



FCC RF Test Report

APPLICANT : Lenovo Japan
EQUIPMENT : Smart phone
BRAND NAME : lenovo
MODEL NAME : 503LV
MARKETING NAME : Beam
FCC ID : 2AJAYJP-LEN
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Jul. 14, 2016 and testing was completed on Aug. 10, 2016. 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.

Prepared by: Ken Chen / Manager



Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL (SHENZHEN) INC.

***1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town,
Nanshan District, Shenzhen, Guangdong, P. R. 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 Applicable Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency Channel	8
2.2 Test Mode	9
2.3 Connection Diagram of Test System	12
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	22
3.4 Unwanted Radiated Emission Measurement	25
3.5 AC Conducted Emission Measurement	30
3.6 Frequency Stability Measurement	34
3.7 Automatically Discontinue Transmission	35
3.8 Antenna Requirements	36
4 LIST OF MEASURING EQUIPMENTS	37
5 UNCERTAINTY OF EVALUATION	38
APPENDIX A. CONDUCTED TEST RESULTS	
APPENDIX B. RADIATED TEST RESULTS	
APPENDIX C. DUTY CYCLE PLOTS	
APPENDIX D. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR671404D	Rev. 01	Initial issue of report	Aug. 18, 2016



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	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	Under limit 0.64 dB at 10640.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 16.36 dB at 0.150 MHz
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Lenovo Japan

Akihabara UDX, Sotokanda 4-14-1, Chiyoda-ku, Tokyo 101-0021, Japan

1.2 Manufacturer

Shenzhen BVC Technology Co., Ltd.

Rainbow Bldg., North, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China, P.C.518057

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart phone
Brand Name	lenovo
Model Name	503LV
Marketing Name	Beam
FCC ID	2AJAYJP-LEN
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/LTE/ WLAN2.4GHz 802.11b/g/n HT20/HT40/ WLAN5GHz 802.11a/n HT20/HT40/ WLAN5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE
IMEI Code	Conducted: N/A Radiation: N/A Conduction: 354266070150445
HW Version	P2
SW Version	X5_S_WIN10_1028.20_21_testos
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 ~ 5700 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 15.44 dBm / 0.0350 W 802.11n HT20 : 13.74 dBm / 0.0237 W 802.11n HT40 : 15.35 dBm / 0.0343 W 802.11ac VHT20 : 10.37 dBm / 0.0109 W 802.11ac VHT40 : 10.25 dBm / 0.0106 W 802.11ac VHT80 : 10.14 dBm / 0.0103 W <5260 MHz ~ 5320 MHz> 802.11a : 15.66 dBm / 0.0368 W 802.11n HT20 : 14.19 dBm / 0.0262 W 802.11n HT40 : 15.62 dBm / 0.0365 W 802.11ac VHT20 : 10.93 dBm / 0.0124 W 802.11ac VHT40 : 10.39 dBm / 0.0109 W 802.11ac VHT80 : 10.49 dBm / 0.0112 W <5500 MHz ~ 5700 MHz> 802.11a : 14.65 dBm / 0.0292 W 802.11n HT20 : 13.06 dBm / 0.0202 W 802.11n HT40 : 14.59 dBm / 0.0288 W 802.11ac VHT20 : 9.77 dBm / 0.0095 W 802.11ac VHT40 : 9.48 dBm / 0.0089 W 802.11ac VHT80 : 9.52 dBm / 0.0090 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 18.58 MHz 802.11n HT20 : 19.23 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT20 : 19.18 MHz 802.11ac VHT40 : 36.76 MHz 802.11ac VHT80 : 74.81 MHz <5260 MHz ~ 5320 MHz> 802.11a : 18.78 MHz 802.11n HT20 : 19.53 MHz 802.11n HT40 : 37.06 MHz 802.11ac VHT20 : 19.18 MHz 802.11ac VHT40 : 36.76 MHz 802.11ac VHT80 : 74.69 MHz <5500 MHz ~ 5700 MHz> 802.11a : 18.78 MHz 802.11n HT20 : 19.28 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT20 : 19.18 MHz 802.11ac VHT40 : 36.86 MHz 802.11ac VHT80 : 74.81 MHz
Antenna Type	PIFA Antenna
Antenna Gain	<5180 MHz ~ 5240 MHz> : -2.30 dBi <5260 MHz ~ 5320 MHz> : -2.30 dBi <5500 MHz ~ 5700 MHz> : -2.30 dBi



1.5 Modification of EUT

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

1.6 Testing Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
Test Site No.	Sporton Site No.	
	TH01-SZ	CO01-SZ

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
Test Site No.	Sporton Site No.	FCC Registration No.
	03CH02-SZ	566869

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

1.7 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02
- ♦ FCC KDB 644545 D03 Guidance for IEEE 802.11ac New Rules v01
- ♦ 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

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: conducted emission (150 kHz to 30 MHz) and radiated 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.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 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)
5260-5320 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)
5500-5700 MHz Band 3 (U-NII-2C)	100	5500	120	5600
	102	5510	122	5610
	104	5520	124	5620
	106	5530	126	5630
	108	5540	128	5640
	110	5550	132	5660
	112	5560	134	5670
	116	5580	136	5680
	118	5590	140	5700

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	144	5720	142	5710
	138	5690		

Note: The above Frequency and Channel in boldface were 802.11n HT40.

2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions 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 VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable (Charging from Adapter) + Earphone
Remark: 1. For Radiated TCs, the tests were performed with adapter, earphone and USB cable.	



Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle Channel		-	-	144

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		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 Channel		-	-	144

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle Channel		-	-	142

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle Channel		-	-	144

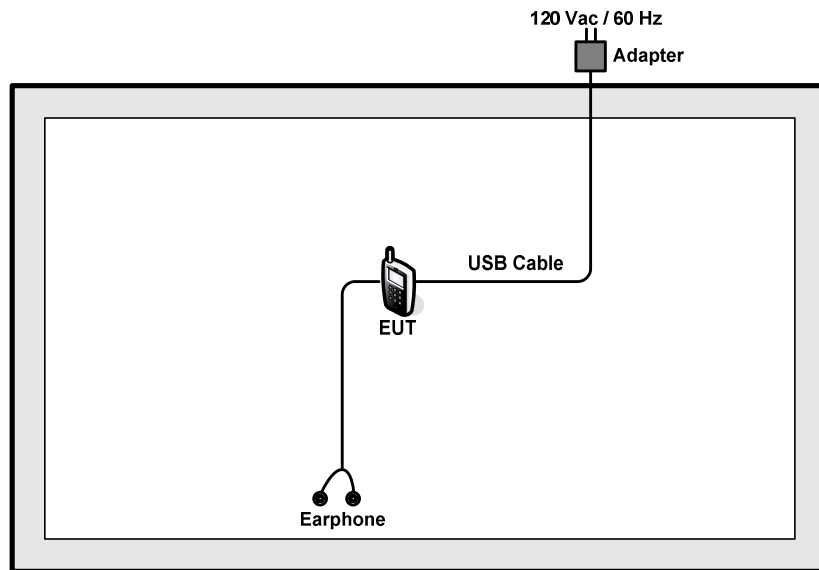


Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle Channel		-	-	142

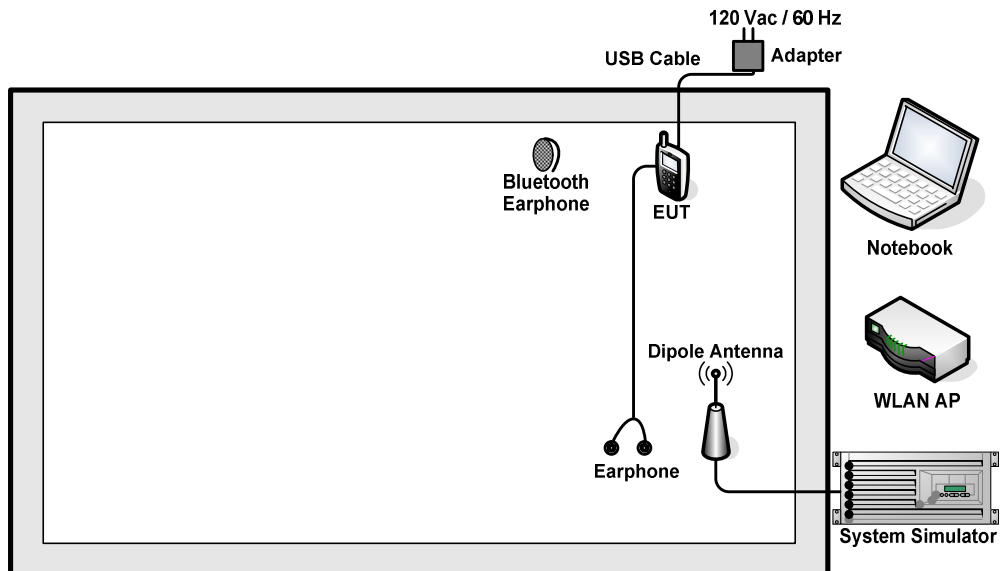
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle Channel		-	-	138

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	ASUS	X301A	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	WLAN AP	D-Link	DIR-820L	KA2IR810LA1	N/A	Unshielded, 1.8 m
3.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	Lenovo	LBH520	FCC DoC	N/A	N/A
5.	DC Power Supply	GW INSTEK	GPD-2303S	N/A	N/A	Unshielded, 1.8 m
6.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
7.	Adapter	Lenovo	N/A	N/A	N/A	N/A
8.	Adapter	Huangjia	C-P35	FCC DoC	N/A	N/A
9.	USB Cable	Motorola	SKN6378A	FCC DoC	Shielded, 1.2 m	N/A
10.	Earphone	Lenovo	SH100	N/A	Shielded, 1.0 m	N/A

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 Notebook 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 6.5 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 6.5 + 10 = 16.5 \text{ (dB)}\end{aligned}$$

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, U-NII procedures were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

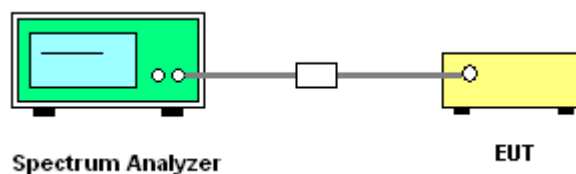
3.1.2 Measuring Instruments

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 v01r02. 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) $\geq 3 * \text{RBW}$.
8. Measure and record the results in the test report.

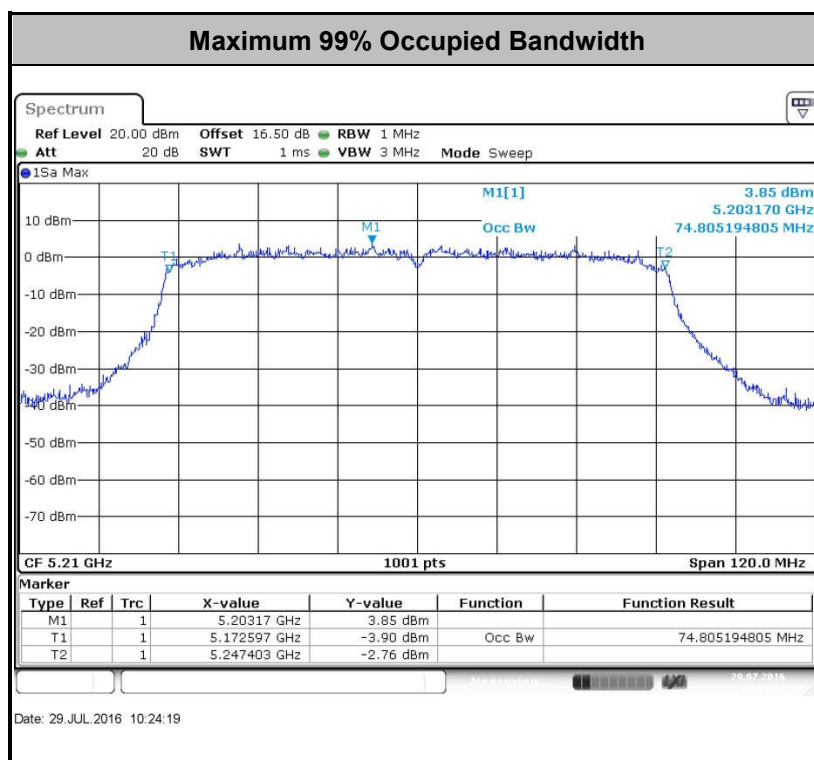
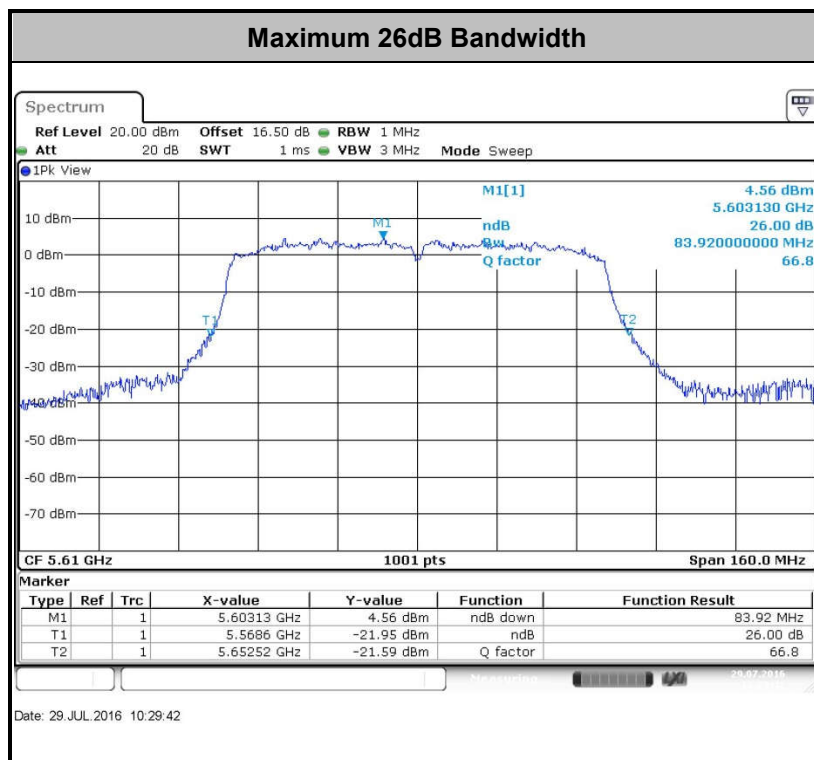
3.1.4 Test Setup





3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

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 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

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 v01r02.

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

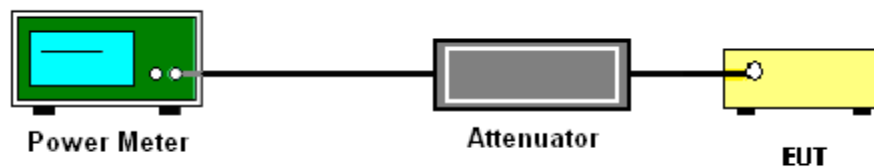
1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x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

For straddle channel, the testing follows Method SA-3 (RMS detection with max hold) of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.

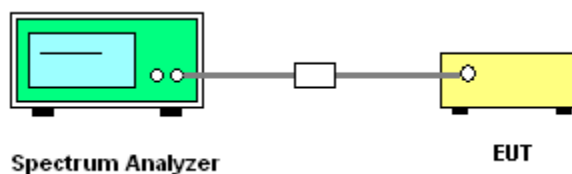
Compute power by integrating the spectrum across the 99% occupied bandwidth of the signal using the instrument's band power measurement function.

