FCC RADIO TEST REPORT

FCC ID	:	**2AOAI-5432**
Equipment	:	**Digital Media Receiver**
Model Name	:	**L9D29R**
Applicant	:	**Reny7 LLC** **6701 Democracy Blvd. Suite 300** **Bethesda, Maryland, 20817**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was completed on Jul. 16, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Jones Tsai

SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory

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

Table of Contents

History of this test report **3**
Summary of Test Result **4**
1 General Description **5**
1.1 Product Feature of Equipment Under Test 5
1.2 Product Specification of Equipment Under Test 5
1.3 Modification of EUT 6
1.4 Testing Location 7
1.5 Applicable Standards 7
2 Test Configuration of Equipment Under Test **8**
2.1 Carrier Frequency and Channel 8
2.2 Test Mode 9
2.3 Connection Diagram of Test System 11
2.4 Support Unit used in test configuration and system 12
2.5 EUT Operation Test Setup 12
2.6 Measurement Results Explanation Example 12
3 Test Result **13**
3.1 26dB & 99% Occupied Bandwidth Measurement 13
3.2 Maximum Conducted Output Power Measurement 16
3.3 Power Spectral Density Measurement 17
3.4 Unwanted Emissions Measurement 20
3.5 AC Conducted Emission Measurement 25
3.6 Automatically Discontinue Transmission 27
3.7 Antenna Requirements 29
4 List of Measuring Equipment **31**
5 Uncertainty of Evaluation **33**
Appendix A. Conducted Test Results
Appendix B. AC Conducted Emission Test Result
Appendix C. Radiated Spurious Emission
Appendix D. Radiated Spurious Emission Plots
Appendix E. Duty Cycle Plots

History of this test report

Report No.	Version	Description	Issued Date
FR830922-01E	01	Initial issue of report	Jul. 17, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
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
3.5	15.207	AC Conducted Emission	Pass
3.6	15.407(c)	Automatically Discontinue Transmission	Pass
3.7	15.203 15.407(a)	Antenna Requirement	Pass

Reviewed by: Joseph Lin

Report Producer: Polly Tsai

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	L9D29R
FCC ID	2AOAI-5432
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE Zigbee

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz
Maximum Output Power to Antenna <CDD Modes>	**<Ant. 1>** 802.11a : 17.51 dBm / 0.0564 W 802.11n HT20 : 16.90 dBm / 0.0490 W 802.11n HT40 : 16.59 dBm / 0.0456 W 802.11ac VHT20 : 16.89 dBm / 0.0489 W 802.11ac VHT40 : 16.55 dBm / 0.0452 W 802.11ac VHT80 : 13.18 dBm / 0.0208 W **<Ant. 2>** 802.11a : 17.97 dBm / 0.0627 W 802.11n HT20 : 17.46 dBm / 0.0557 W 802.11n HT40 : 17.02 dBm / 0.0504 W 802.11ac VHT20 : 17.15 dBm / 0.0519 W 802.11ac VHT40 : 17.00 dBm / 0.0501 W 802.11ac VHT80 : 13.76 dBm / 0.0238 W **MIMO<Ant. 1+2>** 802.11a : 20.43 dBm / 0.1104 W 802.11n HT20 : 20.30 dBm / 0.1072 W 802.11n HT40 : 20.01 dBm / 0.1002 W 802.11ac VHT20 : 20.27 dBm / 0.1064 W 802.11ac VHT40 : 19.89 dBm / 0.0975 W 802.11ac VHT80 : 15.85 dBm / 0.0385 W
Maximum Output Power to Antenna <TXBF Modes>	**MIMO<Ant. 1+2>** 802.11ac VHT20 : 20.73 dBm / 0.1183 W 802.11ac VHT40 : 20.01 dBm / 0.1002 W 802.11ac VHT80 : 14.06 dBm / 0.0255 W

Standards-related Product Specification	
99% Occupied Bandwidth <CDD Modes>	**<Ant. 1>** 802.11a : 16.95 MHz 802.11n HT20 : 17.85 MHz 802.11n HT40 : 36.60 MHz 802.11ac VHT80 : 76.92 MHz **<Ant. 2>** 802.11a : 17.00 MHz 802.11n HT20 : 17.85 MHz 802.11n HT40 : 36.70 MHz 802.11ac VHT80 : 77.04 MHz **MIMO<Ant. 1>** 802.11a : 17.05 MHz 802.11n HT20 : 17.95 MHz 802.11n HT40 : 36.80 MHz 802.11ac VHT80 : 77.04 MHz **MIMO<Ant. 2>** 802.11a : 16.75 MHz 802.11n HT20 : 17.80 MHz 802.11n HT40 : 36.80 MHz 802.11ac VHT80 : 76.80 MHz
99% Occupied Bandwidth <TXBF Modes>	**MIMO<Ant. 1>** 802.11ac VHT20 : 17.75 MHz 802.11ac VHT40 : 36.60 MHz 802.11ac VHT80 : 77.04 MHz **MIMO<Ant. 2>** 802.11ac VHT20 : 17.80 MHz 802.11ac VHT40 : 36.60 MHz 802.11ac VHT80 : 77.16 MHz
Antenna Type / Gain	**Ant. 1 :** Fixed Internal Antenna type with gain 4.50 dBi **Ant. 2 :** Fixed Internal Antenna type with gain 4.19 dBi
Antenna Function Description	(Ant. 1 / Ant. 2) 802.11 a/n/ac: V / V 802.11 a/n/ac MIMO: V / V
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Remark: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

1.3 Modification of EUT

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

1.4 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

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

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

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH12-HY

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

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 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

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).

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		

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.

Single Mode

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

MIMO Mode

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

TXBF Mode

Modulation	Data Rate
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

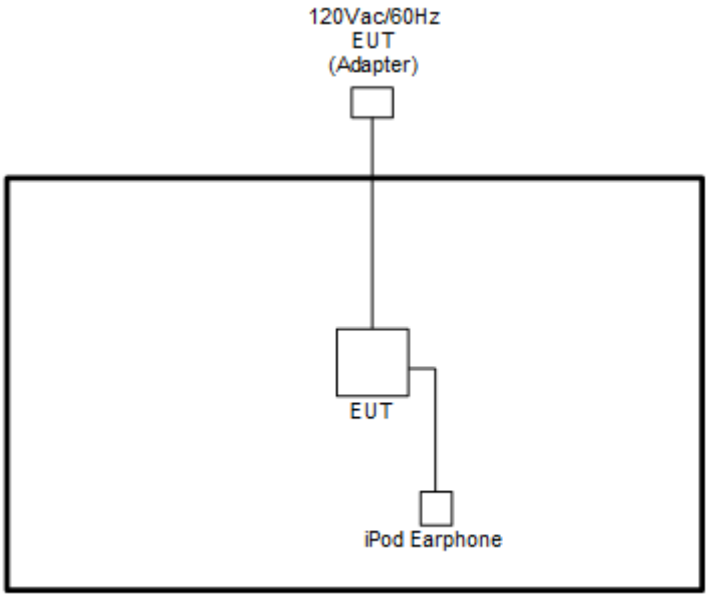
Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + Play News + Adapter + Speaker Out

Ch. #		Band I：5150-5250 MHz	Band I：5150-5250 MHz
		802.11a	802.11n HT20
L	Low	36	36
M	Middle	44	44
H	High	48	48

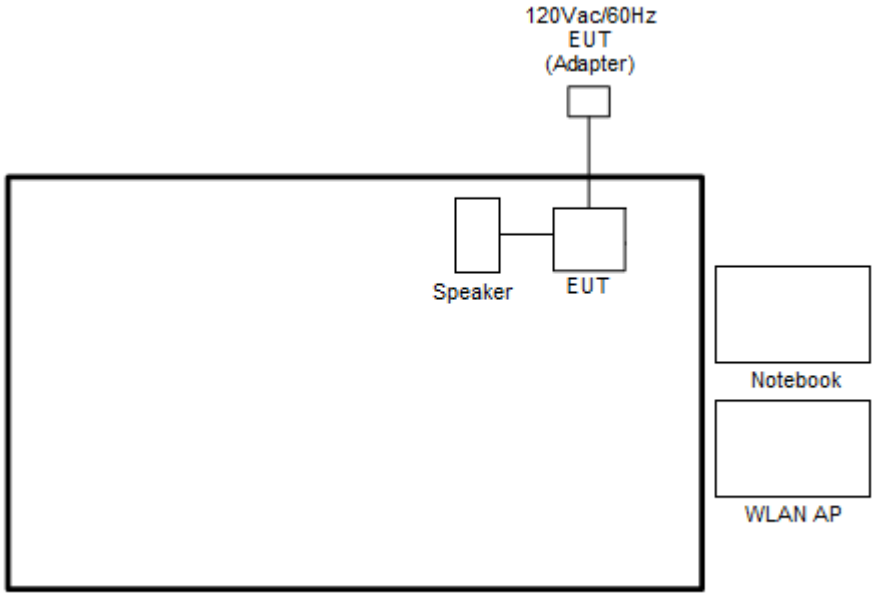
Ch. #		Band I：5150-5250 MHz	Band I：5150-5250 MHz
		802.11n HT40	802.11ac VHT80
L	Low	38	-
M	Middle	-	42
H	High	46	-

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	DELL	Latitude E3340	FCC DoC/ Contains FCC ID: PD97260NGU	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Speaker	JAWBONE	JAMBOX	V3J-JBE	Shielded, 0.5 m	N/A
5.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QATool.exe” 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.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

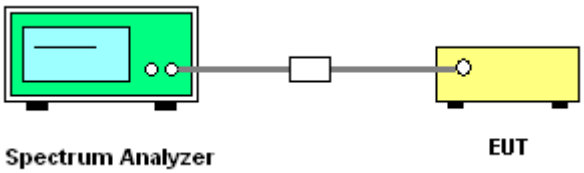
3.1.2 Measuring Instruments

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) ≥ 3 * RBW.
8. Measure and record the results in the test report.

3.1.4 Test Setup

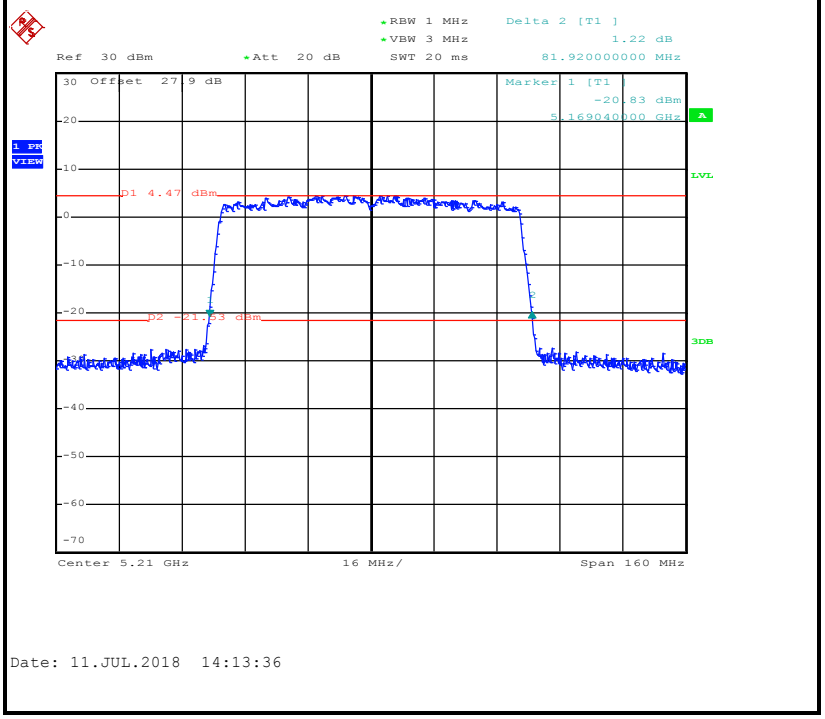


3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

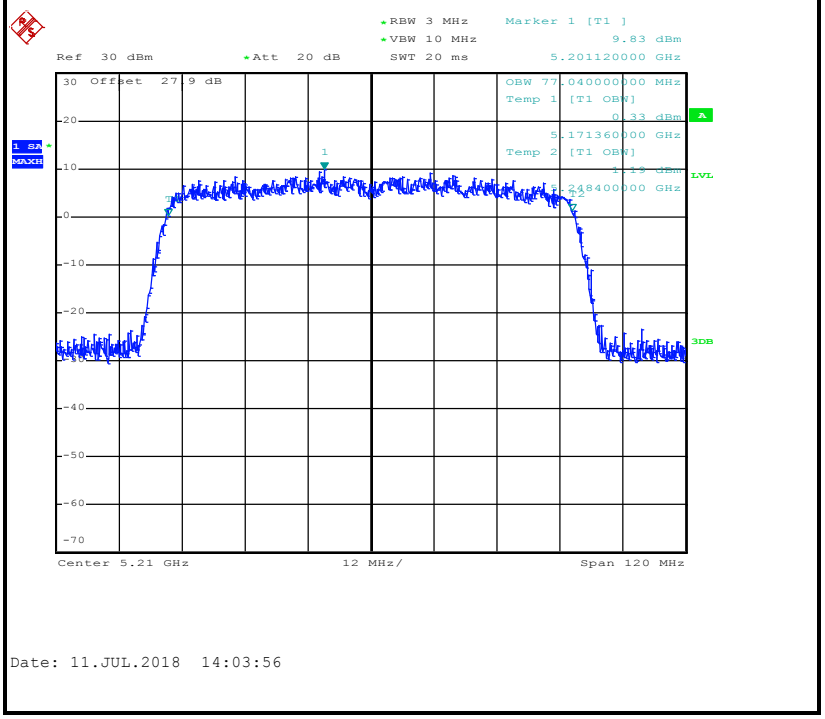
Please refer to Appendix A.

<CDD Mode>

Maximum 26dB Bandwidth



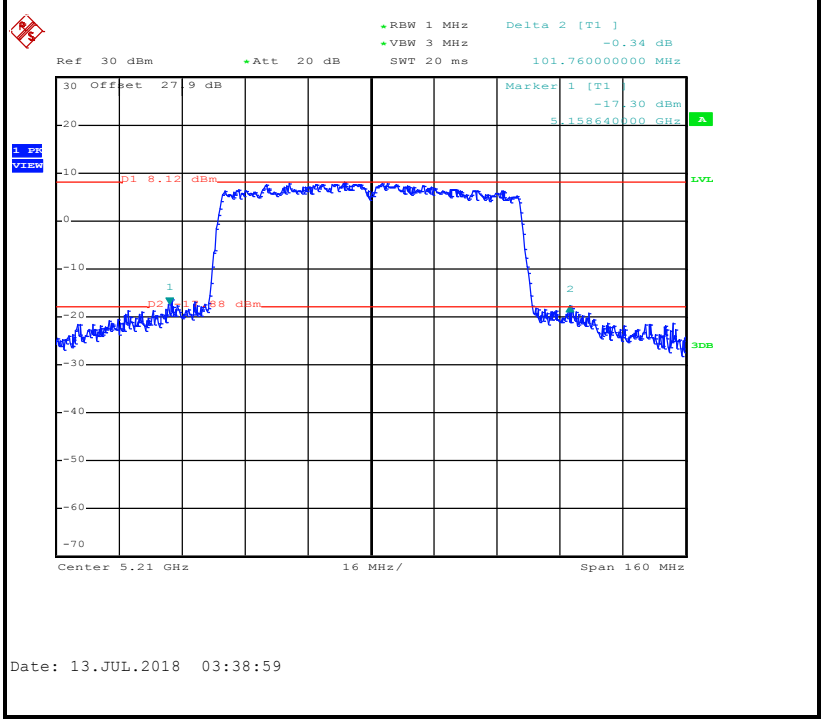
Maximum 99% Occupied Bandwidth



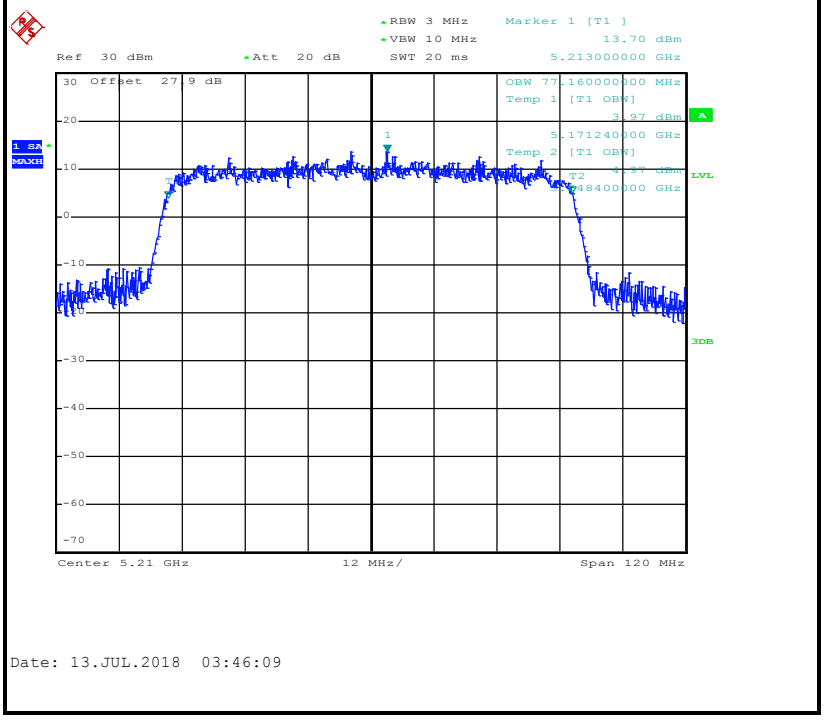
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<TXBF Modes>

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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.

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.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

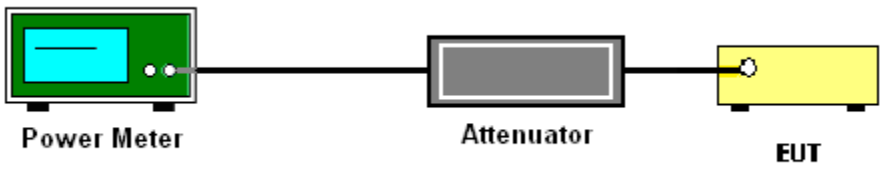
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For 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.

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.

<CDD Modes>

 # Method SA-2 #

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

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

<TXBF Modes>

 # Method SA-3 #

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

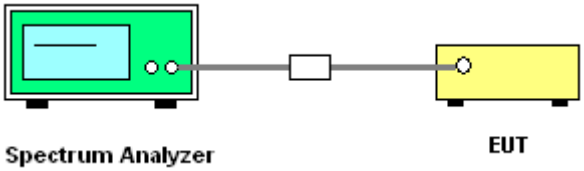
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time ≤ (number of points in sweep) × T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the 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

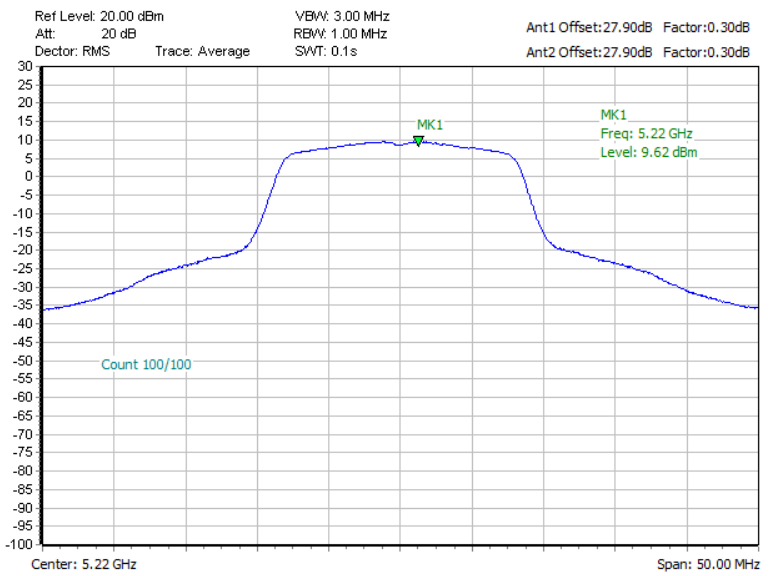


3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

<CDD Modes>

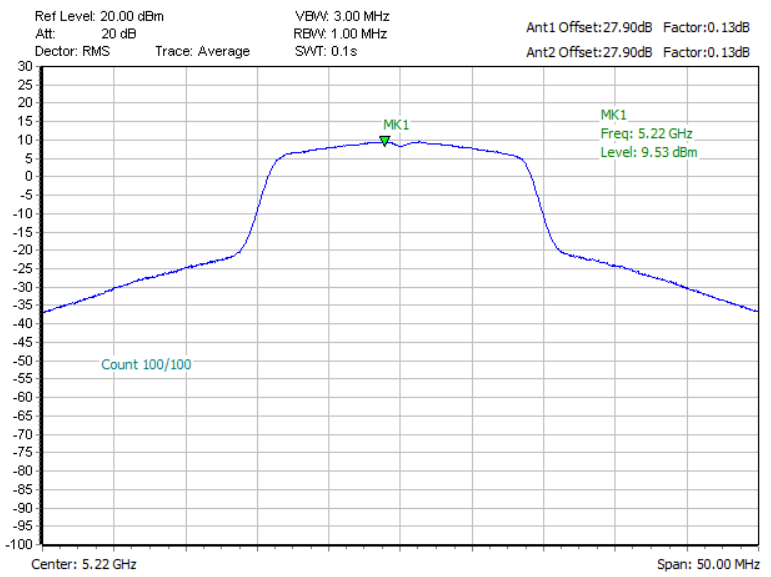
Worst Case Power Density (dBm/MHz)



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

<TXBF Modes>

Worst Case Power Density (dBm/MHz)



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.

(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.

