



FCC RADIO TEST REPORT

FCC ID : A4RG025E
Equipment : Phone
Model Name : G025E
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC Part 15 Subpart E §15.407

The product was received on Apr. 30, 2020 and testing was started from May 08, 2020 and completed on Jun. 19, 2020. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, 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 INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR022521-02E	01	Initial issue of report	Jun. 26, 2020
FR022521-02E	02	Revise power limit in appendix A	Jul. 01, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 1.67 dB at 5459.920 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 6.08 dB at 0.755 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Pass	-
3.7	15.203 15.407(a)	Antenna Requirement	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Yimin Ho



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Phone
Model Name	G025E
FCC ID	A4RG025E
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/ NFC/GNSS WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

Remark: The above EUT's information was declared by manufacturer.

EUT Information List	
S/N	Performed Test Item
04211FQCB00023	RF Conducted Measurement
04241FQCB00323	Radiated Spurious Emission
04241FQCB00291	Conducted Emission

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power	<5180 MHz ~ 5240 MHz> <Ant. 4> 802.11a : 17.20 dBm / 0.0525 W 802.11n HT20 : 17.30 dBm / 0.0537 W 802.11n HT40 : 17.30 dBm / 0.0537 W 802.11ac VHT20: 17.20 dBm / 0.0525 W 802.11ac VHT40: 17.20 dBm / 0.0525 W 802.11ac VHT80: 12.70 dBm / 0.0186 W

Standards-related Product Specification												
Maximum Output Power	<5500 MHz ~ 5720 MHz> <Ant. 4> 802.11a : 17.30 dBm / 0.0537 W 802.11n HT20 : 17.80 dBm / 0.0603 W 802.11n HT40 : 17.30 dBm / 0.0537 W 802.11ac VHT20: 17.70 dBm / 0.0589 W 802.11ac VHT40: 17.20 dBm / 0.0525 W 802.11ac VHT80: 16.80 dBm / 0.0479 W <Ant. 3> 802.11a : 17.30 dBm / 0.0537 W 802.11n HT20 : 17.30 dBm / 0.0537 W 802.11n HT40 : 16.90 dBm / 0.0490 W 802.11ac VHT20: 17.20 dBm / 0.0525 W 802.11ac VHT40: 16.80 dBm / 0.0479 W 802.11ac VHT80: 16.60 dBm / 0.0457 W MIMO <Ant. 4 + 3> 802.11a : 20.41 dBm / 0.1099 W 802.11n HT20 : 20.53 dBm / 0.1130 W 802.11n HT40 : 20.21 dBm / 0.1050 W 802.11ac VHT20: 20.43 dBm / 0.1104 W 802.11ac VHT40: 20.11 dBm / 0.1026 W 802.11ac VHT80: 19.81 dBm / 0.0957 W											
	99% Occupied Bandwidth MIMO <Ant. 4> 802.11a : 16.85 MHz 802.11n HT20 : 18.10 MHz 802.11n HT40 : 36.70 MHz 802.11ac VHT80: 76.92 MHz MIMO <Ant. 3> 802.11a : 17.05 MHz 802.11n HT20 : 18.10 MHz 802.11n HT40 : 36.70 MHz 802.11ac VHT80: 76.92 MHz											
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)											
Antenna Type / Gain	<5180 MHz ~ 5240 MHz> Ant. 4 : Monopole Antenna with gain -0.60 dBi Ant. 3 : PIFA Antenna with gain -0.20 dBi <5260 MHz ~ 5320 MHz> Ant. 4 : Monopole Antenna with gain -0.80 dBi Ant. 3 : PIFA Antenna with gain -0.40 dBi <5500 MHz ~ 5720 MHz > Ant. 4 : Monopole Antenna with gain -1.50 dBi Ant. 3 : PIFA Antenna with gain -0.70 dBi											
Antenna Function Description	<table><tr><td></td><td>Ant. 4</td><td>Ant. 3</td></tr><tr><td>802.11 a/n/ac</td><td>V</td><td>V</td></tr><tr><td>802.11 a/n/ac MIMO</td><td>V</td><td>V</td></tr></table>				Ant. 4	Ant. 3	802.11 a/n/ac	V	V	802.11 a/n/ac MIMO	V	V
	Ant. 4	Ant. 3										
802.11 a/n/ac	V	V										
802.11 a/n/ac MIMO	V	V										

Note: MIMO Ant. 4+3 is a calculated result from sum of the power MIMO Ant. 4 and MIMO Ant. 3.

1.3 Modification of EUT

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

1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory		
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton Site No.		
	TH05-HY	CO05-HY	03CH07-HY

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

FCC designation No.: TW1190

1.5 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.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.
3. 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)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

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

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

Note:

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

2.2 Test Mode

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

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20 (Covered by HT20)	MCS0
802.11ac VHT40 (Covered by HT40)	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + WLAN (5GHz) Link + Bluetooth Link + 3.5mm Headset + USB Cable 1 (Charging from AC Adapter 1)
Remark: For Radiated Test Cases, the tests were performed with Adapter 1 and USB Cable 1.	

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

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

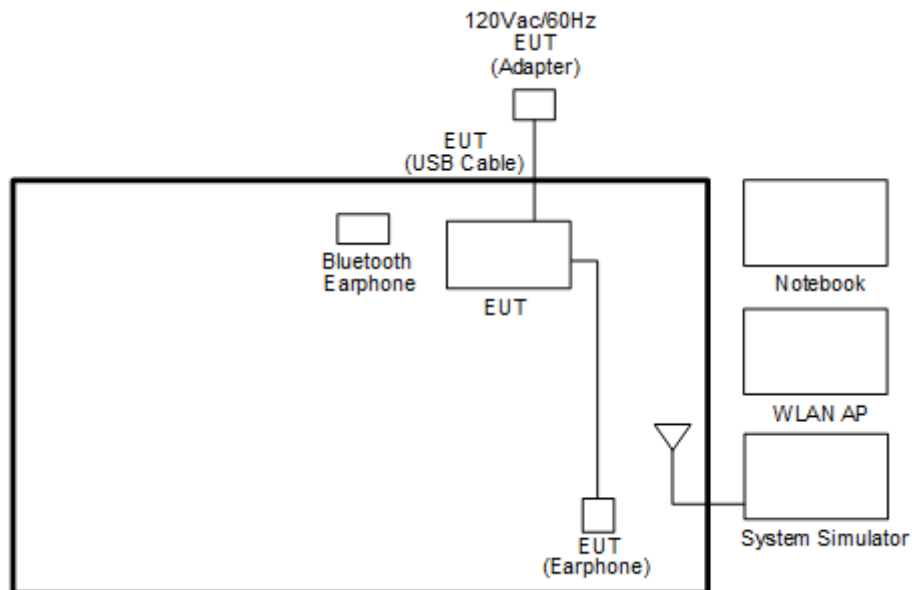
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	122
H	High	-	-	-
Straddle		-	-	138

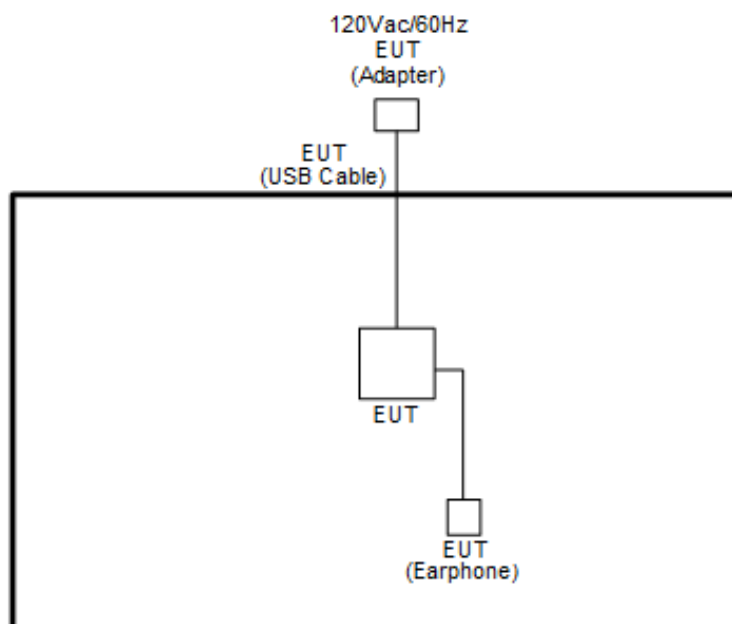
Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

2.3 Connection Diagram of Test System

<AC Conducted Emissions Mode>



<WLAN Tx Mode>



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.	Bluetooth Earphone	Google	G015B	SZGG015B	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Notebook	DELL	P79G	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT v4.0.00158.0" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

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 4.2 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

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

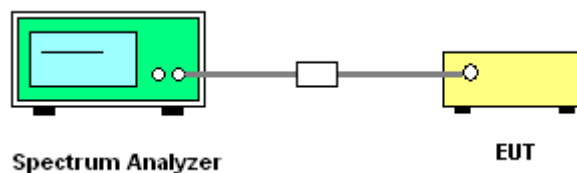
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

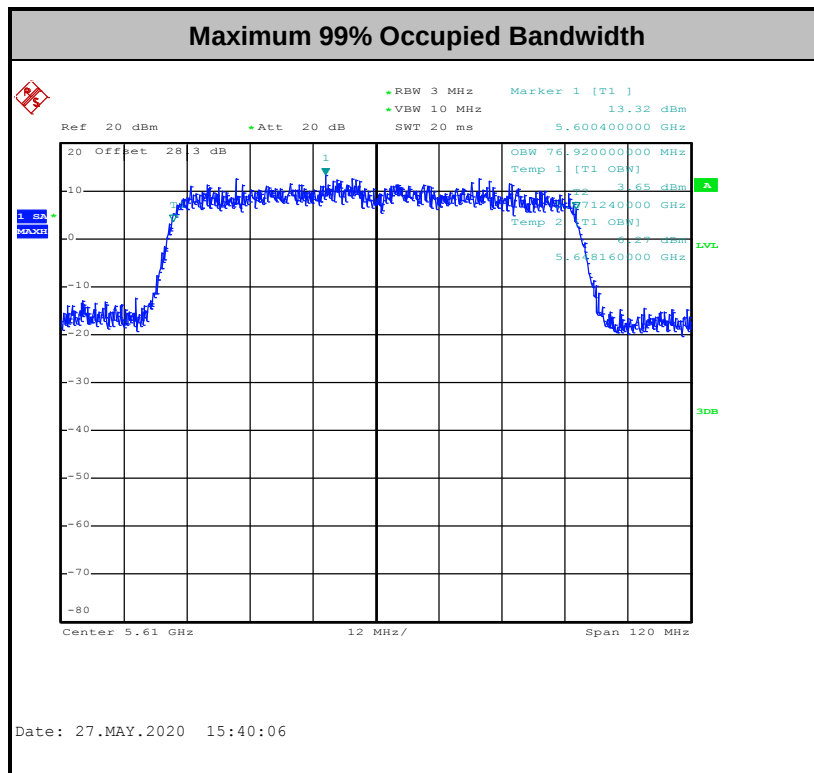
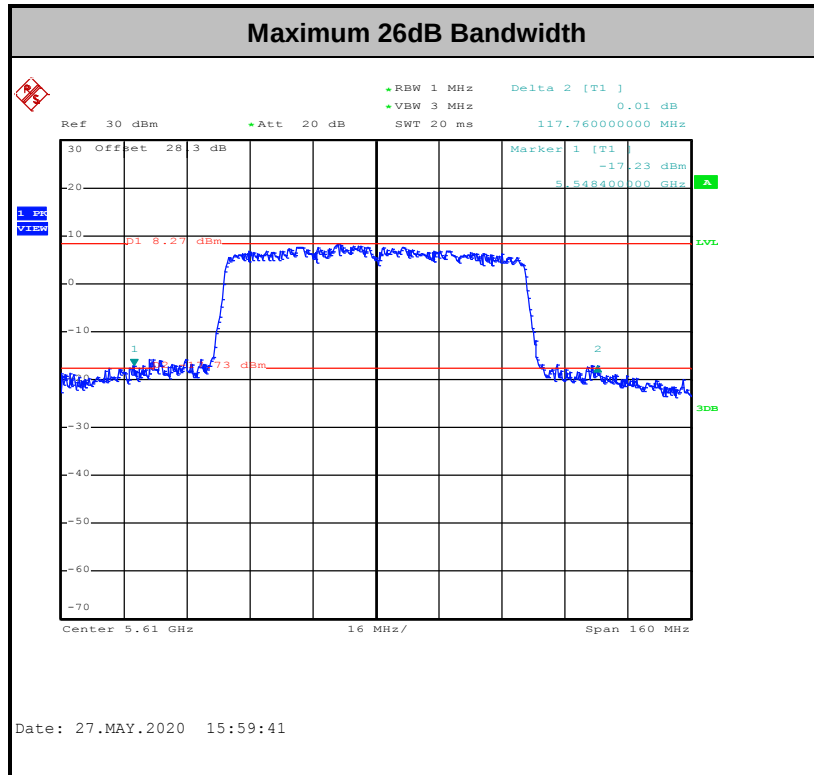
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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 1-5% of the emission bandwidth 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 the 5.15–5.25 GHz bands:

- 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 an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

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

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

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

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

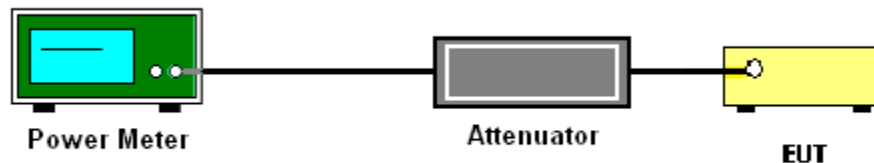
The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For the 5.15–5.25 GHz bands:

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1.0 MHz band.

For the 5.25–5.725 GHz bands:

The maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

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

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

3.3.2 Measuring Instruments

See list of measuring equipment 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-3

(power averaging (rms) detection with max hold):

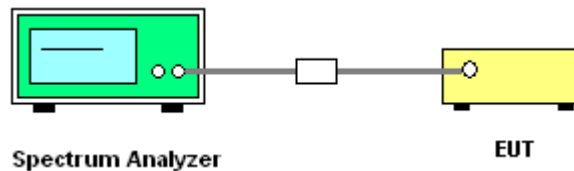
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW $\geq$ 3 MHz
- Number of points in sweep $\geq$ 2 Span / RBW.
- Sweep time $\leq$ (number of points in sweep) $\times$ T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
- Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (a): Measure and sum the spectra across the outputs.