3.2.4 Test Setup

For normal channel:



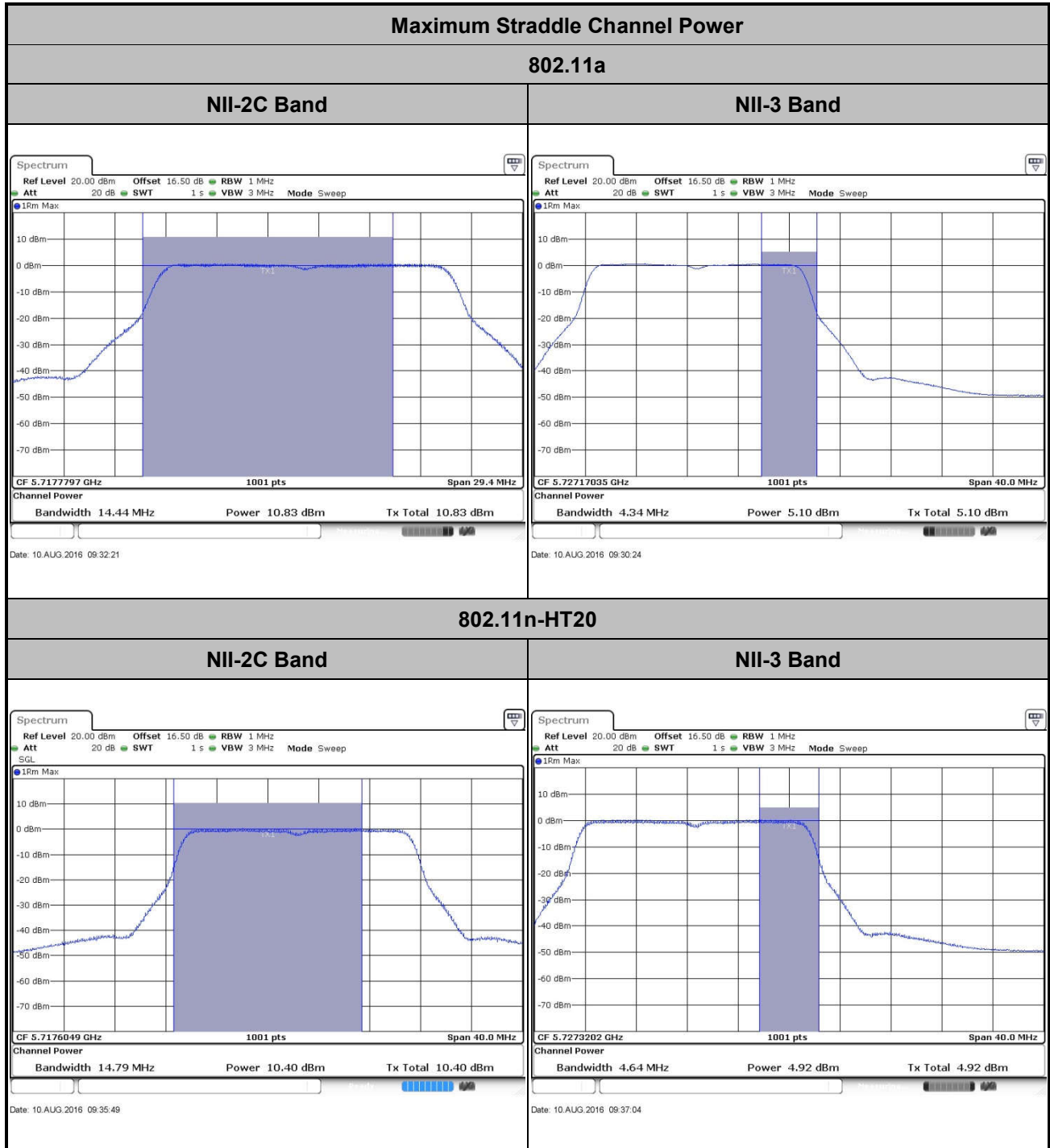
For straddle channel:





3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

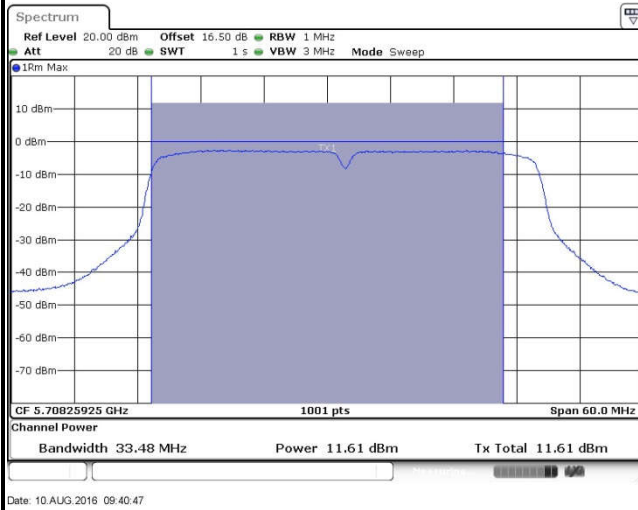




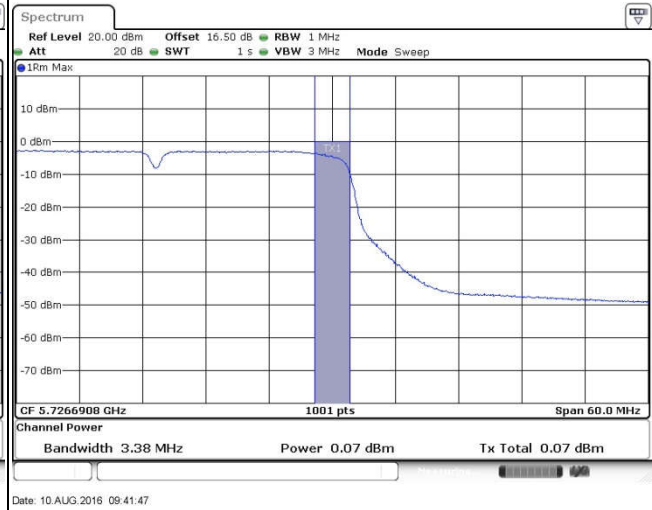
Maximum Straddle Channel Power

802.11n-HT40

NII-2C Band

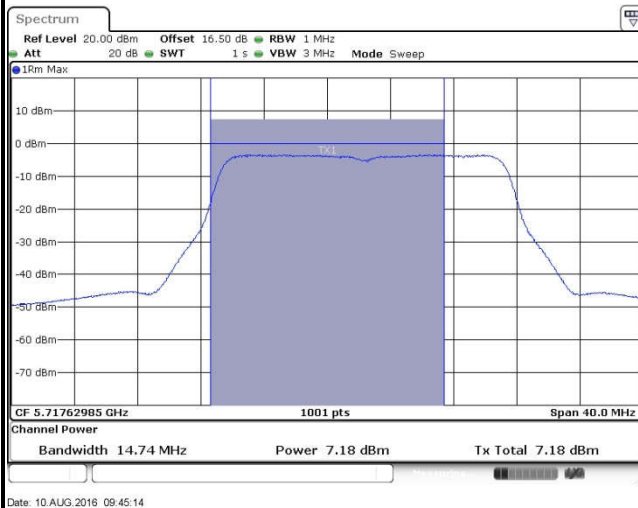


NII-3 Band

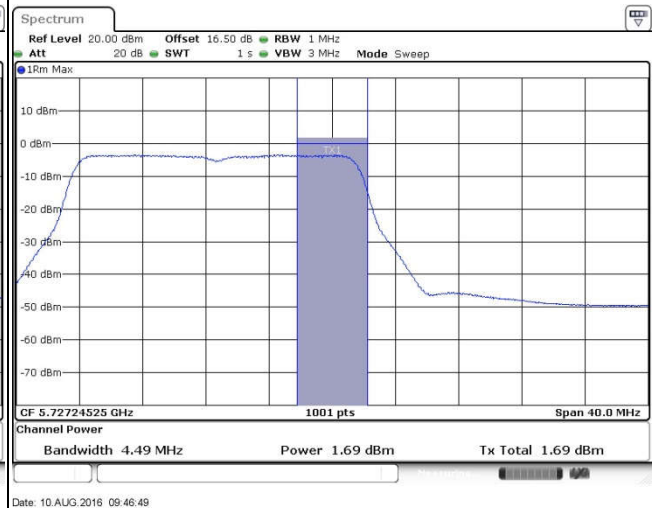


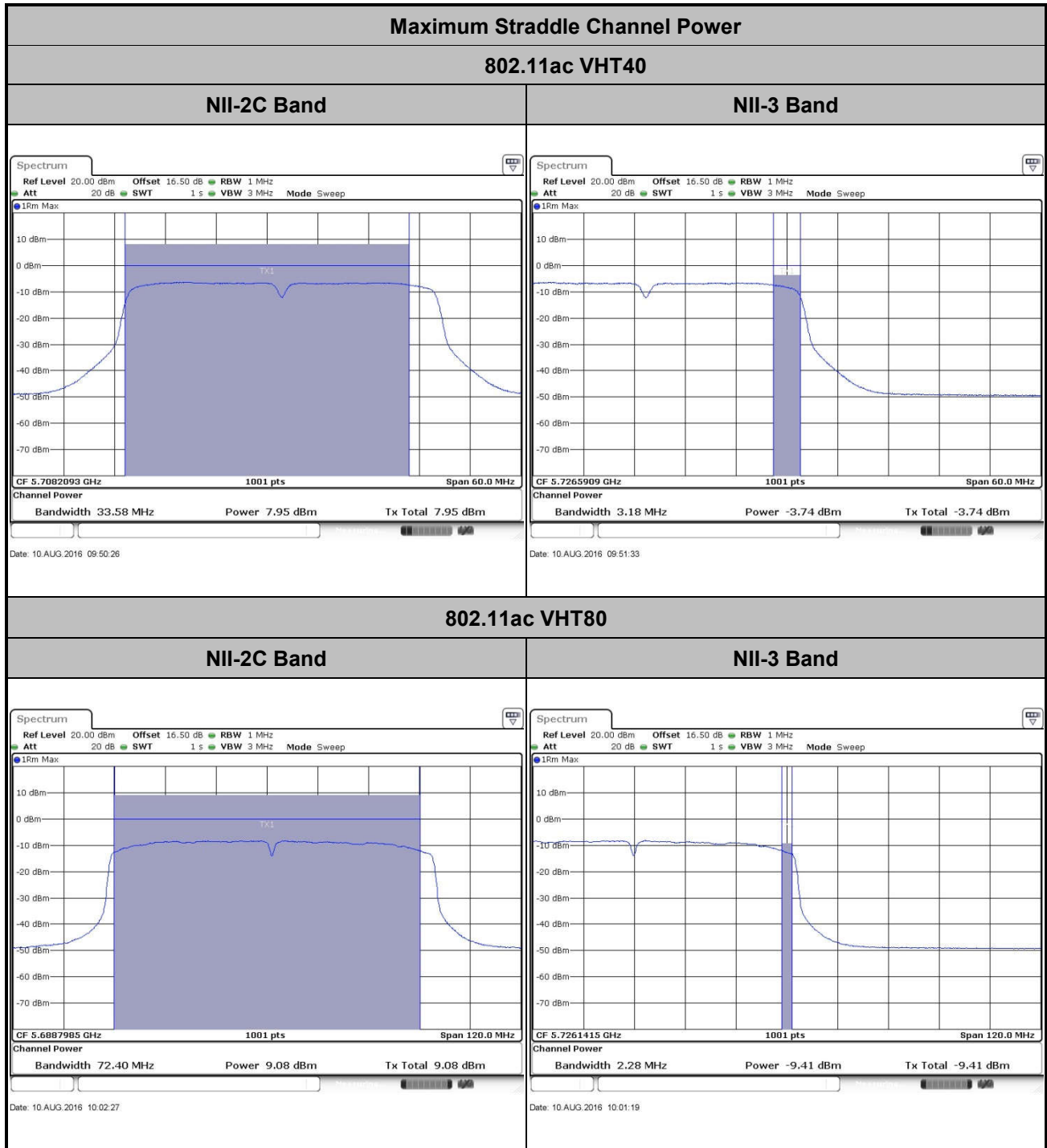
802.11ac VHT20

NII-2C Band



NII-3 Band







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 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

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 v01r02.

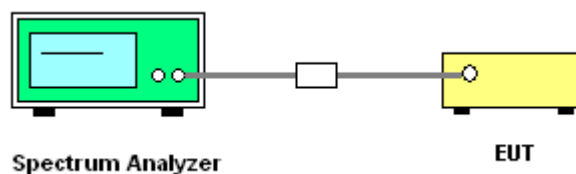
Section F) Maximum power spectral density.

Method SA-2

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

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
 - 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.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

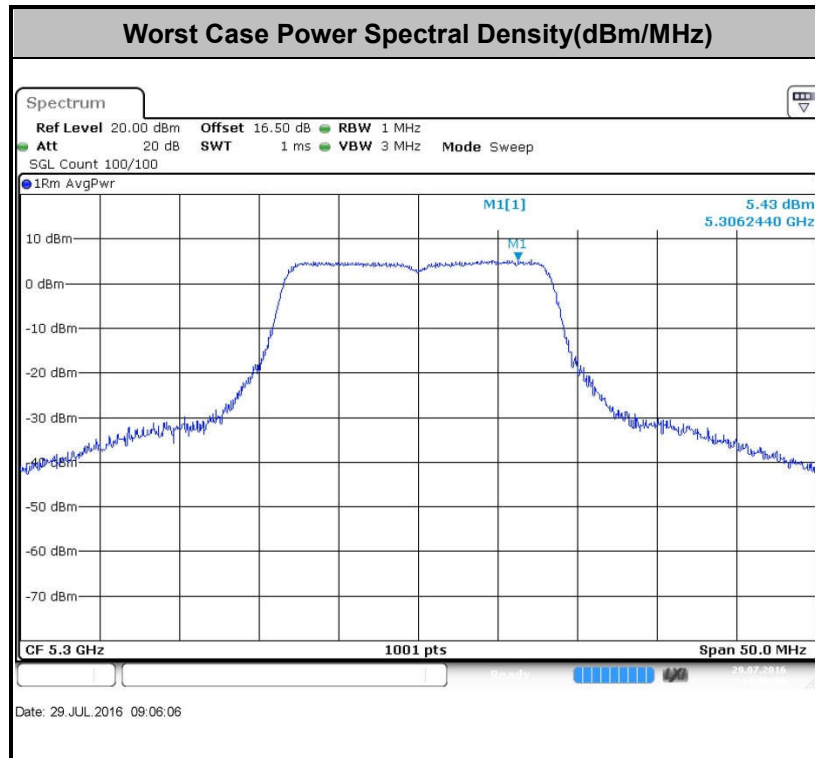
3.3.4 Test Setup





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 Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

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 per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 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

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

$$E = \frac{1000000\sqrt{30P}}{3} \quad \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

- (3) KDB789033 D02 v01r02 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with



both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

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 v01r02.

