FCC RF Test Report

APPLICANT	:	Nimbostratus LLC
EQUIPMENT	:	Digital Media Receiver
MODEL NAME	:	ZE39KL
FCC ID	:	2AHUF-6294
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The testing was completed on May 07, 2017. 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 test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR693034-02E	Rev. 01	Initial issue of report	May 15, 2017

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result
3.1	2.1049 15.403(i)	26dB & 99% Bandwidth	-	Pass
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm (depend on band)	Pass
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm (depend on band)	Pass
3.4	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass
3.5	15.207	AC Conducted Emission	15.207(a)	Pass
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass

1 General Description

1.1 Applicant

Nimbostratus LLC
945 Concord St. Framingham, MA 01701

1.2 Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	ZE39KL
FCC ID	2AHUF-6294
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE Zigbee

1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz
Maximum Output Power	**<Ant. 1>** 802.11a : 19.61 dBm / 0.0914 W 802.11n HT20 : 19.73 dBm / 0.0940 W 802.11n HT40 : 18.73 dBm / 0.0746 W 802.11ac VHT20: 19.69 dBm / 0.0931 W 802.11ac VHT40: 18.71 dBm / 0.0743 W 802.11ac VHT80: 12.42 dBm / 0.0175 W **<Ant. 2>** 802.11a : 19.53 dBm / 0.0897 W 802.11n HT20 : 19.66 dBm / 0.0925 W 802.11n HT40 : 17.32 dBm / 0.0540 W 802.11ac VHT20: 19.64 dBm / 0.0920 W 802.11ac VHT40: 17.29 dBm / 0.0536 W 802.11ac VHT80: 11.25 dBm / 0.0133 W **MIMO <Ant. 1+2>** 802.11a : 22.07 dBm / 0.1611 W 802.11n HT20 : 22.07 dBm / 0.1611 W 802.11n HT40 : 20.14 dBm / 0.1033 W 802.11ac VHT20: 22.04 dBm / 0.1600 W 802.11ac VHT40: 20.04 dBm / 0.1009 W 802.11ac VHT80: 13.26 dBm / 0.0212 W
99% Occupied Bandwidth	802.11a : 19.25 MHz 802.11n HT20 : 20.05 MHz 802.11n HT40 : 36.80 MHz 802.11ac VHT80 : 75.96 MHz
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Antenna Type / Gain	**<Ant. 1>** Fixed internal Antenna with gain 3.50 dBi **<Ant. 2>** Fixed internal Antenna with gain 4.20 dBi
Antenna Function Description	

	Ant. 1	Ant. 2
802.11 a/n/ac	V	V
802.11 n/ac MIMO	V	V

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

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. 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, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan 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.**
	03CH11-HY

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

1.6 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 v01r04
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42#	5210		

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 mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

Single Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

MIMO Antenna

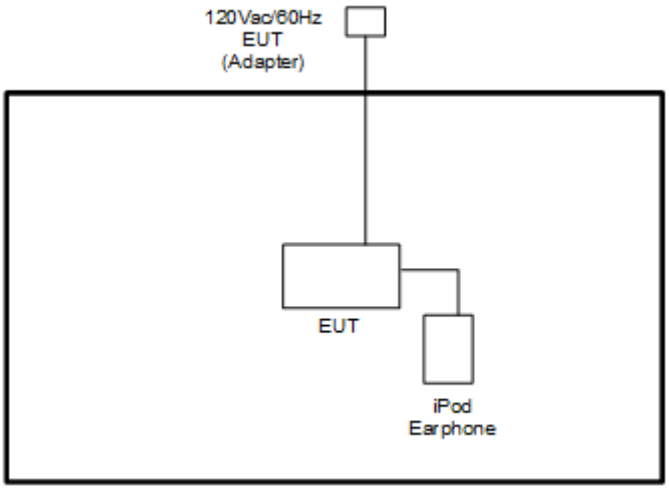
Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + Bluetooth Link with Speaker + MP3 + Adapter

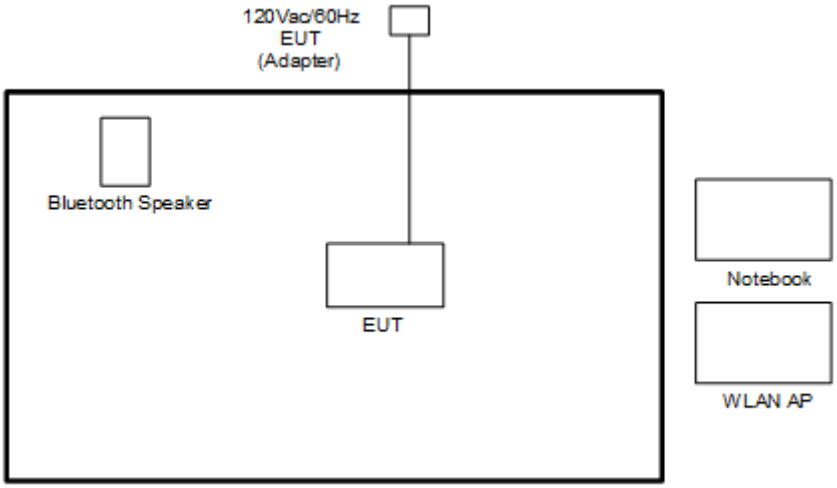
Ch. #		Band I：5150-5250 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	36	36	38	-
M	Middle	44	44	-	42
H	High	48	48	46	-

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.	Bluetooth Speaker	JAWBONE	JAWBONE JAMBOX	V3J-JBE	N/A	N/A
4.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.5 EUT Operation Test Setup

The RF test items, programmed RF utility, “Compliance.exe” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving 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.

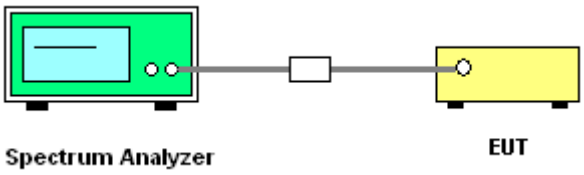
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

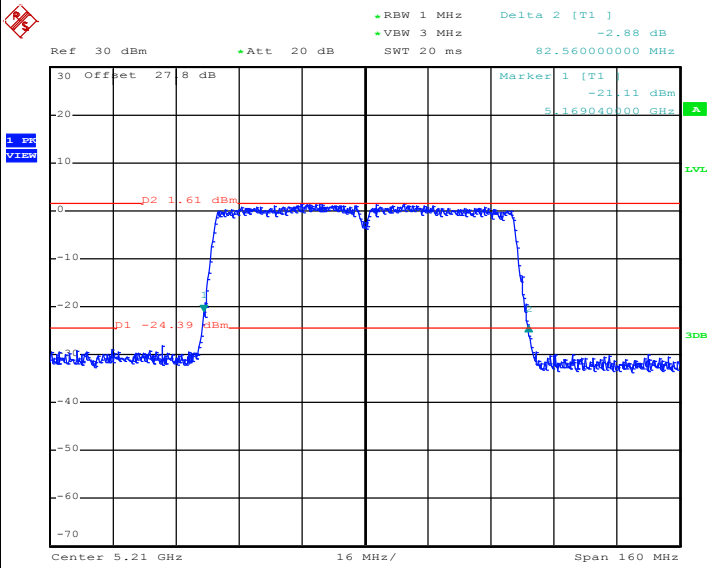
3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

Maximum 26dB Bandwidth



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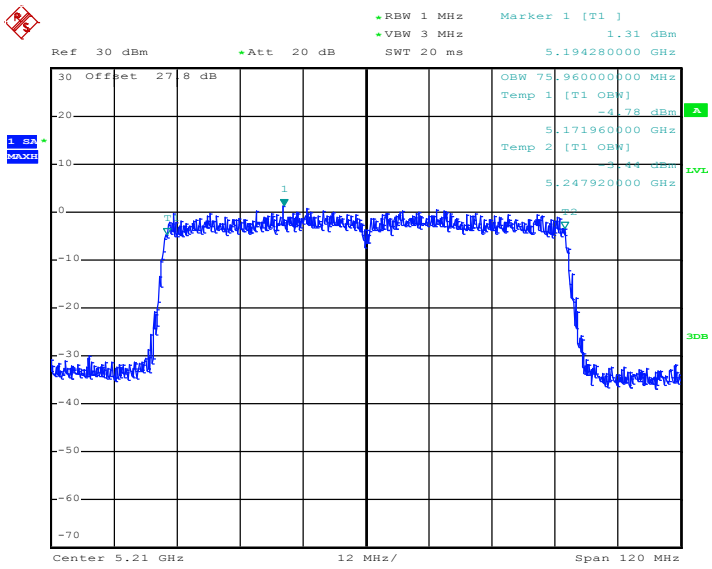
Maximum 99% Occupied Bandwidth



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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

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.

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

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

3.2.2 Measuring Instruments

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

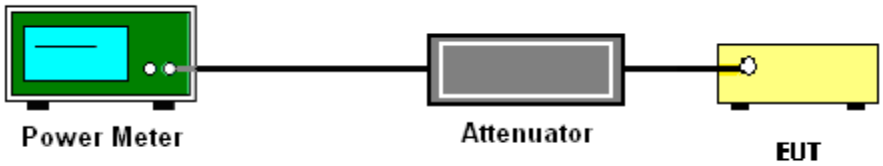
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 for CDD modes.

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
Section F) Maximum power spectral density.

 # Method SA-2 #

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

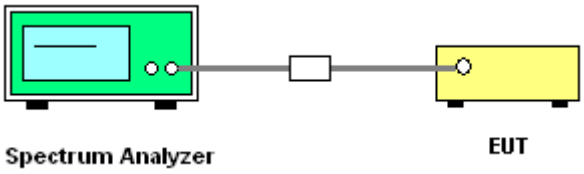
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - 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.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

4. 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.

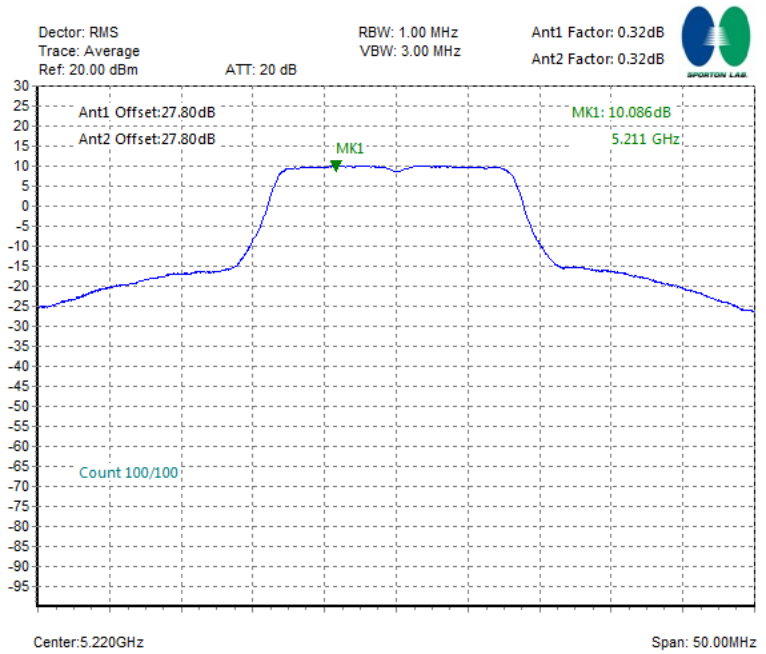
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

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

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

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

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

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

(3) KDB789033 D02 v01r04 G)2)c)

(i) Sections 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

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. 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

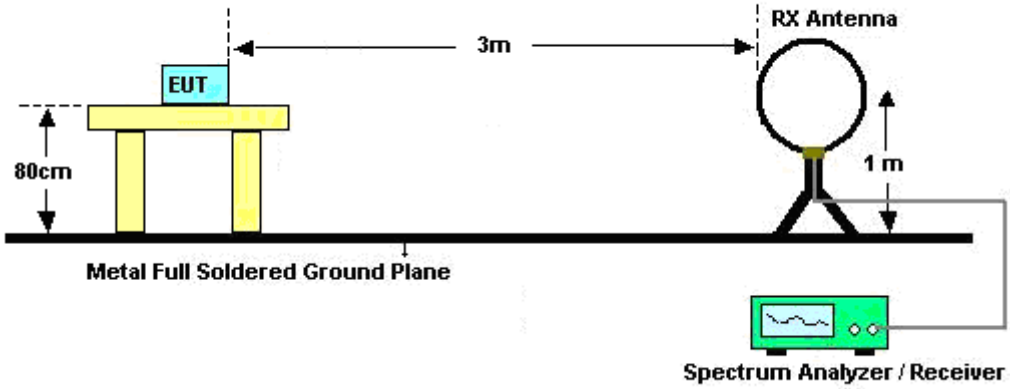
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

- 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.

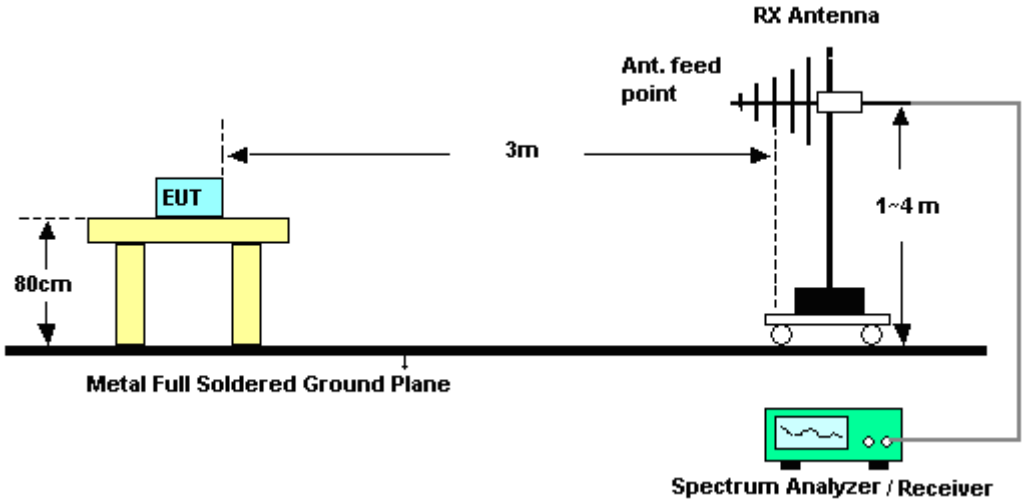
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

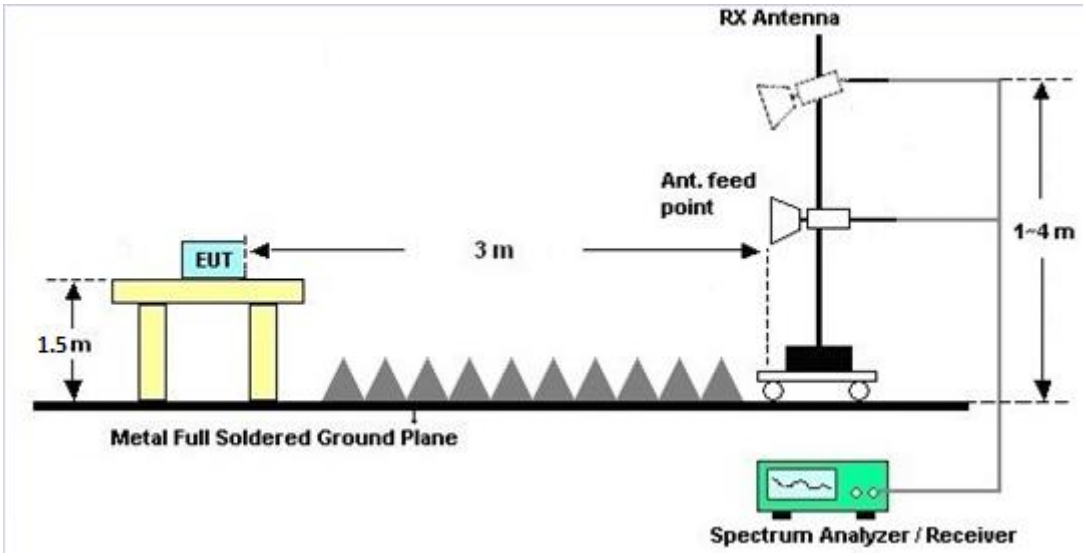
For radiated emissions below 30MHz



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 per 15.31(o) 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 B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

Frequency of emission (MHz)	Conducted limit (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.

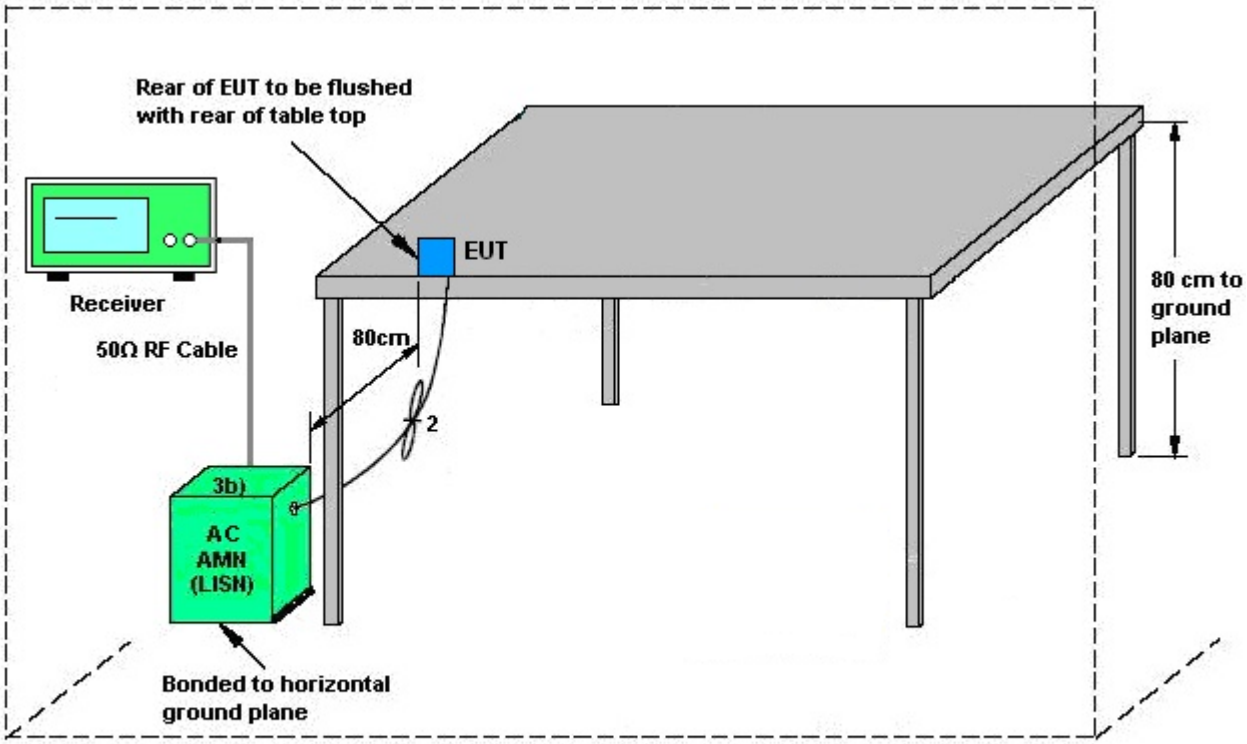
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



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 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

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

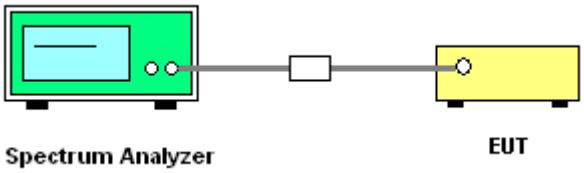
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

The frequency band 5180-5240MHz which was verified by testing against other standard is less than 20 ppm which is sufficient to maintain the signal within the 5150-5250MHz band.

3.7 Automatically Discontinue Transmission

3.7.1 Limit of Automatically Discontinue Transmission

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

3.7.2 Measuring Instruments

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

3.7.3 Test Result of Automatically Discontinue Transmission

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.

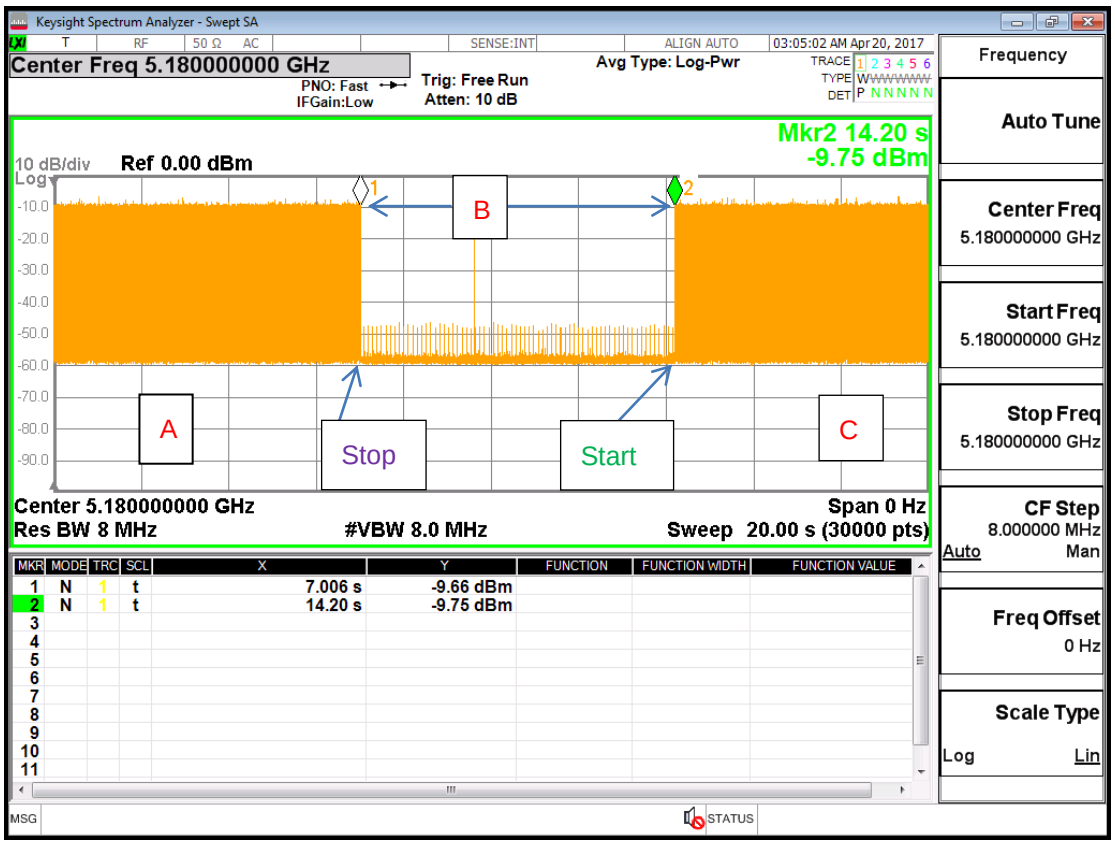
B. Information stop: stop supplying information to the access point.

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


Keysight Spectrum Analyzer - Swept SA
Center Freq 5.180000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
03:05:02 AM Apr 20, 2017
Mkr2 14.20 s
-9.75 dBm
10 dB/div
Ref 0.00 dBm
Log
A
B
C
Stop
Start
Center 5.180000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 20.00 s (30000 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 t 7.006 s -9.66 dBm
2 N 1 t 14.20 s -9.75 dBm
Frequency
Auto Tune
Center Freq
5.180000000 GHz
Start Freq
5.180000000 GHz
Stop Freq
5.180000000 GHz
CF Step
8.000000 MHz
Auto Man
Freq Offset
0 Hz
Scale Type
Log Lin
MSG
STATUS

3.8 Antenna Requirements

3.8.1 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.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

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

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

For power, the directional gain G_{ANT} 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.