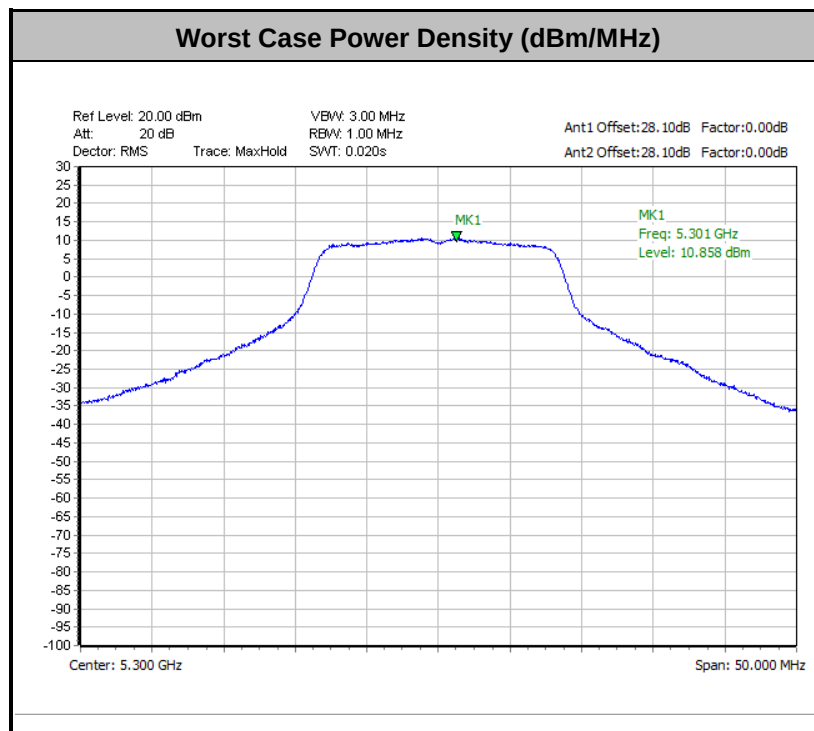
The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points; the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

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

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

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

EIRP (dBm)	Field Strength at 3m (dB μ V/m)
- 27	68.3

(3) KDB789033 D02 v02r01 G)2)c)

- (i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.
- (ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

3.4.2 Measuring Instruments

See list of measuring equipment 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

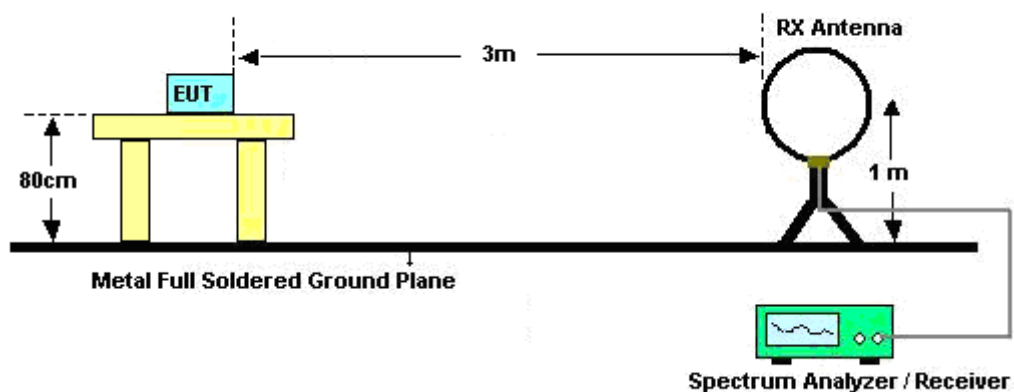
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

- 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.

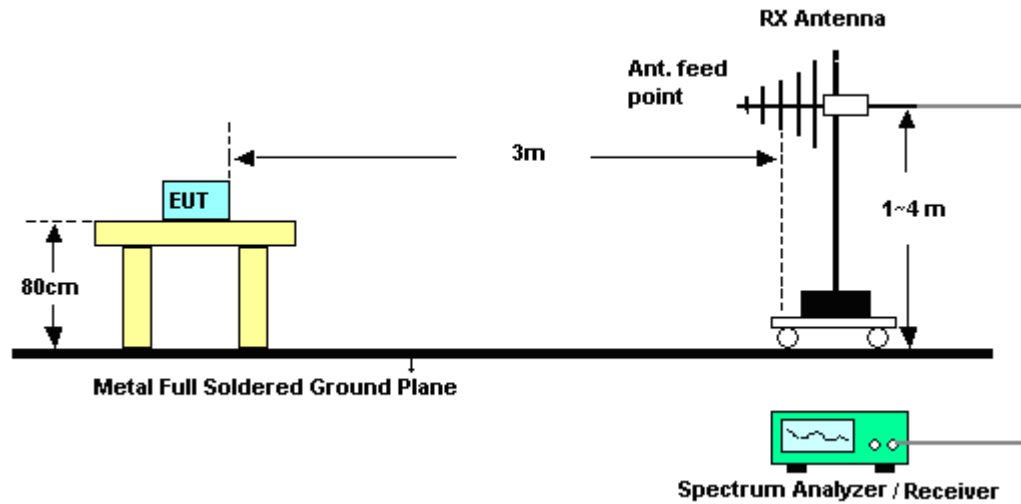
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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

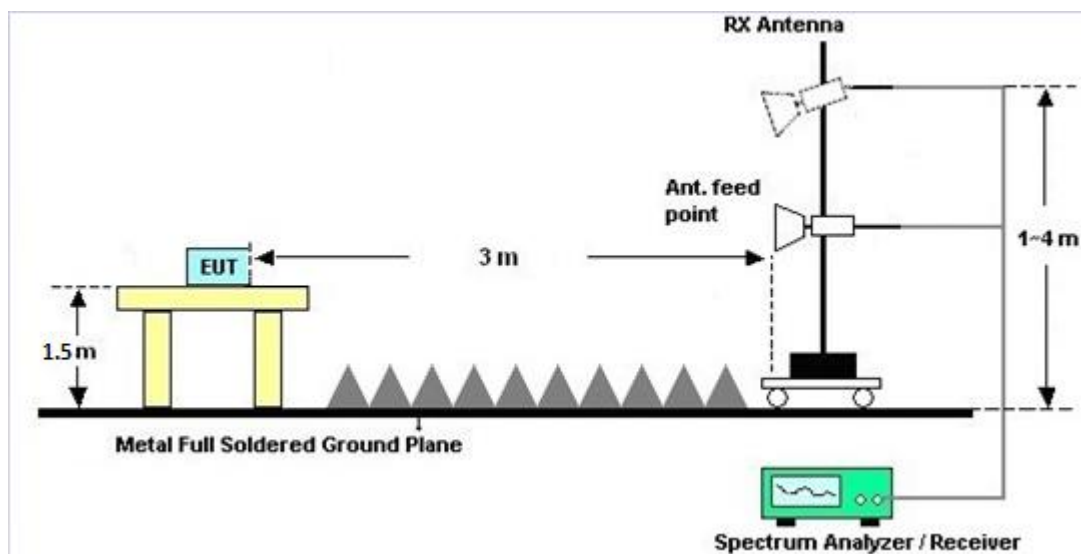
For radiated emissions below 30MHz



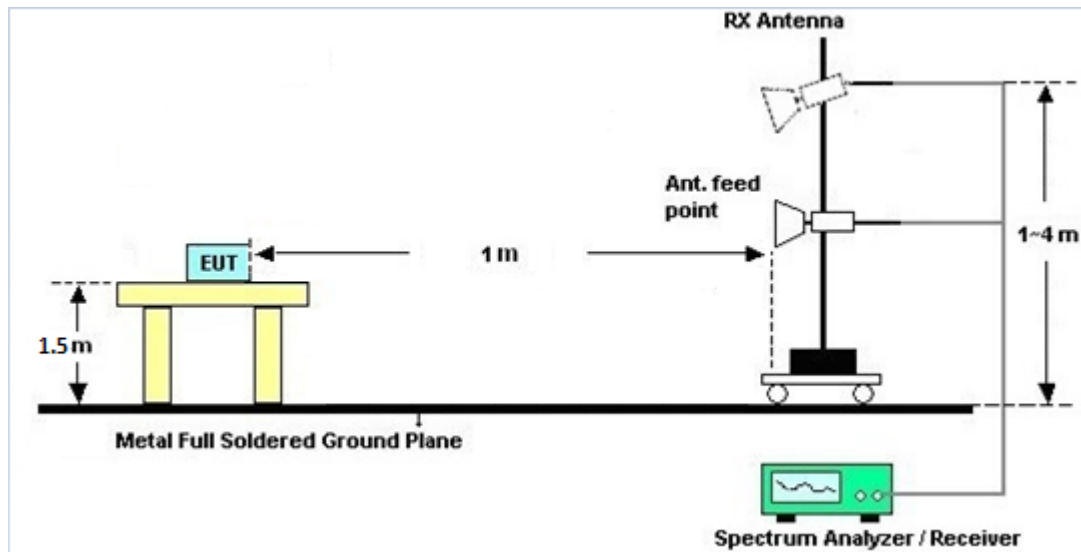
For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



For radiated emissions above 18GHz



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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

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.

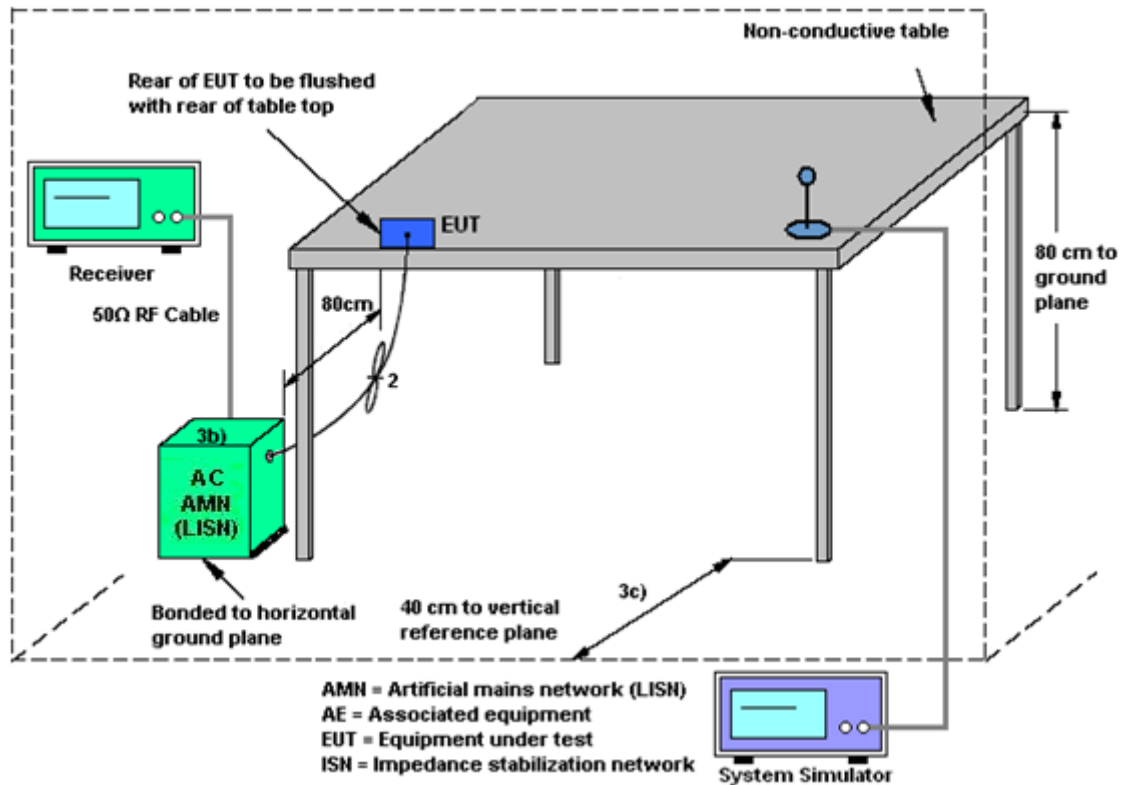
3.5.2 Measuring Instruments

See list of measuring equipment 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

See list of measuring equipment of this test report.

3.6.3 Test Result of Automatically Discontinue Transmission

EUT is verified this characteristic during the function check of normal sample associated with an access point:

- A. Information start: make EUT supply information to the access point.
- B. Information stop: stop supplying information to the access point.

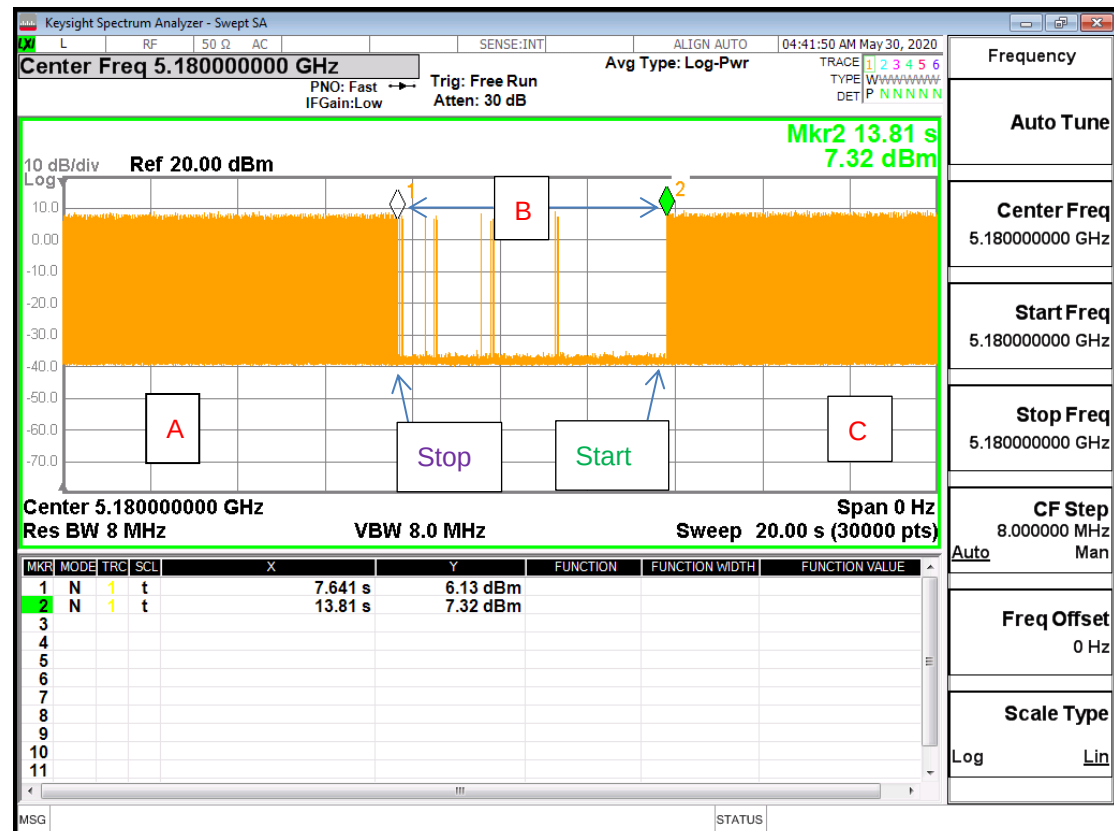
While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

- C. Information start: make EUT supply information to the access point again.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



5180MHz



Note: The control / signalling information during the period B is precluded.

