



FCC RF Test Report

APPLICANT : Nokia Shanghai Bell Co., Ltd.
EQUIPMENT : Nokia WiFi Beacon 2
BRAND NAME : Nokia
MODEL NAME : Beacon 2
FCC ID : 2ADZRBEACON2
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Sep. 30, 2020 and testing was completed on Nov. 12, 2020. 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.

Jason Jia

Reviewed by: Jason Jia / Supervisor

James Huang

Approved by: James Huang / Manager



Sporton International (Kunshan) Inc.

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



TABLE OF CONTENTS

REVISION HISTORY.....	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test.....	5
1.4 Product Specification of Equipment Under Test.....	5
1.5 Modification of EUT	6
1.6 Testing Location	7
1.7 Test Software.....	7
1.8 Applicable Standards.....	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency and Channel	8
2.2 Test Mode.....	9
2.3 Connection Diagram of Test System.....	10
2.4 Support Unit used in test configuration and system	11
2.5 EUT Operation Test Setup	11
2.6 Measurement Results Explanation Example.....	11
3 TEST RESULT	12
3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement	12
3.2 Maximum Conducted Output Power Measurement	15
3.3 Power Spectral Density Measurement	16
3.4 Unwanted Emissions Measurement	19
3.5 AC Conducted Emission Measurement.....	23
3.6 Automatically Discontinue Transmission	25
3.7 Antenna Requirements.....	26
4 LIST OF MEASURING EQUIPMENT	28
5 UNCERTAINTY OF EVALUATION.....	29
APPENDIX A. CONDUCTED TEST RESULTS	
APPENDIX B. AC CONDUCTED EMISSION TEST RESULT	
APPENDIX C. RADIATED SPURIOUS EMISSION	
APPENDIX D. DUTY CYCLE PLOTS	
APPENDIX E. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR093003G	Rev. 01	Initial issue of report	Dec. 07, 2020



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 0.32 dB at 17475.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 2.23 dB at 0.417 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Nokia Shanghai Bell Co., Ltd.

No.388, Ningqiao Rd, Pilot Free Trade Zone Shanghai, 201206 P.R. China

1.2 Manufacturer

Nokia Shanghai Bell Co., Ltd.

No.388, Ningqiao Rd, Pilot Free Trade Zone Shanghai, 201206 P.R. China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Nokia WiFi Beacon 2
Brand Name	Nokia
Model Name	Beacon 2
FCC ID	2ADZRBACON2
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n (HT20/HT40) WLAN 2.4GHz 802.11ax (HE20/HE40) WLAN 5GHz 802.11a/n/ac (HT20/HT40/VHT20/VHT40/VHT80) WLAN 5GHz 802.11ax (HE20/HE40/HE80)
HW Version	V1.0
SW Version	3FE49334
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 Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power	<MIMO Ant.1+2> 802.11a : 28.70 dBm / 0.7413 W 802.11n HT20 : 29.11 dBm / 0.8147 W 802.11n HT40 : 29.03 dBm / 0.7998 W 802.11ac VHT20: 28.88 dBm / 0.7727 W 802.11ac VHT40: 28.81 dBm / 0.7603 W 802.11ac VHT80: 26.46 dBm / 0.4426 W 802.11ax HE20: 28.91 dBm / 0.7780 W 802.11ax HE40: 28.46 dBm / 0.7015 W 802.11ax HE80: 26.12 dBm / 0.4093 W

99% Occupied Bandwidth	<MIMO Ant.1+2> 802.11a : 22.13 MHz 802.11n HT20 : 25.87 MHz 802.11n HT40 : 45.65 MHz 802.11ac VHT80 : 75.52 MHz 802.11ax HE20 : 25.77 MHz 802.11ax HE40 : 46.35 MHz 802.11ax HE80 : 76.96 MHz		
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac/ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)		
Antenna Type / Gain	Sample 1: <Ant. 1> : Dipole antenna with gain 2.70 dBi <Ant. 2> : Dipole antenna with gain 2.10 dBi Sample 2: <Ant. 1> : Dipole antenna with gain 2.476 dBi <Ant. 2> : Dipole antenna with gain 2.476 dBi		
Antenna Function Description		Ant. 1	Ant. 2
	802.11 a/n/ac/ax SISO	V	V
	802.11 a/n/ac/ax MIMO	V	
	802.11 n/ac/ax Beamforming	V	

Note:

1. For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing have assessed only 802.11n HT20 / HT40 by referring to their maximum conducted power
2. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power.
3. The Tx Power/EIRP of EUT will less than or equal to non-beamforming power/EIRP when Beamforming mode is active. So we only evaluate non-beamforming mode 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 (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-KS 03CH05-KS TH01-KS	CN1257	314309

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH05-KS	AUDIX	E3	6.2009-8-24a1
2.	CO01-KS	AUDIX	E3	6.2009-8-24

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.
- 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)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151 [*]	5755	159 [*]	5795
	153	5765	161	5805
	155 [#]	5775	165	5825

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
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

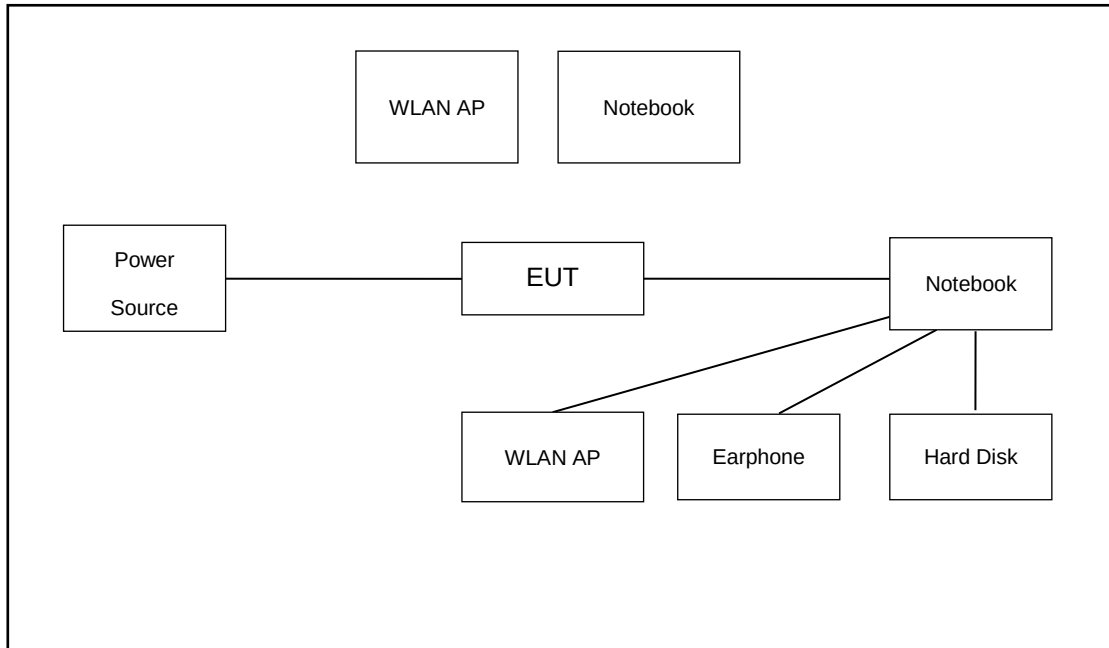
AC Conducted Emission	Mode 1 : WLAN Link(5G) + WAN Link + LAN Link + Adaptor
Remark: For Radiated Test Cases, The tests were performance with Adapter1.	

Ch. #		Band IV : 5725-5850 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

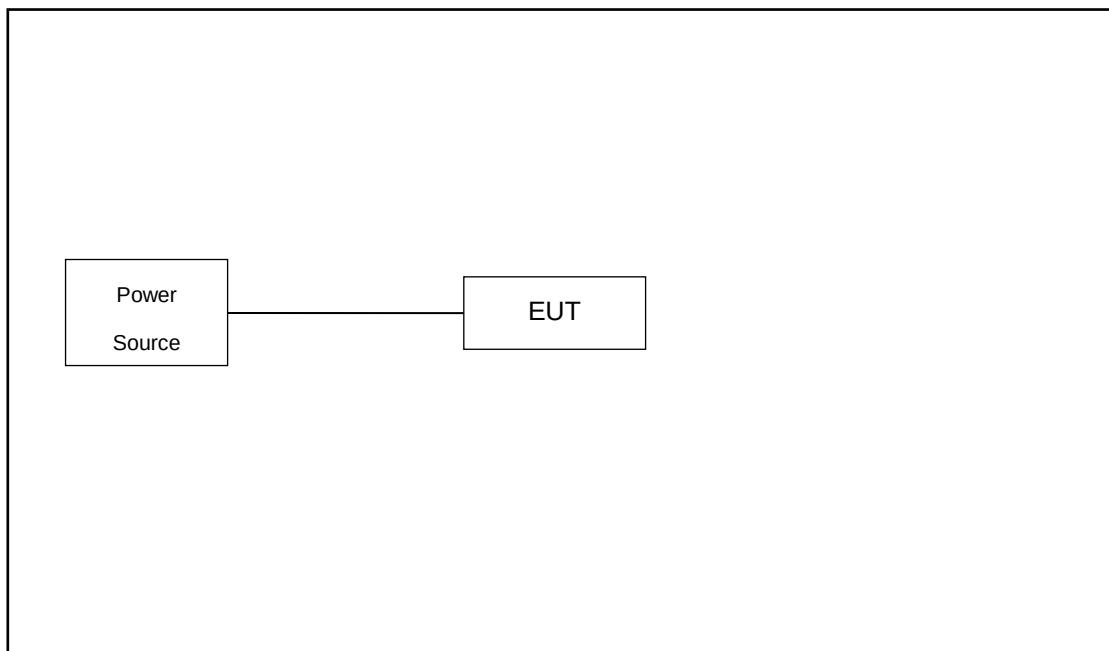
Ch. #		Band IV : 5725-5850 MHz		
		802.11ax HE20	802.11ax HE40	802.11ax HE80
L	Low	149	151	-
M	Middle	157	-	155
H	High	165	159	-

2.3 Connection Diagram of Test System

For Conducted Emission:



For Radiated Emission:



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
2.	Notebook *2	Lenovo	V130-15IKB005	FCC DoC	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
3.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
4.	Earphone	Lenovo	P121	N/A	N/A	Unshielded,1.2m

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 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

Offset = RF cable loss

Following shows an offset computation example with cable loss 6.9 dB

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} \\ &= 6.9 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

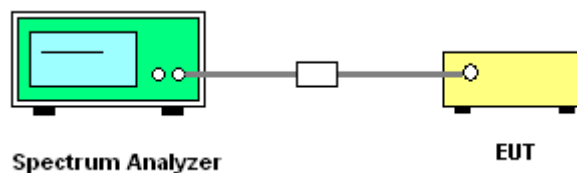
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

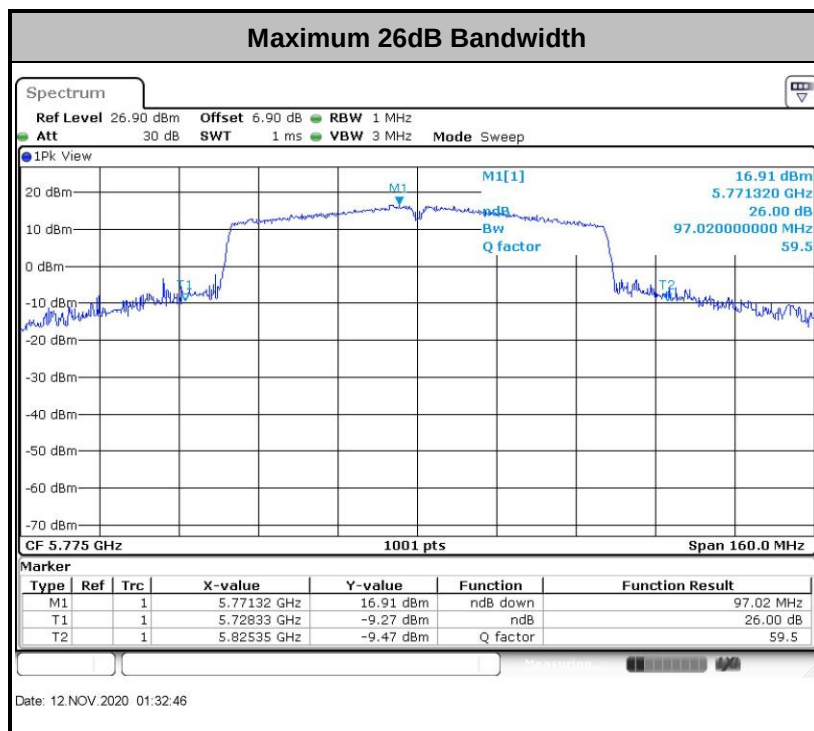
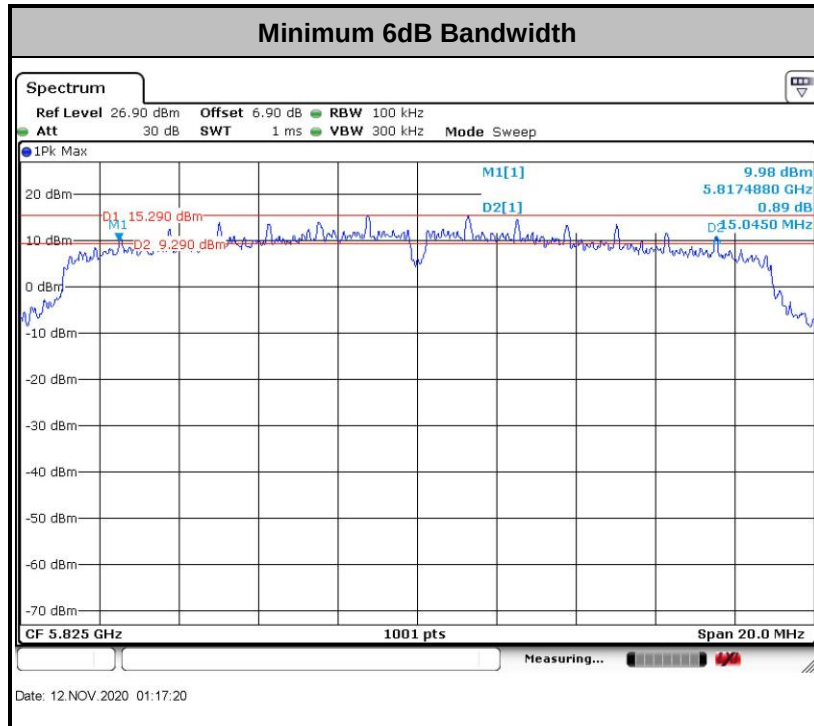
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

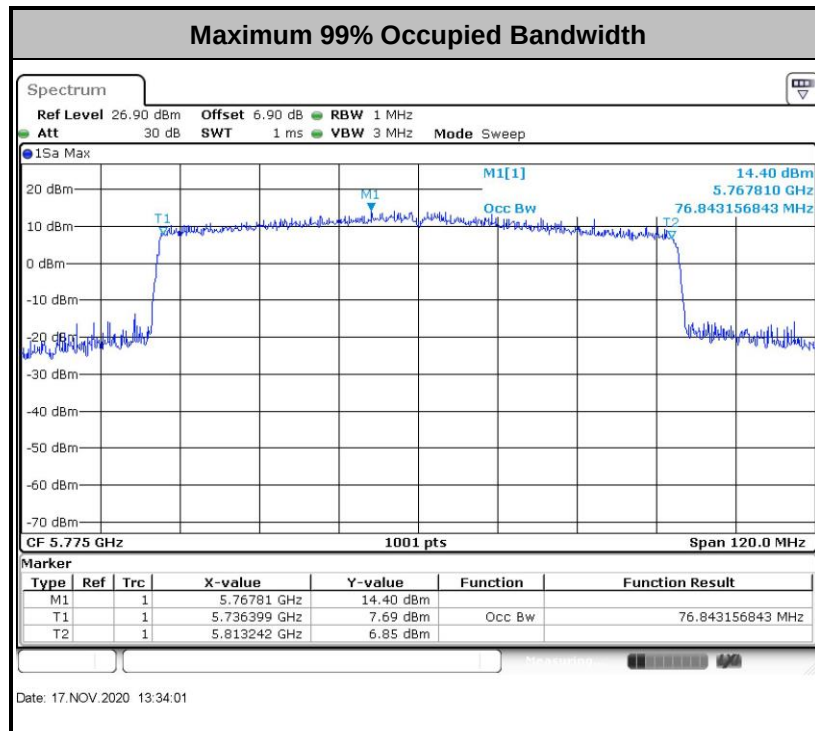
3.1.4 Test Setup



3.1.5 Test Result of 6dB 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

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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.