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	3.50	4.20	4.20	6.87	0.00	0.87

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

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	300MHz~40GHz	Sep. 29, 2016	Mar. 28, 2017 ~ Apr. 27, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	Mar. 28, 2017 ~ Apr. 27, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jul. 17, 2016	Mar. 28, 2017 ~ Apr. 27, 2017	Jul. 16, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 01, 2016	Mar. 28, 2017 ~ Apr. 27, 2017	Aug. 31, 2017	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 11, 2016	Mar. 28, 2017 ~ Apr. 27, 2017	Oct. 10, 2017	Conducted (TH05-HY)
AC Power Source	AC POWER	AFC-500W	F104070011	50Hz~60Hz	Dec. 01, 2016	Mar. 28, 2017 ~ Apr. 27, 2017	Nov. 30, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 07, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	May 07, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	May 07, 2017	Nov. 28, 2017	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N 0602	30MHz~1GHz	Oct. 15, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 07, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Oct. 06, 2017	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Oct. 20, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Oct. 19, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 12, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Oct. 11, 2017	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Mar. 28, 2017 ~ Apr. 17, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Mar. 28, 2017 ~ Apr. 17, 2017	N/A	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1815698	1GHz~18GHz	Dec. 01, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Nov. 30, 2017	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 08, 2016	Mar. 28, 2017 ~ Apr. 17, 2017	Nov. 07, 2017	Radiation (03CH11-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 12, 2017	Mar. 28, 2017 ~ Apr. 17, 2017	Jan. 11, 2018	Radiation (03CH11-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))	5.2

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.5

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

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

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Aking chang	Temperature:	21~25	°C
Test Date:	2017/3/28~2017/04/27	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	18.20	18.15	23.00	22.80	-		22.60	22.59		
11a	6Mbps	1	44	5220	18.75	19.05	37.70	38.20	-		22.73	22.80		
11a	6Mbps	1	48	5240	19.25	19.25	37.60	38.00	-		22.84	22.84		
HT20	MCS0	1	36	5180	19.00	19.15	23.10	23.40	-		22.79	22.82		
HT20	MCS0	1	44	5220	19.30	19.65	46.40	47.44	-		22.86	22.93		
HT20	MCS0	1	48	5240	19.45	20.05	43.80	45.10	-		22.89	23.01		
HT40	MCS0	1	38	5190	36.70	36.70	41.76	41.40	-		23.01	23.01		
HT40	MCS0	1	46	5230	37.00	36.70	72.18	41.40	-		23.01	23.01		
VHT80	MCS0	1	42	5210	75.84	75.96	82.24	82.56	-		23.01	23.01		
11a	6Mbps	2	36	5180	18.35	18.15	22.80	22.90	-		22.59			
11a	6Mbps	2	44	5220	18.90	19.00	37.40	37.50	-		22.76			
11a	6Mbps	2	48	5240	18.95	18.65	37.40	37.80	-		22.71			
HT20	MCS0	2	36	5180	19.05	19.00	23.40	23.60	-		22.79			
HT20	MCS0	2	44	5220	19.20	19.45	45.80	42.85	-		22.83			
HT20	MCS0	2	48	5240	19.30	19.30	42.80	44.40	-		22.86			
HT40	MCS0	2	38	5190	36.70	36.60	41.22	41.22	-		23.01			
HT40	MCS0	2	46	5230	36.80	36.80	41.40	41.58	-		23.01			
VHT80	MCS0	2	42	5210	75.96	75.84	80.64	81.92	-		23.01			

Report Number : FR6930304-02E

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	0.29	0.32	17.31	15.57		24.00	24.00	3.50	4.20		Pass
11a	6Mbps	1	44	5220	0.29	0.32	19.54	19.52		24.00	24.00	3.50	4.20		Pass
11a	6Mbps	1	48	5240	0.29	0.32	19.61	19.53		24.00	24.00	3.50	4.20		Pass
HT20	MCS0	1	36	5180	0.34	0.31	17.34	15.99		24.00	24.00	3.50	4.20		Pass
HT20	MCS0	1	44	5220	0.34	0.31	19.73	19.66		24.00	24.00	3.50	4.20		Pass
HT20	MCS0	1	48	5240	0.34	0.31	19.71	19.62		24.00	24.00	3.50	4.20		Pass
HT40	MCS0	1	38	5190	0.60	0.60	13.01	11.65		24.00	24.00	3.50	4.20		Pass
HT40	MCS0	1	46	5230	0.60	0.60	18.73	17.32		24.00	24.00	3.50	4.20		Pass
VHT20	MCS0	1	36	5180	0.31	0.31	17.31	15.89		24.00	24.00	3.50	4.20		Pass
VHT20	MCS0	1	44	5220	0.31	0.31	19.69	19.64		24.00	24.00	3.50	4.20		Pass
VHT20	MCS0	1	48	5240	0.31	0.31	19.66	19.61		24.00	24.00	3.50	4.20		Pass
VHT40	MCS0	1	38	5190	0.67	0.66	12.97	11.61		24.00	24.00	3.50	4.20		Pass
VHT40	MCS0	1	46	5230	0.67	0.66	18.71	17.29		24.00	24.00	3.50	4.20		Pass
VHT80	MCS0	1	42	5210	1.20	1.20	12.42	11.25		24.00	24.00	3.50	4.20		Pass
11a	6Mbps	2	36	5180	0.32	0.32	16.42	16.32	19.38	24.00		4.20			Pass
11a	6Mbps	2	44	5220	0.32	0.32	19.15	18.97	22.07	24.00		4.20			Pass
11a	6Mbps	2	48	5240	0.32	0.32	19.12	18.87	22.01	24.00		4.20			Pass
HT20	MCS0	2	36	5180	0.31	0.34	16.36	16.34	19.36	24.00		4.20			Pass
HT20	MCS0	2	44	5220	0.31	0.34	19.11	19.00	22.07	24.00		4.20			Pass
HT20	MCS0	2	48	5240	0.31	0.34	19.16	18.94	22.06	24.00		4.20			Pass
HT40	MCS0	2	38	5190	0.67	0.67	11.97	10.90	14.48	24.00		4.20			Pass
HT40	MCS0	2	46	5230	0.67	0.67	17.20	17.05	20.14	24.00		4.20			Pass
VHT20	MCS0	2	36	5180	0.31	0.34	16.32	16.33	19.34	24.00		4.20			Pass
VHT20	MCS0	2	44	5220	0.31	0.34	19.09	18.96	22.04	24.00		4.20			Pass
VHT20	MCS0	2	48	5240	0.31	0.34	19.14	18.90	22.03	24.00		4.20			Pass
VHT40	MCS0	2	38	5190	0.60	0.66	11.81	10.82	14.36	24.00		4.20			Pass
VHT40	MCS0	2	46	5230	0.60	0.66	17.08	16.98	20.04	24.00		4.20			Pass
VHT80	MCS0	2	42	5210	1.20	1.20	10.74	9.70	13.26	24.00		4.20			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	0.29	0.32	5.76	3.76		11.00	11.00	3.50	4.20		Pass
11a	6Mbps	1	44	5220	0.29	0.32	7.99	7.69		11.00	11.00	3.50	4.20		Pass
11a	6Mbps	1	48	5240	0.29	0.32	7.90	7.81		11.00	11.00	3.50	4.20		Pass
HT20	MCS0	1	36	5180	0.34	0.31	5.21	3.89		11.00	11.00	3.50	4.20		Pass
HT20	MCS0	1	44	5220	0.34	0.31	7.59	7.32		11.00	11.00	3.50	4.20		Pass
HT20	MCS0	1	48	5240	0.34	0.31	7.52	7.19		11.00	11.00	3.50	4.20		Pass
HT40	MCS0	1	38	5190	0.60	0.60	-2.11	-3.54		11.00	11.00	3.50	4.20		Pass
HT40	MCS0	1	46	5230	0.60	0.60	3.62	2.13		11.00	11.00	3.50	4.20		Pass
VHT80	MCS0	1	42	5210	1.20	1.20	-5.59	-6.79		11.00	11.00	3.50	4.20		Pass
11a	6Mbps	2	36	5180	0.32	0.32			7.46	10.13		6.87			Pass
11a	6Mbps	2	44	5220	0.32	0.32			10.09	10.13		6.87			Pass
11a	6Mbps	2	48	5240	0.32	0.32			10.08	10.13		6.87			Pass
HT20	MCS0	2	36	5180	0.31	0.34			6.98	10.13		6.87			Pass
HT20	MCS0	2	44	5220	0.31	0.34			9.70	10.13		6.87			Pass
HT20	MCS0	2	48	5240	0.31	0.34			9.63	10.13		6.87			Pass
HT40	MCS0	2	38	5190	0.67	0.67			-0.82	10.13		6.87			Pass
HT40	MCS0	2	46	5230	0.67	0.67			4.80	10.13		6.87			Pass
VHT80	MCS0	2	42	5210	1.20	1.20			-4.42	10.13		6.87			Pass

TEST RESULTS DATA
Frequency Stability

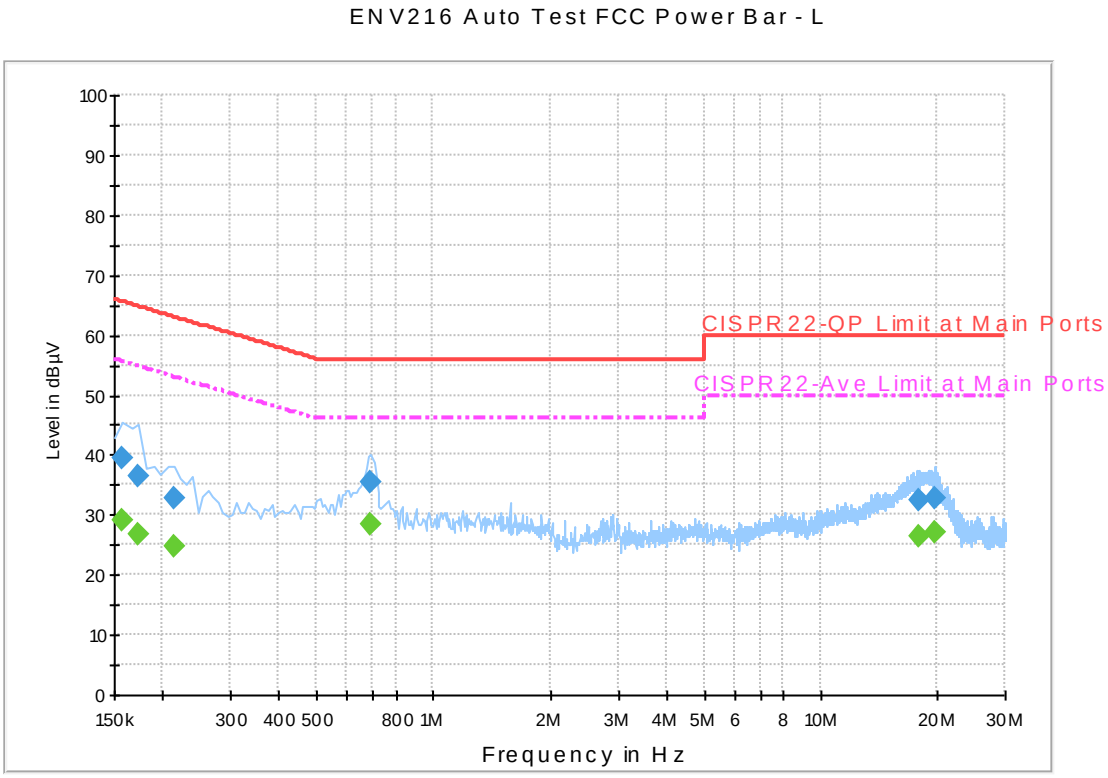
Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (˚C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	35	14.25	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	0	14.25	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	15.75	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	15	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	14.25	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Derreck Chen	**Temperature :**	20~22℃
		Relative Humidity :	50~52%

EUT Information

Report NO :	693034-02
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



Final Result 1

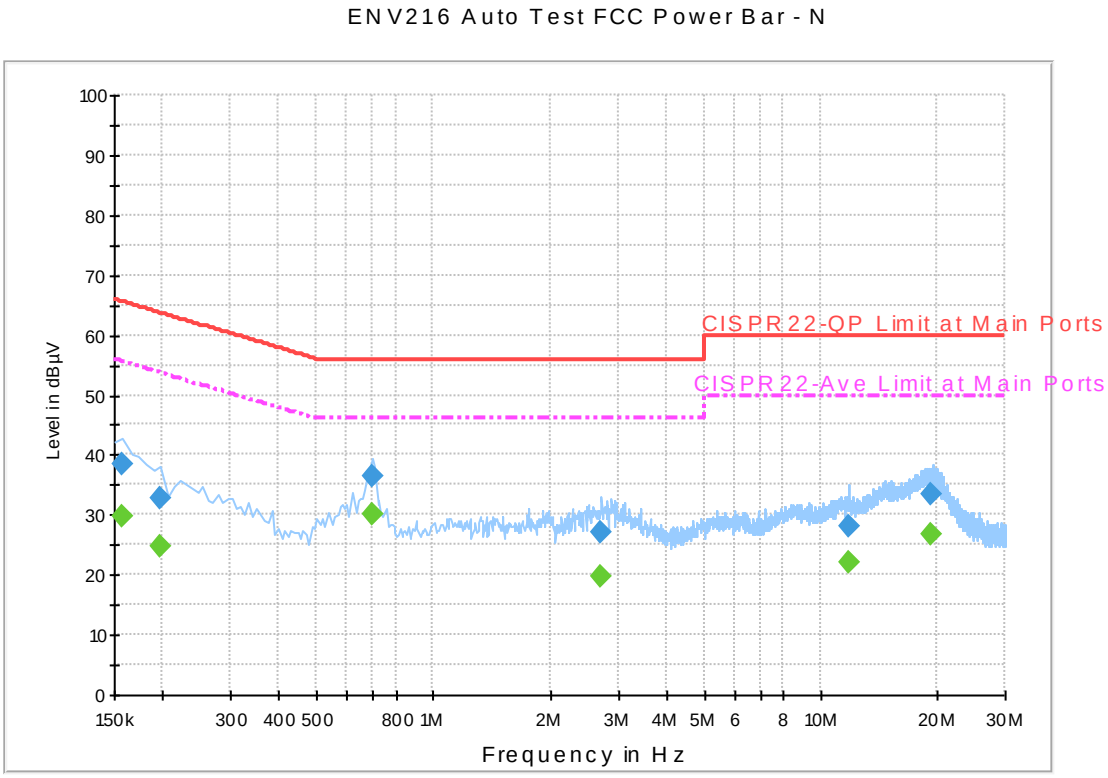
Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	39.5	Off	L1	19.6	26.1	65.6
0.174000	36.6	Off	L1	19.6	28.2	64.8
0.214000	32.9	Off	L1	19.6	30.1	63.0
0.686000	35.3	Off	L1	19.6	20.7	56.0
17.886000	32.5	Off	L1	20.5	27.5	60.0
19.678000	32.7	Off	L1	20.6	27.3	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	29.2	Off	L1	19.6	26.4	55.6
0.174000	26.7	Off	L1	19.6	28.1	54.8
0.214000	24.8	Off	L1	19.6	28.2	53.0
0.686000	28.5	Off	L1	19.6	17.5	46.0
17.886000	26.4	Off	L1	20.5	23.6	50.0
19.678000	26.9	Off	L1	20.6	23.1	50.0

EUT Information

Report NO :	693034-02
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	38.6	Off	N	19.5	27.0	65.6
0.198000	32.7	Off	N	19.5	31.0	63.7
0.694000	36.3	Off	N	19.5	19.7	56.0
2.718000	27.0	Off	N	19.4	29.0	56.0
11.806000	28.0	Off	N	20.2	32.0	60.0
19.334000	33.5	Off	N	20.7	26.5	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	29.8	Off	N	19.5	25.8	55.6
0.198000	24.9	Off	N	19.5	28.8	53.7
0.694000	30.2	Off	N	19.5	15.8	46.0
2.718000	19.7	Off	N	19.4	26.3	46.0
11.806000	22.0	Off	N	20.2	28.0	50.0
19.334000	26.7	Off	N	20.7	23.3	50.0

Appendix C. Radiated Spurious Emission

Test Engineer :	J.C. Liang, Jacky Hung and Ken Wu	Temperature :	20~24°C
		Relative Humidity :	55~60%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	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		5149.24	63.65	-10.35	74	55.42	32.21	9.05	33.03	101	329	P	H
		5150	52.94	-1.06	54	44.71	32.21	9.05	33.03	101	329	A	H
	*	5180	110.66	-	-	102.35	32.26	9.08	33.03	101	329	P	H
	*	5180	103.2	-	-	94.89	32.26	9.08	33.03	101	329	A	H
		5149.5	60.95	-13.05	74	52.72	32.21	9.05	33.03	243	97	P	V
		5150	53.16	-0.84	54	44.93	32.21	9.05	33.03	243	97	A	V
	*	5180	110.86	-	-	102.55	32.26	9.08	33.03	243	97	P	V
	*	5180	103.3	-	-	94.99	32.26	9.08	33.03	243	97	A	V
802.11a CH 44 5220MHz		5144.3	54.15	-19.85	74	45.92	32.21	9.05	33.03	100	329	P	H
		5146.64	46.64	-7.36	54	38.41	32.21	9.05	33.03	100	329	A	H
	*	5220	112.7	-	-	104.33	32.3	9.1	33.03	100	329	P	H
	*	5220	105.07	-	-	96.7	32.3	9.1	33.03	100	329	A	H
		5439.6	52.73	-21.27	74	43.87	32.61	9.27	33.02	100	329	P	H
		5444.64	45.29	-8.71	54	36.43	32.61	9.27	33.02	100	329	A	H
		5144.04	53.29	-20.71	74	45.06	32.21	9.05	33.03	241	96	P	V
		5146.9	46.43	-7.57	54	38.2	32.21	9.05	33.03	241	96	A	V
	*	5220	112.32	-	-	103.95	32.3	9.1	33.03	241	96	P	V
	*	5220	104.8	-	-	96.43	32.3	9.1	33.03	241	96	A	V
		5397.12	49.85	-24.15	74	41.09	32.56	9.22	33.02	241	96	P	V
		5438.4	41.77	-12.23	54	32.91	32.61	9.27	33.02	241	96	A	V

802.11a CH 48 5240MHz		5109.2	51.79	-22.21	74	43.65	32.16	9.02	33.04	104	336	P	H
		5134.16	43.23	-10.77	54	35.04	32.19	9.03	33.03	104	336	A	H
	*	5240	113.09	-	-	104.68	32.33	9.11	33.03	104	336	P	H
	*	5240	105.32	-	-	96.91	32.33	9.11	33.03	104	336	A	H
		5454.96	52.31	-21.69	74	43.41	32.63	9.29	33.02	104	336	P	H
		5459.76	45.18	-8.82	54	36.28	32.63	9.29	33.02	104	336	A	H
		5134.16	51.09	-22.91	74	42.9	32.19	9.03	33.03	225	102	P	V
		5126.88	42.71	-11.29	54	34.52	32.19	9.03	33.03	225	102	A	V
	*	5240	112.27	-	-	103.86	32.33	9.11	33.03	225	102	P	V
	*	5240	104.59	-	-	96.18	32.33	9.11	33.03	225	102	A	V
		5361.12	48.95	-25.05	74	40.27	32.51	9.2	33.03	225	102	P	V
		5353.2	42.09	-11.91	54	33.44	32.49	9.19	33.03	225	102	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		4750	52.11	-21.89	74	44.8	31.51	8.89	33.09	101	329	P	H
		4750	43.24	-10.76	54	35.93	31.51	8.89	33.09	101	329	A	H
		10360	53.14	-15.06	68.2	64.67	38.41	14.95	65.2	100	0	P	H
		15540	46.43	-27.57	74	53.75	37.58	18.69	63.98	100	0	P	H
		4756	52.78	-21.22	74	45.47	31.51	8.89	33.09	243	97	P	V
		4756	44.17	-9.83	54	36.86	31.51	8.89	33.09	243	97	A	V
		10360	53.36	-14.84	68.2	64.89	38.41	14.95	65.2	100	0	P	V
		15540	45.65	-28.35	74	52.97	37.58	18.69	63.98	100	0	P	V
802.11a CH 44 5220MHz		4786	57.37	-16.63	74	49.75	31.63	9.07	33.08	100	329	P	H
		4786	48.96	-5.04	54	41.34	31.63	9.07	33.08	100	329	A	H
		10440	58.49	-9.71	68.2	68.46	39.92	15	65.2	100	0	P	H
		15660	46.98	-27.02	74	53.84	38.23	18.8	64.24	100	0	P	H
		4786	53.19	-20.81	74	45.63	31.57	9.07	33.08	241	96	P	V
		4786	44.66	-9.34	54	37.1	31.57	9.07	33.08	241	96	A	V
		10440	62.53	-5.67	68.2	72.5	39.92	15	65.2	100	0	P	V
		15660	44.99	-29.01	74	51.85	38.23	18.8	64.24	100	0	P	V
802.11a CH 48 5240MHz		4810	57.24	-16.76	74	49.61	31.66	9.05	33.08	104	336	P	H
		4810	50.1	-3.9	54	42.47	31.66	9.05	33.08	104	336	A	H
		10480	58.09	-10.11	68.2	69.36	38.58	15.04	65.2	100	0	P	H
		15720	45.51	-28.49	74	53.83	36.89	18.85	64.39	100	0	P	H
		4810	52.86	-21.14	74	45.29	31.6	9.05	33.08	225	102	P	V
		4810	44.6	-9.4	54	37.03	31.6	9.05	33.08	225	102	A	V
		10480	57.96	-10.24	68.2	69.54	38.58	15.04	65.2	100	0	P	V
		15720	45.4	-28.6	74	53.72	36.89	18.85	64.39	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5148.2	60.42	-13.58	74	52.19	32.21	9.05	33.03	101	336	P	H
		5150	52.08	-1.92	54	43.85	32.21	9.05	33.03	101	336	A	H
	*	5180	109.84	-	-	101.53	32.26	9.08	33.03	101	336	P	H
	*	5180	102.1	-	-	93.79	32.26	9.08	33.03	101	336	A	H
		5147.94	59.38	-14.62	74	51.15	32.21	9.05	33.03	220	97	P	V
		5150	51.08	-2.92	54	42.85	32.21	9.05	33.03	220	97	A	V
	*	5180	108.89	-	-	100.58	32.26	9.08	33.03	220	97	P	V
	*	5180	101.17	-	-	92.86	32.26	9.08	33.03	220	97	A	V
802.11n HT20 CH 44 5220MHz		5146.38	54.59	-19.41	74	46.36	32.21	9.05	33.03	100	335	P	H
		5148.2	46.57	-7.43	54	38.34	32.21	9.05	33.03	100	335	A	H
	*	5220	112.49	-	-	104.12	32.3	9.1	33.03	100	335	P	H
	*	5220	104.01	-	-	95.64	32.3	9.1	33.03	100	335	A	H
		5431.44	52.72	-21.28	74	43.86	32.61	9.27	33.02	100	335	P	H
		5444.4	45.26	-8.74	54	36.4	32.61	9.27	33.02	100	335	A	H
		5148.98	53.19	-20.81	74	44.96	32.21	9.05	33.03	215	90	P	V
		5148.46	44.85	-9.15	54	36.62	32.21	9.05	33.03	215	90	A	V
	*	5220	110.95	-	-	102.58	32.3	9.1	33.03	215	90	P	V
	*	5220	102.98	-	-	94.61	32.3	9.1	33.03	215	90	A	V
		5410.32	49.02	-24.98	74	40.26	32.56	9.22	33.02	215	90	P	V
		5429.76	41.22	-12.78	54	32.39	32.61	9.24	33.02	215	90	A	V

802.11n HT20 CH 48 5240MHz		5138.58	52.45	-21.55	74	44.26	32.19	9.03	33.03	106	336	P	H
		5131.56	42.84	-11.16	54	34.65	32.19	9.03	33.03	106	336	A	H
	*	5240	112.36	-	-	103.95	32.33	9.11	33.03	106	336	P	H
	*	5240	104.9	-	-	96.49	32.33	9.11	33.03	106	336	A	H
		5451.6	51.64	-22.36	74	42.74	32.63	9.29	33.02	106	336	P	H
		5460	44.44	-9.56	54	35.54	32.63	9.29	33.02	106	336	A	H
		5146.12	50.8	-23.2	74	42.57	32.21	9.05	33.03	241	93	P	V
		5145.08	42.4	-11.6	54	34.17	32.21	9.05	33.03	241	93	A	V
	*	5240	111.17	-	-	102.76	32.33	9.11	33.03	241	93	P	V
	*	5240	103.07	-	-	94.66	32.33	9.11	33.03	241	93	A	V
		5450.16	48.97	-25.03	74	40.07	32.63	9.29	33.02	241	93	P	V
		5352.48	41.47	-12.53	54	32.82	32.49	9.19	33.03	241	93	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		4744	52.26	-21.74	74	45.06	31.49	8.8	33.09	101	336	P	H
		4744	44.75	-9.25	54	37.55	31.49	8.8	33.09	101	336	A	H
		5404	52.97	-21.03	74	44.47	32.3	9.22	33.02	101	336	P	H
		5404	44.61	-9.39	54	36.11	32.3	9.22	33.02	101	336	A	H
		5608	53.73	-20.27	74	44.68	32.65	9.48	33.08	101	336	P	H
		10360	52.01	-16.19	68.2	63.54	38.41	14.95	65.2	100	0	P	H
		15540	45.99	-28.01	74	53.31	37.58	18.69	63.98	100	0	P	H
		10360	54.5	-13.7	68.2	66.34	38.41	14.95	65.2	100	0	P	V
		15540	45.42	-28.58	74	52.74	37.58	18.69	63.98	100	0	P	V
802.11n HT20 CH 44 5220MHz		4780	57.1	-16.9	74	49.6	31.6	8.98	33.08	100	335	P	H
		4780	47.59	-6.41	54	40.09	31.6	8.98	33.08	100	335	A	H
		10440	55.64	-12.56	68.2	67.02	38.51	15	65.2	100	0	P	H
		15660	45.57	-28.43	74	53.52	37.14	18.8	64.24	100	0	P	H
		4780	53.43	-20.57	74	45.99	31.54	8.98	33.08	215	90	P	V
		4780	45.28	-8.72	54	37.84	31.54	8.98	33.08	215	90	A	V
		10440	56.7	-11.5	68.2	68.39	38.51	15	65.2	100	0	P	V
		15660	45.69	-28.31	74	53.64	37.14	18.8	64.24	100	0	P	V
802.11n HT20 CH 48 5240MHz		4798	56.49	-17.51	74	48.87	31.63	9.07	33.08	106	336	P	H
		4798	47.64	-6.36	54	40.02	31.63	9.07	33.08	106	336	A	H
		5674	55.36	-18.64	74	45.99	32.81	9.67	33.11	106	336	P	H
		10480	57.22	-10.98	68.2	68.49	38.58	15.04	65.2	100	0	P	H
		15720	44.95	-29.05	74	53.27	36.89	18.85	64.39	100	0	P	H
		4804	52.25	-21.75	74	44.68	31.6	9.05	33.08	241	93	P	V
		4804	43.68	-10.32	54	36.11	31.6	9.05	33.08	241	93	A	V
		10480	57.58	-10.62	68.2	69.16	38.58	15.04	65.2	100	0	P	V
		15720	45.18	-28.82	74	53.5	36.89	18.85	64.39	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5146.64	59.24	-14.76	74	51.01	32.21	9.05	33.03	100	335	P	H
		5150	52.56	-1.44	54	44.33	32.21	9.05	33.03	100	335	A	H
	*	5190	103.03	-	-	94.72	32.26	9.08	33.03	100	335	P	H
	*	5190	94.69	-	-	86.38	32.26	9.08	33.03	100	335	A	H
		5412.96	49.01	-24.99	74	40.21	32.58	9.24	33.02	100	335	P	H
		5441.52	40.68	-13.32	54	31.82	32.61	9.27	33.02	100	335	A	H
		5150	57.67	-16.33	74	49.44	32.21	9.05	33.03	244	92	P	V
		5149.76	51.06	-2.94	54	42.83	32.21	9.05	33.03	244	92	A	V
	*	5190	102.25	-	-	93.94	32.26	9.08	33.03	244	92	P	V
	*	5190	94.18	-	-	85.87	32.26	9.08	33.03	244	92	A	V
		5443.76	49.96	-24.04	74	41.1	32.61	9.27	33.02	244	92	P	V
		5452.72	40.72	-13.28	54	31.82	32.63	9.29	33.02	244	92	A	V
802.11n HT40 CH 46 5230MHz		5141.44	60.03	-13.97	74	51.82	32.21	9.03	33.03	100	337	P	H
		5146.9	51.64	-2.36	54	43.41	32.21	9.05	33.03	100	337	A	H
	*	5230	108.37	-	-	99.97	32.33	9.1	33.03	100	337	P	H
	*	5230	100.66	-	-	92.26	32.33	9.1	33.03	100	337	A	H
		5352.76	50.91	-23.09	74	42.26	32.49	9.19	33.03	100	337	P	H
		5351.36	42.94	-11.06	54	34.29	32.49	9.19	33.03	100	337	A	H
		5150	56.46	-17.54	74	48.23	32.21	9.05	33.03	227	88	P	V
		5149.76	49.04	-4.96	54	40.81	32.21	9.05	33.03	227	88	A	V
	*	5230	107.42	-	-	99.02	32.33	9.1	33.03	227	88	P	V
	*	5230	99.86	-	-	91.46	32.33	9.1	33.03	227	88	A	V
		5453.84	49.7	-24.3	74	40.8	32.63	9.29	33.02	227	88	P	V
		5350.52	42.17	-11.83	54	33.52	32.49	9.19	33.03	227	88	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	47.39	-20.81	68.2	58.88	38.44	14.96	65.2	100	0	P	H
		15570	45.19	-28.81	74	52.69	37.45	18.72	64.05	100	0	P	H
		10380	45.72	-22.48	68.2	57.52	38.44	14.96	65.2	100	0	P	V
		15570	45.2	-28.8	74	52.7	37.45	18.72	64.05	100	0	P	V
802.11n HT40 CH 46 5230MHz		10460	54.04	-14.16	68.2	65.39	38.53	15.01	65.2	100	0	P	H
		15570	45.48	-28.52	74	52.98	37.45	18.72	64.05	100	0	P	H
		10460	52.48	-15.72	68.2	64.14	38.53	15.01	65.2	100	0	P	V
		15570	45.53	-28.47	74	53.03	37.45	18.72	64.05	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5139.62	59.04	-14.96	74	50.83	32.21	9.03	33.03	100	336	P	H
		5145.6	52.95	-1.05	54	44.72	32.21	9.05	33.03	100	336	A	H
	*	5210	99.51	-	-	91.15	32.3	9.09	33.03	100	336	P	H
	*	5210	91.96	-	-	83.6	32.3	9.09	33.03	100	336	A	H
		5351.52	48.33	-25.67	74	39.68	32.49	9.19	33.03	100	336	P	H
		5440.8	42.2	-11.8	54	33.34	32.61	9.27	33.02	100	336	A	H
		5148.2	57.67	-16.33	74	49.44	32.21	9.05	33.03	242	87	P	V
		5145.86	53	-1	54	44.77	32.21	9.05	33.03	242	87	A	V
	*	5210	99.46	-	-	91.1	32.3	9.09	33.03	242	87	P	V
	*	5210	91.79	-	-	83.43	32.3	9.09	33.03	242	87	A	V
		5391.6	48.8	-25.2	74	40.07	32.54	9.21	33.02	242	87	P	V
		5352.48	42.12	-11.88	54	33.47	32.49	9.19	33.03	242	87	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. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10420	45.46	-22.74	68.2	56.88	38.48	14.99	65.2	100	0	P	H
VHT80		15630	45.68	-28.32	74	53.55	37.2	18.77	64.2	100	0	P	H
CH 42		10420	45.14	-23.06	68.2	56.87	38.48	14.99	65.2	100	0	P	V
5210MHz		15630	45.12	-28.88	74	52.99	37.2	18.77	64.2	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 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable 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 LF		30.27	23.2	-16.8	40	29.29	25.7	0.68	32.5	-	-	P	H
		182.28	34.13	-9.37	43.5	49.95	15.22	1.69	32.82	-	-	P	H
		201.72	36.63	-6.87	43.5	51.61	16.04	1.8	32.88	143	58	P	H
		316.8	29.84	-16.16	46	39.66	20.18	2.28	32.36	-	-	P	H
		615	27.62	-18.38	46	31.01	25.85	3.13	32.46	-	-	P	H
		943.3	33.22	-12.78	46	30.05	30.44	3.82	31.26	-	-	P	H
		40.8	31.32	-8.68	40	43.12	19.74	0.94	32.49	-	-	P	V
		182.28	32.11	-11.39	43.5	47.93	15.22	1.69	32.82	-	-	P	V
		201.72	35.69	-7.81	43.5	50.67	16.04	1.8	32.88	100	241	P	V
		489.7	29.27	-16.73	46	34.83	23.93	2.84	32.38	-	-	P	V
		715.1	31.21	-14.79	46	33.14	26.99	3.38	32.43	-	-	P	V
		953.8	33.18	-12.82	46	29.76	30.59	3.82	31.16	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Band 1 - 5150~5250MHz

WIFI 802.11a (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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		5147.94	58.76	-15.24	74	50.53	32.21	9.05	33.03	159	6	P	H
		5149.5	50.49	-3.51	54	42.26	32.21	9.05	33.03	159	6	A	H
	*	5180	111.23	-	-	102.92	32.26	9.08	33.03	159	6	P	H
	*	5180	103.66	-	-	95.35	32.26	9.08	33.03	159	6	A	H
		5143.26	56.07	-17.93	74	47.84	32.21	9.05	33.03	107	117	P	V
		5148.98	46.92	-7.08	54	38.69	32.21	9.05	33.03	107	117	A	V
	*	5180	106.07	-	-	97.76	32.26	9.08	33.03	107	117	P	V
	*	5180	98.47	-	-	90.16	32.26	9.08	33.03	107	117	A	V
802.11a CH 44 5220MHz		5146.64	58.51	-15.49	74	50.28	32.21	9.05	33.03	174	8	P	H
		5147.16	49.49	-4.51	54	41.26	32.21	9.05	33.03	174	8	A	H
	*	5220	116.17	-	-	107.8	32.3	9.1	33.03	174	8	P	H
	*	5220	108.15	-	-	99.78	32.3	9.1	33.03	174	8	A	H
		5384.4	53.98	-20.02	74	45.25	32.54	9.21	33.02	174	8	P	H
		5376.24	47.12	-6.88	54	38.42	32.51	9.21	33.02	174	8	A	H
		5143.52	51.44	-22.56	74	43.21	32.21	9.05	33.03	400	28	P	V
		5147.94	43.6	-10.4	54	35.37	32.21	9.05	33.03	400	28	A	V
	*	5220	113.24	-	-	104.87	32.3	9.1	33.03	400	28	P	V
	*	5220	105.4	-	-	97.03	32.3	9.1	33.03	400	28	A	V
		5376	53.89	-20.11	74	45.2	32.51	9.2	33.02	400	28	P	V
		5377.92	46.82	-7.18	54	38.09	32.54	9.21	33.02	400	28	A	V

802.11a CH 48 5240MHz		5082.94	55.17	-18.83	74	47.1	32.12	8.99	33.04	168	8	P	H
		5087.36	46.87	-7.13	54	38.8	32.12	8.99	33.04	168	8	A	H
	*	5240	115.55	-	-	107.14	32.33	9.11	33.03	168	8	P	H
	*	5240	107.82	-	-	99.41	32.33	9.11	33.03	168	8	A	H
		5395.92	55.67	-18.33	74	46.91	32.56	9.22	33.02	168	8	P	H
		5392.8	46.73	-7.27	54	38	32.54	9.21	33.02	168	8	A	H
		5018.2	50.26	-23.74	74	42.33	32.02	8.95	33.04	393	26	P	V
		5019.24	41.6	-12.4	54	33.67	32.02	8.95	33.04	393	26	A	V
	*	5240	113.66	-	-	105.25	32.33	9.11	33.03	393	26	P	V
	*	5240	105.66	-	-	97.25	32.33	9.11	33.03	393	26	A	V
		5392.56	55.27	-18.73	74	46.54	32.54	9.21	33.02	393	26	P	V
		5394.96	47.37	-6.63	54	38.61	32.56	9.22	33.02	393	26	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. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		4756	52.68	-21.32	74	45.37	31.51	8.89	33.09	159	6	P	H
		4756	44.55	-9.45	54	37.24	31.51	8.89	33.09	159	6	A	H
		5392	53.66	-20.34	74	45.19	32.28	9.21	33.02	159	6	P	H
		5392	45.36	-8.64	54	36.89	32.28	9.21	33.02	159	6	A	H
		5614	53.1	-20.9	74	44	32.65	9.53	33.08	159	6	P	H
		10360	46.3	-21.9	68.2	57.83	38.41	14.95	65.2	100	0	P	H
		15540	46.5	-27.5	74	53.82	37.58	18.69	63.98	100	0	P	H
		10360	46.3	-21.9	68.2	57.83	38.41	14.95	65.2	100	0	P	V
		15540	46.5	-27.5	74	53.82	37.58	18.69	63.98	100	0	P	V
802.11a CH 44 5220MHz		10440	51.01	-17.19	68.2	60.98	39.92	15	65.2	100	0	P	H
		15660	45.72	-28.28	74	52.58	38.23	18.8	64.24	100	0	P	H
		10440	51.38	-16.82	68.2	61.35	39.92	15	65.2	100	0	P	V
		15660	46.79	-27.21	74	53.65	38.23	18.8	64.24	100	0	P	V
802.11a CH 48 5240MHz		10480	51.52	-16.68	68.2	62.79	38.58	15.04	65.2	100	0	P	H
		15720	45.18	-28.82	74	53.5	36.89	18.85	64.39	100	0	P	H
		10480	51.49	-16.71	68.2	63.07	38.58	15.04	65.2	100	0	P	V
		15720	44.79	-29.21	74	53.11	36.89	18.85	64.39	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5149.5	63.35	-10.65	74	55.12	32.21	9.05	33.03	149	16	P	H
		5150	52.17	-1.83	54	43.94	32.21	9.05	33.03	149	16	A	H
	*	5180	112.03	-	-	103.72	32.26	9.08	33.03	149	16	P	H
	*	5180	104.12	-	-	95.81	32.26	9.08	33.03	149	16	A	H
		5149.24	54.19	-19.81	74	45.96	32.21	9.05	33.03	388	36	P	V
		5148.98	46.5	-7.5	54	38.27	32.21	9.05	33.03	388	36	A	V
	*	5180	106.56	-	-	98.25	32.26	9.08	33.03	388	36	P	V
	*	5180	99.14	-	-	90.83	32.26	9.08	33.03	388	36	A	V
802.11n HT20 CH 44 5220MHz		5146.12	58.09	-15.91	74	49.86	32.21	9.05	33.03	173	9	P	H
		5148.72	49.35	-4.65	54	41.12	32.21	9.05	33.03	173	9	A	H
	*	5220	115.66	-	-	107.29	32.3	9.1	33.03	173	9	P	H
	*	5220	107.65	-	-	99.28	32.3	9.1	33.03	173	9	A	H
		5373.12	53.87	-20.13	74	45.19	32.51	9.2	33.03	173	9	P	H
		5378.88	47.13	-6.87	54	38.4	32.54	9.21	33.02	173	9	A	H
		5150	52.5	-21.5	74	44.27	32.21	9.05	33.03	400	29	P	V
		5148.46	44.02	-9.98	54	35.79	32.21	9.05	33.03	400	29	A	V
	*	5220	113.73	-	-	105.36	32.3	9.1	33.03	400	29	P	V
	*	5220	105.04	-	-	96.67	32.3	9.1	33.03	400	29	A	V
		5374.8	53.13	-20.87	74	44.44	32.51	9.2	33.02	400	29	P	V
		5379.36	46.74	-7.26	54	38.01	32.54	9.21	33.02	400	29	A	V

802.11n HT20 CH 48 5240MHz		5083.72	55.61	-18.39	74	47.54	32.12	8.99	33.04	168	7	P	H
		5086.32	46.23	-7.77	54	38.16	32.12	8.99	33.04	168	7	A	H
	*	5240	115.52	-	-	107.11	32.33	9.11	33.03	168	7	P	H
	*	5240	107.4	-	-	98.99	32.33	9.11	33.03	168	7	A	H
		5391.6	53.85	-20.15	74	45.12	32.54	9.21	33.02	168	7	P	H
		5392.56	46.41	-7.59	54	37.68	32.54	9.21	33.02	168	7	A	H
		5131.04	50.31	-23.69	74	42.12	32.19	9.03	33.03	393	28	P	V
		5014.3	41.71	-12.29	54	33.8	32.02	8.93	33.04	393	28	A	V
	*	5240	113.11	-	-	104.7	32.33	9.11	33.03	393	28	P	V
	*	5240	105.2	-	-	96.79	32.33	9.11	33.03	393	28	A	V
		5402.4	54.12	-19.88	74	45.36	32.56	9.22	33.02	393	28	P	V
		5398.56	47.38	-6.62	54	38.62	32.56	9.22	33.02	393	28	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. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10360	46.78	-21.42	68.2	58.31	38.41	14.95	65.2	100	0	P	H
HT20		15540	45.89	-28.11	74	53.21	37.58	18.69	63.98	100	0	P	H
CH 36		10360	45.67	-22.53	68.2	57.51	38.41	14.95	65.2	100	0	P	V
5180MHz		15540	46.03	-27.97	74	53.35	37.58	18.69	63.98	100	0	P	V
802.11n		10440	49.2	-19	68.2	60.57	38.51	15.01	65.2	100	0	P	H
HT20		15660	44.14	-29.86	74	52.08	37.14	18.81	64.24	100	0	P	H
CH 44		10440	49.82	-18.38	68.2	61.19	38.51	15.01	65.2	100	0	P	V
5220MHz		15660	44.75	-29.25	74	52.69	37.14	18.81	64.24	100	0	P	V
802.11n		10480	45.88	-22.32	68.2	57.17	38.58	15.02	65.2	100	0	P	H
HT20		15720	44.78	-29.22	74	53.1	36.89	18.85	64.39	100	0	P	H
CH 48		10480	45.31	-22.89	68.2	56.91	38.58	15.02	65.2	100	0	P	V
5240MHz		15720	44.17	-29.83	74	52.49	36.89	18.85	64.39	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.24	58.99	-15.01	74	50.76	32.21	9.05	33.03	159	9	P	H
		5149.76	52.16	-1.84	54	43.93	32.21	9.05	33.03	159	9	A	H
	*	5190	104.65	-	-	96.34	32.26	9.08	33.03	159	9	P	H
	*	5190	96.87	-	-	88.56	32.26	9.08	33.03	159	9	A	H
		5361.44	50.28	-23.72	74	41.6	32.51	9.2	33.03	159	9	P	H
		5366.76	42.52	-11.48	54	33.84	32.51	9.2	33.03	159	9	A	H
		5143.26	54.9	-19.1	74	46.67	32.21	9.05	33.03	400	28	P	V
		5149.5	46.31	-7.69	54	38.08	32.21	9.05	33.03	400	28	A	V
	*	5190	100.62	-	-	92.31	32.26	9.08	33.03	400	28	P	V
	*	5190	93.16	-	-	84.85	32.26	9.08	33.03	400	28	A	V
		5418.56	50.09	-23.91	74	41.29	32.58	9.24	33.02	400	28	P	V
		5355.84	42.63	-11.37	54	33.98	32.49	9.19	33.03	400	28	A	V
802.11n HT40 CH 46 5230MHz		5148.2	59.43	-14.57	74	51.2	32.21	9.05	33.03	175	7	P	H
		5150	52.14	-1.86	54	43.91	32.21	9.05	33.03	175	7	A	H
	*	5230	110.33	-	-	101.93	32.33	9.1	33.03	175	7	P	H
	*	5230	102.69	-	-	94.29	32.33	9.1	33.03	175	7	A	H
		5395.88	51.72	-22.28	74	42.96	32.56	9.22	33.02	175	7	P	H
		5377.4	45.58	-8.42	54	36.88	32.51	9.21	33.02	175	7	A	H
		5149.76	54.07	-19.93	74	45.84	32.21	9.05	33.03	394	28	P	V
		5149.76	46.04	-7.96	54	37.81	32.21	9.05	33.03	394	28	A	V
	*	5230	107.95	-	-	99.55	32.33	9.1	33.03	394	28	P	V
	*	5230	100.33	-	-	91.93	32.33	9.1	33.03	394	28	A	V
		5376.56	53.62	-20.38	74	44.92	32.51	9.21	33.02	394	28	P	V
		5383	46.28	-7.72	54	37.55	32.54	9.21	33.02	394	28	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. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	45.1	-23.1	68.2	56.58	38.44	14.97	65.2	100	0	P	H
		15570	42.72	-31.28	74	50.23	37.45	18.71	64.05	100	0	P	H
		10380	46.43	-21.77	68.2	58.22	38.44	14.97	65.2	100	0	P	V
		15570	44.92	-29.08	74	52.43	37.45	18.71	64.05	100	0	P	V
802.11n HT40 CH 46 5230MHz		10460	46.53	-21.67	68.2	57.87	38.53	15.02	65.2	100	0	P	H
		15690	45.67	-28.33	74	53.8	37.02	18.83	64.32	100	0	P	H
		10460	46.17	-22.03	68.2	57.82	38.53	15.02	65.2	100	0	P	V
		15690	44.91	-29.09	74	53.04	37.02	18.83	64.32	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. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5113.88	57.91	-16.09	74	49.77	32.16	9.02	33.04	166	17	P	H
		5150	51.86	-2.14	54	43.63	32.21	9.05	33.03	166	17	A	H
	*	5210	101.44	-	-	93.08	32.3	9.09	33.03	166	17	P	H
	*	5210	94.42	-	-	86.06	32.3	9.09	33.03	166	17	A	H
		5393.04	48.97	-25.03	74	40.24	32.54	9.21	33.02	166	17	P	H
		5352.96	43	-11	54	34.35	32.49	9.19	33.03	166	17	A	H
		5142.48	51.36	-22.64	74	43.13	32.21	9.05	33.03	400	28	P	V
		5148.98	45.8	-8.2	54	37.57	32.21	9.05	33.03	400	28	A	V
	*	5210	98.31	-	-	89.95	32.3	9.09	33.03	400	28	P	V
	*	5210	91.55	-	-	83.19	32.3	9.09	33.03	400	28	A	V
		5375.28	49.38	-24.62	74	40.69	32.51	9.2	33.02	400	28	P	V
		5353.2	43.08	-10.92	54	34.43	32.49	9.19	33.03	400	28	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. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10420	45.63	-22.57	68.2	57.05	38.48	14.99	65.2	100	0	P	H
VHT80		15630	45.32	-28.68	74	53.18	37.2	18.78	64.2	100	0	P	H
CH 42		10420	45.34	-22.86	68.2	57.07	38.48	14.99	65.2	100	0	P	V
5210MHz		15630	45.07	-28.93	74	52.93	37.2	18.78	64.2	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 802.11n HT20 (LF @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 LF		67.26	19.88	-20.12	40	39.05	12.25	1.06	32.49	-	-	P	H
		182.28	34.63	-8.87	43.5	50.45	15.22	1.69	32.82	-	-	P	H
		201.72	36.6	-6.9	43.5	51.58	16.04	1.8	32.88	148	39	P	H
		316.8	29.76	-16.24	46	39.58	20.18	2.28	32.36	-	-	P	H
		792.8	32.1	-13.9	46	32.43	28.21	3.5	32.2	-	-	P	H
		955.9	33.93	-12.07	46	30.44	30.59	3.87	31.14	-	-	P	H
		59.7	31.42	-8.58	40	50.93	11.9	1.06	32.49	-	-	P	V
		182.28	32.35	-11.15	43.5	48.17	15.22	1.69	32.82	-	-	P	V
		201.72	35.87	-7.63	43.5	50.85	16.04	1.8	32.88	100	24	P	V
		489.7	29.07	-16.93	46	34.63	23.93	2.84	32.38	-	-	P	V
		598.2	29.66	-16.34	46	33.28	25.67	3.09	32.46	-	-	P	V
		957.3	33.12	-12.88	46	29.64	30.58	3.87	31.14	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		5150	63.51	-10.49	74	55.28	32.21	9.05	33.03	157	221	P	H
		5150	53.41	-0.59	54	45.18	32.21	9.05	33.03	157	221	A	H
	*	5180	114.73	-	-	106.42	32.26	9.08	33.03	157	221	P	H
	*	5180	107.37	-	-	99.06	32.26	9.08	33.03	157	221	A	H
		5147.94	58.62	-15.38	74	50.39	32.21	9.05	33.03	182	92	P	V
		5148.2	51.12	-2.88	54	42.89	32.21	9.05	33.03	182	92	A	V
	*	5180	112.1	-	-	103.79	32.26	9.08	33.03	182	92	P	V
	*	5180	105.02	-	-	96.71	32.26	9.08	33.03	182	92	A	V
802.11a CH 44 5220MHz		5146.38	57.59	-16.41	74	49.36	32.21	9.05	33.03	100	220	P	H
		5144.82	51.31	-2.69	54	43.08	32.21	9.05	33.03	100	220	A	H
	*	5220	116.84	-	-	108.47	32.3	9.1	33.03	100	220	P	H
	*	5220	109.23	-	-	100.86	32.3	9.1	33.03	100	220	A	H
		5442.96	52.63	-21.37	74	43.77	32.61	9.27	33.02	100	220	P	H
		5442.48	46.78	-7.22	54	37.92	32.61	9.27	33.02	100	220	A	H
		5145.86	57.05	-16.95	74	48.82	32.21	9.05	33.03	100	62	P	V
		5146.64	49.14	-4.86	54	40.91	32.21	9.05	33.03	100	62	A	V
	*	5220	115.74	-	-	107.37	32.3	9.1	33.03	100	62	P	V
	*	5220	107.42	-	-	99.05	32.3	9.1	33.03	100	62	A	V
		5444.4	54.03	-19.97	74	45.17	32.61	9.27	33.02	100	62	P	V
		5443.68	47.36	-6.64	54	38.5	32.61	9.27	33.02	100	62	A	V

802.11a CH 48 5240MHz		5139.1	54.28	-19.72	74	46.09	32.19	9.03	33.03	160	223	P	H
		5086.32	45.97	-8.03	54	37.9	32.12	8.99	33.04	160	223	A	H
	*	5240	116.86	-	-	108.45	32.33	9.11	33.03	160	223	P	H
	*	5240	108.75	-	-	100.34	32.33	9.11	33.03	160	223	A	H
		5459.28	52.53	-21.47	74	43.63	32.63	9.29	33.02	160	223	P	H
		5459.28	45.76	-8.24	54	36.86	32.63	9.29	33.02	160	223	A	H
		5129.22	52.2	-21.8	74	44.01	32.19	9.03	33.03	100	60	P	V
		5079.04	44.37	-9.63	54	36.3	32.12	8.99	33.04	100	60	A	V
	*	5240	114.07	-	-	105.66	32.33	9.11	33.03	100	60	P	V
	*	5240	106.73	-	-	98.32	32.33	9.11	33.03	100	60	A	V
		5459.28	54.38	-19.62	74	45.48	32.63	9.29	33.02	100	60	P	V
		5459.04	47.5	-6.5	54	38.6	32.63	9.29	33.02	100	60	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		4756	53.01	-20.99	74	45.7	31.51	8.89	33.09	157	221	P	H
		4756	48.19	-5.81	54	40.88	31.51	8.89	33.09	157	221	A	H
		10360	52.59	-15.61	68.2	64.12	38.41	14.95	65.2	100	0	P	H
		15540	45.45	-28.55	74	52.77	37.58	18.69	63.98	100	0	P	H
		10360	53.67	-14.53	68.2	65.2	38.41	14.95	65.2	100	0	P	V
		15540	45.31	-28.69	74	52.63	37.58	18.69	63.98	100	0	P	V
802.11a CH 44 5220MHz		4786	55.62	-18.38	74	48	31.63	9.07	33.08	100	220	P	H
		4786	47.16	-6.84	54	39.54	31.63	9.07	33.08	100	220	A	H
		10440	58.01	-10.19	68.2	67.98	39.92	15	65.2	100	0	P	H
		15660	46.64	-27.36	74	53.5	38.23	18.8	64.24	100	0	P	H
		10440	61.01	-7.19	68.2	70.98	39.92	15	65.2	100	0	P	V
		15660	45.33	-28.67	74	52.19	38.23	18.8	64.24	100	0	P	V
802.11a CH 48 5240MHz		4798	56.05	-17.95	74	48.43	31.63	9.07	33.08	160	223	P	H
		4798	47.58	-6.42	54	39.96	31.63	9.07	33.08	160	223	A	H
		10480	58.92	-9.28	68.2	70.21	38.58	15.02	65.2	100	0	P	H
		15720	45.3	-28.7	74	53.62	36.89	18.85	64.39	100	0	P	H
		4780	52.26	-21.74	74	44.82	31.54	8.98	33.08	100	60	P	V
		4780	43.37	-10.63	54	35.93	31.54	8.98	33.08	100	60	A	V
		10480	59.27	-8.93	68.2	70.56	38.58	15.02	65.2	100	0	P	V
		15720	45.42	-28.58	74	53.74	36.89	18.85	64.39	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5140.4	60.37	-13.63	74	52.16	32.21	9.03	33.03	162	217	P	H
		5148.2	53.31	-0.69	54	45.08	32.21	9.05	33.03	162	217	A	H
	*	5180	113.49	-	-	105.18	32.26	9.08	33.03	162	217	P	H
	*	5180	106.68	-	-	98.37	32.26	9.08	33.03	162	217	A	H
		5146.9	58.93	-15.07	74	50.7	32.21	9.05	33.03	187	185	P	V
		5149.24	51.51	-2.49	54	43.28	32.21	9.05	33.03	187	185	A	V
	*	5180	110.97	-	-	102.66	32.26	9.08	33.03	187	185	P	V
	*	5180	103.98	-	-	95.67	32.26	9.08	33.03	187	185	A	V
802.11n HT20 CH 44 5220MHz		5147.42	60.84	-13.16	74	52.61	32.21	9.05	33.03	186	228	P	H
		5147.68	51.74	-2.26	54	43.51	32.21	9.05	33.03	186	228	A	H
	*	5220	118.13	-	-	109.76	32.3	9.1	33.03	186	228	P	H
	*	5220	109.93	-	-	101.56	32.3	9.1	33.03	186	228	A	H
		5371.92	51.77	-22.23	74	43.09	32.51	9.2	33.03	186	228	P	H
		5376.24	45.44	-8.56	54	36.74	32.51	9.21	33.02	186	228	A	H
		5144.04	55.55	-18.45	74	47.32	32.21	9.05	33.03	158	182	P	V
		5146.38	49.21	-4.79	54	40.98	32.21	9.05	33.03	158	182	A	V
	*	5220	114.78	-	-	106.41	32.3	9.1	33.03	158	182	P	V
	*	5220	106.55	-	-	98.18	32.3	9.1	33.03	158	182	A	V
		5438.64	53.21	-20.79	74	44.35	32.61	9.27	33.02	158	182	P	V
		5443.44	45.1	-8.9	54	36.24	32.61	9.27	33.02	158	182	A	V

802.11n HT20 CH 48 5240MHz		5135.72	54.95	-19.05	74	46.76	32.19	9.03	33.03	158	229	P	H
		5138.06	45.2	-8.8	54	37.01	32.19	9.03	33.03	158	229	A	H
	*	5240	116.97	-	-	108.56	32.33	9.11	33.03	158	229	P	H
	*	5240	109.47	-	-	101.06	32.33	9.11	33.03	158	229	A	H
		5398.08	53.14	-20.86	74	44.38	32.56	9.22	33.02	158	229	P	H
		5403.12	45.67	-8.33	54	36.91	32.56	9.22	33.02	158	229	A	H
		5133.38	52.78	-21.22	74	44.59	32.19	9.03	33.03	172	186	P	V
		5138.32	43.78	-10.22	54	35.59	32.19	9.03	33.03	172	186	A	V
	*	5240	113.76	-	-	105.35	32.33	9.11	33.03	172	186	P	V
	*	5240	106.38	-	-	97.97	32.33	9.11	33.03	172	186	A	V
		5459.76	53.59	-20.41	74	44.69	32.63	9.29	33.02	172	186	P	V
		5459.52	44.61	-9.39	54	35.71	32.63	9.29	33.02	172	186	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		4756	56.35	-17.65	74	48.98	31.57	8.89	33.09	162	217	P	H
		4756	50.51	-3.49	54	43.14	31.57	8.89	33.09	162	217	A	H
		10360	51.39	-16.81	68.2	62.92	38.41	14.95	65.2	100	0	P	H
		15540	45.48	-28.52	74	52.8	37.58	18.69	63.98	100	0	P	H
		10360	50.3	-17.9	68.2	62.14	38.41	14.95	65.2	100	0	P	V
		15540	45.88	-28.12	74	53.2	37.58	18.69	63.98	100	0	P	V
802.11n HT20 CH 44 5220MHz		4792	55.4	-18.6	74	47.78	31.63	9.07	33.08	186	228	P	H
		4792	49.08	-4.92	54	41.46	31.63	9.07	33.08	186	228	A	H
		10440	56.31	-11.89	68.2	67.68	38.51	15.01	65.2	100	0	P	H
		15660	45.98	-28.02	74	53.92	37.14	18.81	64.24	100	0	P	H
		4780	53.74	-20.26	74	46.24	31.6	8.98	33.08	158	182	P	V
		4780	47.48	-6.52	54	39.98	31.6	8.98	33.08	158	182	A	V
		10440	56.6	-11.6	68.2	68.28	38.51	15.01	65.2	100	0	P	V
		15660	44.68	-29.32	74	52.62	37.14	18.81	64.24	100	0	P	V
802.11n HT20 CH 48 5240MHz		4810	55.04	-18.96	74	47.41	31.66	9.05	33.08	158	229	P	H
		4810	46.83	-7.17	54	39.2	31.66	9.05	33.08	158	229	A	H
		10480	56.18	-12.02	68.2	67.47	38.58	15.02	65.2	100	0	P	H
		15720	44.36	-29.64	74	52.68	36.89	18.85	64.39	100	0	P	H
		10480	57.16	-11.04	68.2	68.76	38.58	15.02	65.2	100	0	P	V
		15720	44.81	-29.19	74	53.13	36.89	18.85	64.39	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5145.86	59.11	-14.89	74	50.88	32.21	9.05	33.03	186	228	P	H
		5147.94	52.9	-1.1	54	44.67	32.21	9.05	33.03	186	228	A	H
	*	5190	106.18	-	-	97.87	32.26	9.08	33.03	186	228	P	H
	*	5190	98.74	-	-	90.43	32.26	9.08	33.03	186	228	A	H
		5350.8	48.98	-25.02	74	40.33	32.49	9.19	33.03	186	228	P	H
		5351.92	42.1	-11.9	54	33.45	32.49	9.19	33.03	186	228	A	H
		5143.52	56.81	-17.19	74	48.58	32.21	9.05	33.03	175	183	P	V
		5148.98	51.54	-2.46	54	43.31	32.21	9.05	33.03	175	183	A	V
	*	5190	102.3	-	-	93.99	32.26	9.08	33.03	175	183	P	V
	*	5190	96.16	-	-	87.85	32.26	9.08	33.03	175	183	A	V
		5446.84	49.5	-24.5	74	40.62	32.63	9.27	33.02	175	183	P	V
		5447.4	41.53	-12.47	54	32.65	32.63	9.27	33.02	175	183	A	V
802.11n HT40 CH 46 5230MHz		5147.42	60.3	-13.7	74	52.07	32.21	9.05	33.03	167	225	P	H
		5150	53.16	-0.84	54	44.93	32.21	9.05	33.03	167	225	A	H
	*	5230	111.19	-	-	102.79	32.33	9.1	33.03	167	225	P	H
	*	5230	103.81	-	-	95.41	32.33	9.1	33.03	167	225	A	H
		5375.16	51.32	-22.68	74	42.63	32.51	9.2	33.02	167	225	P	H
		5395.88	44.36	-9.64	54	35.6	32.56	9.22	33.02	167	225	A	H
		5139.62	56.5	-17.5	74	48.29	32.21	9.03	33.03	161	190	P	V
		5148.46	50.97	-3.03	54	42.74	32.21	9.05	33.03	161	190	A	V
	*	5230	108.24	-	-	99.84	32.33	9.1	33.03	161	190	P	V
	*	5230	100.99	-	-	92.59	32.33	9.1	33.03	161	190	A	V
		5451.88	49.86	-24.14	74	40.96	32.63	9.29	33.02	161	190	P	V
		5386.64	42.66	-11.34	54	33.93	32.54	9.21	33.02	161	190	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	46.26	-27.74	74	57.74	38.44	14.97	65.2	100	0	P	H
		15570	45.02	-28.98	74	52.53	37.45	18.71	64.05	100	0	P	H
		10380	45.14	-28.86	74	56.93	38.44	14.97	65.2	100	0	P	V
		15570	44.52	-29.48	74	52.03	37.45	18.71	64.05	100	0	P	V
802.11n HT40 CH 46 5230MHz		10460	50.06	-18.14	68.2	61.4	38.53	15.02	65.2	100	0	P	H
		15690	44.51	-29.49	74	52.64	37.02	18.83	64.32	100	0	P	H
		10460	50.56	-17.64	68.2	61.9	38.53	15.02	65.2	100	0	P	V
		15690	44.71	-29.29	74	52.84	37.02	18.83	64.32	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+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5120.12	56.26	-17.74	74	48.11	32.16	9.02	33.03	195	229	P	H
		5143	51.34	-2.66	54	43.11	32.21	9.05	33.03	195	229	A	H
	*	5210	102	-	-	93.64	32.3	9.09	33.03	195	229	P	H
	*	5210	95.78	-	-	87.42	32.3	9.09	33.03	195	229	A	H
		5350.32	49.79	-24.21	74	41.14	32.49	9.19	33.03	195	229	P	H
		5398.56	43.11	-10.89	54	34.35	32.56	9.22	33.02	195	229	A	H
		5141.7	55.68	-18.32	74	47.47	32.21	9.03	33.03	172	186	P	V
		5141.96	50.52	-3.48	54	42.31	32.21	9.03	33.03	172	186	A	V
	*	5210	99.61	-	-	91.25	32.3	9.09	33.03	172	186	P	V
	*	5210	93.07	-	-	84.71	32.3	9.09	33.03	172	186	A	V
		5388.48	49.72	-24.28	74	40.99	32.54	9.21	33.02	172	186	P	V
		5417.52	42.6	-11.4	54	33.8	32.58	9.24	33.02	172	186	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. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10420	46.42	-27.58	74	57.84	38.48	14.99	65.2	100	0	P	H
VHT80		15630	44.99	-29.01	74	52.85	37.2	18.78	64.2	100	0	P	H
CH 42		10420	45.6	-28.4	74	57.33	38.48	14.99	65.2	100	0	P	V
5210MHz		15630	45.07	-28.93	74	52.93	37.2	18.78	64.2	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 802.11a (LF @ 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a LF		30	23.47	-16.53	40	29.56	25.7	0.68	32.5	-	-	P	H
		182.28	34.17	-9.33	43.5	49.99	15.22	1.69	32.82	-	-	P	H
		201.72	36.61	-6.89	43.5	51.59	16.04	1.8	32.88	100	93	P	H
		316.8	30.11	-15.89	46	39.93	20.18	2.28	32.36	-	-	P	H
		563.2	27.57	-18.43	46	31.85	25.04	3.02	32.43	-	-	P	H
		917.4	33.17	-12.83	46	31.02	29.69	3.8	31.5	-	-	P	H
		59.7	31.46	-8.54	40	50.97	11.9	1.06	32.49	-	-	P	V
		182.28	32.87	-10.63	43.5	48.69	15.22	1.69	32.82	-	-	P	V
		201.72	35.94	-7.56	43.5	50.92	16.04	1.8	32.88	112	158	P	V
		489.7	29.25	-16.75	46	34.81	23.93	2.84	32.38	-	-	P	V
		714.4	29.36	-16.64	46	31.29	26.99	3.38	32.43	-	-	P	V
		956.6	34.23	-11.77	46	30.74	30.59	3.87	31.14	-	-	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	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix D. Radiated Spurious Emission Plots

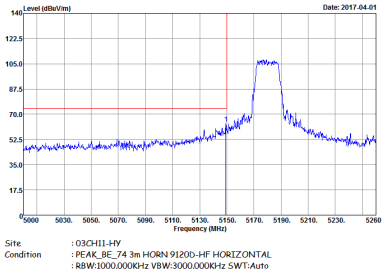
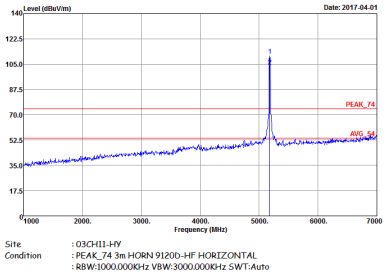
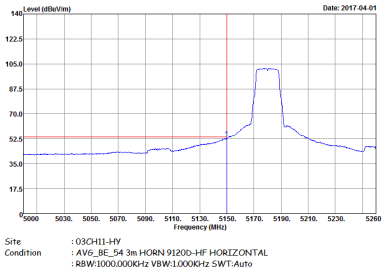
Test Engineer :	J.C. Liang, Jacky Hung and Ken Wu	**Temperature :**	20~24°C
		Relative Humidity :	55~60%

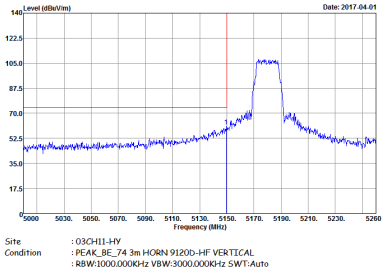
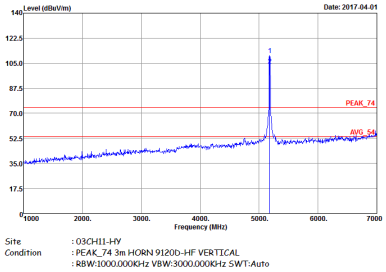
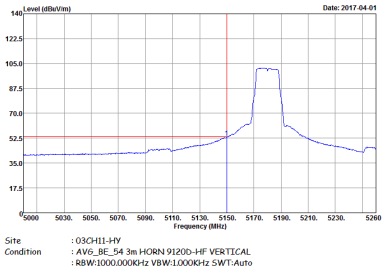
Note symbol

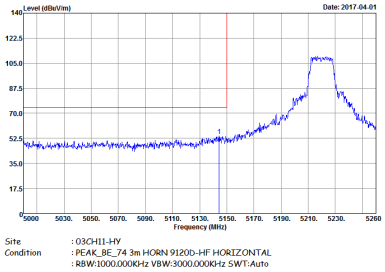
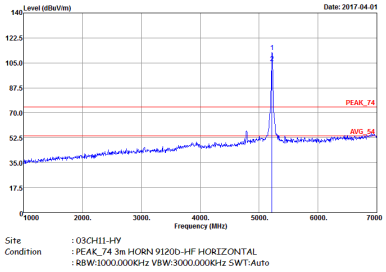
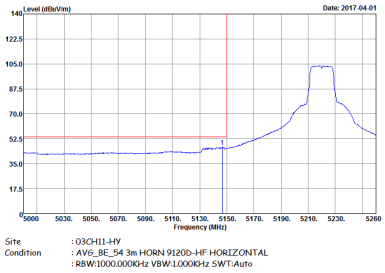
-L	**Low channel location**
-R	**High channel location**

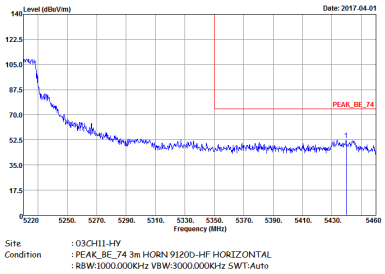
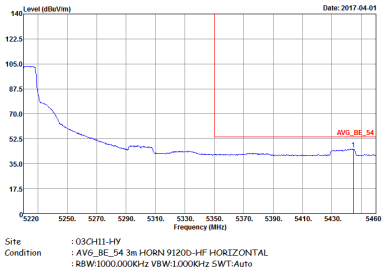
Band 1 - 5150~5250MHz

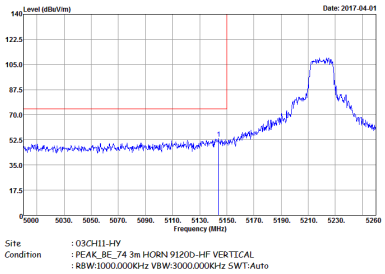
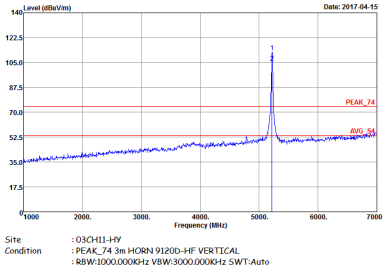
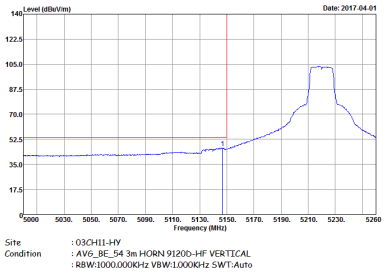
WIFI 802.11a (Band Edge @ 3m)

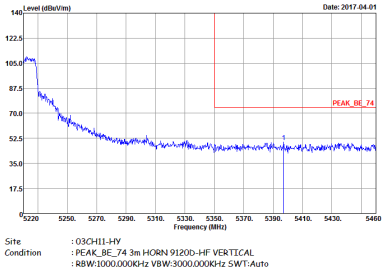
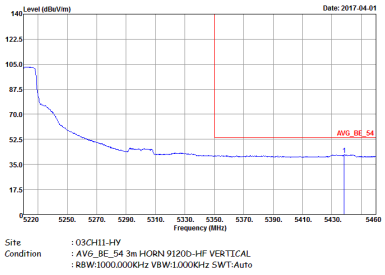
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

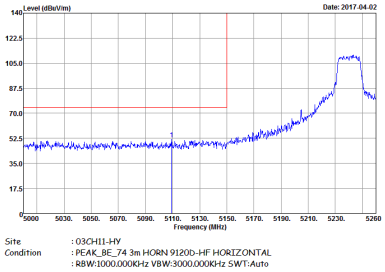
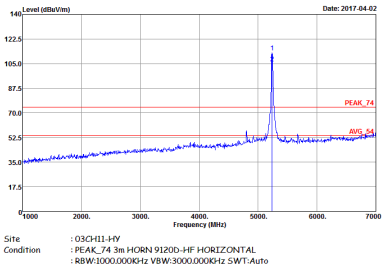
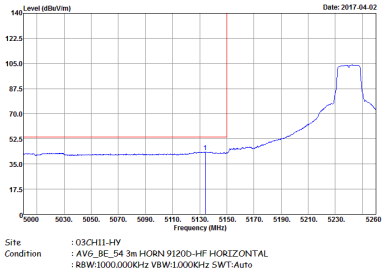
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

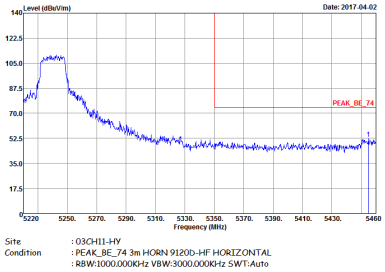
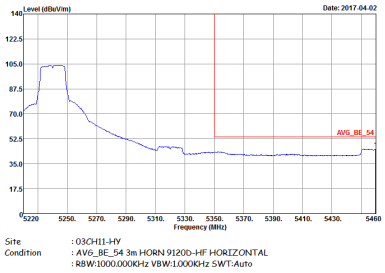
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

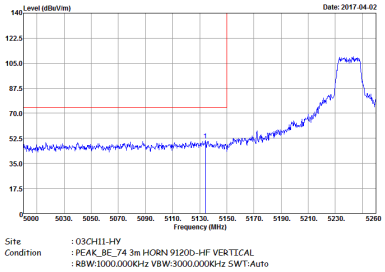
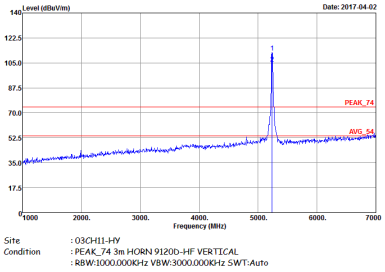
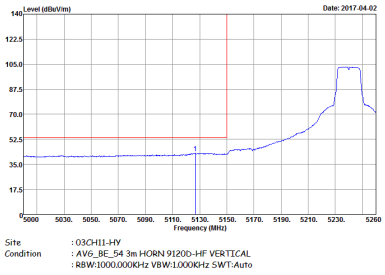
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

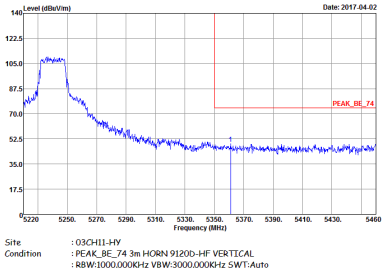
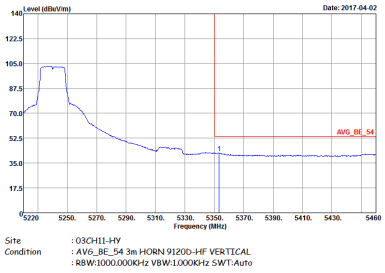
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

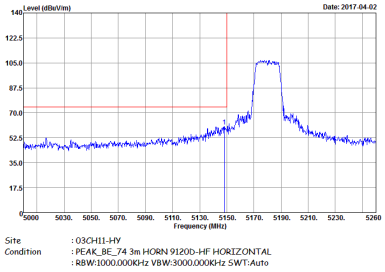
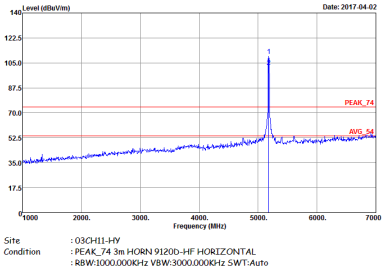
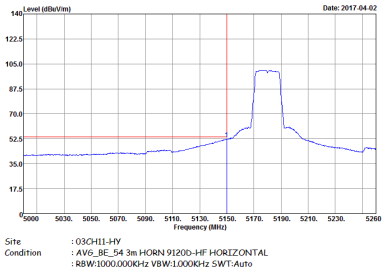
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

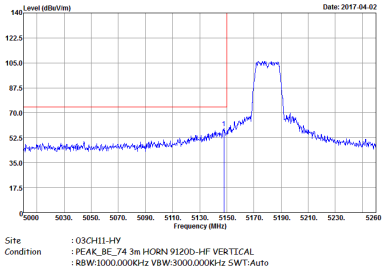
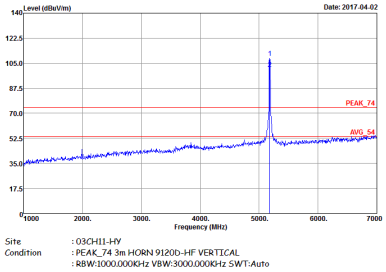
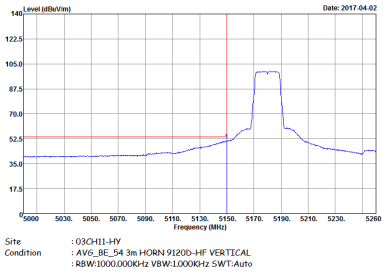
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

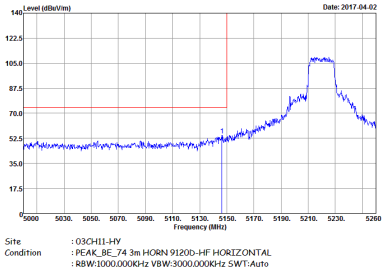
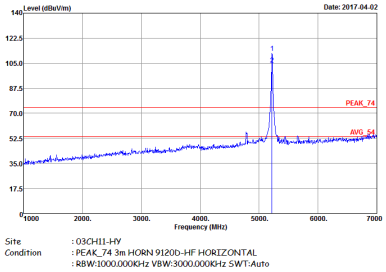
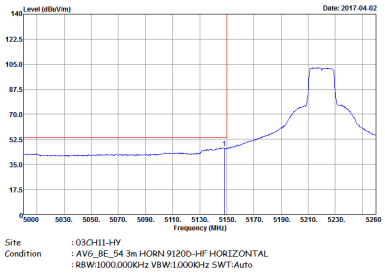
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

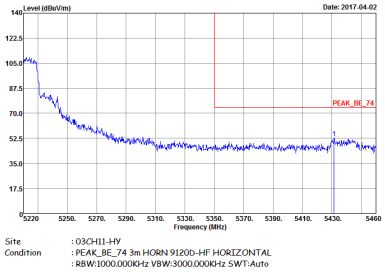
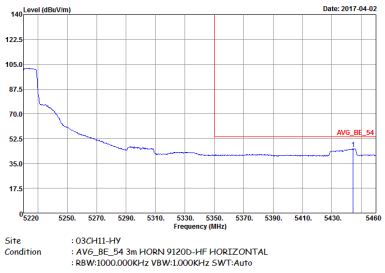
Band 1 5150~5250MHz

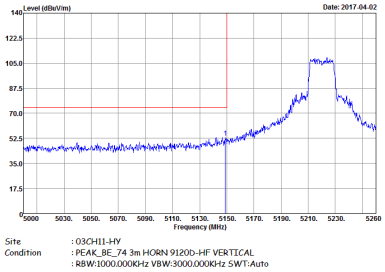
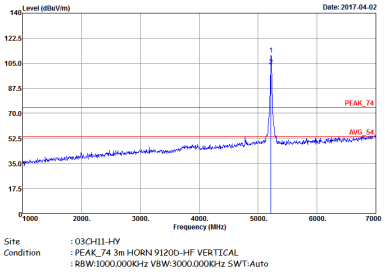
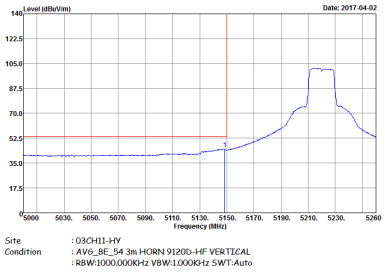
WIFI 802.11n HT20 (Band Edge @ 3m)

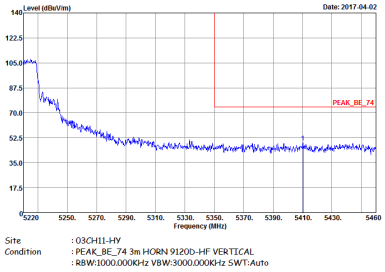
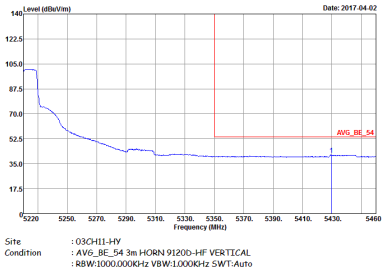
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

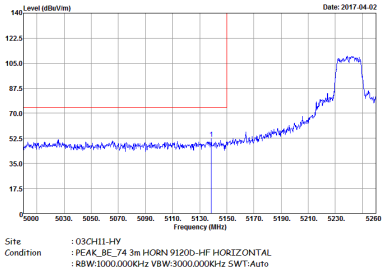
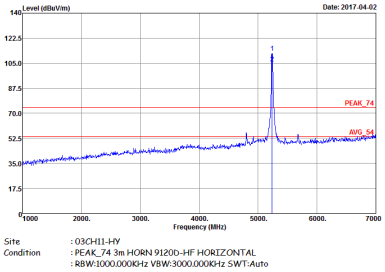
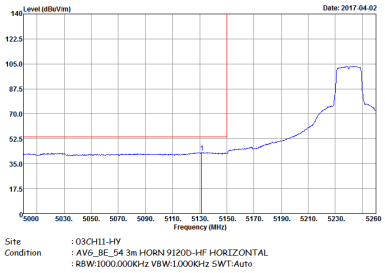
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

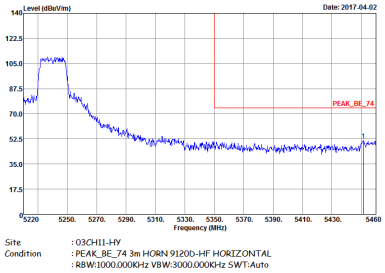
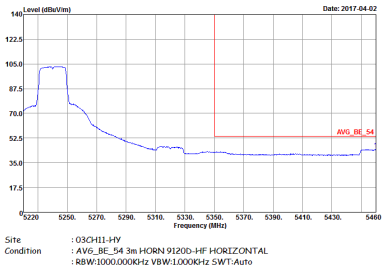
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

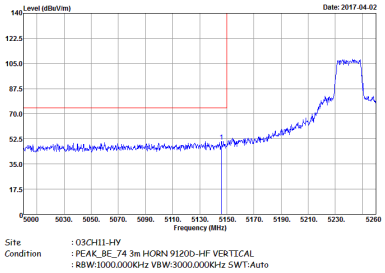
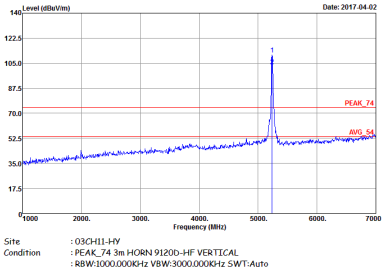
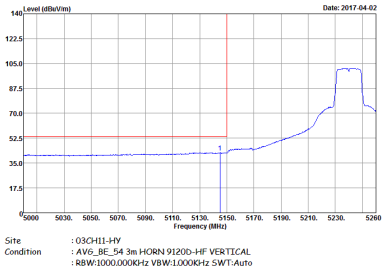
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

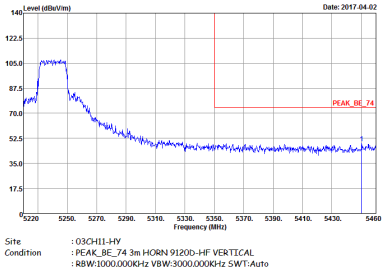
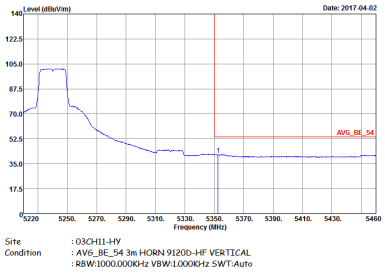
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

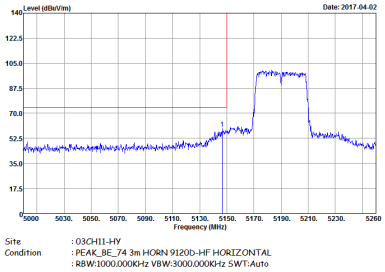
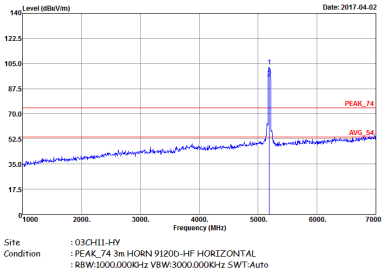
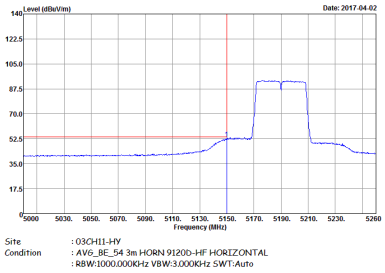
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

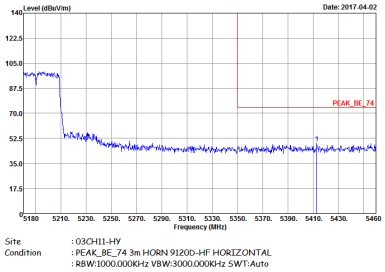
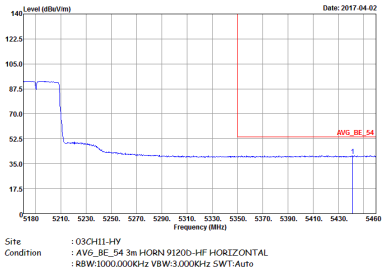
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

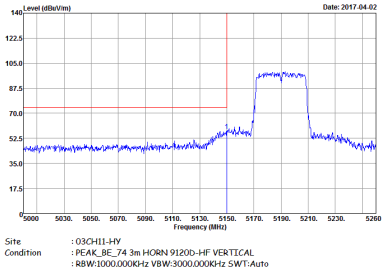
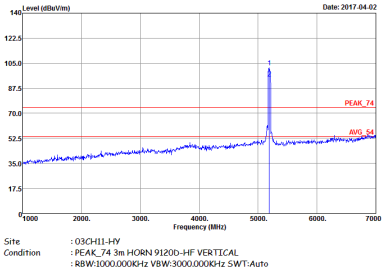
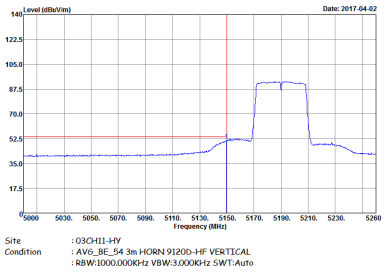
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

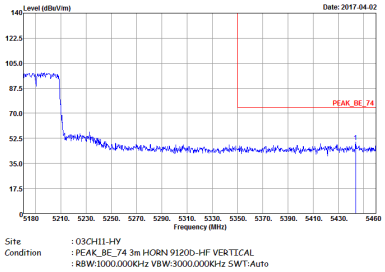
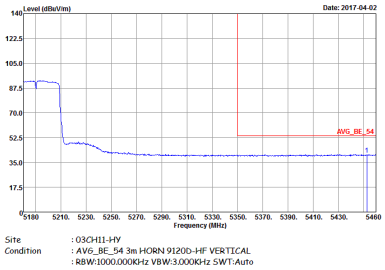
Band 1 5150~5250MHz

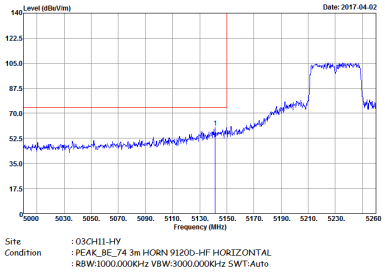
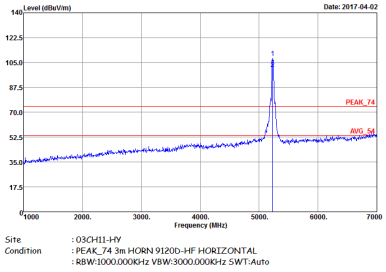
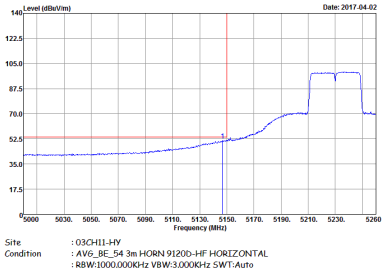
WIFI 802.11n HT40 (Band Edge @ 3m)

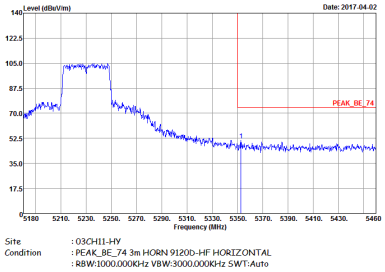
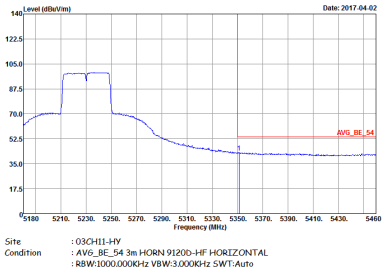
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

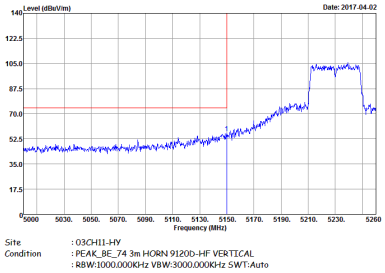
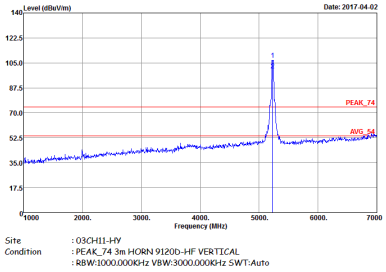
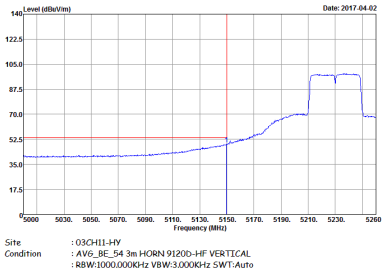
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

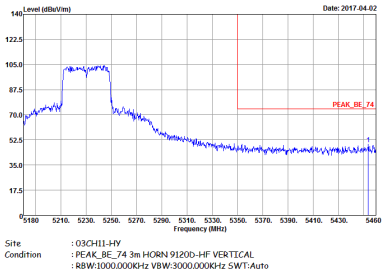
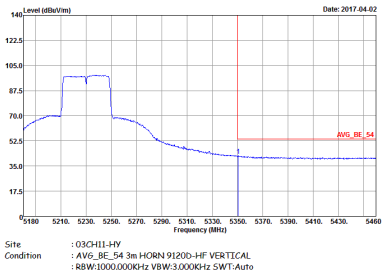
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

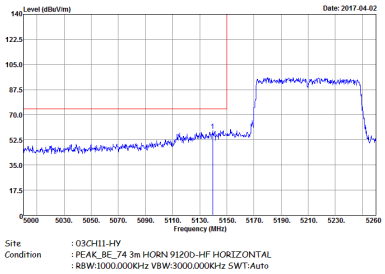
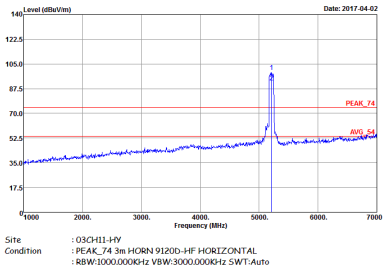
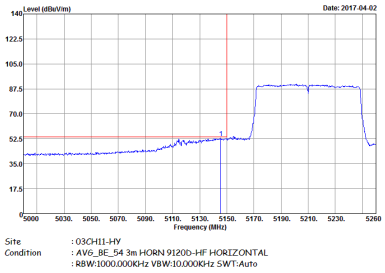
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

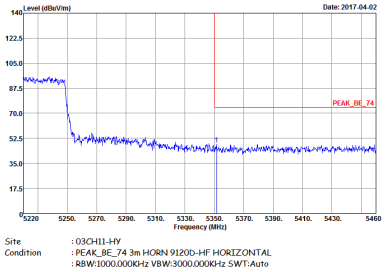
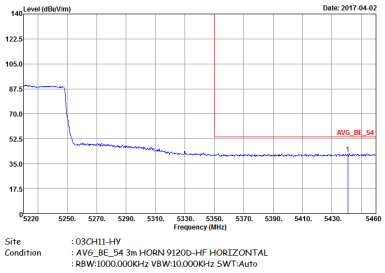
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

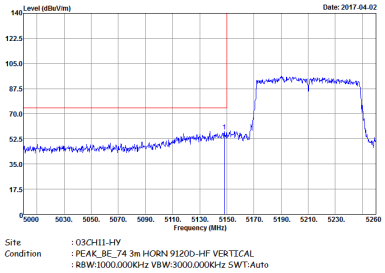
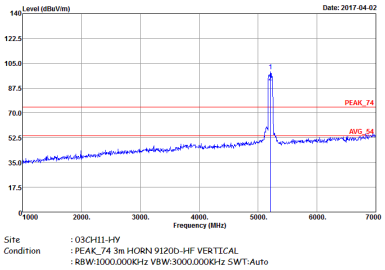
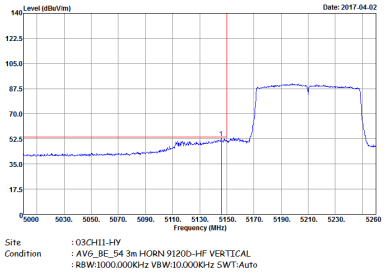
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

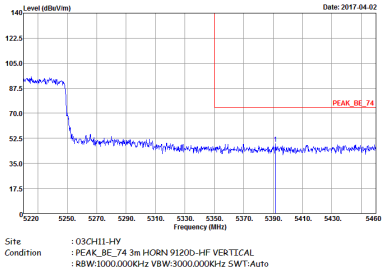
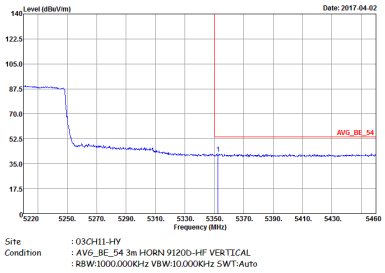
Band 1 5150~5250MHz

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

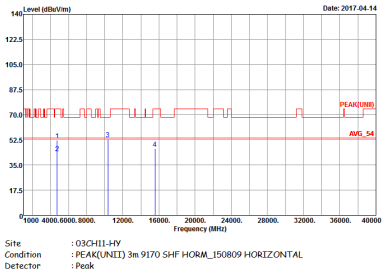
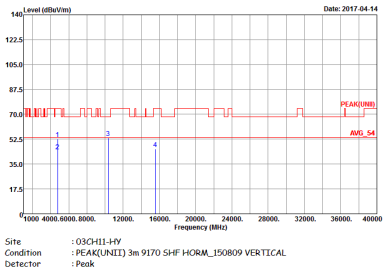
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

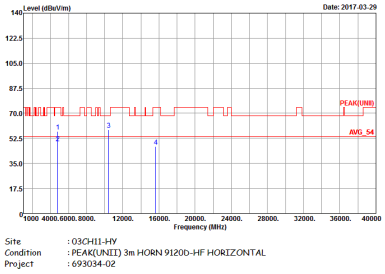
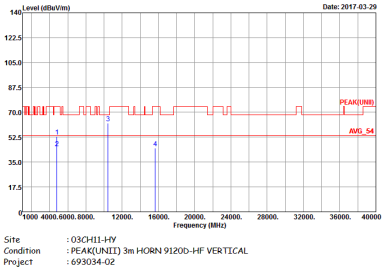
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

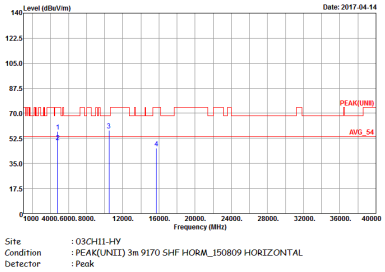
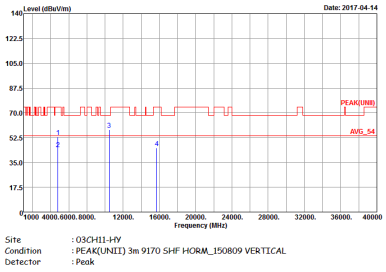
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

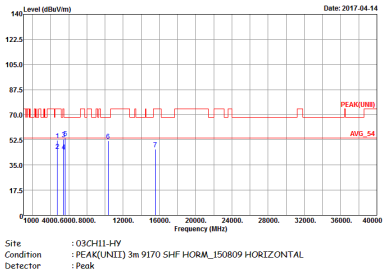
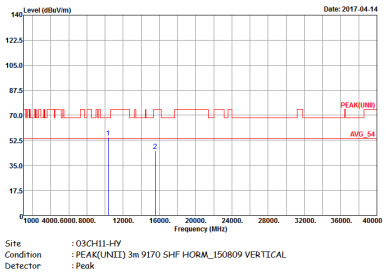
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

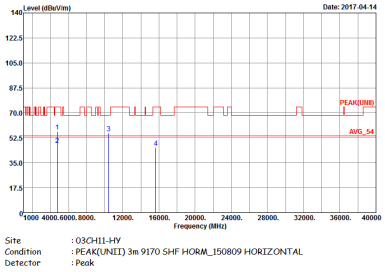
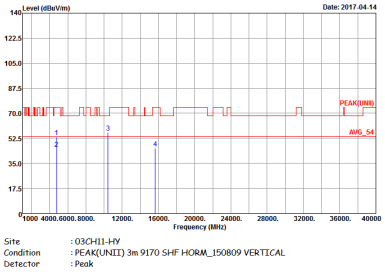
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

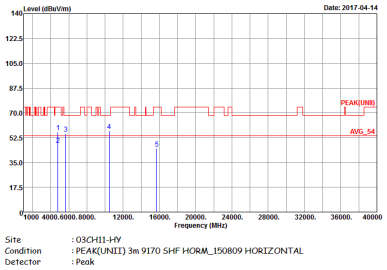
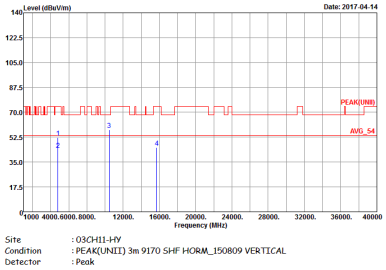
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

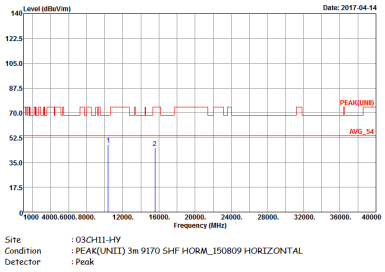
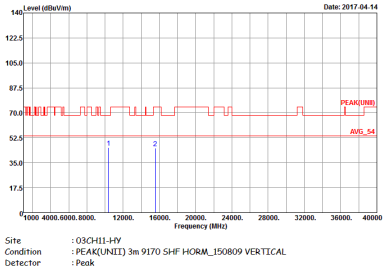
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

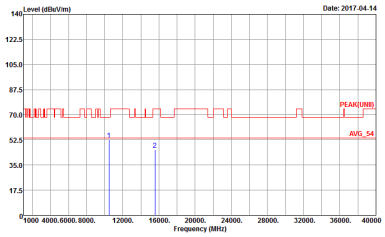
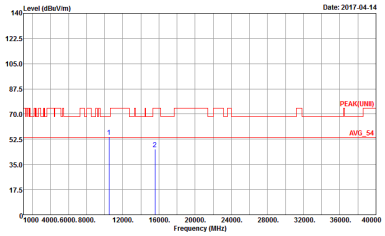
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

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

Band 1 5150~5250MHz

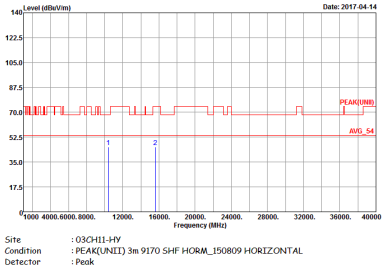
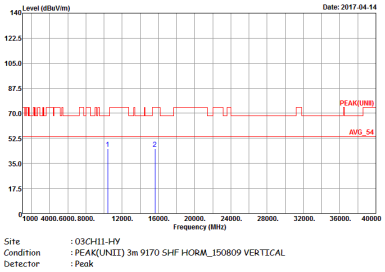
WIFI 802.11n HT40 (Harmonic @ 3m)

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

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : PEAK(UNII) 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak  Site : 03CH11-HY	

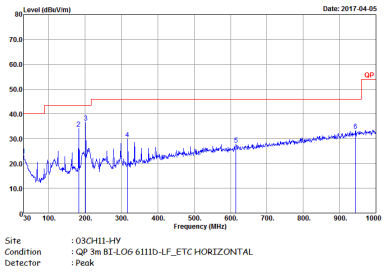
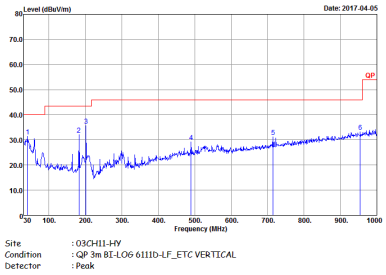
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

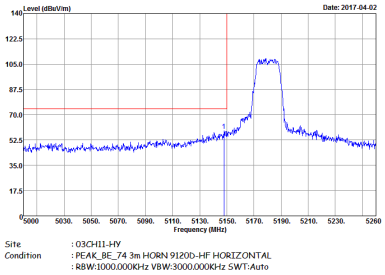
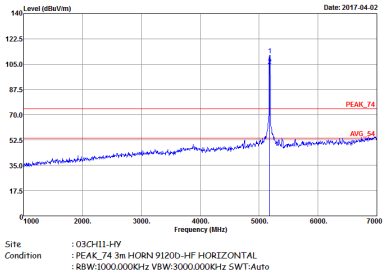
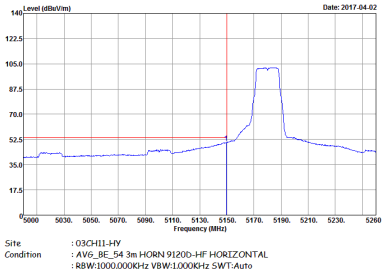
Emission below 1GHz

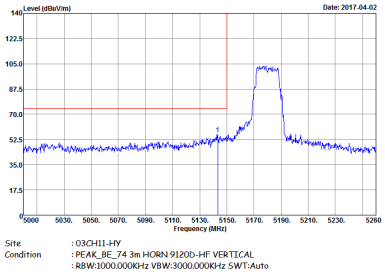
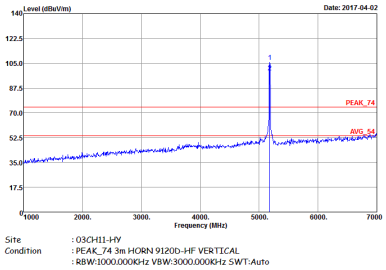
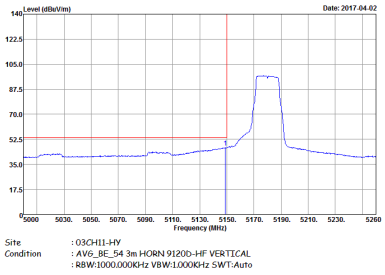
5GHz WIFI 802.11a (LF)

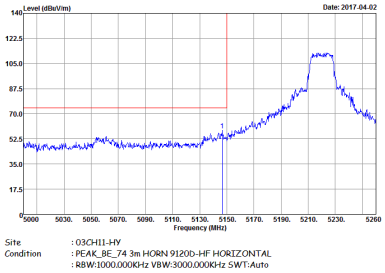
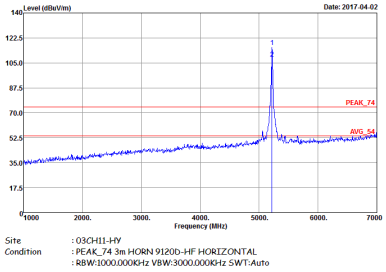
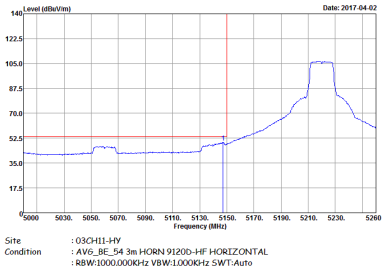
WIFI	5GHz WIFI	
ANT	802.11a LF	
1	Horizontal	Vertical
QP / Peak		

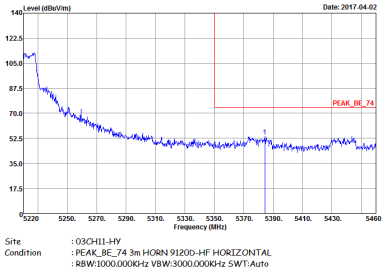
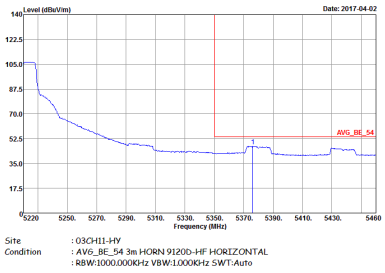
Band 1 - 5150~5250MHz

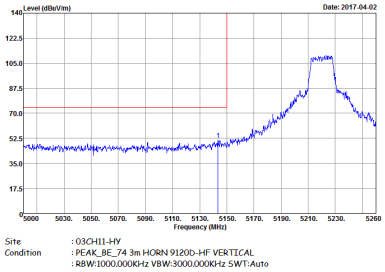
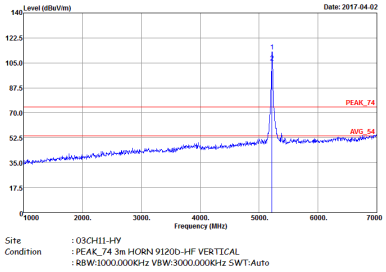
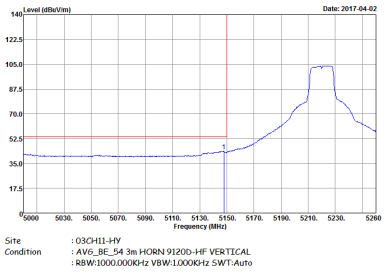
WIFI 802.11a (Band Edge @ 3m)

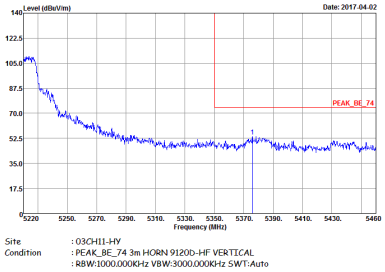
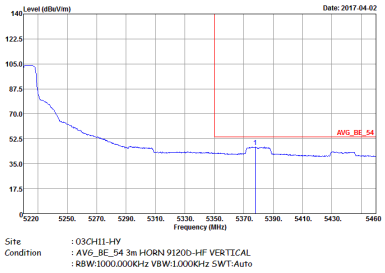
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

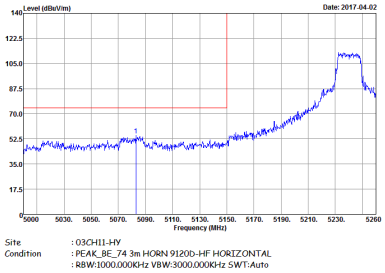
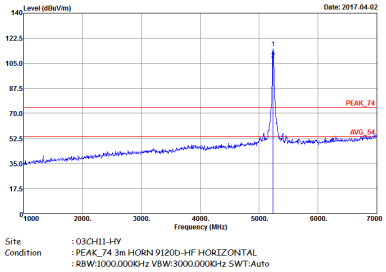
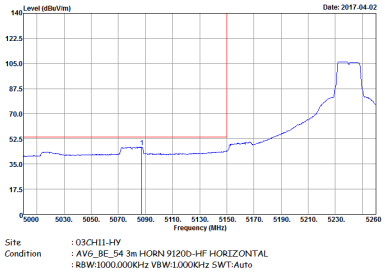
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
2	Vertical	Fundamental
Peak	V  	
Avg.	 	Left blank

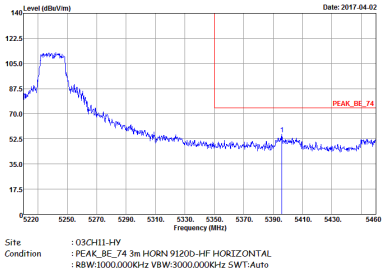
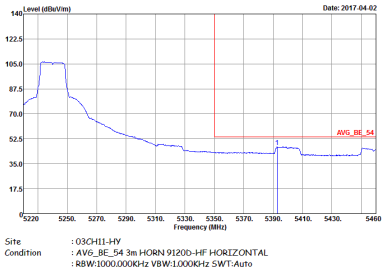
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

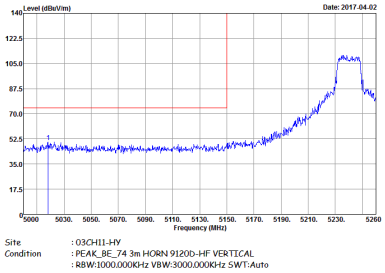
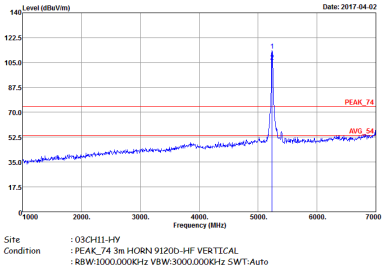
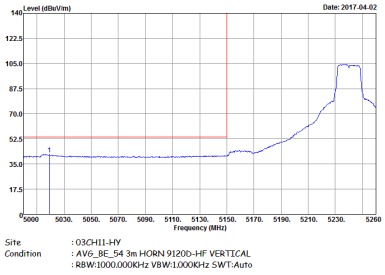
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

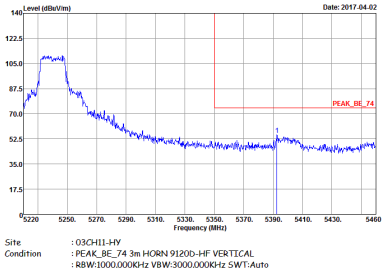
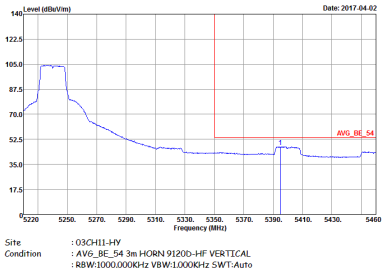
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

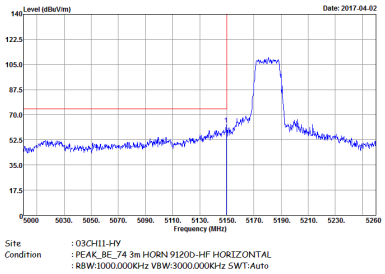
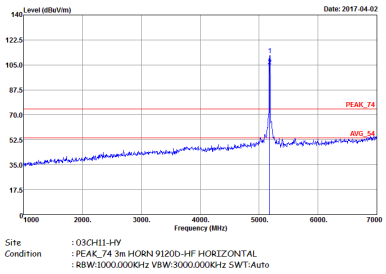
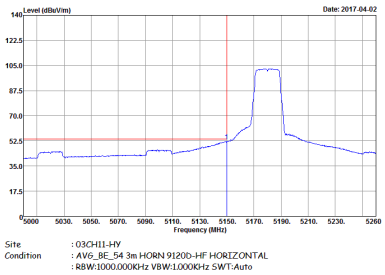
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

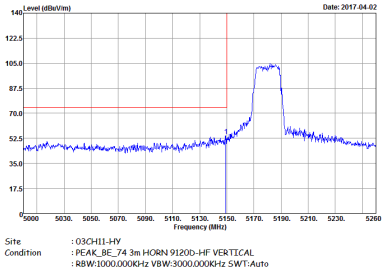
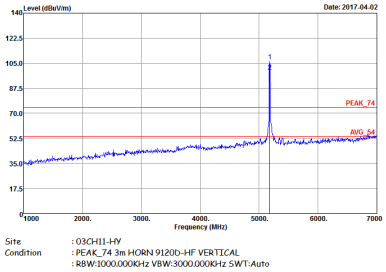
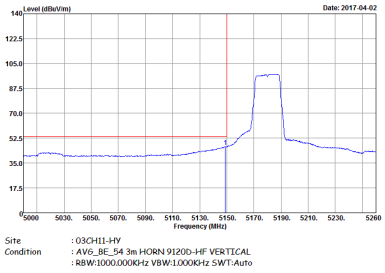
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

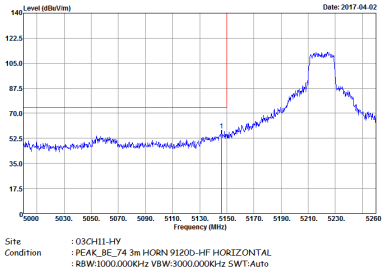
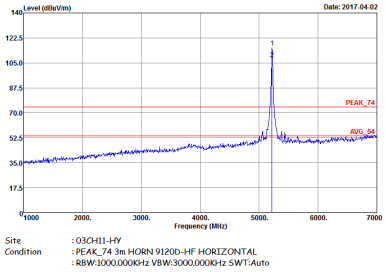
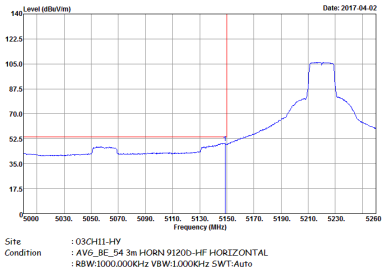
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

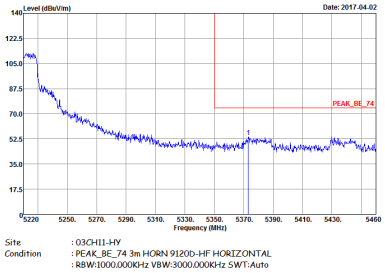
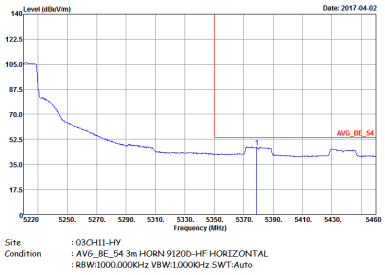
Band 1 5150~5250MHz

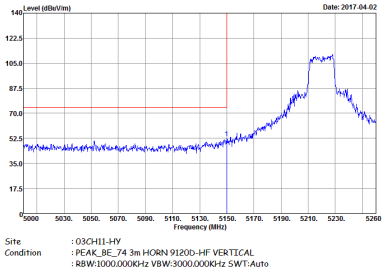
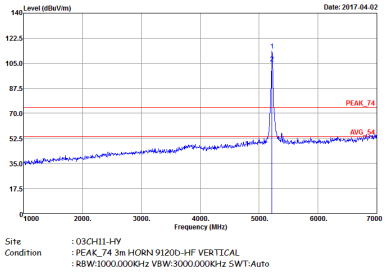
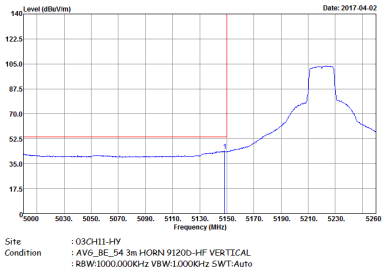
WIFI 802.11n HT20 (Band Edge @ 3m)

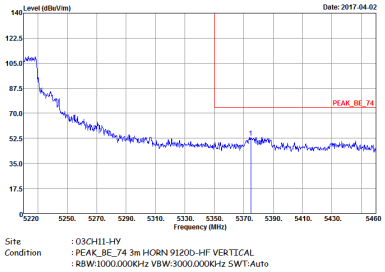
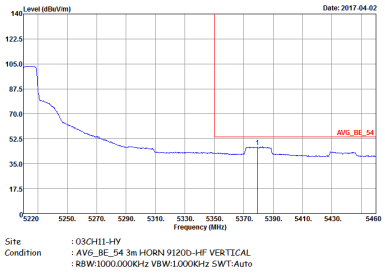
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

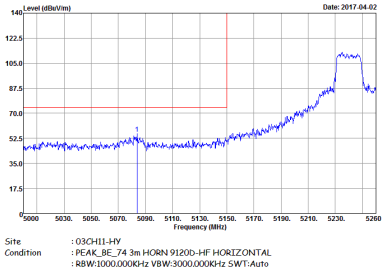
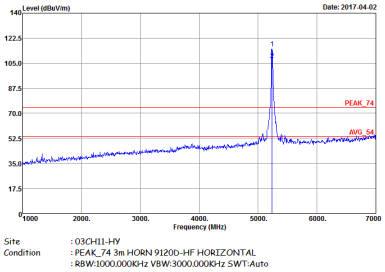
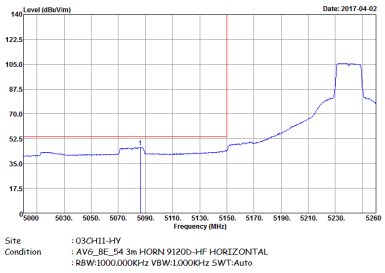
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

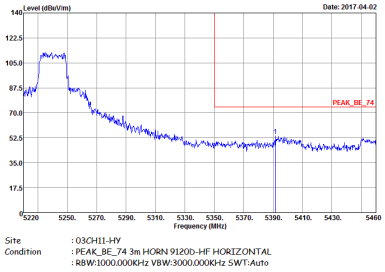
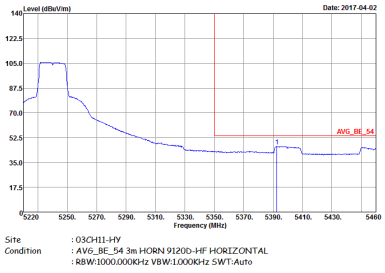
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

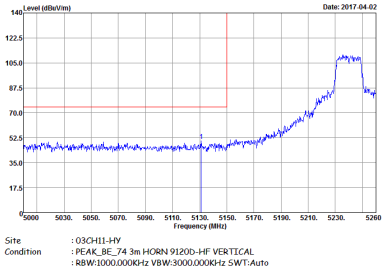
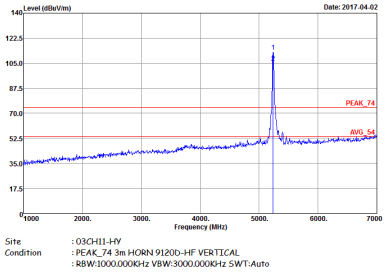
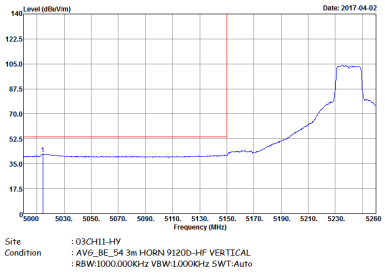
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

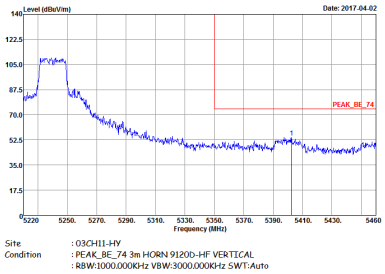
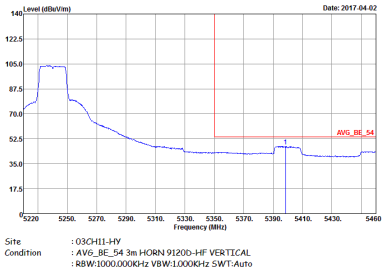
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

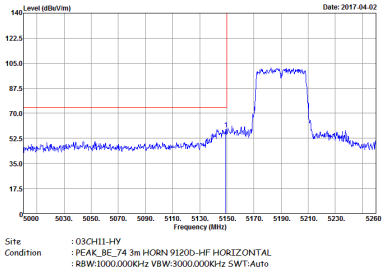
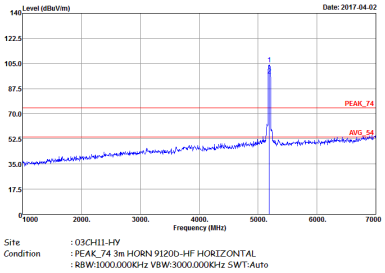
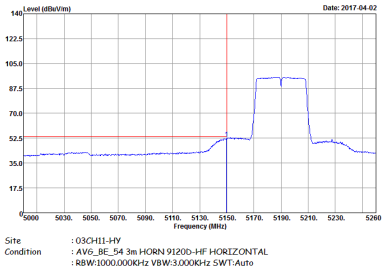
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

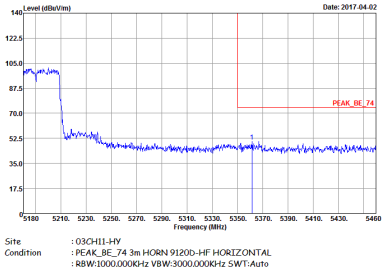
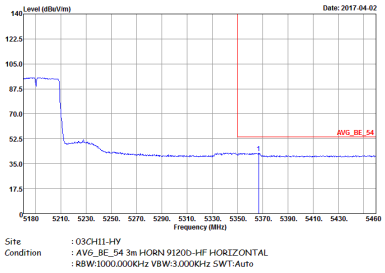
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

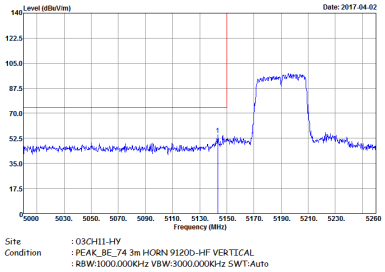
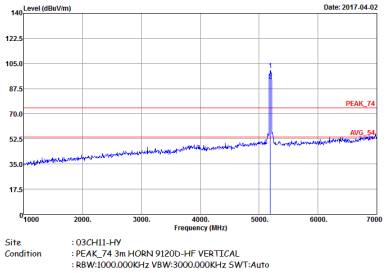
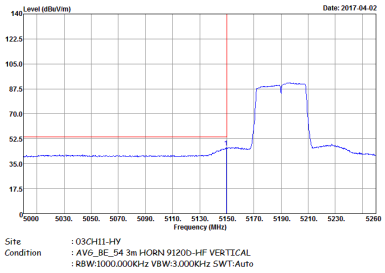
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

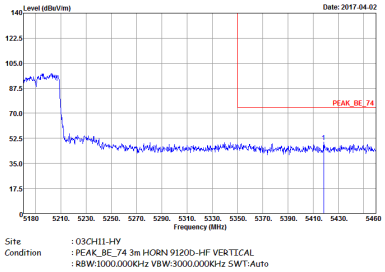
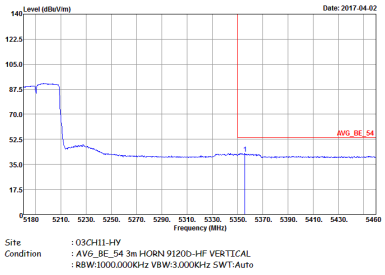
Band 1 5150~5250MHz

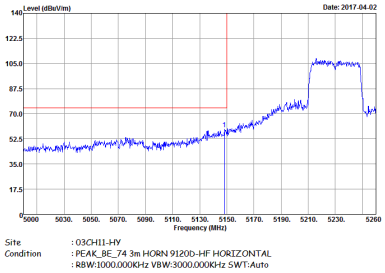
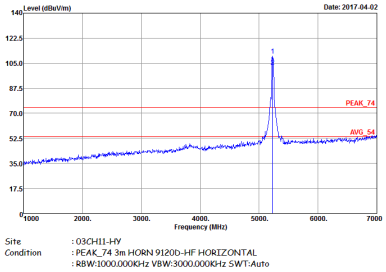
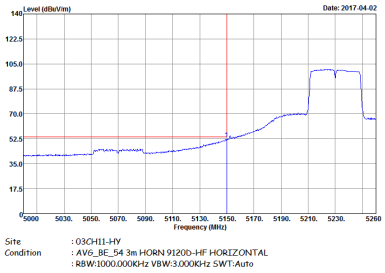
WIFI 802.11n HT40 (Band Edge @ 3m)

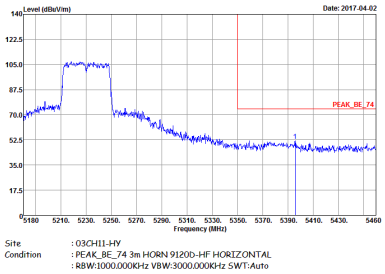
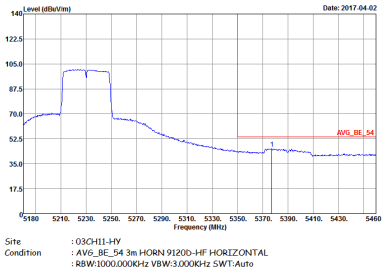
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
2	Horizontal	Fundamental
Peak		
Avg.		Left blank

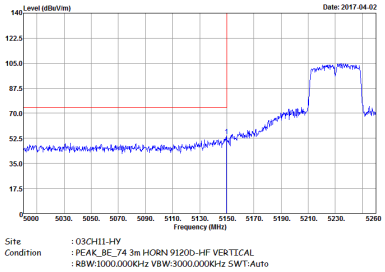
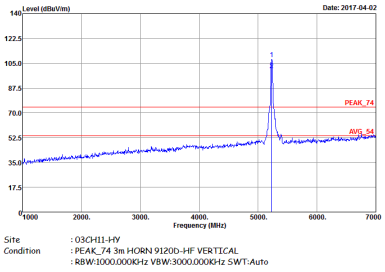
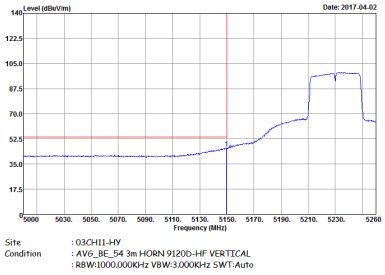
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

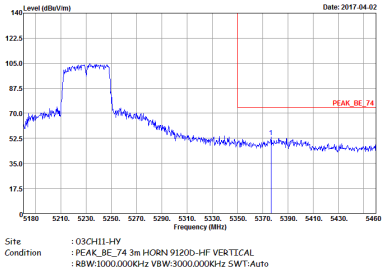
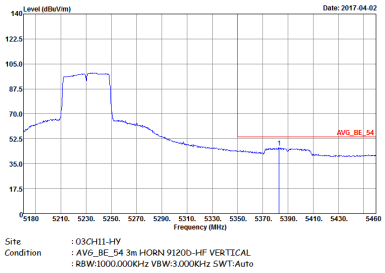
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

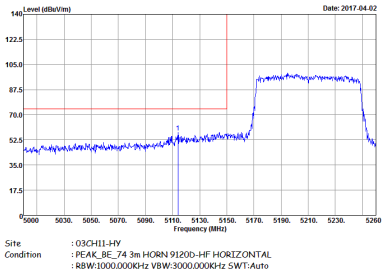
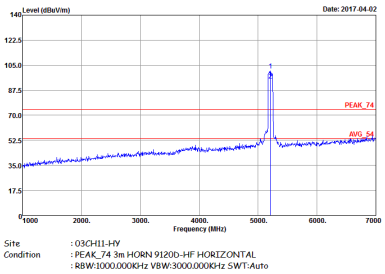
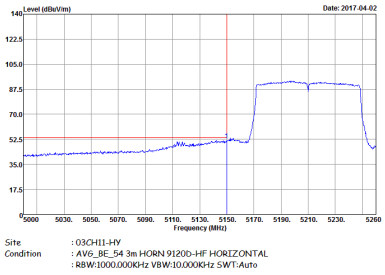
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

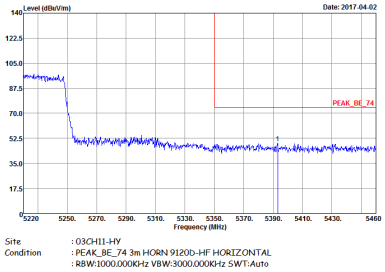
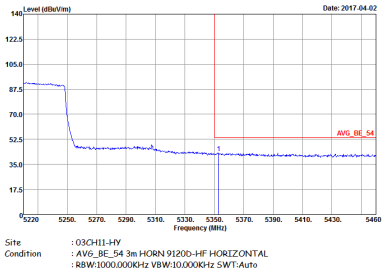
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

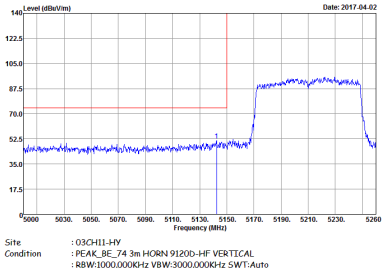
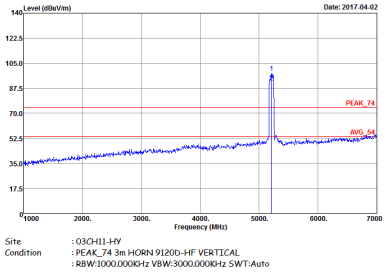
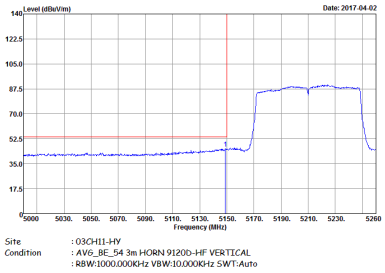
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

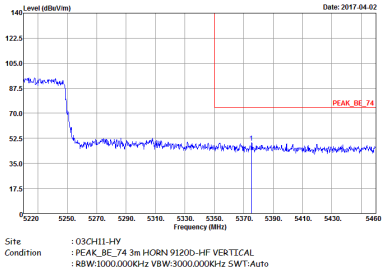
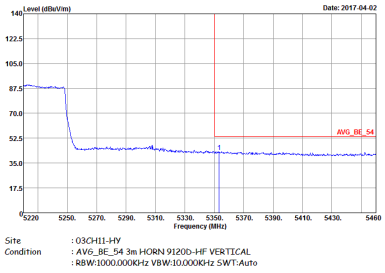
Band 1 5150~5250MHz

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

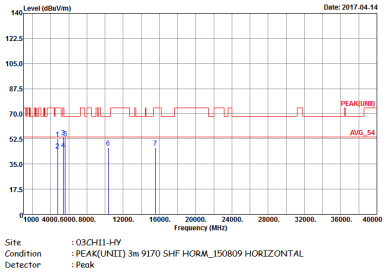
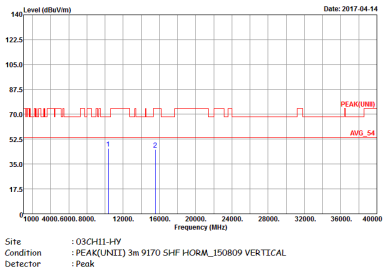
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

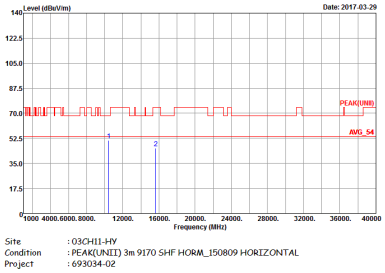
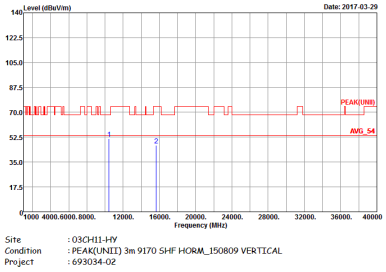
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
2	Vertical	Fundamental
Peak		
Avg.		Left blank

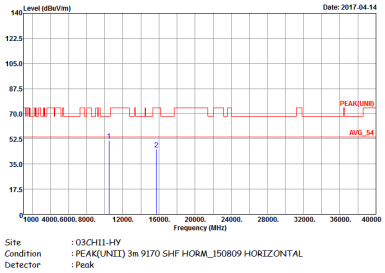
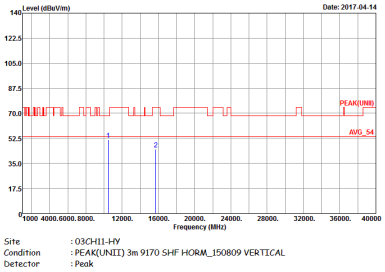
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

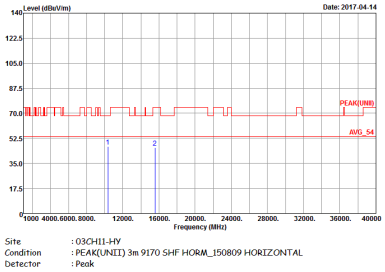
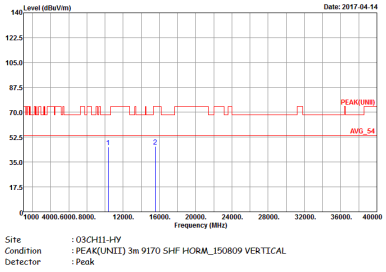
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
2	Horizontal	Vertical
Peak Avg.		

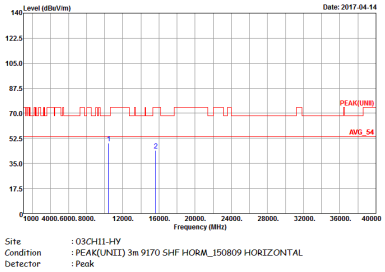
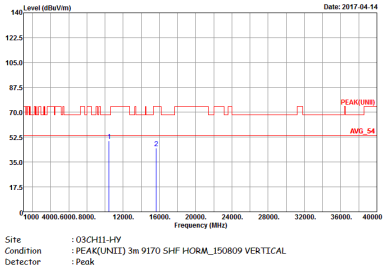
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
2	Horizontal	Vertical
Peak Avg.		

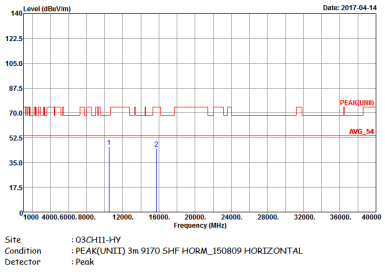
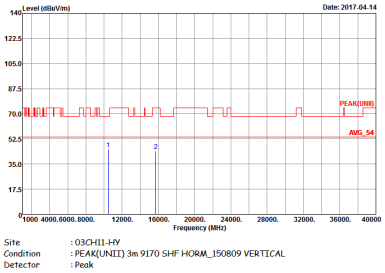
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

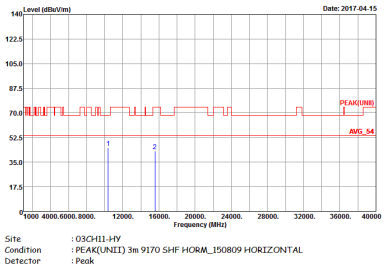
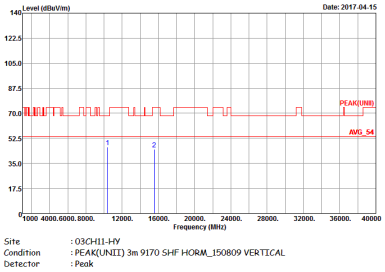
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
2	Horizontal	Vertical
Peak Avg.		

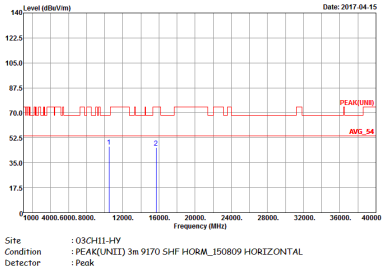
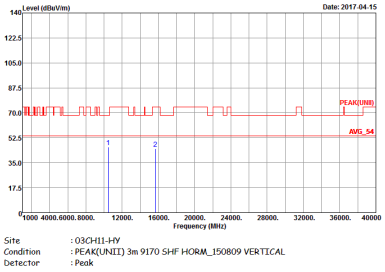
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
2	Horizontal	Vertical
Peak Avg.		

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

Band 1 5150~5250MHz

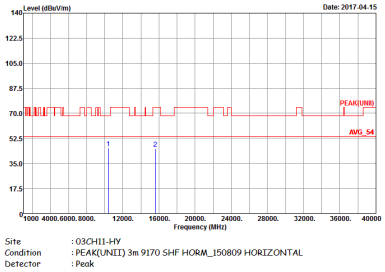
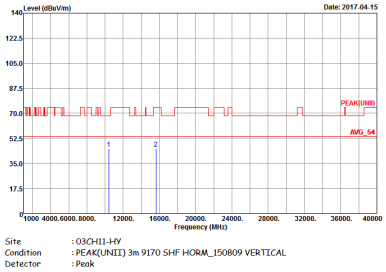
WIFI 802.11n HT40 (Harmonic @ 3m)

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

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

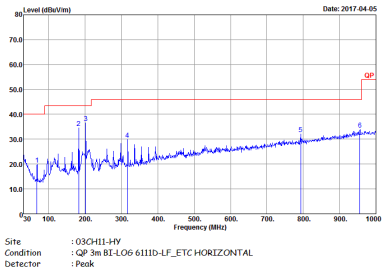
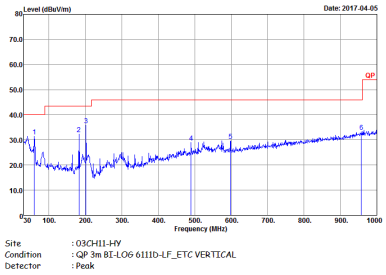
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

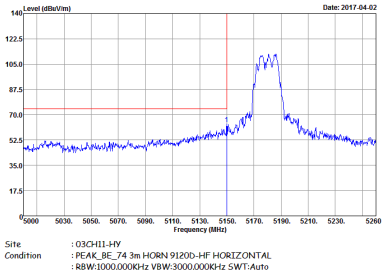
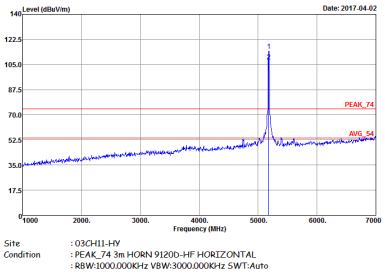
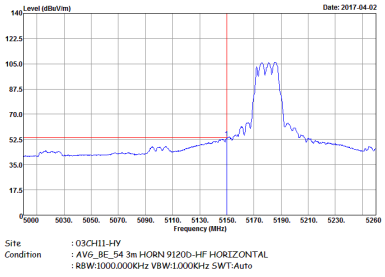
Emission below 1GHz

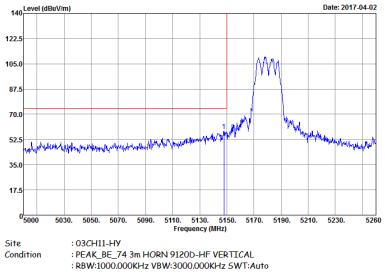
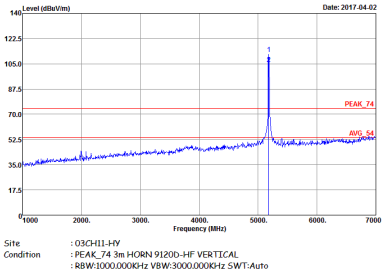
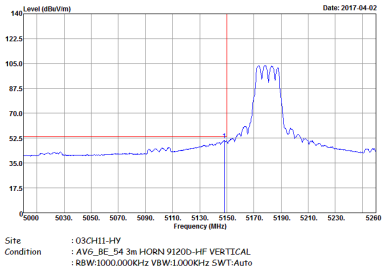
5GHz WIFI 802.11n HT20 (LF)

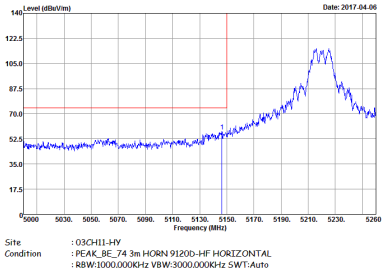
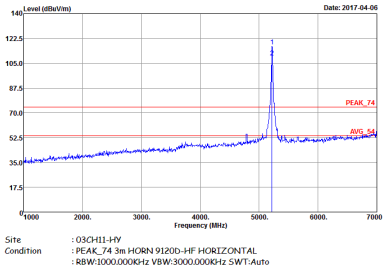
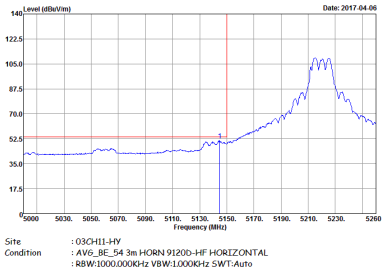
WIFI	5GHz WIFI	
ANT	802.11n HT20 LF	
2	Horizontal	Vertical
QP / Peak		

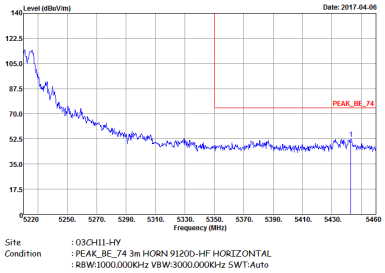
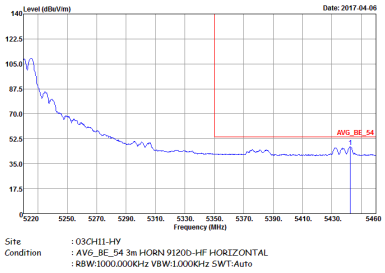
Band 1 - 5150~5250MHz

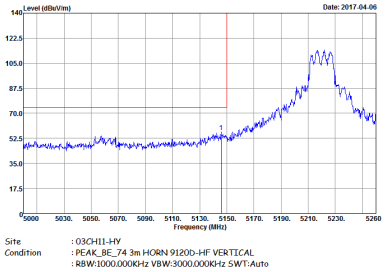
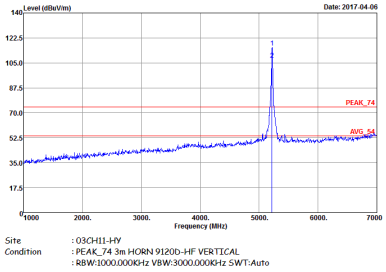
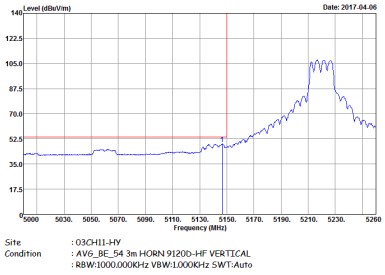
WIFI 802.11a (Band Edge @ 3m)

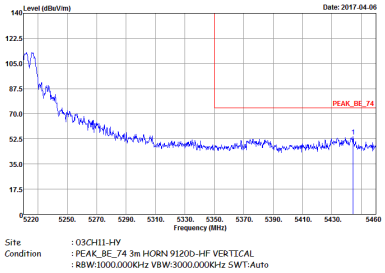
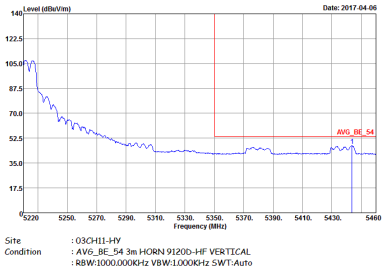
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

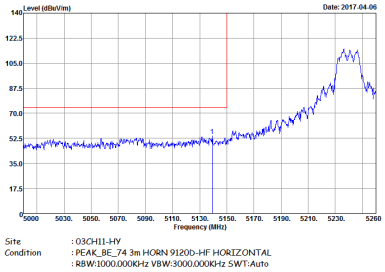
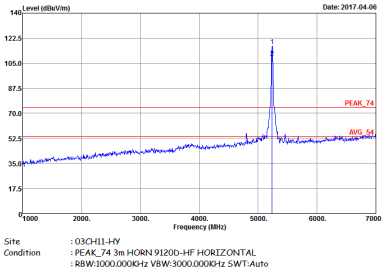
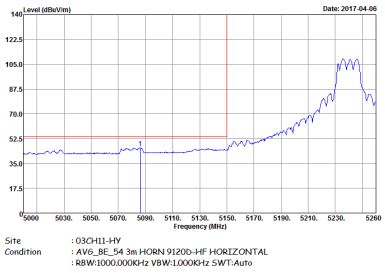
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

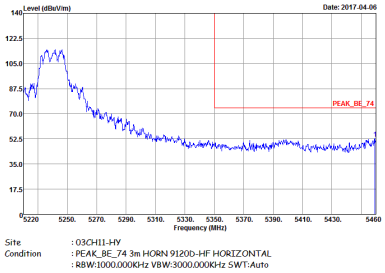
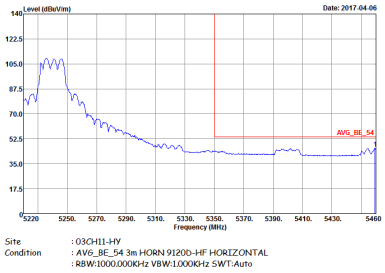
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

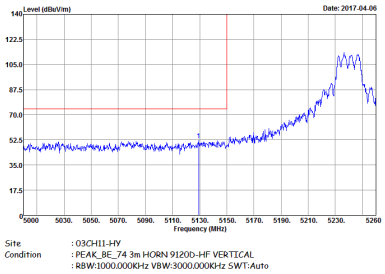
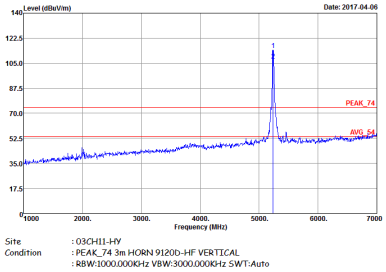
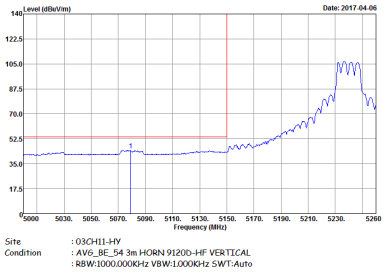
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

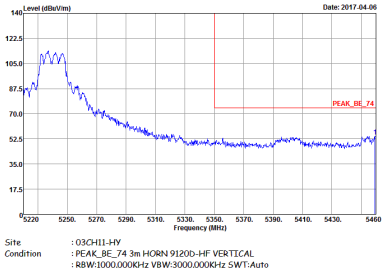
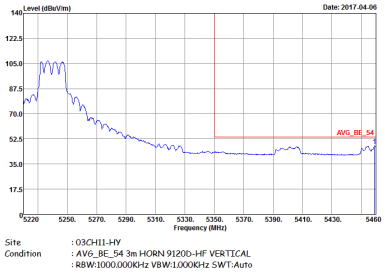
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

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

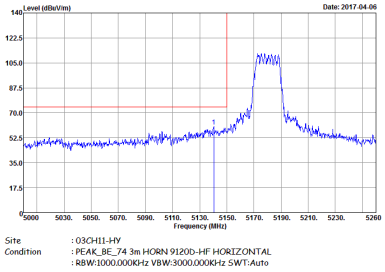
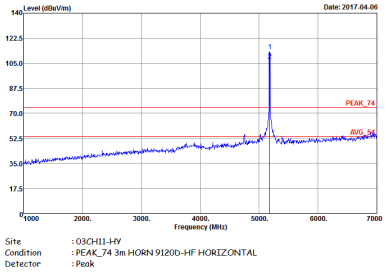
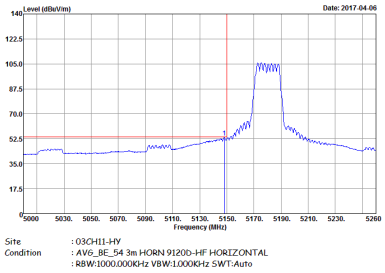
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

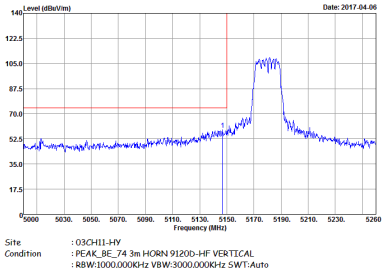
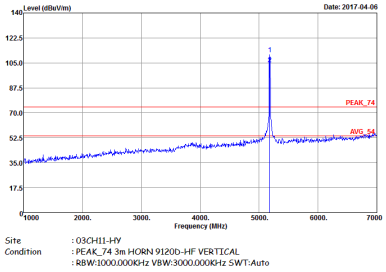
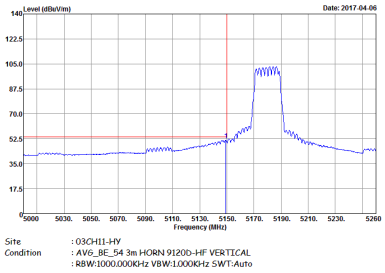
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

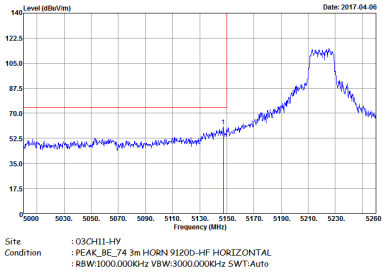
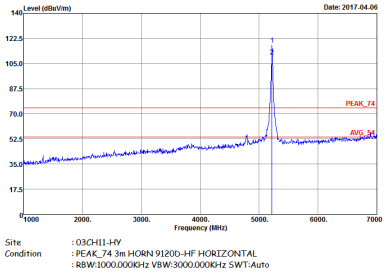
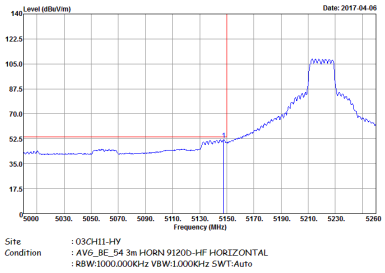
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

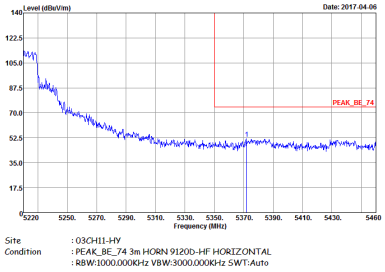
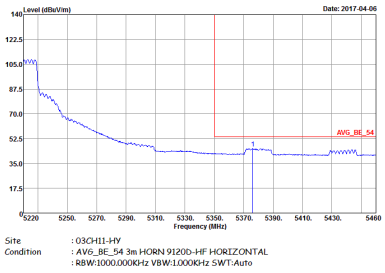
Band 1 5150~5250MHz

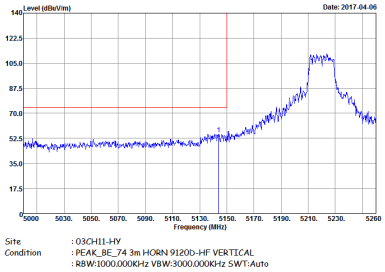
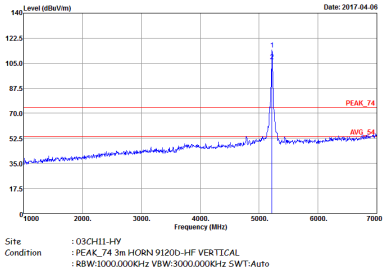
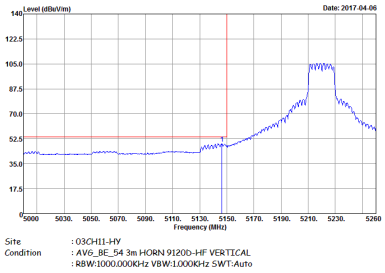
WIFI 802.11n HT20 (Band Edge @ 3m)

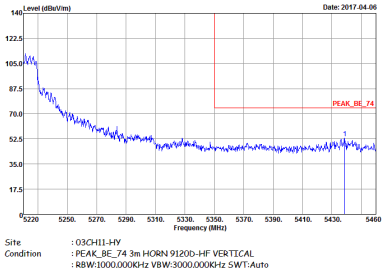
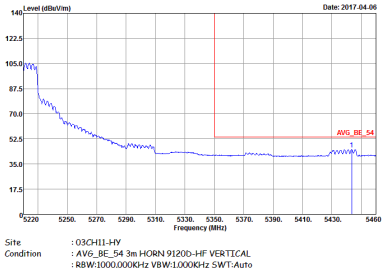
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

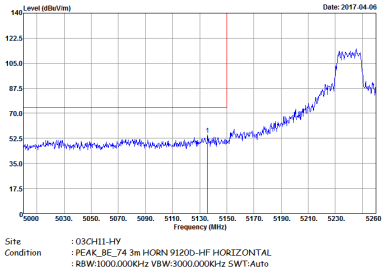
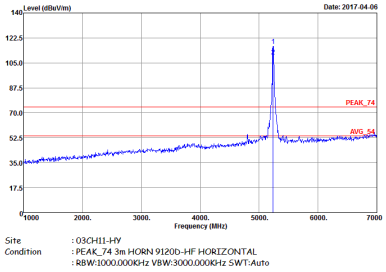
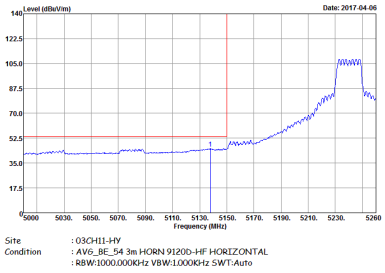
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

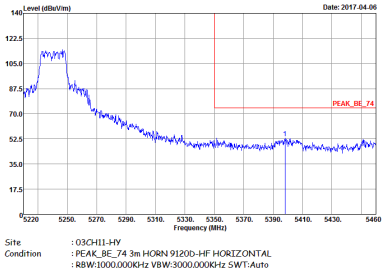
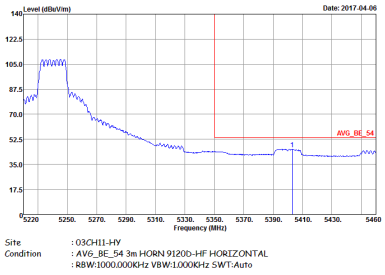
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

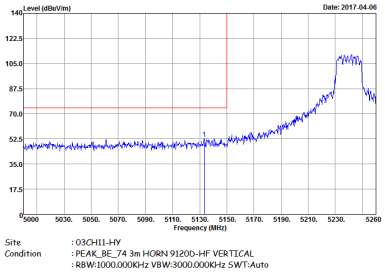
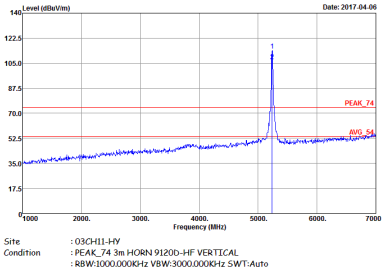
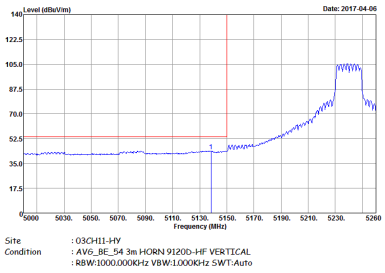
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

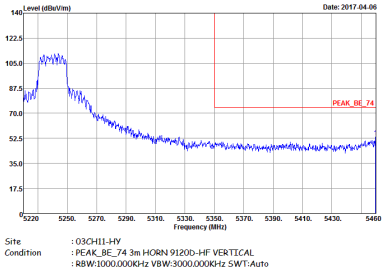
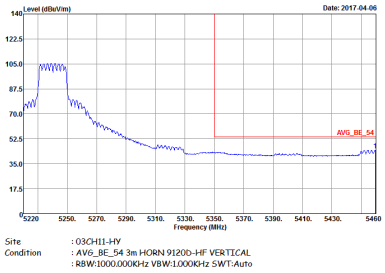
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

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

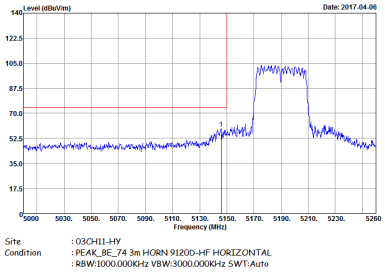
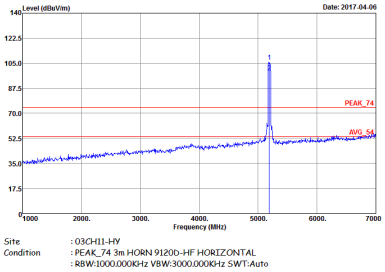
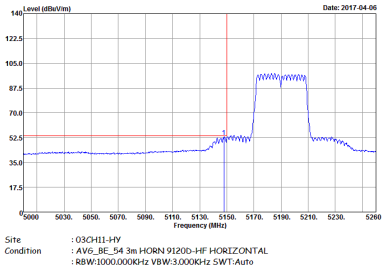
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

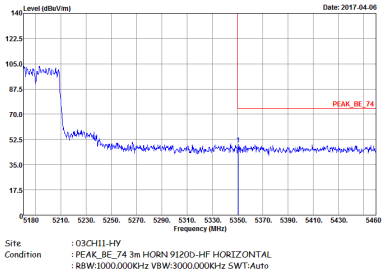
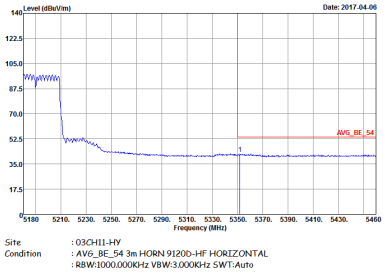
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

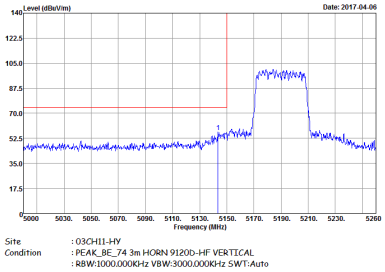
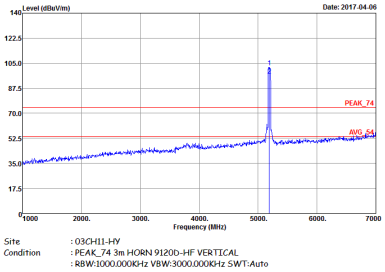
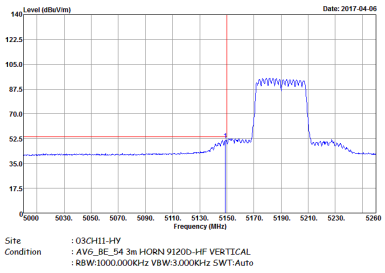
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

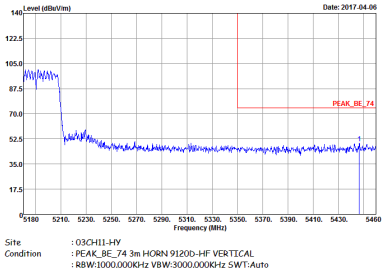
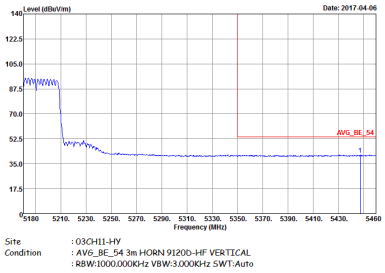
Band 1 5150~5250MHz

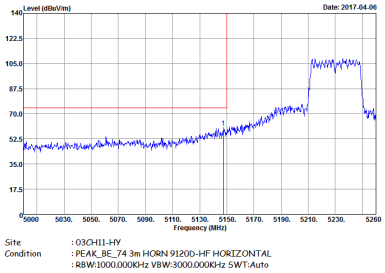
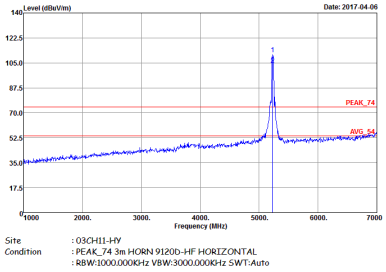
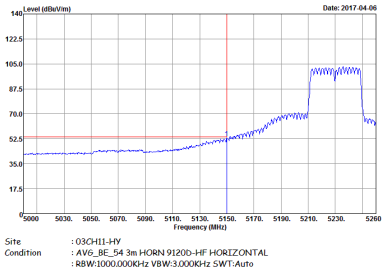
WIFI 802.11n HT40 (Band Edge @ 3m)

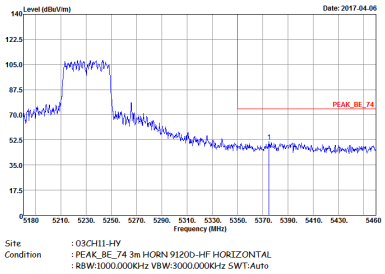
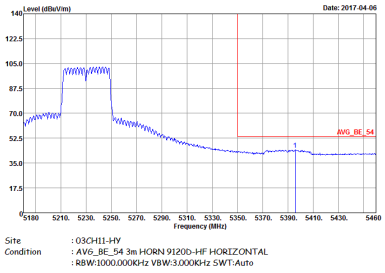
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

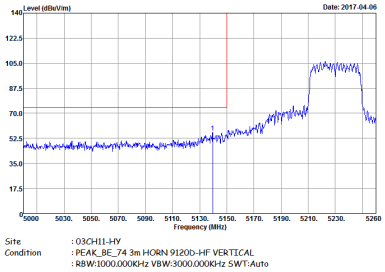
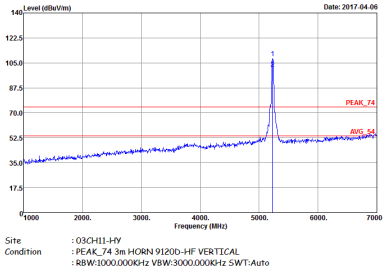
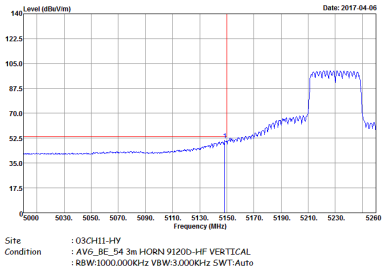
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

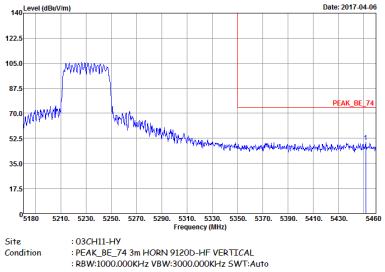
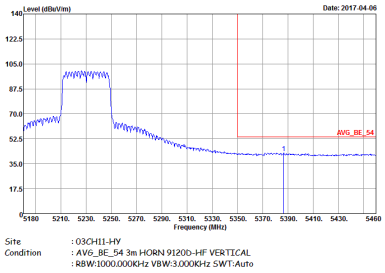
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

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

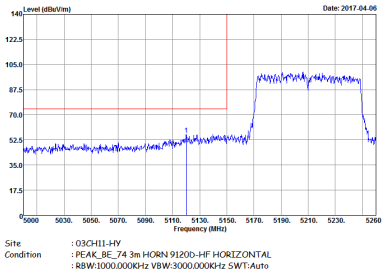
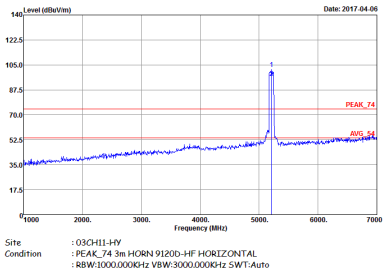
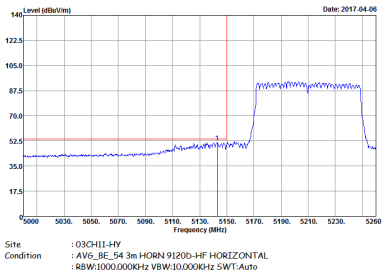
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

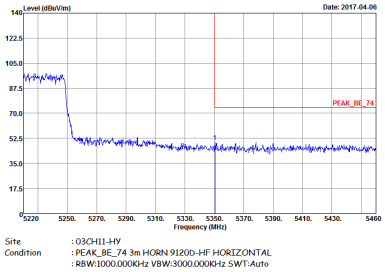
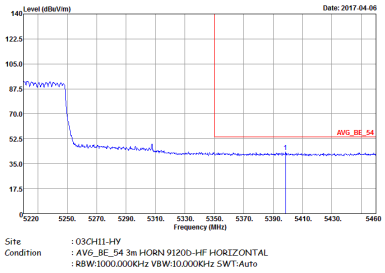
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

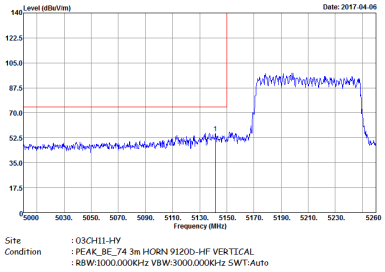
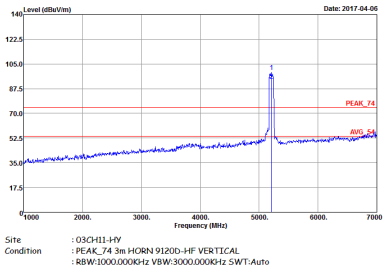
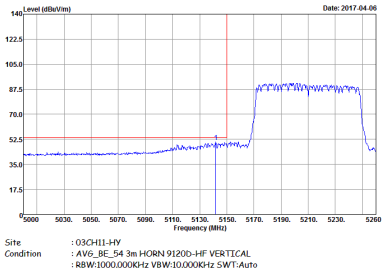
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

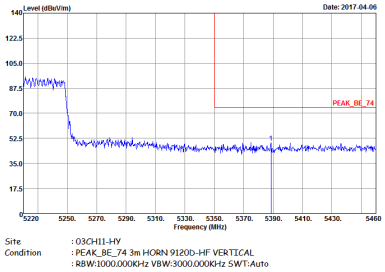
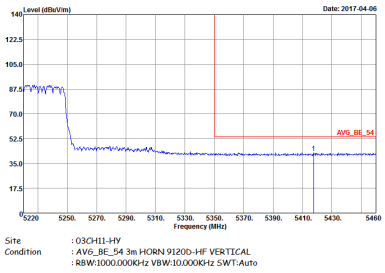
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

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

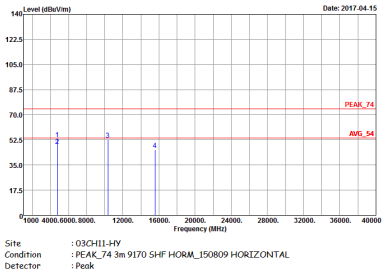
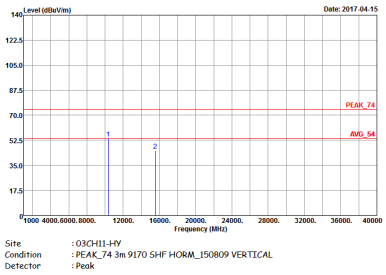
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

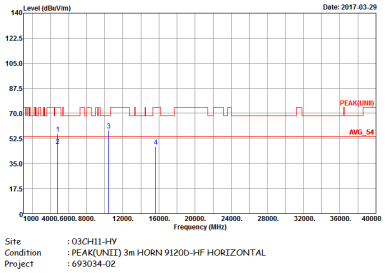
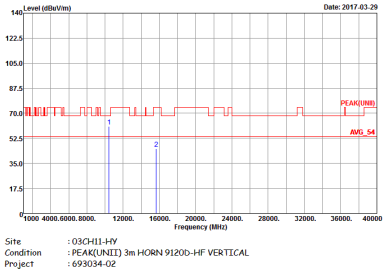
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

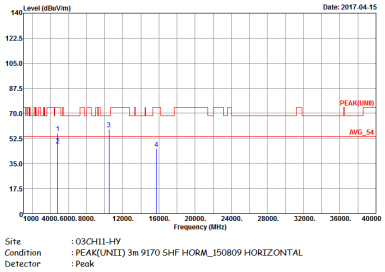
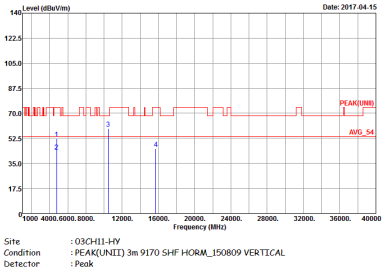
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

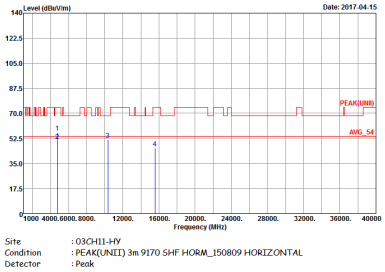
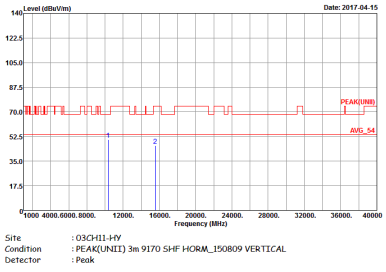
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.		

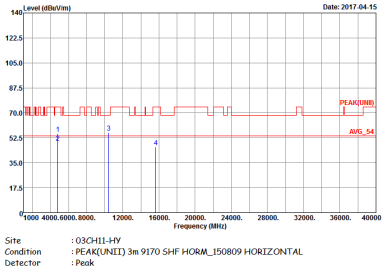
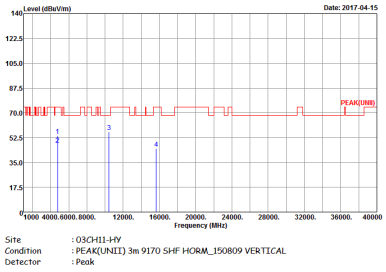
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1+2	Horizontal	Vertical
Peak Avg.		

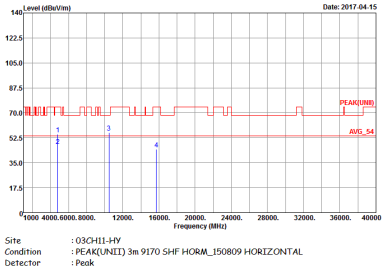
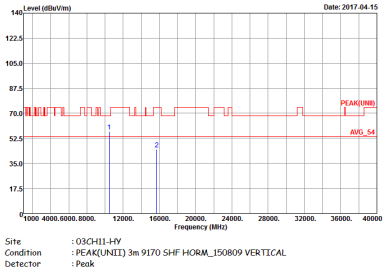
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

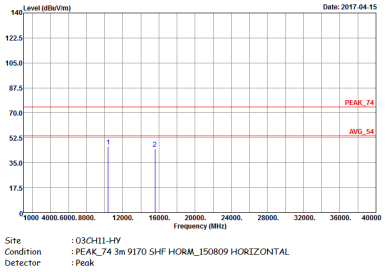
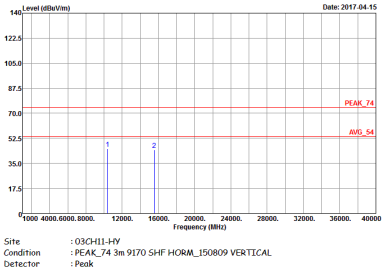
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.		

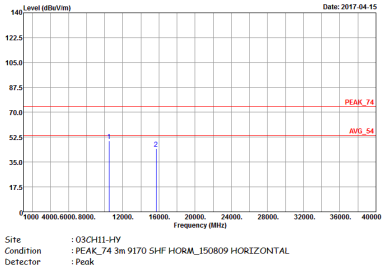
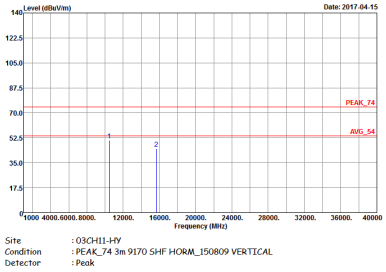
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

Band 1 5150~5250MHz

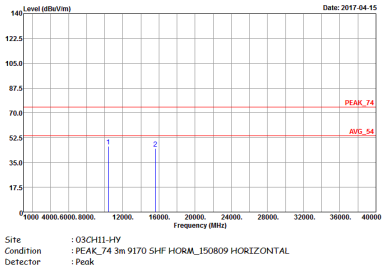
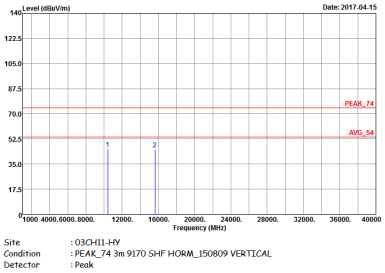
WIFI 802.11n HT40 (Harmonic @ 3m)

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

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

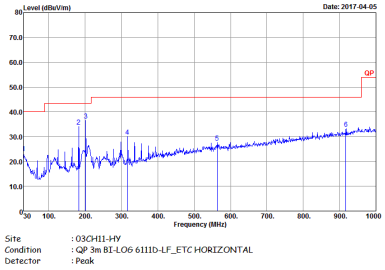
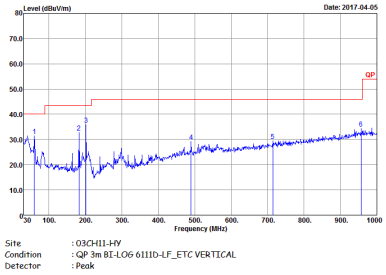
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

Emission below 1GHz

5GHz WIFI 802.11a (LF)

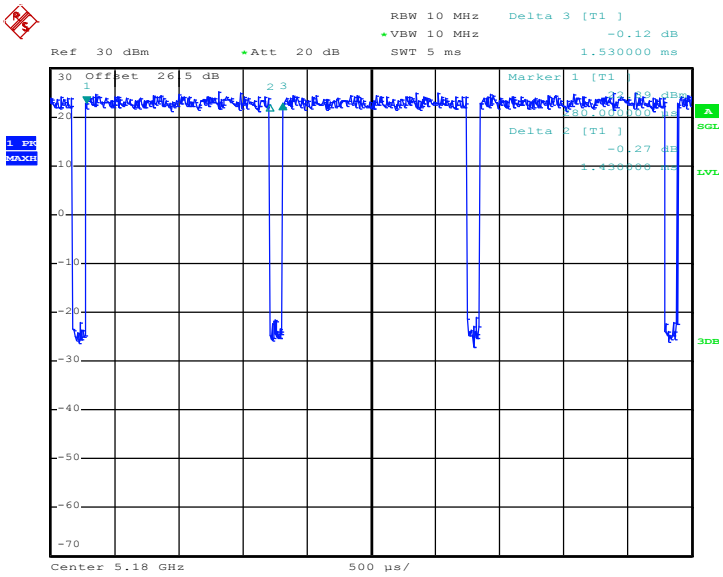
WIFI	5GHz WIFI	
ANT	802.11a LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	93.464	1430	0.70	1kHz
1	5GHz 802.11n HT20	92.414	1340	0.75	1kHz
1	5GHz 802.11n HT40	87.013	670	1.49	3kHz
1	5GHz 802.11ac VHT80	75.926	328	3.05	10kHz
2	802.11a	92.857	1430	0.70	1kHz
2	5GHz 802.11n HT20	93.056	1340	0.75	1kHz
2	5GHz 802.11n HT40	87.013	670	1.49	3kHz
2	5GHz 802.11ac VHT80	75.926	328	3.05	10kHz
1+2	5GHz 802.11a for Ant 1	92.857	1430	0.70	1kHz
1+2	5GHz 802.11a for Ant 2	92.857	1430	0.70	1kHz
1+2	5GHz 802.11n HT20 for Ant 1	93.056	1340	0.75	1kHz
1+2	5GHz 802.11n HT20 for Ant 2	92.414	1340	0.75	1kHz
1+2	5GHz 802.11n HT40 for Ant 1	85.714	660	1.52	3kHz
1+2	5GHz 802.11n HT40 for Ant 2	85.714	660	1.52	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 1	75.926	328	3.05	10kHz
1+2	5GHz 802.11ac VHT80 for Ant 2	75.926	328	3.05	10kHz

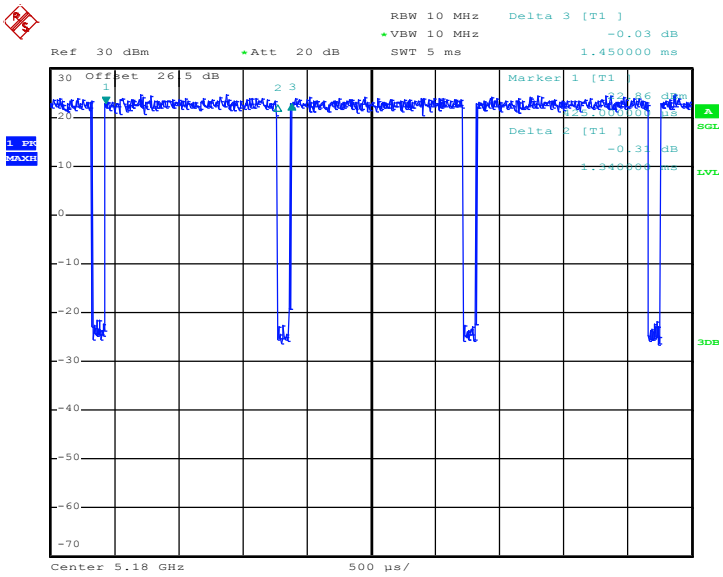
<Ant. 1>

802.11a



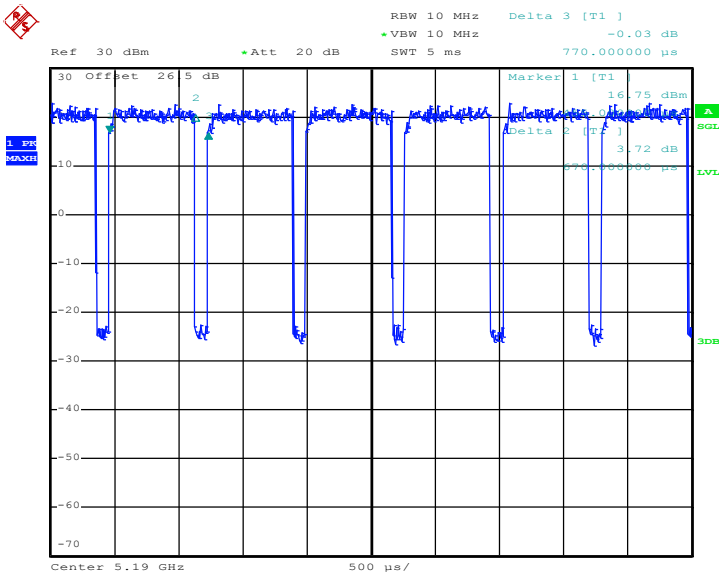
Date: 28.MAR.2017 00:59:55

802.11n HT20



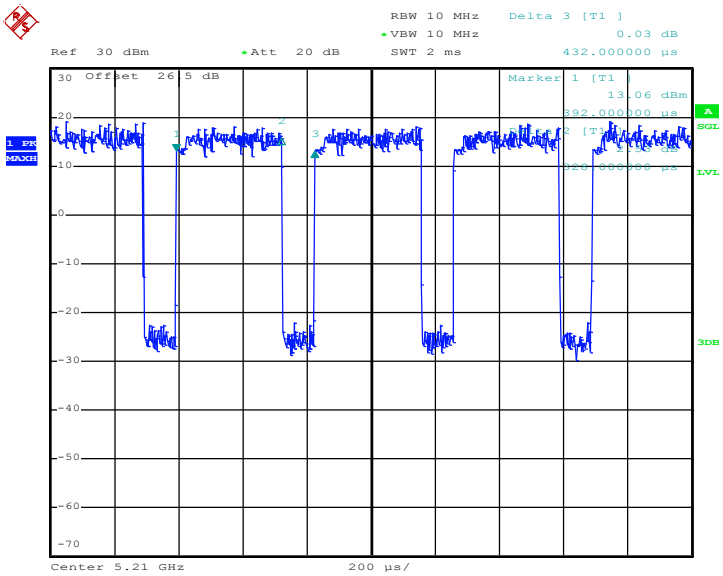
Date: 28.MAR.2017 01:06:07

802.11n HT40



Date: 28.MAR.2017 01:09:24

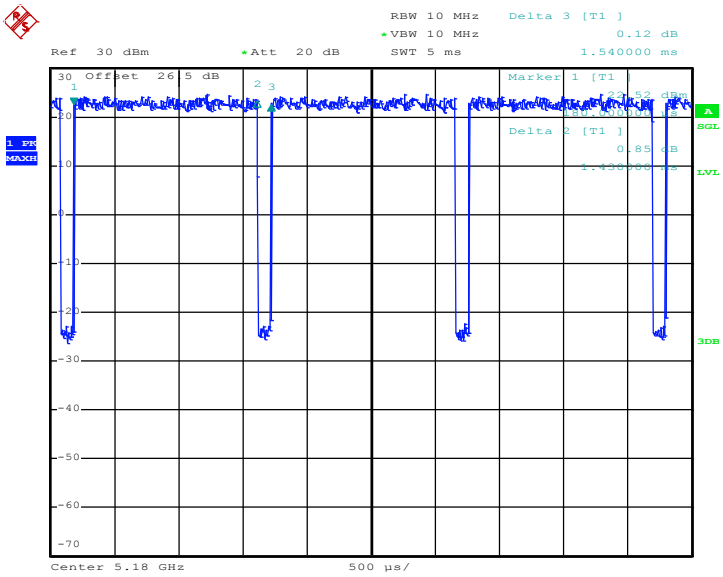
802.11ac VHT80



Date: 28.MAR.2017 01:22:02

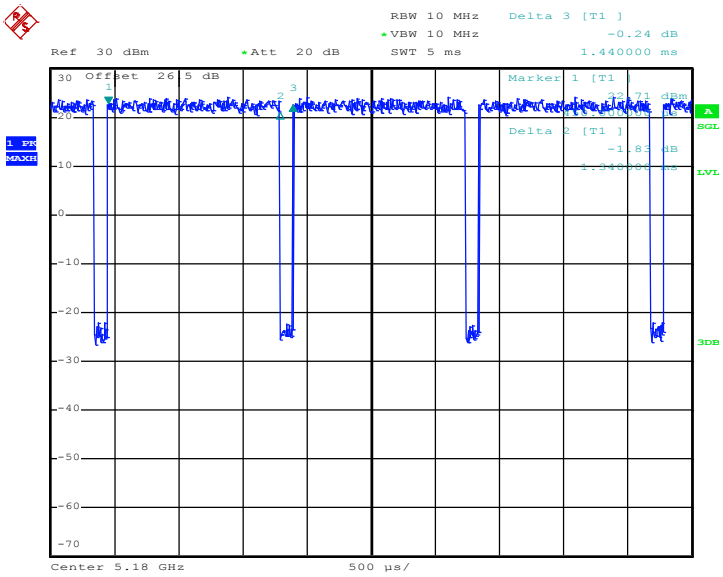
<Ant. 2>

802.11a



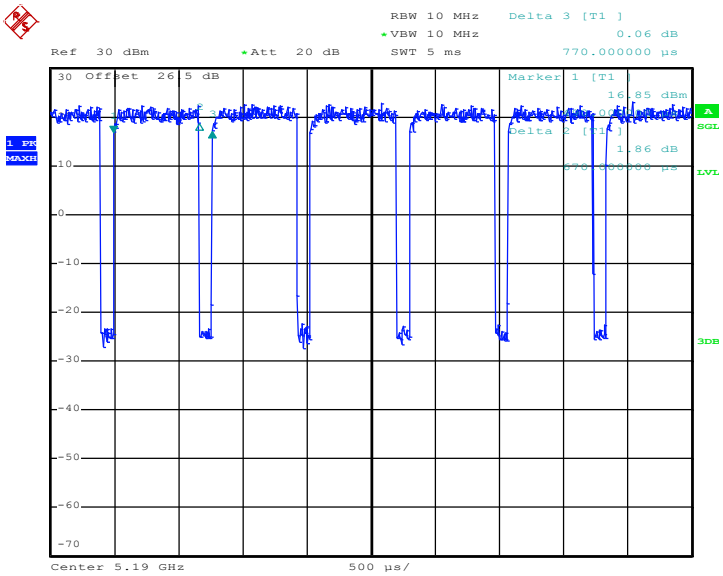
Date: 28.MAR.2017 01:00:32

802.11n HT20



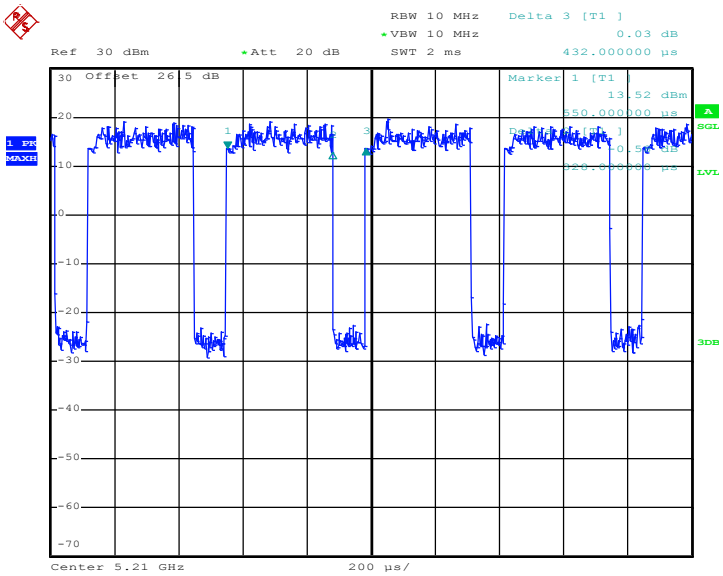
Date: 28.MAR.2017 01:06:40

802.11n HT40



Date: 28.MAR.2017 01:09:58

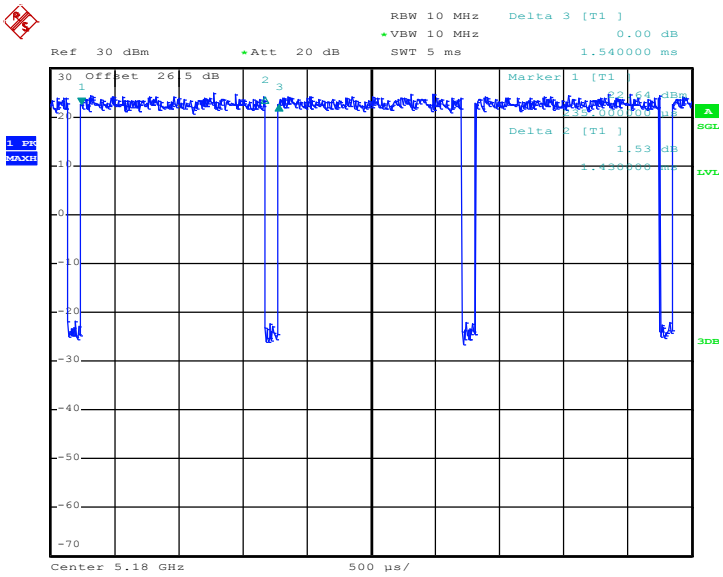
802.11ac VHT80



Date: 28.MAR.2017 01:22:36

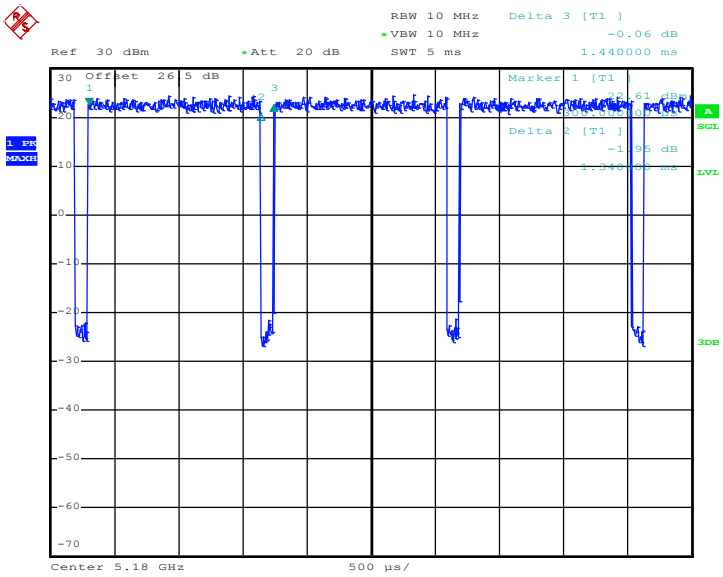
MIMO <Ant. 1>

802.11a



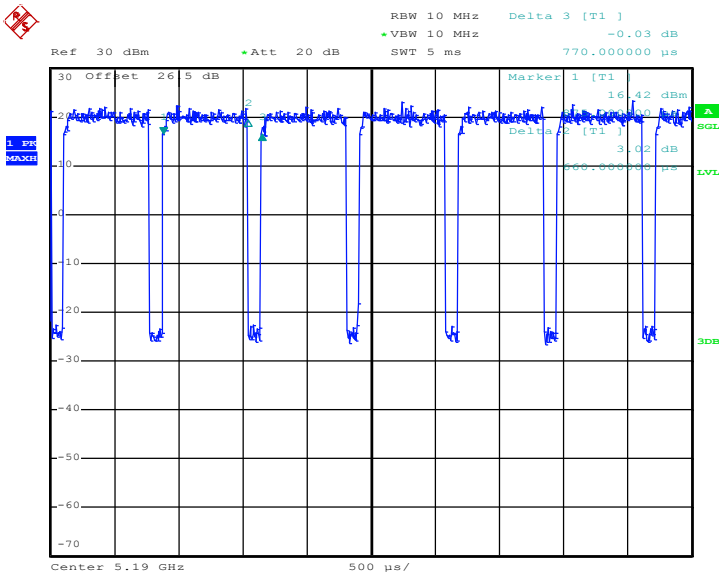
Date: 28.MAR.2017 01:02:03

802.11n HT20



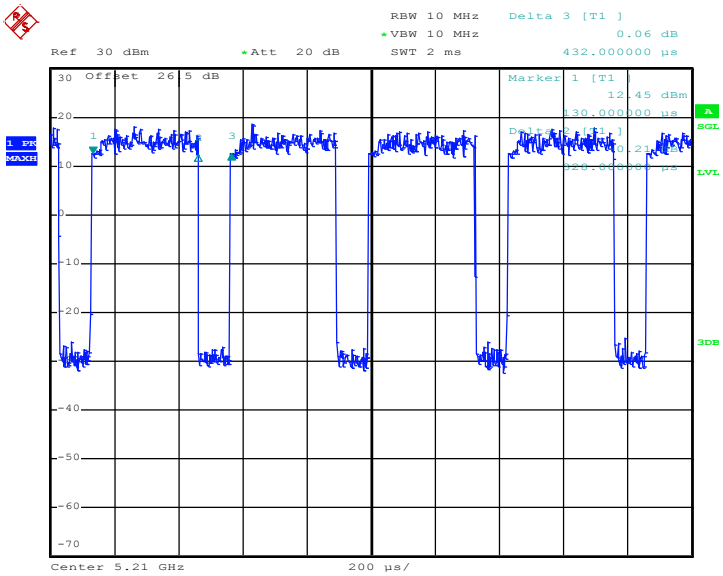
Date: 28.MAR.2017 01:07:18

802.11n HT40



Date: 28.MAR.2017 01:10:28

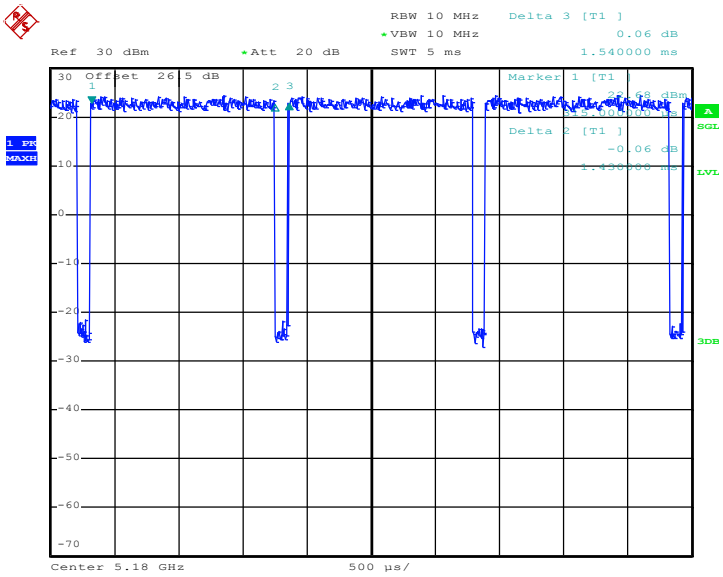
802.11ac VHT80



Date: 28.MAR.2017 21:44:45

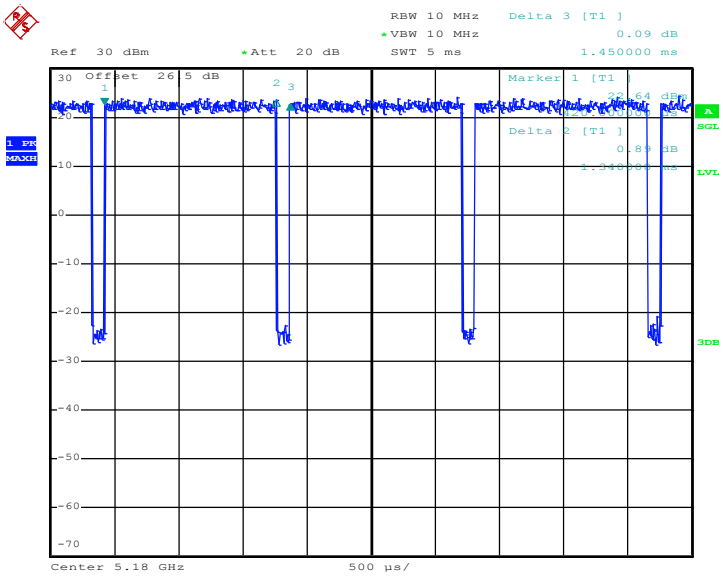
MIMO <Ant. 2>

802.11a



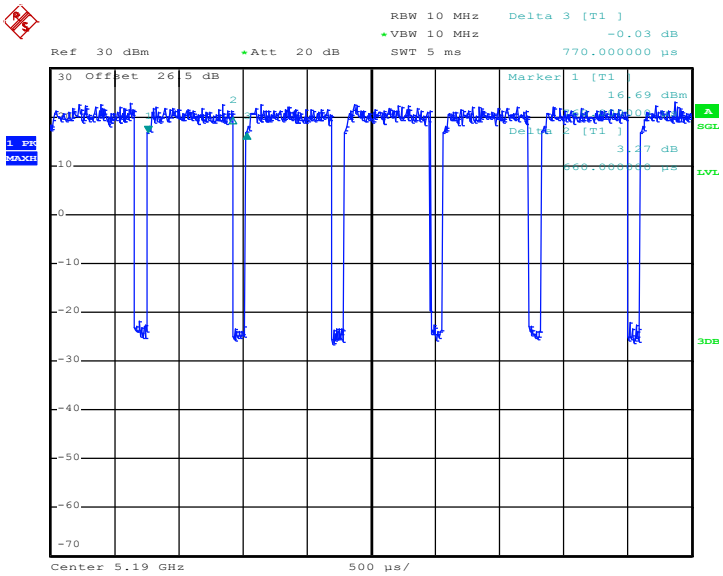
Date: 28.MAR.2017 01:02:39

802.11n HT20



Date: 28.MAR.2017 01:07:45

802.11n HT40



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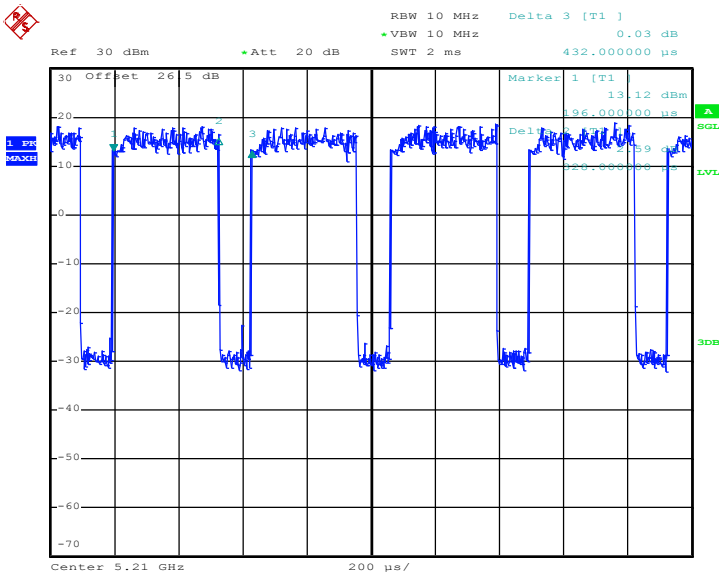
802.11ac VHT80



Date: 28.MAR.2017 21:45:22