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(\text{NANT}/\text{NSS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $\text{NANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 4 (dBi)	Ant. 3 (dBi)				
Band I	-0.60	-0.20	-0.20	2.61	0.00	0.00
Band II	-0.80	-0.40	-0.40	2.41	0.00	0.00
Band III	-1.50	-0.70	-0.70	1.92	0.00	0.00

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	35419 & 03	30MHz~1GHz	Apr. 29, 2020	May 15, 2020~Jun. 19, 2020	Apr. 28, 2021	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 06, 2019	May 15, 2020~Jun. 19, 2020	Dec. 05, 2020	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A (MXE)	MY53290053	20Hz~26.5GHz	Jan. 18, 2020	May 15, 2020~Jun. 19, 2020	Jan. 17, 2021	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Dec. 26, 2019	May 15, 2020~Jun. 19, 2020	Dec. 25, 2020	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 23, 2020	May 15, 2020~Jun. 19, 2020	Apr. 22, 2021	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	May 20, 2019	May 15, 2020~May 18, 2020	May 19, 2020	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	May 19, 2020	May 19, 2020~Jun. 19, 2020	May 18, 2021	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Nov. 01, 2019	May 15, 2020~Jun. 19, 2020	Oct. 31, 2020	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2,8 01606/2	18GHz~40GHz	Feb. 25, 2020	May 15, 2020~Jun. 19, 2020	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4, MY28655/4	9kHz~30MHz	Feb. 25, 2020	May 15, 2020~Jun. 19, 2020	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	30MHz~1GHz	Feb. 25, 2020	May 15, 2020~Jun. 19, 2020	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	1GHz~18GHz	Feb. 25, 2020	May 15, 2020~Jun. 19, 2020	Feb. 24, 2021	Radiation (03CH07-HY)
Controller	ChainTek	Chaintek 3000	N/A	Control Turn table	N/A	May 15, 2020~Jun. 19, 2020	N/A	Radiation (03CH07-HY)
Controller	Max-Full	MF7802	MF780208368	Control Ant Mast	N/A	May 15, 2020~Jun. 19, 2020	N/A	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	May 15, 2020~Jun. 19, 2020	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	May 15, 2020~Jun. 19, 2020	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	N/A	May 15, 2020~Jun. 19, 2020	N/A	Radiation (03CH07-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 28, 2019	May 15, 2020~Jun. 19, 2020	Oct. 27, 2020	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz~40GHz	Dec. 10, 2019	May 15, 2020~Jun. 19, 2020	Dec. 09, 2020	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	N/A	N/A	N/A	May 15, 2020~Jun. 19, 2020	N/A	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 13, 2019	May 15, 2020~Jun. 19, 2020	Dec. 12, 2020	Radiation (03CH07-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 19, 2020	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 15, 2019	May 19, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 07, 2019	May 19, 2020	Nov. 06, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 20, 2019	May 19, 2020	Nov. 19, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 15, 2019	May 19, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 19, 2020	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 02, 2020	May 19, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 02, 2020	May 19, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H2	41410069	N/A	Jun. 17, 2019	May 08, 2020~ May 27, 2020	Jun. 16, 2020	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SN O10	10MHz~6GHz	Dec. 23, 2019	May 08, 2020~ May 27, 2020	Dec. 22, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Aug. 14, 2019	May 08, 2020~ May 27, 2020	Aug. 13, 2020	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Aug. 22, 2019	May 08, 2020~ May 27, 2020	Aug. 21, 2020	Conducted (TH05-HY)
Power Supply	GW Instek	SPS-606	GES842931	NA	Aug. 19, 2019	May 08, 2020~ May 27, 2020	Aug. 18, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Keysight	N9010A	MY5607041 2	10Hz~7GHz	Aug. 27, 2019	May 30, 2020	Aug. 26, 2020	Conducted (TH05-HY)

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.6
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.3
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Kathy Chen	Temperature:	20.1~22.1	°C
Test Date:	2020/05/08~2020/05/27	Relative Humidity:	45.7~58.8	%

TEST RESULTS DATA
26dB and 99% OBW

Band I MIMO													
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 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	
11a	6Mbps	2	36	5180	16.70	16.75	24.70	25.00	-	-	22.23	-	
11a	6Mbps	2	44	5220	16.75	16.75	24.80	25.70	-	-	22.24	-	
11a	6Mbps	2	48	5240	16.75	16.75	24.60	25.30	-	-	22.24	-	
HT20	MCS0	2	36	5180	18.00	17.95	26.80	27.30	-	-	22.54	-	
HT20	MCS0	2	44	5220	17.95	18.00	26.10	28.17	-	-	22.54	-	
HT20	MCS0	2	48	5240	18.05	18.00	26.60	27.20	-	-	22.55	-	
HT40	MCS0	2	38	5190	36.70	36.50	41.76	41.84	-	-	23.01	-	
HT40	MCS0	2	46	5230	36.70	36.60	41.66	41.76	-	-	23.01	-	
VHT80	MCS0	2	42	5210	76.44	76.56	83.84	82.88	-	-	23.01	-	

TEST RESULTS DATA
Average Power Table

FCC Band I single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	1	36	5180	17.20	16.90		24.00	24.00	-0.60	-0.20		Pass
11a	6Mbps	1	44	5220	17.10	17.00		24.00	24.00	-0.60	-0.20		Pass
11a	6Mbps	1	48	5240	17.20	16.60		24.00	24.00	-0.60	-0.20		Pass
HT20	MCS0	1	36	5180	17.30	17.20		24.00	24.00	-0.60	-0.20		Pass
HT20	MCS0	1	44	5220	17.30	17.30		24.00	24.00	-0.60	-0.20		Pass
HT20	MCS0	1	48	5240	17.30	16.90		24.00	24.00	-0.60	-0.20		Pass
HT40	MCS0	1	38	5190	13.40	13.00		24.00	24.00	-0.60	-0.20		Pass
HT40	MCS0	1	46	5230	17.30	17.00		24.00	24.00	-0.60	-0.20		Pass
VHT20	MCS0	1	36	5180	17.20	17.10		24.00	24.00	-0.60	-0.20		Pass
VHT20	MCS0	1	44	5220	17.20	17.20		24.00	24.00	-0.60	-0.20		Pass
VHT20	MCS0	1	48	5240	17.20	16.80		24.00	24.00	-0.60	-0.20		Pass
VHT40	MCS0	1	38	5190	13.30	12.90		24.00	24.00	-0.60	-0.20		Pass
VHT40	MCS0	1	46	5230	17.20	16.90		24.00	24.00	-0.60	-0.20		Pass
VHT80	MCS0	1	42	5210	12.70	12.80		24.00	24.00	-0.60	-0.20		Pass

FCC Band I MIMO													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	36	5180	17.30	17.00	20.16	24.00		-0.20			Pass
11a	6Mbps	2	44	5220	17.20	17.10	20.16	24.00		-0.20			Pass
11a	6Mbps	2	48	5240	17.30	16.70	20.02	24.00		-0.20			Pass
HT20	MCS0	2	36	5180	17.40	17.30	20.36	24.00		-0.20			Pass
HT20	MCS0	2	44	5220	17.40	17.40	20.41	24.00		-0.20			Pass
HT20	MCS0	2	48	5240	17.40	17.00	20.21	24.00		-0.20			Pass
HT40	MCS0	2	38	5190	13.50	13.10	16.31	24.00		-0.20			Pass
HT40	MCS0	2	46	5230	17.40	17.10	20.26	24.00		-0.20			Pass
VHT20	MCS0	2	36	5180	17.30	17.20	20.26	24.00		-0.20			Pass
VHT20	MCS0	2	44	5220	17.30	17.30	20.31	24.00		-0.20			Pass
VHT20	MCS0	2	48	5240	17.30	16.90	20.11	24.00		-0.20			Pass
VHT40	MCS0	2	38	5190	13.40	13.00	16.21	24.00		-0.20			Pass
VHT40	MCS0	2	46	5230	17.30	17.00	20.16	24.00		-0.20			Pass
VHT80	MCS0	2	42	5210	12.80	12.90	15.86	24.00		-0.20			Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I MIMO													
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	36	5180			10.73	11.00	2.61			Pass	
11a	6Mbps	2	44	5220			10.55	11.00	2.61		Pass		
11a	6Mbps	2	48	5240			10.60	11.00	2.61		Pass		
HT20	MCS0	2	36	5180			10.73	11.00	2.61		Pass		
HT20	MCS0	2	44	5220			10.59	11.00	2.61		Pass		
HT20	MCS0	2	48	5240			10.63	11.00	2.61		Pass		
HT40	MCS0	2	38	5190			3.17	11.00	2.61		Pass		
HT40	MCS0	2	46	5230			7.45	11.00	2.61		Pass		
VHT80	MCS0	2	42	5210			0.98	11.00	2.61		Pass		

TEST RESULTS DATA
26dB and 99% OBW

Band II MIMO															
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 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	
11a	6Mbps	2	52	5260	16.75	16.70	25.00	25.40	23.23		29.23		23.98		
11a	6Mbps	2	60	5300	16.75	16.80	25.40	25.40	23.24		29.24		23.98		
11a	6Mbps	2	64	5320	16.80	16.80	25.20	25.70	23.25		29.25		23.98		
HT20	MCS0	2	52	5260	17.95	18.00	26.40	26.00	23.54		29.54		23.98		
HT20	MCS0	2	60	5300	17.90	17.95	26.50	27.20	23.53		29.53		23.98		
HT20	MCS0	2	64	5320	18.00	17.95	26.60	27.40	23.54		29.54		23.98		
HT40	MCS0	2	54	5270	36.70	36.70	41.48	41.91	23.98		30.00		23.98		
HT40	MCS0	2	62	5310	36.50	36.60	41.76	41.62	23.98		30.00		23.98		
VHT80	MCS0	2	58	5290	76.68	76.80	84.04	83.00	23.98		30.00		23.98		

TEST RESULTS DATA
Average Power Table

FCC Band II single antenna													
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 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	1	52	5260	17.30	16.50		23.98	23.98	-0.80	-0.40	30	Pass
11a	6Mbps	1	60	5300	17.30	16.70		23.98	23.98	-0.80	-0.40	30	Pass
11a	6Mbps	1	64	5320	17.30	16.80		23.98	23.98	-0.80	-0.40	30	Pass
HT20	MCS0	1	52	5260	17.30	16.70		23.98	23.98	-0.80	-0.40	30	Pass
HT20	MCS0	1	60	5300	17.30	16.70		23.98	23.98	-0.80	-0.40	30	Pass
HT20	MCS0	1	64	5320	17.30	16.80		23.98	23.98	-0.80	-0.40	30	Pass
HT40	MCS0	1	54	5270	17.30	16.90		23.98	23.98	-0.80	-0.40	30	Pass
HT40	MCS0	1	62	5310	13.70	13.50		23.98	23.98	-0.80	-0.40	30	Pass
VHT20	MCS0	1	52	5260	17.20	16.60		23.98	23.98	-0.80	-0.40	30	Pass
VHT20	MCS0	1	60	5300	17.20	16.60		23.98	23.98	-0.80	-0.40	30	Pass
VHT20	MCS0	1	64	5320	17.20	16.70		23.98	23.98	-0.80	-0.40	30	Pass
VHT40	MCS0	1	54	5270	17.20	16.80		23.98	23.98	-0.80	-0.40	30	Pass
VHT40	MCS0	1	62	5310	13.60	13.40		23.98	23.98	-0.80	-0.40	30	Pass
VHT80	MCS0	1	58	5290	11.90	11.70		23.98	23.98	-0.80	-0.40	30	Pass

FCC Band II MIMO													
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 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	52	5260	17.40	16.60	20.03	23.98		-0.40		30	Pass
11a	6Mbps	2	60	5300	17.40	16.80	20.12	23.98		-0.40		30	Pass
11a	6Mbps	2	64	5320	17.40	16.90	20.17	23.98		-0.40		30	Pass
HT20	MCS0	2	52	5260	17.40	16.80	20.12	23.98		-0.40		30	Pass
HT20	MCS0	2	60	5300	17.40	16.80	20.12	23.98		-0.40		30	Pass
HT20	MCS0	2	64	5320	17.40	16.90	20.17	23.98		-0.40		30	Pass
HT40	MCS0	2	54	5270	17.40	17.00	20.21	23.98		-0.40		30	Pass
HT40	MCS0	2	62	5310	13.80	13.60	16.71	23.98		-0.40		30	Pass
VHT20	MCS0	2	52	5260	17.30	16.70	20.02	23.98		-0.40		30	Pass
VHT20	MCS0	2	60	5300	17.30	16.70	20.02	23.98		-0.40		30	Pass
VHT20	MCS0	2	64	5320	17.30	16.80	20.07	23.98		-0.40		30	Pass
VHT40	MCS0	2	54	5270	17.30	16.90	20.11	23.98		-0.40		30	Pass
VHT40	MCS0	2	62	5310	13.70	13.50	16.61	23.98		-0.40		30	Pass
VHT80	MCS0	2	58	5290	12.00	11.80	14.91	23.98		-0.40		30	Pass

TEST RESULTS DATA
Power Spectral Density

Band II MIMO													
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	52	5260			10.60	11.00	2.41			Pass	
11a	6Mbps	2	60	5300			10.86	11.00	2.41			Pass	
11a	6Mbps	2	64	5320			10.73	11.00	2.41			Pass	
HT20	MCS0	2	52	5260			10.59	11.00	2.41			Pass	
HT20	MCS0	2	60	5300			10.76	11.00	2.41			Pass	
HT20	MCS0	2	64	5320			10.71	11.00	2.41			Pass	
HT40	MCS0	2	54	5270			7.13	11.00	2.41			Pass	
HT40	MCS0	2	62	5310			3.87	11.00	2.41			Pass	
VHT80	MCS0	2	58	5290			0.09	11.00	2.41			Pass	

TEST RESULTS DATA
26dB and 99% OBW

Band III MIMO																
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 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3
11a	6Mbps	2	100	5500	16.80	16.85	25.00	26.90	23.25		29.25		23.98		----	----
11a	6Mbps	2	116	5580	16.75	17.05	25.20	27.90	23.24		29.24		23.98		----	----
11a	6Mbps	2	140	5700	16.85	16.90	25.30	26.30	23.27		29.27		23.98		----	----
HT20	MCS0	2	100	5500	17.95	18.05	26.20	28.30	23.54		29.54		23.98		----	----
HT20	MCS0	2	116	5580	17.95	18.05	26.50	28.50	23.54		29.54		23.98		----	----
HT20	MCS0	2	140	5700	18.10	18.10	29.00	28.90	23.58		29.58		23.98		----	----
HT40	MCS0	2	102	5510	36.60	36.70	41.78	41.58	23.98		30.00		23.98		----	----
HT40	MCS0	2	110	5550	36.60	36.70	41.76	42.01	23.98		30.00		23.98		----	----
HT40	MCS0	2	134	5670	36.70	36.70	41.84	41.99	23.98		30.00		23.98		----	----
VHT80	MCS0	2	106	5530	76.56	76.68	83.61	82.88	23.98		30.00		23.98		----	----
VHT80	MCS0	2	122	5610	76.92	76.92	83.20	117.76	23.98		30.00		23.98		----	----

