



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2129-2
FCC ID : IHDT56ZN2
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Oct. 20, 2020 and testing was completed on Nov. 23, 2020. We, Sporton International (ShenZhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager



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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.....	6
1.5 Modification of EUT	7
1.6 Testing Location	7
1.7 Test Software.....	7
1.8 Applicable Standards.....	8
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	9
2.1 Carrier Frequency and Channel	9
2.2 Test Mode.....	11
2.3 Connection Diagram of Test System.....	13
2.4 Support Unit used in test configuration and system	13
2.5 EUT Operation Test Setup	13
2.6 Measurement Results Explanation Example.....	14
3 TEST RESULT	15
3.1 26dB & 99% Occupied Bandwidth Measurement	15
3.2 Maximum Conducted Output Power Measurement	17
3.3 Power Spectral Density Measurement	19
3.4 Unwanted Emissions Measurement.....	22
3.5 AC Conducted Emission Measurement.....	27
3.6 Automatically Discontinue Transmission	29
3.7 Antenna Requirements	30
4 LIST OF MEASURING EQUIPMENT	31
5 UNCERTAINTY OF EVALUATION	32
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
FR002023E	Rev. 01	Initial issue of report	Dec. 17, 2020

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.47 dB at 5350.320 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 16.92 dB at 17.850 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-
Remark: Not required means after assessing, test items are not necessary to carry out.					

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2129-2
FCC ID	IHDT56ZN2
EUT supports Radios application	GSM/ WCDMA/ LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE FM Receiver and GNSS
IMEI Code	Conduction: 350443160025712/350443160025720 Radiation: 350443160026413/350443160026421 Conducted: 350443160026934/350443160026942
HW Version	DVT2
SW Version	RRB31.30
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 17.62 dBm / 0.0578 W 802.11n HT20 : 17.66 dBm / 0.0583 W 802.11n HT40 : 17.56 dBm / 0.0570 W 802.11ac VHT20 : 17.63 dBm / 0.0579 W 802.11ac VHT40 : 17.52 dBm / 0.0565 W 802.11ac VHT80 : 15.01 dBm / 0.0317 W <5260 MHz ~ 5320 MHz> 802.11a : 17.67 dBm / 0.0585 W 802.11n HT20 : 17.71 dBm / 0.0590 W 802.11n HT40 : 17.58 dBm / 0.0573 W 802.11ac VHT20 : 17.68 dBm / 0.0586 W 802.11ac VHT40 : 17.54 dBm / 0.0568 W 802.11ac VHT80 : 14.62 dBm / 0.0290 W <5500 MHz ~ 5720 MHz > 802.11a : 17.57 dBm / 0.0571 W 802.11n HT20 : 17.57 dBm / 0.0571 W 802.11n HT40 : 17.67 dBm / 0.0585 W 802.11ac VHT20 : 17.54 dBm / 0.0568 W 802.11ac VHT40 : 17.62 dBm / 0.0578 W 802.11ac VHT80 : 17.51 dBm / 0.0564 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.83 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 76.12 MHz <5260 MHz ~ 5320 MHz > 802.11a : 16.78 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.56 MHz 802.11ac VHT80 : 76.24 MHz <5500 MHz ~ 5720 MHz > 802.11a : 16.83 MHz 802.11n HT20 : 17.93 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80 : 76.60 MHz
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> PIFA Antenna with gain -4.5 dBi <5250 MHz ~ 5350 MHz> PIFA Antenna with gain -4.5 dBi <5470 MHz ~ 5725 MHz> PIFA Antenna with gain -4.5 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)



1.5 Modification of EUT

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

1.6 Testing Location

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

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-SZ TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH04-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b



1.8 Applicable Standards

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

- ♦ 47 CFR Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ ANSI C63.10-2013

Remark:

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

1.9 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola (Chenyang)	Model Name	MC-201
AC Adapter 1(EU)	Brand Name	Motorola (Chenyang)	Model Name	MC-202
AC Adapter 1(UK)	Brand Name	Motorola (Chenyang)	Model Name	MC-203
AC Adapter 1(IN)	Brand Name	Motorola (Chenyang)	Model Name	MC-204
AC Adapter 1(AU)	Brand Name	Motorola (Chenyang)	Model Name	MC-205
AC Adapter 2(US)	Brand Name	Motorola (Acbel)	Model Name	MC-201
AC Adapter 2(EU)	Brand Name	Motorola (Acbel)	Model Name	MC-202
AC Adapter 2(UK)	Brand Name	Motorola (Acbel)	Model Name	MC-203
AC Adapter 2(AU)	Brand Name	Motorola (Acbel)	Model Name	MC-205
Battery	Brand Name	Motorola (Sunwoda)	Model Name	JK50
Earphone 1	Brand Name	Motorola (New Leader)	Model Name	EM301K-11SF
Earphone 2	Brand Name	Motorola (Juwei)	Model Name	JWEP1182-T03H
Earphone 3	Brand Name	Motorola (New Leader)	Model Name	NLD-EM313A-11SF
Earphone 4	Brand Name	Motorola (LIANYUN)	Model Name	SH38C81577
Earphone 5	Brand Name	Motorola (Lianchuang)	Model Name	SH38C81576
Earphone 6	Brand Name	Motorola	Model Name	Motobuds charge
USB Cable 1	Brand Name	Motorola (Chuangyitong)	Model Name	88806-024
USB Cable 2	Brand Name	Motorola (SUNTOPS)	Model Name	336258

2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700



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

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

Note:

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

2.2 Test Mode

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

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

Test Cases	
AC Conducted Emission	Mode 1 : GSM 850 Idle + Bluetooth Link (with TWS earphone) + WLAN Link (5G) + USB Cable1(Charging from Adapter 1) + Earphone4 + Battery1
Remark: 1. For Radiated Test Cases, The tests were performance with Adapter 1, Battery 1, Earphone 4, and USB Cable 1.	



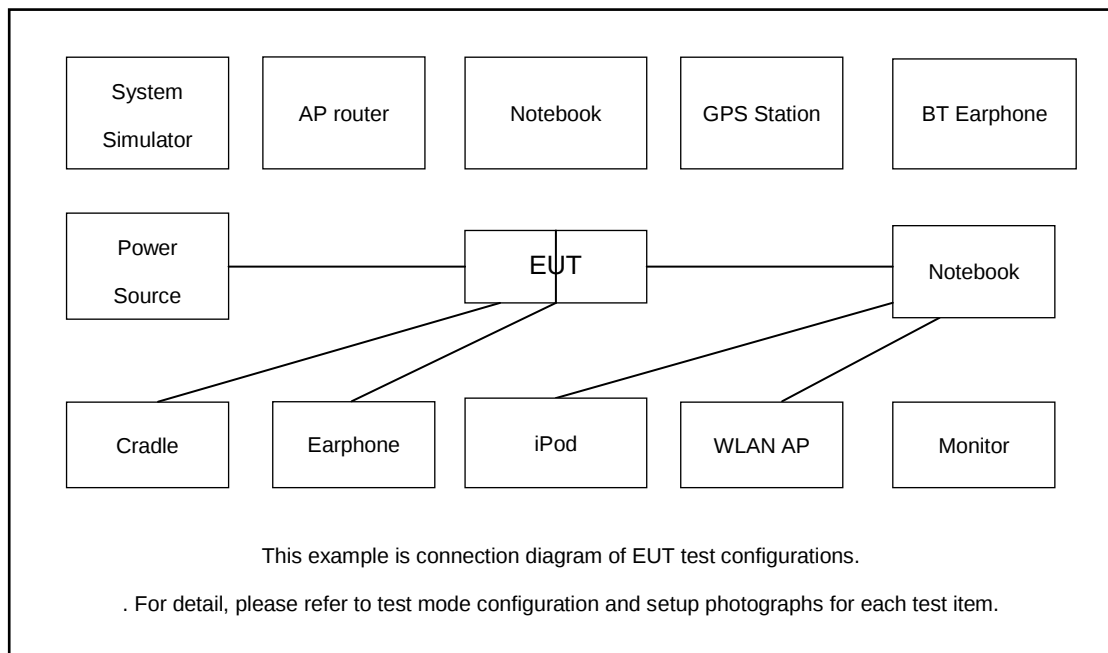
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	-
Straddle		-	-	138

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station(LTE)	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m

2.5 EUT Operation Test Setup

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

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



2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 2.5 + 20 = 22.5 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

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

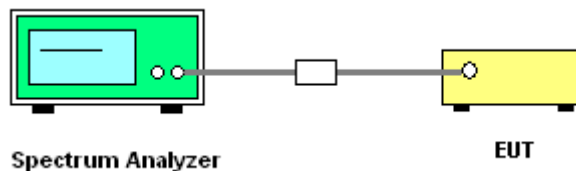
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

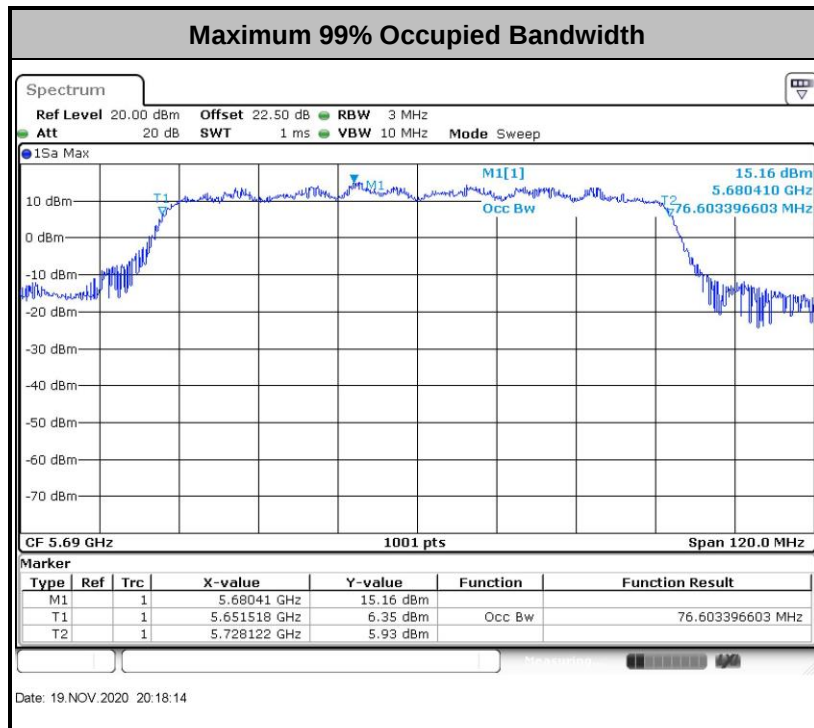
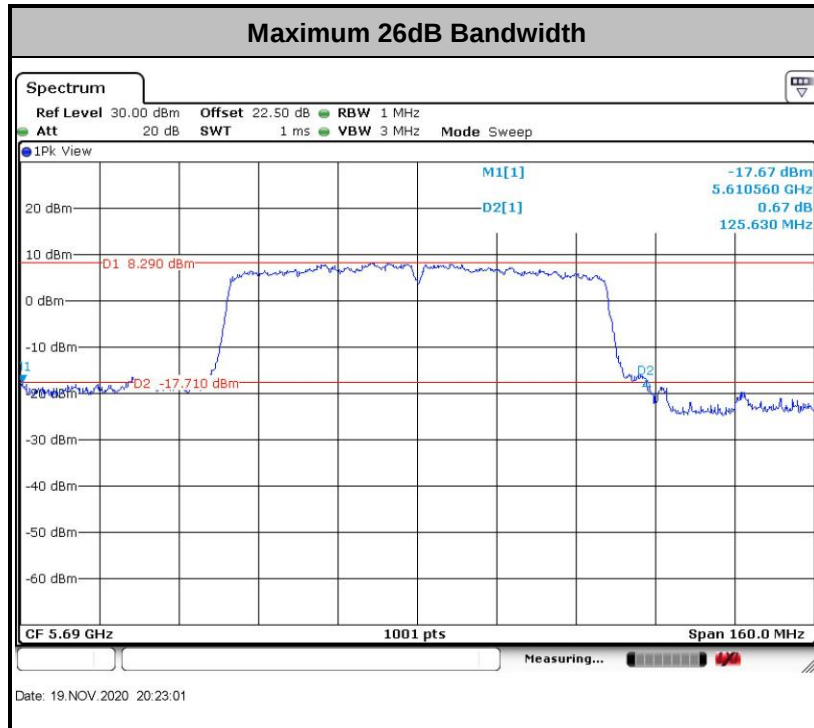
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

For the 5.47–5.6 GHz and 5.65–5.725 GHz band, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz.