Section G) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

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

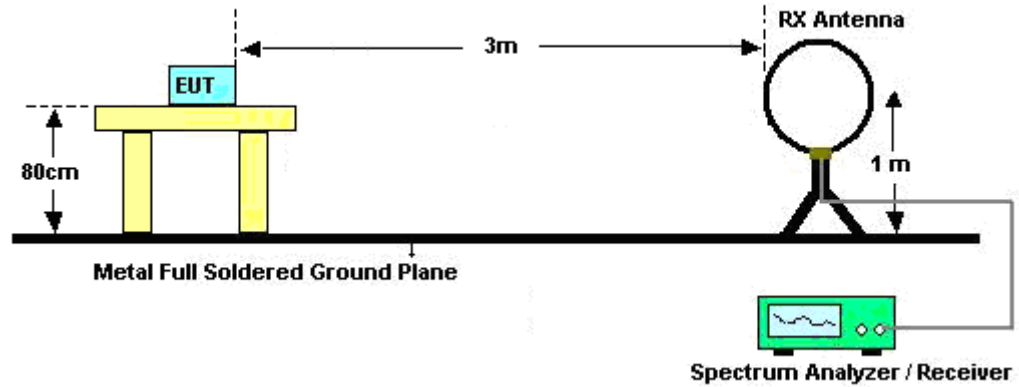
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



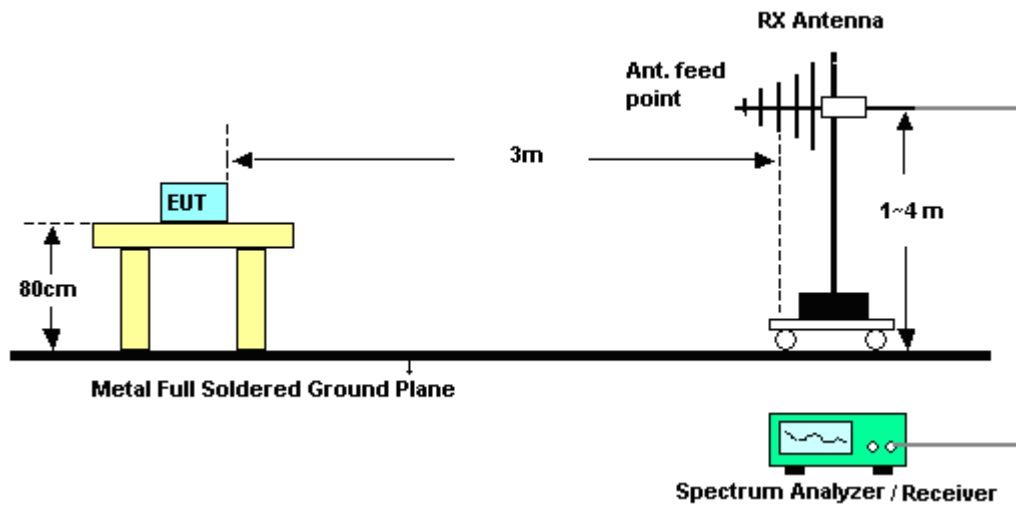
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

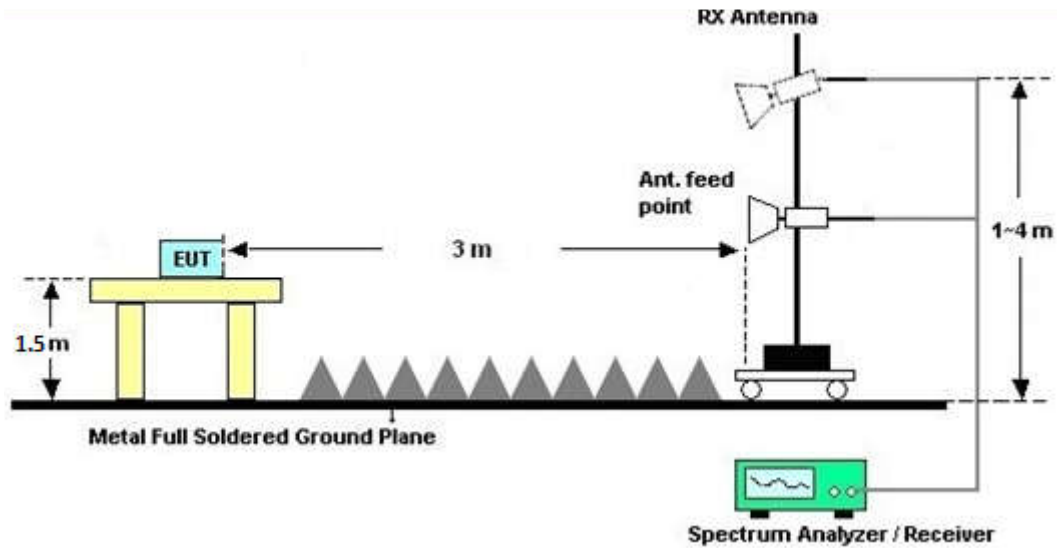
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B.

3.4.7 Duty Cycle

Please refer to Appendix C.

3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B.

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.

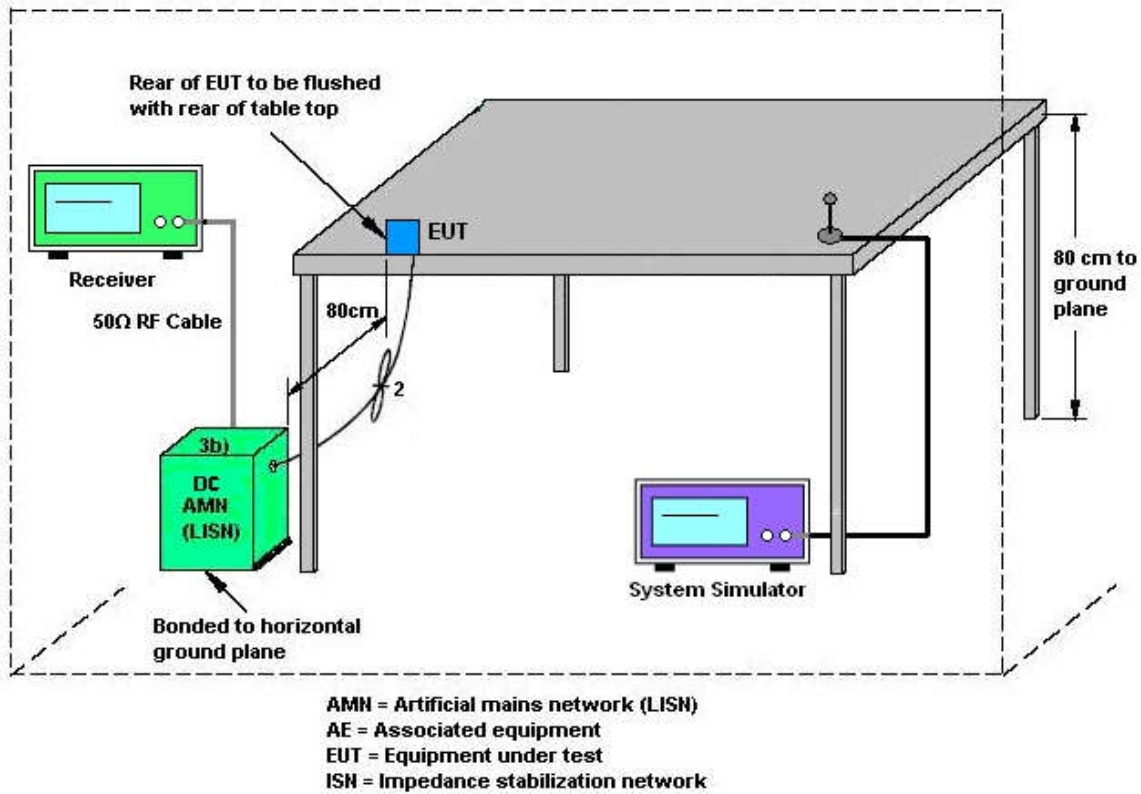
3.5.2 Measuring Instruments

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.

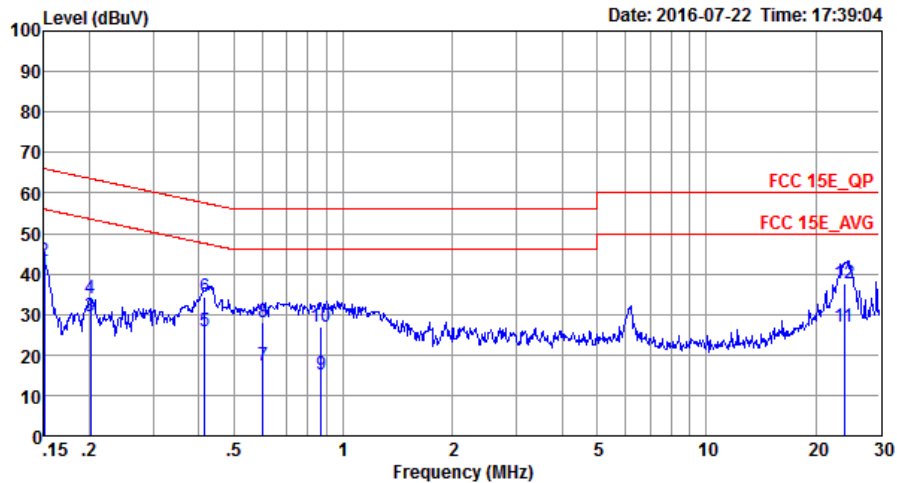
3.5.4 Test Setup





3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable (Charging from Adapter) + Earphone		



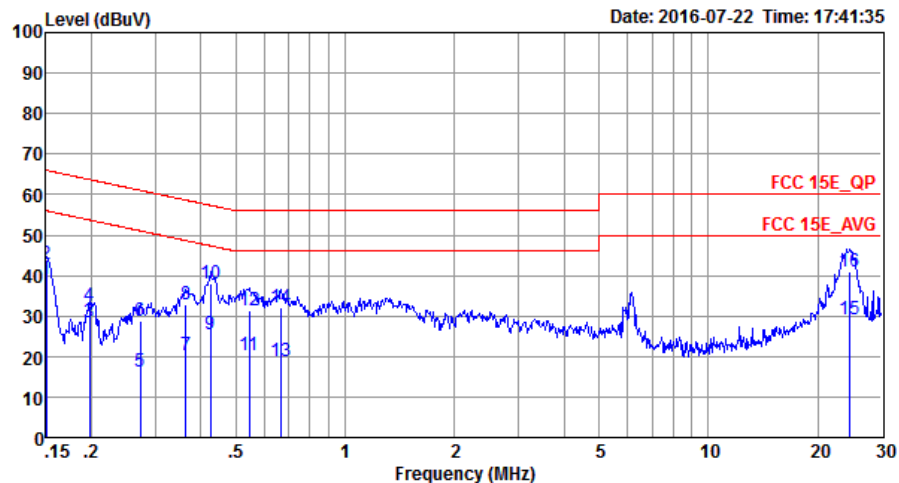
Site : C001-SZ
Condition: FCC 15E_QP LISN_20160509 LINE

Mode : Mode 1
IMEI : 354266070150445

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.15	39.64	-16.36	56.00	28.90	0.14	10.60	Average
2	0.15	43.24	-22.76	66.00	32.50	0.14	10.60	QP
3	0.20	29.61	-23.93	53.54	19.00	0.11	10.50	Average
4	0.20	34.01	-29.53	63.54	23.40	0.11	10.50	QP
5	0.41	25.75	-21.80	47.55	15.40	0.11	10.24	Average
6	0.41	34.26	-23.29	57.55	23.91	0.11	10.24	QP
7	0.60	17.40	-28.60	46.00	7.10	0.11	10.19	Average
8	0.60	28.10	-27.90	56.00	17.80	0.11	10.19	QP
9	0.87	15.27	-30.73	46.00	5.00	0.11	10.16	Average
10	0.87	27.07	-28.93	56.00	16.80	0.11	10.16	QP
11	24.01	26.84	-23.16	50.00	15.80	0.49	10.55	Average
12	24.01	37.54	-22.46	60.00	26.50	0.49	10.55	QP



Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable (Charging from Adapter) + Earphone		



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20160509 NEUTRAL

Mode : Mode 1
IMEI : 354266070150445

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.15	39.14	-16.86	56.00	28.40	0.14	10.60	Average
2	0.15	42.84	-23.16	66.00	32.10	0.14	10.60	QP
3	0.20	28.31	-25.40	53.71	17.70	0.11	10.50	Average
4	0.20	32.31	-31.40	63.71	21.70	0.11	10.50	QP
5	0.27	16.25	-34.78	51.03	5.70	0.11	10.44	Average
6	0.27	28.95	-32.08	61.03	18.40	0.11	10.44	QP
7	0.36	20.42	-28.23	48.65	10.00	0.11	10.31	Average
8	0.36	32.82	-25.83	58.65	22.40	0.11	10.31	QP
9	0.43	25.35	-21.98	47.33	15.00	0.11	10.24	Average
10	0.43	38.15	-19.18	57.33	27.80	0.11	10.24	QP
11	0.54	20.11	-25.89	46.00	9.80	0.11	10.20	Average
12	0.54	31.22	-24.78	56.00	20.91	0.11	10.20	QP
13	0.66	18.98	-27.02	46.00	8.70	0.11	10.17	Average
14	0.66	32.08	-23.92	56.00	21.80	0.11	10.17	QP
15	24.53	29.14	-20.86	50.00	18.10	0.50	10.54	Average
16	24.53	41.14	-18.86	60.00	30.10	0.50	10.54	QP

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.



3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

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

3.7.3 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.



3.8 Antenna Requirements

3.8.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2), 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.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

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



4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	9kHz~40GHz	May 07, 2016	Jul. 29, 2016~ Aug. 10, 2016	May 06, 2017	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Jan. 12, 2016	Jul. 29, 2016~ Aug. 10, 2016	Jan. 11, 2017	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Jan. 12, 2016	Jul. 29, 2016~ Aug. 10, 2016	Jan. 11, 2017	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 16, 2016	Jul. 29, 2016~ Aug. 10, 2016	Jul. 15, 2017	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	May 07, 2016	Jul. 22, 2016~ Aug. 09, 2016	May 06, 2017	Radiation (03CH02-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz; Max 30dBm	Oct. 20, 2015	Jul. 22, 2016~ Aug. 09, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 07, 2016	Jul. 22, 2016~ Aug. 09, 2016	May 06, 2017	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	May 21, 2016	Jul. 22, 2016~ Aug. 09, 2016	May 20, 2017	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 11, 2016	Jul. 22, 2016~ Aug. 09, 2016	Jan. 10, 2017	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Aug. 17, 2015	Jul. 22, 2016~ Aug. 09, 2016	Aug. 16, 2016	Radiation (03CH02-SZ)
Amplifier	HP	8447F	3113A04622	9kHz~1300MHz / 30 dB	Jul. 16, 2016	Jul. 22, 2016~ Aug. 09, 2016	Jul. 15, 2017	Radiation (03CH02-SZ)
Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 20, 2015	Jul. 22, 2016~ Aug. 09, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-0 0101800-3 0-10P-R	1943528	1GHz~18GHz	Oct. 20, 2015	Jul. 22, 2016~ Aug. 09, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-3 5-HG	1871923	18GHz~40GHz	Jul. 16, 2016	Jul. 22, 2016~ Aug. 09, 2016	Jul. 15, 2017	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Jul. 22, 2016~ Aug. 09, 2016	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Jul. 22, 2016~ Aug. 09, 2016	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Jul. 22, 2016~ Aug. 09, 2016	NCR	Radiation (03CH02-SZ)
EMI Receiver	R&S	ESC17	100724	9kHz~3GHz;	Nov. 23, 2015	Jul. 22, 2016	Nov. 22, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan. 12, 2016	Jul. 22, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 12, 2016	Jul. 22, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 16, 2016	Jul. 22, 2016	Jul. 15, 2017	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.3dB
---	-------

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 (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9dB
---	-------

Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

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



Appendix A. Conducted Test Results

Test Engineer:	Bruce Huang	Temperature:	24~26	°C
Test Date:	2016/7/29~2016/8/10	Relative Humidity:	50~53	%

TEST RESULTS DATA
26dB and 99% OBW

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	18.38	23.18	-	22.64		
11a	6Mbps	1	44	5220	18.58	23.78	-	22.69		
11a	6Mbps	1	48	5240	18.48	23.53	-	22.67		
HT20	MCS0	1	36	5180	19.23	23.78	-	22.84		
HT20	MCS0	1	44	5220	19.23	23.73	-	22.84		
HT20	MCS0	1	48	5240	19.18	23.53	-	22.83		
HT40	MCS0	1	38	5190	36.56	44.51	-	23.01		
HT40	MCS0	1	46	5230	36.66	44.69	-	23.01		
VHT20	MCS0	1	36	5180	19.13	23.68	-	22.82		
VHT20	MCS0	1	44	5220	19.08	23.68	-	22.81		
VHT20	MCS0	1	48	5240	19.18	23.78	-	22.83		
VHT40	MCS0	1	38	5190	36.76	44.06	-	23.01		
VHT40	MCS0	1	46	5230	36.56	44.33	-	23.01		
VHT80	MCS0	1	42	5210	74.81	82.96	-	23.01		