Band III straddle channel MIMO																
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 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3	Ant 4	Ant 3
11a	6Mbps	2	144	5720	13.45	13.40	17.20	17.65	22.27		28.27		23.36		2.55	2.55
HT20	MCS0	2	144	5720	14.00	14.00	18.15	18.50	22.46		28.46		23.59		2.5	3.1
HT40	MCS0	2	142	5710	33.40	33.30	35.80	36.15	23.98		30.00		23.98		2.46	2.55
VHT80	MCS0	2	138	5690	73.52	73.64	76.76	92.28	23.98		30.00		23.98		2.6	2.6

TEST RESULTS DATA
Average Power Table

FCC Band III single antenna													
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 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	1	100	5500	17.30	16.90		23.98	23.98	-1.50	-0.70	30	Pass
11a	6Mbps	1	116	5580	17.30	17.30		23.98	23.98	-1.50	-0.70	30	Pass
11a	6Mbps	1	140	5700	17.30	16.50		23.98	23.98	-1.50	-0.70	30	Pass
HT20	MCS0	1	100	5500	17.20	17.00		23.98	23.98	-1.50	-0.70	30	Pass
HT20	MCS0	1	116	5580	17.30	17.30		23.98	23.98	-1.50	-0.70	30	Pass
HT20	MCS0	1	140	5700	17.80	17.00		23.98	23.98	-1.50	-0.70	30	Pass
HT40	MCS0	1	102	5510	15.60	15.40		23.98	23.98	-1.50	-0.70	30	Pass
HT40	MCS0	1	110	5550	17.30	16.90		23.98	23.98	-1.50	-0.70	30	Pass
HT40	MCS0	1	134	5670	17.30	16.70		23.98	23.98	-1.50	-0.70	30	Pass
VHT20	MCS0	1	100	5500	17.10	16.90		23.98	23.98	-1.50	-0.70	30	Pass
VHT20	MCS0	1	116	5580	17.20	17.20		23.98	23.98	-1.50	-0.70	30	Pass
VHT20	MCS0	1	140	5700	17.70	16.90		23.98	23.98	-1.50	-0.70	30	Pass
VHT40	MCS0	1	102	5510	15.50	15.30		23.98	23.98	-1.50	-0.70	30	Pass
VHT40	MCS0	1	110	5550	17.20	16.80		23.98	23.98	-1.50	-0.70	30	Pass
VHT40	MCS0	1	134	5670	17.20	16.60		23.98	23.98	-1.50	-0.70	30	Pass
VHT80	MCS0	1	106	5530	11.90	12.10		23.98	23.98	-1.50	-0.70	30	Pass
VHT80	MCS0	1	122	5610	16.80	16.60		23.98	23.98	-1.50	-0.70	30	Pass

FCC Band III MIMO													
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 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	100	5500	17.40	17.00	20.21	23.98		-0.70		30	Pass
11a	6Mbps	2	116	5580	17.40	17.40	20.41	23.98		-0.70		30	Pass
11a	6Mbps	2	140	5700	17.40	16.60	20.03	23.98		-0.70		30	Pass
HT20	MCS0	2	100	5500	17.30	17.10	20.21	23.98		-0.70		30	Pass
HT20	MCS0	2	116	5580	17.40	17.40	20.41	23.98		-0.70		30	Pass
HT20	MCS0	2	140	5700	17.90	17.10	20.53	23.98		-0.70		30	Pass
HT40	MCS0	2	102	5510	15.70	15.50	18.61	23.98		-0.70		30	Pass
HT40	MCS0	2	110	5550	17.40	17.00	20.21	23.98		-0.70		30	Pass
HT40	MCS0	2	134	5670	17.40	16.80	20.12	23.98		-0.70		30	Pass
VHT20	MCS0	2	100	5500	17.20	17.00	20.11	23.98		-0.70		30	Pass
VHT20	MCS0	2	116	5580	17.30	17.30	20.31	23.98		-0.70		30	Pass
VHT20	MCS0	2	140	5700	17.80	17.00	20.43	23.98		-0.70		30	Pass
VHT40	MCS0	2	102	5510	15.60	15.40	18.51	23.98		-0.70		30	Pass
VHT40	MCS0	2	110	5550	17.30	16.90	20.11	23.98		-0.70		30	Pass
VHT40	MCS0	2	134	5670	17.30	16.70	20.02	23.98		-0.70		30	Pass
VHT80	MCS0	2	106	5530	12.00	12.20	15.11	23.98		-0.70		30	Pass
VHT80	MCS0	2	122	5610	16.90	16.70	19.81	23.98		-0.70		30	Pass

FCC Band III straddle channel single antenna													
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 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	1	144	5720	17.30	16.70		23.36	23.47	-1.50	-0.70	30	Pass
HT20	MCS0	1	144	5720	17.30	16.80		23.59	23.67	-1.50	-0.70	30	Pass
HT40	MCS0	1	142	5710	17.30	16.70		23.98	23.98	-1.50	-0.70	30	Pass
VHT20	MCS0	1	144	5720	17.20	16.70		23.59	23.67	-1.50	-0.70	30	Pass
VHT40	MCS0	1	142	5710	17.20	16.60		23.98	23.98	-1.50	-0.70	30	Pass
VHT80	MCS0	1	138	5690	16.80	16.00		23.98	23.98	-1.50	-0.70	30	Pass

FCC Band III straddle channel MIMO													
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 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3		
11a	6Mbps	2	144	5720	17.40	16.80	20.12	23.36		-0.70		30	Pass
HT20	MCS0	2	144	5720	17.40	16.90	20.17	23.59		-0.70		30	Pass
HT40	MCS0	2	142	5710	17.40	16.80	20.12	23.98		-0.70		30	Pass
VHT20	MCS0	2	144	5720	17.30	16.80	20.07	23.59		-0.70		30	Pass
VHT40	MCS0	2	142	5710	17.30	16.70	20.02	23.98		-0.70		30	Pass
VHT80	MCS0	2	138	5690	16.90	16.10	19.53	23.98		-0.70		30	Pass

TEST RESULTS DATA
Power Spectral Density

Band III MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3	
11a	6Mbps	2	100	5500			10.80	11.00		1.92		Pass
11a	6Mbps	2	116	5580			10.80	11.00		1.92		Pass
11a	6Mbps	2	140	5700			10.66	11.00		1.92		Pass
HT20	MCS0	2	100	5500			10.55	11.00		1.92		Pass
HT20	MCS0	2	116	5580			10.68	11.00		1.92		Pass
HT20	MCS0	2	140	5700			10.85	11.00		1.92		Pass
HT40	MCS0	2	102	5510			5.76	11.00		1.92		Pass
HT40	MCS0	2	110	5550			7.35	11.00		1.92		Pass
HT40	MCS0	2	134	5670			7.08	11.00		1.92		Pass
VHT80	MCS0	2	106	5530			0.31	11.00		1.92		Pass
VHT80	MCS0	2	122	5610			5.17	11.00		1.92		Pass

Band III straddle channel MIMO												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 4	Ant 3	SUM	Ant 4	Ant 3	Ant 4	Ant 3	
11a	6Mbps	2	144	5720			10.61	11.00		1.92		Pass
HT20	MCS0	2	144	5720			10.86	11.00		1.92		Pass
HT40	MCS0	2	142	5710			7.04	11.00		1.92		Pass
VHT80	MCS0	2	138	5690			4.64	11.00		1.92		Pass



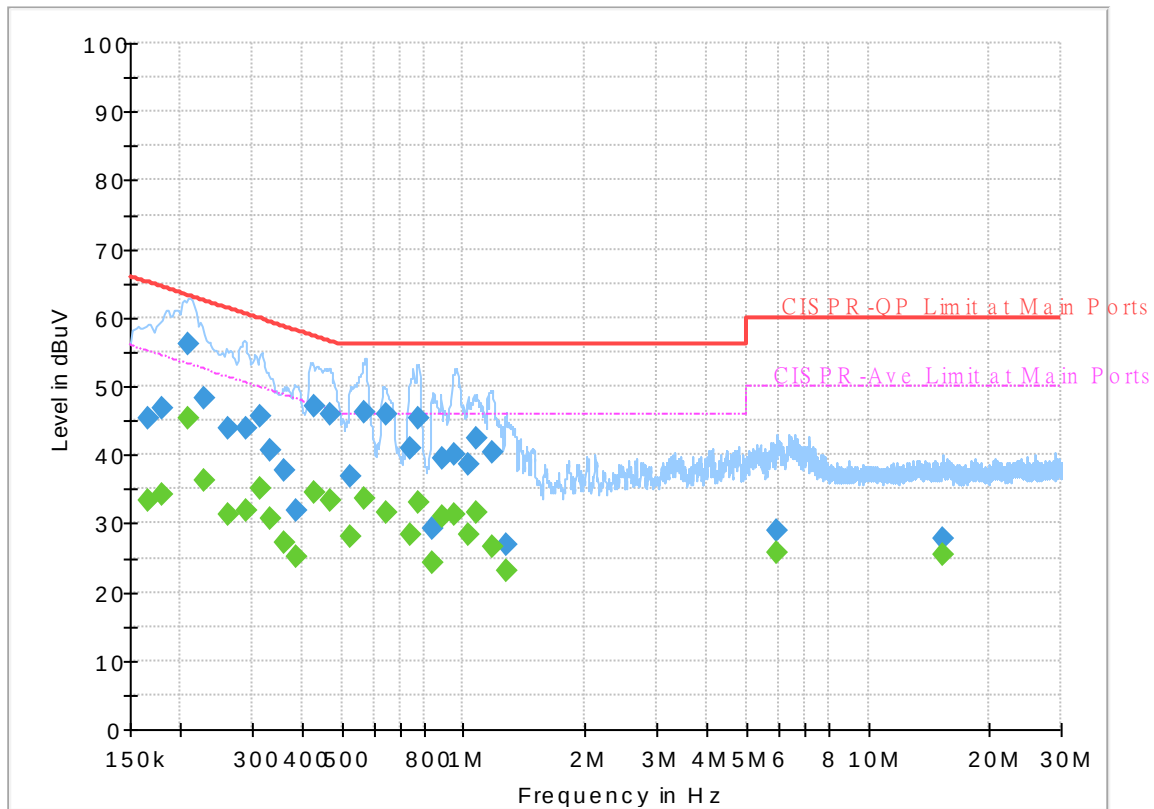
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Howard Huang	Temperature :	21~25°C
		Relative Humidity :	42~45%

EUT Information

Report NO : 022521-02
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



Final_Result

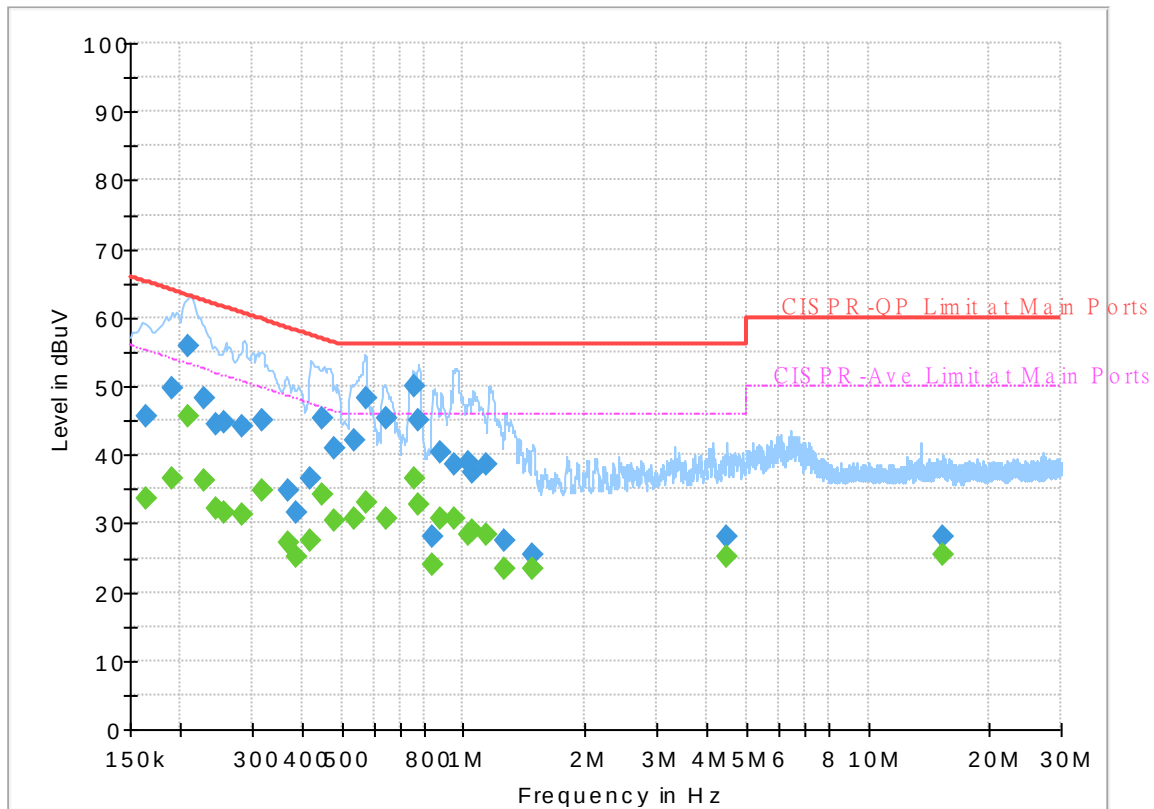
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.165750	---	33.30	55.17	21.87	L1	OFF	19.6
0.165750	45.37	---	65.17	19.80	L1	OFF	19.6
0.179250	---	34.31	54.52	20.21	L1	OFF	19.6
0.179250	46.88	---	64.52	17.64	L1	OFF	19.6
0.209580	---	45.46	53.22	7.76	L1	OFF	19.6
0.209580	56.01	---	63.22	7.21	L1	OFF	19.6
0.228750	---	36.28	52.50	16.22	L1	OFF	19.6
0.228750	48.34	---	62.50	14.16	L1	OFF	19.6
0.262500	---	31.27	51.35	20.08	L1	OFF	19.6
0.262500	43.91	---	61.35	17.44	L1	OFF	19.6
0.291750	---	31.84	50.47	18.63	L1	OFF	19.6
0.291750	43.85	---	60.47	16.62	L1	OFF	19.6
0.313800	---	35.00	49.87	14.87	L1	OFF	19.6
0.313800	45.71	---	59.87	14.16	L1	OFF	19.6
0.334590	---	30.59	49.34	18.75	L1	OFF	19.6
0.334590	40.68	---	59.34	18.66	L1	OFF	19.6
0.361590	---	27.33	48.69	21.36	L1	OFF	19.6
0.361590	37.64	---	58.69	21.05	L1	OFF	19.6
0.386250	---	25.23	48.14	22.91	L1	OFF	19.6
0.386250	31.97	---	58.14	26.17	L1	OFF	19.6
0.429000	---	34.41	47.27	12.86	L1	OFF	19.6

0.429000	47.08	---	57.27	10.19	L1	OFF	19.6
0.471120	---	33.21	46.49	13.28	L1	OFF	19.6
0.471120	46.00	---	56.49	10.49	L1	OFF	19.6
0.528000	---	28.02	46.00	17.98	L1	OFF	19.6
0.528000	36.71	---	56.00	19.29	L1	OFF	19.6
0.566700	---	33.60	46.00	12.40	L1	OFF	19.6
0.566700	46.12	---	56.00	9.88	L1	OFF	19.6
0.642750	---	31.70	46.00	14.30	L1	OFF	19.6
0.642750	45.95	---	56.00	10.05	L1	OFF	19.6
0.742380	---	28.43	46.00	17.57	L1	OFF	19.6
0.742380	40.87	---	56.00	15.13	L1	OFF	19.6
0.775320	---	33.18	46.00	12.82	L1	OFF	19.6
0.775320	45.30	---	56.00	10.70	L1	OFF	19.6
0.841920	---	24.23	46.00	21.77	L1	OFF	19.6
0.841920	29.26	---	56.00	26.74	L1	OFF	19.6
0.883500	---	30.97	46.00	15.03	L1	OFF	19.6
0.883500	39.61	---	56.00	16.39	L1	OFF	19.6
0.952800	---	31.29	46.00	14.71	L1	OFF	19.6
0.952800	40.13	---	56.00	15.87	L1	OFF	19.6
1.028670	---	28.34	46.00	17.66	L1	OFF	19.6
1.028670	38.66	---	56.00	17.34	L1	OFF	19.6
1.079610	---	31.53	46.00	14.47	L1	OFF	19.6
1.079610	42.46	---	56.00	13.54	L1	OFF	19.6
1.173750	---	26.68	46.00	19.32	L1	OFF	19.6
1.173750	40.46	---	56.00	15.54	L1	OFF	19.6
1.272750	---	23.10	46.00	22.90	L1	OFF	19.6
1.272750	27.03	---	56.00	28.97	L1	OFF	19.6
5.973000	---	25.71	50.00	24.29	L1	OFF	19.9
5.973000	28.98	---	60.00	31.02	L1	OFF	19.9
15.258750	---	25.51	50.00	24.49	L1	OFF	20.2
15.258750	27.79	---	60.00	32.21	L1	OFF	20.2

EUT Information

Report NO : 022521-02
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.165030	---	33.57	55.21	21.64	N	OFF	19.6
0.165030	45.75	---	65.21	19.46	N	OFF	19.6
0.190500	---	36.42	54.02	17.60	N	OFF	19.6
0.190500	49.75	---	64.02	14.27	N	OFF	19.6
0.209400	---	45.53	53.23	7.70	N	OFF	19.6
0.209400	55.93	---	63.23	7.30	N	OFF	19.6
0.228750	---	36.40	52.50	16.10	N	OFF	19.6
0.228750	48.33	---	62.50	14.17	N	OFF	19.6
0.244500	---	32.10	51.94	19.84	N	OFF	19.6
0.244500	44.47	---	61.94	17.47	N	OFF	19.6
0.254940	---	31.67	51.60	19.93	N	OFF	19.6
0.254940	44.83	---	61.60	16.77	N	OFF	19.6
0.284460	---	31.29	50.69	19.40	N	OFF	19.6
0.284460	44.03	---	60.69	16.66	N	OFF	19.6
0.317220	---	34.82	49.78	14.96	N	OFF	19.6
0.317220	45.10	---	59.78	14.68	N	OFF	19.6
0.368070	---	27.24	48.54	21.30	N	OFF	19.6
0.368070	34.66	---	58.54	23.88	N	OFF	19.6
0.386250	---	25.13	48.14	23.01	N	OFF	19.6
0.386250	31.63	---	58.14	26.51	N	OFF	19.6
0.417030	---	27.63	47.51	19.88	N	OFF	19.6

0.417030	36.66	---	57.51	20.85	N	OFF	19.6
0.447000	---	34.14	46.93	12.79	N	OFF	19.6
0.447000	45.18	---	56.93	11.75	N	OFF	19.6
0.480750	---	30.43	46.33	15.90	N	OFF	19.6
0.480750	40.99	---	56.33	15.34	N	OFF	19.6
0.534840	---	30.62	46.00	15.38	N	OFF	19.6
0.534840	42.19	---	56.00	13.81	N	OFF	19.6
0.575250	---	33.03	46.00	12.97	N	OFF	19.6
0.575250	48.19	---	56.00	7.81	N	OFF	19.6
0.641580	---	30.80	46.00	15.20	N	OFF	19.6
0.641580	45.39	---	56.00	10.61	N	OFF	19.6
0.755250	---	36.53	46.00	9.47	N	OFF	19.6
0.755250	49.92	---	56.00	6.08	N	OFF	19.6
0.771720	---	32.72	46.00	13.28	N	OFF	19.6
0.771720	44.90	---	56.00	11.10	N	OFF	19.6
0.837330	---	23.95	46.00	22.05	N	OFF	19.6
0.837330	27.99	---	56.00	28.01	N	OFF	19.6
0.876750	---	30.73	46.00	15.27	N	OFF	19.6
0.876750	40.25	---	56.00	15.75	N	OFF	19.6
0.949020	---	30.56	46.00	15.44	N	OFF	19.6
0.949020	38.56	---	56.00	17.44	N	OFF	19.6
1.029390	---	28.32	46.00	17.68	N	OFF	19.6
1.029390	38.98	---	56.00	17.02	N	OFF	19.6
1.055940	---	28.90	46.00	17.10	N	OFF	19.6
1.055940	37.30	---	56.00	18.70	N	OFF	19.6
1.144500	---	28.26	46.00	17.74	N	OFF	19.6
1.144500	38.73	---	56.00	17.27	N	OFF	19.6
1.268250	---	23.27	46.00	22.73	N	OFF	19.6
1.268250	27.52	---	56.00	28.48	N	OFF	19.6
1.484250	---	23.38	46.00	22.62	N	OFF	19.6
1.484250	25.48	---	56.00	30.52	N	OFF	19.6
4.465500	---	25.21	46.00	20.79	N	OFF	19.8
4.465500	27.93	---	56.00	28.07	N	OFF	19.8
15.336330	---	25.58	50.00	24.42	N	OFF	20.2
15.336330	27.93	---	60.00	32.07	N	OFF	20.2



Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh and Ken Wu	Temperature :	21~23°C
		Relative Humidity :	50~57%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5148.46	54.75	-19.25	74	44.21	34.4	11.56	35.42	100	283	P	H
		5150	50.01	-3.99	54	39.47	34.4	11.56	35.42	100	283	A	H
	*	5180	110.68	-	-	100.04	34.47	11.58	35.41	100	283	P	H
	*	5180	103.56	-	-	92.92	34.47	11.58	35.41	100	283	A	H
													H
													H
		5150	55.88	-18.12	74	45.34	34.4	11.56	35.42	375	220	P	V
		5150	47.12	-6.88	54	36.58	34.4	11.56	35.42	375	220	A	V
	*	5180	108.86	-	-	98.22	34.47	11.58	35.41	375	220	P	V
	*	5180	101.91	-	-	91.27	34.47	11.58	35.41	375	220	A	V
													V
													V
802.11a CH 44 5220MHz		5051.48	49.43	-24.57	74	39.31	34.1	11.47	35.45	108	283	P	H
		5148.2	41.95	-12.05	54	31.41	34.4	11.56	35.42	108	283	A	H
	*	5220	109.67	-	-	98.95	34.5	11.62	35.4	108	283	P	H
	*	5220	102.18	-	-	91.46	34.5	11.62	35.4	108	283	A	H
		5410.16	47.29	-26.71	74	36.1	34.7	11.82	35.33	108	283	P	H
		5457.48	39.4	-14.6	54	28.13	34.7	11.88	35.31	108	283	A	H
		5078.26	49.16	-24.84	74	38.87	34.23	11.5	35.44	390	222	P	V
		5123.24	40.41	-13.59	54	29.94	34.37	11.53	35.43	390	222	A	V
	*	5220	108.11	-	-	97.39	34.5	11.62	35.4	390	222	P	V
	*	5220	101.04	-	-	90.32	34.5	11.62	35.4	390	222	A	V
		5440.4	47.87	-26.13	74	36.63	34.7	11.86	35.32	390	222	P	V
		5428.92	39.29	-14.71	54	28.07	34.7	11.84	35.32	390	222	A	V



802.11a CH 48 5240MHz		5132.6	48.66	-25.34	74	38.17	34.37	11.54	35.42	101	286	P	H
		5149.24	40.86	-13.14	54	30.32	34.4	11.56	35.42	101	286	A	H
	*	5240	109.82	-	-	99.07	34.5	11.64	35.39	101	286	P	H
	*	5240	102.57	-	-	91.82	34.5	11.64	35.39	101	286	A	H
		5352.76	48.79	-25.21	74	37.88	34.5	11.76	35.35	101	286	P	H
		5458.88	39.5	-14.5	54	28.23	34.7	11.88	35.31	101	286	A	H
		5102.7	49.8	-24.2	74	39.42	34.3	11.52	35.44	388	222	P	V
		5116.48	40.13	-13.87	54	29.7	34.33	11.53	35.43	388	222	A	V
	*	5240	108.87	-	-	98.12	34.5	11.64	35.39	388	222	P	V
	*	5240	101.07	-	-	90.32	34.5	11.64	35.39	388	222	A	V
		5432.56	47.38	-26.62	74	36.15	34.7	11.85	35.32	388	222	P	V
		5457.2	39.4	-14.6	54	28.13	34.7	11.88	35.31	388	222	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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	43.96	-24.24	68.2	47.94	37.47	17.58	59.03	100	0	P	H
		15540	46.48	-27.52	74	41.5	40.1	21.65	56.77	100	0	P	H
													H
													H
		10360	43.53	-24.67	68.2	47.51	37.47	17.58	59.03	100	0	P	V
		15540	46.06	-27.94	74	41.08	40.1	21.65	56.77	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	45.14	-23.06	68.2	48.93	37.53	17.65	58.97	100	0	P	H
		15660	46.8	-27.2	74	41.37	40.45	21.73	56.75	100	0	P	H
													H
													H
		10440	45.37	-22.83	68.2	49.16	37.53	17.65	58.97	100	0	P	V
		15660	45.97	-28.03	74	40.54	40.45	21.73	56.75	100	0	P	V
													V
													V
802.11a CH 48 5240MHz		10480	44.87	-23.33	68.2	48.55	37.58	17.68	58.94	100	0	P	H
		15720	47.7	-26.3	74	42.1	40.58	21.76	56.74	100	0	P	H
													H
													H
		10480	45.72	-22.48	68.2	49.4	37.58	17.68	58.94	100	0	P	V
		15720	47.19	-26.81	74	41.59	40.58	21.76	56.74	100	0	P	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5150	57.6	-16.4	74	47.06	34.4	11.56	35.42	105	285	P	H
		5149.76	51.04	-2.96	54	40.5	34.4	11.56	35.42	105	285	A	H
	*	5180	109.51	-	-	98.87	34.47	11.58	35.41	105	285	P	H
	*	5180	101.77	-	-	91.13	34.47	11.58	35.41	105	285	A	H
													H
													H
		5150	56.74	-17.26	74	46.2	34.4	11.56	35.42	400	222	P	V
		5150	49.94	-4.06	54	39.4	34.4	11.56	35.42	400	222	A	V
	*	5180	108.57	-	-	97.93	34.47	11.58	35.41	400	222	P	V
	*	5180	101.41	-	-	90.77	34.47	11.58	35.41	400	222	A	V
													V
													V
802.11n HT20 CH 44 5220MHz		5147.94	50.03	-23.97	74	39.49	34.4	11.56	35.42	100	307	P	H
		5149.5	41.35	-12.65	54	30.81	34.4	11.56	35.42	100	307	A	H
	*	5220	108.9	-	-	98.18	34.5	11.62	35.4	100	307	P	H
	*	5220	101.26	-	-	90.54	34.5	11.62	35.4	100	307	A	H
		5417.16	47.97	-26.03	74	36.77	34.7	11.83	35.33	100	307	P	H
		5454.68	39.82	-14.18	54	28.57	34.7	11.87	35.32	100	307	A	H
		5097.5	48.77	-25.23	74	38.4	34.3	11.51	35.44	391	221	P	V
		5110.76	40.54	-13.46	54	30.12	34.33	11.52	35.43	391	221	A	V
	*	5220	108.59	-	-	97.87	34.5	11.62	35.4	391	221	P	V
	*	5220	100.75	-	-	90.03	34.5	11.62	35.4	391	221	A	V
		5432	47.47	-26.53	74	36.24	34.7	11.85	35.32	391	221	P	V
		5445.72	39.47	-14.53	54	28.23	34.7	11.86	35.32	391	221	A	V



802.11n HT20 CH 48 5240MHz		5143.52	48.39	-25.61	74	37.86	34.4	11.55	35.42	102	286	P	H
		5148.72	40.64	-13.36	54	30.1	34.4	11.56	35.42	102	286	A	H
	*	5240	110.43	-	-	99.68	34.5	11.64	35.39	102	286	P	H
	*	5240	103.27	-	-	92.52	34.5	11.64	35.39	102	286	A	H
		5393.64	47.55	-26.45	74	36.46	34.63	11.8	35.34	102	286	P	H
		5357.52	39.53	-14.47	54	28.61	34.5	11.77	35.35	102	286	A	H
		5128.18	48.54	-25.46	74	38.06	34.37	11.54	35.43	388	222	P	V
		5134.68	40.27	-13.73	54	29.78	34.37	11.54	35.42	388	222	A	V
	*	5240	108.61	-	-	97.86	34.5	11.64	35.39	388	222	P	V
	*	5240	101.34	-	-	90.59	34.5	11.64	35.39	388	222	A	V
		5456.64	47.95	-26.05	74	36.68	34.7	11.88	35.31	388	222	P	V
		5450.2	39.38	-14.62	54	28.13	34.7	11.87	35.32	388	222	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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		10360	44.03	-24.17	68.2	48.01	37.47	17.58	59.03	100	0	P	H
		15540	46.1	-27.9	74	41.12	40.1	21.65	56.77	100	0	P	H
													H
													H
		10360	44.78	-23.42	68.2	48.76	37.47	17.58	59.03	100	0	P	V
		15540	46.58	-27.42	74	41.6	40.1	21.65	56.77	100	0	P	V
													V
													V
802.11n HT20 CH 44 5220MHz		10440	45.39	-22.81	68.2	49.18	37.53	17.65	58.97	100	0	P	H
		15660	46.26	-27.74	74	40.83	40.45	21.73	56.75	100	0	P	H
													H
													H
		10440	46.8	-21.4	68.2	50.59	37.53	17.65	58.97	100	0	P	V
		15660	45.62	-28.38	74	40.19	40.45	21.73	56.75	100	0	P	V
													V
													V
802.11n HT20 CH 48 5240MHz		10480	44.41	-23.79	68.2	48.09	37.58	17.68	58.94	100	0	P	H
		15720	47.2	-26.8	74	41.6	40.58	21.76	56.74	100	0	P	H
													H
													H
		10480	45.25	-22.95	68.2	48.93	37.58	17.68	58.94	100	0	P	V
		15720	48.53	-25.47	74	42.93	40.58	21.76	56.74	100	0	P	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.76	57.31	-16.69	74	46.77	34.4	11.56	35.42	108	281	P	H
		5149.76	52.06	-1.94	54	41.52	34.4	11.56	35.42	108	281	A	H
	*	5190	104.43	-	-	93.78	34.47	11.59	35.41	108	281	P	H
	*	5190	97.55	-	-	86.9	34.47	11.59	35.41	108	281	A	H
		5355.56	47.66	-26.34	74	36.75	34.5	11.76	35.35	108	281	P	H
		5448.8	40.44	-13.56	54	29.19	34.7	11.87	35.32	108	281	A	H
		5148.98	55.04	-18.96	74	44.5	34.4	11.56	35.42	373	220	P	V
		5150	47.81	-6.19	54	37.27	34.4	11.56	35.42	373	220	A	V
	*	5190	102.7	-	-	92.05	34.47	11.59	35.41	373	220	P	V
	*	5190	96.12	-	-	85.47	34.47	11.59	35.41	373	220	A	V
		5429.2	47.72	-26.28	74	36.5	34.7	11.84	35.32	373	220	P	V
		5438.44	40.42	-13.58	54	29.19	34.7	11.85	35.32	373	220	A	V
802.11n HT40 CH 46 5230MHz		5145.6	50.89	-23.11	74	40.36	34.4	11.55	35.42	100	294	P	H
		5149.76	43.72	-10.28	54	33.18	34.4	11.56	35.42	100	294	A	H
	*	5230	105.46	-	-	94.72	34.5	11.63	35.39	100	294	P	H
	*	5230	98.54	-	-	87.8	34.5	11.63	35.39	100	294	A	H
		5384.96	47.88	-26.12	74	36.8	34.63	11.79	35.34	100	294	P	H
		5350	40.48	-13.52	54	29.57	34.5	11.76	35.35	100	294	A	H
		5145.6	48.84	-25.16	74	38.31	34.4	11.55	35.42	365	221	P	V
		5108.16	41.84	-12.16	54	31.42	34.33	11.52	35.43	365	221	A	V
	*	5230	105.21	-	-	94.47	34.5	11.63	35.39	365	221	P	V
	*	5230	98.78	-	-	88.04	34.5	11.63	35.39	365	221	A	V
		5429.76	47.72	-26.28	74	36.5	34.7	11.84	35.32	365	221	P	V
		5356.68	40.11	-13.89	54	29.2	34.5	11.76	35.35	365	221	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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	44.22	-23.98	68.2	48.16	37.48	17.6	59.02	100	0	P	H
		15570	45.78	-28.22	74	40.67	40.2	21.68	56.77	100	0	P	H
													H
													H
		10380	43.93	-24.27	68.2	47.87	37.48	17.6	59.02	100	0	P	V
		15570	46.67	-27.33	74	41.56	40.2	21.68	56.77	100	0	P	V
													V
													V
802.11n HT40 CH 46 5230MHz		10460	45.72	-22.48	68.2	49.47	37.55	17.66	58.96	100	0	P	H
		15690	46.85	-27.15	74	41.3	40.55	21.75	56.75	100	0	P	H
													H
													H
		10460	44.32	-23.88	68.2	48.07	37.55	17.66	58.96	100	0	P	V
		15690	48.1	-25.9	74	42.55	40.55	21.75	56.75	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5149.24	58	-16	74	47.46	34.4	11.56	35.42	100	282	P	H
		5147.68	52.19	-1.81	54	41.65	34.4	11.56	35.42	100	282	A	H
	*	5210	100.09	-	-	89.38	34.5	11.61	35.4	100	282	P	H
	*	5210	93.33	-	-	82.62	34.5	11.61	35.4	100	282	A	H
		5361.16	48.02	-25.98	74	37.03	34.57	11.77	35.35	100	282	P	H
		5351.64	40.47	-13.53	54	29.56	34.5	11.76	35.35	100	282	A	H
		5138.32	50.55	-23.45	74	40.05	34.37	11.55	35.42	393	221	P	V
		5150	44.15	-9.85	54	33.61	34.4	11.56	35.42	393	221	A	V
	*	5210	98.66	-	-	87.95	34.5	11.61	35.4	393	221	P	V
	*	5210	91.83	-	-	81.12	34.5	11.61	35.4	393	221	A	V
		5456.64	47.92	-26.08	74	36.65	34.7	11.88	35.31	393	221	P	V
		5369.28	40.52	-13.48	54	29.51	34.57	11.78	35.34	393	221	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		10420	44.97	-23.23	68.2	48.81	37.52	17.63	58.99	100	0	P	H
		15630	46.31	-27.69	74	40.96	40.4	21.71	56.76	100	0	P	H
													H
													H
		10420	44.7	-23.5	68.2	48.54	37.52	17.63	58.99	100	0	P	V
		15630	45.66	-28.34	74	40.31	40.4	21.71	56.76	100	0	P	V
													V
													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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5038.15	48.09	-25.91	74	37.99	34.1	11.46	35.46	100	290	P	H
		5144.2	40.41	-13.59	54	29.88	34.4	11.55	35.42	100	290	A	H
	*	5260	110.36	-	-	99.51	34.57	11.66	35.38	100	290	P	H
	*	5260	102.63	-	-	91.78	34.57	11.66	35.38	100	290	A	H
		5399.52	48.63	-25.37	74	37.45	34.7	11.81	35.33	100	290	P	H
		5351.04	39.79	-14.21	54	28.88	34.5	11.76	35.35	100	290	A	H
		5137.9	48.77	-25.23	74	38.27	34.37	11.55	35.42	385	224	P	V
		5138.6	40.33	-13.67	54	29.83	34.37	11.55	35.42	385	224	A	V
	*	5260	107.09	-	-	96.24	34.57	11.66	35.38	385	224	P	V
	*	5260	100.47	-	-	89.62	34.57	11.66	35.38	385	224	A	V
		5379.36	47.81	-26.19	74	36.73	34.63	11.79	35.34	385	224	P	V
		5454.72	39.38	-14.62	54	28.13	34.7	11.87	35.32	385	224	A	V
802.11a CH 60 5300MHz		5137.55	48.12	-25.88	74	37.62	34.37	11.55	35.42	100	289	P	H
		5140.35	40.34	-13.66	54	29.81	34.4	11.55	35.42	100	289	A	H
	*	5300	109.55	-	-	98.52	34.7	11.7	35.37	100	289	P	H
	*	5300	102.09	-	-	91.06	34.7	11.7	35.37	100	289	A	H
		5355.84	50.86	-23.14	74	39.95	34.5	11.76	35.35	100	289	P	H
		5352.72	41.7	-12.3	54	30.79	34.5	11.76	35.35	100	289	A	H
		5137.2	47.9	-26.1	74	37.4	34.37	11.55	35.42	376	224	P	V
		5133.35	40.24	-13.76	54	29.75	34.37	11.54	35.42	376	224	A	V
	*	5300	107.51	-	-	96.48	34.7	11.7	35.37	376	224	P	V
	*	5300	100.51	-	-	89.48	34.7	11.7	35.37	376	224	A	V
		5350.56	49.01	-24.99	74	38.1	34.5	11.76	35.35	376	224	P	V
		5350.08	39.46	-14.54	54	28.55	34.5	11.76	35.35	376	224	A	V



802.11a CH 64 5320MHz	*	5320	109.3	-	-	98.3	34.63	11.73	35.36	100	291	P	H
	*	5320	101.88	-	-	90.88	34.63	11.73	35.36	100	291	A	H
		5350.4	52	-22	74	41.09	34.5	11.76	35.35	100	291	P	H
		5350.24	44.25	-9.75	54	33.34	34.5	11.76	35.35	100	291	A	H
													H
													H
	*	5320	108.4	-	-	97.4	34.63	11.73	35.36	397	226	P	V
	*	5320	100.85	-	-	89.85	34.63	11.73	35.36	397	226	A	V
		5354.4	48.28	-25.72	74	37.37	34.5	11.76	35.35	397	226	P	V
		5351.04	41.14	-12.86	54	30.23	34.5	11.76	35.35	397	226	A	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	44.39	-23.81	68.2	48.01	37.6	17.7	58.92	100	0	P	H
		15780	47.03	-26.97	74	41.44	40.53	21.8	56.74	100	0	P	H
													H
													H
		10520	44.53	-23.67	68.2	48.15	37.6	17.7	58.92	100	0	P	V
		15780	47.35	-26.65	74	41.76	40.53	21.8	56.74	100	0	P	V
													V
													V
802.11a CH 60 5300MHz		10600	45.61	-28.39	74	49.13	37.6	17.76	58.88	100	0	P	H
		15900	48.25	-25.75	74	42.28	40.8	21.89	56.72	100	0	P	H
													H
													H
		10600	45.04	-28.96	74	48.56	37.6	17.76	58.88	100	0	P	V
		15900	49.03	-24.97	74	43.06	40.8	21.89	56.72	100	0	P	V
													V
													V
802.11a CH 64 5320MHz		10640	45.27	-28.73	74	48.71	37.63	17.79	58.86	100	0	P	H
		15960	48.64	-25.36	74	42.62	40.8	21.93	56.71	100	0	P	H
													H
													H
		10640	45.94	-28.06	74	49.38	37.63	17.79	58.86	100	0	P	V
		15960	47.36	-26.64	74	41.34	40.8	21.93	56.71	100	0	P	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5082.95	47.97	-26.03	74	37.68	34.23	11.5	35.44	100	316	P	H
		5147.7	40.41	-13.59	54	29.87	34.4	11.56	35.42	100	316	A	H
	*	5260	109.68	-	-	98.83	34.57	11.66	35.38	100	316	P	H
	*	5260	102.35	-	-	91.5	34.57	11.66	35.38	100	316	A	H
		5352.48	48.34	-25.66	74	37.43	34.5	11.76	35.35	100	316	P	H
		5352.48	40.14	-13.86	54	29.23	34.5	11.76	35.35	100	316	A	H
		5142.1	48.77	-25.23	74	38.24	34.4	11.55	35.42	384	223	P	V
		5139.65	40.4	-13.6	54	29.87	34.4	11.55	35.42	384	223	A	V
	*	5260	106.85	-	-	96	34.57	11.66	35.38	384	223	P	V
	*	5260	98.75	-	-	87.9	34.57	11.66	35.38	384	223	A	V
		5405.28	47.38	-26.62	74	36.19	34.7	11.82	35.33	384	223	P	V
		5350.32	39.48	-14.52	54	28.57	34.5	11.76	35.35	384	223	A	V
802.11n HT20 CH 60 5300MHz		5024.15	47.88	-26.12	74	37.79	34.1	11.45	35.46	100	284	P	H
		5149.8	40.25	-13.75	54	29.71	34.4	11.56	35.42	100	284	A	H
	*	5300	108.84	-	-	97.81	34.7	11.7	35.37	100	284	P	H
	*	5300	101.74	-	-	90.71	34.7	11.7	35.37	100	284	A	H
		5361.12	49.07	-24.93	74	38.08	34.57	11.77	35.35	100	284	P	H
		5352.24	41.79	-12.21	54	30.88	34.5	11.76	35.35	100	284	A	H
		5138.6	49.03	-24.97	74	38.53	34.37	11.55	35.42	376	224	P	V
		5140	40.2	-13.8	54	29.67	34.4	11.55	35.42	376	224	A	V
	*	5300	107.84	-	-	96.81	34.7	11.7	35.37	376	224	P	V
	*	5300	100.74	-	-	89.71	34.7	11.7	35.37	376	224	A	V
		5416.56	47.99	-26.01	74	36.79	34.7	11.83	35.33	376	224	P	V
		5353.92	39.61	-14.39	54	28.7	34.5	11.76	35.35	376	224	A	V



802.11n HT20 CH 64 5320MHz	*	5320	108.4	-	-	97.4	34.63	11.73	35.36	100	323	P	H
	*	5320	100.5	-	-	89.5	34.63	11.73	35.36	100	323	A	H
		5350.24	54.2	-19.8	74	43.29	34.5	11.76	35.35	100	323	P	H
		5350.4	45.99	-8.01	54	35.08	34.5	11.76	35.35	100	323	A	H
													H
													H
	*	5320	106.3	-	-	95.3	34.63	11.73	35.36	398	225	P	V
	*	5320	99.3	-	-	88.3	34.63	11.73	35.36	398	225	A	V
		5360.96	48.52	-25.48	74	37.53	34.57	11.77	35.35	398	225	P	V
		5350.08	42.21	-11.79	54	31.3	34.5	11.76	35.35	398	225	A	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		10520	44.71	-23.49	68.2	48.33	37.6	17.7	58.92	100	0	P	H
		15780	46.37	-27.63	74	40.78	40.53	21.8	56.74	100	0	P	H
													H
													H
		10520	44.71	-23.49	68.2	48.33	37.6	17.7	58.92	100	0	P	V
		15780	47.04	-26.96	74	41.45	40.53	21.8	56.74	100	0	P	V
													V
													V
802.11n HT20 CH 60 5300MHz		10600	44.77	-29.23	74	48.29	37.6	17.76	58.88	100	0	P	H
		15900	49.54	-24.46	74	43.57	40.8	21.89	56.72	100	0	P	H
													H
													H
		10600	45.75	-28.25	74	49.27	37.6	17.76	58.88	100	0	P	V
		15900	49.24	-24.76	74	43.27	40.8	21.89	56.72	100	0	P	V
													V
													V
802.11n HT20 CH 64 5320MHz		10640	45.31	-28.69	74	48.75	37.63	17.79	58.86	100	0	P	H
		15960	46.75	-27.25	74	40.73	40.8	21.93	56.71	100	0	P	H
													H
													H
		10640	45.73	-28.27	74	49.17	37.63	17.79	58.86	100	0	P	V
		15960	53.81	-20.19	74	47.79	40.8	21.93	56.71	100	143	P	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5136.5	48.04	-25.96	74	37.54	34.37	11.55	35.42	100	283	P	H
		5137.9	41.61	-12.39	54	31.11	34.37	11.55	35.42	100	283	A	H
	*	5270	107.46	-	-	96.6	34.57	11.67	35.38	100	283	P	H
	*	5270	99.56	-	-	88.7	34.57	11.67	35.38	100	283	A	H
		5350.08	50.56	-23.44	74	39.65	34.5	11.76	35.35	100	283	P	H
		5350.56	42.25	-11.75	54	31.34	34.5	11.76	35.35	100	283	A	H
		5138.25	48.51	-25.49	74	38.01	34.37	11.55	35.42	327	65	P	V
		5142.8	41.69	-12.31	54	31.16	34.4	11.55	35.42	327	65	A	V
	*	5270	105.12	-	-	94.26	34.57	11.67	35.38	327	65	P	V
	*	5270	97.46	-	-	86.6	34.57	11.67	35.38	327	65	A	V
		5369.52	47.94	-26.06	74	36.93	34.57	11.78	35.34	327	65	P	V
		5351.52	41.54	-12.46	54	30.63	34.5	11.76	35.35	327	65	A	V
802.11n HT40 CH 62 5310MHz		5149.1	48.7	-25.3	74	38.16	34.4	11.56	35.42	104	291	P	H
		5139.3	41.1	-12.9	54	30.6	34.37	11.55	35.42	104	291	A	H
	*	5310	105.27	-	-	94.28	34.63	11.72	35.36	104	291	P	H
	*	5310	96.65	-	-	85.66	34.63	11.72	35.36	104	291	A	H
		5350.08	56.64	-17.36	74	45.73	34.5	11.76	35.35	104	291	P	H
		5350.8	51.88	-2.12	54	40.97	34.5	11.76	35.35	104	291	A	H
		5110.95	50.54	-23.46	74	40.12	34.33	11.52	35.43	307	71	P	V
		5128.45	41.05	-12.95	54	30.57	34.37	11.54	35.43	307	71	A	V
	*	5310	103.08	-	-	92.09	34.63	11.72	35.36	307	71	P	V
	*	5310	94.38	-	-	83.39	34.63	11.72	35.36	307	71	A	V
		5354.64	53.16	-20.84	74	42.25	34.5	11.76	35.35	307	71	P	V
		5350.56	48.35	-5.65	54	37.44	34.5	11.76	35.35	307	71	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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		10540	44.15	-24.05	68.2	47.75	37.6	17.71	58.91	100	0	P	H
		15810	48.1	-25.9	74	42.51	40.5	21.82	56.73	100	0	P	H
													H
													H
		10540	45.93	-22.27	68.2	49.53	37.6	17.71	58.91	100	0	P	V
		15810	47.09	-26.91	74	41.5	40.5	21.82	56.73	100	0	P	V
													V
													V
802.11n HT40 CH 62 5310MHz		10620	45.44	-28.56	74	48.91	37.62	17.78	58.87	100	0	P	H
		15930	47.3	-26.7	74	41.3	40.8	21.91	56.71	100	0	P	H
													H
													H
		10620	45.15	-28.85	74	48.62	37.62	17.78	58.87	100	0	P	V
		15930	47.34	-26.66	74	41.34	40.8	21.91	56.71	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5111.65	48.89	-25.11	74	38.47	34.33	11.52	35.43	101	296	P	H
		5139.3	41.22	-12.78	54	30.72	34.37	11.55	35.42	101	296	A	H
	*	5290	100.16	-	-	89.21	34.63	11.69	35.37	101	296	P	H
	*	5290	92.21	-	-	81.26	34.63	11.69	35.37	101	296	A	H
		5352	55.64	-18.36	74	44.73	34.5	11.76	35.35	101	296	P	H
		5350.56	51.46	-2.54	54	40.55	34.5	11.76	35.35	101	296	A	H
		5093.8	49.27	-24.73	74	38.9	34.3	11.51	35.44	314	62	P	V
		5075.6	41.41	-12.59	54	31.13	34.23	11.49	35.44	314	62	A	V
	*	5290	97.69	-	-	86.74	34.63	11.69	35.37	314	62	P	V
	*	5290	89.76	-	-	78.81	34.63	11.69	35.37	314	62	A	V
		5360.88	53.39	-20.61	74	42.4	34.57	11.77	35.35	314	62	P	V
		5361.36	47.37	-6.63	54	36.38	34.57	11.77	35.35	314	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		10580	44.97	-23.23	68.2	48.51	37.6	17.75	58.89	100	0	P	H
		15870	47.52	-26.48	74	41.63	40.74	21.87	56.72	100	0	P	H
													H
													H
		10580	44.07	-24.13	68.2	47.61	37.6	17.75	58.89	100	0	P	V
		15870	47.71	-26.29	74	41.82	40.74	21.87	56.72	100	0	P	V
													V
													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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5440.56	50.53	-23.47	74	39.29	34.7	11.86	35.32	110	296	P	H
		5469.68	57.35	-10.85	68.2	45.97	34.8	11.89	35.31	110	296	P	H
		5460	43.98	-10.02	54	32.71	34.7	11.88	35.31	110	296	A	H
	*	5500	110.17	-	-	98.54	35	11.93	35.3	110	296	P	H
	*	5500	102.65	-	-	91.02	35	11.93	35.3	110	296	A	H
													H
		5420.88	49.35	-24.65	74	38.15	34.7	11.83	35.33	375	82	P	V
		5468.08	50.74	-17.46	68.2	39.36	34.8	11.89	35.31	375	82	P	V
		5456.72	41.84	-12.16	54	30.57	34.7	11.88	35.31	375	82	A	V
	*	5500	106.86	-	-	95.23	35	11.93	35.3	375	82	P	V
	*	5500	99.83	-	-	88.2	35	11.93	35.3	375	82	A	V
													V
802.11a CH 116 5580MHz		5399.2	48.75	-25.25	74	37.57	34.7	11.81	35.33	100	312	P	H
		5461.36	46.55	-21.65	68.2	35.28	34.7	11.88	35.31	100	312	P	H
		5451.76	39.69	-14.31	54	28.44	34.7	11.87	35.32	100	312	A	H
	*	5580	108.98	-	-	97.4	34.87	12.02	35.31	100	312	P	H
	*	5580	102.18	-	-	90.6	34.87	12.02	35.31	100	312	A	H
		5755.235	48.69	-19.51	68.2	36.72	35	12.3	35.33	100	312	P	H
		5439.28	48.04	-25.96	74	36.8	34.7	11.86	35.32	386	65	P	V
		5464.48	46.41	-21.79	68.2	35.04	34.8	11.88	35.31	386	65	P	V
		5430.64	39.56	-14.44	54	28.33	34.7	11.85	35.32	386	65	A	V
	*	5580	104.78	-	-	93.2	34.87	12.02	35.31	386	65	P	V
	*	5580	98.18	-	-	86.6	34.87	12.02	35.31	386	65	A	V
		5733.815	49.17	-19.03	68.2	37.23	35	12.26	35.32	386	65	P	V



802.11a CH 140 5700MHz	*	5700	110.39	-	-	98.51	35	12.2	35.32	105	10	P	H
	*	5700	103.49	-	-	91.61	35	12.2	35.32	105	10	A	H
		5725.16	59.62	-8.58	68.2	47.69	35	12.25	35.32	105	10	P	H
													H
													H
													H
	*	5700	108.39	-	-	96.51	35	12.2	35.32	368	68	P	V
	*	5700	101.11	-	-	89.23	35	12.2	35.32	368	68	A	V
		5728.12	52.58	-15.62	68.2	40.65	35	12.25	35.32	368	68	P	V
													V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	46.8	-27.2	74	49.54	37.9	18.05	58.69	100	0	P	H
		16500	49.97	-18.23	68.2	42.41	41.6	22.38	56.42	100	0	P	H
													H
													H
		11000	50.71	-23.29	74	53.45	37.9	18.05	58.69	100	337	P	V
		11000	44.32	-9.68	54	47.06	37.9	18.05	58.69	100	337	A	V
													V
													V
802.11a CH 116 5580MHz		11160	49.52	-24.48	74	51.74	37.9	18.19	58.31	100	0	P	H
		16740	48.14	-20.06	68.2	39.53	42.36	22.58	56.33	100	0	P	H
													H
													H
		11160	54.58	-19.42	74	56.8	37.9	18.19	58.31	102	337	P	V
		11160	47.93	-6.07	54	50.15	37.9	18.19	58.31	102	337	A	V
													V
													V
802.11a CH 140 5700MHz		11400	49.17	-24.83	74	50.4	38.1	18.41	57.74	100	0	P	H
		17100	50.32	-17.88	68.2	41.72	42	22.87	56.27	100	0	P	H
													H
													H
		11400	56.66	-17.34	74	57.89	38.1	18.41	57.74	100	334	P	V
		11400	48.94	-5.06	54	50.17	38.1	18.41	57.74	100	334	A	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5456.88	52.84	-21.16	74	41.57	34.7	11.88	35.31	100	293	P	H
		5466.96	54.02	-14.18	68.2	42.64	34.8	11.89	35.31	100	293	P	H
		5460	44.74	-9.26	54	33.47	34.7	11.88	35.31	100	293	A	H
	*	5500	110.12	-	-	98.49	35	11.93	35.3	100	293	P	H
	*	5500	101.43	-	-	89.8	35	11.93	35.3	100	293	A	H
													H
		5439.92	49.19	-24.81	74	37.95	34.7	11.86	35.32	304	70	P	V
		5469.2	51.78	-16.42	68.2	40.4	34.8	11.89	35.31	304	70	P	V
		5457.36	41.72	-12.28	54	30.45	34.7	11.88	35.31	304	70	A	V
	*	5500	106.22	-	-	94.59	35	11.93	35.3	304	70	P	V
	*	5500	98.22	-	-	86.59	35	11.93	35.3	304	70	A	V
													V
802.11n HT20 CH 116 5580MHz		5392.96	47.35	-26.65	74	36.26	34.63	11.8	35.34	100	312	P	H
		5469.52	47.76	-20.44	68.2	36.38	34.8	11.89	35.31	100	312	P	H
		5454.64	39.7	-14.3	54	28.45	34.7	11.87	35.32	100	312	A	H
	*	5580	107.88	-	-	96.3	34.87	12.02	35.31	100	312	P	H
	*	5580	100.38	-	-	88.8	34.87	12.02	35.31	100	312	A	H
		5726.57	48.45	-19.75	68.2	36.52	35	12.25	35.32	100	312	P	H
		5359.84	48.19	-25.81	74	37.27	34.5	11.77	35.35	386	65	P	V
		5460.64	47.43	-20.77	68.2	36.16	34.7	11.88	35.31	386	65	P	V
		5456.56	39.53	-14.47	54	28.26	34.7	11.88	35.31	386	65	A	V
	*	5580	104.38	-	-	92.8	34.87	12.02	35.31	386	65	P	V
	*	5580	96.88	-	-	85.3	34.87	12.02	35.31	386	65	A	V
		5764.37	48.21	-19.99	68.2	36.23	35	12.31	35.33	386	65	P	V



802.11n HT20 CH 140 5700MHz	*	5700	112.68	-	-	100.8	35	12.2	35.32	100	297	P	H
	*	5700	105.08	-	-	93.2	35	12.2	35.32	100	297	A	H
		5725.4	65.62	-2.58	68.2	53.69	35	12.25	35.32	100	297	P	H
													H
													H
													H
	*	5700	109.08	-	-	97.2	35	12.2	35.32	388	75	P	V
	*	5700	101.29	-	-	89.41	35	12.2	35.32	388	75	A	V
		5725.16	61.71	-6.49	68.2	49.78	35	12.25	35.32	388	75	P	V
													V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	46.77	-27.23	74	49.51	37.9	18.05	58.69	100	0	P	H
		16500	48.58	-19.62	68.2	41.02	41.6	22.38	56.42	100	0	P	H
													H
													H
		11000	53.47	-20.53	74	56.21	37.9	18.05	58.69	100	338	P	V
		11000	45.47	-8.53	54	48.21	37.9	18.05	58.69	100	338	A	V
													V
													V
802.11n HT20 CH 116 5580MHz		11160	48.25	-25.75	74	50.47	37.9	18.19	58.31	100	0	P	H
		16740	48.33	-19.87	68.2	39.72	42.36	22.58	56.33	100	0	P	H
													H
													H
		11160	57.96	-16.04	74	60.18	37.9	18.19	58.31	100	337	P	V
		11160	48.11	-5.89	54	50.33	37.9	18.19	58.31	100	337	A	V
													V
													V
802.11n HT20 CH 140 5700MHz		11400	49.98	-24.02	74	51.21	38.1	18.41	57.74	100	0	P	H
		17100	49.11	-19.09	68.2	40.51	42	22.87	56.27	100	0	P	H
													H
													H
		11400	58.55	-15.45	74	59.78	38.1	18.41	57.74	100	338	P	V
		11400	49.49	-4.51	54	50.72	38.1	18.41	57.74	100	338	A	V
													V
													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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5459.68	56.61	-17.39	74	45.34	34.7	11.88	35.31	100	12	P	H
		5468.32	64.22	-3.98	68.2	52.84	34.8	11.89	35.31	100	12	P	H
		5459.92	52.33	-1.67	54	41.06	34.7	11.88	35.31	100	12	A	H
	*	5510	102.84	-	-	91.2	35	11.94	35.3	100	12	P	H
	*	5510	95.24	-	-	83.6	35	11.94	35.3	100	12	A	H
		5731.295	48.44	-19.76	68.2	36.5	35	12.26	35.32	100	12	P	H
		5458	53.38	-20.62	74	42.11	34.7	11.88	35.31	336	72	P	V
		5465.92	59.31	-8.89	68.2	47.93	34.8	11.89	35.31	336	72	P	V
		5459.92	48.76	-5.24	54	37.49	34.7	11.88	35.31	336	72	A	V
	*	5510	101.84	-	-	90.2	35	11.94	35.3	336	72	P	V
	*	5510	94.7	-	-	83.06	35	11.94	35.3	336	72	A	V
		5729.405	47.57	-20.63	68.2	35.64	35	12.25	35.32	336	72	P	V
802.11n HT40 CH 110 5550MHz		5359.12	48.55	-25.45	74	37.63	34.5	11.77	35.35	100	313	P	H
		5463.76	49.04	-19.16	68.2	37.67	34.8	11.88	35.31	100	313	P	H
		5459.2	41.93	-12.07	54	30.66	34.7	11.88	35.31	100	313	A	H
	*	5550	104.25	-	-	92.78	34.8	11.98	35.31	100	313	P	H
	*	5550	97.58	-	-	86.11	34.8	11.98	35.31	100	313	A	H
		5728.145	49.06	-19.14	68.2	37.13	35	12.25	35.32	100	313	P	H
		5453.2	49.47	-24.53	74	38.22	34.7	11.87	35.32	390	74	P	V
		5466.88	48.35	-19.85	68.2	36.97	34.8	11.89	35.31	390	74	P	V
		5454.64	40.6	-13.4	54	29.35	34.7	11.87	35.32	390	74	A	V
	*	5550	102.03	-	-	90.56	34.8	11.98	35.31	390	74	P	V
	*	5550	95.78	-	-	84.31	34.8	11.98	35.31	390	74	A	V
		5764.685	48.44	-19.76	68.2	36.46	35	12.31	35.33	390	74	P	V