3.2.2 Measuring Instruments

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

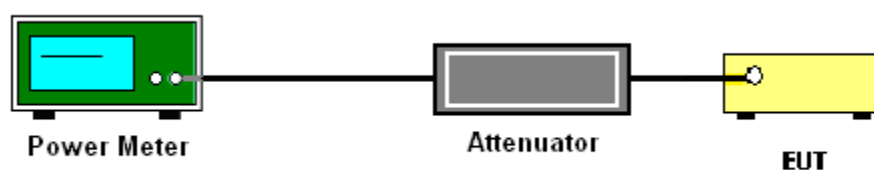
3.2.3 Test Procedures

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

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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).

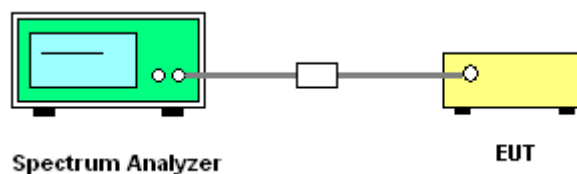
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW $\geq$ 1 MHz.
- Number of points in sweep $\geq$ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add $10 \log(500\text{kHz}/\text{RBW})$ to the test result.
- 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. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (c): Measure and add $10 \log(N_{\text{ANT}})$ dB.

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity $10 \log(N_{\text{ANT}})$ dB is added to each spectrum value before comparing to the emission limit. The addition of $10 \log(N_{\text{ANT}})$ dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{\text{ANT}}^{\text{th}}$ of the PSD limit.

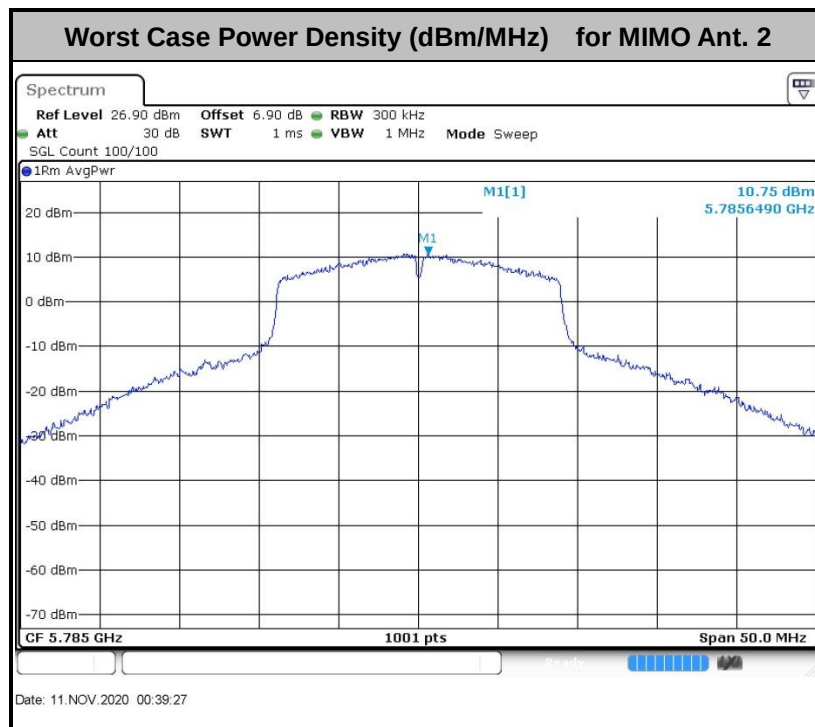
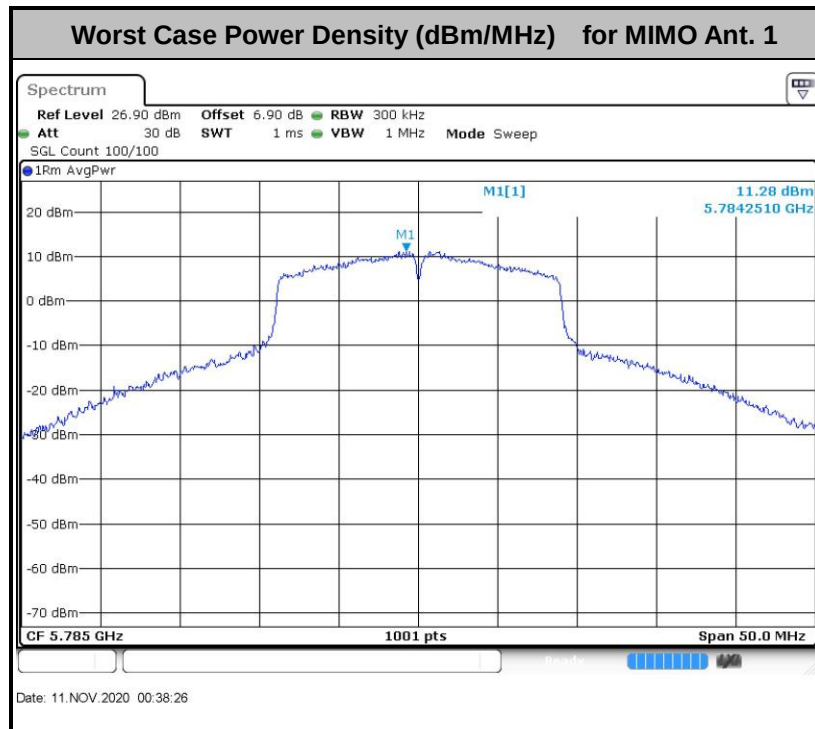
3.3.4 Test Setup





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 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

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

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

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.8$$

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

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

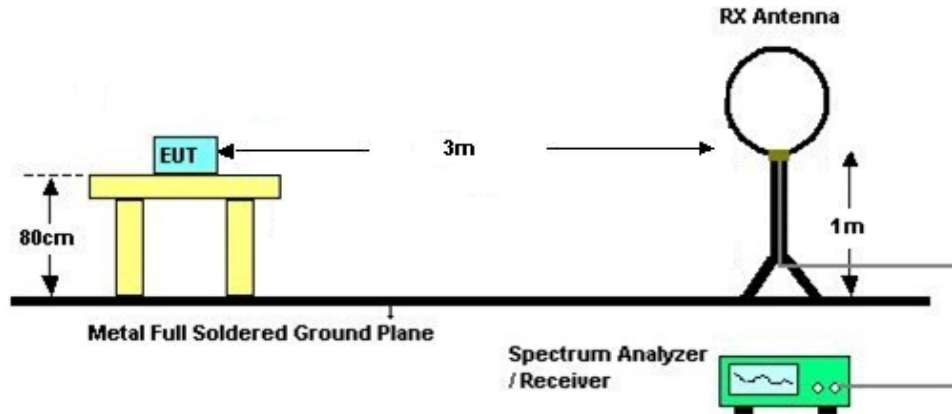


3.4.3 Test Procedures

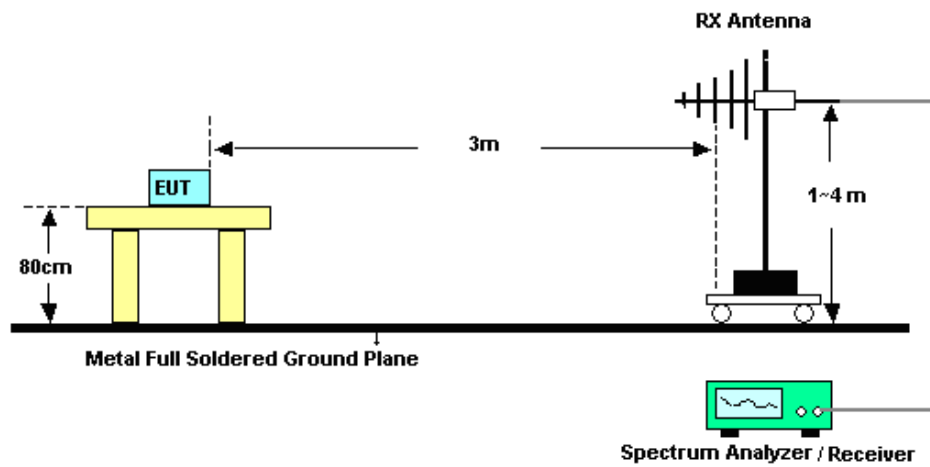
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

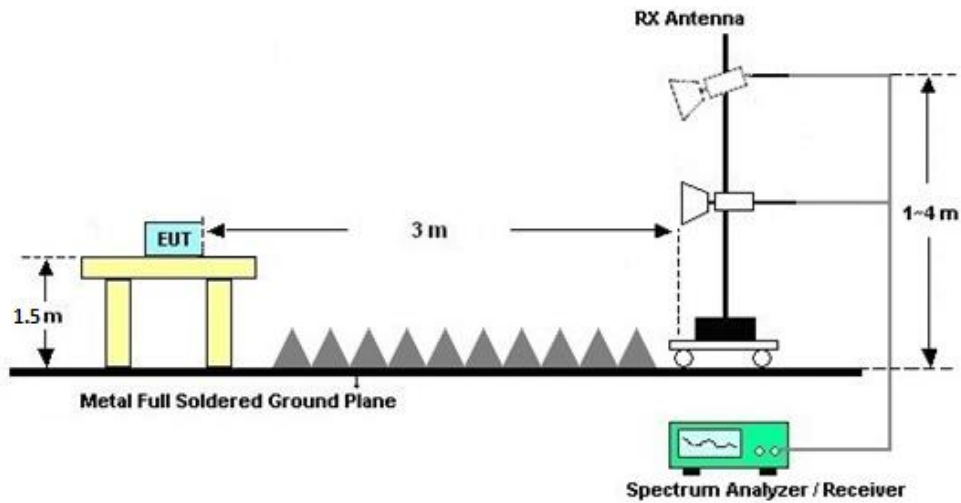
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated 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 Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Unwanted Radiated Emission (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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

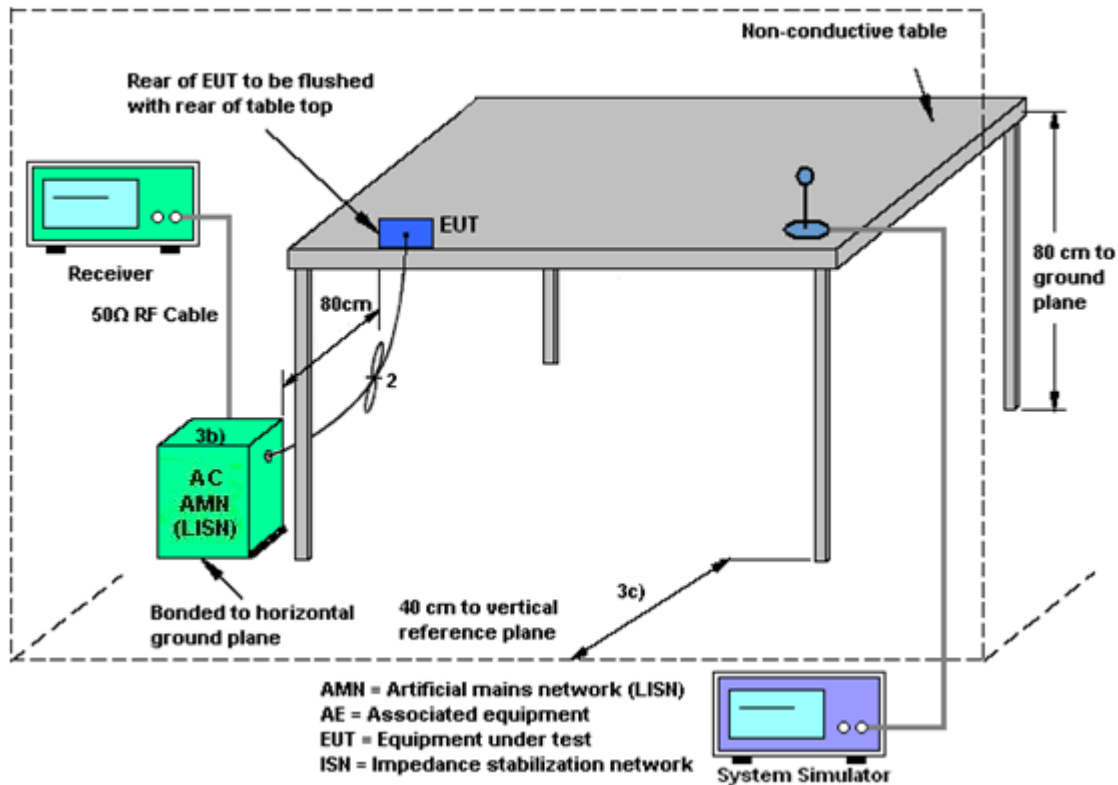
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.6.2 Measuring Instruments

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

3.6.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<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	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	2.70	2.10	2.70	5.42	0.00	0.00

$\text{Power Limit Reduction} = \text{DG}(\text{Power}) - 6\text{dBi}, (\text{min} = 0)$

$\text{PSD Limit Reduction} = \text{DG}(\text{PSD}) - 6\text{dBi}, (\text{min} = 0)$

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th antenna.

