



FCC RF Test Report

FCC ID : 2AD9M-003A
EQUIPMENT : Smartphone
BRAND NAME : LEOMO
MODEL NAME : LEM-TS1
MARKETING NAME : LEOMO TYPE-S
APPLICANT : LEOMO, Inc.
7-22-17 Nishi Gotanda TOC Bldg. 7F
Shinagawa-ku, Tokyo, 1410031, Japan
MANUFACTURER : LEOMO, Inc.
2000 Central Avenue, Suite 150, Boulder CO 80301,
USA
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Apr. 24, 2019 and testing was completed on Jun. 05, 2019. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

This report contains data that were produced under subcontract by SPORTON INTERNATIONAL INC.

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



Jason Jia

Reviewed by: Jason Jia / Supervisor

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Approved by: James Huang / Manager



Sporton International (Kunshan) Inc.

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



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR942441E	Rev. 01	Initial issue of report	Jun. 21, 2019
FR942441E	Rev. 02	Update the address of Applicant.	Jul. 15, 2019

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 3.89 dB at 5350.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 7.20 dB at 0.7755 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

LEOMO, Inc.

7-22-17 Nishi Gotanda TOC Bldg. 7F Shinagawa-ku, Tokyo, 1410031, Japan

1.2 Manufacturer

LEOMO, Inc.

2000 Central Avenue, Suite 150, Boulder CO 80301, USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Brand Name	LEOMO
Model Name	LEM-TS1
FCC ID	2AD9M-003A
EUT supports Radios application	GSM/WCDMA/LTE WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth BR/EDR/LE/ANT+ NFC and GNSS
IMEI Code	Conducted: N/A Radiation: 355681100008745/355681100008700 Conduction: 355681100008836
HW Version	DVT
SW Version	000T_1_020
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 : 12.90 dBm / 0.0195 W 802.11n HT20 : 10.90 dBm / 0.0123 W 802.11n HT40 : 10.90 dBm / 0.0123 W <5260 MHz ~ 5320 MHz> 802.11a : 12.80 dBm / 0.0191 W 802.11n HT20 : 10.90 dBm / 0.0123 W 802.11n HT40 : 10.90 dBm / 0.0123 W <5500 MHz ~ 5700 MHz > 802.11a : 12.90 dBm / 0.0195 W 802.11n HT20 : 10.90 dBm / 0.0123 W 802.11n HT40 : 10.90 dBm / 0.0123 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 17.25 MHz 802.11n HT20 : 18.15 MHz 802.11n HT40 : 36.50 MHz <5260 MHz ~ 5320 MHz> 802.11a : 17.40 MHz 802.11n HT20 : 18.10 MHz 802.11n HT40 : 36.60 MHz <5500 MHz ~ 5700 MHz > 802.11a : 17.30 MHz 802.11n HT20 : 18.10 MHz 802.11n HT40 : 36.60 MHz
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> Loop Antenna with gain -0.73 dBi <5250 MHz ~ 5350 MHz> Loop Antenna with gain -0.54 dBi <5470 MHz ~ 5700 MHz> Loop Antenna with gain 1.82 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

Note: WLAN operation in 5600 MHz ~ 5650 MHz is notched.

1.5 Modification of EUT

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



1.6 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

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

SPORTON INTERNATIONAL INC. is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and under the FCC-recognized accredited testing laboratories by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist. Taoyuan City Taiwan Tel: 886-3-327-3456 FAX: +886-3-327-0978		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	TH05-HY CO05-HY	TW1190	553509

Test data subcontracted: All test item of this report except Radiated Spurious Emission.



1.7 Applicable Standards

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

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

Remark:

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

2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

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

Note:

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

2.2 Test Mode

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

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

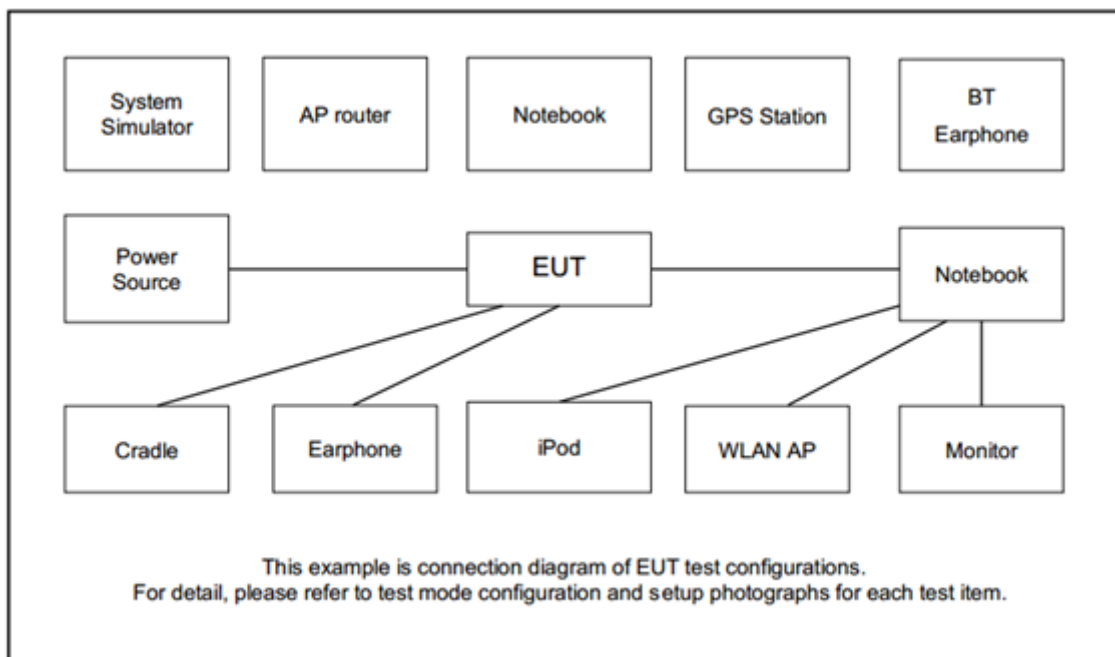
Test Cases	
AC Conducted Emission	Mode 1 : LTE Band 17 Idle + Bluetooth Link + WLAN (5G)Link + ANT+Link + Power Bank + USB Cable + Adapter

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

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded,1.8m
3.	Bluetooth Earphone	SonyEricsson	MW600	PY700A2029	N/A	N/A
4.	WLAN AP	ASUS	RT-AC1750	MSQ-RTAC66U B1	N/A	Unshielded,1.8m
5.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	iPod	Apple	A1285	DoC	Shielded, 1.0m	N/A
7.	Adapter	Nokia	AS-10WU	N/A	N/A	N/A
8.	USB Cable	Nokia	N/A	N/A	Shielded, 1m	N/A
9.	ANT Plus	FIH	N/A	N/A	N/A	N/A
10.	Power Bank	LEOMO	LEM-PM1	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 continuously transmit/receive.

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

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 3.5 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 3.5 + 10 = 13.5 \text{ (dB)}\end{aligned}$$

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.