802.11n HT40 CH 134 5670MHz		5455	49.31	-24.69	74	38.06	34.7	11.87	35.32	100	298	P	H
		5465.15	48.08	-20.12	68.2	36.71	34.8	11.88	35.31	100	298	P	H
		5451.85	40.79	-13.21	54	29.54	34.7	11.87	35.32	100	298	A	H
	*	5670	107.39	-	-	95.7	34.85	12.16	35.32	100	298	P	H
	*	5670	101.41	-	-	89.72	34.85	12.16	35.32	100	298	A	H
		5732.24	55.57	-12.63	68.2	43.63	35	12.26	35.32	100	298	P	H
		5457.8	49.03	-24.97	74	37.76	34.7	11.88	35.31	351	67	P	V
		5464.8	48.53	-19.67	68.2	37.16	34.8	11.88	35.31	351	67	P	V
		5455.35	40.81	-13.19	54	29.56	34.7	11.87	35.32	351	67	A	V
	*	5670	106.82	-	-	95.13	34.85	12.16	35.32	351	67	P	V
	*	5670	100.12	-	-	88.43	34.85	12.16	35.32	351	67	A	V
		5727.375	51.03	-17.17	68.2	39.1	35	12.25	35.32	351	67	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. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11020	46.28	-27.72	74	48.96	37.9	18.06	58.64	100	0	P	H
		16530	49.01	-19.19	68.2	41.35	41.67	22.4	56.41	100	0	P	H
													H
													H
		11020	46.34	-27.66	74	49.02	37.9	18.06	58.64	100	0	P	V
		16530	48.46	-19.74	68.2	40.8	41.67	22.4	56.41	100	0	P	V
													V
													V
802.11n HT40 CH 110 5550MHz		11100	45.69	-28.31	74	48.11	37.9	18.13	58.45	100	0	P	H
		16650	48.64	-19.56	68.2	40.41	42.1	22.5	56.37	100	0	P	H
													H
													H
		11100	51.7	-22.3	74	54.12	37.9	18.13	58.45	100	337	P	V
		11100	42.74	-11.26	54	45.16	37.9	18.13	58.45	100	337	A	V
													V
													V
802.11n HT40 CH 134 5670MHz		11340	46.58	-27.42	74	48.08	38.03	18.35	57.88	100	0	P	H
		17010	49.31	-18.89	68.2	40.57	42.17	22.81	56.24	100	0	P	H
													H
													H
		11340	53.21	-20.79	74	54.71	38.03	18.35	57.88	100	334	P	V
		11340	45.88	-8.12	54	47.38	38.03	18.35	57.88	100	334	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5459.92	58.11	-15.89	74	46.84	34.7	11.88	35.31	109	294	P	H
		5463.28	59.6	-8.6	68.2	48.23	34.8	11.88	35.31	109	294	P	H
		5459.92	52.23	-1.77	54	40.96	34.7	11.88	35.31	109	294	A	H
	*	5530	97.25	-	-	85.66	34.93	11.96	35.3	109	294	P	H
	*	5530	90.39	-	-	78.8	34.93	11.96	35.3	109	294	A	H
		5749.88	49.54	-18.66	68.2	37.57	35	12.29	35.32	109	294	P	H
		5449.84	52.68	-21.32	74	41.43	34.7	11.87	35.32	317	70	P	V
		5469.76	54.57	-13.63	68.2	43.19	34.8	11.89	35.31	317	70	P	V
		5452.48	47.65	-6.35	54	36.4	34.7	11.87	35.32	317	70	A	V
	*	5530	94.19	-	-	82.6	34.93	11.96	35.3	317	70	P	V
	*	5530	87.49	-	-	75.9	34.93	11.96	35.3	317	70	A	V
		5750.195	48.99	-19.21	68.2	37.03	35	12.29	35.33	317	70	P	V
802.11ac VHT80 CH 122 5610MHz		5389.55	48.35	-25.65	74	37.26	34.63	11.8	35.34	107	310	P	H
		5467.6	49.22	-18.98	68.2	37.84	34.8	11.89	35.31	107	310	P	H
		5457.8	42.17	-11.83	54	30.9	34.7	11.88	35.31	107	310	A	H
	*	5610	103.78	-	-	92.03	35	12.06	35.31	107	310	P	H
	*	5610	97.05	-	-	85.3	35	12.06	35.31	107	310	A	H
		5733.5	51.82	-16.38	68.2	39.88	35	12.26	35.32	107	310	P	H
		5450.45	47.68	-26.32	74	36.43	34.7	11.87	35.32	386	53	P	V
		5469	47.26	-20.94	68.2	35.88	34.8	11.89	35.31	386	53	P	V
		5450.8	40.47	-13.53	54	29.22	34.7	11.87	35.32	386	53	A	V
	*	5610	100.08	-	-	88.33	35	12.06	35.31	386	53	P	V
	*	5610	93.58	-	-	81.83	35	12.06	35.31	386	53	A	V
		5741.2	50.16	-18.04	68.2	38.21	35	12.27	35.32	386	53	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		11060	45.65	-28.35	74	48.2	37.9	18.1	58.55	100	0	P	H
		16590	48.11	-20.09	68.2	40.28	41.77	22.45	56.39	100	0	P	H
													H
													H
		11060	46.01	-27.99	74	48.56	37.9	18.1	58.55	100	0	P	V
		16590	47.25	-20.95	68.2	39.42	41.77	22.45	56.39	100	0	P	V
													V
													V
802.11ac VHT80 CH 122 5610MHz		11220	45.03	-28.97	74	47.03	37.92	18.25	58.17	100	0	P	H
		16830	50.25	-17.95	68.2	41.59	42.3	22.66	56.3	100	0	P	H
													H
													H
		11220	48.53	-25.47	74	50.53	37.92	18.25	58.17	100	0	P	V
		16830	49.08	-19.12	68.2	40.42	42.3	22.66	56.3	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - Straddle Channel

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz		5391.73	47.36	-26.64	74	36.27	34.63	11.8	35.34	100	315	P	H
		5467.78	47.11	-21.09	68.2	35.73	34.8	11.89	35.31	100	315	P	H
		5457.64	39.51	-14.49	54	28.24	34.7	11.88	35.31	100	315	A	H
	*	5720	110.82	-	-	98.9	35	12.24	35.32	100	315	P	H
	*	5720	104.08	-	-	92.16	35	12.24	35.32	100	315	A	H
		5917.25	50.19	-18.01	68.2	37.9	35.2	12.43	35.34	100	315	P	H
		5386.66	50	-24	74	38.91	34.63	11.8	35.34	325	60	P	V
		5462.71	47.12	-21.08	68.2	35.75	34.8	11.88	35.31	325	60	P	V
		5452.57	39.26	-14.74	54	28.01	34.7	11.87	35.32	325	60	A	V
	*	5720	107.82	-	-	95.9	35	12.24	35.32	325	60	P	V
	*	5720	101.42	-	-	89.5	35	12.24	35.32	325	60	A	V
		5894.75	50.25	-17.95	68.2	37.97	35.2	12.42	35.34	325	60	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		11440	49.9	-24.1	74	50.97	38.13	18.44	57.64	100	0	P	H
		17160	50.32	-17.88	68.2	41.97	41.73	22.91	56.29	100	0	P	H
													H
													H
		11440	56.63	-17.37	74	57.7	38.13	18.44	57.64	100	336	P	V
		11440	49.67	-4.33	54	50.74	38.13	18.44	57.64	100	336	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz		5350.78	48.37	-25.63	74	37.46	34.5	11.76	35.35	100	315	P	H
		5461.54	47.49	-20.71	68.2	36.22	34.7	11.88	35.31	100	315	P	H
		5457.25	39.5	-14.5	54	28.23	34.7	11.88	35.31	100	315	A	H
	*	5720	111.08	-	-	99.16	35	12.24	35.32	100	315	P	H
	*	5720	104.72	-	-	92.8	35	12.24	35.32	100	315	A	H
		5918	50.17	-18.03	68.2	37.88	35.2	12.43	35.34	100	315	P	H
		5451.01	48.62	-25.38	74	37.37	34.7	11.87	35.32	325	60	P	V
		5466.22	47.99	-20.21	68.2	36.61	34.8	11.89	35.31	325	60	P	V
		5453.35	39.43	-14.57	54	28.18	34.7	11.87	35.32	325	60	A	V
	*	5720	108.12	-	-	96.2	35	12.24	35.32	325	60	P	V
	*	5720	100.98	-	-	89.06	35	12.24	35.32	325	60	A	V
		5926.25	49.92	-18.28	68.2	37.63	35.2	12.43	35.34	325	60	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz		11440	49.35	-24.65	74	50.42	38.13	18.44	57.64	100	0	P	H
		17160	50.08	-18.12	68.2	41.73	41.73	22.91	56.29	100	0	P	H
													H
													H
		11440	57.27	-16.73	74	58.34	38.13	18.44	57.64	100	338	P	V
		11440	48	-6	54	49.07	38.13	18.44	57.64	100	338	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 142 5710MHz		5451.4	47.73	-26.27	74	36.48	34.7	11.87	35.32	384	72	P	V
		5470	47.09	-21.11	68.2	35.71	34.8	11.89	35.31	384	72	P	V
		5451.01	40.28	-13.72	54	29.03	34.7	11.87	35.32	384	72	A	V
	*	5710	105.37	-	-	93.47	35	12.22	35.32	384	72	P	V
	*	5710	98.99	-	-	87.09	35	12.22	35.32	384	72	A	V
		5901.5	51.11	-17.09	68.2	38.83	35.2	12.42	35.34	384	72	P	V
		5385.49	48.03	-25.97	74	36.95	34.63	11.79	35.34	100	316	P	H
		5470	47.39	-20.81	68.2	36.01	34.8	11.89	35.31	100	316	P	H
		5459.98	40.19	-13.81	54	28.92	34.7	11.88	35.31	100	316	A	H
	*	5710	108.6	-	-	96.7	35	12.22	35.32	100	316	P	H
	*	5710	101.7	-	-	89.8	35	12.22	35.32	100	316	A	H
		5940.25	50.6	-17.6	68.2	38.3	35.2	12.44	35.34	100	316	P	H
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 142 5710MHz		11420	47.72	-26.28	74	48.87	38.12	18.42	57.69	100	0	P	H
		17130	50.21	-17.99	68.2	41.73	41.87	22.89	56.28	100	0	P	H
													H
													H
		11420	53.75	-20.25	74	54.9	38.12	18.42	57.69	100	336	P	V
		11420	47.05	-6.95	54	48.2	38.12	18.42	57.69	100	336	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - Straddle Channel

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 138 5690MHz		5443.21	49.03	-24.97	74	37.79	34.7	11.86	35.32	100	314	P	H
		5465.83	47.03	-21.17	68.2	35.65	34.8	11.89	35.31	100	314	P	H
		5435.02	40.08	-13.92	54	28.85	34.7	11.85	35.32	100	314	A	H
	*	5690	104.02	-	-	92.15	35	12.19	35.32	100	314	P	H
	*	5690	97.47	-	-	85.6	35	12.19	35.32	100	314	A	H
		5919.7	51.62	-16.58	68.2	39.33	35.2	12.43	35.34	100	314	P	H
		5390.95	48.27	-25.73	74	37.18	34.63	11.8	35.34	369	72	P	V
		5466.22	48.01	-20.19	68.2	36.63	34.8	11.89	35.31	369	72	P	V
		5400.7	40.26	-13.74	54	29.08	34.7	11.81	35.33	369	72	A	V
	*	5690	101.92	-	-	90.05	35	12.19	35.32	369	72	P	V
	*	5690	95.52	-	-	83.65	35	12.19	35.32	369	72	A	V
		5936.5	50.64	-17.56	68.2	38.34	35.2	12.44	35.34	369	72	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 4+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 138 5690MHz		11380	46.11	-27.89	74	47.44	38.08	18.38	57.79	100	0	P	H
		17070	49.58	-18.62	68.2	40.93	42.07	22.84	56.26	100	0	P	H
													H
													H
		11380	51.28	-22.72	74	52.61	38.08	18.38	57.79	100	334	P	V
		11380	43.67	-10.33	54	45	38.08	18.38	57.79	100	334	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission above 18GHz

WIFI 802.11a (SHF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a SHF		40000	45.49	-28.51	74	43.58	44.1	12.11	54.3	150	0	P	H
													H
													H
													H
													H
													H
		39912	42.99	-31.01	74	41.21	44.14	12.08	54.44	150	0	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
4+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		31.62	25.98	-14.02	40	31.47	23.57	0.95	30.01	-	-	P	H
		42.69	20.31	-19.69	40	31.52	17.69	1.1	30	-	-	P	H
		172.56	29.49	-14.01	43.5	41.88	15.34	2.21	29.94	-	-	P	H
		758.5	30.72	-15.28	46	27.81	27.77	4.68	29.54	-	-	P	H
		863.5	32.33	-13.67	46	27.61	28.88	5	29.16	-	-	P	H
		906.2	33.66	-12.34	46	28.61	28.87	5.14	28.96	100	0	P	H
													H
													H
													H
													H
													H
													H
													H
		30	33.93	-6.07	40	38.69	24.32	0.93	30.01	100	0	P	V
		39.45	25.33	-14.67	40	34.87	19.4	1.06	30	-	-	P	V
		43.5	23.8	-16.2	40	35.49	17.2	1.11	30	-	-	P	V
		750.8	31.54	-14.46	46	28.69	27.77	4.64	29.56	-	-	P	V
		885.9	32.4	-13.6	46	27.58	28.8	5.07	29.05	-	-	P	V
		940.5	34.24	-11.76	46	28.01	29.75	5.23	28.75	-	-	P	V
													V
												V	
												V	
												V	
												V	
												V	
												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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
 = 55.45 (dBμV/m)
2. Over Limit(dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 55.45(dBμV/m) – 74(dBμV/m)
 = -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
 = 43.54 (dBμV/m)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)
 = 43.54(dBμV/m) – 54(dBμV/m)
 = -10.46(dB)

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