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

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

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

(i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits 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.[3]

(ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.[4]

Note 3: An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

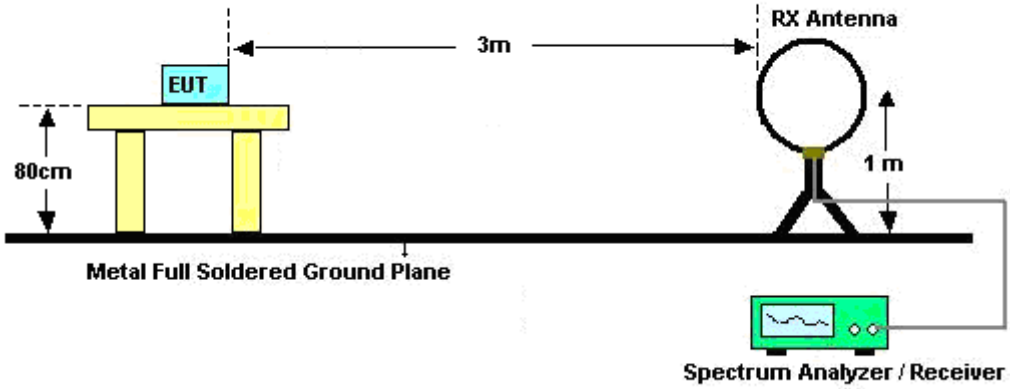
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

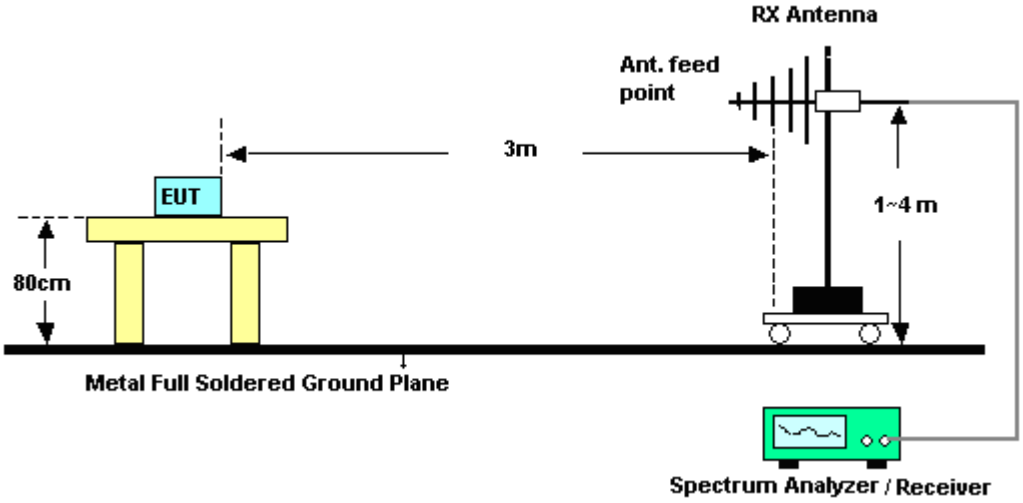
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

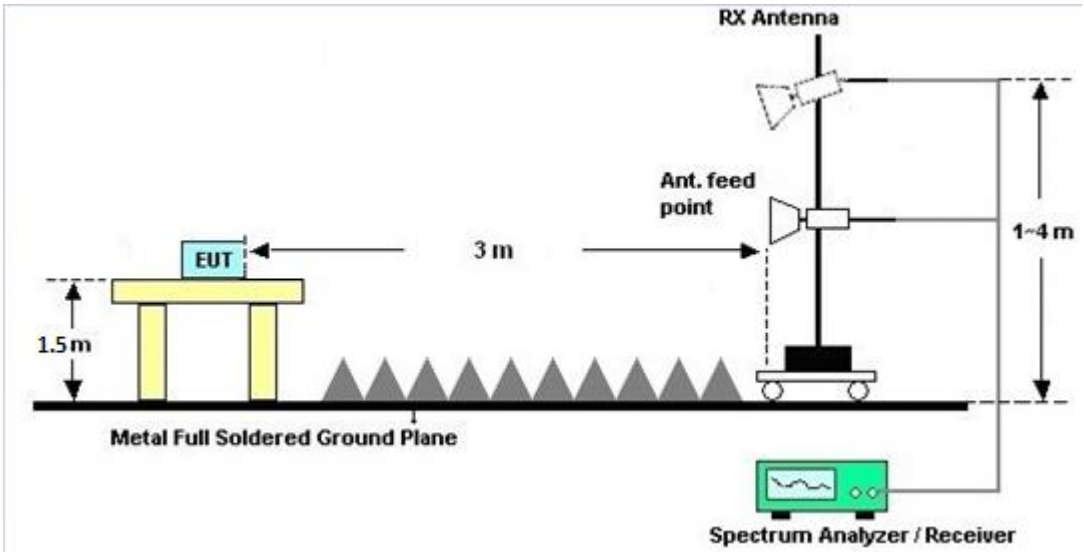
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C 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 (dBμV)	
	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.

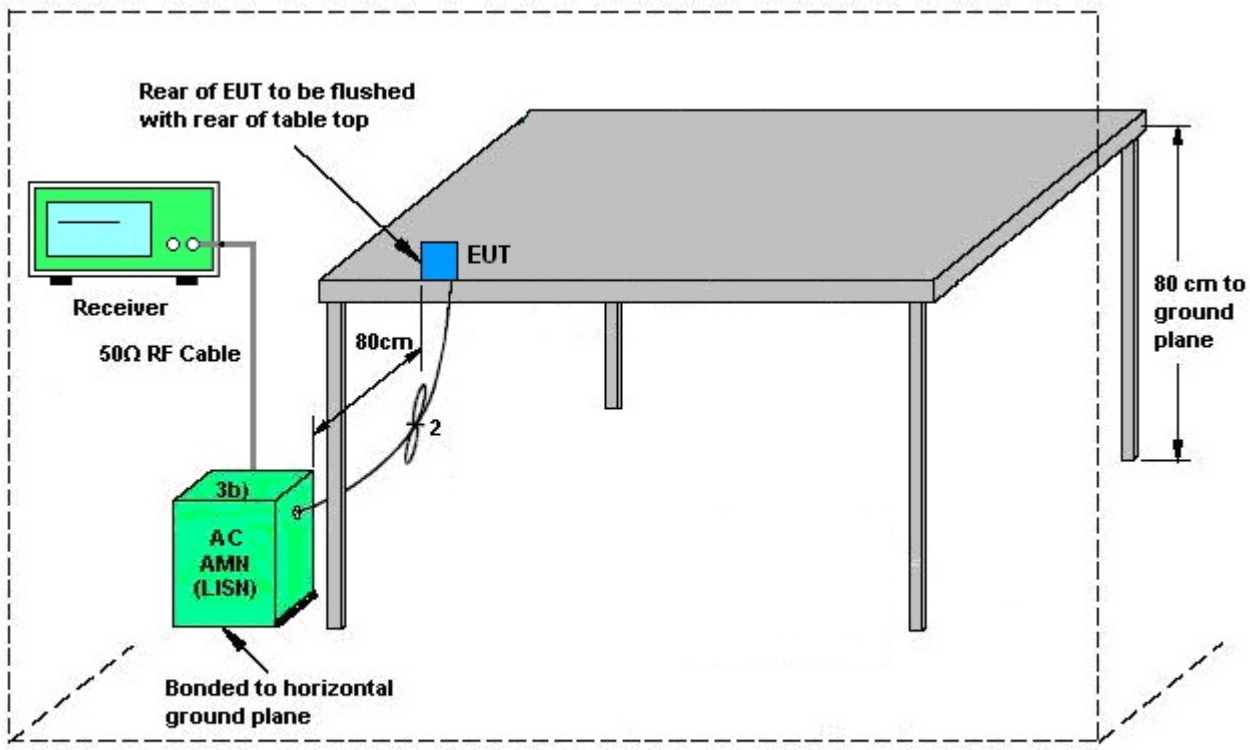
3.5.2 Measuring Instruments

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



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

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(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 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>

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	4.50	4.19	4.50	7.36	0.00	1.36

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

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

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F)2)e)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.

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	4.50	4.19	7.36	7.36	1.36	1.36

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1240001	N/A	Sep. 07, 2017	Jun. 16, 2018~ Jul. 15, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2017	Jun. 16, 2018~ Jul. 15, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	Jun. 16, 2018~ Jul. 15, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Jun. 16, 2018~ Jul. 15, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jun. 16, 2018~ Jul. 15, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 24, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Jun. 24, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Jun. 24, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jun. 24, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Jun. 24, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Jun. 24, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Jun. 18, 2018~ Jul. 16, 2018	Nov. 22, 2018	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800N1D01N-06	37059&01	30MHz~1GHz	Oct. 14, 2017	Jun. 18, 2018~ Jul. 16, 2018	Oct. 13, 2018	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Oct. 20, 2017	Jun. 18, 2018~ Jul. 16, 2018	Oct. 19, 2018	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz ~ 40GHz	Nov. 27, 2017	Jun. 18, 2018~ Jul. 16, 2018	Nov. 26, 2018	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 26, 2018	Jun. 18, 2018~ Jul. 16, 2018	Mar. 25, 2019	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY53270148	1GHz~26.5GHz	Jan. 15, 2018	Jun. 18, 2018~ Jul. 16, 2018	Jan. 14, 2019	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590074	1GHz~18GHz	May 21, 2018	Jun. 18, 2018~ Jul. 16, 2018	May 20, 2019	Radiation (03CH12-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Jun. 18, 2018~ Jul. 16, 2018	Jul. 17, 2018	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 25, 2017	Jun. 18, 2018~ Jul. 16, 2018	Dec. 24, 2018	Radiation (03CH12-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 31, 2017	Jun. 18, 2018~ Jul. 16, 2018	Oct. 30, 2018	Radiation (03CH12-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1G Low Pass	Sep. 18, 2017	Jun. 18, 2018~ Jul. 16, 2018	Sep. 17, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN4	3 GHz Highpass	Sep. 19, 2017	Jun. 18, 2018~ Jul. 16, 2018	Sep. 18, 2018	Radiation (03CH12-HY)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40ST	SN4	6.75 GHz Highpass	May 22, 2018	Jun. 18, 2018~ Jul. 16, 2018	May 21, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 14, 2018	Jun. 18, 2018~ Jul. 16, 2018	Mar. 13, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 17, 2017	Jun. 18, 2018~ Jul. 16, 2018	Oct. 16, 2018	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 17, 2017	Jun. 18, 2018~ Jul. 16, 2018	Oct. 16, 2018	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 18, 2018~ Jul. 16, 2018	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 18, 2018~ Jul. 16, 2018	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jun. 18, 2018~ Jul. 16, 2018	N/A	Radiation (03CH12-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.7

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

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

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.2

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.7

Appendix A. Test Result of Conducted Test Items

<CDD Mode>

Test Engineer:	Kai Liao / Rebecca Li	Temperature:	21~25	°C
Test Date:	2018/6/16 ~ 2018/7/11	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)			Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	16.80	17.00	28.80	29.40	-		22.25	22.30		
11a	6Mbps	1	44	5220	16.95	16.85	28.60	29.50	-		22.29	22.27		
11a	6Mbps	1	48	5240	16.85	16.80	31.90	28.60	-		22.27	22.25		
HT20	MCS0	1	36	5180	17.85	17.80	33.20	32.60	-		22.52	22.50		
HT20	MCS0	1	44	5220	17.80	17.85	31.00	32.60	-		22.50	22.52		
HT20	MCS0	1	48	5240	17.85	17.80	30.90	33.50	-		22.52	22.50		
HT40	MCS0	1	38	5190	36.40	36.60	60.48	68.58	-		23.01	23.01		
HT40	MCS0	1	46	5230	36.60	36.70	69.66	68.94	-		23.01	23.01		
VHT80	MCS0	1	42	5210	76.92	77.04	81.92	81.60	-		23.01	23.01		
11a	6Mbps	2	36	5180	17.00	16.75	31.20	32.70	-		22.24			
11a	6Mbps	2	44	5220	17.05	16.65	28.30	30.00	-		22.21			
11a	6Mbps	2	48	5240	16.80	16.65	28.20	28.80	-		22.21			
HT20	MCS0	2	36	5180	17.95	17.65	34.20	31.75	-		22.47			
HT20	MCS0	2	44	5220	17.90	17.80	32.40	31.40	-		22.50			
HT20	MCS0	2	48	5240	17.75	17.65	30.45	29.95	-		22.47			
HT40	MCS0	2	38	5190	36.60	36.60	64.17	52.02	-		23.01			
HT40	MCS0	2	46	5230	36.80	36.80	69.39	68.58	-		23.01			
VHT80	MCS0	2	42	5210	77.04	76.80	81.60	80.64	-		23.01			

TEST RESULTS DATA
Average Power Table

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.30	0.30	17.51	17.97		24.00	24.00	4.50	4.19	Pass
11a	6Mbps	1	44	5220	0.30	0.30	17.16	17.63		24.00	24.00	4.50	4.19	Pass
11a	6Mbps	1	48	5240	0.30	0.30	17.30	17.53		24.00	24.00	4.50	4.19	Pass
HT20	MCS0	1	36	5180	0.32	0.35	16.90	17.46		24.00	24.00	4.50	4.19	Pass
HT20	MCS0	1	44	5220	0.32	0.35	16.58	17.01		24.00	24.00	4.50	4.19	Pass
HT20	MCS0	1	48	5240	0.32	0.35	16.75	17.04		24.00	24.00	4.50	4.19	Pass
HT40	MCS0	1	38	5190	0.69	0.69	15.38	16.46		24.00	24.00	4.50	4.19	Pass
HT40	MCS0	1	46	5230	0.69	0.69	16.59	17.02		24.00	24.00	4.50	4.19	Pass
VHT20	MCS0	1	36	5180	0.35	0.32	16.89	17.15		24.00	24.00	4.50	4.19	Pass
VHT20	MCS0	1	44	5220	0.35	0.32	16.56	17.01		24.00	24.00	4.50	4.19	Pass
VHT20	MCS0	1	48	5240	0.35	0.32	16.74	17.04		24.00	24.00	4.50	4.19	Pass
VHT40	MCS0	1	38	5190	0.65	0.68	15.27	16.42		24.00	24.00	4.50	4.19	Pass
VHT40	MCS0	1	46	5230	0.65	0.68	16.55	17.00		24.00	24.00	4.50	4.19	Pass
VHT80	MCS0	1	42	5210	1.17	1.18	13.18	13.76		24.00	24.00	4.50	4.19	Pass
11a	6Mbps	2	36	5180	0.30	0.30	17.43	17.39	20.42	24.00		4.50		Pass
11a	6Mbps	2	44	5220	0.30	0.30	17.45	17.38	20.43	24.00		4.50		Pass
11a	6Mbps	2	48	5240	0.30	0.30	16.98	16.93	19.97	24.00		4.50		Pass
HT20	MCS0	2	36	5180	0.32	0.32	17.35	17.23	20.30	24.00		4.50		Pass
HT20	MCS0	2	44	5220	0.32	0.32	16.88	17.38	20.15	24.00		4.50		Pass
HT20	MCS0	2	48	5240	0.32	0.32	16.83	17.04	19.95	24.00		4.50		Pass
HT40	MCS0	2	38	5190	0.63	0.68	14.91	14.99	17.96	24.00		4.50		Pass
HT40	MCS0	2	46	5230	0.63	0.68	16.74	17.25	20.01	24.00		4.50		Pass
VHT20	MCS0	2	36	5180	0.32	0.35	17.14	17.37	20.27	24.00		4.50		Pass
VHT20	MCS0	2	44	5220	0.32	0.35	16.72	17.36	20.06	24.00		4.50		Pass
VHT20	MCS0	2	48	5240	0.32	0.35	16.63	17.00	19.83	24.00		4.50		Pass
VHT40	MCS0	2	38	5190	0.68	0.68	14.93	14.96	17.95	24.00		4.50		Pass
VHT40	MCS0	2	46	5230	0.68	0.68	16.72	17.03	19.89	24.00		4.50		Pass
VHT80	MCS0	2	42	5210	1.17	1.17	12.90	12.78	15.85	24.00		4.50		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.30	0.30	7.25	7.17		11.00	11.00	4.50	4.19	Pass
11a	6Mbps	1	44	5220	0.30	0.30	6.99	6.64		11.00	11.00	4.50	4.19	Pass
11a	6Mbps	1	48	5240	0.30	0.30	7.05	6.80		11.00	11.00	4.50	4.19	Pass
HT20	MCS0	1	36	5180	0.32	0.35	6.71	6.32		11.00	11.00	4.50	4.19	Pass
HT20	MCS0	1	44	5220	0.32	0.35	6.34	6.08		11.00	11.00	4.50	4.19	Pass
HT20	MCS0	1	48	5240	0.32	0.35	6.32	6.22		11.00	11.00	4.50	4.19	Pass
HT40	MCS0	1	38	5190	0.69	0.69	1.33	2.23		11.00	11.00	4.50	4.19	Pass
HT40	MCS0	1	46	5230	0.69	0.69	3.07	2.96		11.00	11.00	4.50	4.19	Pass
VHT80	MCS0	1	42	5210	1.17	1.18	-3.75	-3.75		11.00	11.00	4.50	4.19	Pass
11a	6Mbps	2	36	5180	0.30	0.30			9.48	9.64		7.36		Pass
11a	6Mbps	2	44	5220	0.30	0.30			9.62	9.64		7.36		Pass
11a	6Mbps	2	48	5240	0.30	0.30			9.33	9.64		7.36		Pass
HT20	MCS0	2	36	5180	0.32	0.32			9.27	9.64		7.36		Pass
HT20	MCS0	2	44	5220	0.32	0.32			9.53	9.64		7.36		Pass
HT20	MCS0	2	48	5240	0.32	0.32			9.12	9.64		7.36		Pass
HT40	MCS0	2	38	5190	0.63	0.68			3.93	9.64		7.36		Pass
HT40	MCS0	2	46	5230	0.63	0.68			6.13	9.64		7.36		Pass
VHT80	MCS0	2	42	5210	1.17	1.17			-1.67	9.64		7.36		Pass

<TXBF Mode>

Test Engineer:	Rebecca Li/Shiming Liu/Shiang Wang	Temperature:	21~25	°C
Test Date:	2018/7/10~2018/7/15	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)			Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
VHT20	MCS0	2	36	5180	17.75	17.75	29.85	26.80	-		22.49			
VHT20	MCS0	2	44	5220	17.75	17.80	29.32	25.40	-		22.49			
VHT20	MCS0	2	48	5240	17.75	17.80	28.45	29.45	-		22.49			
VHT40	MCS0	2	38	5190	36.60	36.50	62.64	61.56	-		23.01			
VHT40	MCS0	2	46	5230	36.60	36.60	43.41	43.56	-		23.01			
VHT80	MCS0	2	42	5210	77.04	77.16	101.76	91.76	-		23.01			

TEST RESULTS DATA
Average Power Table

FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
VHT20	MCS0	2	36	5180	0.13	0.13	17.47	17.14	20.32	22.64		7.36		Pass
VHT20	MCS0	2	44	5220	0.13	0.13	17.77	17.50	20.65	22.64		7.36		Pass
VHT20	MCS0	2	48	5240	0.13	0.13	17.86	17.57	20.73	22.64		7.36		Pass
VHT40	MCS0	2	38	5190	0.23	0.23	14.36	13.77	17.09	22.64		7.36		Pass
VHT40	MCS0	2	46	5230	0.23	0.23	17.22	16.75	20.01	22.64		7.36		Pass
VHT80	MCS0	2	42	5210	0.51	0.46	11.65	10.36	14.06	22.64		7.36		Pass

TEST RESULTS DATA
Power Spectral Density

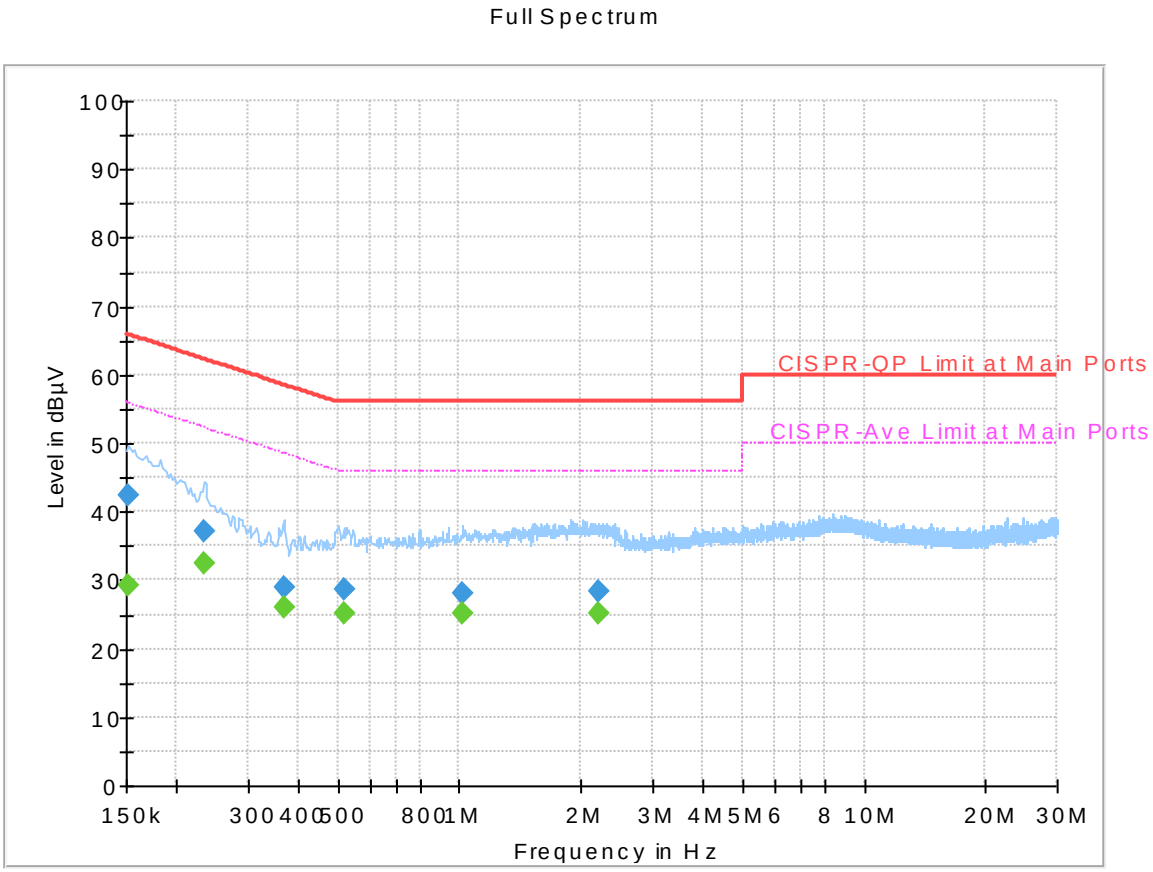
FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
VHT20	MCS0	2	36	5180	0.13	0.13			9.19	9.64		7.36		Pass
VHT20	MCS0	2	44	5220	0.13	0.13			9.53	9.64		7.36		Pass
VHT20	MCS0	2	48	5240	0.13	0.13			9.19	9.64		7.36		Pass
VHT40	MCS0	2	38	5190	0.23	0.23			2.48	9.64		7.36		Pass
VHT40	MCS0	2	46	5230	0.23	0.23			5.58	9.64		7.36		Pass
VHT80	MCS0	2	42	5210	0.51	0.46			-3.93	9.64		7.36		Pass