The EUT supports beamforming for 802.11a/n/ac/ax modes.

The directional gain calculation is following F)2)e)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.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant 1	Ant 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	2.70	2.10	5.42	5.42	0.00	0.00

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV30	101338	10Hz~30GHz	Apr. 14, 2020	Nov. 11, 2020~ Nov. 12, 2020	Apr. 13, 2021	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 15, 2020	Nov. 11, 2020~ Nov. 12, 2020	Jan. 14, 2021	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 08, 2020	Nov. 11, 2020~ Nov. 12, 2020	Jan. 07, 2021	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 17, 2020	Nov. 09, 2020	Oct. 16, 2021	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz, MAX 30dB	Apr. 15, 2020	Nov. 09, 2020	Apr. 14, 2021	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 09, 2020	Nov. 09, 2020	Nov. 08, 2021	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz~1GHz	May. 30, 2020	Nov. 09, 2020	May. 29, 2021	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 26, 2020	Nov. 09, 2020	Apr. 25, 2021	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	Nov. 09, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	187289	9kHz~1GHz	Apr. 14, 2020	Nov. 09, 2020	Apr. 13, 2021	Radiation (03CH05-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 08, 2020	Nov. 09, 2020	Jan. 07, 2021	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2012228	1GHz~18GHz	Oct. 17, 2020	Nov. 09, 2020	Oct. 16, 2021	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 17, 2020	Nov. 09, 2020	Oct. 16, 2021	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 09, 2020	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 09, 2020	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 09, 2020	NCR	Radiation (03CH05-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 14, 2020	Oct. 22, 2020	Apr. 13, 2021	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 17, 2020	Oct. 22, 2020	Oct. 16, 2021	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Oct. 28, 2019	Oct. 22, 2020	Oct. 27, 2020	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 17, 2020	Oct. 22, 2020	Oct. 16, 2021	Conduction (CO01-KS)

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% ($U = 2Uc(y)$)	2.94dB
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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% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

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



Appendix A. Conducted Test Results

A1. Conducted Test Results

Test Engineer:	weller liu	Temperature:	21~25	°C
Test Date:	2020/11/11~200/11/12	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	149	5745	20.93	22.13	34.77	34.37	15.08	15.08	0.5	Pass
11a	6Mbps	2	157	5785	20.48	20.48	34.87	29.87	15.06	15.08	0.5	Pass
11a	6Mbps	2	165	5825	20.98	20.38	32.22	32.87	15.06	15.06	0.5	Pass
HT20	MCS0	2	149	5745	25.87	24.98	38.31	38.46	15.06	15.08	0.5	Pass
HT20	MCS0	2	157	5785	24.78	25.32	36.06	36.06	15.06	15.05	0.5	Pass
HT20	MCS0	2	165	5825	22.78	22.43	35.37	34.07	15.05	15.06	0.5	Pass
HT40	MCS0	2	151	5755	45.65	43.96	73.37	73.01	32.57	33.81	0.5	Pass
HT40	MCS0	2	159	5795	44.16	44.06	71.57	70.04	32.57	35.05	0.5	Pass
VHT80	MCS0	2	155	5775	75.52	75.52	97.02	91.91	75.05	75.05	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	25.72	25.66	28.70	30.00		2.70		Pass
11a	6Mbps	2	157	5785	25.18	25.13	28.17	30.00		2.70		Pass
11a	6Mbps	2	165	5825	25.17	25.06	28.13	30.00		2.70		Pass
HT20	MCS0	2	149	5745	26.25	25.95	29.11	30.00		2.70		Pass
HT20	MCS0	2	157	5785	25.99	25.85	28.93	30.00		2.70		Pass
HT20	MCS0	2	165	5825	25.52	25.32	28.43	30.00		2.70		Pass
HT40	MCS0	2	151	5755	26.12	25.91	29.03	30.00		2.70		Pass
HT40	MCS0	2	159	5795	25.68	25.42	28.56	30.00		2.70		Pass
VHT20	MCS0	2	149	5745	26.02	25.72	28.88	30.00		2.70		Pass
VHT20	MCS0	2	157	5785	25.65	25.42	28.55	30.00		2.70		Pass
VHT20	MCS0	2	165	5825	25.44	25.34	28.40	30.00		2.70		Pass
VHT40	MCS0	2	151	5755	25.82	25.78	28.81	30.00		2.70		Pass
VHT40	MCS0	2	159	5795	25.62	25.46	28.55	30.00		2.70		Pass
VHT80	MCS0	2	155	5775	23.58	23.31	26.46	30.00		2.70		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV MIMO														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	2.22		12.96	13.04	16.05	30.00		5.42		Pass
11a	6Mbps	2	157	5785	2.22		12.62	12.36	15.63	30.00		5.42		Pass
11a	6Mbps	2	165	5825	2.22		12.56	12.31	15.57	30.00		5.42		Pass
HT20	MCS0	2	149	5745	2.22		13.44	13.32	16.45	30.00		5.42		Pass
HT20	MCS0	2	157	5785	2.22		13.50	12.97	16.51	30.00		5.42		Pass
HT20	MCS0	2	165	5825	2.22		12.54	12.45	15.55	30.00		5.42		Pass
HT40	MCS0	2	151	5755	2.22		10.31	9.93	13.32	30.00		5.42		Pass
HT40	MCS0	2	159	5795	2.22		9.85	9.83	12.86	30.00		5.42		Pass
VHT80	MCS0	2	155	5775	2.22		4.87	4.51	7.88	30.00		5.42		Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV MIMO													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
						Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
HE20	MCS0	2	149	5745	Full	23.98	24.58	37.41	35.32	16.06	15.58	0.5	Pass
HE20	MCS0	2	157	5785	Full	24.88	25.77	39.26	37.31	15.52	15.12	0.5	Pass
HE20	MCS0	2	165	5825	Full	23.28	23.93	34.02	34.17	15.34	16.26	0.5	Pass
HE40	MCS0	2	151	5755	Full	38.66	38.56	57.45	53.77	35.60	36.68	0.5	Pass
HE40	MCS0	2	159	5795	Full	46.35	45.15	72.38	66.71	35.08	35.05	0.5	Pass
HE80	MCS0	2	155	5775	Full	76.72	76.84	80.72	80.40	75.20	75.05	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
						Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HE20	MCS0	2	149	5745	Full	26.02	25.78	28.91	30.00		2.70		Pass
HE20	MCS0	2	149	5745	26/0	16.53	16.24	19.40	30.00		2.70		Pass
HE20	MCS0	2	149	5745	52/37	19.75	19.42	22.60	30.00		2.70		Pass
HE20	MCS0	2	149	5745	106/53	23.65	23.24	26.46	30.00		2.70		Pass
HE20	MCS0	2	157	5785	Full	25.80	25.61	28.72	30.00		2.70		Pass
HE20	MCS0	2	165	5825	Full	25.77	25.33	28.57	30.00		2.70		Pass
HE20	MCS0	2	165	5825	26/8	15.42	15.12	18.28	30.00		2.70		Pass
HE20	MCS0	2	165	5825	52/40	18.76	18.42	21.60	30.00		2.70		Pass
HE20	MCS0	2	165	5825	106/54	22.61	22.24	25.44	30.00		2.70		Pass
HE40	MCS0	2	151	5755	Full	24.73	24.58	27.67	30.00		2.70		Pass
HE40	MCS0	2	151	5755	242/61	22.39	22.05	25.23	30.00		2.70		Pass
HE40	MCS0	2	159	5795	Full	25.55	25.34	28.46	30.00		2.70		Pass
HE40	MCS0	2	159	5795	242/62	22.95	22.69	25.83	30.00		2.70		Pass
HE80	MCS0	2	155	5775	Full	23.20	23.02	26.12	30.00		2.70		Pass
HE80	MCS0	2	155	5775	484/65	20.35	20.15	23.26	30.00		2.70		Pass
HE80	MCS0	2	155	5775	484/66	20.47	20.35	23.42	30.00		2.70		Pass

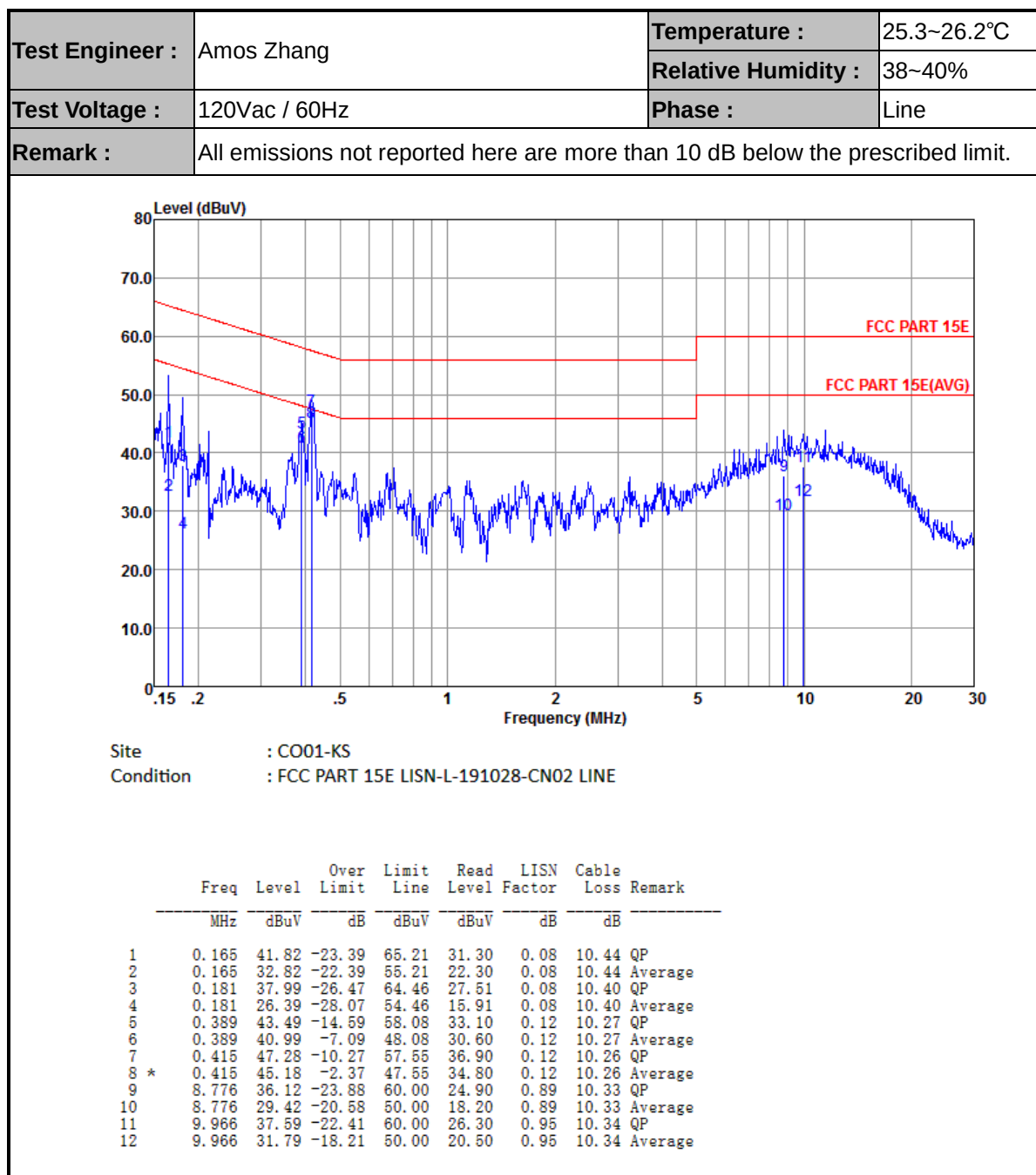
TEST RESULTS DATA
Power Spectral Density

Band IV MIMO															
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
						Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HE20	MCS0	2	149	5745	Full	2.22		12.86	13.07	16.08	30.00		5.42		Pass
HE20	MCS0	2	149	5745	26/0	2.22		10.58	10.36	13.59	30.00		5.42		Pass
HE20	MCS0	2	149	5745	52/37	2.22		11.25	10.84	14.26	30.00		5.42		Pass
HE20	MCS0	2	149	5745	106/53	2.22		13.05	12.74	16.06	30.00		5.42		Pass
HE20	MCS0	2	157	5785	Full	2.22		12.87	12.73	15.88	30.00		5.42		Pass
HE20	MCS0	2	165	5825	Full	2.22		12.47	11.92	15.48	30.00		5.42		Pass
HE20	MCS0	2	165	5825	26/8	2.22		9.13	8.75	12.14	30.00		5.42		Pass
HE20	MCS0	2	165	5825	52/40	2.22		10.14	9.84	13.15	30.00		5.42		Pass
HE20	MCS0	2	165	5825	106/54	2.22		11.76	11.69	14.77	30.00		5.42		Pass
HE40	MCS0	2	151	5755	Full	2.22		8.96	8.64	11.97	30.00		5.42		Pass
HE40	MCS0	2	151	5755	242/61	2.22		8.46	8.68	11.69	30.00		5.42		Pass
HE40	MCS0	2	159	5795	Full	2.22		9.59	9.81	12.82	30.00		5.42		Pass
HE40	MCS0	2	159	5795	242/62	2.22		9.19	9.08	12.20	30.00		5.42		Pass
HE80	MCS0	2	155	5775	Full	2.22		4.66	4.46	7.67	30.00		5.42		Pass
HE80	MCS0	2	155	5775	484/65	2.22		4.18	4.12	7.19	30.00		5.42		Pass
HE80	MCS0	2	155	5775	484/66	2.22		4.73	4.76	7.77	30.00		5.42		Pass

