



FCC RF Test Report

APPLICANT : Xiaomi Communications Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : MI
MODEL NAME : M1805D1SG
FCC ID : 2AFZZ-RMSD1SG
STANDARD : FCC Part 15 Subpart E § 15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Apr. 04, 2018 and testing was completed on Apr. 20, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Approved by: James Huang / Manager



Sporton International (Kunshan) Inc.

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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	6
1.6 Testing Location	7
1.7 Applicable Standards.....	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency and Channel	8
2.2 Test Mode.....	9
2.3 Connection Diagram of Test System.....	11
2.4 Support Unit used in test configuration and system	11
2.5 EUT Operation Test Setup	12
2.6 Measurement Results Explanation Example.....	12
3 TEST RESULT.....	13
3.1 26dB & 99% Occupied Bandwidth Measurement	13
3.2 Maximum Conducted Output Power Measurement	15
3.3 Power Spectral Density Measurement	17
3.4 Unwanted Emissions Measurement	20
3.5 AC Conducted Emission Measurement.....	25
3.6 Automatically Discontinue Transmission	27
3.7 Antenna Requirements.....	28
4 LIST OF MEASURING EQUIPMENT	29
5 UNCERTAINTY OF EVALUATION	30
APPENDIX A. CONDUCTED TEST RESULTS	
APPENDIX B. AC CONDUCTED EMISSION TEST RESULT	
APPENDIX C. RADIATED SPURIOUS EMISSION	
APPENDIX D. DUTY CYCLE PLOTS	
APPENDIX E. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR840407D	Rev. 01	Initial issue of report	May 16, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.66 dB at 5149.760 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.76 dB at 0.484 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Xiaomi Communications Co., Ltd.

The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

1.2 Manufacturer

Xiaomi Communications Co., Ltd.

The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	MI
Model Name	M1805D1SG
FCC ID	2AFZZ-RMSD1SG
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/ HSPA+(16QAM uplink is not supported)/LTE/ WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth v3.0 + EDR/Bluetooth v4.0 LE/Bluetooth v4.2 LE
IMEI Code	Conducted: 868137030013172/868137030013180 Conduction: 868137030013610/868137030013628 Radiation: 868137030012935/868137030012943
HW Version	P2
SW Version	OPM1.171019.019 V9
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx 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 : 18.26 dBm / 0.0670 W 802.11n HT20 : 17.73 dBm / 0.0593 W 802.11n HT40 : 16.10 dBm / 0.0407 W <5260 MHz ~ 5320 MHz> 802.11a : 18.39 dBm / 0.0690 W 802.11n HT20 : 17.89 dBm / 0.0615 W 802.11n HT40 : 15.90 dBm / 0.0389 W <5500 MHz ~ 5700 MHz> 802.11a : 19.47 dBm / 0.0885 W 802.11n HT20 : 17.99 dBm / 0.0630 W 802.11n HT40 : 15.86 dBm / 0.0385 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 19.93 MHz 802.11n HT20 : 19.58 MHz 802.11n HT40 : 36.86 MHz <5260 MHz ~ 5320 MHz> 802.11a : 19.43 MHz 802.11n HT20 : 19.53 MHz 802.11n HT40 : 36.76 MHz <5500 MHz ~ 5700 MHz> 802.11a : 18.73 MHz 802.11n HT20 : 19.43 MHz 802.11n HT40 : 36.86 MHz
Antenna Gain / Gain	<5180 MHz ~ 5240 MHz> PIFA Antenna with gain -5.40 dBi <5260 MHz ~ 5320 MHz> PIFA Antenna with gain -5.60 dBi <5500 MHz ~ 5700 MHz> PIFA Antenna with gain -5.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

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

1.6 Testing Location

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

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

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. is CN5019.

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398		
Test Site No.	Sporton Site No.		FCC Test Firm Registration No.
	03CH02-SZ		577730

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 v02r01.
- ♦ ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
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
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5500-5700 MHz Band 3 (U-NII-2C)	100	5500	116	5580
	102*	5510	132	5660
	104	5520	134*	5670
	108	5540	136	5680
	110*	5550	140	5700
	112	5560		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	126*	5630
	120	5600	128	5640
	124	5620		

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

2.2 Test Mode

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

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

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN Link(5GHz) + USB Cable 1 (Charging from Adapter 1) + Earphone
	Mode 2 : GSM850 Idle + Bluetooth Link + WLAN Link(5GHz) + USB Cable 2 (Charging from Adapter 2) + Earphone
Remark: 1. The worst case of conducted emission is mode 1; only the test data of it was reported. 2. For Radiated Test Cases, The tests were performed with Adapter 1, Earphone and USB Cable 1.	

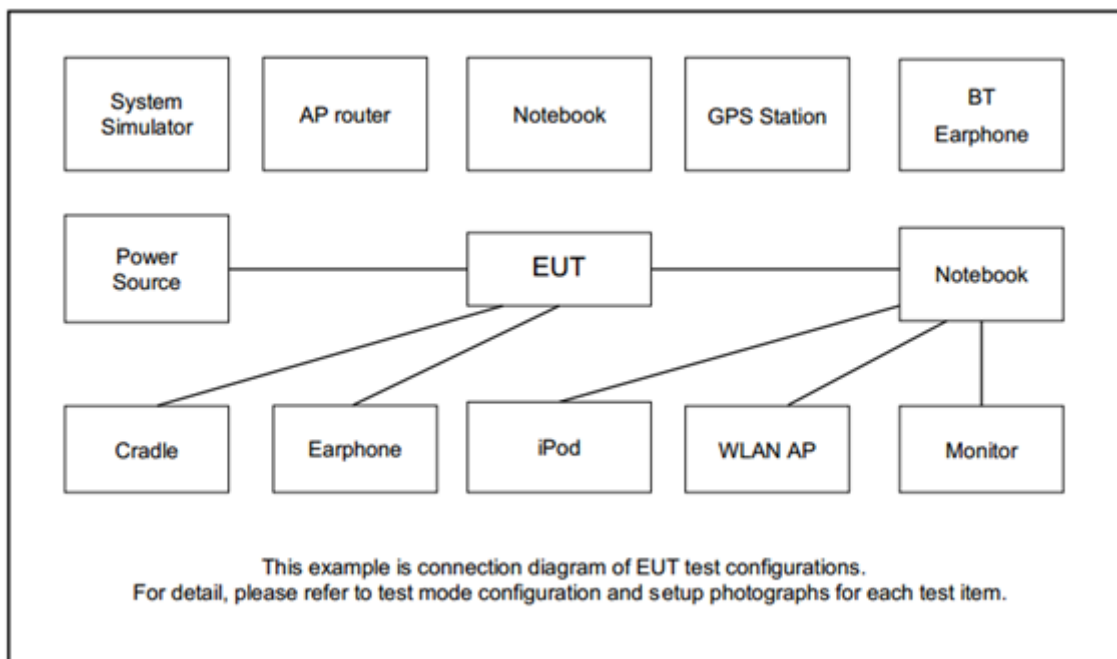


Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5700MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
3.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Xiaomi	LYEJ02LM	N/A	N/A	N/A



2.5 EUT Operation Test Setup

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

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

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example:

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss

Following shows an offset computation example with cable loss 6.5 dB.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 6.5 \text{ (dB)}\end{aligned}$$

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.

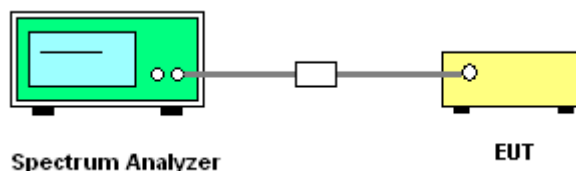
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

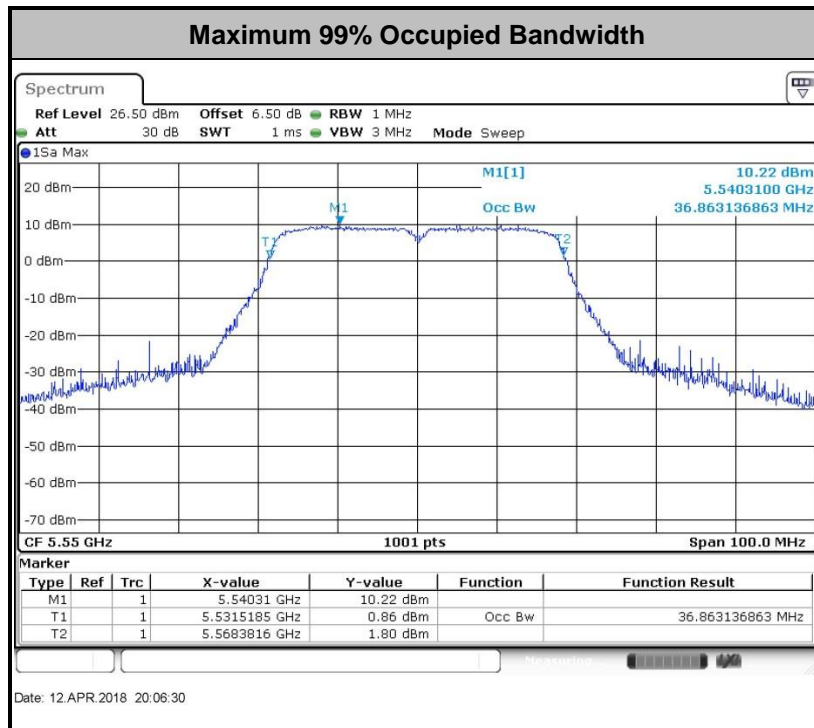
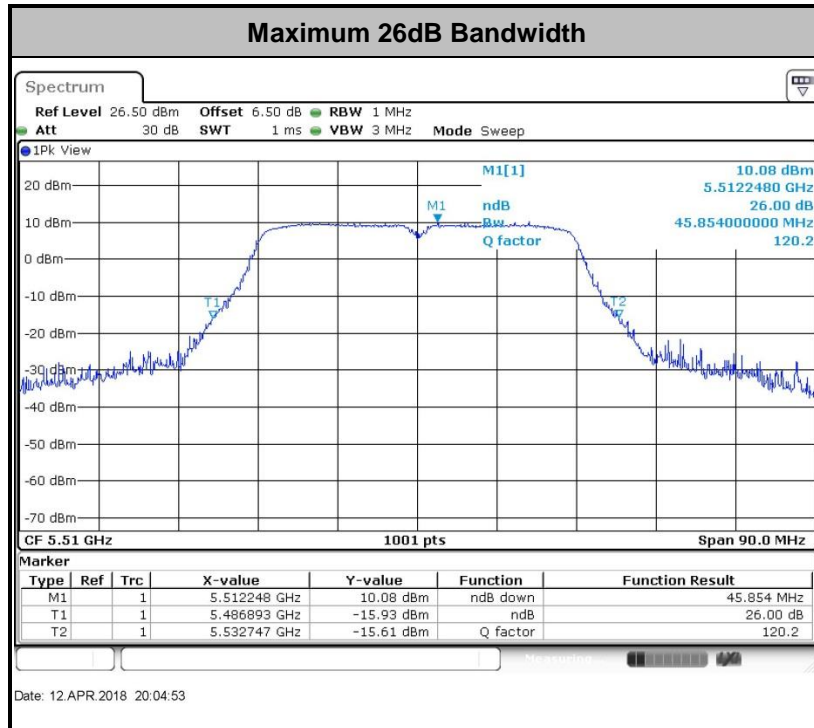
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

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

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

3.2.2 Measuring Instruments

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

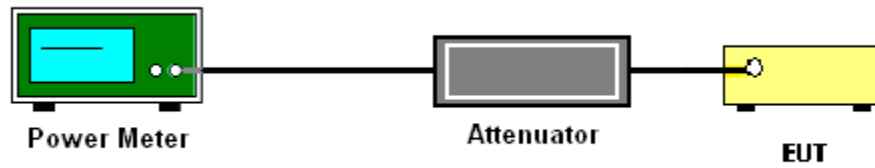
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

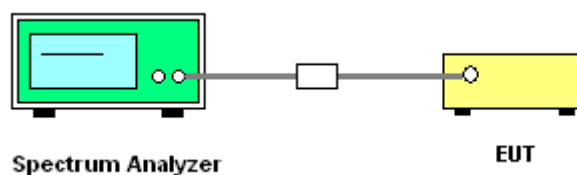
Section F) Maximum power spectral density.