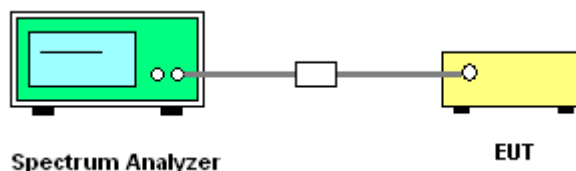
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

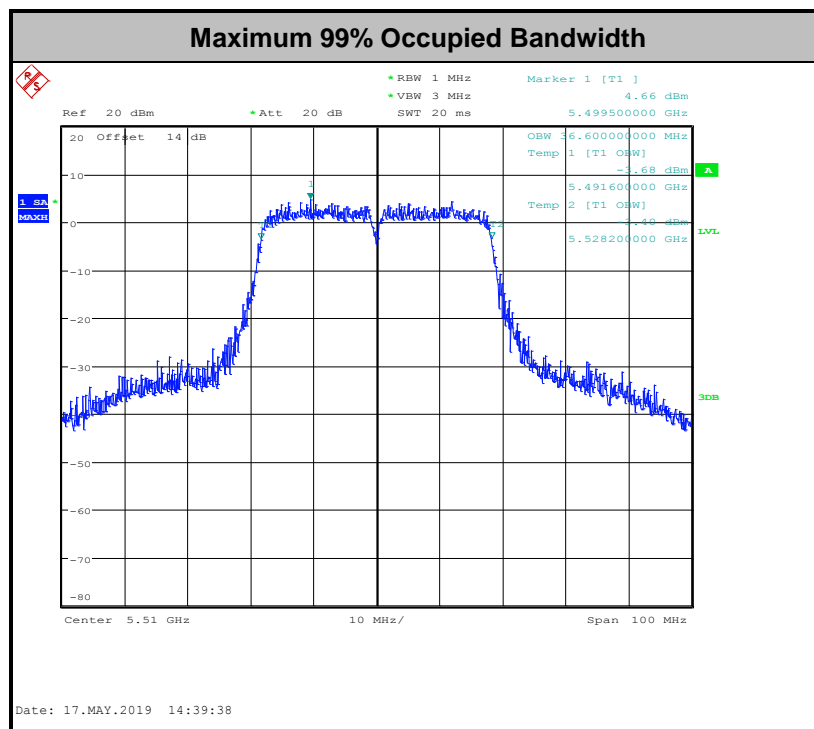
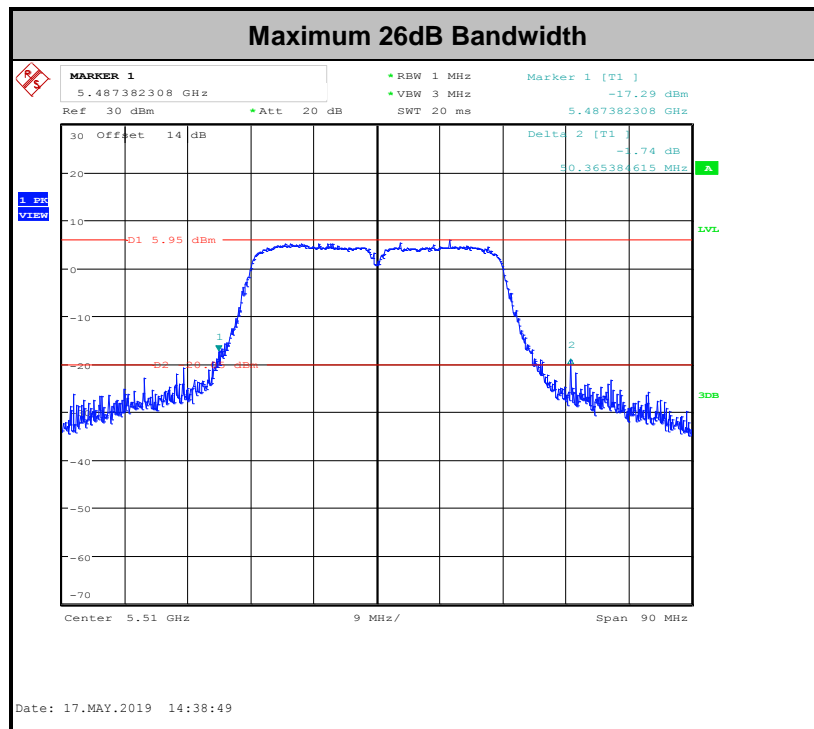
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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 5.25–5.700 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm $10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For the 5.47–5.6 GHz and 5.65–5.700 GHz band, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz.

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.

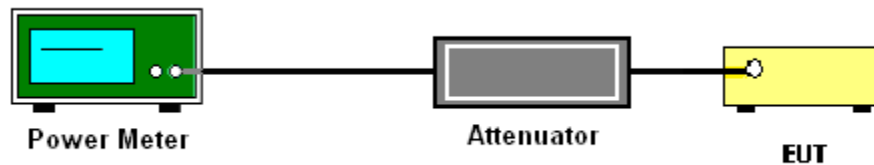
3.2.3 Test Procedures

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 5.25–5.700 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.

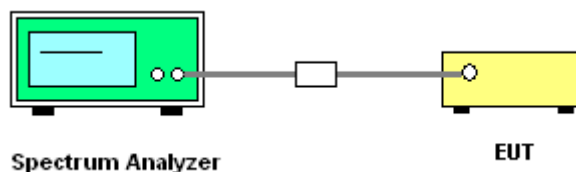
Section F) Maximum power spectral density.

Method SA-2

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

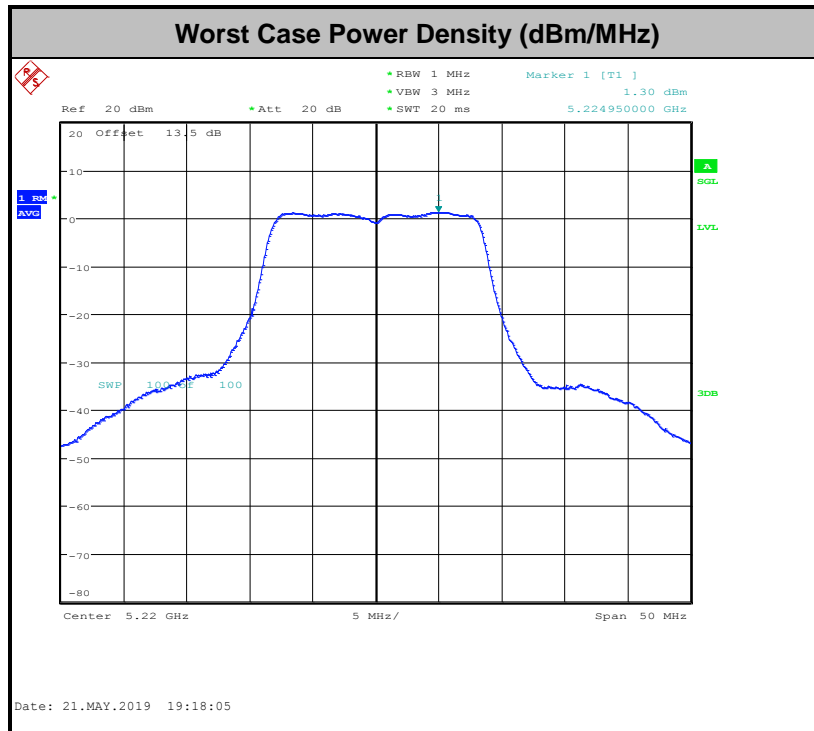
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, 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.