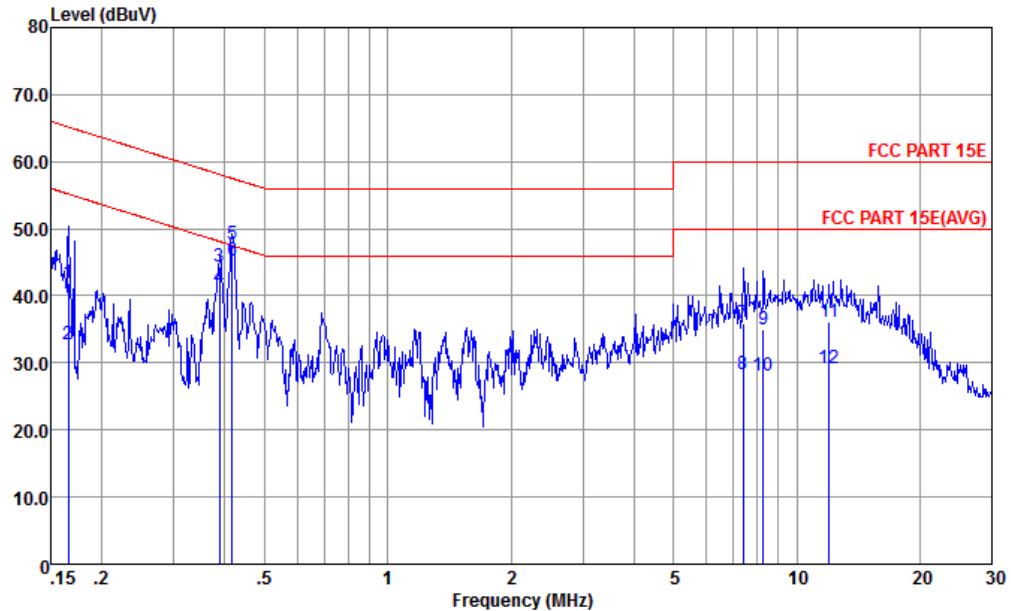
Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)



Appendix B. AC Conducted Emission Test Results



Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC PART 15E LISN-N-191028-CN02 NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBμV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBμV	dBμV	dB	dB	
1	0.166	41.80	-23.36	65.16	31.20	0.16	10.44	QP
2	0.166	32.70	-22.46	55.16	22.10	0.16	10.44	Average
3	0.387	44.28	-13.84	58.12	33.80	0.21	10.27	QP
4	0.387	41.28	-6.84	48.12	30.80	0.21	10.27	Average
5	0.417	47.68	-9.83	57.51	37.20	0.22	10.26	QP
6 *	0.417	45.28	-2.23	47.51	34.80	0.22	10.26	Average
7	7.407	35.83	-24.17	60.00	24.50	1.02	10.31	QP
8	7.407	28.23	-21.77	50.00	16.90	1.02	10.31	Average
9	8.279	35.00	-25.00	60.00	23.60	1.08	10.32	QP
10	8.279	28.00	-22.00	50.00	16.60	1.08	10.32	Average
11	11.996	35.99	-24.01	60.00	24.09	1.53	10.37	QP
12	11.996	29.19	-20.81	50.00	17.29	1.53	10.37	Average

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C. Radiated Spurious Emission

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5617.2	57.92	-10.38	68.3	42.29	34.75	11.65	30.77	275	147	P	H
		5699.2	62.34	-42.37	104.71	46.46	34.97	11.71	30.8	275	147	P	H
		5718	76.46	-33.88	110.34	60.44	35.08	11.75	30.81	275	147	P	H
		5724.4	87.77	-33.16	120.93	71.76	35.08	11.75	30.82	275	147	P	H
		5746	118.61	-	-	102.54	35.14	11.76	30.83	275	147	P	H
		5746	111.44	-	-	95.37	35.14	11.76	30.83	275	147	A	H
		5619.6	62.28	-6.02	68.3	46.65	34.75	11.65	30.77	188	85	P	V
		5699.6	70.97	-34.04	105.01	55.09	34.97	11.71	30.8	188	85	P	V
		5719.2	84.53	-26.15	110.68	68.51	35.08	11.75	30.81	188	85	P	V
		5724.8	90.58	-31.26	121.84	74.57	35.08	11.75	30.82	188	85	P	V
	*	5746	125.71	-	-	109.64	35.14	11.76	30.83	188	85	P	V
		5746	119.18	-	-	103.11	35.14	11.76	30.83	188	85	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5634.4	57.9	-10.4	68.3	42.2	34.81	11.66	30.77	310	145	P	H
		5672.8	57.39	-27.82	85.21	41.56	34.92	11.7	30.79	310	145	P	H
		5707.6	57.32	-50.11	107.43	41.37	35.03	11.73	30.81	310	145	P	H
		5724	56.78	-63.24	120.02	40.77	35.08	11.75	30.82	310	145	P	H
		5850.4	56.12	-65.27	121.39	39.78	35.35	11.86	30.87	310	145	P	H
		5865.2	56.94	-51.1	108.04	40.57	35.37	11.88	30.88	310	145	P	H
		5924.65	57.37	-11.19	68.56	40.9	35.43	11.94	30.9	310	145	P	H
		5997.6	57.21	-11.09	68.3	40.63	35.5	12.01	30.93	310	145	P	H
		5782	118.68	-	-	102.48	35.25	11.79	30.84	310	145	P	H
		5782	111.59	-	-	95.39	35.25	11.79	30.84	310	145	A	H
		5613.6	61.52	-6.78	68.3	45.96	34.7	11.63	30.77	176	84	P	V
		5680	61.41	-29.13	90.54	45.58	34.92	11.7	30.79	176	84	P	V
		5711.6	62.64	-45.91	108.55	46.69	35.03	11.73	30.81	176	84	P	V
		5724	61.36	-58.66	120.02	45.35	35.08	11.75	30.82	176	84	P	V
		5850.8	60.1	-60.38	120.48	43.76	35.35	11.86	30.87	176	84	P	V
		5863.2	64.07	-44.53	108.6	47.7	35.37	11.88	30.88	176	84	P	V
		5875.2	60.36	-44.79	105.15	43.98	35.38	11.89	30.89	176	84	P	V
		5970.4	59.46	-8.84	68.3	42.93	35.47	11.98	30.92	176	84	P	V
	*	5782	124.11	-	-	107.91	35.25	11.79	30.84	176	84	P	V
		5782	115.58	-	-	99.38	35.25	11.79	30.84	176	84	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 165 5825MHz		5850.4	74.13	-47.26	121.39	57.79	35.35	11.86	30.87	112	334	P	H
		5856.12	71.24	-39.35	110.59	54.87	35.37	11.88	30.88	112	334	P	H
		5878.4	60.01	-42.76	102.77	43.63	35.38	11.89	30.89	112	334	P	H
		5968.4	57.93	-10.37	68.3	41.39	35.47	11.98	30.91	112	334	P	H
		5824	116.95	-	-	100.64	35.33	11.84	30.86	112	334	P	H
		5824	110.17	-	-	93.86	35.33	11.84	30.86	112	334	A	H
		5853.6	84.9	-29.19	114.09	68.52	35.37	11.88	30.87	184	85	P	V
		5858.8	81.09	-28.74	109.83	64.72	35.37	11.88	30.88	184	85	P	V
		5875.2	68.31	-36.84	105.15	51.93	35.38	11.89	30.89	184	85	P	V
		5928	59.99	-8.31	68.3	43.52	35.43	11.94	30.9	184	85	P	V
	*	5830	124.83	-	-	108.52	35.33	11.84	30.86	184	85	P	V
		5830	118.57	-	-	102.26	35.33	11.84	30.86	184	85	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	60.51	-13.49	74	65.67	38.19	17.08	60.43	211	32	P	H
		11490	49.57	-4.43	54	54.73	38.19	17.08	60.43	211	32	A	H
		17235	66.55	-1.75	68.3	61.25	42.18	21.03	57.91	306	313	P	H
		11490	58.12	-15.88	74	63.28	38.19	17.08	60.43	381	127	P	V
		11490	47.76	-6.24	54	52.92	38.19	17.08	60.43	381	127	A	V
		17235	66.22	-2.08	68.3	60.92	42.18	21.03	57.91	175	312	P	V
802.11a CH 157 5785MHz		11570	55.67	-18.33	74	60.6	38.3	17.15	60.38	207	31	P	H
		11570	46.3	-7.7	54	51.23	38.3	17.15	60.38	207	31	A	H
		17355	63.14	-5.16	68.3	57.82	41.97	21.12	57.77	334	321	P	H
		11570	56.6	-17.4	74	61.53	38.3	17.15	60.38	100	126	P	V
		11570	45.75	-8.25	54	50.68	38.3	17.15	60.38	100	126	A	V
		17355	67.33	-0.97	68.3	62.01	41.97	21.12	57.77	157	311	P	V
802.11a CH 165 5825MHz		11650	59.59	-14.41	74	64.33	38.39	17.2	60.33	300	0	P	H
		11650	48.81	-5.19	54	53.55	38.39	17.2	60.33	181	83	A	H
		17475	66.21	-2.09	68.3	60.86	41.76	21.21	57.62	344	316	P	H
		11650	61.84	-12.16	74	66.58	38.39	17.2	60.33	100	122	P	V
		11650	48.55	-5.45	54	53.29	38.39	17.2	60.33	100	122	A	V
		17475	67.98	-0.32	68.3	62.63	41.76	21.21	57.62	158	308	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT20 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5623.6	58.13	-10.17	68.3	42.5	34.75	11.65	30.77	284	138	P	H
		5698.8	63.13	-41.29	104.42	47.25	34.97	11.71	30.8	284	138	P	H
		5717.6	77.09	-33.14	110.23	61.07	35.08	11.75	30.81	284	138	P	H
		5724.4	84.36	-36.57	120.93	68.35	35.08	11.75	30.82	284	138	P	H
		5746	117.71	-	-	101.64	35.14	11.76	30.83	284	138	P	H
		5746	111.06	-	-	94.99	35.14	11.76	30.83	284	138	A	H
		5602	61.86	-6.44	68.3	46.29	34.7	11.63	30.76	190	83	P	V
		5694.8	69.77	-31.7	101.47	53.89	34.97	11.71	30.8	190	83	P	V
		5719.2	83.98	-26.7	110.68	67.96	35.08	11.75	30.81	190	83	P	V
		5724.8	90.75	-31.09	121.84	74.74	35.08	11.75	30.82	190	83	P	V
	*	5746	123.14	-	-	107.07	35.14	11.76	30.83	190	83	P	V
		5746	117.66	-	-	101.59	35.14	11.76	30.83	190	83	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5647.2	57.75	-10.55	68.3	42.06	34.81	11.66	30.78	281	138	P	H
		5673.2	58.48	-27.03	85.51	42.65	34.92	11.7	30.79	281	138	P	H
		5710	58.62	-49.48	108.1	42.67	35.03	11.73	30.81	281	138	P	H
		5720.4	58.86	-52.95	111.81	42.84	35.08	11.75	30.81	281	138	P	H
		5854.8	56.96	-54.4	111.36	40.59	35.37	11.88	30.88	281	138	P	H
		5859.2	58.43	-51.29	109.72	42.06	35.37	11.88	30.88	281	138	P	H
		5915.6	58.25	-16.98	75.23	41.8	35.42	11.93	30.9	281	138	P	H
		5972.4	57.24	-11.06	68.3	40.71	35.47	11.98	30.92	281	138	P	H
		5782	117.41	-	-	101.21	35.25	11.79	30.84	281	138	P	H
		5782	111.46	-	-	95.26	35.25	11.79	30.84	281	138	A	H
		5633.2	61.87	-6.43	68.3	46.17	34.81	11.66	30.77	180	83	P	V
		5684	63.08	-30.42	93.5	47.2	34.97	11.71	30.8	180	83	P	V
		5711.2	62.64	-45.8	108.44	46.69	35.03	11.73	30.81	180	83	P	V
		5724.4	66.26	-54.67	120.93	50.25	35.08	11.75	30.82	180	83	P	V
		5850.96	66.22	-53.89	120.11	49.88	35.35	11.86	30.87	180	83	P	V
		5856.4	65.54	-44.97	110.51	49.17	35.37	11.88	30.88	180	83	P	V
		5901.6	61.07	-24.51	85.58	44.65	35.4	11.91	30.89	180	83	P	V
		5941.6	59.77	-8.53	68.3	43.27	35.45	11.96	30.91	180	83	P	V
	*	5788	124.09	-	-	107.82	35.3	11.81	30.84	180	83	P	V
		5788	117.67	-	-	101.4	35.3	11.81	30.84	180	83	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz		5850.4	79.28	-42.11	121.39	62.94	35.35	11.86	30.87	243	133	P	H
		5858	75.18	-34.88	110.06	58.81	35.37	11.88	30.88	243	133	P	H
		5883.6	63.14	-35.77	98.91	46.76	35.38	11.89	30.89	243	133	P	H
		5947.2	57.25	-11.05	68.3	40.75	35.45	11.96	30.91	243	133	P	H
		5824	117.25	-	-	100.94	35.33	11.84	30.86	243	133	P	H
		5824	111.21	-	-	94.9	35.33	11.84	30.86	243	133	A	H
		5853.2	84.55	-30.45	115	68.21	35.35	11.86	30.87	181	83	P	V
		5856	81.27	-29.35	110.62	64.9	35.37	11.88	30.88	181	83	P	V
		5878.8	70.12	-32.36	102.48	53.74	35.38	11.89	30.89	181	83	P	V
		5928	61.07	-7.23	68.3	44.6	35.43	11.94	30.9	181	83	P	V
		5824	124.68	-	-	108.37	35.33	11.84	30.86	181	83	P	V
		5824	118.2	-	-	101.89	35.33	11.84	30.86	181	83	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT20 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	59.21	-14.79	74	64.37	38.19	17.08	60.43	162	141	P	H
		11490	49.06	-4.94	54	54.22	38.19	17.08	60.43	162	141	A	H
		17232	65.33	-2.97	68.3	60.03	42.18	21.03	57.91	326	315	P	H
		11490	55.48	-18.52	74	60.64	38.19	17.08	60.43	100	123	P	V
		11490	45.01	-8.99	54	50.17	38.19	17.08	60.43	100	123	A	V
		17232	67.16	-1.14	68.3	61.86	42.18	21.03	57.91	187	312	P	V
802.11n HT20 CH 157 5785MHz		11570	57.22	-16.78	74	62.15	38.3	17.15	60.38	203	103	P	H
		11570	47.24	-6.76	54	52.17	38.3	17.15	60.38	203	103	A	H
		17355	62.88	-5.42	68.3	57.56	41.97	21.12	57.77	302	313	P	H
		11570	57.3	-16.7	74	62.23	38.3	17.15	60.38	100	125	P	V
		11570	47.16	-6.84	54	52.09	38.3	17.15	60.38	100	125	A	V
		17355	66.69	-1.61	68.3	61.37	41.97	21.12	57.77	183	310	P	V
802.11n HT20 CH 165 5825MHz		11650	56.63	-17.37	74	61.37	38.39	17.2	60.33	188	83	P	H
		11650	48.2	-5.8	54	52.94	38.39	17.2	60.33	188	83	A	H
		17478	63.78	-4.52	68.3	58.43	41.76	21.21	57.62	297	308	P	H
		11650	57.66	-16.34	74	62.4	38.39	17.2	60.33	100	118	P	V
		11650	48.71	-5.29	54	53.45	38.39	17.2	60.33	100	118	A	V
		17475	67.09	-1.21	68.3	61.74	41.76	21.21	57.62	156	306	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5638	59.65	-8.65	68.3	43.95	34.81	11.66	30.77	269	137	P	H
		5698	70.7	-33.13	103.83	54.82	34.97	11.71	30.8	269	137	P	H
		5718.8	83.67	-26.89	110.56	67.65	35.08	11.75	30.81	269	137	P	H
		5722.8	88.53	-28.75	117.28	72.52	35.08	11.75	30.82	269	137	P	H
		5851.6	63.72	-54.93	118.65	47.38	35.35	11.86	30.87	269	137	P	H
		5862.4	62.01	-46.82	108.83	45.64	35.37	11.88	30.88	269	137	P	H
		5878.8	60.27	-42.21	102.48	43.89	35.38	11.89	30.89	269	137	P	H
		5956.8	58.28	-10.02	68.3	41.74	35.47	11.98	30.91	269	137	P	H
		5758	114.11	-	-	97.97	35.19	11.78	30.83	269	137	P	H
		5758	108.66	-	-	92.52	35.19	11.78	30.83	269	137	A	H
		5648.8	64.03	-4.27	68.3	48.34	34.81	11.66	30.78	188	104	P	V
		5696	80.4	-21.95	102.35	64.52	34.97	11.71	30.8	188	104	P	V
		5718.8	93.65	-16.91	110.56	77.63	35.08	11.75	30.81	188	104	P	V
		5723.2	96.8	-21.4	118.2	80.79	35.08	11.75	30.82	188	104	P	V
		5850.8	68.14	-52.34	120.48	51.8	35.35	11.86	30.87	188	104	P	V
		5860.8	70.22	-39.05	109.27	53.85	35.37	11.88	30.88	188	104	P	V
		5882	65.98	-34.12	100.1	49.6	35.38	11.89	30.89	188	104	P	V
		5930.8	60.21	-8.09	68.3	43.75	35.43	11.94	30.91	188	104	P	V
		5752	122.18	-	-	106.04	35.19	11.78	30.83	188	104	P	V
		5752	116.38	-	-	100.24	35.19	11.78	30.83	188	104	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5636	57.42	-10.88	68.3	41.72	34.81	11.66	30.77	355	211	P	H
		5699.2	59.58	-45.13	104.71	43.7	34.97	11.71	30.8	355	211	P	H
		5706	63.73	-43.25	106.98	47.78	35.03	11.73	30.81	355	211	P	H
		5721.6	61.63	-52.92	114.55	45.62	35.08	11.75	30.82	355	211	P	H
		5853.6	71.31	-42.78	114.09	54.93	35.37	11.88	30.87	355	211	P	H
		5857.6	71.56	-38.61	110.17	55.19	35.37	11.88	30.88	355	211	P	H
		5878	67.03	-36.04	103.07	50.65	35.38	11.89	30.89	355	211	P	H
		5925.6	58.62	-9.68	68.3	42.15	35.43	11.94	30.9	355	211	P	H
		5800	114.14	-	-	97.88	35.3	11.81	30.85	355	211	P	H
		5800	107.7	-	-	91.44	35.3	11.81	30.85	355	211	A	H
		5648.8	62.02	-6.28	68.3	46.33	34.81	11.66	30.78	185	86	P	V
		5689.2	65.65	-31.69	97.34	49.77	34.97	11.71	30.8	185	86	P	V
		5716.4	70.15	-39.74	109.89	54.2	35.03	11.73	30.81	185	86	P	V
		5721.6	73.47	-41.08	114.55	57.46	35.08	11.75	30.82	185	86	P	V
		5852.4	80.79	-36.04	116.83	64.45	35.35	11.86	30.87	185	86	P	V
		5864.8	79.73	-28.42	108.15	63.36	35.37	11.88	30.88	185	86	P	V
		5878.8	74.63	-27.85	102.48	58.25	35.38	11.89	30.89	185	86	P	V
		5949.6	63.37	-4.93	68.3	46.87	35.45	11.96	30.91	185	86	P	V
		5800	122.27	-	-	106.01	35.3	11.81	30.85	185	86	P	V
		5800	116.06	-	-	99.8	35.3	11.81	30.85	185	86	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT40 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	50.88	-23.12	74	56.01	38.2	17.1	60.43	300	0	P	H
		17265	60.39	-7.91	68.3	55.09	42.12	21.05	57.87	310	313	P	H
		11509.5	49.07	-24.93	74	54.2	38.2	17.1	60.43	300	0	P	V
		17265	60.06	-8.24	68.3	54.76	42.12	21.05	57.87	124	310	P	V
802.11n HT40 CH 159 5795MHz		11590	52.14	-21.86	74	57.03	38.32	17.16	60.37	212	29	P	H
		11590	44.42	-9.58	54	49.31	38.32	17.16	60.37	212	29	A	H
		17385	59.7	-8.6	68.3	54.36	41.91	21.15	57.72	187	316	P	H
		11590	49.7	-24.3	74	54.59	38.32	17.16	60.37	300	0	P	V
		17385	57.5	-10.8	68.3	52.16	41.91	21.15	57.72	152	311	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5650	64.85	-3.45	68.3	49.09	34.86	11.68	30.78	377	222	P	H
		5696	74.29	-28.06	102.35	58.41	34.97	11.71	30.8	377	222	P	H
		5702.8	78.89	-27.2	106.09	62.94	35.03	11.73	30.81	377	222	P	H
		5720.8	82.26	-30.46	112.72	66.24	35.08	11.75	30.81	377	222	P	H
		5851.2	78.79	-40.77	119.56	62.45	35.35	11.86	30.87	377	222	P	H
		5860.4	75.16	-34.23	109.39	58.79	35.37	11.88	30.88	377	222	P	H
		5875.6	71.06	-33.79	104.85	54.68	35.38	11.89	30.89	377	222	P	H
		5938	61.5	-6.8	68.3	45.04	35.43	11.94	30.91	377	222	P	H
		5776	109.67	-	-	93.47	35.25	11.79	30.84	377	222	P	H
		5776	102.23	-	-	86.03	35.25	11.79	30.84	377	222	A	H
		5647.6	67.42	-0.88	68.3	51.73	34.81	11.66	30.78	190	104	P	V
		5688	83.96	-12.49	96.45	68.08	34.97	11.71	30.8	190	104	P	V
		5718.4	87.18	-23.27	110.45	71.16	35.08	11.75	30.81	190	104	P	V
		5723.2	85.42	-32.78	118.2	69.41	35.08	11.75	30.82	190	104	P	V
		5850	82.71	-39.59	122.3	66.37	35.35	11.86	30.87	190	104	P	V
		5856.8	81.38	-29.02	110.4	65.01	35.37	11.88	30.88	190	104	P	V
		5880.8	76.31	-24.68	100.99	59.93	35.38	11.89	30.89	190	104	P	V
		5925.6	65.92	-2.38	68.3	49.45	35.43	11.94	30.9	190	104	P	V
		5758	115.72	-	-	99.58	35.19	11.78	30.83	190	104	P	V
		5758	109.98	-	-	93.84	35.19	11.78	30.83	190	104	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11550	48.54	-25.46	74	53.53	38.27	17.13	60.39	300	0	P	H
VHT80		17325	58.03	-10.27	68.3	52.72	42.03	21.09	57.81	100	0	P	H
CH 155		11550	46.82	-27.18	74	51.81	38.27	17.13	60.39	300	0	P	V
5775MHz		17325	55.77	-12.53	68.3	50.46	42.03	21.09	57.81	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 149 5745MHz		5603.6	57.66	-10.64	68.3	42.09	34.7	11.63	30.76	286	138	P	H
		5691.6	69.21	-29.9	99.11	53.33	34.97	11.71	30.8	286	138	P	H
		5719.6	82.82	-27.97	110.79	66.8	35.08	11.75	30.81	286	138	P	H
		5723.6	87.76	-31.35	119.11	71.75	35.08	11.75	30.82	286	138	P	H
		5746	118.01	-	-	101.94	35.14	11.76	30.83	286	138	P	H
		5746	111.89	-	-	95.82	35.14	11.76	30.83	286	138	A	H
		5601.2	61.76	-6.54	68.3	46.19	34.7	11.63	30.76	190	269	P	V
		5696.8	74.13	-28.81	102.94	58.25	34.97	11.71	30.8	190	269	P	V
		5719.6	87.67	-23.12	110.79	71.65	35.08	11.75	30.81	190	269	P	V
		5724.8	96.24	-25.6	121.84	80.23	35.08	11.75	30.82	190	269	P	V
		5746	124.09	-	-	108.02	35.14	11.76	30.83	190	269	P	V
		5746	117.41	-	-	101.34	35.14	11.76	30.83	190	269	A	V
802.11ax HE20 Full CH 157 5785MHz		5618.8	57.69	-10.61	68.3	42.06	34.75	11.65	30.77	278	360	P	H
		5690.4	58.63	-39.59	98.22	42.75	34.97	11.71	30.8	278	360	P	H
		5719.6	58.32	-52.47	110.79	42.3	35.08	11.75	30.81	278	360	P	H
		5722	58.26	-57.2	115.46	42.25	35.08	11.75	30.82	278	360	P	H
		5851.6	61.78	-56.87	118.65	45.44	35.35	11.86	30.87	278	360	P	H
		5862	58.34	-50.6	108.94	41.97	35.37	11.88	30.88	278	360	P	H
		5919.2	57.92	-14.66	72.58	41.47	35.42	11.93	30.9	278	360	P	H
		5968.4	57.57	-10.73	68.3	41.03	35.47	11.98	30.91	278	360	P	H
		5788	117.62	-	-	101.35	35.3	11.81	30.84	278	360	P	H
		5788	111.43	-	-	95.16	35.3	11.81	30.84	278	360	A	H
		5624	61.97	-6.33	68.3	46.34	34.75	11.65	30.77	241	272	P	V
		5653.6	61	-9.97	70.97	45.24	34.86	11.68	30.78	241	272	P	V
		5719.2	64.49	-46.19	110.68	48.47	35.08	11.75	30.81	241	272	P	V
		5724.4	62.92	-58.01	120.93	46.91	35.08	11.75	30.82	241	272	P	V
		5850	67.55	-54.75	122.3	51.21	35.35	11.86	30.87	241	272	P	V
		5859.2	63.14	-46.58	109.72	46.77	35.37	11.88	30.88	241	272	P	V
		5876.4	61.35	-42.91	104.26	44.97	35.38	11.89	30.89	241	272	P	V
		5948	61.16	-7.14	68.3	44.66	35.45	11.96	30.91	241	272	P	V