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.60	15.28	24.00	-2.30		Pass
11a	6Mbps	1	44	5220	0.60	15.37	24.00	-2.30		Pass
11a	6Mbps	1	48	5240	0.60	15.44	24.00	-2.30		Pass
HT20	MCS0	1	36	5180	0.81	13.32	24.00	-2.30		Pass
HT20	MCS0	1	44	5220	0.81	13.58	24.00	-2.30		Pass
HT20	MCS0	1	48	5240	0.81	13.74	24.00	-2.30		Pass
HT40	MCS0	1	38	5190	1.49	15.00	24.00	-2.30		Pass
HT40	MCS0	1	46	5230	1.49	15.35	24.00	-2.30		Pass
VHT20	MCS0	1	36	5180	0.79	10.19	24.00	-2.30		Pass
VHT20	MCS0	1	44	5220	0.79	10.16	24.00	-2.30		Pass
VHT20	MCS0	1	48	5240	0.79	10.37	24.00	-2.30		Pass
VHT40	MCS0	1	38	5190	1.49	10.00	24.00	-2.30		Pass
VHT40	MCS0	1	46	5230	1.49	10.25	24.00	-2.30		Pass
VHT80	MCS0	1	42	5210	2.56	10.14	24.00	-2.30		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	0.60	4.46	11.00	-2.30		Pass
11a	6Mbps	1	44	5220	0.60	5.97	11.00	-2.30		Pass
11a	6Mbps	1	48	5240	0.60	5.05	11.00	-2.30		Pass
HT20	MCS0	1	36	5180	0.81	2.42	11.00	-2.30		Pass
HT20	MCS0	1	44	5220	0.81	3.26	11.00	-2.30		Pass
HT20	MCS0	1	48	5240	0.81	4.08	11.00	-2.30		Pass
HT40	MCS0	1	38	5190	1.49	2.46	11.00	-2.30		Pass
HT40	MCS0	1	46	5230	1.49	2.06	11.00	-2.30		Pass
VHT20	MCS0	1	36	5180	0.79	-0.97	11.00	-2.30		Pass
VHT20	MCS0	1	44	5220	0.79	0.02	11.00	-2.30		Pass
VHT20	MCS0	1	48	5240	0.79	-0.43	11.00	-2.30		Pass
VHT40	MCS0	1	38	5190	1.49	-2.50	11.00	-2.30		Pass
VHT40	MCS0	1	46	5230	1.49	-3.01	11.00	-2.30		Pass
VHT80	MCS0	1	42	5210	2.56	-5.65	11.00	-2.30		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	NTX	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	18.73	23.93	23.73	29.73	23.98	
11a	6M bps	1	60	5300	18.78	23.78	23.74	29.74	23.98	
11a	6M bps	1	64	5320	18.73	23.83	23.73	29.73	23.98	
HT20	MCS 0	1	52	5260	19.43	23.78	23.88	29.88	23.98	
HT20	MCS 0	1	60	5300	19.23	23.83	23.84	29.84	23.98	
HT20	MCS 0	1	64	5320	19.53	23.68	23.91	29.91	23.98	
HT40	MCS 0	1	54	5270	37.06	43.97	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.66	44.06	23.98	30.00	23.98	
VHT20	MCS 0	1	52	5260	19.13	23.53	23.82	29.82	23.98	
VHT20	MCS 0	1	60	5300	19.18	23.98	23.83	29.83	23.98	
VHT20	MCS 0	1	64	5320	19.13	23.88	23.82	29.82	23.98	
VHT40	MCS 0	1	54	5270	36.66	44.06	23.98	30.00	23.98	
VHT40	MCS 0	1	62	5310	36.76	43.88	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	74.69	81.84	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	0.60	15.66	23.98	-2.30	26.99	Pass
11a	6M bps	1	60	5300	0.60	14.63	23.98	-2.30	26.99	Pass
11a	6M bps	1	64	5320	0.60	14.69	23.98	-2.30	26.99	Pass
HT20	MCS 0	1	52	5260	0.81	13.85	23.98	-2.30	26.99	Pass
HT20	MCS 0	1	60	5300	0.81	14.03	23.98	-2.30	26.99	Pass
HT20	MCS 0	1	64	5320	0.81	14.19	23.98	-2.30	26.99	Pass
HT40	MCS 0	1	54	5270	1.49	15.52	23.98	-2.30	26.99	Pass
HT40	MCS 0	1	62	5310	1.49	15.62	23.98	-2.30	26.99	Pass
VHT20	MCS 0	1	52	5260	0.79	10.62	23.98	-2.30	26.99	Pass
VHT20	MCS 0	1	60	5300	0.79	10.86	23.98	-2.30	26.99	Pass
VHT20	MCS 0	1	64	5320	0.79	10.93	23.98	-2.30	26.99	Pass
VHT40	MCS 0	1	54	5270	1.49	10.32	23.98	-2.30	26.99	Pass
VHT40	MCS 0	1	62	5310	1.49	10.39	23.98	-2.30	26.99	Pass
VHT80	MCS 0	1	58	5290	2.56	10.49	23.98	-2.30	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.60	5.98	11.00	-2.30		Pass
11a	6M bps	1	60	5300	0.60	6.03	11.00	-2.30		Pass
11a	6M bps	1	64	5320	0.60	5.51	11.00	-2.30		Pass
HT20	MCS 0	1	52	5260	0.81	4.32	11.00	-2.30		Pass
HT20	MCS 0	1	60	5300	0.81	3.87	11.00	-2.30		Pass
HT20	MCS 0	1	64	5320	0.81	3.58	11.00	-2.30		Pass
HT40	MCS 0	1	54	5270	1.49	2.62	11.00	-2.30		Pass
HT40	MCS 0	1	62	5310	1.49	2.72	11.00	-2.30		Pass
VHT20	MCS 0	1	52	5260	0.79	0.24	11.00	-2.30		Pass
VHT20	MCS 0	1	60	5300	0.79	0.99	11.00	-2.30		Pass
VHT20	MCS 0	1	64	5320	0.79	0.98	11.00	-2.30		Pass
VHT40	MCS 0	1	54	5270	1.49	-2.12	11.00	-2.30		Pass
VHT40	MCS 0	1	62	5310	1.49	-3.02	11.00	-2.30		Pass
VHT80	MCS 0	1	58	5290	2.56	-5.77	11.00	-2.30		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	18.63	23.13	23.70	29.70	23.98	
11a	6M bps	1	116	5580	18.78	23.78	23.74	29.74	23.98	
11a	6M bps	1	140	5700	18.73	23.68	23.73	29.73	23.98	
HT20	MCS 0	1	100	5500	19.18	23.88	23.83	29.83	23.98	
HT20	MCS 0	1	116	5580	19.28	23.63	23.85	29.85	23.98	
HT20	MCS 0	1	140	5700	19.28	23.48	23.85	29.85	23.98	
HT40	MCS 0	1	102	5510	36.86	44.69	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.86	44.51	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.76	44.69	23.98	30.00	23.98	
VHT20	MCS 0	1	100	5500	19.13	23.83	23.82	29.82	23.98	
VHT20	MCS 0	1	116	5580	19.18	23.83	23.83	29.83	23.98	
VHT20	MCS 0	1	140	5700	19.13	23.83	23.82	29.82	23.98	
VHT40	MCS 0	1	102	5510	36.46	44.06	23.98	30.00	23.98	
VHT40	MCS 0	1	110	5550	36.86	44.51	23.98	30.00	23.98	
VHT40	MCS 0	1	134	5670	36.76	43.97	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	74.81	82.96	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	74.81	83.92	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	0.60	14.16	23.98	-2.30	26.99	Pass
11a	6M bps	1	116	5580	0.60	14.65	23.98	-2.30	26.99	Pass
11a	6M bps	1	140	5700	0.60	13.83	23.98	-2.30	26.99	Pass
HT20	MCS 0	1	100	5500	10.00	12.49	23.98	-2.30	26.99	Pass
HT20	MCS 0	1	116	5580	10.00	13.06	23.98	-2.30	26.99	Pass
HT20	MCS 0	1	140	5700	10.00	11.94	23.98	-2.30	26.99	Pass
HT40	MCS 0	1	102	5510	1.49	14.30	23.98	-2.30	26.99	Pass
HT40	MCS 0	1	110	5550	1.49	14.59	23.98	-2.30	26.99	Pass
HT40	MCS 0	1	134	5670	1.49	13.93	23.98	-2.30	26.99	Pass
VHT20	MCS 0	1	100	5500	0.79	9.37	23.98	-2.30	26.99	Pass
VHT20	MCS 0	1	116	5580	0.79	9.77	23.98	-2.30	26.99	Pass
VHT20	MCS 0	1	140	5700	0.79	8.90	23.98	-2.30	26.99	Pass
VHT40	MCS 0	1	102	5510	1.49	9.14	23.98	-2.30	26.99	Pass
VHT40	MCS 0	1	110	5550	1.49	9.48	23.98	-2.30	26.99	Pass
VHT40	MCS 0	1	134	5670	1.49	9.01	23.98	-2.30	26.99	Pass
VHT80	MCS 0	1	106	5530	2.56	9.16	23.98	-2.30	26.99	Pass
VHT80	MCS 0	1	122	5610	2.56	9.52	23.98	-2.30	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.60	5.58	11.00	-2.30		Pass
11a	6M bps	1	116	5580	0.60	5.75	11.00	-2.30		Pass
11a	6M bps	1	140	5700	0.60	4.84	11.00	-2.30		Pass
HT20	MCS 0	1	100	5500	0.81	3.62	11.00	-2.30		Pass
HT20	MCS 0	1	116	5580	0.81	3.79	11.00	-2.30		Pass
HT20	MCS 0	1	140	5700	0.81	2.89	11.00	-2.30		Pass
HT40	MCS 0	1	102	5510	1.49	2.71	11.00	-2.30		Pass
HT40	MCS 0	1	110	5550	1.49	3.57	11.00	-2.30		Pass
HT40	MCS 0	1	134	5670	1.49	1.84	11.00	-2.30		Pass
VHT20	MCS 0	1	100	5500	0.79	0.42	11.00	-2.30		Pass
VHT20	MCS 0	1	116	5580	0.79	0.98	11.00	-2.30		Pass
VHT20	MCS 0	1	140	5700	0.79	-0.37	11.00	-2.30		Pass
VHT40	MCS 0	1	102	5510	1.49	-3.28	11.00	-2.30		Pass
VHT40	MCS 0	1	110	5550	1.49	-1.97	11.00	-2.30		Pass
VHT40	MCS 0	1	134	5670	1.49	-3.52	11.00	-2.30		Pass
VHT80	MCS 0	1	106	5530	2.56	-4.78	11.00	-2.30		Pass
VHT80	MCS 0	1	122	5610	2.56	-4.70	11.00	-2.30		Pass

TEST RESULTS DATA
26dB and 99% OBW

Straddle Channel										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	Emission Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6Mbps	1	144	5720	18.78	19.75	-	-	-	
				NII-2C	14.4406	16.638	22.60	28.60	23.21	
				NII-3	4.3407	3.112	30.00	36.02	-	
HT20	MCS0	1	144	5720	19.43	20.72	-	-	-	
				NII-2C	14.7902	16.988	22.70	28.70	23.30	
				NII-3	4.6404	3.731	30.00	36.02	-	
HT40	MCS0	1	142	5710	36.86	40.00	-	-	-	
				NII-2C	33.4815	37.298	23.98	30.00	23.98	
				NII-3	3.3816	2.703	30.00	36.02	-	
VHT20	MCS0	1	144	5720	19.23	20.77	-	-	-	
				NII-2C	14.7403	17.038	22.69	28.69	23.31	
				NII-3	4.4905	3.731	30.00	36.02	-	
VHT40	MCS0	1	142	5710	36.76	40.16	-	-	-	
				NII-2C	33.5814	37.657	23.98	30.00	23.98	
				NII-3	3.1818	2.503	30.00	36.02	-	
VHT80	MCS0	1	138	5690	74.69	79.36	-	-	-	
				NII-2C	72.403	76.88	23.98	30.00	23.98	
				NII-3	2.283	2.483	30.00	36.02	-	

TEST RESULTS DATA
Average Power Table

FCC Straddle Channel										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	144	5720	0.60	11.86	-	-2.30		Pass
				NII-2C	0.60	10.83	23.21	-2.30		Pass
				NII-3	0.60	5.10	30.00	-2.30		Pass
HT20	MCS0	1	144	5720	0.81	11.48	-	-2.30		Pass
				NII-2C	0.81	10.40	23.30	-2.30		Pass
				NII-3	0.81	4.92	30.00	-2.30		Pass
HT40	MCS0	1	142	5710	1.49	11.90	-	-2.30		Pass
				NII-2C	1.49	11.61	23.98	-2.30		Pass
				NII-3	1.49	0.07	30.00	-2.30		Pass
VHT20	MCS0	1	144	5720	0.79	8.26	-	-2.30		Pass
				NII-2C	0.79	7.18	23.31	-2.30		Pass
				NII-3	0.79	1.69	30.00	-2.30		Pass
VHT40	MCS0	1	142	5710	1.49	8.23	-	-2.30		Pass
				NII-2C	1.49	7.95	23.98	-2.30		Pass
				NII-3	1.49	-3.74	30.00	-2.30		Pass
VHT80	MCS0	1	138	5690	2.56	9.14	-	-2.30		Pass
				NII-2C	2.56	9.08	23.98	-2.30		Pass
				NII-3	2.56	-9.41	30.00	-2.30		Pass

TEST RESULTS DATA
Power Spectral Density

Straddle Channel										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6Mbps	1	144	NII-2C	0.60	3.19	11.00	-2.30		Pass
				NII-3	0.60	3.19	30.00	-2.30		Pass
HT20	MCS0	1	144	NII-2C	0.81	1.08	11.00	-2.30		Pass
				NII-3	0.81	1.08	30.00	-2.30		Pass
HT40	MCS0	1	142	NII-2C	1.49	0.08	11.00	-2.30		Pass
				NII-3	1.49	0.08	30.00	-2.30		Pass
VHT20	MCS0	1	144	NII-2C	0.79	-2.56	11.00	-2.30		Pass
				NII-3	0.79	-2.56	30.00	-2.30		Pass
VHT40	MCS0	1	142	NII-2C	1.49	-4.95	11.00	-2.30		Pass
				NII-3	1.49	-4.95	30.00	-2.30		Pass
VHT80	MCS0	1	138	NII-2C	2.56	-6.83	11.00	-2.30		Pass
				NII-3	2.56	-6.83	30.00	-2.30		Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5179.975	-0.025	-4.83	20	3.6	
11a	6Mbps	1	36	5180	5179.975	-0.025	-4.83	20	4.35	
11a	6Mbps	1	36	5180	5179.975	-0.025	-4.83	20	3.8	
11a	6Mbps	1	36	5180	5179.829	-0.171	-33.01	-30	3.8	
11a	6Mbps	1	36	5180	5179.829	-0.171	-33.01	50	3.8	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	20	3.6	
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	20	4.35	
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	20	3.8	
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	-30	3.8	
11a	6Mbps	1	64	5320	5319.950	-0.050	-9.40	50	3.8	

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5499.975	-0.025	-4.55	20	3.6	
11a	6Mbps	1	100	5500	5499.975	-0.025	-4.55	20	4.35	
11a	6Mbps	1	100	5500	5499.975	-0.025	-4.55	20	3.8	
11a	6Mbps	1	100	5500	5499.975	-0.025	-4.55	-30	3.8	
11a	6Mbps	1	100	5500	5499.975	-0.025	-4.55	50	3.8	