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

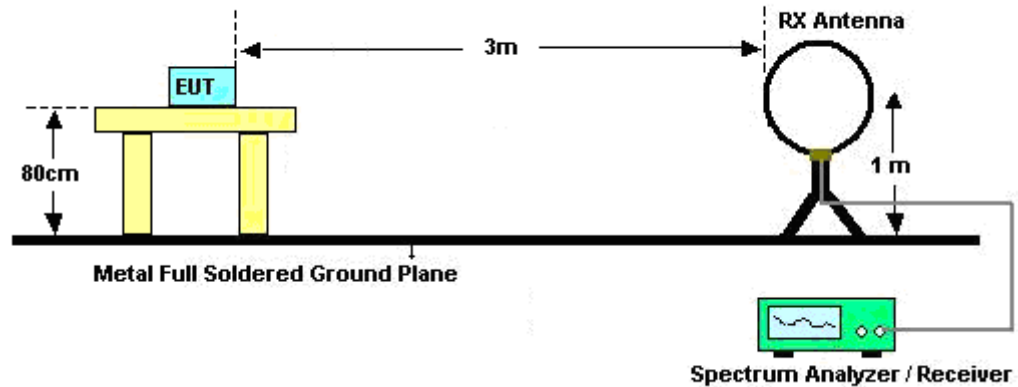
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

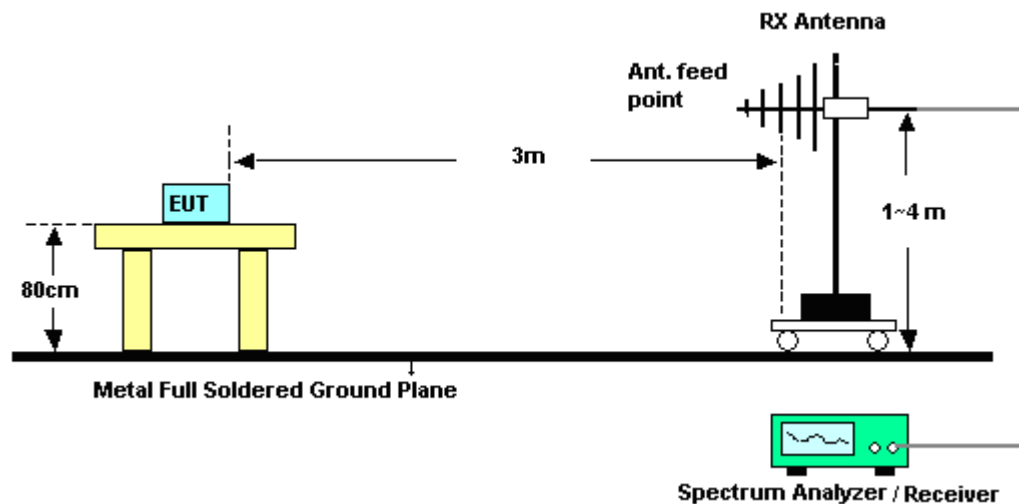
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

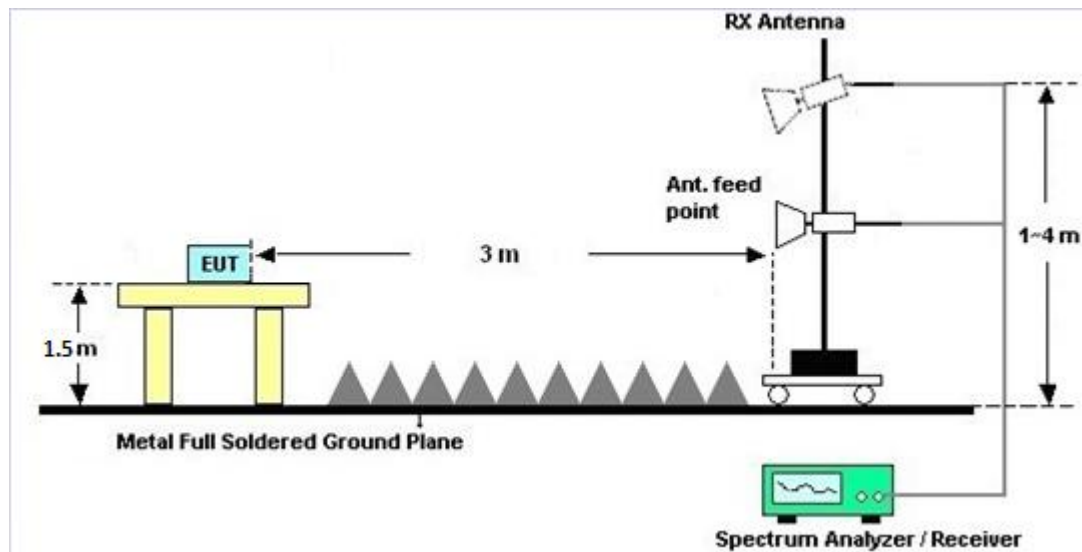
For radiated emissions below 30MHz



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.

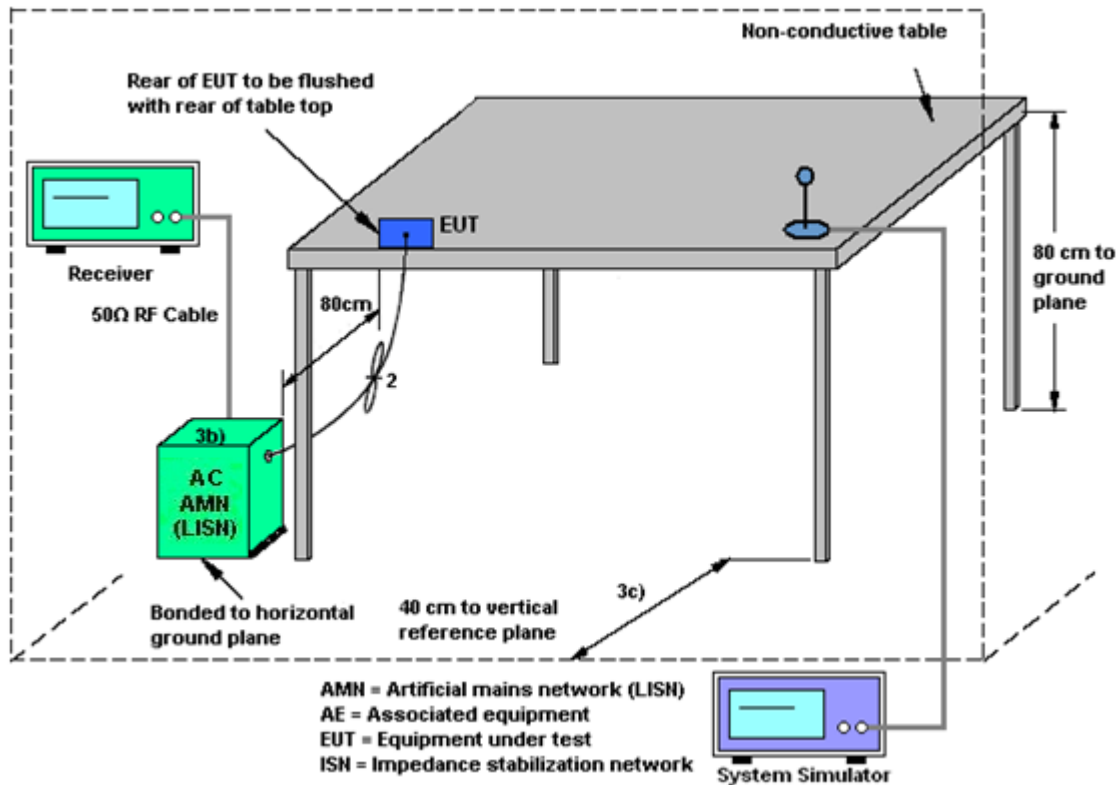
3.5.2 Measuring Instruments

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
Hygrometer	Testo	DTM-303A	TP157075	N/A	Nov. 05, 2018	May 17, 2019~ May 21, 2019	Nov. 04, 2019	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030S NO32	9kHz~6GHz	Dec. 03, 2018	May 17, 2019~ May 21, 2019	Dec. 02, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2018	May 17, 2019~ May 21, 2019	Nov. 20, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV 30	100895	9kHz~30GHz	Apr. 20, 2018	May 17, 2019~ May 21, 2019	Apr. 19, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC120838 2	N/A	Mar. 27, 2019	May 17, 2019~ May 21, 2019	Mar. 26, 2020	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 02, 2018	May 17, 2019~ May 21, 2019	Oct. 01, 2019	Conducted (TH05-HY)
EMI Test Receiver	Keysight	N9038A	MY572901 51	3Hz~8.5GHz;M ax 30dBm	Jun. 25, 2018	Jun. 05, 2019	Jun. 24, 2019	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY553705 28	10Hz-44GHz	Oct. 09, 2018	Jun. 05, 2019	Oct. 08, 2019	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 19, 2018	Jun. 05, 2019	Oct. 18, 2019	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 28, 2018	Jun. 05, 2019	Dec. 27, 2019	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 27, 2019	Jun. 05, 2019	Jan. 26, 2020	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2019	Jun. 05, 2019	Jan. 04, 2020	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Aug. 06.2018	Jun. 05, 2019	Aug. 05, 2019	Radiation (03CH05-KS)
Amplifier	MITEQ	TTA1840-35-HG	2014749	18~40GHz	Jan. 14, 2019	Jun. 05, 2019	Jan. 13, 2020	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1Ghz-18Ghz	Aug. 17, 2018	Jun. 05, 2019	Aug. 16, 2019	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY532703 16	500MHz~26.5G Hz	Dec. 22, 2018	Jun. 05, 2019	Dec. 21, 2019	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	Jun. 05, 2019	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jun. 05, 2019	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jun. 05, 2019	NCR	Radiation (03CH05-KS)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May. 28, 2019	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9KHz~3.6GHz	Nov. 12, 2018	May. 28, 2019	Nov. 11, 2019	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Mar. 19, 2019	May. 28, 2019	Mar. 18, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	May. 28, 2019	Nov. 13, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 09, 2018	May. 28, 2019	Nov. 08, 2019	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May. 28, 2019	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Dec. 31, 2018	May. 28, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Dec. 31, 2018	May. 28, 2019	Dec. 30, 2019	Conduction (CO05-HY)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0 dB
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Appendix A. Conducted Test Results

Test Engineer:	Howard Lin	Temperature:	21~25	°C
Test Date:	2019/5/17~2019/05/21	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)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	17.25	-	35.79	-	-	-	22.37	-	
11a	6Mbps	1	44	5220	17.15	-	33.92	-	-	-	22.34	-	
11a	6Mbps	1	48	5240	17.15	-	35.67	-	-	-	22.34	-	
HT20	MCS0	1	36	5180	18.10	-	28.08	-	-	-	22.58	-	
HT20	MCS0	1	44	5220	18.15	-	28.32	-	-	-	22.59	-	
HT20	MCS0	1	48	5240	18.10	-	27.26	-	-	-	22.58	-	
HT40	MCS0	1	38	5190	36.50	-	49.14	-	-	-	23.01	-	
HT40	MCS0	1	46	5230	36.50	-	48.17	-	-	-	23.01	-	

TEST RESULTS DATA
Average Power Table

FCC Band I												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	12.90	-		24.00	-	-0.73	-	Pass
11a	6Mbps	1	44	5220	12.90	-		24.00	-	-0.73	-	Pass
11a	6Mbps	1	48	5240	12.90	-		24.00	-	-0.73	-	Pass
HT20	MCS0	1	36	5180	10.80	-		24.00	-	-0.73	-	Pass
HT20	MCS0	1	44	5220	10.60	-		24.00	-	-0.73	-	Pass
HT20	MCS0	1	48	5240	10.90	-		24.00	-	-0.73	-	Pass
HT40	MCS0	1	38	5190	10.90	-		24.00	-	-0.73	-	Pass
HT40	MCS0	1	46	5230	10.60	-		24.00	-	-0.73	-	Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.61	-	0.69	-		11.00	-	-0.73	-	Pass
11a	6Mbps	1	44	5220	0.61	-	1.91	-		11.00	-	-0.73	-	Pass
11a	6Mbps	1	48	5240	0.61	-	1.45	-		11.00	-	-0.73	-	Pass
HT20	MCS0	1	36	5180	0.63	-	-1.20	-		11.00	-	-0.73	-	Pass
HT20	MCS0	1	44	5220	0.63	-	-1.12	-		11.00	-	-0.73	-	Pass
HT20	MCS0	1	48	5240	0.63	-	-0.51	-		11.00	-	-0.73	-	Pass
HT40	MCS0	1	38	5190	0.65	-	-3.58	-		11.00	-	-0.73	-	Pass
HT40	MCS0	1	46	5230	0.65	-	-3.91	-		11.00	-	-0.73	-	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
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	52	5260	17.40	-	36.07	-	23.41	-	29.41	-	23.98	-	
11a	6Mbps	1	60	5300	17.25	-	38.88	-	23.37	-	29.37	-	23.98	-	
11a	6Mbps	1	64	5320	17.20	-	30.75	-	23.36	-	29.36	-	23.98	-	
HT20	MCS0	1	52	5260	17.05	-	26.40	-	23.32	-	29.32	-	23.98	-	
HT20	MCS0	1	60	5300	18.10	-	33.25	-	23.58	-	29.58	-	23.98	-	
HT20	MCS0	1	64	5320	18.10	-	25.48	-	23.58	-	29.58	-	23.98	-	
HT40	MCS0	1	54	5270	36.60	-	48.93	-	23.98	-	30.00	-	23.98	-	
HT40	MCS0	1	62	5310	36.50	-	47.63	-	23.98	-	30.00	-	23.98	-	

TEST RESULTS DATA
Average Power Table

FCC Band II													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	12.80	-		23.98	-	-0.54	-	26.99	Pass
11a	6Mbps	1	60	5300	12.80	-		23.98	-	-0.54	-	26.99	Pass
11a	6Mbps	1	64	5320	12.70	-		23.98	-	-0.54	-	26.99	Pass
HT20	MCS0	1	52	5260	10.70	-		23.98	-	-0.54	-	26.99	Pass
HT20	MCS0	1	60	5300	10.90	-		23.98	-	-0.54	-	26.99	Pass
HT20	MCS0	1	64	5320	10.90	-		23.98	-	-0.54	-	26.99	Pass
HT40	MCS0	1	54	5270	10.90	-		23.98	-	-0.54	-	26.99	Pass
HT40	MCS0	1	62	5310	10.90	-		23.98	-	-0.54	-	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
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	52	5260	0.61	-	1.29	-		11.00	-	-0.54	-	Pass
11a	6Mbps	1	60	5300	0.61	-	0.82	-		11.00	-	-0.54	-	Pass
11a	6Mbps	1	64	5320	0.61	-	0.94	-		11.00	-	-0.54	-	Pass
HT20	MCS0	1	52	5260	0.63	-	-0.81	-		11.00	-	-0.54	-	Pass
HT20	MCS0	1	60	5300	0.63	-	-1.34	-		11.00	-	-0.54	-	Pass
HT20	MCS0	1	64	5320	0.63	-	-0.56	-		11.00	-	-0.54	-	Pass
HT40	MCS0	1	54	5270	0.65	-	-4.11	-		11.00	-	-0.54	-	Pass
HT40	MCS0	1	62	5310	0.65	-	-4.29	-		11.00	-	-0.54	-	Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth In U-NII 2C (MHz)		26 dB Bandwidth In U-NII 2C (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		6 dB Bandwidth for Straddle Channel (MHz)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	1	100	5500	17.25	-	36.31	-	23.37	-	29.37	-	23.98	-	----	----
11a	6Mbps	1	116	5580	17.30	-	36.88	-	23.38	-	29.38	-	23.98	-	----	----
11a	6Mbps	1	140	5700	17.15	-	34.55	-	23.34	-	29.34	-	23.98	-	----	----
HT20	MCS0	1	100	5500	18.10	-	35.08	-	23.58	-	29.58	-	23.98	-	----	----
HT20	MCS0	1	116	5580	18.10	-	29.73	-	23.58	-	29.58	-	23.98	-	----	----
HT20	MCS0	1	140	5700	18.05	-	24.16	-	23.56	-	29.56	-	23.98	-	----	----
HT40	MCS0	1	102	5510	36.60	-	50.37	-	23.98	-	30.00	-	23.98	-	----	----
HT40	MCS0	1	110	5550	36.50	-	45.72	-	23.98	-	30.00	-	23.98	-	----	----
HT40	MCS0	1	134	5670	36.50	-	48.52	-	23.98	-	30.00	-	23.98	-	----	----

TEST RESULTS DATA
Average Power Table

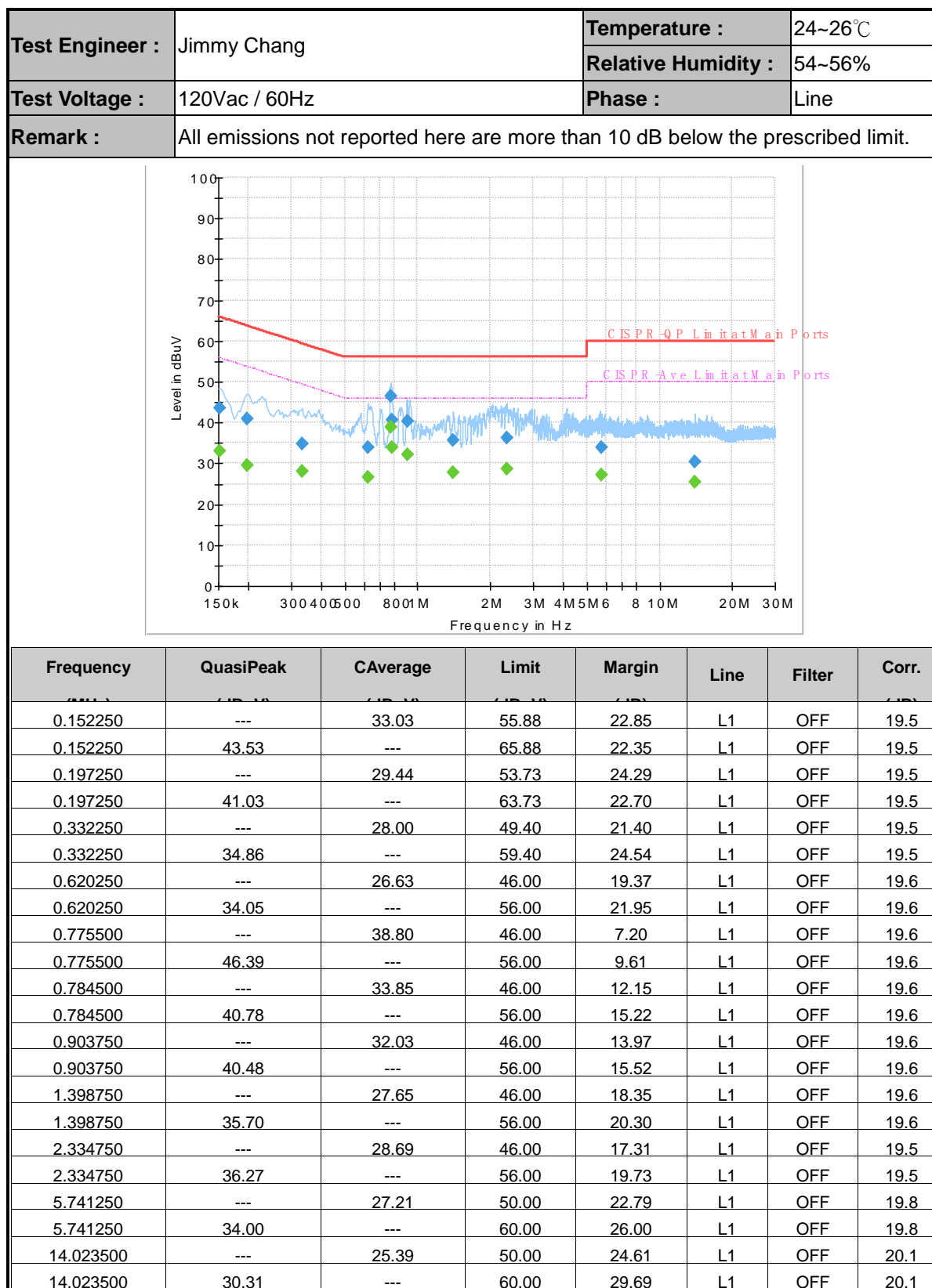
FCC Band III													
Mod.	Data Rate	Ntx	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	12.60	-		23.98	-	1.82	-	26.99	Pass
11a	6Mbps	1	116	5580	12.90	-		23.98	-	1.82	-	26.99	Pass
11a	6Mbps	1	140	5700	12.90	-		23.98	-	1.82	-	26.99	Pass
HT20	MCS0	1	100	5500	10.90	-		23.98	-	1.82	-	26.99	Pass
HT20	MCS0	1	116	5580	10.90	-		23.98	-	1.82	-	26.99	Pass
HT20	MCS0	1	140	5700	10.90	-		23.98	-	1.82	-	26.99	Pass
HT40	MCS0	1	102	5510	10.90	-		23.98	-	1.82	-	26.99	Pass
HT40	MCS0	1	110	5550	10.60	-		23.98	-	1.82	-	26.99	Pass
HT40	MCS0	1	134	5670	10.90	-		23.98	-	1.82	-	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
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	100	5500	0.61	-	1.65	-		11.00	-	1.82	-	Pass
11a	6Mbps	1	116	5580	0.61	-	1.83	-		11.00	-	1.82	-	Pass
11a	6Mbps	1	140	5700	0.61	-	1.57	-		11.00	-	1.82	-	Pass
HT20	MCS0	1	100	5500	0.63	-	-0.15	-		11.00	-	1.82	-	Pass
HT20	MCS0	1	116	5580	0.63	-	-0.34	-		11.00	-	1.82	-	Pass
HT20	MCS0	1	140	5700	0.63	-	-0.98	-		11.00	-	1.82	-	Pass
HT40	MCS0	1	102	5510	0.65	-	-3.43	-		11.00	-	1.82	-	Pass
HT40	MCS0	1	110	5550	0.65	-	-3.82	-		11.00	-	1.82	-	Pass
HT40	MCS0	1	134	5670	0.65	-	-3.74	-		11.00	-	1.82	-	Pass

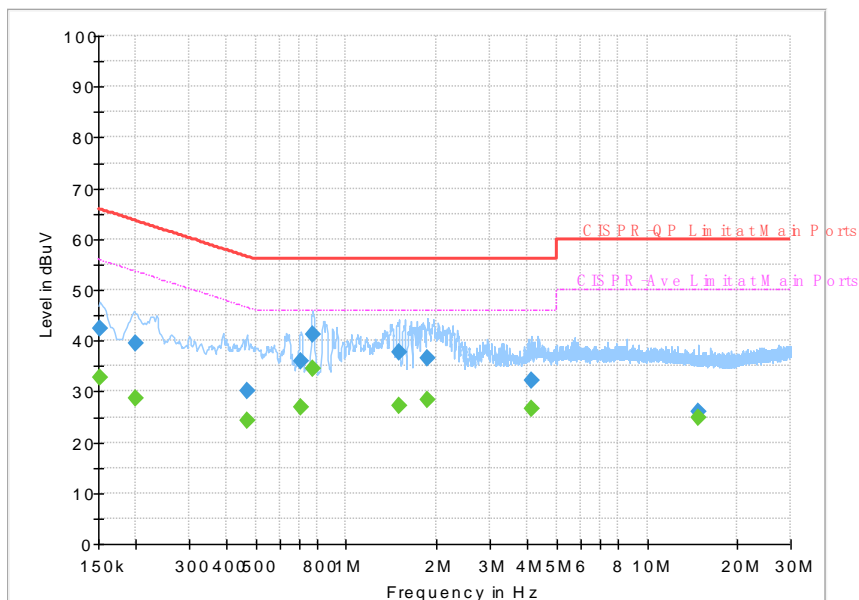


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Jimmy Chang	Temperature :	24~26°C
		Relative Humidity :	54~56%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Frequency	QuasiPeak	CAverage	Limit	Margin	Line	Filter	Corr.
0.152250	---	32.74	55.88	23.14	N	OFF	19.5
0.152250	42.32	---	65.88	23.56	N	OFF	19.5
0.199500	---	28.55	53.63	25.08	N	OFF	19.5
0.199500	39.48	---	63.63	24.15	N	OFF	19.5
0.467250	---	24.31	46.56	22.25	N	OFF	19.5
0.467250	30.26	---	56.56	26.30	N	OFF	19.5
0.710250	---	26.94	46.00	19.06	N	OFF	19.6
0.710250	35.94	---	56.00	20.06	N	OFF	19.6
0.777750	---	34.61	46.00	11.39	N	OFF	19.6
0.777750	41.19	---	56.00	14.81	N	OFF	19.6
1.493250	---	27.08	46.00	18.92	N	OFF	19.6
1.493250	37.86	---	56.00	18.14	N	OFF	19.6
1.869000	---	28.49	46.00	17.51	N	OFF	19.6
1.869000	36.69	---	56.00	19.31	N	OFF	19.6
4.110000	---	26.50	46.00	19.50	N	OFF	19.7
4.110000	32.29	---	56.00	23.71	N	OFF	19.7
14.743500	---	24.74	50.00	25.26	N	OFF	20.1
14.743500	26.14	---	60.00	33.86	N	OFF	20.1



Appendix C. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamplifier Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5127.68	52.19	-21.81	74	45.49	35.06	8.14	36.5	100	225	P	H
		5127.84	41.63	-12.37	54	34.93	35.06	8.14	36.5	100	225	A	H
	*	5186	97.29	-	-	90.53	35.08	8.17	36.49	100	225	P	H
		5186	89.37	-	-	82.61	35.08	8.17	36.49	100	225	A	H
		5149.98	52.29	-21.71	74	45.59	35.06	8.14	36.5	281	150	P	V
		5127.84	43.5	-10.5	54	36.8	35.06	8.14	36.5	281	150	A	V
	*	5186	102.5	-	-	95.74	35.08	8.17	36.49	281	150	P	V
		5186	94.65	-	-	87.89	35.08	8.17	36.49	281	150	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	46.67	-21.63	68.3	60.39	37.47	11.87	63.06	100	0	P	H
		10360	44.72	-23.58	68.3	58.44	37.47	11.87	63.06	100	360	P	V
802.11a CH 44 5220MHz		10440	45.63	-22.67	68.3	59.24	37.5	11.93	63.04	100	0	P	H
		10440	44.71	-23.59	68.3	58.32	37.5	11.93	63.04	100	0	P	V
802.11a CH 48 5240MHz		10480	47.21	-21.09	68.3	60.74	37.53	11.97	63.03	100	0	P	H
		10480	44.68	-23.62	68.3	58.21	37.53	11.97	63.03	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5125.92	51.99	-22.01	74	45.29	35.06	8.14	36.5	115	216	P	H
		5128.32	41.59	-12.41	54	34.89	35.06	8.14	36.5	115	216	A	H
	*	5184	96.96	-	-	90.2	35.08	8.17	36.49	115	216	P	H
		5184	88.34	-	-	81.58	35.08	8.17	36.49	115	216	A	H
		5124.48	51.75	-22.25	74	45.05	35.06	8.14	36.5	324	148	P	V
		5128.16	42.46	-11.54	54	35.76	35.06	8.14	36.5	324	148	A	V
	*	5174	99.63	-	-	92.87	35.08	8.17	36.49	324	148	P	V
		5174	92.15	-	-	85.39	35.08	8.17	36.49	324	148	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	45.16	-23.14	68.3	58.88	37.47	11.87	63.06	100	0	P	H
		10360	44.12	-24.18	68.3	57.84	37.47	11.87	63.06	100	360	P	V
802.11n HT20 CH 44 5220MHz		10440	46.64	-21.66	68.3	60.25	37.5	11.93	63.04	100	0	P	H
		10440	44.31	-23.99	68.3	57.92	37.5	11.93	63.04	100	0	P	V
802.11n HT20 CH 48 5240MHz		10480	46.39	-21.91	68.3	59.92	37.53	11.97	63.03	100	0	P	H
		10480	44.11	-24.19	68.3	57.64	37.53	11.97	63.03	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5147.2	56.82	-17.18	74	50.12	35.06	8.14	36.5	116	211	P	H
		5149.98	44.49	-9.51	54	37.79	35.06	8.14	36.5	116	211	A	H
	*	5204	93.9	-	-	87.1	35.09	8.2	36.49	116	211	P	H
		5204	86.62	-	-	79.82	35.09	8.2	36.49	116	211	A	H
		5355.36	48.65	-25.35	74	41.64	35.16	8.3	36.45	116	211	P	H
		5352.66	39.42	-14.58	54	32.41	35.16	8.3	36.45	116	211	A	H
		5148.8	59.76	-14.24	74	53.06	35.06	8.14	36.5	339	151	P	V
		5149.98	46.77	-7.23	54	40.07	35.06	8.14	36.5	339	151	A	V
	*	5200	98.17	-	-	91.37	35.09	8.2	36.49	339	151	P	V
		5200	90.56	-	-	83.76	35.09	8.2	36.49	339	151	A	V
		5383.26	49.3	-24.7	74	42.27	35.18	8.3	36.45	339	151	P	V
		5351.76	39.6	-14.4	54	32.59	35.16	8.3	36.45	339	151	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	46.21	-22.09	68.3	59.88	37.48	11.9	63.05	100	0	P	H
		10380	43.79	-24.51	68.3	57.46	37.48	11.9	63.05	100	360	P	V
802.11n HT40 CH 46 5230MHz		10460	45.53	-22.77	68.3	59.09	37.51	11.97	63.04	100	0	P	H
		10460	44.97	-23.33	68.3	58.53	37.51	11.97	63.04	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 64 5320MHz	*	5322	99.13	-	-	92.17	35.15	8.27	36.46	108	212	P	H
		5322	92.41	-	-	85.45	35.15	8.27	36.46	108	212	A	H
		5350.7	51.26	-22.74	74	44.25	35.16	8.3	36.45	108	212	P	H
		5372.7	41.6	-12.4	54	34.58	35.17	8.3	36.45	108	212	A	H
	*	5326	104.52	-	-	97.56	35.15	8.27	36.46	306	143	P	V
		5326	97.02	-	-	90.06	35.15	8.27	36.46	306	143	A	V
		5353.8	54.91	-19.09	74	47.9	35.16	8.3	36.45	306	143	P	V
		5362.1	46.2	-7.8	54	39.18	35.17	8.3	36.45	306	143	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	46.45	-21.85	68.3	59.94	37.54	12	63.03	100	0	P	H
		10520	43.69	-24.61	68.3	57.18	37.54	12	63.03	100	0	P	V
802.11a CH 60 5300MHz		10600	45.41	-28.59	74	58.78	37.58	12.06	63.01	100	0	P	H
		10600	44.77	-29.23	74	58.14	37.58	12.06	63.01	100	0	P	V
802.11a CH 64 5320MHz		10640	46.3	-27.7	74	59.61	37.6	12.09	63	100	0	P	H
		10640	43.99	-30.01	74	57.3	37.6	12.09	63	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 64 5320MHz	*	5326	98.11	-	-	91.15	35.15	8.27	36.46	108	211	P	H
		5326	90.68	-	-	83.72	35.15	8.27	36.46	108	211	A	H
		5371.2	50.11	-23.89	74	43.09	35.17	8.3	36.45	108	211	P	H
		5352.9	41.82	-12.18	54	34.81	35.16	8.3	36.45	108	211	A	H
	*	5316	102.43	-	-	95.47	35.15	8.27	36.46	343	143	P	V
		5316	95.06	-	-	88.1	35.15	8.27	36.46	343	143	A	V
		5374.1	51.44	-22.56	74	44.42	35.17	8.3	36.45	343	143	P	V
		5371.7	44.2	-9.8	54	37.18	35.17	8.3	36.45	343	143	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	46.72	-21.58	68.3	60.21	37.54	12	63.03	100	0	P	H
		10520	44.15	-24.15	68.3	57.64	37.54	12	63.03	100	0	P	V
802.11n HT20 CH 60 5300MHz		10600	46.36	-27.64	74	59.73	37.58	12.06	63.01	100	0	P	H
		10600	44.82	-29.18	74	58.19	37.58	12.06	63.01	100	0	P	V
802.11n HT20 CH 64 5320MHz		10640	46.01	-27.99	74	59.32	37.6	12.09	63	100	0	P	H
		10640	45.03	-28.97	74	58.34	37.6	12.09	63	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 62 5310MHz		5130.08	50.61	-23.39	74	43.91	35.06	8.14	36.5	100	34	P	H
		5117.28	40.74	-13.26	54	34.06	35.05	8.14	36.51	100	34	A	H
	*	5296	93.52	-	-	86.6	35.14	8.25	36.47	100	34	P	H
		5296	86.28	-	-	79.36	35.14	8.25	36.47	100	34	A	H
		5354.3	58.17	-15.83	74	51.16	35.16	8.3	36.45	100	34	P	H
		5350.2	45.99	-8.01	54	38.98	35.16	8.3	36.45	100	34	A	H
		5112.48	50.49	-23.51	74	43.85	35.05	8.1	36.51	397	329	P	V
		5103.04	40.62	-13.38	54	33.99	35.04	8.1	36.51	397	329	A	V
	*	5322	98.9	-	-	91.94	35.15	8.27	36.46	397	329	P	V
		5322	91.31	-	-	84.35	35.15	8.27	36.46	397	329	A	V
		5351.6	62.39	-11.61	74	55.38	35.16	8.3	36.45	397	329	P	V
		5350	50.11	-3.89	54	43.1	35.16	8.3	36.45	397	329	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	46.35	-21.95	68.3	59.79	37.55	12.03	63.02	100	0	P	H
		10540	44.56	-23.74	68.3	58	37.55	12.03	63.02	100	0	P	V
802.11n HT40 CH 62 5310MHz		10620	46.57	-27.43	74	59.9	37.59	12.09	63.01	100	0	P	H
		10620	45	-29	74	58.33	37.59	12.09	63.01	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5408.88	49.16	-24.84	74	42.09	35.19	8.32	36.44	105	213	P	H
		5468.56	49.15	-19.15	68.3	41.96	35.22	8.4	36.43	105	213	P	H
		5447.44	40.81	-13.19	54	33.67	35.21	8.36	36.43	105	213	A	H
	*	5508	96.56	-	-	89.3	35.24	8.44	36.42	105	213	P	H
		5508	88.81	-	-	81.55	35.24	8.44	36.42	105	213	A	H
		5447.92	51.42	-22.58	74	44.28	35.21	8.36	36.43	354	167	P	V
		5469.68	52.3	-16	68.3	45.11	35.22	8.4	36.43	354	167	P	V
		5447.92	43.24	-10.76	54	36.1	35.21	8.36	36.43	354	167	A	V
	*	5496	102.55	-	-	95.34	35.23	8.4	36.42	354	167	P	V
		5496	94.9	-	-	87.69	35.23	8.4	36.42	354	167	A	V
802.11a CH 140 5700MHz		5725.8	54.46	-13.84	68.3	47.06	35.22	8.61	36.43	400	200	P	H
	*	5706	95.92	-	-	88.49	35.24	8.61	36.42	400	200	P	H
		5706	87.81	-	-	80.38	35.24	8.61	36.42	400	200	A	H
		5728.52	56.16	-12.14	68.3	48.76	35.22	8.61	36.43	330	169	P	V
	*	5698	100	-	-	92.59	35.25	8.58	36.42	330	169	P	V
		5698	92.28	-	-	84.87	35.25	8.58	36.42	330	169	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	45.34	-28.66	74	58.14	37.76	12.37	62.93	100	0	P	H
		11000	45.12	-28.88	74	57.92	37.76	12.37	62.93	100	360	P	V
802.11a CH 116 5580MHz		11160	44.25	-29.75	74	56.8	37.84	12.51	62.9	100	0	P	H
		11160	44.26	-29.74	74	56.81	37.84	12.51	62.9	100	0	P	V
802.11a CH 140 5700MHz		11400	43.93	-30.07	74	56.15	37.95	12.68	62.85	100	0	P	H
		11400	43.99	-30.01	74	56.21	37.95	12.68	62.85	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5353.2	49.65	-24.35	74	42.64	35.16	8.3	36.45	106	213	P	H
		5466	48.52	-19.78	68.3	41.33	35.22	8.4	36.43	106	213	P	H
		5448.4	40.91	-13.09	54	33.77	35.21	8.36	36.43	106	213	A	H
	*	5506	94.56	-	-	87.3	35.24	8.44	36.42	106	213	P	H
		5506	86.96	-	-	79.7	35.24	8.44	36.42	106	213	A	H
		5449.2	50.84	-23.16	74	43.7	35.21	8.36	36.43	337	165	P	V
		5467.28	51.87	-16.43	68.3	44.68	35.22	8.4	36.43	337	165	P	V
		5448.4	43.64	-10.36	54	36.5	35.21	8.36	36.43	337	165	A	V
	*	5496	101.18	-	-	93.97	35.23	8.4	36.42	337	165	P	V
		5496	93.64	-	-	86.43	35.23	8.4	36.42	337	165	A	V
802.11n HT20 CH 140 5700MHz	*	5694	92.79	-	-	85.38	35.25	8.58	36.42	400	199	P	H
		5694	85.51	-	-	78.1	35.25	8.58	36.42	400	199	A	H
		5725.32	51.82	-16.48	68.3	44.42	35.22	8.61	36.43	400	199	P	H
	*	5696	97.7	-	-	90.29	35.25	8.58	36.42	316	165	P	V
		5696	90.35	-	-	82.94	35.25	8.58	36.42	316	165	A	V
		5727.8	55.6	-12.7	68.3	48.2	35.22	8.61	36.43	316	165	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20		11000	44.39	-29.61	74	57.19	37.76	12.37	62.93	100	0	P	H
CH 100 5500MHz		11000	44.53	-29.47	74	57.33	37.76	12.37	62.93	100	360	P	V
802.11n HT20		11160	43.64	-30.36	74	56.19	37.84	12.51	62.9	100	0	P	H
CH 116 5580MHz		11160	44.97	-29.03	74	57.52	37.84	12.51	62.9	100	0	P	V
802.11n HT20		11400	44.02	-29.98	74	56.24	37.95	12.68	62.85	100	0	P	H
CH 140 5700MHz		11400	44.69	-29.31	74	56.91	37.95	12.68	62.85	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5450.48	54.33	-19.67	74	47.19	35.21	8.36	36.43	100	217	P	H
		5467.44	57.12	-11.18	68.3	49.93	35.22	8.4	36.43	100	217	P	H
		5459.98	41.37	-12.63	54	34.23	35.21	8.36	36.43	100	217	A	H
	*	5494	91.76	-	-	84.55	35.23	8.4	36.42	100	217	P	H
		5494	84.2	-	-	76.99	35.23	8.4	36.42	100	217	A	H
		5759.56	50.57	-17.73	68.3	43.19	35.19	8.64	36.45	100	217	P	H
		5450.64	60.09	-13.91	74	52.95	35.21	8.36	36.43	294	175	P	V
		5464.88	61.46	-6.84	68.3	54.31	35.22	8.36	36.43	294	175	P	V
		5459.98	44.37	-9.63	54	37.23	35.21	8.36	36.43	294	175	A	V
	*	5506	98.68	-	-	91.42	35.24	8.44	36.42	294	175	P	V
		5506	91.31	-	-	84.05	35.24	8.44	36.42	294	175	A	V
		5736.04	50.96	-17.34	68.3	43.58	35.21	8.61	36.44	294	175	P	V
802.11n HT40 CH 134 5670MHz		5359.76	50.14	-23.86	74	43.13	35.16	8.3	36.45	328	35	P	H
		5464.08	48.54	-19.76	68.3	41.39	35.22	8.36	36.43	328	35	P	H
		5452.24	39.64	-14.36	54	32.5	35.21	8.36	36.43	328	35	A	H
	*	5660	89.99	-	-	82.56	35.28	8.55	36.4	328	35	P	H
		5660	82.38	-	-	74.95	35.28	8.55	36.4	328	35	A	H
		5730.2	52.17	-16.13	68.3	44.77	35.22	8.61	36.43	328	35	P	H
		5361.2	50.64	-23.36	74	43.62	35.17	8.3	36.45	268	178	P	V
		5466.96	49.1	-19.2	68.3	41.91	35.22	8.4	36.43	268	178	P	V
		5440	39.9	-14.1	54	32.78	35.2	8.36	36.44	268	178	A	V
	*	5672	96.34	-	-	88.9	35.27	8.58	36.41	268	178	P	V
		5672	88.87	-	-	81.43	35.27	8.58	36.41	268	178	A	V
		5731.96	51.59	-16.71	68.3	44.19	35.22	8.61	36.43	268	178	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11015	44.27	-29.73	74	57.03	37.77	12.4	62.93	100	0	P	H
		11020	44.75	-29.25	74	57.51	37.77	12.4	62.93	100	360	P	V
802.11n HT40 CH 110 5550MHz		11100	45.49	-28.51	74	58.14	37.81	12.45	62.91	100	0	P	H
		11100	44.93	-29.07	74	57.58	37.81	12.45	62.91	100	0	P	V
802.11n HT40 CH 134 5670MHz		11340	43.67	-30.33	74	55.99	37.92	12.62	62.86	100	0	P	H
		11340	44.26	-29.74	74	56.58	37.92	12.62	62.86	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11n HT40 (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)
802.11n HT40 LF		52.31	22.32	-17.68	40	40.36	13.06	0.84	31.94	-	-	P	H
		97.9	22.25	-21.25	43.5	36.64	16.4	1.14	31.93	-	-	P	H
		186.17	25.39	-18.11	43.5	40.13	15.6	1.57	31.91	-	-	P	H
		200.72	26.08	-17.42	43.5	40.98	15.36	1.64	31.9	100	0	P	H
		743.92	24.05	-21.95	46	27.39	25.79	3.13	32.26	-	-	P	H
		850.62	25.03	-20.97	46	26.95	26.51	3.35	31.78	-	-	P	H
		52.31	23.16	-16.84	40	41.2	13.06	0.84	31.94	-	-	P	V
		98.87	21.93	-21.57	43.5	36.11	16.6	1.15	31.93	-	-	P	V
		187.14	26.25	-17.25	43.5	41.01	15.58	1.57	31.91	-	-	P	V
		198.78	26.99	-16.51	43.5	41.94	15.32	1.63	31.9	100	0	P	V
		894.27	25.32	-20.68	46	26.61	26.77	3.44	31.5	-	-	P	V
		912.7	25.19	-20.81	46	26.16	26.9	3.48	31.35	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

**Note symbol**

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



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	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 CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. 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)

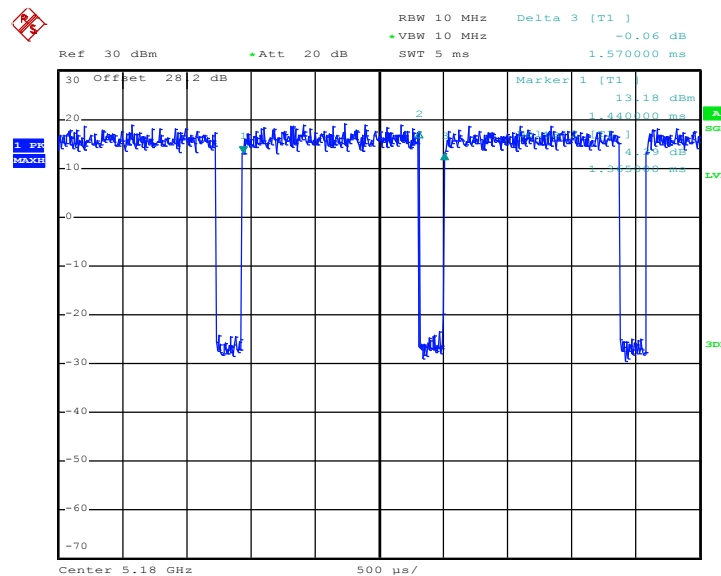
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

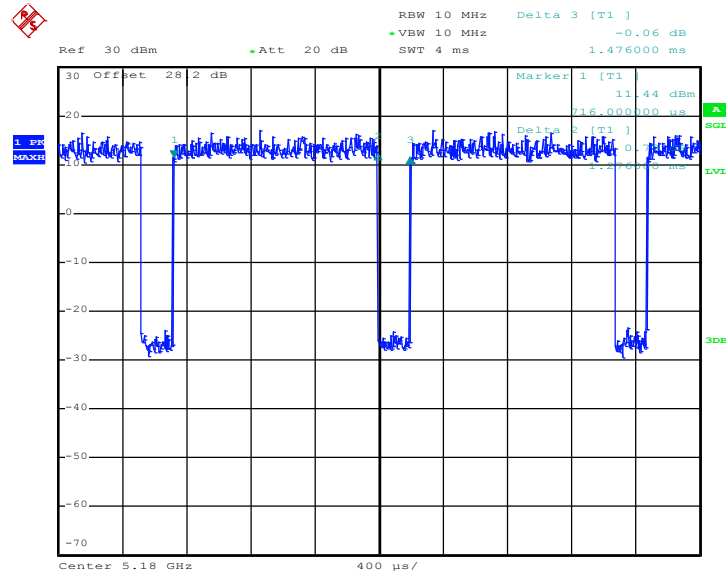
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	86.94	1.365	0.733	0.75KHz
802.11n HT20	86.45	1.276	0.784	0.82KHz
802.11n HT20	86.06	1.229	0.814	0.82KHz

802.11a





802.11n HT20



802.11n HT40

