FCC RF Test Report

APPLICANT	:	Inseego Corp.
EQUIPMENT	:	wireless device
BRAND NAME	:	Inseego
MODEL NAME	:	FG2000-3,FG2000E-3
FCC ID	:	PKRISGFG20003
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure
TEST DATE(S)	:	Sep. 29, 2020 ~ Oct. 06, 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.

This report contains data that were produced under subcontract by Sporton International (ShenZhen) Inc

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

Alex Wang

Approved by: Alex Wang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR082811-03D	Rev. 01	Initial issue of report	Nov. 08, 2021

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 6.49 dB at 36.790 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 9.06 dB at 0.532 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

Inseego Corp.
9710 Scranton Road, Suite 200 San Diego, CA 92121

1.2 Manufacturer

MeiG Smart Technology Co., Ltd
Floor 2, Office Building No.5, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	wireless device
Brand Name	Inseego
Model Name	FG2000-3,FG2000e-3
FCC ID	PKRISGFG20003
EUT supports Radios application	WCDMA/LTE/5G NR/GNSS 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) Bluetooth LE
IMEI Code	Conducted: 990016260006166 Conduction: 990016260003130 Radiation: N/A
HW Version	FG20003_SRT860H_V2.1
SW Version	2.52
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for FG2000-3,FG2000e-3. For change note, please refer the FG2000-3,FG2000e-3_Class II Permissive Change letter exhibit separately. Since the test result is not affected by the changes, all the test results are leveraged from original report which can be referred to Sporton Report Number FR082811D.

1.4 Product Specification of Equipment Under Test

<table>
<tr><th colspan="2">Standards-related Product Specification</th></tr>
<tr><td>Tx/Rx Channel Frequency Range</td><td>5745 MHz ~ 5825 MHz</td></tr>
<tr><td>Maximum Output Power</td><td><5745 MHz ~ 5825 MHz>
<SISO Ant.3>
802.11a : 12.98 dBm / 0.0199 W
<MIMO Ant.1+2+3+4>
802.11n HT20 : 24.74 dBm / 0.2979 W
802.11n HT40 : 24.73 dBm / 0.2972 W
802.11ac VHT20: 22.71 dBm / 0.1866 W
802.11ac VHT40: 22.72 dBm / 0.1871 W
802.11ac VHT80: 22.70 dBm / 0.1862 W
802.11ax HE20: 20.86 dBm / 0.1219 W
802.11ax HE40: 20.71 dBm / 0.1178 W
802.11ax HE80: 20.69 dBm / 0.1172 W</td></tr>
<tr><td>99% Occupied Bandwidth</td><td><SISO Ant.1>
802.11a : 16.43 MHz
<MIMO Ant.1+2+3+4>
802.11n HT20 : 17.68 MHz
802.11n HT40 : 36.36 MHz
802.11ac VHT80 : 76.12 MHz
802.11ax HE20 : 18.98 MHz
802.11ax HE40 : 38.06 MHz
802.11ax HE80 : 78.16 MHz</td></tr>
<tr><td>Type of Modulation</td><td>802.11a/n/ac/ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)</td></tr>
<tr><td>Antenna Type / Gain</td><td><Ant. 1> : PCB Antenna with gain 3.90 dBi
<Ant. 2> : PCB Antenna with gain 3.05 dBi
<Ant. 3> : PCB Antenna with gain 4.25 dBi
<Ant. 4> : PCB Antenna with gain 4.30 dBi</td></tr>
<tr><td>Antenna Function Description</td><td>
<table>
<tr><th></th><th>Ant. 1</th><th>Ant. 2</th><th>Ant. 3</th><th>Ant. 4</th></tr>
<tr><td>802.11a/n/ac/ax SISO</td><td>V</td><td>V</td><td>V</td><td>V</td></tr>
<tr><td>802.11n/ac/ax MIMO</td><td colspan="4">V</td></tr>
<tr><td>802.11ac/ax Beamforming</td><td colspan="4">V</td></tr>
</table>
</td></tr>
</table>

Note:

1. The Tx Power of EUT will less than or equal to non-beamforming power when Beamforming mode is active. So we only evaluate RSE testing is verified.
2. Only 802.11ac/ax mode supports Beamforming mode and 802.11a mode supports SISO mode only.
3. For WLAN SISO & MIMO mode for 802.11n/ac/ax mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power.
4. 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.
5. For 802.11ax mode, Partial RU combinations were verified for conducted power/PSD/Radiated

Band edge which is lower conducted power than full RU mode.

6. When Partial RU running, such as 26-tones, transmits start 0+1 combination together only which were referred to power table of the appendix A. For this reason, 11ax HE40/HE80 is covered by 11ax HE20 for partial RU, we only evaluate full RU for 11ax HE40/HE80 and 484-tones, start 65+66 of HE80.

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	CN1257	314309

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Note: Test data subcontracted: all conducted test data of this report.

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH05-KS	AUDIX	E3	6.2009-8-24al
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)
5745-5825 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 and 802.11ax HE 40.
2. The above Frequency and Channel in "#" were 802.11ac VHT80 and 802.11ax HE 80.

2.2 Test Mode

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

SISO Mode

Modulation	Data Rate
802.11a	6 Mbps

MIMO Mode

Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

TXBF Mode

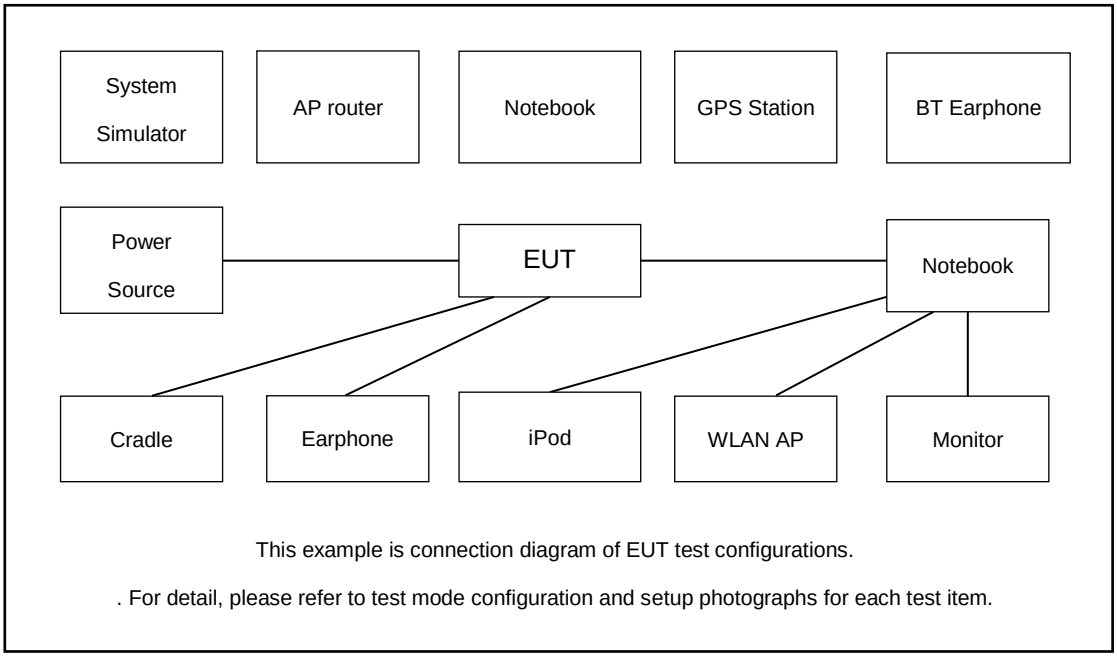
Modulation	Data Rate
802.11ax HE40	MCS0

AC Conducted Emission	Mode 1 : WCDMA Band V Idle + Bluetooth Link + WLAN Link(5G) + WAN Link + 5Gbps LAN Link + LAN 1 Link + LAN 2 Link + Adapter
Remark: For Radiated Test Cases, The tests were performed with Adapter	

Ch. #		Band IV：5745-5825 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：5745-5825 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



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded,1.8m
2.	Phone	MOTO	XT1952-1	N/A	N/A	N/A
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
4.	Notebook *2	Lenovo	V130-15IKB005	N/A	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
5.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
6.	Hard DISK*2	WD	C6B	N/A	N/A	N/A
7.	Earphone*2	Lenovo	P121	N/A	N/A	Unshielded,1.2m
8.	PC	Dell	D12M	Fcc DoC	N/A	Unshielded,1.8m
9.	Monitor	PHLIPS	BDM3275UP	Fcc DoC	N/A	Unshielded,1.8m
10.	(USB)Mouse	Lenovo	OEUUOA	Fcc DoC	Shielded, 1.8m	N/A
11.	(USB)Keyboard	Lenovo	SK-8821	Fcc DoC	Shielded, 1.8m	N/A

2.5 EUT Operation Test Setup

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

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

For TXBF mode, the EUT was tested under normal operation and link to another EUT with power, modulation modes and data rates controlled by engineer mode command lines.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 2.5 dB and 20dB attenuator.

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

= 2.5 + 20 = 22.5 (dB)

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.

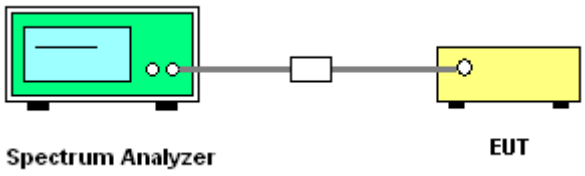
3.1.2 Measuring Instruments

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 ≥ 3 x 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.

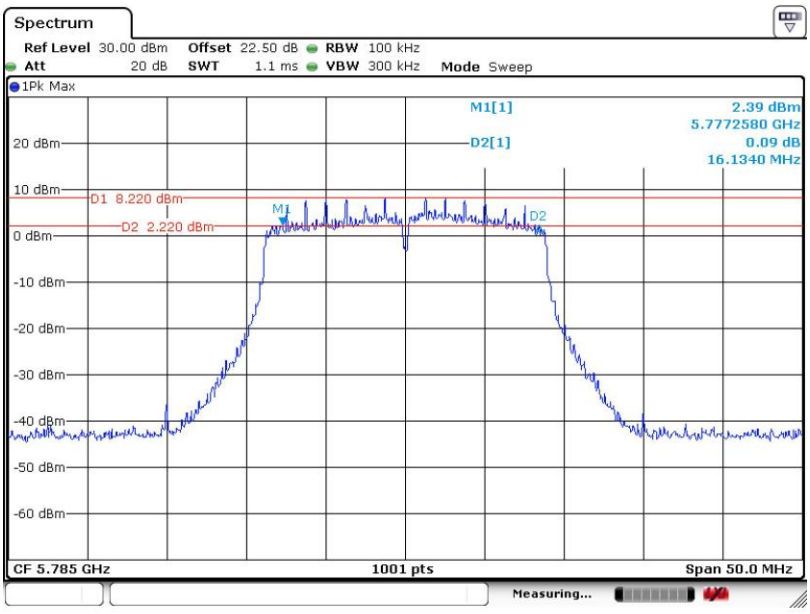
3.1.4 Test Setup



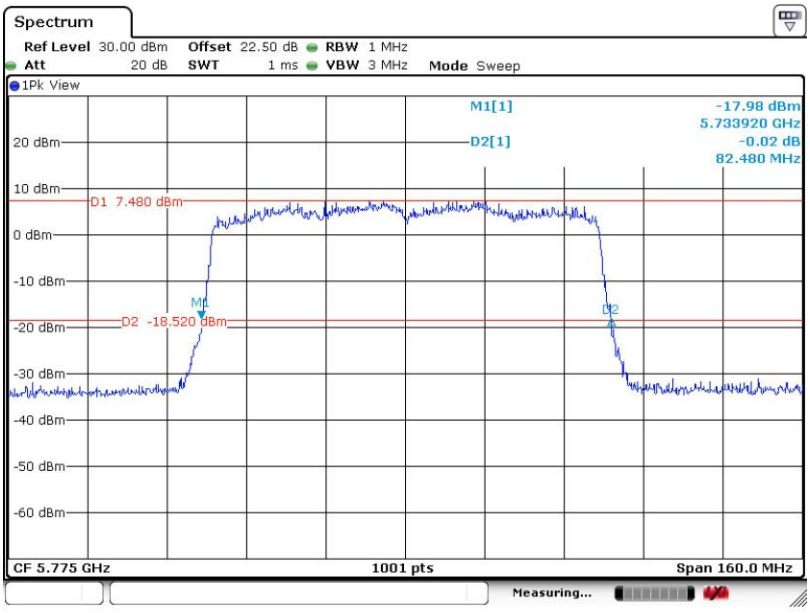
3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

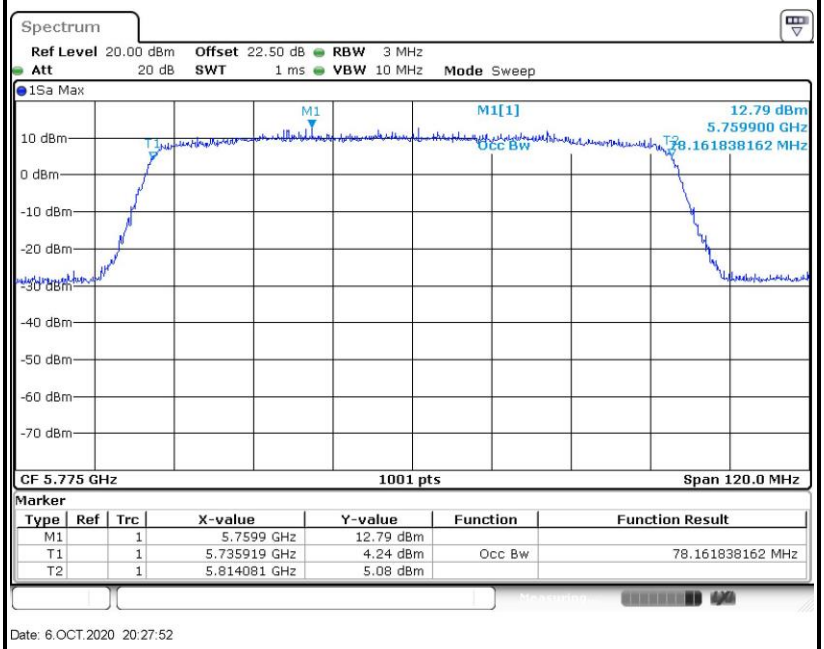
Minimum 6dB Bandwidth



Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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.