		5788	123.92	-	-	107.65	35.3	11.81	30.84	241	272	P	V
		5788	117.63	-	-	101.36	35.3	11.81	30.84	241	272	A	V
802.11ax HE20 Full CH 165 5825MHz		5850.4	80.37	-41.02	121.39	64.03	35.35	11.86	30.87	243	132	P	H
		5855.6	76.17	-34.56	110.73	59.8	35.37	11.88	30.88	243	132	P	H
		5877.6	66.54	-36.83	103.37	50.16	35.38	11.89	30.89	243	132	P	H
		5930	58.15	-10.15	68.3	41.68	35.43	11.94	30.9	243	132	P	H
		5824	118.31	-	-	102	35.33	11.84	30.86	243	132	P	H
		5824	110.95	-	-	94.64	35.33	11.84	30.86	243	132	A	H
		5851.2	84.96	-34.6	119.56	68.62	35.35	11.86	30.87	192	82	P	V
		5858.4	83.28	-26.67	109.95	66.91	35.37	11.88	30.88	192	82	P	V
		5883.6	72.78	-26.13	98.91	56.4	35.38	11.89	30.89	192	82	P	V
		5932.8	60.82	-7.48	68.3	44.36	35.43	11.94	30.91	192	82	P	V
		5824	124.12	-	-	107.81	35.33	11.84	30.86	192	82	P	V
		5824	117.84	-	-	101.53	35.33	11.84	30.86	192	82	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20 Full (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 149 5745MHz		11490	59.33	-14.67	74	64.49	38.19	17.08	60.43	256	102	P	H
		11490	50.46	-3.54	54	55.62	38.19	17.08	60.43	256	102	A	H
		17235	65.83	-2.47	68.3	60.53	42.18	21.03	57.91	280	314	P	H
		11490	55.95	-18.05	74	61.11	38.19	17.08	60.43	100	127	P	V
		11490	46.17	-7.83	54	51.33	38.19	17.08	60.43	100	127	A	V
		17238	64.89	-3.41	68.3	59.59	42.18	21.03	57.91	184	311	P	V
802.11ax HE20 Full CH 157 5785MHz		11570	57.76	-16.24	74	62.69	38.3	17.15	60.38	190	100	P	H
		11570	48.71	-5.29	54	53.64	38.3	17.15	60.38	190	100	A	H
		17355	61.41	-6.89	68.3	56.09	41.97	21.12	57.77	100	0	P	H
		11570	56.08	-17.92	74	61.01	38.3	17.15	60.38	100	126	P	V
		11570	46.81	-7.19	54	51.74	38.3	17.15	60.38	100	126	A	V
		17355	66.9	-1.4	68.3	61.58	41.97	21.12	57.77	162	311	P	V
802.11ax HE20 Full CH 165 5825MHz		11650	56.9	-17.1	74	61.64	38.39	17.2	60.33	179	81	P	H
		11650	48.05	-5.95	54	52.79	38.39	17.2	60.33	179	81	A	H
		17475	64.36	-3.94	68.3	59.01	41.76	21.21	57.62	298	307	P	H
		11650	58.53	-15.47	74	63.27	38.39	17.2	60.33	100	118	P	V
		11650	48.17	-5.83	54	52.91	38.39	17.2	60.33	100	118	A	V
		17475	64.8	-3.5	68.3	59.45	41.76	21.21	57.62	161	299	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Partial 26 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 26/0 CH 149 5745MHz		5636	56.26	-12.04	68.3	40.56	34.81	11.66	30.77	284	140	P	H
		5698.4	56.47	-47.65	104.12	40.59	34.97	11.71	30.8	284	140	P	H
		5718.8	65.86	-44.7	110.56	49.84	35.08	11.75	30.81	284	140	P	H
		5721.6	56.73	-57.82	114.55	40.72	35.08	11.75	30.82	284	140	P	H
		5734	116.48	-	-	100.47	35.08	11.75	30.82	284	140	P	H
		5734	108.61	-	-	92.6	35.08	11.75	30.82	284	140	A	H
		5645.6	58.49	-9.81	68.3	42.8	34.81	11.66	30.78	190	112	P	V
		5699.6	60.62	-44.39	105.01	44.74	34.97	11.71	30.8	190	112	P	V
		5703.2	61.69	-44.51	106.2	45.74	35.03	11.73	30.81	190	112	P	V
		5724	67.86	-52.16	120.02	51.85	35.08	11.75	30.82	190	112	P	V
		5734	121.09	-	-	105.08	35.08	11.75	30.82	190	112	P	V
		5734	115.28	-	-	99.27	35.08	11.75	30.82	190	112	A	V
802.11ax HE20 Partial 26/8 CH 165 5825MHz		5851.2	57.56	-62	119.56	41.22	35.35	11.86	30.87	257	327	P	H
		5873.6	56.68	-49.01	105.69	40.3	35.38	11.89	30.89	257	327	P	H
		5901.2	57.66	-28.21	85.87	41.24	35.4	11.91	30.89	257	327	P	H
		5935.2	56.72	-11.58	68.3	40.26	35.43	11.94	30.91	257	327	P	H
		5830	113.49	-	-	97.18	35.33	11.84	30.86	257	327	P	H
		5830	107.39	-	-	91.08	35.33	11.84	30.86	257	327	A	H
		5852.4	65.37	-51.46	116.83	49.03	35.35	11.86	30.87	192	83	P	V
		5856	65.21	-45.41	110.62	48.84	35.37	11.88	30.88	192	83	P	V
		5900.8	58.83	-27.34	86.17	42.41	35.4	11.91	30.89	192	83	P	V
		5932	58.13	-10.17	68.3	41.67	35.43	11.94	30.91	192	83	P	V
		5836	122.13	-	-	105.83	35.33	11.84	30.87	192	83	P	V
		5836	114.5	-	-	98.2	35.33	11.84	30.87	192	83	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Partial 52 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 52/37 CH 149 5745MHz		5612.8	56.36	-11.94	68.3	40.8	34.7	11.63	30.77	286	137	P	H
		5674	57.52	-28.58	86.1	41.69	34.92	11.7	30.79	286	137	P	H
		5712.8	61.43	-47.46	108.89	45.48	35.03	11.73	30.81	286	137	P	H
		5724.8	61.8	-60.04	121.84	45.79	35.08	11.75	30.82	286	137	P	H
		5734	116.22	-	-	100.21	35.08	11.75	30.82	286	137	P	H
		5734	109.04	-	-	93.03	35.08	11.75	30.82	286	137	A	H
		5602.8	60.61	-7.69	68.3	45.04	34.7	11.63	30.76	186	113	P	V
		5666.8	60.87	-19.9	80.77	45.04	34.92	11.7	30.79	186	113	P	V
		5701.2	61.79	-43.85	105.64	45.83	35.03	11.73	30.8	186	113	P	V
		5724	65.42	-54.6	120.02	49.41	35.08	11.75	30.82	186	113	P	V
		5740	122.38	-	-	106.3	35.14	11.76	30.82	186	113	P	V
		5740	115.11	-	-	99.03	35.14	11.76	30.82	186	113	A	V
802.11ax HE20 Partial 52/40 CH 165 5825MHz		5853.2	57.38	-57.62	115	41.04	35.35	11.86	30.87	256	327	P	H
		5863.6	57.49	-51	108.49	41.12	35.37	11.88	30.88	256	327	P	H
		5894.8	56.99	-33.62	90.61	40.57	35.4	11.91	30.89	256	327	P	H
		5932	57.34	-10.96	68.3	40.88	35.43	11.94	30.91	256	327	P	H
		5830	115.16	-	-	98.85	35.33	11.84	30.86	256	327	P	H
		5830	107.35	-	-	91.04	35.33	11.84	30.86	256	327	A	H
		5854.8	58.93	-52.43	111.36	42.56	35.37	11.88	30.88	181	87	P	V
		5861.6	60.67	-48.38	109.05	44.3	35.37	11.88	30.88	181	87	P	V
		5898.8	60.09	-27.56	87.65	43.67	35.4	11.91	30.89	181	87	P	V
		5938	58	-10.3	68.3	41.54	35.43	11.94	30.91	181	87	P	V
		5830	121.43	-	-	105.12	35.33	11.84	30.86	181	87	P	V
		5830	115.68	-	-	99.37	35.33	11.84	30.86	181	87	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Partial 106 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 106/53 CH 149 5745MHz		5613.6	57.74	-10.56	68.3	42.18	34.7	11.63	30.77	286	144	P	H
		5665.2	58.18	-21.4	79.58	42.43	34.86	11.68	30.79	286	144	P	H
		5718	67.44	-42.9	110.34	51.42	35.08	11.75	30.81	286	144	P	H
		5724.8	73.07	-48.77	121.84	57.06	35.08	11.75	30.82	286	144	P	H
		5740	116.75	-	-	100.67	35.14	11.76	30.82	286	144	P	H
		5740	109.34	-	-	93.26	35.14	11.76	30.82	286	144	A	H
		5613.6	61.31	-6.99	68.3	45.75	34.7	11.63	30.77	174	113	P	V
		5671.6	63.39	-20.93	84.32	47.56	34.92	11.7	30.79	174	113	P	V
		5717.6	78.08	-32.15	110.23	62.06	35.08	11.75	30.81	174	113	P	V
		5721.6	82.13	-32.42	114.55	66.12	35.08	11.75	30.82	174	113	P	V
		5740	125.22	-	-	109.14	35.14	11.76	30.82	174	113	P	V
		5740	118.11	-	-	102.03	35.14	11.76	30.82	174	113	A	V
802.11ax HE20 Partial 106/54 CH 165 5825MHz		5854.8	65.21	-46.15	111.36	48.84	35.37	11.88	30.88	266	134	P	H
		5860.97	66.2	-43.03	109.23	49.83	35.37	11.88	30.88	266	134	P	H
		5887.6	57.48	-38.47	95.95	41.06	35.4	11.91	30.89	266	134	P	H
		5990	58.1	-10.2	68.3	41.52	35.5	12.01	30.93	266	134	P	H
		5830	118.72	-	-	102.41	35.33	11.84	30.86	266	134	P	H
		5830	110.69	-	-	94.38	35.33	11.84	30.86	266	134	A	H
		5854.8	68.18	-43.18	111.36	51.81	35.37	11.88	30.88	171	71	P	V
		5864.4	64.92	-43.35	108.27	48.55	35.37	11.88	30.88	171	71	P	V
		5898.4	60.24	-27.71	87.95	43.82	35.4	11.91	30.89	171	71	P	V
		5981.2	58.67	-9.63	68.3	42.12	35.48	11.99	30.92	171	71	P	V
		5830	124.74	-	-	108.43	35.33	11.84	30.86	171	71	P	V
		5830	117.11	-	-	100.8	35.33	11.84	30.86	171	71	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 151 5755MHz		5644	59.82	-8.48	68.3	44.12	34.81	11.66	30.77	314	142	P	H
		5692.8	73.38	-26.61	99.99	57.5	34.97	11.71	30.8	314	142	P	H
		5719.2	89.28	-21.4	110.68	73.26	35.08	11.75	30.81	314	142	P	H
		5721.2	83.06	-30.58	113.64	67.04	35.08	11.75	30.81	314	142	P	H
		5852	65.81	-51.93	117.74	49.47	35.35	11.86	30.87	314	142	P	H
		5868	62.89	-44.37	107.26	46.52	35.37	11.88	30.88	314	142	P	H
		5899.6	60.07	-26.99	87.06	43.65	35.4	11.91	30.89	314	142	P	H
		5928.4	57.61	-10.69	68.3	41.14	35.43	11.94	30.9	314	142	P	H
		5752	114.15	-	-	98.01	35.19	11.78	30.83	314	142	P	H
		5752	107.43	-	-	91.29	35.19	11.78	30.83	314	142	A	H
		5648	65.76	-2.54	68.3	50.07	34.81	11.66	30.78	186	106	P	V
		5651.2	67.69	-1.5	69.19	51.93	34.86	11.68	30.78	186	106	P	V
		5717.6	93.16	-17.07	110.23	77.14	35.08	11.75	30.81	186	106	P	V
		5722.8	91.62	-25.66	117.28	75.61	35.08	11.75	30.82	186	106	P	V
		5851.6	74.96	-43.69	118.65	58.62	35.35	11.86	30.87	186	106	P	V
		5857.6	65.34	-44.83	110.17	48.97	35.37	11.88	30.88	186	106	P	V
		5880.8	62.59	-38.4	100.99	46.21	35.38	11.89	30.89	186	106	P	V
		5941.2	58.94	-9.36	68.3	42.44	35.45	11.96	30.91	186	106	P	V
		5752	121.96	-	-	105.82	35.19	11.78	30.83	186	106	P	V
		5752	115.15	-	-	99.01	35.19	11.78	30.83	186	106	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 159 5795MHz		5645.6	58.93	-9.37	68.3	43.24	34.81	11.66	30.78	214	330	P	H
		5699.98	63.95	-41.34	105.29	48.07	34.97	11.71	30.8	214	330	P	H
		5717.6	64.41	-45.82	110.23	48.39	35.08	11.75	30.81	214	330	P	H
		5722.4	68.21	-48.16	116.37	52.2	35.08	11.75	30.82	214	330	P	H
		5850.4	74.7	-46.69	121.39	58.36	35.35	11.86	30.87	214	330	P	H
		5861.2	74.94	-34.22	109.16	58.57	35.37	11.88	30.88	214	330	P	H
		5920	68.13	-3.86	71.99	51.68	35.42	11.93	30.9	214	330	P	H
		5940.4	63.04	-5.26	68.3	46.54	35.45	11.96	30.91	214	330	P	H
		5794	115.33	-	-	99.06	35.3	11.81	30.84	214	330	P	H
		5794	108.75	-	-	92.48	35.3	11.81	30.84	214	330	A	H
		5643.2	61.45	-6.85	68.3	45.75	34.81	11.66	30.77	245	277	P	V
		5692.4	70.22	-29.48	99.7	54.34	34.97	11.71	30.8	245	277	P	V
		5712	75.15	-33.51	108.66	59.2	35.03	11.73	30.81	245	277	P	V
		5721.6	73.84	-40.71	114.55	57.83	35.08	11.75	30.82	245	277	P	V