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Kai-Chun Chu	**Temperature :**	25~27℃
		Relative Humidity :	50~52%

EUT Information

Report NO :	830922-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

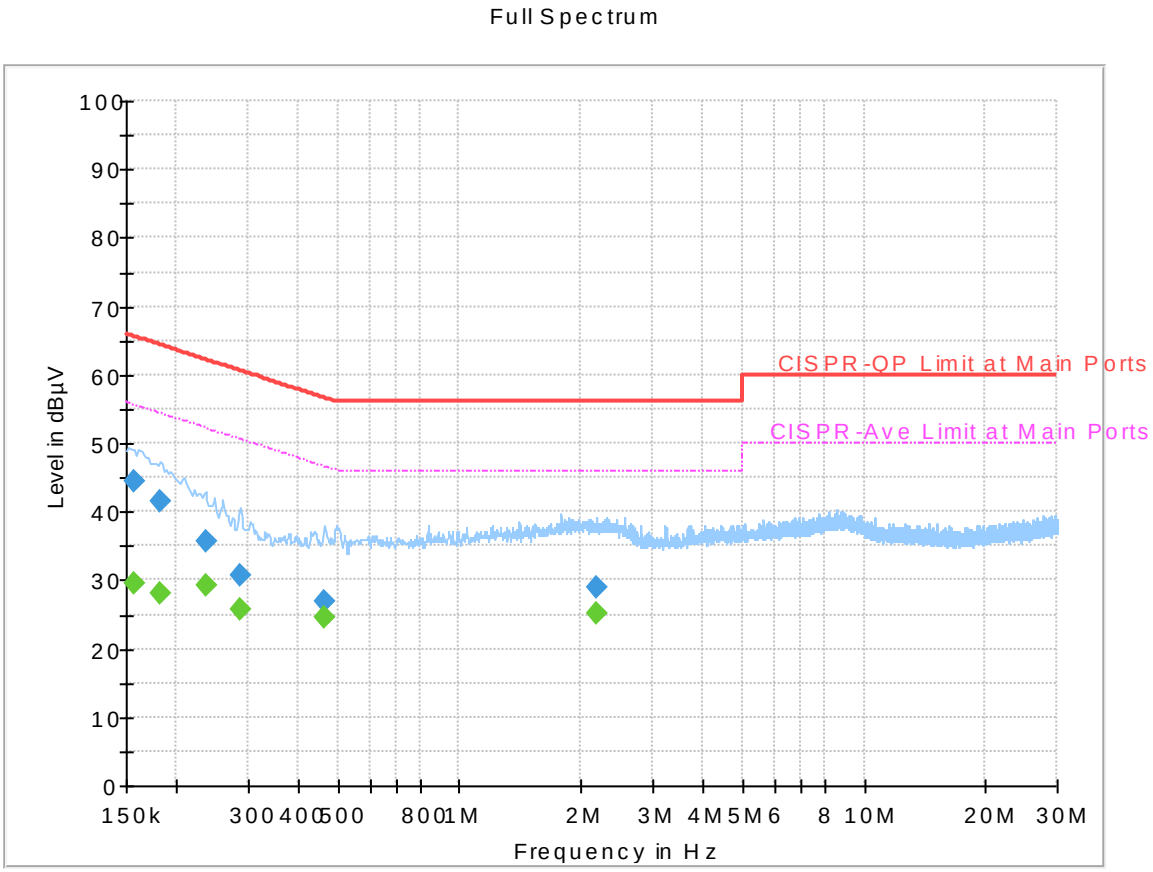


Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	29.28	55.88	26.60	L1	OFF	19.5
0.152250	42.45	---	65.88	23.43	L1	OFF	19.5
0.233250	---	32.53	52.33	19.80	L1	OFF	19.5
0.233250	37.13	---	62.33	25.20	L1	OFF	19.5
0.368250	---	26.06	48.54	22.48	L1	OFF	19.5
0.368250	28.98	---	58.54	29.56	L1	OFF	19.5
0.516750	---	25.19	46.00	20.81	L1	OFF	19.5
0.516750	28.53	---	56.00	27.47	L1	OFF	19.5
1.016250	---	25.09	46.00	20.91	L1	OFF	19.6
1.016250	27.98	---	56.00	28.02	L1	OFF	19.6
2.206500	---	25.12	46.00	20.88	L1	OFF	19.5
2.206500	28.44	---	56.00	27.56	L1	OFF	19.5

EUT Information

Report NO :	830922-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	29.49	55.63	26.14	N	OFF	19.5
0.156750	44.32	---	65.63	21.31	N	OFF	19.5
0.181500	---	28.07	54.42	26.35	N	OFF	19.5
0.181500	41.58	---	64.42	22.84	N	OFF	19.5
0.235500	---	29.24	52.25	23.01	N	OFF	19.5
0.235500	35.59	---	62.25	26.66	N	OFF	19.5
0.287250	---	25.69	50.60	24.91	N	OFF	19.5
0.287250	30.59	---	60.60	30.01	N	OFF	19.5
0.465000	---	24.54	46.60	22.06	N	OFF	19.5
0.465000	26.86	---	56.60	29.74	N	OFF	19.5
2.175000	---	25.23	46.00	20.77	N	OFF	19.5
2.175000	29.07	---	56.00	26.93	N	OFF	19.5

Appendix C. Radiated Spurious Emission

Test Engineer :	Jack Jheng, Peter Liao, and Master Huang	Temperature :	22~25°C
		Relative Humidity :	56~62%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5148.72	66.84	-7.16	74	56.21	31.79	9.98	31.14	264	15	P	H
		5150	51.81	-2.19	54	41.18	31.79	9.98	31.14	264	15	A	H
	*	5180	115.6	-	-	104.91	31.81	10.02	31.14	264	15	P	H
	*	5180	104.91	-	-	94.22	31.81	10.02	31.14	264	15	A	H
		5149.5	62.93	-11.07	74	52.3	31.79	9.98	31.14	388	315	P	V
		5150	49.84	-4.16	54	39.21	31.79	9.98	31.14	388	315	A	V
	*	5180	114.53	-	-	103.84	31.81	10.02	31.14	388	315	P	V
	*	5180	104.03	-	-	93.34	31.81	10.02	31.14	388	315	A	V
802.11a CH 44 5220MHz		5135.72	56.02	-17.98	74	45.42	31.78	9.96	31.14	101	8	P	H
		5141.96	45.14	-8.86	54	34.52	31.79	9.97	31.14	101	8	A	H
	*	5220	114.89	-	-	104.14	31.83	10.06	31.14	101	8	P	H
	*	5220	104.23	-	-	93.48	31.83	10.06	31.14	101	8	A	H
		5350	54.22	-19.78	74	43.3	31.91	10.16	31.15	101	8	P	H
		5351.08	42.85	-11.15	54	31.93	31.91	10.16	31.15	101	8	A	H
		5135.98	55.17	-18.83	74	44.57	31.78	9.96	31.14	400	317	P	V
		5117	44.26	-9.74	54	33.69	31.77	9.94	31.14	400	317	A	V
	*	5220	114.95	-	-	104.2	31.83	10.06	31.14	400	317	P	V
	*	5220	104.36	-	-	93.61	31.83	10.06	31.14	400	317	A	V
		5352.76	55.64	-18.36	74	44.72	31.91	10.16	31.15	400	317	P	V
		5355.84	43.26	-10.74	54	32.34	31.91	10.16	31.15	400	317	A	V

802.11a CH 48 5240MHz		5149.76	54.73	-19.27	74	44.1	31.79	9.98	31.14	289	10	P	H
		5150	44.54	-9.46	54	33.91	31.79	9.98	31.14	289	10	A	H
	*	5240	115.16	-	-	104.39	31.84	10.07	31.14	289	10	P	H
	*	5240	104.67	-	-	93.9	31.84	10.07	31.14	289	10	A	H
		5350.24	54.82	-19.18	74	43.9	31.91	10.16	31.15	289	10	P	H
		5351.92	44.47	-9.53	54	33.55	31.91	10.16	31.15	289	10	A	H
		5135.72	54.76	-19.24	74	44.16	31.78	9.96	31.14	397	315	P	V
		5128.7	44.15	-9.85	54	33.56	31.78	9.95	31.14	397	315	A	V
	*	5240	115.15	-	-	104.38	31.84	10.07	31.14	397	315	P	V
	*	5240	104.46	-	-	93.69	31.84	10.07	31.14	397	315	A	V
		5352.76	55.61	-18.39	74	44.69	31.91	10.16	31.15	397	315	P	V
		5351.64	43.62	-10.38	54	32.7	31.91	10.16	31.15	397	315	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		10360	55.19	-13.01	68.2	56.69	39.86	15.6	56.96	100	0	P	H
		15540	58.02	-15.98	74	56.55	38.53	19.59	56.65	157	288	P	H
		15540	43.7	-10.3	54	42.23	38.53	19.59	56.65	157	288	A	H
		10360	55.38	-12.82	68.2	56.88	39.86	15.6	56.96	100	0	P	V
		15540	48.97	-25.03	74	47.5	38.53	19.59	56.65	100	0	P	V
802.11a CH 44 5220MHz		10440	56.32	-11.88	68.2	57.59	39.98	15.67	56.92	100	0	P	H
		15660	56.02	-17.98	74	54.6	38.29	19.64	56.51	161	290	P	H
		15660	42.17	-11.83	54	40.75	38.29	19.64	56.51	161	290	A	H
		10440	55	-13.2	68.2	56.27	39.98	15.67	56.92	100	0	P	V
		15660	51.69	-22.31	74	50.27	38.29	19.64	56.51	194	279	P	V
		15660	39.32	-14.68	54	37.9	38.29	19.64	56.51	194	279	A	V
802.11a CH 48 5240MHz		10480	56.2	-12	68.2	57.34	40.07	15.7	56.91	100	0	P	H
		15720	53.93	-20.07	74	52.57	38.15	19.65	56.44	201	290	P	H
		15720	41.61	-12.39	54	40.25	38.15	19.65	56.44	201	290	A	H
		10480	56.71	-11.49	68.2	57.85	40.07	15.7	56.91	100	0	P	V
		15720	60.01	-13.99	74	58.65	38.15	19.65	56.44	174	204	P	V
		15720	47.07	-6.93	54	45.71	38.15	19.65	56.44	174	204	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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	68.39	-5.61	74	57.76	31.79	9.98	31.14	205	13	P	H
		5150	50.91	-3.09	54	40.28	31.79	9.98	31.14	205	13	A	H
	*	5180	115.32	-	-	104.63	31.81	10.02	31.14	205	13	P	H
	*	5180	103.71	-	-	93.02	31.81	10.02	31.14	205	13	A	H
		5150	66.71	-7.29	74	56.08	31.79	9.98	31.14	388	322	P	V
		5149.76	48.29	-5.71	54	37.66	31.79	9.98	31.14	388	322	A	V
	*	5180	113.4	-	-	102.71	31.81	10.02	31.14	388	322	P	V
	*	5180	102.04	-	-	91.35	31.81	10.02	31.14	388	322	A	V
802.11n HT20 CH 44 5220MHz		5147.42	56.61	-17.39	74	45.98	31.79	9.98	31.14	213	9	P	H
		5139.62	45.21	-8.79	54	34.59	31.79	9.97	31.14	213	9	A	H
	*	5220	114.51	-	-	103.76	31.83	10.06	31.14	213	9	P	H
	*	5220	103.09	-	-	92.34	31.83	10.06	31.14	213	9	A	H
		5367.32	53.5	-20.5	74	42.56	31.92	10.17	31.15	213	9	P	H
		5350.8	43.46	-10.54	54	32.54	31.91	10.16	31.15	213	9	A	H
		5102.18	55.4	-18.6	74	44.86	31.76	9.92	31.14	400	315	P	V
		5120.64	44.39	-9.61	54	33.82	31.77	9.94	31.14	400	315	A	V
	*	5220	113.89	-	-	103.14	31.83	10.06	31.14	400	315	P	V
	*	5220	102.54	-	-	91.79	31.83	10.06	31.14	400	315	A	V
		5353.32	53.65	-20.35	74	42.73	31.91	10.16	31.15	400	315	P	V
		5351.08	43.27	-10.73	54	32.35	31.91	10.16	31.15	400	315	A	V

802.11n HT20 CH 48 5240MHz		5149.5	55.19	-18.81	74	44.56	31.79	9.98	31.14	225	8	P	H
		5149.76	44.78	-9.22	54	34.15	31.79	9.98	31.14	225	8	A	H
	*	5240	114.1	-	-	103.33	31.84	10.07	31.14	225	8	P	H
	*	5240	102.59	-	-	91.82	31.84	10.07	31.14	225	8	A	H
		5352.76	54.72	-19.28	74	43.8	31.91	10.16	31.15	225	8	P	H
		5351.36	43.63	-10.37	54	32.71	31.91	10.16	31.15	225	8	A	H
		5111.28	54.73	-19.27	74	44.17	31.77	9.93	31.14	397	315	P	V
		5127.66	44.31	-9.69	54	33.72	31.78	9.95	31.14	397	315	A	V
	*	5240	114.08	-	-	103.31	31.84	10.07	31.14	397	315	P	V
	*	5240	102.52	-	-	91.75	31.84	10.07	31.14	397	315	A	V
		5365.36	54.41	-19.59	74	43.47	31.92	10.17	31.15	397	315	P	V
		5359.76	43.4	-10.6	54	32.47	31.91	10.17	31.15	397	315	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		10360	54.54	-13.66	68.2	56.04	39.86	15.6	56.96	100	0	P	H
		15540	53.27	-20.73	74	51.8	38.53	19.59	56.65	192	342	P	H
		15540	40.11	-13.89	54	38.64	38.53	19.59	56.65	192	342	A	H
		10360	56.18	-12.02	68.2	57.68	39.86	15.6	56.96	100	0	P	V
		15540	51.79	-22.21	74	50.32	38.53	19.59	56.65	102	228	P	V
		15540	38.33	-15.67	54	36.86	38.53	19.59	56.65	102	228	A	V
802.11n HT20 CH 44 5220MHz		10440	56.9	-11.3	68.2	58.17	39.98	15.67	56.92	100	0	P	H
		15660	53.22	-20.78	74	51.8	38.29	19.64	56.51	159	289	P	H
		15660	40.14	-13.86	54	38.72	38.29	19.64	56.51	159	289	A	H
		10440	55.07	-13.13	68.2	56.34	39.98	15.67	56.92	100	0	P	V
		15660	53.17	-20.83	74	51.75	38.29	19.64	56.51	256	48	P	V
		15660	39.27	-14.73	54	37.85	38.29	19.64	56.51	256	48	A	V
802.11n HT20 CH 48 5240MHz		10480	57.14	-11.06	68.2	58.28	40.07	15.7	56.91	100	0	P	H
		15720	55.44	-18.56	74	54.08	38.15	19.65	56.44	133	0	P	H
		15720	40.19	-13.81	54	38.83	38.15	19.65	56.44	133	0	A	H
		10480	54.98	-13.22	68.2	56.12	40.07	15.7	56.91	100	0	P	V
		15720	51.77	-22.23	74	50.41	38.15	19.65	56.44	107	312	P	V
		15720	37.36	-16.64	54	36	38.15	19.65	56.44	107	312	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5150	71.68	-2.32	74	61.05	31.79	9.98	31.14	215	11	P	H
		5150	52.27	-1.73	54	41.64	31.79	9.98	31.14	215	11	A	H
	*	5190	108.53	-	-	97.83	31.81	10.03	31.14	215	11	P	H
	*	5190	98.79	-	-	88.09	31.81	10.03	31.14	215	11	A	H
		5364.8	53.69	-20.31	74	42.75	31.92	10.17	31.15	215	11	P	H
		5366.2	43.04	-10.96	54	32.1	31.92	10.17	31.15	215	11	A	H
		5150	68.54	-5.46	74	57.91	31.79	9.98	31.14	387	315	P	V
		5150	49.2	-4.8	54	38.57	31.79	9.98	31.14	387	315	A	V
	*	5190	106.96	-	-	96.26	31.81	10.03	31.14	387	315	P	V
	*	5190	96.94	-	-	86.24	31.81	10.03	31.14	387	315	A	V
		5404	53.37	-20.63	74	42.38	31.94	10.2	31.15	387	315	P	V
		5406.52	42.35	-11.65	54	31.35	31.94	10.21	31.15	387	315	A	V
802.11n HT40 CH 46 5230MHz		5149.5	59.19	-14.81	74	48.56	31.79	9.98	31.14	201	12	P	H
		5150	46.62	-7.38	54	35.99	31.79	9.98	31.14	201	12	A	H
	*	5230	110.57	-	-	99.81	31.84	10.06	31.14	201	12	P	H
	*	5230	100.78	-	-	90.02	31.84	10.06	31.14	201	12	A	H
		5355	54.94	-19.06	74	44.02	31.91	10.16	31.15	201	12	P	H
		5355.84	44.2	-9.8	54	33.28	31.91	10.16	31.15	201	12	A	H
		5146.64	56.11	-17.89	74	45.48	31.79	9.98	31.14	400	313	P	V
		5121.68	44.63	-9.37	54	34.05	31.77	9.95	31.14	400	313	A	V
	*	5230	109.54	-	-	98.78	31.84	10.06	31.14	400	313	P	V
	*	5230	99.51	-	-	88.75	31.84	10.06	31.14	400	313	A	V
		5354.44	54.85	-19.15	74	43.93	31.91	10.16	31.15	400	313	P	V
		5351.36	44.05	-9.95	54	33.13	31.91	10.16	31.15	400	313	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		10380	49.89	-18.31	68.2	51.33	39.89	15.62	56.95	100	0	P	H
		15570	47.7	-26.3	74	46.26	38.46	19.6	56.62	100	0	P	H
		10380	49.98	-18.22	68.2	51.42	39.89	15.62	56.95	100	0	P	V
		15570	47.58	-26.42	74	46.14	38.46	19.6	56.62	100	0	P	V
802.11n HT40 CH 46 5230MHz		10460	54.06	-14.14	68.2	55.29	40.01	15.68	56.92	100	0	P	H
		15690	53.04	-20.96	74	51.65	38.22	19.64	56.47	100	288	P	H
		15690	39.63	-14.37	54	38.24	38.22	19.64	56.47	100	288	A	H
		10460	51.66	-16.54	68.2	52.89	40.01	15.68	56.92	100	0	P	V
		15690	48.57	-25.43	74	47.18	38.22	19.64	56.47	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5150	62.84	-11.16	74	52.21	31.79	9.98	31.14	202	8	P	H
		5149.24	52.86	-1.14	54	42.23	31.79	9.98	31.14	202	8	A	H
	*	5210	103.24	-	-	92.5	31.83	10.05	31.14	202	8	P	H
	*	5210	93.6	-	-	82.86	31.83	10.05	31.14	202	8	A	H
		5413.24	53.28	-20.72	74	42.27	31.95	10.21	31.15	202	8	P	H
		5369	44.61	-9.39	54	33.66	31.92	10.18	31.15	202	8	A	H
		5147.42	59.35	-14.65	74	48.72	31.79	9.98	31.14	400	318	P	V
		5147.68	49.93	-4.07	54	39.3	31.79	9.98	31.14	400	318	A	V
	*	5210	103.04	-	-	92.3	31.83	10.05	31.14	400	318	P	V
	*	5210	92.83	-	-	82.09	31.83	10.05	31.14	400	318	A	V
		5376.84	53.24	-20.76	74	42.29	31.92	10.18	31.15	400	318	P	V
		5354.44	44.48	-9.52	54	33.56	31.91	10.16	31.15	400	318	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		10420	48.76	-19.44	68.2	50.09	39.95	15.65	56.93	100	0	P	H
VHT80		15630	47.17	-26.83	74	45.77	38.32	19.62	56.54	100	0	P	H
CH 42		10420	49.26	-18.94	68.2	50.59	39.95	15.65	56.93	100	0	P	V
5210MHz		15630	47.73	-26.27	74	46.33	38.32	19.62	56.54	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5148.72	64.91	-9.09	74	54.28	31.79	9.98	31.14	285	194	P	H
		5149.76	49.56	-4.44	54	38.93	31.79	9.98	31.14	285	194	A	H
	*	5180	114.63	-	-	103.94	31.81	10.02	31.14	285	194	P	H
	*	5180	103.89	-	-	93.2	31.81	10.02	31.14	285	194	A	H
		5149.5	59.91	-14.09	74	49.28	31.79	9.98	31.14	328	183	P	V
		5149.76	46.49	-7.51	54	35.86	31.79	9.98	31.14	328	183	A	V
	*	5180	112.04	-	-	101.35	31.81	10.02	31.14	328	183	P	V
	*	5180	101.3	-	-	90.61	31.81	10.02	31.14	328	183	A	V
802.11a CH 44 5220MHz		5138.58	55.49	-18.51	74	44.88	31.78	9.97	31.14	281	194	P	H
		5148.46	44.93	-9.07	54	34.3	31.79	9.98	31.14	281	194	A	H
	*	5220	115.09	-	-	104.34	31.83	10.06	31.14	281	194	P	H
	*	5220	104.16	-	-	93.41	31.83	10.06	31.14	281	194	A	H
		5394.2	54.57	-19.43	74	43.59	31.93	10.2	31.15	281	194	P	H
		5352.48	42.96	-11.04	54	32.04	31.91	10.16	31.15	281	194	A	H
		5138.06	53.39	-20.61	74	42.78	31.78	9.97	31.14	304	180	P	V
		5145.08	42.63	-11.37	54	32.01	31.79	9.97	31.14	304	180	A	V
	*	5220	111.75	-	-	101	31.83	10.06	31.14	304	180	P	V
	*	5220	100.95	-	-	90.2	31.83	10.06	31.14	304	180	A	V
		5373.2	53.36	-20.64	74	42.41	31.92	10.18	31.15	304	180	P	V
		5361.44	42	-12	54	31.06	31.92	10.17	31.15	304	180	A	V