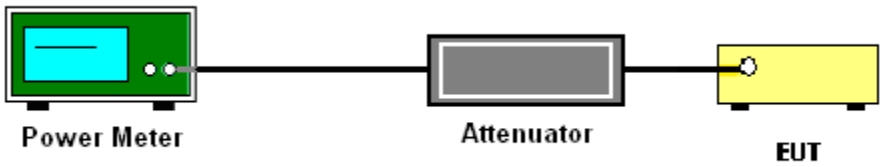
<TXBF Modes>

The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 for TXBF modes.

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

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).

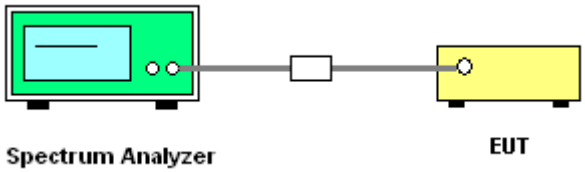
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW ≥ 1 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(500kHz/RBW) 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_{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_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

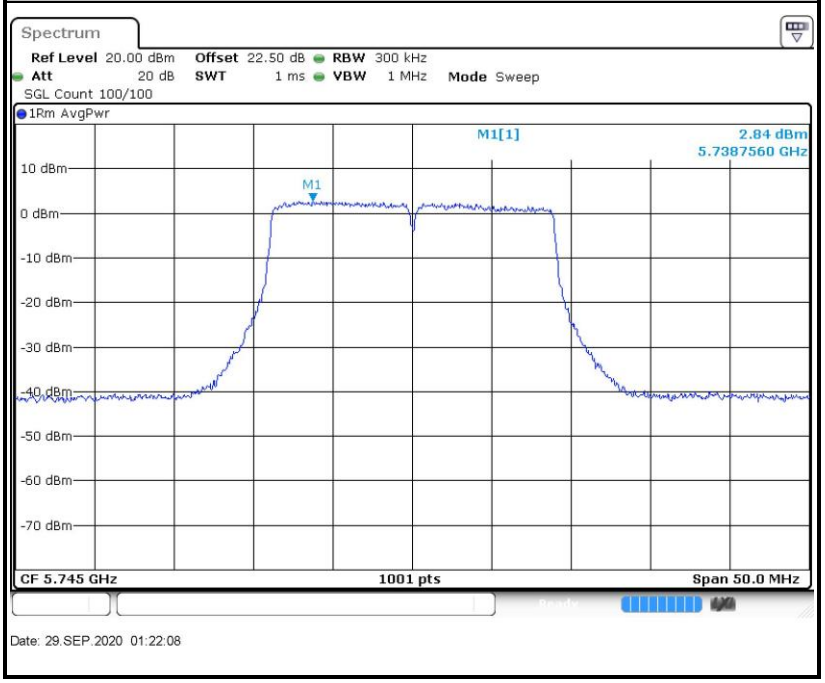
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



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.

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

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

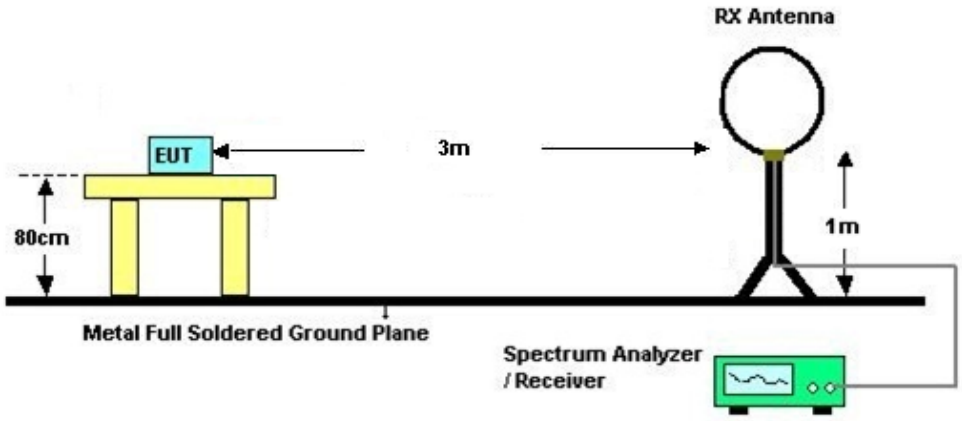
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

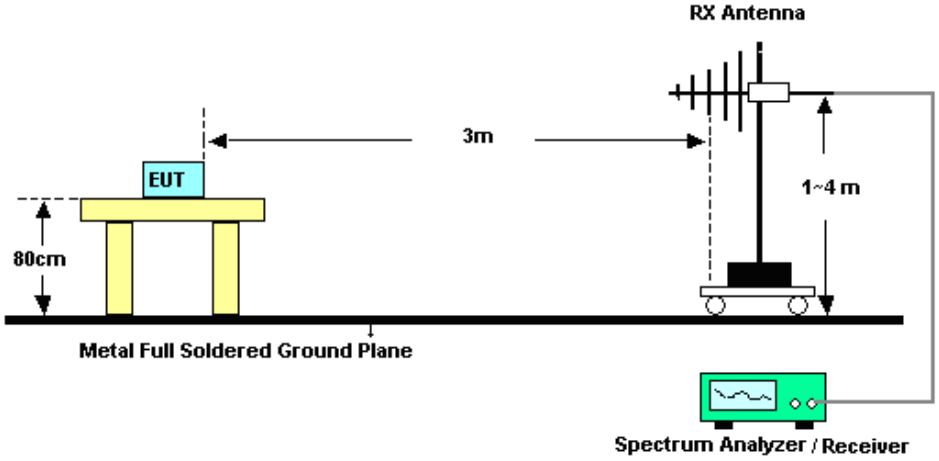
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than 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

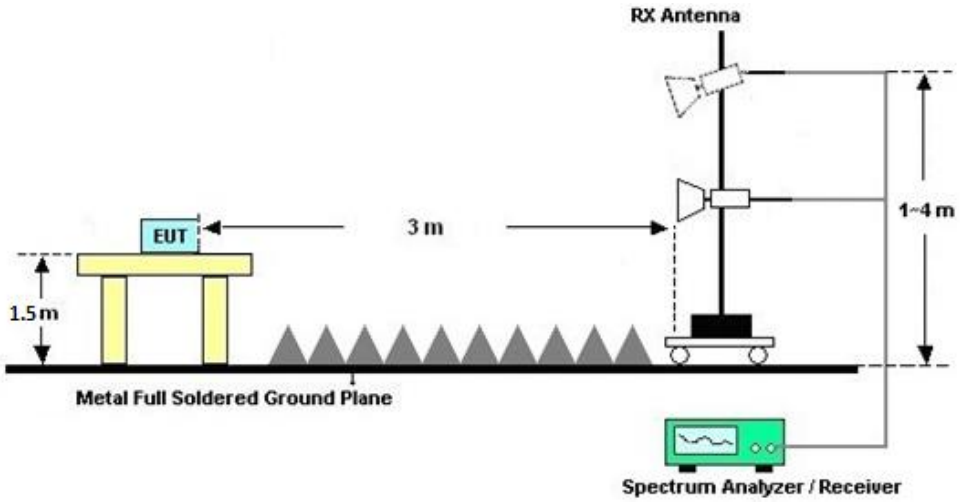
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz

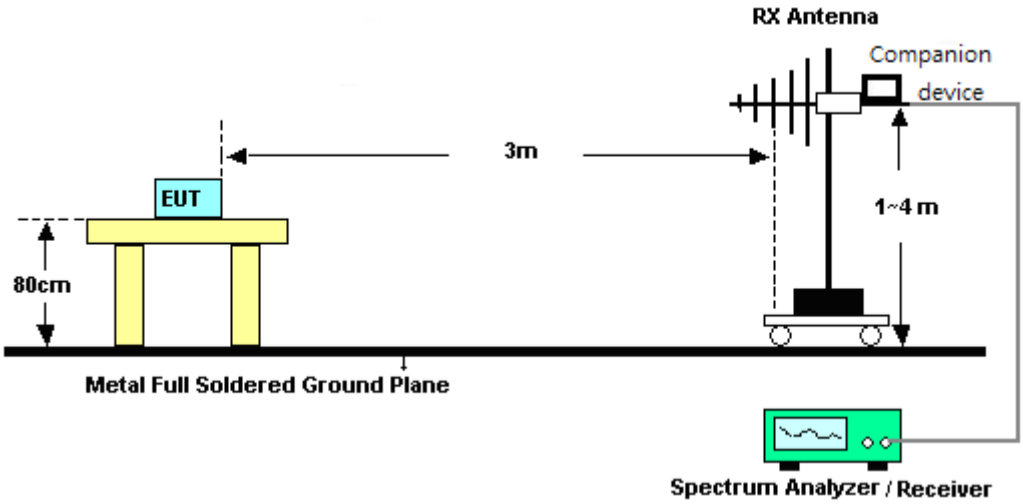


For radiated emissions above 1GHz

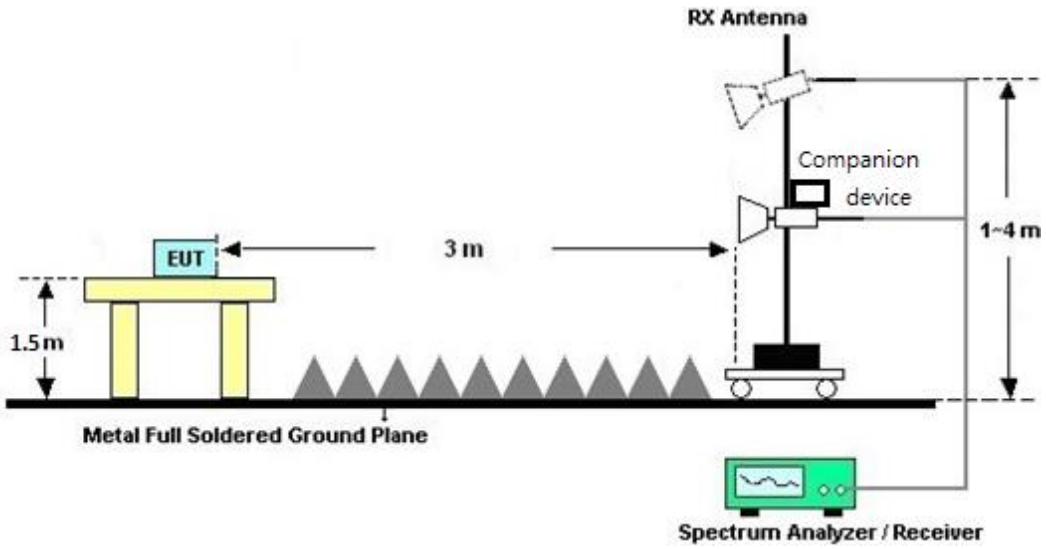


<TXBF Modes>

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

*Decreases with the logarithm of the frequency.

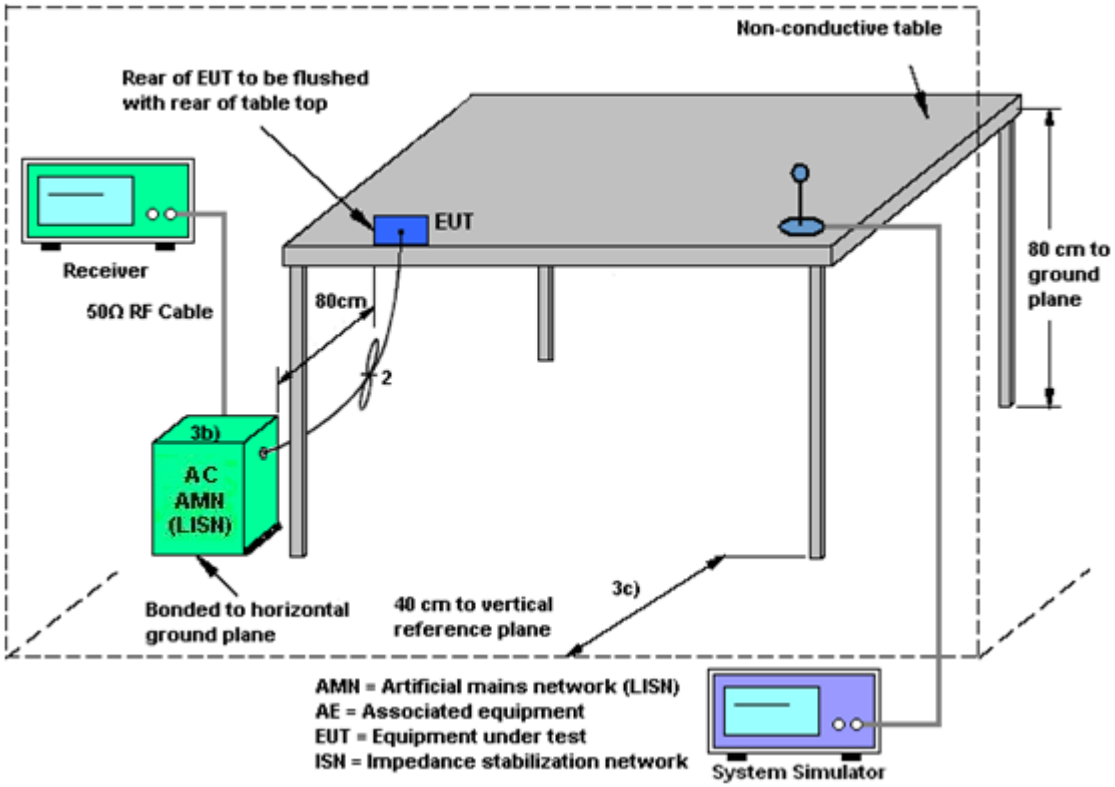
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

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

3.6.2 Measuring Instruments

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

3.6.3 Test Result of Automatically Discontinue Transmission

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

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<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(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 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 G_{ANT} 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>

	Ant. 1 (dBi)	Ant. 2 (dBi)	Ant. 3 (dBi)	Ant. 4 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	3.90	3.05	4.25	4.30	4.30	9.91	0.00	3.91

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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

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 kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

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.