		5852.8	85.15	-30.77	115.92	68.81	35.35	11.86	30.87	245	277	P	V
		5862	79.33	-29.61	108.94	62.96	35.37	11.88	30.88	245	277	P	V
		5878	74.25	-28.82	103.07	57.87	35.38	11.89	30.89	245	277	P	V
		5934	67.07	-1.23	68.3	50.61	35.43	11.94	30.91	245	277	P	V
		5794	121.75	-	-	105.48	35.3	11.81	30.84	245	277	P	V
		5794	114.35	-	-	98.08	35.3	11.81	30.84	245	277	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 151 5755MHz		11510	56.17	-17.83	74	61.3	38.2	17.1	60.43	152	143	P	H
		11510	47.27	-6.73	54	52.4	38.2	17.1	60.43	152	143	A	H
		17268	65.65	-2.65	68.3	60.35	42.12	21.05	57.87	278	311	P	H
		11510	51.78	-22.22	74	56.91	38.2	17.1	60.43	100	123	P	V
		11510	43.72	-10.28	54	48.85	38.2	17.1	60.43	100	123	A	V
		17265	63.2	-5.1	68.3	57.9	42.12	21.05	57.87	185	317	P	V
802.11ax HE40 Full CH 159 5795MHz		11590	54.73	-19.27	74	59.62	38.32	17.16	60.37	181	146	P	H
		11590	45.07	-8.93	54	49.96	38.32	17.16	60.37	181	146	A	H
		17385	62.11	-6.19	68.3	56.77	41.91	21.15	57.72	187	311	P	H
		11590	51.37	-22.63	74	56.26	38.32	17.16	60.37	100	125	P	V
		11590	44.09	-9.91	54	48.98	38.32	17.16	60.37	100	125	A	V
		17385	59.69	-8.61	68.3	54.35	41.91	21.15	57.72	100	273	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Partial 242 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Partial 242/61 CH 151 5755MHz		5629.6	58.43	-9.87	68.3	42.8	34.75	11.65	30.77	313	137	P	H
		5698	66.47	-37.36	103.83	50.59	34.97	11.71	30.8	313	137	P	H
		5716.4	81.28	-28.61	109.89	65.33	35.03	11.73	30.81	313	137	P	H
		5721.6	83.23	-31.32	114.55	67.22	35.08	11.75	30.82	313	137	P	H
		5852.8	58.88	-57.04	115.92	42.54	35.35	11.86	30.87	313	137	P	H
		5866.8	56.98	-50.61	107.59	40.61	35.37	11.88	30.88	313	137	P	H
		5891.2	57.81	-35.47	93.28	41.39	35.4	11.91	30.89	313	137	P	H
		5950	56.68	-11.62	68.3	40.18	35.45	11.96	30.91	313	137	P	H
		5752	116.57	-	-	100.43	35.19	11.78	30.83	313	137	P	H
		5752	109.24	-	-	93.1	35.19	11.78	30.83	313	137	A	H
		5629.6	63.81	-4.49	68.3	48.18	34.75	11.65	30.77	186	105	P	V
		5692.4	73.77	-25.93	99.7	57.89	34.97	11.71	30.8	186	105	P	V
		5717.6	88.32	-21.91	110.23	72.3	35.08	11.75	30.81	186	105	P	V
		5723.2	88.2	-30	118.2	72.19	35.08	11.75	30.82	186	105	P	V
		5852.4	59.43	-57.4	116.83	43.09	35.35	11.86	30.87	186	105	P	V
		5860.4	61.05	-48.34	109.39	44.68	35.37	11.88	30.88	186	105	P	V
		5916	60.75	-14.19	74.94	44.3	35.42	11.93	30.9	186	105	P	V
		5969.2	59.94	-8.36	68.3	43.41	35.47	11.98	30.92	186	105	P	V
		5752	125.03	-	-	108.89	35.19	11.78	30.83	186	105	P	V
		5752	117.12	-	-	100.98	35.19	11.78	30.83	186	105	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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Partial 242/62 CH 159 5795MHz		5612.4	58.64	-9.66	68.3	43.08	34.7	11.63	30.77	271	136	P	H
		5690.8	56.84	-41.68	98.52	40.96	34.97	11.71	30.8	271	136	P	H
		5718	59.11	-51.23	110.34	43.09	35.08	11.75	30.81	271	136	P	H
		5721.6	61.06	-53.49	114.55	45.05	35.08	11.75	30.82	271	136	P	H
		5850.8	71.24	-49.24	120.48	54.9	35.35	11.86	30.87	271	136	P	H
		5862.4	67.73	-41.1	108.83	51.36	35.37	11.88	30.88	271	136	P	H
		5875.96	59.61	-44.98	104.59	43.23	35.38	11.89	30.89	271	136	P	H
		5964	57.45	-10.85	68.3	40.91	35.47	11.98	30.91	271	136	P	H
		5794	115.95	-	-	99.68	35.3	11.81	30.84	271	136	P	H
		5794	109.2	-	-	92.93	35.3	11.81	30.84	271	136	A	H
		5632.8	62.85	-5.45	68.3	47.15	34.81	11.66	30.77	182	107	P	V
		5692	62.97	-36.43	99.4	47.09	34.97	11.71	30.8	182	107	P	V
		5706.8	66.12	-41.09	107.21	50.17	35.03	11.73	30.81	182	107	P	V
		5722.8	70.25	-47.03	117.28	54.24	35.08	11.75	30.82	182	107	P	V
		5850.4	67.12	-54.27	121.39	50.78	35.35	11.86	30.87	182	107	P	V
		5862.4	74.51	-34.32	108.83	58.14	35.37	11.88	30.88	182	107	P	V
		5877.2	68.01	-35.66	103.67	51.63	35.38	11.89	30.89	182	107	P	V
		5946.4	60.07	-8.23	68.3	43.57	35.45	11.96	30.91	182	107	P	V
		5800	122.15	-	-	105.89	35.3	11.81	30.85	182	107	P	V
		5800	116.12	-	-	99.86	35.3	11.81	30.85	182	107	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE80 Full CH 155 5775MHz		5648	61.07	-7.23	68.3	45.38	34.81	11.66	30.78	295	138	P	H
		5698.8	73.02	-31.4	104.42	57.14	34.97	11.71	30.8	295	138	P	H
		5719.2	77.25	-33.43	110.68	61.23	35.08	11.75	30.81	295	138	P	H
		5724	76.15	-43.87	120.02	60.14	35.08	11.75	30.82	295	138	P	H
		5851.32	72.81	-46.48	119.29	56.47	35.35	11.86	30.87	295	138	P	H
		5869.2	73.94	-32.98	106.92	57.57	35.37	11.88	30.88	295	138	P	H
		5877.2	70.71	-32.96	103.67	54.33	35.38	11.89	30.89	295	138	P	H
		5926.8	60.43	-7.87	68.3	43.96	35.43	11.94	30.9	295	138	P	H
		5770	110.13	-	-	93.93	35.25	11.79	30.84	295	138	P	H
		5770	103.73	-	-	87.53	35.25	11.79	30.84	295	138	A	H
		5647.2	67.22	-1.08	68.3	51.53	34.81	11.66	30.78	184	277	P	V
		5696.8	79.74	-23.2	102.94	63.86	34.97	11.71	30.8	184	277	P	V
		5718.4	82.69	-27.76	110.45	66.67	35.08	11.75	30.81	184	277	P	V
		5723.6	84.81	-34.3	119.11	68.8	35.08	11.75	30.82	184	277	P	V
		5851.2	80.87	-38.69	119.56	64.53	35.35	11.86	30.87	184	277	P	V
		5870.8	77.27	-29.2	106.47	60.88	35.38	11.89	30.88	184	277	P	V
		5876	74.9	-29.66	104.56	58.52	35.38	11.89	30.89	184	277	P	V
		5932	64.83	-3.47	68.3	48.37	35.43	11.94	30.91	184	277	P	V
		5776	117.46	-	-	101.26	35.25	11.79	30.84	184	277	P	V
		5776	110.2	-	-	94	35.25	11.79	30.84	184	277	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11ax HE80_Full (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax		11550	48.58	-25.42	74	53.57	38.27	17.13	60.39	300	0	P	H
HE80 Full		17325	60.08	-8.22	68.3	54.77	42.03	21.09	57.81	306	306	P	H
CH 155		11550	48.25	-25.75	74	53.24	38.27	17.13	60.39	300	0	P	V
5775MHz		17325	58.36	-9.94	68.3	53.05	42.03	21.09	57.81	191	295	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Partial 484 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE80 Partial 484/65 CH 155 5775MHz		5642.4	59.88	-8.42	68.3	44.18	34.81	11.66	30.77	257	136	P	H
		5692.4	73.11	-26.59	99.7	57.23	34.97	11.71	30.8	257	136	P	H
		5717.6	78.11	-32.12	110.23	62.09	35.08	11.75	30.81	257	136	P	H
		5722.8	79.79	-37.49	117.28	63.78	35.08	11.75	30.82	257	136	P	H
		5852.4	72.83	-44	116.83	56.49	35.35	11.86	30.87	257	136	P	H
		5857.2	70.23	-40.05	110.28	53.86	35.37	11.88	30.88	257	136	P	H
		5877.2	64.05	-39.62	103.67	47.67	35.38	11.89	30.89	257	136	P	H
		5932.8	62.12	-6.18	68.3	45.66	35.43	11.94	30.91	257	136	P	H
		5770	112.1	-	-	95.9	35.25	11.79	30.84	257	136	P	H
		5770	104.74	-	-	88.54	35.25	11.79	30.84	257	136	A	H
		5646.8	67.54	-0.76	68.3	51.85	34.81	11.66	30.78	183	100	P	V
		5700	80.66	-24.64	105.3	64.78	34.97	11.71	30.8	183	100	P	V
		5716	87.16	-22.62	109.78	71.21	35.03	11.73	30.81	183	100	P	V
		5720.8	86.26	-26.46	112.72	70.24	35.08	11.75	30.81	183	100	P	V
		5850.8	75.48	-45	120.48	59.14	35.35	11.86	30.87	183	100	P	V
		5860	77.28	-32.22	109.5	60.91	35.37	11.88	30.88	183	100	P	V
		5876.4	73.24	-31.02	104.26	56.86	35.38	11.89	30.89	183	100	P	V
		5925.2	64.9	-3.4	68.3	48.43	35.43	11.94	30.9	183	100	P	V
		5770	120.17	-	-	103.97	35.25	11.79	30.84	183	100	P	V
		5770	111.91	-	-	95.71	35.25	11.79	30.84	183	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE80 Partial 484/66 CH 155 5775MHz		5642.4	61.31	-6.99	68.3	45.61	34.81	11.66	30.77	278	138	P	H
		5697.6	76.23	-27.3	103.53	60.35	34.97	11.71	30.8	278	138	P	H
		5717.2	81.13	-28.99	110.12	65.18	35.03	11.73	30.81	278	138	P	H
		5723.6	82.33	-36.78	119.11	66.32	35.08	11.75	30.82	278	138	P	H
		5852.4	72.73	-44.1	116.83	56.39	35.35	11.86	30.87	278	138	P	H
		5857.6	71.8	-38.37	110.17	55.43	35.37	11.88	30.88	278	138	P	H
		5881.2	65.31	-35.38	100.69	48.93	35.38	11.89	30.89	278	138	P	H
		5948.8	61.24	-7.06	68.3	44.74	35.45	11.96	30.91	278	138	P	H
		5782	112.66	-	-	96.46	35.25	11.79	30.84	278	138	P	H
		5782	105.68	-	-	89.48	35.25	11.79	30.84	278	138	A	H
		5646.4	67.36	-0.94	68.3	51.67	34.81	11.66	30.78	162	107	P	V
		5698	78.32	-25.51	103.83	62.44	34.97	11.71	30.8	162	107	P	V
		5720	81.61	-29.29	110.9	65.59	35.08	11.75	30.81	162	107	P	V
		5721.6	84.8	-29.75	114.55	68.79	35.08	11.75	30.82	162	107	P	V
		5852.8	74.4	-41.52	115.92	58.06	35.35	11.86	30.87	162	107	P	V
		5856.8	78.81	-31.59	110.4	62.44	35.37	11.88	30.88	162	107	P	V
		5879.6	70.96	-30.92	101.88	54.58	35.38	11.89	30.89	162	107	P	V
		5935.2	62.1	-6.2	68.3	45.64	35.43	11.94	30.91	162	107	P	V
		5782	118.85	-	-	102.65	35.25	11.79	30.84	162	107	P	V
		5782	111.78	-	-	95.58	35.25	11.79	30.84	162	107	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	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 LF		30	19.21	-20.79	40	25.5	25.1	0.81	32.2	-	-	P	H
		60.07	20.47	-19.53	40	39.34	11.9	1.33	32.1	-	-	P	H
		128.94	16.36	-27.14	43.5	28.92	17.6	1.98	32.14	-	-	P	H
		157.07	17.03	-26.47	43.5	30.26	16.68	2.19	32.1	-	-	P	H
		186.17	16.6	-26.9	43.5	31.4	14.92	2.38	32.1	-	-	P	H
		769.14	32.44	-13.56	46	31.72	28.2	4.82	32.3	100	0	P	H
		30	23.57	-16.43	40	29.86	25.1	0.81	32.2	-	-	P	V
		59.1	25.19	-14.81	40	43.84	12.15	1.32	32.12	-	-	P	V
		132.82	21.89	-21.61	43.5	34.44	17.57	2.01	32.13	-	-	P	V
		184.23	23.54	-19.96	43.5	38.29	14.98	2.37	32.1	-	-	P	V
		750.71	33.1	-12.9	46	32.44	28.2	4.76	32.3	100	0	P	V
		860.32	27.68	-18.32	46	25.69	29.26	5.09	32.36	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	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	Path	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. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