Appendix B. Radiated Spurious Emission

15E Band 1 - 5150~5250MHz

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)
80 2.11a CH 36 5180MHz		5110.76	49.05	-24.95	74	37.53	34.64	9.84	32.96	246	43	P	H
		5127.14	39.57	-14.43	54	28.04	34.66	9.88	33.01	246	43	A	H
	*	5180	94.68	-	-	83.19	34.72	9.94	33.17	246	43	P	H
	*	5180	87.7	-	-	76.21	34.72	9.94	33.17	246	43	A	H
		5135.2	50.61	-23.39	74	39.08	34.66	9.88	33.01	250	336	P	V
		5127.66	41.16	-12.84	54	29.63	34.66	9.88	33.01	250	336	A	V
	*	5180	95.84	-	-	84.35	34.72	9.94	33.17	250	336	P	V
	*	5180	89.51	-	-	78.02	34.72	9.94	33.17	250	336	A	V
802.11a CH 44 5220MHz		5120.38	49.28	-24.72	74	37.72	34.64	9.88	32.96	243	37	P	H
		5116.48	40.09	-13.91	54	28.53	34.64	9.88	32.96	243	37	A	H
	*	5220	94.81	-	-	83.32	34.76	10.01	33.28	243	37	P	H
	*	5220	87.75	-	-	76.26	34.76	10.01	33.28	243	37	A	H
		5372.88	49.21	-24.79	74	37.81	34.94	10.22	33.76	243	37	P	H
		5368.32	39.3	-14.7	54	27.9	34.94	10.22	33.76	243	37	A	H
		5045.24	49.69	-24.31	74	38.11	34.56	9.77	32.75	154	334	P	V
		5069.68	40.06	-13.94	54	28.48	34.58	9.8	32.8	154	334	A	V
	*	5220	95.75	-	-	84.26	34.76	10.01	33.28	154	334	P	V
	*	5220	89.34	-	-	77.85	34.76	10.01	33.28	154	334	A	V
		5371.92	49.04	-24.96	74	37.64	34.94	10.22	33.76	154	334	P	V
		5356.08	39.45	-14.55	54	28.04	34.92	10.19	33.7	154	334	A	V



802.11a CH 48 5240MHz		5039.78	50.83	-23.17	74	39.25	34.56	9.77	32.75	250	36	P	H
		5074.62	40.12	-13.88	54	28.57	34.6	9.8	32.85	250	36	A	H
	*	5240	94.2	-	-	82.7	34.78	10.05	33.33	250	36	P	H
	*	5240	86.71	-	-	75.21	34.78	10.05	33.33	250	36	A	H
		5354.64	49.15	-24.85	74	37.74	34.92	10.19	33.7	250	36	P	H
		5372.64	39.24	-14.76	54	27.84	34.94	10.22	33.76	250	36	A	H
		5048.88	49.37	-24.63	74	37.79	34.56	9.77	32.75	150	335	P	V
		5063.96	40.03	-13.97	54	28.45	34.58	9.8	32.8	150	335	A	V
	*	5240	95.59	-	-	84.09	34.78	10.05	33.33	150	335	P	V
	*	5240	89.11	-	-	77.61	34.78	10.05	33.33	150	335	A	V
		5427.84	48.63	-25.37	74	37.25	35	10.3	33.92	150	335	P	V
		5387.52	39.23	-14.77	54	27.82	34.96	10.26	33.81	150	335	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

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 36 5180MHz		10360	65.43	-2.87	68.3	69.61	38.39	13.88	56.45	205	40	P	H
		15540	55.32	-18.68	74	52.05	41.29	17.72	55.74	189	238	P	H
		15540	47.42	-6.58	54	44.15	41.29	17.72	55.74	189	238	A	H
		10360	63.01	-5.29	68.3	67.19	38.39	13.88	56.45	250	180	P	V
		15540	55.28	-18.72	74	52.01	41.29	17.72	55.74	189	238	P	V
		15540	47.54	-6.46	54	44.27	41.29	17.72	55.74	189	238	A	V
802.11a CH 44 5220MHz		10440	66.29	-2.01	68.3	70.5	38.45	13.84	56.5	150	360	P	H
		15660	55.37	-18.63	74	51.96	41.24	17.6	55.43	150	0	P	H
		15660	47.06	-6.94	54	43.65	41.24	17.6	55.43	150	0	A	H
		10440	61	-7.3	68.3	65.21	38.45	13.84	56.5	150	0	P	V
		15660	54.65	-19.35	74	51.24	41.24	17.6	55.43	150	0	P	V
		15660	47.09	-6.91	54	43.68	41.24	17.6	55.43	150	0	A	V
802.11a CH 48 5240MHz		10480	65.29	-3.01	68.3	69.54	38.49	13.81	56.55	150	360	P	H
		15720	57.18	-16.82	74	53.66	41.21	17.56	55.25	150	291	P	H
		15720	48.37	-5.63	54	44.85	41.21	17.56	55.25	150	291	A	H
		10480	62.01	-6.29	68.3	66.26	38.49	13.81	56.55	150	289	P	V
		15720	57.09	-16.91	74	53.57	41.21	17.56	55.25	150	291	P	V
		15720	48.77	-5.23	54	45.25	41.21	17.56	55.25	150	291	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11n HT20 (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)
802.11n HT20 CH 36 5180MHz		5127.66	50.59	-23.41	74	39.06	34.66	9.88	33.01	214	342	P	H
		5128.18	42.15	-11.85	54	30.62	34.66	9.88	33.01	214	342	A	H
	*	5180	95.85	-	-	84.36	34.72	9.94	33.17	214	342	P	H
	*	5180	88.5	-	-	77.01	34.72	9.94	33.17	214	342	A	H
		5080.86	49.92	-24.08	74	38.37	34.6	9.8	32.85	246	23	P	V
		5128.18	40.41	-13.59	54	28.88	34.66	9.88	33.01	246	23	A	V
	*	5180	91.72	-	-	80.23	34.72	9.94	33.17	246	23	P	V
	*	5180	84.54	-	-	73.05	34.72	9.94	33.17	246	23	A	V
802.11n HT20 CH 44 5220MHz		5065	50.07	-23.93	74	38.49	34.58	9.8	32.8	250	356	P	H
		5124.8	41.07	-12.93	54	29.54	34.66	9.88	33.01	250	356	A	H
	*	5220	95.42	-	-	83.93	34.76	10.01	33.28	250	356	P	H
	*	5220	88.54	-	-	77.05	34.76	10.01	33.28	250	356	A	H
		5380.32	48.22	-25.78	74	36.85	34.96	10.22	33.81	250	356	P	H
		5360.64	40.08	-13.92	54	28.71	34.94	10.19	33.76	250	356	A	H
		5107.64	49.57	-24.43	74	38.05	34.64	9.84	32.96	243	20	P	V
		5126.1	40.79	-13.21	54	29.26	34.66	9.88	33.01	243	20	A	V
	*	5220	93.13	-	-	81.64	34.76	10.01	33.28	243	20	P	V
	*	5220	85.55	-	-	74.06	34.76	10.01	33.28	243	20	A	V
		5455.68	48.89	-25.11	74	37.54	35.04	10.33	34.02	243	20	P	V
		5392.32	40.1	-13.9	54	28.69	34.96	10.26	33.81	243	20	A	V



802.11n HT20 CH 48 5240MHz		5084.24	49.75	-24.25	74	38.2	34.6	9.8	32.85	246	357	P	H
		5091.78	41.09	-12.91	54	29.54	34.62	9.84	32.91	246	357	A	H
	*	5240	95.21	-	-	83.71	34.78	10.05	33.33	246	357	P	H
	*	5240	88.56	-	-	77.06	34.78	10.05	33.33	246	357	A	H
		5370.24	48.53	-25.47	74	37.13	34.94	10.22	33.76	246	357	P	H
		5392.56	39.97	-14.03	54	28.56	34.96	10.26	33.81	246	357	A	H
		5010.66	50.03	-23.97	74	38.45	34.52	9.7	32.64	241	18	P	V
		5083.98	40.71	-13.29	54	29.16	34.6	9.8	32.85	241	18	A	V
	*	5240	93.35	-	-	81.85	34.78	10.05	33.33	241	18	P	V
	*	5240	85.71	-	-	74.21	34.78	10.05	33.33	241	18	A	V
		5400.48	48.77	-25.23	74	37.39	34.98	10.26	33.86	241	18	P	V
		5394	39.88	-14.12	54	28.47	34.96	10.26	33.81	241	18	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11n HT20 (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)
802.11n HT20 CH 36 5180MHz		10360	57.33	-10.97	68.3	61.51	38.39	13.88	56.45	152	260	P	H
		15540	57.95	-16.05	74	54.68	41.29	17.72	55.74	189	238	P	H
		15540	49.78	-4.22	54	46.51	41.29	17.72	55.74	189	238	A	H
		10360	56.94	-11.36	68.3	61.12	38.39	13.88	56.45	152	260	P	V
		15540	57.88	-16.12	74	54.61	41.29	17.72	55.74	189	238	P	V
		15540	49.91	-4.09	54	46.64	41.29	17.72	55.74	189	238	A	V
802.11n HT20 CH 44 5220MHz		10440	57.04	-11.26	68.3	61.25	38.45	13.84	56.5	150	230	P	H
		15660	58.03	-15.97	74	54.62	41.24	17.6	55.43	160	225	P	H
		15660	49.06	-4.94	54	45.65	41.24	17.6	55.43	160	225	A	H
		10440	57.28	-11.02	68.3	61.49	38.45	13.84	56.5	150	230	P	V
		15660	57.44	-16.56	74	54.03	41.24	17.6	55.43	160	225	P	V
		15660	48.28	-5.72	54	44.87	41.24	17.6	55.43	160	225	A	V
802.11n HT20 CH 48 5240MHz		10480	59.44	-8.86	68.3	63.69	38.49	13.81	56.55	150	289	P	H
		15720	57.51	-16.49	74	53.99	41.21	17.56	55.25	150	291	P	H
		15720	48.48	-5.52	54	44.96	41.21	17.56	55.25	150	291	A	H
		10480	56.36	-11.94	68.3	60.61	38.49	13.81	56.55	150	289	P	V
		15720	57.37	-16.63	74	53.85	41.21	17.56	55.25	150	291	P	V
		15720	48.49	-5.51	54	44.97	41.21	17.56	55.25	150	291	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11n HT40 (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)
802.11n HT40 CH 38 5190MHz		5147.68	56.01	-17.99	74	44.49	34.68	9.91	33.07	209	354	P	H
		5148.98	47.73	-6.27	54	36.21	34.68	9.91	33.07	209	354	A	H
	*	5190	96.48	-	-	84.95	34.72	9.98	33.17	209	354	P	H
	*	5190	88.67	-	-	77.14	34.72	9.98	33.17	209	354	A	H
		5425.2	49.19	-24.81	74	37.81	35	10.3	33.92	209	354	P	H
		5416.56	40.23	-13.77	54	28.85	35	10.3	33.92	209	354	A	H
		5058.76	49.84	-24.16	74	38.29	34.58	9.77	32.8	192	218	P	V
		5147.94	41.7	-12.3	54	30.18	34.68	9.91	33.07	192	218	A	V
	*	5190	87.19	-	-	75.66	34.72	9.98	33.17	192	218	P	V
	*	5190	81.07	-	-	69.54	34.72	9.98	33.17	192	218	A	V
		5364.96	48.77	-25.23	74	37.37	34.94	10.22	33.76	192	218	P	V
		5383.68	40.23	-13.77	54	28.86	34.96	10.22	33.81	192	218	A	V
802.11n HT40 CH 46 5230MHz		5123.5	50.47	-23.53	74	38.94	34.66	9.88	33.01	248	358	P	H
		5123.76	41.7	-12.3	54	30.17	34.66	9.88	33.01	248	358	A	H
	*	5230	96.3	-	-	84.84	34.78	10.01	33.33	248	358	P	H
	*	5230	88.68	-	-	77.22	34.78	10.01	33.33	248	358	A	H
		5356.32	48.55	-25.45	74	37.14	34.92	10.19	33.7	248	358	P	H
		5404.32	40.15	-13.85	54	28.77	34.98	10.26	33.86	248	358	A	H
		5141.96	49.41	-24.59	74	37.89	34.68	9.91	33.07	159	205	P	V
		5146.64	40.96	-13.04	54	29.44	34.68	9.91	33.07	159	205	A	V
	*	5230	87.97	-	-	76.51	34.78	10.01	33.33	159	205	P	V
	*	5230	80.98	-	-	69.52	34.78	10.01	33.33	159	205	A	V
		5356.8	48.68	-25.32	74	37.27	34.92	10.19	33.7	159	205	P	V
		5456.88	40.28	-13.72	54	28.93	35.04	10.33	34.02	159	205	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11n HT40 (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)
802.11n HT40 CH 38 5190MHz		10380	58.46	-9.84	68.3	62.63	38.41	13.88	56.46	150	360	P	H
		15570	57.89	-16.11	74	54.58	41.27	17.69	55.65	155	360	P	H
		15570	50.22	-3.78	54	46.91	41.27	17.69	55.65	155	360	A	H
		10380	58.68	-9.62	68.3	62.85	38.41	13.88	56.46	150	360	P	V
		15570	58.65	-15.35	74	55.34	41.27	17.69	55.65	155	360	P	V
		15570	49.33	-4.67	54	46.02	41.27	17.69	55.65	155	360	A	V
802.11n HT40 CH 46 5230MHz		10460	59.13	-9.17	68.3	63.37	38.46	13.82	56.52	150	360	P	H
		15690	57.49	-16.51	74	54.03	41.22	17.58	55.34	150	225	P	H
		15690	49.99	-4.01	54	46.53	41.22	17.58	55.34	150	225	A	H
		10460	57.66	-10.64	68.3	61.9	38.46	13.82	56.52	150	360	P	V
		15690	58.69	-15.31	74	55.23	41.22	17.58	55.34	150	225	P	V
		15690	49.52	-4.48	54	46.06	41.22	17.58	55.34	150	225	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz
WIFI 802.11ac VHT80 (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)
802.11ac VHT80 CH 42 5210MHz		5135.72	50.28	-23.72	74	38.75	34.66	9.88	33.01	250	360	P	H
		5045.24	42.34	-11.66	54	30.76	34.56	9.77	32.75	250	360	A	H
	*	5210	86.87	-	-	75.41	34.76	9.98	33.28	250	360	P	H
	*	5210	79.36	-	-	67.9	34.76	9.98	33.28	250	360	A	H
		5437.92	48.33	-25.67	74	36.95	35.02	10.33	33.97	250	360	P	H
		5372.16	41.51	-12.49	54	30.11	34.94	10.22	33.76	250	360	A	H
		5026.52	49.41	-24.59	74	37.84	34.54	9.73	32.7	250	360	P	V
		5141.18	42.5	-11.5	54	30.98	34.68	9.91	33.07	250	360	A	V
	*	5210	82	-	-	70.54	34.76	9.98	33.28	250	360	P	V
	*	5210	75.51	-	-	64.05	34.76	9.98	33.28	250	360	A	V
		5390.16	48.25	-25.75	74	36.84	34.96	10.26	33.81	250	360	P	V
		5457.84	41.37	-12.63	54	30.02	35.04	10.33	34.02	250	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 1 5150~5250MHz

WIFI 802.11ac VHT80 (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)
802.11ac VHT80 CH 42 5210MHz		10420	54.08	-14.22	68.3	58.29	38.43	13.85	56.49	250	0	P	H
		15630	57.72	-16.28	74	54.33	41.24	17.62	55.47	150	0	P	H
		15630	48.37	-5.63	54	44.98	41.24	17.62	55.47	150	0	A	H
		10420	54.72	-13.58	68.3	58.93	38.43	13.85	56.49	250	0	P	V
		15630	57.08	-16.92	74	53.69	41.24	17.62	55.47	150	0	P	V
		15630	47.91	-6.09	54	44.52	41.24	17.62	55.47	150	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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		5024.7	49.65	-24.35	74	38.08	34.54	9.73	32.7	250	32	P	H
		5121.68	40.02	-13.98	54	28.46	34.64	9.88	32.96	250	32	A	H
	*	5260	96.11	-	-	84.68	34.82	10.05	33.44	250	32	P	H
	*	5260	89.27	-	-	77.84	34.82	10.05	33.44	250	32	A	H
		5353.44	49.21	-24.79	74	37.8	34.92	10.19	33.7	250	32	P	H
		5424.96	39.42	-14.58	54	28.04	35	10.3	33.92	250	32	A	H
		5142.22	49.79	-24.21	74	38.27	34.68	9.91	33.07	150	329	P	V
		5068.64	40	-14	54	28.42	34.58	9.8	32.8	150	329	A	V
	*	5260	96.91	-	-	85.48	34.82	10.05	33.44	150	329	P	V
	*	5260	90.29	-	-	78.86	34.82	10.05	33.44	150	329	A	V
		5403.36	48.55	-25.45	74	37.17	34.98	10.26	33.86	150	329	P	V
		5406.72	39.37	-14.63	54	27.99	34.98	10.26	33.86	150	329	A	V
802.11a CH 60 5300MHz		5065.52	49.8	-24.2	74	38.22	34.58	9.8	32.8	250	35	P	H
		5067.6	40.04	-13.96	54	28.46	34.58	9.8	32.8	250	35	A	H
	*	5300	93.77	-	-	82.33	34.86	10.12	33.54	250	35	P	H
	*	5300	86.56	-	-	75.12	34.86	10.12	33.54	250	35	A	H
		5352.24	48.71	-25.29	74	37.3	34.92	10.19	33.7	250	35	P	H
		5352.48	39.86	-14.14	54	28.45	34.92	10.19	33.7	250	35	A	H
		5022.62	49.09	-24.91	74	37.52	34.54	9.73	32.7	150	349	P	V
		5108.68	39.98	-14.02	54	28.46	34.64	9.84	32.96	150	349	A	V
	*	5300	94.82	-	-	83.38	34.86	10.12	33.54	150	349	P	V
	*	5300	88.56	-	-	77.12	34.86	10.12	33.54	150	349	A	V
		5351.28	48.81	-25.19	74	37.4	34.92	10.19	33.7	150	349	P	V
		5352	40.42	-13.58	54	29.01	34.92	10.19	33.7	150	349	A	V