Method SA-2

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

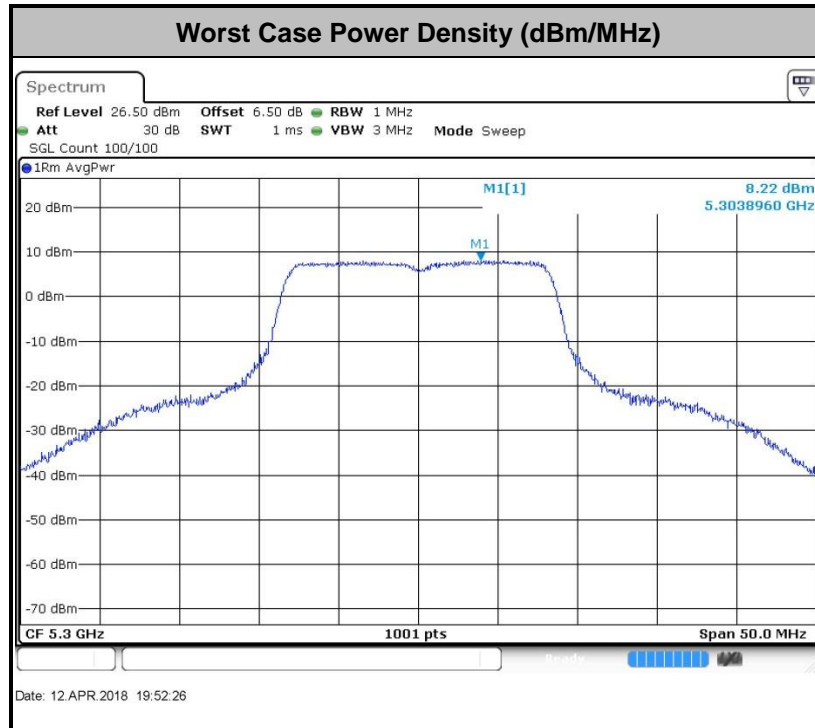
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

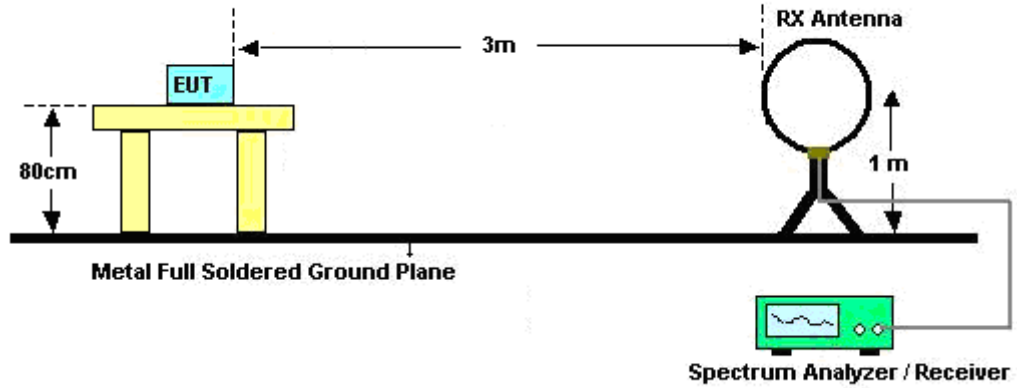
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

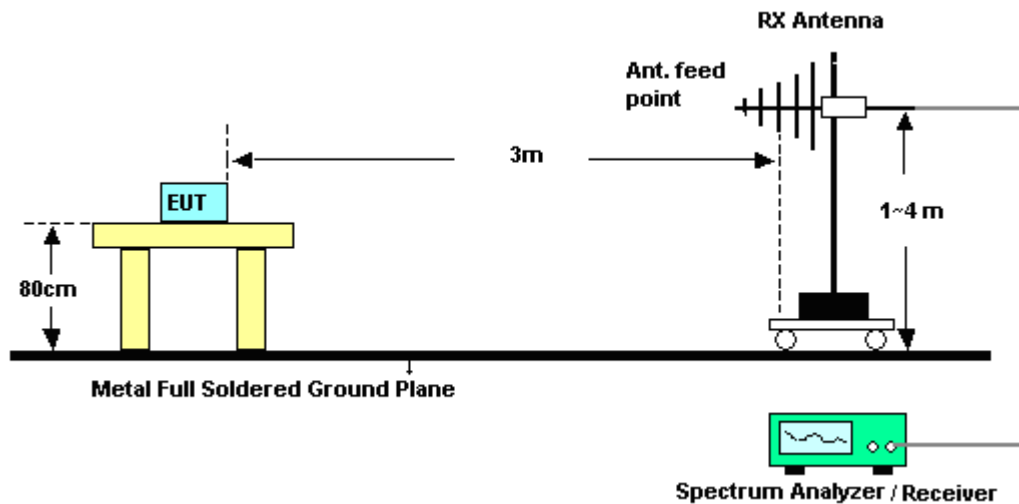
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

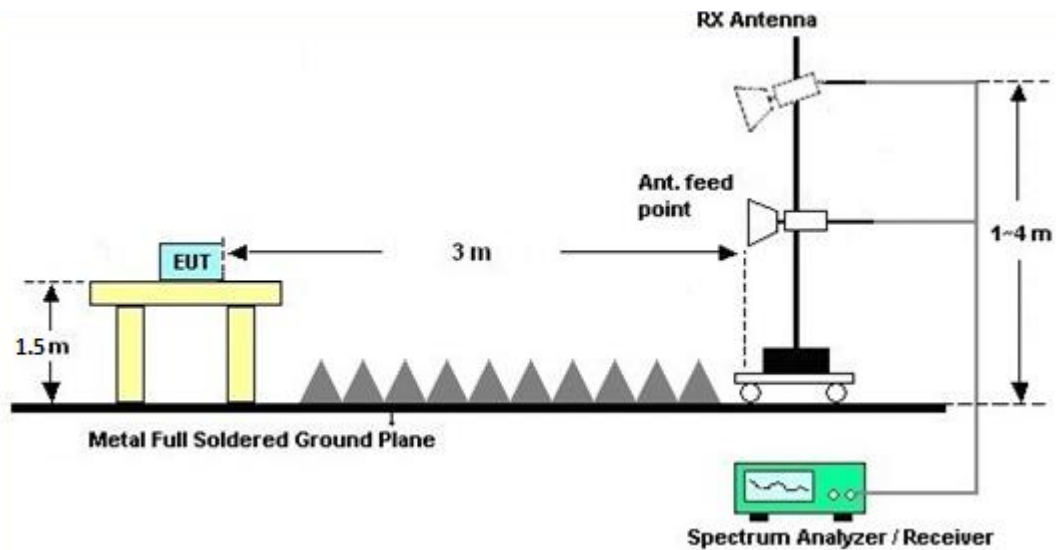
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

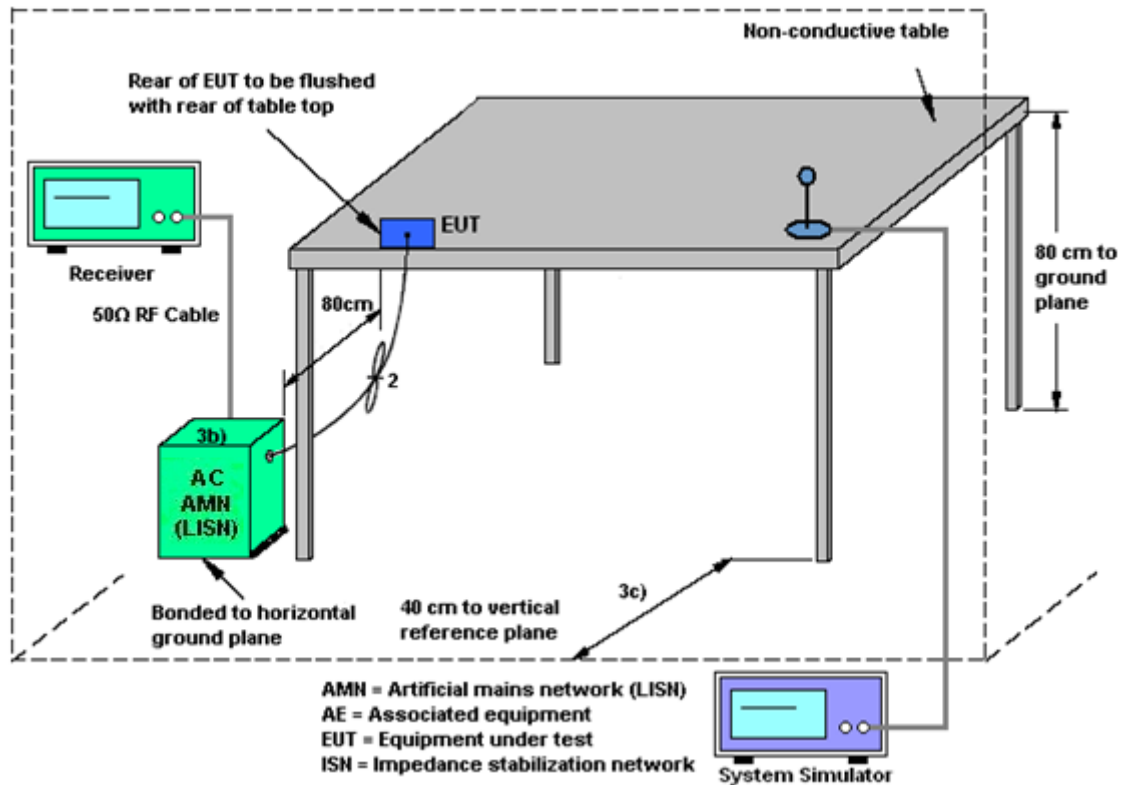
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