802.11a CH 48 5240MHz		5114.66	54.74	-19.26	74	44.17	31.77	9.94	31.14	279	194	P	H
		5149.76	44.73	-9.27	54	34.1	31.79	9.98	31.14	279	194	A	H
	*	5240	114.93	-	-	104.16	31.84	10.07	31.14	279	194	P	H
	*	5240	104.19	-	-	93.42	31.84	10.07	31.14	279	194	A	H
		5352.76	54.03	-19.97	74	43.11	31.91	10.16	31.15	279	194	P	H
		5352.2	43.56	-10.44	54	32.64	31.91	10.16	31.15	279	194	A	H
		5115.96	53.53	-20.47	74	42.96	31.77	9.94	31.14	336	183	P	V
		5147.42	42.64	-11.36	54	32.01	31.79	9.98	31.14	336	183	A	V
	*	5240	111.69	-	-	100.92	31.84	10.07	31.14	336	183	P	V
	*	5240	100.84	-	-	90.07	31.84	10.07	31.14	336	183	A	V
		5396.44	53.47	-20.53	74	42.48	31.94	10.2	31.15	336	183	P	V
		5354.44	41.97	-12.03	54	31.05	31.91	10.16	31.15	336	183	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		10360	50.45	-17.75	68.2	51.95	39.86	15.6	56.96	100	0	P	H
		15540	55.6	-18.4	74	54.13	38.53	19.59	56.65	137	169	P	H
		15540	41.91	-12.09	54	40.44	38.53	19.59	56.65	137	169	A	H
		10360	50.14	-18.06	68.2	51.64	39.86	15.6	56.96	100	0	P	V
		15540	53.35	-20.65	74	51.88	38.53	19.59	56.65	203	252	P	V
		15540	39.57	-14.43	54	38.1	38.53	19.59	56.65	203	252	A	V
802.11a CH 44 5220MHz		10440	51	-17.2	68.2	52.27	39.98	15.67	56.92	100	0	P	H
		15660	56.88	-17.12	74	55.46	38.29	19.64	56.51	163	112	P	H
		15660	42.63	-11.37	54	41.21	38.29	19.64	56.51	163	112	A	H
		10440	49.28	-18.92	68.2	50.55	39.98	15.67	56.92	100	0	P	V
		15660	55.62	-18.38	74	54.2	38.29	19.64	56.51	301	226	P	V
		15660	41.43	-12.57	54	40.01	38.29	19.64	56.51	301	226	A	V
802.11a CH 48 5240MHz		10480	50.07	-18.13	68.2	51.21	40.07	15.7	56.91	100	0	P	H
		15720	57.86	-16.14	74	56.5	38.15	19.65	56.44	233	170	P	H
		15720	42.89	-11.11	54	41.53	38.15	19.65	56.44	233	170	A	H
		10480	49.78	-18.42	68.2	50.92	40.07	15.7	56.91	100	0	P	V
		15720	56.84	-17.16	74	55.48	38.15	19.65	56.44	304	226	P	V
		15720	41.99	-12.01	54	40.63	38.15	19.65	56.44	304	226	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	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	66.82	-7.18	74	56.19	31.79	9.98	31.14	299	197	P	H
		5149.76	48.84	-5.16	54	38.21	31.79	9.98	31.14	299	197	A	H
	*	5180	114.74	-	-	104.05	31.81	10.02	31.14	299	197	P	H
	*	5180	103.13	-	-	92.44	31.81	10.02	31.14	299	197	A	H
		5150	63.95	-10.05	74	53.32	31.79	9.98	31.14	328	186	P	V
		5149.5	46.17	-7.83	54	35.54	31.79	9.98	31.14	328	186	A	V
	*	5180	110.69	-	-	100	31.81	10.02	31.14	328	186	P	V
	*	5180	100	-	-	89.31	31.81	10.02	31.14	328	186	A	V
802.11n HT20 CH 44 5220MHz		5148.46	56.36	-17.64	74	45.73	31.79	9.98	31.14	278	194	P	H
		5149.76	45.08	-8.92	54	34.45	31.79	9.98	31.14	278	194	A	H
	*	5220	115.31	-	-	104.56	31.83	10.06	31.14	278	194	P	H
	*	5220	103.7	-	-	92.95	31.83	10.06	31.14	278	194	A	H
		5360.6	54.66	-19.34	74	43.72	31.92	10.17	31.15	278	194	P	H
		5350.24	43.29	-10.71	54	32.37	31.91	10.16	31.15	278	194	A	H
		5146.64	53.96	-20.04	74	43.33	31.79	9.98	31.14	323	180	P	V
		5149.24	42.01	-11.99	54	31.38	31.79	9.98	31.14	323	180	A	V
	*	5220	111.29	-	-	100.54	31.83	10.06	31.14	323	180	P	V
	*	5220	99.71	-	-	88.96	31.83	10.06	31.14	323	180	A	V
		5360.88	53.46	-20.54	74	42.52	31.92	10.17	31.15	323	180	P	V
		5352.48	42.09	-11.91	54	31.17	31.91	10.16	31.15	323	180	A	V

802.11n HT20 CH 48 5240MHz		5142.48	56.39	-17.61	74	45.77	31.79	9.97	31.14	281	193	P	H
		5150	44.52	-9.48	54	33.89	31.79	9.98	31.14	281	193	A	H
	*	5240	114.42	-	-	103.65	31.84	10.07	31.14	281	193	P	H
	*	5240	103	-	-	92.23	31.84	10.07	31.14	281	193	A	H
		5355.84	55.48	-18.52	74	44.56	31.91	10.16	31.15	281	193	P	H
		5354.16	43.46	-10.54	54	32.54	31.91	10.16	31.15	281	193	A	H
		5148.72	53.76	-20.24	74	43.13	31.79	9.98	31.14	304	181	P	V
		5149.5	42.62	-11.38	54	31.99	31.79	9.98	31.14	304	181	A	V
	*	5240	111.21	-	-	100.44	31.84	10.07	31.14	304	181	P	V
	*	5240	100.28	-	-	89.51	31.84	10.07	31.14	304	181	A	V
		5357.8	54.26	-19.74	74	43.33	31.91	10.17	31.15	304	181	P	V
		5355.28	42.06	-11.94	54	31.14	31.91	10.16	31.15	304	181	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		10360	49.87	-18.33	68.2	51.37	39.86	15.6	56.96	100	0	P	H
		15540	54.9	-19.1	74	53.43	38.53	19.59	56.65	141	167	P	H
		15540	40.27	-13.73	54	38.8	38.53	19.59	56.65	141	167	A	H
		10360	49.29	-18.91	68.2	50.79	39.86	15.6	56.96	100	0	P	V
		15540	52.28	-21.72	74	50.81	38.53	19.59	56.65	200	106	P	V
		15540	38.33	-15.67	54	36.86	38.53	19.59	56.65	200	106	A	V
802.11n HT20 CH 44 5220MHz		10440	48.71	-19.49	68.2	49.98	39.98	15.67	56.92	100	0	P	H
		15660	56.23	-17.77	74	54.81	38.29	19.64	56.51	233	171	P	H
		15660	41.74	-12.26	54	40.32	38.29	19.64	56.51	233	171	A	H
		10440	48.74	-19.46	68.2	50.01	39.98	15.67	56.92	100	0	P	V
		15660	54.62	-19.38	74	53.2	38.29	19.64	56.51	114	5	P	V
		15660	40.4	-13.6	54	38.98	38.29	19.64	56.51	114	5	A	V
802.11n HT20 CH 48 5240MHz		10480	49.59	-18.61	68.2	50.73	40.07	15.7	56.91	100	0	P	H
		15720	56.68	-17.32	74	55.32	38.15	19.65	56.44	202	112	P	H
		15720	41.87	-12.13	54	40.51	38.15	19.65	56.44	202	112	A	H
		10480	49.88	-18.32	68.2	51.02	40.07	15.7	56.91	100	0	P	V
		15720	55.97	-18.03	74	54.61	38.15	19.65	56.44	100	6	P	V
		15720	41.12	-12.88	54	39.76	38.15	19.65	56.44	100	6	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	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		5150	72.09	-1.91	74	61.46	31.79	9.98	31.14	301	194	P	H
		5150	53.14	-0.86	54	42.51	31.79	9.98	31.14	301	194	A	H
	*	5190	109.41	-	-	98.71	31.81	10.03	31.14	301	194	P	H
	*	5190	99.39	-	-	88.69	31.81	10.03	31.14	301	194	A	H
		5425	54.17	-19.83	74	43.14	31.95	10.23	31.15	301	194	P	H
		5432.28	42.66	-11.34	54	31.61	31.96	10.24	31.15	301	194	A	H
		5150	67.27	-6.73	74	56.64	31.79	9.98	31.14	325	179	P	V
		5150	48.5	-5.5	54	37.87	31.79	9.98	31.14	325	179	A	V
	*	5190	106.82	-	-	96.12	31.81	10.03	31.14	325	179	P	V
	*	5190	96.76	-	-	86.06	31.81	10.03	31.14	325	179	A	V
		5391.96	53.51	-20.49	74	42.54	31.93	10.19	31.15	325	179	P	V
		5359.76	42.78	-11.22	54	31.85	31.91	10.17	31.15	325	179	A	V
802.11n HT40 CH 46 5230MHz		5150	60.13	-13.87	74	49.5	31.79	9.98	31.14	276	195	P	H
		5148.2	45.9	-8.1	54	35.27	31.79	9.98	31.14	276	195	A	H
	*	5230	110.28	-	-	99.52	31.84	10.06	31.14	276	195	P	H
	*	5230	100.2	-	-	89.44	31.84	10.06	31.14	276	195	A	H
		5371.8	54.61	-19.39	74	43.66	31.92	10.18	31.15	276	195	P	H
		5355.56	43.86	-10.14	54	32.94	31.91	10.16	31.15	276	195	A	H
		5149.76	55.24	-18.76	74	44.61	31.79	9.98	31.14	302	177	P	V
		5147.94	43.95	-10.05	54	33.32	31.79	9.98	31.14	302	177	A	V
	*	5230	107.33	-	-	96.57	31.84	10.06	31.14	302	177	P	V
	*	5230	97.2	-	-	86.44	31.84	10.06	31.14	302	177	A	V
		5430.6	53.28	-20.72	74	42.24	31.96	10.23	31.15	302	177	P	V
		5389.72	42.66	-11.34	54	31.69	31.93	10.19	31.15	302	177	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		10380	49.1	-19.1	68.2	50.54	39.89	15.62	56.95	100	0	P	H
		15570	46.84	-27.16	74	45.4	38.46	19.6	56.62	100	0	P	H
		10380	48.23	-19.97	68.2	49.67	39.89	15.62	56.95	100	0	P	V
		15570	47.72	-26.28	74	46.28	38.46	19.6	56.62	100	0	P	V
802.11n HT40 CH 46 5230MHz		10460	49.3	-18.9	68.2	50.53	40.01	15.68	56.92	100	0	P	H
		15690	52.91	-21.09	74	51.52	38.22	19.64	56.47	235	170	P	H
		15690	40.23	-13.77	54	38.84	38.22	19.64	56.47	235	170	A	H
		10460	49.09	-19.11	68.2	50.32	40.01	15.68	56.92	100	0	P	V
		15690	52.84	-21.16	74	51.45	38.22	19.64	56.47	204	255	P	V
		15690	40.08	-13.92	54	38.69	38.22	19.64	56.47	204	255	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 (Band Edge @ 3m)

WIFI Ant. 2	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		5150	65.45	-8.55	74	54.82	31.79	9.98	31.14	276	195	P	H
		5144.56	53.23	-0.77	54	42.61	31.79	9.97	31.14	276	195	A	H
	*	5210	104.54	-	-	93.8	31.83	10.05	31.14	276	195	P	H
	*	5210	94.26	-	-	83.52	31.83	10.05	31.14	276	195	A	H
		5371.8	54.04	-19.96	74	43.09	31.92	10.18	31.15	276	195	P	H
		5353.6	44.51	-9.49	54	33.59	31.91	10.16	31.15	276	195	A	H
		5149.24	58.2	-15.8	74	47.57	31.79	9.98	31.14	325	178	P	V
		5148.98	48.19	-5.81	54	37.56	31.79	9.98	31.14	325	178	A	V
	*	5210	101.48	-	-	90.74	31.83	10.05	31.14	325	178	P	V
	*	5210	91.41	-	-	80.67	31.83	10.05	31.14	325	178	A	V
		5445.72	53.69	-20.31	74	42.62	31.97	10.25	31.15	325	178	P	V
		5440.96	43.87	-10.13	54	32.81	31.96	10.25	31.15	325	178	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		10420	48.33	-19.87	68.2	49.66	39.95	15.65	56.93	100	0	P	H
VHT80		15630	47.75	-26.25	74	46.35	38.32	19.62	56.54	100	0	P	H
CH 42		10420	49.09	-19.11	68.2	50.42	39.95	15.65	56.93	100	0	P	V
5210MHz		15630	47.98	-26.02	74	46.58	38.32	19.62	56.54	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

<For CDD Mode>

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1+2	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		5148.2	63.96	-10.04	74	53.33	31.79	9.98	31.14	296	6	P	H
		5147.94	50.66	-3.34	54	40.03	31.79	9.98	31.14	296	6	A	H
	*	5180	116.7	-	-	106.01	31.81	10.02	31.14	296	6	P	H
	*	5180	106.25	-	-	95.56	31.81	10.02	31.14	296	6	A	H
		5150	61.74	-12.26	74	51.11	31.79	9.98	31.14	383	314	P	V
		5146.9	49.37	-4.63	54	38.74	31.79	9.98	31.14	383	314	A	V
	*	5180	115.31	-	-	104.62	31.81	10.02	31.14	383	314	P	V
	*	5180	104.78	-	-	94.09	31.81	10.02	31.14	383	314	A	V
802.11a CH 44 5220MHz		5147.68	55.78	-18.22	74	45.15	31.79	9.98	31.14	307	8	P	H
		5149.76	44.54	-9.46	54	33.91	31.79	9.98	31.14	307	8	A	H
	*	5220	117	-	-	106.25	31.83	10.06	31.14	307	8	P	H
	*	5220	106.51	-	-	95.76	31.83	10.06	31.14	307	8	A	H
		5353.32	54.76	-19.24	74	43.84	31.91	10.16	31.15	307	8	P	H
		5350.52	43.81	-10.19	54	32.89	31.91	10.16	31.15	307	8	A	H
		5123.5	55.31	-18.69	74	44.72	31.78	9.95	31.14	400	315	P	V
		5118.56	44.19	-9.81	54	33.62	31.77	9.94	31.14	400	315	A	V
	*	5220	116.54	-	-	105.79	31.83	10.06	31.14	400	315	P	V
	*	5220	105.81	-	-	95.06	31.83	10.06	31.14	400	315	A	V
		5362.56	53.45	-20.55	74	42.51	31.92	10.17	31.15	400	315	P	V
		5350.24	42.88	-11.12	54	31.96	31.91	10.16	31.15	400	315	A	V

802.11a CH 48 5240MHz		5125.58	55.03	-18.97	74	44.44	31.78	9.95	31.14	296	7	P	H
		5148.72	44.68	-9.32	54	34.05	31.79	9.98	31.14	296	7	A	H
	*	5240	116.47	-	-	105.7	31.84	10.07	31.14	296	7	P	H
	*	5240	106.12	-	-	95.35	31.84	10.07	31.14	296	7	A	H
		5377.96	55.06	-18.94	74	44.1	31.93	10.18	31.15	296	7	P	H
		5352.2	43.96	-10.04	54	33.04	31.91	10.16	31.15	296	7	A	H
		5131.56	54.67	-19.33	74	44.07	31.78	9.96	31.14	397	315	P	V
		5121.94	43.81	-10.19	54	33.23	31.77	9.95	31.14	397	315	A	V
	*	5240	115.9	-	-	105.13	31.84	10.07	31.14	397	315	P	V
	*	5240	105.12	-	-	94.35	31.84	10.07	31.14	397	315	A	V
		5369	54.79	-19.21	74	43.84	31.92	10.18	31.15	397	315	P	V
		5360.32	43.27	-10.73	54	32.34	31.91	10.17	31.15	397	315	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		10360	56.75	-11.45	68.2	58.25	39.86	15.6	56.96	100	0	P	H
		15540	57.99	-16.01	74	56.52	38.53	19.59	56.65	165	290	P	H
		15540	43.72	-10.28	54	42.25	38.53	19.59	56.65	165	290	A	H
		10360	57.74	-10.46	68.2	59.24	39.86	15.6	56.96	100	0	P	V
		15540	56.2	-17.8	74	54.73	38.53	19.59	56.65	193	9	P	V
		15540	41.64	-12.36	54	40.17	38.53	19.59	56.65	193	9	A	V
802.11a CH 44 5220MHz		10440	57.27	-10.93	68.2	58.54	39.98	15.67	56.92	100	0	P	H
		15660	57.94	-16.06	74	56.52	38.29	19.64	56.51	131	0	P	H
		15660	43.09	-10.91	54	41.67	38.29	19.64	56.51	131	0	A	H
		10440	55.77	-12.43	68.2	57.04	39.98	15.67	56.92	100	0	P	V
		15660	56.63	-17.37	74	55.21	38.29	19.64	56.51	202	108	P	V
		15660	42.24	-11.76	54	40.82	38.29	19.64	56.51	202	108	A	V
802.11a CH 48 5240MHz		10480	56.56	-11.64	68.2	57.7	40.07	15.7	56.91	100	0	P	H
		15720	57.28	-16.72	74	55.92	38.15	19.65	56.44	132	0	P	H
		15720	42.9	-11.1	54	41.54	38.15	19.65	56.44	132	0	A	H
		10480	56.54	-11.66	68.2	57.68	40.07	15.7	56.91	100	0	P	V
		15720	56.42	-17.58	74	55.06	38.15	19.65	56.44	200	106	P	V
		15720	42.51	-11.49	54	41.15	38.15	19.65	56.44	200	106	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5149.24	66.93	-7.07	74	56.3	31.79	9.98	31.14	267	189	P	H
		5150	50.5	-3.5	54	39.87	31.79	9.98	31.14	267	189	A	H
	*	5180	114.97	-	-	104.28	31.81	10.02	31.14	267	189	P	H
	*	5180	104.46	-	-	93.77	31.81	10.02	31.14	267	189	A	H
		5149.5	65.88	-8.12	74	55.25	31.79	9.98	31.14	387	315	P	V
		5150	50.82	-3.18	54	40.19	31.79	9.98	31.14	387	315	A	V
	*	5180	113.82	-	-	103.13	31.81	10.02	31.14	387	315	P	V
	*	5180	103.97	-	-	93.28	31.81	10.02	31.14	387	315	A	V
802.11n HT20 CH 44 5220MHz		5146.9	55.87	-18.13	74	45.24	31.79	9.98	31.14	278	192	P	H
		5149.5	45.52	-8.48	54	34.89	31.79	9.98	31.14	278	192	A	H
	*	5220	115.96	-	-	105.21	31.83	10.06	31.14	278	192	P	H
	*	5220	104.87	-	-	94.12	31.83	10.06	31.14	278	192	A	H
		5370.96	54.19	-19.81	74	43.24	31.92	10.18	31.15	278	192	P	H
		5350.24	43.27	-10.73	54	32.35	31.91	10.16	31.15	278	192	A	H
		5113.1	55.25	-18.75	74	44.68	31.77	9.94	31.14	400	314	P	V
		5128.7	44.03	-9.97	54	33.44	31.78	9.95	31.14	400	314	A	V
	*	5220	114.63	-	-	103.88	31.83	10.06	31.14	400	314	P	V
	*	5220	104.62	-	-	93.87	31.83	10.06	31.14	400	314	A	V
		5360.32	53.77	-20.23	74	42.84	31.91	10.17	31.15	400	314	P	V
		5358.92	43.01	-10.99	54	32.08	31.91	10.17	31.15	400	314	A	V