$$\begin{aligned}
 &1. \text{ Level(dB}\mu\text{V/m)} \\
 &= \text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)} \\
 &= 32.22(\text{dB/m}) + 4.58(\text{dB}) + 54.51(\text{dB}\mu\text{V}) - 35.86(\text{dB}) \\
 &= 55.45(\text{dB}\mu\text{V/m}) \\
 &2. \text{ Over Limit(dB)} \\
 &= \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)} \\
 &= 55.45(\text{dB}\mu\text{V/m}) - 74(\text{dB}\mu\text{V/m)} \\
 &= -18.55(\text{dB})
 \end{aligned}$$

For Average Limit @ 2390MHz:

$$\begin{aligned}
 &1. \text{ Level(dB}\mu\text{V/m)} \\
 &= \text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)} \\
 &= 32.22(\text{dB/m}) + 4.58(\text{dB}) + 42.6(\text{dB}\mu\text{V}) - 35.86(\text{dB}) \\
 &= 43.54(\text{dB}\mu\text{V/m}) \\
 &2. \text{ Over Limit(dB)} = \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)} \\
 &= 43.54(\text{dB}\mu\text{V/m}) - 54(\text{dB}\mu\text{V/m)} \\
 &= -10.46(\text{dB})
 \end{aligned}$$

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

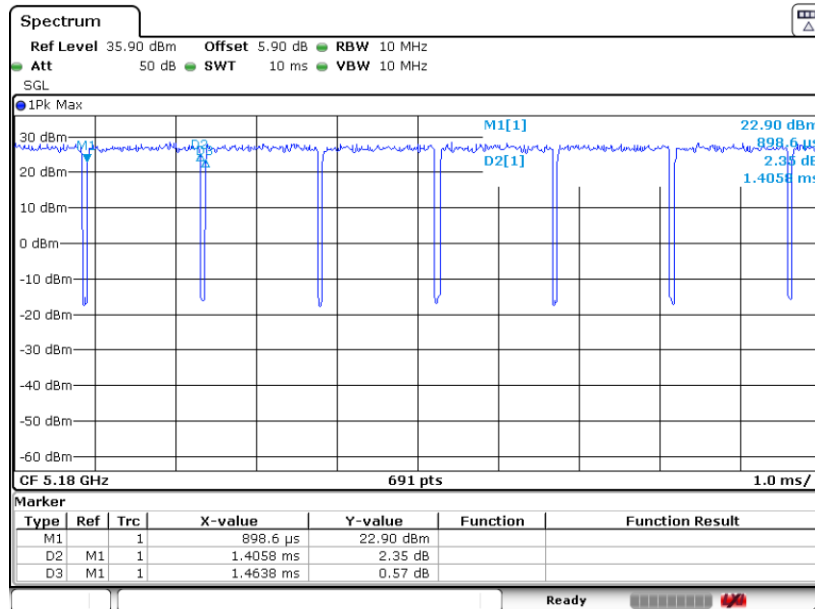


Appendix D. Duty Cycle Plots

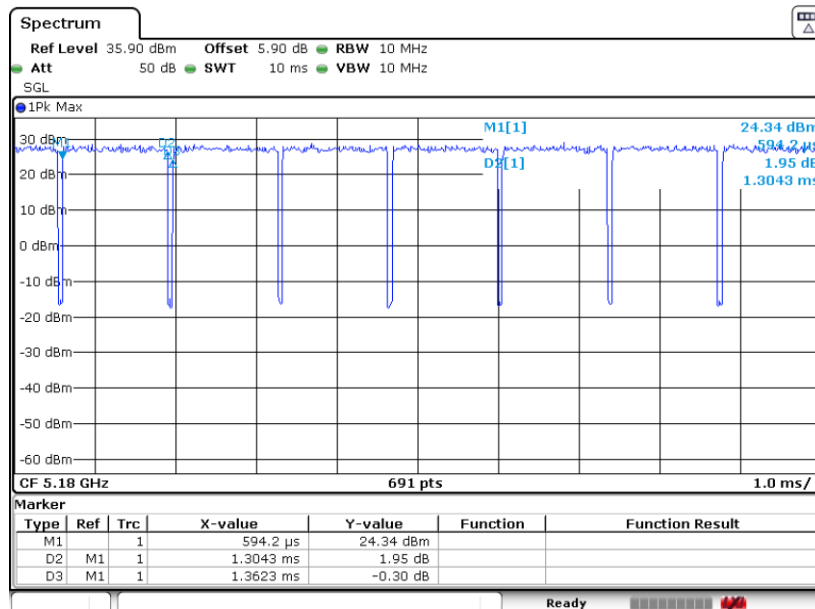
Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2(2)	802.11a	96.04	1.4058	0.7113	0.75kHz
1+2(1)	802.11n HT20	95.74	1.3043	0.7667	0.82kHz
1+2(1)	802.11n HT40	91.80	0.6493	1.5402	1.6kHz
1+2(1)	802.11ac VHT80	84.85	0.3246	3.0803	3.3kHz
1+2(1)	802.11ax HE20	84.50	0.3159	3.1652	3.3kHz
1+2(1)	802.11ax HE20 (Partial RU26)	96.15	1.4478	0.6907	0.75kHz
1+2(1)	802.11ax HE20 (Partial RU52)	94.02	0.9116	1.0970	1.1kHz
1+2(1)	802.11ax HE20 (Partial RU106)	91.47	0.6217	1.6084	1.8kHz
1+2(1)	802.11ax HE40	84.38	0.3130	3.1945	3.3kHz
1+2(1)	802.11ax HE40 (Partial RU242)	88.46	0.4667	2.1428	2.2kHz
1+2(2)	802.11ax HE80	83.74	0.2986	3.3495	3.6kHz
1+2(1)	802.11ax HE80 (Partial RU484)	88.02	0.4261	2.3469	2.4kHz

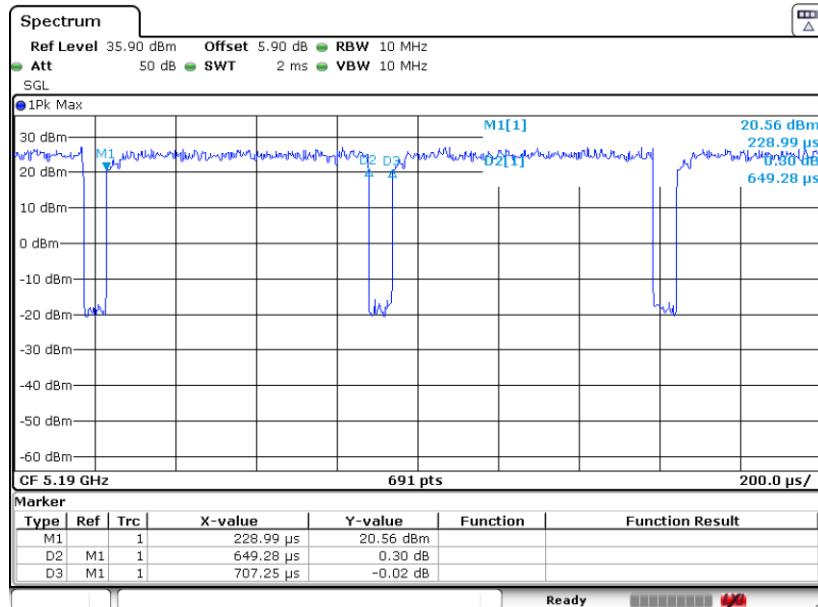
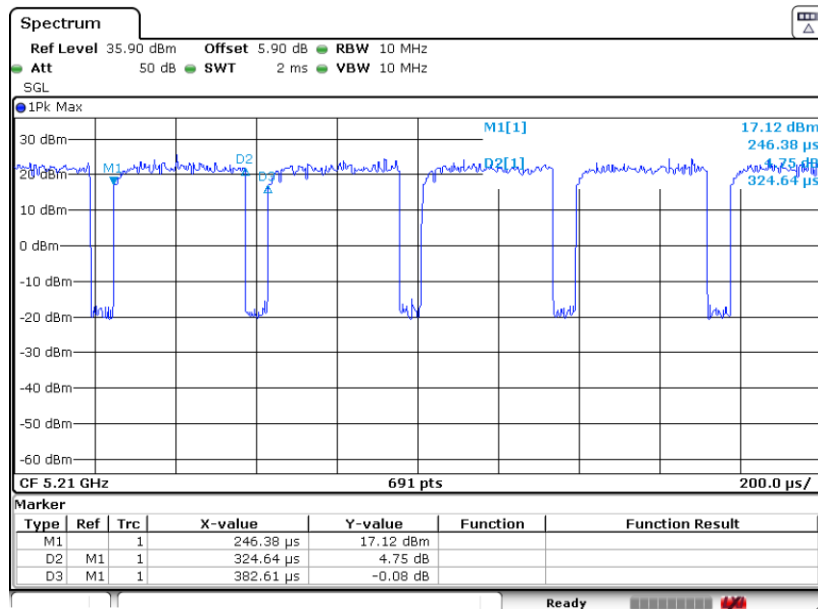


802.11a



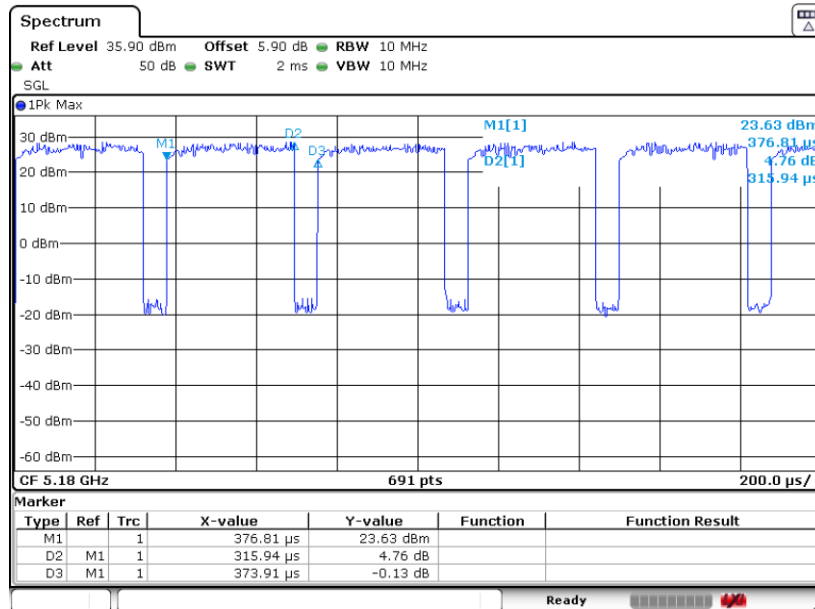
802.11n HT20



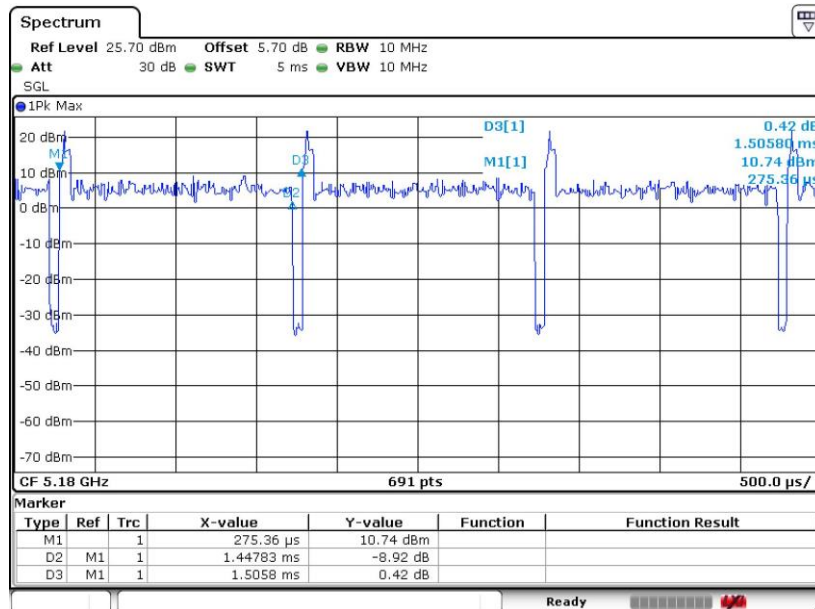
802.11n HT40

802.11ac VHT80




802.11ax HE20

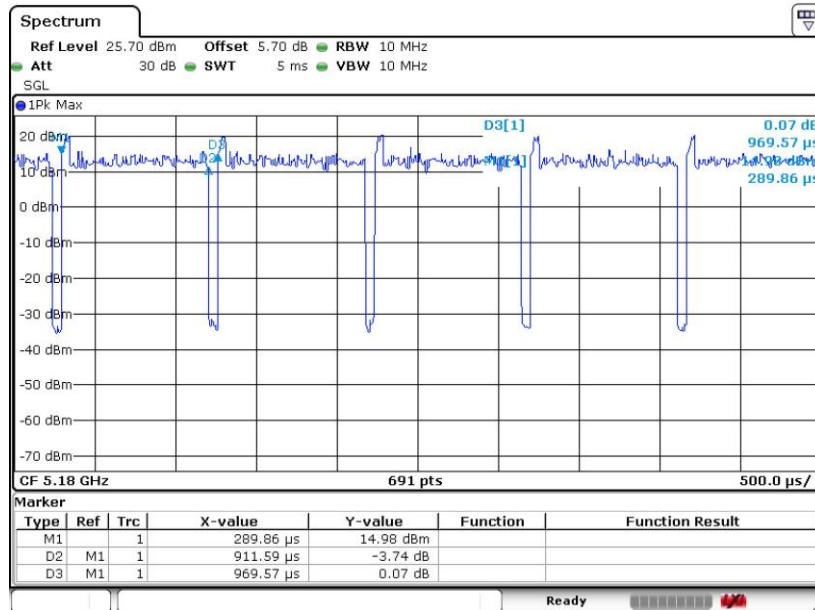


802.11ax HE20 (Partial RU26)

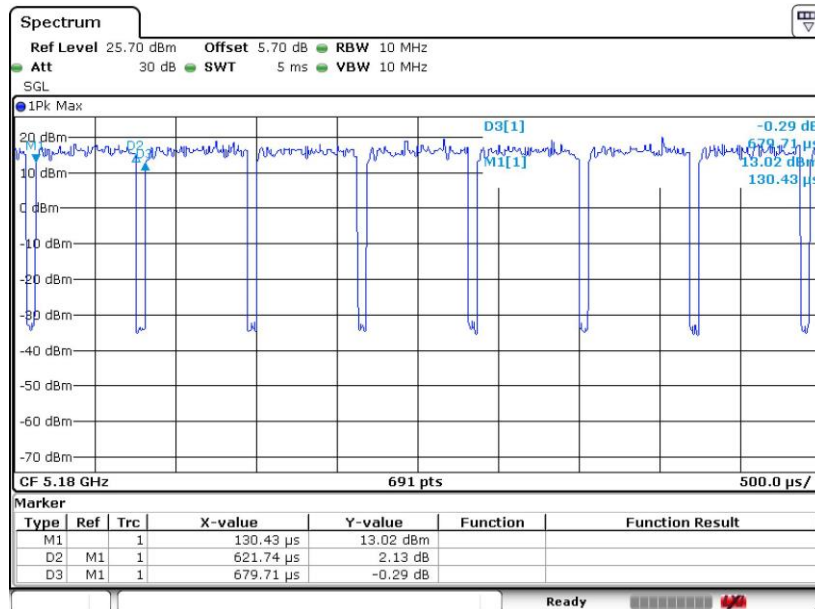




802.11ax HE20 (Partial RU52)

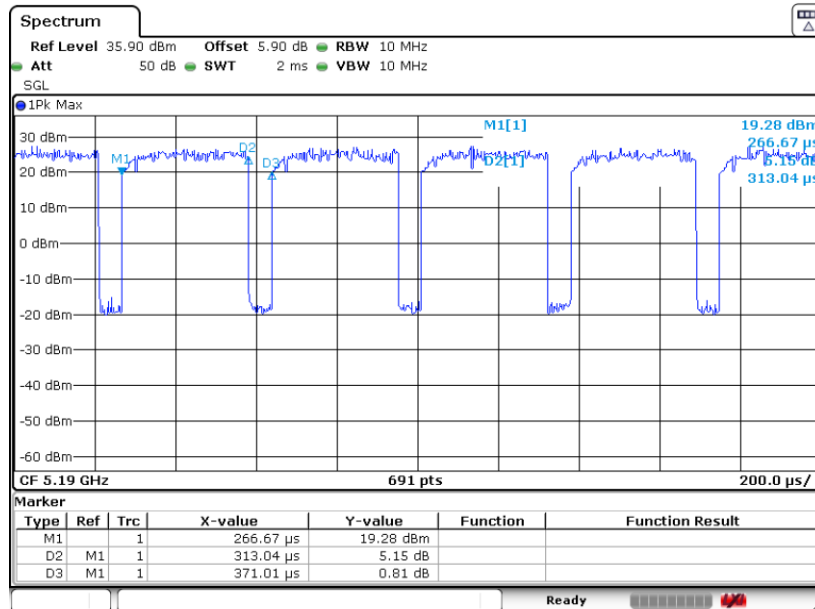


802.11ax HE20 (Partial RU106)

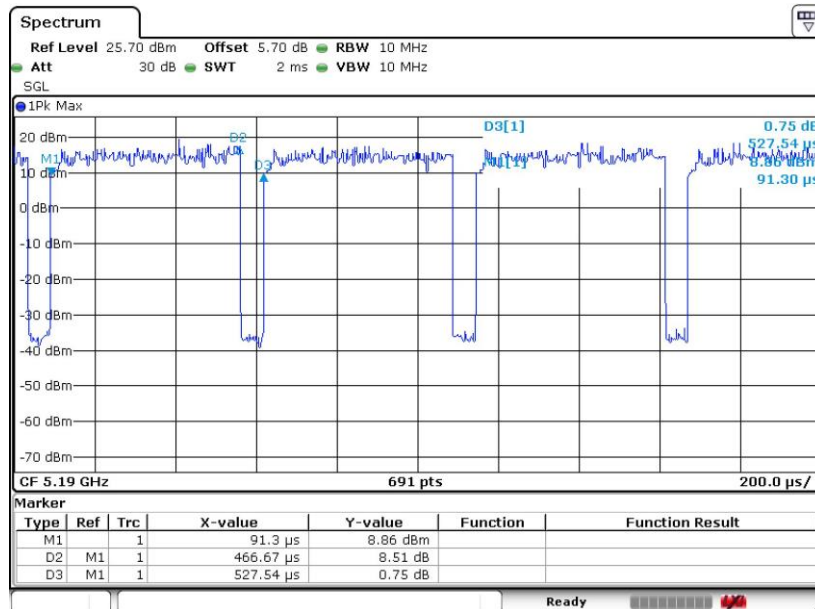




802.11ax HE40

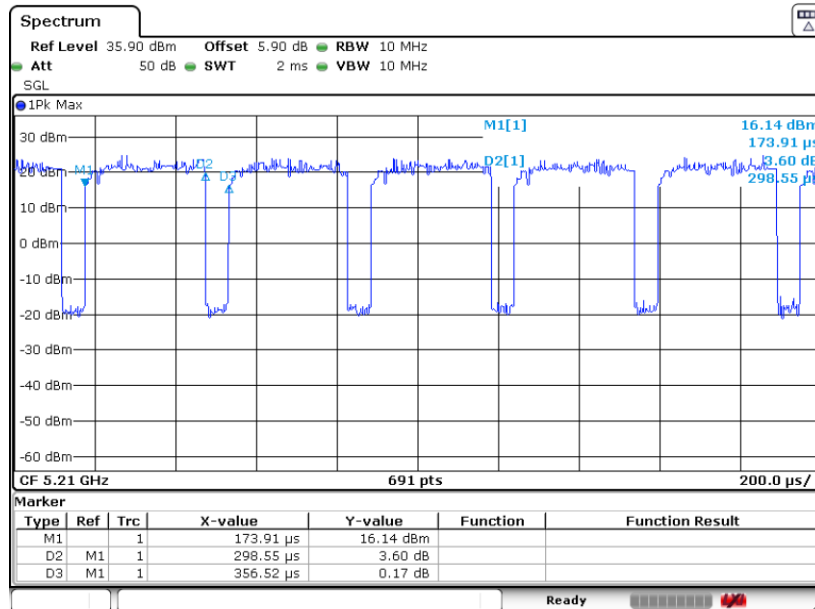


802.11ax HE40 (Partial RU242)





802.11ax HE80



802.11ax HE80 (Partial RU484)