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

3.6.2 Measuring Instruments

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

3.6.3 Test Result of Automatically Discontinue Transmission

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



3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 08, 2017	Apr. 10, 2018~ Apr. 12, 2018	Aug. 07, 2018	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 18, 2018	Apr. 10, 2018~ Apr. 12, 2018	Jan. 17, 2019	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 18, 2018	Apr. 10, 2018~ Apr. 12, 2018	Jan. 17, 2019	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz; Max 30dBm	Oct. 19, 2017	Apr. 10, 2018~ Apr. 20, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2017	Apr. 10, 2018~ Apr. 20, 2018	May 13, 2018	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	May 10, 2017	Apr. 10, 2018~ Apr. 20, 2018	May 09, 2018	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Apr. 10, 2018~ Apr. 20, 2018	Dec. 12, 2018	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Jun. 16, 2017	Apr. 10, 2018~ Apr. 20, 2018	Jun. 15, 2018	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 19, 2017	Apr. 10, 2018~ Apr. 20, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1707137	1GHz~18GHz	Oct. 19, 2017	Apr. 10, 2018~ Apr. 20, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2017	Apr. 10, 2018~ Apr. 20, 2018	Jul. 20, 2018	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Apr. 10, 2018~ Apr. 20, 2018	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Apr. 10, 2018~ Apr. 20, 2018	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Apr. 10, 2018~ Apr. 20, 2018	NCR	Radiation (03CH02-SZ)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Apr. 20, 2017	Apr. 16, 2018	Apr. 19, 2018	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2017	Apr. 16, 2018	Oct. 12, 2018	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2017	Apr. 16, 2018	Oct. 12, 2018	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2017	Apr. 16, 2018	Oct. 11, 2018	Conduction (CO01-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.4dB
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Report Number : FR840407D

Test Engineer:	Ocean Pei	Temperature:	21~25	°C
Test Date:	2018/4/10 ~ 2018/4/12	Relative Humidity:	51~54	%

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	19.93	28.52	-	23.00		
11a	6Mbps	1	44	5220	19.58	30.82	-	22.92		
11a	6Mbps	1	48	5240	19.53	29.37	-	22.91		
HT20	MCS0	1	36	5180	19.48	24.73	-	22.90		
HT20	MCS0	1	44	5220	19.58	25.13	-	22.92		
HT20	MCS0	1	48	5240	19.43	24.03	-	22.88		
HT40	MCS0	1	38	5190	36.86	44.69	-	23.01		
HT40	MCS0	1	46	5230	36.76	44.42	-	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	0.58	17.83	24.00	-5.40		Pass
11a	6Mbps	1	44	5220	0.58	18.26	24.00	-5.40		Pass
11a	6Mbps	1	48	5240	0.58	18.09	24.00	-5.40		Pass
HT20	MCS0	1	36	5180	0.64	17.39	24.00	-5.40		Pass
HT20	MCS0	1	44	5220	0.64	17.73	24.00	-5.40		Pass
HT20	MCS0	1	48	5240	0.64	17.70	24.00	-5.40		Pass
HT40	MCS0	1	38	5190	0.67	15.96	24.00	-5.40		Pass
HT40	MCS0	1	46	5230	0.67	16.10	24.00	-5.40		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	0.58	8.18	11.00	-5.40		Pass
11a	6Mbps	1	44	5220	0.58	8.30	11.00	-5.40		Pass
11a	6Mbps	1	48	5240	0.58	8.66	11.00	-5.40		Pass
HT20	MCS0	1	36	5180	0.64	6.45	11.00	-5.40		Pass
HT20	MCS0	1	44	5220	0.64	6.13	11.00	-5.40		Pass
HT20	MCS0	1	48	5240	0.64	6.28	11.00	-5.40		Pass
HT40	MCS0	1	38	5190	0.67	1.75	11.00	-5.40		Pass
HT40	MCS0	1	46	5230	0.67	1.70	11.00	-5.40		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	19.43	30.32	23.88	29.88	23.98	
11a	6M bps	1	60	5300	19.08	28.22	23.81	29.81	23.98	
11a	6M bps	1	64	5320	19.18	26.57	23.83	29.83	23.98	
HT20	MCS 0	1	52	5260	19.53	24.28	23.91	29.91	23.98	
HT20	MCS 0	1	60	5300	19.18	24.08	23.83	29.83	23.98	
HT20	MCS 0	1	64	5320	19.33	23.88	23.86	29.86	23.98	
HT40	MCS 0	1	54	5270	36.46	44.42	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.76	44.42	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.58	18.33	23.98	-5.60	26.99	Pass
11a	6M bps	1	60	5300	0.58	18.36	23.98	-5.60	26.99	Pass
11a	6M bps	1	64	5320	0.58	18.39	23.98	-5.60	26.99	Pass
HT20	MCS 0	1	52	5260	0.64	17.83	23.98	-5.60	26.99	Pass
HT20	MCS 0	1	60	5300	0.64	17.82	23.98	-5.60	26.99	Pass
HT20	MCS 0	1	64	5320	0.64	17.89	23.98	-5.60	26.99	Pass
HT40	MCS 0	1	54	5270	0.67	15.64	23.98	-5.60	26.99	Pass
HT40	MCS 0	1	62	5310	0.67	15.90	23.98	-5.60	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	0.58	8.56	11.00	-5.60		Pass
11a	6M bps	1	60	5300	0.58	8.80	11.00	-5.60		Pass
11a	6M bps	1	64	5320	0.58	8.49	11.00	-5.60		Pass
HT20	MCS 0	1	52	5260	0.64	6.50	11.00	-5.60		Pass
HT20	MCS 0	1	60	5300	0.64	6.46	11.00	-5.60		Pass
HT20	MCS 0	1	64	5320	0.64	6.45	11.00	-5.60		Pass
HT40	MCS 0	1	54	5270	0.67	1.87	11.00	-5.60		Pass
HT40	MCS 0	1	62	5310	0.67	1.87	11.00	-5.60		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
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	100	5500	18.68	23.68	23.71	29.71	23.98	
11a	6M bps	1	116	5580	18.73	23.83	23.73	29.73	23.98	
11a	6M bps	1	140	5700	18.58	23.53	23.69	29.69	23.98	
HT20	MCS 0	1	100	5500	19.33	23.93	23.86	29.86	23.98	
HT20	MCS 0	1	116	5580	19.43	23.68	23.88	29.88	23.98	
HT20	MCS 0	1	140	5700	19.33	23.88	23.86	29.86	23.98	
HT40	MCS 0	1	102	5510	36.76	45.85	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.86	45.76	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.76	45.23	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

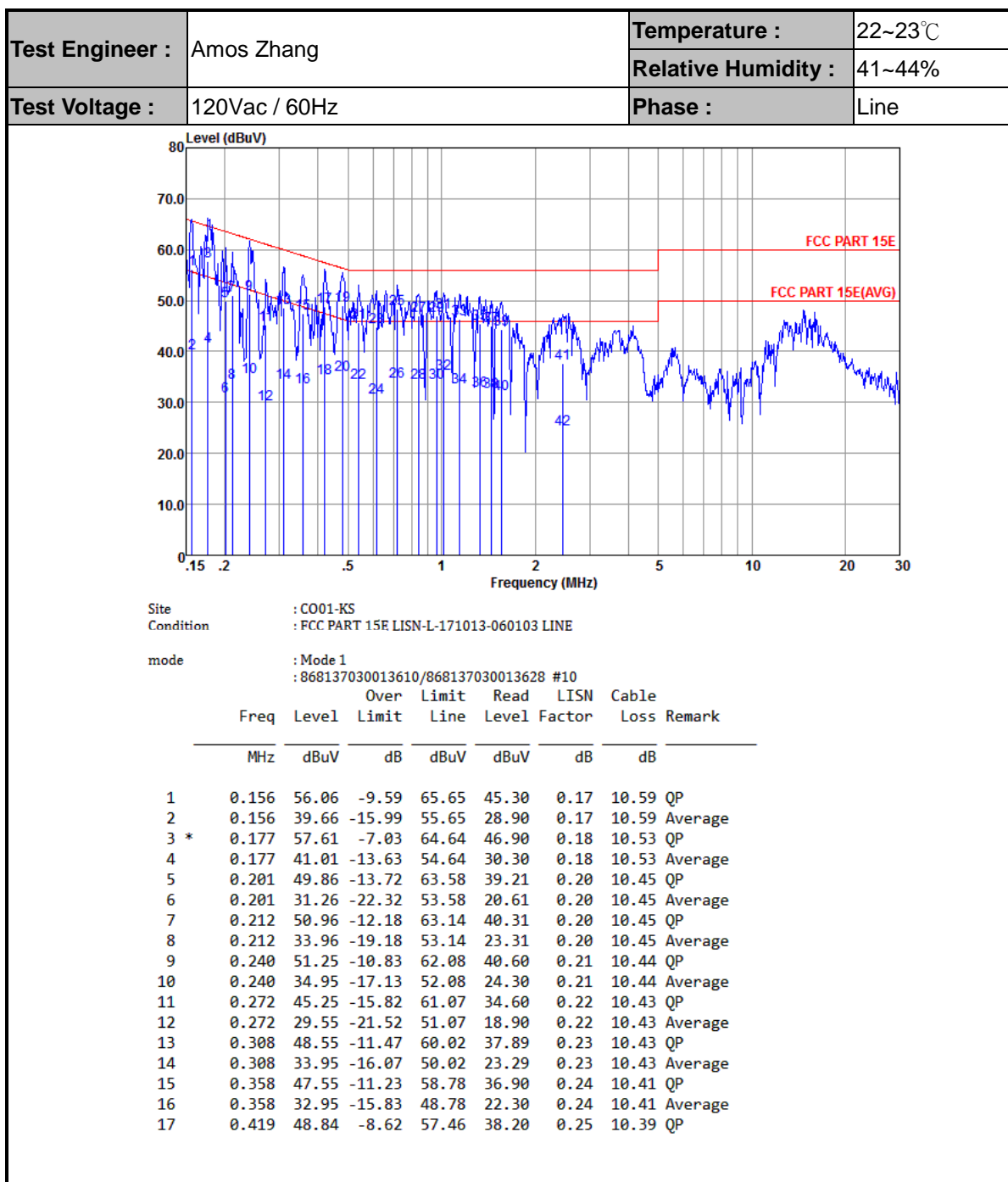
FCC Band III										
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.58	19.47	23.98	-5.00	26.99	Pass
11a	6M bps	1	116	5580	0.58	19.06	23.98	-5.00	26.99	Pass
11a	6M bps	1	140	5700	0.58	18.36	23.98	-5.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.64	17.99	23.98	-5.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.64	17.55	23.98	-5.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.64	16.95	23.98	-5.00	26.99	Pass
HT40	MCS 0	1	102	5510	0.67	15.86	23.98	-5.00	26.99	Pass
HT40	MCS 0	1	110	5550	0.67	15.65	23.98	-5.00	26.99	Pass
HT40	MCS 0	1	134	5670	0.67	15.02	23.98	-5.00	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	0.58	8.68	11.00	-5.00		Pass
11a	6M bps	1	116	5580	0.58	8.17	11.00	-5.00		Pass
11a	6M bps	1	140	5700	0.58	7.55	11.00	-5.00		Pass
HT20	MCS 0	1	100	5500	0.64	6.73	11.00	-5.00		Pass
HT20	MCS 0	1	116	5580	0.64	6.10	11.00	-5.00		Pass
HT20	MCS 0	1	140	5700	0.64	5.88	11.00	-5.00		Pass
HT40	MCS 0	1	102	5510	0.67	1.72	11.00	-5.00		Pass
HT40	MCS 0	1	110	5550	0.67	1.63	11.00	-5.00		Pass
HT40	MCS 0	1	134	5670	0.67	1.07	11.00	-5.00		Pass

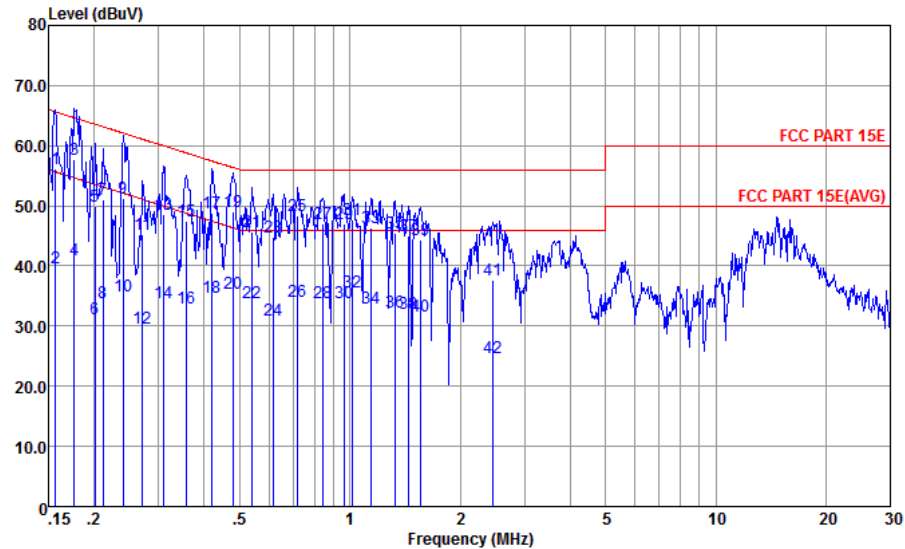


Appendix B. AC Conducted Emission Test Results



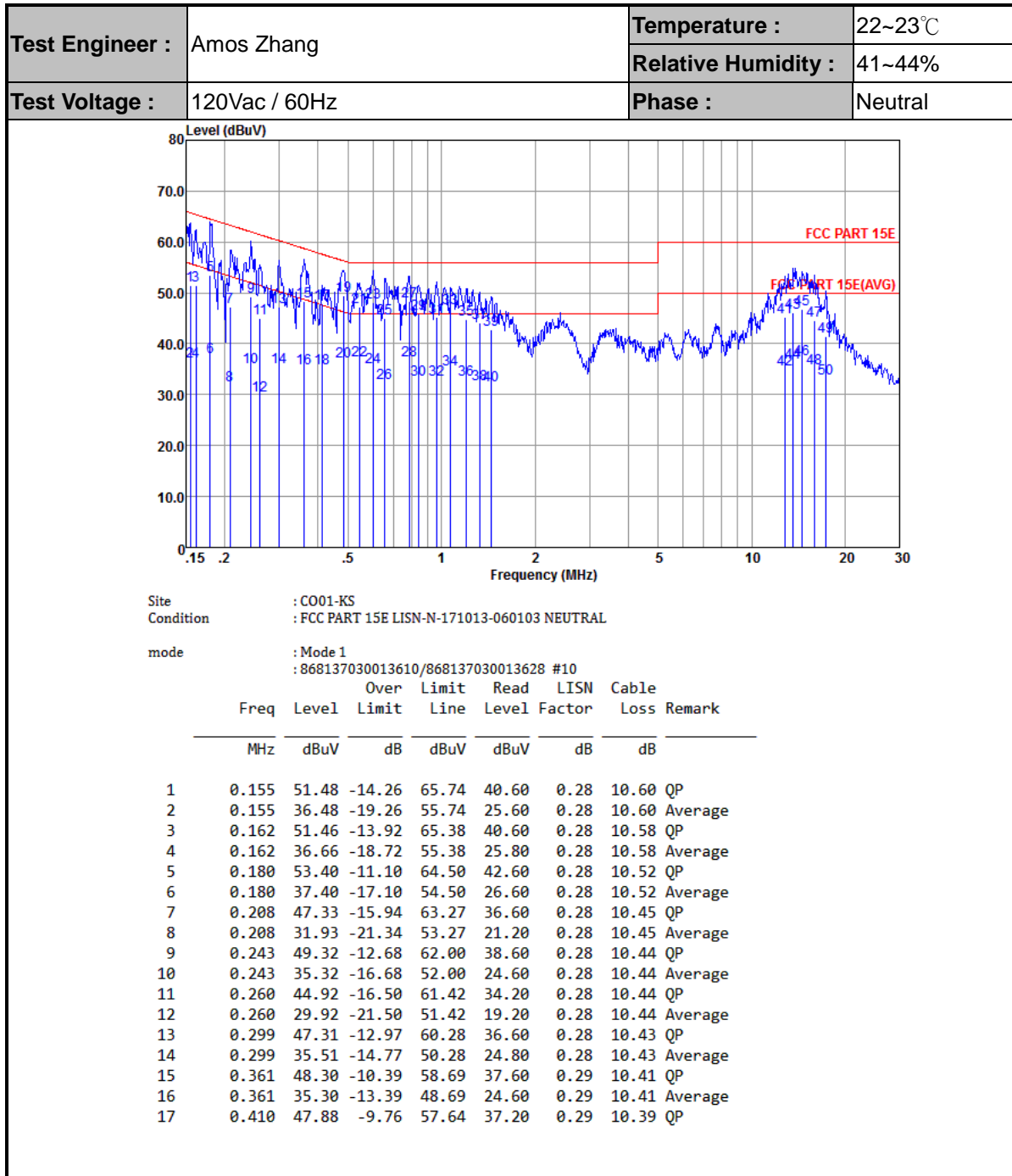


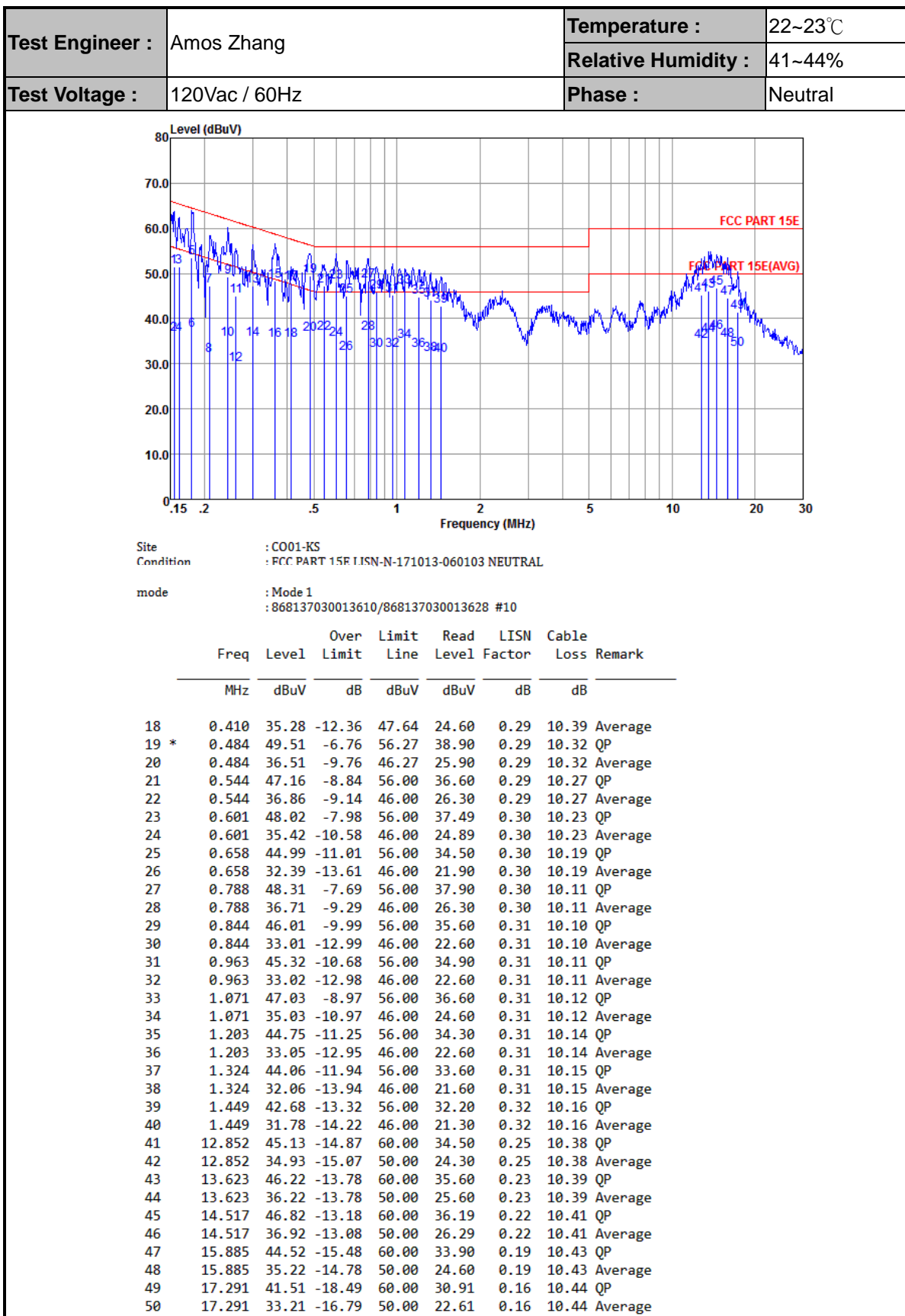
Test Engineer :	Amos Zhang	Temperature :	22~23°C
		Relative Humidity :	41~44%
Test Voltage :	120Vac / 60Hz	Phase :	Line



Site : CO01-KS
Condition : FCC PART 15E LISN-L-171013-060103 LINE
mode : Mode 1
: 868137030013610/868137030013628 #10

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
18	0.419	34.84	-12.62	47.46	24.20	0.25	10.39	Average
19	0.479	49.08	-7.28	56.36	38.50	0.26	10.32	QP
20	0.479	35.48	-10.88	46.36	24.90	0.26	10.32	Average
21	0.538	45.73	-10.27	56.00	35.20	0.26	10.27	QP
22	0.538	33.83	-12.17	46.00	23.30	0.26	10.27	Average
23	0.617	44.78	-11.22	56.00	34.30	0.26	10.22	QP
24	0.617	31.08	-14.92	46.00	20.60	0.26	10.22	Average
25	0.720	48.31	-7.69	56.00	37.90	0.26	10.15	QP
26	0.720	34.01	-11.99	46.00	23.60	0.26	10.15	Average
27	0.844	46.96	-9.04	56.00	36.60	0.26	10.10	QP
28	0.844	33.96	-12.04	46.00	23.60	0.26	10.10	Average
29	0.963	46.97	-9.03	56.00	36.60	0.26	10.11	QP
30	0.963	33.97	-12.03	46.00	23.60	0.26	10.11	Average
31	1.016	47.67	-8.33	56.00	37.30	0.26	10.11	QP
32	1.016	35.57	-10.43	46.00	25.20	0.26	10.11	Average
33	1.141	46.29	-9.71	56.00	35.90	0.26	10.13	QP
34	1.141	32.99	-13.01	46.00	22.60	0.26	10.13	Average
35	1.324	45.52	-10.48	56.00	35.10	0.27	10.15	QP
36	1.324	32.32	-13.68	46.00	21.90	0.27	10.15	Average
37	1.449	45.04	-10.96	56.00	34.61	0.27	10.16	QP
38	1.449	32.04	-13.96	46.00	21.61	0.27	10.16	Average
39	1.560	44.35	-11.65	56.00	33.90	0.27	10.18	QP
40	1.560	31.65	-14.35	46.00	21.20	0.27	10.18	Average
41	2.461	37.70	-18.30	56.00	27.20	0.30	10.20	QP
42	2.461	24.80	-21.20	46.00	14.30	0.30	10.20	Average







Appendix C. Radiated Spurious Emission

Test Engineer :	Maker Qi	Temperature :	24~25°C
		Relative Humidity :	48~49%



Band 1 - 5150~5250MHz

WIFI 802.11a(Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		5147.42	62.26	-11.74	74	52.4	31.79	9.74	31.67	100	73	P	H
		5150	45.61	-8.39	54	35.75	31.79	9.74	31.67	100	73	A	H
	*	5180	104.92	-	-	94.95	31.81	9.82	31.66	100	73	P	H
	*	5180	95.95	-	-	85.98	31.81	9.82	31.66	100	73	A	H
		5143	53.48	-20.52	74	43.62	31.79	9.74	31.67	322	111	P	V
		5149.76	50.34	-3.66	54	40.48	31.79	9.74	31.67	322	111	A	V
	*	5180	103.44	-	-	93.47	31.81	9.82	31.66	322	111	P	V
	*	5180	97.65	-	-	87.68	31.81	9.82	31.66	322	111	A	V
802.11a CH 44 5220MHz		5007.02	52.09	-21.91	74	42.43	31.71	9.65	31.7	100	73	P	H
		5030.42	39.14	-14.86	54	29.46	31.72	9.65	31.69	100	73	A	H
	*	5220	104.78	-	-	94.71	31.83	9.89	31.65	100	73	P	H
	*	5220	95.5	-	-	85.43	31.83	9.89	31.65	100	73	A	H
		5399.28	51.55	-22.45	74	41.24	31.94	9.99	31.62	100	73	P	H
		5354.88	39.08	-14.92	54	28.77	31.91	10.03	31.63	100	73	A	H
		5050.18	48.91	-25.09	74	39.22	31.73	9.65	31.69	100	73	P	V
		5061.62	39.83	-14.17	54	30.14	31.74	9.64	31.69	100	73	A	V
	*	5220	99.51	-	-	89.44	31.83	9.89	31.65	100	73	P	V
	*	5220	93.02	-	-	82.95	31.83	9.89	31.65	100	73	A	V
		5391.4	47.09	-26.91	74	36.78	31.93	10	31.62	100	73	P	V
		5446	38.48	-15.52	54	28.08	31.97	10.04	31.61	100	73	A	V



802.11a CH 48 5240MHz		5019.5	52.67	-21.33	74	43	31.71	9.65	31.69	100	73	P	H
		5044.98	39.06	-14.94	54	29.37	31.73	9.65	31.69	100	73	A	H
	*	5240	105.26	-	-	95.14	31.84	9.93	31.65	100	73	P	H
	*	5240	96.02	-	-	85.9	31.84	9.93	31.65	100	73	A	H
		5353.92	51.43	-22.57	74	41.12	31.91	10.03	31.63	100	73	P	H
		5352.48	38.99	-15.01	54	28.68	31.91	10.03	31.63	100	73	A	H
		5028.6	48.15	-25.85	74	38.47	31.72	9.65	31.69	100	112	P	V
		5079.3	39.81	-14.19	54	30.1	31.75	9.64	31.68	100	112	A	V
	*	5240	99.26	-	-	89.14	31.84	9.93	31.65	100	112	P	V
	*	5240	92.48	-	-	82.36	31.84	9.93	31.65	100	112	A	V
		5360.04	47.8	-26.2	74	37.5	31.91	10.02	31.63	100	112	P	V
		5453.84	38.52	-15.48	54	28.1	31.97	10.06	31.61	100	112	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11a(Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	50.57	-23.43	74	52.68	39.27	14.47	55.85	152	260	P	H
		15540	50.45	-23.55	74	50.46	39.02	17.7	56.73	189	238	A	H
		10360	49.88	-24.12	74	51.99	39.27	14.47	55.85	152	260	P	V
		15540	50.62	-23.38	74	50.63	39.02	17.7	56.73	189	238	A	V
802.11a CH 44 5220MHz		10440	50.79	-23.21	74	52.9	39.33	14.44	55.88	150	360	P	H
		15660	50.8	-23.2	74	50.33	38.73	18.23	56.49	160	225	A	H
		10440	50.85	-23.15	74	52.96	39.33	14.44	55.88	150	230	P	V
		15660	50.57	-23.43	74	50.1	38.73	18.23	56.49	160	225	A	V
802.11a CH 48 5240MHz		10480	50.52	-23.48	74	52.6	39.37	14.44	55.89	150	360	P	H
		15720	50.34	-23.66	74	49.73	38.56	18.4	56.35	150	291	A	H
		10480	49.86	-24.14	74	51.93	39.38	14.45	55.9	150	289	P	V
		15720	50.93	-23.07	74	50.32	38.56	18.4	56.35	150	291	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5149.5	58.48	-15.52	74	48.62	31.79	9.74	31.67	100	73	P	H
		5128.18	42.95	-11.05	54	33.13	31.78	9.71	31.67	100	73	A	H
	*	5180	103.51	-	-	93.54	31.81	9.82	31.66	100	73	P	H
	*	5180	93.55	-	-	83.58	31.81	9.82	31.66	100	73	A	H
		5147.94	51.39	-22.61	74	41.53	31.79	9.74	31.67	211	104	P	V
		5128.18	43.21	-10.79	54	33.39	31.78	9.71	31.67	211	104	A	V
	*	5180	99.96	-	-	89.99	31.81	9.82	31.66	211	104	P	V
	*	5180	94.26	-	-	84.29	31.81	9.82	31.66	211	104	A	V
802.11n HT20 CH 44 5220MHz		5021.58	50.86	-23.14	74	41.18	31.72	9.65	31.69	100	73	P	H
		5023.4	39.13	-14.87	54	29.45	31.72	9.65	31.69	100	73	A	H
	*	5220	103	-	-	92.93	31.83	9.89	31.65	100	73	P	H
	*	5220	93.65	-	-	83.58	31.83	9.89	31.65	100	73	A	H
		5418	51.75	-22.25	74	41.41	31.95	10.01	31.62	100	73	P	H
		5357.76	39.13	-14.87	54	28.82	31.91	10.03	31.63	100	73	A	H
		5018.98	49.13	-24.87	74	39.46	31.71	9.65	31.69	211	105	P	V
		5034.84	40.03	-13.97	54	30.35	31.72	9.65	31.69	211	105	A	V
	*	5220	100.43	-	-	90.36	31.83	9.89	31.65	211	105	P	V
	*	5220	92.23	-	-	82.16	31.83	9.89	31.65	211	105	A	V
		5432.88	46.74	-27.26	74	36.35	31.96	10.04	31.61	211	105	P	V
		5459.76	38.62	-15.38	54	28.2	31.97	10.06	31.61	211	105	A	V



802.11n HT20 CH 48 5240MHz		5026.26	51.25	-22.75	74	41.57	31.72	9.65	31.69	100	73	P	H
		5003.64	39.2	-14.8	54	29.54	31.71	9.65	31.7	100	73	A	H
	*	5240	103.19	-	-	93.07	31.84	9.93	31.65	100	73	P	H
	*	5240	93.9	-	-	83.78	31.84	9.93	31.65	100	73	A	H
		5395.2	51.79	-22.21	74	41.48	31.94	9.99	31.62	100	73	P	H
		5354.4	38.87	-15.13	54	28.56	31.91	10.03	31.63	100	73	A	H
		5049.66	49.59	-24.41	74	39.9	31.73	9.65	31.69	210	104	P	V
		5046.02	40.05	-13.95	54	30.36	31.73	9.65	31.69	210	104	A	V
	*	5240	100.64	-	-	90.52	31.84	9.93	31.65	210	104	P	V
	*	5240	93.32	-	-	83.2	31.84	9.93	31.65	210	104	A	V
		5389.68	47.66	-26.34	74	37.35	31.93	10	31.62	210	104	P	V
		5458.8	38.56	-15.44	54	28.14	31.97	10.06	31.61	210	104	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		10360	50.4	-23.6	74	52.51	39.27	14.47	55.85	152	260	P	H
		15540	50.66	-23.34	74	50.67	39.02	17.7	56.73	189	238	A	H
		10360	49.86	-24.14	74	51.97	39.27	14.47	55.85	152	260	P	V
		15540	50.28	-23.72	74	50.29	39.02	17.7	56.73	189	238	A	V
802.11n HT20 CH 44 5220MHz		10440	50.67	-23.33	74	52.78	39.33	14.44	55.88	150	230	P	H
		15660	50.07	-23.93	74	49.6	38.73	18.23	56.49	160	225	A	H
		10440	49.36	-24.64	74	51.47	39.33	14.44	55.88	150	230	P	V
		15660	50.53	-23.47	74	50.06	38.73	18.23	56.49	160	225	A	V
802.11n HT20 CH 48 5240MHz		10480	49.99	-24.01	74	52.06	39.38	14.45	55.9	150	289	P	H
		15720	50.93	-23.07	74	50.32	38.56	18.4	56.35	150	291	A	H
		10480	50.27	-23.73	74	52.34	39.38	14.45	55.9	150	289	P	V
		15720	50.6	-23.4	74	49.99	38.56	18.4	56.35	150	291	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11n HT40(Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.76	62.94	-11.06	74	53.08	31.79	9.74	31.67	100	75	P	H
		5148.98	45.27	-8.73	54	35.41	31.79	9.74	31.67	100	75	A	H
	*	5190	100.53	-	-	90.56	31.81	9.82	31.66	100	75	P	H
	*	5190	89.63	-	-	79.66	31.81	9.82	31.66	100	75	A	H
		5367.6	51.04	-22.96	74	40.73	31.92	10.02	31.63	100	75	P	H
		5363.96	38.79	-15.21	54	28.48	31.92	10.02	31.63	100	75	A	H
		5143	54.57	-19.43	74	44.71	31.79	9.74	31.67	213	111	P	V
		5150	46.02	-7.98	54	36.16	31.79	9.74	31.67	213	111	A	V
	*	5190	95.91	-	-	85.94	31.81	9.82	31.66	213	111	P	V
	*	5190	86.64	-	-	76.67	31.81	9.82	31.66	213	111	A	V
		5430.32	47.31	-26.69	74	36.92	31.96	10.04	31.61	213	111	P	V
		5448.52	38.9	-15.1	54	28.48	31.97	10.06	31.61	213	111	A	V
802.11n HT40 CH 46 5230MHz		5126.36	51.61	-22.39	74	41.79	31.78	9.71	31.67	100	74	P	H
		5127.14	40.23	-13.77	54	30.41	31.78	9.71	31.67	100	74	A	H
	*	5230	100.52	-	-	90.44	31.84	9.89	31.65	100	74	P	H
	*	5230	89.67	-	-	79.59	31.84	9.89	31.65	100	74	A	H
		5365.44	50.92	-23.08	74	40.61	31.92	10.02	31.63	100	74	P	H
		5362.8	38.92	-15.08	54	28.61	31.92	10.02	31.63	100	74	A	H
		5076.7	48.63	-25.37	74	38.92	31.75	9.64	31.68	211	110	P	V
		5126.62	40.73	-13.27	54	30.91	31.78	9.71	31.67	211	110	A	V
	*	5230	96.29	-	-	86.21	31.84	9.89	31.65	211	110	P	V
	*	5230	88.07	-	-	77.99	31.84	9.89	31.65	211	110	A	V
		5406.48	47.3	-26.7	74	36.99	31.94	9.99	31.62	211	110	P	V
		5454.96	38.67	-15.33	54	28.25	31.97	10.06	31.61	211	110	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11n HT40(Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	50.31	-23.69	74	52.44	39.28	14.45	55.86	150	360	P	H
		15570	50.93	-23.07	74	50.84	38.93	17.82	56.66	155	360	A	H
		10380	49.89	-24.11	74	52.02	39.28	14.45	55.86	150	360	P	V
		15570	50.84	-23.16	74	50.75	38.93	17.82	56.66	155	360	A	V
802.11n HT40 CH 46 5230MHz		10460	50.45	-23.55	74	52.54	39.35	14.44	55.88	150	360	P	H
		15690	50.63	-23.37	74	50.11	38.64	18.3	56.42	150	225	A	H
		10460	50.32	-23.68	74	52.41	39.35	14.44	55.88	150	360	P	V
		15690	50.09	-23.91	74	49.57	38.64	18.3	56.42	150	225	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 - 5250~5350MHz

WIFI 802.11a(Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		5035.1	52.03	-21.97	74	42.35	31.72	9.65	31.69	100	73	P	H
		5026.52	39.24	-14.76	54	29.56	31.72	9.65	31.69	100	73	A	H
	*	5260	105.64	-	-	95.43	31.86	10	31.65	100	73	P	H
	*	5260	96.1	-	-	85.89	31.86	10	31.65	100	73	A	H
		5366.88	51.6	-22.4	74	41.29	31.92	10.02	31.63	100	73	P	H
		5360.88	38.99	-15.01	54	28.68	31.92	10.02	31.63	100	73	A	H
		5010.5	47.6	-26.4	74	37.94	31.71	9.65	31.7	169	106	P	V
		5037.8	39.91	-14.09	54	30.22	31.73	9.65	31.69	169	106	A	V
	*	5260	99.75	-	-	89.54	31.86	10	31.65	169	106	P	V
	*	5260	93.89	-	-	83.68	31.86	10	31.65	169	106	A	V
		5440.56	46.84	-27.16	74	36.45	31.96	10.04	31.61	169	106	P	V
		5447.76	38.63	-15.37	54	28.23	31.97	10.04	31.61	169	106	A	V
802.11a CH 60 5300MHz		5001.05	52.1	-21.9	74	42.45	31.7	9.65	31.7	100	73	P	H
		5032.9	39.06	-14.94	54	29.38	31.72	9.65	31.69	100	73	A	H
	*	5300	105.53	-	-	95.22	31.88	10.07	31.64	100	73	P	H
	*	5300	95.67	-	-	85.36	31.88	10.07	31.64	100	73	A	H
		5352.48	53.32	-20.68	74	43.01	31.91	10.03	31.63	100	73	P	H
		5352.48	43.27	-10.73	54	32.96	31.91	10.03	31.63	100	73	A	H
		5035	48.38	-25.62	74	38.7	31.72	9.65	31.69	100	74	P	V
		5054.95	39.88	-14.12	54	30.19	31.74	9.64	31.69	100	74	A	V
	*	5300	100.52	-	-	90.21	31.88	10.07	31.64	100	74	P	V
	*	5300	94.05	-	-	83.74	31.88	10.07	31.64	100	74	A	V
		5403.12	46.54	-27.46	74	36.23	31.94	9.99	31.62	100	74	P	V
		5352.48	41.04	-12.96	54	30.73	31.91	10.03	31.63	100	74	A	V



802.11a CH 64 5320MHz	*	5320	104.81	-	-	94.5	31.89	10.06	31.64	100	73	P	H
	*	5320	95.75	-	-	85.44	31.89	10.06	31.64	100	73	A	H
		5351.52	63.07	-10.93	74	52.76	31.91	10.03	31.63	100	73	P	H
		5350.24	44.87	-9.13	54	34.56	31.91	10.03	31.63	100	73	A	H
	*	5320	101.8	-	-	91.49	31.89	10.06	31.64	100	75	P	V
	*	5320	93.95	-	-	83.64	31.89	10.06	31.64	100	75	A	V
		5350.56	52.18	-21.82	74	41.87	31.91	10.03	31.63	100	75	P	V
		5350.24	44.14	-9.86	54	33.83	31.91	10.03	31.63	100	75	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11a(Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	50.84	-23.16	74	52.89	39.42	14.44	55.91	150	220	P	H
		15780	50.82	-23.18	74	50.14	38.44	18.49	56.25	150	0	A	H
		10520	49.23	-24.77	74	51.28	39.42	14.44	55.91	150	360	P	V
		15780	50.84	-23.16	74	50.16	38.44	18.49	56.25	159	345	A	V
802.11a CH 60 5300MHz		10600	50.1	-23.9	74	52.12	39.52	14.4	55.94	185	215	P	H
		15900	50.33	-23.67	74	49.18	38.15	19.01	56.01	150	0	A	H
		10600	49.4	-24.6	74	51.42	39.52	14.4	55.94	150	360	P	V
		15900	50.28	-23.72	74	49.13	38.15	19.01	56.01	196	190	A	V
802.11a CH 64 5320MHz		10640	49.85	-24.15	74	51.77	39.57	14.47	55.96	152	135	P	H
		15960	49.91	-24.09	74	48.83	37.98	18.97	55.87	173	245	A	H
		10640	50.06	-23.94	74	51.98	39.57	14.47	55.96	152	135	P	V
		15960	50.17	-23.83	74	49.09	37.98	18.97	55.87	173	245	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT20(Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5030.68	51.2	-22.8	74	41.52	31.72	9.65	31.69	100	73	P	H
		5014.04	39.03	-14.97	54	29.36	31.71	9.65	31.69	100	73	A	H
	*	5260	103.75	-	-	93.54	31.86	10	31.65	100	73	P	H
	*	5260	93.87	-	-	83.66	31.86	10	31.65	100	73	A	H
		5436	51.93	-22.07	74	41.54	31.96	10.04	31.61	100	73	P	H
		5368.8	38.91	-15.09	54	28.6	31.92	10.02	31.63	100	73	A	H
		5061.6	48.45	-25.55	74	38.76	31.74	9.64	31.69	210	104	P	V
		5064.4	39.96	-14.04	54	30.26	31.74	9.64	31.68	210	104	A	V
	*	5260	100.21	-	-	90	31.86	10	31.65	210	104	P	V
	*	5260	93.63	-	-	83.42	31.86	10	31.65	210	104	A	V
		5417.28	46.49	-27.51	74	36.15	31.95	10.01	31.62	210	104	P	V
		5458.8	38.67	-15.33	54	28.25	31.97	10.06	31.61	210	104	A	V
802.11n HT20 CH 60 5300MHz		5083.65	51.48	-22.52	74	41.77	31.75	9.64	31.68	100	73	P	H
		5024.5	39.14	-14.86	54	29.46	31.72	9.65	31.69	100	73	A	H
	*	5300	103.15	-	-	92.84	31.88	10.07	31.64	100	73	P	H
	*	5300	94.03	-	-	83.72	31.88	10.07	31.64	100	73	A	H
		5351.76	53.64	-20.36	74	43.33	31.91	10.03	31.63	100	73	P	H
		5351.76	43.02	-10.98	54	32.71	31.91	10.03	31.63	100	73	A	H
		5095.9	48.39	-25.61	74	38.68	31.76	9.63	31.68	100	76	P	V
		5125.65	40.09	-13.91	54	30.27	31.78	9.71	31.67	100	76	A	V
	*	5300	100.61	-	-	90.3	31.88	10.07	31.64	100	76	P	V
	*	5300	92.04	-	-	81.73	31.88	10.07	31.64	100	76	A	V
		5352.96	47.42	-26.58	74	37.11	31.91	10.03	31.63	100	76	P	V
		5352.96	42.19	-11.81	54	31.88	31.91	10.03	31.63	100	76	A	V



802.11n HT20 CH 64 5320MHz	*	5320	103.61	-	-	93.3	31.89	10.06	31.64	100	73	P	H
	*	5320	94.01	-	-	83.7	31.89	10.06	31.64	100	73	A	H
		5351.2	61.56	-12.44	74	51.25	31.91	10.03	31.63	100	73	P	H
		5372.16	42.63	-11.37	54	32.32	31.92	10.02	31.63	100	73	A	H
	*	5320	100.76	-	-	90.45	31.89	10.06	31.64	209	105	P	V
	*	5320	93.9	-	-	83.59	31.89	10.06	31.64	209	105	A	V
		5351.04	53.09	-20.91	74	42.78	31.91	10.03	31.63	209	105	P	V
		5350.24	42.05	-11.95	54	31.74	31.91	10.03	31.63	209	105	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		10520	50.08	-23.92	74	52.13	39.42	14.44	55.91	150	220	P	H
		15780	50.19	-23.81	74	49.51	38.44	18.49	56.25	159	345	A	H
		10520	50.64	-23.36	74	52.69	39.42	14.44	55.91	150	220	P	V
		15780	50.51	-23.49	74	49.83	38.44	18.49	56.25	159	345	A	V
802.11n HT20 CH 60 5300MHz		10600	49.98	-24.02	74	52	39.52	14.4	55.94	185	215	P	H
		15900	50.35	-23.65	74	49.2	38.15	19.01	56.01	196	190	A	H
		10600	49.53	-24.47	74	51.55	39.52	14.4	55.94	185	215	P	V
		15900	50.72	-23.28	74	49.57	38.15	19.01	56.01	196	190	A	V
802.11n HT20 CH 64 5320MHz		10640	49.87	-24.13	74	51.79	39.57	14.47	55.96	152	135	P	H
		15960	49.97	-24.03	74	48.89	37.98	18.97	55.87	173	245	A	H
		10640	49.89	-24.11	74	51.81	39.57	14.47	55.96	152	135	P	V
		15960	50.05	-23.95	74	48.97	37.98	18.97	55.87	173	245	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11n HT40(Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5023.66	52.09	-21.91	74	42.41	31.72	9.65	31.69	100	70	P	H
		5017.68	38.92	-15.08	54	29.25	31.71	9.65	31.69	100	70	A	H
	*	5270	99.58	-	-	89.34	31.86	10.03	31.65	100	70	P	H
	*	5270	90.03	-	-	79.79	31.86	10.03	31.65	100	70	A	H
		5354.88	51.94	-22.06	74	41.63	31.91	10.03	31.63	100	70	P	H
		5372.16	39.44	-14.56	54	29.13	31.92	10.02	31.63	100	70	A	H
		5112.35	48.27	-25.73	74	38.51	31.77	9.67	31.68	214	106	P	V
		5055.65	39.88	-14.12	54	30.19	31.74	9.64	31.69	214	106	A	V
	*	5270	98.36	-	-	88.12	31.86	10.03	31.65	214	106	P	V
	*	5270	91.21	-	-	80.97	31.86	10.03	31.65	214	106	A	V
		5457.6	47.18	-26.82	74	36.76	31.97	10.06	31.61	214	106	P	V
		5372.4	38.98	-15.02	54	28.67	31.92	10.02	31.63	214	106	A	V
802.11n HT40 CH 62 5310MHz		5020.65	51.78	-22.22	74	42.1	31.72	9.65	31.69	100	73	P	H
		5009.45	38.9	-15.1	54	29.24	31.71	9.65	31.7	100	73	A	H
	*	5310	99.18	-	-	88.87	31.89	10.06	31.64	100	73	P	H
	*	5310	89.31	-	-	79	31.89	10.06	31.64	100	73	A	H
		5350.32	66.49	-7.51	74	56.18	31.91	10.03	31.63	100	73	P	H
		5352.24	42.27	-11.73	54	31.96	31.91	10.03	31.63	100	73	A	H
		5107.45	48.99	-25.01	74	39.23	31.77	9.67	31.68	212	106	P	V
		5056	39.94	-14.06	54	30.25	31.74	9.64	31.69	212	106	A	V
	*	5310	97.48	-	-	87.17	31.89	10.06	31.64	212	106	P	V
	*	5310	92.09	-	-	81.78	31.89	10.06	31.64	212	106	A	V
		5351.76	50.55	-23.45	74	40.24	31.91	10.03	31.63	212	106	P	V
		5350.56	44.83	-9.17	54	34.52	31.91	10.03	31.63	212	106	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11n HT40(Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		10540	49.72	-24.28	74	51.77	39.44	14.43	55.92	150	220	P	H
		15810	50.85	-23.15	74	50.12	38.36	18.55	56.18	168	345	A	H
		10540	49.98	-24.02	74	52.03	39.44	14.43	55.92	150	220	P	V
		15810	50.43	-23.57	74	49.7	38.36	18.55	56.18	168	345	A	V
802.11n HT40 CH 62 5310MHz		10620	50.25	-23.75	74	52.23	39.54	14.43	55.95	150	220	P	H
		15930	50.87	-23.13	74	49.76	38.07	18.98	55.94	160	100	A	H
		10620	50.39	-23.61	74	52.37	39.54	14.43	55.95	150	220	P	V
		15930	50.4	-23.6	74	49.29	38.07	18.98	55.94	160	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11a(Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		5467.28	63.62	-10.38	74	53.17	31.98	10.08	31.61	100	68	P	H
		5447.44	42.49	-11.51	54	32.09	31.97	10.04	31.61	100	68	A	H
	*	5500	103.69	-	-	93.18	32	10.11	31.6	100	68	P	H
	*	5500	94.56	-	-	84.05	32	10.11	31.6	100	68	A	H
		5469.84	48.85	-25.15	74	38.4	31.98	10.08	31.61	100	76	P	V
		5469.68	41.39	-12.61	54	30.94	31.98	10.08	31.61	100	76	A	V
	*	5500	99.54	-	-	89.03	32	10.11	31.6	100	76	P	V
	*	5500	95.19	-	-	84.68	32	10.11	31.6	100	76	A	V
802.11a CH 116 5580MHz		5394.4	51.42	-22.58	74	41.12	31.93	9.99	31.62	100	104	P	H
		5463.04	38.88	-15.12	54	28.45	31.98	10.06	31.61	100	104	A	H
	*	5580	103.16	-	-	92.41	32.12	10.23	31.6	100	104	P	H
	*	5580	93.67	-	-	82.92	32.12	10.23	31.6	100	104	A	H
		5724.995	52.52	-97.48	150	41.37	32.4	10.35	31.6	100	104	P	H
		5763.425	40.62	-13.38	54	29.38	32.47	10.37	31.6	100	104	A	H
		5448.88	47.1	-26.9	74	36.68	31.97	10.06	31.61	100	181	P	V
		5462.8	38.64	-15.36	54	28.21	31.98	10.06	31.61	100	181	A	V
	*	5580	97.8	-	-	87.05	32.12	10.23	31.6	100	181	P	V
	*	5580	89.07	-	-	78.32	32.12	10.23	31.6	100	181	A	V
		5763.11	48.6	-25.4	74	37.36	32.47	10.37	31.6	100	181	P	V
		5738.855	39.94	-14.06	54	28.75	32.43	10.36	31.6	100	181	A	V



802.11a CH 140 5700MHz	*	5700	102.42	-	-	91.34	32.34	10.34	31.6	100	300	P	H
	*	5700	93.1	-	-	82.02	32.34	10.34	31.6	100	300	A	H
		5726.28	61.63	-12.37	74	50.48	32.4	10.35	31.6	100	300	P	H
		5725	43.82	-10.18	54	32.67	32.4	10.35	31.6	100	300	A	H
	*	5700	96.04	-	-	84.96	32.34	10.34	31.6	212	111	P	V
	*	5700	88.94	-	-	77.86	32.34	10.34	31.6	212	111	A	V
		5725.32	51.8	-22.2	74	40.65	32.4	10.35	31.6	212	111	P	V
		5725.48	41.93	-12.07	54	30.78	32.4	10.35	31.6	212	111	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	50.94	-23.06	74	52.25	40	14.79	56.1	150	360	P	H
		16500	50.39	-23.61	74	45.41	39	22.03	56.05	178	296	A	H
		11000	50.01	-23.99	74	51.32	40	14.79	56.1	150	360	P	V
		16500	50.61	-23.39	74	45.63	39	22.03	56.05	178	296	A	V
802.11a CH 116 5580MHz		11160	50.42	-23.58	74	51.38	40.03	14.86	55.85	170	200	P	H
		16740	50.81	-23.19	74	41.66	39.77	25.55	56.17	150	0	A	H
		11160	50.8	-23.2	74	51.76	40.03	14.86	55.85	170	200	P	V
		16740	50.54	-23.46	74	41.39	39.77	25.55	56.17	150	0	A	V
802.11a CH 140 5700MHz		11400	50.38	-23.62	74	50.92	40.08	14.87	55.49	157	285	P	H
		17100	50.94	-23.06	74	46.39	38.93	21.66	56.04	150	0	A	H
		11400	50.83	-23.17	74	51.37	40.08	14.87	55.49	157	285	P	V
		17100	50.74	-23.26	74	46.19	38.93	21.66	56.04	150	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5470	57.25	-16.75	74	46.8	31.98	10.08	31.61	100	67	P	H
		5448.4	42.27	-11.73	54	31.85	31.97	10.06	31.61	100	67	A	H
	*	5500	102.1	-	-	91.59	32	10.11	31.6	100	67	P	H
	*	5500	92.29	-	-	81.78	32	10.11	31.6	100	67	A	H
		5448.56	48.47	-25.53	74	38.05	31.97	10.06	31.61	210	104	P	V
		5468.88	44.55	-9.45	54	34.1	31.98	10.08	31.61	210	104	A	V
	*	5500	98.46	-	-	87.95	32	10.11	31.6	210	104	P	V
	*	5500	91.17	-	-	80.66	32	10.11	31.6	210	104	A	V
802.11n HT20 CH 116 5580MHz		5469.52	51.61	-22.39	74	41.16	31.98	10.08	31.61	100	104	P	H
		5363.2	38.86	-15.14	54	28.55	31.92	10.02	31.63	100	104	A	H
	*	5580	101.85	-	-	91.1	32.12	10.23	31.6	100	104	P	H
	*	5580	91.89	-	-	81.14	32.12	10.23	31.6	100	104	A	H
		5737.28	53.13	-20.87	74	41.94	32.43	10.36	31.6	100	104	P	H
		5762.48	40.62	-13.38	54	29.38	32.47	10.37	31.6	100	104	A	H
		5381.92	47.37	-26.63	74	37.06	31.93	10	31.62	211	112	P	V
		5459.2	38.89	-15.11	54	28.47	31.97	10.06	31.61	211	112	A	V
	*	5580	100.92	-	-	90.17	32.12	10.23	31.6	211	112	P	V
	*	5580	92.04	-	-	81.29	32.12	10.23	31.6	211	112	A	V
		5740.745	49.94	-24.06	74	38.75	32.43	10.36	31.6	211	112	P	V
		5763.74	40	-14	54	28.76	32.47	10.37	31.6	211	112	A	V
802.11n HT20 CH 140 5700MHz	*	5700	101.39	-	-	90.31	32.34	10.34	31.6	100	300	P	H
	*	5700	91.08	-	-	80	32.34	10.34	31.6	100	300	A	H
		5725.4	58.88	-15.12	74	47.73	32.4	10.35	31.6	100	300	P	H
		5751.72	42.68	-11.32	54	31.45	32.47	10.36	31.6	100	300	A	H
	*	5700	99.9	-	-	88.82	32.34	10.34	31.6	214	111	P	V
	*	5700	91.3	-	-	80.22	32.34	10.34	31.6	214	111	A	V
		5726.36	54.59	-19.41	74	43.44	32.4	10.35	31.6	214	111	P	V
		5729.16	43.35	-10.65	54	32.2	32.4	10.35	31.6	214	111	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	50.21	-23.79	74	51.52	40	14.79	56.1	163	230	P	H
		16500	50.49	-23.51	74	45.51	39	22.03	56.05	178	296	A	H
		11000	50.64	-23.36	74	51.95	40	14.79	56.1	163	230	P	V
		16500	50.4	-23.6	74	45.42	39	22.03	56.05	178	296	A	V
802.11n HT20 CH 116 5580MHz		11160	50.43	-23.57	74	51.39	40.03	14.86	55.85	170	200	P	H
		16740	50.69	-23.31	74	44.53	39.28	22.98	56.1	150	0	A	H
		11160	50.32	-23.68	74	51.28	40.03	14.86	55.85	170	200	P	V
		16740	50.79	-23.21	74	44.63	39.28	22.98	56.1	150	0	A	V
802.11n HT20 CH 140 5700MHz		11400	50.75	-23.25	74	51.29	40.08	14.87	55.49	157	285	P	H
		17100	50.48	-23.52	74	35.5	41.02	30.34	56.38	165	246	A	H
		11400	50.28	-23.72	74	50.82	40.08	14.87	55.49	157	285	P	V
		17100	50.65	-23.35	74	35.67	41.02	30.34	56.38	165	246	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5468.56	59.05	-14.95	74	48.6	31.98	10.08	31.61	100	67	P	H
		5470	43.26	-10.74	54	32.81	31.98	10.08	31.61	100	67	A	H
	*	5510	98.18	-	-	87.65	32	10.13	31.6	100	67	P	H
	*	5510	88.33	-	-	77.8	32	10.13	31.6	100	67	A	H
		5762.48	52.59	-21.41	74	41.35	32.47	10.37	31.6	100	67	P	H
		5755.55	40.62	-13.38	54	29.38	32.47	10.37	31.6	100	67	A	H
		5470	50.15	-23.85	74	39.7	31.98	10.08	31.61	213	106	P	V
		5468.56	42.66	-11.34	54	32.21	31.98	10.08	31.61	213	106	A	V
	*	5510	94.55	-	-	84.02	32	10.13	31.6	213	106	P	V
	*	5510	85.96	-	-	75.43	32	10.13	31.6	213	106	A	V
		5763.425	48.07	-25.93	74	36.83	32.47	10.37	31.6	213	106	P	V
		5763.74	40.14	-13.86	54	28.9	32.47	10.37	31.6	213	106	A	V
802.11n HT40 CH 110 5550MHz		5362	51.76	-22.24	74	41.45	31.92	10.02	31.63	100	104	P	H
		5444.8	39.19	-14.81	54	28.8	31.96	10.04	31.61	100	104	A	H
	*	5550	98.14	-	-	87.48	32.09	10.17	31.6	100	104	P	H
	*	5550	88.16	-	-	77.5	32.09	10.17	31.6	100	104	A	H
		5757.44	53.1	-20.9	74	41.86	32.47	10.37	31.6	100	104	P	H
		5764.37	40.67	-13.33	54	29.43	32.47	10.37	31.6	100	104	A	H
		5445.76	47.89	-26.11	74	37.49	31.97	10.04	31.61	213	113	P	V
		5446.96	39.29	-14.71	54	28.89	31.97	10.04	31.61	213	113	A	V
	*	5550	96.46	-	-	85.8	32.09	10.17	31.6	213	113	P	V
	*	5550	87.48	-	-	76.82	32.09	10.17	31.6	213	113	A	V
		5728.46	48.98	-25.02	74	37.83	32.4	10.35	31.6	213	113	P	V
		5746.415	40.11	-13.89	54	28.92	32.43	10.36	31.6	213	113	A	V



802.11n HT40 CH 134 5670MHz		5378.7	50.94	-23.06	74	40.63	31.93	10	31.62	100	67	P	H
		5465.85	38.89	-15.11	54	28.46	31.98	10.06	31.61	100	67	A	H
	*	5670	97.03	-	-	86.01	32.31	10.31	31.6	100	67	P	H
	*	5670	87.22	-	-	76.2	32.31	10.31	31.6	100	67	A	H
		5746.275	52.99	-21.01	74	41.8	32.43	10.36	31.6	100	67	P	H
		5760.975	40.62	-13.38	54	29.38	32.47	10.37	31.6	100	67	A	H
		5453.95	46.64	-27.36	74	36.22	31.97	10.06	31.61	216	111	P	V
		5470.05	38.75	-15.25	54	28.3	31.98	10.08	31.61	216	111	A	V
	*	5670	96.28	-	-	85.26	32.31	10.31	31.6	216	111	P	V
	*	5670	87.02	-	-	76	32.31	10.31	31.6	216	111	A	V
		5733.325	48.9	-25.1	74	37.75	32.4	10.35	31.6	216	111	P	V
		5740.15	40.24	-13.76	54	29.05	32.43	10.36	31.6	216	111	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11020	50.89	-23.11	74	52.14	40	14.82	56.07	170	230	P	H
		16530	50.94	-23.06	74	45.63	39.11	22.27	56.07	160	300	A	H
		11020	50.27	-23.73	74	51.52	40	14.82	56.07	170	230	P	V
		16530	50	-24	74	44.69	39.11	22.27	56.07	160	300	A	V
802.11n HT40 CH 110 5550MHz		11000	50.92	-23.08	74	52.23	40	14.79	56.1	163	230	P	H
		16500	50.48	-23.52	74	45.5	39	22.03	56.05	178	296	A	H
		11000	50.18	-23.82	74	51.49	40	14.79	56.1	163	230	P	V
		16500	50.4	-23.6	74	45.42	39	22.03	56.05	178	296	A	V
802.11n HT40 CH 134 5670MHz		11340	50.06	-23.94	74	50.6	40.07	14.98	55.59	200	360	P	H
		17010	50.2	-23.8	74	35	40.67	30.84	56.31	200	360	A	H
		11340	50.75	-23.25	74	51.29	40.07	14.98	55.59	200	360	P	V
		17010	50.61	-23.39	74	35.41	40.67	30.84	56.31	200	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11 a(LF @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a LF		30	25.14	-14.86	40	31.96	24.9	0.25	31.97	-	-	P	H
		161.92	25.3	-18.2	43.5	39.22	16.27	1.31	31.5	-	-	P	H
		278.32	25.47	-20.53	46	35.78	19.13	1.79	31.23	-	-	P	H
		352.04	28.34	-17.66	46	36.74	20.71	2.1	31.21	-	-	P	H
		564.47	31.15	-14.85	46	34.66	25.15	2.6	31.26	-	-	P	H
		898.15	34.03	-11.97	46	32.53	29.28	3.38	31.16	100	0	P	H
		30	32.69	-7.31	40	39.51	24.9	0.25	31.97	100	0	P	V
		183.26	27.24	-16.26	43.5	42.14	15.05	1.44	31.39	-	-	P	V
		208.48	27.19	-16.31	43.5	41.57	15.3	1.63	31.31	-	-	P	V
		333.61	28.21	-17.79	46	37.15	20.25	2.02	31.21	-	-	P	V
		640.13	31.81	-14.19	46	34.09	26.16	2.8	31.24	-	-	P	V
		942.77	33.69	-12.31	46	31.73	29.81	3.46	31.31	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

**Note symbol**

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



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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m)– 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m)– 54(dBμV/m)

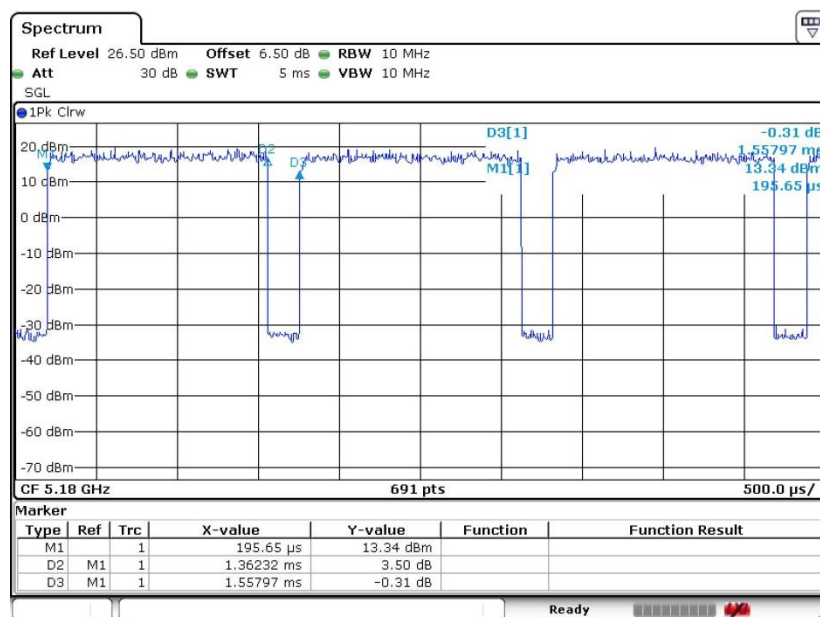
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

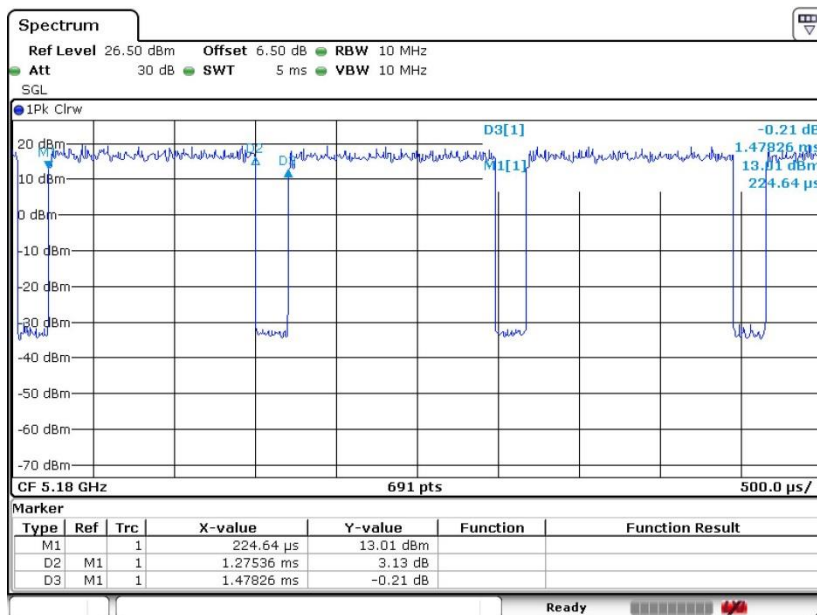
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.44	1.362	0.734	1kHz
802.11 HT20	86.27	1.275	0.784	1kHz
802.11HT40	85.70	1.225	0.817	1kHz

802.11a





802.11HT20



802.11HT40