802.11n HT20 CH 48 5240MHz		5146.64	55.52	-18.48	74	44.89	31.79	9.98	31.14	289	7	P	H
		5147.16	44.24	-9.76	54	33.61	31.79	9.98	31.14	289	7	A	H
	*	5240	116.08	-	-	105.31	31.84	10.07	31.14	289	7	P	H
	*	5240	105.33	-	-	94.56	31.84	10.07	31.14	289	7	A	H
		5355	54.78	-19.22	74	43.86	31.91	10.16	31.15	289	7	P	H
		5350.24	44.32	-9.68	54	33.4	31.91	10.16	31.15	289	7	A	H
		5137.28	55.11	-18.89	74	44.51	31.78	9.96	31.14	395	315	P	V
		5145.86	44.27	-9.73	54	33.64	31.79	9.98	31.14	395	315	A	V
	*	5240	115.07	-	-	104.3	31.84	10.07	31.14	395	315	P	V
	*	5240	104.09	-	-	93.32	31.84	10.07	31.14	395	315	A	V
		5355.84	54.33	-19.67	74	43.41	31.91	10.16	31.15	395	315	P	V
		5350	43.21	-10.79	54	32.29	31.91	10.16	31.15	395	315	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		10360	56.21	-11.99	68.2	57.71	39.86	15.6	56.96	100	0	P	H
		15540	56.77	-17.23	74	55.3	38.53	19.59	56.65	159	291	P	H
		15540	42.15	-11.85	54	40.68	38.53	19.59	56.65	159	291	A	H
		10360	56.08	-12.12	68.2	57.58	39.86	15.6	56.96	100	0	P	V
		15540	54.52	-19.48	74	53.05	38.53	19.59	56.65	204	109	P	V
		15540	40.51	-13.49	54	39.04	38.53	19.59	56.65	204	109	A	V
802.11n HT20 CH 44 5220MHz		10440	55.71	-12.49	68.2	56.98	39.98	15.67	56.92	100	0	P	H
		15660	56.5	-17.5	74	55.08	38.29	19.64	56.51	100	291	P	H
		15660	41.73	-12.27	54	40.31	38.29	19.64	56.51	100	291	A	H
		10440	55.87	-12.33	68.2	57.14	39.98	15.67	56.92	100	0	P	V
		15660	55.37	-18.63	74	53.95	38.29	19.64	56.51	200	106	P	V
		15660	41.27	-12.73	54	39.85	38.29	19.64	56.51	200	106	A	V
802.11n HT20 CH 48 5240MHz		10480	55.92	-12.28	68.2	57.06	40.07	15.7	56.91	100	0	P	H
		15720	56.32	-17.68	74	54.96	38.15	19.65	56.44	198	290	P	H
		15720	41.65	-12.35	54	40.29	38.15	19.65	56.44	198	290	A	H
		10480	55.92	-12.28	68.2	57.06	40.07	15.7	56.91	100	0	P	V
		15720	57.18	-16.82	74	55.82	38.15	19.65	56.44	200	106	P	V
		15720	42.01	-11.99	54	40.65	38.15	19.65	56.44	200	106	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5149.5	71.73	-2.27	74	61.1	31.79	9.98	31.14	217	10	P	H
		5150	52.09	-1.91	54	41.46	31.79	9.98	31.14	217	10	A	H
	*	5190	109.19	-	-	98.49	31.81	10.03	31.14	217	10	P	H
	*	5190	99.26	-	-	88.56	31.81	10.03	31.14	217	10	A	H
		5365.92	54.27	-19.73	74	43.33	31.92	10.17	31.15	217	10	P	H
		5372.92	42.88	-11.12	54	31.93	31.92	10.18	31.15	217	10	A	H
		5148.2	65.56	-8.44	74	54.93	31.79	9.98	31.14	400	305	P	V
		5148.72	47.76	-6.24	54	37.13	31.79	9.98	31.14	400	305	A	V
	*	5190	108.31	-	-	97.61	31.81	10.03	31.14	400	305	P	V
	*	5190	98.77	-	-	88.07	31.81	10.03	31.14	400	305	A	V
		5430.6	53.91	-20.09	74	42.87	31.96	10.23	31.15	400	305	P	V
		5367.32	42.65	-11.35	54	31.71	31.92	10.17	31.15	400	305	A	V
802.11n HT40 CH 46 5230MHz		5147.16	58.19	-15.81	74	47.56	31.79	9.98	31.14	258	190	P	H
		5149.5	46.1	-7.9	54	35.47	31.79	9.98	31.14	258	190	A	H
	*	5230	111.81	-	-	101.05	31.84	10.06	31.14	258	190	P	H
	*	5230	101.92	-	-	91.16	31.84	10.06	31.14	258	190	A	H
		5377.12	54.35	-19.65	74	43.4	31.92	10.18	31.15	258	190	P	H
		5360.04	43.46	-10.54	54	32.53	31.91	10.17	31.15	258	190	A	H
		5148.2	57.91	-16.09	74	47.28	31.79	9.98	31.14	398	314	P	V
		5148.72	45.34	-8.66	54	34.71	31.79	9.98	31.14	398	314	A	V
	*	5230	111.32	-	-	100.56	31.84	10.06	31.14	398	314	P	V
	*	5230	101.83	-	-	91.07	31.84	10.06	31.14	398	314	A	V
		5367.6	54.32	-19.68	74	43.38	31.92	10.17	31.15	398	314	P	V
		5355.28	44.02	-9.98	54	33.1	31.91	10.16	31.15	398	314	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		10380	50.36	-17.84	68.2	51.8	39.89	15.62	56.95	100	0	P	H
		15570	46.51	-27.49	74	45.07	38.46	19.6	56.62	100	0	P	H
		10380	49.88	-18.32	68.2	51.32	39.89	15.62	56.95	100	0	P	V
		15570	47.88	-26.12	74	46.44	38.46	19.6	56.62	100	0	P	V
802.11n HT40 CH 46 5230MHz		10460	53.7	-14.5	68.2	54.93	40.01	15.68	56.92	100	0	P	H
		15690	53.21	-20.79	74	51.82	38.22	19.64	56.47	100	291	P	H
		15690	40.59	-13.41	54	39.2	38.22	19.64	56.47	100	291	A	H
		10460	53.14	-15.06	68.2	54.37	40.01	15.68	56.92	100	0	P	V
		15690	53.89	-20.11	74	52.5	38.22	19.64	56.47	201	106	P	V
		15690	40.9	-13.1	54	39.51	38.22	19.64	56.47	201	106	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 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5147.16	61.28	-12.72	74	50.65	31.79	9.98	31.14	222	190	P	H
		5144.82	53.16	-0.84	54	42.54	31.79	9.97	31.14	222	190	A	H
	*	5210	104.63	-	-	93.89	31.83	10.05	31.14	222	190	P	H
	*	5210	94.62	-	-	83.88	31.83	10.05	31.14	222	190	A	H
		5366.76	53.54	-20.46	74	42.6	31.92	10.17	31.15	222	190	P	H
		5383.28	44.6	-9.4	54	33.63	31.93	10.19	31.15	222	190	A	H
		5136.24	59.1	-14.9	74	48.5	31.78	9.96	31.14	400	313	P	V
		5148.46	51	-3	54	40.37	31.79	9.98	31.14	400	313	A	V
	*	5210	104.81	-	-	94.07	31.83	10.05	31.14	400	313	P	V
	*	5210	94.57	-	-	83.83	31.83	10.05	31.14	400	313	A	V
		5357.52	52.95	-21.05	74	42.02	31.91	10.17	31.15	400	313	P	V
		5351.36	44.85	-9.15	54	33.93	31.91	10.16	31.15	400	313	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		10420	48.7	-19.5	68.2	50.03	39.95	15.65	56.93	100	0	P	H
VHT80		15630	48.07	-25.93	74	46.67	38.32	19.62	56.54	100	0	P	H
CH 42		10420	48.39	-19.81	68.2	49.72	39.95	15.65	56.93	100	0	P	V
5210MHz		15630	47.19	-26.81	74	45.79	38.32	19.62	56.54	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		30.54	23.92	-16.08	40	29.36	24.05	0.71	30.2	-	-	P	H
		116.94	23.36	-20.14	43.5	35.11	17.15	1.51	30.41	-	-	P	H
		266.25	21.78	-24.22	46	30.28	19.34	2.36	30.2	-	-	P	H
		624.1	32.02	-13.98	46	32.23	25.89	3.5	29.6	-	-	P	H
		904.1	35.62	-10.38	46	31.48	29	4.27	29.13	100	0	P	H
		989.5	35.89	-18.11	54	29.84	30.44	4.49	28.88	-	-	P	H
		32.97	30.06	-9.94	40	36.53	23.01	0.75	30.23	-	-	P	V
		127.47	23.6	-19.9	43.5	35.02	17.4	1.58	30.4	-	-	P	V
		255.99	22.88	-23.12	46	31.45	19.32	2.33	30.22	-	-	P	V
		415.5	27.1	-18.9	46	31.86	22.36	2.83	29.95	-	-	P	V
		624.1	37.09	-8.91	46	37.3	25.89	3.5	29.6	-	-	P	V
		903.4	37.29	-8.71	46	33.19	28.97	4.26	29.13	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

<For TXBF Mode>

Band 1 - 5150~5250MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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 VHT20 CH 36 5180MHz		5148.46	65.71	-8.29	74	55.08	31.79	9.98	31.14	299	195	P	H
		5150	52.66	-1.34	54	42.03	31.79	9.98	31.14	299	195	A	H
	*	5180	116.23	-	-	105.54	31.81	10.02	31.14	299	195	P	H
	*	5180	105.1	-	-	94.41	31.81	10.02	31.14	299	195	A	H
		5148.72	63.66	-10.34	74	53.03	31.79	9.98	31.14	297	183	P	V
		5148.72	49.16	-4.84	54	38.53	31.79	9.98	31.14	297	183	A	V
	*	5180	114.66	-	-	103.97	31.81	10.02	31.14	297	183	P	V
	*	5180	103.59	-	-	92.9	31.81	10.02	31.14	297	183	A	V
		5149.76	45.23	-8.77	54	34.6	31.79	9.98	31.14	272	192	A	H
	*	5220	116.49	-	-	105.74	31.83	10.06	31.14	272	192	P	H
	*	5220	105.57	-	-	94.82	31.83	10.06	31.14	272	192	A	H
		5351.08	54.57	-19.43	74	43.65	31.91	10.16	31.15	272	192	P	H
		5354.16	43.36	-10.64	54	32.44	31.91	10.16	31.15	272	192	A	H
		5124.02	55.17	-18.83	74	44.58	31.78	9.95	31.14	326	183	P	V
		5141.18	43.39	-10.61	54	32.77	31.79	9.97	31.14	326	183	A	V
	*	5220	114.21	-	-	103.46	31.83	10.06	31.14	326	183	P	V
	*	5220	104.06	-	-	93.31	31.83	10.06	31.14	326	183	A	V
		5452.44	54.54	-19.46	74	43.46	31.97	10.26	31.15	326	183	P	V
		5350.24	42.2	-11.8	54	31.28	31.91	10.16	31.15	326	183	A	V

802.11ac VHT20 CH 48 5240MHz		5122.2	55.73	-18.27	74	45.15	31.77	9.95	31.14	293	12	P	H
		5150	44.84	-9.16	54	34.21	31.79	9.98	31.14	293	12	A	H
	*	5240	116.8	-	-	106.03	31.84	10.07	31.14	293	12	P	H
	*	5240	106.33	-	-	95.56	31.84	10.07	31.14	293	12	A	H
		5382.72	55.38	-18.62	74	44.41	31.93	10.19	31.15	293	12	P	H
		5353.6	44.31	-9.69	54	33.39	31.91	10.16	31.15	293	12	A	H
		5150	54.21	-19.79	74	43.58	31.79	9.98	31.14	305	181	P	V
		5144.04	43.19	-10.81	54	32.57	31.79	9.97	31.14	305	181	A	V
	*	5240	115.07	-	-	104.3	31.84	10.07	31.14	305	181	P	V
	*	5240	104.3	-	-	93.53	31.84	10.07	31.14	305	181	A	V
		5352.2	54.68	-19.32	74	43.76	31.91	10.16	31.15	305	181	P	V
		5353.04	43	-11	54	32.08	31.91	10.16	31.15	305	181	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 VHT20 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 CH 36 5180MHz		10360	56.64	-11.56	68.2	58.14	39.86	15.6	56.96	100	0	P	H
		15540	57.28	-16.72	74	55.81	38.53	19.59	56.65	160	288	P	H
		15540	42.66	-11.34	54	41.19	38.53	19.59	56.65	160	288	A	H
		10360	57.86	-10.34	68.2	59.36	39.86	15.6	56.96	100	0	P	V
		15540	55.72	-18.28	74	54.25	38.53	19.59	56.65	116	194	P	V
		15540	40.79	-13.21	54	39.32	38.53	19.59	56.65	116	194	A	V
802.11ac VHT20 CH 44 5220MHz		10440	56.56	-11.64	68.2	57.83	39.98	15.67	56.92	100	0	P	H
		15660	58.32	-15.68	74	56.9	38.29	19.64	56.51	102	289	P	H
		15660	43.69	-10.31	54	42.27	38.29	19.64	56.51	102	289	A	H
		10440	56.83	-11.37	68.2	58.1	39.98	15.67	56.92	100	0	P	V
		15660	57.38	-16.62	74	55.96	38.29	19.64	56.51	200	108	P	V
		15660	43.31	-10.69	54	41.89	38.29	19.64	56.51	200	108	A	V
802.11ac VHT20 CH 48 5240MHz		10480	58.15	-10.05	68.2	59.29	40.07	15.7	56.91	100	0	P	H
		15720	58.48	-15.52	74	57.12	38.15	19.65	56.44	101	289	P	H
		15720	43.65	-10.35	54	42.29	38.15	19.65	56.44	101	289	A	H
		10480	56.18	-12.02	68.2	57.32	40.07	15.7	56.91	100	0	P	V
		15720	57.83	-16.17	74	56.47	38.15	19.65	56.44	200	105	P	V
		15720	43.72	-10.28	54	42.36	38.15	19.65	56.44	200	105	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 VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	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 VHT40 CH 38 5190MHz		5150	69.28	-4.72	74	58.65	31.79	9.98	31.14	285	193	P	H
		5150	52.28	-1.72	54	41.65	31.79	9.98	31.14	285	193	A	H
	*	5190	110.46	-	-	99.76	31.81	10.03	31.14	285	193	P	H
	*	5190	99.29	-	-	88.59	31.81	10.03	31.14	285	193	A	H
		5435.08	54.22	-19.78	74	43.17	31.96	10.24	31.15	285	193	P	H
		5354.16	42.77	-11.23	54	31.85	31.91	10.16	31.15	285	193	A	H
		5148.72	63.91	-10.09	74	53.28	31.79	9.98	31.14	298	187	P	V
		5148.72	48.41	-5.59	54	37.78	31.79	9.98	31.14	298	187	A	V
	*	5190	107.81	-	-	97.11	31.81	10.03	31.14	298	187	P	V
	*	5190	97.74	-	-	87.04	31.81	10.03	31.14	298	187	A	V
		5413.52	53.69	-20.31	74	42.68	31.95	10.21	31.15	298	187	P	V
		5445.44	42.41	-11.59	54	31.35	31.96	10.25	31.15	298	187	A	V
802.11ac VHT40 CH 46 5230MHz		5147.94	58.07	-15.93	74	47.44	31.79	9.98	31.14	295	7	P	H
		5150	46.64	-7.36	54	36.01	31.79	9.98	31.14	295	7	A	H
	*	5230	111.7	-	-	100.94	31.84	10.06	31.14	295	7	P	H
	*	5230	102.05	-	-	91.29	31.84	10.06	31.14	295	7	A	H
		5351.36	54.72	-19.28	74	43.8	31.91	10.16	31.15	295	7	P	H
		5353.04	44.75	-9.25	54	33.83	31.91	10.16	31.15	295	7	A	H
		5148.72	56.39	-17.61	74	45.76	31.79	9.98	31.14	326	182	P	V
		5148.72	44.81	-9.19	54	34.18	31.79	9.98	31.14	326	182	A	V
	*	5230	110.18	-	-	99.42	31.84	10.06	31.14	326	182	P	V
	*	5230	100.39	-	-	89.63	31.84	10.06	31.14	326	182	A	V
		5366.48	54.13	-19.87	74	43.19	31.92	10.17	31.15	326	182	P	V
		5359.2	43.39	-10.61	54	32.46	31.91	10.17	31.15	326	182	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 VHT40 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT40 CH 38 5190MHz		10380	49.66	-18.54	68.2	51.1	39.89	15.62	56.95	100	0	P	H
		15570	47.41	-26.59	74	45.97	38.46	19.6	56.62	100	0	P	H
		10380	49.35	-18.85	68.2	50.79	39.89	15.62	56.95	100	0	P	V
		15570	47.38	-26.62	74	45.94	38.46	19.6	56.62	100	0	P	V
802.11ac VHT40 CH 46 5230MHz		10460	54.98	-13.22	68.2	56.21	40.01	15.68	56.92	100	0	P	H
		15690	53.74	-20.26	74	52.35	38.22	19.64	56.47	100	290	P	H
		15690	40.99	-13.01	54	39.6	38.22	19.64	56.47	100	290	A	H
		10460	53.82	-14.38	68.2	55.05	40.01	15.68	56.92	100	0	P	V
		15690	53.52	-20.48	74	52.13	38.22	19.64	56.47	200	108	P	V
		15690	41.26	-12.74	54	39.87	38.22	19.64	56.47	200	108	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 (Band Edge @ 3m)

WIFI Ant. 1+2	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		5148.46	62.66	-11.34	74	52.03	31.79	9.98	31.14	213	8	P	H
		5148.98	51.92	-2.08	54	41.29	31.79	9.98	31.14	213	8	A	H
	*	5210	102.07	-	-	91.33	31.83	10.05	31.14	213	8	P	H
	*	5210	92.4	-	-	81.66	31.83	10.05	31.14	213	8	A	H
		5431.44	54.28	-19.72	74	43.24	31.96	10.23	31.15	213	8	P	H
		5361.44	43.9	-10.1	54	32.96	31.92	10.17	31.15	213	8	A	H
		5148.72	61.03	-12.97	74	50.4	31.79	9.98	31.14	370	312	P	V
		5147.94	49.56	-4.44	54	38.93	31.79	9.98	31.14	370	312	A	V
	*	5210	101.11	-	-	90.37	31.83	10.05	31.14	370	312	P	V
	*	5210	91.78	-	-	81.04	31.83	10.05	31.14	370	312	A	V
		5457.76	53.73	-20.27	74	42.65	31.97	10.26	31.15	370	312	P	V
		5360.04	43.95	-10.05	54	33.02	31.91	10.17	31.15	370	312	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.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac		10420	49.94	-18.26	68.2	51.27	39.95	15.65	56.93	100	0	P	H
VHT80		15630	47.92	-26.08	74	46.52	38.32	19.62	56.54	100	0	P	H
CH 42		10420	48.95	-19.25	68.2	50.28	39.95	15.65	56.93	100	0	P	V
5210MHz		15630	47.13	-26.87	74	45.73	38.32	19.62	56.54	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11ac VHT20 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 LF		30.27	23.72	-16.28	40	28.63	24.57	0.7	30.18	-	-	P	H
		161.76	24.13	-19.37	43.5	36.34	16.25	1.9	30.36	-	-	P	H
		371.4	26.07	-19.93	46	32.58	20.81	2.71	30.03	-	-	P	H
		624.1	32.53	-13.47	46	32.74	25.89	3.5	29.6	-	-	P	H
		746.6	37.62	-8.38	46	35.34	27.87	3.82	29.41	100	0	P	H
		965	35.77	-18.23	54	29.37	30.9	4.45	28.95	-	-	P	H
		30.27	26.6	-13.4	40	33.83	24.57	0.7	32.5	-	-	P	V
		116.13	24.13	-19.37	43.5	37.98	17.12	1.5	32.47	-	-	P	V
		240.06	39.27	-6.73	46	52.08	17.3	2.27	32.38	100	0	P	V
		624.1	33.74	-12.26	46	36.81	25.89	3.5	32.46	-	-	P	V
		746.6	34.29	-11.71	46	34.94	27.87	3.82	32.34	-	-	P	V
		988.8	33.38	-20.62	54	29.27	30.46	4.49	30.84	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

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

1. 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”.

Appendix D. Radiated Spurious Emission

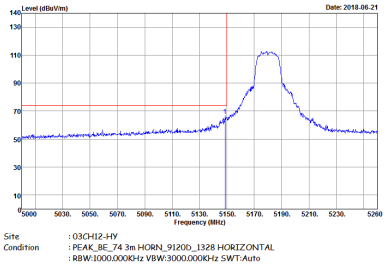
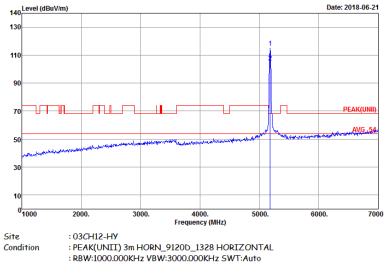
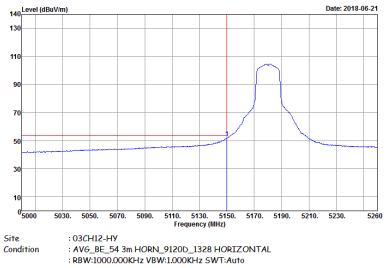
Test Engineer :	Jack Jheng, Peter Liao, and Master Huang	**Temperature :**	22~25°C
		Relative Humidity :	56~62%

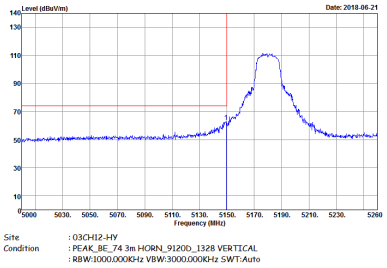
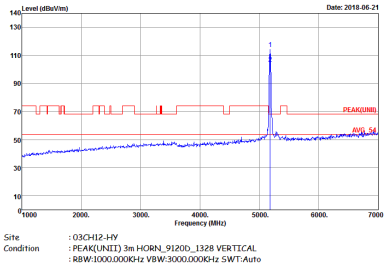
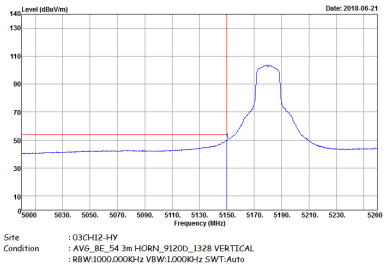
Note symbol

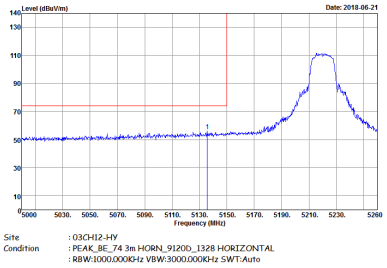
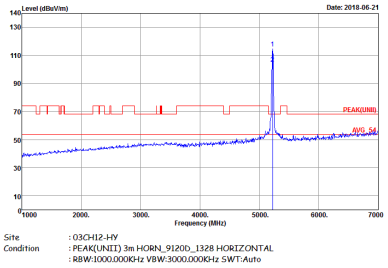
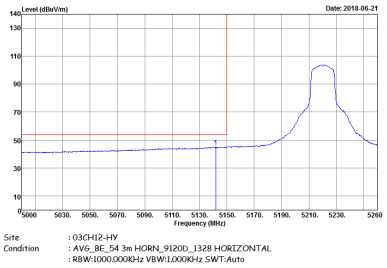
-L	**Low channel location**
-R	**High channel location**

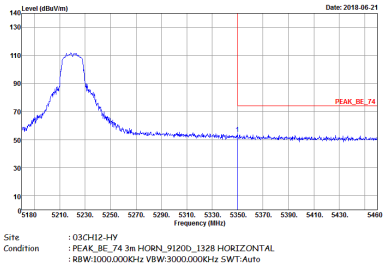
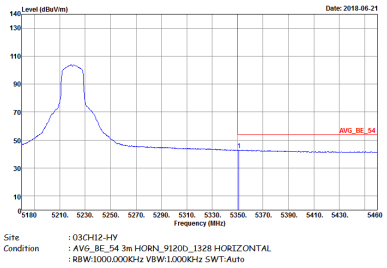
Band 1 - 5150~5250MHz

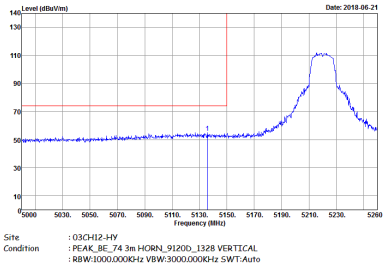
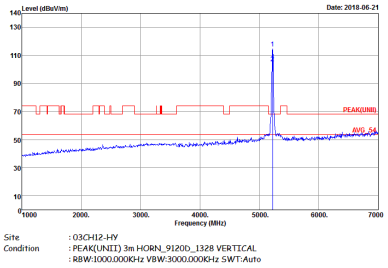
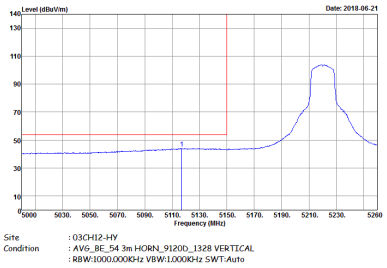
WIFI 802.11a (Band Edge @ 3m)