802.11a CH 64 5320MHz	*	5320	93.63	-	-	82.2	34.88	10.15	33.6	250	35	P	H
	*	5320	86.58	-	-	75.15	34.88	10.15	33.6	250	35	A	H
		5401.6	48.94	-25.06	74	37.56	34.98	10.26	33.86	250	35	P	H
		5372.16	39.67	-14.33	54	28.27	34.94	10.22	33.76	250	35	A	H
	*	5320	94.53	-	-	83.1	34.88	10.15	33.6	155	331	P	V
	*	5320	87.96	-	-	76.53	34.88	10.15	33.6	155	331	A	V
		5412.96	48.74	-25.26	74	37.36	35	10.3	33.92	155	331	P	V
		5372.16	40.26	-13.74	54	28.86	34.94	10.22	33.76	155	331	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

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 52 5260MHz		10520	65.68	-2.62	68.3	69.85	38.51	13.85	56.53	219	38	P	H
		15780	56.56	-17.44	74	52.99	41.19	17.49	55.11	159	345	P	H
		15780	47.81	-6.19	54	44.24	41.19	17.49	55.11	159	345	A	H
		10520	59.57	-8.73	68.3	63.74	38.51	13.85	56.53	150	360	P	V
		15780	57.64	-16.36	74	54.07	41.19	17.49	55.11	159	345	P	V
		15780	49.77	-4.23	54	46.2	41.19	17.49	55.11	159	345	A	V
802.11a CH 60 5300MHz		10600	62.45	-11.55	74	66.27	38.56	13.98	56.36	223	36	P	H
		10600	53.21	-0.79	54	57.03	38.56	13.98	56.36	223	36	A	H
		15900	57.45	-16.55	74	53.74	41.14	17.37	54.8	196	190	P	H
		15900	47.31	-6.69	54	43.6	41.14	17.37	54.8	196	190	A	H
		10600	57.62	-16.38	74	61.44	38.56	13.98	56.36	185	215	P	V
		10600	50.87	-3.13	54	54.69	38.56	13.98	56.36	185	215	A	V
		15900	57.38	-16.62	74	53.67	41.14	17.37	54.8	196	190	P	V
		15900	47.04	-6.96	54	43.33	41.14	17.37	54.8	196	190	A	V
802.11a CH 64 5320MHz		10640	62.46	-11.54	74	66.11	38.58	14.07	56.3	152	135	P	H
		10640	53.36	-0.64	54	57.01	38.58	14.07	56.3	152	135	A	H
		15960	56.06	-17.94	74	52.24	41.11	17.33	54.62	173	245	P	H
		15960	48.45	-5.55	54	44.63	41.11	17.33	54.62	173	245	A	H
		10640	58.11	-15.89	74	61.76	38.58	14.07	56.3	150	360	P	V
		10640	50.36	-3.64	54	54.01	38.58	14.07	56.3	150	360	A	V
		15960	55.97	-18.03	74	52.15	41.11	17.33	54.62	150	0	P	V
		15960	47.84	-6.16	54	44.02	41.11	17.33	54.62	150	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

WIFI 802.11n HT20 (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)
802.11n HT20 CH 52 5260MHz		5083.98	49.82	-24.18	74	38.27	34.6	9.8	32.85	248	357	P	H
		5113.1	40.88	-13.12	54	29.32	34.64	9.88	32.96	248	357	A	H
	*	5260	96.23	-	-	84.8	34.82	10.05	33.44	248	357	P	H
	*	5260	88.97	-	-	77.54	34.82	10.05	33.44	248	357	A	H
		5394.48	48.81	-25.19	74	37.4	34.96	10.26	33.81	248	357	P	H
		5379.12	40.41	-13.59	54	29.04	34.96	10.22	33.81	248	357	A	H
		5049.4	49.24	-24.76	74	37.66	34.56	9.77	32.75	244	32	P	V
		5095.68	40.64	-13.36	54	29.09	34.62	9.84	32.91	244	32	A	V
	*	5260	93.81	-	-	82.38	34.82	10.05	33.44	244	32	P	V
	*	5260	86.08	-	-	74.65	34.82	10.05	33.44	244	32	A	V
		5374.8	48.55	-25.45	74	37.15	34.94	10.22	33.76	244	32	P	V
		5373.12	40.01	-13.99	54	28.61	34.94	10.22	33.76	244	32	A	V
802.11n HT20 CH 60 5300MHz		5076.18	50.03	-23.97	74	38.48	34.6	9.8	32.85	243	358	P	H
		5148.46	40.68	-13.32	54	29.16	34.68	9.91	33.07	243	358	A	H
	*	5300	94.68	-	-	83.24	34.86	10.12	33.54	243	358	P	H
	*	5300	88.42	-	-	76.98	34.86	10.12	33.54	243	358	A	H
		5433.12	48.58	-25.42	74	37.23	35.02	10.3	33.97	243	358	P	H
		5351.52	40.93	-13.07	54	29.52	34.92	10.19	33.7	243	358	A	H
		5116.74	49.35	-24.65	74	37.79	34.64	9.88	32.96	250	21	P	V
		5139.62	40.89	-13.11	54	29.37	34.68	9.91	33.07	250	21	A	V
	*	5300	93.28	-	-	81.84	34.86	10.12	33.54	250	21	P	V
	*	5300	85.96	-	-	74.52	34.86	10.12	33.54	250	21	A	V
		5354.88	48.36	-25.64	74	36.95	34.92	10.19	33.7	250	21	P	V
		5352.48	40.43	-13.57	54	29.02	34.92	10.19	33.7	250	21	A	V



802.11n HT20 CH 64 5320MHz	*	5320	95.6	-	-	84.17	34.88	10.15	33.6	250	358	P	H
	*	5320	88.68	-	-	77.25	34.88	10.15	33.6	250	358	A	H
		5370.88	50.8	-23.2	74	39.4	34.94	10.22	33.76	250	358	P	H
		5371.36	41.02	-12.98	54	29.62	34.94	10.22	33.76	250	358	A	H
	*	5320	92.51	-	-	81.08	34.88	10.15	33.6	250	20	P	V
	*	5320	85.46	-	-	74.03	34.88	10.15	33.6	250	20	A	V
		5426.24	48.69	-25.31	74	37.31	35	10.3	33.92	250	20	P	V
		5371.84	40.13	-13.87	54	28.73	34.94	10.22	33.76	250	20	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11n HT20 (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)
802.11n HT20 CH 52 5260MHz		10520	58.34	-9.96	68.3	62.51	38.51	13.85	56.53	150	220	P	H
		15780	57.81	-16.19	74	54.24	41.19	17.49	55.11	159	345	P	H
		15780	49.45	-4.55	54	45.88	41.19	17.49	55.11	159	345	A	H
		10520	56.82	-11.48	68.3	60.99	38.51	13.85	56.53	150	220	P	V
		15780	58.96	-15.04	74	55.39	41.19	17.49	55.11	159	345	P	V
		15780	48.27	-5.73	54	44.7	41.19	17.49	55.11	159	345	A	V
802.11n HT20 CH 60 5300MHz		10600	59.32	-14.68	74	63.14	38.56	13.98	56.36	185	215	P	H
		10600	49.7	-4.3	54	53.52	38.56	13.98	56.36	185	215	A	H
		15900	57.68	-16.32	74	53.97	41.14	17.37	54.8	196	190	P	H
		15900	48.36	-5.64	54	44.65	41.14	17.37	54.8	196	190	A	H
		10600	58.67	-15.33	74	62.49	38.56	13.98	56.36	185	215	P	V
		10600	49.59	-4.41	54	53.41	38.56	13.98	56.36	185	215	A	V
		15900	57.8	-16.2	74	54.09	41.14	17.37	54.8	196	190	P	V
		15900	48.76	-5.24	54	45.05	41.14	17.37	54.8	196	190	A	V
802.11n HT20 CH 64 5320MHz		10640	61.13	-12.87	74	64.78	38.58	14.07	56.3	152	135	P	H
		10640	49.64	-4.36	54	53.29	38.58	14.07	56.3	152	135	A	H
		15960	58	-16	74	54.18	41.11	17.33	54.62	173	245	P	H
		15960	48.69	-5.31	54	44.87	41.11	17.33	54.62	173	245	A	H
		10640	60.01	-13.99	74	63.66	38.58	14.07	56.3	152	135	P	V
		10640	50.18	-3.82	54	53.83	38.58	14.07	56.3	152	135	A	V
		15960	57.19	-16.81	74	53.37	41.11	17.33	54.62	173	245	P	V
		15960	48.39	-5.61	54	44.57	41.11	17.33	54.62	173	245	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11n HT40 (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)
802.11n HT40 CH 54 5270MHz		5039.78	50.18	-23.82	74	38.6	34.56	9.77	32.75	233	360	P	H
		5122.2	41.09	-12.91	54	29.53	34.64	9.88	32.96	233	360	A	H
	*	5270	95.21	-	-	83.74	34.82	10.09	33.44	233	360	P	H
	*	5270	88.48	-	-	77.01	34.82	10.09	33.44	233	360	A	H
		5443.92	49.68	-24.32	74	38.3	35.02	10.33	33.97	233	360	P	H
		5373.12	40.2	-13.8	54	28.8	34.94	10.22	33.76	233	360	A	H
		5051.74	50.4	-23.6	74	38.82	34.56	9.77	32.75	150	205	P	V
		5075.66	40.84	-13.16	54	29.29	34.6	9.8	32.85	150	205	A	V
	*	5270	87.43	-	-	75.96	34.82	10.09	33.44	150	205	P	V
	*	5270	79.99	-	-	68.52	34.82	10.09	33.44	150	205	A	V
		5402.64	49.03	-24.97	74	37.65	34.98	10.26	33.86	150	205	P	V
		5395.44	40.09	-13.91	54	28.71	34.98	10.26	33.86	150	205	A	V
802.11n HT40 CH 62 5310MHz		5106.86	49.12	-24.88	74	37.6	34.64	9.84	32.96	250	360	P	H
		5022.36	40.84	-13.16	54	29.27	34.54	9.73	32.7	250	360	A	H
	*	5310	94.95	-	-	83.55	34.88	10.12	33.6	250	360	P	H
	*	5310	87.92	-	-	76.52	34.88	10.12	33.6	250	360	A	H
		5350.32	50.17	-23.83	74	38.76	34.92	10.19	33.7	250	360	P	H
		5350.8	41.22	-12.78	54	29.81	34.92	10.19	33.7	250	360	A	H
		5060.06	49.39	-24.61	74	37.84	34.58	9.77	32.8	191	0	P	V
		5072.54	40.79	-13.21	54	29.24	34.6	9.8	32.85	191	0	A	V
	*	5310	89.85	-	-	78.45	34.88	10.12	33.6	191	0	P	V
	*	5310	81.42	-	-	70.02	34.88	10.12	33.6	191	0	A	V
		5387.76	48.93	-25.07	74	37.52	34.96	10.26	33.81	191	0	P	V
		5353.92	40.49	-13.51	54	29.08	34.92	10.19	33.7	191	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11n HT40 (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)
802.11n HT40 CH 54 5270MHz		10540	61.59	-6.71	68.3	65.66	38.52	13.9	56.49	150	220	P	H
		15810	57.28	-16.72	74	53.66	41.18	17.46	55.02	168	345	P	H
		15810	49.64	-4.36	54	46.02	41.18	17.46	55.02	168	345	A	H
		10540	57.57	-10.73	68.3	61.64	38.52	13.9	56.49	150	220	P	V
		15810	57.78	-16.22	74	54.16	41.18	17.46	55.02	168	345	P	V
		15810	50.62	-3.38	54	47	41.18	17.46	55.02	168	345	A	V
802.11n HT40 CH 62 5310MHz		10620	60.56	-13.44	74	64.29	38.57	14.03	56.33	250	290	P	H
		10620	52.92	-1.08	54	56.65	38.57	14.03	56.33	250	290	A	H
		15930	58.6	-15.4	74	54.83	41.13	17.35	54.71	160	100	P	H
		15930	50.31	-3.69	54	46.54	41.13	17.35	54.71	160	100	A	H
		10620	58.22	-15.78	74	61.95	38.57	14.03	56.33	150	220	P	V
		10620	49.78	-4.22	54	53.51	38.57	14.03	56.33	150	220	A	V
		15930	57.44	-16.56	74	53.67	41.13	17.35	54.71	160	100	P	V
		15930	50.28	-3.72	54	46.51	41.13	17.35	54.71	160	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz
WIFI 802.11ac VHT80 (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)
802.11ac VHT80 CH 58 5290MHz		5052	49.44	-24.56	74	37.86	34.56	9.77	32.75	250	360	P	H
		5073.32	42.47	-11.53	54	30.92	34.6	9.8	32.85	250	360	A	H
	*	5290	87.06	-	-	75.59	34.84	10.12	33.49	250	360	P	H
	*	5290	78.98	-	-	67.51	34.84	10.12	33.49	250	360	A	H
		5418.72	48.94	-25.06	74	37.56	35	10.3	33.92	250	360	P	H
		5407.44	41.49	-12.51	54	30.11	34.98	10.26	33.86	250	360	A	H
		5124.02	49.83	-24.17	74	38.3	34.66	9.88	33.01	246	360	P	V
		5112.58	42.15	-11.85	54	30.59	34.64	9.88	32.96	246	360	A	V
	*	5290	82.3	-	-	70.83	34.84	10.12	33.49	246	360	P	V
	*	5290	75.72	-	-	64.25	34.84	10.12	33.49	246	360	A	V
		5443.2	48.84	-25.16	74	37.46	35.02	10.33	33.97	246	360	P	V
		5453.04	41.74	-12.26	54	30.39	35.04	10.33	34.02	246	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 2 5250~5350MHz