	Ant 1 (dBi)	Ant 2 (dBi)	Ant 3 (dBi)	Ant 4 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	3.90	3.05	4.25	4.30	9.91	9.91	3.91	3.91

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 17, 2020	Sep. 29, 2020~ Oct. 06, 2020	Apr. 16, 2021	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Sep. 29, 2020~ Oct. 06, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Sep. 29, 2020~ Oct. 06, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 18, 2019	Oct. 05, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 15, 2020	Oct. 05, 2020	Apr. 14, 2021	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 10, 2019	Oct. 05, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2020	Oct. 05, 2020	May 29, 2021	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 26, 2020	Oct. 05, 2020	Apr. 25, 2021	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	Oct. 05, 2020	Nov. 09, 2020	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Apr. 14, 2020	Oct. 05, 2020	Apr. 13, 2021	Radiation (03CH05-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 08, 2020	Oct. 05, 2020	Jan. 07, 2021	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2012228	1Ghz-18Ghz	Oct. 18, 2019	Oct. 05, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 18, 2019	Oct. 05, 2020	Oct. 17, 2020	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 05, 2020	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Oct. 05, 2020	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Oct. 05, 2020	NCR	Radiation (03CH05-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 14, 2020	Sep. 30, 2020	Apr. 13, 2021	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 18, 2019	Sep. 30, 2020	Oct. 17, 2020	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Oct. 28, 2019	Sep. 30, 2020	Oct. 27, 2020	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 18, 2019	Sep. 30, 2020	Oct. 17, 2020	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))	**2.9dB**

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

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

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

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

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	Liu Qiu Qiu	Temperature	21~25	°C
Test Date	2020/9/29~2020/10/6	Relative Humidity	51~54	%

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TEST RESULTS DATA
6dB and 99% OBW

Band IV Single Antenna																		
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	26dB Bandwidth (MHz)				6 dB Bandwidth (MHz)				99% Bandwidth (MHz)				6 dB Min. Limit (MHz)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4		
11a	6Mbps	1	149	5745	21.13	21.08	21.18	21.08	16.28	16.28	16.28	16.28	16.43	16.43	16.43	16.43	0.5	Pass
11a	6Mbps	1	157	5785	21.38	21.23	21.43	21.13	16.28	16.23	16.23	16.23	16.43	16.43	16.43	16.43	0.5	Pass
11a	6Mbps	1	165	5825	21.48	20.93	21.13	21.13	16.28	16.28	16.33	16.33	16.43	16.43	16.43	16.43	0.5	Pass

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																		
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	26dB Bandwidth (MHz)				6 dB Bandwidth (MHz)				99% Bandwidth (MHz)				6 dB Min. Limit (MHz)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4		
HT20	MCS0	4	149	5745	22.08	21.98	21.73	21.83	16.28	16.78	16.23	16.48	17.58	17.58	17.53	17.53	0.5	Pass
HT20	MCS0	4	157	5785	22.28	21.93	21.88	22.08	16.88	16.13	16.88	16.78	17.63	17.53	17.53	17.58	0.5	Pass
HT20	MCS0	4	165	5825	22.23	22.28	21.63	22.08	16.78	17.53	16.88	16.48	17.58	17.68	17.53	17.53	0.5	Pass
HT40	MCS0	4	151	5755	41.45	41.00	41.54	41.09	35.16	35.16	35.26	35.16	36.26	36.26	36.36	36.26	0.5	Pass
HT40	MCS0	4	159	5795	41.36	41.09	41.72	41.00	35.06	35.06	35.16	35.06	36.26	36.16	36.36	36.26	0.5	Pass
VHT80	MCS0	4	155	5775	82.32	81.36	82.32	81.04	75.04	75.04	75.04	75.04	76.00	75.64	76.12	75.52	0.5	Pass

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4																			
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	26dB Bandwidth (MHz)				6 dB Bandwidth (MHz)				99% Bandwidth (MHz)				6 dB Min. Limit (MHz)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4		
HE20	MCS0	4	149	5745	Full	22.73	22.68	22.63	22.43	18.63	18.53	18.53	18.23	18.88	18.93	18.88	18.78	0.5	Pass
HE20	MCS0	4	157	5785	Full	22.73	22.43	22.73	22.48	18.93	18.58	18.68	18.38	18.98	18.88	18.93	18.78	0.5	Pass
HE20	MCS0	4	165	5825	Full	22.53	22.13	22.18	22.53	18.53	17.98	18.78	18.88	18.88	18.83	18.93	18.98	0.5	Pass
HE40	MCS0	4	151	5755	Full	41.99	41.90	41.81	41.99	37.66	37.16	37.76	37.96	37.86	37.86	38.06	38.06	0.5	Pass
HE40	MCS0	4	159	5795	Full	41.63	42.08	41.90	41.81	37.76	35.86	37.66	37.76	37.86	37.76	37.96	38.06	0.5	Pass
HE80	MCS0	4	155	5775	Full	82.32	82.48	82.48	82.00	77.08	75.04	77.20	77.32	77.80	77.68	78.16	78.04	0.5	Pass

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TEST RESULTS DATA
Average Power Table

Band IV Single Antenna																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)					FCC Conducted Power Limit (dBm)				DG (dBi)				Pass/ Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	
11a	6Mbps	1	149	5745	12.60	12.82	12.903	12.663		30.00	30.00	30.00	30.00	3.90	3.05	4.25	4.30	Pass
11a	6Mbps	1	157	5785	12.90	12.79	12.833	12.953		30.00	30.00	30.00	30.00	3.90	3.05	4.25	4.30	Pass
11a	6Mbps	1	165	5825	12.95	12.81	12.983	12.973		30.00	30.00	30.00	30.00	3.90	3.05	4.25	4.30	Pass

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)					FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/ Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HT20	MCS0	4	149	5745	18.33	18.98	18.57	18.67	24.66	30.00	4.30	Pass
HT20	MCS0	4	157	5785	18.37	18.97	18.62	18.51	24.64	30.00	4.30	Pass
HT20	MCS0	4	165	5825	18.73	18.91	18.56	18.66	24.74	30.00	4.30	Pass
HT40	MCS0	4	151	5755	18.24	18.95	18.53	18.59	24.60	30.00	4.30	Pass
HT40	MCS0	4	159	5795	18.52	18.97	18.52	18.80	24.73	30.00	4.30	Pass
VHT20	MCS0	4	149	5745	16.13	16.93	16.06	16.60	22.47	30.00	4.30	Pass
VHT20	MCS0	4	157	5785	16.18	16.96	16.11	16.57	22.49	30.00	4.30	Pass
VHT20	MCS0	4	165	5825	16.64	16.92	16.54	16.66	22.71	30.00	4.30	Pass
VHT40	MCS0	4	151	5755	16.13	16.98	16.53	16.53	22.57	30.00	4.30	Pass
VHT40	MCS0	4	159	5795	16.51	16.95	16.55	16.77	22.72	30.00	4.30	Pass
VHT80	MCS0	4	155	5775	16.54	16.96	16.52	16.68	22.70	30.00	4.30	Pass

TEST RESULTS DATA
Average Power Table

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
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	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	149	5745	Full	14.51	14.96	14.56	14.90	20.76	30.00	4.30	Pass
HE20	MCS0	4	149	5745	26/(0+1)	7.82	8.51	8.77	8.99	14.57	30.00	4.30	Pass
HE20	MCS0	4	149	5745	52/(37+38)	10.99	12.11	10.99	11.80	17.52	30.00	4.30	Pass
HE20	MCS0	4	149	5745	106/(53+54)	14.49	14.95	14.52	14.78	20.71	30.00	4.30	Pass
HE20	MCS0	4	157	5785	Full	14.20	14.98	14.39	14.68	20.59	30.00	4.30	Pass
HE20	MCS0	4	165	5825	Full	14.86	14.97	14.54	14.97	20.86	30.00	4.30	Pass
HE20	MCS0	4	165	5825	26/(7+8)	8.99	9.50	8.50	8.45	14.90	30.00	4.30	Pass
HE20	MCS0	4	165	5825	52/(39+40)	11.55	11.62	11.27	11.20	17.44	30.00	4.30	Pass
HE20	MCS0	4	165	5825	106/(53+54)	14.29	14.18	14.21	14.30	20.27	30.00	4.30	Pass
HE40	MCS0	4	151	5755	Full	14.03	14.90	14.52	14.55	20.53	30.00	4.30	Pass
HE40	MCS0	4	159	5795	Full	14.41	14.94	14.53	14.86	20.71	30.00	4.30	Pass
HE80	MCS0	4	155	5775	Full	14.35	14.97	14.54	14.80	20.69	30.00	4.30	Pass
HE80	MCS0	4	155	5775	484/(65+66)	13.65	14.17	13.74	14.04	19.93	30.00	4.30	Pass

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Conducted Power (dBm)					DG (dBi)	E.I.R.P Power (dBm)	E.I.R.P Power Limit (dBm)
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	149	5745	Full	14.51	14.96	14.56	14.90	20.76	4.30	25.06	_
HE20	MCS0	4	149	5745	26/(0+1)	7.82	8.51	8.77	8.99	14.57	4.30	18.87	_
HE20	MCS0	4	149	5745	52/(37+38)	10.99	12.11	10.99	11.80	17.52	4.30	21.82	_
HE20	MCS0	4	149	5745	106/(53+54)	14.49	14.95	14.52	14.78	20.71	4.30	25.01	_
HE20	MCS0	4	157	5785	Full	14.20	14.98	14.39	14.68	20.59	4.30	24.89	_
HE20	MCS0	4	165	5825	Full	14.86	14.97	14.54	14.97	20.86	4.30	25.16	_
HE20	MCS0	4	165	5825	26/(7+8)	8.99	9.50	8.50	8.45	14.90	4.30	19.20	_
HE20	MCS0	4	165	5825	52/(39+40)	11.55	11.62	11.27	11.20	17.44	4.30	21.74	_
HE20	MCS0	4	165	5825	106/(53+54)	14.29	14.18	14.21	14.30	20.27	4.30	24.57	_
HE40	MCS0	4	151	5755	Full	14.03	14.90	14.52	14.55	20.53	4.30	24.83	_
HE40	MCS0	4	159	5795	Full	14.41	14.94	14.53	14.86	20.71	4.30	25.01	_
HE80	MCS0	4	155	5775	Full	14.35	14.97	14.54	14.80	20.69	4.30	24.99	_
HE80	MCS0	4	155	5775	484/(65+66)	13.65	14.17	13.74	14.04	19.93	4.30	24.23	_

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TEST RESULTS DATA
Power Spectral Density

Band IV Single Antenna																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Power Density (dBm/500kHz)					Average PSD Limit (dBm/500kHz)				DG (dBi)				Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1	Ant 2	Ant 3	Ant 4	Ant 1	Ant 2	Ant 3	Ant 4	
11a	6Mbps	1	149	5745	-2.25	-2.73	-2.43	-2.68		30	30	30	30	3.90	3.05	4.25	4.30	Pass
11a	6Mbps	1	157	5785	-2.11	-2.28	-2.64	-2.22		30	30	30	30	3.90	3.05	4.25	4.30	Pass
11a	6Mbps	1	165	5825	-2.12	-2.65	-2.37	-2.29		30	30	30	30	3.90	3.05	4.25	4.30	Pass

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Power Density (dBm/500kHz)					Average PSD Limit (dBm/500kHz)	DG (dBi)	Pass /Fail
					Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HT20	MCS0	4	149	5745	4.02	5.06	4.26	4.86	11.08	26.09	9.91	Pass
HT20	MCS0	4	157	5785	4.01	4.91	3.79	4.54	10.93	26.09	9.91	Pass
HT20	MCS0	4	165	5825	4.74	4.64	4.11	4.39	10.76	26.09	9.91	Pass
HT40	MCS0	4	151	5755	0.63	2.09	1.63	1.32	8.11	26.09	9.91	Pass
HT40	MCS0	4	159	5795	1.06	1.48	1.21	1.73	7.75	26.09	9.91	Pass
VHT80	MCS0	4	155	5775	-4.38	-3.60	-4.64	-3.86	2.42	26.09	9.91	Pass

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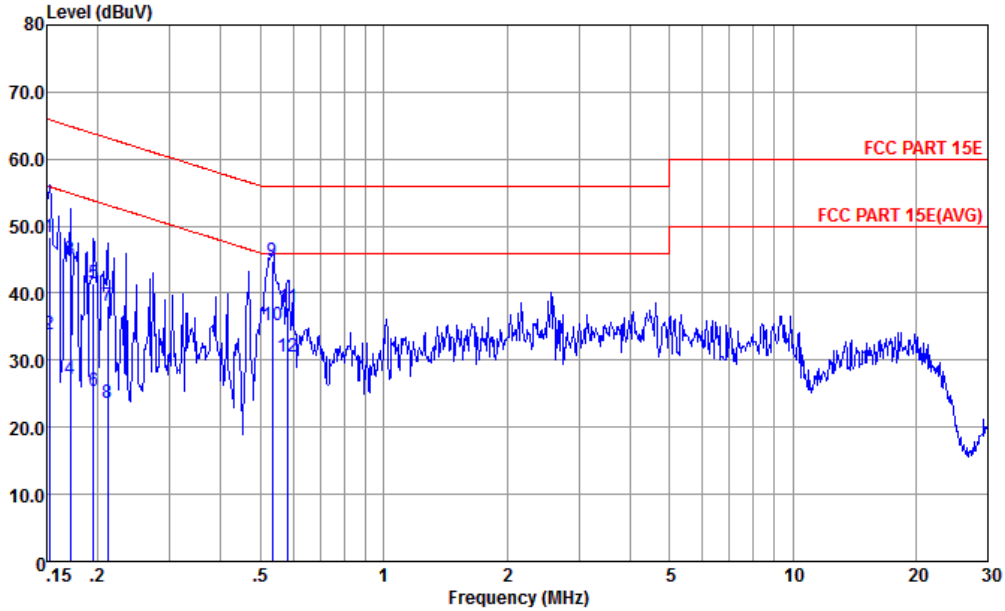
TEST RESULTS DATA
Power Spectral Density

Band IV MIMO 4Tx Mode Ant 1 + 2 + 3 + 4													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	RU Config.	Average Power Density (dBm/500kHz)					Average PSD Limit (dBm/500kHz)	DG (dBi)	Pass /Fail
						Ant 1	Ant 2	Ant 3	Ant 4	SUM	Ant 1 + 2 + 3 + 4	Ant 1 + 2 + 3 + 4	
HE20	MCS0	4	149	5745	Full	-0.16	0.67	-0.50	0.14	6.69	26.09	9.91	Pass
HE20	MCS0	4	149	5745	26/(0+1)	-1.76	-0.88	-0.54	-0.51	5.51	26.09	9.91	Pass
HE20	MCS0	4	149	5745	52/(37+38)	-1.01	0.05	-1.11	-0.30	6.07	26.09	9.91	Pass
HE20	MCS0	4	149	5745	106/(53+54)	-0.55	0.00	-0.61	0.11	6.13	26.09	9.91	Pass
HE20	MCS0	4	157	5785	Full	-0.70	0.08	-1.22	-0.17	6.10	26.09	9.91	Pass
HE20	MCS0	4	165	5825	Full	-0.38	0.69	-0.10	0.29	6.71	26.09	9.91	Pass
HE20	MCS0	4	165	5825	26/(7+8)	-0.52	0.62	-0.47	-0.21	6.64	26.09	9.91	Pass
HE20	MCS0	4	165	5825	52/(39+40)	-0.68	0.36	-0.66	0.13	6.38	26.09	9.91	Pass
HE20	MCS0	4	165	5825	106/(53+54)	-0.62	-0.26	-0.87	0.17	6.19	26.09	9.91	Pass
HE40	MCS0	4	151	5755	Full	-3.91	-2.80	-3.38	-3.26	3.22	26.09	9.91	Pass
HE40	MCS0	4	159	5795	Full	-3.94	-2.69	-3.83	-2.69	3.33	26.09	9.91	Pass
HE80	MCS0	4	155	5775	Full	-6.50	-5.65	-6.60	-6.10	0.37	26.09	9.91	Pass
HE80	MCS0	4	155	5775	484/(65+66)	-6.98	-6.51	-7.30	-6.28	-0.26	26.09	9.91	Pass

Appendix B. AC Conducted Emission Test Results

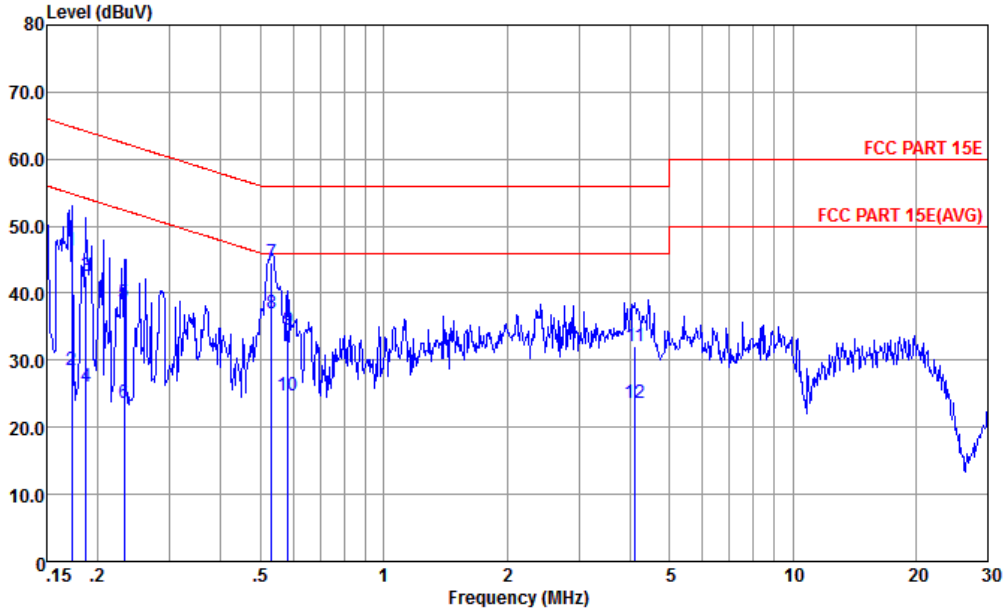
Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line



Site : CO01-KS
Condition : FCC PART 15E LISN-L-191028-060105 LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.152	48.30	-17.57	65.87	37.80	0.03	10.47	QP
2		0.152	33.80	-22.07	55.87	23.30	0.03	10.47	Average
3		0.171	44.96	-19.94	64.90	34.50	0.03	10.43	QP
4		0.171	27.26	-27.64	54.90	16.80	0.03	10.43	Average
5		0.195	41.51	-22.29	63.80	31.10	0.04	10.37	QP
6		0.195	25.51	-28.29	53.80	15.10	0.04	10.37	Average
7		0.212	38.20	-24.94	63.14	27.80	0.04	10.36	QP
8		0.212	23.70	-29.44	53.14	13.30	0.04	10.36	Average
9		0.535	44.90	-11.10	56.00	34.60	0.06	10.24	QP
10	*	0.535	35.20	-10.80	46.00	24.90	0.06	10.24	Average
11		0.582	37.80	-18.20	56.00	27.50	0.06	10.24	QP
12		0.582	30.50	-15.50	46.00	20.20	0.06	10.24	Average

Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral



Site : CO01-KS
Condition : FCC PART 15E LISN-N-191028-060105 NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.173	46.40	-18.41	64.81	35.90	0.08	10.42	QP
2		0.173	28.60	-26.21	54.81	18.10	0.08	10.42	Average
3		0.187	42.67	-21.48	64.15	32.20	0.08	10.39	QP
4		0.187	25.97	-28.18	54.15	15.50	0.08	10.39	Average
5		0.232	38.63	-23.76	62.39	28.21	0.08	10.34	QP
6		0.232	23.73	-28.66	52.39	13.31	0.08	10.34	Average
7		0.532	44.54	-11.46	56.00	34.20	0.10	10.24	QP
8	*	0.532	36.94	-9.06	46.00	26.60	0.10	10.24	Average
9		0.582	34.54	-21.46	56.00	24.20	0.10	10.24	QP
10		0.582	24.64	-21.36	46.00	14.30	0.10	10.24	Average
11		4.114	32.01	-23.99	56.00	21.61	0.15	10.25	QP
12		4.114	23.71	-22.29	46.00	13.31	0.15	10.25	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		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5636.4	56.34	-11.96	68.3	40.75	34.7	11.66	30.77	286	301	P	H
		5674.8	55.8	-30.89	86.69	40.16	34.73	11.7	30.79	286	301	P	H
		5703.6	54.87	-51.44	106.31	39.19	34.76	11.73	30.81	286	301	P	H
		5723.2	55.17	-63.03	118.2	39.46	34.78	11.75	30.82	286	301	P	H
		5740	103.86	-	-	88.13	34.79	11.76	30.82	286	301	P	H
		5740	96.62	-	-	80.89	34.79	11.76	30.82	286	301	A	H
		5649.2	56.29	-12.01	68.3	40.71	34.7	11.66	30.78	103	189	P	V
		5663.6	56.32	-22.08	78.4	40.7	34.72	11.68	30.78	103	189	P	V
		5713.2	55.9	-53.1	109	40.22	34.76	11.73	30.81	103	189	P	V
		5724.4	55.56	-65.37	120.93	39.85	34.78	11.75	30.82	103	189	P	V
		5746	103.87	-	-	88.15	34.79	11.76	30.83	103	189	P	V
		5746	96.82	-	-	81.1	34.79	11.76	30.83	103	189	A	V
802.11a CH 165 5825MHz		5852.4	56.71	-60.12	116.83	40.84	34.88	11.86	30.87	309	304	P	H
		5865.6	56.15	-51.78	107.93	40.25	34.9	11.88	30.88	309	304	P	H
		5909.2	56.49	-23.47	79.96	40.53	34.92	11.93	30.89	309	304	P	H
		5981.2	57.06	-11.24	68.3	41.03	34.96	11.99	30.92	309	304	P	H
		5830	103.42	-	-	87.57	34.87	11.84	30.86	309	304	P	H
		5830	96.29	-	-	80.44	34.87	11.84	30.86	309	304	A	H
		5851.2	55.19	-64.37	119.56	39.32	34.88	11.86	30.87	100	184	P	V
		5858	54.87	-55.19	110.06	38.97	34.9	11.88	30.88	100	184	P	V
		5912.4	56	-21.59	77.59	40.05	34.92	11.93	30.9	100	184	P	V
		5960	56.32	-11.98	68.3	40.3	34.95	11.98	30.91	100	184	P	V
		5830	104.3	-	-	88.45	34.87	11.84	30.86	100	184	P	V
		5830	97.23	-	-	81.38	34.87	11.84	30.86	100	184	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 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		5623.2	55.85	-12.45	68.3	40.29	34.68	11.65	30.77	177	249	P	H
		5660.8	56.57	-19.75	76.32	40.95	34.72	11.68	30.78	177	249	P	H
		5708.8	55.34	-52.43	107.77	39.66	34.76	11.73	30.81	177	249	P	H
		5724.4	57.07	-63.86	120.93	41.36	34.78	11.75	30.82	177	249	P	H
		5740	100.85	-	-	85.12	34.79	11.76	30.82	177	249	P	H
		5740	94.35	-	-	78.62	34.79	11.76	30.82	177	249	A	H
		5602.8	55.1	-13.2	68.3	39.57	34.66	11.63	30.76	273	343	P	V
		5683.2	55.44	-37.46	92.9	39.8	34.73	11.7	30.79	273	343	P	V
		5711.6	55.78	-52.77	108.55	40.1	34.76	11.73	30.81	273	343	P	V
		5721.6	55.38	-59.17	114.55	39.67	34.78	11.75	30.82	273	343	P	V
		5746	98.75	-	-	83.03	34.79	11.76	30.83	273	343	P	V
		5746	91.28	-	-	75.56	34.79	11.76	30.83	273	343	A	V
802.11a CH 165 5825MHz		5850.8	55.82	-64.66	120.48	39.95	34.88	11.86	30.87	176	254	P	H
		5860.8	55.72	-53.55	109.27	39.82	34.9	11.88	30.88	176	254	P	H
		5900.8	56.21	-29.96	86.17	40.27	34.92	11.91	30.89	176	254	P	H
		5930.4	56.48	-11.82	68.3	40.51	34.93	11.94	30.9	176	254	P	H
		5830	101.27	-	-	85.42	34.87	11.84	30.86	176	254	P	H
		5830	94.42	-	-	78.57	34.87	11.84	30.86	176	254	A	H
		5852.4	54.95	-61.88	116.83	39.08	34.88	11.86	30.87	283	293	P	V
		5864.8	57.08	-51.07	108.15	41.18	34.9	11.88	30.88	283	293	P	V
		5896.4	55.65	-33.78	89.43	39.71	34.92	11.91	30.89	283	293	P	V
		5954	56.44	-11.86	68.3	40.45	34.94	11.96	30.91	283	293	P	V
		5830	100.8	-	-	84.95	34.87	11.84	30.86	283	293	P	V
		5830	93.81	-	-	77.96	34.87	11.84	30.86	283	293	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 3	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		5637.6	56.69	-11.61	68.3	41.1	34.7	11.66	30.77	179	181	P	H
		5690	55.46	-42.47	97.93	39.8	34.75	11.71	30.8	179	181	P	H
		5712	55.76	-52.9	108.66	40.08	34.76	11.73	30.81	179	181	P	H
		5720.8	54.29	-58.43	112.72	38.57	34.78	11.75	30.81	179	181	P	H
		5752	103.03	-	-	87.27	34.81	11.78	30.83	179	181	P	H
		5752	96.25	-	-	80.49	34.81	11.78	30.83	179	181	A	H
		5607.2	55.93	-12.37	68.3	40.4	34.66	11.63	30.76	263	88	P	V
		5698	56.92	-46.91	103.83	41.26	34.75	11.71	30.8	263	88	P	V
		5712.8	55.08	-53.81	108.89	39.4	34.76	11.73	30.81	263	88	P	V
		5724.8	56.06	-65.78	121.84	40.35	34.78	11.75	30.82	263	88	P	V
		5752	106.55	-	-	90.79	34.81	11.78	30.83	263	88	P	V
		5752	99.67	-	-	83.91	34.81	11.78	30.83	263	88	A	V
802.11a CH 165 5825MHz		5852.4	54.55	-62.28	116.83	38.68	34.88	11.86	30.87	109	180	P	H
		5864	56.01	-52.37	108.38	40.11	34.9	11.88	30.88	109	180	P	H
		5905.6	55.56	-27.06	82.62	39.6	34.92	11.93	30.89	109	180	P	H
		5954.8	56.24	-12.06	68.3	40.25	34.94	11.96	30.91	109	180	P	H
		5824	102.71	-	-	86.86	34.87	11.84	30.86	109	180	P	H
		5824	95.9	-	-	80.05	34.87	11.84	30.86	109	180	A	H
		5850.4	56.06	-65.33	121.39	40.19	34.88	11.86	30.87	188	93	P	V
		5870.4	56.38	-50.21	106.59	40.48	34.9	11.88	30.88	188	93	P	V
		5896.8	56.12	-33.01	89.13	40.18	34.92	11.91	30.89	188	93	P	V
		5975.6	56.02	-12.28	68.3	39.99	34.96	11.99	30.92	188	93	P	V
		5818	106.37	-	-	90.55	34.85	11.83	30.86	188	93	P	V
		5818	99.51	-	-	83.69	34.85	11.83	30.86	188	93	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 4	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		5643.6	55.72	-12.58	68.3	40.13	34.7	11.66	30.77	224	154	P	H
		5686	55.45	-39.52	94.97	39.79	34.75	11.71	30.8	224	154	P	H
		5715.6	55.97	-53.7	109.67	40.29	34.76	11.73	30.81	224	154	P	H
		5720.1	55.94	-55.19	111.13	40.22	34.78	11.75	30.81	224	154	P	H
		5740	103.89	-	-	88.16	34.79	11.76	30.82	224	154	P	H
		5740	97.22	-	-	81.49	34.79	11.76	30.82	224	154	A	H
		5631.6	56.85	-11.45	68.3	41.29	34.68	11.65	30.77	369	188	P	V
		5679.6	56.2	-34.04	90.24	40.56	34.73	11.7	30.79	369	188	P	V
		5718	55.12	-55.22	110.34	39.4	34.78	11.75	30.81	369	188	P	V
		5721.2	55.08	-58.56	113.64	39.36	34.78	11.75	30.81	369	188	P	V
		5746	104.26	-	-	88.54	34.79	11.76	30.83	369	188	P	V
		5746	97.01	-	-	81.29	34.79	11.76	30.83	369	188	A	V
802.11a CH 165 5825MHz		5851.2	56.39	-63.17	119.56	40.52	34.88	11.86	30.87	227	156	P	H
		5858.4	56.36	-53.59	109.95	40.46	34.9	11.88	30.88	227	156	P	H
		5888.4	56.67	-38.68	95.35	40.73	34.92	11.91	30.89	227	156	P	H
		5958	57.24	-11.06	68.3	41.22	34.95	11.98	30.91	227	156	P	H
		5824	104.32	-	-	88.47	34.87	11.84	30.86	227	156	P	H
		5824	97.3	-	-	81.45	34.87	11.84	30.86	227	156	A	H
		5853.2	55.77	-59.23	115	39.9	34.88	11.86	30.87	380	191	P	V
		5874	56.58	-49	105.58	40.67	34.91	11.89	30.89	380	191	P	V
		5896.4	56.78	-32.65	89.43	40.84	34.92	11.91	30.89	380	191	P	V
		5981.2	56.04	-12.26	68.3	40.01	34.96	11.99	30.92	380	191	P	V
		5824	103.84	-	-	87.99	34.87	11.84	30.86	380	191	P	V
		5824	96.72	-	-	80.87	34.87	11.84	30.86	380	191	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	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		11489.48	43.4	-30.6	74	49.06	37.69	17.08	60.43	300	0	P	H
		11489.48	43.73	-30.27	74	49.39	37.69	17.08	60.43	300	0	P	V
802.11a CH 157 5785MHz		11569.56	42.94	-31.06	74	48.33	37.84	17.15	60.38	100	360	P	H
		11569.56	43.22	-30.78	74	48.61	37.84	17.15	60.38	100	360	P	V
802.11a CH 165 5825MHz		11649.64	43.35	-30.65	74	48.5	37.98	17.2	60.33	100	360	P	H
		11649.64	43.83	-30.17	74	48.98	37.98	17.2	60.33	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 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		11489.48	43.25	-30.75	74	48.91	37.69	17.08	60.43	100	360	P	H
		11489.48	42.9	-31.1	74	48.56	37.69	17.08	60.43	100	360	P	V
802.11a CH 157 5785MHz		11569.56	43.56	-30.44	74	48.95	37.84	17.15	60.38	100	360	P	H
		11569.56	43.66	-30.34	74	49.05	37.84	17.15	60.38	100	360	P	V
802.11a CH 165 5825MHz		11649.64	43.75	-30.25	74	48.9	37.98	17.2	60.33	100	360	P	H
		11649.64	42.83	-31.17	74	47.98	37.98	17.2	60.33	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 3	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		11489.48	42.84	-31.16	74	48.5	37.69	17.08	60.43	100	360	P	H
		11489.48	42.61	-31.39	74	48.27	37.69	17.08	60.43	100	360	P	V
802.11a CH 157 5785MHz		11569.56	42.97	-31.03	74	48.36	37.84	17.15	60.38	100	360	P	H
		11569.56	42.55	-31.45	74	47.94	37.84	17.15	60.38	100	360	P	V
802.11a CH 165 5825MHz		11649.64	43.99	-30.01	74	49.14	37.98	17.2	60.33	100	360	P	H
		11649.64	43.81	-30.19	74	48.96	37.98	17.2	60.33	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI Ant. 4	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		11489.48	43.4	-30.6	74	49.06	37.69	17.08	60.43	100	360	P	H
		11489.48	43.3	-30.7	74	48.96	37.69	17.08	60.43	100	360	P	V
802.11a CH 157 5785MHz		11569.56	43.18	-30.82	74	48.57	37.84	17.15	60.38	100	360	P	H
		11569.56	42.31	-31.69	74	47.7	37.84	17.15	60.38	100	360	P	V
802.11a CH 165 5825MHz		11649.64	43.45	-30.55	74	48.6	37.98	17.2	60.33	100	360	P	H
		11649.64	43.4	-30.6	74	48.55	37.98	17.2	60.33	100	360	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. MIMO	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		5612.4	56.48	-11.82	68.3	40.96	34.66	11.63	30.77	233	153	P	H
		5656.4	57.52	-15.53	73.05	41.9	34.72	11.68	30.78	233	153	P	H
		5720	58.38	-52.52	110.9	42.66	34.78	11.75	30.81	233	153	P	H
		5724	65.57	-54.45	120.02	49.86	34.78	11.75	30.82	233	153	P	H
		5746	114.16	-	-	98.44	34.79	11.76	30.83	233	153	P	H
		5746	108.25	-	-	92.53	34.79	11.76	30.83	233	153	A	H
		5642.4	56.52	-11.78	68.3	40.93	34.7	11.66	30.77	356	107	P	V
		5650.1	56.32	-12.05	68.37	40.7	34.72	11.68	30.78	356	107	P	V
		5716.8	57.39	-52.62	110.01	41.71	34.76	11.73	30.81	356	107	P	V
		5724	58.3	-61.72	120.02	42.59	34.78	11.75	30.82	356	107	P	V
		5746	115.56	-	-	99.84	34.79	11.76	30.83	356	107	P	V
		5746	109.83	-	-	94.11	34.79	11.76	30.83	356	107	A	V
802.11n HT20 CH 165 5825MHz		5850.1	56.5	-65.57	122.07	40.63	34.88	11.86	30.87	171	156	P	H
		5864.8	55.83	-52.32	108.15	39.93	34.9	11.88	30.88	171	156	P	H
		5923.2	56.23	-13.4	69.63	40.26	34.93	11.94	30.9	171	156	P	H
		5927.6	56.5	-11.8	68.3	40.53	34.93	11.94	30.9	171	156	P	H
		5830	114.91	-	-	99.06	34.87	11.84	30.86	171	156	P	H
		5830	108.23	-	-	92.38	34.87	11.84	30.86	171	156	A	H
		5850.8	57.58	-62.9	120.48	41.71	34.88	11.86	30.87	256	93	P	V
		5865.6	57.2	-50.73	107.93	41.3	34.9	11.88	30.88	256	93	P	V
		5913.6	57.44	-19.27	76.71	41.49	34.92	11.93	30.9	256	93	P	V
		5964	57.42	-10.88	68.3	41.4	34.95	11.98	30.91	256	93	P	V
		5818	117.4	-	-	101.58	34.85	11.83	30.86	256	93	P	V
		5818	110.62	-	-	94.8	34.85	11.83	30.86	256	93	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. MIMO	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		11489.48	44.79	-29.21	74	50.45	37.69	17.08	60.43	100	360	P	H
		11489.48	42.84	-31.16	74	48.5	37.69	17.08	60.43	100	360	P	V
802.11n HT20 CH 157 5785MHz		11569.56	42.25	-31.75	74	47.64	37.84	17.15	60.38	100	360	P	H
		11569.56	42.74	-31.26	74	48.13	37.84	17.15	60.38	100	360	P	V
802.11n HT20 CH 165 5825MHz		11649.64	44.17	-29.83	74	49.32	37.98	17.2	60.33	100	360	P	H
		11649.64	43.22	-30.78	74	48.37	37.98	17.2	60.33	100	360	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. MIMO	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)
		5628.4	56.67	-11.63	68.3	41.11	34.68	11.65	30.77	128	33	P	H
		5676.4	55.87	-32.01	87.88	40.23	34.73	11.7	30.79	128	33	P	H
		5716.8	59.59	-50.42	110.01	43.91	34.76	11.73	30.81	128	33	P	H
		5720.8	59.35	-53.37	112.72	43.63	34.78	11.75	30.81	128	33	P	H
		5854.4	55.13	-57.14	112.27	39.22	34.9	11.88	30.87	128	33	P	H
		5873.6	55.83	-49.86	105.69	39.92	34.91	11.89	30.89	128	33	P	H
		5906.4	57.2	-24.83	82.03	41.24	34.92	11.93	30.89	128	33	P	H
		5925.2	56.11	-12.19	68.3	40.14	34.93	11.94	30.9	128	33	P	H
802.11n		5758	111.86	-	-	96.1	34.81	11.78	30.83	128	33	P	H
HT40		5758	104.28	-	-	88.52	34.81	11.78	30.83	128	33	A	H
CH 151		5625.2	56.33	-11.97	68.3	40.77	34.68	11.65	30.77	373	94	P	V
5755MHz		5683.6	56.26	-36.94	93.2	40.6	34.75	11.71	30.8	373	94	P	V
		5720	61.52	-49.38	110.9	45.8	34.78	11.75	30.81	373	94	P	V
		5722.8	62.7	-54.58	117.28	46.99	34.78	11.75	30.82	373	94	P	V
		5852	55.1	-62.64	117.74	39.23	34.88	11.86	30.87	373	94	P	V
		5859.6	56.85	-52.76	109.61	40.95	34.9	11.88	30.88	373	94	P	V
		5884.4	56.29	-42.03	98.32	40.38	34.91	11.89	30.89	373	94	P	V
		5982.8	56.33	-11.97	68.3	40.3	34.96	11.99	30.92	373	94	P	V
		5746	114.37	-	-	98.65	34.79	11.76	30.83	373	94	P	V
		5746	107.08	-	-	91.36	34.79	11.76	30.83	373	94	A	V

WIFI Ant. MIMO	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)
		5601.2	56.01	-12.29	68.3	40.48	34.66	11.63	30.76	138	33	P	H
		5688.4	56.12	-40.62	96.74	40.46	34.75	11.71	30.8	138	33	P	H
		5702.8	55.8	-50.29	106.09	40.12	34.76	11.73	30.81	138	33	P	H
		5724	56.22	-63.8	120.02	40.51	34.78	11.75	30.82	138	33	P	H
		5850	54.99	-67.31	122.3	39.12	34.88	11.86	30.87	138	33	P	H
		5874	56.33	-49.25	105.58	40.42	34.91	11.89	30.89	138	33	P	H
		5920.8	56.71	-14.69	71.4	40.76	34.92	11.93	30.9	138	33	P	H
		5926.8	56.31	-11.99	68.3	40.34	34.93	11.94	30.9	138	33	P	H
802.11n		5794	111.27	-	-	95.46	34.84	11.81	30.84	138	33	P	H
HT40		5794	104.82	-	-	89.01	34.84	11.81	30.84	138	33	A	H
CH 159		5603.2	56.78	-11.52	68.3	41.25	34.66	11.63	30.76	250	92	P	V
5795MHz		5698	57.24	-46.59	103.83	41.58	34.75	11.71	30.8	250	92	P	V
		5713.2	57.24	-51.76	109	41.56	34.76	11.73	30.81	250	92	P	V
		5722.4	56.68	-59.69	116.37	40.97	34.78	11.75	30.82	250	92	P	V
		5852.4	56.51	-60.32	116.83	40.64	34.88	11.86	30.87	250	92	P	V
		5856.4	57.56	-52.95	110.51	41.66	34.9	11.88	30.88	250	92	P	V
		5904.4	56.99	-26.52	83.51	41.05	34.92	11.91	30.89	250	92	P	V
		5930.8	56.92	-11.38	68.3	40.96	34.93	11.94	30.91	250	92	P	V
		5794	115.69	-	-	99.88	34.84	11.81	30.84	250	92	P	V
		5794	108.77	-	-	92.96	34.84	11.81	30.84	250	92	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. MIMO	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		11509.5	42.76	-31.24	74	48.39	37.7	17.1	60.43	100	360	P	H
		11509.5	42.42	-31.58	74	48.05	37.7	17.1	60.43	100	360	P	V
802.11n HT40 CH 159 5795MHz		11589.58	43.46	-30.54	74	48.8	37.87	17.16	60.37	100	360	P	H
		11589.58	42.74	-31.26	74	48.08	37.87	17.16	60.37	100	360	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. MIMO	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)
		5640.8	56.56	-11.74	68.3	40.97	34.7	11.66	30.77	140	33	P	H
		5656.4	57.3	-15.75	73.05	41.68	34.72	11.68	30.78	140	33	P	H
		5716.8	56.92	-53.09	110.01	41.24	34.76	11.73	30.81	140	33	P	H
		5720	55.15	-55.75	110.9	39.43	34.78	11.75	30.81	140	33	P	H
		5851.6	55.48	-63.17	118.65	39.61	34.88	11.86	30.87	140	33	P	H
		5869.6	55.91	-50.9	106.81	40.01	34.9	11.88	30.88	140	33	P	H
		5890.8	55.76	-37.81	93.57	39.82	34.92	11.91	30.89	140	33	P	H
		5975.2	55.72	-12.58	68.3	39.69	34.96	11.99	30.92	140	33	P	H
802.11ac		5776	106.2	-	-	90.43	34.82	11.79	30.84	140	33	P	H
VHT80		5776	99.33	-	-	83.56	34.82	11.79	30.84	140	33	A	H
CH 155		5632.8	56.14	-12.16	68.3	40.55	34.7	11.66	30.77	241	94	P	V
5775MHz		5681.2	57.12	-34.31	91.43	41.48	34.73	11.7	30.79	241	94	P	V
		5712.4	57.24	-51.53	108.77	41.56	34.76	11.73	30.81	241	94	P	V
		5724.8	56.49	-65.35	121.84	40.78	34.78	11.75	30.82	241	94	P	V
		5854.4	58.13	-54.14	112.27	42.22	34.9	11.88	30.87	241	94	P	V
		5858.4	57.01	-52.94	109.95	41.11	34.9	11.88	30.88	241	94	P	V
		5895.6	57.44	-32.58	90.02	41.5	34.92	11.91	30.89	241	94	P	V
		5969.2	56.17	-12.13	68.3	40.16	34.95	11.98	30.92	241	94	P	V
		5758	110.34	-	-	94.58	34.81	11.78	30.83	241	94	P	V
		5758	102.75	-	-	86.99	34.81	11.78	30.83	241	94	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	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		11549.54	43.83	-30.17	74	49.29	37.8	17.13	60.39	100	360	P	H
		11549.54	42.87	-31.13	74	48.33	37.8	17.13	60.39	100	360	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	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)
		5606	55.63	-12.67	68.3	40.1	34.66	11.63	30.76	211	157	P	H
		5690.8	56.93	-41.59	98.52	41.27	34.75	11.71	30.8	211	157	P	H
		5709.2	56.79	-51.09	107.88	41.11	34.76	11.73	30.81	211	157	P	H
		5724	58.1	-61.92	120.02	42.39	34.78	11.75	30.82	211	157	P	H
802.11ax		5746	110.61	-	-	94.89	34.79	11.76	30.83	211	157	P	H
HE20 Full		5746	103.48	-	-	87.76	34.79	11.76	30.83	211	157	A	H
CH 149		5616.8	56.2	-12.1	68.3	40.64	34.68	11.65	30.77	120	360	P	V
5745MHz		5692.4	55.93	-43.77	99.7	40.27	34.75	11.71	30.8	120	360	P	V
		5706.8	55.85	-51.36	107.21	40.17	34.76	11.73	30.81	120	360	P	V
		5724.8	56.65	-65.19	121.84	40.94	34.78	11.75	30.82	120	360	P	V
		5746	112.81	-	-	97.09	34.79	11.76	30.83	120	360	P	V
		5746	106.02	-	-	90.3	34.79	11.76	30.83	120	360	A	V
		5850	55.51	-66.79	122.3	39.64	34.88	11.86	30.87	298	279	P	H
		5866.8	56.15	-51.44	107.59	40.25	34.9	11.88	30.88	298	279	P	H
		5880.8	56.38	-44.61	100.99	40.47	34.91	11.89	30.89	298	279	P	H
		6000	56.12	-12.18	68.3	40.07	34.97	12.01	30.93	298	279	P	H
802.11ax		5824	110.35	-	-	94.5	34.87	11.84	30.86	298	279	P	H
HE20 Full		5824	102.39	-	-	86.54	34.87	11.84	30.86	298	279	A	H
CH 165		5852	55.11	-62.63	117.74	39.24	34.88	11.86	30.87	279	91	P	V
5825MHz		5872.4	55.62	-50.41	106.03	39.7	34.91	11.89	30.88	279	91	P	V
		5924.8	56.73	-11.72	68.45	40.76	34.93	11.94	30.9	279	91	P	V
		5925.2	56.73	-11.57	68.3	40.76	34.93	11.94	30.9	279	91	P	V
		5830	113.49	-	-	97.64	34.87	11.84	30.86	279	91	P	V
		5830	105.45	-	-	89.6	34.87	11.84	30.86	279	91	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	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		11489.48	43.71	-30.29	74	49.37	37.69	17.08	60.43	100	360	P	H
		11489.48	43.64	-30.36	74	49.3	37.69	17.08	60.43	100	360	P	V
802.11ax HE20 Full CH 157 5785MHz		11569.56	43.85	-30.15	74	49.24	37.84	17.15	60.38	100	360	P	H
		11569.56	42.26	-31.74	74	47.65	37.84	17.15	60.38	100	360	P	V
802.11ax HE20 Full CH 165 5825MHz		11649.64	44.01	-29.99	74	49.16	37.98	17.2	60.33	100	360	P	H
		11649.64	44.22	-29.78	74	49.37	37.98	17.2	60.33	100	360	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_Full (Band Edge @ 3m)

WIFI Ant. MIMO	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)
		5629.2	56.66	-11.64	68.3	41.1	34.68	11.65	30.77	136	32	P	H
		5680.4	55.98	-34.85	90.83	40.34	34.73	11.7	30.79	136	32	P	H
		5715.2	56.25	-53.31	109.56	40.57	34.76	11.73	30.81	136	32	P	H
		5724.8	56.11	-65.73	121.84	40.4	34.78	11.75	30.82	136	32	P	H
		5851.6	56.24	-62.41	118.65	40.37	34.88	11.86	30.87	136	32	P	H
		5861.2	55.21	-53.95	109.16	39.31	34.9	11.88	30.88	136	32	P	H
		5888	55.65	-40	95.65	39.71	34.92	11.91	30.89	136	32	P	H
		5982.8	56.7	-11.6	68.3	40.67	34.96	11.99	30.92	136	32	P	H
802.11ax		5758	109.17	-	-	93.41	34.81	11.78	30.83	136	32	P	H
HE40 Full		5758	99.81	-	-	84.05	34.81	11.78	30.83	136	32	A	H
CH 151		5606.8	56.7	-11.6	68.3	41.17	34.66	11.63	30.76	252	93	P	V
5755MHz		5657.6	55.94	-18.01	73.95	40.32	34.72	11.68	30.78	252	93	P	V
		5718.4	57.77	-52.68	110.45	42.05	34.78	11.75	30.81	252	93	P	V
		5723.6	56.59	-62.52	119.11	40.88	34.78	11.75	30.82	252	93	P	V
		5852.8	57.31	-58.61	115.92	41.44	34.88	11.86	30.87	252	93	P	V
		5868.8	55.82	-51.21	107.03	39.92	34.9	11.88	30.88	252	93	P	V
		5900	56.59	-30.17	86.76	40.65	34.92	11.91	30.89	252	93	P	V
		5976	56.1	-12.2	68.3	40.07	34.96	11.99	30.92	252	93	P	V
		5758	110.6	-	-	94.84	34.81	11.78	30.83	252	93	P	V
		5758	103.65	-	-	87.89	34.81	11.78	30.83	252	93	A	V

WIFI Ant. MIMO	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)
		5648	55.66	-12.64	68.3	40.08	34.7	11.66	30.78	128	31	P	H
		5689.2	56	-41.34	97.34	40.34	34.75	11.71	30.8	128	31	P	H
		5706	55.45	-51.53	106.98	39.77	34.76	11.73	30.81	128	31	P	H
		5722.4	55.62	-60.75	116.37	39.91	34.78	11.75	30.82	128	31	P	H
		5853.2	54.47	-60.53	115	38.6	34.88	11.86	30.87	128	31	P	H
		5859.2	55.32	-54.4	109.72	39.42	34.9	11.88	30.88	128	31	P	H
		5896	56.77	-32.95	89.72	40.83	34.92	11.91	30.89	128	31	P	H
		5980.8	56.32	-11.98	68.3	40.29	34.96	11.99	30.92	128	31	P	H
802.11ax		5794	107.74	-	-	91.93	34.84	11.81	30.84	128	31	P	H
HE40 Full		5794	100.37	-	-	84.56	34.84	11.81	30.84	128	31	A	H
CH 159		5623.6	57.35	-10.95	68.3	41.79	34.68	11.65	30.77	247	91	P	V
5795MHz		5662	55.51	-21.7	77.21	39.89	34.72	11.68	30.78	247	91	P	V
		5701.6	55.75	-50	105.75	40.06	34.76	11.73	30.8	247	91	P	V
		5721.2	55.48	-58.16	113.64	39.76	34.78	11.75	30.81	247	91	P	V
		5850.8	54.24	-66.24	120.48	38.37	34.88	11.86	30.87	247	91	P	V
		5860	55.94	-53.56	109.5	40.04	34.9	11.88	30.88	247	91	P	V
		5892	56.06	-36.62	92.68	40.12	34.92	11.91	30.89	247	91	P	V
		5958.8	55.92	-12.38	68.3	39.9	34.95	11.98	30.91	247	91	P	V
		5794	110.62	-	-	94.81	34.84	11.81	30.84	247	91	P	V
		5794	103.8	-	-	87.99	34.84	11.81	30.84	247	91	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. MIMO	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		11509.5	43.6	-30.4	74	49.23	37.7	17.1	60.43	100	360	P	H
		11509.5	41.99	-32.01	74	47.62	37.7	17.1	60.43	100	360	P	V
802.11ax HE40 Full CH 159 5795MHz		11589.58	43.2	-30.8	74	48.54	37.87	17.16	60.37	100	360	P	H
		11589.58	42.95	-31.05	74	48.29	37.87	17.16	60.37	100	360	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_Full (Band Edge @ 3m)

WIFI Ant. MIMO	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)
		5603.2	56.88	-11.42	68.3	41.35	34.66	11.63	30.76	101	283	P	H
		5691.6	57.94	-41.17	99.11	42.28	34.75	11.71	30.8	101	283	P	H
		5719.2	56.88	-53.8	110.68	41.16	34.78	11.75	30.81	101	283	P	H
		5721.6	56.67	-57.88	114.55	40.96	34.78	11.75	30.82	101	283	P	H
		5852	55.12	-62.62	117.74	39.25	34.88	11.86	30.87	101	283	P	H
		5858.4	55.86	-54.09	109.95	39.96	34.9	11.88	30.88	101	283	P	H
		5901.6	55.9	-29.68	85.58	39.96	34.92	11.91	30.89	101	283	P	H
		5926	56.52	-11.78	68.3	40.55	34.93	11.94	30.9	101	283	P	H
802.11ax		5788	103.86	-	-	88.05	34.84	11.81	30.84	101	283	P	H
HE80 Full		5788	96.78	-	-	80.97	34.84	11.81	30.84	101	283	A	H
CH 155		5611.2	56.75	-11.55	68.3	41.23	34.66	11.63	30.77	253	94	P	V
5775MHz		5684.4	56.44	-37.35	93.79	40.78	34.75	11.71	30.8	253	94	P	V
		5717.2	59.23	-50.89	110.12	43.55	34.76	11.73	30.81	253	94	P	V
		5721.6	55.9	-58.65	114.55	40.19	34.78	11.75	30.82	253	94	P	V
		5851.6	57.08	-61.57	118.65	41.21	34.88	11.86	30.87	253	94	P	V
		5874	55.45	-50.13	105.58	39.54	34.91	11.89	30.89	253	94	P	V
		5903.2	56.54	-27.85	84.39	40.6	34.92	11.91	30.89	253	94	P	V
		5956.8	55.95	-12.35	68.3	39.93	34.95	11.98	30.91	253	94	P	V
		5776	108.02	-	-	92.25	34.82	11.79	30.84	253	94	P	V
		5776	100.62	-	-	84.85	34.82	11.79	30.84	253	94	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. MIMO	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		11549.54	43.18	-30.82	74	48.64	37.8	17.13	60.39	100	360	P	H
		11549.54	43.1	-30.9	74	48.56	37.8	17.13	60.39	100	360	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	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
MIMO		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Partial 26 CH 149 5745MHz		5642.8	56.58	-11.72	68.3	42.54	35.8	11.6	33.36	197	160	P	H
		5699.6	62.33	-42.68	105.01	48.23	35.82	11.65	33.37	197	160	P	H
		5707.6	81.14	-26.29	107.43	67.03	35.83	11.66	33.38	197	160	P	H
		5721.6	68.38	-46.17	114.55	54.24	35.84	11.68	33.38	197	160	P	H
		5740	116.39	-	-	102.23	35.85	11.69	33.38	197	160	P	H
		5740	109.97	-	-	95.81	35.85	11.69	33.38	197	160	A	H
		5640.4	58.08	-10.22	68.3	44.04	35.8	11.6	33.36	305	75	P	V
		5698.8	61.4	-43.02	104.42	47.3	35.82	11.65	33.37	305	75	P	V
		5708.4	74.6	-33.05	107.65	60.49	35.83	11.66	33.38	305	75	P	V
		5724.4	58.9	-62.03	120.93	44.76	35.84	11.68	33.38	305	75	P	V
		5734	117.81	-	-	103.67	35.84	11.68	33.38	305	75	P	V
		5734	111.14	-	-	97	35.84	11.68	33.38	305	75	A	V
802.11ax HE20 Partial 26 CH 165 5825MHz		5853.2	58.35	-56.65	115	44.07	35.89	11.81	33.42	129	286	P	H
		5860.4	73.47	-35.92	109.39	59.15	35.9	11.84	33.42	129	286	P	H
		5892.8	60.22	-31.87	92.09	45.83	35.94	11.89	33.44	129	286	P	H
		5942.4	55.47	-12.83	68.3	40.95	36	11.97	33.45	129	286	P	H
		5836	116.92	-	-	102.67	35.88	11.79	33.42	129	286	P	H
		5836	110.43	-	-	96.18	35.88	11.79	33.42	129	286	A	H
		5853.6	66.42	-47.67	114.09	52.1	35.9	11.84	33.42	108	0	P	V
		5860.4	71.51	-37.88	109.39	57.19	35.9	11.84	33.42	108	0	P	V
		5892	63.84	-28.84	92.68	49.45	35.94	11.89	33.44	108	0	P	V
		5928	58.55	-9.75	68.3	44.08	35.98	11.94	33.45	108	0	P	V
		5830	120.42	-	-	106.17	35.88	11.79	33.42	108	0	P	V
		5830	111.67	-	-	97.42	35.88	11.79	33.42	108	0	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. MIMO	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 CH 149 5745MHz		5644	56.4	-11.9	68.3	42.36	35.8	11.6	33.36	219	155	P	H
		5696	60.16	-42.19	102.35	46.06	35.82	11.65	33.37	219	155	P	H
		5718.4	70.38	-40.07	110.45	56.24	35.84	11.68	33.38	219	155	P	H
		5721.2	71.5	-42.14	113.64	57.36	35.84	11.68	33.38	219	155	P	H
		5740	113.68	-	-	99.52	35.85	11.69	33.38	219	155	P	H
		5740	106.67	-	-	92.51	35.85	11.69	33.38	219	155	A	H
		5642	55.58	-12.72	68.3	41.54	35.8	11.6	33.36	271	25	P	V
		5700	65.86	-39.44	105.3	51.76	35.82	11.65	33.37	271	25	P	V
		5718.4	74.49	-35.96	110.45	60.35	35.84	11.68	33.38	271	25	P	V
		5720.8	74.78	-37.94	112.72	60.64	35.84	11.68	33.38	271	25	P	V
		5740	115.98	-	-	101.82	35.85	11.69	33.38	271	25	P	V
		5740	109.28	-	-	95.12	35.85	11.69	33.38	271	25	A	V
802.11ax HE20 Partial 52 CH 165 5825MHz		5850	70.73	-51.57	122.3	56.45	35.89	11.81	33.42	101	28	P	H
		5860.4	69.9	-39.49	109.39	55.58	35.9	11.84	33.42	101	28	P	H
		5879.2	57.99	-44.19	102.18	43.64	35.92	11.86	33.43	101	28	P	H
		5992	54.97	-13.33	68.3	40.34	36.06	12.04	33.47	101	28	P	H
		5830	114	-	-	99.75	35.88	11.79	33.42	101	28	P	H
		5830	106.64	-	-	92.39	35.88	11.79	33.42	101	28	A	H
		5850	74.52	-47.78	122.3	60.24	35.89	11.81	33.42	109	360	P	V
		5859.2	69.06	-40.66	109.72	54.74	35.9	11.84	33.42	109	360	P	V
		5878	59.9	-43.17	103.07	45.55	35.92	11.86	33.43	109	360	P	V
		5926.8	55.73	-12.57	68.3	41.26	35.98	11.94	33.45	109	360	P	V
		5830	116.36	-	-	102.11	35.88	11.79	33.42	109	360	P	V
		5830	109.26	-	-	95.01	35.88	11.79	33.42	109	360	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. MIMO	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 CH 149 5745MHz		5604	54.88	-13.42	68.3	40.88	35.77	11.57	33.34	227	169	P	H
		5698	56.58	-47.25	103.83	42.48	35.82	11.65	33.37	227	169	P	H
		5718.4	64.81	-45.64	110.45	50.67	35.84	11.68	33.38	227	169	P	H
		5724.4	63.98	-56.95	120.93	49.84	35.84	11.68	33.38	227	169	P	H
		5752	113.81	-	-	99.64	35.85	11.71	33.39	227	169	P	H
		5752	105.73	-	-	91.56	35.85	11.71	33.39	227	169	A	H
		5644.4	55.68	-12.62	68.3	41.64	35.8	11.6	33.36	275	91	P	V
		5692	58.96	-40.44	99.4	44.86	35.82	11.65	33.37	275	91	P	V
		5713.6	69.39	-39.72	109.11	55.28	35.83	11.66	33.38	275	91	P	V
		5722.4	68.24	-48.13	116.37	54.1	35.84	11.68	33.38	275	91	P	V
		5740	113.89	-	-	99.73	35.85	11.69	33.38	275	91	P	V
		5740	107.17	-	-	93.01	35.85	11.69	33.38	275	91	A	V
802.11ax HE20 Partial 106 CH 165 5825MHz		5850.8	64.63	-55.85	120.48	50.35	35.89	11.81	33.42	100	37	P	H
		5858.4	59.31	-50.64	109.95	44.99	35.9	11.84	33.42	100	37	P	H
		5913.6	54.68	-22.03	76.71	40.25	35.96	11.91	33.44	100	37	P	H
		5925.2	54.92	-13.38	68.3	40.45	35.98	11.94	33.45	100	37	P	H
		5830	111.11	-	-	96.86	35.88	11.79	33.42	100	37	P	H
		5830	103.27	-	-	89.02	35.88	11.79	33.42	100	37	A	H
		5850	65.48	-56.82	122.3	51.2	35.89	11.81	33.42	113	360	P	V
		5855.6	64.63	-46.1	110.73	50.31	35.9	11.84	33.42	113	360	P	V
		5880	59.2	-42.39	101.59	44.85	35.92	11.86	33.43	113	360	P	V
		5990.4	54.86	-13.44	68.3	40.23	36.06	12.04	33.47	113	360	P	V
		5818	114.43	-	-	100.2	35.88	11.76	33.41	113	360	P	V
		5818	114.43	-	-	100.2	35.88	11.76	33.41	113	360	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_Partial 242 (Band Edge @ 3m)

WIFI Ant. MIMO	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 CH 155 5775MHz		5624.4	56.39	-11.91	68.3	42.37	35.78	11.59	33.35	226	171	p	H
		5683.6	71.16	-22.04	93.2	57.06	35.82	11.65	33.37	226	171	p	H
		5700.8	65.99	-39.53	105.52	51.87	35.83	11.66	33.37	226	171	p	H
		5724.8	66.16	-55.68	121.84	52.02	35.84	11.68	33.38	226	171	p	H
		5853.2	60.39	-54.61	115	46.11	35.89	11.81	33.42	226	171	p	H
		5859.2	58.46	-51.26	109.72	44.14	35.9	11.84	33.42	226	171	p	H
		5879.6	57.9	-43.98	101.88	43.55	35.92	11.86	33.43	226	171	p	H
		5925.1	55.3	-13	68.3	40.83	35.98	11.94	33.45	226	171	p	H
		5752	102.36	-	-	88.19	35.85	11.71	33.39	226	171	p	H
		5752	94.39	-	-	80.22	35.85	11.71	33.39	226	171	A	H
		5624	54.7	-13.6	68.3	40.68	35.78	11.59	33.35	107	355	p	V
		5673.6	66.84	-18.96	85.8	52.76	35.82	11.63	33.37	107	355	p	V
		5712.8	63.07	-45.82	108.89	48.96	35.83	11.66	33.38	107	355	p	V
		5724.4	65.11	-55.82	120.93	50.97	35.84	11.68	33.38	107	355	p	V
		5850.4	55.23	-66.16	121.39	40.95	35.89	11.81	33.42	107	355	p	V
		5859.2	65.51	-44.21	109.72	51.19	35.9	11.84	33.42	107	355	p	V
		5876.4	64.62	-39.64	104.26	50.27	35.92	11.86	33.43	107	355	p	V
		5949.6	55.44	-12.86	68.3	40.92	36	11.97	33.45	107	355	p	V
		5752	102.29	-	-	88.12	35.85	11.71	33.39	107	355	p	V
		5752	94.97	-	-	80.8	35.85	11.71	33.39	107	355	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11ax HE20_Partial 26 (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.	
MIMO		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Partial 26 LF		36.79	33.51	-6.49	40	51.3	21.39	0.7	39.88	200	0	P	H
		58.13	29.24	-10.76	40	55.92	12.4	0.86	39.94	-	-	P	H
		111.48	27.19	-16.31	43.5	47.73	17.11	1.17	38.82	-	-	P	H
		169.68	23.67	-19.83	43.5	45.52	15.7	1.44	38.99	-	-	P	H
		341.37	21.68	-24.32	46	37.27	20.23	2.04	37.86	-	-	P	H
		792.42	26.66	-19.34	46	29.07	28.2	3.11	33.72	-	-	P	H
		31.94	31.73	-8.27	40	547.58	24.04	-500	39.89	100	0	P	V
		51.34	29.24	-10.76	40	54.2	14.15	0.82	39.93	-	-	P	V
		80.44	26.07	-13.93	40	51.73	13.6	1	40.26	-	-	P	V
		116.33	28.41	-15.09	43.5	48.72	17.38	1.19	38.88	-	-	P	V
		172.59	23.53	-19.97	43.5	45.47	15.54	1.46	38.94	-	-	P	V
		530.52	24.96	-21.04	46	33.83	24.85	2.53	36.25	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

For Beamforming

WIFI 802.11ax40 (Band Edge @ 3m)

WIFI Ant. TXBF	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)
		5629.6	56.9	-11.4	68.3	41.27	34.75	11.65	30.77	318	170	P	H
		5651.2	56.43	-12.76	69.19	40.67	34.86	11.68	30.78	318	170	P	H
	*	5706	56.31	-50.67	106.98	40.36	35.03	11.73	30.81	318	170	P	H
		5724	54.54	-65.48	120.02	38.53	35.08	11.75	30.82	318	170	P	H
		5852.4	55.73	-61.1	116.83	39.39	35.35	11.86	30.87	318	170	P	H
		5865.2	56.27	-51.77	108.04	39.9	35.37	11.88	30.88	318	170	P	H
		5896.8	56.98	-32.15	89.13	40.56	35.4	11.91	30.89	318	170	P	H
		5932.4	57.98	-10.32	68.3	41.52	35.43	11.94	30.91	318	170	P	H
		5782	101.16	-	-	84.96	35.25	11.79	30.84	318	170	P	H
802.11axHE40		5782	91.41	-	-	75.21	35.25	11.79	30.84	318	170	A	H
CH159		5606.4	55.99	-12.31	68.3	40.42	34.7	11.63	30.76	269	101	P	V
		5695.6	56.29	-45.77	102.06	40.41	34.97	11.71	30.8	269	101	P	V
		5701.6	55.06	-50.69	105.75	39.1	35.03	11.73	30.8	269	101	P	V
		5723.6	55.76	-63.35	119.11	39.75	35.08	11.75	30.82	269	101	P	V
		5851.6	55.4	-63.25	118.65	39.06	35.35	11.86	30.87	269	101	P	V
		5874	56.2	-49.38	105.58	39.82	35.38	11.89	30.89	269	101	P	V
		5909.2	57.3	-22.66	79.96	40.84	35.42	11.93	30.89	269	101	P	V
	*	5929.6	57.91	-10.39	68.3	41.44	35.43	11.94	30.9	269	101	P	V
		5788	102.21	-	-	85.94	35.3	11.81	30.84	269	101	P	V
		5788	94.12	-	-	77.85	35.3	11.81	30.84	269	101	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

WIFI 802.11ax40 (Harmonic @ 3m)

WIFI Ant. TXBF	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)
802.11axHE40		11590	43.92	-30.08	74	48.81	38.32	17.16	60.37	300	0	P	H
CH159		11590	44.01	-29.99	74	48.9	38.32	17.16	60.37	300	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. 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:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path 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) + Path 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)

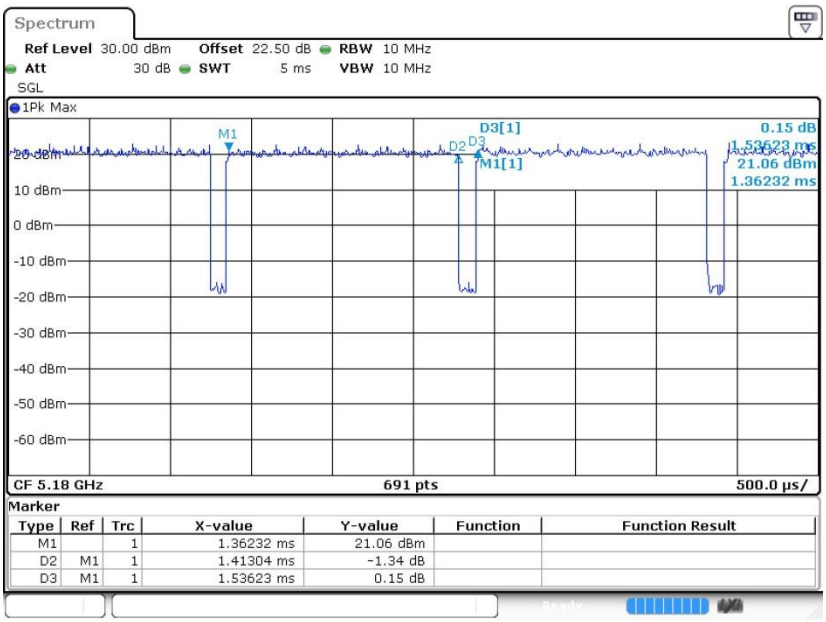
= -10.46(dB)

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

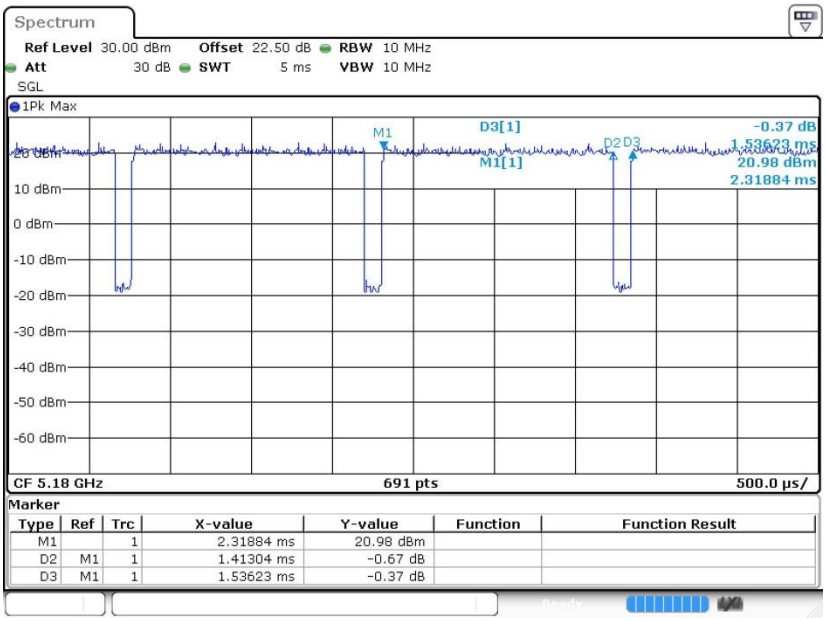
Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1	802.11a	91.98	1.413	0.708	0.75KHz
2	802.11a	91.98	1.413	0.708	0.75KHz
3	802.11a	91.55	1.413	0.708	0.75KHz
4	802.11a	92.42	1.413	0.708	0.75KHz
1+2+3+4	802.11n HT20	95.65	5.413	0.185	0.2KHz
1+2+3+4	802.11n HT40	94.90	5.391	0.185	0.2KHz
1+2+3+4	802.11ac VHT80	94.88	5.370	0.186	0.2KHz
1+2+3+4	802.11ax HE20	95.38	5.391	0.185	0.2KHz
1+2+3+4	802.11ax HE40	95.42	5.435	0.184	0.2KHz
1+2+3+4	802.11ax HE80	94.32	5.413	0.185	0.2KHz

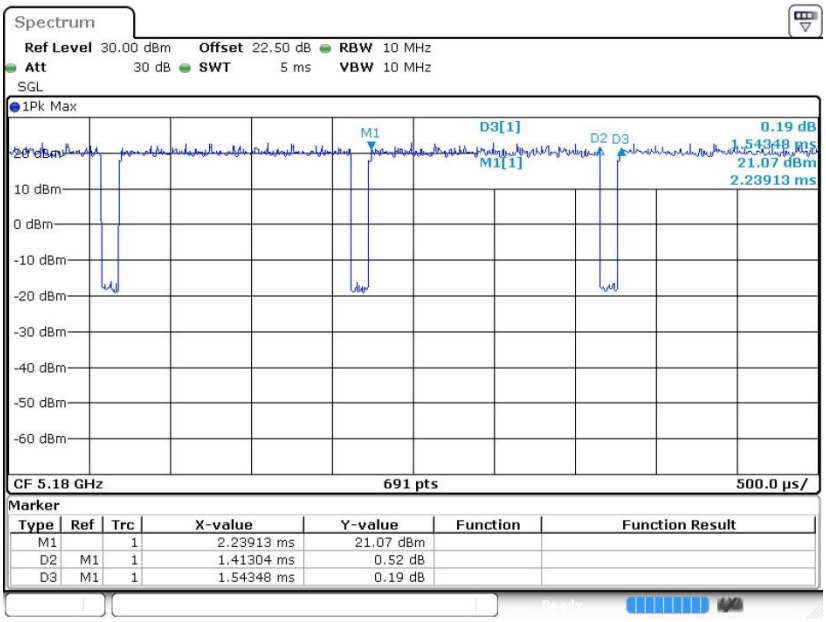
802.11a Ant 1



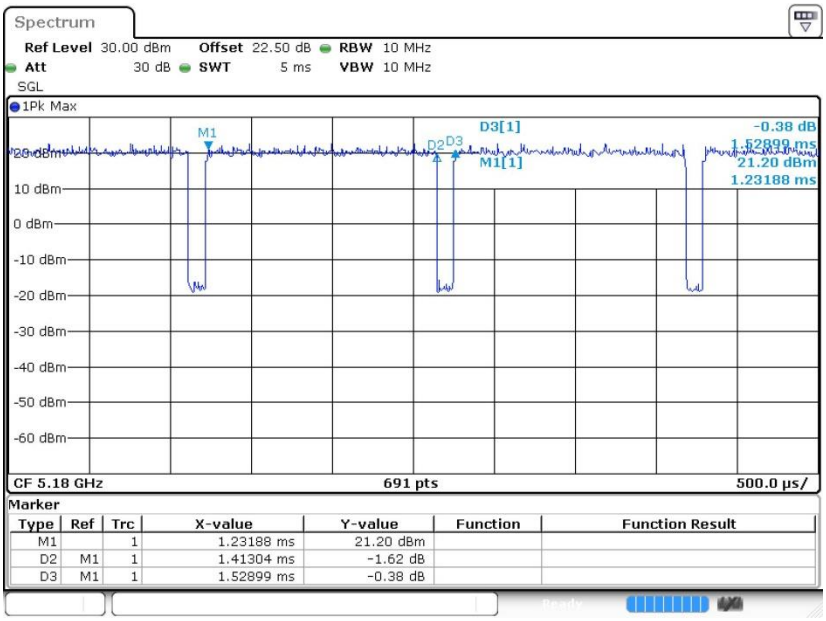
802.11a Ant 2



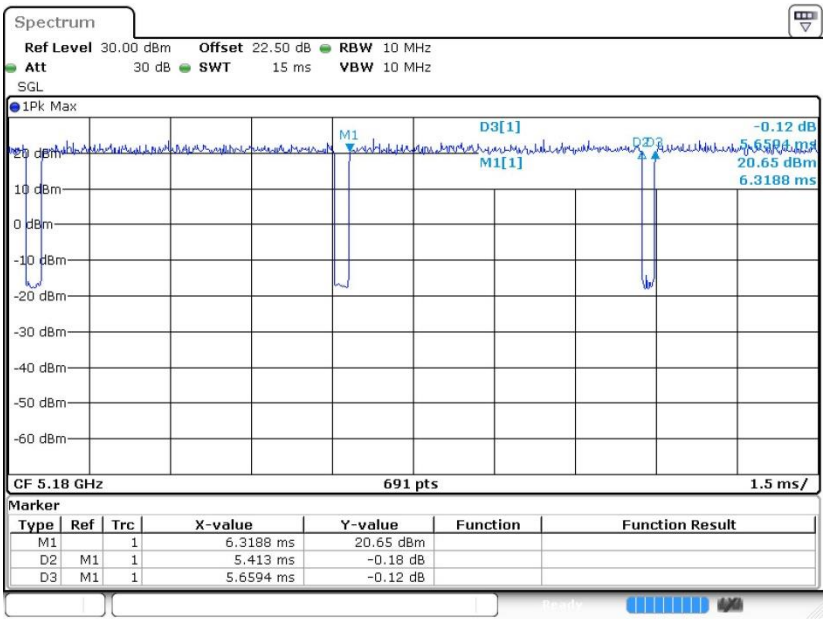
802.11a Ant 3



802.11a Ant 4



802.11n HT20



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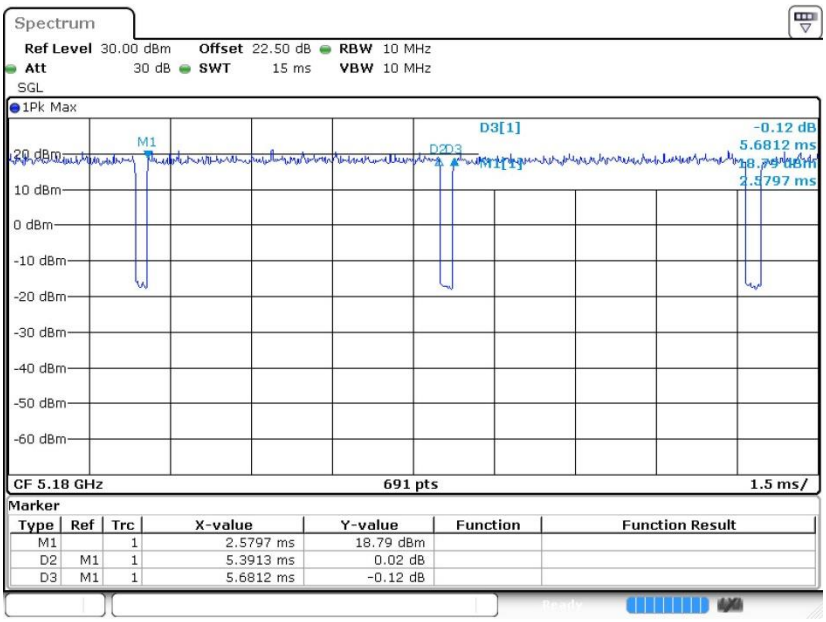
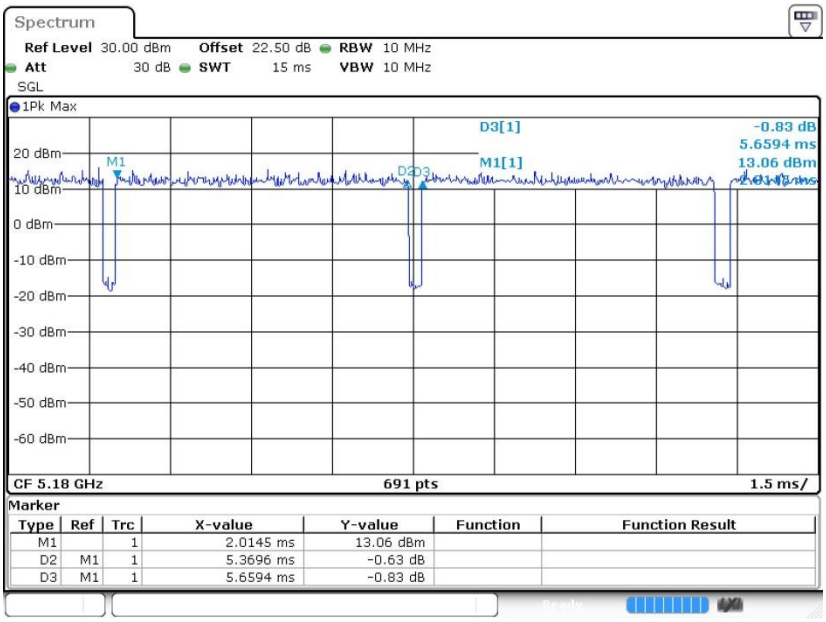
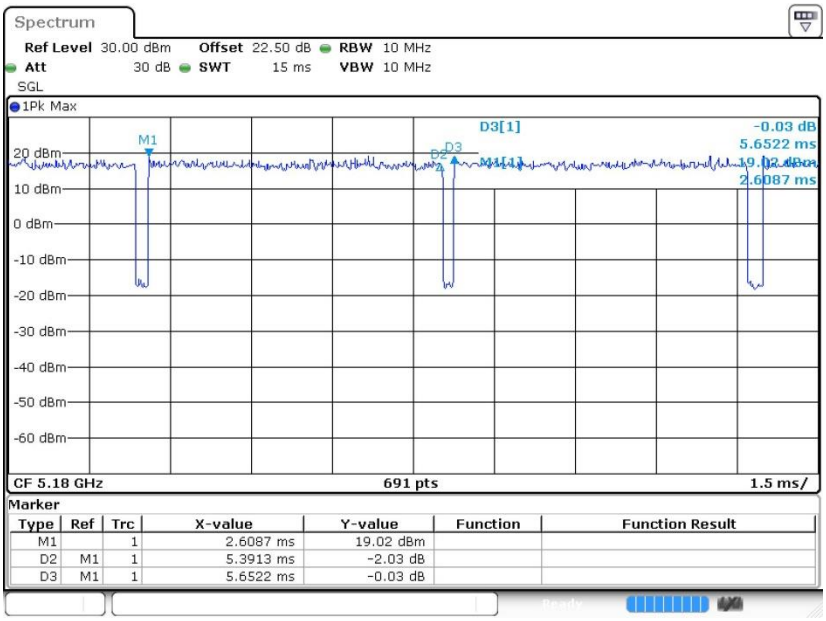


802.11ac VHT80



802.11ax HE20



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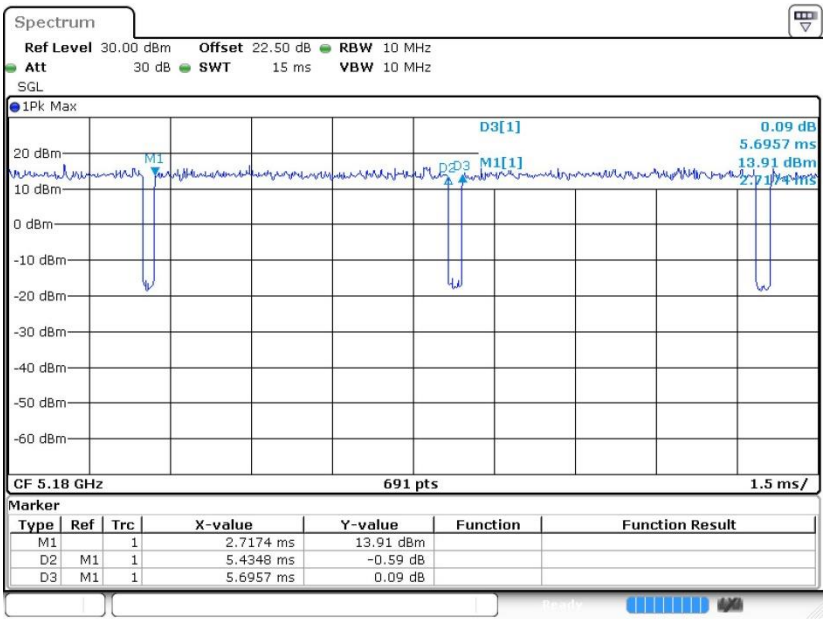

802.11ax HE80