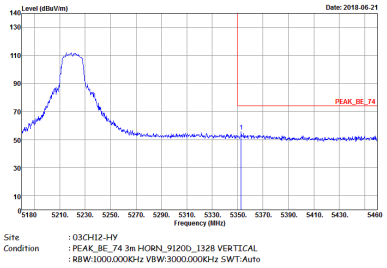
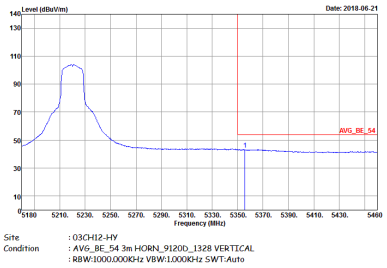
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

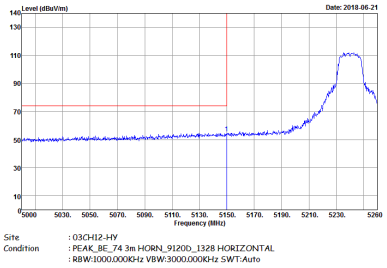
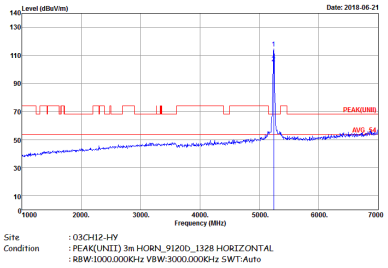
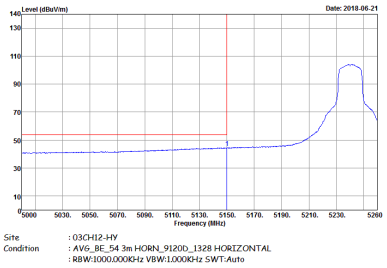
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

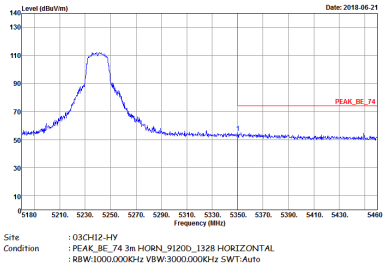
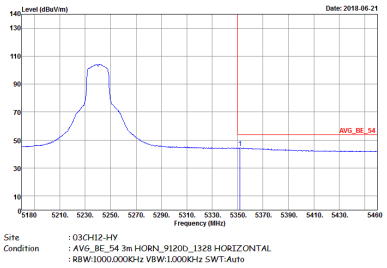
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

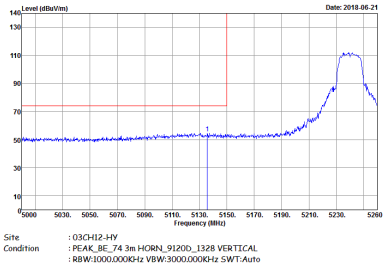
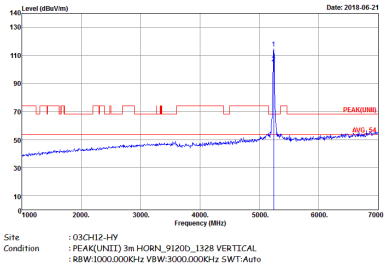
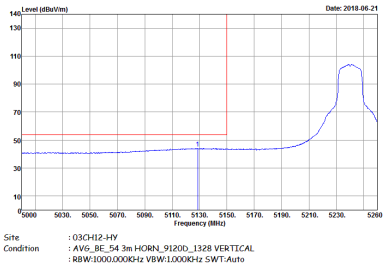
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

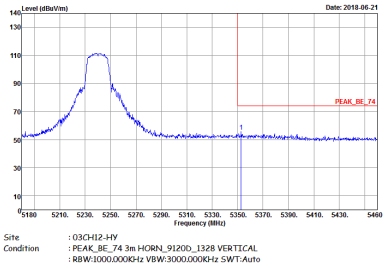
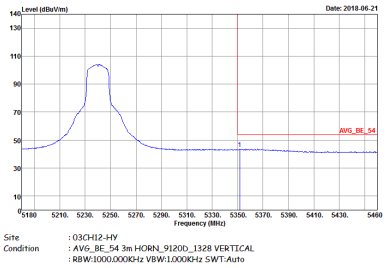
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

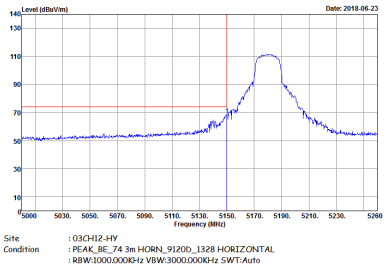
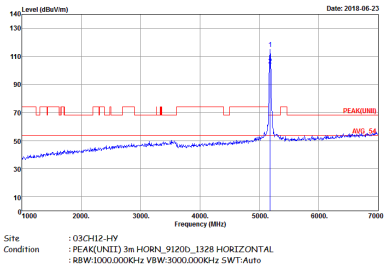
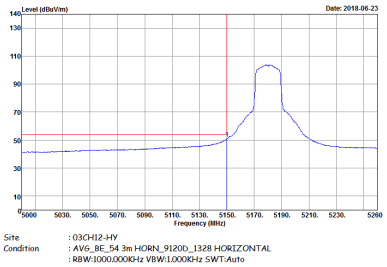
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

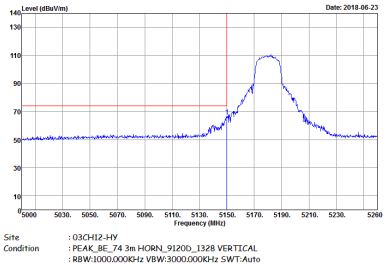
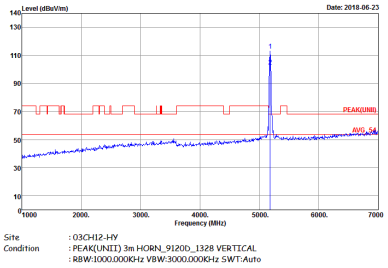
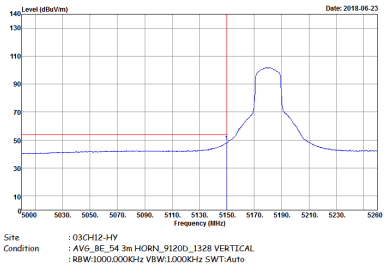
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

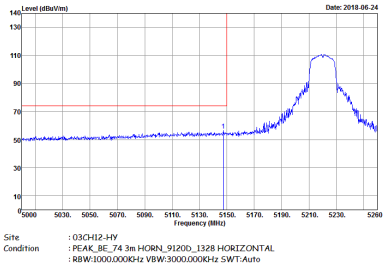
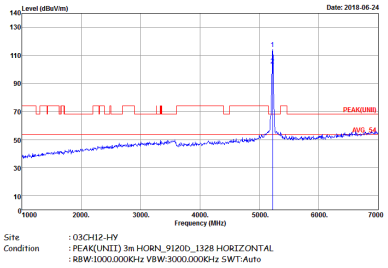
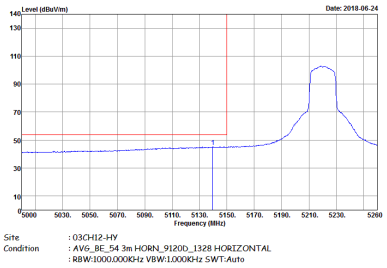
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

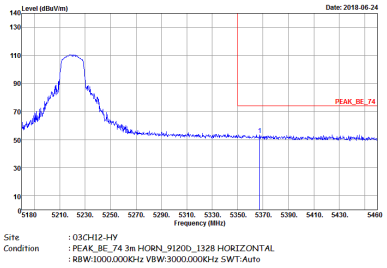
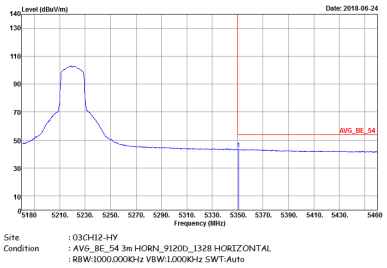
Band 1 5150~5250MHz

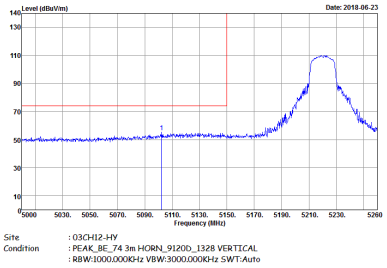
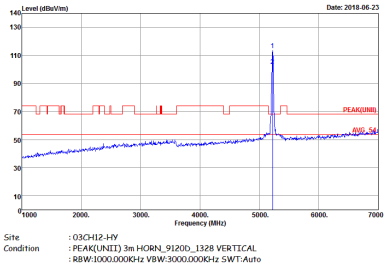
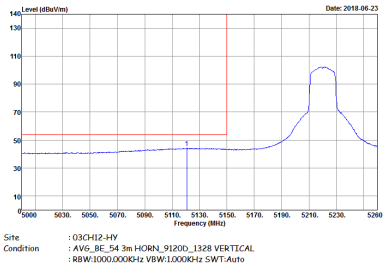
WIFI 802.11n HT20 (Band Edge @ 3m)

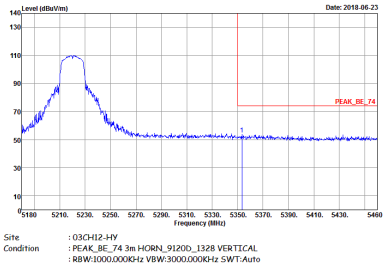
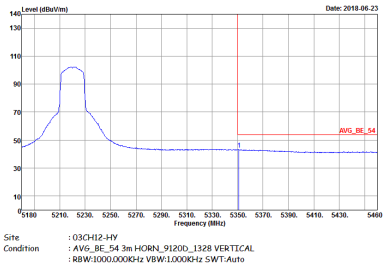
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

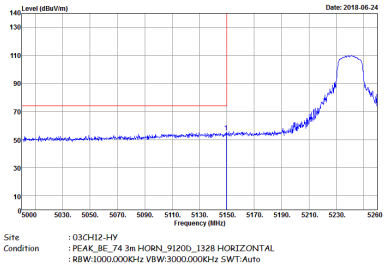
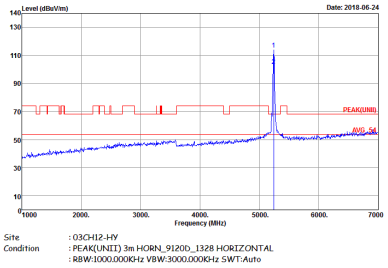
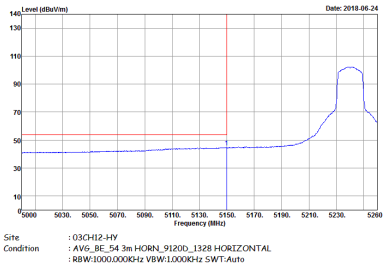
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

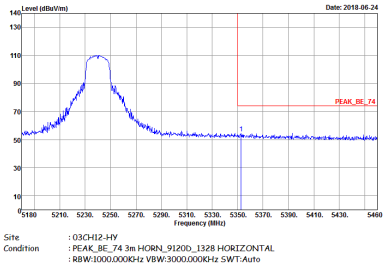
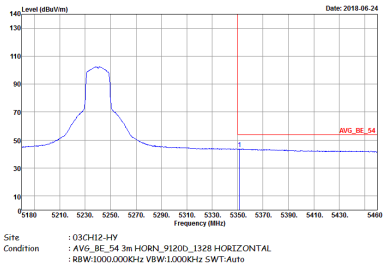
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

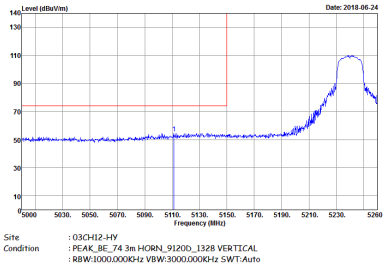
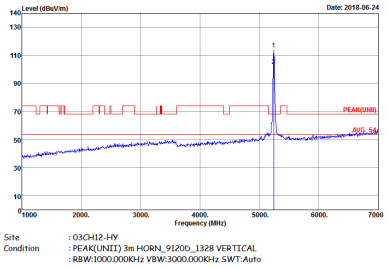
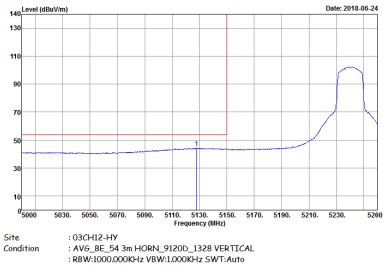
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

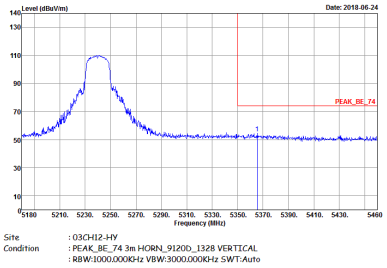
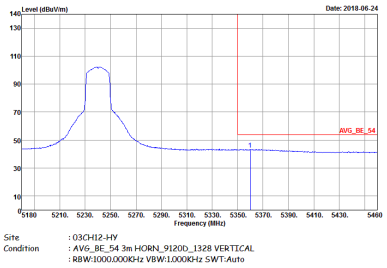
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

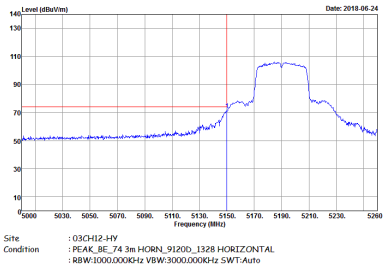
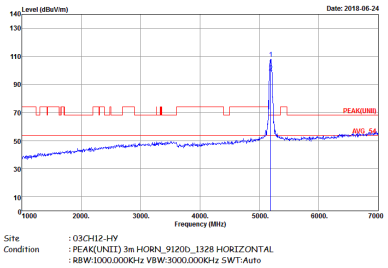
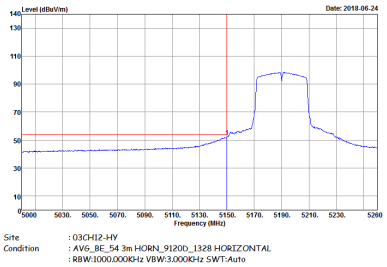
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

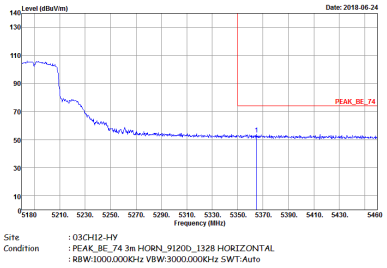
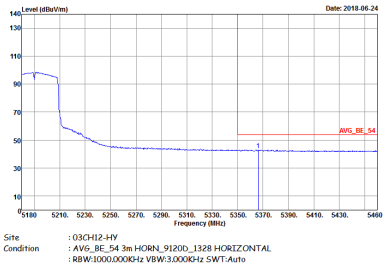
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

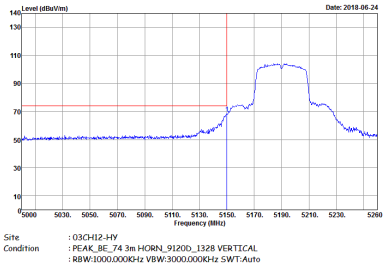
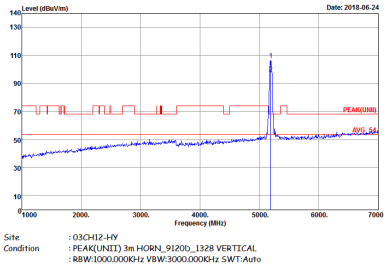
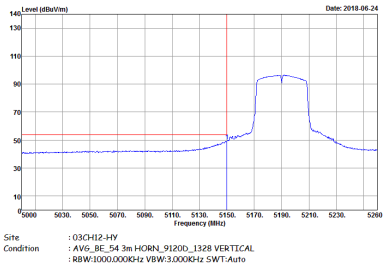
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

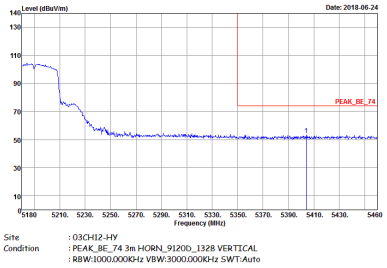
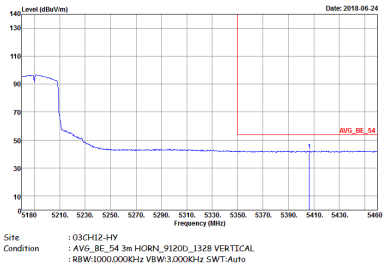
Band 1 5150~5250MHz

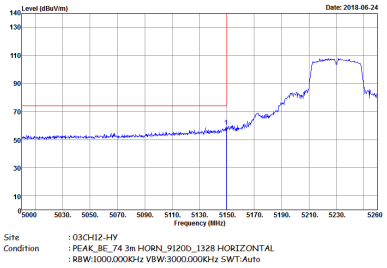
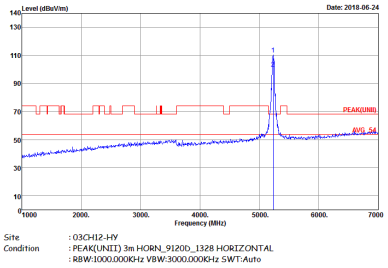
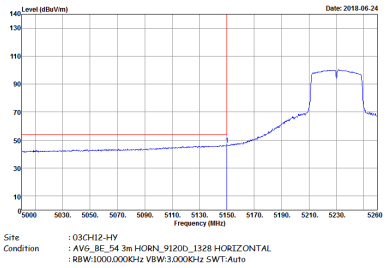
WIFI 802.11n HT40 (Band Edge @ 3m)

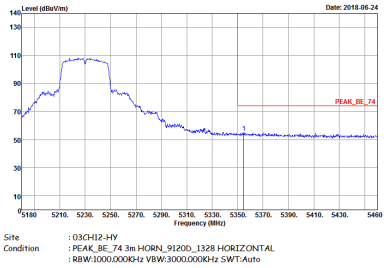
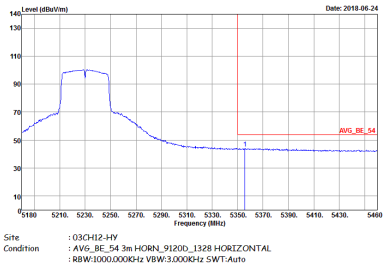
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

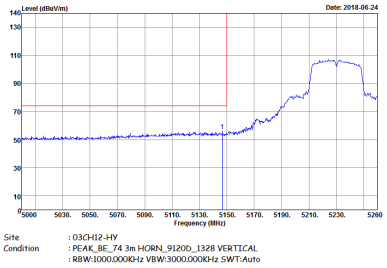
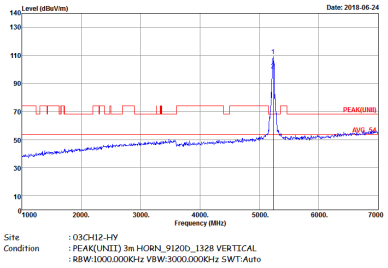
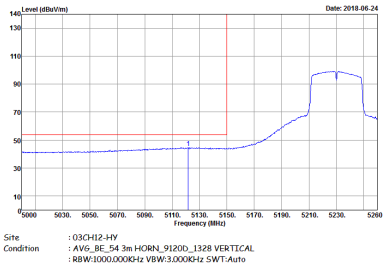
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

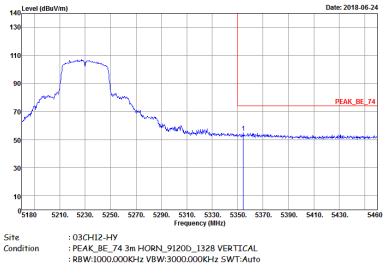
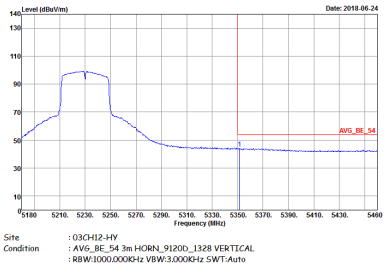
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

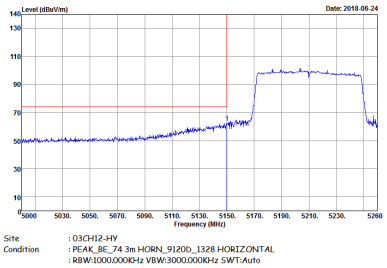
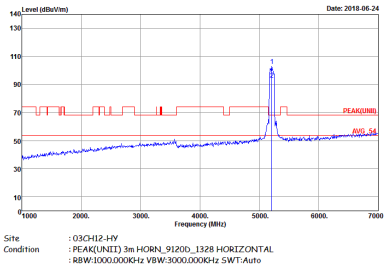
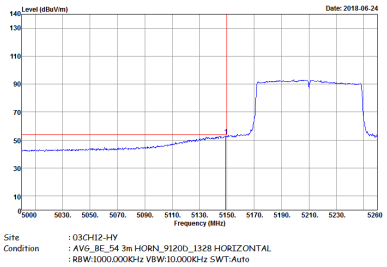
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

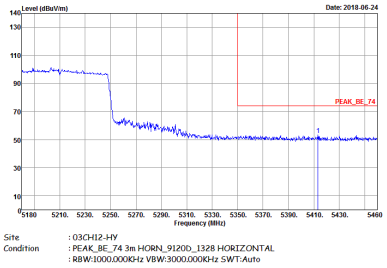
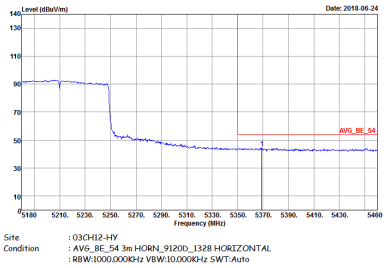
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

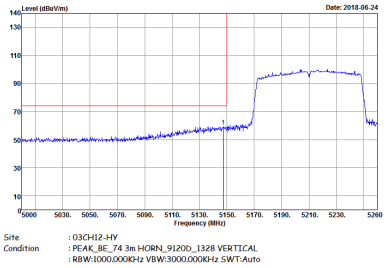
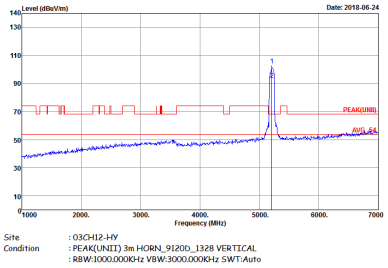
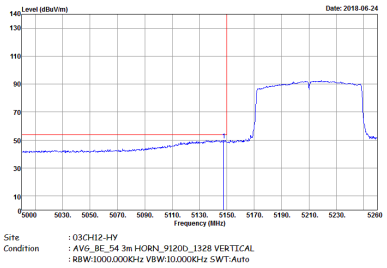
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

