12	51.49	-22.51	74	41.26	35.23	8.22	33.22	296	103	P	V
		5351.04	42.43	-11.57	54	32.2	35.23	8.22	33.22	296	103	A	V
802.11a CH 48 5240MHz	*	5242	116.94	-	-	106.8	35.31	8.07	33.24	169	17	P	H
	*	5242	109.01	-	-	98.87	35.31	8.07	33.24	169	17	A	H
		5375.7	52.33	-21.67	74	42.08	35.22	8.25	33.22	169	17	P	H
		5393.88	42.55	-11.45	54	32.28	35.2	8.28	33.21	169	17	A	H
	*	5238	113.84	-	-	103.72	35.32	8.04	33.24	309	100	P	V
	*	5238	106.54	-	-	96.42	35.32	8.04	33.24	309	100	A	V
		5353.74	52.19	-21.81	74	41.96	35.23	8.22	33.22	309	100	P	V
		5369.4	42.41	-11.59	54	32.16	35.22	8.25	33.22	309	100	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+2	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	47.63	-26.37	74	49.66	38.47	11.94	52.44	100	360	P	H
		10360	47.8	-26.2	74	49.83	38.47	11.94	52.44	100	360	P	V
802.11a CH 44 5220MHz		10440	51.14	-22.86	74	52.96	38.52	12.09	52.43	100	360	P	H
		10440	48.77	-25.23	74	50.59	38.52	12.09	52.43	100	360	P	V
802.11a CH 48 5240MHz		10480	48.64	-25.36	74	50.3	38.56	12.21	52.43	100	360	P	H
		10480	47.63	-26.37	74	49.29	38.56	12.21	52.43	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5149.76	60.39	-13.61	74	50.26	35.39	7.99	33.25	100	22	P	H
	!	5150	50.64	-3.36	54	40.51	35.39	7.99	33.25	100	22	A	H
	*	5182	113.91	-	-	103.81	35.36	7.99	33.25	100	22	P	H
	*	5182	105.17	-	-	95.07	35.36	7.99	33.25	100	22	A	H
		5147.68	57.2	-16.8	74	47.07	35.39	7.99	33.25	304	104	P	V
		5150	47.4	-6.6	54	37.27	35.39	7.99	33.25	304	104	A	V
	*	5184	109.22	-	-	99.12	35.36	7.99	33.25	304	104	P	V
	*	5184	101.28	-	-	91.18	35.36	7.99	33.25	304	104	A	V
802.11ac VHT20 CH 40 5200MHz		5141.6	54.78	-19.22	74	44.65	35.39	7.99	33.25	101	21	P	H
		5147.04	44.35	-9.65	54	34.22	35.39	7.99	33.25	101	21	A	H
	*	5198	114.26	-	-	104.17	35.35	7.99	33.25	101	21	P	H
	*	5198	106.57	-	-	96.48	35.35	7.99	33.25	101	21	A	H
		5124.64	52.92	-21.08	74	42.78	35.41	7.99	33.26	134	340	P	V
		5149.12	43.86	-10.14	54	33.73	35.39	7.99	33.25	134	340	A	V
	*	5202	109.86	-	-	99.77	35.35	7.99	33.25	134	340	P	V
	*	5202	102.63	-	-	92.54	35.35	7.99	33.25	134	340	A	V
802.11ac VHT20 CH 44 5220MHz		5149.44	58.19	-15.81	74	48.06	35.39	7.99	33.25	100	16	P	H
		5149.92	47.17	-6.83	54	37.04	35.39	7.99	33.25	100	16	A	H
	*	5218	116.57	-	-	106.46	35.34	8.01	33.24	100	16	P	H
	*	5218	108.91	-	-	98.8	35.34	8.01	33.24	100	16	A	H
		5369.94	52.24	-21.76	74	41.99	35.22	8.25	33.22	100	16	P	H
		5388.84	43.08	-10.92	54	32.81	35.2	8.28	33.21	100	16	A	H
		5146.56	57.59	-16.41	74	47.46	35.39	7.99	33.25	295	89	P	V
		5150	46.42	-7.58	54	36.29	35.39	7.99	33.25	295	89	A	V
	*	5216	115.02	-	-	104.91	35.34	8.01	33.24	295	89	P	V
	*	5216	106.46	-	-	96.35	35.34	8.01	33.24	295	89	A	V
		5362.02	51.08	-22.92	74	40.83	35.22	8.25	33.22	295	89	P	V
		5394.96	43.2	-10.8	54	32.92	35.19	8.3	33.21	295	89	A	V