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

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

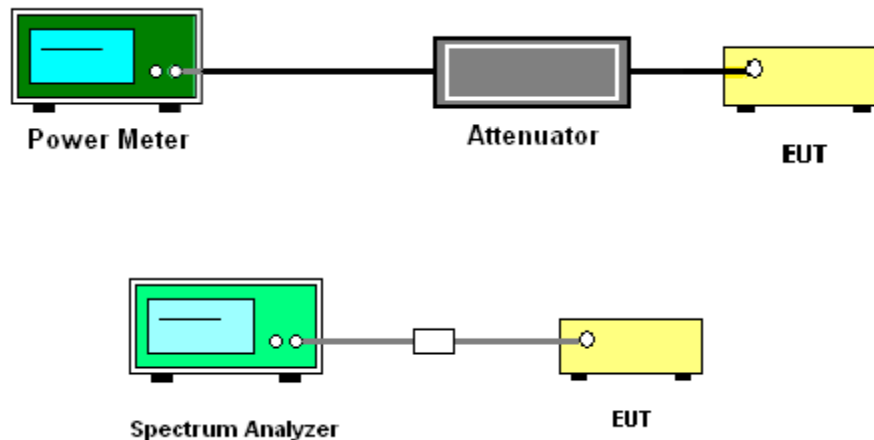
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

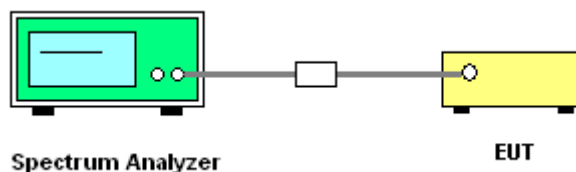
Section F) Maximum power spectral density.

Method SA-2

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

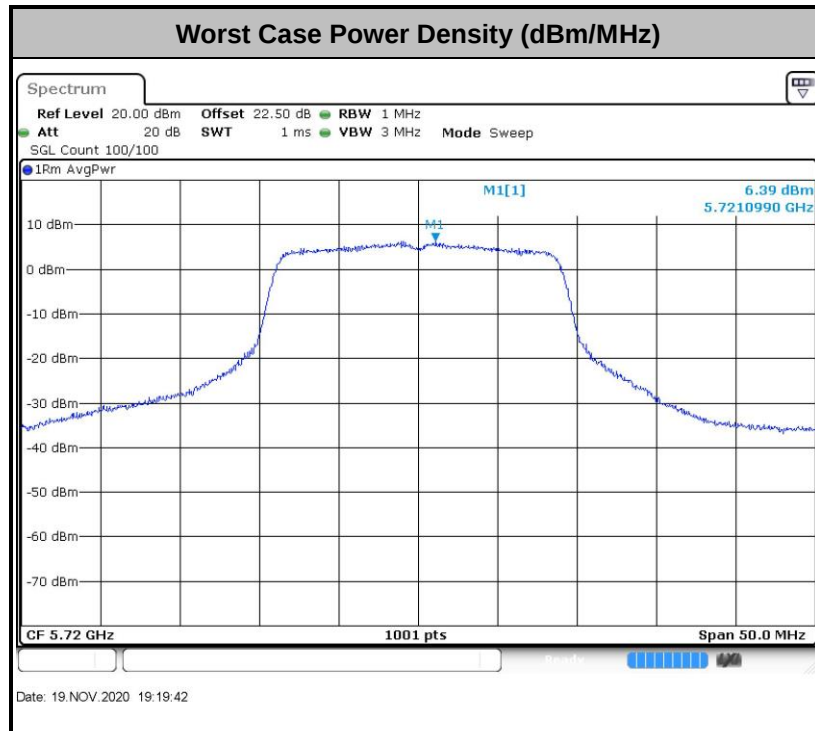
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 -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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

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

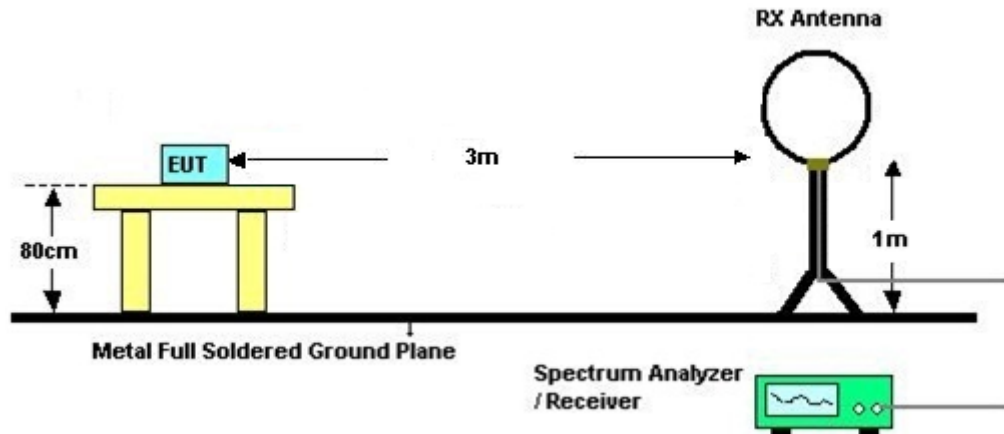
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

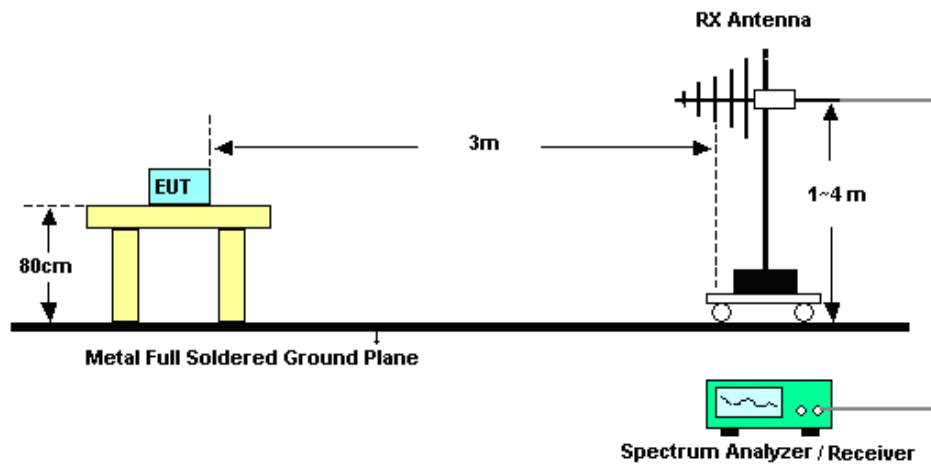
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak 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

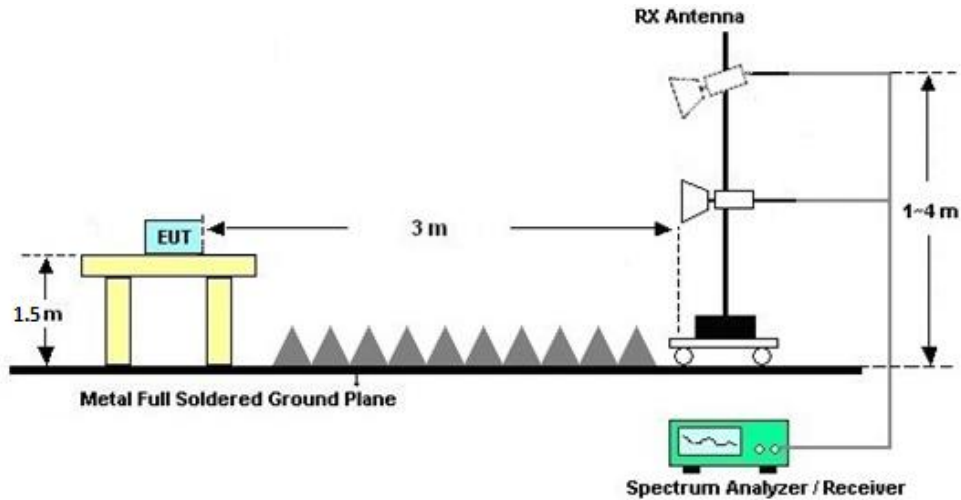
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

Frequency of emission (MHz)	Conducted limit (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.

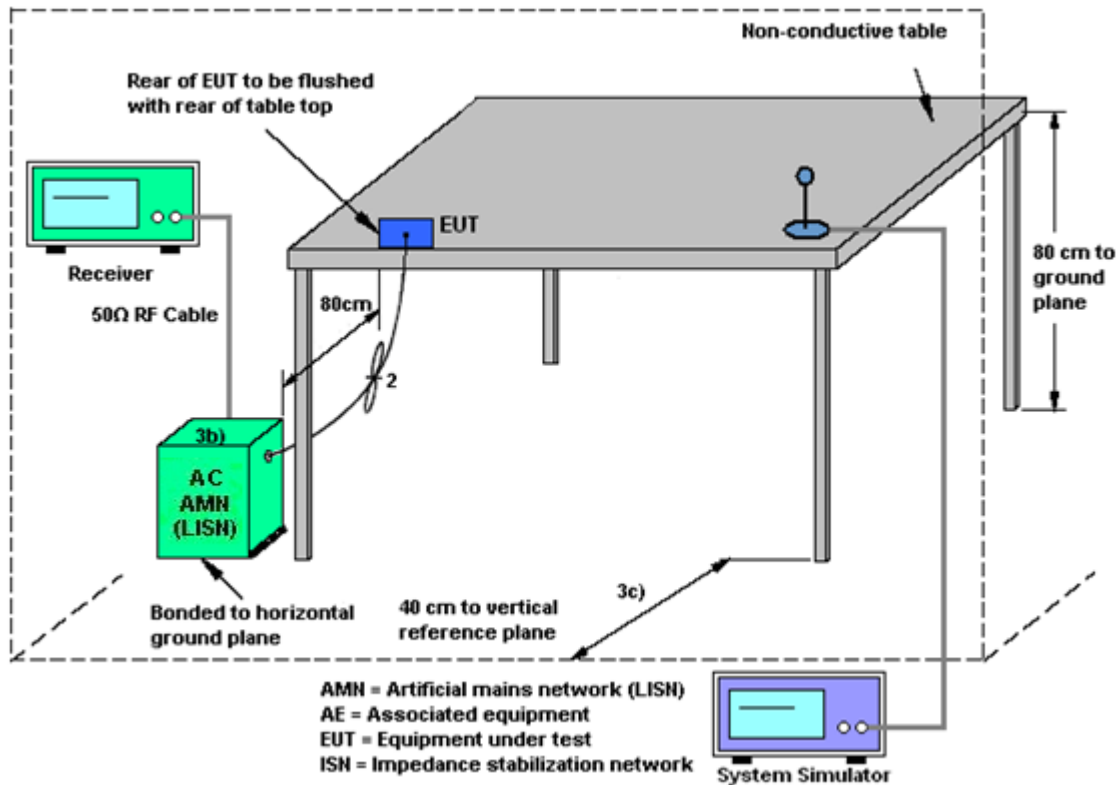
3.5.2 Measuring Instruments

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

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 17, 2020	Nov. 19, 2020	Apr. 16, 2021	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2019	Nov. 19, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2019	Nov. 19, 2020	Dec. 25, 2020	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 16, 2020	Nov. 23, 2020	Oct. 15, 2021	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 21, 2020	Nov. 23, 2020	Jul. 20, 2021	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Nov. 23, 2020	Jun. 21, 2022	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Nov. 07, 2020	Nov. 23, 2020	Nov. 06, 2021	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	May. 23, 2020	Nov. 23, 2020	Mar. 22, 2021	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 26, 2020	Nov. 23, 2020	Jul. 25, 2021	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz~3000MHz	Oct. 16, 2020	Nov. 23, 2020	Oct. 15, 2021	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 17, 2020	Nov. 23, 2020	Oct. 16, 2021	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2020	Nov. 23, 2020	Jul. 20, 2021	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Oct. 17, 2020	Nov. 23, 2020	Oct. 16, 2021	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Nov. 23, 2020	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Nov. 23, 2020	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Nov. 23, 2020	NCR	Radiation (03CH04-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 28, 2019	Nov. 18, 2020	Dec. 27, 2020	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Dec. 28, 2019	Nov. 18, 2020	Dec. 27, 2020	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 15, 2020	Nov. 18, 2020	Oct. 14, 2021	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 21, 2020	Nov. 18, 2020	Jul. 20, 2021	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7dB
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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% ($U = 2Uc(y)$)	4.8dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1dB
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Appendix A. Conducted Test Results

Report Number : FR002023E

Test Engineer:	Zhang Xue Yi	Temperature:	21~25	°C
Test Date:	2020/11/19	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	16.73	24.73	-	22.24		
11a	6Mbps	1	44	5220	16.78	24.93	-	22.25		
11a	6Mbps	1	48	5240	16.83	24.78	-	22.26		
HT20	MCS0	1	36	5180	17.93	25.82	-	22.54		
HT20	MCS0	1	44	5220	17.93	25.72	-	22.54		
HT20	MCS0	1	48	5240	17.93	25.77	-	22.54		
HT40	MCS0	1	38	5190	36.66	41.63	-	23.01		
HT40	MCS0	1	46	5230	36.56	41.81	-	23.01		
VHT80	MCS0	1	42	5210	76.12	91.27	-	23.01		

TEST RESULTS DATA
Average Power Table

FCC Band I									
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	36	5180	0.09	17.61	24.00	-4.50	Pass
11a	6Mbps	1	44	5220	0.09	17.43	24.00	-4.50	Pass
11a	6Mbps	1	48	5240	0.09	17.62	24.00	-4.50	Pass
HT20	MCS0	1	36	5180	0.08	17.56	24.00	-4.50	Pass
HT20	MCS0	1	44	5220	0.08	17.66	24.00	-4.50	Pass
HT20	MCS0	1	48	5240	0.08	17.52	24.00	-4.50	Pass
HT40	MCS0	1	38	5190	0.19	15.81	24.00	-4.50	Pass
HT40	MCS0	1	46	5230	0.19	17.56	24.00	-4.50	Pass
VHT20	MCS0	1	36	5180	0.10	17.55	24.00	-4.50	Pass
VHT20	MCS0	1	44	5220	0.10	17.63	24.00	-4.50	Pass
VHT20	MCS0	1	48	5240	0.10	17.50	24.00	-4.50	Pass
VHT40	MCS0	1	38	5190	0.17	15.74	24.00	-4.50	Pass
VHT40	MCS0	1	46	5230	0.17	17.52	24.00	-4.50	Pass
VHT80	MCS0	1	42	5210	0.33	15.01	24.00	-4.50	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.09	5.54	11.00	-4.50		Pass
11a	6Mbps	1	44	5220	0.09	5.05	11.00	-4.50		Pass
11a	6Mbps	1	48	5240	0.09	5.58	11.00	-4.50		Pass
HT20	MCS0	1	36	5180	0.08	6.06	11.00	-4.50		Pass
HT20	MCS0	1	44	5220	0.08	6.15	11.00	-4.50		Pass
HT20	MCS0	1	48	5240	0.08	6.07	11.00	-4.50		Pass
HT40	MCS0	1	38	5190	0.19	2.72	11.00	-4.50		Pass
HT40	MCS0	1	46	5230	0.19	2.79	11.00	-4.50		Pass
VHT80	MCS0	1	42	5210	0.33	0.02	11.00	-4.50		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	16.78	24.73	23.25	29.25	23.98	
11a	6M bps	1	60	5300	16.78	24.88	23.25	29.25	23.98	
11a	6M bps	1	64	5320	16.78	25.03	23.25	29.25	23.98	
HT20	MCS 0	1	52	5260	17.93	25.82	23.54	29.54	23.98	
HT20	MCS 0	1	60	5300	17.93	25.62	23.54	29.54	23.98	
HT20	MCS 0	1	64	5320	17.93	25.67	23.54	29.54	23.98	
HT40	MCS 0	1	54	5270	36.56	41.63	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.56	41.72	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	76.24	107.25	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.09	17.41	23.98	-4.50	26.99	Pass
11a	6M bps	1	60	5300	0.09	17.67	23.98	-4.50	26.99	Pass
11a	6M bps	1	64	5320	0.09	17.49	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	52	5260	0.08	17.63	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	60	5300	0.08	17.60	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	64	5320	0.08	17.71	23.98	-4.50	26.99	Pass
HT40	MCS 0	1	54	5270	0.19	17.58	23.98	-4.50	26.99	Pass
HT40	MCS 0	1	62	5310	0.19	15.88	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	52	5260	0.10	17.58	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	60	5300	0.10	17.52	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	64	5320	0.10	17.68	23.98	-4.50	26.99	Pass
VHT40	MCS 0	1	54	5270	0.17	17.54	23.98	-4.50	26.99	Pass
VHT40	MCS 0	1	62	5310	0.17	15.79	23.98	-4.50	26.99	Pass
VHT80	MCS 0	1	58	5290	0.33	14.62	23.98	-4.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.09	5.71	11.00	-4.50		Pass
11a	6M bps	1	60	5300	0.09	6.11	11.00	-4.50		Pass
11a	6M bps	1	64	5320	0.09	5.94	11.00	-4.50		Pass
HT20	MCS 0	1	52	5260	0.08	5.73	11.00	-4.50		Pass
HT20	MCS 0	1	60	5300	0.08	5.68	11.00	-4.50		Pass
HT20	MCS 0	1	64	5320	0.08	5.79	11.00	-4.50		Pass
HT40	MCS 0	1	54	5270	0.19	2.76	11.00	-4.50		Pass
HT40	MCS 0	1	62	5310	0.19	2.60	11.00	-4.50		Pass
VHT80	MCS 0	1	58	5290	0.33	-0.13	11.00	-4.50		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	16.73	25.03	23.24	29.24	23.98	
11a	6M bps	1	116	5580	16.83	24.68	23.26	29.26	23.98	
11a	6M bps	1	140	5700	16.73	23.83	23.24	29.24	23.98	
11a	6Mbps	1	144	5720	16.73	25.08	23.24	29.24	23.98	
HT20	MCS 0	1	100	5500	17.93	25.52	23.54	29.54	23.98	
HT20	MCS 0	1	116	5580	17.88	25.48	23.52	29.52	23.98	
HT20	MCS 0	1	140	5700	17.88	25.48	23.52	29.52	23.98	
HT20	MCS0	1	144	5720	17.88	25.62	23.52	29.52	23.98	
HT40	MCS 0	1	102	5510	36.66	41.63	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.76	50.80	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.86	49.63	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.66	43.16	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	76.48	107.73	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	76.24	107.89	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	76.60	125.63	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

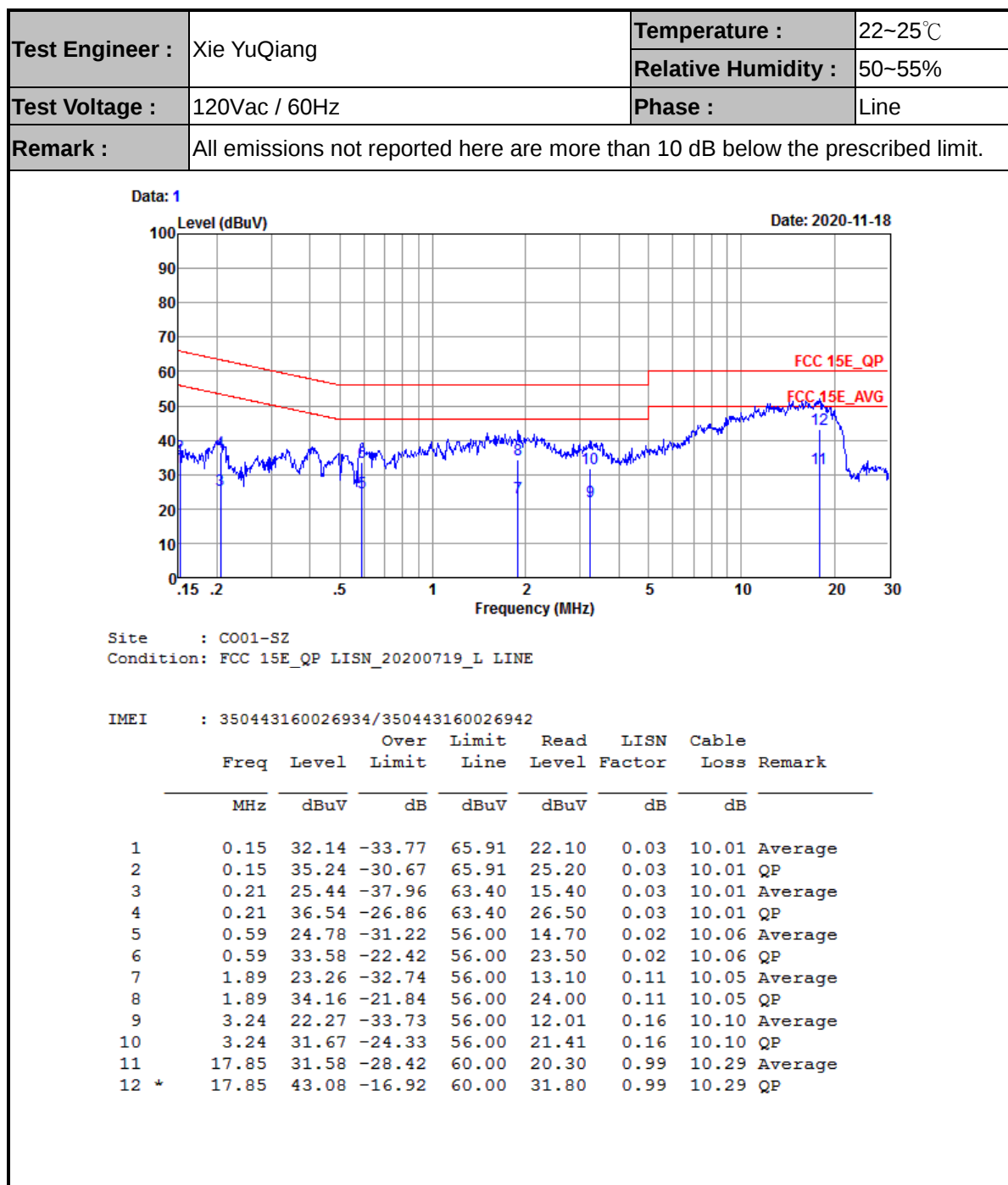
FCC Band III										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.09	17.50	23.98	-4.50	26.99	Pass
11a	6M bps	1	116	5580	0.09	17.57	23.98	-4.50	26.99	Pass
11a	6M bps	1	140	5700	0.09	16.97	23.98	-4.50	26.99	Pass
11a	6M bps	1	144	5720	0.09	17.44	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	100	5500	0.08	17.43	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	116	5580	0.08	17.50	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	140	5700	0.08	16.25	23.98	-4.50	26.99	Pass
HT20	MCS 0	1	144	5720	0.08	17.57	23.98	-4.50	26.99	Pass
HT40	MCS 0	1	102	5510	0.19	15.16	23.98	-4.50	26.99	Pass
HT40	MCS 0	1	110	5550	0.19	17.47	23.98	-4.50	26.99	Pass
HT40	MCS 0	1	134	5670	0.19	17.67	23.98	-4.50	26.99	Pass
HT40	MCS 0	1	142	5710	0.19	17.56	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	100	5500	0.10	17.42	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	116	5580	0.10	17.48	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	140	5700	0.10	16.21	23.98	-4.50	26.99	Pass
VHT20	MCS 0	1	144	5720	0.10	17.54	23.98	-4.50	26.99	Pass
VHT40	MCS 0	1	102	5510	0.17	15.11	23.98	-4.50	26.99	Pass
VHT40	MCS 0	1	110	5550	0.17	17.43	23.98	-4.50	26.99	Pass
VHT40	MCS 0	1	134	5670	0.17	17.62	23.98	-4.50	26.99	Pass
VHT40	MCS 0	1	142	5710	0.17	17.52	23.98	-4.50	26.99	Pass
VHT80	MCS 0	1	106	5530	0.33	13.97	23.98	-4.50	26.99	Pass
VHT80	MCS 0	1	122	5610	0.33	17.51	23.98	-4.50	26.99	Pass
VHT80	MCS 0	1	138	5690	0.33	17.49	23.98	-4.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.09	5.13	11.00	-4.50		Pass
11a	6M bps	1	116	5580	0.09	4.90	11.00	-4.50		Pass
11a	6M bps	1	140	5700	0.09	6.42	11.00	-4.50		Pass
11a	6Mbps	1	144	5720	0.09	6.18	11.00	-4.50		Pass
HT20	MCS 0	1	100	5500	0.08	6.16	11.00	-4.50		Pass
HT20	MCS 0	1	116	5580	0.08	6.04	11.00	-4.50		Pass
HT20	MCS 0	1	140	5700	0.08	6.24	11.00	-4.50		Pass
HT20	MCS0	1	144	5720	0.08	6.47	11.00	-4.50		Pass
HT40	MCS 0	1	102	5510	0.19	3.31	11.00	-4.50		Pass
HT40	MCS 0	1	110	5550	0.19	3.12	11.00	-4.50		Pass
HT40	MCS 0	1	134	5670	0.19	2.95	11.00	-4.50		Pass
HT40	MCS0	1	142	5710	0.19	2.71	11.00	-4.50		Pass
VHT80	MCS 0	1	106	5530	0.33	-0.04	11.00	-4.50		Pass
VHT80	MCS 0	1	122	5610	0.33	-0.15	11.00	-4.50		Pass
VHT80	MCS0	1	138	5690	0.33	-0.49	11.00	-4.50		Pass



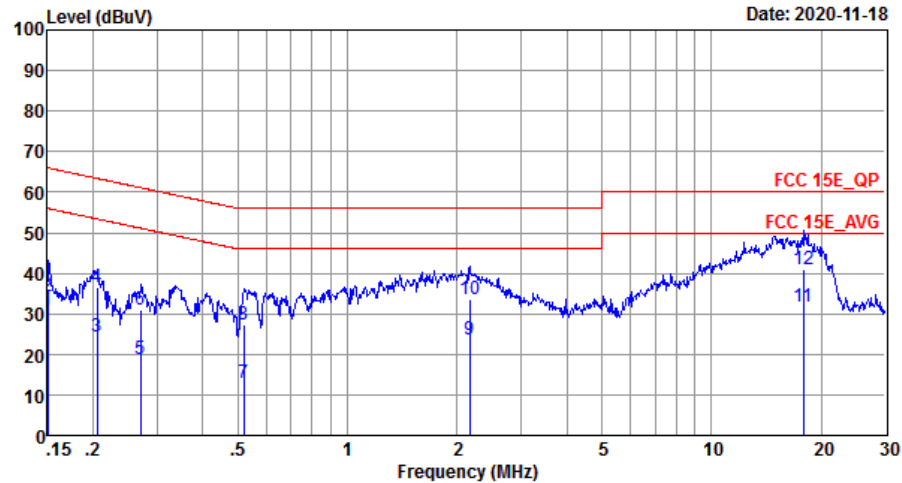
Appendix B. AC Conducted Emission Test Results





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

Data: 2



Site : CO01-SZ

Condition: FCC 15E QP LISN_20200719_N NEUTRAL

IMEI : 350443160026934/350443160026942

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	31.04	-34.96	66.00	21.00	0.03	10.01	Average
2	0.15	34.44	-31.56	66.00	24.40	0.03	10.01	QP
3	0.21	24.44	-38.96	63.40	14.40	0.03	10.01	Average
4	0.21	36.54	-26.86	63.40	26.50	0.03	10.01	QP
5	0.27	18.64	-42.48	61.12	8.60	0.03	10.01	Average
6	0.27	31.14	-29.98	61.12	21.10	0.03	10.01	QP
7	0.52	12.98	-43.02	56.00	2.90	0.02	10.06	Average
8	0.52	27.48	-28.52	56.00	17.40	0.02	10.06	QP
9	2.17	23.50	-32.50	56.00	13.39	0.05	10.06	Average
10	2.17	33.70	-22.30	56.00	23.59	0.05	10.06	QP
11	17.85	31.87	-28.13	60.00	21.10	0.48	10.29	Average
12 *	17.85	41.07	-18.93	60.00	30.30	0.48	10.29	QP

Note:

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



Appendix C. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5137.54	50.66	-23.34	74	40.02	31.78	8.51	29.65	390	316	P	H
		5150	41.34	-12.66	54	30.67	31.8	8.51	29.64	390	316	A	H
		5180	101.67	-	-	90.86	31.86	8.58	29.63	390	316	P	H
		5180	95.25	-	-	84.44	31.86	8.58	29.63	390	316	A	H
		5100.88	50.66	-23.34	74	40.19	31.7	8.43	29.66	328	272	P	V
		5149.24	42.05	-11.95	54	31.38	31.8	8.51	29.64	328	272	A	V
		5180	105.12	-	-	94.31	31.86	8.58	29.63	328	272	P	V
		5180	99.33	-	-	88.52	31.86	8.58	29.63	328	272	A	V
802.11a CH 44 5220MHz		5055.12	50.38	-23.62	74	40.09	31.61	8.36	29.68	400	341	P	H
		5147.94	40.87	-13.13	54	30.2	31.8	8.51	29.64	400	341	A	H
		5220	100.54	-	-	89.64	31.87	8.65	29.62	400	341	P	H
		5220	94.67	-	-	83.77	31.87	8.65	29.62	400	341	A	H
		5424.24	50.21	-23.79	74	38.41	31.67	9.66	29.53	400	341	P	H
		5456.88	40.69	-13.31	54	28.75	31.77	9.68	29.51	400	341	P	H
		5114.66	50.82	-23.18	74	40.24	31.73	8.51	29.66	318	278	P	V
		5150	41.38	-12.62	54	30.71	31.8	8.51	29.64	318	278	A	V
		5220	106.17	-	-	95.27	31.87	8.65	29.62	318	278	P	V
		5220	99.9	-	-	89	31.87	8.65	29.62	318	278	A	V
		5447.28	49.56	-24.44	74	37.66	31.74	9.68	29.52	318	278	P	V
		5457.6	40.96	-13.04	54	29.02	31.77	9.68	29.51	318	278	A	V



802.11a CH 48 5240MHz		5089.18	50.47	-23.53	74	40.03	31.68	8.43	29.67	400	314	P	H
		5149.76	40.9	-13.1	54	30.23	31.8	8.51	29.64	400	314	A	H
		5240	102.73	-	-	91.65	31.84	8.85	29.61	400	314	P	H
		5240	96.62	-	-	85.54	31.84	8.85	29.61	400	314	A	H
		5394	49.92	-24.08	74	38.19	31.61	9.66	29.54	400	314	P	H
		5459.52	40.75	-13.25	54	28.8	31.78	9.68	29.51	400	314	A	H
		5099.84	50.49	-23.51	74	40.02	31.7	8.43	29.66	317	270	P	V
		5150	41.16	-12.84	54	30.49	31.8	8.51	29.64	317	270	A	V
		5240	106.06	-	-	94.98	31.84	8.85	29.61	317	270	P	V
		5240	99.87	-	-	88.79	31.84	8.85	29.61	317	270	A	V
		5435.76	51.07	-22.93	74	39.2	31.71	9.68	29.52	317	270	P	V
		5460	40.91	-13.09	54	28.96	31.78	9.68	29.51	317	270	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		6907	50.82	-17.48	68.3	57.11	34.97	10.24	51.5	100	38	P	H
		10360	50.49	-17.81	68.3	50.31	39.58	12.06	51.46	122	255	P	H
		15540	48.74	-25.26	74	47.82	38.87	14.59	52.54	169	232	P	H
		6907	52.53	-15.77	68.3	58.82	34.97	10.24	51.5	100	45	P	V
		10360	50.84	-17.46	68.3	50.66	39.58	12.06	51.46	152	260	P	V
		15540	48.25	-25.75	74	47.33	38.87	14.59	52.54	189	238	P	V
802.11a CH 44 5220MHz		6962	49.57	-18.73	68.3	55.67	35.17	10.23	51.5	106	321	P	H
		10440	50.2	-18.1	68.3	49.76	39.7	12.12	51.38	116	226	P	H
		15660	48.26	-25.74	74	47.48	38.49	14.64	52.35	155	233	P	H
		6962	52.22	-16.08	68.3	58.32	35.17	10.23	51.5	122	105	P	V
		10440	50.39	-17.91	68.3	49.95	39.7	12.12	51.38	150	230	P	V
		15660	49.3	-24.7	74	48.52	38.49	14.64	52.35	160	225	P	V
802.11a CH 48 5240MHz		6984	49.06	-19.24	68.3	55.09	35.24	10.23	51.5	122	154	P	H
		10480	50.72	-17.58	68.3	50.12	39.77	12.15	51.32	142	236	P	H
		15720	48.36	-25.64	74	47.64	38.3	14.66	52.24	146	269	P	H
		6984	52.04	-16.26	68.3	58.07	35.24	10.23	51.5	135	349	P	V
		10480	50.74	-17.56	68.3	50.14	39.77	12.15	51.32	150	289	P	V
		15720	48.39	-25.61	74	47.67	38.3	14.66	52.24	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 1 5150~5250MHz****WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5130.26	47.7	-26.3	74	39.98	31.76	8.51	32.55	216	248	P	H
		5150	38.7	-15.3	54	30.95	31.8	8.51	32.56	216	248	A	H
		5180	98.44	-	-	90.57	31.86	8.58	32.57	216	248	P	H
		5180	91.02	-	-	83.15	31.86	8.58	32.57	216	248	A	H
		5149.24	49.42	-24.58	74	41.67	31.8	8.51	32.56	194	250	P	V
		5150	41.18	-12.82	54	33.43	31.8	8.51	32.56	194	250	A	V
		5180	103.36	-	-	95.49	31.86	8.58	32.57	194	250	P	V
		5180	95.29	-	-	87.42	31.86	8.58	32.57	194	250	A	V
802.11n HT20 CH 44 5220MHz		5086.06	47.91	-26.09	74	40.34	31.67	8.43	32.53	220	249	P	H
		5147.68	38.01	-15.99	54	30.26	31.8	8.51	32.56	220	249	A	H
		5220	98.75	-	-	90.81	31.87	8.65	32.58	220	249	P	H
		5220	92.06	-	-	84.12	31.87	8.65	32.58	220	249	A	H
		5415.36	46.85	-27.15	74	38.21	31.65	9.66	32.67	220	249	P	H
		5457.36	37.79	-16.21	54	29.03	31.77	9.68	32.69	220	249	A	H
		5085.28	47.64	-26.36	74	40.07	31.67	8.43	32.53	205	250	P	V
		5149.5	38.95	-15.05	54	31.2	31.8	8.51	32.56	205	250	A	V
		5220	104.24	-	-	96.3	31.87	8.65	32.58	205	250	P	V
		5220	95.3	-	-	87.36	31.87	8.65	32.58	205	250	A	V
		5435.76	47.11	-26.89	74	38.4	31.71	9.68	32.68	205	250	P	V
		5458.56	38.05	-15.95	54	29.28	31.78	9.68	32.69	205	250	A	V



802.11n HT20 CH 48 5240MHz		5031.2	48.35	-25.65	74	41.01	31.56	8.29	32.51	223	248	P	H
		5099.84	37.87	-16.13	54	30.28	31.7	8.43	32.54	223	248	A	H
		5240	98.93	-	-	90.83	31.84	8.85	32.59	223	248	P	H
		5240	90.2	-	-	82.1	31.84	8.85	32.59	223	248	A	H
		5442.96	47.02	-26.98	74	38.29	31.73	9.68	32.68	223	248	P	H
		5459.76	37.68	-16.32	54	28.91	31.78	9.68	32.69	223	248	A	H
		5028.6	47.87	-26.13	74	40.53	31.56	8.29	32.51	193	250	P	V
		5150	38.17	-15.83	54	30.42	31.8	8.51	32.56	193	250	A	V
		5240	103.51	-	-	95.41	31.84	8.85	32.59	193	250	P	V
		5240	94.92	-	-	86.82	31.84	8.85	32.59	193	250	A	V
		5428.32	48.27	-25.73	74	39.59	31.68	9.68	32.68	193	250	P	V
		5394.48	38.01	-15.99	54	29.4	31.61	9.66	32.66	193	250	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		6907	49.38	-18.92	68.3	55.67	34.97	10.24	51.5	141	57	P	H
		10360	50.1	-18.2	68.3	49.92	39.58	12.06	51.46	122	255	P	H
		15540	48.05	-25.95	74	47.13	38.87	14.59	52.54	169	232	P	H
		6907	51.83	-16.47	68.3	58.12	34.97	10.24	51.5	120	45	P	V
		10360	49.93	-18.37	68.3	49.75	39.58	12.06	51.46	152	260	P	V
		15540	48.22	-25.78	74	47.3	38.87	14.59	52.54	189	238	P	V
802.11n HT20 CH 44 5220MHz		6962	49.93	-18.37	68.3	56.03	35.17	10.23	51.5	133	218	P	H
		10440	51.47	-16.83	68.3	51.03	39.7	12.12	51.38	116	226	P	H
		15660	48.66	-25.34	74	47.88	38.49	14.64	52.35	155	233	P	H
		6962	51.27	-17.03	68.3	57.37	35.17	10.23	51.5	100	42	P	V
		10440	50.55	-17.75	68.3	50.11	39.7	12.12	51.38	150	230	P	V
		15660	48.49	-25.51	74	47.71	38.49	14.64	52.35	160	225	P	V
802.11n HT20 CH 48 5240MHz		6984	50.23	-18.07	68.3	56.26	35.24	10.23	51.5	120	71	P	H
		10480	50.65	-17.65	68.3	50.05	39.77	12.15	51.32	142	236	P	H
		15720	48.17	-25.83	74	47.45	38.3	14.66	52.24	146	269	P	H
		6984	51.82	-16.48	68.3	57.85	35.24	10.23	51.5	133	62	P	V
		10480	50.7	-17.6	68.3	50.1	39.77	12.15	51.32	150	289	P	V
		15720	48.7	-25.3	74	47.98	38.3	14.66	52.24	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.99	51.64	-22.36	74	43.89	31.8	8.51	32.56	100	118	P	H
		5149.24	46.01	-7.99	54	38.26	31.8	8.51	32.56	100	118	A	H
		5190	92.97	-	-	85.08	31.88	8.58	32.57	100	118	P	H
		5190	86.87	-	-	78.98	31.88	8.58	32.57	100	118	A	H
		5423.88	48.45	-25.55	74	39.79	31.67	9.66	32.67	100	118	P	H
		5424.44	39.53	-14.47	54	30.88	31.67	9.66	32.68	100	118	A	H
		5148.2	54.71	-19.29	74	46.96	31.8	8.51	32.56	100	90	P	V
		5149.76	49.48	-4.52	54	41.73	31.8	8.51	32.56	100	90	A	V
		5190	96.56	-	-	88.67	31.88	8.58	32.57	100	90	P	V
		5190	90.21	-	-	82.32	31.88	8.58	32.57	100	90	A	V
		5434.24	47.16	-26.84	74	38.46	31.7	9.68	32.68	100	90	P	V
		5400.64	39.76	-14.24	54	31.17	31.6	9.66	32.67	100	90	A	V
802.11n HT40 CH 46 5230MHz		5110.24	47.36	-26.64	74	39.75	31.72	8.43	32.54	105	114	P	H
		5132.08	39.8	-14.2	54	32.08	31.76	8.51	32.55	105	114	A	H
		5230	94.24	-	-	86.33	31.85	8.65	32.59	105	114	P	H
		5230	87.47	-	-	79.56	31.85	8.65	32.59	105	114	A	H
		5420.64	47.22	-26.78	74	38.57	31.66	9.66	32.67	105	114	P	H
		5361.6	39.19	-14.81	54	30.72	31.66	9.46	32.65	105	114	A	H
		5073.84	47.7	-26.3	74	40.22	31.65	8.36	32.53	125	90	P	V
		5147.16	40.08	-13.92	54	32.34	31.79	8.51	32.56	125	90	A	V
		5230	99.84	-	-	91.93	31.85	8.65	32.59	125	90	P	V
		5230	91.57	-	-	83.66	31.85	8.65	32.59	125	90	A	V
		5391.6	47.99	-26.01	74	39.38	31.61	9.66	32.66	125	90	P	V
		5407.44	39.6	-14.4	54	30.99	31.62	9.66	32.67	125	90	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		6918	52.24	-16.06	68.3	40.18	35.01	10.24	33.19	102	51	P	H
		10380	50.78	-17.52	68.3	50.52	39.61	12.09	51.44	150	360	P	H
		15570	49.43	-24.57	74	48.54	38.78	14.6	52.49	155	360	P	H
		6918	54.15	-14.15	68.3	42.09	35.01	10.24	33.19	133	261	P	V
		10380	50.33	-17.97	68.3	50.07	39.61	12.09	51.44	144	325	P	V
		15570	49.55	-24.45	74	48.66	38.78	14.6	52.49	113	311	P	V
802.11n HT40 CH 46 5230MHz		6973	50.62	-17.68	68.3	56.68	35.21	10.23	51.5	122	163	P	H
		10460	51.07	-17.23	68.3	50.54	39.74	12.15	51.36	150	360	P	H
		15690	48.79	-25.21	74	48.04	38.39	14.66	52.3	150	225	P	H
		6973	51.79	-16.51	68.3	57.85	35.21	10.23	51.5	133	251	P	V
		10460	50.61	-17.69	68.3	50.08	39.74	12.15	51.36	122	315	P	V
		15690	48.09	-25.91	74	47.34	38.39	14.66	52.3	116	236	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Band 1 5150~5250MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5148.72	53.72	-20.28	74	45.97	31.8	8.51	32.56	103	113	P	H
		5147.68	46.63	-7.37	54	38.88	31.8	8.51	32.56	103	113	A	H
		5210	88.33	-	-	80.37	31.89	8.65	32.58	103	113	P	H
		5210	80.44	-	-	72.48	31.89	8.65	32.58	103	113	A	H
		5454.24	47.24	-26.76	74	38.49	31.76	9.68	32.69	103	113	P	H
		5401.92	39.19	-14.81	54	30.59	31.61	9.66	32.67	103	113	A	H
		5132.86	55.76	-18.24	74	48.03	31.77	8.51	32.55	102	98	P	V
		5146.12	49.73	-4.27	54	41.99	31.79	8.51	32.56	102	98	A	V
		5210	92.28	-	-	84.32	31.89	8.65	32.58	102	98	P	V
		5210	84.44	-	-	76.48	31.89	8.65	32.58	102	98	A	V
		5458.56	47.21	-26.79	74	38.44	31.78	9.68	32.69	102	98	P	V
		5418.48	39.18	-14.82	54	30.53	31.66	9.66	32.67	102	98	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 1 5150~5250MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		6945.5	50.2	-18.1	68.3	56.35	35.11	10.24	51.5	201	0	P	H
		10420	50.35	-17.95	68.3	49.96	39.67	12.12	51.4	122	333	P	H
		15630	48.83	-25.17	74	48.01	38.58	14.62	52.38	110	265	P	H
		6945.5	53.37	-14.93	68.3	59.52	35.11	10.24	51.5	100	0	P	V
		10420	50.73	-17.57	68.3	50.34	39.67	12.12	51.4	150	360	P	V
		15630	49.48	-24.52	74	48.66	38.58	14.62	52.38	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5072.8	48.34	-25.66	74	40.86	31.65	8.36	32.53	205	243	P	H
		5097.76	38.12	-15.88	54	30.53	31.7	8.43	32.54	205	243	A	H
		5260	99.58	-	-	91.53	31.81	8.85	32.61	205	243	P	H
		5260	92.4	-	-	84.35	31.81	8.85	32.61	205	243	A	H
		5410.08	47.13	-26.87	74	38.51	31.63	9.66	32.67	205	243	P	H
		5459.76	37.94	-16.06	54	29.17	31.78	9.68	32.69	205	243	A	H
		5121.42	48.16	-25.84	74	40.46	31.74	8.51	32.55	204	250	P	V
		5146.64	38.15	-15.85	54	30.41	31.79	8.51	32.56	204	250	A	V
		5260	103.46	-	-	95.41	31.81	8.85	32.61	204	250	P	V
		5260	96.78	-	-	88.73	31.81	8.85	32.61	204	250	A	V
		5352.72	47.14	-26.86	74	38.66	31.67	9.46	32.65	204	250	P	V
		5351.04	38.91	-15.09	54	30.43	31.67	9.46	32.65	204	250	A	V
802.11a CH 60 5300MHz		5091.7	47.71	-26.29	74	40.13	31.68	8.43	32.53	187	249	P	H
		5098.35	38.04	-15.96	54	30.45	31.7	8.43	32.54	187	249	A	H
		5300	98.07	-	-	89.9	31.75	9.05	32.63	187	249	P	H
		5300	91.54	-	-	83.37	31.75	9.05	32.63	187	249	A	H
		5370.48	46.57	-27.43	74	38.12	31.64	9.46	32.65	187	249	P	H
		5352	39.16	-14.84	54	30.68	31.67	9.46	32.65	187	249	A	H
		5126	46.87	-27.13	74	39.16	31.75	8.51	32.55	189	250	P	V
		5101.15	38.09	-15.91	54	30.5	31.7	8.43	32.54	189	250	A	V
		5300	105.36	-	-	97.19	31.75	9.05	32.63	189	250	P	V
		5300	97.94	-	-	89.77	31.75	9.05	32.63	189	250	A	V
		5357.52	50.23	-23.77	74	41.76	31.66	9.46	32.65	189	250	P	V
		5350.08	41.85	-12.15	54	33.37	31.67	9.46	32.65	189	250	A	V



802.11a CH 64 5320MHz		5320	101.16	-	-	92.81	31.72	9.26	32.63	223	248	P	H
		5320	92.19	-	-	83.84	31.72	9.26	32.63	223	248	A	H
		5350.56	50.7	-23.3	74	42.22	31.67	9.46	32.65	223	248	P	H
		5350.08	42.2	-11.8	54	33.72	31.67	9.46	32.65	223	248	A	H
		5320	103.28	-	-	94.93	31.72	9.26	32.63	186	249	P	V
		5320	93.9	-	-	85.55	31.72	9.26	32.63	186	249	A	V
		5350.08	51.06	-22.94	74	42.58	31.67	9.46	32.65	186	249	P	V
		5350.24	44.02	-9.98	54	35.54	31.67	9.46	32.65	186	249	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		7011.5	49.18	-19.12	68.3	55.13	35.35	10.22	51.52	201	45	P	H
		10520	50.53	-17.77	68.3	49.88	39.82	12.17	51.34	144	213	P	H
		15780	48.87	-25.13	74	48.24	38.1	14.69	52.16	136	142	P	H
		7011.5	50.44	-17.86	68.3	56.39	35.35	10.22	51.52	135	315	P	V
		10520	50.5	-17.8	68.3	49.85	39.82	12.17	51.34	150	220	P	V
		15780	49.22	-24.78	74	48.59	38.1	14.69	52.16	159	345	P	V
802.11a CH 60 5300MHz		7066.5	49.43	-18.87	68.3	55.23	35.57	10.2	51.57	201	0	P	H
		10600	49.75	-24.25	74	49.13	39.92	12.23	51.53	126	252	P	H
		15900	47.84	-26.16	74	47.34	37.72	14.75	51.97	129	164	P	H
		7066.5	50.15	-18.15	68.3	55.95	35.57	10.2	51.57	201	0	P	V
		10600	50.39	-23.61	74	49.77	39.92	12.23	51.53	185	215	P	V
		15900	46.93	-27.07	74	46.43	37.72	14.75	51.97	196	190	P	V
802.11a CH 64 5320MHz		7094	50.66	-17.64	68.3	56.37	35.68	10.2	51.59	122	185	P	H
		10640	50.65	-23.35	74	50.02	39.97	12.26	51.6	126	139	P	H
		15960	47.17	-26.83	74	46.72	37.53	14.78	51.86	146	263	P	H
		7094	50.65	-17.65	68.3	56.36	35.68	10.2	51.59	100	251	P	V
		10640	50.1	-23.9	74	49.47	39.97	12.26	51.6	152	135	P	V
		15960	47.41	-26.59	74	46.96	37.53	14.78	51.86	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5057.2	47.65	-26.35	74	40.2	31.61	8.36	32.52	214	249	P	H
		5098.54	37.86	-16.14	54	30.27	31.7	8.43	32.54	214	249	A	H
		5260	98.63	-	-	90.58	31.81	8.85	32.61	214	249	P	H
		5260	90.26	-	-	82.21	31.81	8.85	32.61	214	249	A	H
		5387.28	47.12	-26.88	74	38.7	31.62	9.46	32.66	214	249	P	H
		5350.08	37.78	-16.22	54	29.3	31.67	9.46	32.65	214	249	A	H
		5137.28	47.65	-26.35	74	39.92	31.77	8.51	32.55	198	258	P	V
		5149.24	37.97	-16.03	54	30.22	31.8	8.51	32.56	198	258	A	V
		5260	103.79	-	-	95.74	31.81	8.85	32.61	198	258	P	V
		5260	95.06	-	-	87.01	31.81	8.85	32.61	198	258	A	V
		5373.84	46.8	-27.2	74	38.36	31.64	9.46	32.66	198	258	P	V
		5350.08	38.61	-15.39	54	30.13	31.67	9.46	32.65	198	258	A	V
802.11n HT20 CH 60 5300MHz		5095.9	47.98	-26.02	74	40.4	31.69	8.43	32.54	223	255	P	H
		5098	37.95	-16.05	54	30.36	31.7	8.43	32.54	223	255	A	H
		5300	99.1	-	-	90.93	31.75	9.05	32.63	223	255	P	H
		5300	90.43	-	-	82.26	31.75	9.05	32.63	223	255	A	H
		5360.4	47.66	-26.34	74	39.19	31.66	9.46	32.65	223	255	P	H
		5350.08	38.79	-15.21	54	30.31	31.67	9.46	32.65	223	255	A	H
		5103.25	47.84	-26.16	74	40.24	31.71	8.43	32.54	191	258	P	V
		5098.35	37.96	-16.04	54	30.37	31.7	8.43	32.54	191	258	A	V
		5300	103.88	-	-	95.71	31.75	9.05	32.63	191	258	P	V
		5300	95.93	-	-	87.76	31.75	9.05	32.63	191	258	A	V
		5353.2	49.14	-24.86	74	40.66	31.67	9.46	32.65	191	258	P	V
		5350.08	41.34	-12.66	54	32.86	31.67	9.46	32.65	191	258	A	V



802.11n HT20 CH 64 5320MHz		5320	99.72	-	-	91.37	31.72	9.26	32.63	223	249	P	H
		5320	90.6	-	-	82.25	31.72	9.26	32.63	223	249	A	H
		5351.52	52.65	-21.35	74	44.17	31.67	9.46	32.65	223	249	P	H
		5350.08	45.68	-8.32	54	37.2	31.67	9.46	32.65	223	249	A	H
		5320	104.81	-	-	96.46	31.72	9.26	32.63	203	258	P	V
		5320	96.7	-	-	88.35	31.72	9.26	32.63	203	258	A	V
		5350.72	59.01	-14.99	74	50.53	31.67	9.46	32.65	203	258	P	V
		5350.08	50.18	-3.82	54	41.7	31.67	9.46	32.65	203	258	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Band 2 5250~5350MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		7011.5	49.26	-19.04	68.3	55.21	35.35	10.22	51.52	133	47	P	H
		10520	51.05	-17.25	68.3	50.4	39.82	12.17	51.34	144	213	P	H
		15780	48.09	-25.91	74	47.46	38.1	14.69	52.16	136	142	P	H
		7011.5	51.7	-16.6	68.3	57.65	35.35	10.22	51.52	102	46	P	V
		10520	51.9	-16.4	68.3	51.25	39.82	12.17	51.34	150	220	P	V
		15780	48.6	-25.4	74	47.97	38.1	14.69	52.16	159	345	P	V
802.11n HT20 CH 60 5300MHz		7066.5	49.15	-19.15	68.3	54.95	35.57	10.2	51.57	133	125	P	H
		10600	51.51	-22.49	74	50.89	39.92	12.23	51.53	126	252	P	H
		15900	48.13	-25.87	74	47.63	37.72	14.75	51.97	129	164	P	H
		7066.5	50.05	-18.25	68.3	55.85	35.57	10.2	51.57	124	46	P	V
		10600	50.63	-23.37	74	50.01	39.92	12.23	51.53	185	215	P	V
		15900	47.49	-26.51	74	46.99	37.72	14.75	51.97	196	190	P	V
802.11n HT20 CH 64 5320MHz		7094	48.43	-19.87	68.3	54.14	35.68	10.2	51.59	201	0	P	H
		10640	50.64	-23.36	74	50.01	39.97	12.26	51.6	126	139	P	H
		15960	46.96	-27.04	74	46.51	37.53	14.78	51.86	146	263	P	H
		7094	49.2	-19.1	68.3	54.91	35.68	10.2	51.59	201	0	P	V
		10640	50.67	-23.33	74	50.04	39.97	12.26	51.6	152	135	P	V
		15960	49.77	-24.23	74	49.32	37.53	14.78	51.86	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5036.75	48.47	-25.53	74	41.05	31.57	8.36	32.51	106	115	P	H
		5104.3	39.99	-14.01	54	32.39	31.71	8.43	32.54	106	115	A	H
		5270	96.23	-	-	88.19	31.8	8.85	32.61	106	115	P	H
		5270	88.04	-	-	80	31.8	8.85	32.61	106	115	A	H
		5359.68	48.96	-25.04	74	40.49	31.66	9.46	32.65	106	115	P	H
		5350.8	40.73	-13.27	54	32.25	31.67	9.46	32.65	106	115	A	H
		5113.05	47.01	-26.99	74	39.39	31.73	8.43	32.54	123	91	P	V
		5099.05	39.77	-14.23	54	32.18	31.7	8.43	32.54	123	91	A	V
		5270	99.3	-	-	91.26	31.8	8.85	32.61	123	91	P	V
		5270	91	-	-	82.96	31.8	8.85	32.61	123	91	A	V
		5351.52	49.93	-24.07	74	41.45	31.67	9.46	32.65	123	91	P	V
		5350.08	41.85	-12.15	54	33.37	31.67	9.46	32.65	123	91	A	V
802.11n HT40 CH 62 5310MHz		5102.9	48.76	-25.24	74	41.16	31.71	8.43	32.54	106	115	P	H
		5096.25	40.12	-13.88	54	32.54	31.69	8.43	32.54	106	115	A	H
		5310	94.91	-	-	86.54	31.74	9.26	32.63	106	115	P	H
		5310	86.96	-	-	78.59	31.74	9.26	32.63	106	115	A	H
		5350.32	54	-20	74	45.52	31.67	9.46	32.65	106	115	P	H
		5350.32	47.52	-6.48	54	39.04	31.67	9.46	32.65	106	115	A	H
		5143.15	47.22	-26.78	74	39.47	31.79	8.51	32.55	119	92	P	V
		5119	39.59	-14.41	54	31.89	31.74	8.51	32.55	119	92	A	V
		5310	96.89	-	-	88.52	31.74	9.26	32.63	119	92	P	V
		5310	88.25	-	-	79.88	31.74	9.26	32.63	119	92	A	V
		5350.56	54.15	-19.85	74	45.67	31.67	9.46	32.65	119	92	P	V
		5350.32	49.35	-4.65	54	40.87	31.67	9.46	32.65	119	92	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		7028	49.07	-19.23	68.3	36.76	35.41	10.21	33.31	166	29	P	H
		10540	51.18	-17.12	68.3	50.51	39.85	12.2	51.38	125	211	P	H
		15810	48.89	-25.11	74	48.27	38.01	14.71	52.1	126	269	P	H
		7028	48.93	-19.37	68.3	36.62	35.41	10.21	33.31	120	34	P	V
		10540	51.07	-17.23	68.3	50.4	39.85	12.2	51.38	150	220	P	V
		15810	49.2	-24.8	74	48.58	38.01	14.71	52.1	168	345	P	V
802.11n HT40 CH 62 5310MHz		7077.5	50.88	-17.42	68.3	38.41	35.61	10.2	33.34	133	26	P	H
		10620	51.62	-22.38	74	50.99	39.94	12.26	51.57	126	248	P	H
		15930	48.79	-25.21	74	48.32	37.62	14.76	51.91	120	149	P	H
		7077.5	51.65	-16.65	68.3	39.18	35.61	10.2	33.34	122	156	P	V
		10620	51.12	-22.88	74	50.49	39.94	12.26	51.57	150	220	P	V
		15930	48.21	-25.79	74	47.74	37.62	14.76	51.91	160	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5000.35	46.65	-27.35	74	39.36	31.5	8.29	32.5	105	117	P	H
		5091.35	39.8	-14.2	54	32.22	31.68	8.43	32.53	105	117	A	H
		5290	90.17	-	-	81.98	31.76	9.05	32.62	105	117	P	H
		5290	82.76	-	-	74.57	31.76	9.05	32.62	105	117	A	H
		5362.32	56.08	-17.92	74	47.61	31.66	9.46	32.65	105	117	P	H
		5350.08	49.3	-4.7	54	40.82	31.67	9.46	32.65	105	117	A	H
		5100.1	47.06	-26.94	74	39.47	31.7	8.43	32.54	108	102	P	V
		5147	39.55	-14.45	54	31.81	31.79	8.51	32.56	108	102	A	V
		5290	90.99	-	-	82.8	31.76	9.05	32.62	108	102	P	V
		5290	83.46	-	-	75.27	31.76	9.05	32.62	108	102	A	V
		5354.16	57.03	-16.97	74	48.55	31.67	9.46	32.65	108	102	P	V
		5350.32	50.53	-3.47	54	42.05	31.67	9.46	32.65	108	102	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 2 5250~5350MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		7055.5	51.58	-16.72	68.3	57.4	35.52	10.21	51.55	201	0	P	H
		10580	51.64	-16.66	68.3	51	39.9	12.23	51.49	185	215	P	H
		15870	49.15	-24.85	74	48.59	37.82	14.73	51.99	196	190	P	H
		7055.5	51.83	-16.47	68.3	57.65	35.52	10.21	51.55	100	0	P	V
		10580	52.07	-16.23	68.3	51.43	39.9	12.23	51.49	170	232	P	V
		15870	49.27	-24.73	74	48.71	37.82	14.73	51.99	190	130	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5459.44	52.12	-21.88	74	40.17	31.78	9.68	29.51	100	245	P	H
		5469.84	51.36	-16.94	68.3	39.36	31.81	9.7	29.51	100	245	P	H
		5459.92	42.45	-11.55	54	30.5	31.78	9.68	29.51	100	245	A	H
		5500	106.43	-	-	94.33	31.9	9.7	29.5	100	245	P	H
		5500	100.32	-	-	88.22	31.9	9.7	29.5	100	245	A	H
		5449.36	51.38	-22.62	74	39.47	31.75	9.68	29.52	110	93	P	V
		5470	55.82	-12.48	68.3	43.82	31.81	9.7	29.51	110	93	P	V
		5460	43.42	-10.58	54	31.47	31.78	9.68	29.51	110	93	A	V
		5500	109.24	-	-	97.14	31.9	9.7	29.5	110	93	P	V
		5500	103.1	-	-	91	31.9	9.7	29.5	110	93	A	V
802.11a CH 116 5580MHz		5458.72	50.66	-23.34	74	38.71	31.78	9.68	29.51	110	243	P	H
		5466.4	49.16	-19.14	68.3	37.17	31.8	9.7	29.51	110	243	P	H
		5459.44	40.81	-13.19	54	28.86	31.78	9.68	29.51	110	243	A	H
		5580	107.83	-	-	95.41	32.14	9.74	29.46	110	243	P	H
		5580	101.58	-	-	89.16	32.14	9.74	29.46	110	243	A	H
		5739.485	50.91	-17.39	68.3	38.02	32.2	10.09	29.4	110	243	P	H
		5459.2	49.96	-24.04	74	38.01	31.78	9.68	29.51	106	90	P	V
		5464.96	52.24	-16.06	68.3	40.28	31.79	9.68	29.51	106	90	P	V
		5459.44	40.96	-13.04	54	29.01	31.78	9.68	29.51	106	90	A	V
		5580	109.93	-	-	97.51	32.14	9.74	29.46	106	90	P	V
		5580	104.19	-	-	91.77	32.14	9.74	29.46	106	90	A	V
		5736.965	51.22	-17.08	68.3	38.41	32.2	10.01	29.4	106	90	P	V



802.11a CH 140 5700MHz		5700	101.9	-	-	92.35	32.2	10.01	32.66	100	110	P	H
		5700	95.18	-	-	85.63	32.2	10.01	32.66	100	110	A	H
		5725.08	58.19	-10.11	68.3	48.63	32.2	10.01	32.65	100	110	P	H
		5700	108.29	-	-	98.74	32.2	10.01	32.66	100	296	P	V
		5700	100.58	-	-	91.03	32.2	10.01	32.66	100	296	A	V
		5726.36	63.45	-4.85	68.3	53.89	32.2	10.01	32.65	100	296	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		7330.5	49.59	-24.41	74	55.01	36.23	10.18	51.83	133	225	P	H
		7330.5	45.91	-8.09	54	51.33	36.23	10.18	51.83	133	225	A	H
		11000	50.57	-23.43	74	50.06	40.4	12.51	52.4	123	216	P	H
		16500	49.32	-18.98	68.3	47.17	39.5	15.15	52.5	184	226	P	H
		7330.5	49.94	-24.06	74	55.36	36.23	10.18	51.83	103	351	P	V
		7330.5	46.21	-7.79	54	51.63	36.23	10.18	51.83	103	351	A	V
		11000	50.48	-23.52	74	49.97	40.4	12.51	52.4	155	212	P	V
		16500	49.22	-19.08	68.3	47.07	39.5	15.15	52.5	178	296	P	V
802.11a CH 116 5580MHz		7440.5	49.82	-24.18	74	55.26	36.34	10.17	51.95	122	163	P	H
		11160	50.46	-23.54	74	49.95	40.43	12.65	52.57	183	320	P	H
		16740	50.38	-17.92	68.3	46.39	40.89	15.36	52.26	163	232	P	H
		7440.5	49.98	-24.02	74	55.42	36.34	10.17	51.95	122	195	P	V
		11160	50.53	-23.47	74	50.02	40.43	12.65	52.57	170	200	P	V
		16740	50.95	-17.35	68.3	46.96	40.89	15.36	52.26	156	350	P	V
802.11a CH 140 5700MHz		11400	50.36	-23.64	74	49.86	40.48	12.82	52.8	157	285	P	H
		17100	54.01	-14.29	68.3	47.79	42.74	15.62	52.14	165	246	P	H
		11400	51.33	-22.67	74	50.83	40.48	12.82	52.8	122	291	P	V
		17100	54.78	-13.52	68.3	48.56	42.74	15.62	52.14	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5459.44	52.63	-21.37	74	43.86	31.78	9.68	32.69	215	250	P	H
		5470	57.38	-10.92	68.3	48.56	31.81	9.7	32.69	215	250	P	H
		5460	45.47	-8.53	54	36.7	31.78	9.68	32.69	215	250	A	H
		5500	104.76	-	-	95.86	31.9	9.7	32.7	215	250	P	H
		5500	96.55	-	-	87.65	31.9	9.7	32.7	215	250	A	H
		5459.76	54.22	-19.78	74	45.45	31.78	9.68	32.69	196	258	P	V
		5469.36	62.57	-5.73	68.3	53.75	31.81	9.7	32.69	196	258	P	V
		5460	47.6	-6.4	54	38.83	31.78	9.68	32.69	196	258	A	V
		5500	107.55	-	-	98.65	31.9	9.7	32.7	196	258	P	V
		5500	98.65	-	-	89.75	31.9	9.7	32.7	196	258	A	V
802.11n HT20 CH 116 5580MHz		5443.84	47.97	-26.03	74	39.24	31.73	9.68	32.68	209	251	P	H
		5468.8	45.63	-22.67	68.3	36.81	31.81	9.7	32.69	209	251	P	H
		5458.96	37.67	-16.33	54	28.9	31.78	9.68	32.69	209	251	A	H
		5580	104.8	-	-	95.6	32.14	9.74	32.68	209	251	P	H
		5580	97.12	-	-	87.92	32.14	9.74	32.68	209	251	A	H
		5744.84	48.37	-19.93	68.3	38.73	32.2	10.09	32.65	209	251	P	H
		5419.84	46.54	-27.46	74	37.89	31.66	9.66	32.67	199	258	P	V
		5460.16	45.1	-23.2	68.3	36.33	31.78	9.68	32.69	199	258	P	V
		5459.2	37.89	-16.11	54	29.12	31.78	9.68	32.69	199	258	A	V
		5580	106.5	-	-	97.3	32.14	9.74	32.68	199	258	P	V
		5580	98.92	-	-	89.72	32.14	9.74	32.68	199	258	A	V
		5739.17	48.14	-20.16	68.3	38.5	32.2	10.09	32.65	199	258	P	V



802.11n HT20 CH 140 5700MHz		5700	102.65	-	-	93.1	32.2	10.01	32.66	102	139	P	H
		5700	96.55	-	-	87	32.2	10.01	32.66	102	139	A	H
		5727.16	56.91	-11.39	68.3	47.35	32.2	10.01	32.65	102	139	P	H
		5700	108.22	-	-	98.67	32.2	10.01	32.66	100	287	P	V
		5700	101.88	-	-	92.33	32.2	10.01	32.66	100	287	A	V
		5726.84	64.45	-3.85	68.3	54.89	32.2	10.01	32.65	100	287	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Band 3 - 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		7333	49.57	-24.43	74	55	36.23	10.18	51.84	126	54	P	H
		7333	45.57	-8.43	54	51	36.23	10.18	51.84	126	54	A	H
		11000	49.4	-24.6	74	48.89	40.4	12.51	52.4	123	216	P	H
		16500	50.92	-17.38	68.3	48.77	39.5	15.15	52.5	184	226	P	H
		7333	51.57	-22.43	74	57	36.23	10.18	51.84	110	39	P	V
		7333	46.89	-7.11	54	52.32	36.23	10.18	51.84	110	39	A	V
		11000	49.78	-24.22	74	49.27	40.4	12.51	52.4	155	212	P	V
		16500	49.27	-19.03	68.3	47.12	39.5	15.15	52.5	178	296	P	V
802.11n HT20 CH 116 5580MHz		11160	49.72	-24.28	74	49.21	40.43	12.65	52.57	183	320	P	H
		16740	48.76	-19.54	68.3	44.77	40.89	15.36	52.26	163	232	P	H
		11160	49.1	-24.9	74	48.59	40.43	12.65	52.57	170	200	P	V
		16740	51.34	-16.96	68.3	47.35	40.89	15.36	52.26	156	350	P	V
802.11n HT20 CH 140 5700MHz		11400	51.87	-22.13	74	51.37	40.48	12.82	52.8	157	285	P	H
		17100	48.88	-19.42	68.3	42.66	42.74	15.62	52.14	165	246	P	H
		11400	49.76	-24.24	74	49.26	40.48	12.82	52.8	157	285	P	V
		17100	50.11	-18.19	68.3	43.89	42.74	15.62	52.14	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 3 - 5470~5725MHz****WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5459.92	56.27	-17.73	74	47.5	31.78	9.68	32.69	103	117	P	H
		5466.64	61.39	-6.91	68.3	52.58	31.8	9.7	32.69	103	117	P	H
		5459.92	47.87	-6.13	54	39.1	31.78	9.68	32.69	103	117	A	H
		5510	97.7	-	-	88.74	31.93	9.72	32.69	103	117	P	H
		5510	89.26	-	-	80.3	31.93	9.72	32.69	103	117	A	H
		5740.745	48.88	-19.42	68.3	39.24	32.2	10.09	32.65	103	117	P	H
		5459.44	55.96	-18.04	74	47.19	31.78	9.68	32.69	114	97	P	V
		5470	62.38	-5.92	68.3	53.56	31.81	9.7	32.69	114	97	P	V
		5459.68	49.75	-4.25	54	40.98	31.78	9.68	32.69	114	97	A	V
		5510	98.74	-	-	89.78	31.93	9.72	32.69	114	97	P	V
		5510	91.01	-	-	82.05	31.93	9.72	32.69	114	97	A	V
		5736.335	47.74	-20.56	68.3	38.18	32.2	10.01	32.65	114	97	P	V
802.11n HT40 CH 110 5550MHz		5449.84	47.93	-26.07	74	39.19	31.75	9.68	32.69	107	112	P	H
		5465.2	50.95	-17.35	68.3	42.16	31.8	9.68	32.69	107	112	P	H
		5458.72	41.64	-12.36	54	32.87	31.78	9.68	32.69	107	112	A	H
		5550	98.94	-	-	89.84	32.05	9.74	32.69	107	112	P	H
		5550	90.73	-	-	81.63	32.05	9.74	32.69	107	112	A	H
		5728.145	48.21	-20.09	68.3	38.65	32.2	10.01	32.65	107	112	P	H
		5457.52	49.49	-24.51	74	40.73	31.77	9.68	32.69	109	98	P	V
		5461.84	52.18	-16.12	68.3	43.4	31.79	9.68	32.69	109	98	P	V
		5458.96	42.83	-11.17	54	34.06	31.78	9.68	32.69	109	98	A	V
		5550	101	-	-	91.9	32.05	9.74	32.69	109	98	P	V
		5550	94.56	-	-	85.46	32.05	9.74	32.69	109	98	A	V
		5764.37	48.26	-20.04	68.3	38.62	32.2	10.09	32.65	109	98	P	V



802.11n HT40 CH 134 5670MHz		5383.6	46.98	-27.02	74	38.56	31.62	9.46	32.66	107	114	P	H
		5465.15	45.11	-23.19	68.3	36.32	31.8	9.68	32.69	107	114	P	H
		5440.65	39.59	-14.41	54	30.87	31.72	9.68	32.68	107	114	A	H
		5670	101.72	-	-	92.27	32.2	9.92	32.67	107	114	P	H
		5670	94.09	-	-	84.64	32.2	9.92	32.67	107	114	A	H
		5727.725	61.08	-7.22	68.3	51.52	32.2	10.01	32.65	107	114	P	H
		5362.6	46.72	-27.28	74	38.25	31.66	9.46	32.65	103	105	P	V
		5462	45.97	-22.33	68.3	37.19	31.79	9.68	32.69	103	105	P	V
		5392	39.15	-14.85	54	30.54	31.61	9.66	32.66	103	105	A	V
		5670	103.05	-	-	93.6	32.2	9.92	32.67	103	105	P	V
		5670	94.62	-	-	85.17	32.2	9.92	32.67	103	105	A	V
		5724.925	64.68	-3.62	68.3	55.12	32.2	10.01	32.65	103	105	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		7347	48.99	-25.01	74	36.07	36.25	10.18	33.51	126	294	P	H
		11020	50.38	-23.62	74	49.86	40.4	12.54	52.42	123	215	P	H
		16530	49.71	-18.59	68.3	47.33	39.67	15.18	52.47	182	148	P	H
		7347	49.4	-24.6	74	36.48	36.25	10.18	33.51	122	156	P	V
		11020	50.12	-23.88	74	49.6	40.4	12.54	52.42	170	230	P	V
		16530	49.97	-18.33	68.3	47.59	39.67	15.18	52.47	160	300	P	V
802.11n HT40 CH 110 5550MHz		7402	48.18	-25.82	74	35.24	36.3	10.18	33.54	163	294	P	H
		11100	50.41	-23.59	74	49.89	40.42	12.6	52.5	153	216	P	H
		16650	49.56	-18.74	68.3	46.26	40.37	15.27	52.34	123	315	P	H
		7402	48.19	-25.81	74	35.25	36.3	10.18	33.54	122	155	P	V
		11100	51.3	-22.7	74	50.78	40.42	12.6	52.5	144	182	P	V
		16650	51.51	-16.79	68.3	48.21	40.37	15.27	52.34	171	352	P	V
802.11n HT40 CH 134 5670MHz		11340	50.46	-23.54	74	49.96	40.47	12.76	52.73	195	335	P	H
		17010	50.55	-17.75	68.3	44.58	42.43	15.56	52.02	144	152	P	H
		11340	50.17	-23.83	74	49.67	40.47	12.76	52.73	125	198	P	V
		17010	51.01	-17.29	68.3	45.04	42.43	15.56	52.02	185	290	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5458.48	55.88	-18.12	74	47.11	31.78	9.68	32.69	104	116	P	H
		5464.72	56.63	-11.67	68.3	47.85	31.79	9.68	32.69	104	116	P	H
		5459.92	49.86	-4.14	54	41.09	31.78	9.68	32.69	104	116	A	H
		5530	93.74	-	-	84.72	31.99	9.72	32.69	104	116	P	H
		5530	85.91	-	-	76.89	31.99	9.72	32.69	104	116	A	H
		5754.605	47.74	-20.56	68.3	38.1	32.2	10.09	32.65	104	116	P	H
		5458.96	56.5	-17.5	74	47.73	31.78	9.68	32.69	106	108	P	V
		5464.24	58.87	-9.43	68.3	50.09	31.79	9.68	32.69	106	108	P	V
		5459.92	50.27	-3.73	54	41.5	31.78	9.68	32.69	106	108	A	V
		5530	95.15	-	-	86.13	31.99	9.72	32.69	106	108	P	V
		5530	88.88	-	-	79.86	31.99	9.72	32.69	106	108	A	V
		5748.62	50.01	-18.29	68.3	40.37	32.2	10.09	32.65	106	108	P	V
802.11ac VHT80 CH 122 5610MHz		5454.88	49.05	-24.95	74	40.3	31.76	9.68	32.69	106	115	P	H
		5470	52.64	-15.66	68.3	43.82	31.81	9.7	32.69	106	115	P	H
		5457.28	42.94	-11.06	54	34.18	31.77	9.68	32.69	106	115	A	H
		5610	97.49	-	-	88.2	32.2	9.76	32.67	106	115	P	H
		5610	89.14	-	-	79.85	32.2	9.76	32.67	106	115	A	H
		5727.9	54.21	-14.09	68.3	44.65	32.2	10.01	32.65	106	115	P	H
		5456.8	51.05	-22.95	74	42.29	31.77	9.68	32.69	107	108	P	V
		5463.76	51.58	-16.72	68.3	42.8	31.79	9.68	32.69	107	108	P	V
		5459.68	42.59	-11.41	54	33.82	31.78	9.68	32.69	107	108	A	V
		5610	99.19	-	-	89.9	32.2	9.76	32.67	107	108	P	V
		5610	91.35	-	-	82.06	32.2	9.76	32.67	107	108	A	V
		5727.725	55.58	-12.72	68.3	46.02	32.2	10.01	32.65	107	108	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		7374.5	49.41	-24.59	74	54.84	36.27	10.18	51.88	201	0	P	H
		11060	49.35	-24.65	74	48.84	40.41	12.57	52.47	170	230	P	H
		16590	49.79	-18.51	68.3	46.94	40.02	15.24	52.41	155	305	P	H
		7374.5	50.06	-23.94	74	55.49	36.27	10.18	51.88	100	0	P	V
		11060	50.02	-23.98	74	49.51	40.41	12.57	52.47	166	212	P	V
		16590	50.79	-17.51	68.3	47.94	40.02	15.24	52.41	132	343	P	V
802.11ac VHT80 CH 122 5610MHz		11220	50.01	-23.99	74	49.51	40.44	12.68	52.62	200	360	P	H
		16830	48.77	-19.53	68.3	44.11	41.41	15.42	52.17	170	315	P	H
		11220	49.87	-24.13	74	49.37	40.44	12.68	52.62	155	260	P	V
		16830	51.56	-16.74	68.3	46.9	41.41	15.42	52.17	180	220	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 3 - Straddle Channel****WIFI 802.11a (Harmonic @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz		11440	48.69	-25.31	74	48.18	40.49	12.85	52.83	157	285	P	H
		17160	48.53	-19.77	68.3	42.17	42.94	15.65	52.23	165	246	P	H
		11440	49.28	-24.72	74	48.77	40.49	12.85	52.83	122	291	P	V
		17160	49.28	-19.02	68.3	42.92	42.94	15.65	52.23	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 3 - Straddle Channel****WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11440	49.25	-24.75	74	48.74	40.49	12.85	52.83	157	285	P	H
HT20		17160	48.53	-19.77	68.3	42.17	42.94	15.65	52.23	165	246	P	H
CH 144		11440	48.75	-25.25	74	48.24	40.49	12.85	52.83	122	291	P	V
5720MHz		17160	48.68	-19.62	68.3	42.32	42.94	15.65	52.23	133	144	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												


Band 3 - Straddle Channel
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11420	49.24	-24.76	74	48.76	40.48	12.82	52.82	157	285	P	H
HT40		17130	48.77	-19.53	68.3	42.47	42.84	15.65	52.19	165	246	P	H
CH 142		11420	48.28	-25.72	74	47.8	40.48	12.82	52.82	122	291	P	V
5710MHz		17130	50.87	-17.43	68.3	44.57	42.84	15.65	52.19	153	102	P	V

Band 3 - Straddle Channel
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11380	48.16	-25.84	74	47.67	40.48	12.79	52.78	195	335	P	H
VHT80		17070	50.74	-17.56	68.3	44.6	42.64	15.59	52.09	162	310	P	H
CH 138		11380	48.13	-25.87	74	47.64	40.48	12.79	52.78	125	315	P	V
5690MHz		17070	51.2	-17.1	68.3	45.06	42.64	15.59	52.09	185	290	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		30	27.66	-12.34	40	34.54	25.19	0.53	32.6	-	-	P	H
		81.41	30.04	-9.96	40	48.39	13.33	0.9	32.58	163	294	P	H
		151.25	29.93	-13.57	43.5	44.37	16.7	1.26	32.4	-	-	P	H
		311.3	27.96	-18.04	46	38.35	19.77	1.84	32	-	-	P	H
		640.13	28.09	-17.91	46	32.26	25.38	2.63	32.18	-	-	P	H
		863.23	28.9	-17.1	46	31.59	26.5	3.08	32.27	-	-	P	H
		40.67	25.95	-14.05	40	39.08	18.85	0.62	32.6	-	-	P	V
		79.47	28.83	-11.17	40	47.43	13.12	0.88	32.6	144	178	P	V
		166.77	26.75	-16.75	43.5	41.78	15.98	1.32	32.33	-	-	P	V
		321	24.38	-21.62	46	34.56	19.94	1.88	32	-	-	P	V
		545.07	25	-21	46	29.68	25.06	2.45	32.19	-	-	P	V
		861.29	28.99	-17.01	46	31.62	26.57	3.08	32.28	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

**Note symbol**

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



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

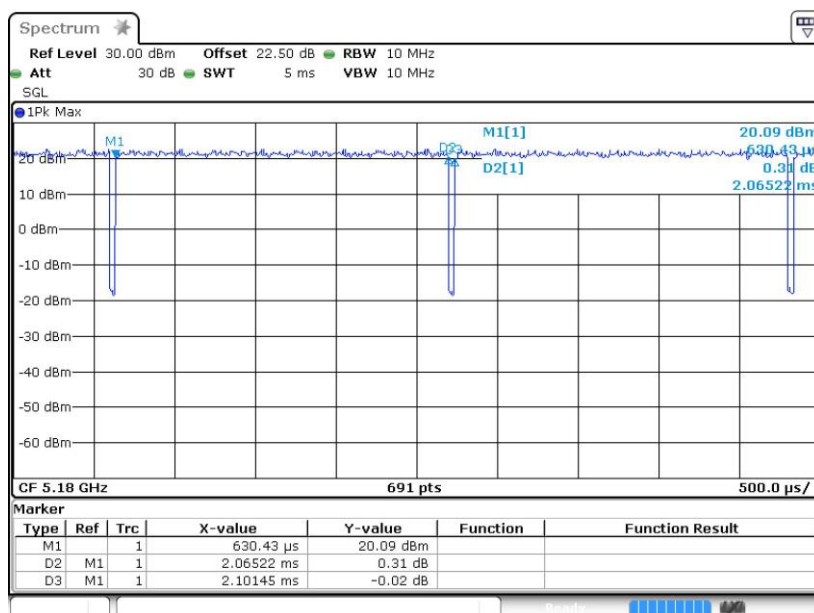
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

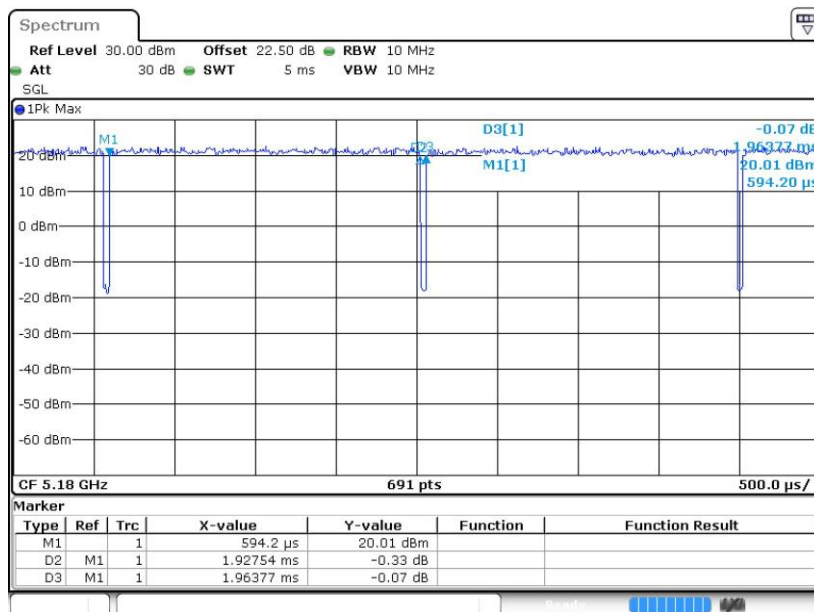
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.28	-	-	10Hz
802.11n HT20	98.16	-	-	10Hz
802.11n HT40	96.32	0.949	1.053	3KHz
802.11ac VHT80	92.79	0.466	2.146	3KHz

802.11a

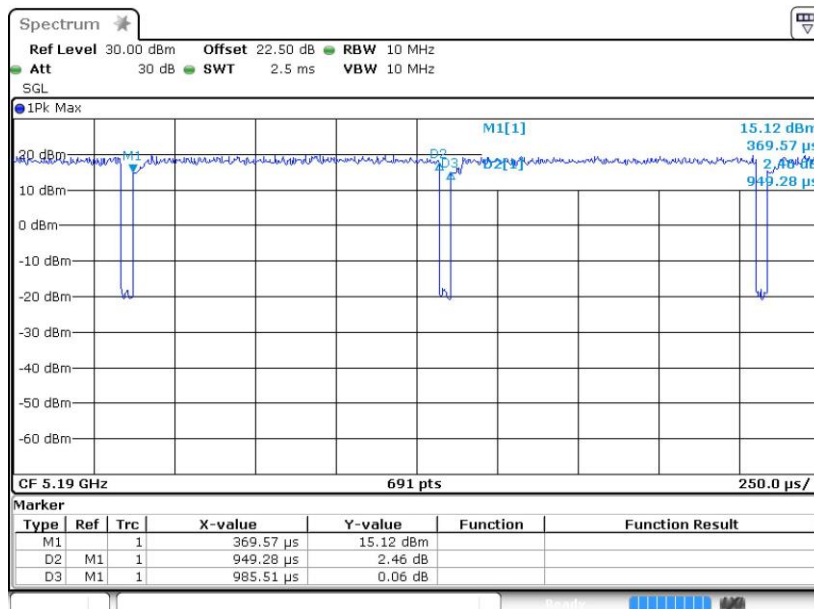




802.11n HT20



802.11n HT40



802.11ac VHT80