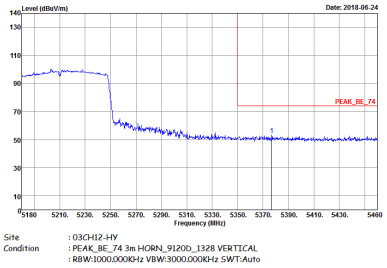
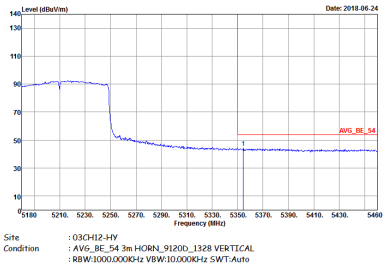
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

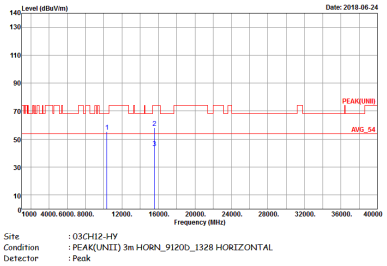
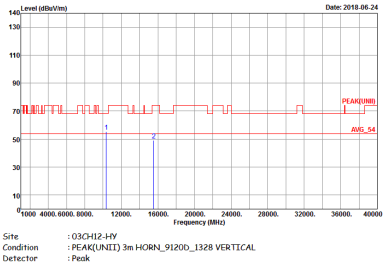
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

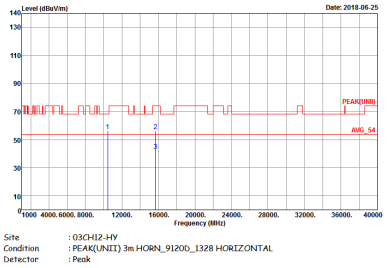
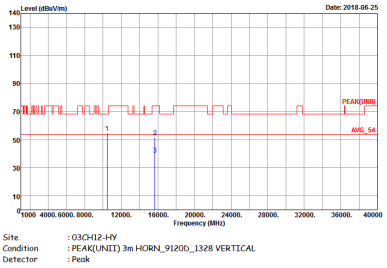
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

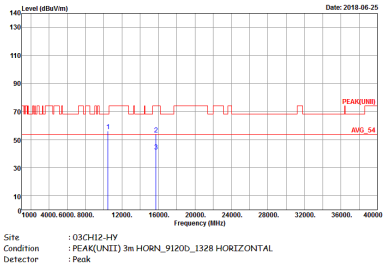
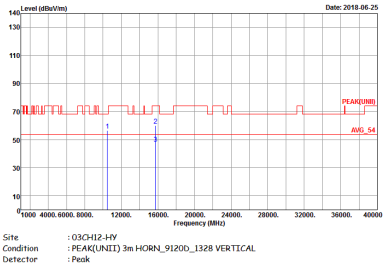
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

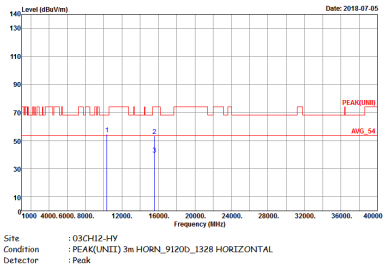
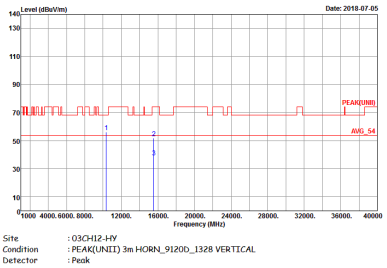
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

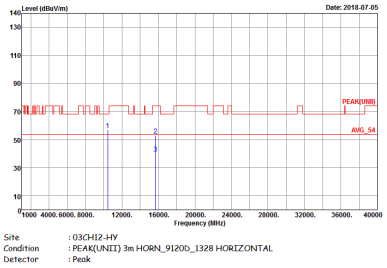
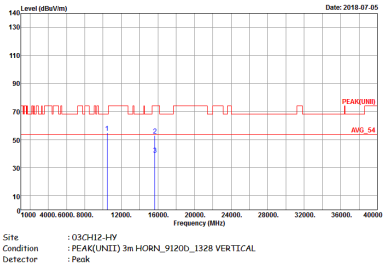
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

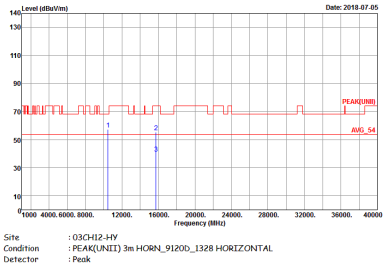
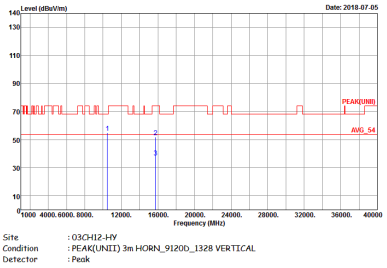
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

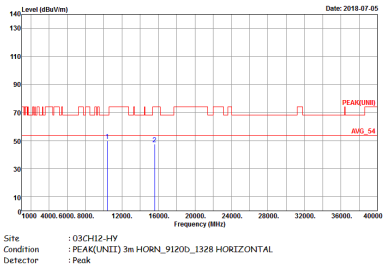
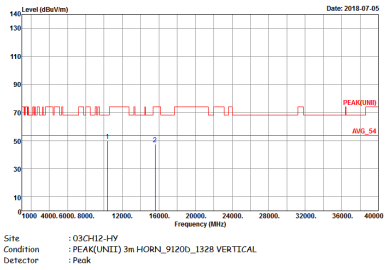
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

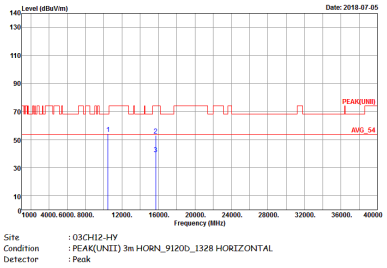
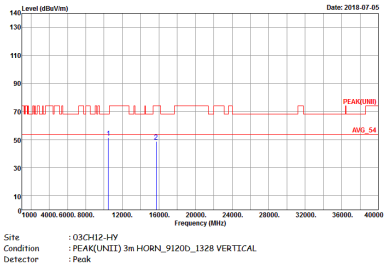
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

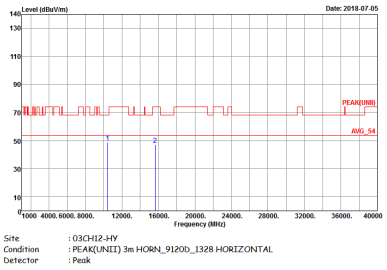
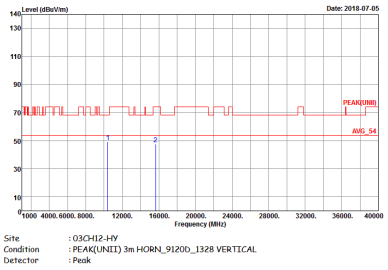
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1	Horizontal	Vertical
Peak		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1	Horizontal	Vertical
Peak Avg.		

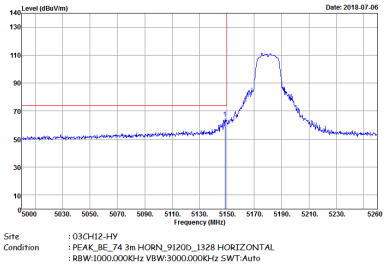
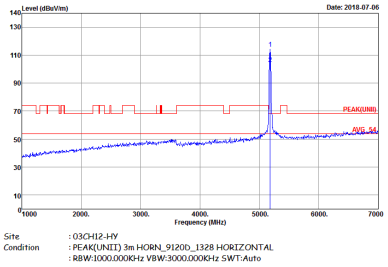
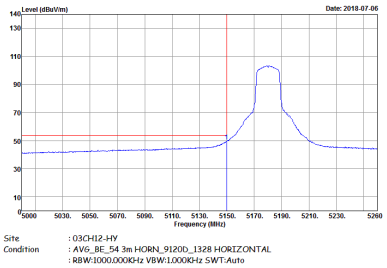
Band 1 5150~5250MHz

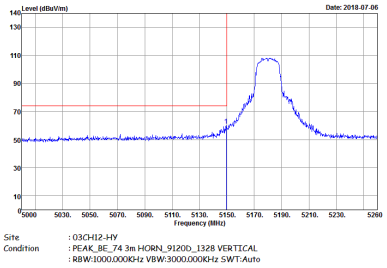
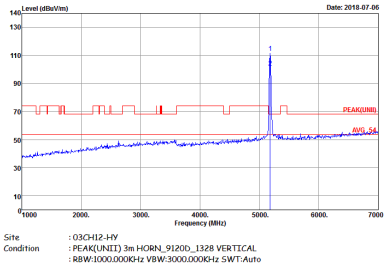
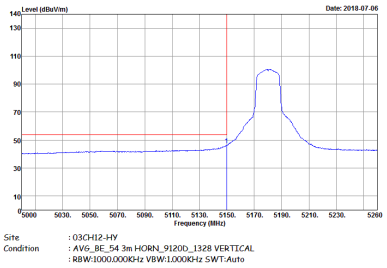
WIFI 802.11ac VHT80 (Harmonic @ 3m)

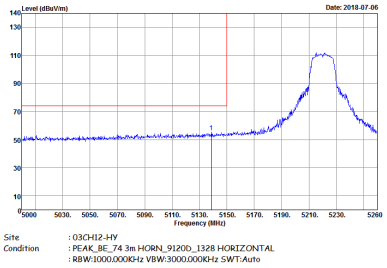
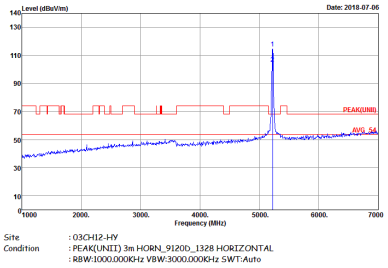
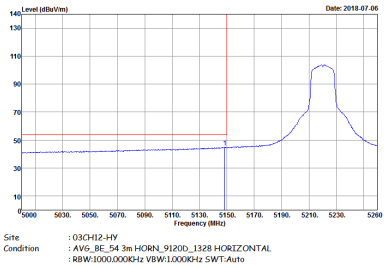
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz	
1	Horizontal	Vertical
Peak		

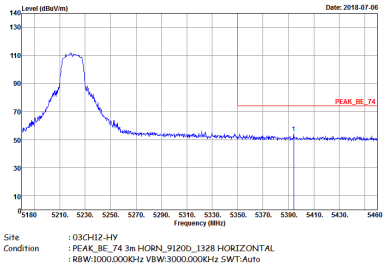
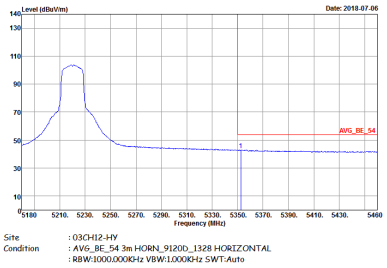
Band 1 - 5150~5250MHz

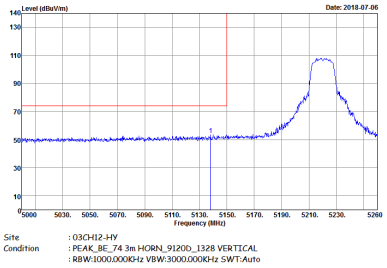
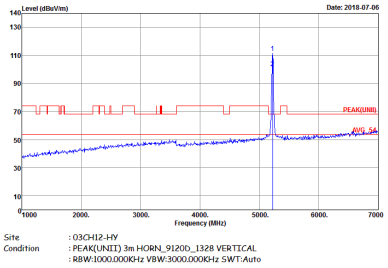
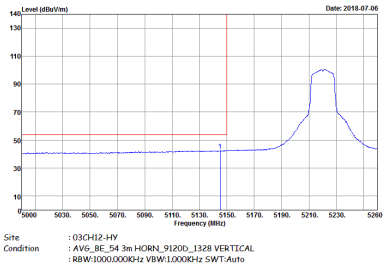
WIFI 802.11a (Band Edge @ 3m)

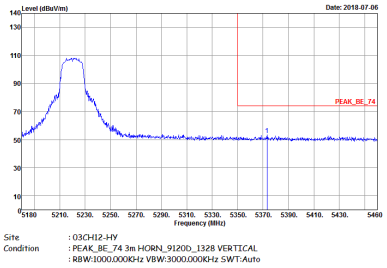
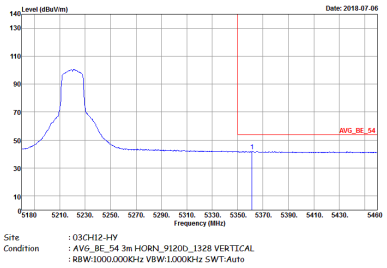
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

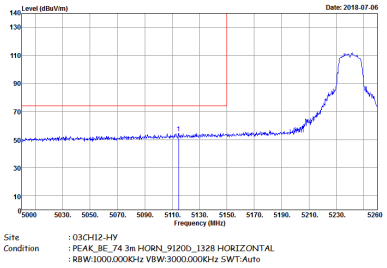
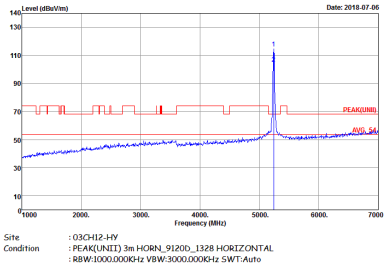
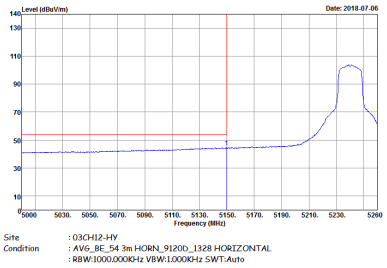
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

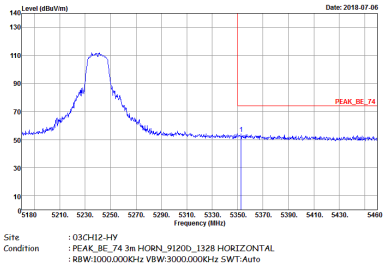
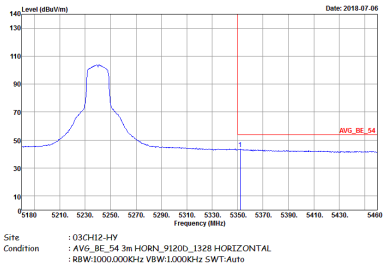
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

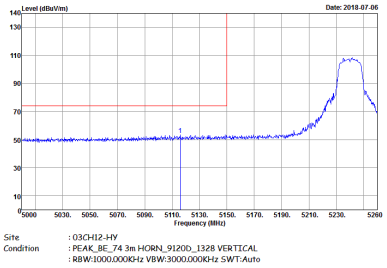
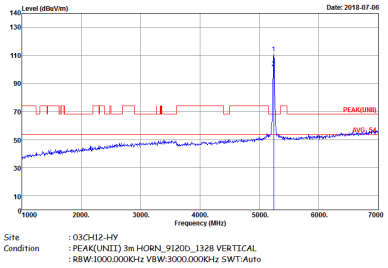
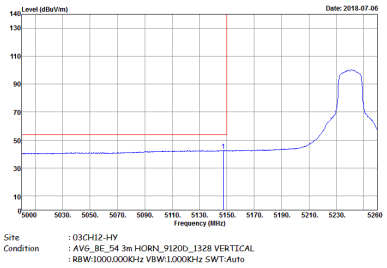
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

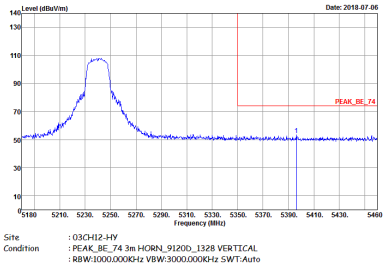
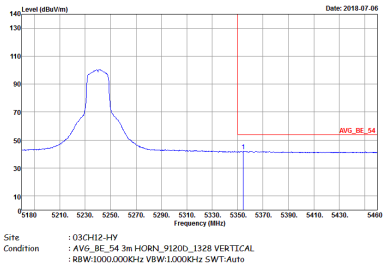
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

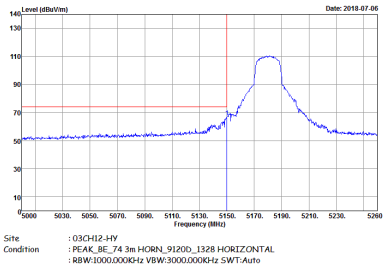
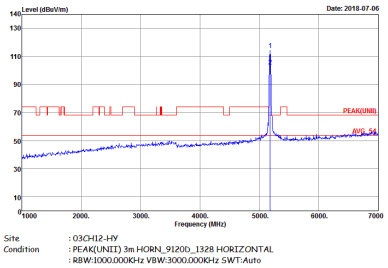
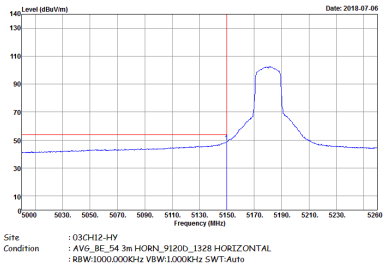
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

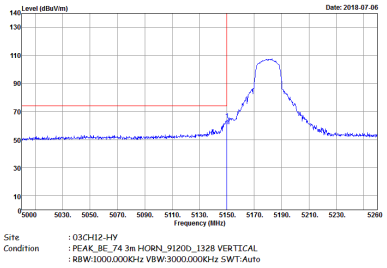
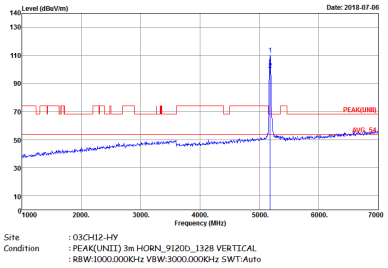
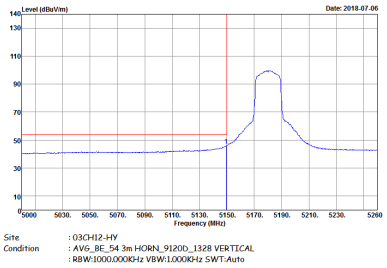
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

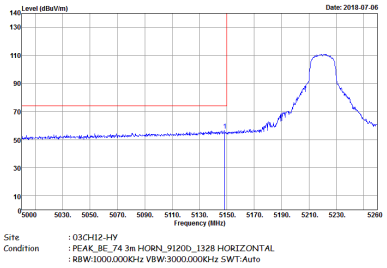
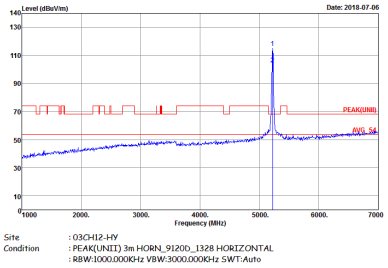
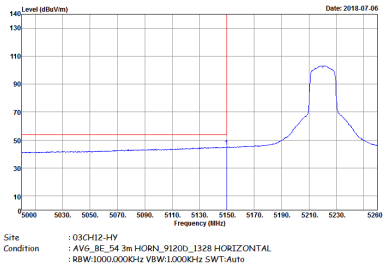
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

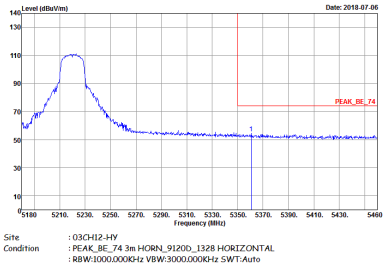
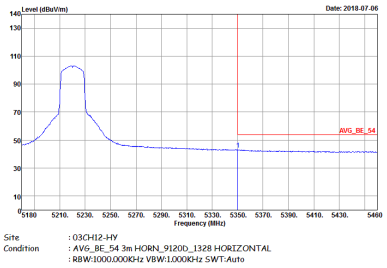
Band 1 5150~5250MHz

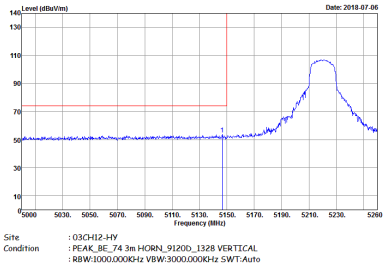
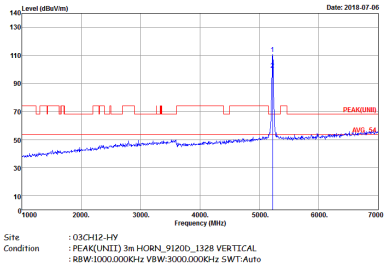
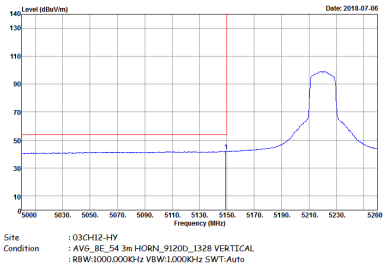
WIFI 802.11n HT20 (Band Edge @ 3m)

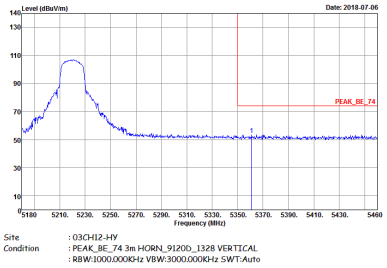
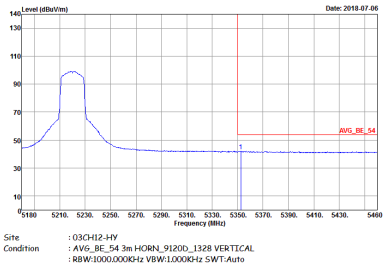
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