802.11ac VHT20 CH 48 5240MHz	*	5242	115.81	-	-	105.67	35.31	8.07	33.24	100	19	P	H
	*	5242	107.55	-	-	97.41	35.31	8.07	33.24	100	19	A	H
		5377.14	51.84	-22.16	74	41.59	35.22	8.25	33.22	100	19	P	H
		5352.66	43.26	-10.74	54	33.03	35.23	8.22	33.22	100	19	A	H
	*	5240	112.13	-	-	102.01	35.32	8.04	33.24	303	85	P	V
	*	5240	104.2	-	-	94.08	35.32	8.04	33.24	303	85	A	V
		5375.7	52.03	-21.97	74	41.78	35.22	8.25	33.22	303	85	P	V
		5397.66	43.01	-10.99	54	32.73	35.19	8.3	33.21	303	85	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1+2	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		10360	47.67	-26.33	74	49.7	38.47	11.94	52.44	100	360	P	H
CH 36 5180MHz		10360	49.07	-24.93	74	51.1	38.47	11.94	52.44	100	360	P	V
802.11ac VHT20		10440	48.73	-25.27	74	50.55	38.52	12.09	52.43	100	360	P	H
CH 44 5220MHz		10440	48.5	-25.5	74	50.32	38.52	12.09	52.43	100	360	P	V
802.11ac VHT20		10480	48.02	-25.98	74	49.68	38.56	12.21	52.43	100	360	P	H
CH 48 5240MHz		10480	48.65	-25.35	74	50.31	38.56	12.21	52.43	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5148.64	66.48	-7.52	74	56.35	35.39	7.99	33.25	100	17	P	H
	!	5150	49.63	-4.37	54	39.5	35.39	7.99	33.25	100	17	A	H
	*	5194	102.49	-	-	92.4	35.35	7.99	33.25	100	17	P	H
	*	5194	94.95	-	-	84.86	35.35	7.99	33.25	100	17	A	H
		5376.06	56.27	-17.73	74	46.02	35.22	8.25	33.22	100	17	P	H
		5393.16	42.95	-11.05	54	32.68	35.2	8.28	33.21	100	17	A	H
		5146.08	61	-13	74	50.87	35.39	7.99	33.25	297	102	P	V
		5149.44	47.23	-6.77	54	37.1	35.39	7.99	33.25	297	102	A	V
	*	5182	98.82	-	-	88.72	35.36	7.99	33.25	297	102	P	V
	*	5182	91.07	-	-	80.97	35.36	7.99	33.25	297	102	A	V
		5372.1	51.27	-22.73	74	41.02	35.22	8.25	33.22	297	102	P	V
		5381.28	42.8	-11.2	54	32.53	35.2	8.28	33.21	297	102	A	V
802.11ac VHT40 CH 46 5230MHz		5116.8	66.66	-7.34	74	56.51	35.42	7.99	33.26	107	19	P	H
	!	5150	50.3	-3.7	54	40.17	35.39	7.99	33.25	107	19	A	H
	*	5234	112.68	-	-	102.56	35.32	8.04	33.24	107	19	P	H
	*	5234	104.15	-	-	94.03	35.32	8.04	33.24	107	19	A	H
		5366.88	61.34	-12.66	74	51.09	35.22	8.25	33.22	107	19	P	H
		5353.02	46.27	-7.73	54	36.04	35.23	8.22	33.22	107	19	A	H
		5135.04	63.28	-10.72	74	53.14	35.41	7.99	33.26	300	84	P	V
		5149.76	47.5	-6.5	54	37.37	35.39	7.99	33.25	300	84	A	V
	*	5220	108.15	-	-	98.04	35.34	8.01	33.24	300	84	P	V
	*	5220	100.31	-	-	90.2	35.34	8.01	33.24	300	84	A	V
		5360.04	58.23	-15.77	74	48	35.23	8.22	33.22	300	84	P	V
		5360.22	44.35	-9.65	54	34.12	35.23	8.22	33.22	300	84	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1+2	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		10380	47.9	-26.1	74	49.88	38.48	11.98	52.44	100	360	P	H
CH 38 5190MHz		10380	47.44	-26.56	74	49.42	38.48	11.98	52.44	100	360	P	V
802.11ac VHT40		10460	47.52	-26.48	74	49.29	38.53	12.13	52.43	100	360	P	H
CH 46 5230MHz		10460	48.82	-25.18	74	50.59	38.53	12.13	52.43	100	360	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5148.32	58.91	-15.09	74	48.78	35.39	7.99	33.25	118	20	P	H
	!	5147.2	50.78	-3.22	54	40.65	35.39	7.99	33.25	118	20	A	H
	*	5222	100.27	-	-	90.16	35.34	8.01	33.24	118	20	P	H
	*	5222	93.64	-	-	83.53	35.34	8.01	33.24	118	20	A	H
		5366.34	51.2	-22.8	74	40.95	35.22	8.25	33.22	118	20	P	H
		5357.52	43.95	-10.05	54	33.72	35.23	8.22	33.22	118	20	A	H
		5150	56.75	-17.25	74	46.62	35.39	7.99	33.25	273	93	P	V
		5149.76	47.93	-6.07	54	37.8	35.39	7.99	33.25	273	93	A	V
	*	5214	96.36	-	-	86.25	35.34	8.01	33.24	273	93	P	V
	*	5214	89.52	-	-	79.41	35.34	8.01	33.24	273	93	A	V
		5370.66	51	-23	74	40.75	35.22	8.25	33.22	273	93	P	V
		5361.48	43.7	-10.3	54	33.45	35.22	8.25	33.22	273	93	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+2	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		10420	48.2	-25.8	74	50.06	38.51	12.06	52.43	100	360	P	H
CH 42 5210MHz		10420	48.85	-25.15	74	50.71	38.51	12.06	52.43	100	360	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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5125.12	53.69	-20.31	74	43.55	35.41	7.99	33.26	100	16	P	H
		5120.16	43.83	-10.17	54	33.68	35.42	7.99	33.26	100	16	A	H
	*	5256	116.54	-	-	106.4	35.31	8.07	33.24	100	16	P	H
	*	5256	109.18	-	-	99.04	35.31	8.07	33.24	100	16	A	H
		5127.2	53.56	-20.44	74	43.42	35.41	7.99	33.26	303	100	P	V
		5128.96	43.85	-10.15	54	33.71	35.41	7.99	33.26	303	100	A	V
	*	5256	113.89	-	-	103.75	35.31	8.07	33.24	303	100	P	V
	*	5256	106.26	-	-	96.12	35.31	8.07	33.24	303	100	A	V
802.11a CH 60 5300MHz		5139.68	54.77	-19.23	74	44.64	35.39	7.99	33.25	102	18	P	H
		5105.28	43.79	-10.21	54	33.63	35.43	7.99	33.26	102	18	A	H
	*	5298	116.29	-	-	106.1	35.27	8.15	33.23	102	18	P	H
	*	5298	107.61	-	-	97.42	35.27	8.15	33.23	102	18	A	H
		5378.3	52.57	-21.43	74	42.3	35.2	8.28	33.21	102	18	P	H
		5351.5	43.6	-10.4	54	33.37	35.23	8.22	33.22	102	18	A	H
		5122.4	54.03	-19.97	74	43.88	35.42	7.99	33.26	288	101	P	V
		5128.48	43.8	-10.2	54	33.66	35.41	7.99	33.26	288	101	A	V
	*	5302	113.98	-	-	103.79	35.27	8.15	33.23	288	101	P	V
	*	5302	106.05	-	-	95.86	35.27	8.15	33.23	288	101	A	V
		5350.4	52.75	-21.25	74	42.52	35.23	8.22	33.22	288	101	P	V
		5351.2	43.35	-10.65	54	33.12	35.23	8.22	33.22	288	101	A	V



802.11a CH 64 5320MHz	*	5316	113.4	-	-	103.2	35.26	8.17	33.23	100	16	P	H
	*	5316	105.81	-	-	95.61	35.26	8.17	33.23	100	16	A	H
		5350.3	56.18	-17.82	74	45.95	35.23	8.22	33.22	100	16	P	H
	!	5350	48.78	-5.22	54	38.55	35.23	8.22	33.22	100	16	A	H
	*	5322	110.62	-	-	100.42	35.26	8.17	33.23	135	0	P	V
	*	5322	104.4	-	-	94.2	35.26	8.17	33.23	135	0	A	V
		5350.9	57.27	-16.73	74	47.04	35.23	8.22	33.22	135	0	P	V
	!	5350	48.82	-5.18	54	38.59	35.23	8.22	33.22	135	0	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+2	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	49.17	-24.83	74	50.74	38.58	12.28	52.43	100	360	P	H
		10520	47.45	-26.55	74	49.02	38.58	12.28	52.43	100	360	P	V
802.11a CH 60 5300MHz		10600	49.73	-24.27	74	51.05	38.64	12.47	52.43	100	360	P	H
		10600	48.83	-25.17	74	50.15	38.64	12.47	52.43	100	360	P	V
802.11a CH 64 5320MHz		10640	47.95	-26.05	74	49.16	38.67	12.55	52.43	100	360	P	H
		10640	48.39	-25.61	74	49.6	38.67	12.55	52.43	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5117.28	53.67	-20.33	74	43.52	35.42	7.99	33.26	112	18	P	H
		5107.04	44.8	-9.2	54	34.65	35.42	7.99	33.26	112	18	A	H
	*	5262	114.57	-	-	104.41	35.3	8.09	33.23	112	18	P	H
	*	5262	107.15	-	-	96.99	35.3	8.09	33.23	112	18	A	H
		5124.64	53.54	-20.46	74	43.4	35.41	7.99	33.26	320	95	P	V
		5118.88	44.42	-9.58	54	34.27	35.42	7.99	33.26	320	95	A	V
	*	5264	112.29	-	-	102.13	35.3	8.09	33.23	320	95	P	V
	*	5264	104.85	-	-	94.69	35.3	8.09	33.23	320	95	A	V
802.11ac VHT20 CH 60 5300MHz		5110.72	53.39	-20.61	74	43.24	35.42	7.99	33.26	164	18	P	H
		5108.32	44.61	-9.39	54	34.46	35.42	7.99	33.26	164	18	A	H
	*	5300	113.83	-	-	103.64	35.27	8.15	33.23	164	18	P	H
	*	5300	106	-	-	95.81	35.27	8.15	33.23	164	18	A	H
		5368.2	52	-22	74	41.75	35.22	8.25	33.22	164	18	P	H
		5350.1	44.05	-9.95	54	33.82	35.23	8.22	33.22	164	18	A	H
		5111.36	53.38	-20.62	74	43.23	35.42	7.99	33.26	300	106	P	V
		5132.32	44.1	-9.9	54	33.96	35.41	7.99	33.26	300	106	A	V
	*	5302	111.09	-	-	100.9	35.27	8.15	33.23	300	106	P	V
	*	5302	103.98	-	-	93.79	35.27	8.15	33.23	300	106	A	V
		5357.3	51.99	-22.01	74	41.76	35.23	8.22	33.22	300	106	P	V
		5352.4	43.2	-10.8	54	32.97	35.23	8.22	33.22	300	106	A	V



802.11ac VHT20 CH 64 5320MHz	*	5316	111.25	-	-	101.05	35.26	8.17	33.23	100	14	P	H
	*	5316	104.36	-	-	94.16	35.26	8.17	33.23	100	14	A	H
		5351.2	57.3	-16.7	74	47.07	35.23	8.22	33.22	100	14	P	H
	!	5350.1	48.18	-5.82	54	37.95	35.23	8.22	33.22	100	14	A	H
	*	5324	111.24	-	-	101.04	35.26	8.17	33.23	131	3	P	V
	*	5324	102.68	-	-	92.48	35.26	8.17	33.23	131	3	A	V
		5350.6	58.54	-15.46	74	48.31	35.23	8.22	33.22	131	3	P	V
	!	5350	48.52	-5.48	54	38.29	35.23	8.22	33.22	131	3	A	V
Remark	- No other spurious found. - All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1+2	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		10520	48.2	-25.8	74	49.77	38.58	12.28	52.43	100	360	P	H
CH 52 5260MHz		10520	48.86	-25.14	74	50.43	38.58	12.28	52.43	100	360	P	V
802.11ac VHT20		10600	48.97	-25.03	74	50.29	38.64	12.47	52.43	100	360	P	H
CH 60 5300MHz		10600	49.32	-24.68	74	50.64	38.64	12.47	52.43	100	360	P	V
802.11ac VHT20		10640	49.46	-24.54	74	50.67	38.67	12.55	52.43	100	360	P	H
CH 64 5320MHz		10640	49.22	-24.78	74	50.43	38.67	12.55	52.43	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5138.4	63.65	-10.35	74	53.51	35.41	7.99	33.26	107	15	P	H
	!	5145.44	48.45	-5.55	54	38.32	35.39	7.99	33.25	107	15	A	H
	*	5274	111.29	-	-	101.13	35.3	8.09	33.23	107	15	P	H
	*	5274	104.1	-	-	93.94	35.3	8.09	33.23	107	15	A	H
		5354.8	66.46	-7.54	74	56.23	35.23	8.22	33.22	107	15	P	H
	!	5352.2	49.55	-4.45	54	39.32	35.23	8.22	33.22	107	15	A	H
		5120.16	56.48	-17.52	74	46.33	35.42	7.99	33.26	110	339	P	V
		5116	44.15	-9.85	54	34	35.42	7.99	33.26	110	339	A	V
	*	5274	108.28	-	-	98.12	35.3	8.09	33.23	110	339	P	V
	*	5274	99.83	-	-	89.67	35.3	8.09	33.23	110	339	A	V
		5397.9	61.84	-12.16	74	51.56	35.19	8.3	33.21	110	339	P	V
		5350.8	46.07	-7.93	54	35.84	35.23	8.22	33.22	110	339	A	V
802.11ac VHT40 CH 62 5310MHz		5145.12	56.64	-17.36	74	46.51	35.39	7.99	33.25	114	18	P	H
		5132.32	44.72	-9.28	54	34.58	35.41	7.99	33.26	114	18	A	H
	*	5314	104.31	-	-	94.11	35.26	8.17	33.23	114	18	P	H
	*	5314	96.28	-	-	86.08	35.26	8.17	33.23	114	18	A	H
		5351.6	64.47	-9.53	74	54.24	35.23	8.22	33.22	114	18	P	H
	!	5352.8	50.65	-3.35	54	40.42	35.23	8.22	33.22	114	18	A	H
		5142.88	53.06	-20.94	74	42.93	35.39	7.99	33.25	110	0	P	V
		5119.84	44.13	-9.87	54	33.98	35.42	7.99	33.26	110	0	A	V
	*	5302	101.76	-	-	91.57	35.27	8.15	33.23	110	0	P	V
	*	5302	94.29	-	-	84.1	35.27	8.15	33.23	110	0	A	V
		5356.2	62.95	-11.05	74	52.72	35.23	8.22	33.22	110	0	P	V
	!	5350.2	50.06	-3.94	54	39.83	35.23	8.22	33.22	110	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1+2	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		10540	48.14	-25.86	74	49.65	38.6	12.32	52.43	100	360	P	H
CH 54 5270MHz		10540	48.64	-25.36	74	50.15	38.6	12.32	52.43	100	360	P	V
802.11ac VHT40		10620	48.46	-25.54	74	49.72	38.66	12.51	52.43	100	360	P	H
CH 62 5310MHz		10620	48.87	-25.13	74	50.13	38.66	12.51	52.43	100	360	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+2	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		5107.84	54.26	-19.74	74	44.11	35.42	7.99	33.26	100	16	P	H
		5124.32	45.26	-8.74	54	35.12	35.41	7.99	33.26	100	16	A	H
	*	5276	101.09	-	-	90.92	35.28	8.12	33.23	100	16	P	H
	*	5276	94.95	-	-	84.78	35.28	8.12	33.23	100	16	A	H
		5355.9	57.55	-16.45	74	47.32	35.23	8.22	33.22	100	16	P	H
	!	5350.2	50.91	-3.09	54	40.68	35.23	8.22	33.22	100	16	A	H
		5130.88	54.47	-19.53	74	44.33	35.41	7.99	33.26	273	94	P	V
		5119.04	45.39	-8.61	54	35.24	35.42	7.99	33.26	273	94	A	V
	*	5302	96.64	-	-	86.45	35.27	8.15	33.23	273	94	P	V
	*	5302	89.83	-	-	79.64	35.27	8.15	33.23	273	94	A	V
		5350.3	55.01	-18.99	74	44.78	35.23	8.22	33.22	273	94	P	V
		5350.1	47.23	-6.77	54	37	35.23	8.22	33.22	273	94	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+2	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		10580	48.39	-25.61	74	49.76	38.63	12.43	52.43	100	360	P	H
CH 58 5290MHz		10580	48.69	-25.31	74	50.06	38.63	12.43	52.43	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11a (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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5469.84	53.44	-14.86	68.3	43.11	35.14	8.39	33.2	100	21	P	H
		5455.92	43.61	-10.39	54	33.29	35.15	8.37	33.2	100	21	A	H
	*	5502	106.93	-	-	96.59	35.11	8.43	33.2	100	21	P	H
	*	5502	100.33	-	-	89.99	35.11	8.43	33.2	100	21	A	H
		5469.2	52.72	-15.58	68.3	42.39	35.14	8.39	33.2	139	345	P	V
		5458.48	43.37	-10.63	54	33.05	35.15	8.37	33.2	139	345	A	V
	*	5496	105.87	-	-	95.54	35.12	8.41	33.2	139	345	P	V
	*	5496	99.5	-	-	89.17	35.12	8.41	33.2	139	345	A	V
802.11a CH 104 5520MHz		5458.48	52.3	-21.7	74	41.98	35.15	8.37	33.2	117	38	P	H
		5424.08	42.97	-11.03	54	32.68	35.18	8.32	33.21	117	38	A	H
	*	5518	112.81	-	-	102.46	35.09	8.45	33.19	117	38	P	H
	*	5518	105.26	-	-	94.91	35.09	8.45	33.19	117	38	A	H
		5458.16	52.57	-21.43	74	42.25	35.15	8.37	33.2	216	9	P	V
		5459.44	42.74	-11.26	54	32.42	35.15	8.37	33.2	216	9	A	V
	*	5524	110.14	-	-	99.79	35.09	8.45	33.19	216	9	P	V
	*	5524	103.11	-	-	92.76	35.09	8.45	33.19	216	9	A	V
802.11a CH 116 5580MHz		5466.16	52.53	-15.77	68.3	42.2	35.14	8.39	33.2	100	33	P	H
		5454.16	43.14	-10.86	54	32.82	35.15	8.37	33.2	100	33	A	H
	*	5582	115.56	-	-	105.17	35.04	8.53	33.18	100	33	P	H
	*	5582	108.33	-	-	97.94	35.04	8.53	33.18	100	33	A	H
		5733.32	52.81	-21.19	74	42.48	34.92	8.58	33.17	100	33	P	H
		5728.04	43.19	-10.81	54	32.86	34.92	8.58	33.17	100	33	A	H
		5460.08	51.83	-16.47	68.3	41.51	35.15	8.37	33.2	120	355	P	V
		5457.04	43.01	-10.99	54	32.69	35.15	8.37	33.2	120	355	A	V
	*	5582	114.83	-	-	104.44	35.04	8.53	33.18	120	355	P	V
	*	5582	105.27	-	-	94.88	35.04	8.53	33.18	120	355	A	V
		5742.44	53.31	-20.69	74	42.98	34.91	8.59	33.17	120	355	P	V
		5729.64	43.09	-10.91	54	32.76	34.92	8.58	33.17	120	355	A	V



802.11a CH 136 5680MHz	*	5676	115.66	-	-	105.29	34.97	8.57	33.17	117	42	P	H
	*	5676	107.54	-	-	97.17	34.97	8.57	33.17	117	42	A	H
		5726.52	57.72	-16.28	74	47.39	34.92	8.58	33.17	117	42	P	H
		5725.08	47.96	-6.04	54	37.63	34.92	8.58	33.17	117	42	A	H
	*	5676	114.48	-	-	104.11	34.97	8.57	33.17	100	0	P	V
	*	5676	105.46	-	-	95.09	34.97	8.57	33.17	100	0	A	V
		5727.08	58.54	-15.46	74	48.21	34.92	8.58	33.17	100	0	P	V
		5725	47.02	-6.98	54	36.69	34.92	8.58	33.17	100	0	A	V
802.11a CH 140 5700MHz	*	5702	110.24	-	-	99.89	34.94	8.58	33.17	171	29	P	H
	*	5702	101.67	-	-	91.32	34.94	8.58	33.17	171	29	A	H
		5726.28	56.58	-17.42	74	46.25	34.92	8.58	33.17	171	29	P	H
	!	5725.16	48.24	-5.76	54	37.91	34.92	8.58	33.17	171	29	A	H
	*	5698	108.13	-	-	97.78	34.95	8.57	33.17	119	337	P	V
	*	5698	99.62	-	-	89.27	34.95	8.57	33.17	119	337	A	V
		5725.64	55.61	-18.39	74	45.28	34.92	8.58	33.17	119	337	P	V
		5725.56	45.83	-8.17	54	35.5	34.92	8.58	33.17	119	337	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	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	49.45	-24.55	74	49.6	38.93	13.34	52.42	100	360	P	H
		11000	48.24	-25.76	74	48.39	38.93	13.34	52.42	100	360	P	V
802.11a CH 116 5580MHz		11160	48.2	-25.8	74	48.38	39.05	13.19	52.42	100	360	P	H
		11160	49.14	-24.86	74	49.32	39.05	13.19	52.42	100	360	P	V
802.11a CH 140 5700MHz		11400	48.82	-25.18	74	49.26	39.23	12.99	52.66	100	360	P	H
		11400	48.04	-25.96	74	48.48	39.23	12.99	52.66	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5428.08	53.33	-20.67	74	43.04	35.18	8.32	33.21	163	17	P	H
		5457.52	44.15	-9.85	54	33.83	35.15	8.37	33.2	163	17	A	H
	*	5502	105.78	-	-	95.44	35.11	8.43	33.2	163	17	P	H
	*	5502	101.55	-	-	91.21	35.11	8.43	33.2	163	17	A	H
		5458.32	52.74	-21.26	74	42.42	35.15	8.37	33.2	118	342	P	V
		5454.64	43.94	-10.06	54	33.62	35.15	8.37	33.2	118	342	A	V
	*	5498	105.05	-	-	94.71	35.11	8.43	33.2	118	342	P	V
	*	5498	100.58	-	-	90.24	35.11	8.43	33.2	118	342	A	V
802.11ac VHT20 CH 104 5520MHz		5397.84	51.47	-22.53	74	41.19	35.19	8.3	33.21	127	343	P	H
		5454.32	43.08	-10.92	54	32.76	35.15	8.37	33.2	127	343	A	H
	*	5518	105.87	-	-	95.52	35.09	8.45	33.19	127	343	P	H
	*	5518	98.9	-	-	88.55	35.09	8.45	33.19	127	343	A	H
		5449.84	52.62	-21.38	74	42.3	35.15	8.37	33.2	100	351	P	V
		5447.92	43.26	-10.74	54	32.94	35.15	8.37	33.2	100	351	A	V
	*	5524	109.74	-	-	99.39	35.09	8.45	33.19	100	351	P	V
	*	5524	102.83	-	-	92.48	35.09	8.45	33.19	100	351	A	V
802.11ac VHT20 CH 116 5580MHz		5427.28	53.04	-20.96	74	42.75	35.18	8.32	33.21	191	34	P	H
		5435.6	43.71	-10.29	54	33.42	35.16	8.34	33.21	191	34	A	H
	*	5578	113.71	-	-	103.33	35.05	8.51	33.18	191	34	P	H
	*	5578	106.19	-	-	95.81	35.05	8.51	33.18	191	34	A	H
		5736.04	52.45	-21.55	74	42.12	34.91	8.59	33.17	191	34	P	H
		5753.48	43.51	-10.49	54	33.2	34.89	8.59	33.17	191	34	A	H
		5468.88	51.74	-16.56	68.3	41.41	35.14	8.39	33.2	118	342	P	V
		5452.88	43.28	-10.72	54	32.96	35.15	8.37	33.2	118	342	A	V
	*	5578	112.12	-	-	101.74	35.05	8.51	33.18	118	342	P	V
	*	5578	104.87	-	-	94.49	35.05	8.51	33.18	118	342	A	V
		5762.12	53.03	-20.97	74	42.72	34.89	8.59	33.17	118	342	P	V
		5750.04	43.51	-10.49	54	33.18	34.91	8.59	33.17	118	342	A	V



802.11ac VHT20 CH 136 5680MHz	*	5682	113.92	-	-	103.55	34.97	8.57	33.17	100	14	P	H
	*	5682	105.47	-	-	95.1	34.97	8.57	33.17	100	14	A	H
		5725.24	58.15	-15.85	74	47.82	34.92	8.58	33.17	100	14	P	H
	!	5725	48.27	-5.73	54	37.94	34.92	8.58	33.17	100	14	A	H
	*	5676	103.82	-	-	93.45	34.97	8.57	33.17	100	351	A	V
		5729.16	57.47	-16.53	74	47.14	34.92	8.58	33.17	100	351	P	V
		5725.08	46.82	-7.18	54	36.49	34.92	8.58	33.17	100	351	A	V
802.11ac VHT20 CH 140 5700MHz	*	5696	109.31	-	-	98.96	34.95	8.57	33.17	191	33	P	H
	*	5696	100.72	-	-	90.37	34.95	8.57	33.17	191	33	A	H
		5726.84	57.34	-16.66	74	47.01	34.92	8.58	33.17	191	33	P	H
	!	5725.08	48.25	-5.75	54	37.92	34.92	8.58	33.17	191	33	A	H
	*	5696	107.96	-	-	97.61	34.95	8.57	33.17	100	335	P	V
	*	5696	99.44	-	-	89.09	34.95	8.57	33.17	100	335	A	V
		5726.84	56.96	-17.04	74	46.63	34.92	8.58	33.17	100	335	P	V
Remark		5725	47.87	-6.13	54	37.54	34.92	8.58	33.17	100	335	A	V
	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1+2	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	50.07	-23.93	74	50.22	38.93	13.34	52.42	100	360	P	H
CH 100 5500MHz		11000	49.17	-24.83	74	49.32	38.93	13.34	52.42	100	360	P	V
802.11ac VHT20		11160	49.04	-24.96	74	49.22	39.05	13.19	52.42	100	360	P	H
CH 116 5580MHz		11160	49.27	-24.73	74	49.45	39.05	13.19	52.42	100	360	P	V
802.11ac VHT20		11400	47.49	-26.51	74	47.93	39.23	12.99	52.66	100	360	P	H
CH 140 5700MHz		11400	47.19	-26.81	74	47.63	39.23	12.99	52.66	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5467.6	58.68	-9.62	68.3	48.35	35.14	8.39	33.2	124	19	P	H
		5445.68	45.78	-8.22	54	35.46	35.15	8.37	33.2	124	19	A	H
	*	5514	102.52	-	-	92.17	35.09	8.45	33.19	124	19	P	H
	*	5514	95.15	-	-	84.8	35.09	8.45	33.19	124	19	A	H
		5733.48	53.82	-20.18	74	43.49	34.92	8.58	33.17	124	19	P	H
		5759.32	43.66	-10.34	54	33.35	34.89	8.59	33.17	124	19	A	H
		5470	59.7	-8.6	68.3	49.37	35.14	8.39	33.2	140	343	P	V
		5448.56	45.33	-8.67	54	35.01	35.15	8.37	33.2	140	343	A	V
	*	5502	101.32	-	-	90.98	35.11	8.43	33.2	140	343	P	V
	*	5502	94.31	-	-	83.97	35.11	8.43	33.2	140	343	A	V
		5742.84	52.08	-21.92	74	41.75	34.91	8.59	33.17	140	343	P	V
		5755.64	43.25	-10.75	54	32.94	34.89	8.59	33.17	140	343	A	V
802.11ac VHT40 CH 110 5550MHz		5421.2	61.17	-12.83	74	50.88	35.18	8.32	33.21	107	17	P	H
		5458.48	47.43	-6.57	54	37.11	35.15	8.37	33.2	107	17	A	H
	*	5544	110.5	-	-	100.14	35.08	8.47	33.19	107	17	P	H
	*	5544	102.72	-	-	92.36	35.08	8.47	33.19	107	17	A	H
		5730.04	57.06	-16.94	74	46.73	34.92	8.58	33.17	107	17	P	H
		5725.8	45.06	-8.94	54	34.73	34.92	8.58	33.17	107	17	A	H
		5438	63.93	-10.07	74	53.64	35.16	8.34	33.21	125	341	P	V
		5449.52	47.08	-6.92	54	36.76	35.15	8.37	33.2	125	341	A	V
	*	5558	109.51	-	-	99.14	35.07	8.49	33.19	125	341	P	V
	*	5558	102.06	-	-	91.69	35.07	8.49	33.19	125	341	A	V
		5757.88	58.22	-15.78	74	47.91	34.89	8.59	33.17	125	341	P	V
		5741.16	45.48	-8.52	54	35.15	34.91	8.59	33.17	125	341	A	V



802.11ac VHT40 CH 126 5630MHz		5454.48	55.49	-18.51	74	45.17	35.15	8.37	33.2	100	13	P	H
		5447.12	43.56	-10.44	54	33.24	35.15	8.37	33.2	100	13	A	H
	*	5634	109.9	-	-	99.51	35	8.56	33.17	100	13	P	H
	*	5634	101.83	-	-	91.44	35	8.56	33.17	100	13	A	H
		5746.36	63.45	-10.55	74	53.12	34.91	8.59	33.17	100	13	P	H
		5734.44	47.21	-6.79	54	36.88	34.92	8.58	33.17	100	13	A	H
		5446.32	56.25	-17.75	74	45.93	35.15	8.37	33.2	134	338	P	V
		5454.48	43.39	-10.61	54	33.07	35.15	8.37	33.2	134	338	A	V
	*	5640	110.65	-	-	100.26	35	8.56	33.17	134	338	P	V
	*	5640	101.88	-	-	91.49	35	8.56	33.17	134	338	A	V
		5737.8	59.91	-14.09	74	49.58	34.91	8.59	33.17	134	338	P	V
		5728.68	46.53	-7.47	54	36.2	34.92	8.58	33.17	134	338	A	V
802.11ac VHT40 CH 134 5670MHz		5441.36	52.77	-21.23	74	42.48	35.16	8.34	33.21	158	30	P	H
		5441.2	43.5	-10.5	54	33.21	35.16	8.34	33.21	158	30	A	H
	*	5674	108.07	-	-	97.7	34.97	8.57	33.17	158	30	P	H
	*	5674	99.8	-	-	89.43	34.97	8.57	33.17	158	30	A	H
	!	5756.76	68.07	-5.93	74	57.76	34.89	8.59	33.17	158	30	P	H
	!	5726.52	48.97	-5.03	54	38.64	34.92	8.58	33.17	158	30	A	H
		5381.68	51.49	-22.51	74	41.22	35.2	8.28	33.21	128	333	P	V
		5456.88	43.16	-10.84	54	32.84	35.15	8.37	33.2	128	333	A	V
	*	5676	106.57	-	-	96.2	34.97	8.57	33.17	128	333	P	V
	*	5676	98.16	-	-	87.79	34.97	8.57	33.17	128	333	A	V
		5726.68	63.66	-10.34	74	53.33	34.92	8.58	33.17	128	333	P	V
	!	5726.28	49.07	-4.93	54	38.74	34.92	8.58	33.17	128	333	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1+2	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		11020	48.59	-25.41	74	48.75	38.94	13.32	52.42	100	360	P	H
CH 102 5510MHz		11020	49.09	-24.91	74	49.25	38.94	13.32	52.42	100	360	P	V
802.11ac VHT40		11100	49.97	-24.03	74	50.14	39	13.25	52.42	100	360	P	H
CH 110 5550MHz		11100	50.87	-23.13	74	51.04	39	13.25	52.42	100	360	P	V
802.11ac VHT40		11340	48.46	-25.54	74	48.76	39.18	13.04	52.52	100	360	P	H
CH 134 5670MHz		11340	50.12	-23.88	74	50.42	39.18	13.04	52.52	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5467.44	59.16	-9.14	68.3	48.83	35.14	8.39	33.2	100	21	P	H
	!	5459.28	50.15	-3.85	54	39.83	35.15	8.37	33.2	100	21	A	H
	*	5514	98.29	-	-	87.94	35.09	8.45	33.19	100	21	P	H
	*	5514	92.9	-	-	82.55	35.09	8.45	33.19	100	21	A	H
		5753.64	52.09	-21.91	74	41.78	34.89	8.59	33.17	100	21	P	H
		5737.8	44.25	-9.75	54	33.92	34.91	8.59	33.17	100	21	A	H
		5466.8	59.16	-9.14	68.3	48.83	35.14	8.39	33.2	158	345	P	V
	!	5458.64	49	-5	54	38.68	35.15	8.37	33.2	158	345	A	V
	*	5542	97.75	-	-	87.39	35.08	8.47	33.19	158	345	P	V
	*	5542	91.94	-	-	81.58	35.08	8.47	33.19	158	345	A	V
		5747.08	53.26	-20.74	74	42.93	34.91	8.59	33.17	158	345	P	V
		5730.84	44.24	-9.76	54	33.91	34.92	8.58	33.17	158	345	A	V
802.11ac VHT80 CH 122 5610MHz		5470	52.2	-16.1	68.3	41.87	35.14	8.39	33.2	200	17	P	H
		5458.8	44.2	-9.8	54	33.88	35.15	8.37	33.2	200	17	A	H
	*	5614	107.32	-	-	96.92	35.03	8.55	33.18	200	17	P	H
	*	5614	101.32	-	-	90.92	35.03	8.55	33.18	200	17	A	H
		5732.2	55.36	-18.64	74	45.03	34.92	8.58	33.17	200	17	P	H
		5727.4	47.95	-6.05	54	37.62	34.92	8.58	33.17	200	17	A	H
		5468.24	54.4	-13.9	68.3	44.07	35.14	8.39	33.2	148	343	P	V
		5456.72	44.71	-9.29	54	34.39	35.15	8.37	33.2	148	343	A	V
	*	5616	108.74	-	-	98.35	35.01	8.56	33.18	148	343	P	V
	*	5616	100.76	-	-	90.37	35.01	8.56	33.18	148	343	A	V
		5727.24	56.96	-17.04	74	46.63	34.92	8.58	33.17	148	343	P	V
	!	5725.16	48.78	-5.22	54	38.45	34.92	8.58	33.17	148	343	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	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		11060	49.04	-24.96	74	49.2	38.98	13.28	52.42	100	360	P	H
CH 106 5530MHz		11060	49.37	-24.63	74	49.53	38.98	13.28	52.42	100	360	P	V
802.11ac VHT80		11220	48.22	-25.78	74	48.4	39.09	13.15	52.42	100	360	P	H
CH 122 5610MHz		11220	48.31	-25.69	74	48.49	39.09	13.15	52.42	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



BLE + WLAN 5G Simultaneous TX

WIFI Ant. 1+2	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)
BLE CH 39 2480M + 802.11ac VHT80 CH 58 5290MHz		2480	93.95	-	-	91.04	31.44	5.75	34.28	136	304	P	H
	!	5275	86.99	-	-	76.83	35.3	8.09	33.23	136	304	P	H
	*	2480	93.35	-	-	90.44	31.44	5.75	34.28	136	304	A	H
		5285	79.01	-	-	68.84	35.28	8.12	33.23	136	304	A	H
		2483.56	49.83	-24.17	74	46.92	31.44	5.75	34.28	136	304	P	H
		2483.5	38.39	-15.61	54	35.48	31.44	5.75	34.28	136	304	A	H
		2480	99.63	-	-	96.72	31.44	5.75	34.28	225	360	P	V
		5295	91.65	-	-	81.46	35.27	8.15	33.23	225	360	P	V
		2480	99.02	-	-	96.11	31.44	5.75	34.28	225	360	A	V
		5295	83.02	-	-	72.83	35.27	8.15	33.23	225	360	A	V
		2483.68	55.92	-18.08	74	53.01	31.44	5.75	34.28	225	360	P	V
		2483.5	42.31	-11.69	54	39.4	31.44	5.75	34.28	225	360	A	V



WIFI Ant. 1+2	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 + BLE CH 39 2480M		5146.24	53.08	-20.92	74	42.95	35.39	7.99	33.25	100	18	P	H
	!	5141.44	45.09	-8.91	54	34.96	35.39	7.99	33.25	100	18	A	H
	*	2480	88.78	-	-	85.87	31.44	5.75	34.28	100	18	P	H
		2480	88.42	-	-	85.51	31.44	5.75	34.28	100	18	A	H
		5280	99.98	-	-	89.81	35.28	8.12	33.23	100	18	P	H
		5280	93.39	-	-	83.22	35.28	8.12	33.23	100	18	A	H
		5353	54.7	-19.3	74	44.47	35.23	8.22	33.22	100	18	P	H
		5350.9	47.91	-6.09	54	37.68	35.23	8.22	33.22	100	18	A	H
		5134.08	54.13	-19.87	74	43.99	35.41	7.99	33.26	298	103	P	V
		5128.16	45.28	-8.72	54	35.14	35.41	7.99	33.26	298	103	A	V
		2480	89.95	-	-	87.04	31.44	5.75	34.28	298	103	P	V
		2480	89.46	-	-	86.55	31.44	5.75	34.28	298	103	A	V
		5285	97.58	-	-	87.41	35.28	8.12	33.23	298	103	P	V
		5285	90.16	-	-	79.99	35.28	8.12	33.23	298	103	A	V
		5357.7	53.33	-20.67	74	43.1	35.23	8.22	33.22	298	103	P	V
	*	5352	45.95	-8.05	54	35.72	35.23	8.22	33.22	298	103	A	V



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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		37.76	25.03	-14.97	40	34.68	20.8	0.67	31.12	100	65	P	H
		100.81	26.92	-16.58	43.5	40.49	16.05	1.08	30.7	-	-	P	H
		134.76	21.47	-22.03	43.5	33.66	17.4	1.25	30.84	-	-	P	H
		371.44	29.46	-16.54	46	37.94	20.92	2.1	31.5	-	-	P	H
		528.58	23.04	-22.96	46	27.72	24.31	2.55	31.54	-	-	P	H
		708.03	24.93	-21.07	46	26.3	26.55	2.96	30.88	-	-	P	H
		41.64	30.28	-9.72	40	42.17	18.68	0.71	31.28	100	215	P	V
		99.84	31.91	-11.59	43.5	45.54	16	1.07	30.7	-	-	P	V
		195.87	24.27	-19.23	43.5	38.85	15	1.5	31.08	-	-	P	V
		389.87	26.54	-19.46	46	34.51	21.37	2.16	31.5	-	-	P	V
		420.91	27.64	-18.36	46	34.85	22.07	2.26	31.54	-	-	P	V
		649.83	27.8	-18.2	46	29.52	26	2.88	30.6	-	-	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 not under limit 6dB .
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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

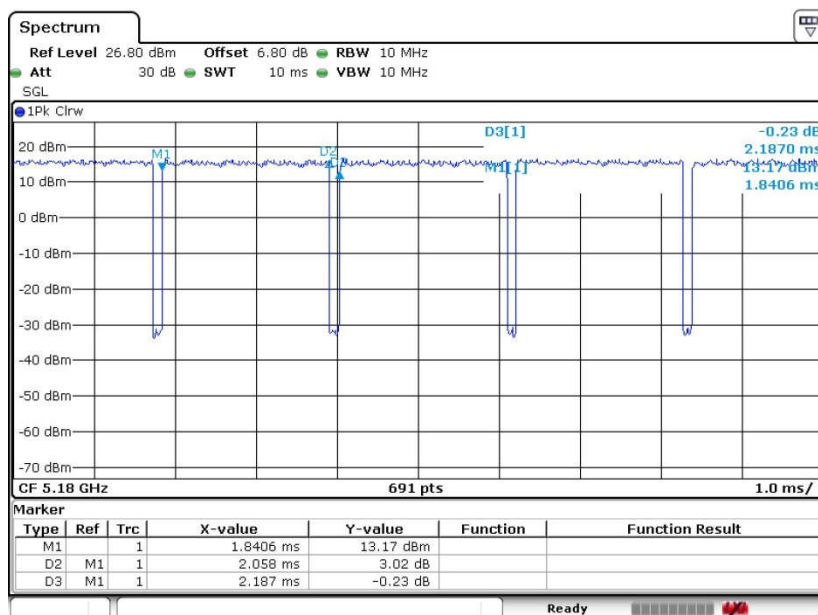
Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Duty Cycle Plots

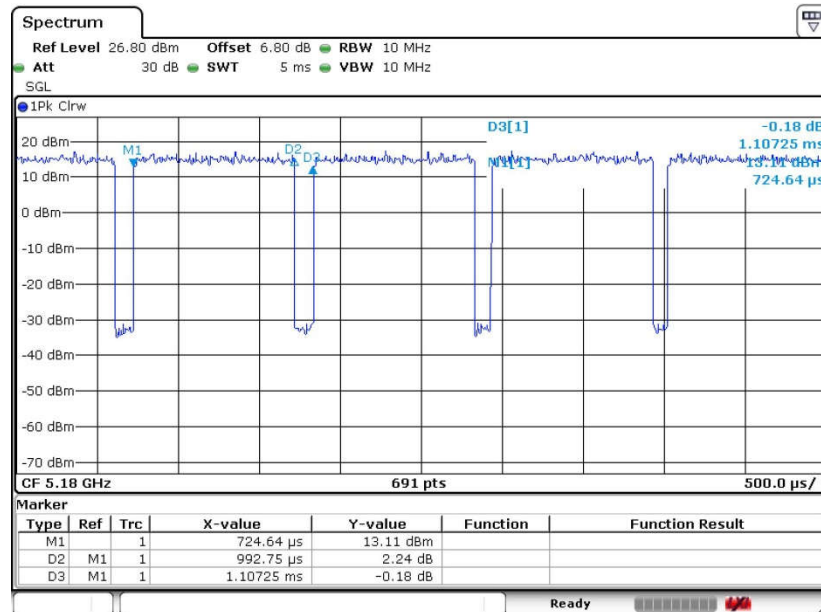
Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2	802.11a	94.10	2.058	0.486	1kHz
1+2	802.11ac VHT20	89.66	0.993	1.007	3kHz
1+2	802.11ac VHT40	83.98	0.501	1.994	3kHz
1+2	802.11ac VHT80	71.20	0.258	3.876	10kHz

802.11a Ant. 1+2

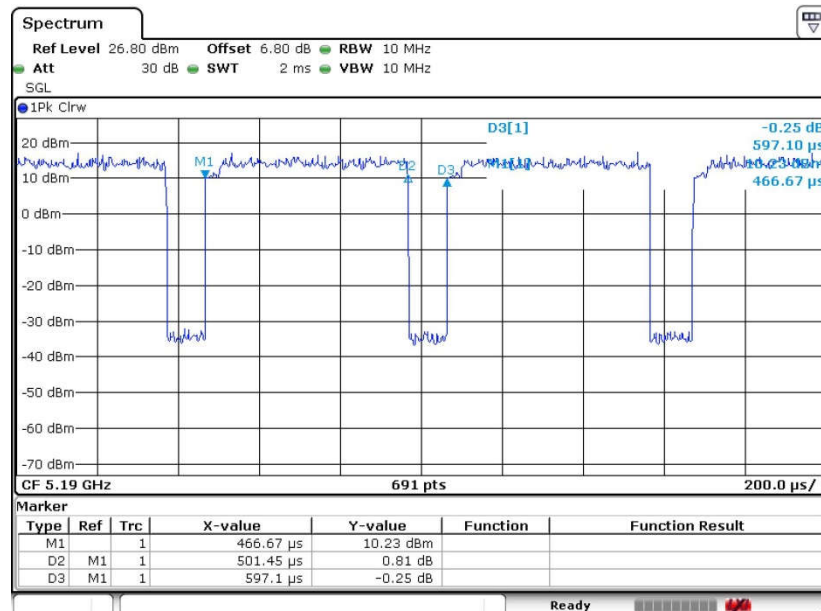




802.11ac VHT20 Ant. 1+2



802.11ac VHT40 Ant. 1+2





802.11ac VHT80 Ant. 1+2