WIFI 802.11ac VHT80 (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)
802.11ac VHT80 CH 58 5290MHz		10580	55.16	-13.14	68.3	59.02	38.55	13.98	56.39	250	0	P	H
		15870	56.76	-17.24	74	53.03	41.15	17.42	54.84	150	0	P	H
		15870	47.89	-6.11	54	44.16	41.15	17.42	54.84	150	0	A	H
		10580	55.3	-13	68.3	59.16	38.55	13.98	56.39	250	0	P	V
		15870	56.4	-17.6	74	52.67	41.15	17.42	54.84	150	0	P	V
		15870	48.01	-5.99	54	44.28	41.15	17.42	54.84	150	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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		5447.76	49.52	-24.48	74	38.17	35.04	10.33	34.02	150	6	P	H
		5447.76	39.62	-14.38	54	28.27	35.04	10.33	34.02	150	6	A	H
	*	5500	94.55	-	-	83.23	35.1	10.4	34.18	150	6	P	H
	*	5500	88.17	-	-	76.85	35.1	10.4	34.18	150	6	A	H
		5377.84	48.75	-25.25	74	37.38	34.96	10.22	33.81	165	351	P	V
		5447.92	40.54	-13.46	54	29.19	35.04	10.33	34.02	165	351	A	V
	*	5500	94.56	-	-	83.24	35.1	10.4	34.18	165	351	P	V
	*	5500	87.84	-	-	76.52	35.1	10.4	34.18	165	351	A	V
802.11a CH 116 5580MHz		5460.16	48.91	-25.09	74	37.56	35.04	10.33	34.02	150	8	P	H
		5381.2	39.27	-14.73	54	27.9	34.96	10.22	33.81	150	8	A	H
	*	5580	94.59	-	-	83.13	35.2	10.49	34.23	150	8	P	H
	*	5580	87.99	-	-	76.53	35.2	10.49	34.23	150	8	A	H
		5758.875	49.03	-24.97	74	37.25	35.46	10.7	34.38	150	8	P	H
		5743.475	40.11	-13.89	54	28.34	35.44	10.7	34.37	150	8	A	H
		5450.8	48.83	-25.17	74	37.48	35.04	10.33	34.02	158	349	P	V
		5364.88	39.27	-14.73	54	27.87	34.94	10.22	33.76	158	349	A	V
	*	5580	95.04	-	-	83.58	35.2	10.49	34.23	158	349	P	V
	*	5580	87.51	-	-	76.05	35.2	10.49	34.23	158	349	A	V
		5753.1	50.06	-23.94	74	38.28	35.46	10.7	34.38	158	349	P	V
		5744.7	40.05	-13.95	54	28.28	35.44	10.7	34.37	158	349	A	V



802.11a CH 140 5700MHz	*	5700	93.67	-	-	81.99	35.37	10.64	34.33	150	8	P	H
	*	5700	86.2	-	-	74.52	35.37	10.64	34.33	150	8	A	H
		5726.84	50.56	-23.44	74	38.83	35.41	10.67	34.35	150	8	P	H
		5752.28	40.49	-13.51	54	28.71	35.46	10.7	34.38	150	8	A	H
	*	5700	94.03	-	-	82.35	35.37	10.64	34.33	164	353	P	V
	*	5700	86.7	-	-	75.02	35.37	10.64	34.33	164	353	A	V
		5726.28	49.43	-24.57	74	37.7	35.41	10.67	34.35	164	353	P	V
		5752.68	40.22	-13.78	54	28.44	35.46	10.7	34.38	164	353	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz
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 100 5500MHz		11000	55.68	-18.32	74	57.81	38.8	14.67	55.6	150	360	P	H
		11000	50.39	-3.61	54	52.52	38.8	14.67	55.6	150	360	A	H
		16500	57.66	-16.34	74	52.42	41.5	17.31	53.57	178	296	P	H
		16500	49.75	-4.25	54	44.51	41.5	17.31	53.57	178	296	A	H
		11000	53.12	-20.88	74	55.25	38.8	14.67	55.6	163	230	P	V
		11000	47.52	-6.48	54	49.65	38.8	14.67	55.6	163	230	A	V
		16500	57.55	-16.45	74	52.31	41.5	17.31	53.57	178	296	P	V
		16500	49.86	-4.14	54	44.62	41.5	17.31	53.57	178	296	A	V
802.11a CH 116 5580MHz		11160	55.44	-18.56	74	57.62	38.93	14.63	55.74	150	360	P	H
		11160	50.16	-3.84	54	52.34	38.93	14.63	55.74	150	360	A	H
		16740	56.69	-17.31	74	51.85	41.4	17.38	53.94	156	350	P	H
		16740	49.71	-4.29	54	44.87	41.4	17.38	53.94	156	350	A	H
		11160	53.14	-20.86	74	55.32	38.93	14.63	55.74	170	200	P	V
		11160	47.44	-6.56	54	49.62	38.93	14.63	55.74	170	200	A	V
		16740	56.7	-17.3	74	51.86	41.4	17.38	53.94	156	350	P	V
		16740	49.36	-4.64	54	44.52	41.4	17.38	53.94	156	350	A	V
802.11a CH 140 5700MHz		11400	53.66	-20.34	74	55.91	39.12	14.57	55.94	150	360	P	H
		11400	48.87	-5.13	54	51.12	39.12	14.57	55.94	150	360	A	H
		17100	58.21	-15.79	74	54	41.46	17.56	54.81	165	246	P	H
		17100	49.07	-4.93	54	44.86	41.46	17.56	54.81	165	246	A	H
		11400	53.93	-20.07	74	56.18	39.12	14.57	55.94	157	285	P	V
		11400	47.27	-6.73	54	49.52	39.12	14.57	55.94	157	285	A	V
		17100	57.43	-16.57	74	53.22	41.46	17.56	54.81	165	246	P	V
		17100	48.34	-5.66	54	44.13	41.46	17.56	54.81	165	246	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz

WIFI 802.11n HT20 (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)
802.11n HT20 CH 100 5500MHz		5448.08	49.01	-24.99	74	37.66	35.04	10.33	34.02	230	360	P	H
		5448.24	41.02	-12.98	54	29.67	35.04	10.33	34.02	230	360	A	H
	*	5500	93.31	-	-	81.99	35.1	10.4	34.18	230	360	P	H
	*	5500	86.53	-	-	75.21	35.1	10.4	34.18	230	360	A	H
		5467.44	49	-25	74	37.65	35.06	10.36	34.07	185	353	P	V
		5405.36	39.91	-14.09	54	28.53	34.98	10.26	33.86	185	353	A	V
	*	5500	88.03	-	-	76.71	35.1	10.4	34.18	185	353	P	V
	*	5500	81.32	-	-	70	35.1	10.4	34.18	185	353	A	V
802.11n HT20 CH 116 5580MHz		5383.12	48.88	-25.12	74	37.51	34.96	10.22	33.81	211	0	P	H
		5463.76	40.03	-13.97	54	28.68	35.06	10.36	34.07	211	0	A	H
	*	5580	93.43	-	-	81.97	35.2	10.49	34.23	211	0	P	H
	*	5580	86.34	-	-	74.88	35.2	10.49	34.23	211	0	A	H
		5737	48.84	-25.16	74	37.07	35.44	10.7	34.37	211	0	P	H
		5735.775	40.69	-13.31	54	28.92	35.44	10.7	34.37	211	0	A	H
		5416.24	48.45	-25.55	74	37.07	35	10.3	33.92	184	360	P	V
		5402.32	39.86	-14.14	54	28.48	34.98	10.26	33.86	184	360	A	V
	*	5580	86.6	-	-	75.14	35.2	10.49	34.23	184	360	P	V
	*	5580	80.03	-	-	68.57	35.2	10.49	34.23	184	360	A	V
		5727.025	48.77	-25.23	74	37.04	35.41	10.67	34.35	184	360	P	V
		5753.275	40.57	-13.43	54	28.79	35.46	10.7	34.38	184	360	A	V



802.11n HT20 CH 140 5700MHz	*	5700	92.28	-	-	80.6	35.37	10.64	34.33	197	360	P	H
	*	5700	85.57	-	-	73.89	35.37	10.64	34.33	197	360	A	H
		5747.32	48.79	-25.21	74	37.02	35.44	10.7	34.37	197	360	P	H
		5756.76	40.95	-13.05	54	29.17	35.46	10.7	34.38	197	360	A	H
	*	5700	84.41	-	-	72.73	35.37	10.64	34.33	150	354	P	V
	*	5700	78.2	-	-	66.52	35.37	10.64	34.33	150	354	A	V
		5761.08	48.86	-25.14	74	37.04	35.46	10.74	34.38	150	354	P	V
		5733.16	40.41	-13.59	54	28.68	35.41	10.67	34.35	150	354	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz
WIFI 802.11n HT20 (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)
802.11n HT20 CH 100 5500MHz		11000	56.88	-17.12	74	59.01	38.8	14.67	55.6	163	230	P	H
		11000	49.55	-4.45	54	51.68	38.8	14.67	55.6	163	230	A	H
		16500	58.71	-15.29	74	53.47	41.5	17.31	53.57	178	296	P	H
		16500	49.41	-4.59	54	44.17	41.5	17.31	53.57	178	296	A	H
		11000	54.52	-19.48	74	56.65	38.8	14.67	55.6	163	230	P	V
		11000	48.55	-5.45	54	50.68	38.8	14.67	55.6	163	230	A	V
		16500	58.15	-15.85	74	52.91	41.5	17.31	53.57	178	296	P	V
		16500	48.31	-5.69	54	43.07	41.5	17.31	53.57	178	296	A	V
802.11n HT20 CH 116 5580MHz		11160	53.57	-20.43	74	55.75	38.93	14.63	55.74	170	200	P	H
		11160	49.08	-4.92	54	51.26	38.93	14.63	55.74	170	200	A	H
		16740	57.63	-16.37	74	52.79	41.4	17.38	53.94	156	350	P	H
		16740	48.99	-5.01	54	44.15	41.4	17.38	53.94	156	350	A	H
		11160	53.94	-20.06	74	56.12	38.93	14.63	55.74	170	200	P	V
		11160	49.5	-4.5	54	51.68	38.93	14.63	55.74	170	200	A	V
		16740	58.63	-15.37	74	53.79	41.4	17.38	53.94	156	350	P	V
		16740	49.01	-4.99	54	44.17	41.4	17.38	53.94	156	350	A	V
802.11n HT20 CH 140 5700MHz		11400	54.56	-19.44	74	56.81	39.12	14.57	55.94	157	285	P	H
		11400	49.24	-4.76	54	51.49	39.12	14.57	55.94	157	285	A	H
		17100	58.59	-15.41	74	54.38	41.46	17.56	54.81	165	246	P	H
		17100	48.72	-5.28	54	44.51	41.46	17.56	54.81	165	246	A	H
		11400	53.84	-20.16	74	56.09	39.12	14.57	55.94	157	285	P	V
		11400	48.89	-5.11	54	51.14	39.12	14.57	55.94	157	285	A	V
		17100	58.31	-15.69	74	54.1	41.46	17.56	54.81	165	246	P	V
		17100	48.01	-5.99	54	43.8	41.46	17.56	54.81	165	246	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz
WIFI 802.11n HT40 (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)
802.11n HT40 CH 102 5510MHz		5463.28	50.81	-23.19	74	39.46	35.06	10.36	34.07	250	7	P	H
		5469.52	41.66	-12.34	54	30.31	35.06	10.36	34.07	250	7	A	H
	*	5510	93.01	-	-	81.69	35.1	10.4	34.18	250	7	P	H
	*	5510	85.82	-	-	74.5	35.1	10.4	34.18	250	7	A	H
		5758.7	49.71	-24.29	74	37.93	35.46	10.7	34.38	250	7	P	H
		5749.075	40.95	-13.05	54	29.18	35.44	10.7	34.37	250	7	A	H
		5438.56	48.86	-25.14	74	37.48	35.02	10.33	33.97	185	1	P	V
		5465.92	40.23	-13.77	54	28.88	35.06	10.36	34.07	185	1	A	V
	*	5510	87.47	-	-	76.15	35.1	10.4	34.18	185	1	P	V
	*	5510	81.34	-	-	70.02	35.1	10.4	34.18	185	1	A	V
		5763.95	49.75	-24.25	74	37.93	35.46	10.74	34.38	185	1	P	V
		5737.35	40.92	-13.08	54	29.15	35.44	10.7	34.37	185	1	A	V
802.11n HT40 CH 110 5550MHz		5358.4	49.39	-24.61	74	37.98	34.92	10.19	33.7	208	346	P	H
		5446	40.1	-13.9	54	28.75	35.04	10.33	34.02	208	346	A	H
	*	5550	92.61	-	-	81.2	35.17	10.46	34.22	208	346	P	H
	*	5550	85.93	-	-	74.52	35.17	10.46	34.22	208	346	A	H
		5753.45	49.09	-24.91	74	37.31	35.46	10.7	34.38	208	346	P	H
		5742.425	40.75	-13.25	54	28.98	35.44	10.7	34.37	208	346	A	H
		5351.92	48.9	-25.1	74	37.49	34.92	10.19	33.7	250	25	P	V
		5414.8	39.91	-14.09	54	28.53	35	10.3	33.92	250	25	A	V
	*	5550	85.04	-	-	73.63	35.17	10.46	34.22	250	25	P	V
	*	5550	78.93	-	-	67.52	35.17	10.46	34.22	250	25	A	V
		5729.825	49.58	-24.42	74	37.85	35.41	10.67	34.35	250	25	P	V
		5752.925	40.81	-13.19	54	29.03	35.46	10.7	34.38	250	25	A	V



802.11n HT40 CH 134 5670MHz		5453.2	48.77	-25.23	74	37.42	35.04	10.33	34.02	219	0	P	H
		5372.32	40.03	-13.97	54	28.63	34.94	10.22	33.76	219	0	A	H
	*	5670	92.01	-	-	80.37	35.34	10.61	34.31	219	0	P	H
	*	5670	85.2	-	-	73.56	35.34	10.61	34.31	219	0	A	H
		5757.125	48.67	-25.33	74	36.89	35.46	10.7	34.38	219	0	P	H
		5727.375	40.81	-13.19	54	29.08	35.41	10.67	34.35	219	0	A	H
		5426.32	48.03	-25.97	74	36.65	35	10.3	33.92	214	0	P	V
		5404.48	39.98	-14.02	54	28.6	34.98	10.26	33.86	214	0	A	V
	*	5670	84.76	-	-	73.12	35.34	10.61	34.31	214	0	P	V
	*	5670	78.86	-	-	67.22	35.34	10.61	34.31	214	0	A	V
		5728.075	49.16	-24.84	74	37.43	35.41	10.67	34.35	214	0	P	V
		5745.75	40.74	-13.26	54	28.97	35.44	10.7	34.37	214	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 - 5470~5725MHz
WIFI 802.11n HT40 (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)
802.11n HT40 CH 102 5510MHz		11020	55.03	-18.97	74	57.17	38.81	14.66	55.61	170	230	P	H
		11020	49.27	-4.73	54	51.41	38.81	14.66	55.61	170	230	A	H
		16530	57.78	-16.22	74	52.59	41.49	17.32	53.62	160	300	P	H
		16530	49.45	-4.55	54	44.26	41.49	17.32	53.62	160	300	A	H
		11020	54.81	-19.19	74	56.95	38.81	14.66	55.61	170	230	P	V
		11020	49.48	-4.52	54	51.62	38.81	14.66	55.61	170	230	A	V
		16530	58.31	-15.69	74	53.12	41.49	17.32	53.62	160	300	P	V
		16530	49.32	-4.68	54	44.13	41.49	17.32	53.62	160	300	A	V
802.11n HT40 CH 110 5550MHz		11100	55.26	-18.74	74	57.42	38.88	14.65	55.69	150	200	P	H
		11100	50.3	-3.7	54	52.46	38.88	14.65	55.69	150	200	A	H
		16650	57.84	-16.16	74	52.86	41.44	17.35	53.81	180	350	P	H
		16650	49.86	-4.14	54	44.88	41.44	17.35	53.81	180	350	A	H
		11100	53.76	-20.24	74	55.92	38.88	14.65	55.69	150	200	P	V
		11100	49.49	-4.51	54	51.65	38.88	14.65	55.69	150	200	A	V
		16650	57.73	-16.27	74	52.75	41.44	17.35	53.81	180	350	P	V
		16650	49.97	-4.03	54	44.99	41.44	17.35	53.81	180	350	A	V
802.11n HT40 CH 134 5670MHz		11340	55.54	-18.46	74	57.77	39.07	14.59	55.89	200	360	P	H
		11340	50.03	-3.97	54	52.26	39.07	14.59	55.89	200	360	A	H
		17010	58.07	-15.93	74	53.69	41.33	17.46	54.41	200	360	P	H
		17010	48.26	-5.74	54	43.88	41.33	17.46	54.41	200	360	A	H
		11340	54.17	-19.83	74	56.4	39.07	14.59	55.89	200	360	P	V
		11340	49.79	-4.21	54	52.02	39.07	14.59	55.89	200	360	A	V
		17010	58.09	-15.91	74	53.71	41.33	17.46	54.41	200	360	P	V
		17010	48.94	-5.06	54	44.56	41.33	17.46	54.41	200	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 5470~5725MHz
WIFI 802.11ac VHT80 (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)
802.11ac VHT80 CH 106 5530MHz		5448.64	48.87	-25.13	74	37.52	35.04	10.33	34.02	211	360	P	H
		5469.28	41.54	-12.46	54	30.19	35.06	10.36	34.07	211	360	A	H
	*	5530	85.14	-	-	73.78	35.12	10.43	34.19	211	360	P	H
	*	5530	78.01	-	-	66.65	35.12	10.43	34.19	211	360	A	H
		5739.625	48.88	-25.12	74	37.11	35.44	10.7	34.37	211	360	P	H
		5734.025	42.18	-11.82	54	30.45	35.41	10.67	34.35	211	360	A	H
		5447.68	48.53	-25.47	74	37.18	35.04	10.33	34.02	190	360	P	V
		5421.76	41.51	-12.49	54	30.13	35	10.3	33.92	190	360	A	V
	*	5530	79.94	-	-	68.58	35.12	10.43	34.19	190	360	P	V
	*	5530	71.38	-	-	60.02	35.12	10.43	34.19	190	360	A	V
		5745.575	50.24	-23.76	74	38.47	35.44	10.7	34.37	190	360	P	V
		5733.15	42.13	-11.87	54	30.4	35.41	10.67	34.35	190	360	A	V
802.11ac VHT80 CH 122 5610MHz		5429.44	48.75	-25.25	74	37.4	35.02	10.3	33.97	222	5	P	H
		5357.44	42.17	-11.83	54	30.76	34.92	10.19	33.7	222	5	A	H
	*	5610	85.16	-	-	73.66	35.24	10.52	34.26	222	5	P	H
	*	5610	77.53	-	-	66.03	35.24	10.52	34.26	222	5	A	H
		5736.475	49.18	-24.82	74	37.41	35.44	10.7	34.37	222	5	P	H
		5736.125	42.26	-11.74	54	30.49	35.44	10.7	34.37	222	5	A	H
		5413.36	49.6	-24.4	74	38.22	35	10.3	33.92	198	360	P	V
		5385.04	41.57	-12.43	54	30.2	34.96	10.22	33.81	198	360	A	V
	*	5610	79	-	-	67.5	35.24	10.52	34.26	198	360	P	V
	*	5610	71.53	-	-	60.03	35.24	10.52	34.26	198	360	A	V
		5763.6	48.91	-25.09	74	37.09	35.46	10.74	34.38	198	360	P	V
		5750.475	42.32	-11.68	54	30.55	35.44	10.7	34.37	198	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E band 3 5470~5725MHz

WIFI 802.11ac VHT80 (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)
802.11ac VHT80 CH 106 5530MHz		11060	55.15	-18.85	74	57.31	38.85	14.65	55.66	250	0	P	H
		11060	49.26	-4.74	54	51.42	38.85	14.65	55.66	250	0	A	H
		16590	57.03	-16.97	74	51.93	41.47	17.33	53.7	150	0	P	H
		16590	49.88	-4.12	54	44.78	41.47	17.33	53.7	150	0	A	H
		11060	53.55	-20.45	74	55.71	38.85	14.65	55.66	250	0	P	V
		11060	48.85	-5.15	54	51.01	38.85	14.65	55.66	250	0	A	V
		16590	57.83	-16.17	74	52.73	41.47	17.33	53.7	150	0	P	V
		16590	49.62	-4.38	54	44.52	41.47	17.33	53.7	150	0	A	V
802.11ac VHT80 CH 122 5610MHz		11220	56.68	-17.32	74	58.88	38.97	14.62	55.79	250	0	P	H
		11220	48.82	-5.18	54	51.02	38.97	14.62	55.79	250	0	A	H
		16830	56.97	-17.03	74	52.26	41.37	17.41	54.07	150	0	P	H
		16830	48.54	-5.46	54	43.83	41.37	17.41	54.07	150	0	A	H
		11220	54.66	-19.34	74	56.86	38.97	14.62	55.79	250	0	P	V
		11220	48.04	-5.96	54	50.24	38.97	14.62	55.79	250	0	A	V
		16830	57.27	-16.73	74	52.56	41.37	17.41	54.07	150	0	P	V
		16830	48.52	-5.48	54	43.81	41.37	17.41	54.07	150	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		30	26.9	-13.1	40	30.78	26.6	1.22	31.7	100	0	P	H
		151.25	26.7	-16.8	43.5	38.55	17.55	1.99	31.39	-	-	P	H
		190.05	25.74	-17.76	43.5	39.14	15.75	2.09	31.24	-	-	P	H
		263.77	23.85	-22.15	46	35.59	17.05	2.37	31.16	-	-	P	H
		821.52	31.43	-14.57	46	31.43	27.7	3.8	31.5	-	-	P	H
		986.42	33.11	-20.89	54	31.19	29.27	4.15	31.5	-	-	P	H
		33.88	31.17	-8.83	40	36.52	25.08	1.22	31.65	100	0	P	V
		81.41	29.16	-10.84	40	43.58	15.56	1.62	31.6	-	-	P	V
		154.16	32.35	-11.15	43.5	44.32	17.42	1.99	31.38	-	-	P	V
		444.19	26.26	-19.74	46	30.27	24.34	2.95	31.3	-	-	P	V
		742.95	30.13	-15.87	46	31.05	26.93	3.65	31.5	-	-	P	V
		932.1	31.89	-14.11	46	30.57	28.72	4.1	31.5	-	-	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 per 15.209(c).
!	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)

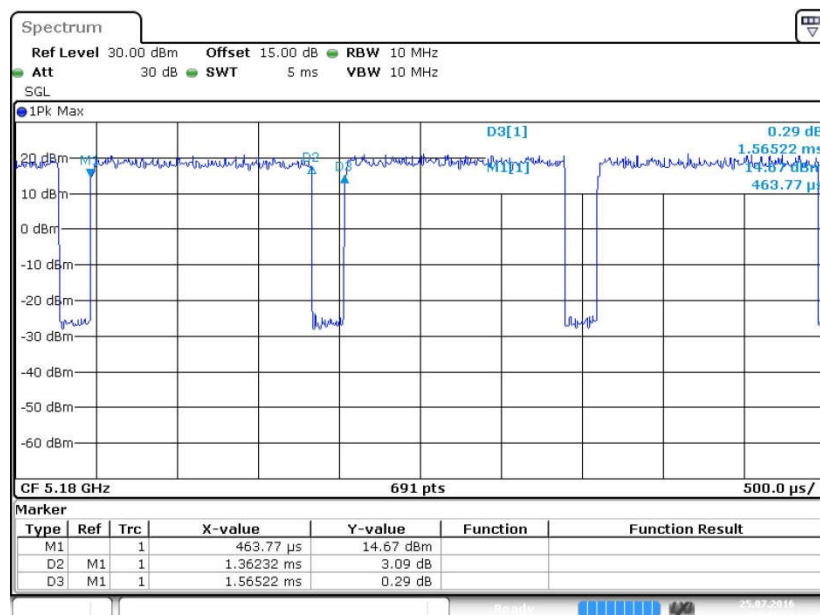
= -10.46(dB)

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

Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.04	1.36	0.73	1kHz
802.11n HT20	83.07	0.97	1.03	3kHz
802.11n HT40	71.04	0.49	2.05	3kHz
802.11ac VHT20	83.31	0.98	1.02	3kHz
802.11ac VHT40	71.01	0.49	2.04	3kHz
802.11ac VHT80	55.48	0.25	4.01	10kHz

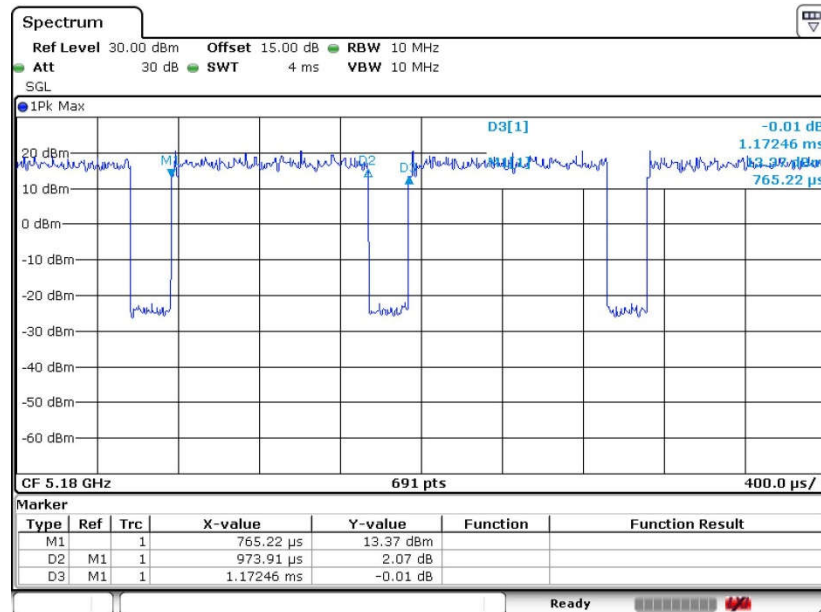
802.11a



Date: 25 JUL 2016 02:41:11

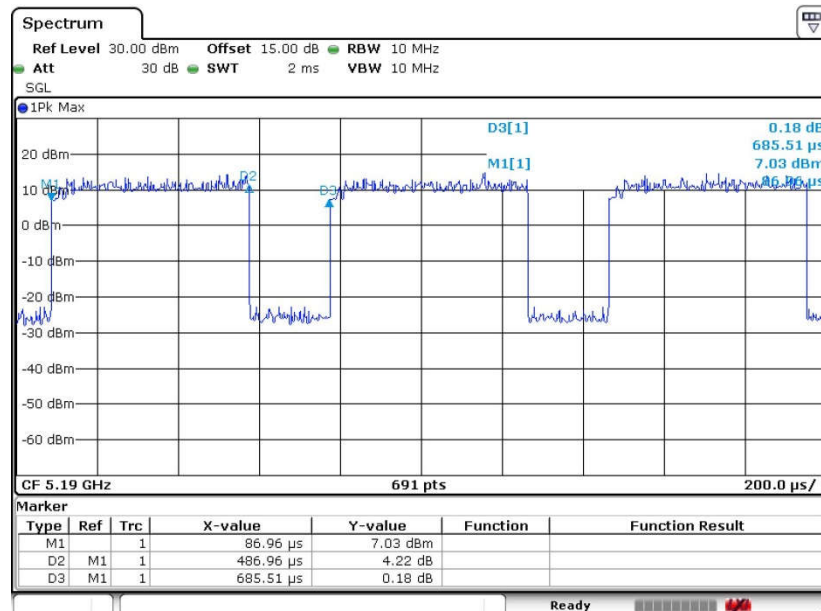


802.11n HT20



Date: 22.JUL.2016 11:23:38

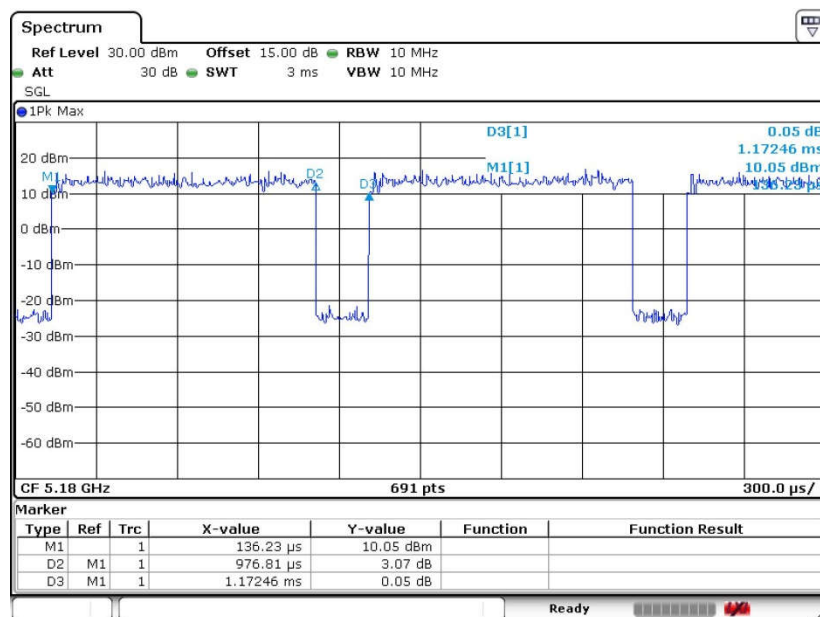
802.11n HT40



Date: 22.JUL.2016 11:22:32

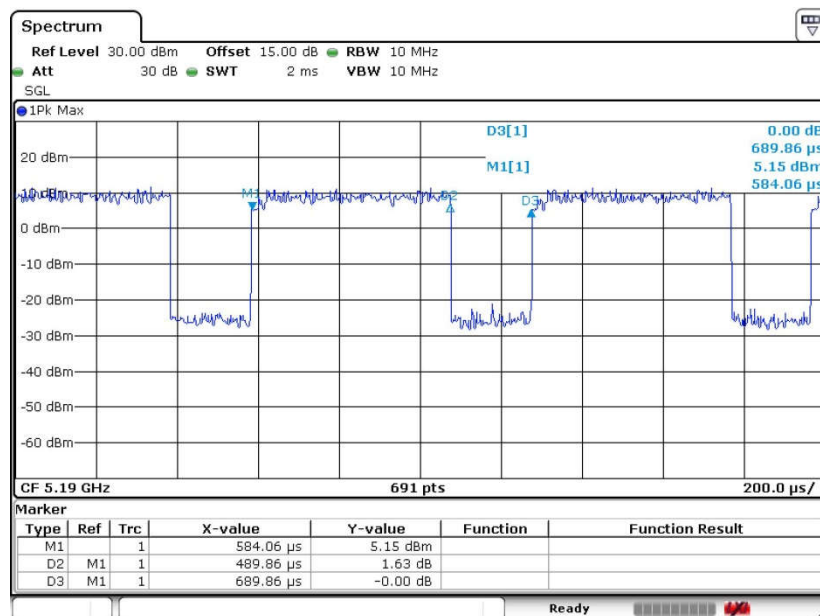


802.11ac VHT20



Date: 22.JUL.2016 11:21:22

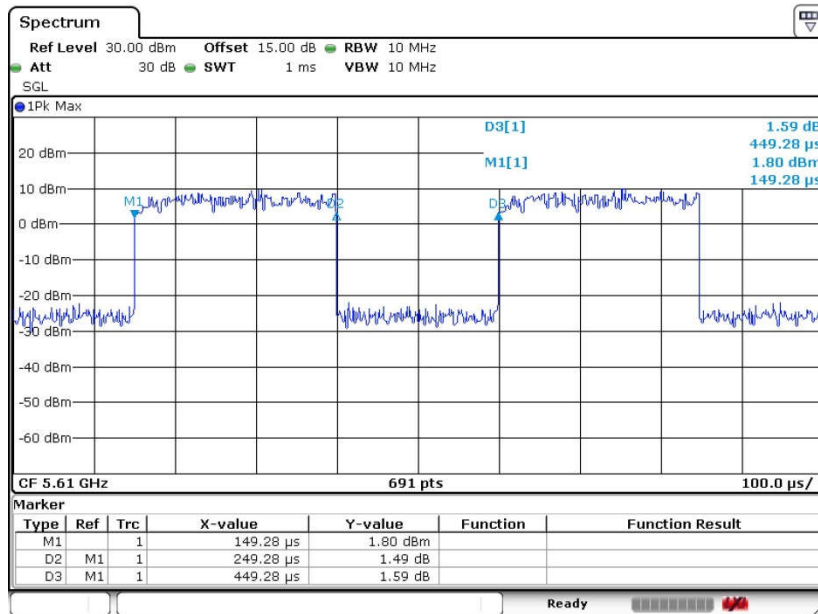
802.11ac VH40



Date: 22.JUL.2016 11:20:08



802.11ac VHT80



Date: 22.JUL.2016 11:18:25