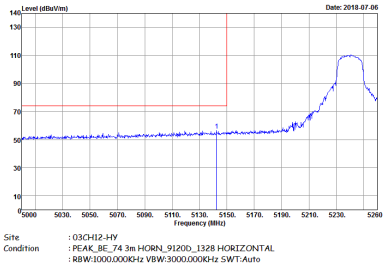
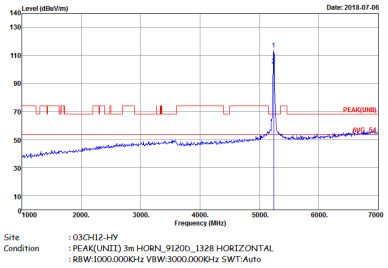
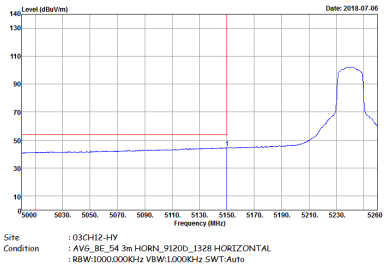
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

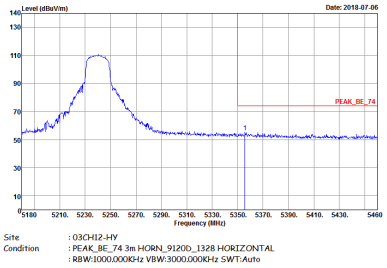
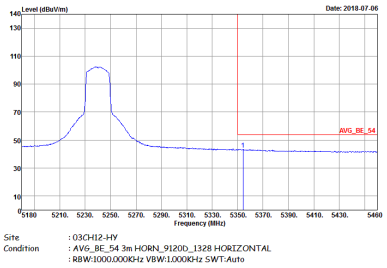
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

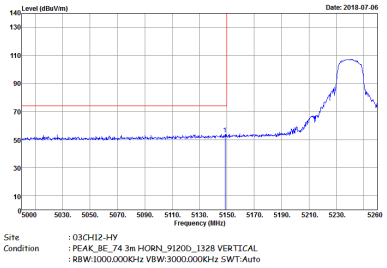
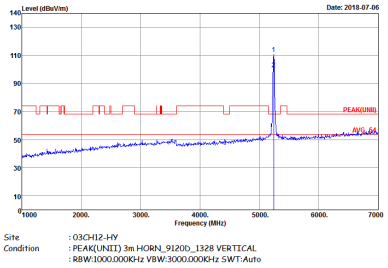
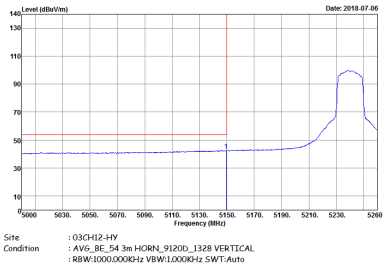
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

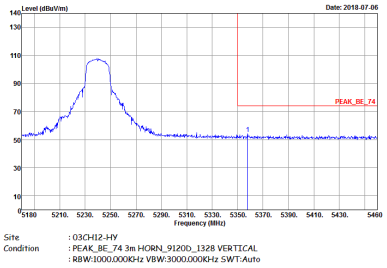
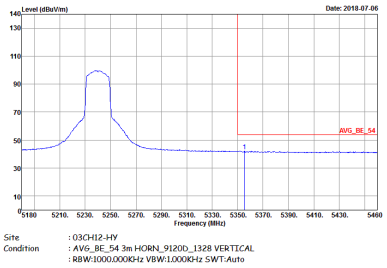
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

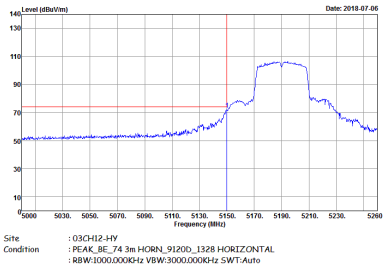
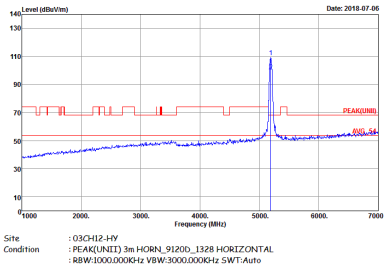
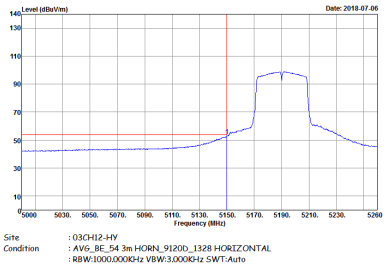
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

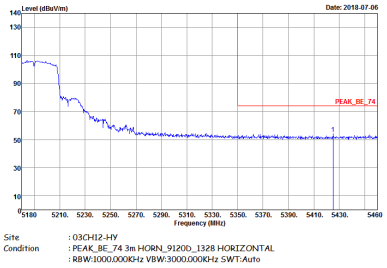
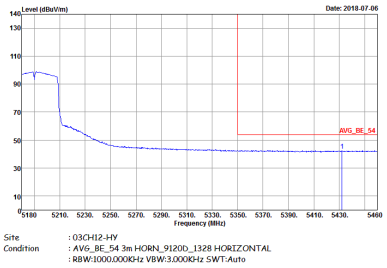
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

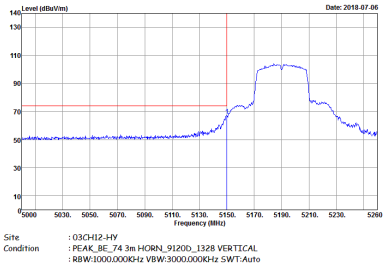
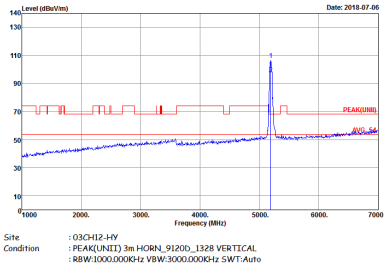
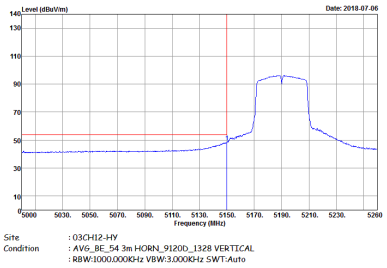
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

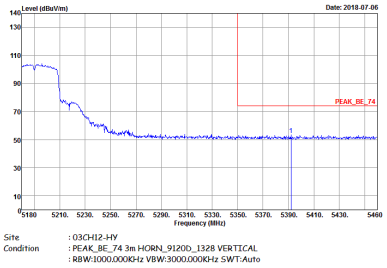
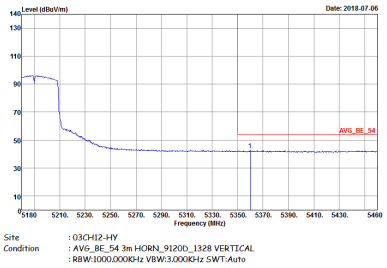
Band 1 5150~5250MHz

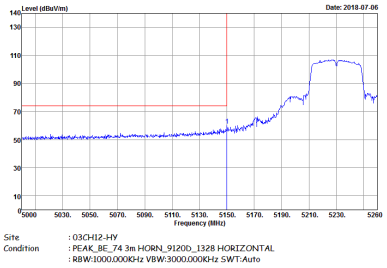
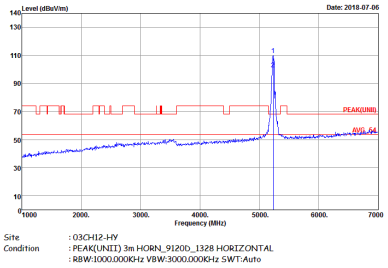
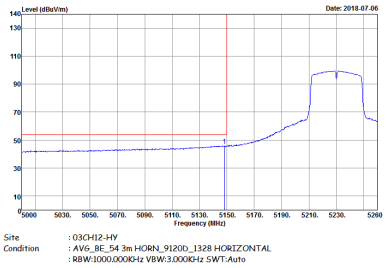
WIFI 802.11n HT40 (Band Edge @ 3m)

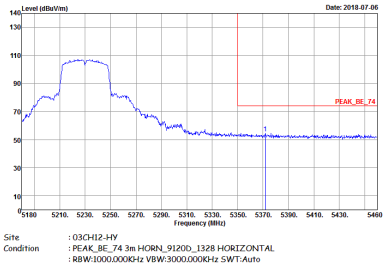
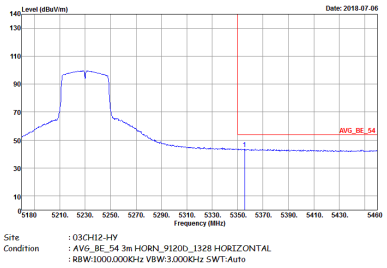
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

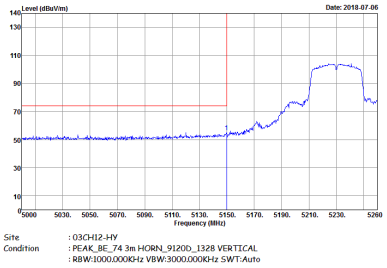
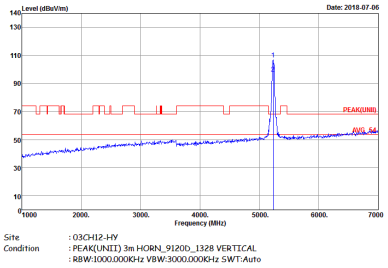
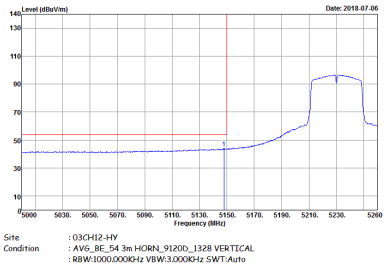
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

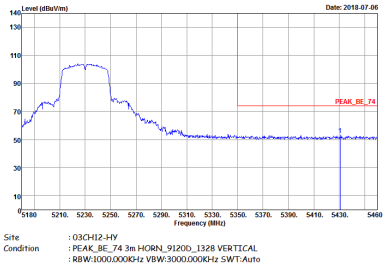
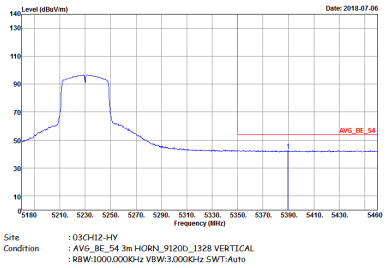
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

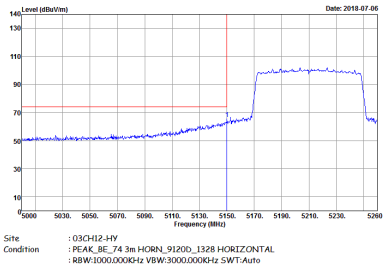
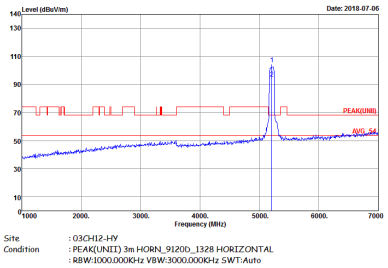
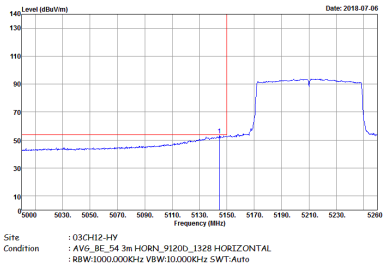
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

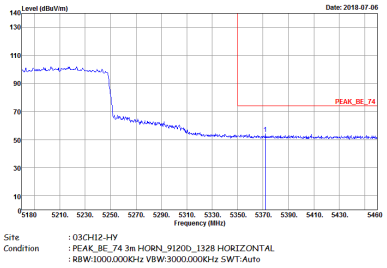
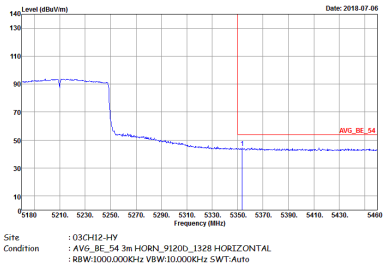
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

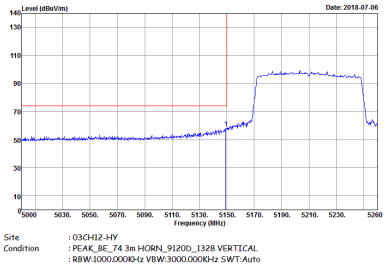
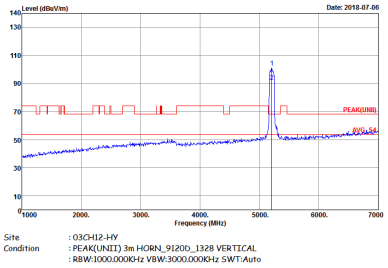
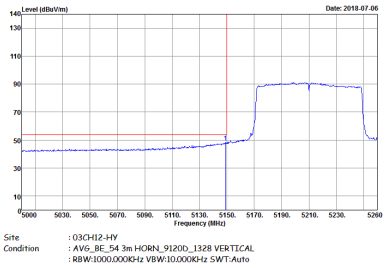
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

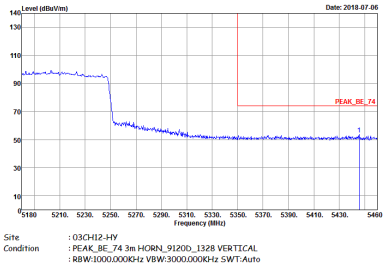
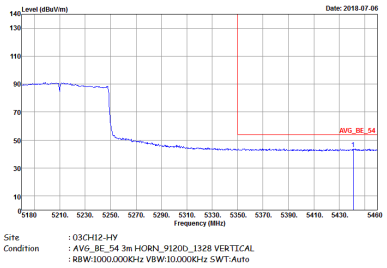
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

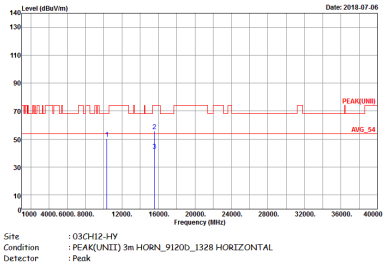
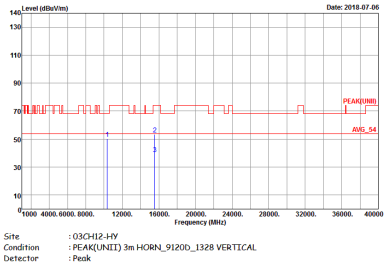
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

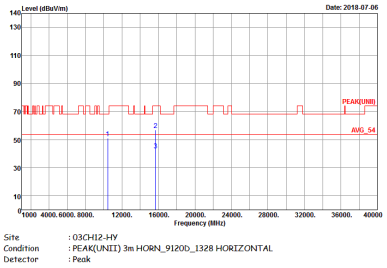
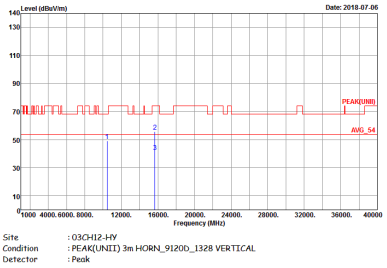
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

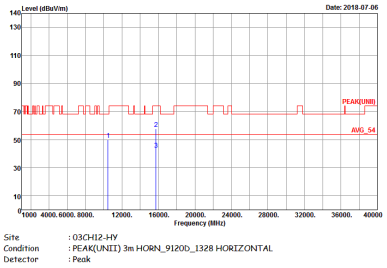
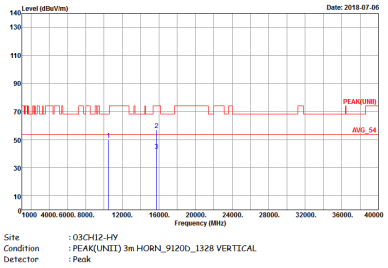
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

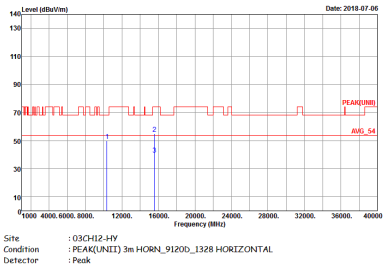
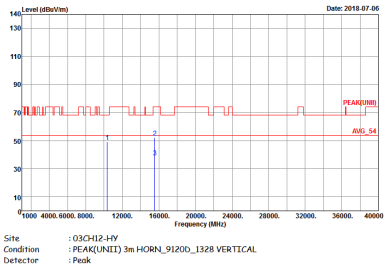
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Vertical
Peak Avg.		

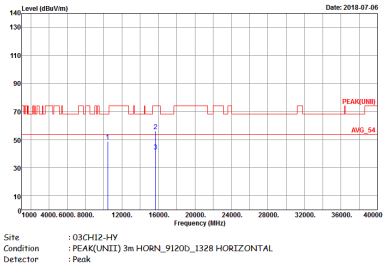
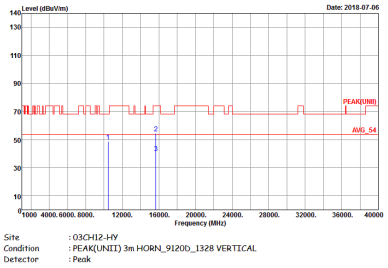
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
2	Horizontal	Vertical
Peak Avg.		

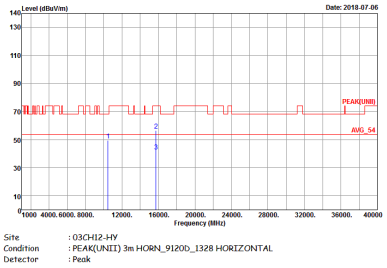
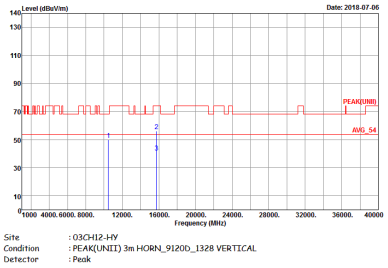
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

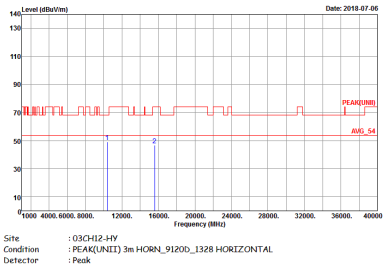
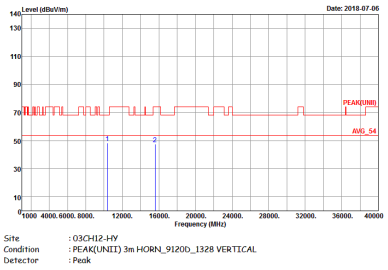
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
2	Horizontal	Vertical
Peak Avg.		

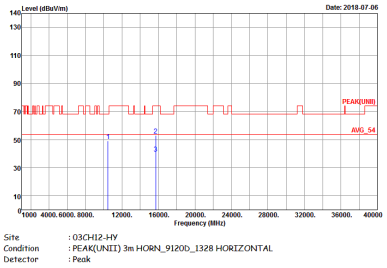
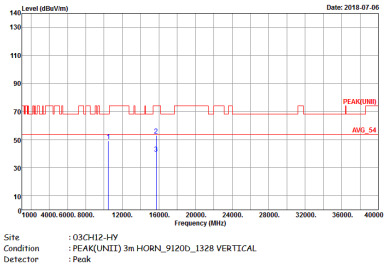
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH48 5240MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

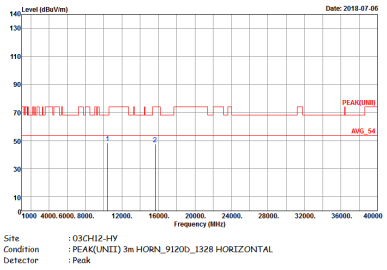
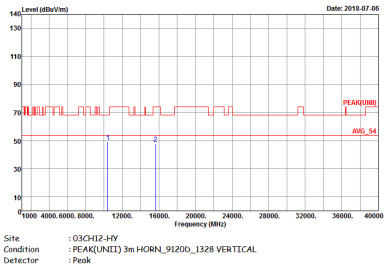
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
2	Horizontal	Vertical
Peak		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

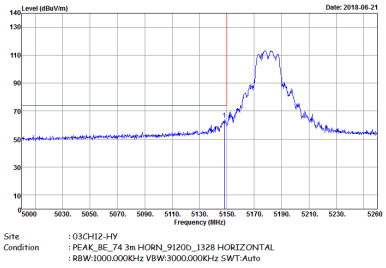
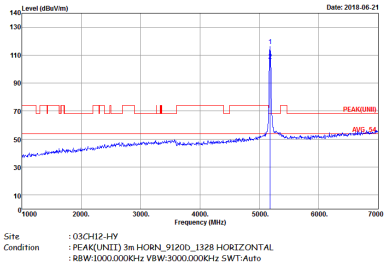
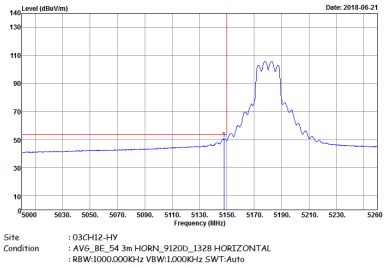
WIFI 802.11ac VHT80 (Harmonic @ 3m)

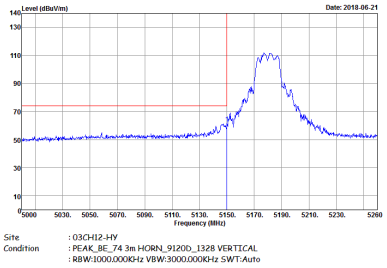
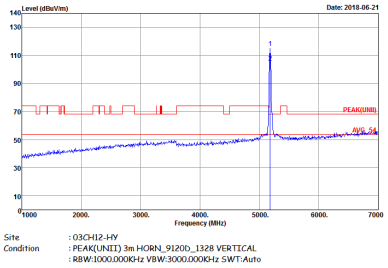
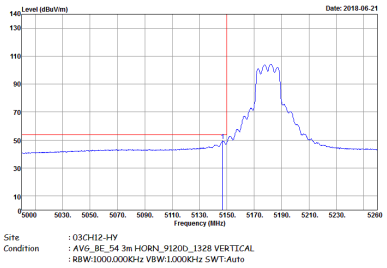
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz	
2	Horizontal	Vertical
Peak		

<For CDD Mode>

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank